



The newspaper for the hobbyist of vintage sound and electronics

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## Leakage Tests on Electrolytic Condensers.

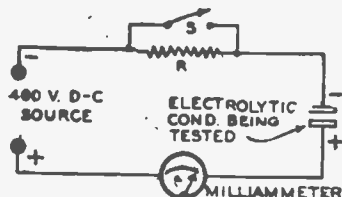
The usual method of specifying the "goodness" of an electrolytic condenser is to state the leakage current per microfarad of capacity which flows through the condenser when d-c voltage of approximately the rated value is applied. These leakage currents should not be taken too seriously, as the actual allowable leakage current for a normal condenser depends upon a number of factors, including the age of the condenser, the manufacturer, the rectifier tube used, the design of the power unit, the design of the filter and the load on the power unit. An electrolytic condenser that may have leakage which is considered excessive for one receiver may be perfectly good for a receiver of another design. However, in general, an 8 mfd. electrolytic filter condenser rated at 450 volts should have a maximum leakage current of about 3 to 5 ma. If the leakage current is greater than this value, the filtering usually will be incomplete.

Common manufacturers' acceptance tests for electrolytic condensers will be mentioned here to present some idea of the tolerances involved. A standard 8 mfd., 450-volt working voltage electrolytic condenser is connected in series with a source of d-c voltage equal to the voltage rating of the condenser, a milliammeter of suitable range, and a resistance R of 2,500 to 5,000 ohms shunted by a switch, as shown in Fig. 1. The condenser is allowed to charge steadily for five minutes and then a switch S is closed. The milliammeter is then read. An 8 mfd. condenser should have a leakage current of about 1.8 ma. when new. As the condenser ages, the leakage current increases. The figure of 3 to 5 ma. mentioned previously should be considered the maximum allowable value for this leakage.

Leakage tests of small electrolytic by-pass condensers having capacities of less than 1 mfd. are important. Capacity tests are more informative for revealing the effectiveness of these condensers for their job of by-passing. It will be recalled that these capacity testers also considered the effect of leakage in the condenser, so that the aingle test is complete in itself.

Small electrolytic by-pass condensers are usually

FIG. 1. —Circuit employed for measuring the leakage current of an electrolytic condenser at normal voltage.



rated at 25 or 50 volts working voltage. The manufacturer's acceptance test of these condensers requires a set-up similar to that shown in Fig. 1, except that the resistance R has a value of about 300 to 400 ohms. The rated voltage (or slightly higher) is applied to the condenser through R for five minutes, then switch S is closed, and the milliammeter is read. For a new condenser to be acceptable, the leakage current flowing through the con-

denser must be no greater than approximately 0.1 ma. per mfd.

Of course, it is possible to check the condition of an electrolytic condenser quickly without employing the foregoing method. Merely substitute another similar condenser known to be good for the doubtful one, and note the two milliammeter readings. If the current is approximately higher when the doubtful one is in the circuit, discard it. Another good condenser may also be connected across the one under test, and the increased current reading noted. If both condensers are identical and good, the reading should about double. Because of the fact that, in most instances, electrolytic condensers are used to filter the hum from a rectified circuit, a 2 or 4 mfd. paper condenser can be substituted for the electrolytic condenser to determine its condition and efficiency by noting its filtering qualities as evidenced by the amount of hum produced by the loud speaker.

## Armstrong and FM in 1940

Message from Edwin H. Armstrong to the Radio Trade Regarding Frequency Modulation Receivers printed in *Radio Retailer*

by

**EDWIN H. ARMSTRONG**

You do not want your customers to purchase unsatisfactory frequency modulation receivers. This letter is written to you for the purpose of stating some facts about frequency modulation which every dealer in this country ought to know. After you have read this letter, I suggest that you pass it on to your service man.

I have had a part in a number of revolutions in radio in the past and I know from long experience what happens when a fundamental idea takes hold and a large public demand is about to occur. It is at that time that the imitators and high pressure sellers who have done nothing to further the advances in the art then present themselves to the public as the exponents of new ideas and new "fundamental" systems. These ideas and systems seldom have anything new about them except the advertising slogans which were invented for them, and their exponents are more often than not people

who are attempting to take advantage of pioneer work by selling to the public cheap imitations of what the public really wants.

This is about to happen, apparently, with FM. I want to do what I can to prevent it from happening, and the only way in which that can be done is with the help of well-informed dealers who will tell the public the facts and prevent a waste of the public's money on inferior apparatus. The sale of sets which do not give full FM

## Happy Holidays

performance that measures up to what has been repeatedly demonstrated and what the public has been led to understand FM will do, will not only have a bad effect on the industry generally but it will reflect on those pioneer manufacturers who have honestly tried to give the public its money's worth and to open up a new market for the dealer.

The wide-swing Frequency Modulation system which I have invented and developed over a period of many years requires a transmitter that will do certain things, and a receiver co-ordinated with the transmitter, that will also do certain things. A receiver which will do only some of these things, or which will do these things badly, is a fraud on the public if it is represented as giving real FM performance.

The theory of Frequency Modulation is very complex indeed. I have given scores of lectures about it during the past five years before engineering societies and before non-technical societies and almost invariably, after an hour's explanation of how Frequency Modulation reduces noise, comes the question: "Can you give a simple explanation of how FM takes out the noise?" The best simple explanation I have been able to give is the following.

Ordinary amplitude modulation is disturbed by both natural and manmade static—that is, by lightning and by electric razors, violet-ray machines, automobile ignition, etc., because these disturbances are principally "amplitude modulated", and have the same character as the wave radiated from the transmitter. Approximately 30 years of effort to overcome them have resulted in little improvement other than the use of high power at the transmitter.

In Frequency Modulation there is a fundamentally new method of combatting all sorts of static. It is to transmit a wave which is different in

\* These disturbances are also, but to a minor degree, frequency modulated. Character from the static and use a receiver which responds only to this new type of wave and is deaf to the "amplitude modulations" of the noise currents, and substantially deaf also to the small frequency swings occurring in the noise. The transmitted wave is made different in character from the noise by using a wide frequency swing. The receiver is made specially responsive to the wide swing signal and substantially not responsive to the lesser swings of the noise and to amplitude variations, by proper co-ordination of design with the transmitter and by use of devices which wipe out the effects of amplitude modulation. To do this the design of the receiver must be co-ordinated with the transmitted wave and the receiver must reject the amplitude disturbances created by the static.

The best method of rejecting the amplitude modulated disturbances which has been evolved to date is to use tubes known as limiters which prevent the amplitude

# radio necessities

## OLDE TYME RADIO COMPANY, COLLECTOR'S CHOICE

Need hard to find Olde Tyme Radio parts, such as?

\* antique twisted, black, 2-wire cloth cover cord \* vintage tubes \* headphones

\* Olde Tyme hookup wire \* brown silk type power cord \* gold silk type power cord

\* audio, interstage and output transformers \* speaker cords \* ant., RF, osc., & IF coils

\* speaker grill cloth \* pilot lamps \* olde tyme ball handle toggle switches

### 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 Company, 2445 Lyttonville Road, Silver Spring, Maryland 20910. SUITE 317**

Wish to reach us by phone? Phone or fax: (301) 587-5280. Please call between 10:00 a.m. and 10:00 p.m., local time.

# OLDE TYME RADIO COMPANY



E-mail – [oldetymeradio@juno.com](mailto:oldetymeradio@juno.com)

disturbances from having any appreciable effect on the detector and to use plenty of amplification of the high frequency currents before the limiter to insure its proper operation under all conditions. So important is the function of the limiter that the best sets today make use of double limiting so as more effectively to prevent the passage of amplitude modulated currents into the detector tubes. There is no satisfactory substitute for the process of limiting in broadcast receivers in use at the present time.

There are two other results which are accomplished by taking out the effects of amplitude variations. One is the reduction of interference from other Frequency Modulation stations operating on the same channel. A correctly designed FM receiver will reject the weaker of two FM stations and reduce to the vanishing point that type of interstation interference which is so troublesome in certain sections of the broadcast band at night. Receivers which do not have the ability to reject the weaker of two signals will get into trouble later on as more FM stations go on the air. A second result is the elimination of distortion from the transmitted wave which may occur in the intervening space between the transmitter and receiver, or which may be produced by the amplifying circuits of the receiver itself.

It is well known that real FM reception gives a quality of reproduction never before obtained in radio. This is principally because of three things. All FM transmitters are designed to send the full musical range, from 30 to

15,000 cycles. They transmit this range with much less distortion than any amplitude modulation transmitter gives. The receiver, if properly designed, can eliminate the distortion introduced by the transmission path, by the effects of noise and by the radio-frequency amplifying circuits in the receiver, and can therefore reproduce a broadcast signal exactly as supplied to the transmitter.

It is essential that amplitude changes due to these various causes be effectively wiped out. Even where the first two effects are not present, distortion in the radio frequency circuits themselves will almost inevitably show up as the passage of time and aging change the tuning line-up of the amplifying circuits. Proper limiting is the answer to all these troubles.

In conclusion, let me say that the Frequency Modulation development will follow the course of the Regenerative Circuit and the Superheterodyne inventions. Probably few dealers will recall what happened with Regeneration but most will remember that with the introduction of the Superheterodyne came all sorts of so-called "improvements"—the "ultradyn", the "infradyns", "double detection", etc., but the Superheterodyne circuit remained substantially in the form in which it was originally introduced, the same thing may be expected to happen with Frequency Modulation receivers. In order both to protect the public and to develop Frequency Modulation on a sound basis, I most earnestly urge you to point out to the purchaser what is required in a receiving set to get good FM performance. If you do this, the

blame will come with the disillusionment of the purchaser of misrepresented FM sets will not rest upon you.

The following is a list of those companies which have been licensed by me under my patents to build Frequency Modulation receivers:

Broadcast receivers:

Ansley Radio Corporation Espey Manufacturing Company Fada Radio & Electric Company, Inc. Freed Radio Corporation General Electric Company Howard Radio Company The Magnavox Company, Incorporated Meissner Mfg. Co. Philharmonic Radio Company Pilot Radio Corporation E. H. Scott Radio Laboratories, Inc. Stewart-Warner Corporation Stromberg-Carlson Telephone Mfg. Company Zenith Radio Corporation

Amateur and experimental receivers:

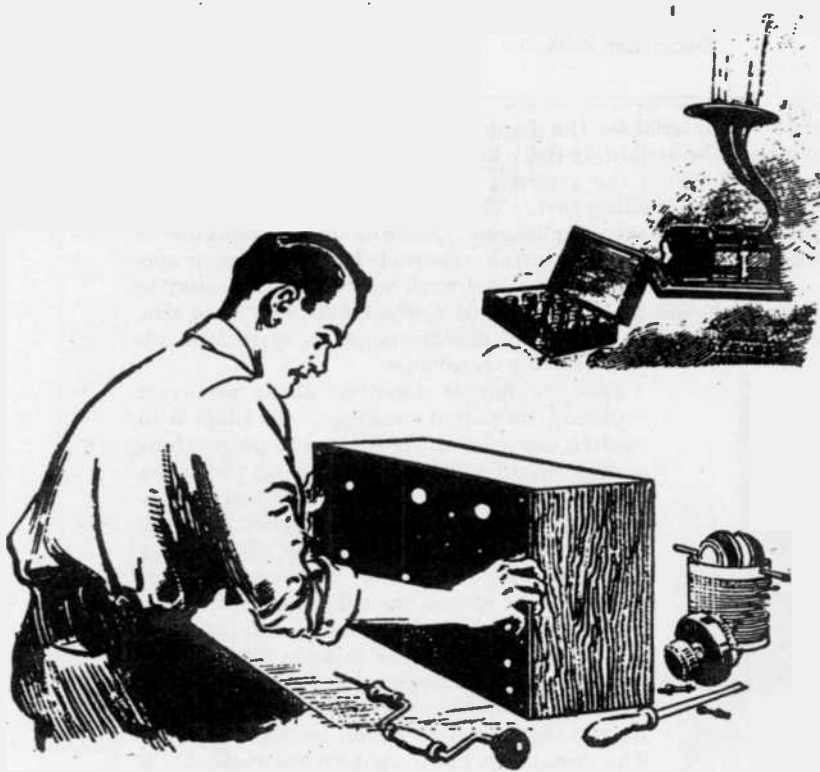
Hallicrafters, Inc. The Hammarlund Manufacturing Co., Inc. National Company, Inc.

Special receivers for broadcasting companies:

Radio Engineering Laboratories, Inc. Western Electric Company

Very sincerely yours,  
Edwin H. Armstrong

The above 1940 article was contributed by Charlie Harper of Paris Kentucky.

