



THE JOURNAL

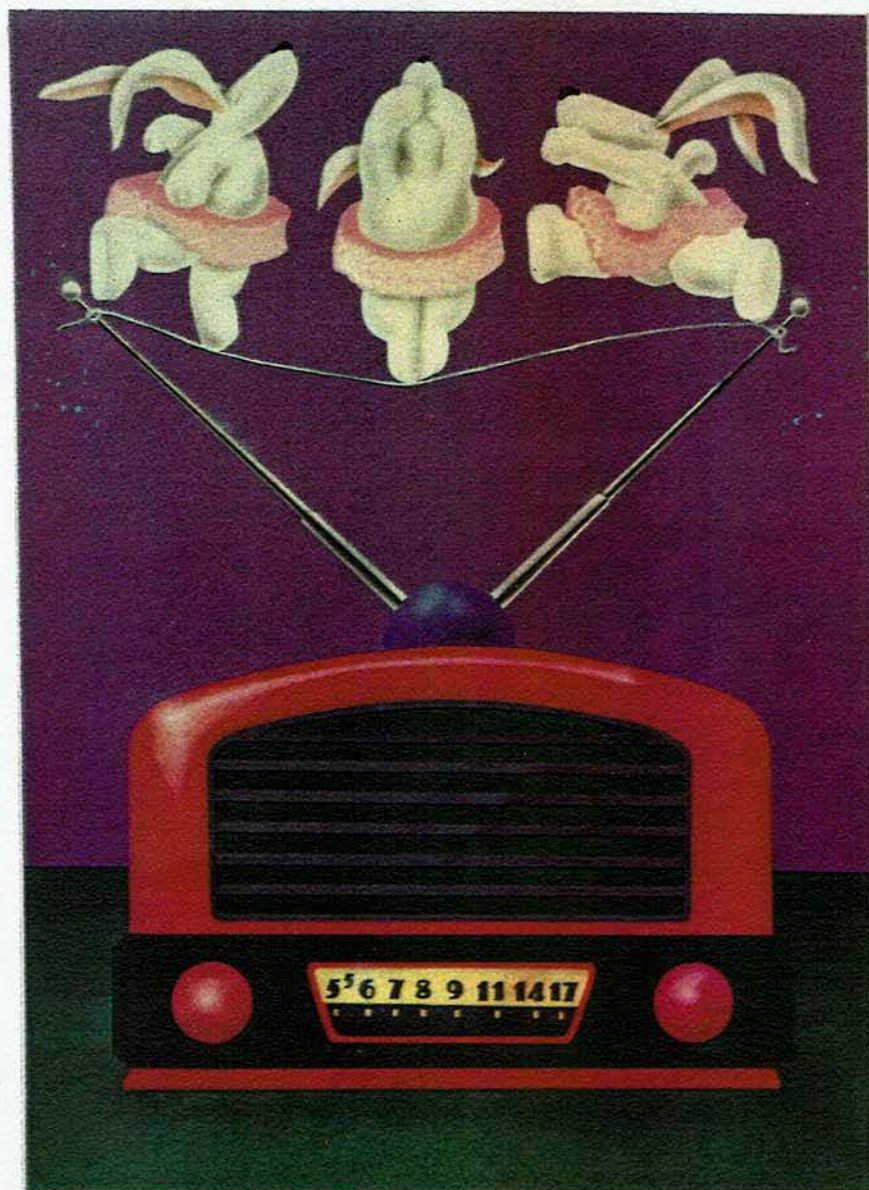
of the

CALIFORNIA HISTORICAL RADIO SOCIETY

SUMMER 1993

FOR THE RESTORATION AND PRESERVATION OF EARLY RADIO AND RADIO BROADCASTING

VOLUME 17, No. 1



CHRS Means Summer Radio Fun!

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ON THE COVER: *Ballerina Bunnies*. Original artwork copyright by artist John M. Booth, Mason Graphics, 2205 California N.E., Minneapolis, MN 55418, (612) 789-4799

MEETINGS and SWAP MEETS: CHRS meetings are held 2-3 times per year. Locations are announced in CHRS publications and by mail. Swap meets are in February, May, August, and November at Ampex Corporation in Redwood City. Regional meets at various Northern California locations are conducted from time to time. Contact the Public Relations Director if you want to sponsor a swap meet in your area.



ABOUT CHRS

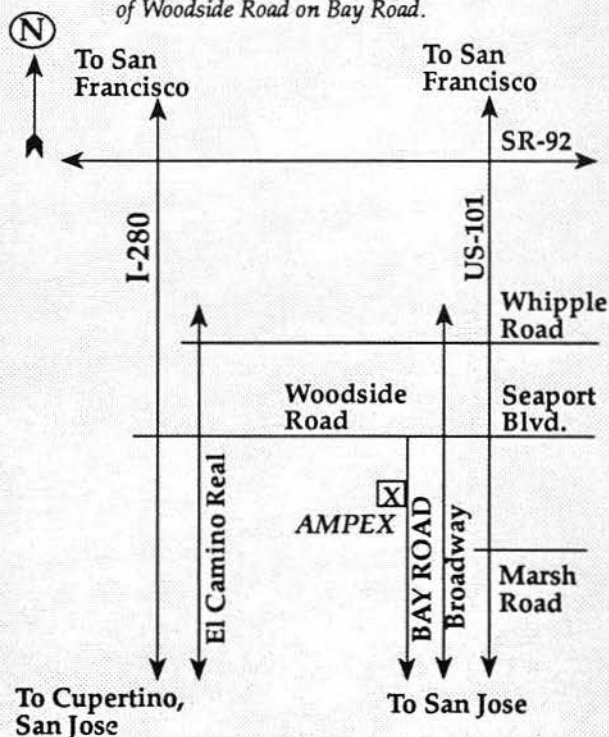
The California Historical Radio Society is a non-profit corporation chartered in the State of California, and established to promote the restoration and preservation of early radio and broadcasting. Our goal is to provide the opportunity to exchange ideas and information on the history of radio, particularly in the West, with emphasis in the areas such as: collecting, literature, programs, and restoration of early equipment. The *Journal* of the CHRS is published quarterly, alternately in printed and audio tape format. Yearly membership dues are \$15.00 (US funds, please).

Submissions for the *Journal* are always welcome. Typewritten copy is preferred. Articles submitted on 3.5 inch IBM or Macintosh diskettes are appreciated. Send all material to the editor and include your name, address and phone number.

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Map to AMPEX Corp. Swap Meet

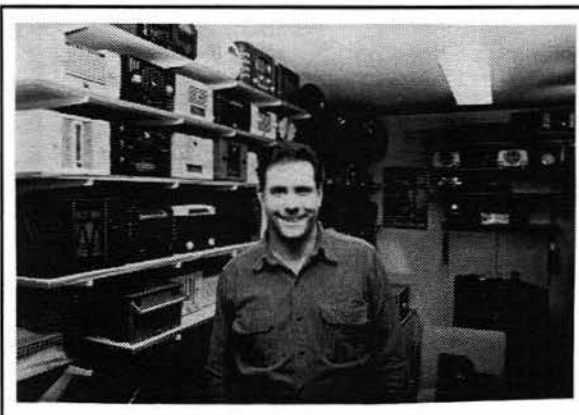
Go to Lot "C" Three stop signs south of Woodside Road on Bay Road.



(Please wait 'til 8:00 AM to enter.)

President's Perspective

by Adam Schoolsky



Welcome to the Summer 1993 CHRS Journal. There are some terrific articles included, I trust you'll enjoy them. First, an article by Mike Simpson, who is probably the foremost collector of Midwest brand radios. Now, many of you may think that is nothing to boast about, but I assure Mike's collection is quite impressive, and for me learning about these sets is very interesting.

My thanks also to Bart Lee for his article about Acorn tubes and early VHF radios. Bart is extremely knowledgeable about WWII era military sets and radio related history, and his article gives insight in collecting some of the early VHF military equipment.

Next, we've included the minutes from the recent Board of Directors' meeting. All members are invited to attend the board meetings. We always welcome your input and participation. The next board meeting is Saturday, July 24. Let me know if you'd like to attend.

Our Publicity and PR director Mike Adams writes about Charles "Doc" Herrold, an important figure in early radio in Northern California. Then in another feature Mike delves into the history of KSJS, a long time broadcasting station at San Jose State University.

Radio repairman and re-engineer extraordinaire, John Eckland, tells of a restoration project and how you can easily modify your battery operated and farm radios for AC operation while improving their performance.

There's also a new section with your letters and comments from the Newslines.

WHERE IS MY...

Journal? Membership Directory? Membership Card? Newsletter? Namebadge?... It's taken much longer than I

expected to get things back on track. I believe we're nearly there now. Frankly, my work/travel schedule affords me little time to sleep much less get the CHRS materials out in time. This is the first time ever that the summer Journal has not been mailed before the May swap meet. Our regular editor, Bart Lee is over-extended with his law practice, and was not able to edit this Journal.

If you are aware of any fellow members that have paid their dues and are not receiving their CHRS goodies, please have them drop us a note, or leave a message on the newslines (415) 978-9100. I check the messages once a week. Also, send all club correspondence to PO Box 31659, San Francisco, CA 94131. This will alleviate additional delays in processing your letter.

Volunteers Needed!

We desperately need help with Journal preparation, tape production, answering mail, preparing for, collecting sellers' fees and cleaning up at swap meets. Please volunteer to make your organization prosper. Elections are coming up soon, maybe you'd like to be a CHRS officer?

