



Iowa Antique Radio Club and Historical Society

IARCHS NEWS – Summer 2008

<http://www.iowa-antique-radio-club.com>

From the President

Hello again out there in radio land. Another radio auction has come and gone in Cedar Rapids on May 3rd. The official auction report should come out soon. I enjoyed seeing many familiar faces and meeting new club members. As usual, I put my hand up to bid too often and also missed a few things I was interested in. I enjoyed being part of the floor crew this year shuffling the radio items up and back. Our auctioneer Brent Wears did a fine job again and we owe club member Tom Zenisek a hearty thank you for orchestrating the auction this year again. Many other club members helped out and I thank you all for attending and participating. Getting together with other members is the best part of the club. We will meet later this summer to review things and determine the auction's future, meeting time to be announced, let me know if you are interested.

We are about to commit to putting on an antique radio display at the Old Threshers Reunion in Mt Pleasant, IA over Labor day, August 28 through September 1.

I understand Old Threshers is a terrific and varied antique power show type event. Check out their website: <http://www.oldthreshers.com/> **We can certainly use some additional staffing help; helping out at the display could be part of your visit to this fabulous show.** Like me, you don't need to be an expert to help. This would be a similar display to what Dave Perkins has done at the Waukee power show: http://www.iowa-antique-radio-club.com/Club_events.htm **It looks like we will have a nice secure indoor location.** Please volunteer now before I have to pester you.

I still have good intentions to arrange a repair program beginning this fall, details to be determined.

Have a great summer and, as usual, let me know your thoughts for the club.

Doug Spyrison
President, IARCHS
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From the Editor

We've got a great summer edition of the IARCHS newsletter. First I would echo Doug's comments on all the work that Tom Zenisek did to make this year's auction go as well as it could. A huge thank you to him, and all the volunteers. I did receive the auction report from Tom in time for this newsletter and have included some highlights. Since it is 13 pages duplexed, we will work on getting it posted on the club website. For this newsletter, Curt Lutz shares a great article on the early evolution of the vacuum tube, Dave Perkins fills us in on a presentation that he made for the Mid-Iowa Antique Power Association and provides a helpful hint on difficult to fit speaker cloths. Sherry Cowden has another fine article (the first of 3 parts) recounting the amazing story of Al Jolson, and Bob Muhs shares a helpful article on superhetrodyne alignment shortcuts.

Also with this issue we will test sending the newsletter in pdf format to the email addresses we have on file. Let me know any comments you may have.

Please continue to send me items for the newsletter! I invite you to share repair information, tips, pictures, and stories – whatever you have. Email your contribution to me at vtaudio@hotmail.com or mail it to me at 2626 NW 17th Street, Ankeny, IA 50023.

Dwight Baker

IARCHS Auction

Saturday May 3rd was the second IARCHS sponsored auction at Hawkeye Downs in Cedar Rapids Iowa. We didn't have a lot high dollar items, but did have a good turnout and good assortment of radios, test equipment, and tubes. There were a few minor glitches at the start of the auction due to late arrival sets that had not made it into the computer yet, but Tom Z. did a great job of sorting it all out. There were a total of 423 items selling for \$9,662.50. Some of the highlights include:

Lee De Forest type tube dating from the 1910's-20's	\$525
Hand made Lee De Forest type audion – triode tube -	\$425
Hickok model 534B tube tester	\$180
Arvin Noblitt-Sparks car radio with remote	\$120
Pioneer SM-Q300 tube Hi-Fi	\$225
Western Electric D-79510 tube	\$275
Qualitone (Made in Sioux City)	\$120
Emerson 520 Catalin (broken back)	\$250
Heathkit Model TT-1 tube tester	\$300
Kennedy 5	\$220
Philco Predicta	\$100

Most of the remaining lots sold for less than \$100 with the majority in the \$5 to \$25 range.

EARLY EVOLUTION OF THE VACUUM TUBE

Curtis A. Lutz

It began in 1880 with Thomas Edison's experiments with the electric light bulb; Tom was working with the carbon filament type lamps, operating with DC current and found that a dark deposit formed on the inside of the glass envelope after hours of operation. He attempted to stop this problem by installing a

small metal plate inside a lamp envelope, with a wire lead brought out of the glass. Then, he inserted a current indicating device in series with the lead coming from the plate to either side of the filament. What Edison found was that, when connected to the positive side of the filament, there was a small current flowing from the filament (cathode), to the plate and back to the positive side of the filament; conversely, no current flowed when the return path of the current indicator was connected to the negative side of the filament. Edison called this a "space current".

