Radio Threatening the Phonograph

By A. Gernback

This is precisely what we are coming to. The machines of the future will serve the double purpose of record-music and radio...
Dear Jim:
Renew my subscription to The Horn Speaker for another year. I have collected a few more radios since I wrote you last year. They are listed as follows: Ware type-W - Garrod HAP - Parmax - Miraco Super-6, Tuska-365 and 226 - Murad MA 13 with loop and Western Electric 7A amplifier also have collected all Riders Manuals also the Radiotron Manual except Vol. 23. Not bad as I only started collecting radios as of Oct. 1973. That's all for now. Keep up your good work in your paper. Always glad to see The Horn Speaker come to my mail box.

Thank you,
Julius H. Pilger
K2KCB
123-09 18th Ave.
College Point NY 11356

TURN BACK THE DIAL
April 23, 1938
by Fred L. Davis
Favorite Children's Programs as reported by a RADIO GUIDE survey.
1. Singing Lady (Irene Wicker)
2. Coast To Coast On A Bus
3. Mickey Mouse Theater of the Air
4. Let's Pretend
5. Little Orphan Annie
6. The Lone Ranger
7. Don Winslow of the Navy
8. Our Barn
11. Malcolm Claire
12. Dick Tracy
13. Dear Teacher
14. Purf Pullen
15. Tom Mix

Notes on the above: Singing Lady was voted #1 for the third straight year. The #2 show "Coast To Coast on a Bus" had been #5 in 1936 and #1 in 1937. The Mickey Mouse Theater was a new show.

Several weeks ago, Colonel Stoopnagle and Budd decided to split up after being together for a number of years. They say that the reason for their parting is they were having a tough time getting a sponsor and felt they could each do better alone. The Colonel is now heard on a new show over WOR and the Yankee Network in the East every Sunday evening, and Budd is heard over the Mutual network on Friday evenings in a program called "What's My Name?"

LEYDEN JARS

The Leyden Jar will intensify the spark of the transmitting coil. Our Leyden Jars are of the very best quality in every respect. The glass is especially made for this purpose, and allows very little brush discharge. The covers of the jars are of polished oak, and the brass ball and rod are gold lacquered.

<table>
<thead>
<tr>
<th>Leyden Jar</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>1/4 Quart</td>
<td>$2.50</td>
</tr>
<tr>
<td>1 Quart</td>
<td>$8.00</td>
</tr>
<tr>
<td>2 Quarts</td>
<td>$9.00</td>
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</tbody>
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Manhattan Electrical Supply Co., 1919

SOUTHERN CALIFORNIA ANTIQUE RADIO SOCIETY

There's a new club, the Southern California Antique Radio Society. Had a great first meeting September 4. Grant Manning is President Pro Tem, and interested people get information from Alan Smith, 6712 Bisby Lake Ave., San Diego CA 92119.

Looks like a real live bunch! Thanks to Morgan McMahon for this information.

THE BUCKEYE ANTIQUE RADIO AND PHONOGRAPH COLLECTORS' CLUB

The club is preparing to discuss plans for their upcoming Mall show (November 19, 20, 21) at Chapel Hill Mall. An address for the Club is: Ken & Barb Spiegel, 293 Sundale Rd., Akron, Ohio 44313.

Year-round Fun!

Here are the ideal holiday gifts. ORDER NOW FOR IMMEDIATE DELIVERY!

VINTAGE RADIO, 1887-1939: Pictorial story of pioneer days, 1,000 photos, 263 pages. $10.95 hard-cover, $8.95 soft.
A FLICK OF THE SWITCH, 1930-50: Fun picture reference of home, military, Ham, professional radio-TV electronics, 312 pages. $10.95 hard-cover, $8.95 soft.
RADIO ENCYCLOPEDIA, Gernsback's 1927 classic beautifully recreated, 175 pages. $14.95 hard-cover, $10.95 soft.
RADIO COLLECTORS GUIDE, 1921-37: Data book with 50,000 facts on 9,000 models by 1,100 makers, 264 pages, $6.95.
1926-38 RADIO DIAGRAMS: Beitman's classic of 600 models, 240 pages, $7.00.

SEND TODAY to Vintage Radio, Dep't 1, 114313. 312 pages. $10.95 hard-cover, $8.95 soft.

