

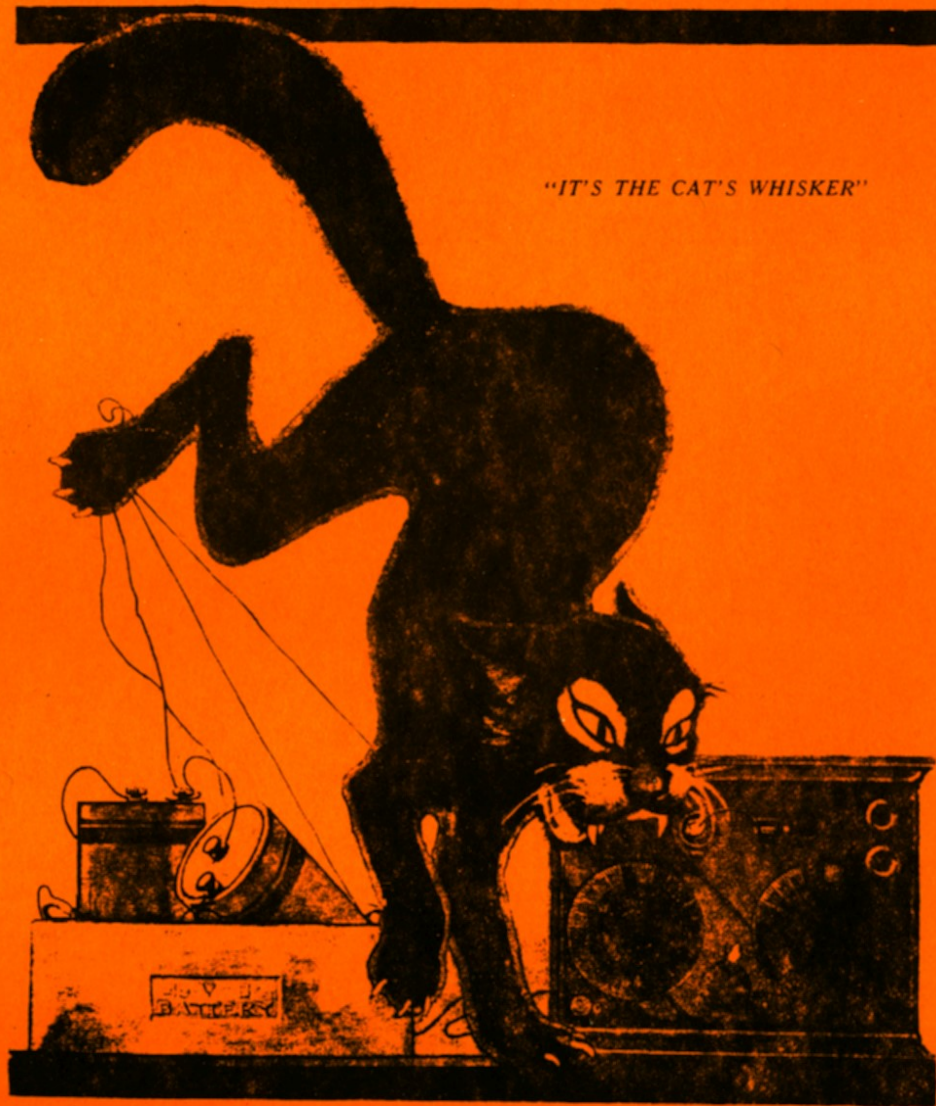
Indiana Historical Radio Society
BULLETIN

Vol. 2

October 1973

No. 3

"IT'S THE CAT'S WHISKER"



**THE
WILLIAM B. DUCK COMPANY
ANYTHING ELECTRICAL**

WIRELESS INSTRUMENTS



15,000 of our catalogs ready for delivery to eager electrical and wireless enthusiasts in all parts of the world. This was one of seven consecutive shipments during the early part of November, 1915.

224-226 SUPERIOR STREET

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- Editor** GARY A. VIERK, 2505 Kickapoo Drive, Lafayette, IN 47905

The Membership Roster included in the August Bulletin is published and mailed annually with this bulletin. If any member wishes to have his name omitted please contact the Treasurer.