In October 1884, British Post Office Chief Engineer William Henry Preece called on Edison and got samples of Tom's mysterious light bulbs. Preece did some experiments on these bulbs and is credited with coining the term, "Edison Effect". Preece turned the bulbs over to British electrician John Ambrose Fleming to do additional experiments on the Edison Effect. Fleming developed the basic diode, which became known as the "Fleming Valve", and this was the first thermionic diode (or valve, as the British called it). Since Fleming worked for Marconi, the patents were owned by the Marconi Company.

In 1897, J. J. Thompson discovered the electron and in 1901 Marconi decided to transmit wireless signals across the Atlantic ocean

The next really big development, in 1905, was by a US inventor named Lee DeForest, who developed a diode device, very-similar to the Fleming Valve, but DeForest claimed that his "Audion Diode" was different, as he used a 22-1/2 Volt battery to place higher positive voltage on the plate. In December 1906, DeForest conceived the idea of the third electrode from a piece of wire, bent into a zig-zag shape; this resemblance to a metal grid-iron led to it being dubbed a "grid". No doubt this DeForest invention is what led to modern electronics, especially **amplification** and **oscillation**.

During World War I, the British made a lot of progress with valves, largely for military communications. In the US, DeForest and Western Electric were producing vacuum tubes (Western Electric mostly for telephone repeater uses), but, because DeForest and Western Electric were not set

up to mass-produce tubes, General Electric and Westinghouse entered the picture.

In 1919, after World War I, RCA was formed to take over the Marconi Wireless Telegraph Company of America. Then, in July 1920, a cross-licensing agreement was concluded between A T & T, GE and RCA; Westinghouse joined the group one year later, so ... GE and Westinghouse now supplied the tubes to RCA for distribution. In late 1920 the first tubes marketed by RCA were the UV-200 and UV-201. At this same time, a San Francisco Company owned by Elmer T. Cunningham, was producing identical tubes labeled C-300 and C-301. Under this contract with RCA, the San Francisco manufactured tubes would be branded with the Cunningham name, but sold through RCA. These early American tubes had an exhaust tip at the top and had brass bases.

G.E. introduced the UV-199 and UV-201A tubes in late 1922; these were the first thoriated-filament tubes, and, they were very efficient/economical with filament power, due to highly-increased emission with only 0.25 Amperes of filament current.

In March 1924, the tipless tubes were introduced (stem exhausted at the bottom), then, in October 1924, bakelite bases replaced the brass bases. In August 1925 the UX type tube bases were introduced.

In 1930, RCA formed a new company called, "RCA Radiotron Company", which took over GE's Harrison tube works and began RCA's production of receiving tubes.

Keep in mind that, up to this time, almost all radio apparatus would have been operated from direct current using batteries. In the late 1920s, some US cities began installing Alternating Current power plants and distribution wiring. This new AC power created a turning point in the industry, and several new types of tubes were developed. Many manufacturers first devised battery eliminators to supply needed DC current for the directly-heated tubes of the time. In 1927, RCA introduced the 226 tube. The 226 was also a directly-heated tube, very similar to the 201A, except the 26/226 had an oxide-coated filament rated at 1.5 Volts; this lower operating voltage allowed the 226 to be operated

from a 1.5-Volt AC transformer secondary, which, properly balanced to B-, virtually eliminated the AC hum problem in RF and AF amplifier uses. About the same time, the type 27/227 tube was introduced, an indirectly-heated triode for use as a detector; this 27/227 tube soon became very popular as an RF and AF amplifier stage. Since there were millions of battery sets in use around the country as AC power was being introduced, another type of tube was developed which could be plugged into the battery set sockets to replace those 01A/201A/301A (and some others); a couple of Westinghouse engineers had experimented with indirectly-heated cathodes back in 1921, then, McCollough Sales Co, of Pittsburgh started marketing a new type tube which was made by the Kellogg Supply and Switchboard Co. of Chicago. This Kellogg tube was called a type 401, and was intended to replace 01A/201A/301A type tubes in the battery sets. The 401 had a bakelite cap on top of the envelope and the two filament leads were brought out to two pins in that top cap; this allowed plugging the 401 tube directly into the four-pin tube socket, then a wiring harness was connected to the top (filament) terminals of the replacement 401 tubes, then on to a filament transformer secondary to supply the 3 Volts AC @ 1.5 Amps per 401 tube. Several other manufacturers, such as Arcturus, Cardon, Marathon and Sovereign, produced similar tubes for conversion of DC sets to AC.

