

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

December 2015

Volume 21 Issue 12



**MEETING/
ACTIVITY
NOTES**

Reported by
Marv Beeferman

The ON-LINE Broadcaster

The New Jersey Broadcaster is now on -line. The majority of your fellow NJARC members have already subscribed, saving the club and your editor a significant amount of money and work. Interested? Send your e-mail address to mbeeferman@verizon.net. Be sure to include your full name.

Thanks to our Technical Coordinator Al Klase for another in-depth presentation as he unveiled the "mysteries" of the tuned circuit at the November meeting. Al traced the development of this important component of radio circuitry through such notables as Hertz, Marconi, Lodge and Armstrong. He also covered the effects of variable coupling (close critical and loose), the RLC circuit, the meaning of "Q" and improving coil efficiency through Litz wire and magnetic cores. Al also talked about the mechanical, crystal and surface acoustic wave filter and what the "21st Century" radio receiver looks like with regard to tuning.



NJARC members often offer items for sale before and after our meeting and we thought we were seeing double when both Bob Bennett and Owen Gerboth brought in a Zenith Royal 2000. The 2000 was the first transistorized AM/FM radio sold in the U.S. and demanded a price of \$190 in



MEETING NOTICE

There will be no regular meeting this month while we celebrate the season at our Holiday Party on December 12th. Be sure to get your reservations in early; we are limited to a maximum of 70 guests! A reservation form is on page 7.

1959 (\$1,000 in today's dollars). It appears that the silver-grilled model is more rare than the one in black.



Seeing double?

As a result of additional information, I'd like to update you on the upcoming Holiday Party. First, unlike past years, we are strictly limited to 70 guests. Once this limit is reached, no additional reservations will be accepted. Therefore, please try to reserve early!

Second, the venue is a bit more fancy than previous years. Although casual dress is encouraged, as president Richard Lee has requested, "please...no bib overalls."

Third, although Al and Peggy Klase have done a great job in the past, the social hour will be prepared by the country club and served by their staff. Treats will include a cheese station, pigs in a blanket, rice balls, coconut chicken, tomato bruschetta, etc. You can "byo" wine or beer only but hard drinks are available at the bar at very reasonable prices. The buffet, previously provided by Sal Brisindi, will also be prepared by the staff and will include house salad, eggplant rollatini, flounder oreganata, chicken franchise, penne alla vodka, mixed veggies, roasted potatoes, ice cream cake and club cake.

For your convenience, a registration form may be found on page 7. Also, don't forget your Mystery Grab Bag gift.

Technical Coordinator Al Klase has announced the dates for our upcoming Broadcast Band DX Contest - January 15 through January 24, 2016. Picking out those hard-to-find stations from the ether has always been a lot of fun and is a great

way to spend those cold January nights. Complete rules may be found on page 8. Al suggests that you might want to consider categories 1, 2 and 3 to increase your chances of winning since not many members submit entries for these types of receivers. Also, try to keep a camera at the ready and send a photo of you and your rig to mbeeferman@verizon.net. Including the specifications of your entry and a few words about your listening experience would also be appreciated.

Contest materials may be found at www.njarc.ar88.net/contest.html. Here you can find a suggested log sheet, a compilation of 50KW stations operating nights on "clear" channels, a listing of great-circle distances to cities with big-time AM stations from Freehold, a dial calibration list of NYC daytime local stations and a list of DX target stations.

The Garden State Central Model Railroad Club will present its "Holiday Spectacular" Christmas Train Display at InfoAge on December 5,6,12,13,19 & 20 (Noon til 5PM). A donation of \$7 for adults and \$3 for kids is requested. An adult free admission may be obtained with a new, unwrapped toy for "Toys for Tots." A picture with Santa (and one of his Reindeer) is also featured.

If you're interested in magic eye tubes, member Joe Devonshire recommends the following website: <http://www.magiceye tubes.com/>. Topics include operation, uses, pictures, variations, display patterns, substitutions, base diagrams, relatives (devices that either led to the development of or mimic the operation of a magic eye) and eye tube projects.

