

# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

Autumn 1996

Volume 2 Issue 10



## MEETING/ ACTIVITY NOTES

Reported by Marsha Simkin and  
Marv Beeferman

Allow me to apologize for missing last month's *Broadcaster*. A combination of events seemed to come together at one time, making it impossible to publish prior to the meeting date (and also preventing me from attending October's meeting). Thanks again to Marsha Simkin for supplying excellent notes for this month's column.

First some catching up. September's "show-and-tell" was actively supported by Jim Whartenby (6-tube, 5-12 MHz transceiver built for the military but secretly finding its way into WW II concentration camps), Tom Provost (an excellent example of the workmanship of a "homebrew" set based on a QST article), John Dilks (restored Western Electric speaker), Lud Sibley (vacuum tube used as an advertising piece displaying the warm glow of the "RCA" logo) and Al Klase (2-band, 3-16 MHz, 8-tube "spy" radio and RT-6 transmitter). George Shields showed a six-tube Atwater Kent Model 12 broadcast receiver (AK-12 "breadboard") from 1924. This set is unusual in the fact that it used a third stage of audio in lieu of the RF stage. George explained that few of these sold (about 8,000) due to the good performance of the Model 10. Linda Cafone talked about the memories of her father's wood-cased Emerson, especially buying tubes at Western Auto. Bill Overbeck displayed his 1955 SONY TR-55 transistor radio (one of about six still known to exist) and a "SONY BOY" doll. Bill explained that Tokyo Telecommunications purchased transistor rights in 1955 for \$25,000 and the TR-55 was there first major offering. They derived the radio's name from "Sunny Boy" which



## MEETING NOTICE

**NOTE - DATE CHANGE:** Due to a scheduling conflict, the next meeting of the NJARC will take place on Friday, **November 15, 1996** at 7:30 PM at the Grace Lutheran Church, corner of Route 33 and Main Street in Freehold. Contact Marv Beeferman at (609)-693-9430 for directions. This date change is for November's meeting only. Our technical program, titled "Rejuvenating Magnetic Headphones," will be presented by Tom Provost and Gary D'Amico. In addition, topics discussed at the last Executive Board meeting including Constitution and By-law changes, our Spring '97 meet and our December holiday party will be voted on.

later became the SONY Corporation.

President Jim Whartenby spoke about our recent, very successful flea market and thanked all that helped including Cary and Steven Gregg, Ludwell Sibley, Jim Whartenby, Jerry Dowgin, Jim and Onalee Fisher, Tom Provost, Don Cruise, Gary D'Amico, Marty Friedman, Lino Gonzalez, Phil Vourtsis, Rick Weibezahl, Hugh Davey, John Dilks and Dave Chmielewski (hope that's everyone). The club appreciates all the help it can get, in whatever form, but a special thanks must be given to Ludwell Sibley for his expert handling of the auction (including "lugging" estate material, providing catalogs and record keeping), Rick Weibezahl for maintaining a smooth flow of auction items and John Dilks for his "network" advertising. The meet turned out to be an almost coast-to-coast event when a potential bidder from Arizona called to have an auction list faxed to him so he could place bids through friends who would be attending. The flea market was also attended by our former member Dennis Shimozono who moved to Japan last year. Dennis was also in attendance at the monthly meeting.

Several prospective new members attended and told of their radio and collecting interests. A new club tee shirt was also unveiled. The new model is a little less expensive and more understated than our current shirt. There is a small club logo on the front. The shirt is very

attractive and was well received by the membership.

John Dilks spoke about a problem that keeps coming up these days, selling estates. He urged members to make their families aware of what they have, the potential value of it and how to go about disposing of it when the time comes. Not a very pleasant subject but something all of us should really take a few moments to think about. John also noted that he has an antique display at the upcoming Hot Rod Meet to be held at Fleming's Junk Yard in Egg Harbor Township. He also told us about an item listed at the Boatanchors Web Site concerning the cranking up of the world's only Alexanderson alternator still in operating condition for the opening of a museum in Sweden. It was held on October 23rd at 0945 - 1015 UT on a QRG of 17.2 kHz with the callsign SAQ. John has done a wonderful job with the club's Web Site (<http://www.globalent.net/oldradio>) and it is beginning to help add to the club's membership. It has very current articles, great pictures and all kinds of interesting items. Check it out if you can...it's worth the price of a computer alone!