The next big development probably was the double-grid tube. During WW-I, the German Army was seeking a tube which could operate with greater efficiency in smaller, lighter portable radios that operated from batteries. Research on the part of Dr. Walter Schottky of Siemens & Halske Co. resulted in what became known as the Siemens-Schottky double-grid tube. This second grid was held at (but not connected to) the same potential as the plate. These tubes were called "Screen Grid" tubes, and the screen grid provided reduced capacity between the control grid and the plate, thus increasing gain significantly and virtually eliminating the need for neutralization. With these screen grid tubes, amplifiers have much higher gain and operate with much lower B voltages; in fact, one screen grid amplifier tube could have as much voltage gain as two or three triodes could provide. Sparton made an early AC tube that had the two AC filament pins

protruding from opposite sides of the bakelite base just below the glass envelope.

The tetrode or screen grid tube was great as an RF amplifier, but had some problems when used as an audio power amplifier or output stage, due to an effect called, "secondary emission". Secondary emission results when electrons, greatly-accelerated by a screen grid, strike the plate and bounce back to the screen grid. In order to reduce this effect, a third grid was added and this third grid was connected back to the cathode. The result was that secondary emission problem was virtually eliminated; while some electrons still bounce off the plate in the pentode tube, they now return to the plate, virtually eliminating the problem.

Our main purpose in this article is to summarize the early tube developments. Many additional tube types and improvements have since been introduced, including tubes having four, and five grids, types having multiple two, three or more sections within a single envelope, such as dual diodes, dual triodes, triode/dual diodes, etc.

REFERENCES, and, for more information the following two publications are suggested:

70 Years of Radio Tubes and Valves
By John W. Stokes

The Vestal Press Ltd., Vestal New York, 1982

The Saga of the Vacuum Tube
By Gerald F. J. Tyne

I couldn't resist this one – from a 1924 issue of Radio News:

Ford Runs 57 Miles On Gallon of Gasoline

A new automatic and self-regulating device has been invented by John A. Stransky, 3914 Fourth St., Pukwana, South Dakota, with which automobiles have made from 35 to 57 miles on a gallon of gasoline. It removes carbon and reduces spark plug trouble and overheating. It can be installed by any one in five minutes. Mr. Stransky wants distributors and is willing to send a sample at his own risk. Write him today.—Adv.



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Presentation Report

Dave Perkins

One afternoon in the first week of March I received a call from a representative of the Mid-Iowa antique power association (based in Marshall county) who was in sort of a jam. His planned speaker for their meeting the following week had bailed out and he'd heard from someone familiar with our shows in Waukee the last few years, that I might be able to fill in.

I was able to scratch together a few notes over the weekend and even managed a tie in to their club and a historical event in my presentation:



That set on the right is a battery set that was the first one I ever bought to restore, and coincidentally I bought it at the flea market at one of their shows over a decade ago. So I was happy to be able to tell them about that, then fire it up and, using my little transmitter, play a bit from a historic transmission that had occurred exactly 75 years ago that week: It was FDR's first fireside chat on the subject of the melt down in the banking industry. What goes around, comes around in more than one way.....

Remembering.....Jolson

by Sherry Cowden

I read what is described as the definitive biography and thoroughly researched *Al Jolson* on the Internet over a year ago. I found the subject so larger-than-life as to be intimidating, and so I kept postponing the writing, promising myself I would do it "next month." Then, recently, my husband Larry acquired a collection of old Bing Crosby 45 rpm records. On one cut, Bing sang a duet with Al Jolson. We so enjoyed hearing Jolson that we ordered a collection of his works on CD and even got some of his movies. I had entered the world of Jolson magic. It was wonderful! But, from all accounts, listening to Jolson on records and on radio and watching his movies are like experiencing only the sparks from a roaring bonfire. Where he earned the titles of the King of Broadway and the World's Greatest Entertainer was on the stage. The relationship between Jolson and a live audience has been described as an ineffable love affair. Listening to his voice today, I feel the whispers of that

phenomenon and, like those theatergoers, I've become enamored with the amazing Al Jolson.

