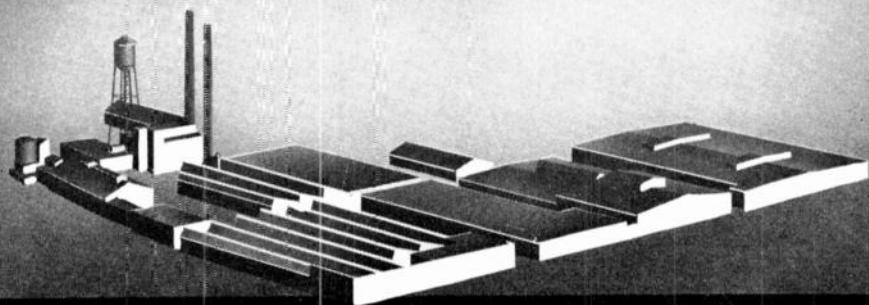


THE ED



CAPACITOR

Vol. 4

MAY, 1940

No. 2

CORNELL-DUBILIER ELECTRIC CORP.
HAMILTON BOULEVARD
SOUTH PLAINFIELD, N. J.

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RADIO SERVICE HINTS

Practical Suggestions on Solution of Radio Servicing Problems Encountered in Actual Experience by Servicemen Everywhere

This section, conducted by our servicemen readers will be a regular feature of the C-D Capacitor and is intended to provide other servicemen with helpful notes on testing, locating troubles in specific models of sets, repairing them, or any other suggestions to simplify service work.

Cornell-Dubilier will pay \$2.00 for each hint published in this section. Notes must be limited to 75 words, or less. Any number of hints may be submitted at one time. Unpublished items will not be returned. Be sure to give your name and mailing address. Send hints to: Editor, C-D Capacitor, Cornell-Dubilier Electric Corp., So. Plainfield, N. J.

AC-DC Sets Using 25L6G'S

Distortion in AC-DC sets employing 25L6G type tubes of early manufacture is often the result of failure of these tubes. While this tube may test good in the average tube checker, it nevertheless may be the cause of distortion in most sets. Replace this tube with a new one of recent make and note the difference. — *Arthur Long, Covington, Ky.*

Shield 6A8G Tubes

In many of the less expensive types of sets using an unshielded 6A8G tube as a converter, oscillation or motorboating is often encountered. Rocking the trimmers to slightly off resonance does not prove a satisfactory remedy. A grounded tube shield, or 6A8 metal tube substituted, will prevent stray oscillations or feed back. — *H. G. Coggeshall, Waterville, N. Y.*

Midwest, Model 17, '39

A red glow on the plate of 6J5G driver tubes is usually caused by a shorted .1 mfd 400 volt coupling condenser. These coupling condensers should be replaced with .02 mfd. 600 volt condensers which will give no further trouble in the circuit from this source. — *Becker Radio Service, Buffalo, N. Y.*

Motor Noise Elimination

Last traces of motor noise in '36 to '40 model Chevrolets sets equipped with overhead aerials may be eliminated by using a regular ammeter condenser and returning the ground of the condenser to a point on the shielded lead-in where it enters the case of the set. This point is very critical and must be found by experiment. This wrinkle should also be effective on other cars if the right combination is found. — *Carl H. Paulson, Galesville, Wis.*

Philco 38, Battery Models

Low volume when coils and tubes check satisfactory in Philco 38 battery models can very often be traced to a faulty bypass condenser in the circuit of the 2nd detector. Check this condenser for leakage and replace with new unit if found to be low 1.R. — *Malcolm Fowler, Lillington, N. C.*

To Charge 2-V. Storage Battery

A very simple method of charging a 2-volt storage battery with a 6-volt charger is to place it in series with two cells of a 6-volt battery and charge as you would a 6-volt battery. This stunt works out nicely where other facilities are not at hand for charging a 2-volt cell. — *Edgar O' Rourke, Bear Lake, Mich.*

Philco Model 38-116, Code 121

When magnetic tuning is found inoperative although set functions normally on all bands, check 6A8G plate supply resistor for open condition. This is a $\frac{1}{2}$ watt, 10,000 ohm unit and should be replaced with a 1 watt resistor of the same value. Open unit removes plate voltage keeping 6X7G from controlling oscillator frequency.—*W. A. Cobb, East Orange, N. J.*

Delco, United Motors, R-1118

A most common cause of failure in this set is a 5-watt, 200 ohm resistor which heats up to a smoking point a minute or so after the set is turned on. Test will show 100 volts at the rectifier output.

