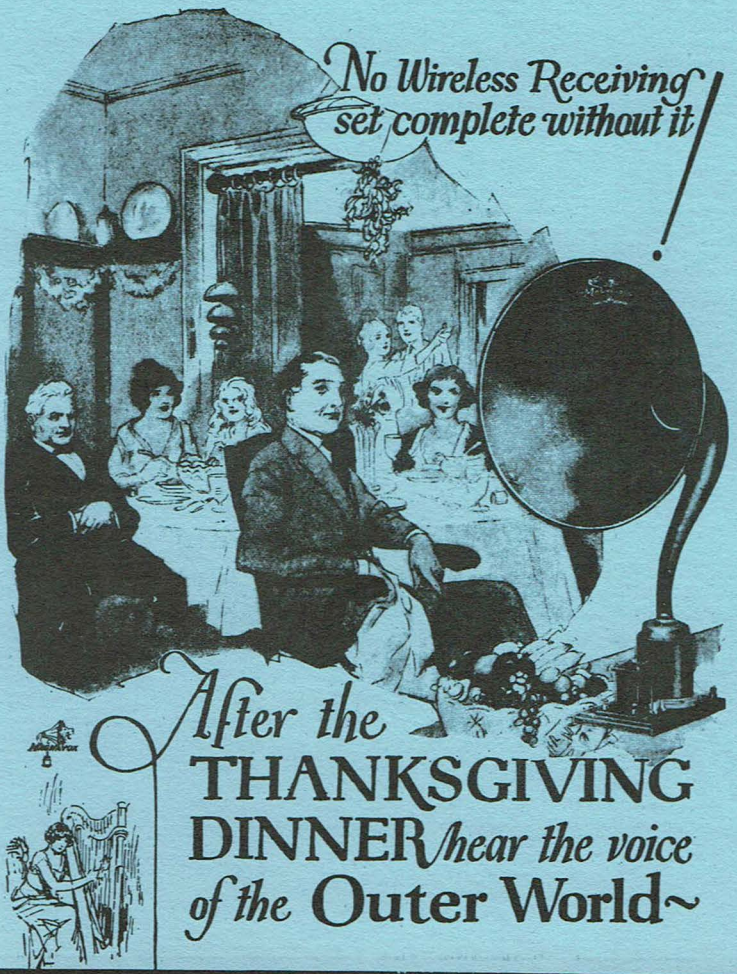
OFFICIAL JOURNAL

VOL. II FALL 1976 NO. 1

CALIFORNIA HISTORICAL RADIO SOCIETY



CALIFORNIA
HISTORICAL RADIO SOCIETY
INC

635 Phelan Avenue
San Jose, CA. 95112

For membership correspondence address the Treasurer, James Cirner, 15366 Pastel Lane, Mt. View, CA. 94040. Articles and non-commercial ads for the journal should be submitted to the Editor, Kenneth Miller, 1950 Cooley Avenue, Palo Alto, CA. Historical data for copying or donation should be sent to the Historian, Larry LaDuc, Jr., 484 Arleta Avenue, San Jose, CA. 95128.

THE SOCIETY

The California Historical Radio Society is a non-profit corporation chartered in the state of California, and was formed to promote the interests of California vintage and antique radio enthusiasts. Our goal is to provide the opportunity to exchange ideas and information on the history of radio (in California especially.) We hope to be of service to those interested in such areas as collecting of equipment, literature, and programs, etc., and restoration of early gear. Regular meetings and swap meets are scheduled at least twice a year in the San Jose area, with additional meets planned for Southern California when interest justifies (soon we hope!) We now have 70 members from throughout the state (and a few from out of state.) As we grow so do our benefits to our members. Tell your friends about us!

THE JOURNAL

The Official Journal of the California Historical Radio Society is published quarterly and is furnished free to members. Our first issue was published in September 1975 and copies of early issues are still available; the first issue is $2.00, others are $1.00 each. Articles for the Journal are solicited from all members. Any items of interest, such as restoration hints, information on early radio broadcasts and personalities, anecdotes about the pioneers, etc., will be gratefully accepted. anyone interested in editing a section of the magazine on a full time basis should contact the editor. This can relieve our editor of a great deal of work and insure maximum attention to your area of particular interest.

