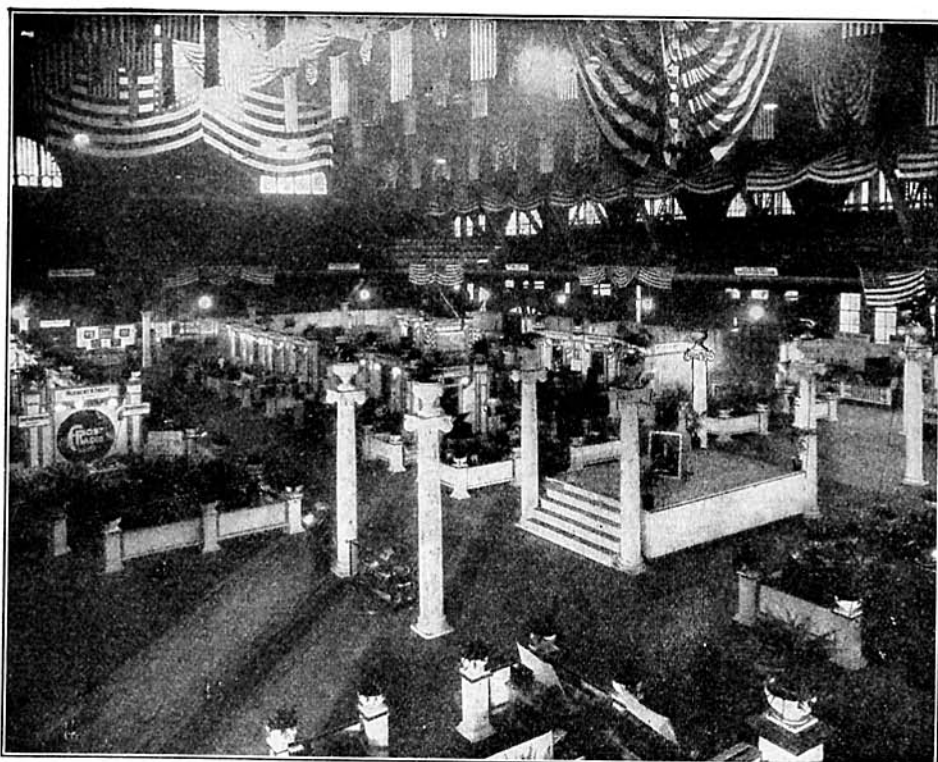


The Chicago Radio Show

By ROSCOE SMITH



Central View of the Chicago Radio Show. The Center Platform Was Used for Demonstration Purposes. The Exhibitors Were Strictly Manufacturers.

National Electrical Manufacturers, opened its doors at the Coliseum Saturday, October 14, for a week's exposition and proved to be a commercial Radio show of genuine value and interest to the industry as a whole. Internationally known as a trade center, offering enormous floor space on the street level, no better place could have been selected by the managing directors who are alive to the fact that the radio market has stabilized appreciably and the buying public is gradually reaching what is viewed as a receptive attitude. It was primarily a manufacturers show. The dealer, jobber and manufacturer were given an opportunity to combine efforts in taking steps toward gaining more constructive publicity for radio products and stimulating the educational possibilities in the field. The show opened just as the public interest in radio broadcasting was reawakening. In many instances the state of uncertainty as to broadcasting has been relieved by betterment in quality and diffusion of variety, making possible for the owners of modern receiving sets a choice of a wide range of subjects.

The architectural scheme for equipment of the booths and miniature buildings was new and novel and were placed in superb settings with two-thirds of the floor devoted to aisle space.

The show proved to be a great get-together convention for all the radio enthusiasts. Dealers and jobbers from every section of the mid-west met eastern and western manufacturers, and these meetings with the important functions of the National Radio Chamber of Commerce, with its representatives on

(Continued on page 1352)

KDYL at Salt Lake City

ON August 28, the *Telegram's* new broadcasting station was opened.

It is conveniently situated atop the Newhouse Hotel. Ira Karr, engineer and operator in charge, worked for months getting everything ready, and designed a special transmitter.

With the new transmitter it was possible to broadcast much farther than formerly and messages can now be heard over a great radius as has been proven by the great number of cards and letters received from distant listeners who enjoy the programs.

