

RCA MFG. CO., INC.

CHANGES, NOTES

14BT

Battery Cable Change:

In some 14BT production, the +A wire in the battery cable is black or black with red tracer instead of brown.

14X2 (RC-1001D)

Service Data:

The Service Data for Model 14X applies to Model 14X2, except for the following parts used in 14X2:

Stock No.	Unit List Price
88816 Back—Cabinet back.....	.25
Y1140 Cabinet.....	4.50
35071 Knob—Control knob.....	.15

RL-86-A3 "EM" speaker is used in some production of 14X2, as specified elsewhere in this supplement.

15X, 16X-1, -2, -3

Dial Back Plate:

In some production, the dial back plate and pulley assembly is changed from "garnet maroon," Stock No. 36229, to "Black," Stock No. 38787.

Capacitor Changes:

In 2nd Production, the following capacitors are changed:

C5 from 120 to 150 mmfd., Stock No. 12725
C8 from .015 to .02 mfd., Stock No. 36248
C9 from 120 to 300 mmfd.

C9 is built in with C10 (.005 mfd.) and the stock number of the dual unit is 37359.

15X, 16X-1, -2, -3, -4, -11, -13, -14

Speakers RL-81-A5, RL-81-B2, 92161-1, 92161-3:

Four different speakers have been used on these models. The replacement parts are listed below:

SPEAKERS STAMPED "RL-81-A5" or "RL-81-B2"		Unit List Price
Stock No.	Description	
32907	Cap—Dust cap.....	.02
35570	Cone—Cone complete with voice coil.....	1.20
SPEAKERS STAMPED "92161-1" or "92161-3"		Unit List Price
38352	Cone—Cone complete with voice coil.....	1.35

15X, 16X-1, 16X-2

Substitute Speaker:

On 2nd Production of 15X, 16X-1, 16X-2, RL-80-B1 "EM" speaker is used in place of the original RL-81-A5 "PM" speaker. Replacement parts for the RL-86-B1 speaker are listed below. The alternate circuit arrangements are shown in accompanying diagrams.

Stock No.	Description
32907	Cap—Dust cap.....
39448	Coil—Field coil, 350 ohms.....
39447	Cone—Cone and voice coil.....

The output transformer for this speaker is Stock No. 38994.

17K

Dial Frame is Stock No. 38784:

In the Service Data for Model 17K, change the Stock Number of the Dial Frame from 35799 to 38784.

24BT-1

Substitute Speakers:

The following speakers may have been used as a substitute for Speaker RL-85-6 in Model 24BT-1.

Number Stamped on Speaker	Cone and Voice Coil Stk. No.	Output Trans.
92161-3	38352	39538
92161-4	39535	39538
92161-5	38352	39538
92322-2	39536	39538
92374-1	39537	39538
RL-81-B2	35570	39538

Dust cap for above is No. 32907.

24BT-2, 25BT-2

Speakers RL-85-5, RL-85-6, 92377-1, 92377-3:

Four different speakers have been used on these models. The replacement parts are listed below:

Stock No.	Description
32907	Cap—Dust cap.....
38307	Cone—Cone complete with voice coil.....
33779	Transformer—Output transformer.....
39849	Cone—Cone complete with voice coil.....
39850	Transformer—Output transformer.....
39965	Cone—Cone complete with voice coil.....
39966	Transformer—Output transformer.....

NOTE: If number stamped on your speaker frame does not appear on above list, order part required by description giving number stamped on your speaker and receiver model.

25BT-2, 25BT-3, 25BK

Delete Speaker Plug and Socket:

In Replacement Parts, delete speaker plug No. 36009, and socket No. 14275.

25BK

8-inch Round Speaker No. 92378-1:

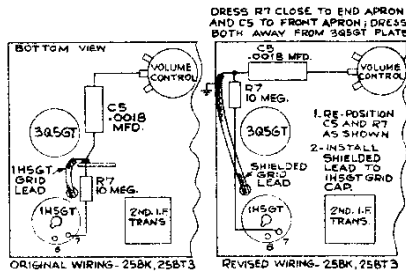
Change the description and identifying number of the speaker in Model 25BK Service Note from 92355-1 (8 1/2-inch elliptical) to 92378-1 (8-inch round).