A technical program on horn speakers was presented by Mark Mittleman who has over 150 horns in his collection. Mark informed us that a horn is nothing but a megaphone and turned the session into a question and answer type format. He discussed eight horns from eight

different time periods. Among those presented was a homemade horn used in the 1800's. This was a parabolic horn with no driver. It was a directional horn used as a receiver and was made of pressed paper. We also saw an early straight-necked horn circa 1920-23, an earphone driver horn circa 1922-23 and a very decorative red celluloid horn that swiveled and looked as if it was made of tortoise shell. A paper cone circa 1925, an RCA horn circa 1924-25 and a large, tall Western Electric horn that was made of pressed cardboard was also on display. Magnavox was one of the leading horn and horn accessory manufacturers with the largest measuring 23 feet in diameter. Among the hints for restoration of horns that Mark shared was using "Goof Off" to take many layers of paint off the celluloid horn. Mark also uses black shoe polish, black car polish and car wax to get his horns into show condition.

Jim Whartenby discussed the unveiling of a time capsule that was placed the Atwater Kent factory in Philadelphia in 1929. The factory was used as a Veteran's Administration building until recently and will be demolished soon. The event was attended by Philadelphia officials, Veteran's Administration officials, members of the Kent family, radio buffs and historians including Ralph Williams who presided over the actual opening of the capsule. The local media was also well represented. Peter Kent brought a film that had been in his possession that showed the actual placing of the time capsule in the building. The capsule contained a 1929 AK metal box radio and several local newspapers. The radio unfortunately was rusted and moldy but the newspapers were in pretty good shape. A reception was held afterwards. An article describing the event is included in this month's *Broadcaster*.



RADIO AND TELEVISION MAINTENANCE • SEPTEMBER, 1991

## THE PRESIDENT'S COLUMN

### SWAPMEET/AUCTION REPORT

What a pleasant change from the previous two weekends. The weather report was for clear skies, a cool morning and a seasonally warm afternoon...and it was! Ruth and I arrived at 6:30 and began unloading the trucks for the third and fourth time. Preparing for the auction was more time consuming than I thought it would be. Fortunately, about half of the club's lots were numbered and only had to be carted to their respective tables. Ludwell Sibley had the more difficult job of cataloging the late arrivals just before the auction was to begin.

Things inside the "Ballroom" were proceeding smoothly so I took the time to stroll around the tables to see what was being offered. I saw many of the old familiar faces of vendors from past meets. As always, the tables were filled with all kinds of goodies, some common and almost new to stuff from the good old early days. All of the tables were filled by about nine o'clock with those who were wise enough to have brought their own tables making a new row in front of the Country Club ballroom. Marvin had devised a new method of assigning tables which he feels went very well. He constructed a board with a field of nails which held numbered tags. As a vendor pulled up, he would be issued a reserved or non-reserved table with apparent ease. The board could always be consulted at a glance so there was little confusion about the number of spaces remaining. Marvin said the inspiration came to him early that morning and he was pounding nails at 3:00 AM!

The auction went smoothly. I would guess that there were about 350 lots...even with the brisk pace, the auction didn't end until 4 o'clock. I enjoyed the look on some of the bidders faces as they reacted to some of the strange offerings. I still don't know what happened to the National cash register or the "new-in-the-box" UHF TV antenna but I hope they found good homes.

Based on first reports, it appears the club did very well and a full accounting will be presented at the November 15th meeting. Many thanks to the loyal workers who unselfishly donated their time to make our latest adventure a success. Perhaps a club-sponsored dinner to reward them for their hard work is in order...how about it?