Please HELP!

We are seeking any CHRS photographs, 1975 to present, so that we can assemble a CHRS photo album. We'd like to have the album completed soon. So search through your archives and give me a call.

The annual membership directory is included with this mailing. Since there were no objections from any of the membership to eliminating the "interests" from each listing, we have done so starting with this directory. If your listing is not correct, send an update so that we can correct our records.

I've included the minutes from the last Board of Directors meeting. Let me know if you'd like to participate in the next one.

On a final note, Richard Ferranti has provided us with some very important historical information about the Remler Company. Remler was located in San Francisco for seventy years manufacturing radios, and electronic equipment. In addition Richard's father and a close friend of his, who each worked for Remler from the mid-30's to the mid-50's, have consented to an interview for an upcoming audio tape.

That's all for now. See ya...

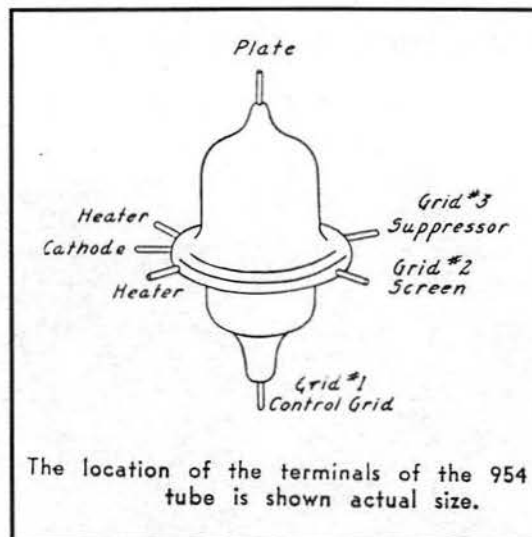
= Adam =

FOR SURPLUS HOUNDS

By Bart Lee, xWPE2DLT
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(415) 788 4072
Correspondence is invited.

FROM LITTLE ACORNS ... The ARR-1

The "acorn" tube made VHF possible because it could oscillate up into the hundreds of megaHertz. Such Very High Frequency made wartime communications more secure during the second World War. The enemy could easily listen to high frequency communications, but above 30 megaHertz, intercept capability fell off rapidly. Hence, a drive to implement VHF as a



intercept service soon could listen that high as well.

R-1/ARR-1



External view of the ARR-1. The dial is actually calibrated by inserting the number 2 before each of the dial markings. Thus, 38 becomes 238, the frequency to which the unit is tuned. Since the photo was taken the amateur assignment has been lowered to 220-225 mc. instead of 235-240 mc. A simple alteration of the tuning coils effects this lowering of frequency.

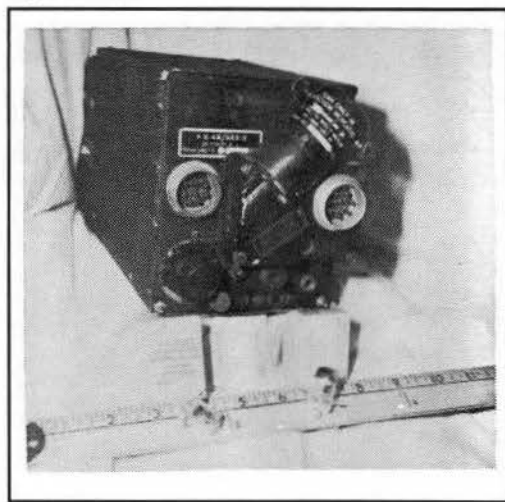
The ARR-1 (of the Navy ZB-2 radio set) provided an answer to the quest for secure VHF flight communications. Using the acorn tubes, it was small and rugged. Using VHF it was beyond most but not all communications intercept capabilities. The real secret was in the mode of

more secure frequency range. The acorn tube (an illustration of which appears nearby) made these VHF and therefore secure communications available upon its introduction in 1935. One of the earliest sets to use the acorn tubes was the National 1-10, tuning from 10 meters, 30 mHz, to one meter, 300 mHz, introduced about 1940. The acorn tube's configuration also made it ideal for circuits in small rugged packages, such as avionics. Using these State of the Art acorn tubes (the 954 and 955), frequencies as high as 300 mHz could be worked (line of sight, of course). Unfortunately, in WWII, the Nazi

modulation. Both AM and FM were well known to all sides in WWII, at least in terms of interception. The ARR-1 added a new process, what we now call a sub-carrier. (These are common in the FM and TV satellite bands today, but the ARR-1 was the first radio to implement the technique). The VHF transmitter sent out a carrier between 234 and 258 mHz, to be received by the ARR-1. The carrier was modulated with a 700 kHz subcarrier, and that subcarrier in turn was voice (or otherwise) modulated at the transmitter. Any intercept operator might well pick up the 200 mHz

carrier, but would not be able to then tune the subcarrier and demodulate it. The ARR-1 acted as a converter to detect the subcarrier and pass it on to a standard flight receiver tuning at 700 kHz. (The ARR-2 used the same circuits in its front end, with 6AK5 tubes, and added the 700 kHz circuits, a detector and audio stages).

After WWII the ARR-1 provided hams with a good platform for VHF experiments in the 220 mHz band. It was small at 3" by 3" by 10" and not only rugged enough for mobile work, but also "one of the most beautifully built pieces of surplus imaginable -- with its acorn tubes and ganged, slug-type tuning mechanism." So rhapsodized Leroy W. May in *Radio and Television News*, in January, 1949 (p. 46) (a conversion article). His modifications turn the ARR-1 into a regular converter. An ARR-2 schematic appears in the *Surplus Schematic Handbook*, (1960) at p. 15. The ARR-2 is a somewhat larger, boxier set with the tuning indicator at the bottom left. In both the ARR-1 and -2, the tuning indicator leaves off the '2' of the 200 mHz range, reading 34 to 58 for 234 mHz to 258 mHz.



ARR-2 Radio with tubes in foreground

The ARR-1 is a nice little set to go with a collection of small WWII radio gear.

It sits on the shelf nicely with the ARC-5 Command sets, and the BC-1206 aircraft beacon receiver. It would certainly be trickier to operate, but it nevertheless remains an object of technological interest for its then novel circuit and communications technique, and its successful use of the acorn tubes in their intended VHF range. ##

TUNE INTO THIS: OLD RADIOS ARE HOT COLLECTIBLES

Attention, yard-sale shoppers: There may be gold in that pile of old radios. The prices of many 1930s and '40s tabletop models have quintupled to between \$500 and \$3,000 in the past five years, says Marty Bunis, co-author of *The Collector's Guide to Antique Radios* (R.R. 1, Box 36, Bradford, N.H. 03221; \$19.95). Better yet, Bunis believes that the most prized sets, which sold for \$19 to



A '36 Bluebird radio (above) can now fetch \$3,500; a '41 Catalin Bullet, about \$600.



\$59 when new, could double in value over the next decade.

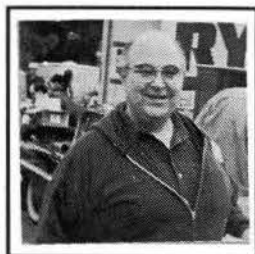
The most popular choices among collectors are ones with Art Deco-style cases, such as the mirrored 1936 Sparton Bluebird (pictured above left), which made its debut in the Depression for about \$59. A Bluebird fetched \$2,640 at a November auction at Christie's East. Radio buffs also clamor for models made of brightly colored Catalin, a fragile, marbled plastic made during the mid-'30s to late '40s.

You can find vintage radios at swap meets or flea markets. Bear in mind, says Water Village, N.H. auctioneer Frank Sykes, that the cabinet's condition is more important to collectors than whether the set works.

—Elizabeth Fenner

ANTIQUE RADIOS BY MARTY AND SUZ BUNIS (2)

From the 'VEEP'...



The good news is that the new CHRS technical library, acquired as a donation from Bert Buss in Oakland, is safely in storage with the Perham Foundation collections, all 60 boxes of it. The storage site is GTE Sylvania. We owe thanks to Jim Weldon, VP of Perham Foundation, for moving all of the books, file cabinets and boxes from Oakland down the peninsula. *Thank you Jim Weldon from CHRS.*

The not so good news on the CHRS library is that the rest of it is in my basement (which is OK) but the shelving on which it sat, weighing tons, collapsed. So the library is now more disorganized than when it was first put in. Later in the summer I will call for volunteers to get it straightened out and usable by members.

More good news: *CHRS at the theatre!* In April and May, CHRS members Henry Engstrom, Paul Bourbin and I contributed World War II radio gear to the Bedini Theatre Project. That company put on in San Francisco the WWII play about Army nurses in the Philippines, *Cry Havoc!* Actresses Bijou Barnett and Robin Mechlowitz borrowed the equipment (including a Handy-Talkie) for use in the production, which played to good reviews at Miz Brown's Cabaret Theatre.

For those of you who may have wondered where FAX machines came from, we can tell you they came from RADIO! The radio program announcing the first radio facsimile broadcast over New York's WOR was recorded 50+ years ago, and tape is in the hands of CHRS audio engineer Bill Helander for the next Audio Journal. More contributions will be welcome!

