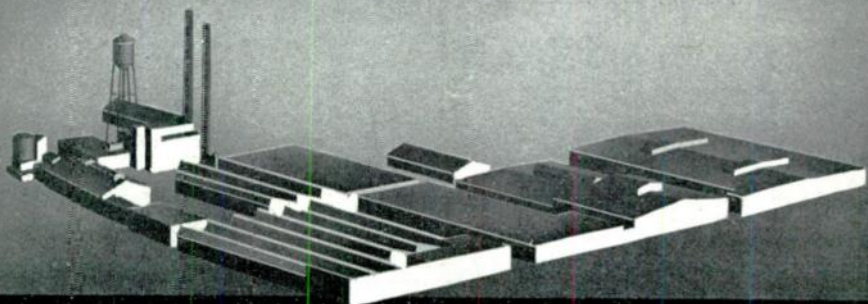


THE

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CAPACITOR

Vol. 4

JUNE, 1940

No. 3

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

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# RADIO SERVICE HINTS

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## 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 Unpublished items will not be returned.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.

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### **A Capacitor Test Unit**

Here is a very simple method to test for defective electrolytic capacitors of 8 mfd. and less. Merely connect a pair of test prods to a good 8 mfd. 450 volt electrolytic capacitor and apply prods across the connections of the capacitor believed to be defective. If a.c. hum or feedback howl is eliminated (depending on the circuit in which the capacitor is connected), then the unit requires replacement. It must be remembered however, polarity of the capacitor prods must be observed.—*W. W. Smith, Framingham, Mass.*

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### **Refinishing Radio Cabinets**

To do a real good job of servicing after all repairs have been made on a set, the writer has found that a little effort to clean up the outside of the cabinet so as to remove all finger marks, scratches, etc., will more than repay the serviceman for the effort involved.

The way to do this is first to remove all dust from the speaker grille with a dry paint brush. Second, rub down the entire cabinet with burnt umber and let dry for an hour or more. Third, then rub down with furniture polish, thus removing surplus traces of the burnt umber. The results will be surprising.—*Norman E. Nelson, Mayville, N. Dak.*

### **Airline Model 62-274**

While this may be a very unusual case which can happen in various other makes of sets of its type it will nevertheless prove helpful in locating a source of trouble not easily found.

After checking all tubes, resistors, capacitors, coils and circuits of the set it was finally discovered that the resistance of the voice coil of the speaker measured 50 ohms while the secondary of the output transformer was 3 ohms. This was caused by a high resistance connection on the speaker terminals which when resoldered was O.K.—*D. E. Greathouse, Larned, Kansas.*

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### **Locating Var. Condenser Shorts**

In order to determine where the rotary plates touch stator plates of shorted variable condensers the following method will be found quite simple and effective.

Remove coil connections to the condenser and connect a 45 to 135 volt B battery across the shorted condenser gang. Turn the rotary plates slowly until a blue-white spark occurs where the plates are shorted. The plates can then be bent very carefully to clear the short.—*James Wilson, Jr., Florence, Ala.*



## Needle Scratch Filter

One of the most effective means of reducing phono needle scratch is to connect a 100 ohm resistor in series with a .02 mfd. tubular bypass condenser across the terminals of the pickup. Many servicemen will find that while this form of filter has a tendency to reduce response of higher frequencies, it nevertheless pleases customers who object to needle scratch noise.—*K. Kelley, Fort Dodge, Iowa.*

## Grunow Model 12B

Low volume or no reception at all in this and similar models of the same manufacturer seems quite frequently to be caused by a shorted screen-grid bypass capacitor.

While any number of servicemen will say that this trouble should at once be evident, it is however a point which many servicemen spend considerable time in finding in this particular type set.

Replace the shorted bypass capacitor with a .1 mfd. 600 volt paper tubular capacitor.—*Ralph B. Olson, Rockford, Ill.*

## Altering Volume Control Resistance

When the proper value of volume control is not at hand a potentiometer of practically any value may be employed effectively by connecting a fixed resistor between the arm and one end of the pot. as shown here.