The cone, Stock No. 39066, applies to No. 92378-1 speaker.

25BK, 25BT3

Reducing Minimum Volume:

When these models are used near strong local stations, the minimum volume may be too high. This can be remedied by re-positioning the 1H5-GT 1st-audio grid capacitor (C5) and grid resistor (R7), and installing a shielded lead to the grid cap of the 1H5-GT tube. These changes are shown in the accompanying drawing.



Changes to Reduce Minimum Volume in 25BK and 25BT3.

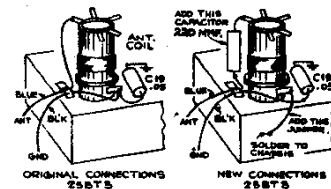
Distortion on Locals:

In Models 25BK and 25BT3, distortion on strong local stations (even with volume control turned low) may be caused by "front-end" overloading due to excessive signal strength. This can be corrected by using a shorter antenna, or by connecting a small capacitor (about 50 mmfd.) in series with the antenna.

25BT3

Hum Modulation with CV-42:

The changes shown in the accompanying sketch are recommended to eliminate hum modulation when using Model 25BT3 with CV-42 "Electrifier." These changes may be made without removing the chassis from the cabinet, and require the addition of only one part, a 220 mmfd. mica molded capacitor.



Circuit Revisions in Model 25BT3 to Eliminate Hum Modulation When Using CV-42 "Electrifier".

25BP

Speakers RL-81-B1, RL-81-B2, 92161-1:

The above speakers were used on the 25BP in addition to those listed in the Service Note. Use Output Transformer Stock No. 39588 with all speakers used in the 25BP, except when using a speaker stamped RL-81-B1 use Output Transformer Stock No. 38008. The replacement parts are listed below:

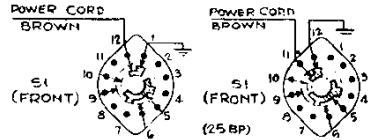
Stock No.	Description
32907	Cap—Dust cap.....
35570	Cone—Cone complete with voice coil.....
38352	Cone—Cone complete with voice coil.....

NOTE: If number stamped on your speaker frame does not appear on above list, order part required by description giving number stamped on your speaker and receiver model.

25BP—2ND PROD. (RC-1020)

Power Switch Change:

In some second production 25BP (RC-1020), the power switch differs from that shown in the Service Note. Connections to clips numbered 12 and 1, on wafer S1—Front, of the switch shown in the Service Note, are to numbers 11 and 12 respectively on the other switch used in this production. All other connections are as shown in the Service Note Schematic.



Two Types Power Switch, Model 25BP—2nd Production

26X-1, -3, -4 Changes in 2nd Production:

In 26X-1 and 26X-3, a 10-mmfd. capacitor, Stock No. 13200, is added in parallel to C24 in the "C" band oscillator circuit.