PUETT ELECTRONICS
P.O. BOX 28572 DALLAS TEXAS 75228

ANTIQUE RADIO CATALOG - 8 PAGES

CAPACITORS - RESISTORS - INTERSTAGE & POWER TRANSFORMERS, SPEAKERS, CHOKES, DIAL LAMPS, RF COILS, L.F. TRANSFORMERS, SWITCHES, VOLUME CONTROLS, DRIVE BELTS, TUBE SOCKETS & ADAPTORs, HOOK-UP WIRE, DIAL LAMPS, BATTERIES, METERS, ETC.
Tune Up With Us! Save Money!

"Miraco" Radio Receiver

Price Prepaid
$20.00

You are missing two opportunities if you are contemplating installing a Radio Receiving Set and pass this extraordinary offer by. You are missing the opportunity to save money; you are missing the opportunity of enjoying beautiful Radiophonic Concerts, speeches, etc., or the thrill of catching signals out of the air.

"Miraco" Vacuum Tube Radio Receivers are made to be sensitive to every detail flashed through the air, durable and handsome and yet at the low price of only $20.00 prepaid which includes 225 volt "B" Battery, 150 ft. aerial wire and insulators. The only equipment necessary for successful operation are phones, vacuum tube and a 6-volt storage battery or dry cells.

If your dealer hasn't the "Miraco" in stock order one directly from this ad or write for literature describing this apparatus. Dealers write for Proposition.

MIDWEST RADIO COMPANY
Dept. A, 3422 DURY AVE.
CINCINNATI, OHIO

"EVERYTHING FOR THE RADIO MAN"

Another 

The TELMACPHONE

Here is the Height of Telmacophone Perfection

Equipped with Baldwin Type C Unit, inverted horn, reflected face. Equal to any other horn twice its length. Designed and perfected by expert acousticians. Complete in every detail.

Don't be misled into buying a loud speaker offered for less, and expect satisfaction; for a loud speaker of quality cannot be sold for less. Only after the most exhaustive tests and comparisons with the other loud speakers; and only after the most thorough research, laboratory tests, and field demonstrations has the Telmacophone been perfected, and offered now, for the first time, to the public.

Telmacophone Amplifiers, Receivers, Detectors, Variometers and Variacouplers have earned a national reputation for quality, endurance and satisfaction not exceeded by any other line. You can expect equal satisfaction from the Telmacophone.

We advise the purchase of the Telmacophone without unit for those who have Baldwin Unit of their own.

Dealers! We are distributors for nearly all standard lines. Full discounts on the Telmacophone. Write for proposition on our complete line.

RADIO DIVISION

Telephone Maintenance Co.
Note New Address
20 So. Wells St.
Dept. B.
CHICAGO, ILL.

For those who want to learn...

MACROPHONE BOOK ORDERED MUST BE IN BY JUNE 1ST, 1932

A complete text for students of radio comm., when radio was born, rare 1925 mutter, phone, radio, wireless, a step-by-step analysis to show Radio Engineering, Telecommunications, crystal set, the first Marconi wireless anyone to repair, restore, find out about that unknown 1920-25 Kit radio, build inquires, letters, and both of our valuable time.

PACKAGE OF REPRINT LITERATURE VERY RARE BOOKS, MANUALS, AND CATALOGS

1. 1930 Practical Radio Magnetic Field Analysis, L. E. Hoover, (1110) - 100p $7.95
2. 1929 Basic Valves and How to Use Them, W. M. Mosher, (1008) - 80p $7.95
3. 1930 Television Sets, R. J. R. Allen, 330 pages, - 150p $9.95
4. 1931 Signal Amplifiers and their own circuits, we

1922 ad

1922 ad

Another

The TELMACPHONE

Here is the Height of Telmacophone Perfection

Equipped with Baldwin Type C Unit, inverted horn, reflected face. Equal to any other horn twice its length. Designed and perfected by expert acousticians. Complete in every detail.

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Dealers! We are distributors for nearly all standard lines. Full discounts on the Telmacophone. Write for proposition on our complete line.

RADIO DIVISION

Telephone Maintenance Co.
Note New Address
20 So. Wells St.
Dept. B.
CHICAGO, ILL.
THE EVOLUTION OF THE TELEPHONE

- Bell's Harmonic Telegraph Receiver, 1873
- The Original Bell Telephone, 1875
- Transmitter Exhibited at Philadelphia, 1876
- Bell's Receiver, at Philadelphia, 1876
- The Box Telephone Used in 1877
- Wall Telephone Used in 1878
- Desk Telephone Used in 1879
- Desk Telephone Used in 1880
- Universal Board Used in 1879
- Fist Switchboard, Boston, 1877
- Switchboard at New Haven, 1879
- Present Handset Telephones 1939
- The Microphone for Broadcasting
- Key Operators Employed in 1975
The Audion; A Third Form of the Gas Detector

By John L. Hogan, Jr.