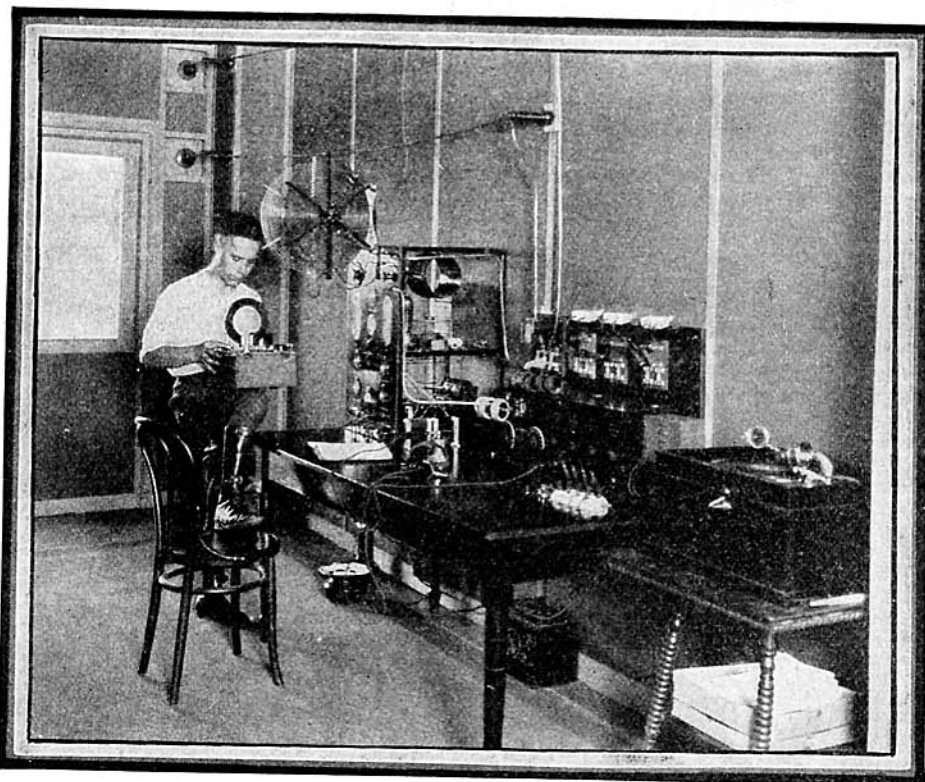
Following is Mr. Karr's technical description of the new KDYL station:

The Radiating System.

The antenna proper consists of 10 conductors of 7-22 copper wire arranged as a cage. The hoops are of copper band and are 18" in diameter. One of these hoops is placed every 15'. The antenna is insulated at either end by four electrose insulators in series. The lead in cage is taken off at the exact center and also consists of a 10-wire cage. This is brought down directly to the electrose bushing which leads to the transmitter in the station. The antenna is supported 45' above the roof of the Newhouse hotel by two steel masts making the total height above ground slightly over 240' and is 150' long.

The counterpoise system is support-

(Continued on page 1348)

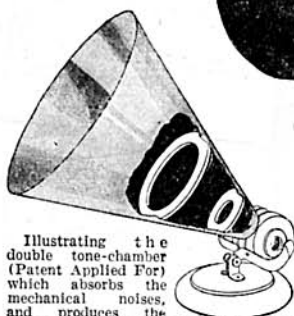


Operating Room of the Telegram's New Broadcasting Station. It Has a Normal Output of 100 Watts. The Receiving Set May Be Seen on the Right.

Qualitone

LOUD SPEAKER WITH THE DOUBLE TONE-CHAMBER

NO. 1. HOLDS
TWO PHONE
RECEIVERS
\$4.50



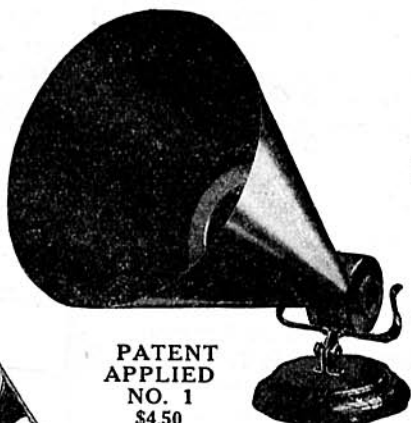
Illustrating the double tone-chamber (Patent Applied For) which absorbs the mechanical noises, and produces the splendid results which have made the Qualitone popular.