In real life, he was easy and not-so-easy to love. He could be charming, kind, solicitous, generous and thoughtful. And he could be arrogant, insecure, self-absorbed and thoughtless. But even his harshest critics acknowledged that his talent and love of performing were boundless and knew no equal. He was married four times; each of his first three wives complained that he neglected them for his real love -- the theater audience. He loved performing so much that he would sometimes dispense with the format of whatever Broadway show he was appearing in and ask the audience if they wouldn't rather just hear him sing. The answer was always a resounding "yes," and he would entertain them for hours -- strutting, joking, singing with joy or a tear in his voice, infusing the same emotions into his audience. He had a runway built into the Winter Garden Theater ("his" theater -- belonging to the Shubert brothers, but *owned* by Jolson) so that he could be "closer to the people." He had a knack of making each audience member feel that he was speaking or singing only to them. When Jolson was onstage, the love flowed both ways across the footlights. Latter-day analysts suggest that Jolson sought this outpouring of love from his audience to replace the love that he lost when he was eight years old.

He was born Asa Yoelson in a Jewish village in Serezdzius, Lithuania. His birthdate is uncertain, but was probably around May 26, 1886. He was the fifth child of Rabbi Moshe and Naomi Yoelson. He had two older sisters, Rose and Etta, and a brother, Hirsch, who was four years older. A baby girl had died in infancy in 1884. Naomi had named little Asa after her father, Reb Asa Cantor, who was head of a prominent Baltic synagogue. Naomi adored her "baby," and he was clearly her favorite child. When he was six, she gave him violin lessons, telling him that someday he might be famous and play in Steinway Hall in New York City. Even then he seemed to exhibit energy, charm, and volatility. When Asa was four years old, his father immigrated to America, hoping to soon establish himself and send for his family. That would take him four years. So, when Asa was eight, Naomi and her four children made the long and difficult journey to America. Rabbi Yoelson had become head of the

Talmud Torah synagogue in Washington, D.C., and it was there that he brought his family and installed them in a set of rooms over a feed store. The boys began attending school and trying to acclimate to a new language and culture. Moshe was both a rabbi *and* a cantor. At one time he had wanted to be an opera singer, and he began training his boys, not only in Jewish religious traditions, but also to sing to their God. In contrast to the warmth and affection of Naomi, Moshe's personality was more in the traditional old-country way of being the aloof head of the family. Al Jolson would spend his entire career trying, with limited success, to win his father's approval.

The family had only been in America a few months when his mother began experiencing health problems. Their sisters were required to stay home running the household, but, as boys, Asa and Hirsch were allowed to explore their new town. They earned a little money selling papers and singing on street corners. On February 6, 1895, Asa returned home from school. Hearing screams, he hurried upstairs and opened the door to his parents' room. The sight that greeted him would color his life forever. His mother, who was pregnant again, was sitting up in bed, screaming. The doctor in attendance made him leave the room. When the screaming stopped, Asa ran back to his mother's room, just in time to see the doctor pull the sheet over her head. He rushed out of the house, sitting for hours in an alley before he returned to the mourning household. In keeping with Jewish law, the funeral was held within twelve hours, not enough time for an eight-year-old to begin to accept such a shock. Perhaps, years later, he kept his mother's spirit alive with his "Mammy" songs.

For the next seven months Asa remained withdrawn, but a visit to the theater brought him out of it and gave him a new world in which to live. Asa and Hirsch saw Al Reeves, who billed himself as "The World's Greatest Banjoist and Comedian," in a burlesque show at Kernan's Lyceum Theater. Reeves was a true showman, and to nine-year-old Asa his performance was magical. He later credited Reeves with inspiring his love of performing. About this time, Asa and Hirsch changed their names to Al and Harry. Harry later remembered, "As Asa and Hirsch we were Jewish boys. As Al and Harry we were Americans." They began to

spend less time in school and more on the streets, hanging out with a gang of other boys. Moeshe thought his children needed a mother and arranged to bring from Lithuania a distant cousin of Naomi's, Hessi, whom he married in March of 1896. Al resented the attempt to "replace" his mother and spent as much time as possible away from home. Al and Harry had learned to harmonize, and that summer they sang outside the Hotel Raleigh where passersby would toss them coins. Sometimes another street performer, a young black kid, joined them. Al made other black friends as he hung around the docks and railroad tracks. Washington, D.C., was considered part of the South, and Al acquired a negro-tinged southern accent that would later serve him well onstage.