Two methods by which a sensitive column of conducting gas may be used as an oscillation responder have been considered in the Flame and in the direct current Arc.

It has been found that the gas column is a most delicate medium upon which to build the trigger action of a responsive device. But it has also been found that the conducting gas flame and the arc are unstable—that their very sensitivity operates against their practical efficiency because they respond em phasedly not only to Hertzian waves, but to air currents. This of course makes them useless for commercial wireless.

The extreme delicacy of the gas detector of course renders it sensitive not only to complete starts and stoppages of received electric waves (as in wireless telegraphy), but also to slight variations in them. Therefore the apparatus may be believed highly suitable for aerophony, if it could be caused to respond to Hertz waves only, and kept from hissing and rattling in the telephones at every gust of wind.

It was found, over twenty-five years ago in Germany, that if a metallic plate and a filament were sealed side by side in an evacuated globe, a current could be passed from the filament to the plate while the filament was lighted, but not otherwise. After a long series of tests it was discovered that the hot filament emitted a flow of ions which carried the current from filament to plate. This flow is exactly analogous to that in the gas flame and in the arc, but for a long time it was not considered that it could be used as a nearly ideal wave detector.

After several notable steps of development by different inventors, the device now known as the Audion was produced. This has been modified and so changed in the course of its growth that there are now some six or more distinct varieties. In all these the operating principle is the shattering of a column of conducting gas by a received electrical impulse. But unlike the flame and arc detectors, the gas column is protected from air currents by chambering the Audion-lamp, so it is evident that the great difficulty mentioned above has been eliminated.

The most sensitive type so far designed is called the Grid Audion. This is usually a six-volt low candle-power incandescent lamp with a tantalum filament, having a small platinum plate (about 10x15 millimeters) fastened approximately three millimeters from the filament, and a "grid" bent from rather large (say number twenty-two) platinum wire placed nearly midway between the two. The filament is lighted by three small storage cells, whose output is varied by a rheostat having continuous smooth adjustment. From the positive terminal of this storage battery a wire is led to the adjustable high voltage battery of the telephone circuit, as shown in the diagram. The two leads from the tuning apparatus are respectively connected to the grid and to the negative side of the storage cells.

It has been definitely stated that the Audion is a potential operated device. But on the same authority it is said that the Audion is dependent for its response upon the total energy received, so the class to which the apparatus really belongs is somewhat hazy.

It is undoubtedly true that the Audion, when in its best condition, is highly sensitive and that it is therefore well suited to aerophony. But unfortunately the sensitive condition is extremely difficult to find and still more difficult to maintain. Some Audion-tubes show an extraordinary sensitiveness at first, but quickly grow dull when in use. Other lamps are nearly worthless from the beginning, and none remain sensitive very long.

The Audion is capable of being developed into a really efficient detector, but in its present forms is quite unreliable and entirely too complex to be properly handled by the usual wireless operator. The principles involved are of the utmost importance, but their application is crude and irregular.

The Audion offers another fascinating field for investigation and improvement, and it is to be hoped that it will be taken up and the work so well begun carried to a satisfactory conclusion. For aerophony a detector is needed which will reproduce with fidelity the harmonics of the voice. The Audion, when carefully handled, is such a detector, but the best adjustment is so very critical that the manufacturers of aerophonic apparatus have found that almost no demand for the tubes exists, and are therefore supplying crystalline thermo-electric detectors with their outfits. This fact, together with the unsatisfactory results of tests made by the Government and by one of the foremost wireless companies in America, would seem to indicate that as yet the device is not to be absolutely depended upon and is therefore not to be used in the serious undertakings of aerophonic communication.

THE TELEPHONE

WE hasten to correct two mistakes made in Mr. J. L. Hogan's article of the "Audion" in the October issue. Other artist when showing a side view of the instrument made a slight mistake. The grid should be placed between the filament and wing as per our illustration herewith.

The primary and secondary circuits differ little from the common practice. Mr. McDermott has dispensed with a special call bell magnet, using the magnet of the induction coil for the purpose of operating the bell hammer armature. This arrangement of telephone transmitter and receiver possesses many obvious advantages; for example, it would be very convenient in cases of writing by dictation, or of stenographers recording speeches. Persons may remain at home listening to public addresses, sermons, or concerts, sitting comfortably and listening without the slightest inconvenience.