Complete Radiogem Out-
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The "RADIOGEM"
Complete Radio
RECEIVING OUTFIT including
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This outfit is absolutely complete. Nothing more to buy—no batteries or tubes needed—no upkeep of any kind. The simplest radio outfit made—you assemble it yourself using only a scissor and screw driver. So simple that anyone can construct it. Complete instruction book with every outfit.

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66-R-W. B'way
N. Y. C.

KOKOMO MEET

What a meet! August 26th was the date for the I.H.R.S. meeting. Many goodies changed hands before noon. Tubes, early a.c. sets, early d.c. sets, and magazines were bought, sold and traded. John Noble, past vice president, was able to attend and trade just like old times. Thanks for coming, John – it was fun.

Many unusual items were displayed by members. The Kokomo general public has expressed appreciation for the efforts of the I.H.R.S. in showing these items.

After lunch and a short business meeting an informal talk was given by Mr. F. W. Young. Mr. Young has been involved in radio for many years and was director of the American Radio Relay League from 1937 - 1941.

The meeting was capped by a tour of the beautiful and historical three story Seiberling-Kingston Mansion (present home of the Howard County Historical Museum). Hosts for the meeting were Don Johnston and Jim Thomas.

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RENEW YOUR MEMBERSHIP!

NEW MUSEUM OPENS IN INDIANAPOLIS

Ed Taylor in Indianapolis is putting the finishing touches on his radio and electrical museum. The architecture for the post building and the stained board and batten was chosen to match his early 1900's home. His museum is small but has many unusual pieces of electrical and radio memorabilia. In addition to his professionally restored radio sets the diversified collection includes a tangent galvanometer circa 1869, various based carbon light bulbs, electro-medical machines (shocking), a complete set of Radio Orphan Annie's decoder pins, scanning disc television, ring and spring microphones, telegraph keys, and even an electric tattoo needle. An authentic 1920's ball aerial on the front gable still gives surprising reception. The antique receivers actually pick up old radio programs which are laboratory broadcast by a wireless oscillator fed by a cassette tape player. Amos and Andy, Inner Sanctum, Fibber McGee, etc. come in loud and clear. Ed's 1500 volume technical library is quite extensive and is used by students to research and authenticate electrical and radio artifacts.



Ed is always on the lookout for old radios and associated material at flea-markets and swap-meets and is a member of the Antique Wireless Association and one of the founders and treasurer of the Indiana Historical Radio Society. He welcomes visitors to see his collection if a prior appointment is made. The address is 245 N. Oakland Ave., Indianapolis, IN 46201. 1-317-638-1641.

news roundup

FRED C. PROHL (Indianapolis, IN) has added a Radiola III, and III-A to his collection along with a homemade crystal set.

JOSEPH SHAGIE (Amherst, OH) missed the "flea-market" season due to hip injury. He has been hospitalized and operated on for a broken hip. Best Wishes—those radios can wait, but not too long.

GARY A. VIERK (Lafayette, IN) picked up a 1926 Remler Amplifier No. 700 in the original box (brand new) at a local auction. Some WD-11's have been added to his collection also.

ROSS SMITH (Elkhart, IN) found several nice items at the AWA Meet in New York, including a radio made by the Colonial Radio Corp. He also added a Magnavox M-4 horn to his collection.

ROBERT G. MIDDLETON (Santa Cruze, CA) picked up an antique spark-gap diathermy machine. It operates on 950 kc with an output of about 1/2 kw. This one was evidently manufactured before broadcasting started, in as much as it is unshielded and practically wiped out the AM broadcast band over a dozen city blocks.

JOHN NOBLE (Metaire, LA) found a Radiola RS and Amp on a recent trip to Indianapolis.

JIM THOMAS (Kokomo, IN) found several beautiful old radios which we hope to describe in a later issue.

ED TAYLOR (Indianapolis, IN) located another AK Board at a local Flea Market.