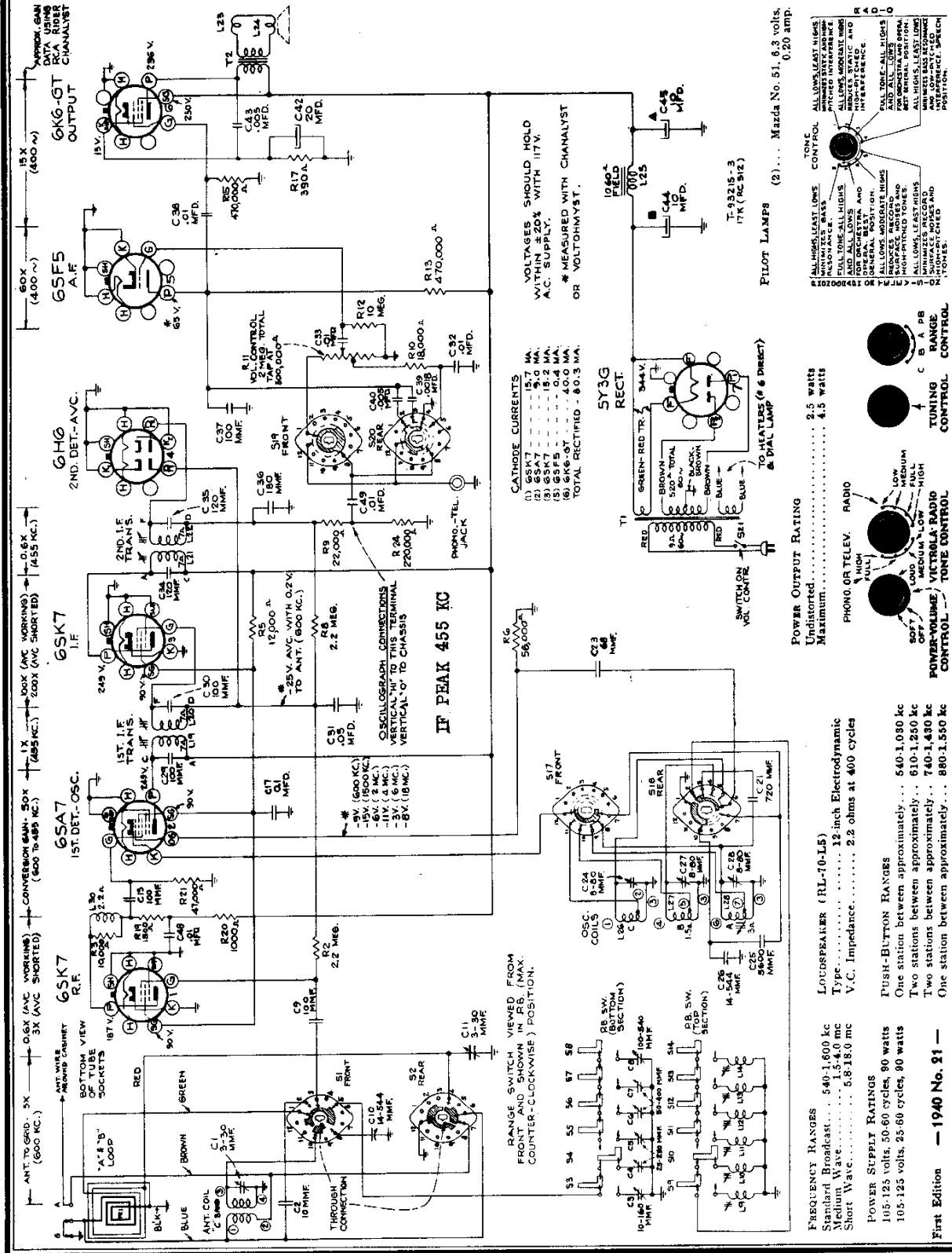
The Stock No. for C4 (47 mmfd.) oscillator grid capacitor is 13141.

The adjustable core on L5 antenna coil is omitted, and this adjustment is therefore omitted in the alignment procedure.

Q27 (RC-507K) Service Data:

Model Q27 is similar to Model Q25 which is described in the Service Note for Models Q25, QK23, and Q25. Replacement parts for Q27 are same as for Q25, with exception of the following parts used in Q27:

CHASSIS ASSEMBLIES (RC-507K)		
37976	Bracket—Tone control mounting bracket.....	.25
38409	Control—Tone control.....	1.00
38412	Control—Volume control and power switch.....	2.00
32634	Cord—Drive cord (approx. 29-in. overall length).....	.10
13988	Resistor—10 ohms, 1/2 watt.....	.20
14350	Screw—No. 8-32 sq. head set screw for drive drum.....	.08
35787	Socket—Phono input socket.....	.15
31261	Spring—Retaining spring for adjustable cord and studs.....	.01
38761	Support—L.H. pulley support complete with pulley.....	.50
38762	Support—R.H. pulley support complete with pulley.....	.75
35588	Transformer—Power transformer—105-120 volts, 25 cycle.....	6.30
SPEAKER ASSEMBLIES (92311-1)		
38765	Coil—Field coil—1060 ohms.....	2.70
38766	Cone—Cone complete with voice coil.....	2.10
5039	Plug—4-prong male plug for speaker.....	.30
38374	Transformer—Output transformer.....	1.05



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MODEL 17K
Alignment, Trimmers
Socket, Dial, Loop

RCA MFG. CO., INC.

