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No. 5



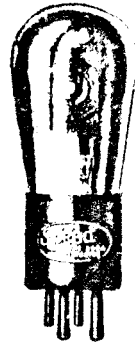
MAY  
1980

# CALL LETTERS

## ALL TYPES A "Speed" Tube for Every Radio Need

*You will never want anything better than*

The Most Perfectly Balanced  
Tubes Produced



# Speed

RADIO  
TUBES

Jobbers—Dealers  
Manufacturers

A "Speed" Franchise is valuable. It enables you to obtain the better business at a greater profit. Write for details.

X 200  
The New Special  
Power Detector

Greater Sensitivity  
Longer Distance  
Finer Tonal Quality

*Uniform Quality*

*Less Replacements*

### CABLE SUPPLY COMPANY, Inc.

Manufacturers—Distributor

Executive Office

Suite 1312-13-14-15, 31 Union Square

New York City

Let's have a festival of tubes at this month's meeting. Bring out those extra boxes of hollow state devices to swap and sell to fellow club members. Bring along your tubes or tube related material to show to the gang. Of course anything that is radio related is fair game for the monthly show and mini-swap.

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## CALL LETTER

The Call Letter is a monthly publication of the Northwest Vintage Radio Society, a non-profit organization, incorporated in the state of Oregon. Meetings of the Society are held on the second Saturday of each month, normally, at the Buena Vista clubhouse located at 16th and Jackson Streets, Oregon City, Oregon. Meetings convene at 10 o'clock A.M.

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Portland, Oregon, 97202

# POWER SUPPLY

by Bobbie Kibler

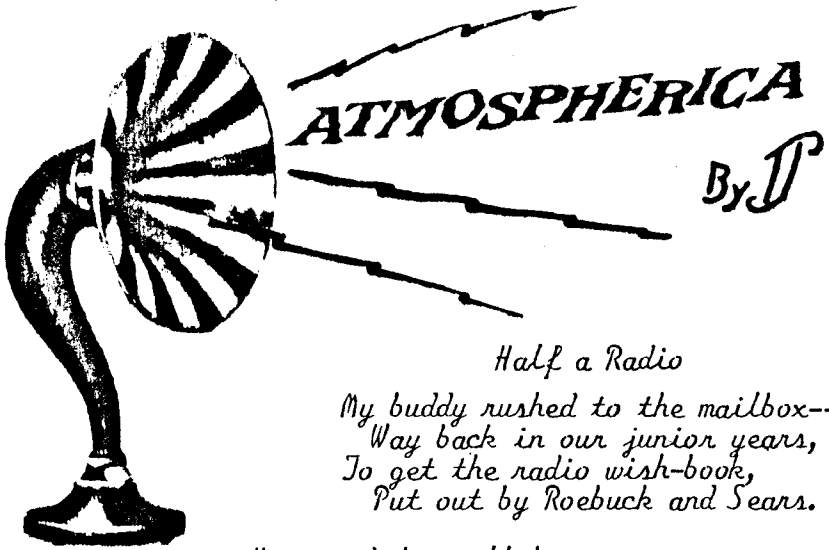
There was a very good turnout for the April swap-meet. However, since most of the buying and trading were completed by noon or shortly after, most people were not interested in having lunch so early. Since the swap-meets are not running into the afternoon hours, the ladies of the Power Supply have decided to discontinue the luncheons.

Rhubarb is appearing in the markets now so here is a recipe offering a pleasant change from the usual rhubarb pie. It's another one from Aunt Sammy's Radio Recipes Revised.

## Rhubarb Tapioca

1 qt rhubarb cut in small pieces	1½ cups sugar ½ tsp. salt
2 cups hot water	
½ cup quick-cooking tapioca	

Put the rhubarb, water and tapioca in the upper part of the double boiler. Cook over steam for 15 minutes, stirring frequently. Add the sugar and salt, and cook about 5 minutes longer, or until the tapioca is clear and the rhubarb is tender. Chill thoroughly before serving with plain or whipped cream.