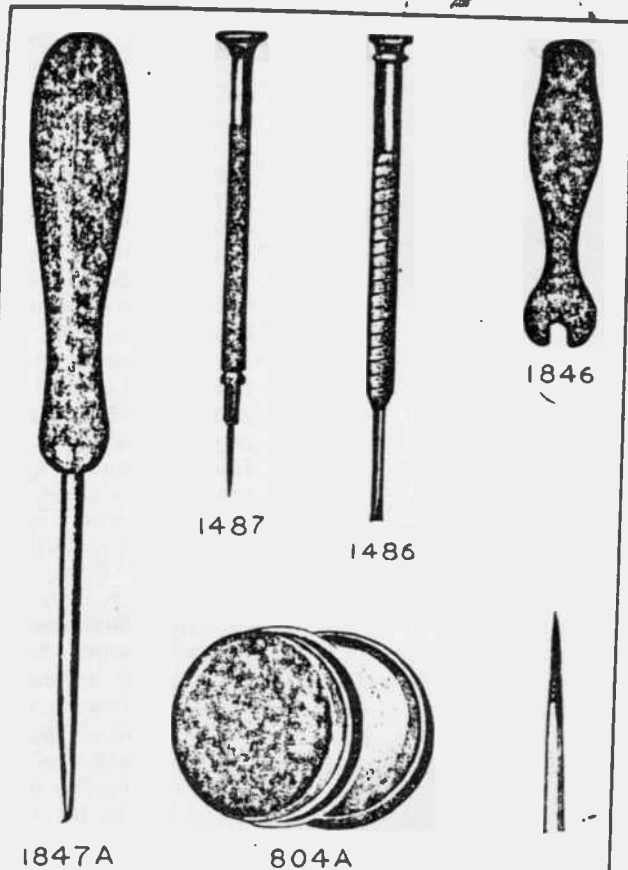


# CLINIC

## Repairing the Victor Exhibition Sound Box

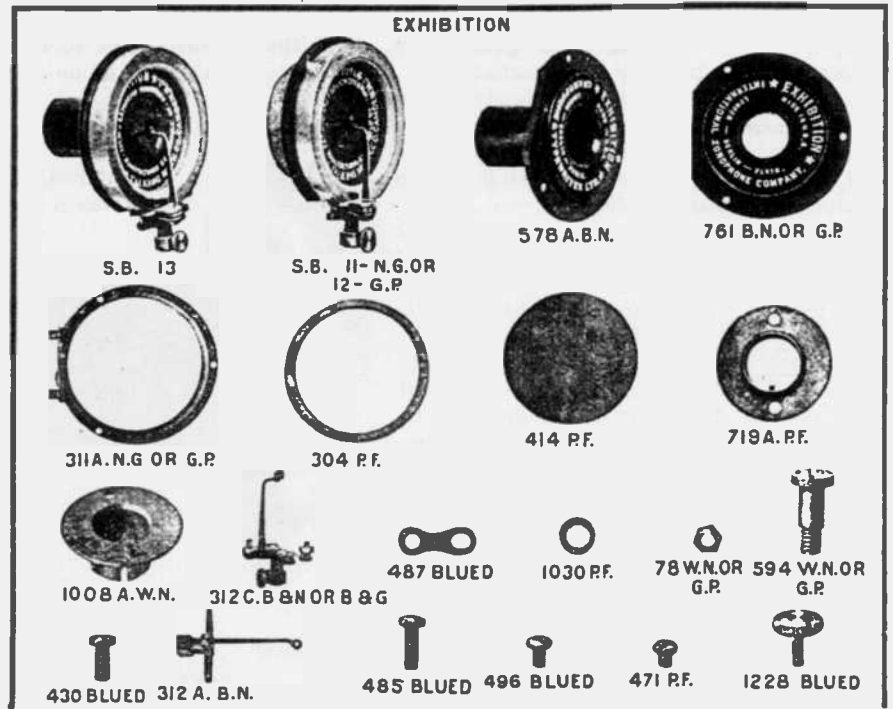
### Tools

Fig. 1



	List Price
1 Waxing Iron, No. 1847A . . . . .	\$0.75
1 Diaphragm Piercer, No. 1487 . . . . .	.50
1 Jewelers' Screw-driver No. 1486 . . . . .	.50
1 Box Wax, No. 804A . . . . .	.10
1 Adjusting Nut Wrench, No. 1846 . . . . .	.25
1 Camel's Hair Brush	

## Victor Exhibition Sound Box Parts



PART NO.	FINISH	LIST PRICE	NAME OF PART
S. B. 11	N. G.	\$5.00	Sound Box (complete)
S. B. 12	C. P.	7.50	" "
S. B. 13	N. C.	5.00	" "
578 A	B. N.	2.50	Back (for Straight Arm)
761 BN	B. N.	1.00	" (for Taper Arm)
761 GP	C. P.	2.00	" (for Taper Arm)
311 ANG	N. C.	1.00	Cap
311 AGP	C. P.	2.50	" "
304	P. F.	.10	Diaphragm Insulator
414	P. F.	.50	" "
719A	P. F.	1.00	Rubber Back
594 WN	W. N.	.05	" " Screw
594 GP	C. P.	.10	" " " "
485	Blued	.03	Back Screw
312A	B. N.	1.00	Arm
487	Blued	.10	" Spring
496	Blued	.03	" " Screw
485	Blued	.03	" " " "
78 WN	W. N.	.05	" " Lock Nut
78 GP	C. P.	.10	" " " "
1228	Blued	.05	Needle Screw
1030	P. F.	.03	Diaphragm Screw Washer
471	P. F.	.03	" "
312 CBN	B. & N.	1.50	Arm (complete)
312 CBG	B. & G.	1.65	" "
1008A	W. N.	.40	Adapter (for use on Victor Jr.)
430	Blued	.03	Screw (for use on Victor Jr.)

Fig. 2

### Causes for Poor Results

1. Rubber insulators buckled.
2. Diaphragm not centered, causing it to touch the sound-box cap.
3. Fulcrum bearings of needle arm not set on fulcrums of sound-box cap.
4. Needle-arm foot pressing on the diaphragm.
5. Needle-arm foot pulling on the diaphragm.
6. Needle-arm foot not securely fastened to the diaphragm.
7. Adjusting or lock nuts loose.

### Important Notice

In consideration of the care and attention given to the manufacture of Victor Sound-box parts, we are naturally disappointed when we find our Distributors or Dealers using repair parts on our sound boxes which have not been made and tested by our own factory.



ROYAL E. HOUSE'S TELEPHONE OF 1868.

We illustrate in the cuts accompanying this article an object of much interest at the present day, when the telephone controversy has reached such proportions. It is an "electro-phonetic receiver," for use in telegraphy, invented by Royal E. House, and patented by him in letters patent No. 77,882, of 1868. This name was given it by the inventor. It is really a telephone.

A box of generally cubical form has one end closed with a diaphragm. Two slender bars of metal are attached to the diaphragm, one near the center, the other below it. These bars the inventor terms "limiters." The upper limiter limits the motion of an armature working over a magnet, so that it cannot come in contact with the poles. The other limiter prevents the armature from receding too far from the poles. The armature is pivoted at one end. Its inner and free end strikes the lower limiter; it is provided with an extension at the pivoted end that extends upward at right angles to the armature. The end of this arm bears against the upper limiter. An electro-magnet operates this armature, and is situated below it in the bottom of the box, and is connected to binding posts. A tension spring is used to adjust the pull of the pivoted armature away from the magnet.

The box has attached to it an ear trumpet or reflector that surrounds and extends outward from the diaphragm. Both limiters have adjusting screws. By these their freedom of movement may be varied. They can be adjusted so that they will be in contact one at a time only with the armature and arm. In this case a make and subsequent break, or corresponding and considerable changes in intensity of current, will produce two blows, the first on the upper limiter and the second on the lower. On the other hand, by screwing out the limiter screws to a fuller extent, this oscillation will be gradually reduced until no break is possible. Then makes and breaks of the current, or variations in intensity, will no longer produce blows, but a true telephonic sound on the diaphragm. If connected in circuit with a microphone transmitter, it will talk; and if two are connected having closed or ground circuit with battery, or if steel or cast iron magnet cores are used without any battery, they will act as receivers or transmitters, and form a complete telephonic system.

The apparatus is a perfect telephone, immeasurably superior to anything shown in the Bell patents of 1876 or 1877. The subject of Figs. 1 and 3 of our drawing is a reproduction of the model accompanying the patent, which model was destroyed in the Patent Office fire. Its sides in the elevation are broken away to show the interior construction. In the section it is shown in use as a receiver. The inventor's idea of his ear

trumpet was that it should operate as a reflector of sound waves. He gives directions for constructing the interior surface of such form as to reflect the sound waves to a focus to be occupied by the listener's ear.

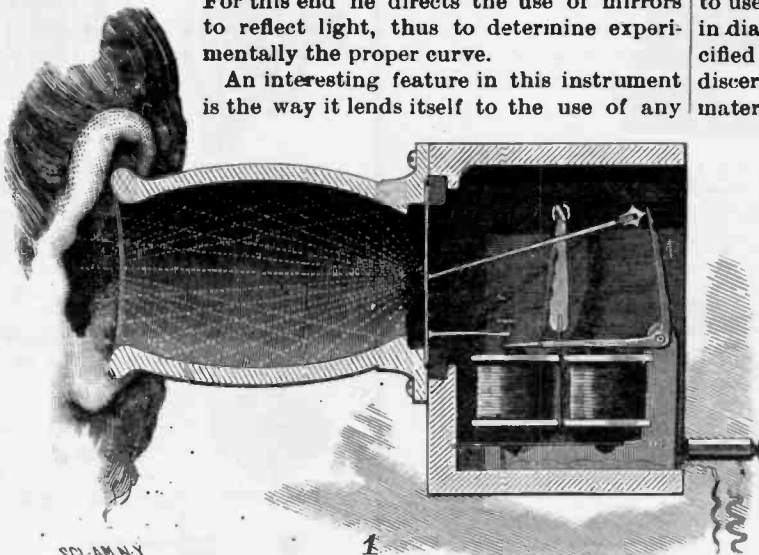
For this end he directs the use of mirrors to reflect light, thus to determine experimentally the proper curve.

An interesting feature in this instrument is the way it lends itself to the use of any

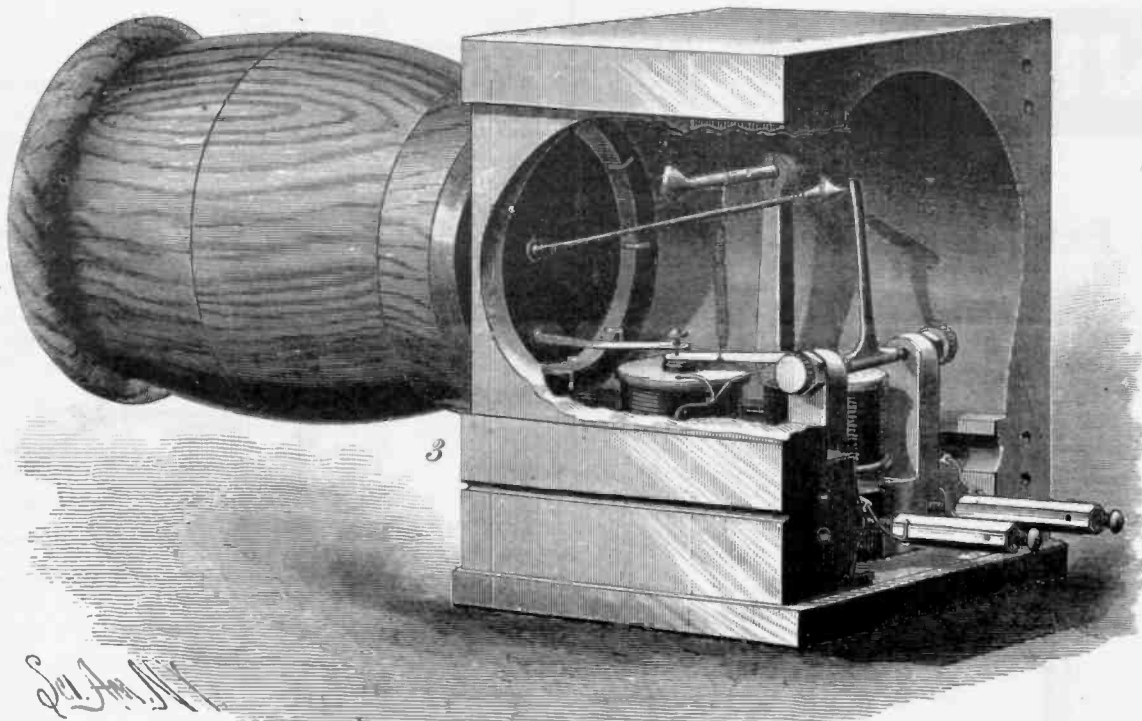
material for the diaphragm. In this respect it resembles strikingly Bell's instrument of the 1876 patent. In both of the systems, the armature is distinct from the sounding part. The inventor's idea was, if desired, to use large diaphragms. Some as large as eight inches in diameter have been constructed, this size being specified in the patent, and work very well. It is easy to discern in the instrument a great flexibility as to size, material, and other modifications, its system of adjustment is so complete.