WE need more interest in this column. Another member might contribute something to your discovery if it is printed here. It could be worthwhile. Please contribute.

INDIANA STATE MUSEUM

If you are in the Indianapolis area be sure to see the IHRS Museum Exhibit. The display is located in the **INDIANA STATE MUSEUM**, 202 North Alabama St. Indianapolis, IN. The Museum is open on weekdays from 9 AM to 5 PM and on Sunday from 2 PM to 5 PM. Admission is free.

RESTORATION COLUMN BEGINS IN NEXT ISSUE

We would like to start a column on restoration hints for the collector. There are many many techniques used by all of us in putting the finishing touches on our radios. Please send this information to the editor and we will start our column.

SPREAD IT ON YOUR AERIAL WIRES

The American Radio Stores, Inc., in the August 22, 1924, edition of the Philadelphia *Evening Bulletin* advertise "HONEYCOMB OIL MOUNTINGS." By experience we have found that such oil requires no mounting; it will mount itself. It is fine stuff to smear on the aerial wires to help the concerts slide down the lead-in into the receiving set.



THE RADIO WOMAN

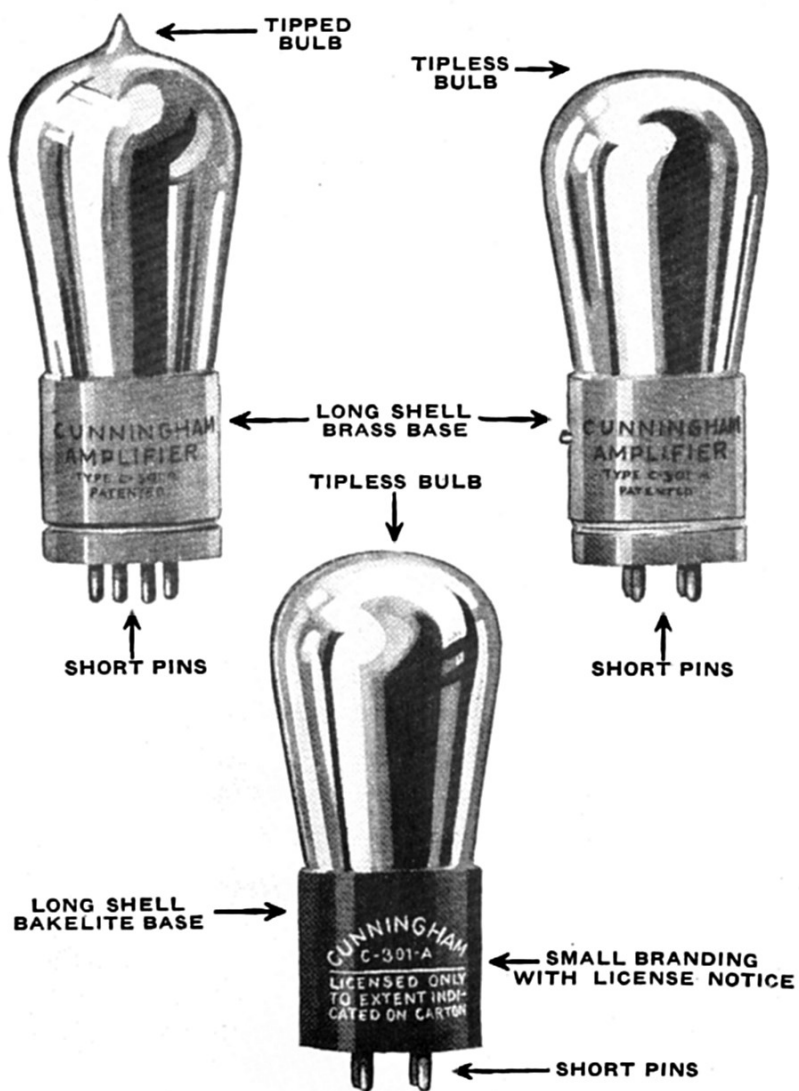
When she talks too long (Interrupter). If she argues incorrectly (Converter). If she is willing to come your way (Meter). If she wants to see your set (Conductor). If she wants to be an angel (Transformer). When she is sulky (Exciter). If she gets too excited (Controller). If she is wrong (Rectifier). If she goes up in the air (Condenser). If she wants chocolates (Feeder). If she sings false (Tuner). If she If she is a poor companion (Discharger). If she gossips too much (Regulator). If she fumes and sputters (Insulator). If she fancies some one else (Reverser). The Wireless Age 1920.