The Jolson boys were frequently found in all the area theaters, soaking up show business like thirsty sponges. At fifteen, Harry decided to leave home and try his luck in New York City. When Al hadn't heard from him months later, he hopped a freight train and followed him. He was twelve. He sold papers and shined shoes to get by until he could find his brother; many days he went hungry. One day he heard a singer rehearsing a song, "Rosie, You Are My Posie." He memorized the song, and when hunger drove him into a Bowery restaurant called McGirks, he asked the proprietor if he could literally sing for his supper. The owner agreed, and when Al Yoelson finished singing the recently-learned ditty, the normally noisy crowd was quiet. It was one of many firsts -- the first time he "stopped the show." Ultimately Al came across Harry, and after awhile, broke and unable to find work, the boys returned home. The next summer they worked as singing waiters on excursion boats on the Potomoc and entertained diners at Snyder's Place at the Navy Yard. One day Al heard a military band playing and joined some troops marching down Washington's Pennsylvania Avenue. The soldiers were on their way to Cuba during the Spanish American War. The 15th Pennsylvania Volunteers liked the feisty young man who sang and entertained them, and they adopted him for awhile as a kind of mascot. During this period, Al also spent a brief period with a circus. He served as an usher, performed as a singer in the vaudeville act that followed the circus acts, helped pack up, watered the ponies, and drove a circus train. When the circus ended for the season, Al

found himself in Baltimore, where he went to work in a bar. The Gerry Society, a “morals” society, discovered the minor working in this unsavory setting, and he was taken to St. Mary’s Industrial School for Boys. After all the freedom he had enjoyed, Al had some problems with the regimented life at the boys’ school. He would not give them his right name, attempted to run away, got into fights, and sometimes refused to work or study. When he became ill and was diagnosed with “a tendency toward tuberculosis,” the doctor recommended fresh air and singing to strengthen his lungs. A frightened Al relented and gave the Catholic school’s Brothers his correct name. He sang in the choir until his father could come to take him back home.

Later that year, Al was given a small part in a play at Washington’s National Theater – “The Children of the Ghetto” closed after a few performances. Harry had found a job selling peanuts at the Bijou Theater and would sneak Al into the theater. During vaudevillian Eddie Leonard’s song, “I’d Leave Ma Happy Home For You,” he would exhort the audience to join in. Leonard heard Al’s clear voice ringing through the others and asked him to sing the song by himself. He was impressed enough to make Al a “stooge” who sang the song every night from the balcony. This was to be Al’s first heady taste of the applause of a real audience. Next Al performed the same function for burlesque queen Aggie “Jersey Lil” Beeler. At fourteen he went on the road with Aggie and the Victoria Burlesquers. He was in show business for real, and he changed his last name to the more American-sounding “Joelson.” Now Al was no longer content to sing from the balcony. He wanted to be up on stage; he wanted to see “the people” when they applauded him. He teamed with the company electrician, Fred E. Moore, in an act they billed as “Master Joelson and Fred Moore” – it was the first time Al saw his name on the bill.

At 15, Al was touring New York and the Middle West in burlesque, learning from the other performers. In March 1902 he and Fred joined Al Reeves’ Famous Big Company. For awhile, Al Joelson had the chance to work with the man whom he had idolized since his mother’s death and who had first inspired him to be an entertainer. Joelson and Moore then joined the Dainty Duchess

burlesque show, but a year later Al’s voice began to break, and at 16 his career seemed over. Despondent, he returned home. His brother Harry had been experiencing some success in a burlesque show in New York, and he persuaded Al to form an act with him, one in which Harry would do the singing and comedy and Al would whistle and act as straight man. Bookings were few and far between, and they lived in a drafty hotel where Al caught a bad cold. Part of his left lung became infected, a “bad spot” that would bother him until it was surgically removed years later. The boys finally got a break when they were asked to join an act that featured an old trouper named Joe Palmer, who was now confined to a wheelchair with multiple sclerosis. As part of the deal, they were to help care for Palmer. In their sketch, Harry was to play a doctor, Palmer the patient, and Al a joking orderly. They had cards printed advertising “Jolson, Palmer and Jolson” – the printer had to strike the “e” from Joelson to fit all three names in. Al was nervous about his part in the new act until James Francis Dooley, a fellow actor who performed in blackface, suggested that Al do his role in blackface. Behind the makeup, Al’s nervousness vanished and he was able to relax and enjoy his part. He would perform in blackface for much of his career. The act was enjoying some success when, in November 1905, Al and Harry had a fight that came to blows over who was taking the most care of Palmer, and Harry walked out on the act. Al and Palmer reworked the act, with Al learning some new songs and adding the two-fingered whistling that he had recently learned from another vaudevillian. But Palmer felt that Al could do better as a single, and he decided to retire.