The two figures described above are exact copies of the patent drawings. To adapt it to modern use some minor changes in proportions and material have been introduced, which are illustrated in Fig. 2. The frame or body is constructed of cast iron. The magnet cores are screwed into one arm of this frame, and bobbins are placed around them. An ebonite ear or mouth piece screws on the open end of the frame, and clamps the metallic diaphragm in position. This ear piece is made shorter than was the corresponding part of the model of the patent. A two branched limiter is substituted for the pair of separate limiters of the original. The result is a more compact instrument. A cover of brass or German silver incloses the principal working parts. Binding posts are attached to one of the arms of the frame opposite to the magnets. Thus the frame forms the back piece of the magnet. The double limiter is provided with adjusting screws. This instrument is a serviceable, distinct telephone. We very recently were present at a trial of its capacity over a fair length of line. Four Leclanche cells were in circuit. The same instruments were used for receivers and transmitters. The action was perfect. There was no choice of sounds. Sibilants were as clearly transmitted as any other utterances. The writer in listening to them had several standards. He had listened to one of the first of the Bell telephones in 1877 or thereabouts, at the Stevens Institute in Hoboken. The other standards were reproductions of the Reis telephones, which he had also experimented with. The House telephone was far superior to either of these. Its work was fully as good as that of the Bell telephone and Blake transmitter of to-day. The modern instruments, it will be noticed, do not differ except in constructive detail from the device of the patent. They are a true reproduction of it. It is most interesting to place the name of the inventor of the first printing telegraph by the side of Reis, Edison, Bell, and Gray, as the inventor and constructor of one of the early telephones.

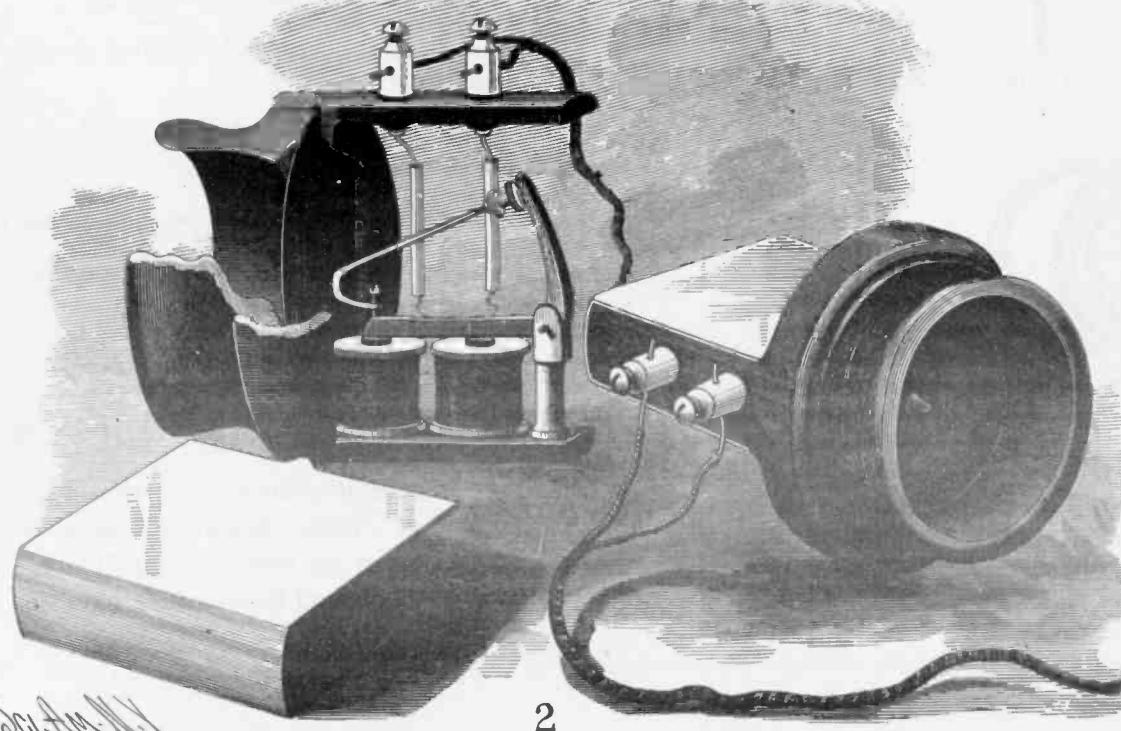
The Wallace Telephone Co., of 150 Broadway, N. Y., will soon be prepared to supply these instruments.



ROYAL E. HOUSE'S TELEPHONE OF 1868.



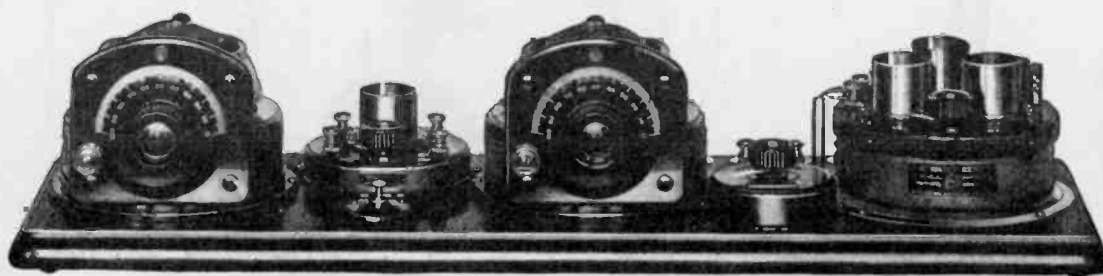
ROYAL E. HOUSE'S TELEPHONE OF 1868.



HOUSE'S MODERN PHONETIC TELEGRAPH.

# 1924 advertisement of the Atwater Kent model 9 "breadboard" radio

## ATWATER KENT RADIO EQUIPMENT



*Atwater Kent Model 9 Receiving Set*

ATWATER KENT Receiving Sets are a truly remarkable achievement. Their wide range of operation; the volume and clearness of tones obtained from distant points, together with the ease with which desired broadcasting stations can be tuned in are the outstanding features of their unusual performance.

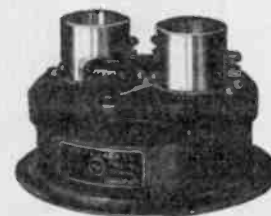
The ATWATER KENT Loud Speaker will give you a new conception of clear reproduction:—the true gift of the broadcasting artist is brought undistorted into your home.

If you are now working with a one-tube set, the ATWATER KENT 2-Stage Amplifier will give you the necessary volume to use a loud speaker.

ATWATER KENT Radio Equipment includes complete sets and every instrument necessary for the assembling of complete sets from tuning unit to loud speaker.



*The Atwater Kent  
Loud Speaker*



*2-Stage Amplifier*

*Literature describing the entire line of Atwater  
Kent Radio Sets and Parts sent on request*

ATWATER KENT MANUFACTURING COMPANY, PHILADELPHIA, PA.  
4943 STENTON AVENUE

# How mercury was used to exhaust electric lamp bulbs

For more information, see the January 17, 1880 edition of *Scientific American*



A.—Geissler's Pump. B.—Sprengel's Pump. C.—McLeod's Gauge. D.—Geissler Tube. E.—Bulb containing Phosphorous Anhydride. F.—Bulb containing Gold Leaf. G.—Electric Lamp Bulbs. a.—Mercury Supply Tube. b.—Air Trap. c. and e.—Mercury Sealed Stop Cocks. d.—Discharge Tube. f.—Scale. f'.—Gauge Tube. g.—Connecting Tube. h.—Mercury Sealed Joints.

VACUUM APPARATUS FOR EXHAUSTING EDISON'S ELECTRIC LAMPS.



# Club News

All events must be verified to prevent any disappointment about, time, place, etc.

**NEW JERSEY** - January 8 **NEW JERSEY ANTIQUE RADIO CLUB FALL SWAP MEET** Freehold, NJ - National Guard Armory 7:30 p.m. Information: Marv Beeferman - (609) 693-9430 Phil Vourtsis - (732) 446-2427

**ARIZONA** - January 9 **ARIZONA ANTIQUE RADIO CLUB MEETING AND WORKSHOP** Sun City, AZ - 9980 Willow Point Dick Stout's residence 1 p.m. Information: Dave Lambert - (602) 963-0262

**OREGON** - Jan. 9 **NORTHWEST VINTAGE RADIO SOCIETY MEETING** Oregon City, OR - Buena Vista Club House 16th & Jackson Street. - 10:00 a.m. Information: Ed Charman, PO Box 82379 Portland, OR 97282-0379 - (503) 654-73R7

**COLORADO** - January 10 **COLORADO RADIO COLLECTORS ANNUAL MEETING** - 1:00 p.m. Denver, CO - VectraBank Bldg. 1380 South Federal Ave. Information: Larry Weide - (303) 758-8382

**MISSISSIPPI** - January 10 **MISSISSIPPI HISTORICAL RADIO & BROADCASTING SOCIETY - MEETING** Meridian, MS - 2412 C Street Information: Randy Gunery - (601) 482-4534 Bill Gerk - (601) 268-6059

**NEW MEXICO** - January 10 **NEW MEXICO RADIO COLLECTORS CLUB MEET** Albuquerque, NM - Anna Kaseman Hospital 8300 Constitution Ave. (W. of Wyoming) 1:30 p.m. - Tailgate Swap Meet 2 pm - Program, Show & Tell and Auction , Information: Bill Schultz, 7213 Donet Ct. NE . Rio Rancho, NM 87124 - (505) 867-8178

**MISSOURI** - January 12 **ANTIQUUE RADIO COLLECTORS & HISTORIANS OF GREATER ST. LOUIS** - MEETING Kirkwood, MO - Kirkwood Community Center 111 S. Geyer Rd., Room 201-A 7:30 p.m. - Meeting (earlier for conversation) Show & Tell, Swap Table Information: Derek Cohn, 8141 Strafford Dr., Clayton, MO 63105 - (314) 725-2333

**ARKANSAS** - January 14 **ARKANSAS ANTIQUE RADIO CLUB MEETING** Little Rock, AR - Books A Million Markam & Bowman Rd. 7:00 p.m. Information: Tom Burgess - (501) 455-773

**OHIO** - January 20 **CENTRAL OHIO ANTIQUE RADIO ASSOC. MEETING** Columbus, OH - DeVry Institute of Tech. 1350 Alum Creek Rd., 1-70 Exit 103B 7:30 p.m. Information: Chuck/Sue Davis - (614) 792-6237

**NEW HAMPSHIRE** - January 23 **NEW ENGLAND ANTIQUE RADIO CLUB SWAP MEET** Nashua, NH - Resurrection Center Rt. 3 (Everett Turnpike) Exit 6 1 1/2 miles West on Rt. 130, 449 Broad St. 7:30-8:00 a.m. - Real Early Admission ~ 8:00-9:00 a.m. - Early Admission 9 am-1 pm - General Admission Over 100 tables - 50/50 Raffle - Cated Old Equipment Contest Reservations required to sell Information: Gregg Thompson, PO Box 298 Newtonville, MA 02160 - NEARC: (617) 923-2665

**ALABAMA** - January 25 **ALABAMA HISTORICAL RADIO SOCIETY MEETING** Birmingham, AL - Homewood Public Library 1721 Oxmoor Road - 7 pm Information: Julian Brook PO Box 130307 Birmingham, AL 35213 - (205) 879-1191

**OHIO** - January 30 **CENTRAL OHIO ANTIQUE RADIO ASSOCIATION. 6th ANNUAL CABIN FEVER INDOOR SWAP MEET** Columbus, OH - DeVry Institute 1350 Alum Creek Dr. (Exit 103B off I-70) 7:00 a.m. - Set Up 8 am - Open to Public 10 am - Silent Auction Info: Barry Gould - (614) 777-8534 Chuck Davis - (614) 792-6237

**PENNSYLVANIA** - February 6 **DELAWARE VALLEY HISTORIC RADIO CLUB SUPER WINTER MEET** Havertown, PA - Indoors at Grimes Center From PA Turnpike, I-476 or I-95 7:00 a.m. Information: DVHRC, PO Box 847, Havertown, PA 19083; Bill Overbeck - (610) 789-8199