"There is no calamity greater than discontent; no vice more sickening than covetousness."

—Leo Tzu.

Contentment comes with possession of the best. Covet not thy neighbor's Grebe Receiver, acquire one for thyself.

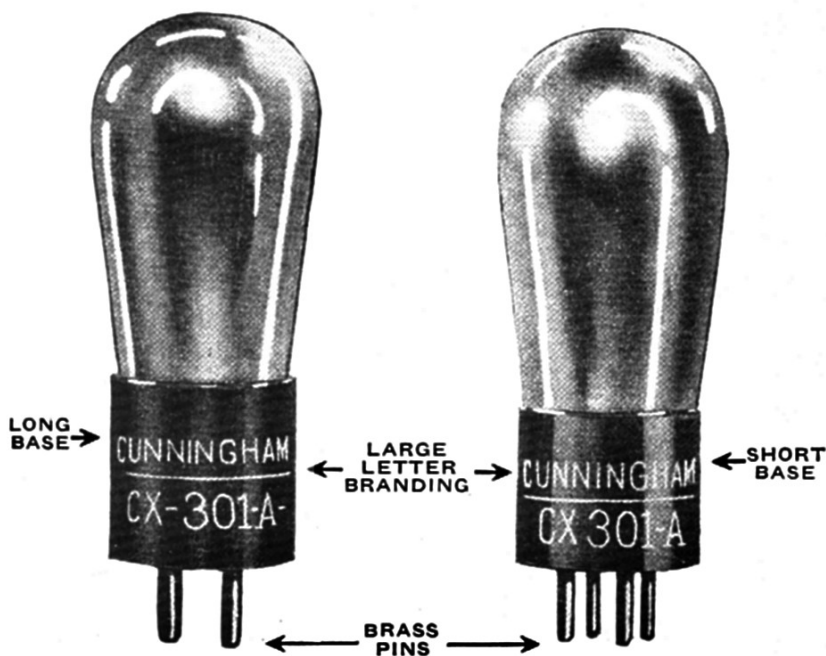




VARIATIONS IN C-301-A DESIGN

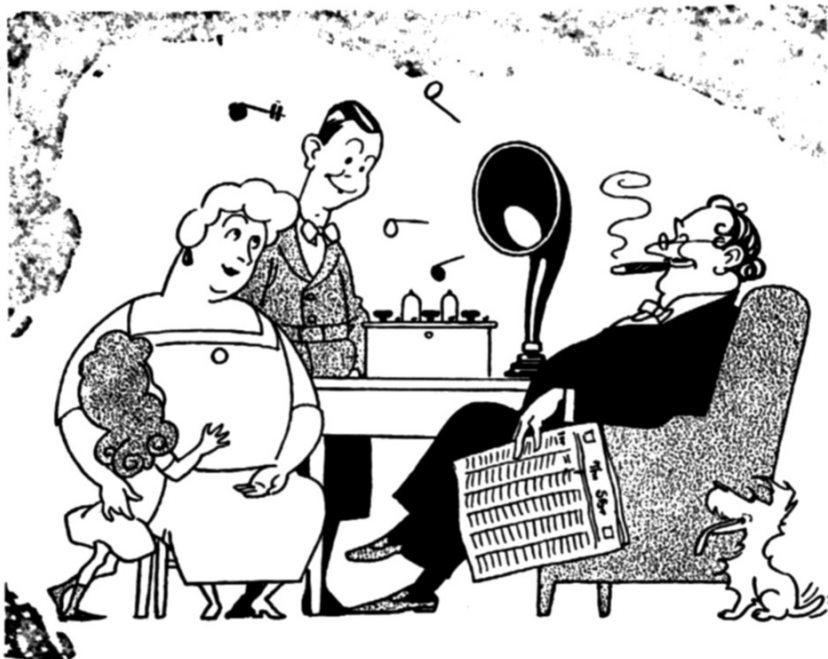
by
Robert G. Middleton

Gertrude Stein might have remarked that an '01-A is an '01-A is an '01-A. Of the C-301-A's, five design variations were obsoleted in 1926, as shown in the accompanying illustration. These were the long-shell brass-base, short-pin type, including both tipped and untipped varieties; the long-shell Bakelite-base, short-pin untipped type, with small branding and license notice; the Bakelite long-base brass-pin untipped type, with large-letter branding; and the Bakelite short-base, brass-pin untipped type, with large-letter branding. Most of the "rainbow" tubes were of the long-shell brass-base, short-pin, tipped design. Most of the "silver" tubes were of the Bakelite-base design.



INDIANAPOLIS RADIO CLUB

ALL IHRS members are invited to attend the OLD TIMER meeting to be held at the Indiana State Museum located at the corner of Ohio and Alabama Streets, Indianapolis, IN. The meeting will be held on November 25th in the afternoon. Museum tours, radio displays and a program will highlight this event.



AK CRACKLE FINISH PAINT

George E. Hausske found a crackle finish brown paint slightly grayer than the AK color but still usefull. It is No. 333 British Brown by Illinois Bronze Powder & Paint Co., Lake Zurich, IL 60047.

If you have a good eye for matching colors, the gray-green and brown A.K. colors for early board set parts and later model front panels can be duplicated easily using small cans of enamel available from your hardware or paint store. Some differences in color and consistency of different brands of paint must be considered, so it will be necessary to "trim" the final mix to match your original color. For a start, use the mixes suggested and try for color on a metal surface. Trim by adding very small portions of the color needed, mix and try for color again. With a bit of time and patience, you will obtain a perfect match!