73. -- BART Lee ##

Welcome New Members! and Some Returning Friends

Alden's Anything Antique	Stu Lawson
Bill Allison	Norman Leal
Doug Bennett	Magne Lein
M. Berman	Richard A. Lerche
Carl Bier	Stan Lichtenstein
Dale Bolstad	Stan Lipski
Jim Bremer	James F. Lovell
Larry A. Brown	Peter Lude
Herbert Buss	James Montgomery
Frank D. Butscher	Brian Morelli
Lee Carroll	Joseph D. Morse
Leonard W. Cartwright	John Mulhern
Jim Chanin	James B. Neale
Michael A. Christ	Steve Parr
Kemo Coit	Robert Ramirez
Norman G. Cox	Gene Rippen
Lawrie L. Cranston	John Robbins
Bill G. Davis	Ron Roberts
Geoffrey L. Day	Bill Robson
Dean E. Delaho	Jeff Rodriguez
Craig Dible	John R. Ryan
Leonard A. Dole	Jim Sabo
Guy Doss	Ed Sharpe
James B. Downer	Donald Shelman
Bob Easthope	Charles M. Smith
Ellis Feinstein	Kevin G. Smith
Richard L. Ferranti	Ray A. Stafford
Gary Feuerhelm	Charles J. Storni
Michael Fulk	Ken Strack
Davis Fuls	Phil Surkis
Robert Gardner, Jr.	R.J. Volquardsen
Al Gianascol	Chuck Wagner
Paul Giganti	Mark Walker
Larry Gilbert	John Wallin
Gerald W. Gordon	Kelly Wingate
Susan Hayse	
George E. Hoffman	
Stuart Hunter	
Col. Nick Iisines	
Hiroshi Ishii	
John M. Kaar	
Charles Ketterman	
Larry R. Kinney	
Rich & Connie Krimm	
Jeffrey Kyle	
Norman C. Lausten	

"The Charles Herrold Story: the Video"

by Mike Adams – Special to the CHRS Journal

So you think you know Charles Herrold? Like to know more? Then please take a few minutes and complete this CHRS quiz: Was he (a) the first person ever to send music over the wireless, (b) the person who started KQW, the first licensed radio station or (c) a Stanford PhD who started a San Jose wireless College, circa 1909, or (d) none of the above. Stop here and answer; don't read ahead just yet.

If you answered (a) deduct \$25,000 from the value of your re-financed mortgage; credit for first-to-send-music-over-the-wireless probably goes to either Reginald Fessenden's alternator experiment in 1906 or Lee de Forest's modulated spark a few years later. If you guessed (b) you probably spent too much time at the late lamented Foothill Electronics Museum staring at Herrold's "arcphone," you know, the one with KQW on the microphone. (See photo 1) KQW was licensed as a broadcast station in 1921, about a year after KDKA, WWJ, and a few dozen others. For that guess you have to surrender your ham license and turn in your 2-meter handheld.

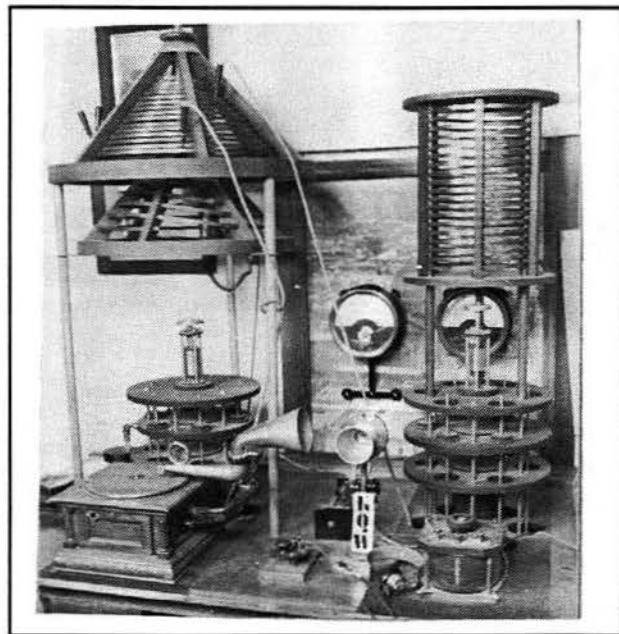


Photo 1. Arcphone exhibit at former Foothill Museum

If you guessed (c) you'll have to give up the tickets you just purchased to next year's Big Game. Charles Herrold dropped out of Stanford after three years without so much as a BA. The correct answer is (d) none of the above. So who is this apparently mysterious person anyway, the man in whose name the California Historical Radio Society presents a yearly award? Who is Charles David Herrold and why are people still saying untrue things about him? And last straw of straws, I knew it was time to set the Herrold record straight when Bart Lee and I received the "*Dr. Charles D. Harold*" award for 1991 and 1992. I knew that if we couldn't even get the title or the spelling right, my research was going to be valuable indeed.



Photo 2. Charles Herrold's first love and career choice was astronomy. When Stanford's only astronomy professor left in 1896 closing the department, young Charles was forced to find another major. He chose physics. As a result his life direction changed toward electricity and wireless.

So I'm here to praise Herrold not bury him.

Seriously, I'm really excited about a project I've been working on for the past two and a half years and I've been asked by your editor to share my progress with fellow CHRS members.

In late 1993 or early 1994, the one hour video documentary, "The Charles Herrold Story" will air locally and nationally on PBS stations. After years of research, an accurate record of an important person in the history of wireless and radio finally can be viewed by a large audience. After reading all 800 pages of Herrold's papers, locating over a thousand family photos and old nitrate film, and interviewing surviving family



Photo 3. Herrold, circa 1906 teaching a group of students at Heald's College of Mining and Engineering in Stockton. Herrold is standing third person from the left.

members, witnesses, and broadcast and wireless historians, the Herrold story can at last be told. Most of the work completed has been funded by the Perham Foundation Electronic Museum and San Jose State University. Completion will be partly underwritten by PBS television station KTEH.

Herrold was a complex person. He was an accomplished inventor of everything from deep sea diving and dental office equipment to a device that connected the wheels of San Jose street cars to moveable signs that visually indicated the street traveled. He was a well-liked teacher, first at Heald's College in Stockton, (photo 3) and later in 1909 as the founder of the Herrold College of Wireless and Engineering located at the then new Garden City Bank at

First and San Fernando in downtown San Jose.

It was there between 1909 and 1915 that he invented and patented a system of transmitting voice and music which he called the "arcfone." Featuring a group of up to six magnetically lifted and self-adjust-

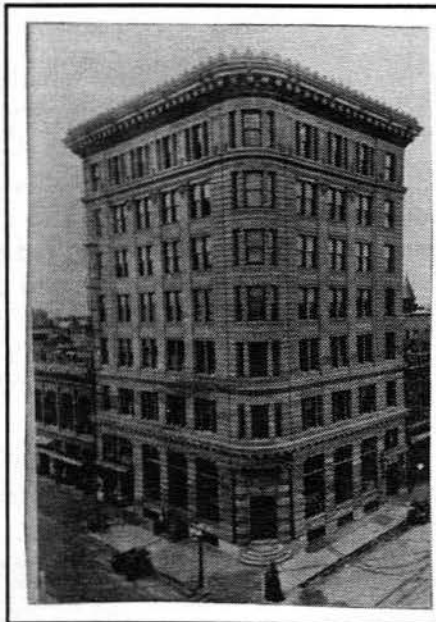


Photo 4. Completed months after the 1906 earthquake, the Garden City Bank Building was the site of Herrold's wireless college and famous broadcasts.

ing arcs connected to fire in series with a DC voltage and water-cooled carbon button microphone, various versions of the arcfone were on the air daily sending experimental transmissions of music and talk to a receiving station in San

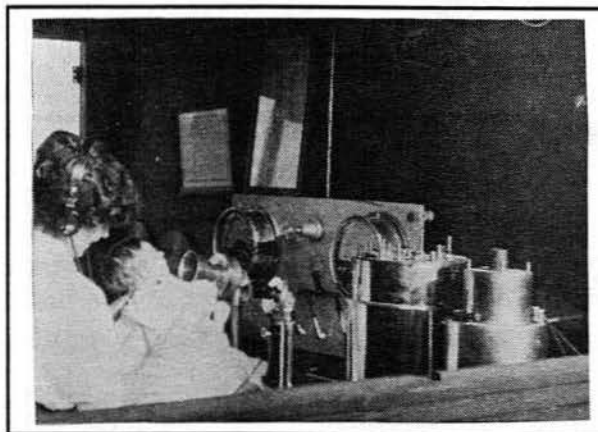


Photo 5. Sybil at the microphone of Herrold's arcfone.

Francisco. Herrold transmitted often in an effort to perfect the arcfone. Every Wednesday night between 1910 and World War One,

Herrold, his wife Sybil, and a small group of students put on what the evidence suggests was the first regularly-scheduled broadcast of music, news and entertainment specifically aimed at an audience of young set builders, wireless operators and other curious folk. A local music store furnished records in return for a plug and Sybil held a weekly contest and awarded prizes to the winner, like a pair of headphones or a piece of galena. Herrold said that these broadcasts "were for the people of San Jose." It sounded like fun. It sounded like radio.

World War One caused all radio stations to be shut down. Herrold quit his for-the-public broadcasts but continued to train hundreds of students as wartime wireless operators. After the war and the return of normalcy, the Department of Commerce began licensing station to



Photo 6. An older Charles Herrold adjusts an early KQW transmitter, part of the Herrold artifacts and archives held by the Perham Foundation.

broadcast but technology had passed Herrold by.