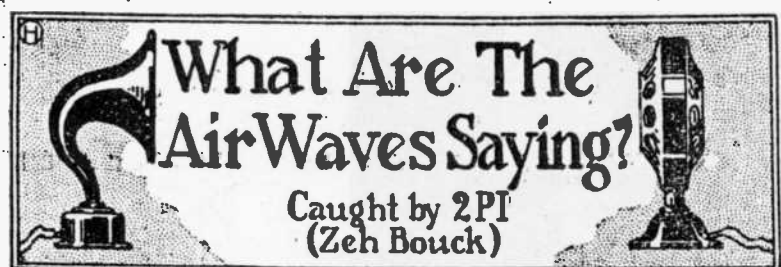
**INDIANA** - February 13 **INDIANA HISTORICAL RADIO SOCIETY WINTER MEET** Indianapolis, IN - Holiday Inn Southeast 5120 Victory Ln. (I-465 at Emerson, Exit 5Z) 7:30 a.m. Information: Dr. Mike Clark (317) 738-4649 or Alex Whitaker - (317) 535-4174, after 6 pm

**CALIFORNIA** - February 20 **SOUTH CALIFORNIA ANTIQUE RADIO SOCIETY INDOOR AUCTION** Van Nuys, CA - St. Andrews Lutheran Church, 15520 Sherman Way 7:30 a.m. - Registration 9:00 a.m. - Preview/10:00 a.m. - Auction Information: Dale Donalson - (818) 889-3353 or Thurston Armstrong - (310) 822-8382

**MASSACHUSETTS** - February 21 **GREATER BOSTON ANTIQUE RADIO COLLECTORS - RADIO XXX** Westford, MA - Westford Regency Inn 1-495, Exit 32, West on Rt. 110 for 4 miles. Same giant (6500 sq. ft.) and warm location 8:00 a.m.-1:00 p.m. Coffee, Doughnuts, Sandwiches, etc. available. For hotel reservations: 800-543-7801 (in Mass. 800-543-7802) - Mention Radio XXX Seller Preregistration Suggested! Information: A.R.C., PO Box 2, Carlisle MA 01741 - (978) 371-0512 E-mail: ARC@antiqueradio.com

**CALIFORNIA** - February 27-28 **VACUUM TUBE VALLEY SWAP MEET** Buena Park- Sequoia Conference Center 7530 Orangethorpe Ave. - (714) 670-9252 Feb.27: 7:30 a.m. - 4:00 p.m. - Class Feb. 28: 9:00 a.m. - 2:00 p.m. - 2 Swap Meets (Tube, Audio & Hi-Fi or Record Collections) Information: VTV, PO Box 691, Belmont, CA 94002 (650) 631-6550 or triode@vacuumtube.com

## Not As He Seems



TELEGRAM AND EVENING MAIL RADIO  
Saturday, March 21, 1925.



# RADIO DEPARTMENT

## Marconi Explains Directional Radio

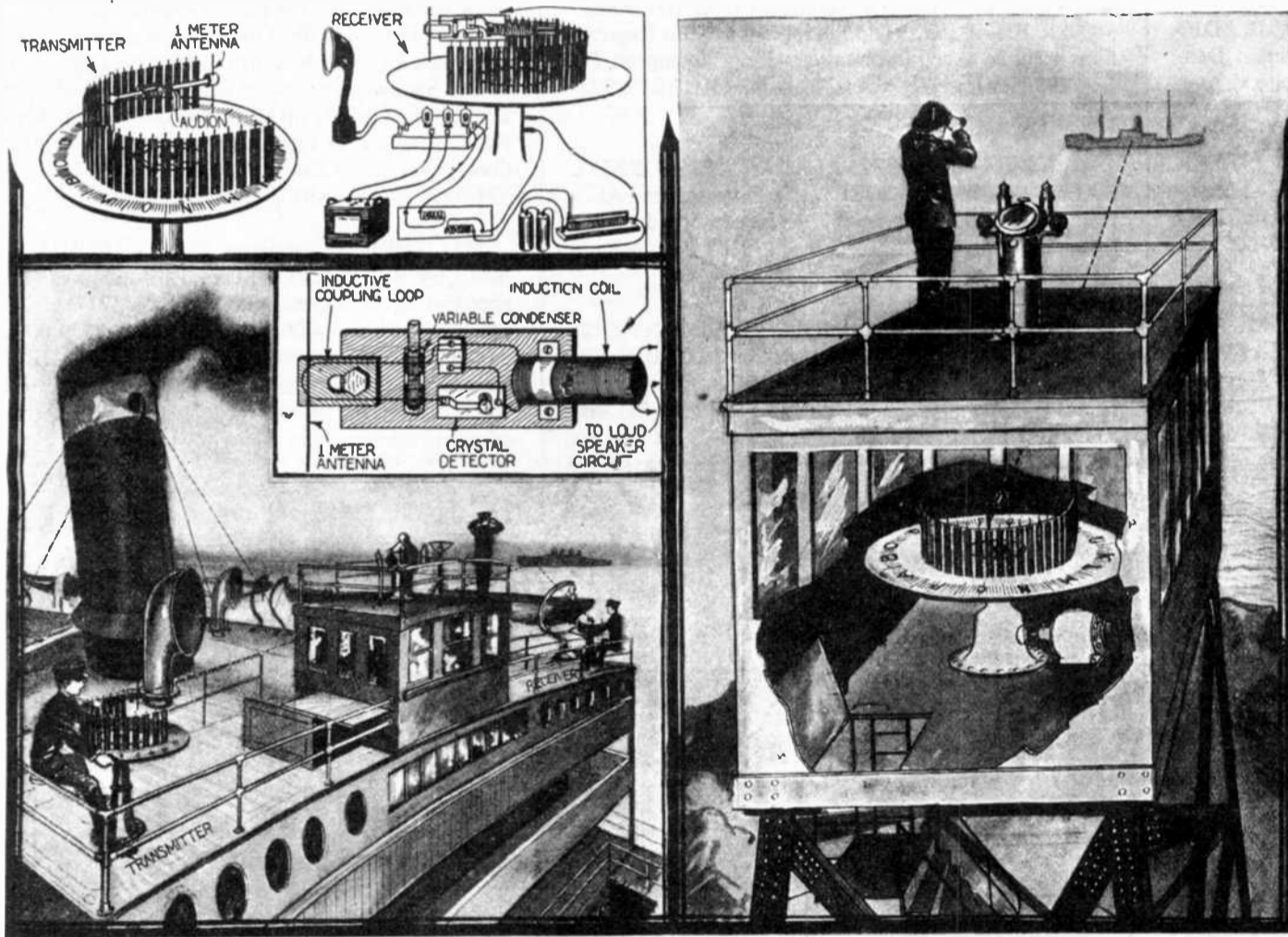
By A. P. PECK

**I**N a paper read before a joint meeting of the American Institute of Electric Engineers, and the Institute of Radio Engineers, Senatore Guglielmo Marconi, one of the foremost men in the development of radio communication today, told of his latest developments in the art. He said, by way of introduction, that a very great impulse had been given to his work

group of 60 tubes, using voltages of 12,000 on the plate.

Of late, Marconi's attention has been turned toward the production of waves of very short length, and in his experiments with his so-called "Radio Searchlight," or directional transmitter, he has used waves but only a few inches in length. In the study of short waves he has gone back to the era

air condenser and the spark discharging in compressed air. The receiver consisted of a crystal detector, and the reflectors employed were made of a number of strips or wires, tuned to the transmitted wave, and arranged on a parabolic curve, with the antenna in the focus. The transmitting reflector was arranged so that it could be revolved, as may be seen from the accompanying picture.



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Senatore Marconi in a Recent Lecture in New York City Described Among Other Recent Inventions He Had Been Working on a New System of Directive Radio Transmission and Reception. The Illustration at the Left Shows How Two of His Directive Antenna Cages May be Placed on a Ship's Bridge, the Transmitter Sending Out a Directive Wave, Which When Reflected From Another Ship or Object in a Fog, For Example, Will be Reflected, and This Fact Indicated at the Directive Receiver. The Two Detail Diagrams Above Show the Directive Transmitter and Receiver, as Demonstrated by Dr. Marconi. When the Transmitter Antenna Cage Was Turned Even a Fraction of a Circle, the Signal Received Thru the Loud-Talker at the Receiving Apparatus Weakened Markedly. The Illustration at the Right Illustrates One of Dr. Marconi's Ideas for Radio Shore Towers, a Ship Locating Its Distance From Shore at Any Time by Measuring the Strength of the Signal Received.

by the discovery and utilization of the oscillating electron tube, based on the observations and discoveries of Edison, Fleming, De Forest, and others, because of the fact that these oscillating tubes may be used not only as detectors of radio waves, but also as generators of oscillations, and may be used in both sending and receiving radio messages. Power as high as 100 kilowatts in the antenna has been obtained by means of a number of these tubes connected in parallel, and it has also been possible to work with a

of the discovery of electric waves themselves, that is, to the day of the classical experiments of Hertz, for Hertz used short electric waves in all his experiments.

These aforementioned waves have been found extremely useful in directional radio transmission, inasmuch as it is possible to make a so-called reflector, which will absorb all the waves sent out in all directions, except that in which it is desired to transmit.

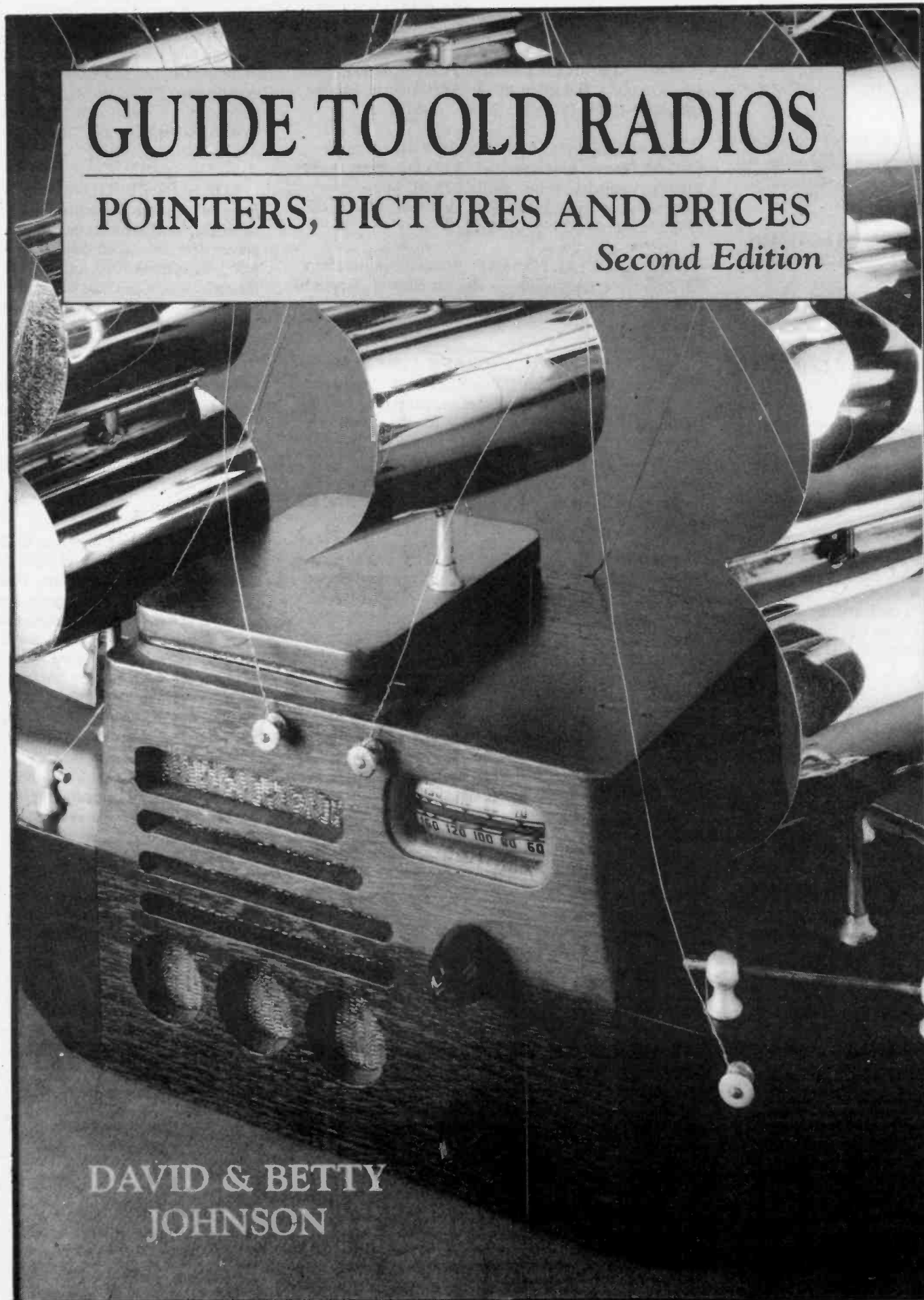
During his first tests he used a spark transmitter, the primary circuit having an

Later on, in 1919, electron tubes were used in place of the spark transmitter, and very much better results were obtained.

Very noteworthy are the following facts: With the reflectors in use at both the transmitting and receiving stations, speech was strong, and of very good quality. It was usually strong enough to be audible with  $\frac{1}{4}$  to  $\frac{1}{2}$  ohm shunt across a 60 ohm telephone.

