The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB



January 2000

Volume 6 Issue 1





Reported by Marv Beeferman

Happy New Year! I hope the new millennium greeted your collections without any Y2K glitches. I had a minor problem with a GE model 50 clock radio that wouldn't move past 12 o'clock and a Philco 17 that wouldn't play anything except Bill Halley's *Rock Around the Clock*, but a good whack with a rubber mallet straightened out their filaments and made them immediately compliant. Love that tube stuff!

Our annual holiday party met all expectations in the areas of food, friendship and fun. A deserving well-done is extended to all who helped with the setup and cleanup, with a word of special thanks to Marsha Simkin who adds those special touches (and hard work) to make the gathering just that much more pleasant. Some nice surprises showed up in the Radio Scavenger Hunt; a sampling of winners (as selected by our expert panel of judges) included:

•The "most unusual item that looks like a radio but isn't" category went to a 1993 Hallmark Christmas ornament in the form of a cathedral radio that "broadcast" an urgent bulletin regarding Santa's arrival.

•The category 5 winner (most unusual holiday-related radio item) was a 1920's Christmas/New Years cookie box with a radio theme that was given to children at church.

•A Western Electric 240B water-cooled triode was selected as the strangest looking tube. A tube was also selected as the "open" category winner, a 201A with a dual element switch on its base.

•The ugliest commercial radio winner went to a Lewyt portable whose owner suggested that the company should have stuck to vacuum cleaners. **MEETING NOTICE**

The next meeting of the NJARC will take place on Friday, January 14th at 7:30 PM in the Grace Lutheran Church, corner of Route 33 and Main Street in Freehold. Contact Marv Beeferman at 609-693-9430 or Phil Vourtsis at 732-446-2427 for directions. This month's meeting will provide an "Open Forum" for whatever topics the membership wishes to discuss including "show-and-tell" items. Bring your restoration and repair questions, recently discovered kinks and techniques, latest acquisitions and ideas for this year's club agenda (technical topics, restoration sessions, etc.) to display and discuss.

The Mystery Grab Bag (although its rules still being a mystery to one or two participants) also proved to be a lot of fun and **most** of us behaved like adults, with only one or two cry babies having to be locked in the bathroom for the night. One particular item, a horn speaker entered by Mark Mittleman, changed hands so many times it will probably need a new coat of paint to restore it.

Our December 4th swapmeet turned out to be another sellout and smoothly run affair despite a few kinks. The hall wasn't ready until 11:00 PM for table setup because of a dance that evening and the number of tables promised did not materialize. But with the help of John Ruccolo and an overnight stay at the Ramada across the street by your editor, all

was ready for the early arrivals. Phil Vourtsis and his daughter also deserve a hand for supplying a last minute continental breakfast; I'm sure their efforts played a big part in subduing those early morning nasties that come with coffee withdrawal.

John Dilks accepting NJARCs first Tony Flanagan Memorial award.

on your address label indicates that \$15.00 will provide you with another year of radio revelry and club benefits (honorary members, indicated by an "H," are exempt). President Vourtsis' message hints at only a few of the planned activities that will make 2000 another great year for our NJARC fraternity. Thanks to Marsha Simkin, we'll even be providing

> membership cards! Please make checks payable to NJARC and send them to:

Marsha Simkin 10 Avalon Lane Matawan, N.J. 07747

Dues can also be paid at the club meeting.

Member Ray Chase is recuperating at home from a recent illness and his wife Edith reports that he is coming along great. If you care to drop Ray a line, you can do so at 1350 Marlborough Ave., Plainfield NJ, 07060 or e-mail him at the follow-

ing address: enrpnr@erois.com

Keep some important dates on your calendar for next month. **DVHRCs Super Wintermeet 2000** is scheduled at the Grimes Center in Havertown, PA on March 4. Vendors will be able to set up at 7:30 AM, with buyers admitted at 8:00 AM. Tables are \$15.00 in advance and can be reserved with Bill Overbeck at

2000 DUES

Yes, its dues time again and a "1/00"

THE JERSEY BROADCASTER, published a minimum of ten times each year, 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 with special emphasis on contributions made by the state of New Jersey. Dues are \$15 per year and meetings are held the second Friday of each month at the Grace Lutheran Church, corner of Route 33 and Main Street in Freehold N.J. The Editor or NJARC is not liable for any buying and selling transactions or for any other use of the contents of this publication.