Upcoming Events

A new upcoming events list for 2016 will be added in the January *Broadcaster* following the Winter Board meeting at InfoAge on November 30th.

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.

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ALAN DOUGLAS PASSES

Compiled by
Marv Beeferman

Parts of the following article were provided by Ludwell Sibley, editor of the Tube Collectors Association's bulletin the "Tube Collector" where the full article will be published...ED



The vintage electronic and radio community mourns the death of Alan Douglas on November 16. He is best known for a lengthy stream of articles in the antique-electronics press. He began collecting radios at about age ten, starting with an Atwater Kent Model 29. His other interests included gardening and historical research and restoration (i.e., rebuilding local stone walls). He was considered "a man with keen intellect and generous spirit who selflessly shared his time and knowledge."

Douglas assembled a far-reaching library and collection of antique radios, large enough to require an addition to his house. He found a wide audience for articles in the antique-electronic press. He contributed more than 100 articles to *Radio Age*, the *Old Timer's Bulletin*, the *BVWS Journal*, *Glass Audio*, the *ARCA Gazette*, and the *AWA Review*. In the specialized area of tube history, he covered Radio Scientific Laboratories, CeCo, Schickerling, Raytheon, Star/Philips, and Triad.

Besides his journal articles, Douglas wrote four books of major importance: the three volume series Radio Manufacturers of the 1920s and Tube Testers and Classic Electronic Test Gear. He maintained a massive correspondence with history enthusiasts and equipment restorers, providing such things as schematic diagrams for obscure radios and helping locate hard-to-find parts.

Alan was a Fellow of the Radio Club of America and held two awards from the Antique Wireless Association: Houck Documentation (1981) and Tyne Tube (1986).

I met Mr. Douglas a few times during

major radio meets. I remember particularly that he was a major bidder at the Franklin Institute's sale of their scientific library. For many years, Alan had been collecting bound, library volumes of vintage radio magazines, but when he started writing his Radio Manufacturers of the 1920s, he found that not having the advertising pages (they are not included in bound, library volumes) was a distinct disadvantage. At that point, he concentrated more in accumulating individual copies of magazines.

Alan Douglas will be deeply missed by the antique radio community.

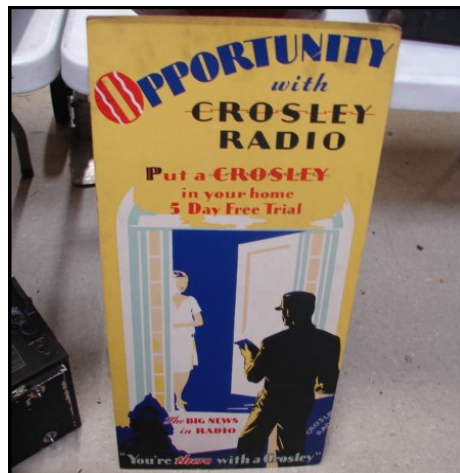
FALL SWAPMEET A SELLOUT

By
Marv Beeferman

Perhaps it was the warm weather. Perhaps it was the pre-Thanksgiving lull. Perhaps it was the lure of "radio bagels." Whatever the case, the NJARC Fall swapmeet at the Parsippany PAL was a complete sellout. In fact, president Richard Lee had to set up additional tables to take care of the overflow. Thanks to all who helped make the event a surprising success and let's hope the word gets out and we can repeat such a great turnout in the future.

As usual, you can follow the action on YouTube at Bob Bennett's "Radiowild" or just be satisfied with a few candid stills.





THE OSCILLODYNE REVISITED

By
Marv Beeferman

At the November NJARC swapmeet in Parsippany, I purchased a group of extremely well-made reproductions of vintage radios. They were built by Bob Ryan of Hemet California who is well-known for his excellent workmanship and passion in the construction of simple one and two-tube battery radios and coils. Apparently, Bob sold many of his creations (I don't know if he still does) and the group I obtained were originally purchased by a Mr. Charles O. Kates of Hastings-on-Hudson, New York. The units were dated between 1988 and 1990. (See page 5.)