Alas, the wavelengths assigned to the new service were on frequencies too high for the arc-fone to handle. Frank Conrad at Westinghouse and others using the vacuum tube went on the air in 1920. Herrold applied for an experimental license, built a tube transmitter and went on as KQW a year later.

There is much, much more to tell about this fascinating person. After losing KQW by 1925,



Photo 7. In later years, Herrold worked at many Bay Area Stations

Herrold spent the next decade working in local radio and trying to prove his claim and the title he gave himself in the early 1930's, the "Father of Radio Broadcasting."

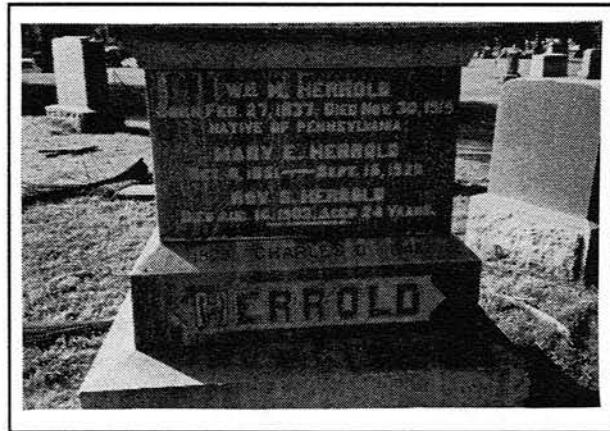


Photo 8. A final resting place for Charles Herrold

Herrold died in 1948, forgotten, an unsung hero, barely a footnote in history. Even the inscription on the family marker looks like an afterthought. I hope you'll watch for the video and learn the whole story about a man ahead of his time, Bay Area inventor Charles David Herrold.

Midwest Mania: A Passion for BIG Radios!

by Mike Simpson

It seems that I have always had an interest in collecting old radios. My addiction (or better, affliction) goes back to when I was seven or eight years old. I can remember stacking my prized possessions one on another until they reached the ceiling. This seemed like such a great accomplishment at the time - *a tower of radios!* Through the years my collection changed and grew. My grandfather, who could fix anything, taught me radio theory and how to fix them.

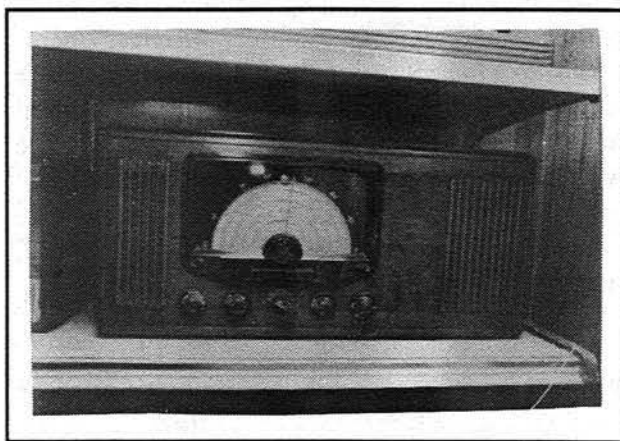


The "Midwest" Wall

When I was about 15, I wandered into a used TV and radio store in my hometown of Kalamazoo, Michigan. In the back room I found a really 'different' looking console radio. It had 18 tubes (wow!), 6 bands, push-button tuning,



and a 'Giant Theater-Sonic Speaker'. It was BIG. It was a MIDWEST, and I had to have it. I offered the store owner my pocket transistor



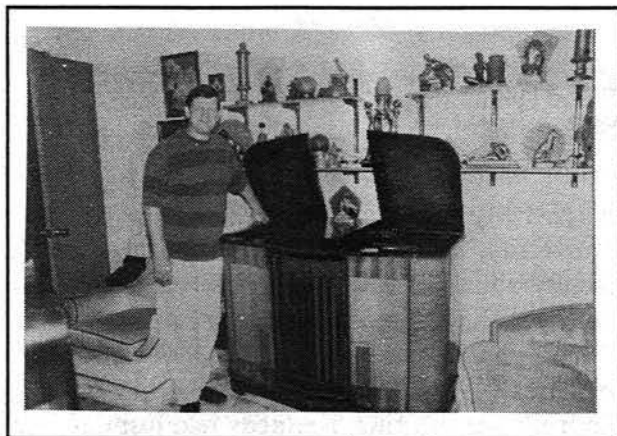
Midwest #216, 16 tube table model, circa 1942

radio (the latest fad in radios at the time) for the Midwest. He of course wasted no time in saying yes, so with the help of a friend and his '49 Hudson, the Midwest was soon home in my basement. For some years the giant Midwest was my favorite radio but, like most of my collection, it was to disappear after high school (Dad cleaned out the basement.).

"It was BIG. It was a MIDWEST, and I had to have it."

Some 20 years later, I find myself living in California and of course had started up another collection of old radios, most of which were Zeniths. After all, don't we all want to collect Zeniths? One day when visiting another collector, I saw the profile of a vaguely familiar radio. It was a Midwest similar to my old favorite. I bought the set mostly because of the one I had owned before. But later I began to think that maybe I should start a collection of Midwests. No one I knew of wanted a Midwest and if I found one, it was usually cheap. What's more, they fit into the same niche as my other favorite orphans, my Kaiser and Frazer cars (somebody has to love them).

I have now been collecting Midwest radios for



The 'hernia' model (the radio, not me): Here I am next to the giant Midwest 1936 Royale in a Victoria cabinet. I found this radio in Washington state.

about 12 years. My collection, which I have tried to limit to pre-WW

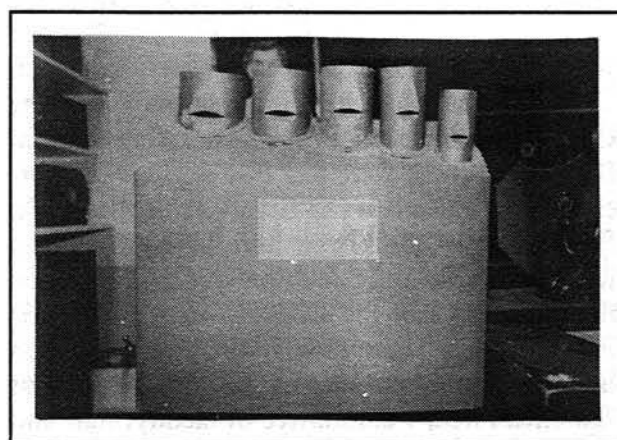
II models, numbers about 40+ sets including all three of the Midwest Royales, a one year only (1936), limited production series. The Royales were the largest of the Midwests; 24 tubes, dual chassis, 3 speakers, and 6 bands covering 125 KHz to 65 MHz. The Victoria radio/phono combination's cabinet is 39" high, 52" wide, and 25.5" deep. And it is *BIG!* I find that when properly restored and aligned, the Midwest is a real performer, contrary to many stories you may hear. Cabinet styling of the mid 30's sets are very strong in the Art Deco tradition. A variety of exotic veneers along with chrome dial escutcheons and lever type knobs (ala E.H. Scott)



were tastefully used. You actually got a lot of set for your money

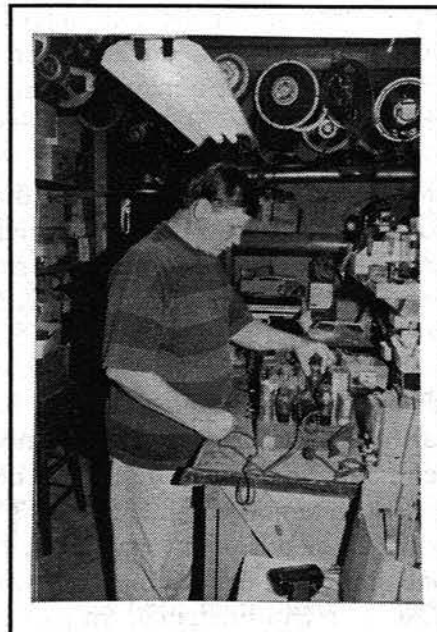
with a Midwest.

The Midwest Radio Corporation started business in the very early 20's and sold their products through mail order, thus saving the buyer the middleman's mark-up. Exactly when the company closed its doors I do not know, although I do have some literature dated 1955. I believe this was the last year for the company. Like most collectors that pursue a particular item, I am still looking for models of Midwests that I don't have, although I'm afraid room for them is becoming a problem. Guess I'll have to find a bigger house...



A gimmick popularized by Midwest; The "Organ-Fonic Tone Filter" was claimed to have specially arranged resonators to provide a path for the bass, midrange and treble notes for perfect reproduction. The Organ-Fonic is simply a cardboard box, and the tubes look like oversized toilet paper rolls shaped like organ pipes.

Mike Simpson is a long-time CHRS member and supporter. His collection includes all types of radios, TV's and related items. In addition to Midwests, Mike also specializes in unusual cathedral sets, and elaborate late 1920's consoles.