*Half a Radio*

*My buddy rushed to the mailbox--  
Way back in our junior years,  
To get the radio wish-book,  
Put out by Roebuck and Sears.*

*He rounded up all his pennies,  
(The wages for kids was a laugh)  
And borrowed two dollars from me  
On a promise to cut me in "half".*

*He ordered a Meteor, one tube,  
From many shown in the book;  
It arrived a few days later,  
And was set up there in his nook.*

*Do you think I could get my mitts  
On "our" set to try out my skill  
In bringing in a station?  
His sharing was virtually nil!*

*You see I learned very early,  
Two lessons whose merits are real:  
Be careful in loaning your funds.  
Keep out of a partnership deal!*

*\*\* \*\* \*\* \*\* \*\**

*The Hoovey- Nooey Stone*

*A piece of aa, straight from Maui,  
Was given to Jim in Hawaii.  
He should have left it alone,  
For a hex on the stone  
Made dear old St. Helens go POWEE!*

# OUR PEOPLE

by  
HUGH  
RANKIN

Another swap meet has come and gone .... whether because of the change in dates or, perhaps, other priorities, this one was not as well attended as most in the past. But, I think those who did participate did some business and anyway, everyone seemed to have a good time.

The Power Supply provided an excellent luncheon and our sincere thanks to them, not only for the good food, but for the effort and preparation that goes into putting one of these luncheons together. They wish more had stayed for lunch because this time there were a lot of leftovers.

Mark Moore reports he has been in contact with Channel 2 concerning our appearance on their new show .... nothing definite so far. I don't know the name of the show but Mark says it will be somewhat along the lines of "PM" on Channel 8. So we shall wait and see, maybe sometime this fall is a possible target for our appearance.

Mark says he has approval from the Trolley Car Park to hold our August picnic and monthly meeting there. Reserve this date ... it will be something different and enjoyable.

Craig Hoaglin brought for display a beautifully restored 5 tube Arborphone, a duplicate of the one pictured in the April Call Letter. Craig says this was a basket case when he got it. Vintage Radio shows a picture of a 1925 5 tube Arborphone and identifies it as being made by the Consolidated Radio Corp. The ad in Call Letter shows it being made by Precision Products Co., so apparently Precision was either a division of Consolidated or had taken it over. Anyway, it was made in Ann Arbor, Michigan, hence the name. 5

# OUR PEOPLE

CONTD.

Don Iverson showed three old crystal sets and a 1947 Philco radio-phono combination, I believe this was known as Model 1201. It played a single record just by inserting the record in the compartment at the bottom of the set. Simple and fool proof.

It's amazing the sizes, shapes and forms of some of the old crystal sets ... made from almost every conceivable material, wood, tin, cardboard, Bakelite; wouldn't old time manufacturers have had a field day with modern plastics.

A display worthy of note was that of Tom and Dorothy James .... a latch hook wall hanging made by Dorothy of the RCA symbol and trade mark "His Master's Voice". Beautifully done and most natural looking.

I was looking over a 1922 radio magazine the other day and was taken by the numerous ads for schools that had sprung up offering courses in radio servicing (or "wireless" as some still called it back then). According to some ads, this was the key to the good life with BIG yearly incomes of \$1800, \$2400 and even \$3000 practically guaranteed. How times do change.

Radio lost one of its most popular singers of the 30's and 40's era with the death of Jessica Dragonette on March 18th. She started in radio about 1926 and attained prominence in later years on top shows such as the "Philco Hour", the "Ford Summer Show" and others. She was born in Calcutta, India and never publically revealed her age.

# A 5-Tube Tuned Radio Frequency Receiver Operating from the Light Socket Using Rational A-C Tubes

**F**EW recent inventions in radio have created more intense interest than the development of an efficient radio tube operating from the A-C current supply.

Receivers were designed which operated from power lines, but the necessary equipment for filtering out the hum has been so imposing and the results so unsatisfactory that the only logical direction of research open to the engineer has been the development of an A-C tube. It was important that this tube operate directly from an A-C source without the necessity of inserting any filtering devices to eliminate the hum. In addition, it was necessary that the new tubes have the same characteristics as the other tubes using D-C for heating their filaments, so that either tube could be substituted for the other with only a very few changes in the circuit.