Of the four radios, one unit was a crystal set with a whip antenna, crystal earphone and "precision" tuner. The second was described as a "vintage vacuum tube amplifier (non-regenerative) for crystal set radio and monaural magnetic earphones." The other two were described as reproductions of J.A. Worcester's oscillodyne which first appeared in the July 1933 issue of *Radio Craft*. I wasn't familiar with the oscillodyne circuit and I decided to learn a little more about it before these radios were fired up.

Following the introduction of the regenerative circuit, numerous other one-tube variations were published and made available to hobbyists to experiment with. Such strange sounding examples including the ultra-audion, ambassador, interflex, megadyne, harkness reflex, flewelling super-regenerative and solodyne eventually sprang up. The oscillodyne was one of them, and it became a circuit that was the basis of quite a bit of experimentation by radio enthusiasts.

A simple schematic of Worcester's oscillodyne is shown in Figure 1. In general, although regenerative, it is a type of super-regenerative circuit (but not in this class) unique in the fact that feedback is very much greater than that required to produce oscillation. Indeed, feedback is so great that it doesn't allow the electrons on the grid of the radio's tube to leak off sufficiently fast to maintain a constant grid potential. The varying grid potential produces a corresponding variation in the plate current with very high amplification (similar to that of a super-regenerative circuit). The grid leak resistor, grid condenser and tickler coil are of extreme importance in obtaining this result.

Another important factor of the circuit is that the tickler coil contains as many as, or more turns than the grid coil. Set performance depends on overcoupling between these coils. The grid condenser is very small (only 50 or 100 mmf) and a 3 megohm grid leak is used. These values permit variations in the grid potential instead of a constant potential usually found in other circuits.

Let's get a little more specific about the operation of the oscillodyne. At first sight, it looks like nothing more than a simple "oscillatory" circuit. However, since feedback is considerably greater than that required for the mere production of sustained oscillations, feedback is of sufficient magnitude to produce what Worcester called *irregular oscillations*. This means that the oscillator is periodically rendered inoperative at a frequency dependent on the amount of feedback and the value of the grid condenser and grid leak resistor. In this receiver, oscillations are stopped and started at a super-audible frequency by proper selection of these three constants.

For the reception of rf signals, a disturbance on the grid of an ordinary oscillator will build up to a value determined by tube characteristics. In the oscillodyne, the feedback is too great to allow the electrons on the grid to leak off sufficiently fast to maintain a constant mean grid potential. The result is that the mean potential of the grid decreases, causing a corresponding decrease in plate current. As the plate current decreases, the plate resistance increases, causing a decrease in the mutual conductance of the tube. Finally, the plate current is reduced to a value at which mutual conductance is no longer sufficient to maintain oscillations, and they will die out. The negative charge accumulated on the grid of the tube then leaks off at a rate determined by the time constant of the grid condenser and leak resistor, and the cycle repeats.

Now if we consider an rf disturbance having perhaps five times the amplitude described above, the average plate current will be less because of the number of "dips" the plate current makes during a given interval of time. Thus, it can be seen that a variation in the intensity of the grid signal results in a corresponding variation in the average plate current. Thus, a modulated rf signal will produce audible variations in the current flowing through the earphones in the plate circuit.

To sum up, it can be stated that the operation of the oscillodyne depends on the fact that in an "oscillatory circuit," prior to the established of sustained oscil-

lations, **the time required** for an impulse to build up to a given value is proportional to the initial value of that impulse. This contrasts with the super-regenerative circuit in which use is made of the fact that the value to which an impulse will build during a **given interval of time** is dependent on the initial value of that impulse.