"A HISTORY OF BAY AREA RADIO: Part 2" – *by Mike Adams*

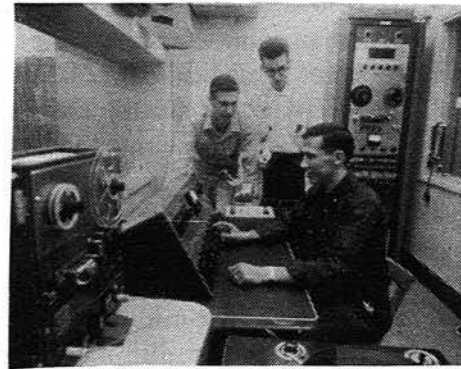
Special to the CHRS Journal

The Federal Communications Commission, FCC, classifies radio broadcast stations as commercial and education. When I look at licensed broadcasting, I see at least four categories of radio station; commercial, public, community and college. You already know about commercial broadcasters like KGO and KSAN. Advertisers pay big dollars to get their products or services promoted and we accept this as the American system of broadcasting. There are over 10,000 commercial licensees in the US, with more than fifty in the Nation's fifth largest market, the Bay Area. Stations prohibited from accepting traditional commercials are officially licensed as 'non-commercial educational' although it might be argued that pledge breaks "sound" like commercials. (As a legal aside, stations licensed as non-commercial educational may accept 'underwriting' from advertisers, basically 'value-neutral' commercials, cleansed of all directives and comparisons.) Nationally there are 1,900 of these, several dozen in the Bay Area. Most are located on the FM band between 88.1 mhz (channel 201) and 91.9 mhz (channel 220), but a few newer ones are on 87.9 mhz (channel 200), some are in the commercial band, 92.1-107.9 mhz, and a dozen older ones in the Midwest and East remain on their original AM channels.

In the Bay Area we are served by KQED and KALW as NPR/APR affiliates, KPFA, KPOO and KKUP as community stations with mostly volunteer programmers, while KCSM, KUSF, KFJC, KZSU, KALX, KOHL, KSCU and KSJS are all licensed to colleges and universities, with all but KCSM programmed by students. To further add to the 'educational' mix in this area, several high schools and religious denominations also operate non-commercial FM's. Last year in part one of this occasional series, I wrote about one of the first educational stations in the world, KALW in San Francisco. In part two, I present the story of one of the first local college stations,

KSJS-FM, 90.7 mhz at San Jose State University. Since 1988 I have been the station's faculty advisor and we have just celebrated our 30th year on the air. Here is our history:

America in 1960. The Cold War was raging, Sputnik was orbiting, Kennedy had just defeated Nixon for the presidency, Elvis was getting out of the Army and AM radio had given drama, comedy and variety to television and replaced big band with rock and roll. Locally, that same

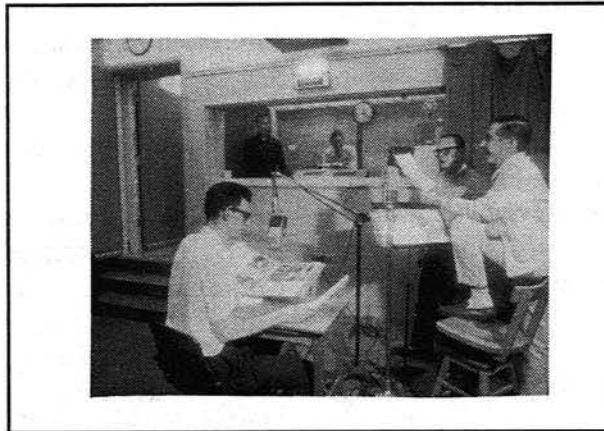


In the 60's KSJS used a basic 1940's RCA board, Ampex models 350 and 600 open-reel tape decks

year, a memo was presented to President John T. Wahlquist recommending that San Jose State College establish an FM broadcasting station. Back then, there were few FM stations in existence with only a handful licensed to colleges. In fact, a survey completed here in 1960 by San Jose State radio and television students indicated that only 26% of the students actually had the FM band on their radios. Armed with this information and led by Drama Professor Clarence Flick, a committee of faculty, staff and administrators submitted a proposal for KSJS-FM which eventually became part of the license application.

In the proposal dated January 1962, it was sug-

gested that for about \$11,000, a transmitter and studios could be purchased and installed. Funds would come from both the instructional budget and fees generated by the Associated Students. It would be staffed and programmed by the faculty and students of the Speech, Drama and Journalism Departments and, while expected to provide an educational experience for students, it would clearly be under the control of the newly created FM Station Policy Committee. Programming goals as stated in the original proposal to the FCC were those designed to "reflect the quality and objectives of the college." Indeed, several pages of programming policies were presented as part of the original application, all suggesting plenty of checks and balances on programming content, i.e., the college promised to watch the students carefully. It should be noted here that all applicants for a federal broadcast license were expected to say these sorts of things.



On February 11, 1963, KSJS-FM went on the air. With a modest power of 85

watts, it was possible to hear the new station several miles from the College. Possible, of course if you had that rare FM radio. During those early years, it was even recommended that small AM transmitters be installed in the Student Union and dormitories to rebroadcast KSJS-FM so that more students could receive the station. Programming in those early days was limited to the hours of 4:30pm to 8:30pm, Monday through Friday and only while the semester was in session. It was a humble beginning with much of the programming on tape from the National Educational Network. Students produced and presented news, sports, classical music and a variety of talk and interview programs.

KSJS students on the air in the 1960's. Those RCA model 44 ribbon microphones are in great demand by collectors.

Cut to the late 1960's. Campus protests, takeovers of administration buildings, calls for change, calls for ouster of anyone in authority, most as a protest to the wars in Southeast Asia. And like the institutions of higher education that sponsored them, in the latter 1960's and early 1970's, college radio stations both influenced and reflected the general social change in America. Attempted student takeovers of the station, one at gunpoint, and over-reaction by administrators divided KSJS and even caused one faction of students to defect from the station and try to start their own. Faculty reacted by calling for more control over the station administration and programming

content. KSJS began broadcasting so-called 'free-speech messages' and the campus had a 'committee for open media.' It was a time of change at San Jose State College and its tiny 85 watt FM station.

The passage of the Public Radio Act in 1967 caused many educational licensees to pause and reflect on their future and by the early 1970's, there was

plenty of discussion at San Jose State about possible affiliation with National Public Radio, NPR. With dissatisfaction over the operation of the station growing in proportion to the social and political events of the time, the College FM Policy Committee in 1973 recommended that KSJS apply for a power increase in order to qualify for NPR affiliation. In that same study "KSJS-FM, a Time for Decision," it was suggested that KSJS might be taken out of the hands of students and run by administrators. Fortunately, cooler heads prevailed. KSJS-FM was able to increase power to 1000 watts by 1975 and remain as a student station in the Theatre Arts/radio-TV-film department. In 30 years, the wheel has been reinvented at least a dozen times.

In 1963, the College FM Committee reported that "the FM station was in financial difficulty and was saved by a one-time only contribution by the Dean." Don't tell anyone but the station has been in financial difficulty every year since that time and at least twice in 1989 it was saved by a 'one-time only' contribution by Dean Jack Crane of the College of Humanities and Arts. Obviously these deans are good people to know. The station has also managed to withstand the plethora of well-meaning but largely ineffective committees and sub-committees, all with their own agenda for KSJS-FM. Today it is a student-run, student-staffed, student-funded station, but with the programming expectations of a public radio station.

Like the majority of student run stations in the Bay Area, KSJS is a 24 hour-a-day, full-time station. It is open to all San Jose State students, and typically each semester several hundred students from all university majors contribute to the administration and programming of the station, most for academic credit. The station has earned the support of the administration, and features an eclectic selection of rock, jazz, news, sports and public affairs. Its stated purpose is to provide to students a unique liberal-arts experience in broadcasting for university credit, and to serve the university and South Bay communities with programs that entertain, inform and challenge. Both last year and in 1990, KSJS was named "Station of the Year" by the National Association of College Broadcasters.

For 30 years KSJS has remained an important part of the San Jose State University experience.



STRAYS

Wanted: I'm going to the Elgin, IL radio meet in early August and would like to share my already reserved hotel room. Please call Kent Leech at (510) 253-9757.

Swap Meet Announcements: Mark your calendar, now! Ampex - Redwood City, Sat. Aug 7th & Sat. Nov 6th, 1993 8:00AM, Auctions 10:00 AM. -- Picnic & Swap at Railroad Museum, Fairfield Sat. Sept. 18th.

Interested in vintage tube hi-fi equipment? The San Francisco Bay Area Tube Enthusiasts holds regular meetings for folks just like you. Contact: Tim Eding (408) 923-6593 for information.

Attention vintage radio program fanciers. Revival of Creative Radio is an organization dedicated to preserving the programs that sound best on your old radios. They publish a magazine regularly, and have an extensive selection of programs available for sale. RCR, PO Box 1585, Haverhill, MA 01831 (508) 373-5420.

For sale by non-member: AK model 10 breadboard. \$1400, shipping available. Charles Thrasher RR#2, Burnt River, ON K0M 1C0, Canada (705) 454-8383

For sale by non-member: ARRL 1936 Handbook. \$28 post paid. Cover poor, pages OK. Dodie Strandberg, 3408 W. 13th, The Dalles, OR 97058

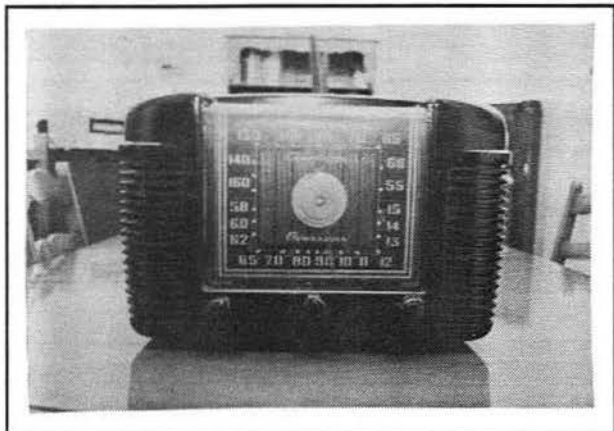
Reproduction Grille Cloth: CHRS member John Okolowicz has completed his two year effort to reproduce the mid-30's Scott radio grille cloth. This is the only cloth of this type available, and looks great. John also has many other top quality grille cloth styles available. Contact him at 624 Cedar Hill Rd., Ambler, PA 19002 (215) 542-1597, and he'll send you samples.