**E-mail for *The Horn Speaker* is:  
cranshaw@gte.net**





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# Flea Market For Sale or Trade

## ATWATER KENT

PERFECT REPLICA ATWATER KENT, type 2A twin crystal detector, \$95.00, includes certified mail, --- Roland Matson, P.O. Box 956, Lake Panasoffkee, FL 33538. [9812]

ATWATER KENT -- model 708, chassis and speaker only -- appears to be all there except tubes. \$100.00 --- H. Scott, (601) 485-6777. [9810]

## BATTERY ELIMINATORS

ARRBE-III, UNIVERSAL BATTERY ELIMINATORS available from Antique Radios Inc., P. O. Box 6352, Jackson, MI 49204. ARBE-III provides isolated A, B, C voltages designed to operate most early battery operated radios. The price of \$149.95 includes UPS shipping. USA and is warranted for five full years. For more information, Contact, Antique radios Inc. at (517) 787-2985. Antique Radios Inc., P. O. Box 6352, Jackson, MI 49204.

## CRYSTAL RADIO

ANTIQUÉ CRYSTAL SETS and crystal detector stands. Too many to list. Tell me what you want. --- Dr. Turke, P. O. Box 2288, Hollywood, FL 33022. (954) 925-3670. [9805]

Crystal Set and one tube radio instructions and projects. Beautiful, high quality printing. Tested instructions and plans. Since 1932. Complete catalog \$2.00 postpaid. MODERN RADIO LABORATORIES, p. o. Box 14902-C, Minneapolis, MN 55414-0902. [9805]

FOR SALE: CRYSTAL SET INFORMATION on design, parts, materials, for restorers and experimenters. Send for free report abstracts and order form. --- Crys Tech, P. O. Box 6805, Kingman, AZ 86402. [9805]

## GENERAL

FOR SALE: Shortwave Receivers, Heath GR-54, Zenith 3000-1 TO, Realistic DX440, Grundig Traveller 2. Irv Sanders, 242 Hunter Lane, Harrisburg, PA 17112. 717-469-2185. [9812]

I have a Zenith brown bakelite radio and record player, model J-664, in very good condition and sounds great, make a reasonable offer. EMailyager@centuryinter.net Ross W. Hoff---Ph. 440-967-7591 [9812]

FOR SALE: PHILCO 46-420, brown, mint working, \$35.00; Airline 508-1, white, excellent, working, \$35.00; Emerson 179 1938 wood ingraham cabinet V6+ \$35.00; --- Sam Mannino, P. O. Box 331, Villanova, PA 19085. (610) 353-6747. [9812]

FOR SALE: seventeen army crates with RADAR equipment and tubes \$1250.00; WANTED: chassis and speaker for Simplex model R cathedral. Thanks! --- Glenn Novak, 6789 West 700 South, Union Mills, IN 46382. (219) 767-2367. [9812]

RADIOLA IIIA, looks good, no tubes, no mice, \$100.00; National FB7, looks good and it works, no P.S. \$200.00; National PWO dial and drive, very nice \$15.00; auto radio from 1930's with cables and control head (steering column.) Set works but does need new filter cap

and vibrator, \$60.00; One tube radio manufactured by Tri-City Electrical. Cabinet needs refinishing. set works, but no tube NG (UV199) \$45.00. All shipping extra. Russ Gundlach, 38 Clinton Street, Westfield, NY 14787. (716) 326-2090. [9812]

FOR SALE: TOOLTENDER/TUBE CADDY, like new, \$20.00, --- Bill Riley, 863 W. 38th Avenue, Eugene, OR 97405-2375. (541) 345-2167. [9812]

FOR SALE: WESTERN ELECTRIC amplifier, \$300.00; stereo tube receiver, \$375.00; stereo tube \$300.00; cathedral Philco radio, \$75.00; More. Everything, as is. --- Chuck Seidel, P. O. Box 1500, Merlin, OR 97532. (541) 474-2596. [9812]

FOR SALE: AUTOHARP, Wanted Hallicrafters #S72 portable, reasonable, --- Hoover Noonan, Route 1 Box 187, Pineland SC 29934, Phone (843) 726-5762. [9812]

FOR SALE: BROWNING DRAKE, 4 tube, \$65.00 --- G. E. "long range", \$20.00 --- RCA T6-1, tombstone, VG, \$80.00 --- Fada 160A cabinet and panel only, \$40.00 --- Philco wood, 42PT-93, \$20.00 --- Raytheon first transistor #2500 \$125.00 --- Detrola tombstone, 4 tube, \$100.00 --- Philco model 38, \$60.00 --- All plus S&H. Please call before 9:00 p.m. --- Wally Worth, 2 West Elm Avenue, Wollaston, MA 02170. (617) 479-4512 [9811]

A SPECIAL RADIO? THINNING my 600 plus collection of "cats," plastics, breadboards, xtal sets, Edison machines, etc. Inquire. I may have it. --- Byron Bernor, 33855 McEnery Cyn., Acton, CA 93570. (805) 269-5459. E-mail rato@prodigy.com [9811]

FOR SALE CHASSIS for many radios, Midwest M18 37 with speaker, Stromberg Carlson 601, 4 knobs, Orpheus, dials,, 401A, slant front, McMurdo Silver Corp., Averovex 2B, Wards Shadow Dial, 6 tubes, electric 16-D basttery 16.2, Priess straight 8, Stewart Warner, Sparton, 9 tubes, RADIOS FOR SALE: ATWATER KENT 20, butes in front, Miraco Ultra, 5 tubes, Falk, martls, table, RCA R.93, Echophone, 2, Mitchel lamp radio, RCA brass lamp radio, AK 33, 3 sets, Philco 38A, GE 1235, Grunow 5B, Philco 37/38, Grebe Synchrophase, table, Radiograph II, Arthur J. Stratton, N. 6902 Post Street, Spokane, WA 99208. (509) 328-8471 after 5:00 p.m., [9811]

FOR SALE: TABLE MODEL RADIOS from the 40's. 50's and 60's. All play. Send SASE for prices. Harry C. Nuss, 47 Gravel Hill Road, Huntington Valley, PA 19006. (215) 357-5061. [9811]

FOR SALE: EDISON standard B, case restored, "C" reproducer, repo horn \$530.00, Edison Home B, case restored, "C" reproducer, 11 panel black horn, repo crane, \$675.00, Apex Super 5, (case restored) battery set with matching Apex horn speaker \$395.00. Horn speakers: RCA UZ1325 - \$190.00, AK-L \$185.00, Mussette \$175.00, Magnavox R-3 \$175.00. All plus shipping. --- Bruce Houser, 2740 Gunnison Drive, El Paso, TX 79904. (915) 755-0964. E-mail rucbaj@aol.com [9811]

MOTOROLA model 58FRC table top radio/ phonograph in fancy wood case \$60.00. --- Heathkit 5W-717, four band, shortwave \$40.00. Add UPS. --- Kenneth Miller, 10027 Calvin Street, Pittsburgh, PA 15235. (412) 242-4701. [9811]

FOR SALE: TRANSISTOR RADIOS, all types, books, classical LP records, soundtracks, opera, novelty stuff. --- SASE brings list. --- Douglas Lowe, P. O. Box 452, West Street, Annandale, NJ 08801. [9811]

FOR SALE: MONO AUDIO AMPLIFIERS, David Bogen CHA-33, Challenger ee watt 6L6 \$75.00, Strom-

berg carlson SAV-33 Signet 25 watt, 6L6's \$60.00, Olsen Gouden classic self contained portable, 15 watt, in carrying case with built in speaker \$35.00, Heathkit 0-6, 5 inch oscilloscope with manual \$50.00. Hallicrafter, all wave receiver S-120 \$50.00, 5R110A, needs some work, \$25.00, power transformers, Filter chokess from Wvant, Seeburg tube jukebox amplifiers, power transformers for Philmore CP-731-D TV chassis, more 84, Collard (Conquest) stereo \$40.00. R.I.C. stereo multiple manual turntable - 33 1/3 - 45 - rpm \$40.00. All above plus UPS. Onerio Lou Sabetto, 1717 Burgess Road, Cleveland, OH 44112. (216) 481-1036. [9811]

FOR SALE: ZENITH R600 TRANSOCEANIC, nice; Bang and Olufsen Beocenter 3500; Silvertone "Portola," ca n1922, with manual, nice; Realistic CCD video disc player with 100 video discs; Loewe Opta R158, white wood; Silvertone 7004, candy cane dial; Scott "Stereo-master" 2400; tubes, nos 6JE6, nos 6LB6; matched pair nos TungSol 6L6GC, UG 245 ballon, ug CX380 ballon, Many more tubes, like nos UX201A Radiotron, and ug WD11. --- WANTED --- Motorola 7 inch TV, model 7VT1, chassis TS18. --- Charles Harper, 2000 Jackstown Road, Paris, KY 40361. Phone (606) 484-9393. [9811]

FOR SALE: Heath Apache TX-1 transmitter, excellent condition, with manual, \$135. Jim Ligouri, 7 Sycamore Court, Atkinson, NH 03811. 603-362-5712 [9811]

For Sale: Bogen Challenger CHB 50 Tube PA Amp: Mono, new replacement 6L6GC finals, multiple input with individual controls (mic, input2, aux1 and aux2 inputs), master control, separate tone and bass controls, multiple outputs (two 70v speaker sockets, plus connector strip for 25v, 16, 8, and 4 ohms, REM 1 and 2, and ground). Clean and complete w/schematic. Has a couple of minor scuffs on the face and top and a couple of minor scratches on the back, but is otherwise real nice amp. Asking \$45. o.b.o. (plus shipping) 73, DavidC aalifa@qsl.net 603-894-1174 [9811]

FOR SALE: RCA 6T-1 tombstone - \$85.00 --- "Philco" transistor cathedral repro \$30.00 --- RCA 8X-53 \$30.00 --- Emerson Plaskon #543, ivory \$30.00 --- Emerson "moderne" ivory \$30.00 --- Emerson 652B black \$20.00 --- Radiola AG 1380 loop repro \$125.00 --- DeForest loop repro \$125.00 --- Admiral 5A BTW \$30.00 --- Zenith universal portable \$40.00 --- Stromberg Carlson, red \$45.00 --- all plus shipping and handling. Call before 9:00 p.m. --- Walter Worth, 2 W. Elm Avenue, Wollaston, MA 02170. (617) 479-4512. [9810]

FOR SALE, G E TC3 tube checker, tests all the old tubes. WANTED: Hammarlund HQ 100 receiver. Hoover Noonan, Route 1, Box 187, Pineland, SC 29934. Phone (843) 726-5762. [9810]

FOR SALE: Radios and Test Equipment, all fairly priced. Please send SASE for current list to Alex Kaplan, WA4AK, 5347 Park Place Circle, Boca Raton, Fl. 33486. E-mail: alexlaw@gate.net Thanks! Alex Kaplan WA4AK [9809]

Japanese 50's and 60's POCKET TRANSISTOR RADIOS (working unless noted) Sony TR-810 "Transistor 8" w/case \$75 Trancel T-12 w/case in box \$100 Zepher ZR-620, clear panel set, w/case, in box \$200 AFCO ST-88, clear panel set \$150 Micronic Ruby 7 transistor, SR-G430 (untested) \$150 Bulova 742 "Super Six" pretty, mint condition, w/ case \$200 Sony TR-817 "Super Sensitive" w/tuning meter, neat set, \$150 Channel Master 6528, chipped, but works fine, \$20 Philco NT-802-WHG, mint condition, w/case, \$100 Chuck Bray, 1322 Ivy Rd, Bremerton, WA 98310 (360)373-1013, email cbray@linknet.kitsap.lib.wa.us [9810]

For Sale: Clock "GE ELECTRONIC TUBES" 1950s, \$200. Original literature for "Pakette" Crystal Radio, \$20. Mike Grimes, K5MLG; 3805 Appomattox Cir, Plano, Texas, 75023, (972)867-6373 [9810].