It might be useful to point out that for proper operation of the oscillodyne, it is necessary that grid circuit oscillations entirely die out during the period in which the charge is leaking off the grid. This is to enable the next train of oscillations to build up from the amplitude of the signal present on the grid **at that time** and not from the amplitude of **the preceding train** of oscillations which would otherwise be present. Thus, for satisfactory reception of broadcast frequencies, the damping constant of the coil and condenser combination cannot be so large as to add considerable external resistance, which would necessitate a corresponding increase in the feedback. Feedback cannot be increased indefinitely, however, as it will be found that as soon as the natural frequency of the tickler coil becomes less than that of the tuned grid circuit, the plate load becomes capacitive and phase relations are no longer correct for oscillation.

It becomes evident, then, that as the frequency of the signals received is increased, enabling the use of smaller inductance coils, the damping constant increases, and operation becomes more satisfactory. Hence, it will be found that the oscillodyne is particularly adapted to short-wave reception, which is also true of the super-regenerative circuit and for the same reason.

Based on feedback from readers, it seems that the oscillodyne was quite a performer. *Short Wave Craft* noted the following, calling the circuit "epoch-making:"

"Its sensitivity is tremendous. The editor, in his home on Riverside Drive, New York, in a steel apartment building, was able to listen to amateurs in the Midwest on this simple one tube set, *using no aerial and no ground!* With a ground alone, a number of Canadian stations were brought in, and with a short aerial of 40 feet length, many foreign stations were pulled in easily."

One reader commented that the oscillodyne "worked wonders."

"With this really wonderful little receiver, I can hear Europe as I never did before with other receiving sets having a greater number of tubes. In fact, I could

never hear European broadcast stations before this, no matter how good the s.w. receiver was supposed to be."

"The other morning a friend of mine, who has been struggling for some time with his factory-built 16-tube receiver, trying to bring in European stations, dropped in while my one-tube oscillodyne was filling the room with the voice of the French announcer from Pontoise (Paris). Was he surprised? Well, you can just imagine."

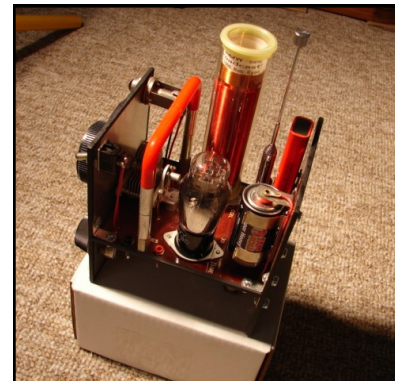
"Our eastern stations...come in just like locals. Amateurs, phone and code, I hear them from all over the country. The dial, from 0 to 100, is alive almost all the

time with signals from brass pounders."

As time past, variations of the oscillodyne started to appear. Original builders could use a 27, 30, 37, or 56 tube and 90 volt "B" supply. In May 1933, a two-tube version was described using a 37 detector and 89 output tube. In 1935, an article covering an "all-electric" version was published using a 12A7 as a detector and rectifier. In 1939, a 1N5-G tube was substituted in an "up-to-date" version. Later versions used a 6C5/6J5. Starting in October, 1933, the oscillodyne "wonder set" was offered at \$6.19 by the Radio Trading Company.

I have two versions built by Bob Ryan—a "1989" and "1990" set. Both use a 45 volt "B" battery and 1.5 volt "A" battery. The older version has a VT-67 tube installed and has a place on the bottom of the chassis for a spare tube, possibly a 30. The newer version uses a 30 tube and includes a pilot light and a rugged carrying handle but does not have a place for a spare tube. Both units come with broadcast band coils.

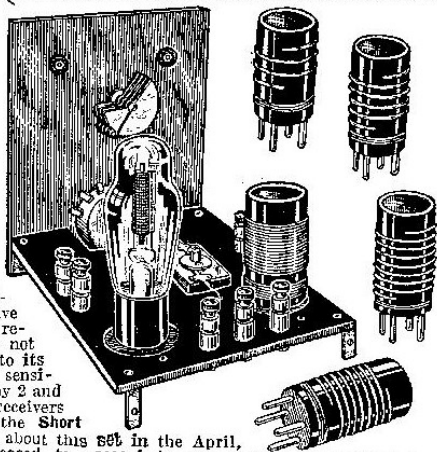
I'm looking forward to use the oscillodyne as a Broadcast Band DX Contest entry. Hopefully, it will live up to the "hype" that was expressed by many users back in 1933!