A suggested correction of this trouble is to replace the two .006 mfd. condensers at the 6F6 plate prongs with 1200 volt tubular paper units of the same capacity. Also replace screen grid by-pass condenser at the 6K7 with a .1 mfd. 800 volt tubular.—*Pesarchi Electrical Labs., Johnstown, Pa.*

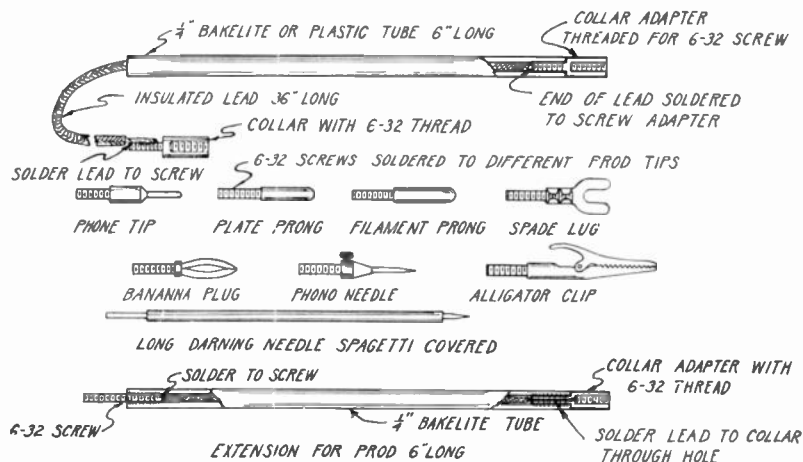
Noisy Volume Controls

In many cases, midget volume controls that become noisy after being in use for some time need not be discarded and replaced with a new unit. The resistance element is usually as good as ever. It is sliding contacts of the rotor that gives most of the trouble.

To remedy this, disassemble the control, clean the brass ring upon which the slider moves and place a drop of oil on it. The control can then be reassembled will be quiet as a new one.—*John T. Frye, Logansport, Ind.*

Home-made Test Prod

The illustration (at bottom of this page) shows how a test prod can be made which will accommodate several different types of tips for practically all kinds of work. The usefulness of this prod will be readily seen by most servicemen. Various means of construction and tips for the prod handle will suggest themselves. All tips can be soldered to ordinary 6-32 screws, and practically all parts can be found in the average serviceman's junk box.—*J. A. Norman, Milford, Utah.*



Intermittent Reception on Auto Radios

In some auto radios the tubes ride upside-down. When set is intermittent in operation and everything else tests O.K., try turning the tube tester upside-down and test tubes for shorts in this position.

This trick has solved this problem for me on several occasions.—*Ridgley A. Tyrrell, Packer, Conn.*

Philco Model 89

If set seems dead or the volume very low, and after first making sure all tubes check O.K., check the high frequency trimmer which is mounted on the tuning condenser gang (trimmer next to the dial drum). In many cases this trimmer will be found to be the cause of the trouble. Simply remove the screw and replace the piece of mica with a new mica separator. It is not necessary to replace the entire trimmer.—*H. H. Taylor, St. Joseph, Mo.*

Restranging Dial Cables

Cut two small blocks of hard wood about 1" x 2". File a V slot 1/8" deep across the 1" side. Hold the dial drive shaft between these blocks of wood with a small metal clamp (procurable at most 10c stores) which will keep the shaft from turning while the dial is being restrung. Be sure, however, that the gang condenser is in proper setting.—*John O. Kopinski, Mt. Carmel, Pa.*

RCA Model 85BT

Poor volume of these sets can usually be traced to the ant. coil condenser. If by touching the ant. lead to the top cap of the 1C6 tube increases volume, then replace condenser C4, which is a 4.7 mmfd. unit on the ant. coil under the set. Replace it with a .002 mica condenser. Also, check condensers C32 and C19 and replace if necessary should realigning the first IF fail to improve volume satisfactorily. — *Jack Darr, Mena, Arkansas.*

Noisy Tuning Condensers

A cure for noise or oscillation caused by wipers on older type variable condensers is to bend the edge of the wiper so that it makes contact with the rotor instead of the broad side. Another method is to connect a piece of flexible wire from the rotor to ground by making a pig-tail of one turn around the end of the shaft.—*Edw. H. Moenning, Ft. Wayne, Ind.*

Howard 1938-39 Models

When the push-button tuning control of sets with 6A7 and 6K8 tubes is found less sensitive than the manual control, this trouble can usually be traced to missing condenser from cathode of 6A7 to ground. Use a .02 mfd. 200 volt condenser to correct condition.