Al opened in Butte, Montana in June 1906 as a solo -- and became a hit. He had developed a wise-cracking style and his singing voice had returned, stronger than ever. He was billed as a “singing comedian,” a label that was to be his for a long while. He was booked into San Francisco shortly after the earthquake leveled that city. He performed in a circus tent that was erected as a temporary theater while a real one was built right around it. Al Joelson was beginning to cause a stir as something new and refreshing -- a vital, vibrant performer. Legend has it that it was during this run that he coined his most famous phrase. One account says it occurred when he followed the

legendary tenor, Caruso. But, most likely, it was in response to the audience's demands for one song after another that Al Jolson turned to them and said, "Wait a minute, wait a minute – you ain't heard nothin' yet!"

(Continued Next issue – Dockstader's Minstrels, Broadway, Radio, and the first talking picture, "The Jazz Singer.")

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Superhet Alignment

By Bob Muhs

Having built my first radio back in the late 1920s, (a 201A tube in a cigar box with a variable regenerative tuning coil) and working in a radio repair shop prior to WW II, I was quite interested in the restoring old radios articles in the IARCHS Newsletters.

In a repair shop time is money - so all kinds of shortcuts were used - not the least of which was the alignment of a radio after the physical repair. Since we were dealing with mostly "home" type radios used on the AM Broadcast band, precise factory alignment wasn't cost effective, so practical shortcuts were often involved. In most lineup cases we didn't use any meters - and certainly seldom used an RF generator. By the way, practice of this technique improves your ability greatly.

Since most all radios are superhetrodynes (TRF jobs require a much more simplified technique, coils at the low end of the dial, trimmer capacitors

at the high end) the first order of business is the IF lineup. Seldom had a customer "tried turning the "loose" screws he saw on the chassis", so an assumption was generally made that alignment adjustments hadn't been touched. All physical problems, bad tubes, rectifiers, capacitors, resistors had to be done first then the alignment check is started.

Turn the set on, and obtain a station anywhere on the dial. Starting with the detector IF can, gently vary the top and/or bottom adjustments (either trimmer capacitor or coil) for the loudest audio. Continue with the remaining IF cans back to the mixer output. Assuming you have made very little or no adjustments - the IF section is considered OK. If not, go back and repeat the process.

Locate a station as low as you can find on the dial (550 kc would be the best) and tune it in. Locate the oscillator coil and adjust it in combination with moving the tuning capacitor until the dial reads the correct number for that station and the audio is the loudest. (In our area WMT Cedar Rapids-Waterloo is at 600 kc and works nicely)

Shift the tuning to a known station on the high end of the dial and vary the oscillator trimmer capacitor (normally on the tuning capacitor itself - it generally will be the trimmer associated with the smaller number of plates on the tuning capacitor) along with readjusting the tuning until the station is correctly at its known position on the dial. Go back to the low end of the dial and readjust, if necessary, for the correct position on the dial. Repeat this down end and then upper end of the dial adjustment to get the best possible adjustments.

The tuning capacitor generally has a trimmer capacitor associated with the RF section - the one with the most plates - and adjust it for a station near the high end of the dial, ie. 1500 kc. Depending on how bad the condition was, you might have to repeat the sequence a couple of times to get the best reception at both ends of the dial - which is what the manufacturer set up - its a compromise in any event.

In the short wave bands its obviously tougher to find known stations to use this technique. WWV is one as well as the Canadian time/frequency

standard. Again, its a real compromise if the short wave band (on the radio) goes from 1.4 mhz to 20 mhz. In the case of FM, and depending on the circuitry, variations of this theme can be used.

A helpful tip

Dave Perkins

If you've ever had to replace the grille cloth in a set that has a curved speaker grill you know what a challenge it can be to get the new cloth anchored tightly all around the inside of the grill. I was facing that problem recently while working on a Zenith 6J-322 that I'd bought with no grill cloth in place at all. While considering all kinds of schemes my eyes landed on an empty oatmeal box I had in the shop and I hit on an approach that works pretty well. By cutting the box to the right height and length to fit inside the speaker well, then splitting it vertically, you wind up with a naturally curved, fairly stiff form for the fabric.