The value of the resistance is determined by the resistance of the pot. plus the resistance of the fixed resistor.—*Alan T. Brennan, Rockaway Beach, N. Y.*

## Trouble-Finder Hammer

To locate intermittents due to bad tubes, loose contacts, etc. most servicemen simply use the end of a pencil to tap the tubes and parts believed to be causing trouble. The writer however uses a small hammer for this purpose as shown herewith which gives better action and can be carried in the vest pocket.



TRouble-FINDER HAMMER.

It is made of a  $\frac{1}{8}$ " fibre rod threaded at one end to fit on a  $\frac{3}{8}$ " diameter  $1\frac{1}{4}$ " long metal spacer or piece of rod. Two slipover type erasers are fitted over the head as shown so it can be used on tubes while in the tube checker or chassis.—*E. Moenning, Fort Wayne, Ind.*

## Checking Loop Antenna Sets

In many of the latest sets, especially midget models, employing a loop antenna, the secondary coil loop is used as the first r.f. coil and obviously carries the C-bias of the tube in that stage.

When taking these sets out of the cabinet for repair do not disconnect the loop when checking as the r.f. tube will not be properly C-biased, thus tests will be misleading.—*Harold R. Kuntz, Brooklyn, N. Y.*

## Philco Model 40

On this model as well as similar type sets do not attempt to peak the loop trimmer condenser after the push buttons have been set. This condenser is in parallel with the push button antenna trimmers and will throw them all out of alignment.—*Bernard Seamon, Wiscasset, Maine.*

(Continued on page 9)



## 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.

**FOR SALE**—Million Model XM vacuum tube voltmeter, \$15, Univex C-8 camera, f 2.7 lens, \$15, Jewell 409, \$8.00, 20-watt amplifier with tubes, \$15. N. L. Hardinger, Tinley Park, Illinois.

**WANTED**—Will buy copy of Rider's Volume No. 3. Please state lowest price and condition of book. Alline Electric Co., 228 East 2nd St., Ottumwa, Iowa.

**FOR SALE OR TRADE**—New factory-built amplifier, 15 watts, all Thordarson transformers, bass boost circuit for phono input, complete with tubes and two 12-inch Jensen electro-dynamic speakers. Want small phone X-mitter, or what have you? John Isaacs, 2122 Carson St., Torrance, Calif.

**POSITION WANTED**—Radio serviceman, graduate of national trade school, eager for opportunity to prove ability. Want's situation where there is a genuine opportunity, can furnish best of references. Bernard Rozzen, 666 S. Indiana St., Los Angeles, Calif.

**FOR SALE** — Readrite Ranger 640 free point tester, new \$5.00. Readrite 540 signal generator, in A1 condition \$10.00. Lee C. Sprague, Star City, Ark.

**FOR SALE**—Capacity relays, can be used for "sure-stop" window displays, burglar alarms and many other uses. Complete with tubes. Photo, price and particulars on request. Al Brennan, 432 B. 142 St., Rockaway Beach, N. Y.

**FOR SALE**—Complete 40 meter amateur station—70 watts. Sky Challenger receiver. Nothing else to get. Very reasonable price. Details for stamp. Walter J. Zalner, 6 Julian St., Binghamton, N. Y.

**WANTED**—Rider's service manuals issued from 1935 to 1940. State condition and prices. S. Green, 199 Thorp Ave., Brooklyn, N. Y.

**FOR SALE**—Briggs-Stratton  $\frac{1}{8}$  H.P. gas-line engine, excellent condition, \$12.50 F.O.B. Lima, Ohio. Want communications receiver, fac-simile kit or parts. Give details or offer to swap. Paul W. Ridenam, 810 E. North Street, Lima, Ohio.

**FOR SALE**—Superior Genemeter all-wave oscillator and condenser checker. Variable A.F. Like new. All for \$10.00. Tony Miano, 5320 Southwest Ave., St. Louis, Mo.

**SITUATION WANTED**—Serviceman, completed N.R.I. super course, R.M.S. member. Experienced in repair field over 10 years. Can repair all makes of radios and home appliances. Skilled mechanics, sincere, active, progressive. Pesarchic, Box 462-A, Fairfield Ave., Johnstown, Pa.