COLLECTOR SPOTLIGHT

BILL PUGH

2126 E. Myrtle, Phoenix, Arizona 85020, Phone (602) 943-6782

I started building radios about 1925, the Oatmeal box regenerative type. Great fun! Restoring the cabinets is my forte as much as the radio and for me, a radio is not for my collection until it is as near new as I can make it and it plays. Have what I call a balanced collection, with no emphasis on any one make except maybe Atwater Kent. Speakers are as much to my liking as radios and I have quite a collection of horns and cone speakers. It has been my plan to have a speaker and tubes for every set, so that if and when I part with my collection (or it parts from me) the sets can be operated and think this is the real fun - hearing them play.

Anyway I have a nice collection suited for my likes, nothing spectacular but welcome anyone who might venture Phoenix way to stop, look, and we will have a cup of coffee over some "Radio Talk". Good hunting.

SOLID STATE

"A" BATTERY ELIMINATOR

The purpose of this article is to provide a means of eliminating the 6V A battery for those of us who would like to operate our old battery radios that use 201A type tubes. The most discouraging part of using this equipment is the fact that dry-cells are rapidly consumed and automobile batteries are a real pain with their acid and frequent need for charging.

The supply described herein will provide 4.9 to 6.2 VDC (adjustable) at 1.75 amps and slightly less than 6VDC up to 2 amps, regulated and well filtered.

The heart of the unit is National Semiconductor device LM309K, a 5V regulator which when used as shown can provide a variable voltage output up to 8VDC or so depending on components used.

The device is shortcircuit proof and has thermal sensing to provide automatic shutdown if the junction temperature overheats. This all provides a real margin of indestructibility and provides a good reliable "A" Supply.

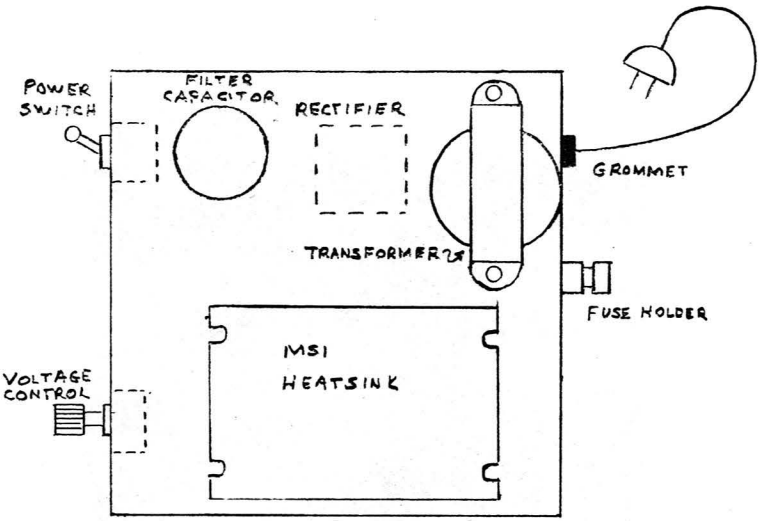
The output current capacity because of this is determined by the efficiency of the heatsink provided and using a Motorola MS10, up to 2 amps can be provided without thermal shutdown.

The rectifier I used was a Semtech #SCAJ6, a 6 amp bridge with 50 amp one cycle surge capability which handles charging of the filter capacitor in series with one Ω quite nicely. Any filter capacitor over 3000 uf @ 20VDC working voltage should handle the filtering job, and the 50 Ω pot controls the variable voltage output. The transformer is from Radio Shack #273-1511 providing 12.6V @ 3 amps.

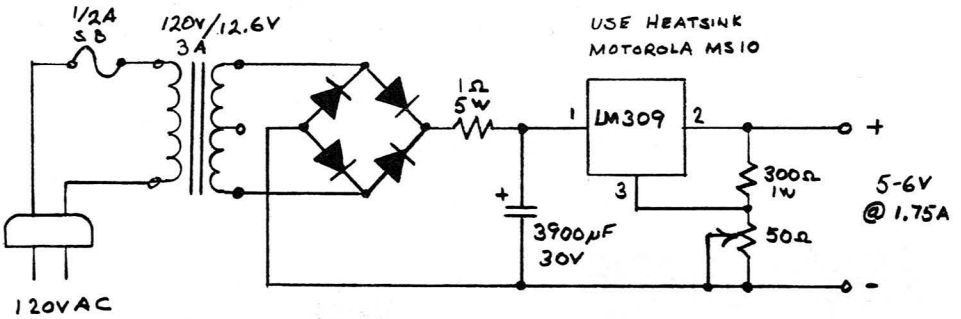
The end result of this project has been quite pleasing in that an old Algonquin RF5 radio that sat around for many years after its previous owner passed away is again filling the house with low fidelity sound. Also two Atwater Kents have come out of retirement and must now work for a living.