OFFICERS, BOARD OF DIRECTORS AND PROGRAM COORDINATORS

PRESIDENT: Phil Vourtsis 13 Cornell Place Manalapan, N.J. 07726 (732)-446-2427 **VICE PRESIDENT:** Jim Fisher 344 Harrison Ave. Manville, N.J. 08835 (908)-725-7476 **SECRETARY/EDITOR:** Marv Beeferman 2265 Emeralda Park Drive Forked River, N.J. 08731 (609)-693-9430 **TREASURER:** Sal Brisindi 203 Cannon Road Freehold, N.J. 07728 (732)-308-1748 SARGEANT-AT-ARMS: Dave Snellman Box 5113 New Britain, PA 18091 (215)-345-4248 **TRUSTEES:** Mark Mittlemen (908)-431-1324 Gary D'Amico (732)-271-0421 Martin Friedman (732)-238-1047 **TECHNICAL COORDINATOR:** Al Klase 22 Cherryville-Station Road Flemington, N.J. 08822 (908)-782-4829 **TUBE PROGRAM:** Gary D'Amico 84 Noble Street South Bound Brook, N.J. 08880 (732)-271-0421 SCHEMATIC PROGRAM: Aaron Hunter 23 Lenape Trail Southampton, N.J. 08088 (609)-267-3065 **CAPACITOR PROGRAM:** John Ruccolo 335 Butcher Rd. Hightstown, N.J. 08520 (609)-426-4568 WEB COORDINATOR John Dilks, K2TQN (609)-927-3873 http://www.eht.com/oldradio

Volume 1 Issue 1

19083 or call at 610-789-8199. The 2000 BCB DX Contest is scheduled from February 18th through February 27th. Details and rules were published in the December Broadcaster and will be available at the January meeting or call me for a copy. This also applies to the Home-Brew, One Tube Radio Contest scheduled for April 14th.

THE PRESIDENT'S MESSAGE

By Phil Vourtsis

I would like to take this opportunity to wish each and every NJARC member a happy and prosperous New Year. Indeed, this New Year has been an exciting one with the rollover to the year 2000. It makes us pause and look back at what transpired in the last year, or in this special case the last years. Our interest in ratheir knowledge eagerly.

continue to manage these activities and double A's. include a few more. This year we are adding a one-tube radio contest and will attempt a larger swap meet. The most exciting development has been the formation of the Infoage Learning Center. When this project reaches its full potential, NJARC will be part of a state of the art 'hands on' learning center where the technical accomplishments of New Jersey will be showcased. To us, it means holding our meetings and swapmeets in an historical place and having a permanent place to set up exhibits to promote our

DVHRC, P.O. Box 847, Havertown, PA hobby. Pioneer memberships are now open to the public, but will only be offered through the year 2000. Membership applications are available at their Official Web site; http://www.infoage.org and also at our club meetings. I urge all of you to join. The sooner they have the funds to work with, the sooner this non-profit museum can become a reality.

> What Tony Flanagan and a group of charter members started in 1992 has certainly grown into a vibrant and interesting club. I know that we will all do our best to keep the club alive and growing in the New Year and years to come. See you at the next meeting!

BATTERIES NOT **INCLUDED**

By Marv Beeferman

While on a recent shopping trip, a small dio does span the last 100 years, depend- cast, solid replica of a mid 30s radio caught ing on where our interests lie. This is my eye. I've seen them show up on various what makes our club so diverse. Whether occasions (some were being offered at the it's early Marconi, the Philco Predicta, hotel gift shop during the AWA conven-WW II communications gear, or Catalin tion); this one measures 3" X 2-1/4" X 1radios, we have members ready to share 1/2" and is offered by Popular Imports of Metuchen, NJ. However, when I got it In the past year we have added some home and examined it more closely, I nonew club activities which have been re- ticed that the engraver had taken care to ceived very positively. Our Saturday Ra- add a "AA" battery compartment in the dio Repair Session in October lasted all lower right hand corner of the back of the day with about 80% of the radios work- set. I couldn't help but wonder if he had ing by the end of the session. The club's used for his model one of those "meticulous first BCB DX contest was held last recreations" (complete with cassette spring with plenty of eager participants, player) that have been making the rounds and radio exhibits were held in Morris lately or he just assumed that even a 1930s County, Lakewood, and Wall Township radio needed an easily accessible compart-(Camp Evans). In the New Year, we will ment for replacing those hard working