A new type of radio tube, the Rational A-C Tube, is used in the receiver described here-with. It differs from the other A-C tubes in that a greater electron emission is realized, thereby giving greater volume and more power. The life of the tube is far in excess of the minimum 1,500 hours set by factory specifications. The tube is absolutely non-microphonic, thereby eliminating the necessity of cushion sockets. An extremely rugged and sturdy construction is used in the design of the tube. No A-C hum is heard when using a loud speaker.

Each tube draws about one ampere at 3 volts in the heater circuit and five milliamperes in "B" current when operating at its maximum with zero grid bias. The proper bias of course will reduce the "B" circuit considerably. In all other respects the tube has very nearly the same electrical characteristics as a standard 201-A tube or its equivalent. It can therefore be substituted in any circuit where a 201-A tube is used by making a few changes.

We have designed in our laboratory a simple tuned radio receiver using the Rational A-C Tube. A small step-down transformer for reducing the 110 volts to approximately 3 volts is used to heat the cathode. The transformer in this receiver serves the same purpose as the storage battery in the average set. This receiver is identical to any other tuned radio frequency receiver except that the usual filament circuit is discarded and all of the filament binding posts on the sockets are connected together by one common bus wire. This now becomes the cathode lead and is connected to the positive of the "C" battery and the grid return of the detector tube. The ground and negative of the "B" bat-

tery are also connected to this lead.

The grid returns of the radio frequency tubes are connected together and go to the negative 3 volt "C" battery, which establishes the grid bias in the radio frequency circuits. The connections to grids and plates of all tubes are made in the usual manner. Plate voltages up to 150 volts may be used on the amplifying tubes and 22½ to 40 volts on the detector.

A 200,000 ohm variable resistance is in series with the 90 volt lead running to the plate return of each radio frequency tube. This acts as a very efficient volume control and prevents undesirable oscillations and distortion.

The Audio Amplifier is connected in the usual manner. The primary of the first Audio Transformer has a .001 mfd. by-pass condenser shunted across it which effectually bypasses any stray radio frequency currents. A 4½ volt "C" battery bias is used on both audio transformers. If a higher "B" voltage than 90 volts volts is used for the amplifier, it will be necessary to increase the bias in the proportion of 3 volts for every 45.

The unique feature of this circuit lies in the fact that absolutely no antenna or loop is required for operation. The terminal of the antenna coupler, usually connected to the aerial binding-post, is fastened to the center post of the step-down transformer. This post is the center tap of the secondary winding and since there is static coupling between the primary and secondary windings of the transformer, the 110 volt power line is utilized as an antenna. A good ground connection is very necessary for the proper operation of the