If there is any interest in a "B" Supply I would come up with a design for one providing 22½ to 90V using electronic filtering but not regulated.

Henry Meyer
2 Murphy Place
San Mateo, Ca. 94402

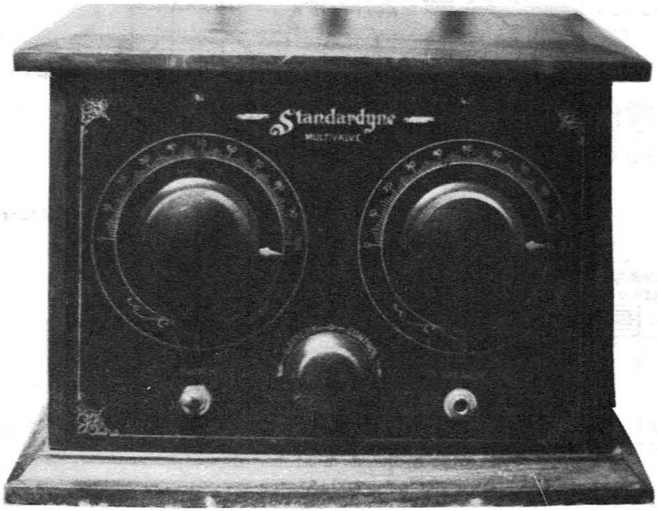


Solid State A Eliminator Supply Layout on 7"" by 7" Chassis

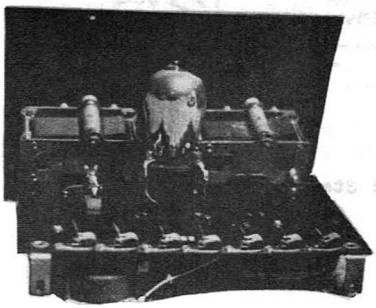


Schematic Diagram of Solid State A Supply

The Standardyne Multivalve



This set of mid 1920's vintage from Jim Cirner's collection is unique in that it is apparently the only American made set to use the multivalve tube that was popular in Europe. This tube had three sets of filaments, grids and plates, which made it equivalent to three separate tubes. These three tubes in one were used to obtain one stage of audio gain, a detector, and two stages of audio gain by reflexing the audio back to the r.f. stage. The output was fully capable of driving a loudspeaker to respectable volume. The base of the tube was standard and fitted into any common socket. The additional connections were brought out to four binding posts mounted on a flange around the upper part of the base. In size it was only slightly larger than one of the three 01A's it could replace.



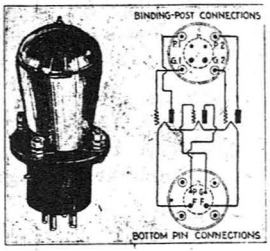
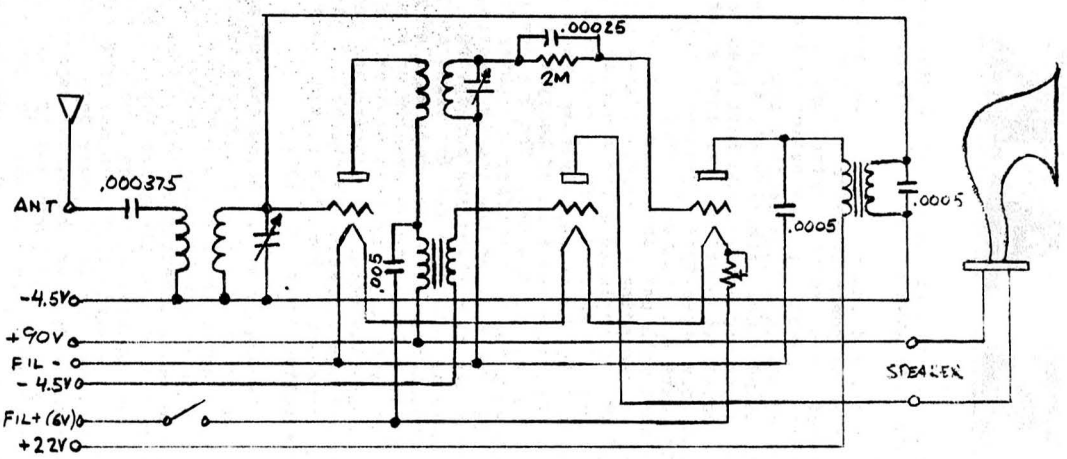