**WANTED**—Will buy used volumes of Rider's manuals, Nos. 6, 7, 9, and 10. Also Philco VT.V.M. R. L. Thomas, Box 583, Homer, La.

**FOR SALE OR SWAP**—Comple'e N.R.I. course in radio and television (2 yrs. old) \$25.00, or swap for portable sprayer in good condition. Armand Arsenault, 29 Shye St., New Bedford, Mass.

**WANTED**—Back numbers of Radio-Craft, before June 1931, and Radio News, before April 1922. State what issues you have and price. John C. Barnhart, 243 Spruce St., Sunbury, Pa.

(Continued on page 10)

# RENEWAL BATTERIES FOR PORTABLE RADIOS

Practically all battery operated sets employ one "A" battery and two "B" batteries, or one combination "A" and "B" unit, except those indicated with an asterisk.

Choice of various standard makes of batteries are given in the tabulation below with manufacturers' type numbers listed directly under the code reference numbers indicated for different set models listed on pages 6, 7 and 8.

This 4-page section has been so arranged that it may be removed from this issue and inserted in your copy of "The C-D Capacitor Manual for Radio Servicing."

## "A" BATTERY RENEWALS

Manufacturer	A1	A2	A3	A4	A5	A6	A7	A8	A9
Advance		247		147	647	747	817	547	
Burgess	4FL	4F	6F	8F	G3	F4P1	2F4		F4PIX
Bond		4826	4824	4829	4928		4827		
Bright Star	465	462	660	860	361	868	866	865	866
Eveready		742	743	741	746	747	718	745	
General (Willard)	3L1	4F1	6F1	8F1	3H3	4F4	8F4		
National Union		A830	A831	A832					
Philco		P94	P96						
Ray-o-Vac	P94L	P94A	P96A	P98A	P83A	694A	698A		
Usalite		634	637	635	683	639	638		
Winchester		4816	4814	4819	4918		4817		

## "B" BATTERY RENEWALS

Manufacturer	B1	B2	B3	B4	B5	B6
Advance	267		284		284	284
Burgess	B30P1	A30	A30M	A60	A30X	Z30
Bond	B30					
Bright Star	3017					
Eveready	30-03	30-55	30-33			30-50
General (Willard)	482	728	482		482	482
National Union	762			V30AA		V30AA
Philco	V30B	V30A				
Ray-o-Vac	B860					620
Usalite	P305	P430				P7R30
Winchester	P5303	622				620
	624					
	6218					

## "A"- "B" BATTERY RENEWALS

Manufacturer	AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8
Advance	411		659					
Burgess	5DA60	6TA60	17G	F4B	6FA	4FA60	8TA	
Eveready			D60	60	60		42	
General (Willard)	60A2L	60A2L	748		P60A4L		P41A	
National Union			60DL				4FL	
Philco			2L					
Ray-o-Vac			N801		P60A		P41A	
Usalite					40L		4FL	
Zenith	665		AB					
			82					
				Z659				
						Z9B		Z675

# Renewal Batteries for Portable Radios

(See Page 5 for Code No. References)