Improve the Performance of Your AC/DC Sets

By John D. Eckland

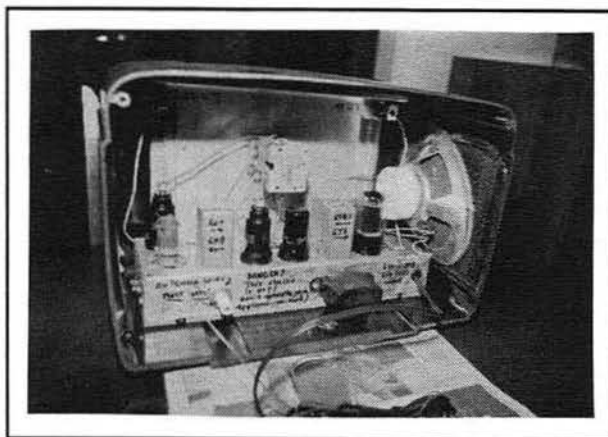
Below are some useful circuits for improving reliability and performance of AC/DC sets using resistance line cords or ballast tubes. In some cases a partial or complete tube line-up change would be necessary. These changes are recommended for sets intended for continual or daily use. These conversions also apply for 'battery' editions of conventional AC/DC table sets.

I recently received a Crosley bakelite table radio of the "American/Overseas" variety. Instead of the usual AC/DC or AC tube lineup, this set was to operate for dry batteries; 90 VDC for the plate supply and 1.5 VDC



for the filaments. The tube complement was typical for a set of this type: 1A7, 1N5, 1H5, and 1A5.

Here's how this butcher job began (AC radio *renegades listen up!*) I pulled out a chassis punch and removed the 3/8" slug for the rear apron of the Crosley chassis. I then installed a rubber grommet and threaded through a hank of 18 gauge zip cord, tying a knot in it. Next I installed a double 8AG fuse holder nearby on the inside apron and soldered the cord to one side of the holder. I could contin-



ue on, step-by-step, however I trust the following schematic will suffice.

Anyway, I selected a 6A8 to replace 1A7, a 6K7 for 1N5, a 6SQ7 for 1H5, and finally a 6Y6GT/G for the 'wimpy' 1A5 output tube. I fitted the set up with a new speaker assembly. Originally a 5" permanent magnet unit with a 25K Ohm/4 Ohm output transformer (very difficult to locate, today) was used. Now the speaker is 5"x7" with a 4 Ohm voice coil and a 2000 Ohm to 4 Ohm output transformer. The latter is much easier to find.

I could have selected tubes for use in series string, however I chose tubes for use in parallel to minimize 'flashing' of the heaters during initial power-up. As I feel this greatly reduces the lifetime of tubes as well as pilot lamps. This undesirable flashing of heaters and lamps also occurs in sets with diode replacements for resistance line cords or ballasts. The optimum filament transformer selected to operate these tubes and several pilot lamps is rated 6.3 volts AC at 3 amps. In this particular chassis there

is plenty of room to mount a filament transformer, output transformer and filter choke. These parts can be obtained

"...These sets present a shock hazard and must not be operated near a sink or any grounded appliances."

from swapmeets and junked sixties' vintage table sets.

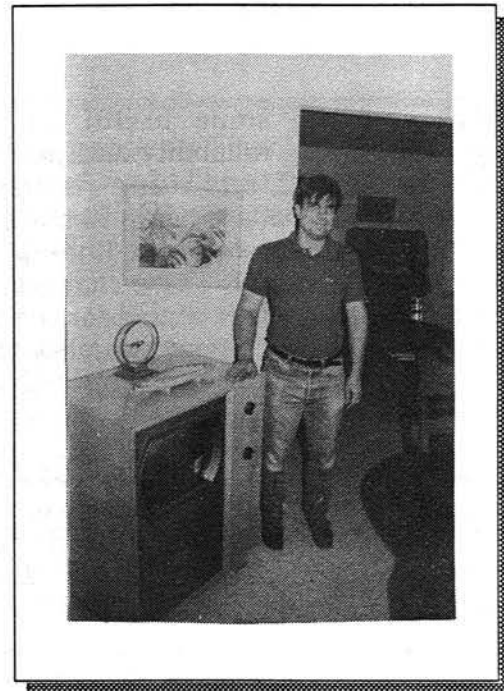
I used a 6Y6 output tube for compatibility

with extant output transformers in most AC/DC sets, its copious supply and awesome power output of up to 3.6 watts! To improve the tone quality replace the volume control with a tapped type (as shown) as well as application of inverse feedback (also shown).

I cannot overemphasize that these sets present a shock hazard and must not be operated near a sink or any grounded appliances. I affix a sticker on the back of all AC or AC/DC table sets and inform the owner as well.

Photos of the completed chassis are shown. Although the radio is no longer 'original' the set plays beautifully now, and was fun to restore.

John Eckland restores vintage radios, televisions and hi-fi equipment as his vocation. He likes to 're-engineer sets', and has been involved in the old radio hobby since early childhood.

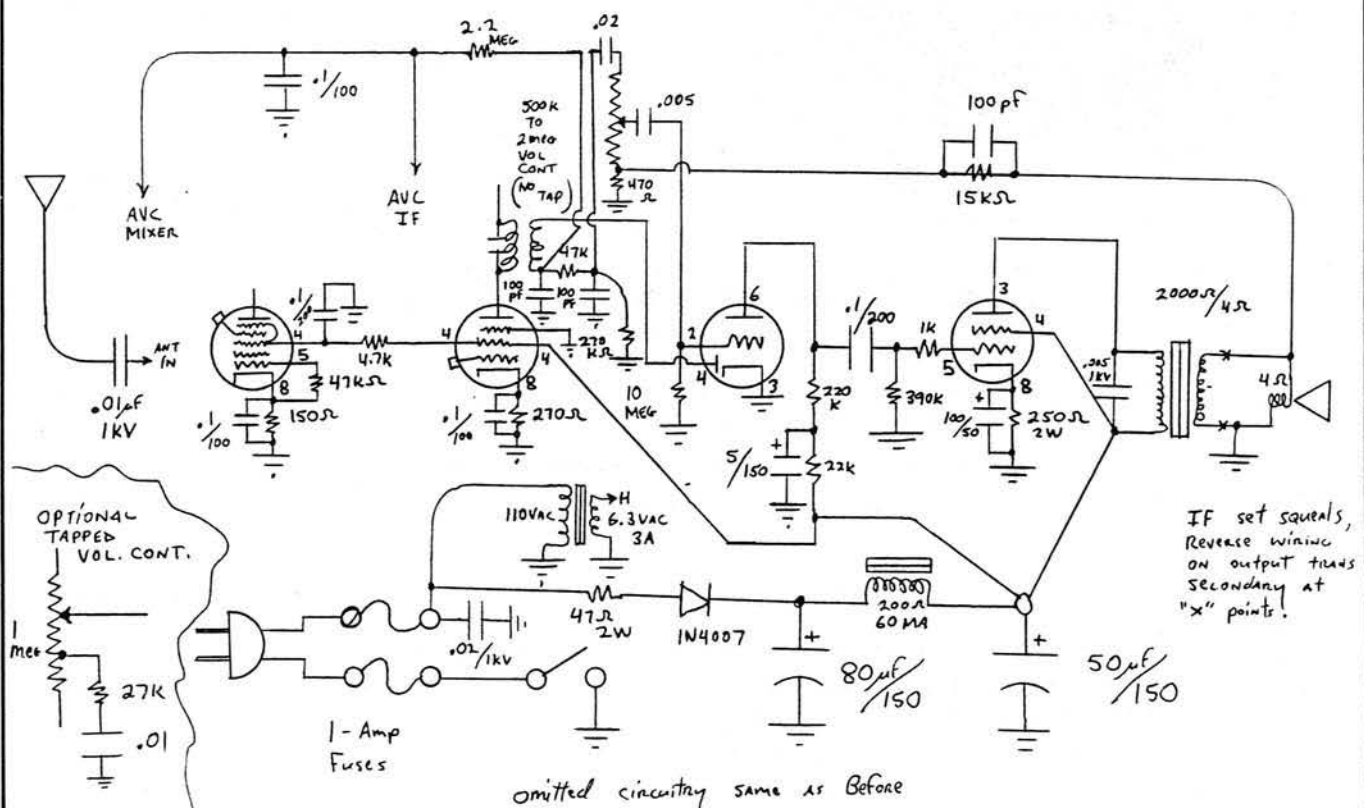


6A8

6K7

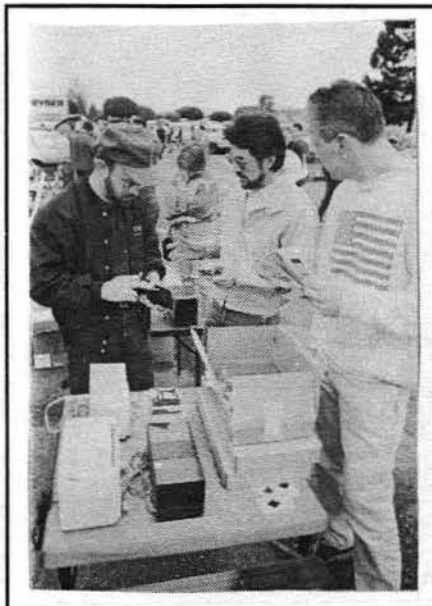
6SQ7

6Y6 GT/G



Ampex Swap Meet - May 1st 1993

Photos by Gary Hascall



Matt Householder (L) busy selling his wares.