Jim

## TIME CAPSULE OPENED AT ATWATER KENT PLANT

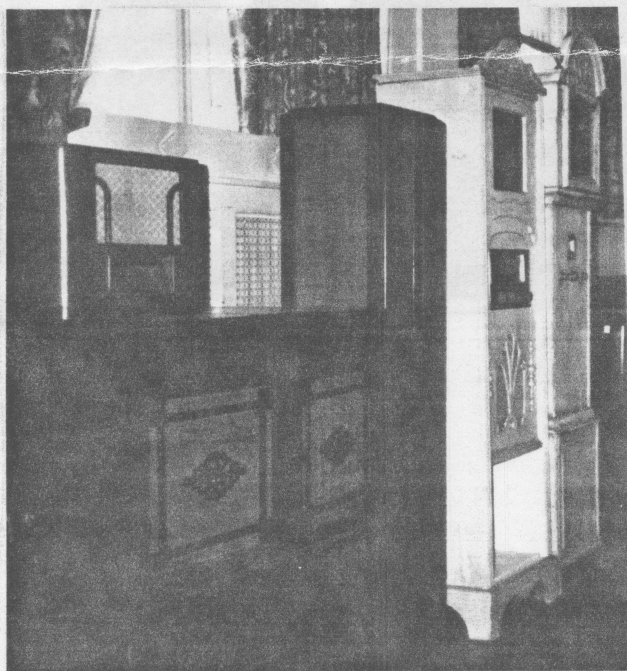
By Ludwell Sibley

On October 25, the General Services Administration hosted a ceremony at the one-time Atwater Kent Manufacturing Co. factory at 5000 Wissahickon Ave. in Philadelphia. With the aid of members of the Kent family and local AK radio enthusiasts, the 1929 time capsule from the building's cornerstone was extracted and opened. Inside were copies of the five local newspapers of the day, Kent's speech notes from the original dedication ceremony, and an AK 55 table-model radio.

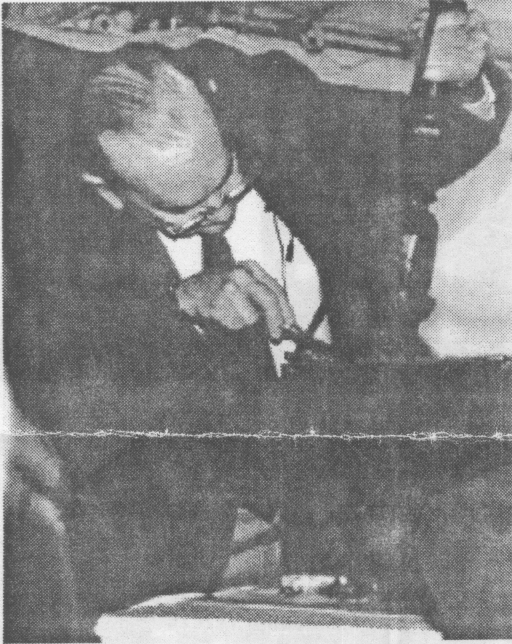
The building, begun in 1928 and dedicated in May, 1929, is scheduled for tear-down. The AK company used it until liquidating in 1937. The Federal Government bought it in 1941 for use by the Army's Philadelphia Signal Depot. After dissolution of the Depot in 1949, other Government agencies used the building: the National Archives, the Treasury Department, and the Veterans Administration. The VA - the final tenant - has lately moved to a new facility nearby. The original AK buildings in the next block are registered historic properties and are being preserved.

The capsule-opening event was attended by members of the Kent family, notably A. Atwater Kent III of Newtown Square and Peter Kent of Florida, and local dignitaries. Bill Overbeck, Jim Whartenby, and Bill Fizette - presidents of the Delaware Valley Historic Radio Club, NJARC, and Antique Wireless As-