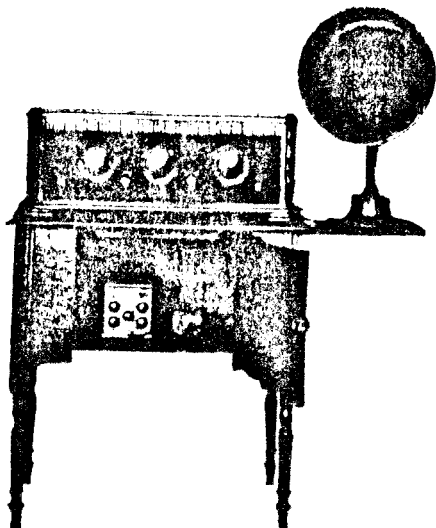


Photo A. Front view of receiver showing suggested accessories

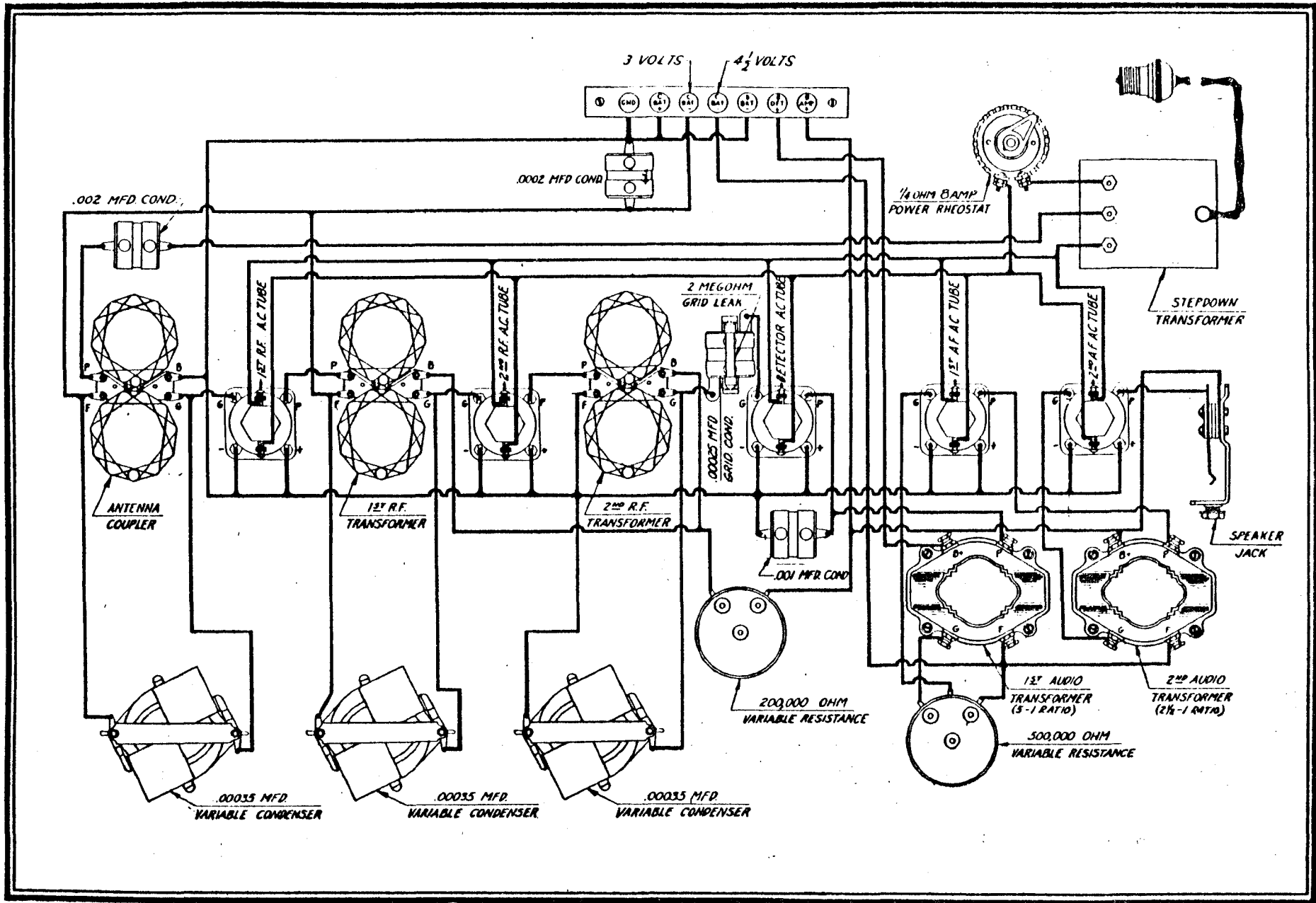
receiver.

The cathode heaters are connected together in parallel with not less than a No. 14 flexible insulated wire. The heater voltage should never exceed 3 volts. It is advisable to connect a voltmeter across the heater line to indicate the voltage applied. A ¼ Ohm, 8 Ampere power rheostat is inserted in one side of the heater circuit and controls the voltage at all times.

A laboratory test of this receiver showed remarkable efficiency in reception. Complete absence of A-C hum, exceptional volume with excellent tone quality and clearness was secured on all stations received. The tuning is quite sharp with no interference encountered from nearby stations.

With the addition of a "B" battery and "C" battery eliminator, the set is made entirely battery-less, consuming electric current equivalent to only a 60 Watt lamp.

This months four page feature article is from the September 1926 issue of Citizens Radio Call Book contributed by Craig Hoaglin.