Jocelyn Schoolsky awards the 50/50 raffle prize to Jim Cirner.



John Diserio eyes a new set for his collection.



'Sure it works. It'll even test OIA's'.



Bob Gardner, Jr. draws a crowd with his truck load of goodies.

Annual Family Picnic at Tilden Park May 15th 1993



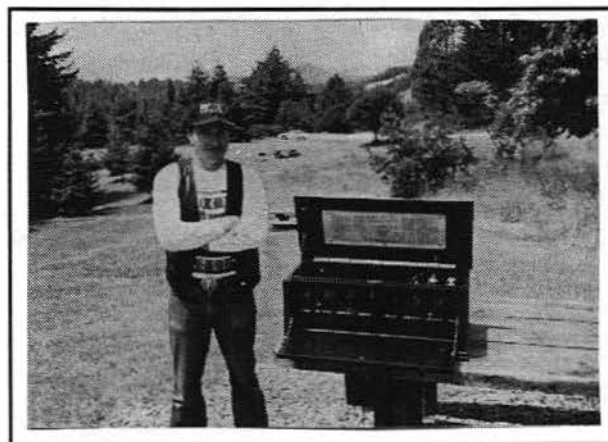
Kent Leech proudly displays his recently restored Crosley Trirdyn.



Left to Right - Scott Robinson's back, Kent Leech, Rich Ortega, Scott's friend from Boston, Paul Bourbin-seated.



Paul Bourbin (l) tries to tune in his crystal set, Adam Schoolsky (r), chuckles at Paul's frustration.



Rich Ortega with his deluxe mid-20's Thermodyne battery set.

Board of Directors' Meeting Minutes

Saturday March 27, 1993

Meeting held at Mike Adams' house in Scotts Valley; called to order at 3:00 PM. In attendance were: Mike Adams, Paul Bourbin, John Eckland, Adam Schoolsky, and Russ Turner. President Adam Schoolsky presented an agenda for discussion along with a proposed calendar of events for the remainder of the year.

Publications: the due date of the next Journal is the end of April, with Adam Schoolsky coordinating while Bart Lee is pre-occupied with business obligations.

Mailings: should be a week or so before swap meets as a reminder but not as an announcement. The Journal committee always needs help with subjects and photos. Articles should take a trend to spotlight people and personalities. If anyone is reluctant to submit an article because they can't 'write' the editors will assist them, even to the extent of going to their homes. Board members were asked to get cost estimates for Journals from several printers to see if we could reduce our costs. The cassette program was discussed. Some members feel the quality could be improved by using a better recorder in conjunction with a lapel mike. Interview techniques could use some sharpening up. Adam will do a newsletter this coming week.

Mailings:

Due dates for printing, labels, stuffing and mailing were put on the calendar. Dale Sanford has a bulk mailing permit, which we have needed for a long time. Back issues of tapes and Journals are in Bart Lee's custody, but we should try to move them out to members. We don't need that many. Paul Bourbin and Russ Turner have keys to the PO Box and will check it more or less regularly and route correspondence appropriately. Adam will handle the voice mail box.

Swap Meets:

Dates were entered into the calendar. People are finally getting the idea about starting the swaps at 8:00 AM. However, ogres are still needed at the gate to prevent our slower-learning members from entering ahead of the official time. Maybe fresh coffee and donuts will soften the blow and release some tensions. Some lucky members will be assigned here. We will require sellers to provide proof of CHRS membership. Monitors have had success selling CHRS memberships on the spot. Auctions should start promptly at 10AM, with donors required to take their unsold junk home. Maybe we'll try a silent auction. It's time to stir up interest in equipment contests. A secure space is needed for that, maybe the Ampex cafeteria is suitable. Mall shows were discussed. Suggestions were Valley Fair in San Jose or the Capitola Mall. They are good showcases for CHRS, and get us new members or equipment donations.

Publicity:

Paul and Mike volunteered to put announcements in newspapers, radio and house publications like Motorland.

Finances:

There was no financial statement available, we are solvent with bills current.

Membership:

Exchange of membership lists with ARC and other clubs would enable us to outreach a larger number of potential members. New categories of membership could be offered, as is done with KQED, to get more money. Eg. Life Member, Forever Member, Inactive, fallen, or Mildly active member.

Library:

We now have a huge amount of technical literature which requires storage and cataloging. We were donated a non-members' collection, which is very valuable and well organized. Club should write a thank-you letter and maybe give a 1 year membership.

Museum:

We may be offered a space at the Railroad museum in Rio Vista, but that appears to be some time in the future.

Special interest Groups:

Metal Radios - Stan Lopes, phono combos - Larry Boysen.
We should encourage individuals to form groups.

Projects:

Awards, CHRS Museum, Video tapes, name badges, stimulants. Steve Kushman has made up some very nice CHRS T-shirts. They should be available at swaps or by mail.
Thanks, Steve.

Future board meetings:

3 Per year. Next on July 24th at Case de John Eckland in Palo Alto. After that November 20th at a to-be-announced venue. Let's try to have a big Christmas Party!

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From the Mailbag

Dear CHRS:

Having just returned from the Ampex swap-meet, I'd like to borrow a line from Monty Python's John Cleese and say, "I'd like to register a complaint!"

I look forward to the swap meet with great anticipation but I must say that this one was high weirdness of the first kind. The following are some of the things that left me walking away shaking my head:

1. It appears that our "swap meet" has turned into another antique show with prices to match and the word 'swap' hardly enters into the picture. I may be wrong but I thought a lot of the prices asked for some items were exceedingly high especially when it came to damaged or "trashed" items. Anything cracked, damaged, or broken does not command premium prices.

2. More than a few of the people selling were a little on the rude side. The sentence of the day was, "Make me an offer" which was then followed by an insult as to how unrealistic the offer was and the person making it certainly didn't know anything about radios. No bargaining at this stall....no sir! In the spirit of bartering, an offer starts low not high!

3. In my opinion, I think we are beginning to have (if not already have) a serious problem that is plaguing our hobby all over the country. I think our meets could possibly be infested with "dealers" who are there for their own interests and not necessarily there for the CHRS or its members. In fact, it would be interesting to know just how many sellers

support the CHRS with their membership. While attempting to negotiate a deal on an item, an acquaintance of mine was on the butt end of the remark, "Well, I'm here to make money!" Any and all negotiations on my friends part ended there and then.

4. Other than the "Old Timers" and the "Faithful", I perceived a generally unfriendly atmosphere. Again I could be wrong.

I go to the swap meets to have fun and meet other collectors/hobbyists with some common interests as mine. I, for one, didn't have a whole lot of fun at this one and met some people I could have done without. Oh, by the way. don't ask me to identify them...I'm sure they'll be back so others will share in the experience.

Sorry to be so negative...but I felt that I needed to express a viewpoint.

Ken Burton - Los Altos, CA

Points well taken, Ken. There are several 'dealer' type folks that frequent our meets. Is it not realistic to exclude them just because they're at the meets to make a buck. However your letter helped us to institute the policy that only members may sell at a CHRS meet. We check each seller when they enter, and sign them up if they're not a member.

Jim Lomasney writes:

I have dreamed up a circuit for modification of the Hammerlunf SP-600 to improve its low end RF selectivity. Would CHRS be interested in an article on this? Also, the Fall/Winter '92 Journal is excellent. Particularly enjoyed the articles on WWII handie talkie and VT fuzes.

We'd welcome your article, Jim. Thanks for the nice comments about the Journal.

This is a great group, and enjoy my association. Would it be possible to schedule the swap meets at times other than the same day as Foothill meets?
Henry Engstrom - Santa Rosa, CA

We've taken your comments into consideration. We have only one conflicting date this year, the San Francisco meet. The Ampex meets are on the first Saturday of their respective months.

I enjoyed the color front cover on the Journal. I'm sure it's more expensive so here's an extra \$10.00. Not much, but I hope it helps.
Jim Horvat - Union City, CA

Thanks Jim. That was our first color cover, so here's another. Hope you like this one, too.

I think the club is doing a fine job! I don't want to commit myself yet, but I am planning to write an article on the SCR-270 radar. This is the one used at Pearl Harbor.
Bob Leister - Grass Valley, CA

OK, Bob. Looking forward to your article...now that we've committed you in public!

I know about SPERDVAC for old time radio shows. Does anyone know of a similar group for old-time television shows?

Larry Clark - Benicia, CA

Enjoyed the articles in the Journal on early radio, the sets and the people responsible for them. Would like an article on the 274N command radio used in aircraft.
John R. Polk - San Rafael, CA

Can anybody help here?

