

SOUND WAVES

Vintage Radio and Phonograph Society, Inc.

October 2007

From the President.....

Jim Sargent

Gosh, where has the year gone? Seems it was just last week that the rains of spring and early summer would never end. Now, as I write this, the hot days of summer are beginning to wane and we can see that fall is approaching. Fall means activity for the VRPS, especially the coming of the annual convention. I really love this time of year. Stuff begins to happen fast and furious...but it is over so fast for another year and the cycle repeats. In this case, for the 32nd time. I missed the first two conventions, but I have made each one since. Whether this is your first or your 32nd, I look forward to seeing you in Mesquite. You will find registration material accompanying this issue of the *Soundwaves*. Send in your registration early, as that helps us get a better handle on the expected attendance, especially if you are booking a room at the Hampton Inn or will be planning to join us for the Saturday banquet. Speaking of banquet, we will have some great door prizes and entertainment lined up for you. The meal ain't half bad either. Our contest room is always a wonderful place to spend some time perusing the magnificent objects of our affection. We look forward to seeing your entry this year. Remember, we are celebrating the contribution of radio from the state of Texas. Bring 'um if ya got 'um! As I close for this issue, I think the editors would want me to remind you that articles are always welcome. As we have discovered over the years, we have so much talent and knowledge in this organization, much of which has never been shared with the rest of us. Call me or send me or Cleo an email to discuss future articles you may want to write or contribute. Pictures are not only welcomed but encouraged. Good hunting and see ya in Mesquite.



July 2007 Repair Session

By Bill McKeown

Several people showed up for another enjoyable repair session (I in my rubber-soled shoes). Gary Reeves brought the club computer and our disc with all the Rider's schematics and data. It's too bad there isn't a set of SAMS on disc – it would probably fill several DVD discs and would require a large task force to do all the scanning and getting it together. But of course the SAMS goes well beyond the era of “antique” radios and TV's. Maybe the copy rights are still in force, also. Anyone know if someone is going to put SAMS on DVD's?

A Zenith transoceanic was one of the “patients” being worked on. They are often a challenge because they are so elaborate. Unfortunately we didn't have a spare tube of the type it needed to get it going, although the diagnosis was probably good. Although it didn't happen with this radio, it is worth repeating here an important caution relevant to working on AC/DC/battery radios. NEVER plug tubes into the radio while it is powered up. The filter capacitor for the power to the filament string can charge up to a much higher than normal voltage when it's not loaded by the filament string. If you then plug in a tube, the excessive voltage and energy in the capacitor will blow out the filament of one of the tubes (the weakest one). If you then test the tube and plug in a new one, it will be equivalent to testing flash bulbs (remember those things?). For insurance, one thing you can do is to turn the set off and bleed the filter capacitor down with a 10 to 1000 ohm resistor before inserting a new tube. (Discharging filter caps with a screwdriver is more fun, but the extreme surge current can blow out the internal leads to the capacitor terminals. Besides, the screwdriver suffers some damage.)

The radio that I helped with was a very nice white '50's clock radio. It had been totally and very carefully re-capped – with good workmanship. The owner is a novice who followed the steps illustrated in Bret Menassa's Antique Radio Restoration course on DVD's. But after all his effort, the clock motor ran fine, but the radio was dead. That's why the radio ended up at the Repair Session. With clock radios, it's often the switch contacts in the clock works that cause the problem. Some quick checks, however, showed no voltage across the contacts when they were open. Further checks revealed that the connections to the clock works (3) had two wires interchanged. Once this was corrected, the radio played just fine! The lesson here is that it's a good idea to make sketches or take digital photos for reference. In this case the two wires were both black, so the sketch would have to show where their opposite ends connect.

See you at next year's session.

2007 MONTHLY MEETING PROGRAMS

Our monthly meeting in Irving (TX) is located in Senter Park at the Senter East Building. The address is actually 228 Chamberlain St. The park is bounded by S. Shady Grove, Senter Road, S. Delaware, and Chamberlain St. Call us on the cell *tellie* if you get lost.

OCTOBER 20

For October, we will have a "show and tell" of "unknown or little known Radio Manufacturers." Please bring radios that cannot be identified (by most common references) and/or their company cannot be identified. Unusual radios are welcome as well. Share your experience.

NOVEMBER 16,17,18

ANNUAL VRPS CONVENTION

VRPS Annual Convention, Hampton Inn and Suites, Mesquite, TX.