A Five-Tube Tuned Radio Frequency Receiver Using Rational AC Tubes



**List of Parts**

- 1—7x26x3/16-inch Radion Panel
- 1—8 1/2 x 25 x 1/2-inch Wood Baseboard
- 1—Frost Open Circuit Pan-Tab Jack
- 5—Frost UX Sockets, Type No. 530
- 1—CRL 200,000 Ohm Variable Resistance
- 1—CRL 500,000 Ohm Variable Resistance
- 1—1/4 Ohm 8 Amp. Power Rheostat
- 1—A.C. Step-Down Transformer

50 Ft. Belden No. 12 Wire

1—Blackburn Ground Clamp

Misc.: Wire, Lugs, Screws, Etc.

A complete kit containing all necessary equipment for constructing an aerial may be purchased at most all first class radio stores. They are manufactured by Brach Manufacturing Company, Newark, N. J.

The accessories shown are: The new Webco Little Giant Power unit provides the proper current variations to "B," "C" and detector circuits. The detector allows a variation of from

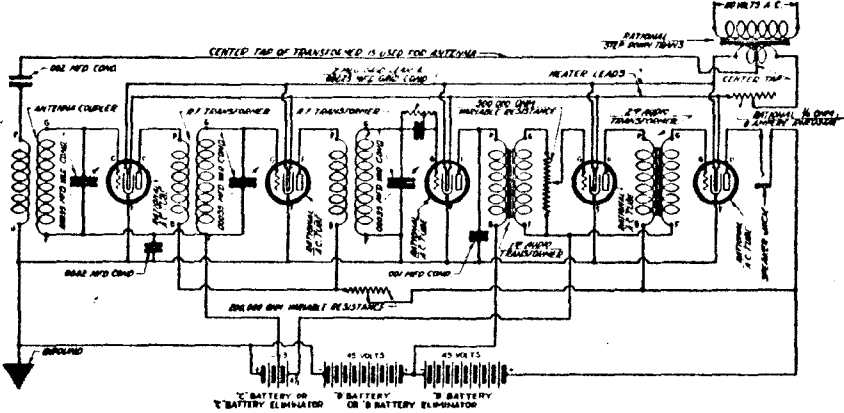


Figure 2. Schematic diagram of receiver using Rational A-C tubes

- 6—Rational A.C. Tubes
- 2—Precise Audio Transformers (1 high and 1 low ratio)
- 2—Gen-Ral Radio Frequency Transformers
- 1—Electrad .00025 Grid Condenser
- 1—Electrad 2 Megohm Grid Leak
- 1—Electrad .0002 mfd. Fixed Condenser
- 1—Electrad .001 mfd. Fixed Condenser
- 3—Signal .00035 mfd. Fixed Condensers
- 7—XL Binding Posts
- 3—Radion 4-inch Dials
- 1—Package Kester Solder

5 to 100 volts and the amplifier variation from 20 to 120 volts. The power tube supply may be adjusted to the exact value needed in any receiver with any power tube up to 125-180 volts. Manufactured by Webster Electric Co., 3510 West Lake Street, Chicago.

The speaker is a new Qualitone model, manufactured by the Duro Metal Products Co., Chicago.

The radio table is by the Watstown Table & Furniture Co., Watstown, Pa.

(If any further information is desired regarding any accessories shown they will be supplied by the manufacturer if you will address them direct.)

**A GOOD, ADJUSTABLE GROUND CLAMP**

So good that every Bell telephone in U. S. is being installed with one. Over **TEN MILLION** in use. Adjustable—fits any size pipe. Requires no pipe cleaning—screw bores through rust and dirt.

If your dealer does not have them we will mail you one upon receipt of 12 cents in stamps.

**BLACKBURN Specialty Co.**  
1908 East 96th Street  
Cleveland, Ohio

**1926-1927 FREE RADIO GUIDE**

**BARAWIK'S NEWEST EDITION**

Shows the latest circuits, the newest developments in radio at startlingly low prices. Get the facts you want here and save money. The best in parts, kits, sets and supplies. Order **FREE** same day received. Send coupon for free copy **NOW**, also please send names of one or more radio fans.