This invention enables two persons to carry on a conversation as readily as if they were in each other's presence. As the entire apparatus weighs but a few ounces, its weight is not at all noticeable. It is unnecessary to point out the further advantages possessed by this novel arrangement, as they will be apparent to those understanding the requirements of telephonic communication.

Modern Electrics, October 1908

The last words of Mr. Hogan's article should read thus: "In the serious undertakings of radio-communication."

Modern Electrics, November 1908
**MART**

Classified ad rate: 6¢ per word.
Photo ads: $2.00 extra.

**MISC.**

**PROFESSIONAL-CW operators, retired or active, commercial, military, Gov't., police, etc., invited to join Society of Wireless Pioneers. 7/30/43. W7Q/6, Box 530, Santa Rosa, CA 95402.

"RADIO AGE," a radio magazine devoted to wireless and early broadcast era. Contains interesting articles written by collectors, articles published in early radio magazines, lots of reprints of famous radio ads, and a classified section for buying radio and electronic items. Subscribe at $7.50 per year for ten issues.

Mail check or money order to Radio Age, 1220 Waipu Street, Augusta, Georgia 30909.

FOR SALE OR TRADE

BLANK BAKELITE STOCK cut to size, 1/8" to 1/2" thick. Fabricating and engraving services available. SASE for pricing information.

Norman A. Parsons, 22 Forest St., Branford CT 06405, Phone: 203 486-8237.

**NOTICE**

**PAPER PRICE INCREASE**

SUBSCRIPTION RATES FOR THE HORN SPEAKER, AFTER JANUARY 1, 1977:

Subscriptions or renewals now before rates increase.

New rates after January 1, 1977:

One year: $4.50
Two years: $9.00

Special rates for one year (mailed in envelope):

First class: $8.50
Air Mail: $12.00
Foreign Air Mail: $16.00


FOR SALE OR TRADE

WANTED

LIQUIDATION OF QUALITY RADIO COLLECTION: Selling as lot only 90 battery radios (Breadboards, Crosley, Federal, Grebes, Radiolas, etc.) Also 30 speakers. Best offer over 10K. Buyer must pick up. For detailed list send SASE to: Robert Houch, 443 Crystal St., Akron, Ohio 44305.

FOR SALE: We have many hours of quality old time radio programs from late '20s to mid '30s. Fun to play the actual old programs thru the horn speaker -- just like back when. Custom made tapes any method. Bliebeck's Sound Library, 609 Blue St, Richland, Wash. 99352.

FOR SALE: New tubes in original cartons all guaranteed for one year-GLA $15.00 each, TLA $5.00 each, UX 200 $5.00 each. Order as many as you need and please include $1.00 to help with the postage. Gary Probst, 336 West Church St., Lock Haven PA 17745.

FOR Sale or Trade: Philco model 25 chassis only with tubes, Jennings 1930 coin operated radio, Midwest chassis good for parts.

WANTED: IF transformers for Majestic chassis only with tubes, Jennings 1930 battery sets, speakers, mikes, etc. J. Albert Warren, Box 279, Church St., Waverly PA 17771.

FOR SALE: Philco model 35 chassis only with tubes, Jennings 1930 coin operated radio, Midwest chassis good for parts.

WANTED: IP transformers for Majestic model 15. Daniel Dopita, 2820 Disney, Long Beach, Calif. 90803.

WANTED: Early rare microphones 1900 to 1925. Buy for DeForest D-12. Will buy or have sets and parts to swap. J. G. Halsor, 9939 N.W. 21st st., Sunrise FL 33324.

FOR SALE COMPLETE COLLECTION of Antique Radios, parts and equipment. To be sold complete. Large SASE for list. Alley, 68 Judson St., Raynham, Mass. 02767.

FIND $1.00 for the newly published booklet "A Pocket Guide to Antique Radio Collecting." Antique Radio Press, Box 12, Roselle IN 46065.

FOR SALE: Send SASE for free list of 1920s battery radios. Arthur Harrison, 1021 Falcon Dr., Columbus St No 85203.


ANTIQUE TELEVISION Collection: 36 different models from 1930s, 1940s one or all $75.00 up each. List & picture $1.00. Seldel, 615 Grove Lane, Santa Barbara CA 93105.


ATWATER KENT instruction book Vol. 2, for models 9 through 241 reprint comparable to original. If you haven't seen the original you wouldn't know the difference, offset print, 48 pages, $6.00 Post Paid. William Huntley, R #2, Box 155, Coatesville, Ind. 46065.