Fig. 170. Multi-Valve Tube Having Three Sets of Filaments, Grids, and Plates, Which It Is Claimed, Give It the Efficiency of Three Separate Tubes

(Courtesy of "Popular Mechanics Magazine")



STANDARDYNE MULTIVALVE RECEIVER

RESTORATION HINTS

THE AK 40

The following advice by Jim Cirner should have you well on the way to restoring your Atwater Kent Model 40 A.C. radio to working condition.

Remove power supply and tuner section from metal case. Make a continuity check of power transformer, chokes, resistors, interstage transformers, volume control and RF transformers, etc. The detector resistor in the bottom of the bakelite panel of power supply is a high failure item. It should measure 250 thousand ohms. Assuming all steps above have been taken and necessary corrections have been made, we will start with the capacitor problems. As most experienced collectors know, old paper-type capacitors in this case close to fifty years old, cannot be trusted. They all should be replaced with new capacitors. It is very risky to run a set without recapping entirely. I made this mistake with a Radiola 17. I replaced a bad resistor and the set took off and sounded great. I left my shop with the set playing and went into the house. Fifteen minutes later I smelled smoke. The shop was full of heavy black smoke and flames were coming out of the set. The B + paper capacitor shorted, burning up the 80 rectifier and power transformer. What a mess! The fun part of the job is removing the tar out of the power can to replace the capacitors. Of course, the speaker choke is potted in the tar right above the power transformer capacitors. There are many ways of removing tar. Set power transformer in an oven or on a hotplate, etc. The trouble with these methods is that you melt all the tar from around the power transformer and choke which is not necessary and you increase the chances of accidental damage to the components. For this reason, many collectors hate to tackle potted power supplies.

Now we will go through my way of doing the job and maintaining control over removing the necessary tar, only from the capacitor area. Remove the first set of nuts to disconnect power cable from power supply panel. Remove the second set of nuts from the panel assembly on top of power supply. This will allow you to move the panel but not lift it. The capacitor bank and speaker choke are located on the end of the power supply container that does not have the tube socket mounted on it. Refer to power supply diagram in this article. Disconnect speaker choke, and capacitor leads. This will allow you to lift power supply panel out of the way so capacitors can be melted out. Set power supply metal cabinet up as shown in the picture. I use aluminum foil to direct melting tar into a disposable metal container such as a coffee can. We have one positive thing going for us at this point. The metal cabinet has a metal divider between the chokes and transformer section and the capacitor bank. There are three filter capacitors and two by-pass capacitors and a speaker choke in the model 40 in this section. Direct shrink tubing heat gun that has a temperature of 550° F. at the capacitor section about 1" - 2" away from the tar. After about 15 minutes of melting tar the speaker choke will be free. Carefully fish out the choke with long nose pliers and