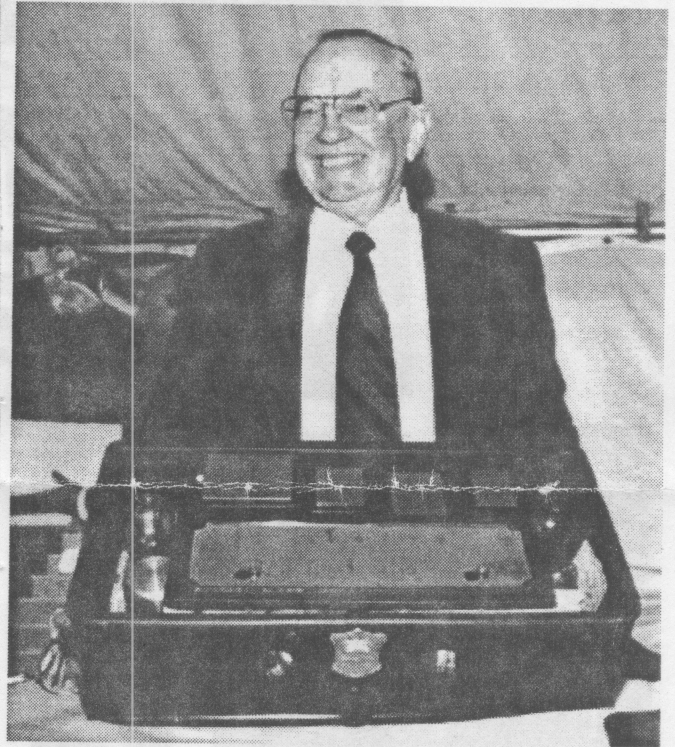




**Ralph Williams unsoldering capsule.**



**Ralph Williams, N3VT, with the AK-55.**



*The Regional Administrator of General Services  
requests the honor of your presence at  
the dedication ceremony for*

*The*  
**Unveiling of the  
Time Capsule**  
5000 Wissahickon Avenue  
Philadelphia, Pennsylvania

*Eleven o'clock  
Friday, the twenty-fifth of October  
nineteen hundred ninety-six*

*RSVP by Monday the twenty-first of October  
(215) 656-5513*

*Please present invitation for admission.*



sociation respectively - were present, with other area collector-historians. Introductory speakers were Paul Chistolini, GSA regional administrator; Melvin Wilson, VA chaplain; Gerald Murphy, deputy mayor for labor representing Mayor Rendell; Thomas Lastowska, VA regional director; A. Atwater Kent III, representing the family; and Jeffrey Ray, collections curator of the AK Museum in Philadelphia. At unveiling time, Ralph Williams - widely published AK historian/collector - wielded a large soldering iron to open the last seams on the copper time capsule.

Removing the lid revealed A. Atwater Kent's marked-up notes for dedication speech, plus the five newspapers, in "remarkably good" condition. (For nostalgia purposes, the papers were the *Daily News*, *Evening Bulletin*, *Inquirer*, *Public Ledger*, and *Record*.) The AK 55 - complete with instruction book - is in good shape externally. Internally, it has some corrosion and spots of rust. The day the capsule was sealed is known to have been unusually damp, so perhaps moisture in the newspapers eventually got to the set. Or, maybe a seam in the capsule cracked and "breathed" over the course of 67 summers.

The capsule contents are to go on display in the new VA building, then to be received by the Atwater Kent Museum of Philadelphia - a fitting choice of repositories.

Being a "radio" event, this ceremony took place under the eyes of ten video cameras, including those of the four local commercial network stations. It appeared on the news programs of at least three of them. (At 11:45 AM, one time-pressed cameraman expressed impatience to see the capsule opened in time for the noon news!) Inside the building, the GSA played a silent movie of the original dedication ceremony, starring a confident-looking A. Atwater Kent and his supporting cast.

The structure was something of a marvel at the time of its construction, using long-span roof trusses giving an unusually large distance (60 feet) between support pillars. The sawtooth roof with north-facing windows gave natural lighting and ventilation. The whole AK complex featured something like six miles of

conveyor belts.

Visiting the building was something of a homecoming for DVHRC member Paul Bohlander, who had worked in one of the early AK buildings nearby when Philco occupied it.

The GSA's handling of the decommissioning of this building seems to have been a respectful and appropriate treatment of a semi-historic but obsolete facility. It is particularly appropriate that the central artifacts from it appear destined for preservation.