As always, we will need some volunteers for the auction staging.

DECEMBER 1

ANNUAL CHRISTMAS PARTY

Jaycee Center for the Arts, Irving, TX; beginning at 6:30 PM.

JANUARY 19, 2008

Mike McCarty, our own in-house theory "expert", will present introduction to impedance and impedance matching. Often we are puzzled about impedance matching and substitution of parts, which require matching. Mike will attempt to enlighten us to solving these problems, which should be informative and interesting to all.

FEBRUARY 16, 2008

"Where do all those chips come from?" will be the subject of this program. Tubes, to transistors, to integrated circuits has been quite a journey. Even though we are all mostly interested in tube-type equipment, we cannot but marvel at the power of these devices. This general presentation will explore the process by which chips (integrated circuits) are designed and fabricated.

MARCH 15, 2008

Spring Auction in Grapevine. 7am...till.

Programs are subject to change, contingent on scheduling conflicts.

As always, your suggestions for programs/content are welcome. If the programs do not fit your needs and you want something different, let me know. I will need volunteers in organizing other programs, so consider presenting a program yourself. Call me anytime or send me an email.

Mike Grimes

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Pictures from the August Swap Meet



September 2007 Meeting

Bill McKeown

President Jim Sargent conducted our meeting - attended by about 17 people. It's getting close to Convention time, so he reminded us that we need to get our reservations in right away. Jim outlined upcoming events, including next month's show-and-tell for which we need to bring items that are "rare, unknown, unknown make, very-little-known, rare brand, etc."

Program director Mike Grimes introduced our program, featuring two items - the second half of a video about Thomas Edison, presented by the History Channel Modern Marvels series on TV, and a showing and discussion of a display of very early toy and educational electric motors by Jim Sargent.

The video second half was shown, starting with the history of Edison's power generation and distribution system. His Pearl Street station in New York City was the beginning of the electric lighting era, with the replacement of gas jets with Edison's carbon filament lamps. The video showed the area of New York that Edison had lighted and talked about the difficulty of getting the power where needed. This enormous project required the development of all-new equipment for distribution, connecting and measurement of electric power. Edison's direct-current system required that power be generated at many places local to where it would be used. Competing alternating current, or AC, systems could transmit great amounts of power over long distances. AC was treated with disdain by Edison, and he launched campaigns against its use - primarily by highlighting any dangers caused by the use of high voltages. George Westinghouse was Edison's chief competitor and was instrumental in getting the Niagara River power harnessed. Just one of the Niagara alternators produced more power than Edison's entire system. Edison never accepted that AC was the better way to generate and distribute electricity. After losing out to AC power generation, Edison concentrated on other more interesting and useful projects. One was manufacturing dolls with tiny phonographs inside - successful only for a couple of years. He pioneered in making motion picture equipment such as cameras and projectors. In 1893 he introduced the Kinetoscope, which was a penny-arcade entertainment machine that would create a motion picture for people to view. They were electrically driven. (I remember seeing some in our local amusement park - they required that you turn a crank. Does anyone else remember those?) He created the first motion picture studio for making "movies". Edison also developed an electrically driven automobile. His dictation machines were a natural application for his cylinder phonograph, especially after the disc machines had supplanted their use for entertainment.

Jim Sargent showed a number of fascinating motors from his early toy motor collection. They were all made around the turn of the last century (1900) except for the one Jim had made himself, of course. One motor is in the style of Edison's original generators used in the Pearl Street power station. It has the name EDISON cast into the top part of the electromagnet frame. It is mounted on a wooden base

with a knife switch - perhaps a salesman's sample? One of the motors on display still had its original box. Jim ran several of the motors from a toy railroad transformer.

Author's notes: One of Edison's original generators from New York is on display at the Greenfield Village Henry Ford museum in Dearborn, Michigan. Until around 1970, the electric fork-lifts at the big Swift meat packing plant in Fort Worth were still running from their original Edison nickel-iron batteries installed and put into use in 1908. It is interesting to note that the video mentioned Westinghouse (the business man/entrepreneur) and Edison (the inventor/business man) but not Nikola Tesla who was the genius (but poor business man) who sold Westinghouse the needed patent rights to his AC generation, power transmission, transformers and AC electric motor inventions.

For the October meeting, Eric Kirst said he will bring a "mystery radio" and keep it covered up until after he talks about it. It will be interesting to find out why he doesn't want it seen beforehand. (The idea of staging an "unveiling" may catch on).

See you at the Convention!