WANTED: 3 coils, 2 audio transformers, tube sockets for 1926 Freshman-Masterpiece. Condition and prices. Darcy Brownrigg, Chelsea, Quebec, J0X 1NO, Canada.

WANTED: Scott, McMurdo Silver, Lincoln, and other classic receivers. Also pre-1930 battery sets, speakers, mikes, etc. J. E. Cunningham, 23W 675 Ardmore, Roselle, Ill. 60172.

WANTED: Radio chassis RC-427 (panel has ten pushbuttons), power supply RS-33, 12" speaker RL-7OF-5, as used in RCA TRK-120, TRK-12, etc. C. Server, 256 West 86th St., New York NY 10024.

WANTED: Early rare microphones 1900 to 1925. Have good selection of early battery radios, ETAL sets and horns to trade. Bob Paquette, 643 N. 31 St., Milwaukee, Wis. 53208.


WANTED: Croscley battery radios, chasis for Tridyn Super Special. Will buy or trade. Ross Mason, 641 South Georgia, Mason City, Iowa 50401.

WANTED: Colonial Globe set, any Marti Radios, Scotts, Crystal sets, good battery and novelty types. Richard Gane, 8391 N.W. 21st St., Sunrise FL 33322.

WANTED: Armour or Brush wire recorders or manuals. Also, military manuals of VLF equipment. Layer, AV-FSPU, 1600 Holloway, San Francisco CA 94132.

FOR SALE OR TRADE

IMPORTANT! PLEASE CUT THIS OUT AND SAVE IT!

FOR SALE AND WANTED: EARLY PHONOGRAPH, MUSICAL BOXES, CRYSTAL RADIOS, GRUND ORGANS, MECHANICAL TOYS, OPTICAL TOYS, ANIMATED CLOCKS AND WATCHES, SINGING BIRD BOXES, AND ITEMS RELATED TO THE ABOVE. I pay top cash for the above. I pay top cash for the above.

WANTED: Urgently need power supply module for Radiolas 66. Also need schematic for Dumont 208-B oscilloscope and tone generator for Columbus enclosed speaker Graphophone. Anthony Matt, 33 Island Trail, Sparta NJ 07871, (201) 729-5893.


WANTED: RADIO NEWS; POPULAR RADIO and RADIO BROADCAST magazines.


WANTED: Scott, McMurdo Silver, Lincoln, and other classic receivers. Also pre-1930 battery sets, speakers, mikes, etc. J. E. Cunningham, 23W 675 Ardmore, Roselle, Ill. 60172.

FOR SALE OR TRADE

WANTED: Any radio fan magazines.

Also, any radio magazine with commercial broadcast or star information. Examples - "Radio Guide, Radio Stars, Radio-TV Mirror," etc. Sale "Phonola," 1 or 100. Fred L. Davis, 5106 Skippy Street, Memphis, Tenn. 38116.

JOHN GRIFFIN WANTS TO BUY pre-1930 battery operated radios. Must be in choice condition. Send photo, price, and phone number. Photos returned if no deal is made. 2937 W. Indian School Road, Phoenix, Arizona 85017 602 263-7686.

FOR SALE: Send SASE for list, $5.00 each. Have one AK Model 10 Breadboard including tubes, works. And one Model 10B AX with tubes, works. Will trade for Scott Philharmonic or will sell.


HAVE 300 old tubes in original cartons. Send SASE for list, $5.00 each tube. Have one AK Model 10 Breadboard including tubes, works. And one Model 10B AX with tubes, works. Will trade for Scott Philharmonic or will sell.


THE HORN SPEAKER.... 9520 Silver Meadow Drive, Dallas, Texas 75237
McDermott's Telephone.

The engraving shows an improved form of telephone receiver and transmitter, and a very convenient combination of the two instruments, newly patented by Mr. John P. McDermott, of Galveston, Texas. The combined instrument is designed to be worn upon the head, as shown in Fig. 1, so that the user may hold telephonic conversation without regard to position, and listen without fatigue or inconvenience to lectures, concerts, etc. This arrangement possesses the advantage of excluding extraneous sounds and of preventing hearing what is said in the transmitter. The receiver magnet consists of thin strips of magnetized steel having a U-form and adapted to the head. The ends of the magnet are curved to receive the support for the diaphragms, mouthpieces, and bobbins. The iron cores of the bobbins are inserted in the curved portion of the magnet. The transmitter is attached to the receiver by a swinging elastic yoke, which renders it adjustable to the mouth of any user and admits of (Continued on page 5)