## THE AK SITE AS SIGNAL DEPOT

By Ludwell Sibley

The Philadelphia Signal Depot was established during the pre-WW II military buildup to move Signal procurement people out of the Brooklyn Army Base. The entire AK site was bought after condemnation proceedings, squeezing Sears, Roebuck and Co. out of the place. The Army got 800,000 square feet of floor space, plus 25 acres of extra land, for \$2,000,000 (1941 dollars). The facilities were good, but the depot got off to a rough start. As the official Signal Corps WW II history puts it:

A power plant was available for emergency use, although ordinarily power would be supplied by the Philadelphia Electric Company. The land sloped sharply from east to west, which gave each floor of the buildings access to street levels, the top floor extending over the total size of the building and the floors below shrinking to conform to the . . . land. Because they were supported on separate pillars, the floors were independent of the walls, wherefore expansion and contraction caused by heat and cold would have little effect. On the whole, the plant provided excellent depot facilities, although that part occupied as office space was cold and drafty; the roof leaked when it rained; sun glared through the glass-inclosed spaces by day, and the two night shifts shivered beneath the irritating glare of 500-watt unfrosted lamps fixed to the girders

overhead. There was only a makeshift food service in the building and practically no restaurants nearby. The transplanted Brooklyn personnel viewed the site with disfavor, and quit in large numbers.

The building held Army ground radios, radar items, photographic equipment, dry batteries, and wireline comm gear. The first equipment moved into the depot was the trucks and trailers comprising ten SCR-197 mobile radio stations, obsolescent predecessors of the famed SCR-299/399. The facility also housed contract administrators, explaining why so much WW II gear bears order numbers like "7527-PHILA-45-07." The place was responsible for nearly 100,000 items of procurement, and employed about 1100 people. It was also the home office for quality inspectors with the job of keeping local suppliers like Philco and RCA Victor on the ball. The first of all the WW II signal depots (Chicago, Dayton, Lexington, New Cumberland, Ogden, Sacramento, etc.), it was also the busiest. It later housed a depot-level equipment-rebuild shop operated by a combination of civilians and German POWs (!).

Every old building has its secrets. When they knock the place down, surely behind some forgotten partition there will be a crate of 1945-vintage handie-talkies or field phones!

\* D. Terrett, *The United States Army in World War II - The Technical Services - The Signal Corps: The Emergency* (Washington: Center of Military History, U. S. Army, 1986), pp. 294.

## AK'S EXPANDED FAC-TORY

By Bill Overbeck

*Note: The following background material on the 1928 dedication ceremony was originally prepared for the GSA.....Ed.*

On November 2, 1928, Arthur Atwater Kent broke ground for a 16-½ acre addition to his radio plant, located at 4700

Wissahickon Ave. in the Germantown section of Philadelphia. The building was rushed through to completion in six months.

Dedication of the new facility started at noon on Tuesday, May 21 of the following year. Following an inspection tour of the huge plant which brought total space occupied to more than 32 acres, ceremonies were held in which the latest receiver produced at the moment was placed in a copper box. The lid was sealed up by Kent, then-Mayor Mackey, and E. T. Stotesbury, after a copy of the day's issue of each of the Philadelphia newspapers was included. The plant was actually in production when the "1928" cornerstone was laid.

Mayor Mackey spoke at a luncheon preceding the dedication, accompanied by City Solicitor Augustus T. Ashton and Recorder of Deeds James M. Hazlett. The mayor praised Philadelphia's leadership in industry and cited Mr Kent as a man of vision bringing great enterprise to the city.

Principal speaker was U. S. Senator Clarence C. Dill of Washington. He was known as "the father of radio legislation" from his Dill Bill (later, the Dill-White Radio Act of 1927) establishing the Federal Radio Commission. He cited the United States as the only country where radio programs were "free" to the public, whereas other nations taxed their radio listeners. "Congress is beginning to wake up," he said. "The individual members are beginning to study radio because they want the people in their respective sections to get the best reception from radio programs . . . The United States has six percent of the world's population . . . and owns 70 percent of the world's radio sets, as well as 78 percent of the world's broadcasting stations."