Alignment Procedure

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the schematic diagram.

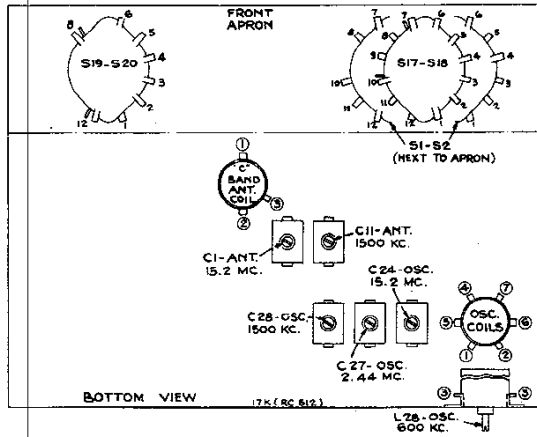
Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

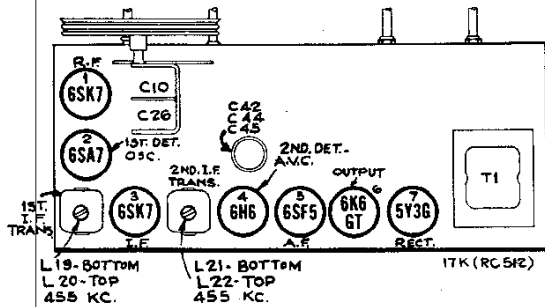
Calibration for Alignment.—The proper dial calibration for alignment purposes can be set up in two ways:

1. The dial may be removed from the cabinet by sliding out the two spring pieces which clamp it in its mounting position. The condenser plates should then be turned into full mesh, the pointer adjusted to the scratch at the left end of the dial backing plate, and the dial slipped under the pointer so that its extreme left calibration mark coincides with the pointer. The dial may be held in place with scotch tape. In this manner the actual receiver dial is used for alignment. When alignment is finished, the scale should be replaced including the fibre light shields which are folded under the ends of the glass scale.
2. A calibration scale is attached to the tuning drum. The correct setting of the gang, in degrees, for each alignment frequency is given in the alignment table. Check the position of the drum, making sure that the 0 degree scale mark is horizontal with the gang in full mesh.

Pointer for Calibration Scale.—If method (2) is used, improvise a pointer for the calibration scale by fastening a piece of wire to the chassis, and bend the wire so that it points to the 0 degree mark on the calibration scale when the plates are fully meshed.

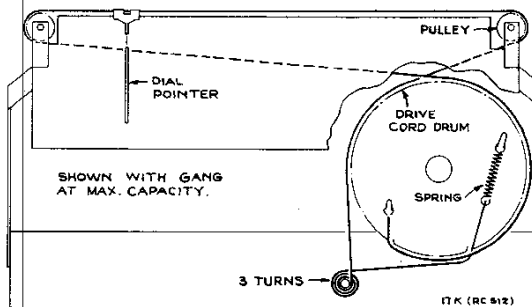
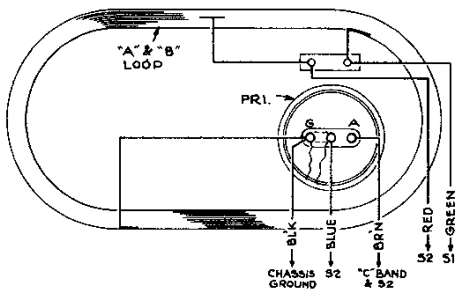


Steps	Connect high side of test oscillator to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for maximum peak output—
1	6SK7 I-F grid in series with 0.01 mfd.	455 kc	"A" band Quiet Point between 550 and 750 kc	L-21 and L-22 (2nd I-F Trans.)
2	6SA7 grid in series with 0.01 mfd.			L-19 and L-20 (1st I-F Trans.)
3	Antenna terminal in series with 47 mmfd.	15.2 mc	15.2 mc (149°) "C" band	C-24 (Osc.)* C-1 (R-F) Rock gang
4	Antenna terminal in series with 200 mmf. (link open)	2.44 mc	2.44 mc (97°) "B" band	C-27 (Osc.)
5	Antenna terminal in series with 200 mmf.	600 kc	600 kc (30.5°) "A" band	L-28 (Rock in)
6	Antenna terminal in series with 200 mmf.	1,500 kc	1,500 kc (158°) "A" band	C-28 (Osc.) C-11 (R-F)
7	Repeat steps 5 and 6.			