**BARAWIK CO., 445 Monroe St., Chicago, U. S. A.**

BARAWIK CO., 445 Monroe St., Chicago.  
Send me free copy of the new Barawik Radio Catalog and Builder's Guide.

Name .....  
Address .....  
Friend .....  
Address .....

Tell 'Em You Saw It in the Citizens Radio Call Book

# Cunningham

## CX-301-A

READ CAREFULLY

READ CAREFULLY

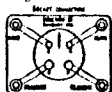
Cunningham CX-301-A is a General Purpose Storage Battery tube for use either as a Detector or Amplifier. It is recommended for Radio Frequency stages and for the first Audio Frequency stage of amplification.

FILAMENT VOLTAGE	- - - - -	5.0 VOLTS
FILAMENT CURRENT	- - - - -	0.25 AMPERES
DETECTOR PLATE VOLTAGE	- - - - -	45 VOLTS
AMPLIFIER PLATE VOLTAGE	- 90 VOLTS for General Amplification	125 VOLTS Maximum
AMPLIFIER GRID VOLTAGE	- -4.5 VOLTS	- 9 VOLTS

The filament in CX-301-A should be operated with as low voltage as possible consistent with satisfactory results. Low filament voltage increases the life of both tubes and batteries. THE FILAMENT VOLTAGE SHOULD NOT BE ALLOWED TO EXCEED THE RATED VALUE OF 5.0 VOLTS.

A plate voltage of 90 volts, used with a negative bias of 4.5 volts, is recommended for the first audio stage. For the Radio Frequency stages the same values may be used, but lower ones often give better results.

For the last audio stage, a Power Amplifier tube is recommended for best loudspeaker results. If, however, Cunningham CX-301-A is used, 135 volts may be applied to the plate and negative 9 volts to the grid, in order to avoid distortion. A VOLTAGE EXCEEDING THE MAXIMUM OF 125 VOLTS SHOULD NOT BE USED ON THE PLATE OF THIS TUBE.

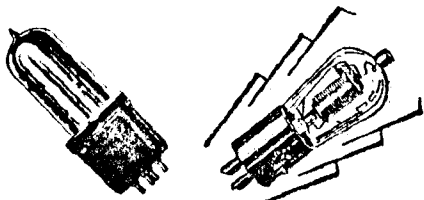


A TECHNICAL BULLETIN on this tube is available upon request.

Handle Tube Carefully

RC-32860 Rev. (1-29)

E. T. CUNNINGHAM, INC.



# SWAP SHOP

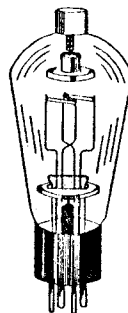
## TUBES

210

15W

Large Plate

\$1.15



866

1000 hr.

Guarantee

New Construction

\$1.35

FOR SALE: AK large #20, without tubes ..... \$95.00  
 AK Model 33, with tubes, needs tuning bands..... \$55.00  
 Dick Howard

WANTED: Early tubes, crystal sets, QST's before 1925.  
 Will trade QST's between 1925 & 1930.  
 Dick Howard  
 9999 S.E. Frenchacres Dr.  
 Portland, Or., Ph: 775-6697

WANTED: Case for AK 20 or 20-A.  
 Joe Tompkins, Ph: 362-8071  
 3796 Hulsey, S. E.  
 Salem, Or. 97302

# LETTERS

by  
Tom JAMES

Dear Tom and members,

Last week I visited with a good friend who collects phonographs and as often a collector of phono gear will run across radios and related gear, (in fact some collect both radios and phono items), I keep a close ear to the things he uncovers. He said "I'm sure glad you came over, Joe, my friend in the antique buisness goes to the N.E. states to haul back antiques for his shop. Last Sat. he showed up with a load and called me over to look at the stuff, and there was five radios in the lot".

I went over to Brooks to see what was there, and sure enough he was right, there was a few radios all right, not in too great a shape, mind you, but salvageable. I bought three catedrals, two ran right away, but the third will need some work on it.