"Such men as A. Atwater Kent have made America the greatest industrial and commercial nation in the world. Only a man with vision and daring would ever construct such as marvelous plant as this to build radio sets by so many thousands. The world has always honored the man with a vision and the daring to make that vision a reality."

Kent offered his "feelings about the present and future of radio": "Presented to you in the form of this big new factory.

Great as the radio industry has been in the past, I feel that more confident than ever today that the greatest development still lies in the future."

"In order to succeed in the radio business, you must keep doing something new because radio itself produces a new problem almost every day. You can't go stale in the radio business without going bankrupt, because the other fellow will pass you."

Others present at the ceremonies were Judge J. Warren Davis of the U. S. Circuit Court; John C. Jones, chief of the Philadelphia Ordnance Board; Captain F. C. Shaffer of the U. S. Army; and William Steele, who presented Kent with the key to the factory. The owner's family was present too: Mrs. Kent, son A. Atwater Kent Jr., and daughters Elizabeth and Virginia.

During the dedication, a special train of Pullman cars was backed onto the factory siding. It carried several hundred radio distributors, Mr. Kent, and his company department heads to the sixth annual convention of the distributors and sales organization of the Atwater Kent Manufacturing Company. The event, at the Ambassador Hotel in Atlantic City, lasted three days.

*Digital be damned! These days,  
for high-end audio...*

## VACUUM TUBES ARE AGLOW AGAIN

*This is the second installment of an article appearing in Electronic Engineering Times and started in September's Broadcaster describing the return of the vacuum tube to "high-end" audio...Ed.*

In conceptual terms, the problem for an audio amp-and-speaker combo is to reproduce the pressure wave that struck the microphone when the recording was made. All you want is a completely linear recording and playback system. But with recording and playback equipment, recording engineers, mastering equipment, amplifiers and speakers all adding non-linearities, there is no hope of that simple ideal. Instead, the goal, nearly as ambitious, is to produce a sound wave that the listener will find pleasantly reminiscent of the original. Unfortunately, psycho-acoustics has been

unable to determine just where compromises are possible.

Moreover, "Fashion is a part of why people buy tube equipment," said Luke Manley, president of Vacuum Tube Logic, a Chino, Calif., manufacturer of audio gear. "A lot of people like to see the glow of the tubes, and you design the cosmetics of the equipment for that. People will buy tube sound because they like the look of the amps."

Some designers of tube equipment admit that this is one fashion statement that's getting out of hand. "There is some very expensive equipment out there that is very bad," said one. "I'm afraid tubes are getting to be a fad in the bad sense of the word."

In support of the fad explanation, double-blind A-B-X experiments--where listeners are asked to identify an amp as one or the other of two devices they have just heard--often result in null results. That is, most listeners can't tell whether X is tube or transistor with significantly better than 50:50 odds.

However, even some solid-state enthusiasts are cautious about such tests. "The experimental design and statistical analysis of most of these tests has been very superficial," said John Nye, vice president of solid-state equipment vendor Clayton Audio (St. Louis). Nye, a professional economist, is a heavy user of advanced statistical techniques.

Results of listening tests where the audience knows which equipment is playing, or has been coached to listen for particular characteristics, often reveal dramatic differences. "When people know what they are listening to, they say that tubes produce a more liquid, luscious sound," said Counterpoint's Elliot. "Perhaps what you see, or what you expect to hear, conditions your listening experience. But that is a legitimate part of the product."

In fact, said Elliot, the subjective impressions listeners draw from tube equipment can be quite reproducible. "I can package up a new design and ship it to a variety of listeners in different countries. They will listen to the equipment independently and report back their subjective impressions. And those subjective statements will be similar."

This suggests there are tangible as-



pects to the way tubes reproduce music--not just a halo effect from the beautiful orange glow of the heaters, or a placebo effect from the shock of paying \$15,000 for an amp. Is there any basis in electronics theory for such an assertion? Many say there is.

Some listeners may simply prefer the high distortion and limited frequency response that tube gear produces, some observers say. Certain listening tests suggest that moderate levels of some harmonics--usually even, as opposed to odd, harmonics--make a system sound more "musical" to some ears.