PATENT
APPLIED
NO. 1
\$4.50

Made of tough fibre and hard wood, finished throughout in mahogany. The double tone-chamber amplifies and throws the sound forward to the bell of the horn, producing a rich, mellow quality of tone and clear articulation.

Sold by leading jobbers everywhere. If you cannot secure one, order direct. Favor us with your local dealer's name.

NO. 1R HOLDS
ONE PHONE
RECEIVER
\$4.50



THE DUAL TOOL CO.

SUPERIOR AVENUE & E. 124, CLEVELAND, O.

Practical Hints on Mast Construction

(Continued from page 1291)

point on the horizontal length of the mast, whereupon when raised from the ground by the block and fall, the butt end of the mast will just about over-balance the upper portion. In that case, when the mast is heaved off the ground by the block and fall, the lower end of the mast will remain on the ground while the upper end will gradually rise until the mast is in a vertical position when it is lowered into the hole prepared for it and steadied by the guys. It is held upright until firmly tamped in the ground and then the guys are permanently moored to stable anchors at as long distances as possible from the base of the mast.

An illustration shows the much used type of deadman anchor, being a slug of wood about 3' to 6' long, through which a long rod runs to the surface, having a large washer, a couple of lock nuts at the bottom and a swivel or turnbuckle at the top to which the mast guy is attached and screwed up to the proper tension. In the absence of wood slugs a sheet of scrap iron of fair surface may be substituted and will serve just as well.

One of the illustrations shows the construction of a mast with movable topmast, so arranged that it can be lowered until it is of the same height as the lower mast, by means of a block and fall, the fall line for which is normally fastened over a cleat at the bottom of the lower mast within easy reach of the ground. This type is particularly useful if it is desired to repair blocks, guys or insulators inserted in the guys. Bolts or pole steps permit access to the top from the ground by being distributed along the side away from that on which the top mast moves while in motion, guided by the semi-circular iron strap guides fastened at its lower extremity.

Another figure shows the construction of a semi-lattice type which may be fabricated from scrap lumber, mainly two by fours, and two or three by one braces, with a light pole inserted in the bracing at the top for additional height. This type should be well guyed in four directions, with the strain coming from a direction parallel with the flat side of the mast. With a topmast eight guys should be used.

KDYL at Salt Lake City

(Continued from page 1262)

ed 12' above the roof by the same two masts. It is an exact duplicate of the antenna with a cage lead in, also an exact duplicate of the one from the antenna proper. It is insulated from its support in the same fashion.

A ground connection to the steel frame of the building is also used to distribute more evenly the current flow immediately under the counterpoise in the steel frame of the building.

THE TRANSMITTER

The transmitter employs the vacuum tube system of generating high frequency alternating current in the radiating system. It is designed to deliver 50 or 100 watts of undamped

RADIO SERVICE PRODUCTS

The Acknowledged Standard of the Radio Amateur

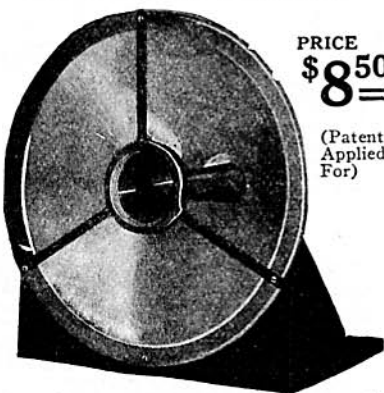
AMPLITRON

(A Real Loud Speaker)

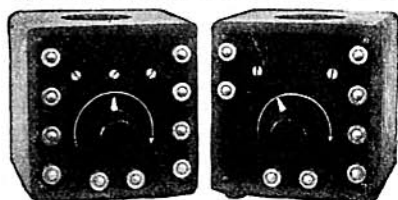
The Amplitron is a product of the Radio Service Laboratory and has been designed and constructed especially for radio work. This instrument fills the need for a moderate priced loud speaker. It reproduces radio phone speech and music without distortion—equally good for code. No exciting batteries or adjustments necessary. Uses a Baldwin Type "C" single phone.