NEW RELEASE: Lots of everything All items complete except where indicated. All items cosmetically good. For details send 2-STAMP LASE FOR 20 PAGE FLYER, NO, 199 TO: OLDE TYME RADIO COMPANY, 2445 LYTTONSVILLE ROAD, SUITE 317, SILVER SPRING, MD 20910. Phone/fax (301) 587-5280. [9804]

## LITERATURE

FOR SALE: ORIGINAL ZENITH STOCK CERTIFICATES, \$20.00 plus shipping.. Barry S. Dagestino, 620 W. Wedgewood Lane, La Habra, CA 90631. (714) 526-5371. [9811 x 2]

COLLECTION OF 1923-1929 ORIGINAL radio sales brochures. Fifty different, covering most makes of radios, all fully illustrated. \$375.00 for all. --- Walter Miller, 6710 Brooklawn, Syracuse, NY 13211. (315) 432-8282. Fax (315) 432-8256. web: www.autolit.com [9811 x 4]

EIMAC CATALOG 1952 \$20. Amperex catalog 1946, \$20. General Electric broadcast equipment, 1953-54, \$50. RCA transmitting tubes TT-5, \$15. Harris/Gates MW-50 broadcast transmitter manual, \$20. RCA broadcast catalogs, camera terminal, film, transmitting, etc. \$50/all 7 in binder. Richard P. Robinson, 868 Main Street, Plantsville, CT 06479. Phone/fax (860) 276-8763. e-mail: richmix@erols.com [9809]

OVER 600 BOOKS on radio, wireless, telegraphy, etc. Check out the "Electro-Technology" catalog at <http://www.abebooks.com/home/oldauthors>. Old Authors Bookshop, 13 Gibson Lane, PO Box 403, Morrisburg, ON, Canada K0C1X0 (613) 543-3337 [9804]

SELLING RARE COMPLETE 82 years collection of QST from issue one, December 1915 to present documenting the history of radio. \$3,000.00. --- Ken Miller K6IR, 16904 George Washington Drive, Rockville, Maryland 20853-1128. (301) 774-7709. E-mail dtgr94a@prodigy.com [9804]

SCHEMATICS for most radios from 1920's through 1940's, some 1950's. Send S.A.S.E. and \$3.00 for each schematic. If schematic is unavailable, money will be refunded. --- Antique Radio Schematic Service, 13911 Kensington Place, Houston, TX 77034.

FOR SALE: Copies: Hard To find Schematics for Radios, Also kit radios, 1922-1950. Manuals: test equipment, ham gear. Contact me for prices, availability --- Duane Ballew, 6813 152nd Street Ct. NW, Gig Harbor, WA 98332. (253) 851-4505.

## PARTS

FOR SALE: LARGE STOCK, TRANSMITTING AIR CAPACITORS. SASE for list. --- Bill Riley, W7EXB, 863 West 38th Avenue, Eugene, OR 97405-2375 [9810]

## PHILCO

FOR SALE: Complete Instructions For Adjusting All Philco Radio Receivers, a 1934 Philco Service Department reproduction. \$3.50, postpaid. Pete Petersen, 5414 120th Ave., SE, Bellevue, WA 98006.

## PHONOGRAPH

Two phonographs for sale: (1) Victor Credenza, the four door/spring motor model with extra reproducer.

Cabinet is in very good condition but has some loose, but easily reglued veneer on the sides. Asking \$750.00. (2) Brunswick upright with ultona arm and original record albums. Oak case and finish in excellent condition. Asking \$350.00 Both machines and a bunch of records for \$1000.00. Both machines in; good working condition. Russ Shaner, 66 Requa St., Rochester, NY 14621 (716)266-2854. russell.shaner@mc.xerox.com Thank You [9809]

I have a great collection of; vintage classical records to sell. With the best wishes Andrey N. Merkulov, Ph.D tel/fax: +7-(812)-157 09 53 7line220@nevsky.net 19 June 1998 Russia, Saint-Petersburg [9809]

RCA Disc Players (2), extra stylus, 197 movies on records, best offer (Presently stored in Florida) (516) 623-2718 or write June Brady, 800 Mervin Court, Baldwin, NY 11510. Will send list of titles. [9810]

1893 Edison Home Phonograph, witches' hat horn with brass bell, mechanism & cylinder drive run perfectly, case & decal in good shape. Some superficial rust, rust spots on horn, needs reproducer. Original highly restorable condition. Includes wax 2-min. records. Asking \$500. E-mail or Bill Berg, P.O. Box 2054, Gearhart OR 97138. [9804]

Pfanstiehl needles (diamond) 50+ also approx 10 Jenson Saph and Osmium plus case and manuals \$125. Harry Pewowaruk 1535 No 8th Ave St Cloud Mn 56303 Hpewowaruk@aol.com [9804]

For Sale: Wards Airline Radio-Phonograph Model 84BR-2719A 105-125Volts AC 60 cycles Power consumption: 150 Watts Craig PO Box 2039 Scotia, NY 12302 ;[9804]

Phonograph (Gramophone) needle tins for sale/wanted, by British gramophone needle tin specialist. Many British, German, French, Foreign needle tins for sale/exchange. Illustrated catalogue available. Gramophone postcards, approx. 40 different gramophone related postcards. Illustrated catalogue. HMV thimbles, mint white bone china, dog & gramophone logo. Very attractive. \$6 each. HMV (Nipper) items also available. Ruth Lambert. For details of ordering/catalogues etc. Email. gram.needletins@btinternet.com Some of items are on web site. <http://www.btinternet.com/~gram.needletins> Email gram.needletins@btinternet.com Ruth Lambert, 24, Churchway, Weston Favell, Northampton. NN3 3BT. England. [9803]

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## SERVICES

WE RE-CONE AND HAVE PARTS FOR ALL home, auto, pro. and vintage speakers. --- Tri-state Loudspeaker Reconing, (724) 375-9203, <http://www.nauticom.net/www/speakers> Dennis McNeil, 650 Franklin

Avenue, Aliquippa, PA 15001. E-mail: speakers@nauticom.net [9806]

HORN SPEAKER REPAIRS. REPAIRS to most horn driver units -- world-wide service. Diaphragm repair/replacement. Repairs to all antique speakers, including auto, home and professional. Recone kits available on many makes and models of speakers. Atwater Kent, Zenith and many others. Also large selection of speaker drivers -- woofers, midrange and tweeters. Unfinished cabinets to match woofers, tweeters and crossovers available. Celebrating our 25th year with thousands of satisfied customers. SPECIAL OFFER! 2nd speaker half price on repair of three or more speakers in one shipment. World wide repair service. Speakerworld Technology, 2000 Warm Sps. Ct. #6, Fremont, CA 94539-6744. (510) 490-5842. Fax (800) 577-3253.

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## SPEAKERS

FOR SALE: WESTERN ELECTRIC CONE 18"W/8 SIDED METAL BASE, DATED 1921, CONE NOT PERFECT - \$125.00; MAGNAVOX DUAL ELCTRO MAG. SPK'RS. 12." One with matching transformer, 7 prong plug, cones not perfect - \$60.00 - AK Electro Dynamic 7," 150 ohms, field and output coils O.K., mounted in flat board, cone not perfect \$30.00; Radiola 110A, probably needs reconing, \$18.00; Emerson 12" permanent magnet 3.2, cone perfect, NOS, \$45.00 --- Maureen Martin, 1407 Memory Lane, Lutz, FL 33549; (813) 949-1835. [9809]

I'VE SEVERAL HORN SPEAKERS bases without horns, horn without bases and horns without bells. If you've horn speaker parts for sale or trade or if you are looking for a part maybe we can help one another and trade or buy and sell as needed. --- Charles R. Combs, 508 E. Daniel, Albany, MO 64402. (816) 726-3038.

## TEST EQUIPMENT

TELEQUIPMENT: S-54A (division of Textronix) \$70.00, also D-54, have several of each. --- H. Pewowark, 1535 8th Avenue North, Saint cloud, MN 56303. E-mail HPewowaruk@aol.com [9812]

FOR SALE: GENERAL RADIO lcr BRIDGE 1650a, Good condition \$225. Shipped prepaid. Bob Lindahl, (503) 644-9643 -E-mail Bob@webgypsy.net [9809]

FOR SALE: SORENSON RC36-15 LABORATORY ac/dc POWER SUPPLY, \$150.00 TEKTRONICS type 647 dual trace oscilloscope \$150.00. Both in Los Angeles area to reduce shipping costs. J. E. Hurzeler, 2244 Via Acalones, Palos Verdes E, CA 90274-1647. (310) 375-8594. [9809]

FOR SALE METERS: Weston, Simpson, RCA, Trip-let, others. SASE for list. Bill Riley, 863 West 38th Avenue, Eugene, OR 97405-2375. [9809]

SIGNAL GENERATORS, SCOPES, BRIDGES, grid dip meters, voltmeters, etc. Too many to list. Tell me what you want. --- Dr. Turke, P. O. Box 2288, Hollywood, FL 33022. (954) 925-3670. [9805]

## TUBES

Tubes for sale, new and used: 1) RCA Electron Tube new, original box (2) Sylvania 7F7 new, original boxes



(1) CBS 6SN7GT new, original box (2) Raytheon 12AU7 new, original boxes (2) Sylvania 7F7 used, in metal shield (1) DELCO 7-26/188-5 50L6/GT used, (1) Sylvania VT-231 6SN7/GT, used, (1) Raytheon 6SN7GT, used, (1) CBS 6SN7, used, (1) KEN RAD KS R/188-5, used, (3) KEN RAD 6B4G, cant tell if new or used (3) TUNG SOL 6B4G, one new, two used Make offer to Keven McDermott, P.O. Box 31872, Seattle, WA 98103 (206) 545-0853 [9811]

TUBES FOR SALE: , ALL TYPES, Send SASE for list. Thomas Ivas, 2932 West 99th Street, Evergreen Park, IL 60805. Phone/ fax (708) 423-0528. E-mail gtk98@yahoo.com [9809]

FOR SALE: LARGE STOCK VACUUM TUBES, boxed, tested. Sell highest bidder. List SASE. -- Bill Riley, 863 W. 38th Avenue, Eugene, OR 97405. [9805]

TUBES FOR SALE: Due to health must sell 45 years of collection. Radio / TV -- commercial. Send SASE for list and price. -- Wallace Wilson, 2601 West Avenue, Burlington, IA 52601. (319) 753-1160 (ans. machine) [9805]

FOR SALE: TUBES, ALL TYPES, new and used, no list yet. Send wants. LSASE. -- Joe Pratt, 53 Liberty Street, Clark, NJ 07066 [9804]

For Sale/Trade: Tubes, many 6L6 GA,GB, GC, 5U4 GA, GB, 6CA/EL34, 5881. Most US manufacture. Used/Check OK. \$5 each or will trade HEAVY on 2 used/good WD11, some 01As or an AK 33. Have lots of 6V6, 25,35,50L6, 6SN7, 35Z5, 12BH7, 6BG6G, others, would trade REAL REAL HEAVY on 2 working WD 11s. Also would trade on 30s RCA tombstones-all replies answerd. Thanks, Bob Rosengarten 1448 Lebanon Road, Clarksville OH 45113, E-Mail: brose@erinet.com

VACUUM TUBES for sale. all types and over 25,000 on hand. Please send SASE for comprehensive listing. Thomas Ivas, K9GTK, 2932 West 99th Street, Evergreen Park, IL 60805. Phone/Fax (708) 423-0528 E-mail Tivas@xnet.com [9804]

RADIO TUBES, many new old stock, send large SASE (64 cents) for large list, PR Novelty, P. O. Box 140, Milwaukee, WI 53201

## WANT ADS

### ACOUSTIC RESEARCH

Wanted: A pair of AR-LST loudspeakers (Acoustic Research, "Laboratory, Standard Transducer," circa 1972). Please contact Michael Powell, Box, 3031, Eugene, OR 97403; (541) 346-4955; mapowell@oregon.uoregon.edu [9808]

### CROSLEY

Looking for knobs for a Crosley Mdl#E15 EB table radio it is steering wheel style or any E15 series. Thank you Mark Simants 972-442-3600 marks@gwmail.plano.gov

WANTED: CROSLEY - model, 1. 11-123V, 2. 10-136E 10-138 3. D-25mn, no cracks, all parts --- Gilbert Simpson, 18 Beachwood Drive, Ansonia, CT 06401 [9803]

WANTED: #D-25- table 1953, good condition or restorable, all the parts. --- Gilbert Simpson, 18 Beech-

wood Drive, Ansonia, CT 06401 Phone (203) 734-4083. [9802]

WANTED: CROSLEY model D-25, EISBE, E15WE, E53OMN, no cracks, all parts, restorable or good --- Gilbert Simpson, 18 Beachwood Drive, Ansonia, CT 06401 [9806]

### ECHOPHONE

WANTED: R. F. COIL for Echophone S-3 and power transformer. -- Mervyn Ellsworth, 2309, N. 25th Street, boise, ID 83702. (208) 345-6878. [9805]

### FISHER

WANTED: REMOTE FOR FISHER MF-300, motored tuner. Power TRF for Fisher 8o AZ or an 8o AZ = Pilot SP-210 preamp., 845 transmitting tube. Ron Hockman, 807 West Bourke Street, Macon, MO 63552. [9809]