Another picture from the August Swap Meet

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Evolution of the Edison screw shell and base

By George Potter

Our May club meeting featured Edison items on display.

Several members gave a short presentation on the items they brought for display.

My presentation was on the books *Menlo Park Reminiscences*. There are 3 volumes covering the periods: years prior to 1879, 1879-1880 and 1881-1941 "Lighting of New York City". The green hardbound volumes are becoming hard to find, although you can get the paperbound versions fairly easy.

I also displayed the pre-volume to volume number 1 which was hand signed by Francis Jehl, the author of the three volumes and has early style writing on the cover. I also displayed a 1929 lithograph of Edison in his mid years, which was originally displayed in a Tyler, Texas pharmacy.

One of the areas I talked about regarding Edison was the very inaccurate tale of the Edison lamp screw-in base. Many recite the ketchup lid theory of how the screw-in base evolved.

Actually it was a quick simple solution in a matter of minutes that occurred.

Edison was in a typical late night session early in 1880, with his assistants in the laboratory and all were discussing the second upcoming lighting exhibition and how they could find a more secure lamp base. Now here, I digress back to the first lamp in 1879.

Initially the first lamp was, for lack of a better, word "jammed" into a wood base, with bound bamboo wedges holding it in place. Lead wires were then attached to terminals. Some of the replicas of the first lamp were on display at our meeting and those showed a base that substantially held the lamp in place. That wasn't the case in 1879 and many short outs of lamps occurred because the lamp was not sufficiently anchored.

Now back to their late night session.....During the discussion, Edison glanced over and noticed a kerosene oilcan nearby. Picking it up and unscrewing the cap, Edison looked at it for awhile. Then suddenly he explained that this would make a great socket for the lamp and a base as well! Thus the base and sockets were made from wood. In the socket the female screw was placed at the upper end; below the screw were three inverted U metal springs at equal distances one from another. The lamp base had a male screw and cylindrical ring. When the latter was screwed into the socket, it was forced between the U springs and made a good contact. Shortly thereafter, it was realized they would also need a snap switch, to turn it on and off. During a short period of time his assistant E.H. Johnson gained patent recognition himself, with the development of the Johnson bevel ring for the screw shell. The Johnson bevel ring had a limited life and due to failures eventually was replaced with the Bergmann cap on the bottom of the screw shell. This came about with mutual agreement between Edison and Bergmann to delete the Johnson bevel ring. I have had several types of these bulbs in my collection and found that the plaster of Paris ring above the Johnson bevel ring was fragile and could easily be fractured if screwed in too tight in the socket. We have to under-

stand that ancillary equipment for the lamp was non-existent even in 1880 and thereafter designs and plans had to be made for mains, meters, switches and many other products for the electric light.

Edison patented the screw shell and snap switch on March 7, 1881, almost a year after it was discovered!

Now there were other lamp bases and sockets to follow, like: Sawyer-Mann, Swan, Thomson-Houston, Brush-Swann, Maxim, Perkins, Hy-Lo, Columbia, Westinghouse and many others trying to circumvent Edison's patent.

Many of Edison's assistants like Sigmund Bergmann, William Hammer, Charles Batchelor, Francis Upton, E.H. Johnson, and Francis Jehl, went on with products and inventions to enhance the light bulb and electric industry. Each of these men had high regard for what they were doing and many sensed that they were living extreme historical moments. Edison in turn was blessed with such men, each having unique qualities and skills needed to evolve a product and with total loyalty to the cause.

If you would like additional reading material on Edison, read: *A Streak of Luck*, by Robert Conot, 1979; *The Papers of Thomas A. Edison*, by Rutgers New Jersey State University, Volumes 1-4 & continuing, and of course *Menlo Park Reminiscences* volumes 1-3, which are by far the bible of the electric light.

References:

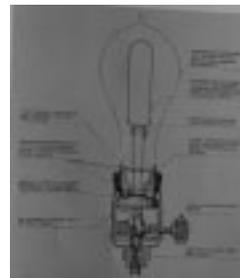
Menlo Park Reminiscences, volumes I-III, the Edison Institute, Dearborn Michigan

Lighting a Revolution the Beginning of Electric Power, 1979, the National Museum of History & Technology- Smithsonian Institution

Edison and His Inventions, 1891, J.B. McClure



First Edison bulb - Wire contacts were stuffed in a wooden base



Screw shell and snap switch- cross section



Plaster collar with Johnson bevel ring below