But many tube lovers dismiss this theory. "I don't think that is supportable anymore," Elliot said. "We are building tube circuits that have 0.004-percent distortion, and people still like their "tube" sound."

In fact, certain characteristics of vacuum-tube circuits may cause the subjective differences. The most often cited is the way tubes manage extreme transients. "The way tubes handle transients and the way they clip make them so suitable for music reproduction," said Manley. "The way transistors clip when they saturate is very hard on the ear. And it is surprisingly hard to control saturation in an amplifier--even or 1.250-watt amplifier will clip occasionally."

Others suggest that tube designs--particularly single-ended (Class-A) designs, where a single device handles the full swing of the signal from most positive to most negative--achieve greater linearity than solid-state designs. There are good mathematical arguments to support such an idea. Most of the distortions that befall a waveform are due to nonlinearities of one sort or another. Some come from the fact that no amplifier stage, whether tube or transistor, has a perfectly linear transfer function over a wide input range--there are always higher-order terms. A linear region that's a little wider and a little more linear would, in fact, result in less distortion.

There is also the matter of crossover distortion. In Class-B amplifiers, one device handles the positive-going part of the waveform, while another handles the negative. This mode of operation reduces the amount of power in the stage when the input is near zero. But it forces the two

devices in the complementary pair to cooperate very closely--and very linearly--when the input is near zero. Little offsets or a tendency to get non-linear near zero input can contribute audibly to distortion.

It has been argued that crossover distortion is more easily handled with tubes, and that better saturation behavior and improved linearity may in fact be characteristics of good tube designs. If so, these virtues are being revealed by fixes to some of the historic problems of tube gear--power supplies and output transformers.

"Tubes have become more viable now precisely because of new transformer, power-supply and power-capacitor technology," said Vacuum Tube Logic's Manley. "With vacuum-tube rectifiers and older stage capacitors, it was very difficult to store enough energy in the power supply to respond to big transients. But with the technology we have now, it's not unusual to have 2,000 microfarads of capacitor there--huge compared to what you could do in the early stuff." Slew rates of 25 V/microsecond are possible, he said.

"Transformers have also improved dramatically. If you wind very carefully and use the new insulation techniques, you can get very tightly coupled windings, and have excellent frequency response," Manley said.

Some purists have taken tubes to a sort of esoteric minimalism. If a tube operating in a highly linear manner sounds best, they reason, let's eliminate anything that will color the sound. Class-B design, decoupling capacitors, unnecessary resistors must go. Even some of the internal frills, like heaters and screen grids, that improve the behavior of tubes are discarded, accused of spurious coloration.

The result is an almost religious pursuit of simple, single-ended triode amplifiers, most often using the venerable Western Electric 300B power triode as an output device. Such amps have been nearly a cult item in parts of Europe and Japan, and are now spreading in the United States.

The claimed advantage is incomparable musicality, derived from the way the simplicity of the circuitry unmasks the innate beauty of the triode-amplifier stage. But the concept has detractors. "I don't do single-ended designs," Manley said. Such designs "saturate their output transformers very quickly. In practice, they are limited

to 10 W or so, and have very poor frequency response."

Ultimately, it may be that attention to the listener's experience, rather than the choice of a particular technology, determines the results. Nye of Clayton Audio suggested as much. "The decision to use tubes or solid-state design is partly personal preference and partly economic," he said, noting that "there is no inexpensive approach to tube design. In the end, the designer's comfort with the technology may count for more than the decision to go one way or the other."

## CONNECTIONS

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

## FOR SALE

Estate sale at November meeting (collector members only...not to be purchased for resale): Early used tubes, not tested, like 45's (ST and globe), 199, 26, 27, 58, etc. Price about half of AEC retail or at their buying price, whichever is lower; price marked on box is firm. Freed-Eiseman NR-12, in near perfect condition, no tubes, \$125; Atwater Kent #10 breadboard kit (sort-of) - all components to build one after you refurbish the metal bottoms of individual units (probably a #10 in prior life), \$300; early AK horn speaker to match AK-10, broken housing, loose element, \$40; perhaps some additional radios and parts if time permits. Opportunity will be provided to bid prices; tubes to be sold before and after meeting - first come, first served. No calls please; prices set by family. John Dilks.