So I wound up with an AK # 84, a Jackson Bell, A nd an Echophone. I was pleased about the AK most of all because I did'nt have one. The moral of the story is : share your interests with those who are collecting some similar things, you both could benefit by co-operating a bit.

Sincerely,

Joey

( Joe Tompkins, Salem )

Bob Campbell called to say that a Tab book (paperback) #1148, titled " How to repair old time radios", by Clayton Hallmark, priced 7.95, 250 pages. This book is available in the Hillsboro library. Sounds like a good item for some of you neophytes in the circuit restoration field. Maybe someone could donate one to our library?

# Olé! by

T.J.

It's inevitable in putting together a bit of news such as this column tries to do without missing some good finds now and then. A case in point is the Crosley C-5 with the brass front that Ed. Buhite got up in Spokane some weeks back from a mere telephone call.

Bob Campbell is proud of his 776 A.K. Auto radio (with the plated chassis) and its associated power supply. He found a book called "Practical Television" by E.J. Larner, with a foreword by Baird. An English volume of 225 pages published circa 1929. You guys who are falling into the inevitable antique J.V. field will like this one, Bob says.

Member John McConnell, who goes in for the more sophisticated communication gear, now has a Collins 390, Govt. issue, acquired last week. He says it is a beautiful piece of gear to operate.

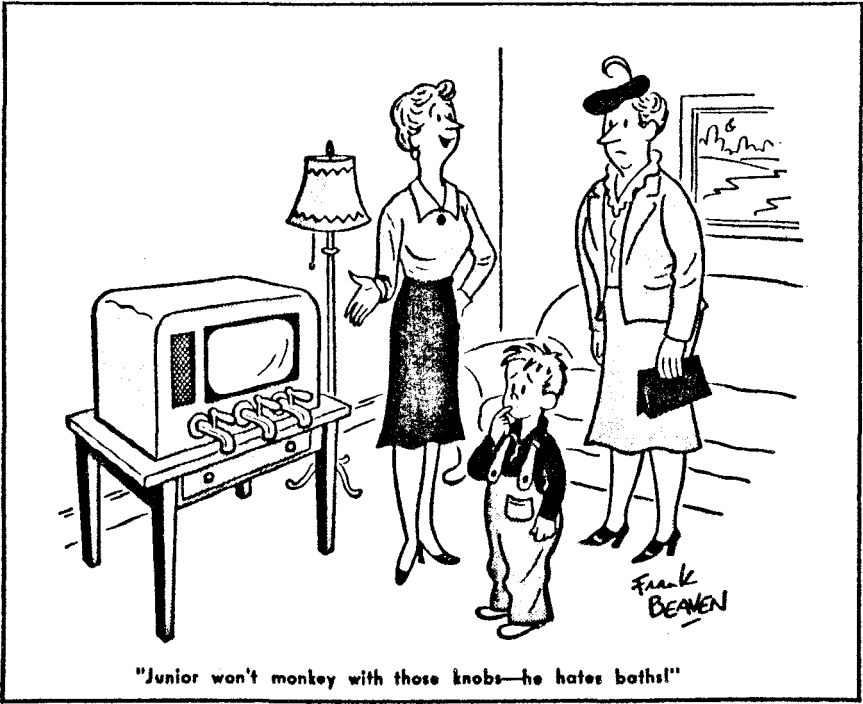
Dick Howard came across a bunch of real neat phonograph records which he says isn't his ball of wax, but I think he is pleased with them.

Harley Perkins reports that he finally got a power supply for his Majestic 180. Power supply is 8P6. This is a 1929 item a little on the scarce side.

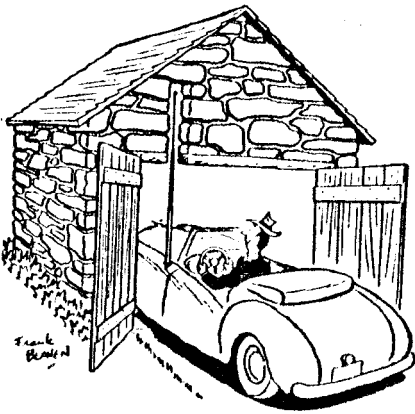
Our faithful Joe Tompkins, the Salem man about the Flea Markets and other sure-fire sources of old radios had only a Jackson Bell "Tombstone" and a portable VOM to brag about this time. But I'll bet a bag of pinto beans that next month Joe will come up with his Golden Leutz or at least a batch of Gloritone Cathedrals with silver plated escutcheons for this column.