Volume 6 Issue 1



Volume 6 Issue 1



JOHN DILKS AWARDED TONY FLANAGAN MEMORIAL AWARD

By Marv Beeferman

The first Tony Flanagan Memorial Award was graciously presented to NJARC member John Dilks at the December meeting by Tony's wife Kathleen. John was selected by the Board of Directors from a list of nominations submitted by the membership on the basis of outstanding contributions to:

- The promotion of the antique radio hobby.
- The preservation of wireless, radio and electronic communication history through artifacts and documentation, and
- The promotion of the public's awareness of radio development and history through books, articles and exhibitions.

The award, supported by a generous contribution by the Delaware Valley Historic Radio Club, consisted of an individual plaque and a certificate outlining John's achievements which read as follows:

The New Jersey Antique Radio Club proudly presents its 1999 Tony Flanagan Memorial Award to John Dilks, K2TQN, as merited by his selfless dedication to the promotion of the antique radio hobby, the preservation of radio communication history and the promotion of the public's awareness of radio development and history. John, an ARRL Life Member and Executive Board member of the Antique Wireless Association, through the unique concept of a Mobile Amateur Radio Museum, has toured numerous hamfests. swapmeets, conventions and other radiorelated gatherings bringing the "light of day" to his collection of vintage amateur gear and artifacts. John has created an exposure to 1920s and 1930s amateur radio that was not ordinarily available in

Volume 6 Issue 1

the past and has introduced newer hams to the homebrewing techniques of earlier generations. John has not only concentrated on preserving material representations of the past, but also the human story behind what is displayed. John's contribution to the safekeeping of major components of Joe Hoffman's New York station W2DST is but one of many examples. Through his antique radio and NJARC web pages, John has also provided access to numerous neophyte and experienced collectors to the past and present of broadcast and communication radio.

On behalf of the New Jersey Antique Radio Club, it is an honor and pleasure to present a very deserving John Dilks with this year's award.

A separate plaque listing the award's criteria and each year's winner will remain with the club.

In accepting the award, John said that he hopes to be able to continue to live up to its implied expectations for the future and recognized the support of his wife Sherrie as a major factor for his present accomplishments. There is no doubt that John is on the right track with the inaugural publication of his "Old Radio" column in January's QST. John chose a review of the 1929 Pilot Super-Wasp to stir his reader's interest and hopefully provide an incentive for the preservation of this and many future electronic gems of antiquity.



A deserving John Dilks accepts the first Tony Flanagan Memorial award from Kathleen Flanagan and Phil Vourtsis.

SOLDER MANUFACTURERS TO "GET THE LEAD OUT?"

The following was based on the article "Bad Connections" by Gary Stix in the December 1999 edition of "Scientific American"...Ed

Start hoarding those rolls of Kester...it may be time to make room next to that last case of Freon which maintains your leaking but still functional car air conditioner. Yes, that time-tested radioman's glue has joined the ranks of artificial sweeteners, power line electromagnetic radiation and charcoal-grilled hamburgers. I can visualize words of cau-



tion slowly taking form and finally formalized at the 2010 AWA auction: "No Mercury-Filled Tubes or Radios Constructed with Lead-Based Solder Allowed!"

Although lead-based solder accounts for 2 percent or less of the world's industrial consumption of lead, most of which goes into the production of such products as automobile batteries, the European Union is considering banning toxic lead from electronic equipment by 2004. Some Japanese companies have introduced consumer electronics containing lead-free solders and have plans to eliminate lead-based solder early in the new decade, actions that will pressure the US industry to go lead-free. The IPC, a Northbrook, Ill., trade association for circuit board and other electronic subcontractors, is already mapping out a strategy for adopting lead-free solder.

Why is the industry worried? Lead lowers the melting point of solder to an ideal processing temperature and anything that could affect the reliability of this timeworn process makes manufacturers squirm. A higher melting point means that processing unleaded solder could damage electronic components and the entire manufacturing cycle might have to be revamped to ensure their integrity. Many of the replacement materials, which range from polymers to alloys for tin, such as copper and bismuth, do not form strong joints. Compromising reliability could mean that consumers would have to cope with a dead cell phone or a car that will not start.

