

## R.C.A. Victor Co., Inc.

**Model:** 56X3

**Chassis:**

**Year:** Pre 1950

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

**Riders Volume 18 - CHANGES 18-8**

**Riders Volume 15 - RCA 15-26**

**Riders Volume 15 - RCA 15-31**

### RCA QB55, Chassis RC-563A

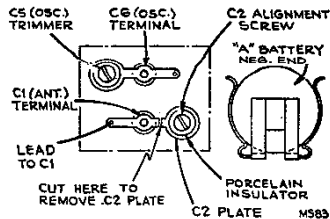
The following changes pertain to RCA QB55, chassis RC-563A appearing on pages 15-27 to 15-28 of *Rider's Volume XV*. In some chassis the 12- $\mu$ f section (C20) of the electrolytic capacitor has been changed to 20- $\mu$ f and the 20- $\mu$ f section (C22) has been changed to 30- $\mu$ f. C12 has been changed to 0.03 $\mu$ f and C18 to 0.003- $\mu$ f.

### RCA 54B Series

These receivers have been produced with loops of two types of construction: "taped," in which the coil is fastened to the loop cover with Scotch tape; and "cemented," wherein the coil is fastened to the loop cover with coil cement. Receivers using "cemented" loop have been produced with and without the antenna trimmer capacitor, C2. Receivers using the "taped" loop have only been produced with antenna trimmer C2, and they are to be aligned according to the instructions on page 15-22 of *Rider's Volume XV*. In the case of those receivers using the "cemented" loop which has the trimmer C2, this capacitor is removed before alignment. Trimmer C2 is removed by removing the C2 alignment screw, and cutting off the C2 capacitor plate as shown in the accompanying illustration.

Removal of the trimmer necessitates changes in the alignment for sets using the "cemented" loop. Refer to the alignment instructions on page 15-22. Steps 1 and 2; connect the high side of the test oscillator to the connection lug of C1 located on rear of gang in series with 0.01- $\mu$ f capacitor. Step 3: test oscillator tuned to 1500 kc; the gang capacitor is rocked instead of being set to 1600 kc. Step 4: omitted. Step 5: the gang capacitor is rocked instead of being set to 600 kc. All other instructions are the same with the foregoing exceptions.

If there is distortion and low volume in the RCA 54B series, check



Before aligning the RCA model 54B with a "cemented" loop, C2 is removed, as indicated.

the coupling capacitor C19 (0.002  $\mu$ f) for leakage. This capacitor couples the audio signal from the 1S5 tube to the 3S4 output tube. This capacitor has only a 150-volt rating and it

should be replaced with one that has a 200-volt rating.

The following is a list of changes for the parts lists for these models:

1. Delete Stock No. 70454—Capacitor-Tubular, 0.002  $\mu$ f, 150 volts (C14, C19)
2. Add Stock No. 72315—Capacitor-Tubular 0.002  $\mu$ f, 200 volts (C14, C19).
3. Delete Stock No. 70453—Capacitor-Tubular, 0.02  $\mu$ f, 100 volts (C10, C15).
4. Add Stock No. 71928—Capacitor-Tubular, 0.02  $\mu$ f, 200 volts (C10, C15).

NOTE: C15 (Stock No. 71928) should be located adjacent to the output transformer instead of under the socket subpanel, since its physical size is slightly larger than C15 (Stock No. 70453).

### RCA 54B1, 54B2, 54B3

These models appear on pages 15-22 to 15-24 of *Rider's Volume XV*. The position of the green and black leads of the second i-f transformer (stamped 922248-2) have been transposed to facilitate assembly. This change affects only the wiring, not the schematic.

### RCA 56X, 56X2, 56X3, Chassis RC-1011, A, B

These models are the same as Model 56X on pages 15-31 and 15-26 of *Rider's Volume XV*, except for the following changes. Some sets have a 220,000-ohm resistor in shunt with the primary of the first i-f transformer. The replacement transformers may not need this resistor if the i-f amplifier seems stable.

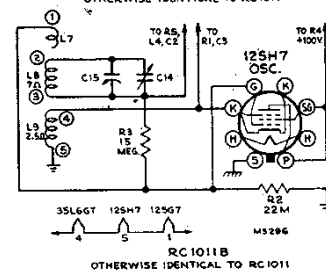
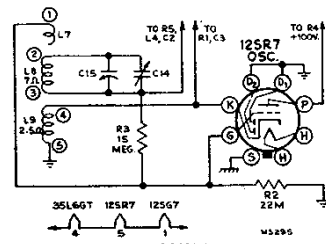
Some sets have a 22-ohm, 1-watt resistor as a fuse in series with the electrolytic capacitor.