Manufacturer and Model No.	"A" Battery Code No.	"B" or "A"-"B" Battery Code No.	Manufacturer and Model No.	"A" Battery Code No.	"B" or "A"-"B" Battery Code No.
<b>ADMIRAL</b>			<b>DELCO</b>		
311-4D	A3	B1	R 1400	A4	B1
164-4D	A3	B1	R1401-R1402	A1	B2
331-4F	A2	B2	<b>DETROLA</b>		
319-4Z	A1	B1	282	A2	B4
335-4Z	A2	B1	289-295	A2	B2
<b>AIR CASTLE</b>			286-288-299	A4	B1
560-1	A4	B1	303		AB7
<b>AIRKING</b>			339-340-341	A5	B5
3905-3912		AB1	<b>DeWALD</b>		
3906-3910	A4	B1	408	A2	B1
3916	A3	B1	408R-409	A4	B1
<b>ANDREA</b>			544-544LW	A7	B1
21F5-21AF5	A4	B1	415 cub		AB1
<b>ARVIN</b>			415R-415RA	A3	B3
802-803	A8	B3	545-545SW	A6	B3
<b>AUTOCRAT</b>			<b>EMERSON</b>		
90	A2	B1	CE259	A2	B1
98	A2	B2	CE263-CT275-CX305	A4	B1
<b>AUTOMATIC</b>			DC308-CX263	A4	B1
P43-45	A2	B1	CX283-CX284-CX306	A4	B1
P57-P58-P61	A2	B1	DF306-DF302	A5*	B1
<b>BELMONT</b>			DJ310-DJ311-DJ312	A5*	B1
403-460	A4	B1	CX285		AB3
407	A1	B2	<b>ESPEY</b>		
507-513	A6	B3	942-942A-942C		AB2
<b>CARRYETTE</b>			942F-942P		AB2
WR675	A4	B1	943-958		AB1
<b>CARRYOLA</b>			040-050	A7	B1
BP4-BP5-BP5A	A2	B1	<b>FADA</b>		
<b>CLARK</b>			P40-PD40-PL40	A4	B1
457	A2	B1	P47-PD47-PL58	A4	B1
948-949	A4	B1	P49SW-PD49SW	A4	B1
<b>CLIMAX</b>			P49-PD49-P48	A2	B1
568-561	A3	B1	P24	A3	B1
578	A6	B1	P28-PD28	A6	B3
73	A2	B2	<b>FARNSWORTH</b>		
<b>CORONADO</b>			AT30	A8	B6
4B5-5B3	A4	B1	AT31	A7	B1
568	A3	B1	<b>GAROD</b>		
<b>CROSLLEY</b>			BP4-BP5-BP5A-BP7-BP8	A2	B1
B429A	A4	B1	BP6		AB1
439A-549A-549B		AB4	BP9-BP10	A6	B3
B5549A	A7	B3	BP36-BP36A	A5*	B2

\* These models employ two "A" battery units.

# Renewal Batteries for Portable Radios

(See Page 5 for Code No. References)

Manufacturer and Model No.	"A" Battery Code No.	"B" or "A"- "B" Battery Code No.	Manufacturer and Model No.	"A" Battery Code No.	"B" or "A"- "B" Battery Code No.
<b>GENERAL ELECTRIC</b>			<b>MAGNAVOX</b>		
GB400-HB408	A4	B1	41	A2	B1
HB402-HB403-HBX467	A2	B6	<b>MANTOLA</b>		
HB504-HB505	A7	B1	R419-R419B	A3	B1
GB440	A3	B1	<b>MAJESTIC</b>		
HB412	A6	B1	420PL-421	A2	B1
<b>GILFILLAN</b>			130U	A3	B1
4B	A2	B1	1BR50B-1BR50BP	A6	B5
5B	A4	B1	5BD-5ULBD	A1	B2
<b>GREBE</b>			<b>MONTGOMERY WARD</b>		
BP4-BP5	A2	B1	5019	A4	B1
BP6		AB1	454-555	A2	B1
BP7-BP8	A3	B1	461	A1	B2
BP9-BP10	A6	B6	<b>MEISSNER</b>		
BP36-BP36A	AS*	B1		A2	B1
<b>HOWARD</b>			<b>MISSION BELL</b>		
10B	A4	B1	400-500-501-503	A3	B1
11B	A8	B3	502	A8	B3
<b>IMPERIAL</b>			504	A6	B1
	A2	B1	<b>MOTOROLA</b>		
<b>KADETTE</b>			51D-52D	A3	B1
	A6	B3	41D1-41D2-51D1-51D2	A3	B1
<b>KARADIO</b>			415 Sporter **		
	4 No. 2 cells	B1	51F	A2	B6
<b>KNIGHT</b>			<b>PACKARD BELL</b>		
E10925		AB2	40	A2	B1
5N-5NL	A8	B1	40B	A6	B3
A10848-E10775-178BL	A2	B1	41		AB2
A10889-E10777-171AS	A2	B1	<b>PIERCE AIRO</b>		
E10716-XL28-10715-PL29		AB1	408	A3	B1
<b>LAFAYETTE</b>			<b>PILOT</b>		
BS72-BB70-CC55-CC55A	A2	B1	T1021	A2	B3
S50	A3	B3	TH11-TH12	A4	B1
BS33-BS33A	A6	B1	T1451-1452	A8	B1
E80-E94	A7	B1	T1351	A6	B3
E6-BS85-BS56-E72	A4	B1	X1451-X1452-X1453	A6	B3
E92	A8	B3	<b>PHILCO</b>		
CC58-CC58A	A5*	B2	71T-72T-74T-504	A2	B1
<b>L'TATRO</b>			81T Little Pal		AB7
819	A2	B1	88T		AB5