For A.K. Brown, mix two parts of Chocolate Brown with one part black by volume. For A.K. Gray-green, mix four parts Olive Green with three parts of black and two parts of white. It is a good idea to use the same brand of paint for each color, for compatibility. Thin the mix as required for spraying. Spray a light prime coat, dry and finish with a final coat.

If the original is crackle or wrinkle, the new paint in thin coats will duplicate the original very well. If refinishing from the base metal is required, use a prime coat of wrinkle paint, such as GC-Walsco 146-12 Gray Wrinkle Varnish. This is an air-dry paint, but a little added heat from a heat lamp will give it a finer crackle texture that will look almost identical to the original.

If the finish is too bright or glossy when dry, spray a light coat of dull lacquer, such as Testor's Clear Dullcote stock No. 1260, over the enamel finish. Be sure the enamel is dry and hard because lacquer will lift soft enamel. Testor's Dullcote is available at hobby and variety stores.

Be very careful when masking name plates. If you cannot take them off, protect them with a coat of clear acralic or clear enamel. When dry, mask them with tape that has been used several times to reduce the holding power. You certainly do not want to pull off those beautiful letters and colors when you remove the tape!

A.K. Horn Speakers may be refinished in the same way. However, if the original color has good coverage, repainting will not be necessary. Clean with a strong detergent (Not the driver) and spray with clear acralic or clear enamel. Use the dull lacquer to remove gloss.

Good luck - with a little practice, you will soon be a pro!

Reprint from AWA Bulletin, Vol. II, No. 4, page 27.

FRIENDLY EXCHANGE

WANTED – Stromberg-Carlson headphones, unusual phone plugs, watch case meters, boy's toy electric motors for collection & display. Send details and price. Ed Taylor, 245 N. Oakland Ave., Indianapolis IN 46201.

WANTED – Western Union or railroad telegraph sounder. Have AK 2 Stage Amplifier Type TA for trade. Marshall Howenstein, 807 Elm Dr., West Lafayette IN 47906.