The Oscillodyne - Bob Ryan's "1989" version.

The Oscillodyne - Bob Ryan's "1990" version.

FAMOUS Oscillodyne 1-TUBE WONDER SET 15-200 Meters



And a wonder set it is at that! Although the circuit of this unique little receiver is of the regenerative type, it acts like a super-regenerative set; yet it does not belong in that class. Due to its peculiar circuit it has the sensitivity and selectivity of many 2 and even 3-tube short-wave receivers. Read what the editor of the *Short Wave Craft Magazine* says about this set in the April, 1933, issue: "We are pleased to present to our readers an entirely new development in radio circuits—the Oscillodyne. This circuit which is of the regenerative variety, acts like a super-regenerative set. Its sensitivity is tremendous. The editor, in his home on Riverside Drive, New York City, in NO AERIAL AND NO GROUND. With the ground alone, a number of Canadian stations were brought in, and with a short aerial of 40 feet, many foreign stations were easily pulled in."

Here then is a set which brings in stations thousands of miles away; a set which frequently brings in Australia, loud enough to rattle your phones and with power to spare; a set which if you do not wish extreme distance will bring in stations several thousand miles away without aerial or ground. And the many hundreds of testimonial letters from short-wave fans who have either built their own or have purchased them, fully substantiate these remarkable results. The receiver may be used either with batteries or A.C. power pack. Requires a 237 tube for battery operation and a 227 for A.C. operation. Available either completely wired ready to use or in kit form. Four pages of detailed instructions and diagrams are included with each set. The aluminum panel 6" high x 4 1/2" wide. The bakelite base is 5 1/2" long x 4 1/2" wide. Shipping Weight 3 lbs. No. 2146 Official One-Tube Wonder Set, completely wired and tested **YOUR PRICE.....\$7.20**

No. 2147 Official One-Tube Wonder Set, in kit form, with detailed construction plans. Shipping Weight 3 lbs. **YOUR PRICE.....\$6.35**

No. 2148 Complete Accessories, including the following: one 37 tube; set of standard headphones; four No. 6 dry cells; two 45-volt "B" batteries. Shipping Weight 22 lbs. **YOUR PRICE.....\$5.50**

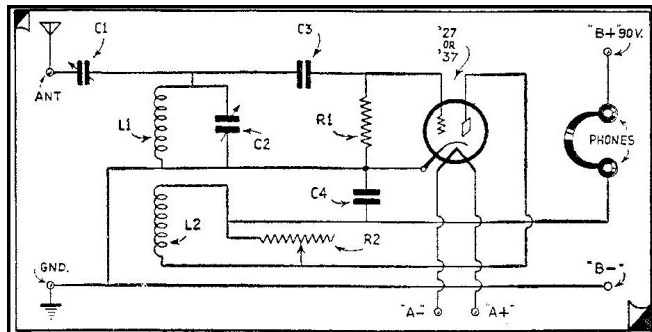
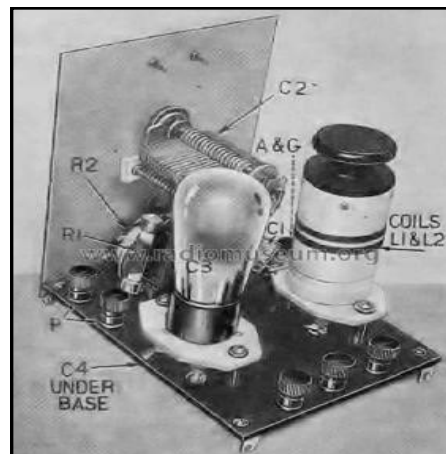


Figure 1 - The original oscillodyne circuit.



The oscillodyne as it originally appeared in Worcester's July 1933 article in *Short Wave Craft*.