Inoperative phono circuit of these sets can often be traced to shorted terminals riveted on rear of chassis which should be replaced with new and different type terminals.—*W. P. Bivins, High Point, N. C.*

General Electric Sentry Box

In order to work on either the R.F. first detector or oscillator sections it is necessary to remove the wave-band switch shaft before the shield covers can be removed. In removing the shaft it is easy to damage the switching assembly.

Before replacing shield covers, slot them with tin shears to fit over the shaft so they may be easily removed in the future without disturbing the switching assembly.—*Geo. Palm, No. Plainfield, N. J.*

Philco Model 37-9

Low volume and distortion increase when one of the 6F6G tubes is removed can usually be traced to an open .01 mfd. condenser, No. 84, between the grid and the screen grid of output tubes. This can be corrected by replacing this condenser with a 600 volt .01 mfd. condenser. — *Leonard Car, Phila., Pa.*



A Free Market-Place for Buyers, Sellers, and Swappers.

These advertisements are listed FREE of charge to C-D readers so if there is anything you would like to buy or sell; if you wish to obtain a position or if you have a position to offer to C-D readers, just send in your ad.

These columns are open only to those who have a legitimate, WANTED, SELL or SWAP proposition to offer. The Cornell-Dubilier Electric Corp. reserves the right to edit advertisements submitted, and to refuse to run any which may be considered unsuitable. We shall endeavor to restrict the ads to legitimate offers but cannot assume any responsibility for the transactions involved.

Please limit your ad to a maximum of 40 words, including name and address. Advertisements will be run as promptly as space limitations permit.

POSITION WANTED—Young man, 29, International Correspondence School graduate, holder of first class radio-telephone operator license, desires position at a broadcast station anywhere in the U.S.A. John Fill, 804 Shark-weather Ave., Cleveland, Ohio.

FOR SALE—Clough-Brengle model OMA Frequency Modulated Signal Generator (built in sweep motor) A-1 shape, \$35., or will trade for 16 mm. motion picture projector in good condition. Schwartz Elec. & Radio, 1005 S. Meridian St., Indianapolis, Ind.

FOR SALE OR SWAP—Jewell 199 Analyzer, good condition; also back numbers of QST from 1930 to 1938 incl. Want good used Vibroplex automatic key or other amateur parts. Ray H. McKendrick, 45 Center St., West Haven, Conn.

FOR SALE—Model 444 Jewell Tester in first class condition, also model 538 modernized Jewell Tester, tests all tubes including new 8-prong base tubes. Make offer. Edson Elec. Shop, 928 N. State St., Greenfield, Ind.

FOR SALE—General Radio and Leeds-Northrup precision laboratory apparatus. Write for list. O. A. Riddel, 1332 Hood Ave., Chicago, Ill.

FOR SALE OR SWAP—National NC-100XA receiver, Rider's Manuals, Vols. 1, 2, & 3; and typewriter. Want deluxe signal shifter, RME LF-90 frequency inverter, National HRO receiver, etc. W. C. Gross, 717 Maple Ave., Conneaut, Ohio.

FOR SALE OR SWAP—Gernsback 1932 and 1934 Manuals, Supreme 89 Deluxe Tube Tester, V.O.M., and condenser tester with neon tube for leakage test. Supreme Model 85 Tube Tester. Also bicycle shop, 15 bicycles and truckload of parts for sale. E. Falardeau, 65 State St., Williamansett, Mass.

WANTED—Rider's Manuals, Vols. 6, 7 and 8. Prices must be reasonable. John J. Quill, 30 Johnson St., Newburyport, Mass.

FOR SALE—Weston Model 526 tester, includes 3-1 mil. meters. Will sell for \$15.00. Want a Rider Chalyt. Radio Television Shop, 1472 Jerome Ave., New York, N. Y.