WANTED – RF coil with switch points for AK 10, schematics for "Arbor Phone Model 27" and "Day Fan Type 5049", complete chassis of battery radios of the 20's (audios not necessary). Joseph Shagie, 882 Cleveland Ave., Amherst OH 44001.

FOR TRADE – Remler 8-tube superhet and Motorola 7" portable TV, Model 7vt5, for interesting trades (too big to ship). Geo. E. Hauske, 1922 E. Indiana Street, Wheaton IL 60187.

WANTED – Kennedy Model 281. G. B. Schneider, 6848 Commonwealth Blvd., Parma Heights, OH 44130. This is a new Address for Gary.

FOR SALE OR TRADE – AK Model "M" Horn only. If you have base, I will sell you the horn or buy your base. Open driver OK. Ross Smith, 1133 Strong, Elkhart, IN 46514.

WANTED – Antenna for Deforest model D-10, wooden bell with metal ring for Music Master horn, volume control knob with shaft and wiper for Gilfilan GN-5, case for Aeriola Sr, 14" horn for Magnavox driver R-3, Black knobs for Crosley Gembox, base and driver for Radiola horn. For Sale - AF Meter in wood case by GE (circa 1933) \$15, Radiola 60 (case rough, parts OK) \$15.00 plus shipping. Glen Eckley Jr., 1605 Inverness Rd., Apt. D, Baltimore, MD 21222.

WANTED – Crosley Model 52. Gary A. Vierk, 2505 Kickapoo Drive, Lafayette, IN 47905

WANTED – Crosley Pup. Glen Rogers, 1005 S. 18th St., Lafayette, IN 47905.

ADVERTISING IS FREE TO ALL MEMBERS. SEND ADS TO THE SOCIETY EDITOR. ADVERTISEMENTS FOR THE NEXT ISSUE MUST BE RECEIVED NOT LATER THAN NOVEMBER 25.

If you have an unusual radio please send a black and white photo and a description so we can add it to our bulletin.

FIRST AMERICAN MULTIPLE-SECTION RADIO TUBE

by

Robert G. Middleton

The first American multiple-section radio tube was a triple triode, illustrated in Fig. 1. This tube was manufactured by the Van-Horne/Musselman Co. in the early '20s. It consisted of three 201-A type sections in the same glass bulb. The filaments were connected in series. A four-prong standard base provided terminals for the filaments and for one triode section (grid and plate). An outboard Bakelite flange provided four binding-post terminals for the grids and plates of the other two triode sections. Although this triple triode reduced the size and complexity of early battery-type receivers, it never became popular and manufacture was discontinued as a result. However, it was the for-runner of the Compactron and the numerous multi-section tubes that appeared during the '30s.



Fig. 1 The Van-Horne/Musselman triple was the first U.S. multiple-section radio tube.

Tech Tips From An Old Timers Notebook Condenser Alignment in a TRF Receiver

The sensitivity of the old Tuned Radio Frequency receivers (TRF) can often be improved by alignment of peaking of the tuning condenser.

In receiving sets where the stators and rotors of the tuning condensers are mounted on the same frame there are trimming condensers mounted on the side of each fixed or stator section. They are used to compensate for manufacturing deviations in each section of the condenser. The trimmers are of limited range and are screwdriver adjusted.

To align the tuning condenser a strong broadcast station around 1400 kc can be used. A simplified way to align the condenser trimmers is as follows: Tune the radio to the loudest signal you can receive near 1400 kc. Remove the second tube downstream from the antenna. Remove the antenna wire from the antenna terminal and connect it through a small fixed condenser of about .0001 microfarad capacity to the plate terminal of the second tube socket. The purpose of the fixed condenser is to minimize the effect of the antenna capacity. Now adjust the trimmer condenser for the third stage for the loudest signal. It will be necessary to turn the volume control full on at this point.

Replace the second tube and remove the first tube and connect the antenna condenser to the plate terminal of the first socket. The trimming condenser for the second stage is then adjusted for the loudest signal. Turn down the volume control as needed.