Your editor of Olé has a few future possibilities in the mill but as the old adage has it "don't count your sets 'til they hatch". I have a problem in that my field representative has gotten the bug to collect old radios!

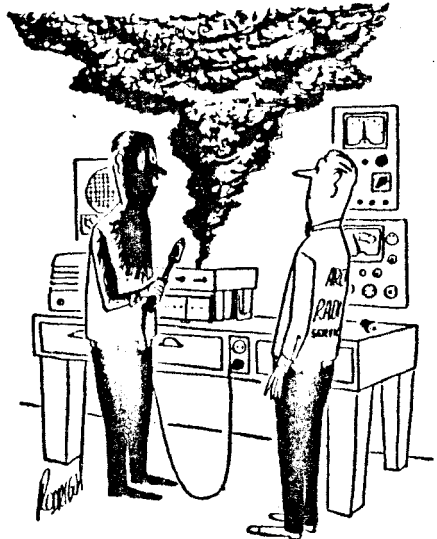
# CARTOON CLIPPINGS



"Junior won't monkey with those knobs—he hates baths!"



RADIO-ELECTRONICS



"I think I just broke Ohm's Law."

# I Q Primer...

by THE PROF.

Here's a little multiple choice quiz for a change in scenery. Just put a check mark in the square preceeding the correct answer.

A. Who was the first to employ radio frequency waves to carry audio information?  Marconi  Frost  
 Edison  Ferrsendar  DeForest

B. Everyone knows the formula for Ohm's Law is  $I = \frac{E}{R}$ , but what does the formula  $I = \frac{E}{Z}$  indicate?  
 Edison's law  Audio law  Ohm's law for AC  
 Radio frequency law  Armstrong's formula

C. On the early Neutrodyne "three dial" sets, what was the function of the third dial?  
 Regeneration  Volume control  Antenna tuning  
 Detector tuning  Neutralizing adj.

D. Why were grid leads on many tubes on the top of the glass or metal envelope?  
 High voltage  Radio Frequency isolation  
 Convenience  Short leads to tuning cond.  
 Whim

E. Who held the patent rights to the Neutrodyne?  
 Armstrong  DeForest  Newt Thompson  
 Hazeltine  F.A.D. Andrea

\*\* \*\* \* \*\* \* \*\* \*

Answers for last months true or false questions :

1. False      2. True      3. False      4. False  
5. True      6. False

# SWAP SHOP

COMPILED  
by BILL  
DEVEY

- WANTED: National 270° .0005 mf tuning cond. with or without associated tuning coil. Tom James  
5024 S.E. Clay, Port. Ore.,  
Ph: 235-0581.
- 
- WANTED: Tuning capacitor and dial assembly for Majestic Model 20.  
Ed Charman, Ph: 654-7387
- 
- FOR SALE: Magic eye tubes, 6U5, 50 cents. Tube types 27 and 211A, 50 cents. Art Redman  
Ph: 774-9913
- 
- WANTED: 4 prong speaker plug for A/K. Jerry Kubik, 613 Rockwood S.E., Salem, or. 97302, Ph: 364-9659
- 
- WANTED: VOM 20,000 ohms/volt. Robert Teague, 7522 S.E. Roots Rd., Milwaukie, Or., 97222
- 
- WANTED: Crystal sets, tubes, or anything unusual in radio gear. Don Iverson, Ph: 286-1144
- 
- TRADE: Howe, Pal, Philmore and other crystals which are duplicates for other crystal sets. Don Iverson, Ph: 286-1144
- 
- WANTED: Case for cathedral Philco 80 or 90. Joe Tompkins, Ph: 362-8071
- 
- NEEDED: Instruction manual for large A.K. Model 20. Andy Bell., Ph: 282-6110