If you flatten the box a bit beyond the shape of the speaker grill, wrap the new cloth around the edges of the box, tape it securely and then let the box try to return to its naturally curved shape, it pulls the cloth tight. I did this, then anchored one edge of the cloth & box assembly inside the cabinet with

thumb tacks, coated the inside face of the radio grill with suitable glue and then tacked the other edge of the assembly to the rest of the inside of the grill and let the glue dry. Then all I had to do was to remove the tape and thumbtacks and the box popped loose from the now glued in place cloth. This beats the heck out of trying to get the cloth to conform to a curved surface with a bazillion thumb tacks or some similar approach

... and a plea for help.

One of my interests in collecting is crystal sets so I was quite happy a while back to get my hands on an RCA ER-753A, more commonly called a Radiola One. It's fairly complete, but not perfect; I had to recreate part of the detector and a handle. But there is one part I cannot "fake". One of the binding posts is not original and I'd really like to get one that is at least closer if not a match to the original, so If anyone has a binding post like the one shown on the left in this picture:



PLEASE contact me; I'd be glad to pay any reasonable amount.

Dave Perkins
Spam_whole@yahoo.com

SOURCES, PARTS, SUPPLIES, TOOLS, ETC.

We've had several inquiries about where parts for old radios and electronic equipment can be purchased. Here is a small sample listing of parts suppliers. If you have a favorite supplier or specialty that isn't listed, let me know and we'll add their information.

Antique Electronic Supply

Specializing in Antique Radio Parts, books, etc.
6221 Maple Avenue
Tempe, AZ 85283
www.tubesandmore.com
480-820-5411
Fax: 800-706-6789

Radio Daze

Specializing in Antique Radio Parts, books, etc.
7620 Omnitech Place
Victor, NY 14564
www.radiodaze.com
585-742-2020
877-653-8823
Fax: 800-456-6494

Victory Glass Co.

Parts, manuals, mostly for juke boxes.
3260 Ute Avenue
Waukegan, IA 50263-8080
www.victoryglass.com
515-987-5765
Fax: 888-842-5853

All Electronics Corp.

PARTS, capacitors, resistors, hundreds of surplus items.
14928 Oxnard Street
Van Nuys, CA 91411
www.allelectronics.com
818-997-1806
800-826-5432
Fax: 818-781-2653

Hosfelt Electronics, Inc.

PARTS, NOS and surplus, hundreds of items.
2700 Sunset Blvd
Steubenville, OH 43952
www.hosfelt.com
888-264-6464
800-524-6464
Fax: 800-524-5414

Marlin P. Jones & Associates, Inc.

PARTS, NOS and surplus, hundreds of items.
P. O. Box 530400
Lake Park, FL 33403-8906
www.mpja.com
800-652-6733
Fax: 800-432-9937

MCM Electronics

PARTS. Tools, test equipment, hundreds of items.
650 Congress Park Drive
Centerville, OH 45459
www.mcmelectronics.com
Orders: 800-543-4330
Fax: 800-765-6960

Mouser Electronics

PARTS, capacitors, thousands of items.
1000 N. Main Street
Mansfield, TX 76063
www.mouser.com
817-804-3888
800-346-6873
Fax: 817-804-3899

Fair Radio Sales

PARTS, tubes, surplus, military gear.
2395 St. Johns Road
Lima, OH 45804
www.fairradio.com
419-223-2196/227-6573
Fax: 419-227-1313

Parts Express

Parts, speakers, hundreds of items
725 Pleasant Valley Drive
Springboro, OH 45066-1158
www.parts-express.com
937-743-3000
Fax: 937-743-1677

MECI Electronics

Parts, parts, parts.
340 E. First Street
Dayton, OH 45042
www.meci.com
800-344-4465
Fax: 800-344-6324

John Okolowicz

Grille cloth and more grille cloth
624 Cedar Hill Road
Ambler, PA 19002
www.grillecloth.com

RF Parts Co.

Parts, lots of ham stuff, etc.
435 Pacific Street
San Marcos, CA 92069
www.rfparts.com
760-744-1943, 800-737-2787
Fax: 760-744-1943, 888-744-1943

Seal Company Enterprises, Inc.