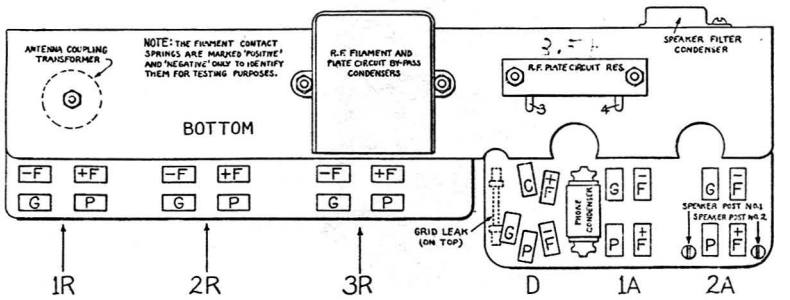


FIG. 70. TEST CHART FOR MODELS 40, 42, 52

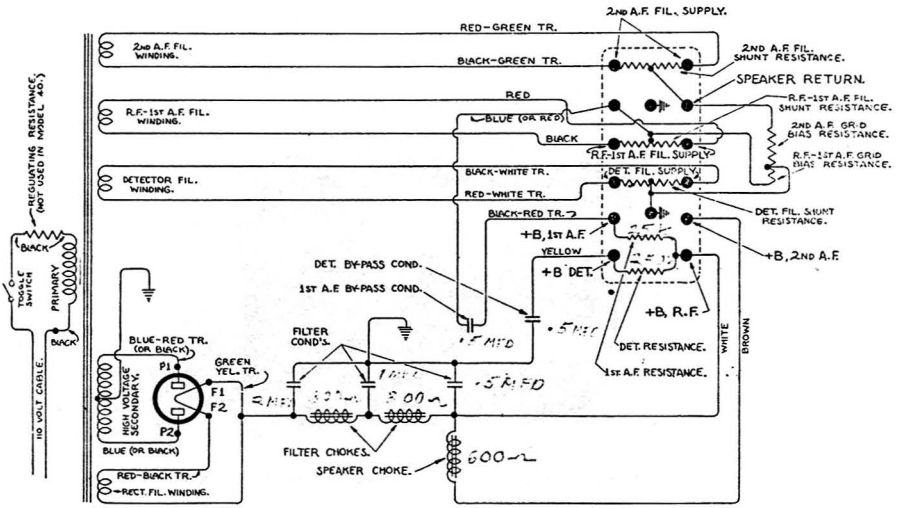


FIG. 63-A. SCHEMATIC DIAGRAM OF POWER UNIT IN MODELS 40, 42, 44, AND 52. SEE PAGE 69 FOR DESCRIPTION OF THIS UNIT. SOME EARLY UNITS OF THIS TYPE HAVE COLOR SCHEME SIMILAR TO UNIT IN MODEL 38 SET. NOTE THAT COLORS AS NOW STANDARDIZED CORRESPOND WITH THE COLORS OF SET-CABLE LEADS.

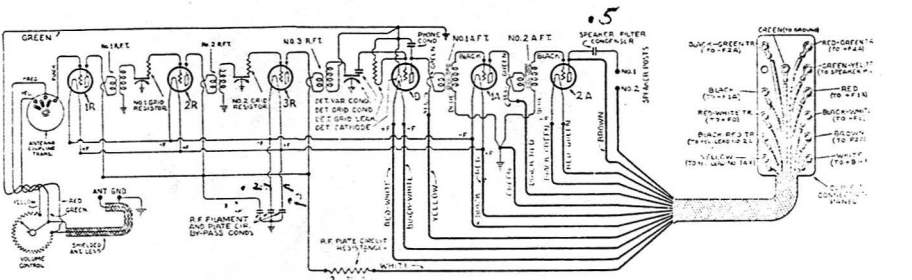
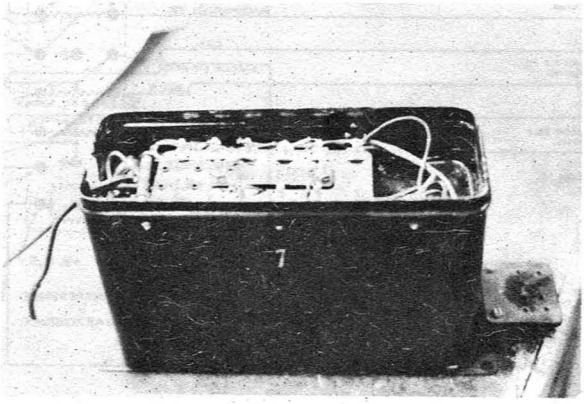


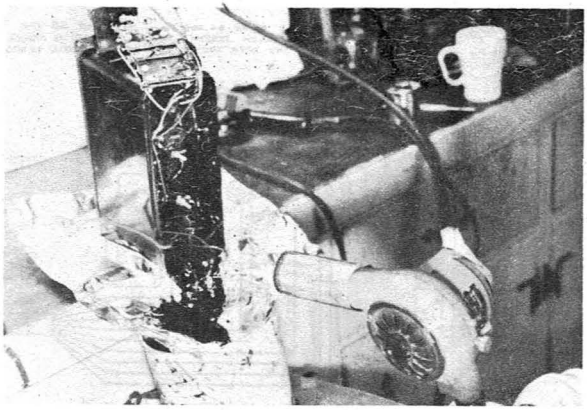
FIG. 71. WIRING DIAGRAM OF MODELS 40, 42 AND 52

Model 52 does not have the shielded antenna lead, but is provided with two twenty-foot leads which are connected to the volume control, black antenna and black-green tracer for ground.