Next the first tube is replaced and the antenna, without the fixed condenser, is connected to the antenna terminal. The first section trimmer condenser is now completed at that frequency. If the set has been well designed and the condenser tracks, the sensitivity of the set will be uniform across the whole tuning range.

Some receivers such as the Majestic with a four gang tuning condenser had the four rotors all mounted on one shaft and were secured with two set screws per section. To align this set the signal is applied in the same manner (by removing a tube and applying the signal to the plate terminal of the socket), but the condenser is aligned by carefully loosening the set screw in each rotor section rotating that section without moving any other rotor to the loudest signal and retightening the set screws. When all the rotor sections have been adjusted this way the set will have maximum sensitivity at this frequency.

There may be a particular station you want to hear. Quite often you can peak the tuning condenser to this frequency at the expense of receiving other stations. Tune in the station the best you can. Now carefully turn the trimming condensers to get the loudest possible signal. You can do the same thing by loosening the set screws on the rotor sections, one at a time, and turning the rotors for the loudest signal. Be very careful not to disturb the spacing between the rotor and stator plates or allow the plates to rub each other. Remember the receiving set may not be quite as sensitive at other parts of the tuning range, but your favorite station may come in much better.

In future "Pages From an Old Timer's Notebook" I will discuss neutralizing a neutrodyne receiver, cleaning up the static caused by a tuner condenser, and peaking an Atwater Kent receiver with three tuning condensers connected with phosphor bronze bands.

by James A. Fred

RADIOTRON UV-199



The Little Tube of Big Performance



ADIOTRON UV-199, the latest of the family, is the smallest tube in the line. Its overall height is $3\frac{1}{2}$ " and diameter is 1". The filament current consumption per tube amounts to only .06 ampere. Three ordinary number 6 dry cells connected in series are all that is required to energize the filament.

UV-199 is not only an exceptional detector and audio-frequency amplifier but has proved to be an excellent radio-frequency amplifier, the capacity between elements being lower than that of any previous Radiotron because the plate and grid leads, and pins, are diagonally opposite instead of adjacent.

In common with all receiving tubes, the proper grid bias should be used for maximum results depending in amount on the plate voltage employed. Used as an amplifier, plate voltages, up to 80 may be employed if the correct grid bias shown elsewhere on this folder is provided.

The filament of UV-199 is the result of eight years work in General Electric Company's research laboratories. It represents a marked improvement over tungsten filaments for it provides a high emission at low filament temperatures, quietness of operation and long life, together with ruggedness and uniformity of operation. It is recommended that the filament be operated at constant voltage but constant current operation does not mean serious loss of filament life.

Because of the low filament current required by this tube, the rheostat (for operation from three dry cells in series) should have a maximum resistance of thirty ohms. If a six volt storage battery is used, at least sixty ohms. In multi-tube sets the sockets for UV-199 should be cushion mounted to minimize the effects of vibration.

Many adjustments can most advantageously be made while the set is in operation and it is strongly advised that protective resistance, consisting of a 10 watt, 110 volt tungsten lamp be placed in one lead of the plate battery, preferably immediately next to one battery terminal in order to prevent burn-outs by accidentally applying the plate voltage to the filament. Cold, the resistance of the protective lamp is very low, but in the case of a short circuit, the filament becomes incandescent and the resistance goes up enormously which is a valuable protective feature.

This Radiotron might aptly be termed "the tube with nine lives" because the filament, when operated at too high a temperature causes the electron emission to fall off and the tube becomes inoperative. Should this occur, the plate battery should be disconnected and the filament lighted for about twenty minutes when the normal electron emission is regained.



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MUSIC MASTER is not just a loud speaker—it is a true speaker, a clear speaker, a pleasing musical instrument.

Radio impulses entering the sensitive precision instrument in the base are translated into sound waves, undistorted and faithful to the original voice or instrument. In the tapered tone chamber of cast aluminum these sound waves grow clear and bell-like and, finally, the full, mature tones pour forth in rich resonance through the MUSIC MASTER amplifying bell of natural wood.

Your dealer knows. Have him send you a MUSIC MASTER to be proved with your own set.

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No adjustments.

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the Home \$30
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