O-rings for dial belts, etc.
1558 N. 107th E. Avenue
Tulsa, OK 74116
918-836-5169

Apache Glass

Cut glass for many applications
2703 E. Apache
Tulsa, OK 74101
918-425-5902

Harbor Freight

Tools, lots of tools, more tools
Stores in many larger cities
Online orders
www.harborfreight.com
1-800-444-3353

Old Time Replications

Repro knobs for many radios, escutcheons.
Larry Bordonaro
5744 Tobias Avenue
www.antiqueradioknobs.com
Van Nuys, CA 91411
818-786-2500
Fax: 818-909-0241

West-Tech Services,

Plastic dial covers, phono cart rebuilds, styli.
570 Hazelgreen Road
Smithville, WV 26178
www.west-techservices.com
304-349-2149

Vintage Electronics

Phono idlers, cartridges, needles, etc.
Ed Crocket
Also rebuilds idler wheels
128 Buccaneer Drive
phoned@aol.com
Hattiesburg, MS 39402
601-264-4755
Fax: 601-264-0226

Retro-Tronics

Reproduction backs for radios.
21 Spaulding Lane
Groton, MA 01450
www.RadioBacks.com, or Retro-Tronics.com

Keeping 45

www.recordplayersplus.com
William Bosco
1588 Miller Creek Road
Record players, idlers, and rubber tires for
RCA 45 changers, phono carts, styli
Garberville, CA 95542
Phone: 707-923-3897
e-mail: williambosco@starband.net

Antique Radio, Curt Lutz

Tubes, transformers, test equipment, schematics, technical
data, rubber U-channel, consultation. Restorations.
1021 N. Hickory Place
Broken Arrow, OK 74012-1629
918-251-4915, 251-8282
Cell: 918-284-4331
OldeRadios@cs.com

Classifieds:

Ad Policy: Ads up to 100 words in length may be submitted by IARCHS Members and are free of charge. You may request your ad run up to 3 issues, if you don't specify it will run one issue, you may resubmit your ad. Submit your ads by mail or e-mail to the editor. Issue Deadlines: February 1, May 1, August 1, and November 1

WANTED: Looking for a complete working or restorable chassis and face plate for a Philco Model 41-285. Contact Tom Zenisek (319) 362-1541 or at tomjonzee@aol.com

WANTED: Telescoping Antenna For Zenith Transoceanic 8G005. Dwight Baker, 2626 NW 17th Street, Ankeny, Iowa, 50023. 515 965-0999 (Before 9:00 PM) Email: vtaudio@hotmail.com

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515-965-0999

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Eveready "B" Batteries
 THERE are Eveready Batteries for portable sets where small size and light weight are more important than long life. There are Eveready medium size batteries that come between the small and the standard size. There are Eveready large size "B" Batteries that afford maximum economy and reliability of service when used with average one, two, three or four tube sets. And now there is a newer Eveready heavy duty, extra large size "B" Battery that gives similar economy to owners of

multi-tube heavy drain sets and power amplifiers.
 For maximum "B" Battery economy, buy Evereadys, choosing the large sizes (Nos. 766, 767, 772) for average home sets, and the heavy duty, extra large (No. 770) for multi-tube heavy drain receiving sets and power amplifiers. For portable sets choose the Eveready No. 764 medium size, unless space is very limited, in which case choose the Eveready No. 763 small size "B" Battery.

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 Eveready makes a long-lasting

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Eveready "A" Batteries
 Eveready offers you "A" Batteries for all tubes, both storage and dry cell. For storage battery tubes, use the Eveready Storage "A." For dry cell tubes, use the Eveready Dry Cell Radio "A" Battery, especially built for radio use only.

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BUY THEM FROM YOUR DEALER

IARCHS is an informal not for profit club whose purpose statement (as given in the club by-laws) is:

- 1) To provide an organization for collectors and historians of wireless, radio, television and other similar items.
- 2) To promote acquisition and preservation of biographical, technical and historical data, through the collecting of radios, stories, photographs, literature and other related items, particularly with respect to the inventors and early radio pioneers of Iowa.
- 3) To educate and enrich the public knowledge about the historical and cultural significance of radio by means of lectures, discussions, publications, workshops, displays and presentations.
- 4) To encourage and assist individuals in their preservation and restoration of radio and television related items to a condition consistent with the original intent of their manufacturer.
- 5) To create and foster an interest in radio history.

The IARCHS News newsletter is published and distributed (more or less) quarterly to all members of record and to similar clubs and organizations at their request.