FOR SALE—Clough-Brengle oscillograph, like new, in perfect condition. A bargain at \$25.00. Write Schreurs Radio Store, 401 E. 2nd St., Muscatine, Iowa.

WILL TRADE—Have receivers, books, A.T.S. course in Diesel engineering, A.T.S. course in architecture, carpentry, and building. Want test equipment, service manuals. D. J. Foard, 1419 Reed St., Kalamazoo, Mich.

WANTED—Car radio panel plates of following types: Crowe, Stewart, Star, Motorola, Universal. State quantity and price. Ideal Radio & Television Service, 1827 Seneca St., Buffalo, N. Y.

FOR SALE—Rider's No. 5 volume, Rider's Resistance Measurement, and RCA Service Notes 1934 all absolutely brand new—\$4.00. Write Lawrence Ciervo, 235 Hull St., Brooklyn, N. Y.

THE RADIO TRADING POST

(Continued)

WILL TRADE—Set of 24 volumes. Alexander Hamilton Modern Business Course, cost \$210.00. Want good camera or radio equipment. Nat Lipert, 1765 Townsend Ave., New York City.

FOR SALE—Rider's Manual No. 3, Gernsback Manuals Nos. 1 & 2, Supreme 580 oscillator, De Luxe Tester 590, Weston meters, books, tube checkers, analyzers, condenser analyzers, etc. Super Radio Service, 138 Vine St., Plymouth, Pa.

WANTED—Used National HRO Receiver complete. South Shore Radio Sales & Service, 404 No. Wells St., Room 340, Chicago, Ill.

FOR SALE OR TRADE—Weston 682 tube checker with set of octal adapters, and silent 35 mm. motion picture films (1000' reels). Want signal generator, manuals, amateur receiver. Al. Conatario, 100 Maston St., Lawrence, Mass.

FOR SALE—Two new Utah 14" dynamic speakers, 3,000 ohm fields, universal out-put transformers. Black stands, chrome heads. Mfr's rating 25 watts. Bargain at \$13.50 each, both \$25.00. Ideal Radio, 1713 Larrabee St., Chicago, Ill.

FOR SALE—Triplett model 1200 meter in good condition with home-made free point tester, tests everything incl. octal tubes, in a two-unit carrying case. Make reasonable offer. Kenneth E. Gould, 110 E. 3rd St., Prophetstown, Ill.

FOR SALE OR TRADE—Slightly used Carter Genemotor with output filter, 6.3 volt D.C. input—180 volt output, 30 Ma. Also 6 vols. A.T.S. Modern Shop Practice. What have you to offer? Hryniewicki Radio Service, Thorp, Wis.

FOR SALE OR SWAP—Hallicrafter receiver, Triplett 1502 tube tester, auto radios, De Forest Radio Course, output transformers, coils, meters and other parts. Want Scott 23 or 30 tube set. O. F. Klein, Radio Service, 2235 N. 39 St., Milwaukee, Wis.

FOR SALE—Supreme 2" oscilloscope No. 535, like new; Dumont 5" oscilloscope; Hickock Modulation Mod. DA2; Meissner Analyst complete; also technical books on radio. Any reasonable offer considered. Popma Radio Service, Orange City, Iowa.

WANTED—Radio transmitter (used) equipment suitable for small radio station. State particulars, including price. Karl H. Stello, 1601 Bway, Kansas City, Mo.

POSITION WANTED—Young man, 22, graduate Dodge Tel. & Radio Inst., holds 3rd class telegraph license, endorsed for first class telephone privileges. Wants position in radio station or service shop. Leo H. Thompson, Gouverneur, N. Y., R.F.D. 1.

FOR SALE—Universal "Visisig" V-5 high speed tape recorder and 75 rolls of tape. Also typewriter tape guide and high speed puller, model P-1. RME 69 receiver. Radio Station KAND, Corsicana, Texas.

WANTED—Would like to swap ideas and information with experimenters on electric organ of capacity and tooth magnetic type equipment. Write Ed. Sujak, 5321 W. 30th Place, Cicero, Ill.

WILL SWAP—Complete course in Factory Management by Lincoln Ext. University, like new. Will trade for radio course, test equipment, amplifier, or Sky rider receiver. What have you? Floyd Stahl, Box 86, Phoneton, Ohio.