Price as illustrated..... \$8.50

Price WITH BALDWIN PHONE AND CORD.. \$16.50



PRICE
\$8.50
(Patent Applied For)



V. T. DETECTOR \$6.00 AMPLIFIER \$10.00

Midget Type Detector and One-Stage Amplifier, size 4½"x4½"x4½", Formica Panel, Oak Cabinet, interior construction equal to high-priced instruments.



The original
"Little Wonder"
Complete
Receiving Set
including
2000 ohm
headset and
complete aerial
equipment

\$15.00

RADIO SERVICE & MFG. CO.

EST. 1918

Sales Division: 507 5th Ave., N. Y. C.

Factory: LYNBROOK, L. I.

ABOVE THE ORDINARY

RADIO dealers should distinguish between the ordinary distributor of Radio products, and the particular one best suited to supply them.

Cooperation, Service, Delivery and Satisfaction are the things we give you, besides the merchandise.

Our "Superadio" products signify superiority; also finest quality, perfect design and absolute guarantee. The same terms apply to the standard equipment we distribute, that of the Radio Corporation of America, Murdock, Acme, Baldwin, DeForest, Stromberg-Carlson and others.

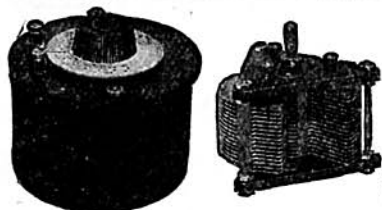
Write for our dealers' price lists and discounts.

The Superior Radio & Telephone Equipment Co.

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Columbus, Ohio



TYPE 247 CONDENSER

DESIGNED NOT MADE

Would you buy diamonds at a corner grocery store? Of course not; you do not expect the grocer to be a diamond expert! Then why buy condensers that are simply made instead of being designed?

For many years the GENERAL RADIO COMPANY has been supplying the research and educational institution laboratories throughout the country with radio apparatus of the highest quality. The Bureau of Standards and other government laboratories are extensive users of our equipment. The experience obtained in this line has enabled us to design instruments for the citizen radio field that represent the latest developments in engineering and mechanical skill. For seven years we have been supplying radio condensers that have been a standard for low losses and excellency in construction. Our latest addition to this line of condensers is the type 247. Send for **Free Radio Bulletin 911-N** and learn why these condensers are so popular.

MODERATELY PRICED AS FOLLOWS:

Type 247A— .001 M. F. Mounted, Shielded	Price, 06.00
Type 247B— .001 M. F. Unmounted, with Counterweight..	Price, 3.75
Type 247E—.0005 M. F. Mounted, Shielded	Price, 5.56
Type 247F—.0005 M. F. Unmounted, with Counterweight..	Price, 3.25

This condenser is but an example. We manufacture a complete line of the finest radio instruments and parts.

GENERAL RADIO COMPANY

Massachusetts Avenue and Windsor Street, CAMBRIDGE, 39, MASSACHUSETTS

Standardize on General Radio Company Equipment Throughout

Do not confuse the products of the GENERAL RADIO CO. with those of the other concerns using the words "General Radio." The General Radio Co. has been manufacturing radio and scientific instruments for many years. It has no affiliations with any other company.

modulated energy to the radiating system at normal rating. The circuit used is the Stanley, or, as it is better known in this country, the reversed feed back. This circuit is probably the best known today for use on comparatively short wave-lengths. The inductances are mounted on the front of the main panel thus assuring rapid and convenient change of wave-length. All meters are mounted on this panel and every vital circuit is metered. The Heising system of continuous current modulation is employed. A cam switch is used to determine whether undamped continuous waves, interrupted continuous waves or voice be transmitted. In this way code may be used when desired. During the first test this transmitter put five thermo couple amperes into the radiating system at a slight overload. Normal antenna current will be in the neighborhood of four amperes. A wave length of 360 meters will be used for music, news and like matter, 485 meters will be used for weather reports.