* Use minimum capacity peak if two can be obtained. Check to determine that C-24 has been adjusted to correct peak by tuning receiver to approximately 14.29 mc where a weaker signal should be received.

Note.—Oscillator tracks above signal on all bands.



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MODEL 17K
Tuner Data, Parts

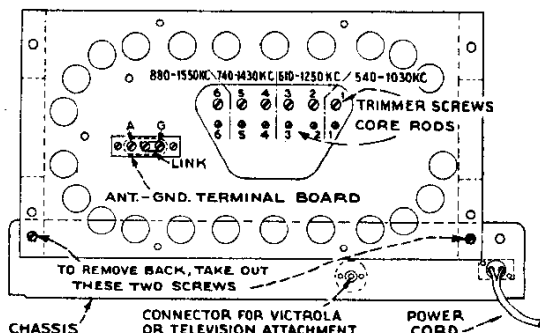
Push Button Adjustment

The station push buttons connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an insulated screwdriver or alignment tool such as RCA Stock No. 31031. Allow at least five minutes warm-up period before making adjustments.

In the event that the receiver is to be used with an external antenna use one or two feet of wire (as an antenna) to ensure sharp peaking during the final adjustment procedure. For loop operation, the link should be strapped across terminals on back of set. In either case the procedure is as follows:

1. Make a list of the desired stations, arranged in order from low to high frequencies.
2. Turn the range selector to "A" band, and manually tune in the first station on the list.
3. After turning range selector to "PB" position, push in station button No. 1 (extreme left). Then adjust the No. 1 oscillator core (L-14) to receive the station.
4. After oscillator core is set correctly, adjust C-8 for maximum output.
Clockwise adjustment of cores and trimmers tunes the circuits to lower frequencies.
5. Adjust for each of the remaining stations in the same manner.
6. Make a final careful adjustment of the oscillator cores and antenna trimmers.

Owing to the relatively high r-f gain, it may be found that a given station can be tuned in at several different settings of the



magnetite-core oscillator push-button coils. In such cases, it is advisable to unscrew the loop push-button trimmers to minimum capacity before adjusting the magnetite cores.

On the 880 to 1,550 kc push-button, the higher frequency stations may be received with L-9 either in or out (oscillator frequency either 455 kc below or 455 kc above the station frequency). The adjustment with this core in its out position (oscillator frequency 455 kc above the station frequency) is the correct one.