POSITION WANTED—Age 22, good knowledge of radio theory. Am attending RCA Institute. Want experience in any phase of radio practice. Ambitious and good worker, have driver's license. Locate anywhere in N. J. or N. Y. Paul Barotta, 69 Wright Ave., Jersey City, N. J.

SWAP—RCA 849 tube A1 shape, Triplett 1230 all-wave oscillator, W. E. 203-A, Weston 674 counter-type tube tester, Precision volt ohm meter—for Supreme 585 in good shape or P.A. equipment. Shines Radio Shack, 69 W. 23 St., Chattanooga, Tenn.

WANTED—Rider Manuals from volumes 5 to 10. State lowest price for cash or what you want in trade. Must be in good condition. Arthur Cooney, 215 N. Valencia St., Alhambra, Calif.

FOR SALE OR TRADE—Volume I and II Rider's Auto Manuals, good condition. What will you offer? Jack Darr, Ozark Radio, Mena, Arkansas.

FOR SALE OR TRADE—H & R ultra sportsman .27 cal. target revolver with Lawrence holster, practically brand new \$21.00. Want coils for National FBXA. Malcolm D. Burdick Sales & Service, Hampton, Conn.

WANTED—Gernsback Manual for Radio Servicing—No. 7. Rider's Manual—Vol. No. 8. Oscar Peterson Radio Shop, Higgins, Texas.

THE RADIO TRADING POST

(Continued)

WILL TRADE—All Rider's Manuals, new and used test equipment, meters, Ghirardi books, etc., for old watches and jewelry (not antiques). Communicate or send registered mail for examination. R. G. Browning 102 So. 5th St., Darby, Pa.

SELL OR TRADE—P.A. pre-amplifier, mixes 6 high in.p. inputs, 50 watt Webster amplifier, Hacon 6' stormproof trumpets and units fan-belt generator 110 V. A.C.; 300 watt Amperite velocity mike; several pick-ups. Want Rider's or equipment. Platten Radio Co., 407 Douseman, Green Bay, Wis.

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FOR SALE—Amplifiers, speakers, microphones, stands, and trumpets. Make offer. Jack Levine, 625 Main St., Worcester, Mass.

FOR SALE—Used radio equipment for servicing amateur and public address. Write for complete list. Craig's Radio Shop, Norcatur, Kansas.

FOR SALE OR TRADE—Ghirardi's Radio Physics Course and Modern Radio servicing; Stromberg-Carlson Service Notes; Set of Hammarlund short wave coils; Weston 0 to 1 meter, model 301. John Holloway, P.O. Box 133, Haddonfield, N. J.

WANTED—National 110 receiver. Exchange for good BC receiver. Also want large cathode ray oscilloscope. J. E. Smith, 106 Cherry St., Montezuma, Ga.

WANTED—Rider's or Gernsback's Service Manuals, oscillator or capacity analyzer. E. F. Asbill, Hammon, Okla.

Wanted—Rider's Manuals, volumes 1, 5, 6, 7, 8 and 9. Kindly state your lowest price when writing. Will pay cash. Modern Radio Shop, 181 Broadway, Providence, R. I.

FOR SALE—Supreme 590 tester, \$29.00; Triplett V.O.M. and I.F., broadcast oscillator, \$17.95; Gernsback manuals, \$1.50 and \$2.50; meters, test equipment, books, magazines, etc. Write for list. Super Radio Service, 138 Vine St., Plymouth, Pa.

POSITION WANTED—Experienced radio serviceman, graduate of National Radio Institute, age 25, desires situation in any branch of radio servicing field. Buford Jarvis, Damascus, Ark.



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- (1) Learn to get along with people;
- (2) Learn to be more patient than anyone you know;
- (3) Learn to respect the ideas and opinions of others;
- (4) Learn to think problems through to the end;
- (5) Learn to put yourself in the other fellow's place;
- (6) Be democratic;
- (7) Be loyal;
- (8) Cultivate cheerfulness;
- (9) Work.

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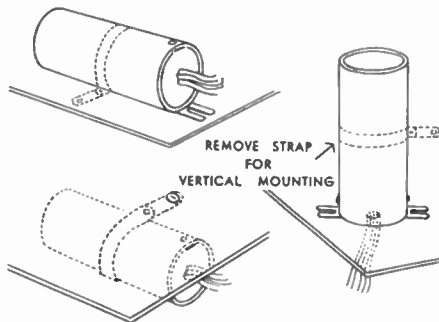
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