Power Supply

Power for the installation which involves the filaments of the power tubes, motor-generator, charging of batteries and lighting of the station is furnished by a special three-wire system directly to the generator room. The motor-generator is a two-unit machine with a one horse-power motor directly coupled to a 600-watt 1,500-volt compound wound generator, double commutator type. This machine supplies the high voltage used on the plates of the power tubes. The filaments of these tubes are lighted by a special step-down transformer mounted in the transmitter. Power for lighting the filaments of the receiving set is furnished by storage batteries which are kept charged by a mechanical rectifier from the alternating current line. Generator, rectifier and batteries are kept in a separate room away from the operating room and the studio thus eliminating all disagreeable noises.

The Operating Room

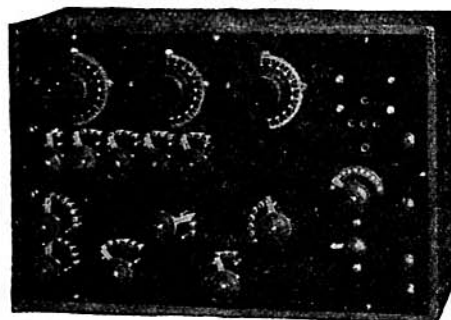
The operating room adjoins the studio and opens to the roof. The room has concrete walls and is made non-reverberatory by hanging heavy cloth on all sides at a distance of 8" from the actual wall.

LISTENING TO THE WORLD'S GRAND OPERA

With TRESKO TUNERS—"If you don't buy a 'Regenerative Tuner' licensed—you will not have a Tuner"

TRESKO SUPER-UNIVERSAL REGENERATIVE TUNER

Cabinet 12 x 17½ inches. Formica or Hard Rubber Panel. Weight, 15 lbs.; shipping 25 lbs. Wave length range, 150-25,000 M. Tuners inside—three, AS, BS, RS. Recommended by users of the Bureau of Market Reports and guaranteed to get all the wireless signals, either CW, spark, or telephone within the range of the sending station. This is the only tuner in the world that has this range of wave lengths and gets the signals on the smallest possible single wire aerial. Arlington time, Annapolis, San Diego signals clearly read through even a violent thunder storm. Nearly all stations in the United States of the Bureau of Markets come in on this tuner in the center of the United States, and no point in the country would prevent the reception of these signals. It is recommended for the Farmer, Bureau of Markets, Schools, Colleges, etc. There is nothing about it to get out of order or need replacing except the high voltage batteries, a replacement of which costs only a few dollars. We ship only by express. We do not ship without testing and calibrating with bulb, and each one is absolutely guaranteed to do just as we claim or we will refund your money. You do not need to know anything about wireless to operate this tuner or to get the signals and telephone reports. Cabinet is highly polished and all parts nickel finish. If you wish extra loud signals you may use one or two step amplifier, as posts are provided on the tuner for this purpose. It is complete with all that is needed except a pair of phones and a few dry cells to light the filament of the Audion. Ready to use when it arrives with full directions so that a child can operate it. Priced at \$125.00, F. O. B. factory. Detector, \$5.00 extra.



DE LUXE TYPE

AMPLIFIER TO SUIT \$35.00

Licensed under Armstrong U. S. Patent No. 1113149

CIRCULAR FREE

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Eventually you will
buy better apparatus

The AMERTRAN

Super-audio frequency
amplifying transformer



Ask your Electrical Dealer,
or, sent carriage charges
collect. (Wt. 1 lb.)

WHEN a man interests himself in any hobby, such as photography, automobiling, or what not, he usually starts in by buying cheap, crude equipment.

Immediately he begins to realize that he wants better equipment, more skilfully designed apparatus.

It is the same with radio. Profit by your own experience in other matters, and decide now that you will not be so handicapped.

The Amertran has the greatest amplification (38.6 in one stage with Radiotrons*) and is without distortion over the whole range of audio frequencies.

* Send for leaflet No. 975.

American Transformer Company, Newark, N. J.

Designers and Builders of Radio Transformers for Over Twenty Years.

The transmitter and the receiver are installed in this room. All controls are mounted on a switchboard behind the operating table and convenient to the operator.