Replacement Parts

Insist on genuine factory-tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK No.	DESCRIPTION	Unit List Price	STOCK No.	DESCRIPTION	Unit List Price
CHASSIS ASSEMBLIES (RC-512)					
34025	Board—"Antenna-Ground" board	.25	12454	Resistor—33,000 ohms, 1/2 watt	.20
35795	Calibrator—Drive drum calibrator	.25	12412	Resistor—47,000 ohms, 1/2 watt	.20
35792	Capacitor—Trimmer comprising 2 sections of 3-30 mmfd. each	.40	12284	Resistor—220,000 ohms, 1/2 watt	.20
35791	Capacitor—Mica trimmer comprising 3 sections of 8-80 mmfd. each	.50	12285	Resistor—470,000 ohms, 1/2 watt	.20
13200	Capacitor—10 mmfd.	.35	12679	Resistor—2.2 meg., 1/2 watt	.20
35804	Capacitor—Mica trimmer comprising 1 section of 10-160 mmfd., 2 sections of 25-250 mmfd., 2 sections of 50-400 mmfd., and 1 section of 100-540 mmfd.	1.15	13601	Resistor—10 meg., 1/2 watt	.20
13057	Capacitor—88 mmfd.	.35	35797	Shaft—Tuning shaft and pulley	.30
12720	Capacitor—100 mmfd.	.35	35772	Shield—Bottom end shield for power transformer	.30
13003	Capacitor—180 mmfd.	.35	35709	Shield—Top end shield for power transformer	.30
35877	Capacitor—720 mmfd.	.45	31384	Socket—Dial lamp socket	.20
13885	Capacitor—5,600 mmfd.	.70	31251	Socket—Tube socket	.25
34508	Capacitor—.0018 mfd.	.25	31418	Spring—Drive cord spring	.05
33584	Capacitor—.005 mfd.	.25	36025	Switch—Push button selector switch	3.50
4937	Capacitor—.01 mfd.	.25	36024	Switch—Range switch	1.90
32787	Capacitor—.05 mfd.	.20	35636	Transformer—First I-F transformer	1.70
4839	Capacitor—.1 mfd.	.30	35790	Transformer—Second I-F transformer	1.60
35858	Capacitor—Electrolytic comprising 2 sections of 10 mfd., 400 volts each and 1 section of 20 mfd., 25 volts	1.70	35588	Transformer—Power transformer—110 volts, 2 1/2 cycle	6.30
35965	Coil—Antenna coil—"C" band	.60	35959	Transformer—Power transformer—110 volts, 60 cycle—less end shields	3.75
35876	Coil—Coil and resistor assembly	.30	35989	Washer—"C" washer for tuning shaft	.02
36031	Coil—Loop loading coil	.50	SPEAKER ASSEMBLIES (RL-70L5)		
35788	Coil—Oscillator coil	1.15	13887	Cap—Dust cap	.03
35803	Condenser—Variable tuning condenser	2.50	12079	Coil—Field coil—1,060 ohms	2.70
35960	Control—Volume control and power switch	1.15	11469	Coil—Neutralizing coil	.30
36249	Control—Volume control and power switch	2.00	36145	Cone—Cone complete with voice coil	1.50
36250	Control—Volume control and power switch	2.00	5118	Plug—3-prong male speaker plug	.25
34682	Cord—Drive cord	.25	31301	Transformer—Output transformer	1.70
35788	Core—Adjusting core and stud for oscillator coil	.15	MISCELLANEOUS ASSEMBLIES		
35871	Core—Adjusting core and stud for push button oscillator coils	.55	36027	Bezel—Push button bezel—less buttons	.75
35794	Drum—Tuning condenser drive drum—less calibrator	.70	35883	Button—Push button—dark brown	.15
35799	Frame—Dial frame complete with lamp bracket and pulleys—less dial	2.00	36299	Button—Push button—light brown	.15
35798	Indicator—Station selector indicator and carriage	.20	35914	Decalcomania—Control panel decal	.10
36029	Loop—Antenna loop complete	3.00	36028	Dial—Glass dial scale	1.20
36030	Loop—Loop winding only	.75	36028	Escutcheon—Dial scale escutcheon—less dial	1.75
36009	Plug—2-contact male plug for loop cable	.25	35814	Knob—Range switch or tone control knob—dark brown	.25
5119	Plug—3-contact female plug for speaker cable	.25	36297	Knob—Range switch or tone control knob—light brown	.25
5040	Plug—4-contact female plug for speaker cable	.30	35775	Knob—Tuning or volume control knob—dark brown	.25
35787	Plug—Phono. input plug	.15	36298	Knob—Tuning or volume control knob—light brown	.25
35973	Pulley—Drive cord pulley	.08	11765	Lamp—Dial lamp	.35
30498	Resistor—390 ohms, 1/2 watt	.20	36149	Marker—Push button station marker	.35
14720	Resistor—1,000 ohms, 1/2 watt	.20	36007	Mounting—Antenna loop mounting hardware	.10
30654	Resistor—1,500 ohms, 1/2 watt	.20	33774	Mounting—Speaker mounting hardware comprising 1 eyelet and 1 grommet	.30
35876	Resistor—10,000 ohms	.30	34053	Spring—Retaining spring for button Stock No. 35883 and 36299	.02
35875	Resistor—12,000 ohms, 3 watts	.35	30900	Spring—Retaining spring for knob Stock No. 35775, 35814, 36297, 36298	.05
13045	Resistor—18,000 ohms, 1/2 watt	.20			
13998	Resistor—22,000 ohms, 1/2 watt	.20			

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