Enjoying magazine and swap meets. Prefer text format to audio cassettes. How about expanding scope of club to early TV and test equipment.

Charles A. Coderre - Antioch, CA

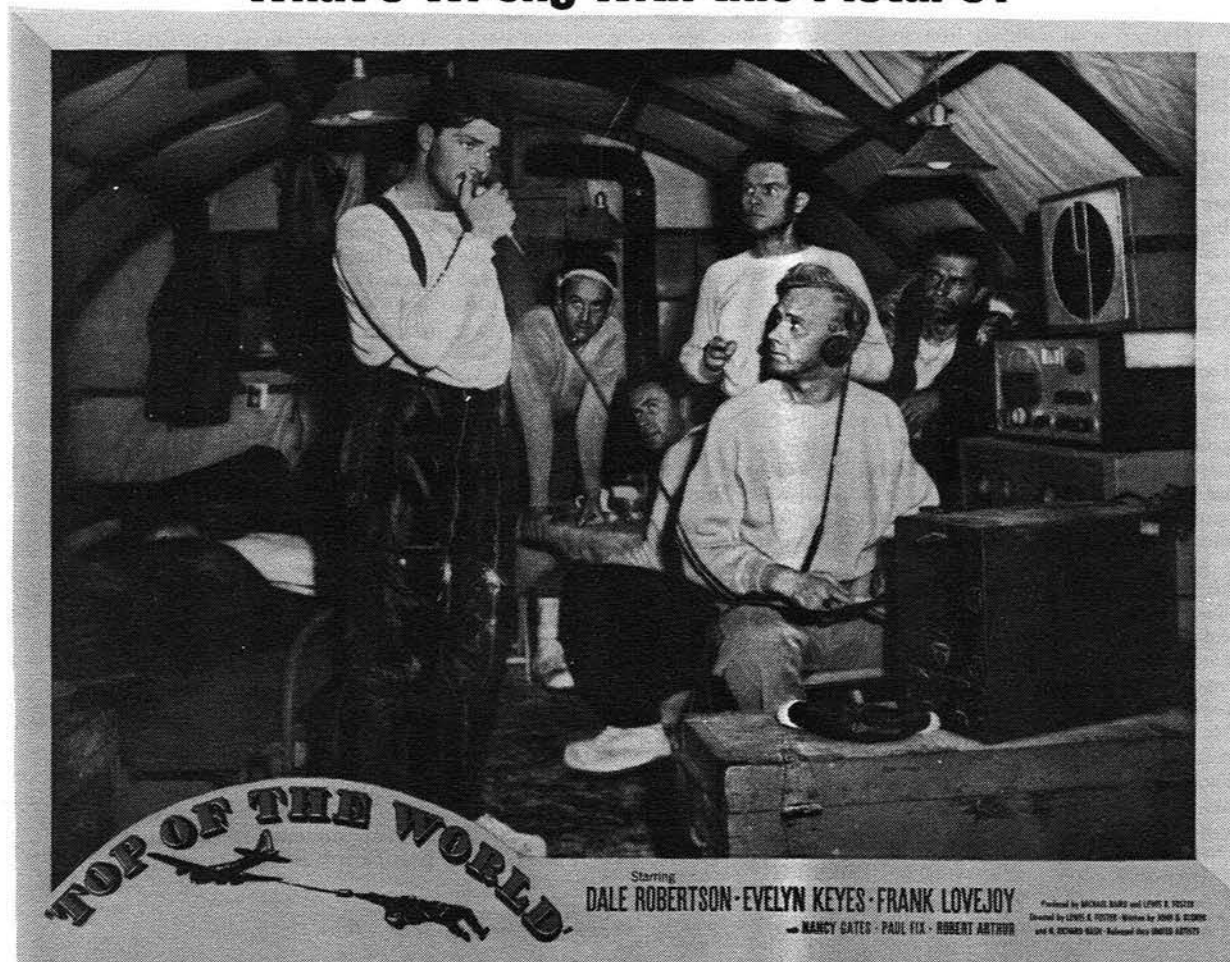
We're working to improve the content and quality of the tapes. We also have some TV and test equipment articles in the works.

I'd like to see more actual meetings besides the swap meets. The swap meets are great, but I never know who's who. I can't tell who's in charge when I go to the swap meets.
Bryan Goodrich - San Leandro, CA

We've tried meetings over the years, but had little interest and poor attendance. We're considering giving them another try. Say, we're not always sure who's in charge either!

*Send your letters and comments to the Journal Editor, CHRS,
PO Box 31659, San Francisco, CA 94131*

What's Wrong with this Picture?



Isn't that a Yallicrafters speaker? Thanks to Gary Hascall for this 1955 lobby card.

By Avery Comarow

A techie's toast: 'Here's looking at you, kit'



It was 1958 and my 13th birthday was coming up.

"I want a VTVM," I said.

My father's forehead furrowed.

"A Heathkit vacuum-tube voltmeter, for measuring voltage and resistance. I'd build it. It's \$24.95. Maybe a couple of dollars more for shipping."

My father can handle a hammer and straightedge with alacrity and skill, but there were no Heathkits or vacuum-tube voltmeters when he was a kid. Sure, he said, perplexed. OK.

I plugged in my soldering iron, sorted out the resistors and capacitors, and plunged in. Some instructions I read. Others I ignored. My eyes swept past Heath's poster-size diagrams showing the exact placement of each tiny part on the circuit board. Intuition told me to stick the tips of the wire leads into the board and solder everything in place. A rain forest of vividly-hued componentry trembled on skinny wire stalks above the circuit board when I was done, and the VTVM didn't work.

I took it to a friend who fixed radios and televisions in his spare time. He stared at the mess, his face as unreadable as a poker player's. I should have tucked the parts tight up against the circuit board, he explained. It took several days to undo the damage, but finally I could measure voltage and resistance.

Kit-smitten, I tore into more Heathkits. A two-tube ham radio transmitter, the DX-20, followed. I stayed home sick (Mother knew better) the day after my ham license came. I didn't have a real antenna, so the window screen in my bedroom was pressed into service. It worked. My nervous, halting dots and dashes tossed into the ether found an ear in Florida. Jim was his name. He answered me, gearing down his natural sending speed tenfold for my benefit. We exchanged Morse code greetings through

the static crashes. Sweet radio mystery!

The Heath Company and I worked out a relationship: I supported them, if not lavishly; they kept introducing new kits. I lost count at 40 or so. Stereo systems. Tuners. Amplifiers. Receivers. Speakers. A bizarre record changer that hissed to a stop during the changing cycle to keep the records from grinding together (years later I learned that all LPs have raised rims to prevent just that). Signal generators. Oscilloscopes.

Night after night my little 30-watt soldering iron sent pungent rosin smoke curling ceilingward. The hour would grow late, and my fingers would fumble to clutch tiny 2-56 nuts and turn them onto tiny bolts. Occasionally I erred. Then I would consult St. Joseph, Michigan, where banks of nonjudgmental Heath technicians handled calls from confidence-impaired customers.

I left home but couldn't kick the habit. When I married, my wife had to stay out of any room where I was kitting; I didn't want anybody bumping into my muffin tins full of stuff. A transistor that fell into the rug would simply vanish. My last Heathkit, built in the late 1970s, was a 19-inch color television. It worked great until a year or so ago.

The question of motive raises its inquisitive head. Did my labor save money? I spent 50 hours building the TV—spread over more than a month of evenings and weekends—for no cash return; my labor was worth nothing. The TV cost about \$650 after buying the cabinet (an extra-cost item—classic Heath). I could have bought a ready-made model for that. Probably less.

I didn't try to figure out the kit thing until I stopped doing it. Then, of course, it was obvious. I could mess around like a 9-year-old with a chemistry set, but instead of sulfur fumes my prize would be a high-tech gadget. I was an engineer without portfolio.

Back then, electronics also constituted Art for persons inclined to slide rules and horn-rims. Brightly banded resistors and fingernail-size ocher capacitors neatly laid out in rows on translucent green circuit boards, multicolored cables tying the boards together into a pleasing whole, constituted a techie esthetic. At one point, Heath promoted the "beautiful birch cabinet" of one of its lab instruments, and the "attractive two-color panel" of a tube tester.

I was not alone in my admiration. Heath prospered during its quarter-century heyday that spanned the 1950s, '60s and at least part of the '70s, selling kits to millions of teenagers and postadolescents—a crew almost exclusively male, according to Heath's market research, and no surprise, either.

A year ago Heath announced that it was leaving the electronic kit business. I picked up the phone. "How can you do that?" I sputtered. The company spokesperson, a woman, was unemotional. She was from a different era. People don't have time to build kits anymore, she said, marketing data flickering through her head.

She had a point. It had been more than a decade since I assembled my last kit. But it's more than a squeeze on spare hours. It's also the loss of esthetics. Electronics no longer has a soul: like much of today's technology, it is functional but cold. Every VCR looks like every other VCR. All the cabinets are gray or black. Quite frankly, I can't even tell which button does what; somehow the digital displays seem to flash 12:00 within a couple of days no matter what I push. The soft glow of a vacuum tube will soon be relegated to nostalgia and the memories of codgers like me.

The *New York Times* put the Heath story on page one. It was tender and elegiac. I knew: another kit guy.

Reprinted from *Smithsonian* magazine, June 1993

Rear cover is blank.