THE STUDIO

The studio adjoins the operating room and also has concrete walls hung with heavy cloth. Absolutely no echo is noticeable in this room even with the aid of sensitive microphones which would detect an echo which the human ear could not hear unaided.

The Chicago Radio Show

(Continued from page 1262)

hand from New York City, brought about harmonious co-operation in every department of the radio industry represented at the show.

One of the features of the show was a broadcasting station. Thousands viewed the "workout" of professional musicians within the small, glass-enclosed station, while an amplifier gave them a close-up program with the unique distinction afforded the listeners of hearing and seeing the musicians at the same time.

On a raised platform in the center of the show demonstrations were given by Francil, Radio expert, showing how a miniature automobile could be driven and directed and how water was pumped in heavy or light volume and how a ball could be dislodged from the top of a brass pole, all with a sending set. Mind-reading by radio was demonstrated by "The Great Mahendra" illustrating the transmission of "occult" power by radio. These innovations enlivened the show considerably for those who had come "to see something new." Then there was dancing, an address by Ralph C. Watrous, president of Armstrong's Licensees' Association and an illustrated lecture on broadcasting by G. H. Clark, Radio Corporation of America.

Nearly 100 exhibitors had acquired booths and one of the most notable was that of the "Atlanta Journal," coming as it did from the Georgia metropolis to boost its own broadcasting station "WSB," whose radius is 1,000 miles.

According to H. P. Davis, vice-president of the Westinghouse Electric and Mfg. Co., broadcasting is here to stay. Mr. Davis expressed his opinion that any attempts to close broadcasting stations would meet with popular protest and improvement in the operation of stations during the last six months shows they will soon be so perfect nobody will want them silenced.

Exhibits were shown from Japan, France, England, Germany and Holland, creating much interest.

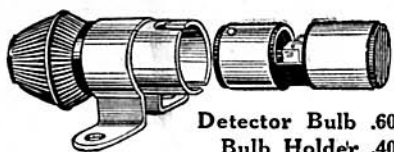
Selectivity

(Continued from page 1278)

can do no more than arrange the system so that absorption by surrounding structures is a minimum.

Inductance coils which are to be used directly in the antenna system should

Big Improvements for Your Set at Small Cost



Detector Bulb .60
Bulb Holder .40

A New Kind of Detector RADIUM JEWEL DETECTOR

IMPROVED crystal detector, yet it requires no battery and no adjusting. Extremely sensitive. Occasional tuning is the only care required.

Steps up the efficiency of your detector set several times. Saves fuss and inconvenience. Worth a great deal more to you but you can buy it from most any dealer complete with holder for \$1.00.

If your dealer can't supply, we will mail direct

**STAR MANUFACTURING CO. 868 BERGEN STREET
NEWARK, N. J.**

AEROPLUG—The Socket Aerial Eliminates Lightning Danger and Reduces Static

MAKES a powerful aerial of your electric lighting circuit, simply by screwing it into the ordinary lamp socket. Uses no current. NO danger. Can't get out of order. A good aerial in any kind of weather.

Used for Crystal Sets Only When \$1.50
Close to Stations



The "All Wave" Coupler

TRADE MARK
WAVE LENGTH—150 to 3000 Meters
FLAT AND BACK WOUND

Eliminates the use of all Variometers, Varicouplers and Loading Coils, inasmuch as it performs in one compact unit the functions of all of these devices combined.

For the Novice—The "All Wave" Coupler enables the greenest novice to attain the same results attained by the expert in building the simplest, most compact and most efficient radio receiving set possible.

Be Prepared for increases in the wave lengths of the broadcasting stations which are necessitated by their increasing number.

Unusual Results Attained—Individual users of the "All Wave" Coupler have written us that in New Jersey they have listened in as far west as the University of Wisconsin and Chicago, whereas in Montreal, Canada, it is nothing unusual to bring in Schenectady, Detroit, Chicago, Pittsburgh, Newark and the Arlington time signals direct.

Beware of Imitations—Of the "All Wave" Coupler. Look for the trademark, "All Wave" on the rotor.

\$9.00 Six efficient Hook-ups sent upon receipt of 10c stamps or Free with each "All Wave" Coupler



Patents Pending

Guaranteed with an Absolute Money-Back Guarantee to Operate as Advertised

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