Inside View of AK 40



The power supply can removed from the set



Melting out the tar with a heat gun

set it to one side of metal cabinet. At this point all that is left in this section is the five paper capacitors. Continue applying heat to capacitors section. It will require around 15 to 20 minutes to get most of the tar out of this section. The edge of the capacitors will be visable long before they will be ready to come out. It is necessary to apply heat to the capacitors long enough until you can move them with a large screwdriver. Take a small screwdriver and bend the last $\frac{1}{4}$" of the shank to a 90° angle. With this tool you can pierce the side of one of the capacitors and pull it out. Once you get one out the rest come easy. Now the hard part is done. Set the power supply cabinet straight and take your heat gun and melt the rest of the tar so the area where the capacitors were is clean and even. Give the power supply a couple of hours to cool to room temperature. Replace the capacitors using values shown in the schematic diagram of this article. To be safe, use 450 VDC rated capacitors for the filters. The two by-pass capacitors can be 200 VDC. This should complete power supply restoration. I suggest that you install a fuse block in primary of power transformer. One amp. QB should do it.

Tuner Section

I will make the same assumptions as I did with the power supply section. You have made an ohm meter check of components and made necessary corrections. The RF filter and plate capacitor are mounted in a metal container under the RF chassis. You have two choices. Remove metal capacitors container and with your heat gun melt old capacitors and slip new ones in the old container. The second method is throw container away and mount capacitors independently. The value of the plate by-pass capacitor is .2 MFD 200 VDC. The filament by-pass capacitors are .2 MFD 25 VDC. The speaker filter condenser mounted on front side of the RF chassis is in a sealed container. If you wish to save the container, unsolder the lid with a 200 watt iron to remove old capacitor. The value is .5 MFD at 400 VDC. The heat gun works very well for melting old AF transformer out of its container. I don't bother to rewind them. I replace the old transformer with a modern 4-1 transformer, hiding it in the original container.

This should complete repairs of the model 40. There is very little you can do for RF alignment. There is no trimmer capacitors on the tuning capacitors of this model. Good luck with your model 40! If you have any questions regarding this article, feel free to call or write me for clarification. Jim Cirner, 13366 Pastel Lane, Mtn. View, Ca., 94040, phone: (415) 967-7672.

The capacitors after removal from the power supply can

STATION SPOTLIGHT

KPO

(KNBR SAN FRANCISCO)

By Isabell Lemon

It was in 1921 that an ex-Navy man, Joe Martinez, talked the Hale Brothers into letting him put an experimental 50-watt radio transmitter atop their dry goods store at Fifth and Market in San Francisco.

The project cost $2400 -- and KNBR Radio, then known as KPO, took to the air on April 17, 1922, as one of the first 15 stations in the United States -- a station popular now in its 50th year for around-the-clock personalities, music, news and features and as the new home station for the Oakland Raiders.

Reuben Hale, founding father of the station, recalled early in the history of KNBR: "The station was started on a shoe-string. It was a small station but with high ideals. No programs were permitted except that they were high class and we were quite sure they would not offend the sensibilities of a mother with children in a home."

KNBR was on the air only one hour a day at the beginning, devoting itself to concerts by local singers and pianists with occasional performances by national stars. Opera's Reinald Warrenrath was brought here from New York for a single concert with his fee of $2500. paid by Southern Pacific.

The wireless wonder advanced quickly and KNBR was first in many fields -- the first to broadcast a football game direct from the field (It was the 1925 Cal-Stanford Big Game from Berkeley and "the most elaborate example of remote control broadcasting ever attempted in the West," according to the Chronicle.), the first station to broadcast opera direct from the stage (at the Civic Auditorium), and the first to transmit a program from a ship at sea (the Shell Ship of Joy, en route to Hawaii).

KNBR also gave a generous assist to the birth of television as the first radio station to send a picture by air -- a cartoon drawing of Andy Gump, sent and received through the air in 1925.

In the 1920's and 1930's Xavier Cugat, Vera Vague, Meredith Willson, Art Linkletter, Harold Peary, Ray Kyser and Benay Venuta were among the stars-in-the-making who got their early broadcast experience on KNBR.

KNBR and the newly formed NBC Radio Network set up elaborate studios at 111 Sutter in the late 1920's as the Pacific Coast production center for NBC. A talented staff of musicians, actors and writers produced many favorites for KNBR and the network in the 1930's. One of the most enduring was "One Man's Family," created by Carleton E. Morse -- and for many years all America enjoyed weekly visits with Father Barbour and his Sea Cliff clan from the KNBR studios.

The San Francisco Chronicle joined the Hale Brothers in KNBR ownership in 1925 and NBC bought the station in 1932. From 1942 to 1967, KNBR and NBC broadcast from a custom-built Radio City building at 420 Taylor. Call letters were changed from KPO to KNBC in 1947 and to KNBR in 1962.

KNBR -- San Francisco's only 50,000-watt, clear-channel, non-directional station -- now broadcasts to all of Northern California, the western states and Canada from KNBR-designed studios on the seventh floor of the Fox Plaza.

Heading the KNBR roster of talent is veteran morning man Frank Dill, on air from 6 to 10 AM. Dill recently celebrated his 13th anniversary with KNBR. Dill is followed on air by Mike Cleary in the mid-day and Carter B. Smith during afternoon commute hours. All three provide lively conversation and good music.

At 6 PM, KNBR goes to talk format with sports news from Hank Greenwald from 6:05 to 6:15 PM following NBC news on the hour, and then from 6:15 to 8:00 PM, Greenwald holds his Sportsphone 68 call-in show.

From 8 to 11:30, Don Chamberlain follows with a talk show covering universal topics of interest. Les Williams covers the night with his San Francisco Fantasy Show.

KNBR is also the broadcast home of the Oakland A's, the Golden State Warriors and the University of San Francisco Dons.

General Manager of KNBR and its sister FM station, KNAI FM 100, part of NBC's News and Information Service, is William Dwyer. Program Director is Allan Hotlen.

The following material was furnished by Chuck Young and was first printed in Pluck and Luck magazine published in New York, June 18 1924.

A Broadcasting Ghost

The London radio ghost, calling itself 2LO, is eluding detection by broadcasters of two continents and listeners in the United States. His eerie broadcastings have delighted American ears at hours when the most rabid radio bugs in England were between the sheets, dreaming of getting Timbuktu on a one-tube set.

The international incident of the broadcasting ghost began with letters from the United States claiming to have heard concerts from London that were never transmitted. The mysterious announcer, it appeared from these letters, wound up his proceedings by requesting listeners to "please report on your reception to 2LO, London, England." This the letter-writers proceeded to do, but the British Broadcasting Company found that not only had the items never been broadcast, but that the hours named were ungodly times in the early morning when 2LO was closed down, asleep, and locked up.

The most remarkable claim by the ghostly announcer was that 2LO was about to transmit a service and anthem from Westminster Cathedral. A listener in Texas was much struck by the clear reception he got and wrote to London to say how much he appreciated it. At the hour mentioned the cathedral was in profound silence and darkness. Another letter complimented 2LO upon a 3:30 a.m. entertainment on Christmas morning.

HISTORIAN'S NOTES

BY LARRY LaDUC

The following information was forwarded by Tinker's Dam Barn Works a while back and I thought it would be of interest to our club members.

A FEW NOTES ON RIDERS VOLUMES I & II

Rider's Volumes I & II were re-printed in 1933. The major differences between the two printings are:

a) a different page numbering scheme,
b) omission of the introductory textual material in the re-print of Volume I, and
c) the contents are not the same.

Rider had originally conceived that the user would dismantle volumes in order that schematics of each manufacturer could be grouped. He evidently did not foresee the cumbersome letter and number prefix and suffix situation which made itself manifest before Volume II was completed. The switch to a volume-page scheme for each manufacturer was employed for the third and subsequent volumes as well as the re-prints.

The original volumes contained schematics and data omitted from the re-prints; the re-prints include schematics and data not fround in the originals. I do not place different values on the original and re-print.