\* These models employ two "A" battery units.

\*\* This model employs three units—one each of the following: Burgess 2F, W20P1, and W34; or General (Willard) 2F1, V34AAAG, and V20AAAG.

# Renewal Batteries for Portable Radios

(See Page 5 for Code No. References)

Manufacturer and Model No.	"A" Battery Code No.	"B" or "A"- "B" Battery Code No.	Manufacturer and Model No.	"A" Battery Code No.	"B" or "A"- "B" Battery Code No.
<b>PORTOMATIC</b>			<b>TEMPOTONE</b>		
U17A-U17C	A2	B1			AB1
<b>RCA</b>			<b>TRUTONE</b>		
94BP1-94BP4-94BP61	A2	B1		A2	B1
62-64-66-80-81	A2	B1	<b>TRAV-LER</b>		
96GA-96TA	A2	B1	553B-554B-555	A2	B1
BP55-BP56-BP85	A6	B3	556BT-1556BT-404	A6	B1
<b>REMLER</b>			<b>TRIANGLE</b>		
92	A2	B1		A2	B1
93-94		AB1	<b>TROUBADOR</b>		
<b>SENTINEL</b>			40	A4	B1
151BL-127BL	A2	B1	945	A2	B1
160BL-170BL		AB6	<b>TROY</b>		
180XL-201XL	A7	B1	BP640	A3	B1
178BL-181BL	A3	B1	BP550	A8	B3
172-202-205	A8	B3	940-949	A4	B1
<b>SETCHELL-CARLSON</b>			950	A6	B3
55	4 No. 2 cells	B1	BP140		AB1
<b>SEARS ROEBUCK</b>			<b>WARWICK</b>		
6256	A2	B1	0-501	A6	B1
6266	A2	B1	0-407-0-411	A2	B3
6274	A2	B1	948-9-457	A4	B1
<b>SKY CHIEF</b>			<b>WATTERSON</b>		
A212-A213-216	A2	B1		A3	B1
219	A9	B1	<b>WELLS GARDNER</b>		
215-218	A4	B1	4B5-5B3-5B8	A4	B1
<b>SKY HAWK</b>			6B7	A5*	B1
3910	A3	B1	<b>WILCOX GAY</b>		
<b>SUPREMACY</b>			A73	A6	B1
BP7	A2	B1	<b>WESTERN AUTO</b>		
BP9-BP10	A6	B3	D937-938	A4	B1
<b>SONORA</b>			D939	A2	B1
PL29-PL37		AB1	<b>WESTINGHOUSE</b>		
XL-28-XL29	A2	B1	WR166-WR674	A2	B1
KB73-KD75	A7	B3	WR675-WR675A	A4	B1
<b>SPARTON</b>			WR676	A6	B3
549-1	A2	B1	<b>ZENITH</b>		
590-1	A7	B1	4K400 D-L-M-S-Y	A2	B1
<b>STEWART WARNER</b>			Or Zenith Z10 AB pack		
02-411	A2	B1	4K402		AB6
024A1	A3	B3	5G401-5G403-5G405-5G484		AB4
05-5L1	A8	B3	5G500		AB8
<b>STROMBERG-CARLSON</b>					
402H	A4	B3			

\* These models employ two "A" battery units.