Some sets have a 56- $\mu$ f capacitor from terminal 1 of the oscillator coil to terminal 2. This is not necessary on replacement coils as they have a built-in capacity winding.

On some models the 500,000-ohm volume control is not furnished with a stop 50,000 ohms from the high end of the control. Controls having no stop can be identified by a dot of red lacquer on the left side of the control, viewing the shaft end with terminals up. In models using this

completely covered with spaghetti tubing, is connected between the high end of the control and the yellow lead on the second i-f transformer.

Replacement controls equipped with a stop do not need this external 56,000-ohm resistor, so when replacing a volume control, check the resistance between the arm and the high end of the replacement control with the arm turned fully clockwise. A reading of 50,000 ohms will indicate that the control is equipped with a stop and that the 56,000-ohm resistor should be removed before installing the new control.

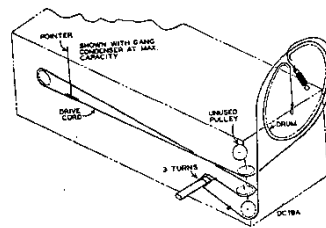


Changes in the oscillator circuit of RCA Chassis RC1011A, above, and Chassis RC1011B, below.

In chassis RC 1011A and chassis RC 1011B, the 12J5GT oscillator tube has been replaced with a 12SR7 in the former and a 12SH7 in the latter. The wiring changes in respect to these tube changes are shown in the accompanying partial schematics. Otherwise chassis RC 1011A and RC 1011B are identical to chassis RC 1011.

### RCA 68R1, 68R2, 68R3, 68R4, Chassis RC-608

These models are the same as those illustrated on pages 16-39 to 16-43 of *Rider's Volume XVI*, except that the dial cord assembly has been redesigned. The revised design uses a simpler method, and the length of the dial cord has been reduced to approximately 67 inches



Revised method for dial cord stringing in RCA models 68R series.

rather than the original 80 inches. See accompanying illustration for method of restringing.

### Radio Wire Television M72 and M73

These models are the same as Model M70A which appears on pages 17-6 to 17-11 of *Rider's Volume XVII*, with the following exceptions. The 22K resistor (R51) in the grid circuit of the first audio stage has been removed. The 0.02- $\mu$ f capacitor (C19) which was connected from the top of R51 to one side of the tone control (R14) now is connected from the bottom of R13 to ground.