Manufacturers also fret about the "popcorn effect," which occurs when residual moisture in the epoxy coating that shields an integrated circuit vaporizes at the high temperatures needed to melt the lead-free solders. The epoxy then detaches from the chip and pops open, which lets in contamination and can cause stresses in the coating.

It has been estimated that a lead-tin solder replacement could cost US industry \$140 to \$900 million a year, depending on the materials incorporated. But the largest expense may result from having to deploy other materials throughout the circuit board that can withstand the higher temperatures encountered during soldering. Although companies have devised replacement processes, none are as allencompassing as existing methods.

Volume 6 Issue 1

Even if lead-tin solder remains, manufacturers may eventually run into other difficulties with the alloy. Lead can emit alpha particles, which result from radioactive decay and can cause errors in chip circuitry. As a result, industry suppliers are considering making solder with lead salvaged from ships that are hundreds of years old or perhaps from the roofs of 1,000-year-old cathedrals, metal that is old enough that its decay into a nonradioactive end product has already occurred.

Worries about the presence or absence of lead means that the lowly solder bump has begun to raise goose bumps on the flesh of manufacturers.



Pre-millennium combing of the written and electronic media exposed many examples of the "best" of the past 1,000 vears or a "most influential" of the century in almost every category imaginable...from the obvious "person of the millennium" to the remotely important "song of the century." Although there is never anything decisive about these types of exercises, they do provide a groundwork for some lively intellectual exchanges. For example, in his 1978 book The 100 - A Ranking of the Most Influential Persons in History, Michael H. Hart placed Mohammed, Isaac Newton and Jesus Christ one, two and three respectively. The ranking was due mainly to Hart's belief that Mohammed had a much greater personal influence on the formulation of the Moslem religion than Jesus had on the formulation of Christianity. This didn't imply, of course, that Mohammed was a greater man than Jesus.

But it does seem to this observer that some basic flaws in the selection process went unnoticed, basically resulting from the absence of a firm basis for selection: • Most choices were somewhat limited to the last 200 to 300 years, as if speculating on the influences of Aristotle or St. Paul would be too remote or meditative for the average person; immediate name or product recognition seemed to hold the key for selection.

• It seemed that there was difficulty in deciding between the most *influential* (with the greatest effect on history and on the everyday lives of other human beings) and the *greatest*. Is fame, talent or nobility of character the same thing as influence? For example, is there room on a list for both enormously influential, wicked, and heartless men like Stalin or Hitler and the saintly Mother Cabrini or Theresa?

• In addition, selections seemed to be based on evaluating present consequences rather than influences on the past or potential for the future. Shouldn't affects on the present and future situation of mankind **as well as** the influence on past generations be taken equally into account? For example, although continued influence could not be estimated with anything approaching certitude, it seems safe to predict that electricity will still be important 500 years from now and the contributions of Faraday and Maxwell will continue to affect the daily lives of our descendants.

• Finally, in many cases, it seemed that selections for consideration were made by individuals with only a rudimentary knowledge of the person, invention, work of art, etc. under consideration. A good example is Albert Einstein who topped out as Times's person of the century but who did not even make CompuServe's person of the millennium which included such notables as Thomas Edison, Martin Luther, Galileo Galilei, Isaac Newton, Johannes Gutenburg, Leonardo De Vinci and Charles Darwin. Edison was included for the development of the first commercially practical incandescent lamp in 1879 (although incandescence had been demonstrated in Cincinnati as early as 1845 and equal credit could be easily given to British inventor Joseph Swan) and the development in 1882 of the world's first central electric light-power station (although it was DC!). In truth, the incandescent light bulb, although widely used, is not an irreplaceable part of modern life (considering the wide use of

fluorescents). Indeed, before electric lights came into use, candles, oil lamps and gaslights were generally regarded as reasonably satisfactory light sources. Personally, I would rank his discovery of the Edison effect (the flow of electricity between to separated wires in a near-vacuum) as a more important contribution.

One category that I found somewhat interesting was CompuServe's "Products of the Century" in the area of communications. The paperback book (1935), RCA radio (1921), RCA television (1939) and World Wide Web (1991) topped this list. Although generic choices of radio and television seem reasonable, why specific RCA brands were chosen might deserve some scrutiny. Perhaps General Sarnoff had more influence than we even imagined!