# RADIO SERVICE HINTS

(Continued from page 3)

## Index for Service Hints

After receiving a copy of the "C-D Capacitor" the writer decided to keep a file system of the notes contained herein and from other sources. Each note is cut out and pasted on a 4 x 6 index card and filed alphabetically according to manufacturers of sets, models, subjects, etc.

Ruled cards are also typewritten containing references to periodicals, service manuals, and other literature and filed under their proper classifications.—*J. Stephen Gold, Glenside, Pa.*

## Push Button Phono Switching

In connecting phono attachments to sets with electric push button tuning switches a few of the switches may be employed to switch from radio to phono or vice versa. To do this, disconnect one of the set of trimmers from the switch contacts using one switch to tie in the audio grid to the phono pickup terminal and the other switch to ground the diode lead resistor to cut out the R.F. and I.F. of the radio.—*William J. Pollock, Bridgeport, Conn.*

## Neutralizing R. F. Circuits

In neutralizing sets such as model 90 Majestics, etc., the writer uses a small insulating wedge to open up a filament prong contact of each r.f. tube. This wedge simply consists of a piece of bakelite, or any other insulating material about 2½" long which can be shaped to fit between the spring filament contacts of the tube socket in order to open the circuit while neutralizing instead of using a tube adaptor or removing the tube shield and tube.—*Everett M. Anderson, Wahpeton, N. Dak.*

## Montgomery Ward Model 62-306

A common trouble to be found in this model is loss of volume after the set has been turned on for five or ten minutes. A drop in volume will fade down to almost inaudibility.

When this occurs the electric eye will close completely. In most cases the trouble can be traced to the 6A8G tube which will not show on the tube checker. However, try using a new 6A8G in the set and note the difference.—*Ford Michael, Oilton, Okla.*

## A Simple Oscillation Tester

A ¼ watt neon bulb and a 250 mmf. capacitor connected in series with a pair of test prods makes a satisfactory oscillation tester when other means are not available around the shop.

To test for oscillation place one test prod on the plate of the oscillator tube and the other prod to the chassis. If the oscillator is operating properly the bulb will light.—*R. M. Henderson, Honca Path, So. Car.*

## Emerson Model L 117

A complaint registered by owners of this set was that it would receive stations on all broadcast frequencies and then, at times, only those on lower frequencies. After inspection it was found the primary of the oscillator coil was open.

Simply remove the old coil windings consisting of seven turns and re-wind this coil. Also check the 41 cathode electrolytic bypass capacitor for incorrect polarity connections.—*Stanley Klem, Wilkes-Barre, Pa.*

# THE RADIO TRADING POST

(Continued from page 4)

**FOR SALE**—Clough-Brengle OCA oscillator, \$15.00. New Supreme 339 DeLux analyzer, \$29.50. Rider's manuals Nos. 3, 4, 5, 7, \$24.00. Confidence tube checker (portable) \$15.00, two Jensen 15 inch speakers No. 15XA.C. cost \$65.00 each, will sell for \$30.00 each, Shure 30H crystal microphone with floor stand and cable \$25.00. R. A. Minnieux, 6209 Santa Monica Blvd., Hollywood, Calif.

**SELL OR TRADE** — Two Racon 6 ft. weather-proof trumpets, one Esco 350-watt 110 volt a.c. fan belt generator, one velocity mike head. Want bug key, microscope, meters. W. W. Smith, 300 Edgell Road, Farmington, Mass.

**WANTED**—All kinds of telephone equipment, especially handsets. Please state exact nature, condition, price and make. Will pay spot cash. B. Minnich, 1415 East River Road, Minneapolis, Minn.

**FOR SALE**—Philco set tester, signal generator, Dayrad tube tester, Triplet analyzer. Will sell cheap for cash. What's your offer? I. J. Boelgeran, 408 Main St., Galena, Kansas.

**FOR SALE**—30 watt amplifier, mixer, six 3 ft. trumpets with units, microphone and stand, all tubes, \$150. Victor Animatophone, Model 5, no amplifier, \$75.00. Swap all above for RCA sound camera, studio type. Lewis J. Boss, North Scituate, R. I.