BREAKING THROUGH THE NOISE WITH MUSIC

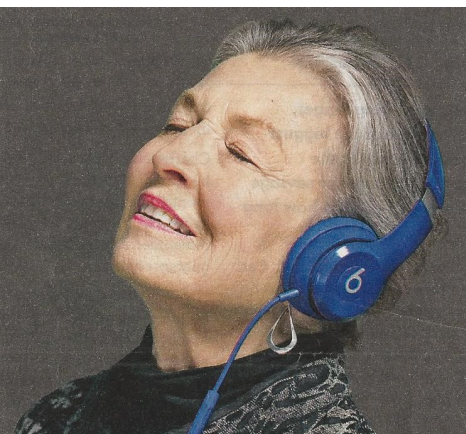
Compiled by
Marv Beeferman

In the July-August 2015 edition of the *AARP Bulletin*, Mary Ellen Geist published an article titled "The Healing Power of Music." It described scenes that are being repeated in nursing facilities and homes across America. New research is confirming and expanding an idea long held by those who work with dementia patients: Music can not only improve the mood of people with neurological diseases but it can boost cognitive skills and reduce the need for antipsychotic drugs.

Music therapists who work with Alzheimer's patients describe seeing people "wake up" when the sounds of loved and familiar music fills their heads. Often, after months or even years of not speaking at all, they begin to talk again, become more social and seem more engaged by their surroundings. Some begin to remember names long forgotten. Some even do what Alzheimer's patients often cannot do as their disease worsens - they remember who they are.

The effect of music on the brain is based on the fact that music is very complex. The auditory nerve has an immediate contact to part of the brain called the amygdala - what is often called the 'fight or flight' area of the brain. Thus, the immediate result from sound is arousal. The person becomes startled or suddenly pays attention.

Music therapy programs have become a critical part of care in several states and cities. Nursing homes use personalized playlists recorded on digital devices as part of their daily caregiving routines.

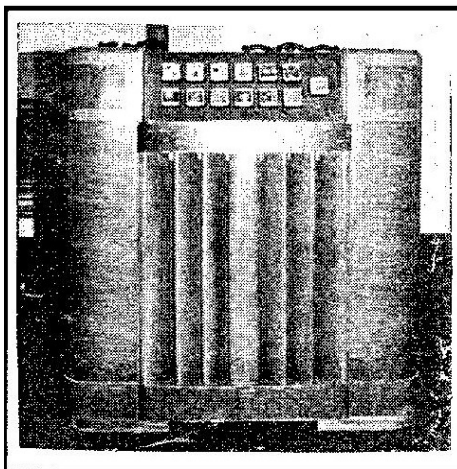


An Alzheimer patient listens to her favorite music.

The article reminded me of a similar one published in the *Asbury Park Press* in Dec. 23rd, 1997 and written by Robert Cullinane. I had reprinted it in Volume 4, Issue 1 of the *Broadcaster* (1998) since it had a vintage radio/TV and New Jersey slant and it is brought back today. Perhaps it might give someone a better use for all those consoles torched at the Kutztown swapmeets.

The "Radio Days" of the '30s and '40s and the "Happy Days" of the '50s are back, this time providing some entertainment and aid to victims of Alzheimer's disease. With innovative programs called "Musical Memory Lane," a New Jersey researcher has found that big band music and early TV comedies engage Alzheimer's disease patients longer than traditional day-care activities.

Richard Olsen, an environmental psychologist at the New Jersey Institute of Technology, created the "Musical Memory Lane" program, which allows dementia patients to select and play music themselves from an old-fashioned radio.



Compared to some of the more typical activities offered by their adult day-care program, the responses to the "Musical Memory Lane" have been dramatic. Even people who normally slept or withdrew from activities such as sewing, bingo and card games were engaged by musical selections from the '30s and '40s. They would smile and keep time with the music, sing along with the lyrics, and some even got up and danced.