**TRANSISTORS FOR SALE:** 1961 Toshiba 10TL-429F AM/FM (p. 220 Bunis Xsistor I) \$35; white 1957 Arvin 9574P (p. 226 Lane) \$50; 1961 Crestline 6T-220, made by Toshiba (identical to Windsor model of the same number on p. 123 of Lane), coral colored w/gold reverse paint, complete w/leather case, \$45. Mike Koste, (215)-646-6488.

All or part of 6 cartons of old radio & TV schematics, manuals, books, substitution guides, Sam's Photo Fax, test equipment, magazines, etc. 1930-1960's. Martin Fleisher, 12 Zellers Road, Box 123, Long Valley, N.J. 07853 (908)-832-7047.

Shortwave Receivers: 3, 9, 10 and 12 band miniature shortwave radios; \$18-25-35-40; nationally advertised at twice this price (15% discount for club members); most sensitive - they bring in entire world (except 3-band). Richard Brill, (908)-607-0299. Fax: (908)-679-8524.

Motorola 8" round-screen wood TV, \$110. Hallicrafters SX-62, works good, \$250. National NC-183D, works good, \$250. Pete Grave, (610)-847-2214 (evenings).

Howard W. Sams repair books: transistor (TSM), auto radio (AR), and hi-fi (MHF). Good supply. Lewie Newhard, (610)-262-3255 (evenings).

Tubes, NIB (over 6,000), 50% off AES prices; minimum purchase \$20 (for \$40 worth of tubes) or buy the whole lot. J J Papovich, 53 Magnolia Ave., Pitman, N.J. 08071, (609)-582-8279.

Collection of the late John Kara (former club member) consisting of: AK 188, early battery set, hi-fi equipment, ham receivers, consoles, wooden and plastic tabletops, transistor radios, test equipment, crystal sets, between 2,000 to 3,000 radio and TV tubes, etc. Elsie Kara, Whiting N.J. (908)-849-4318.

Novelty Items - RCA, Victor, Edison, Splidorf and others. Send LSASE (55 cents postage). Sams Photofacts #500 up to 1000 - you pick up - 50 cents each. Over 300 books - send LSASE (55 cents postage) for list. J.J. Papovich, 53 Magnolia Ave., Pitman NJ, 08071. (609)-582-8279

## WANTED

Spark gear - have Pepsi bottle radio to trade for same. John Dilks, K2TQN, (609)-927-3873 (evenings).

Someone to repair a short in a 1938 Stromberg Carlson radio. Chassis and spkr. removed from cabinet; very clean. Ken Roginski, (908) HOpkins 2-4623.

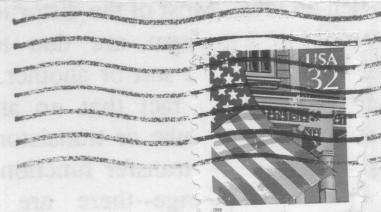
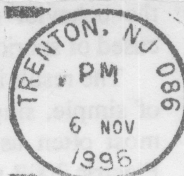
Heathkit Handitester Volt-Ohm-Meter, Model M-1, working condition. GE table clock-radio, model C-405, gray case/ivory front, 5-tube superhet AM receiver, ca. 1959. Tom Fallon, 159 Riva Ave., Milltown, N.J. 08850. (908)-545-0417

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

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

Ware cathedral model B-1 "Bantham" (Bunis 1 & 2) manufactured by the Ware Mfg. Corp., Trenton N.J. All original - \$200. Freed Eiseman model NR-5 battery set (Bunis 2, pg. 81). All original, no tubes, nice - \$90. Crosley model XJ battery set (Bunis 1 & 2). All original, no tubes - \$175. Freshman Masterpiece, slanted front, table model, no tubes, all original - \$75. Elwood F. Hunt, 308 Georgetown Road, Carneys Point, N.J., 08069. (609)-299-5259

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



BOB OLAWSKI  
230 COURT AVE.  
LYNDHURST, N.J. 07071