**WANTED** — Weston, GE or other light meter. Give cash price and what you want in radio parts. Wayne Storch, W9FOC, Beecher, Ill.

**WANTED**—Late model radio test equipment in A1 condition. State make and lowest cash price. J. E. Crowder, Willis Wharf, Virginia.

**BEST OFFER TAKES**—SW3 and SW4 with 6.3 V. tubes and coils for range from 9 to 2,000 meters. UV-211 and 203-A, UV-204-A, RK20. Portable station 50 watt phone or telegraph, coils for 160-80-40 and 20 meters. 110 Volt AC power. Portable Mobile Station 15 watts 30 Mc 6 Volt DC power. Equipment listed as station includes receivers. S. A. Magness, P.O. Box 256, West Sayville, N. Y.

**WANTED**—Jewell 199 analyzer and 444 analyzer in good condition with adapters, etc., Jewell 57 d.c. voltmeter 0-50 amps., 0-50 volts all in one instrument. Also back issues of Radio-Craft, Radio Today, Radio News. Cash on the barrel head. H. B. Howell, Anna, Texas.

**SALE OR SWAP** — One Hickock oscillograph, model RF01 for best offer in cash, or what have you for swap? Need vacuum tube voltmeter. F. Sam Fertig, 45 Bushnell Street, Bradford, Pa.

**FOR SALE**—15 watt, 7 tube Silverstone amplifier, Shure Uniplex mike, 12 in. P.M. Jensen speaker complete, \$40.00. Tom Trinka, 1609 Grand Ave., Middletown, Ohio.

**FOR TRADE**—"Servicing by Resistance Measurement," "Elementary Photographic Chemistry" for a volt-ohm, milliammeter in case. Must be in good condition. R. M. Sadler, 1307 Benton St., Kansas City, Mo.

**FOR SALE**—Motor generator set, 2 Robbins & Meyers motor generators, 3-phase, 220 v, 60 cycles, 1/2 h.p., generators 110 v. d. c., 1.8 amps. Switches, fuses, voltage controls, voltmeter (Weston) 0-5 d.c., ammeter mounted on 34x 58xl in. slate panel, approx. weight 1000 lbs. Cost \$400, will sell for \$75.00. J. A. Norman, Milford, Utah.

**SALE OR SWAP**—Tube checker employing 5 in. 2 mil. and 15 v.a.c. meters and case, Weston No. 676. Checks emission, neon leakage, etc. Local sockets. Want good camera. Sid. Weiseberger, 380 Kosciusko St., Brooklyn, N. Y.

**POSITION WANTED**—Young man 27, F. N.T. and R.T.A. graduate, holds radio tel. 1st class and amateur license, 9 years radio servicing experience. At present service mgr. for radio dealer. Desires situation with radio station. D. E. Greathouse, 1117 Broadway, Larned, Kansas.

**FOR SALE OR TRADE** — Clough-Brengle vacuum tube voltmeter 88A, like new, will sell for best offer in cash. Want Good A.C. multiband s.w. receiver. Walter Kryger, 912 West 151 St., East Chicago, Indiana.

**FOR SALE OR TRADE**—Hickock 4800-S zero current voltmeter, built-in analyzer unit, \$35.00; Hickock S.C. 4800 analyzer, \$12.00; Hickock O.C. 47 tube checker, \$10.00. Want Sept 35 mm. camera. G. W. Dencher, 2nd and Ellison Sts., Omaha, Neb.

**FOR SALE OR SWAP**—Philco oscillator, Solar condenser analyzer, Rider's Nos. 1 and 2 manuals, a.c. and d.c. meters, 110 v.d.c.-a.c. converter, 24/1500 volt dynamotor, and other radio parts. Want still or motion picture cameras, binoculars or what have you? Wm. Hansen, Niles, Mich.

(Continued on page 11)



## WISE AND OTHER- WISE

Our business in life is not to get ahead of others, but to get ahead of ourselves—to break our own records, to outstrip our yesterday by our today, to do our work with more force than ever before.