It was good to see that Guglielmo Marconi made one of the top 10 lists for "Discoveries and Innovations of the Millennium." On Hart's list of 100, Marconi scored a 41, below that of Edison's 38 based on the questionable consideration that "although no single one of Edison's inventions was of overwhelming importance, it is worth remembering that he did not invent just one device, but more than one thousand."

Since Marconi is famous only as an inventor, it is clear that his influence is proportional to the importance of radio and its direct offshoots. Although Marconi did not invent television, the invention of radio was a very important precursor to its development. Compared to other forms of communication, wireless communication is enormously more important in the modern world with regard to the transmission of news, entertainment, military purposes, scientific research, etc. Although for some purposes, the telegraph (which had been invented close to 50 years earlier) would serve almost as well, for a large number of uses, radio communication is irreplaceable, reaching automobiles, ships, airplanes and spacecraft. For this reason, it is plainly a more important invention than the telephone.

In comparison to other individuals, it would be fair to rank Marconi considerably below Michael Faraday and James Clark Maxwell since radio and television are only a small part of the practical applications of their theoretical work. But it seems equally

Volume 6 Issue 1

clear that only a handful of the most important political figures have had as much influence on the world as Marconi has had, and therefore, he is entitled to a fairly high ranking on any combined list.

The creation of a list of the most influential personalities in the development of radio would be an entertaining exercise. Send me your ideas and choices and I'll include them in a future *Broadcaster*.



The following is adapted from "Radio Squeezes Empty Air Space for Profit" by Alex Kuczynski which appeared in the January 6th, 2000 issue of "The New York Times."

With no fanfare, the digital program called Cash has established a foothold in the radio industry in the last six months. General managers at about 50 radio stations across the country are using it to quicken talk programs so that they can wedge in more commercials. Radio stations are adding as many as four minutes of commercial time an hour - or eight 30second commercials.

While the radio industry has previously used devices to speed up programming, this is the first time that time compression has been applied on live programming to expressly make room for more advertising. Cash was introduced by Prime Image, a Silicon Valley technology company, after a similar device for television stations - the Time Machine, which compresses audio and visual signals to make more time for commercials on live programming. Cash works on live radio by digitally recording the entire broadcast. It begins by recording the first couple of minutes of live radio - depending on how many commercials the manager wants to insert - then replays it, condensing the silent parts throughout the rest of the broadcast. It is used primarily by local radio stations that apply it to syndicated programs.

For example, WWDB-FM in Philadelphia, which broadcasts Rush Limbaugh's national program every day at noon, sought to gain almost three extra commercial minutes in one hour. The engineer inserted a one-minute commercial block at noon, and Cash silently recorded Mr. Limbaugh during that minute. At 12:01 p.m., the program began to play Mr. Limbaugh's now not-exactly-live broadcast; during the next 21 minutes, the digital program eliminated pockets of silence between Mr. Limbaugh's words and also removed what is known as "redundant" data from within words - for example, shortening a long syllable. The station gradually earned back the one minute lost at the top of the broadcast.

Cash has angered radio denizens like Rush Limbaugh who says he uses pauses for emphasis much like an actor raises an eyebrow on stage. But in an economy where advertising dollars are plentiful and radio stations can, as a result of deregulation, run as many commercials as listeners will tolerate, some say the radio industry is like a hungry child staring at an open cookie jar. While radio executives say the impact of the Cash technology is often imperceptible to consumers, advertising executives complain that there is already too much clutter on the dial, making each commercial less effective. Other critics point to a larger issue: that the growth in commercials in recent years, combined with listeners drifting toward other media, may be helping to eat away at the radio audience.

But perhaps there is an up-side to the new technology. The Inspirational Network in Charlotte, N.C., has used it to speed up sermons and religious programming.

a word from our sponsor a|word|fron|our|sponsor



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

Check out NJARC's capacitor program for those most commonly needed replacements. Contact John Ruccolo at any club meeting or call him at home (609)-426-4568 to find out what's available. All proceeds go to the club.

7JP4 CRT, good filament, screen looks OK, make offer. Alton Dubois Jr., 67 Peggy Ann Road, Queensbury, NY 12804 (518)-792-3130.