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
<b>Model 55F and CV-42 Electrifier</b>		<b>Model 55F and CV-42 Electrifier</b>	
<b>CHASSIS ASSEMBLIES</b>		<b>SPEAKER ASSEMBLIES</b>	
<b>RC 1004E</b>		<b>Stamped 92515-1K</b>	
38675	Arm—"On-Off" indicator arm	70381	Speaker—3" P.M. speaker less output transformer
39604	Capacitor—Mica, 10 mmf. (C40)	70991	Transformer—Output transformer
38672	Capacitor—Mica trimmer, 1 section 120 mmf. 1 section 45-80 mmf. (C21, C22)	<b>SPEAKER ASSEMBLIES</b>	
30640	Capacitor—Mica, 330 mmf. (C6)	<b>Stamped 92515-1P</b>	
70627	Capacitor—Paper, .005 mfd., 1200 volts (C7, C8, C19)	70381	Speaker—3" P.M. speaker less output transformer
70712	Capacitor—Paper, .0018 mfd., 700 volts (C5)	70992	Transformer—Output transformer
70615	Capacitor—Paper, .05 mfd., 200 volts (C2)	<b>SPEAKER ASSEMBLIES</b>	
70617	Capacitor—Paper, 0.1 mfd., 400 volts (C1)	<b>Stamped 92515-1F</b>	
36718	Capacitor—Electrolytic, 10 mfd., 10 volts (C18, C23)	70381	Speaker—3" P.M. speaker less output transformer
38705	Capacitor—Electrolytic, 25 mfd., 90 volts (C20)	70993	Transformer—Output transformer
38344	Coil—Antenna coil (L1, L2)	<p><b>NOTE: If stamping on speaker in instrument does not agree with above speaker number, order replacement parts by referring to model number of instrument, number stamped on speaker and full description of part required.</b></p> <p style="text-align: center;"><b>MISCELLANEOUS ASSEMBLIES</b></p> <p>X1606 Board—Baffle board and grille cloth</p> <p>36462 Clamp—Dial clamp</p> <p>35915 Escutcheon—Dial escutcheon less dial</p> <p>36886 Knob—Power switch knob</p> <p>36722 Knob—Tuning knob</p> <p>71281 Knob—Volume control knob</p> <p>30900 Spring—Retaining spring for knob</p> <p>38679 Window—Glass window for dial scale</p> <p style="text-align: center;"><b>CV-42 ELECTRIFIER</b></p> <p>38702 Ballast—Plug-in ballast tube resistor</p> <p>38701 Capacitor—Electrolytic, comprising 1 section of 50 mfd., 150 volts, 1 section of 30 mfd., 150 volts, and 1 section of 250 mfd., 10 volts</p> <p>30847 Capacitor—.05 mfd., 400 volts</p> <p>28451 Cover—Insulating cover for electrolytic capacitor</p> <p>35069 Fastener—Push fastener for bottom cover</p> <p>28452 Plate—Bakelite mounting plate for electrolytic capacitor</p> <p>38702 Resistor—Ballast tube resistor</p> <p>30730 Resistor—2,700 ohms, 1/2 watt</p> <p>31027 Socket—Power output socket</p> <p>31251 Socket—Tube or ballast resistor socket</p> <p>38702 Tube—Ballast tube resistor</p>	
38345	Coil—Oscillator coil (L3, L4)		
70378	Coil—Wave trap (L10, L11)		
38599	Condenser—Variable tuning condenser (C9, C10, C11, C17)		
36080	Control—Volume control and power switch (R6, S1, S2)		
34662	Cord—Drive cord (approx. 59" overall length)		
38821	Dial—Dial scale		
35069	Fastener—Push fastener for dial plate		
36090	Indicator—Station selector indicator		
38350	Lever—Indicator arm actuating lever		
38673	Plate—Dial back plate complete with drive cord pulleys and indicator arm		
30550	Plug—4 prong male plug for battery cable	30900	Resistor—22 ohms, 1 watt (R17)
32280	Pulley—Drive cord pulley	30498	Resistor—390 ohms, 1/2 watt (R10, R11)
39030	Resistor—22 ohms, 1 watt (R17)	12262	Resistor—680 ohms, 1/2 watt (R14)
30734	Resistor—5600 ohms, 1/2 watt (R12)	30787	Resistor—47,000 ohms, 1/2 watt (R5)
30787	Resistor—47,000 ohms, 1/2 watt (R5)	14138	Resistor—68,000 ohms, 1/2 watt (R3)
14138	Resistor—68,000 ohms, 1/2 watt (R3)	14583	Resistor—220,000 ohms, 1/2 watt (R2)
14583	Resistor—220,000 ohms, 1/2 watt (R2)	30632	Resistor—1 megohm, 1/2 watt (R8)
30632	Resistor—1 megohm, 1/2 watt (R8)	30649	Resistor—2.2 megohm, 1/2 watt (R9)
30649	Resistor—2.2 megohm, 1/2 watt (R9)	12928	Resistor—3.3 megohm, 1/2 watt (R1, R13)
12928	Resistor—3.3 megohm, 1/2 watt (R1, R13)	30992	Resistor—10 megohm, 1/2 watt (R4, R7)
30992	Resistor—10 megohm, 1/2 watt (R4, R7)	36897	Shaft—Tuning knob shaft
36897	Shaft—Tuning knob shaft	70377	Shield—Tube shield for 1N5GT/G and 1H5GT/G tubes
70377	Shield—Tube shield for 1N5GT/G and 1H5GT/G tubes	31251	Socket—Tube socket
31251	Socket—Tube socket	31418	Spring—Drive cord tension spring
31418	Spring—Drive cord tension spring	38349	Spring—Indicator arm return spring
38349	Spring—Indicator arm return spring	38670	Switch—"Battery-Electric" power switch (S3, S4)
38670	Switch—"Battery-Electric" power switch (S3, S4)	70379	Transformer—First I.F. transformer (L5, L6, C12, C13)
70379	Transformer—First I.F. transformer (L5, L6, C12, C13)	70380	Transformer—Second I.F. transformer (L7, L8, C3, C4, C14, C15)
70380	Transformer—Second I.F. transformer (L7, L8, C3, C4, C14, C15)	33726	Washer—"C" for tuning knob shaft
33726	Washer—"C" for tuning knob shaft		

**CIRCUIT DESCRIPTION.**—Superheterodyne with one stage of radio frequency amplification, automatic volume control and class "A" beam power output. Battery operation, with optional AC-DC socket power attachment available. