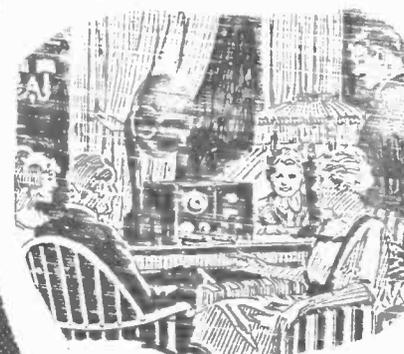


THE NEWSPAPER FOR  
THE HOBBYIST OF VINTAGE  
SOUND AND ELECTRONICS

# THE HORN SPEAKER



## RESTORING VINTAGE RECORD CHANGERS

by Tom Tompkins, Metco Electronics

It used to be that I'd avoid any old radio that included a phonograph. I look at things differently now, since finding out how nicely a 78 played on a pre-war console can evoke visions of the era when the radio was new. Included here are some procedures which should be applicable to most of the common mechanisms you will encounter in vintage radios and phonographs. Record changers are not especially

difficult to repair from a mechanical standpoint, but present a major problem where placement parts are required. A new needle, cartridge or idler wheel can be next to impossible to find and far from cheap if you do. Several sources have been included at the end of the article to help you out and I'll also include some ideas for getting around the need for an exact replacement part.

The most common mechanical problem you'll encounter is hardened grease and oil and the first order of business is to remove the rotating turntable platter. If this revolves around a stationary center spindle, you will probably find it is secured by an E-clip or ring in the center (although some rely on gravity to stay put). If the spindle revolves with the platter, look for either a clip or retaining screw underneath the mechanism. Once the platter has been taken off, the bearing surfaces may be cleaned with cotton swabs or a rag moistened with WD-40 or penetrating oil and relubricated with a thin coat of grease. My preference is to remove the motor and disassemble it for a thorough cleaning. However, you may prefer to leave it intact. If you do, simply apply a little WD-40 or penetrating oil to the shaft just above both top and bottom bearings and let it work its way down. Move the shaft up and down and back and forth with your fingers until it moves freely. Then, apply several drops of a light machine oil to each bearing. Before taking a motor apart I advise marking the bearing holders so they may be returned to the same position relative to the frame. You should also make note of the location of fiber washers/spacers on the motor shaft and be certain not to overlook any that are adhered to the end of a bearing. Old lubricant should be removed using the procedure outlined above, and a film of machine oil



1930  
CONCERT-TROUPE, junior model, 21  
records

applied to the shaft and washers. also put several drops around each of the bronze bearings. if the shaft cannot be spun around easily by hand after reassembly, you may need to loosen the screws, wiggle the shaft to center the bearings and retighten. If the rubber motor mounts are hardened, a standard size replacement is available. In a pinch, or to replace an odd size, vinyl grommets might be used in conjunction with washers to achieve the proper height.

Most turntables use an idler wheel to transfer motion from the motor shaft to the platter. The rubber on this will likely have deteriorated with heat and age. If it is still quite pliable, you may be able to renew the grip of the outer edge by removing a layer of dead rubber using an emory board or piece of sandpaper. It is important the wheel be rotated during this procedure and I suggest spinning it in an electric drill. Styles that feature a removable tire can sometimes have a large neoprene ring or washer substituted in its place. Another desperate measure is to cement a slightly oversized pliant washer washer to the top of the idler. Check the plumbing section of your larger hardware stores for appropriate parts. If your refurbishment reduces the circumference of the idler wheel, it may be necessary to strengthen the tension of the spring that pulls the wheel against the shaft to prevent slippage. Clean and oil the shaft and bearing before reinstalling the idler. Afterwards, it would be a good idea to go around it, the inside rim of the platter and the motor spindle with a paper towel moistened with rubbing alcohol to remove any contaminants. Now would be a good time to check other parts of the changer that slide or rotate for stiffness caused by hardened lubricant. Gummy parts can caused a variety of problems including stuck records, a lack of reject function and an incorrect tonearm set down point, so don't overlook this possibility if you encounter trouble. Most changers also have adjustments for stylus pressure, trigger and set down points, but since these vary with the model, I can't include them here.

Amplifier malfunction aside, the usual cause of distorted sound is a worn or damaged needle. This can also result from a bad element in a crystal or ceramic cartridge, which more often than not manifests itself as very weak or no sound. Humidity is an enemy of crystals and few will have survived for more than a decade or two without

disintegrating. Because (good) crystal cartridges are mostly unavailable, it may be necessary to substitute a ceramic type, even though the output is frequently only one half or a fourth as great. Finding something that comes with a needle suitable for 78 play is even more of a challenge since most manufacturers of flip over styli eventually substituted another .7 or 1 mil LP needle in place of the larger one once 78's became obsolete. I can report reasonably good luck playing vintage records with the wrong needle where there was no alternative. However, an inexpensive ceramic cartridge to keep in mind is the Varco TN4B or its equivalent. This has a clip in holder that can be installed in most tone arms having the standard threaded mounts. The stereo outputs of this or other modern cartridges can be paralleled for monaural, a process that has the advantage of reducing turntable "rumble." A magnetic cartridge may be used in place of a

crystal or ceramic type provided you install a preamplifier, which is necessary to boost the weak signal.

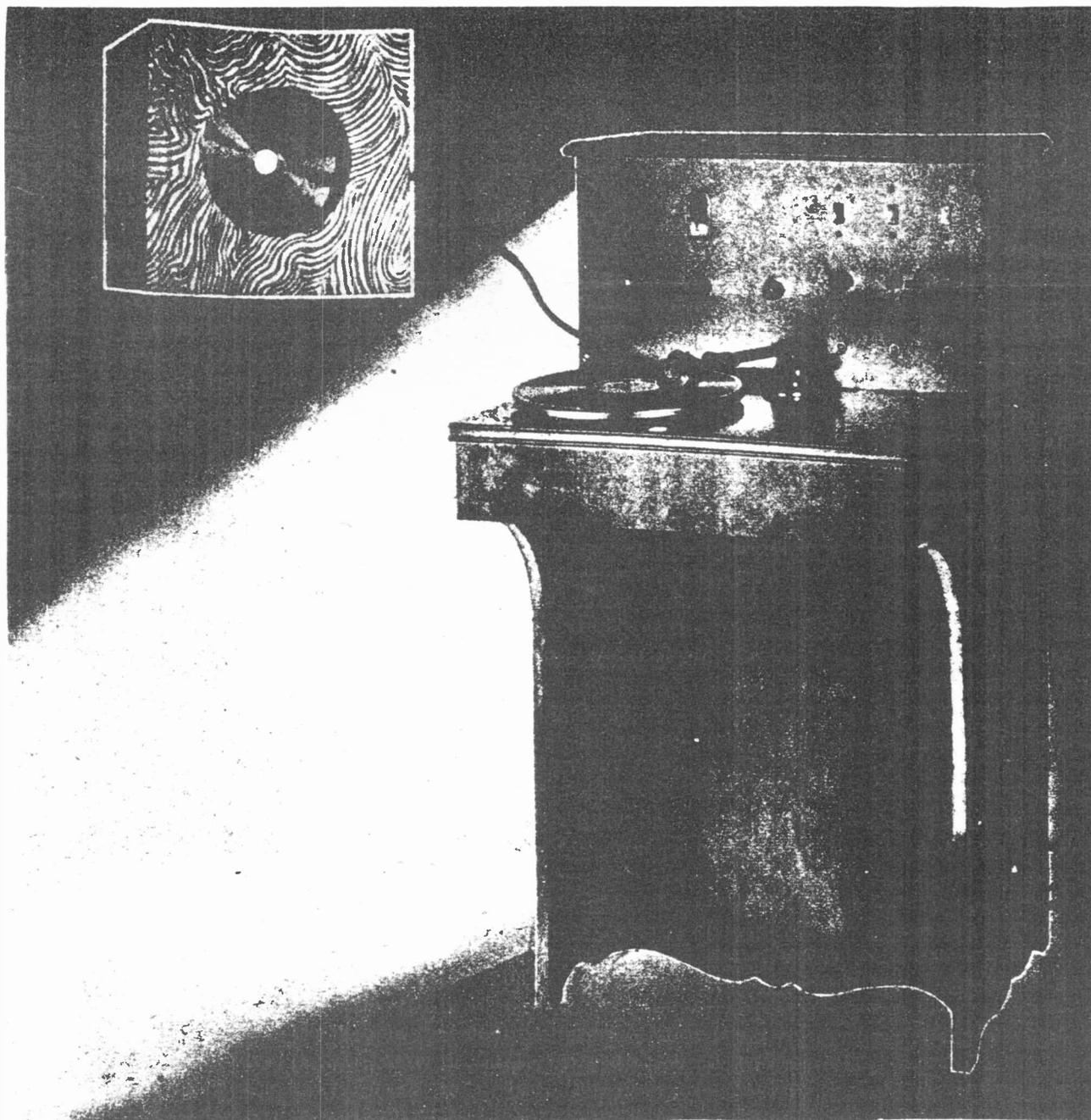
#### SUPPLIERS

Antique Electronic Supply, 6221 South Maple Avenue, Tempe, Arizona 85283. motor mounts, lubricants, (a few) cartridges and styli. They publish a beautiful catalog.

Premium Parts Electronics Company, P. O. Box 28, Whitewater, Wisconsin 531900028. (Modern) cartridges, styli, belts, idler wheels. Idler and drive wheel rebuilding services. Catalog is \$5.95.

Arcturus Radio Supply, 3554 W. 105, Cleveland, OH 44111. Cartridges, styli, etc. Send stamped postcard for reply.

Joseph J. Papovich, 53 Magnolia Avenue, Pitman, New Jersey 08071. Ceramic/ magnetic cartridges and styli. Send SASE for reply.



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# FRANK LESLIE'S ILLUSTRATED NEWSPAPER



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NEW YORK, APRIL 20, 1878.

[PRICE 10 CENTS. \$4.00 YEARLY.  
13 WEEKS, \$1.00.]

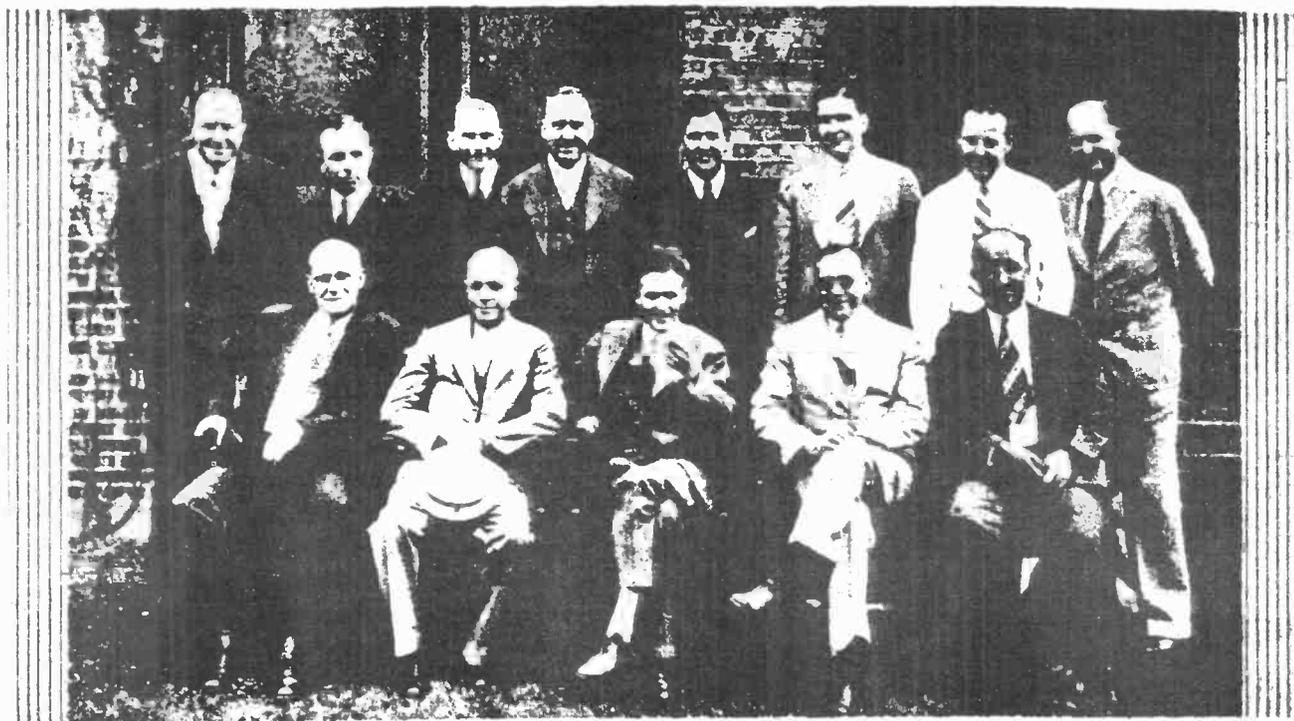
### THE PHONOGRAPH.

A PRACTICAL APPLICATION OF THE NINETEENTH CENTURY MIRACLE.

IN a recent issue we entered into a detailed and elaborate description of the revolutionizing Phonograph, an instrument destined to turn the old groove of every-day routine topsy-turvy, and to establish an order of things never dreamt of even in the expressive and vivid imagination of the Princess Scheherazade during the thousand and one nights' entertainments. We have recently had an opportunity afforded us of being present at a very charming and realistic experiment upon the phonograph. Madame Marie Rôze, the *prima donna*, who has been charming us by her vocal, artistic and personal graces, was invited to put the powers of the phonograph to practical test by warbling an operatic *scena* to the attentive and retentive instrument. The fair artist accepted this singularly novel rôle, and the curiosity of those present was on the tiptoe of expectation when she approached the phonograph. This simple instrument, not one-fiftieth part as intricate as a sewing-machine, records and reproduces any words or sounds pronounced or made within the proper distance of the mouthpiece, recording them, if we may use the term, photographically, reproducing them as faithfully. Madame Rôze warbled into the mouthpiece, which is simply an artificial diaphragm, singing an entire *scena* from "Faust." Was it an encore? Had madame been gracious enough to repeat the *scena*? Note by note, roulade by roulade, shake by shake, passage by passage, the delicious music came steadily from the phonograph even more softly, mellower, but true as the score just rendered by the gifted *prima donna*. Madame Rôze now sang a simple ballad, one of those tender, appealing word songs which are more than music, and again, in all its softness, in all its expressiveness, it was repeated by the faithful instrument. The experiment proved a marvelous success, and the phonograph promises to do great things in its onward course.



NEW YORK CITY.—THE LATEST MARVEL OF SCIENCE—A PRIMA DONNA WARBLING A SCENA FROM AN OPERA INTO THE PHONOGRAPH.



1930

## THE KENNEDY FAMILY

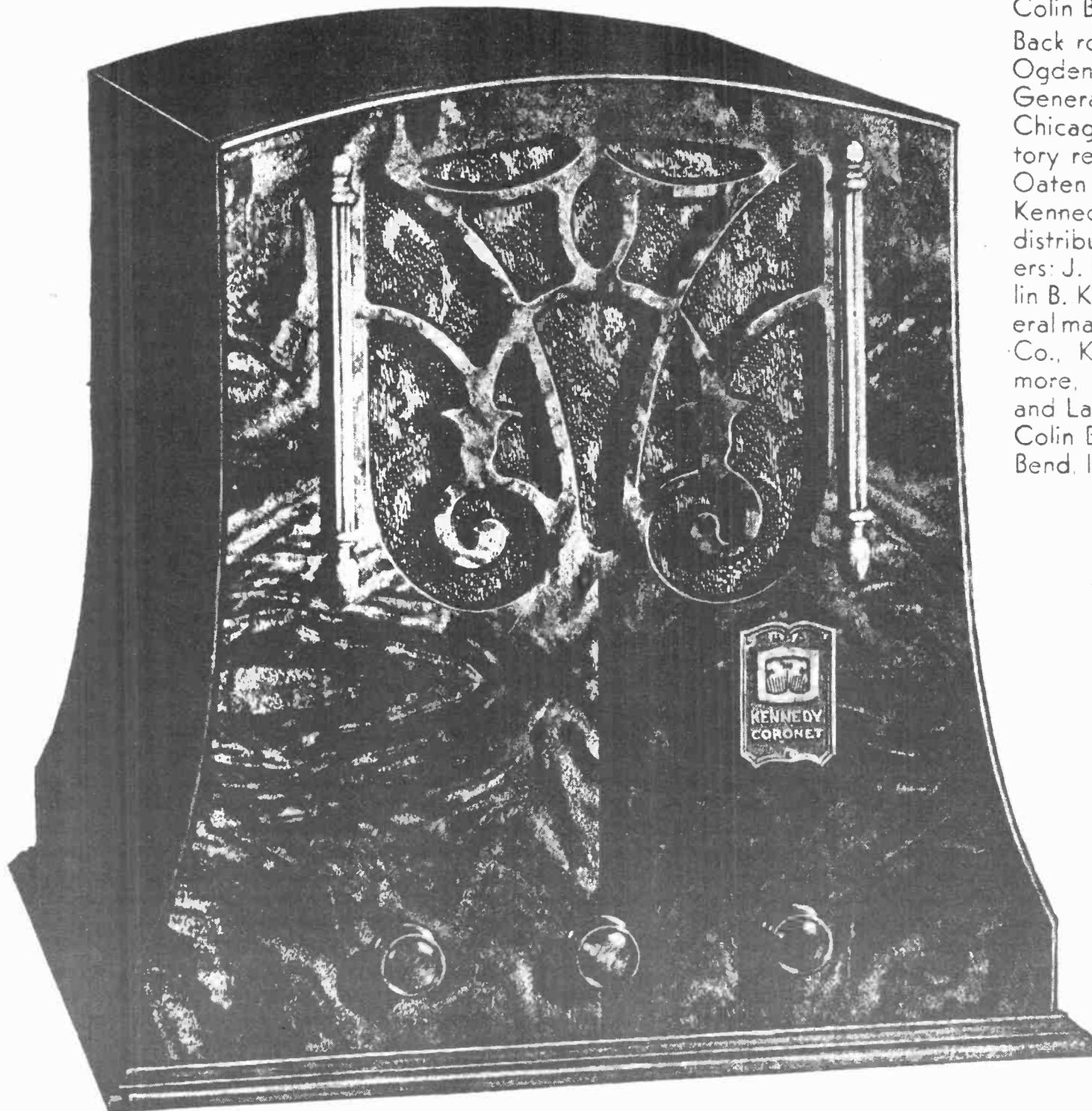
No doubt about it—business is booming at the Kennedy factory. This photograph proves it.

Front row, reading from left to right: R. D. French, general manager, General Outdoor Advertising Co., Chicago; F. H. Wellington, Treasurer, Colin B. Kennedy Corporation; Colin B. Kennedy, President; C. J. Gale of the Studebaker Securities Co., Chicago; James DePree, general sales manager, Colin B. Kennedy Corporation.

Back row, reading from left to right: Ogden Johnson, account executive, General Outdoor Advertising Co., Chicago; E. M. Craig, Kennedy factory representative; Mr. Truen Wm. Oaten and Clayton Stratton of the Kennedy-Detroit Co., Detroit Mich., distributors of Kennedy radio receivers; J. Howard Haley, assistant to Colin B. Kennedy; W. E. Hathaway, general manager of the Southern Kennedy Co., Kennedy distributors for Baltimore, Md., and Washington, D. C.; and Larry Wall, advertising manager, Colin B. Kennedy Corporation, South Bend, Indiana.

## KENNEDY CORONET

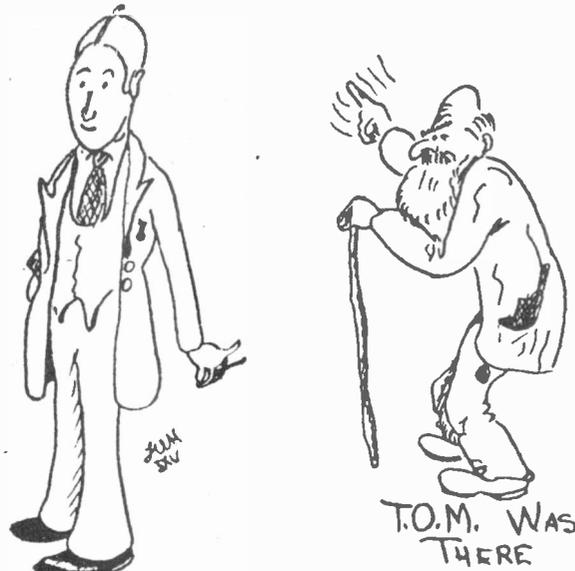
A mantel receiver with resistance coupled amplifier and SELECT-TONE CONTROL. 17" high—16½" wide at base—10" deep and weighs 31 pounds.



# The Dope On the Second National A.R.R.L. Convention

## QST-ed de L. W. HATRY, 5XU.

Radio News for December, 1923



It was the Greatest Gathering of Spark and C.W. Hams Yet. T.O.M. Had a Few Choice Remarks for the "Young Squirt."

**G**EE! But it was great! You birds who missed this, the greatest of ham get-togethers, have missed the best half of your lives. Matty, KB, Kruse, Schnell, 6KA, 2FP, 1ZE, and others were there with bells on. And, say, French 8AB, Leon Deloy, came clean across the big pond to say hello to the gang: he said it, too, and said it right. I could go on and ruin several pages with a perfectly good list of celebrities of our world, if I tried to list the bunch. The ones, the twos, the threes, the fours, the fives, the two sixes, the three sevens, the numberless eights, and the uncountable nines were all shaking hands hamily, chumily, happily, gladly. The Canadians were there in force and their manager made an apt and pleasant talk on their relation to our own A.R.R.L.—but, I am getting ahead of myself.

### THE FIRST DAY

The eleventh of September was not meant to be the real first day, but merely registration time: we fooled the plans though; when that gang started registering and seeing fellows, for the first time, whom they had talked with, the matter was settled. Everyone had to meet everyone else so the day be-

came a happy, hammy get-together for the cordial, boisterous crowd. The bedlam that reigned started with a few who brought whistles; code flew right and left. Deloy, as soon as the gang realized that he was really there in person, was swamped with autograph hunters, impatient and rapacious. Meanwhile those without whistles scoured the shops in fruitful effort. Words are powerless to describe the pleasure of these friends of the air becoming friends in reality.

### THE SECOND DAY

On the twelfth things really started. All morning the gang hammed, whistled, sang, groaned, and hummed code. They had an even better get-together than the day before, for friendships had been formed. 8ZD and 3UN showed up with auto horns and batteries so that soon enough noise was being made with them to rival the worst of QRM nights. A bunch were taking pictures of one another and as many others as they could get outside into the coolness and sunshine. (Chi is cold compared to Texas in September). But the time came when everyone was ripe for anything, so that when the athletic contests were announced for the afternoon a good-sized gang took part. Several short races were run, a three-legged race, a wheel-barrow race (both 5XV ops. bit the dust), and a skipping race livened things up and gave some hearty laughs to the by-standers. Buzzes and whistles of Hi resounded all around. A tug of war between C.W. and spark was the premier event though, and was won by the C.W. gang who dragged the sparks unmercifully. (Just retribution.) As C.W. won, the sparks were given the addresses of stores where they might purchase C.W. apparatus. Prizes of value were to be given to the winners who held tickets as awards, on the last night.

After the athletic contests the gang split up into small crowds to get cleaned up and to prepare for the banquet which was to be the big event that night.

### THE BANQUET

We, speaking for all who had been there previously, thought we had seen a lot of hams until we saw the gang at the Hotel LaSalle. GEE!! Everyone must have been there! There were at least 500 present. Everyone had whistles and was calling everyone else. Pandemonium reigned. A ham orchestra played and they lived up to the amateur rep., as they made a darn good job of it. Song parodies suitable to the occasion were sung. When the feed was served the bunch became quiet, to a certain extent, as they did justice to the excellent feed that the Chicago committee had arranged. Everyone had a good time too, for hilarity was everywhere. Of course we had our speakers and Matty of 9ZN fame introduced and slandered them all indiscriminately.

One of the important and highly entertaining speakers of the evening was the famous candidate for Congress, Andy Gump, who gave us a campaign speech that made everyone choke with laughter. I'll bet he



THE LOOP CONTEST HAD SOME RESULTS

The Loop Contest Nearly started a Riot on the Streets of Chicago. The Natives no Doubt Thought That the Inmates of Some Nut Factory Had Been Set Loose for an Airing.



Kruse "The Final Authority"

"Heard But Not Seen Often" in the Amateur Field. These Boys Gave the Gang Straight Dope on Everything From Antennae to Recti-



8BJV "The Bird with The Perfect Autograph System"

fiers and the Majority Went Home With Crammed Note Books and Heads Full of New Ideas to Pull on the Old Set.



Jansky



Clausing



Ross Gunn "The Antenna Man"



9BJP Olsen "Rectifiers"

carries the A.R.R.L. in the next election. He was followed by Mr. Greenleaf of the Navy who gave a real ham talk and won much applause. All were glad to have heard him. Supervisor of Radio, Edwards, of the Eighth District, yes, the radio inspector—was next called upon, but proved



ACTION PHOTO OF FRENCH 8AB GIVING HIS AUTOGRAPH

French 8AB Had His Troubles When the Gang Ran Him for His Autograph. The QRM Was Terrific.

quite bashful, contrary to all reports of his examinees, (Couldn't face his victims. Hi!) and wouldn't speak, so Mr. Beane who is the executioner in the ninth district was called on next. He was at a table of Second District hams (Safety first??). He gave us a first-class brass-pounder talk that warmed all of us pleasantly. By the way, he said that he had a hook-up that would work FB on the waves below 200 meters for transmission.

Then amid enthusiastic applause, Schnell, our traffic manager arose to give us the razz for our bum traffic handling, and vice versa. He also introduced all the division managers whom the gang were surely glad to see, having been under their thumb for so long. The Canadian manager was also introduced.

The applause following Schnell's talk had hardly subsided when it was resumed with violence on the introduction of our international friend, Deloy. Deloy entered a special plea for clear sending of call signals and a general fist improvement. *Remember that!* After hearing this, every ham with five watts or more was in hopes of reaching him and it is rumored that some of the single circuit BCL's are grooming their sets for the next trans-atlantics!

The night finished happily with a few more orchestra selections and more singing. I was tired, but full and happy and sleepy.

#### THE THIRTEENTH

On Thursday all those who had recovered sufficiently from the effects of the banquet of the night before, assembled once more at the Edgewater Beach Hotel and by means of auto buses were given a ride through parts of Chi and conducted through a couple of broadcasting stations. The gang with their whistles and code almost stopped traffic, they attracted so much attention.

We saw WDAP which is SOME station, and the "Ohs" and "Ahs" of the gang showed that they were duly impressed. WDAP has a variocoupler wound with  $\frac{3}{4}$ " copper tubing. GEE!!!! We next saw the station at the LaSalle Hotel which is a W.E. and a whiz too. It is stuck 20 stories up in the air and has some steel towers to boot.

After the run around town to the stations we were headed back to the Edgewater for a few prize contests. These were really amusing: a bunch tried to eat 10 very dry soda crackers, and then whistle, doing it before any one else could. Many of the crowd watching were gasping for breath as they laughed while the contestants were gasping for another reason, quite. This side bruiser was not sufficient it seemed, so a radio liars' contest was next held that was stunning in its audacity. K. E. Hassel won the prize and then had the nerve to give a technical talk. We wonder? Sidesore but happy we beat it home at the conclusion and cleaned and dressed and ate in preparation for a good night.

At seven-thirty the whistles and general pandemonium announced the arrival of the "Awful Racket Raisers' League" at the Nicholas Senn High School where the technical talks were to be given. The first speaker, introduced by Matty, as usual, was Clausing, of the Chicago Radio Laboratory, who gave a first-rate discussion of transmitters and their design; also antennae. He provoked over an hour's discussion which turned up many interesting facts. Notebooks and pen-

cils were busy on every side. After most of the Clausing discussion was finished, 5ZC caused quite a commotion when some portly colored lady (?) entered, real wrathful, with a pickaninny and centered him out demanding quite wrathfully that he "suppo't his lil' chile an' propah wife. Wharfo did he mean desertin' a dependan' and trustin' woman in 'at mannah!'" ZC denied nothing, so he left us up in the air. A couple of valorous nines, almost wrecked, finally persuaded the portly apostle of right to leave: she did, vociferous and angry. It is suggested that ZC give up radio and pay some attention to his family. Hi!

Following Clausing, amateur number one, Vermilya, 1ZE, friend of everyone and a real ham, got up and gave us an amusing and interesting description of his wonderful ether buster that melts the plating off his antenna with 25 amperes. He had a method of buying a young forest for a few dollars that amused everyone mightily, so it is no wonder that 1ZE has a couple of real poles.

After him the Dubilier representative gave an interesting history and description of the condenser. Mr. R. H. Cunningham gave this in the absence of Mr. Dubilier.

On Cunningham's conclusion we heard from our old friend Prof. Jansky. He spoke on the relation of the amateur and the BCL, on interference, and on range phenomena or the performance of transmitters at a distance. His data, actually obtained from facts, proved the amateur to be the cause of the least interference and was received with much applause. Unfortunately he didn't get to say half enough because of lack of time.

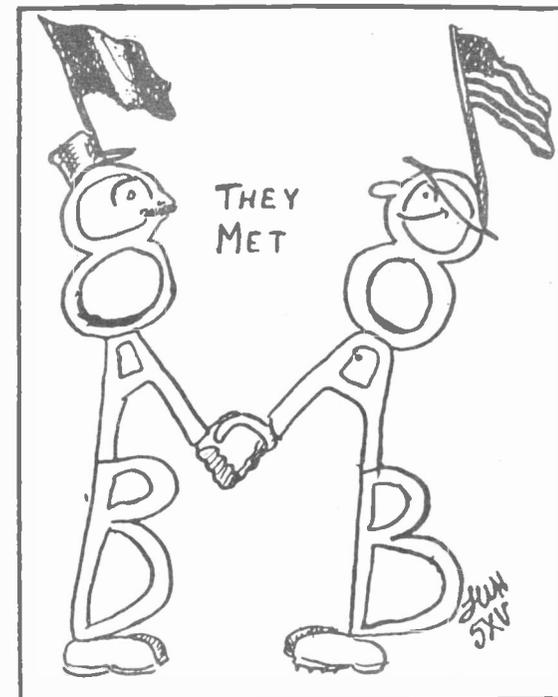
The next speaker caused an ovation on his introduction, French 8AB. He gave some interesting data on the receiver he was using and caused much rustling of paper as the gang found that they needed their notebooks. Luckily, he just about finished when the lights went out, so that we were almost satisfied, although we had wished to hear about his transmitter. So amid whistles of FB and tremendous applause, F-AB left and so did we, tired and contented.

#### THE FOURTEENTH

In the morning the division managers and the traffic manager held a confab that must have been very vigorous. At any rate it had to be postponed until midnight, so you can imagine. Wish I'd been there. At any rate, around noon or so, we, the gang, had our confab with our traffic manager, Schnell, and a long, interesting, and amusing discussion followed that will surely result in the general improvement of our message service and stations. This finished around 5:30, when some of the gang went to Elgin to see the excellent broadcasting station located there: the rest stayed at the Edgewater to see some exhibition diving. Then we separated to go home for a few minutes, and eat, in preparation for the night's events.

When 7:30 came, the Nicholas-Senn was again alive with hams and whistle-code. Another series of technical talks took place.

H. J. Marks, the first speaker (yep, Matty was introducer), pleased everyone with his excellent viewpoint on the BCL and ham relations. Hope his ideas become quite general. All applauded him generously.



It Took Them a Long Time to Extend Their Best by Word of Mouth, But the Expectation Was Worth Something.

Following him was C. D. Tuska, the speed-demon according to newspaper reports, and the ham's original friend. Pencils and notebooks were at their very busiest when he told about and gave data on the new wonder circuit, the Miner. I suppose it will be known as the 1RU which is Miner's call. C. D. says it is very difficult, so it is only another worry to help the ham along the road to the insane asylum, not to mention the poorhouse. It is also called the Superdyne, to be in style. He provoked much interest and discussion, so had to be retired amid a thunder of applause.

Then one of the best talks we had was given by Mr. Miller of the Jewell Electric Co., who, with a mammoth testboard and special size meters, described the method of measuring tube constants, and demonstrated, giving data on one tube and furnishing cross-section paper to us so that we could draw our own curve. Believe us, he left an enthusiastic and appreciative audience. Thanks, Mr. Miller.

Then came another of the fine talks this evening gave forth; the talk by Mr. J. C. Warner of the G. E. Laboratories, on the new X-L filament in a new series of transmitting tubes. He showed a UV No. 204-A and a UV No. 203-A, 250 and 50-watt tubes respectively, although their output is higher than their ratings. He broke one of the 50-watters to show its inside construction and caused much groaning and excitement in the audience. His talk was valuable.

Mr. Warner was interrupted several times by small commotions. The gang that went to Elgin returned and did a snake dance through the audience and upon the stage where they gave a yell and introduced a new organization that they had formed, the Royal Order of Suckers. Matty was made the Grand Windjammer of the organization and was presented with a big new and wrapped all-day-sucker, which he immediately devoured. The excitement of that had hardly subsided when one of the ops from 9ZY was taken in charge by a cop, as a full quart of bootleg was found on him. He never came back and it took the combined counsel of the League to save his hide.

K. E. Hassel of the Chicago Radio Laboratory, next gave us some real dope on a receiving set and the general design. Notebooks were again busy, this was valuable.

Ross Gunn next gave us a very rapid talk on antennae, so that he might cram all into it possible in the time allowed. He is a bear for cages so that still remains the last word.

As the concluding number on an especially valuable evening, 9CSR, Olsen, gave a talk on the new Balkite Rectifier and how to use it. He gave practical dope on an amateur installation. His talk was illustrated by slides and drawings and only concluded when the lights went out. Thus the evening ended at its best.

#### SATURDAY, THE DAY FOR SK es CUL

The fifteenth started off right! The sparks and C.W.'s had a first class indoor baseball game that was full of action. They, the sparks, reversed the tug-of-war result and won, leaving the C.W. gang in ignominy. 1ZE, captain of the C.W.'s, promised thorough vengeance.

Then the afternoon's events started with a group photograph which almost wrecked a good camera. It was sturdily built though and stood the awful strain. Then came the real side-buster, the Radio Stunt Party. First of all every ham got out pencil and paper so that he could get a signature from one man of every district, Canada and France. The first to get a complete list was to be awarded a prize. There was some real scrambling and it looked more like a milling contest, though everything was good natured. It ended in great excitement and amusement.

When enough quiet had been restored to allow a yell to be heard, Marco, who was conducting the party, announced the next event, the Wild Acrobatic Headphone contest. Each contestant was provided with a pair of headphones with the cord wound carefully: the idea was to unwind them, put them on your head and have them straight before anyone else, and with one hand, the other being kept in the pocket. The efforts and antics of the contestants kept everyone laughing and gasping, and it was a sight worth seeing. There were several heats and several winners as a result. After the headphone business had been settled, we had another just as funny.

Two hams were given a roll of wire, one at each end, and told to unwind and rewind new coils, the largest and neatest of which to be first to finish was to win a prize. There were several couples so the excitement and tangles ran high. Kruse, Deloy and Corlett judged the contests.

Next came the loop contest. WDAP loaned us the receivers, the C. S. Tay Sales Co. the crystals, and the loops were home-made. There were two hams to the receiver and everyone scattered to hunt for the hidden spark transmitter. We almost stopped traffic and I'll bet many a Chicagoan had a sore neck trying to see all he could. We were stopped by several curious ones. The thing was finally found after a long and amusing search during which, many never heard the transmitter. Thirteen prizes were awarded to the thirteen first to find the transmitter.

After this we went back to the hotel and the prize winners got in line for their prizes. There were so many for the duration of the convention that it is impossible

to give them all. The manufacturers were very, very generous.

Then came the best of them all, the night mystery. We assembled at the Sheridan-Plaza Hotel and from there were taken, in buses, to the mysterious location of the night's happenings. We went quite a distance, too, and were then conducted into a large and beautiful banquet hall. Here, things soon started (not speaking of the whistles which were very prevalent) and the announcement of the dread initiation into the Royal Order of The Wouff Hong and the revelation of its awful mysteries, was made. Unfortunately there was too big a crowd for individual initiations, so 5ZC was chosen to represent the crowd and go through the ceremony. It is secret of course, so we cannot bare the facts of what occurred, but all got some good laughs. The Flint, Michigan, bunch are to be complimented in their excellent invention, for they evolved the organization in its entirety. It was an impressive and amusing ceremony. After ZC's suffering ended, R. H. G. Matthews, Keeper of the Royal Parchment, was allowed to relieve himself of the responsibility and put it on some initiate. So he turned it over to K. B. Warner who was required to open it and show the members that it was safe. The parchment caused the biggest roar of laughter yet; it came in two rolls, five cents each. Then we ate. There were sandwiches, olives, pickles, near-beer, and other drinks and plenty for all, but some rush, nevertheless. The Chi. Committee knew what we wanted, for they provided a good and shapely chorus that gave us some real eye and ear entertainment to the satisfaction of all, though they wanted more.

The big excitement of the night though came on the drawing for the Zenith complete set, donated by the Chicago Radio Laboratory. This had hardly gone to its owner when the Grebe representative donated one of their new receivers, the CR-13, 80 to 300 meters, a real ham set, for the same purpose. Excitement ran high and then overflowed when a four-tube radio frequency set was donated by the Western Coil Company, and the drawings were made. The bunch went home happy, tired, and contented; voting it a fitting end to the greatest of conventions.

Believe me, if there is another convention, I will surely be there: OM and OW we had some time and one we will never forget. Speaking of OW we had Mrs. 8CEP (Gee, but 8CEP is lucky), Enid Hamilton of 9CB, and Mrs. 1AFV. There were about five hundred at the banquet and a big bunch more that showed up at various times. Almost every night had a new crowd. At least a thousand must have been in Chicago before the end. I am surely glad to have met friends of the air.

Between two and three thousand dollars' worth of apparatus was donated for prizes by the manufacturers. FB OM.

Well, gang, nil nw so 73 es cul at the next convention.

#### AN ACKNOWLEDGMENT

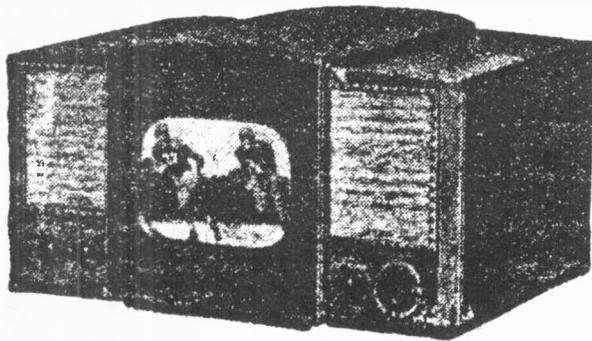
The Second National Radio Relay League Convention wishes to thank the following manufacturers and distributors of apparatus, for their contributions and assistance in making the "Stunt Party" and other competitive events successful, by providing valuable, worthwhile prizes.

#### The Honor Roll:

Acme Apparatus Co., Cambridge, Mass.  
 Belden Manufacturing Co., Chicago.  
 Bremer Tully Radio Co., Chicago.  
 Burgess Battery Co., Madison, Wis.  
 Carter Radio Battery Co., Chicago.  
 Citizens' Radio Service Bureau, Chicago.  
 Chicago Radio Apparatus Co., Chicago.  
 Commonwealth-Edison Co., Chicago.  
 Dubilier Radio and Condenser Corp., Chicago.  
 Electric and Radio Supply Co., Chicago.  
 French Battery and Carbon Co., Madison, Wis.  
 Howard Radio Co., Chicago.  
 Jewell Electrical Instrument Co., Chicago.  
 Kellogg Switchboard and Supply Co., Chicago.  
 Lynn Radio Co., Chicago.  
 Manhattan Electrical Supply Co., Chicago.  
 Wm. J. Murdock Co., Chicago.  
 Radio Corporation of America, Chicago.  
 Rauland Mfg. Co., Chicago.  
 Stahl Rectifier Co., Chicago.  
 Telephone Maintenance Co., Chicago.  
 Thordarson Electric Manufacturing Co., Chicago.  
 Trimm Radio Mfg. Co., Chicago.  
 United Mfg. and Distributing Co., Chicago.  
 Zenith Radio Corporation, Chicago.  
 Grebe and Company, Richmond Hill, N. Y.  
 Western Coil Co.  
 To the Chicago Committee for the Texas Hams:

Thanks for the best time we have ever had; thanks for a wonderful convention; thanks for the opportunity to meet our friends of the air; thanks for your friendliness and help; and may we meet again sometime not too long from now, and surely over the air. 73's.





## RCA 630TS Television Receiver

**T**HE RCA Model 630TS is a 30-tube, table-model television receiver with a 10-inch direct-viewing cathode-ray tube which produces a picture  $8\frac{1}{2}$  inches wide and  $6\frac{3}{8}$  inches high. It is self-contained and receives signals on channels 1 through 13 with true FM reception of audio signals. Designed for operation from 117-volt, 60-cycle lines, it consumes 320 watts.

Seven operating controls are conveniently placed on the front panel. Symmetrical panel layout and concentric shafts on 6 controls simplifies operation of the set. The brightness, horizontal and vertical hold, contrast, volume and on-off switch, station selector, and fine or vernier tuning controls are on the panel. The vernier control provides a variation of  $\pm 300$  kc on channel 1 and 750 kc on channel 13.

### The sound channel

The receiver's sound channel shares a 6J6 r.f. amplifier, 6J6 converter, and 6J6 oscillator with the video channel. There are then two 6BA6 21.25-mc i.f. amplifiers, a 6AU6 limiter, and a 6AL5 discriminator that feeds into an audio amplifier consisting of a 6AT6 and a 6K6-GT. The power amplifier develops 2.5 watts of undistorted power in a 5-inch speaker.

### The video channel

Four 6AG5's are used in the 25.75-mc video i.f. amplifier stages. They are stagger-tuned to provide a 4-mc bandwidth. The video detector uses half of a 6AL5 and works into a 2-stage video amplifier. The other half of the 6AL5 is the d.c. restorer. The second video amplifier drives the grid of the 10BP4 cathode-ray tube.

Sync signals are taken off the plate of the d.c. restorer and applied to a 6SK7 sync amplifier with such polarity that noise pulses greater than the sync are effectively eliminated. The output of the sync amplifier is positive. When these signals are applied to the grid of the 6SH7 sync separator, the video and blanking signals are removed, leaving only sync signals. These are properly polarized and clipped by the second sync amplifier, half of a 6SN7. The vertical pulses are passed through an integrating network to the vertical b.t.o. (blocking tube oscillator). The 6J5 vertical oscillator is coupled to the grid of a 6K6 which further amplifies the de-

flection signal and couples it to the vertical deflection coil.

The 6K6 horizontal oscillator produces sine waves of opposite polarity on the plates of the 6AL5 horizontal sync discriminator. Horizontal sync pulses from the second sync amplifier are passed through a differentiating network to the center tap on the secondary of T108, so that when the horizontal sync pulses and the horizontal oscillator are in phase, the output of the discriminator is zero. When the oscillator is out of phase, the discriminator develops a voltage that is applied to the grid of the 6AC7 reactance tube. This tube is across the oscillator winding and effectively varies the inductance to bring the oscillator back into phase with the sync pulses.

In some instances, the transmitted sync pulses may be unintentionally phase-modulated. Under these conditions, it may be difficult for the discriminator to follow variations in phase, and the picture will shift rapidly back and forth horizontally. If this trouble arises, and it has been determined that it is caused by phase modulation and not some maladjustment in the set, remove the connector from between terminals 2 and 3 on the sync link (J10 on the rear of the chassis) and place it between terminals 1 and 2. This connects condenser C171 into the circuit and increases the speed of the discriminator response, thus producing a more stable picture.

The horizontal oscillator generates sine waves between its cathode and screen grid. Its peak-to-peak grid voltage is in the order of 130. This high grid drive produces a square wave in the plate circuit. The oscillator plate is connected to a discharge tube (one-half of a 6SN7) through a differentiating network, C176 and R202.

The discharge tube shapes the wave form so the horizontal amplifier output tube produces the proper current in the horizontal deflection coil. A special output transformer matches the deflection coil and provides a source of energy for operating the kickback power supply for the anode of the picture tube. The operation of this circuit is discussed in the article *Servicing Televisers* on page 50 of this issue.

The low-voltage power supply delivers filament, plate, and bias voltage for the receiver. It uses two 5U4's in parallel delivering 400 volts d.c. at 290 ma. A 62-ohm speaker field coil is used with 160  $\mu$ f of filter capacitance.

### Servicing and installation

A number of controls, other than the i.f. and r.f. adjustments, are important

to proper operation of this television receiver. These seldom require adjustments and are not mounted on the front panel. The horizontal centering, focus, vertical linearity, horizontal oscillator frequency, height and horizontal drive controls are on the rear of the chassis and have knobs for adjustments. Other controls are: width (rear chassis—screw driver adjustment), horizontal linearity (top chassis—screw driver adjustment), horizontal oscillator phase (bottom chassis adjustment), focus coil (top chassis—wing-nut adjustment), ion trap coil (top chassis—thumb-screw adjustment), and deflection coil (wing-nut adjustment from top of chassis).

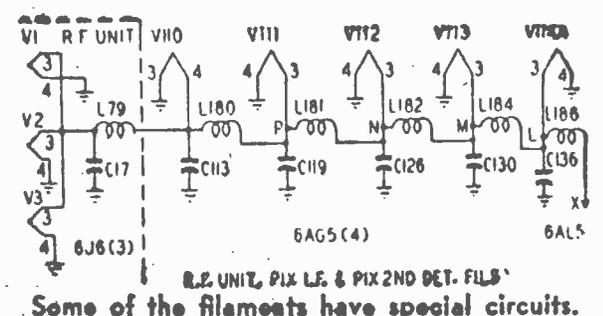
Be careful when installing or servicing this or any television receiver. Voltages are lethal, and an imploding cathode-ray tube can do serious damage and cause personal—even fatal—injuries. Do not install, handle, or unpack a cathode-ray tube without wearing heavy gloves and shatterproof goggles. All persons not so equipped should be kept at a safe distance. The bulb of the tube is highly evacuated, and any undue pressure or scratches on the bulb can cause the glass to rupture.

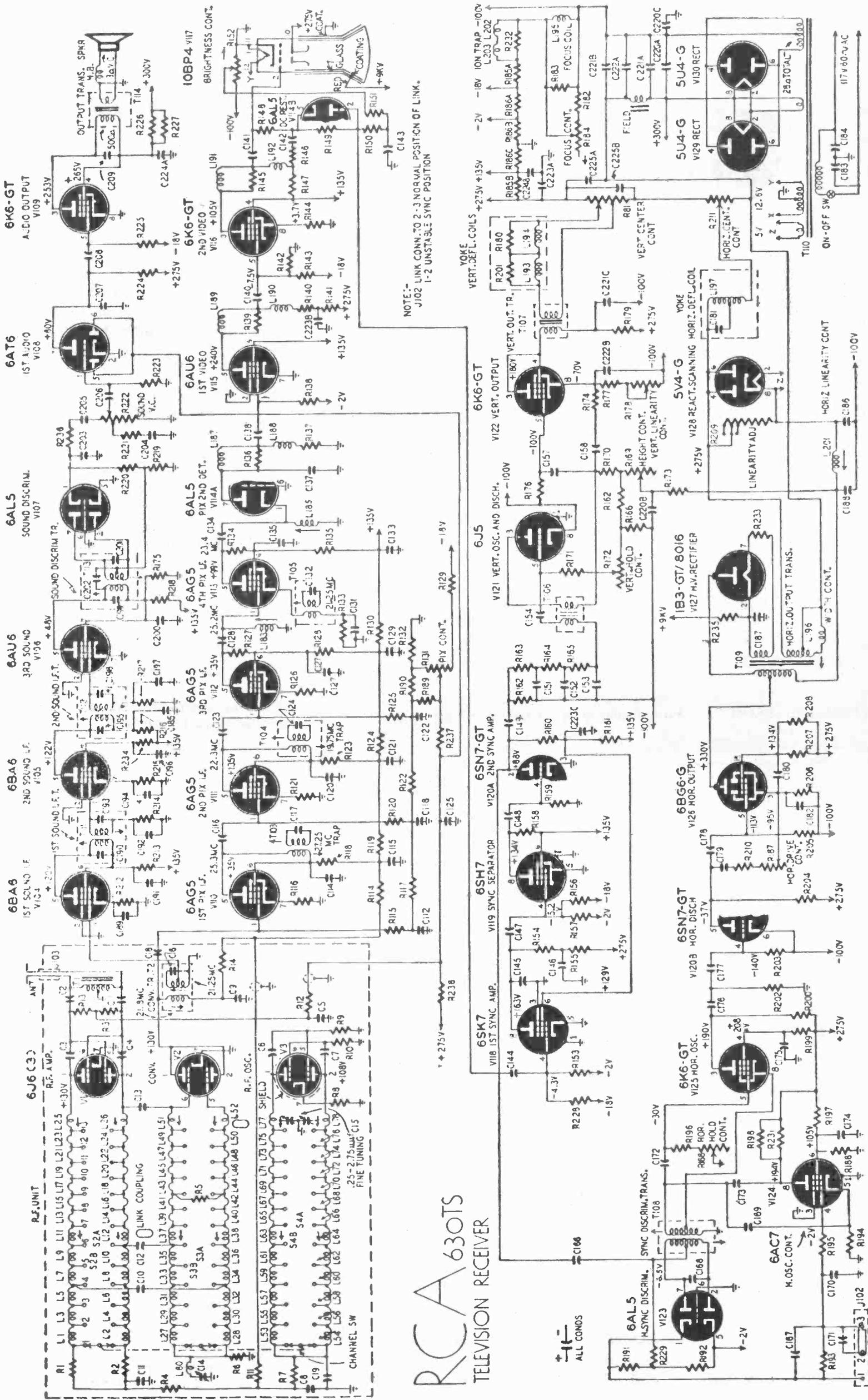
Be careful when servicing the set with protective covers removed. There is danger of contacting high voltage, and **HIGH VOLTAGE IS DANGEROUS!**

For servicing this receiver, the manufacturer recommends a signal generator, sweep generator, oscilloscope, and electronic voltmeter.

The signal generator should provide frequencies between 19.75 and 27.75 mc, and 45.25 and 215.75 mc. The output on these frequencies should be adjustable and at least 1 volt maximum. If the signal generator is not crystal-controlled, a heterodyne frequency meter with crystal calibrator is required for checking the generator's accuracy. Make voltage measurements with an electronic voltmeter equipped with a high-voltage multiplier probe to permit measurements up to 10 kv. An r.f. sweep generator, covering from 18 to 30 mc with 1-mc sweep and from 40 to 90 mc and 170 to 225 mc with a 10-mc sweep, is required for use with an oscilloscope. The 'scope should

(Continued on page 10.)





# RCA 630TS TELEVISION RECEIVER

This schematic of the RCA 630TS, which is described on opposite page, is also Fig. 2 of the article, "Servicing Televisers," on page 50.

RADIO-CRAFT for JANUARY, 1948

# TUBES • PARTS • SUPPLIES YOUR COMPLETE SOURCE

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3000 audio, receiving and industrial types in stock, including early and foreign types. Discount prices!

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High voltage electrolytic and mylar capacitors for tube circuits.

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### LITERATURE:

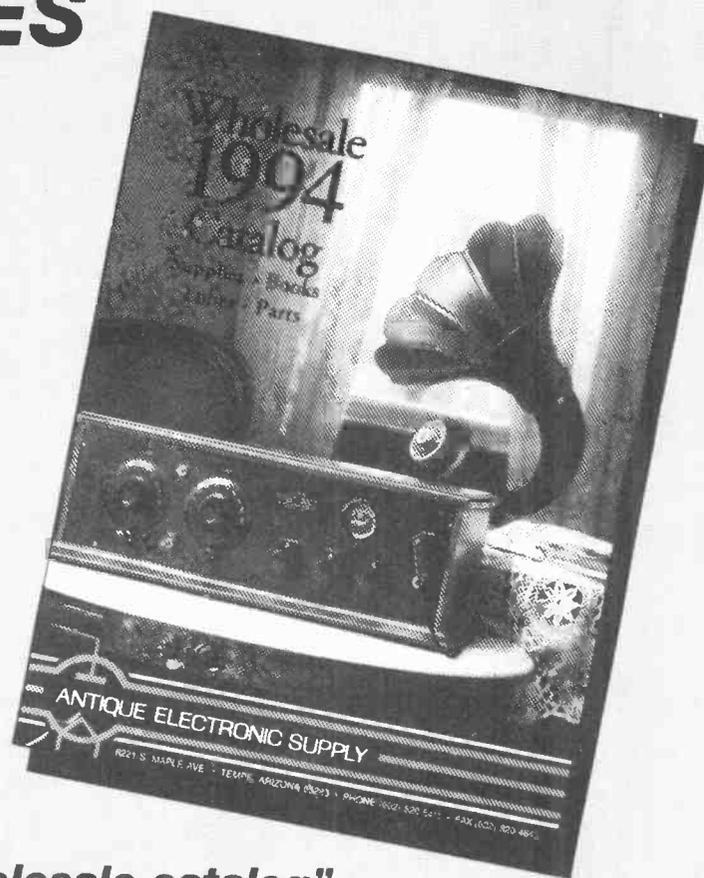
Extensive offering of literature and books on antique radios, hi-fi, communications equipment, tube data, and circuit diagrams.

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Resistors, lamps, tube sockets, potentiometers, grill cloth, knobs, vibrators and more.

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### TELEVISION RECEIVER

have wide-band vertical amplifiers, an input calibrating source, and a low-capacitance probe.

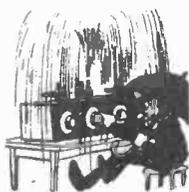
When complete alignment is required, it can be performed most conveniently in the following order: 1. video i.f. traps; 2. video i.f. transformers; 3. sound discriminator; 4. sound i.f. transformers; 5, 6. r.f. and converter lines; 7. oscillator line; 8. converter grid trap; 9. retouch video i.f. transformers; 10. sensitivity check. Complete step-by-step alignment procedure is given in the manufacturer's booklet. It is complex, requiring 52 separate steps, and the manufacturer's instructions should be studied carefully before starting the work and referred to constantly during the process of alignment.

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## Radiotics



Contributed by Thomas Mulcahy.

### A DAMP CIRCUIT

The following advertisement of the Florence Radio Co. appeared in the Toronto Daily Star of February 17, 1925. "One Neutrodyne JET Work Rite mahogany cabinet—Umbrellas are supplied by the owner to keep the excess liquid notes from soaking the listeners."

### MEDICAL AID FOR TRANSFORMERS



in Dr. Hackensaw and have him amputate some of the core.

Contributed by John March.

### VERY TICKLISH

Here's a hot one from the Correspondence Dept. of the Montreal Daily Star, of January 17, 1925. M. B. McM. asks: "Which ends of the TICKLED coil go to the plate or high ratio transformer?" It's this way, Mac old boy: you catch a snipe in the full of the moon and with one of its tail feathers gently stroke the coil. The ends will wiggle violently and automatically go to the correct places.



Contributed by Eric Foster.





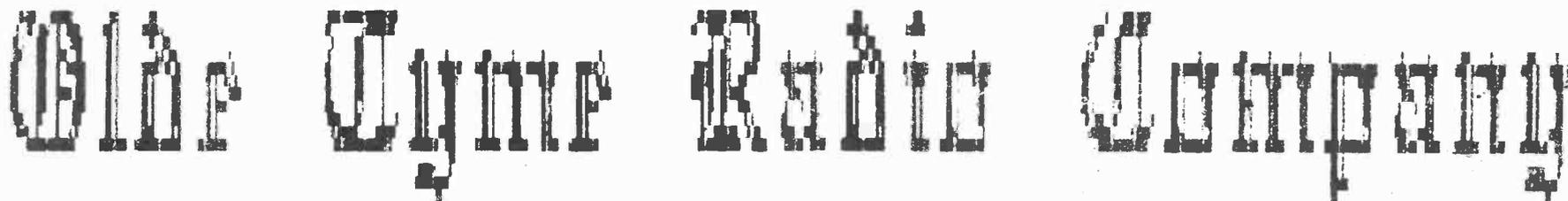
# radio necessities

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Need hard to find Olde Tyme Radio parts such as:

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ALSO CAN PROVIDE REPRINTS OF THE FOLLOWING  
OLDE TYME RADIO PUBLICATIONS:



- Atwater Kent Instruction Manuals, Volumes 1,2,3 & 4
- Atwater Kent Equipment Catalog
- Radiola III/IIIA Manual

- Radios, The Golden Age - Philip Collins

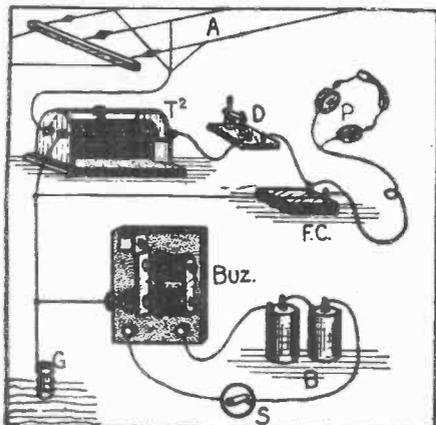
and much, much more. Data Packages for American radios manufactured during the 1920's thru 1950's period plus our special research service for unknown model numbers are available. For free flyer send 2-stamp LSASE to Olde Tyme Radio Co., 2145 Lyttonsville Road, Silver Spring, Md. 20910.

Wish to reach us by phone? the number is (301) 585-8776. Please call between 10:00 AM and 10:00 PM local time.

## Receiving Troubles

(1) Jack Pomret, of New York City, asks:

Q. 1. I have a double slide tuning coil, a crystal detector, a fixed condenser and a



A Hook-Up of a Double Slide Tuning Coil, Crystal Detector, Fixed Condenser and Phones, is Shown Above. The Method of Connecting a Buzzer for Testing Crystal Detector is Also Illustrated. A-Aerial, T2-Two Slide Tuner, D-Detector, F.C.-Fixed Condenser, P-Phones, Buz-Buzzer, G-Ground, B-Battery, S-Switch.

pair of 2000 ohm 'phones. I have never heard the Westinghouse Station. My aerial is a single wire about 70 feet long and 50 feet from the ground, strung out from a wash-pole. Only on rare occasions have I been able to receive telegraphic messages.

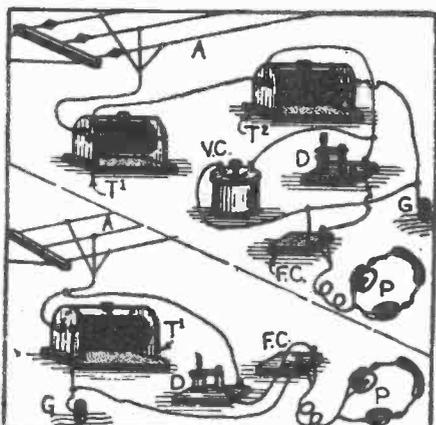
A. 1. Your 'phones are of the regulation type and have been employed by many amateurs very successfully. The reason you are probably not getting the proper results is that you are not adjusting your detector to its point of maximum sensitivity and you are not tuning sharply enough. We would advise that you change your hook-up to conform with the circuit here shown and employ a buzzer test as often as you think necessary.

## Miles and Wave Length

(2) Burton Hays, Philadelphia, Pa., asks:

Q. 1. Arlington Station is rated at 2500 meters. How many miles is that?

A. 1. This "rating" which you speak of does not refer to distances in receiving ranges. It is a unit of measurement used to denote the length between the peaks of two adjacent undulations of the same wave



Two Hook-Ups, the First, a Single Slide Tuning Coil, Detector, Condenser and Phones. The Second, in Addition to the Above Apparatus, a Two-Slide Tuner and a Variable Condenser. A-Aerial, G-Ground, T1-Single Slide Tuning Coil, T2-Double Slide Tuning Coil, D-Detector, F.C.-Fixed Condenser, V.C.-Variable Condenser, P-Phones.

and even tho a station may be rated at 2500 meters it does not necessarily imply that you will be able to hear that station even ten miles away unless your apparatus is so arranged that it can tune up to that wave length.

Q. 2. Please give the hook-up of a single slide tuning coil, a detector, a fixed condenser, and a pair of 'phones.

A. 2. The hook-up is given herewith.

Q. 3. Also furnish the hook-up of a two-slide tuning coil, a variable condenser, and the other apparatus mentioned above.

A. 3. Assuming that you intend to use in addition to the single slide tuning coil a two-slide tuning coil, the hook-up is here shown with the single slide tuner used as a loading inductance.

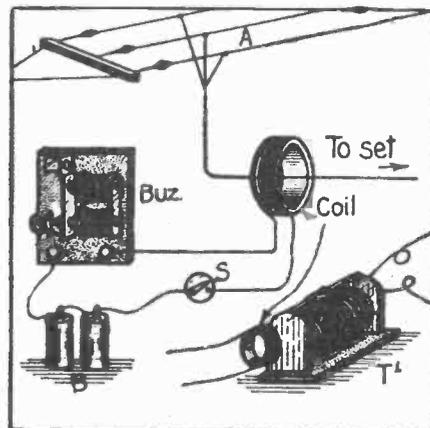
## Buzzer Test for Crystal Detector

(4) John Hay, of Kansas City, asks:

Q. 1. I have heard that there are other methods of employing a buzzer for testing a crystal for sensitivity besides connecting

the wire directly to the ground lead. Can you give me a circuit diagram for this method?

A. 1. There are several methods of doing this depending upon induced currents. One way is to wind several turns of wire around the aerial lead before connecting this to the buzzer; another method is to wind several turns of wire around a cardboard tube 2 or 3 inches in diameter and



In Case of Objections to the Use of the Buzzer for Testing a Crystal as Shown in Question No. 1, the System Indicated Above May Be Employed. Buz-Buzzer, T1-Single Slide Tuner, S-Switch, B-Battery, A-Aerial.

then pass the aerial lead either thru or around the cardboard tube or else permit this coil to approach the loose coupler or tuner so as to react upon it. The buzzer is placed in series with this coil.

Q. 2. Are there any advantages in using these methods?

A. 2. The advantages are slight, but users of this system claim that the sensitive spots so found on crystals are not apt to be lost or burnt and that more sensitive spots are generally found.

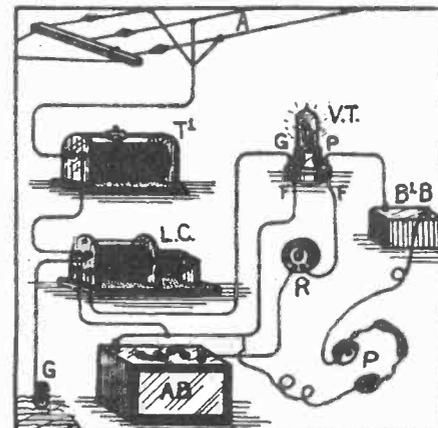
## Hook-Up

(5) R. M. Gross, Maybell, Colo., requests a hook-up of a loose coupler, loading coil, variable condenser, 'phones and an audion detector for reception of undamped

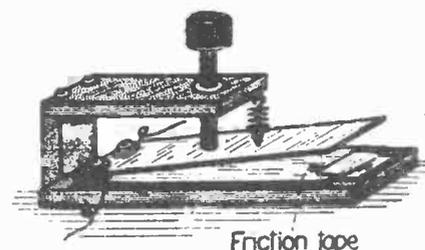
wave signals, and asks:

Q. 1. Will I be able to hear Arlington on this set.

A. 1. You may have considerable difficulty in receiving Arlington time signals on the west side of the Rocky Mountain range, but there are plenty of government stations transmitting time signals nearer your immediate vicinity than Arlington, which would come within your range. Hook-up is given herewith.



A Simple Audion Circuit Which Will Receive Damped Waves. T1-Single Slide Tuner, L.C.-Loose Coupler, V.T.-Vacuum Tube, B.B.-"B" Battery, H.B.-Six Volt Storage Battery, R-Rheostat, P-Phones, A-Aerial, G-Ground.



Friction tape

The Construction of the Variable Condenser is Shown Above. It is Advisable That Every Amateur Construct One or More of These Condensers as They Can Always Be Used.

# FOR SALE

## EMERSON

FOR SALE: EMERSON RADIO, wood, tw knobs, model 541, made 1947, all original. \$25.00. .. Phone (601) 922-2235 or write: Thomas Burnside, 4838 S. Westhaven Drive, Jackson, MS 39209-4711.

## FISHER

FOR SALE: FISHER XP-4A matched pair "Heritage Series" speakers, 40 lbs. each, \$40.00 each ... Dual 1009 stereo HI-FI record changer, 4 speed, 19 lbs. \$35.00. Add shipping. Chuck Vaccaro, 708 Booth lane #HJ, Ambler, PA 19002. (215) 646-3641.

## GENERAL

WURLITZER, complete, chassis only for sale or trade. Issued in Queen Anne type floor console. No model number. Possibly an SU-5 successor or similar. 6 tubes. All parts, wires and 3 chassis still intact. No speaker. Prefer trade for a chassis to 1926 Metrodyne Super 7. Noreasonable offer refused. ... (410) 721-5967 after 6 p.m. EST or write 2894 clear Pond Court, Davidsonville, MD 21035.

FOR SALE: AK 20C, works, N/T, \$65; AK 49, works, N/T, \$85; AK model 5, works, \$5500; RCA III, not working, N/T, \$65; EDGE LIT SIGN, "RCA VICTOR RADIOS," \$350; OTHER RCA AND AK ITEMS, SASE. .... Raymond Thompson, 7422 Cherry Tree Drive, Fulton, MD 20759. (301) 490-4448.

FOR SALE: HALLICRAFTERS SX-42, SX-43, SX-25, SX-62A, R-50, SX-140 ... PHILCO model 90 chassis mod 38 cathedral ... MR. G. E. PERKINS, RFD #2 BOX 34, MILO, ME 04463. (207) 943-5204.

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\$50.00 FOR EACH. PAUL RECUPERO, (401) 847-8589.

FOR SALE: MINT UNBUILT KNIGHT OCEAN HOPPER KIT \$2,000 OR TRADE FOR QUAKER OATS XTAL SET. BILL ROSS, 875 GORDON TERRACE, WINNETKA, IL 60093. (708) 441-6462.

FOR SALE: SILVERTONE 2225, PHILCO 48-300, BOTH A/C - BATT. PORTABLE \$20.00 EACH. ... JAMES S. LOONEY, RT. 1 BOX 54, GRUNDRY, VA 24614. (703) 531-8677.

FOR SALE: PLAYING, PLASTIC TABLE RADIOS: GAROD 5A2, ivory with red grill, ORA price tag, chipped bottom rear \$90.00; Motorola 56A1, black bklt. \$100.00; Silvertone 2015, brown bklt., RF stage \$110.00; Bendix 55L2 urea ivory \$200.00; Bulova 100 pink urea clock radio w/top line crack \$300.00; ... All plus UPS -- Happy Holidays -- --- Chuck Bray, 1322 Ivy Road, Bremerton, WA 98310. (206) 373-1013.

RADIOS FOR SALE: RCA'S TOMBSTONE (about 1936) not playing, \$40.00 .. Stratoworld, handle missing, plays, \$35.00 .. Green 7BX-6L, portable handle antenna, very nice \$25.00 .. Airline 62501, bakelite, push buttons, plays, very nice \$50.00 .. Coca Cola gymbag radio, plays \$15.00 .. Motorola wood table 57W1, nice, \$25.00 .. Motorola AC4BN AM, clock, plastic, very nice \$15.00 .. Philco 42-345 wood, waterfall, table, needs 7B7 and line cord \$25.00 ... Temple G418 metal \$25.00 .. Truetone, Stratoscope, very nice, no cracks, nor working \$50.00 .. RCA 8X542 white 1" hairline at top \$20.00 ... Add U.P.S. ... Kenneth Miller, 10027 Calvin street, Pittsburgh, PA 15235. (412) 242-4701.

RARE FIND! Leatherette case, earphone and operating guide for Zenith Royal 500D. Near mint - no foolin, \$30. B&K model 1077 B television analyst, no manuals, no leads, untested, looks good. A steal at \$50.00. Concord model TCM-20 television camera monitor. CRT lights, \$35.00. ... Add shipping on all items. Mike Wilcox, 126 Kelly Drive, Goldsboro, NC 27530 (919) 731-2981 after 7:00 p.m.

FOR SALE; OVER 900 TUBES, primarily television but many radio tubes. Over 120 Sam's Photofacts from September 1963 through October 1969. Photofact folders contain numerous schematics of televisions, radios, record players, tape recorders, amplifiers and some CB's. Eleven speakers which have been removed from older radios and televisions. Some miscellaneous television items such as signal splitters and adaptors, and eleven capacitors. Willing to sell these items separately or the entire lot. For a list of the tubes, photofacts and speakers send \$1.00 and a SASE to Ron Hoch, 564

Liberty Lane, Westerville, OH 43081. 10-983

FOR SALE: AK 545, WORKING, \$95.00. .. ZENITH 5R337 CHAIRSIDE, WORKING \$75.00 PLUS UPS. SAM MANNINO, P. O. BOX 233, SWARTMORE, PA 19081. (215) 353-6747.

FOR SALE: CRYSTAL RADIC KIT, Comes complete with face panel and base board. A 365 air varable capacitor, large prewound coil and many other parts for an old style crystal radio. Remit \$19.50 plus \$3.00 shipping. Carl and Grace Ent., 5636 Romeyn, Detroit, MI 48209.

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ANTIQUÉ BROADCAST and HAM RADIOS, TUBES, SERVICE. ... P. Bert Teeple, Route 1, Box 5-C, Bastrop, TX 78602. .. (512) 321-7857.

FOR SALE; N.O.S. and used radio and TV tubes, no picture tubes. Send LSASE for lists. ... C. Elmer Nelson, 11 S. Church Street, Princeton, IL 61356.

FOR SALE: TUBE TYPE PARTS. SEND STAMP FOR "VINTAGE FLYER" FLYER. USA ONLY. B-E SINCE 1954. BIGELOW ELECTRONICS, BOX 125, BLUFFTON, OH 45817. - NEW 1993 catalog now ready. Send \$2.00 for the Add-A-Page, color, plastic protected, illustrated catalog. Laboratory and Hobby test equipment, tubes, plug-in coil forms, reprint books and literature. Antique Radio Labs., R 1, Cutler, IN 46920.

4,000 OLD RADIO TUBES, MOST NUMBERS. 43, 49, 24, 34, 6A6, 26, 48, 76, 75, 77, 41, 42.... MANY, MANY MOORE ... EDDIE MOORE T.V., INC., 1121 Main Street, Commerce TX 75428, Phone (903) 886-2345.

MINIATURE BROADCASTER connects to a phonograph, tape or disc player to transmit your own programs to any nearby AM radio! Unique 3-transistor circuit operates from an ordinary 9-volt battery and has adjustments for frequency and modulation. This build it yourself "phonograph oscillator" kit includes all components, which you simply mount to the 2" X 3" printed circuit board, supplied. Assembly requires a pencil type soldering iron, pliers and wire cutters. Order model PO-3T from Metco Electronics, P. O. Box 549, Shelburne, VT 05482. Still \$19.95 each plus \$3.00 P&H. VT residents should add \$1.00 sales tax.

DIAL GLASSES, Any round flat or convex dial glass, order by size only. \$5.99 to \$19.95 plus \$3.00 UPS Ernest Odeneal, 2710 Lee Street, Greenville, TX 75401 (903) 455-2113.

FOR SALE: MANY OF YOUR FAVORITE OLD TIME RADIO SHOWS ARE AVAILABLE ON TAPE CASSETTES. YOU SELECT THE SHOWS YOU WANT AND PURCHASE THEM BY THE HOUR. FAST, FRIENDLY SERVICE. SEND FOR OUR CATALOG, LISTING NEARLY 5,000 SHOWS ARRANGED BY CATEGORY AND TITLE. ONLY \$2.00 (P & H). SEND REQUEST TO: ERSTWHILE RADIO, P. O. BOX 2284, PEABODY, MA 01960.

TUBES, SCHEMATICS, SERVICE NOTES FOR EARLY RADIOS, SASE FOR PRICE LIST. SAM FAUST, P. O. BOX 94, CHANGEWATER, NJ 07831.

FOR SALE: We have limited quantities of older tube type parts. Some of these unused parts have been in storage for many years. If interested in this type of material, enclose a stamp and request our VINTAGE flyer. B-E has been in the mail order electronics business since 1954. USA sales only. BIGELOW ELECTRONICS, P. O. BOX 125, BLUFFTON, OH 45817.

I HAVE 150 NEW FLYBACKS, for 1950 and 1960 TVs. Also 300 Mallory replacement volume controls for 1920 to 1950 radios. drop me a card stating your need and if I have it, I will answer. Flybacks \$10.00, volume controls \$1.00. P.P. .. Lionel Haid, 26 circle Drive, Richmond, IN 47374.

BUY - SELL - TRADE TUBES: RARE, ODD OR USABLE. BOB WIEPERT, 98-1438C, KOAHEAHE ST., PEARL CITY, HI 96782.

#### LITERATURE

FOR SALE: JUST ARRIVED - many 1920's thru 1960's radio magazines and books. Includes titles such as QST, Shortwave Craft, Shortwave Craft and TV, Radio News, Radio and TV News, Radio and TV Retailing, Radio Craft Reference Annual, Service, Radio Age, Radio Electronics and Radio World, plus many good books. Send SASE for detailed list to: Olde Tyme Radio Company, 2445 Lyttonsville Road, Suite 317, Silver Spring, MD 20910 (301) 585-8776. .. Also, watch for next flyer for details.

RIDERS MANUALS: Volumes 1 - 17. Prices range from \$12.50 to \$85.00 per volume. LSASE for price list. Sam Faust, P. O. Box 94, Changewater, NJ 07831.

FOR SALE: FIRST USER FRIENDLY circuit on early BC-348's. Most comp values on 2 sheets 8 X 14. Send \$2.00 plus four (4) 29 cents stamps. ... Ray Larson, 12241 1/2 Gorham Avenue, W. Los Angeles, CA 90049-5214.

FOR SALE: Lee DeForest explains his AUDION in illuminating technical de-

tail. The 40 page 1920 Franklin Institute printing (Xeroxed) is available for \$15.00 ppd. .. Gil Arroyo, 2766 SW 167 ST., Seattle, WA 98166.

FOR SALE (SCHEMATICS, BOOKS, ETC.) SEND SASE for list of old books, schematics, etc..... PEWOWARUK, 1535 NORTH 8 AVENUE, ST. CLOUD, MN 56303.

FOR SALE: BOOKS; THE RADIO BOYS ON THE MEXICAN BORDER -- \$12.00 .. THE RADIO MANUAL by Sterling and Monroe (1950) -- \$15 -- all plus b/s. .... Don Nichols, RFD 2, Box 3695, Oxford, ME 04270. (207) 539-4823.

## BUYING

#### DAVEN

WANTED: DAVEN 1 1/2" by 1 1/2" neon tube TV tube (Kinolamp)... Don Joyce, 8088 Whalen, Maineville, OH 45039. (513) 683-7013.

#### FARNSWORTH

WANTED.. FARNSWORTH RADIOS... Herman Zeps, WD9JKQ, 319 S. Williams St., P. O. Box 282, Bluffton, IN 46714.

#### GENERAL

WANTED HELP IN GETTING CORRECT POWER SUPPLY FOR OLD 3 BATTERY RADIO WITH 3 TUNING KNOBS. ... EMERSON MOORE, 408 S. MONROE, BOX 417, MACKINAW, IL 61755. (309) 359-6291.

WANTED: PARTS FOR RADIOLA VII; INFORMATION ON SPARTON 89A (NOT RIDERS); EARLY (1930'S) ELECTRIC CLOCK MECHANISM BY "SESSIONS", A. K. ADVERTISING BREADBOARD PARTS AND RADIO SHIPPING BOXES. HAVE ITEMS TO TRADE. RAYMOND THOMPSON, 7422 CHERRY TREE DRIVE, FULTON, MD 20759. (301) 490-4448.

HELP: NEED COPY OF BEST SUPER HET schematic in "RADIO" for May 1924 and improved in June 1926. Also need Remler superhetrodyne oscillator coupler. .. Tony Luber, 6812 Foote Road, Ceres, CA 95307.

WANTED: OLD TELEGRAPH ITEMS, electricals, mechanicals, medicals, scientifics and whatwasits. ... Joe Jacobs, 60 Seaview Terrace, Northport, NY 11768. (516) 261-1576.

WANTED: SHORTWAVE 60'S or 70's multiband radios... Sony, Panasonic or what have you? ... Joe Nocera, 1222 Finch St., New Castle, PA 16101. (412) 658-7805.

WANTED: POCKET WATCHES by Hamilton, Elgin and others. Del Tysdal, 812 Broadway #4, Fargo, ND 58102. (701) 293--9328. Thanks.

WANTED: WESTERN ELECTRIC THEATRE AMPLIFIERS, SPEAKERS, TUBES, ETC. FIELD COIL TYPE EQUIPMENT ALSO DESIRED.... SUMMER McDANIEL, 3104 SOUTH 147TH E. AVENUE, APT. O, TULSA, OK 74134. (800) 251-5454.

WANTED - ONE TUBE RADIOS, WORKING OR NOT, ESPECIALLY MADE BY CONNECTICUT TELEPHONE AND TELEGRAPH COMPANY, TOP PRICES PAID. LARRY, (203) 272-6030.

WANTED; AERIOLA JR/SR CABINETS OR JUNKERS. FOR SALE; CRYSTAL RADIO PRICE GUIDE FOR COLLECTORS. 16 PAGES, 500 LISTINGS. \$7.50 & \$.52 LSASE. DICK KOWALSKI, 32823 GLOEDE, WARREN MI 48093.

WANTED - ANY PIECE OR PART OF, the SCR-274N, or AN/ARC-5 RADIO SETS, especially RACKS and MOUNTS; A-190 ANTENNA; P-19 HEADPHONES, BC-745-(\*); BX-31; CS-131; CS-139; CS-170, CASE; ARC-1, ARC-3, SCR-247N/ARC-5 plugs; CH-131, OR CH-295 CHEST; T-39, CHEST SET; also COLLECTING CRYSTALS for, TBS; TCS; SCR-522, in CR-1A, or DC-11 holders; in FT-243 holders for, AN/GRC-9A; marked for, "in 620"; "in 611", Send for WANT/NEED LIST; Wm. STOKESBURY, #305 W. 142nd St., OCEAN CITY, MD 21842-4428.

WANT TO BUY: TANDBERG, Braun, Saba, and Bang & Olufsen radios, hi-fis, speakers. ... Daryl Jorud, R#1, Box 180, Battle Lake MN 56515. Phone: (218) 864-5725.

WANTED AN FB-7 NATIONAL RECEIVER and a National CRM 1" scope. Also any National parts, tube sockets, variable condensers, RFC's 2" dia. alum. tube shields. Would trade National SW-3 with doghouse power supply, HP audio oscillator model 200 CD. .... Richard H. Bauer, K5RB, 563 Hambrick Road, Dallas, TX 75218-1746

WANTED: SELECTONE TRANSFORMERS and coils working or not. E. H. scott radios, any condition. .. John T. Meredith, 1644 Parkside Circle, Niceville, FL 32578. (904) 897-7734.

WANTED: HI FI TUBE & COMMERCIAL TUBE EQUIPMENT & SPEAKERS. McINTOSH, DYNACO, ALTEC, JENSEN, RCA, SCOTT, FISHER, HEATH, EICO, LANSING, ELECTROVOICE, MARANTZ, WESTERN ELECTRIC, CRAFTSMAN, BROOK, ETC. Some guitar amps. ALSO FENDER, GIBSON, MAGNATONE, VOX, MARSHALL, ETC. Will trade radios for above. ... Sonny Goldson, 1413 Magnolia Lane, Midwest City, OK 73110. (405) 737-3312.

WANTED: INSTRUCTIONS, ANY DATA FOR WESTERN ELECTRIC TEST SET #9018; WANT EQUIPMENT. POWER SUPPLY MILITARY #PP-109 GRC (12 V.), COLLINS TRANSCEIVER KVM2A, REASONABLE... D.M.T. P. O. BOX 9064-HS, NEWARK, NJ 07104.

WANTED: BACK MOUNT, ELBOW and tone arm for Columbia Grafanola phonograph. Also want Radiola 20 with speaker. ... Leo Kimmett, 612 South 4th Street, Canon city, CO 81212.

WANTED -- NIPPER REPLICAS 14" - 22" CONTACT STEVE SHAPIRO, 1209 CARDINAL LANE, CHERRY HILL, NJ 08003 (609) 795-5660.

WANTED: AK 708 CABINET, RCA R-28 speaker and knobs, Clarion Jr. chassis. .... Steve Wallace, 3707 Pricetown Road, fleetwood, PA 19522...

WANTED -- SCOTT model 299-C for Scott model 296 amplifier and Scott catalog. .. Ed Ellis, 1559 S. W. 23 Terrace, Deerfield Beach, FL 33442. (305) 421-9999.

OLD PHONOGRAPH WANTED, EXTERNAL SPEAKER HORN, OAK BASE, ANY BRAND, MIKE MIOTKE, N. 29101 CEDAR ROAD, DEER PARK, WA 99006. (509) 276-8438.

BUYING: Amrad, Grebe, ACE, Leutz, DeForest, Paragon, Clapp-Eastham, Cutting and Washington, crystal sets, detectors and horns. Ed Bell, 5311 Woodsdale Road, Raleigh NC 27606. Fax phone (919) 851-1517.

KENNEDY TYPE 521 AMP.; EARLY VACUUM TUBES - OPEN FIL. OK; COILS FOR HRO - 60 RCVR.; ANY ORIGINAL PAPERWORK FOR ZENITH 12U159 AND PHILCO 37-690; ANY ITEMS OF THE COLLINS S LINE. BARNEY WOOTERS, W5KSO, 8303 E. MANSFIELD AVE., DENVER, CO 80237-1723. (303) 770-5314.

WANTED: REALTONE 6 transistor pocket radio, ivory case from 1964. ... E. H. Scott radios, any condition. ... John T. Meredith, 1644 Parkside Circle, Niceville, FL (904) 897-7734..

WANTED: RIDER'S VOLUMES 19, 21, 22, 23, SAM'S TSM MANUALS 1-26, AMPERITE NUMBER 320R - BALLAST TUBE, MALLORY RADIO SERVICE ENCYCLOPEDIAS, GHIRADI RADIO SERVICING BOOKS, ANY ZENITH RADIO PARTS AND OWNER'S MANUALS, 6F6G - TUBES - LARGE ST SHAPE GLASS! - BOXES OF ASSORTED RADIO KNOBS, ANY RADIO MANUFACTURER'S ORIGINAL SERVICE LITERATURE. CALL JOHN P. DENHARTIGH (616) 342-1512 - DAYS OR 343-7072 AFTER 6:00 P.M., 5274 MARKET STREET KALAMAZOO, MI 49001.

#### HALLICRAFTER

WANTED: HALLICRAFTER speakers, R-44

for SX-43, R-42 for SX-42, PM-23 for SX-28, black cabinet with wooden letter h on grill for SX-17. ... Charles Furtak, 241 Oak Street, Elmhurst, IL 60126.

#### INFORMATION

NEED HELP TO REBUILD 1906 VICTROLA -- Randy Geoghan, 3455 Ashwood Circle, Colorado Springs, CO 80906. (719) 576-2549.

REWARD FOR INFORMATION - Western Electric 13C amplifier, vintage 1920's, wooden case, external battery - employs four WE 205() tubes. Nick Tonkin, P. O. box 665, Vancouver, WA 98666-0665. (206) 944-7032.

#### LITERATURE

USER MANUAL FOR NEC APC-H03 COMPUTER AND NETSOFT SOFTWARE. ... K. A. LADD, 5240 44th AVE. S., Mpls., MN 55417. (612) 722-6786.

#### MICROPHONES

WANTED; Dispatch/HAM microphones with ceramic or crystal elements. Shure, Turner, Astatic, EV. Any condition, with or without stands. Send list to Box 140093/Dallas Tx 75214 or call 214-328-3225 or FAX to 214-328-4217 (9-6 daily).

#### PARTS

Wanted, SELECTONE Coils and transformers in any condition. Please check your parts box. John T. Meredith, 1644 Parkside Circle, Niceville, FL 32578. (904) 897-7734.

WANTED: BACK FOR REALTONE TR 801 TRANSISTOR. HAVE NICE TRADES. .. JOE NOCERA, 1222 FINCH STREET, NEW CASTLE, PA 16101. (412) 658-7805.

WANTED: BENJAMIN TUBE SOCKETS, shock mounted for 199 tubes, Thordarson 2:1 A.F. transformers and Selectone long wave transformers. ... John Meredith, 1644 Parkside Circle, Niceville, FL 32578. (904) 897-7734.

WANTED: AUDIO TRANSFORMER for Crosley Trirdyne 3R3 receiver. .. Frederick G. Suffield, P. E., 227 Fairway Drive, Sequim, WA 98382. (206) 683-6482.

#### R. C. A.

WANTED..... RADIOLA III ... Don Presge, 4721 Overwood Circle, Birmingham, AL 35222.

I'M IN NEED of a RCA speaker circa 1936 and two 6" speakers circa 1937-39. If you know of any seller, put me in touch. Happy listen'g, Bill Lyons, 222 Suzanne Drive, Shreveport, LA 71105.

1937 RCA model 37T table radio in good condition. --- Jim Coleman, P. O. Box 2348, Pasadena, CA 91102. (818) 584-4263.

#### REK-O-KUT

ONE (1) REK-O-Kut model #120 12 inch tone arm, mono or stereo, Good condition, Art Robertson, W0IWW, P. O. Box 719, La Junta, CO .

#### SCOTT

WANTED: H. H. SCOTT 296 amplifier, 330D AM/FM tuner; model 399 receiver and any related literature and items in any condition. .. Ed Ellis, 1559 S.W. 23rd Terrace, Deerfield Beach, FL 33442-7521. Phone (305) 421-9999.

WANTED; E. H. Scott radios and related items and literature in any condition. John Meredith, 1644 Parkside Circle, Niceville FL 32578 (904) 897-7734. -

#### SEARS

SEARS PART NOS: R57231 ESCUTCHEON DIAL W/GLASS; R57207 DIAL POINTER; R40243AG DIAL CORD; R40224 SPRING; 52-593 KNOB; 52-594 KNOB FOR SEARS SILVERTONE MODEL 7067 DIAL PLATE ASSEMBLY. DENNIS EVANS, 206 WALNUT ST., CLEARFIELD, PA 16830.

#### TEST EQUIPMENT

WANTED: BIDDLE TURNS ratio test set Other Biddle instruments. Weston, Westinghouse, GE analog meters needed. Henry Weiland, 8946 West Grantosa Drive, Milwaukee, WI 53225 (414) 463-4681.

WANTED IN GOOD CONDITION or who can repair mine, PRECISION tube checker model # 10-12. my serial number is 3317. Thank you very much. Philip O'Donnell, P. O. Box 944, Alleghany CA 95910. (916) 287-3451.

#### TUBES

TWO UV-201A TUBES, GOOD FILAMENT AND VACUUM. ... ED ROSSIG, 17 MAIN STREET, BOX 33, NEW MARKET, MD 21774 (301) 865-3319 AFTER 5:00 p.m.

#### ZENITH

ZENITH TRANSOCEANICS... tube models 500 and up (circular dial motion and manufactured between 1951 and 1958, and transistor models 1000 and up (manufactured from 1958 until discontinued). Bill McConnell, 1141 W. Pioneer Parkway, #104, Arlington, TX 76013. (817) 469-662.

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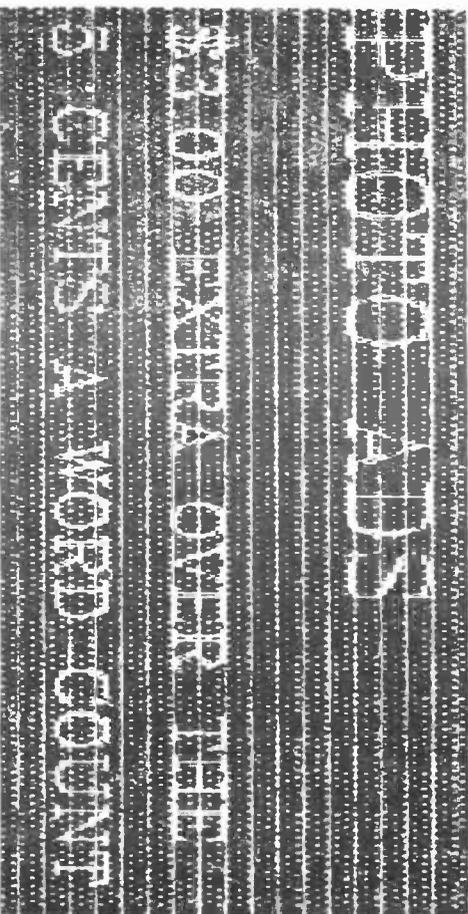
# THE HORN SPEAKER

January

1994

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