—Stewart B. Johnson.

### Too Loud

A hostess was talking to one of her guests while the radio was tuned in on a concert of string instruments.

"Beautiful music, isn't it?" remarked the hostess.

"Pardon?" inquired the guest.

"I say, that's beautiful music, don't you think?"

"I'm sorry," roared the guest, "but I can't hear a word you say for those darned fiddles on the radio."

### How Insulting!

"I've finished with that girl."

"Why?"

"She asked me if I danced."

"What's so insulting about that?"

"I was dancing with her when she asked me."

### That Let-Down Feeling

Customer—"You sold me a radio two weeks ago."

Salesman—"Yes, sir."

Customer—"Tell me all you said about it then. I'm getting discouraged."

### Be Sure Now

Hubby (on phone): "Sorry honey, I'll be awfully busy at the office and can't get home till late."

Wife: "Can I depend on that?"

## THE RADIO TRADING POST

(Continued from page 10)

**FOR SALE**—Dayrad Model 330 high-frequency test oscillator, also Weston Model 566 analyzer. Make offer. Earl Sweigart, 428 Elsie St., Shillington, Pa.

**FOR SALE**—A 100-watt audio amplifier—any stage may be used as driver, \$15.00; Tobe condenser tester, never used, \$4.00; mimeograph, good condition, \$10.00; studio mike stand \$4.00. A. Terres, 909 Beck St., N. Y. C.

**WANTED**—Used Analyst or Chandanal. State your lowest price and condition of instrument. I. Horowitz, 1472 Jerome Ave., New York City.

**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.

**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.

**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.

**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.

### Brevity

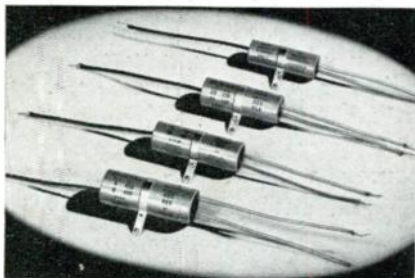
"I'm a man of a few words," said the haughty manager of the shop to the new employee. "If I beckon with my finger that means come."

"Suits me, sir" replied the new man, "I'm a man of few words myself. If I shake my head, that means I ain't comin'."

Junior (studiously engaged in his home work): "Daddy, what's dew?"

Daddy: "The rent, the note at the bank and the car installment."

# about the handiest capacitors FOR THE RADIO SERVICEMAN



Whatever the type or model of set to be repaired, you'll find C-D Type BRS about the handiest capacitor for any replacement job. Supplied with a convenient mounting strap, work on the most crowded chassis becomes a "cinch" when BRS units are used. Ends generously potted with high-melting point wax for moisture — protection and lasting capacitor dependability. Type BRS units are available in dual capa-

## TYPE BRS BEAVER\* ELECTROLYTICS

city combinations with common positive. Type BRL, similar in construction to type BRS, are supplied with common negative in all popular capacity combinations.

Listed below are several popular Type BRS capacitors. For complete listing see your local jobber or write for FREE C-D Capacitor Manual.

\*Reg. U.S. Pat. Off.

### Dual Tubular Capacitors (Common Positive)

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size-Ins. Dia. x Lth.	List Price	Net Price
BRS4815	4-8	150	3/8 x 2 1/2	\$.95	\$.57
BRS8815	8-8	150	1 1/8 x 2 1/2	1.00	.60
BRS1415	4-12	150	1 3/8 x 2 1/2	1.00	.60
BRS8115	8-16	150	1 7/8 x 2 1/2	1.10	.66
BRS1115	16-16	150	1 x 2 1/2	1.25	.75
BRS2215	20-20	150	1 1/8 x 2 7/8	1.35	.81
BRS3115	30-10	150	1 1/8 x 2 7/8	1.35	.81
BRS3215	30-20	150	1 x 2 7/8	1.40	.84

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**THE BIGGEST  
DOLLAR VALUE IN CAPACITORS**

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USE TODAY THAN ANY OTHER MAKE**