Olsen said that positive responses help Alzheimer's patients deal better with aggression, as well as helping to reduce the tendencies to wander. Also equipped a 1930s Philco radio with picture-buttons to identify musical selections. Patients press a picture of Glenn Miller and hear

In the Mood and *Chattanooga Choo-Choo* or select Kate Smith to hear *God Bless America*. The system offers 12 selections in all, each with 12 to 15 minutes of music.

After evaluating more than 15,000 one-minute observations of patients using the "Musical Memory Lane," Olsen found that the system engaged patients longer than other activities, including live music. The system also stimulated interaction with other patients and staff. When offered a choice between the music and three other activities, patients chose the "Musical Memory Lane" more than twice as often as all the other activities combined.

The study, part of a three-year study funded by the Alzheimer's Association, is being conducted at the Senior Care and Activities Center in Montclair, where Olsen records patient participation in various activities offered by the center, as well as during periods when the "Memory Lane" equipment is available.

A new study, under way at the Montclair facility, uses video clips in a similar system. Using a '50s-style television, Olsen and his team created the "Video Memory Lane" which allows residents picture-button access to *I Love Lucy*, *The Honeymooners*, *Laurel and Hardy*, *Jack Benny*, *Sid Caesar*, and musical numbers featuring *Carmen Miranda*, *Ella Fitzgerald*, the *Dorsey Brothers*, *Frank Sinatra* and *Duke Ellington*. There's even a Nestle's cocoa commercial.

Olsen said that television is a popular way to occupy dementia patients in the early stages. "But as patients become more confused or lose their ability to concentrate, television can become frustrating or frightening. Patients become unable to deal with complicated stories and unfamiliar characters, and some even believe that the violence and disaster they see on the screen is happening nearby. For the 'Video Memory Lane,' we choose familiar, non-threatening clips."

Clients are now being observed using the "Video Memory Lane," and Olsen says that early observations show that *I Love Lucy* and *The Honeymooners* are big favorites.

I wonder if it makes a difference that the music or videos offered patients come from earphones or a digital TV, or if there is some connection that is reinforced by a vintage radio or television? It seems to me that the music or video itself is the overwhelming stimulus and it would be difficult for patients to understand a link to the source...Ed

NJARC Holiday Party

Date: Saturday, December 12th, 2015
Time: 5:00 PM – Cocktail Hour
 6:15 PM – Dinner
Place: West Lake Golf & Country Club
 1 Pine Lake Circle
 Jackson, NJ 08527

Members: \$25 each
Non-Member Adults and Children over 12: \$25 each
Children under 12: \$5 each

Cocktail Hour, Dinner Buffet, Mystery Grab Bag, Surprises
 A wonderful evening of fun, good food and fellowship with a radio theme.

*******RESERVATIONS REQUIRED *******

If you plan to attend, please fill out the attached coupon, detach it and mail it with a check to:

Marvin Beeferman
2265 Emerald Park Drive
Forked River, NJ 08731
609-693-9430
mbeeferman@verizon.net

by December 7th. Everyone who plans to attend must send back a response form with the name(s) of attendees. Reservations must be made via the form below. Please refrain from telephone or email reservations unless absolutely necessary! Payment must accompany the form.

-----Cut here -----

Name(s): _____

Telephone or email: _____

Number of **Members**: _____ X \$25 = \$ _____
 Number of **Children** under 12: _____ X \$5 = \$ _____
 Number of **Non-Members**: _____ X \$25 = \$ _____

TOTAL: \$ _____

Make checks out to NJARC, enclose with this form and mail before 12/07/14. There is a 70 guest limit so please reserve early!

The 2016 NJARC BCB DX Contest - January 15-24, 2016

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 15, 2016 through 12:00 Noon, Sunday, January 24, 2016.

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 you 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 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 has been provided for convenience. You may reproduce it or generate a similar one of your own.

Logs must be postmarked not later than midnight Monday, February 1, 2016.

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

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

A photo of you and your rig and its description and comments on your listening experience will be appreciated. Please send to Marv Beeferman at mbeeferman@verizon.net.