The users of the original Volume I were given at least three groups of pages for updating the book. (I am not aware of any such additions to Volume II.) The added pages were numbered as follows:

24F-K, BA, BB	346A-D	568A-H
44A, B	372A-G	578A, B
52A, B	386B-K	580A-D
88A-D	392A-E	588A-E
114M-Z	410A	614A-D
120B, C	416A-H	622A-F
192A-D	434A-H	624A, B
208A, B	452A, B	626B
234A-C	466A-G	638I, A-1, A-2, A-3
236A-D	504A, C, -1 thru -7	674A-L, B-1, B-2
238-1, -2	524A, B	780A, B
240A-J	542A-F	794A, B
252C, D		

The following pages were either included before release of Volume I or constitute a fourth set of additions:

2A	238A, B	598A
24A-E	252A, B	638A-H
84A	256A, B	770A
114A-L	364A	800A, B
120A	386A	

The Collector's Ads

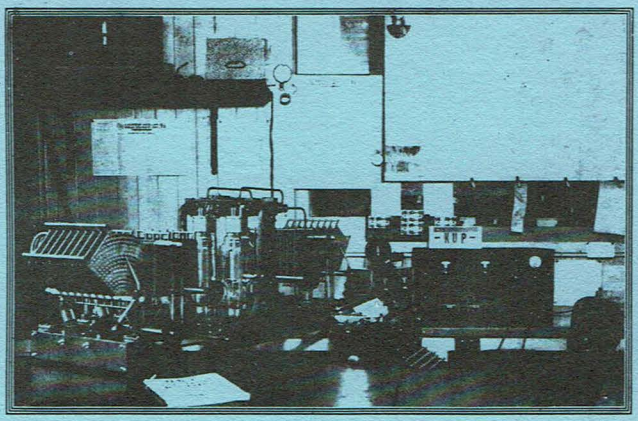
Selling restored Scott 800B console. Newly refinished cabinet. Webcor changer. Realigned with some rechroming; Or will trade for, wanted Scott Special communications receiver or World Record Screen Grid 9. Also, want Bill Barnes Magazines. Bob Fabris, 3626 Morrie Dr., San Jose, CA 95127, (408) 272-2364.

Selling duplicated Scott 16 & 18 Technical Service manual, 14 pages, Scott 16 Instruction (Operator's) manual, 16 pages, Scott 23 Tube Allwave schematics, 11 pages, Scott SRL-H AM, 2 SW military receiver, chromed front panel, not working. Signal Corps BC Antenna Tuning Unit. Nick Vaksvik, 235 Marvin Ave, Los Altos, CA 94022, (415) 948-8729.

Desperately need a horn speaker for my AK 5A. Please Please quote price and condition. Edward G. Tilton, 2414 Southview Dr., Alamo, CA 94507

WANT ADS ARE FREE TO ALL MEMBERS OF THE CALIFORNIA HISTORICAL RADIO SOCIETY. SUBMIT ADS TO THE EDITOR, KENNETH W. MILLER 1950 COOLEY, APARTMENT 6204, PALO ALTO, CA 94303. DUE TO THE NON-PROFIT STATUS OF OUR SOCIETY, WE CANNOT ACCEPT ADS OF A COMMERCIAL NATURE.

KUP



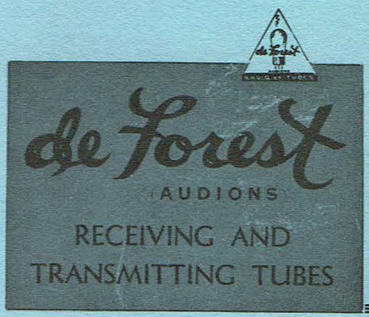
of San Francisco

DURING the first half of 1930 the *San Francisco Examiner* handled 1,250,000 words of press, weather, stock quotations and financial survey, besides the daily quota of deadhead traffic handled as an accommodation to operators at sea. The last half of 1930 will probably exceed one and a half million words. At present, KUP holds a record for transmission of more words in a six months' period than any other station of its kind in the world.

KUP's half-kilowatt transmitter is of the tuned plate, tuned grid, self-excited type. Two DeForest Audions, 504A type, are employed in parallel.

"I sincerely hope we shall be able to co-operate with you in developing widespread interest in DeForest Audions, and that within the next six months we may prove that the DeForest 504A will outlast any other tube sold. I feel most confident in them," states R. G. Martin, Manager of KUP.

And why not? After all, there is no substitute for a quarter-century experience in developing, designing and producing radio tubes *of all kinds.*



Write us concerning your tube problems, no matter what they may be. And don't forget, the DeForest organization not only builds a complete line of receiving and transmitting tubes, but also builds transmitting equipment even to complete transmitting stations. Let our engineers help solve your problems.

DE FOREST RADIO COMPANY

PASSAIC, NEW JERSEY

Export Department:

304 E. 45th St., New York City, N. Y., U. S. A.