### GENERAL

Driver and neck for Musette bakelite horn; speaker for Zenith 8S154 console; speaker for Philco 70 grandfather clock radio; variable capacitor for Work-Rite short wave converter; many transistor radio parts wanted for --- Airline GEN-1212, Sylvania 5P10, Philco T4-124, a red Admiral similar to the 7M14. Also wish to buy crystal sets and one-two tube sets. Thanks! Michael Crain 3 Hillside Ave Harveys Lake, PA 18618 mcrain1952@aol.com [9811]

wanted military receiver navy type rbm ,working or not .also any info on rbm or arb type receiver. contact james johnson, 805 south st. new smyma bch. florida 32168 phone 904 409 0630 email jj@ucnsb.net

WANTED: CATHEDRAL AND THEIR CABINET, rare and off-brands preferred. All considered. Please state brand, model, condition and price. Thanks, --- Ed Janssen, 730 Quail Circle, Lewisville, TX 75067. (972) 436-4722 (eves) [9811]

WANTED: BALDWIN EARPHONES, need only ear pieces for restoration job, other parts not needed, working drivers only. --- A. Dubois, 67 Peggy Ann Road, Queensbury, NY 12804. Phone 792-3130. [9811]

RECORDS - Elvis on Sun label, Buddy Holly, Vogue picture records, etc. --- GENERAL - Wanted: tube processing equipment - limiters, equalizers, consoles; Fairchild, Pultec, Cinema Engineering, Urei, Universal Audio, Marantz, McIntosh, etc. --- TEST EQUIPMENT - Wanted: audio analyzers, Hickok 539C tube tester or case, Tektronix 570 tube curve tracer. --- PHONOGRAPHS; Wanted Fairchild 740/750, Technics SP-10MK2, SP-15, EPA tonearms, record cutting machines, etc. --- OLD COMPUTERS Wanted; old computers -- Apple 1, Sceibi-8H, Mark-8, Sol-20, Heathkit, Edmund, JOLT, MITS, Sol-20, Geniac, Brainiac, Digicomp, kits, literature, etc.--- Mr. Kim Gutzke, 7134 15th Avenue South, Minneapolis, MN 55423. Phone (612) 869-4963 or fax (612) 798-4169. [9811]

Seeking radio for a 1931 Westinghouse Grandfather Clock WR15. I have Grandfather clock cabinet, original clock, knobs and dial plate, just need the radio. Terradio@AOL.com 2955 E 4505 S, SLC, UT 84117 [9810]

WOULD LIKE TO PURCHASE THE FOLLOWING --- OMEGAS, Delux 9and 10 transistor, RCA 55X. Send working and cosmetic condition and asking price. to: J. M. Hoover, 347 Cherry, Granby, MO 64844. [9810]

WANTED: DRAKE 2AQ multiplier manuals or any paperwork related to military entertainment radios, also called morale receivers. Henry, (707) 544-5179. Phone/fax, P. O. Box 5846, Santa Rosa, CA 95402. [9810]

Western Electric collector wanted : tubes, amp, speaker, micriphone, telephones. Any tube theater amp or speaker, Langevin, IPC, RCA, Altec..., Please call-Wayne 310-3770056 or e-mail wen@gus.net [9809]

WANTED: SILVERTONE 9001 RADIO (Bunis), Motorola 7 inch TV, model 7VT1, chassis TS-18, Temple TV set, model TV1776, Altair MITS 3800 computer. Charles Harper, 2000 Jackstown Road, Paris, KY 40361. Phone (606) 484-9373. [9809]

WANTED: AUDIO TUBE EQUIPMENT - amplifiers, limiters, processors, record cutting machines, Fairchild, Western Electric, Westrex, Haeco, Scully, Neumann, Ortofon, Pultec, Cinema Engineering, UREI, Universal Audio, Marantz, McIntosh, Dynaco, Scott, sherwood, Harmon Karden, etc. (612) 869-4963. [9810]

WANTED: FRONT DATA PLATE for either o the Zenith military model trans-oceanic radios, R-520/URR or R-520A/URR. Also looking for the original manual for the Hallicrafters R-100/URR military entertainment receiver. Henry Engstrom, P.O. Box 5846, Santa Rosa, CA Phone/fax (707) 549-5179. [9809]

WANTED: UTC A, HA, LS series audio transformers, input mostly. Also wanted, broadcast equipment by RCA, Langevin, WE, Collins, Fairchild, Altec, Gates, etc. Tubes wanted: 264-A, 5840 mini, 6386. Richard P. Robinson, 868 Main Street, Plantsville, CT 06479. Phone/fax (860) 276-8763. e-mail: richmix@erols.com [9809]

WANTED: LAFAYETTE RADIO PF-175, also Regency TS-1, TS-2, MX3000, HX1500, K100, Fred Streisfeld, 65-22 Parsons Blvd. Flushing, NY 11365. (718) 541-1439. [9809]

WANTED: WOODEN BELL with ring for Music Master Horn. Cabinets for Philco 20, 70, 90 cathedrals, bad trim OK, Marion Van Hal, 1328 Orchard, Pella, IA 50219. (515) 628-2347. [9809]

WANTED MILITARY ENTERTAINMENT RADIOS LRR-6, Ansley, Zenith R-520 Jetronics R-853, Belmont RGH or? Also looking for manuals, ads, etc., for morale radios. Henry Engstrom, KD6KWH, P. O. Box 5846, Santa Rosa, CA 95402. Phone/fax (707) 544-5179. [9809]

I want to buy: Optonica Sharp CP 5000 speakers, 2 pair (year 1978-80). Shure SM 58 or PE 5 EQ microphone (year 1976-80). Liquid filled cushions of the Koss ESP.9 Studio Monitor headphones (1969). Email : jvilhune@cyberl.pst.fi [9808] Wanted: Cloth covered wire, Western Electric amp. or speaker, Langevin, RCA, IPC, Altec theatre amp. cash or trade for tube Marantz or McIntosh amp. Wayne 310-3770056, e-mail wen@gus.net [9809]

WANTED: - McMURDO SILVER Masterpiece V speaker or speaker and cabinet. Also - coils for Grebe CR. 18 --- Marion Van Hal, 1328 Orchard, Pella, Iowa 50219. (515) 628-2347. [9806]

WANTED: ZENITH 8S661, Philco 39-17, United American Bosch 440T, RCA Radiola cabinet 44, --- Herman Schnur, 3205 Brick Kiln Road, Greenville, NC 27858. (252) 752-2264. [9806]

WANTED: WESTINGHOUSE filament ammeter type CAY 2601. A-P OARD phantom portable (see September 1997 The Horn Speaker cover. --- Joseph Woy-

chowski, 119 Laurelwood Drive, Niantic, CT 06357. (860) 739-3649. [9806]

**WANTED: MILITARY ENTERTAINMENT RADIOS LRR-6, ANSLEY, ZENITH R-520, Jetronics R-853, Belmont RGH or ?** Also looking for manuals, ads, etc. for Horale radios. --- Henry Engstrom, KD6KWH, P. O. Box 5846, Santa Rosa, CA 95402 Phone/fax (707) 544-5179. [9806]

**WANTED: NOVELTY CRYSTAL radios,** resembling shrunken table top models. Also collecting tiny tubs coat pocket size plastic radios. --- Mike Brooks, 7335 Skyline, Oakland, CA 94611 (510) 339-1751 [9806]

**WANTED: SILVERTONE 9001 RADIO (Bunis),** Motorola 7 inch TV, model 7VT1, chassis TS-18; Temple TV set, model TV1776; Altair mrrs 3800 computer. --- Charles Harper, 2000 Jackstown Road, Paris, KY 40361 (606) 484-9393 [9806]

**FOR SALE: HALLICRAFTERS, Skyrider Panoramic SP-44,** tested, working, missing rubber gasket \$82. --- Mervyn Ellsworth, 2309 N. 25th Street, Boise, ID 83702. (208) 345-6878. [9806]

**WANTED: CROSLEY #11-23U, Crosley D-25** all parts, no cracks, Parts for Zenith Trans-Oceanics, knobs - aerials (telescopic), etc. Parts for Edison cylinder records, horns, parts for victrola, etc. --- Gilbert Simpsons, 18 Beechwood Drive, Ansonia, CT 06401. (203) 734-4085. [9805]

Hi I'm looking for a cataloge with colored pictures and prices of 50th radiosl&#180;m searching especially for portable pocket or the bigger transistorradios &nbsp;would be great if u can help me bye astral-boy@aol.com [9804]

**WANTED --- INTERESTING AND UNUSUAL HORN AND PEDESTAL SPEAKERS** by Amplion, Vogue, Doolittle, Western Electric, Dicto-Graph and other manufacturers. Also looking for rare hand blown vaccum tubes with wires coming out of sides, tops or bottoms made by De Forest, Moorehead, western electric as well as early signal corp. or navy tubes from the early 1900's. If you have any of these in your collection or collecting dust, why not turn them into cash. I will pay the highest prices for these items. Call Larry Drago, (203) 272-6030 or fax (203) 272-2002. E-mail theradioman@webtv.net [9802]

**WANTED: TINY TUBE COAT POCKET size plastic portables, toy crystal sets.** --- Mike Brooks, 7335 Skyline, Oakland, CA 94611 (510) 339-1751. [9805]

**Wanted -General** Wanted: Old broadcast gear; limiters, compressors, consoles, recorders, RCA, WE, Collins, etc. Mike States, Box 81485, Fairbanks, AK. 99708 (907) 456-3419 PH/FAX mstates@polamet.com [9803]

**WANTED: ZENITH 8S661, Philco 39-17, United American Bosch 440T.** state condition and price. Herman Schnur, 3205 Brick Kiln Road, Greenville, NC 27858 (919) 752-2264. [9803]

**WANTED: RCA DA WORKS** to complete RC. Manual instructions on Signal Corp BC98-b and BC 86b receiver and transmitter. Instruction for U.S. Bureau of Ships CRM - 16543 direction finder receiver and loop antenna. Meter flange (3 hole) 3 3/8 diameter. -- Wayne B. Wright, RR 4 Box 220, Bluefield, WV 24701 (304) 248-7064. [9803]

**WANTED: CROSLEY #11-23U, Crosley D-25** all parts, no cracks, Parts for Zenith Trans-Oceanics, knobs - aerials (telescopic), etc. Parts for Edison cylinder records, horns, parts for victrola, etc. --- Gilbert Simpsons,

18 Beechwood Drive, Ansonia, CT 06401. (203) 734-4085. [9805]

**Wanted -General** Wanted: Western Electric gear, consoles, amps, mics, limiters, also RCA gear. Mike States, Box 81485, Fairbanks, AK. 99708 (907) 456-3419 ph/fax mstates@polamet.com [9803]

"Wanted: Sony, Radio Shack, or other brand of AM STEREO RADIO (two-channel amplitude modulated stereo) from the 1980s, in working condition. Does not have to be cosmetically good. Portable or boombox preferred...car stereo okay. --Jay (e-mail: barnold@i-cafe.net) (snail-mail: 1595 Paulson Way, Napa, Calif. 94558)" [9802]

**WANTED - LOUDSPEAKER.** What have? Ed Schmidt, 1865 Newark Drive, West Bend, WI 53095. [9803]

**WANTED: ZENITH 85661, PHILCO 39-12, United American Bosch 440T.** State condition and price. --- Herman Schnur, 3205 Brick Kiln Road, Greenville, NC 27858. (919) 752-2264. [9801]

**WANTED: GOOD CABINET LID** for 1920's Victor Northern electric R-24, information on R-21, R-24, R-50. Phone/fax (660) 726-3038, Charles Combs, 508 E. Daniel, Albany, MO 64402. [9802]

**WANTED: TUBE HIFI, tube commercial amps.** speakers and horns. Altec, Marantz, Jensen, RCA, Dynaco, Heath, EICO, Scott, Fisher, McIntosh, Pultec, JBL, Electrovoice, Craftsman and Tannoy. Some old guitar amps. also Fender, Gibson, Vox, Vallo, Supro, Magnatone, etc. Sonny Goldson, 1413 Magnolia Lane, Midwest City, OK 73110. Call (405) 737-3312.

## GREBE

**WANTED: JUNKER GREBE CR-9,** need tuning condenser, tuning knob and grid condenser for restoration of CR-8 and RORN. Also need output coils for GREBE RORN RF Amp. --- Tof Prowell, 413 N. York Road, Mechanicsburg, PA 17055. (717) 697-5227 aeriola@epix.net [9802]

## GRIMES

**WANTED: David Grimes radios models: M3XP and 4DL --** Mike Grimes, 3805 Appomattox Circle, Plano, Texas 75023. (214) 867-6373.