Radio schematics and service data, \$2.50 plus #10 SASE (price is for 1 to 5 pages of data per model; over 5 pages, copy charge is 20 cents per page). US & Canadian models 1920s to 1960s. Questions/quotes answered with a SASE. Steve Rosenfeld, PO Box 387, Ocean Gate, NJ, 08740. Phone (732) 269-2022 Fax (732)-269-2897. srosenfeld@ems.att.com

New index to AWA publications (*Old Timer's Bulletin*, <u>AWA Review</u>, misc.), 1960 through Aug. 1999. Formatted like the earlier version but with new "Author" section. Has 63 pages, 8-1/2" X 11" size. Gives 7000+ citations. \$12 postpaid anywhere. Make check/MO payable to: Ludwell Sibley, 102 McDonough Rd., Gold Hill, OR 97525.

Volume 6 Issue 1

The ever-handy reference *Tube Lore* gives 186 pages of insightful scoop on about every North American tube there is. Reviewed by Eric Barbour in *Vacuum Tube Valley* as "an instant classic." Available from Ludwell Sibley, 102 Mc-Donough Road, Gold Hill, OR 19725-9626 for \$19.95 postpaid in the U. S. and Canada, \$24.95 by air overseas. Clubs get a discount on multiple copies.

The NJARC tube program offers clean, tested, boxed tubes at very reasonable prices with availability at any club meeting (no dealers, please...not for resale). Proceeds go to the club. Of course, donations of radio-type tubes in any condition are welcome. See Gary D'Amico at the next meeting.

Crosley Clock Radio, Model F-25MN, 1950s vintage, has speaker that points down, very good condition, \$65. Contact Rick @ 732-370-8206 or rweinga@aol.com Can e-mail picture if requested.

WANTED

Cast aluminum lid for Eveready #2 radio, circa 1928. Good photo would help if lid is not available. Need two, four-inch black No. 488 dial knobs for Fried Eisemann NR-6. Alton Dubois, Jr., 67 Peggy Ann Road, Queensbury, NY., 12804. (518)-792-3130.

WWII military television receiver, camera and dynamotor with numbers CRV, AXT, ATJ, ATK, purchased from Denson Electronics. WWII Navy transmitters and receivers. Maurice Schechter, 590 Willis Ave., Williston Pk., NY 11596 Phone/fax: (516-294-4416)

Japanese tubes: UF134, UZ135, UF109A, UF111A, UY133A. Lewie Newhard (610)-262-3255 The May 1966 issue of *Electronics Illustrated*. Richard C. Yingling, 2 S. Locke Ave., Yeagertown, Pa. 17099 (717)-242-1882

Information on "Lang" radios: literature, pictures, pricing, etc. Charles J Dreitleio, 515 Elizabeth St., New Milford, NJ 07646 (201)-384-3862

Gernsback's Official Radio Service Manuals: 5,7,8. RCA Victor Service Data: '47, '48, '49, '51. Mike Tannenbaum, PO Box 386, Ambler PA 19002. (215)-540-8055 Fax (215)-540-8327 or k2bn@agtannenbaum.com

Emerson AU-190 chassis; FADA 659 dial glass; Chelsea ZR-4 audio transformer; Sentinel 400 Television; Plastic CRT cover (front) for 17" Philco Predicta; Pilot TV-37 tuning knob (wood). Frank Johnson, 530 Elford Rd., Fairless Hills, PA 19030-3624. (215)-943-8295

Sales literature, service manuals, and equipment for theatre sound/broadcast use by RCA Photophone, Century Sound, Motiograph, Altec, Western Electric, etc. Theatre catalogs by Jay Emmanual Publications, Philadelphia. Scott Stillwell, 2328 Cambridge Circle, Hatfield, PA 19440. (215)-393-1833 Pager: (800)-717-9306

Chassis and speaker for Sparton 517B (Machine Age to Jet Age, pg. 187) or Sparton 527-2 (Machine Age to Jet Age II pg. 283). Joe Bentrovato, 84 E. Munson Ave., Dover, NJ 07801. (973)-361-7392

Repairs wanted: Have wind-up floor model Victrola. Winds and turns but stops when needle is lowered to record. Mildred Coleman, 5038 Gainer Rd., Phila. 19131. 215-879-3047 Ans. Machine:215-477-8151