## HALLICRAFTERS

**HELP NEED THE MAIN tuning capacitor** for a Hallcrafters receiver, SX71. M. J. Thornhill, 832 Old Hog Mountain Road, Hoschton, GA 30548-3711 [9809]

## INFO WANTED

**INFORMATION ON THE EICO model 950A Resistance Capacitance Bridge and Pyramid Capacitor resistor Analyzer model CRA-2.** Will pay for your trouble. Ken Flockhart, 425 South 18th Street, Fort Dodge, IA 50501. (515) 573-5477 [9809]

**DOES ANYONE OUT THERE HAVE INFORMATION** on Pacific Electronics, circa WWII or on their radio 610A? Henry Engstrom, KD6KWH, P. O. Box 5846, Santa Rosa, CA 95402. Phone/fax (707) 544-5179. [9809]

Could someone tell me of a source for powdered resin or some other substance that can be used to add traction to dial cords. I have several radios on which the cords slip

even tho they are tight. Also some insider tips on stringing dial cords would be very helpful. Thank you. David B. Skidmore, 3731 Granger Road, Akron OH 44333-1542 (330)666-5543 E-mail wb8cbo@akron.infi.net [9809]

**COULD SOMEONE TELL ME** of a source for powdered resin or some other substance that can be used to add traction to dial cords. I have several radios on which the cords slip even tho they are tight. Also some insider tips on stringing dial cords would be very helpful. Thank you. David B. Skidmore, 3731 Granger Road, Akron OH 44333-1542, (330)666-5543 E-mail wb8cbo@akron.infi.net [9809]

**NOTICE: DOES ANYONE OUT THERE** have information on Pacific Electronics, circa WWII, or on their radio model 610A? --- Henry Engstrom, KD6KWH, P.O. Box 5846, Santa Rosa, CA 95402 Phone/fax (707) 544-5179. [9806]

## HEADPHONES

**WANTED: OLD HEADPHONES, -- any amount.** Phone plugs, parts also -- Please send list or call. -- Dick Mackiewicz, 349 Walnut Trail, Coventry, CT 06238. (203) 742-8552.

## JACKSON BELL

**WANTED: JACKSON BELL, 4 tube chassis** to fit mini-cathedral. --- Byron Bemor, 33855 McEnnery Cyn., Acton, CA 93510. (805) 269-5459. [9806]

## LITERATURE

**FOR SALE: 1990 ARRL HANDBOOK - \$15.00,** ARRL OPERATING GUIDE, 3rd edition, \$10.00 plus mailing. Both mint condition. --- Bill Riley, 863 W. 38th Avenue, Eugene, OR 97405. [9811]

**WANTED: RADIO MAGAZINES -- any 1919 Radio Amateur News; July and October 1931 Radio Craft; October/November 1930, april/May and august/ september 1931, February/ March 1932 short Wave Craft; any Allwave Radio and Radio and Television. Also, anything E. H. scott related: sets, parts sets, parts, literature. Information on Scott is also available. Kent King, 337 York Avenue, Delaware, Ohio 43015, (740) 363-0445, E-mail: kak@csi.compuserve.com [9804]**

Need cabinet wiring diagram for Brunswick console, AR-1038/PR-148C. Mine does not match Rider's. Terry Rohler, 18 Joyce St., Stafford, VA 22554. (540) 659-0263. E-mail: rohler@erols.com. [9805]

Wanted: Schematic for Sencore PS120 oscilloscope. Have: VM Tape-O-Matic Model 711 tape recorder in restorable condition (but missing its lid). John Dudeck 704-587-1536, jdudeck@zenia.simcsg.sim.org. John Dudeck Home: jdudeck@zenia.simcsg.sim.org Tel: 704-588-9891 Work: jdudeck@simcsg.sim.org Tel: 704-588-6100 [9810]

Need cabinet wiring diagram for Brunswick console, AR-1038/PR-148C. Mine does not match Rider's Terry Rohler, 18 Joyce St., Stafford, VA 22554. (540) 659-0263. E-mail: rohler@erols.com. [9805]

**WANTED: EKKO (see Wayne Gilbert's article** in The Horn Speaker, May 1997) or Bryant Radio Stamps, albums, advertising, etc. Phone/fax (816) 726-3038. [9809]

**WANTED: ORIGINAL MANUAL** for Collins 32V-3 xmtr. --- Barney Wooters, WSKSO, 8303 E. Mansfield Avenue, Denver, CO 80237. (303) 770-5314. [9809]

## MICROPHONES

Wanted-Microphones Wanted: All microphones, working or not, RCA, WE, Altec, Neumann, etc., also tube broadcast gear. Mike States, Box 81485, Fairbanks, AK. 99708 (907) 456-3419 ph/fax mstates@polamet.com [9804]

## MOTOROLA

WANTED: MOTOROLA 7 inch TV, model 7VT1, chassis TS18 ---- Charles Harper, 2000 Jackstown Road, Paris, KY 40361. (606) 484-9393. [9811]

## MUSIC MASTER

WANTED: MUSIC MASTER 21" bell horn. Will purchase or trade for items of interest. Sev Dvorsky, 380 Morrison Drive, Pittsburgh, PA 15216. [9810]

## PARTS

WANTED: ANY CONDITION cabiner or speaker for Radiola VII B. --- William Boyd, 74 Atison Ct., Medford, NJ 08055. (609) 722-2369. [9811]

NEED SCHEMATIC EMERSON table model circa 1940. No serial number. "Patriot series," wood cabinet, 12 Volt tubes. Red- white- blue stripes around cabinet, square dial, electrodynamic speaker. (330) 947-3739 or LEric18334@aol.com. [9810]

WANTED: WESTINGHOUSE filament ammeter, type CAY 2601, A -P OARD phantom portable (see September 1997-"The Horn Speaker" cover. --- Joseph C. Woychowski, 119 Laurelwood Drive, Niantic, CT 06357. (860) 739-3649 [9810]

Wanted: Tuning capacitors, such as Murdoc, Blitzen, Chelsea, etc. Any early vertical type. Tom Pouliot (303) 988-1669 or MartiP4@aol.com [9802]

WANT: PROBE for RCA WV98A VTVM -WG299-B -- George Arth, 2525 Dundee Road, Lexington, MO 64067 (660) 259-4359. [9803]

## PHONOGRAPH

WANTED: HI-END TURNTABLES, Fairchild 740/750, Technics SP-10MKIII, SP-15, Luxman PD-555, NAK TX-1000, etc. (612) 869-4963 --- Kim Gutzke, 7134 15th Avenue, S., Minneapolis, MN 55423. [9806]

WANTED: RECORD CUTTING machines, Presto, Rekokut, Westrex, Scully, Haeco, Neumann, recording blanks, etc. Also hi-end turntables, Technics SP-10MK2, SP-15, EPA tonearms, etc. --- Kim Gutzke, 7134 15th Avenue S., Minneapolis, MN 55423. (612) 869-4963. [9810]

Phonograph needle tins wanted -specialist British collector. Many for swap/sale. Looking for American and Canadian needle tins. Illustrated catalogue available. England. ram.needletins@btinternet.com. See web site for many pictures. <http://www.btinternet.com/~gram.needletins> Email gram.needletins@btinternet.com See my Website for Gramophone Needle tins, Postcards, accessories and many other items [www.btinternet.com/~gram.needletins](http://www.btinternet.com/~gram.needletins) Ruth Lambert, 24, Churchway, Weston Favell, Northampton. NN3 3BT. England. [9809]

WANTED RECORDS FROM 20's to 60's. Vogue picture records, record cutting machines, unusual phonographs. (612) 869-4963 [9809]

I'm looking for a stylus for an Edison Diamond Disk phonograph. Have everything but the stylus and maybe its pivot. I don't know the model, if that makes a difference. My dad tells me that he last had one borrowed from a cylinder phonograph and I remember it worked fine. Gerald N. Johnson RR1 box 62 Gilbert, Iowa 50105 geraldj@ames.net ; [9804]

I want to buy an ULTONA Brunswick soundbox or reproducer complete with tone and balance arm for my 4-spring Cabinet gramophone. The reproducer by "The Brunswick Collander Co" has 3 styli and 2 diaphragms, 1 stylus for the Edisons and 2 styli for the Pathe and 78 rpm. records. Would also consider the single ULTONA with 2 styli. I am also in need of the Edison 5mm thick records. --- My RCA made in England turntable is without platter (approx. 24 cm diameter and 2 cm height) and its record spindle. The 4-speed turntable is operated by a 220 v motor COLLARO, England, model AC53. Would like to buy items including schematic or technical data or current address of RCA ---- The data on my machine reads: RMA375-124 W/C WEBSTER CHICAGO UL Chicago 89 Illinois USA Model 228-1 105-120V 60cy 70 watts Require : 1. Confirmation - Is this a wire recorder? (photograph available) 2. Technical data: operating/instruction sheet 3. Wire Reels Also willing to re-imburse for current address of Webster Chicago 5610W Bloomingdale Avenue Chiacge 39 Illinois (if information re points 1-3 not available) Please contact David Row 5, Omar Khayyam Avenue, Singapore 78831 or email my daughter orchid82@hotmail.com [9804]

I am seeking phonograph parts and vintage literature for Cheney Talking Machines only. Specifically, I want factory repair manuals, catalogs of Cheney phonos available in the 1900's, and parts to Cheney machines (door knobs, motors, tone arms and reproducers, etc.) Send descriptions and prices to: 104207,3716@compuserve.com or Christopher Bartol, 101 Union Street, West Bridgewater, MA 02379. [9804]

Hi. I am looking to cutting needles for a Meisner replica my friend and I built from an old design skematic from a reprinted article. We found a magnetic head, and now we need the data for manufacturing some cutting needles, or a place to obtain some. I also am looking for some blank disks, or again some material on which to cut my first record. If u can help me, I would so much appreciate it. I am sl close to completing my machine. I have been wanting such a machine for years. Thanks. Sincerely, Jerry. (816) 279-4562 [9803]

## RCA

WANTED: ANY CONDITION CABINET FOR RADIOLA VII-B (I have chassis). --- William Boyd, 74 Atison Court, Medford, NJ 08055. (609) 722-2369. [9810]

## RECORDS

45's and 78's from 50's, Elvis on Sun label, Buddy Holly, etc. Vogue picture records. (612) 869-4963 --- Kim Gutzke, 7134 15th Avenue, S., Minneapolis, MN 55423. [9806]

## RCA

WANTED: GOOD OSCILLATOR with cover cover for Radiola model 66, or phone me your price. --- E. A. Thompson, 1322 Sheraton Lane, Florence, AL 35630. [9805]

## SONY

Desire To Buy (Soon): A SONY AM/FM tuner console that combines a) the aforementioned radi; b) a cassette player/recorder (on the front left-hand side); and

c) on top, an automatic record changer/turn-table. (The unit plays 33RPM records.) The unit's exterior is mahogany wood with chrome edging and knobs; the lid is a smokey plastic cover. Kindly advise on availability, condition, and asking price to either e-mail address (above) or call collect 1-954-462-9655 between 4:00 and 8:00 PM EDT or EST. [9811]

WANTED: FRONT COVER for Sony CRF 320 short wave receiver. I will buy junker CRF 320 receiver for spare parts. call Arnold, (213) 622-8646. [9809]

## TEN TEC

WANTED: TEN-TEC 315, RX-10, Mosley CM-1, Heath AR-( ) receivers. State price and condition. --- Herman Schnur, 3205 Brick Kiln Road, Greenville, NC 27858. (252) 752-2264. [9805]

## TEST EQUIPMENT

WANTED: HICKOK 539C TUBE TESTER OR JUST NICE CASE. Tektronix 570 tube curve tracer, audio analyzers Nakamichi T-100 or similar unit. (612) 869-4963. [9810]

## TRANSISTOR RADIOS

SEND ME INFORMATION on your pre-1970 transistors for sale, description, condition and price to, Jeff Hoover, 347 Cherry, Grandy, MO 64844 [9811]

## TUBES

WANTED: AUDIO TUBES such as 2A3, 6550, KT66, KT77, KT88, Tube tester, Hickok, 539C or just a nice case. (612) 869-4963 --- Kim Gutzke, 7134 15th Avenue, S., Minneapolis, MN 55423. [9809]

## WINCHESTER

Winchester Wanted: Top Dollar Paid for Winchester Radios and Winchester Related Items. Donald Daggett, 122 Hall Rd., Grahamsville NY. 12740, 914-985-7249, E-mail wc2e@webtv.com [9808]

## ZENITH

WANTED: ZENITH 8S661, Philco 39-17, United American Bosch, 440T, RCA Radiola 44 cabinet, --- Herman Schnur, 3205 Brick Kiln Road, Greenville, NC 27858. (252) 752-2264. [9811]

WANTED: ZENITH 8S661, Philco 39-17, cabinet for american Bosch 440T, Radiola 44. Herman Schnur, 3205 Brick Kiln Road, Greenville, NC 27858 (252)752-2264 [9809]





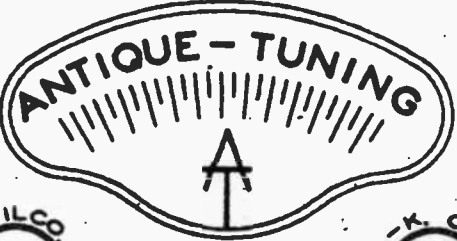
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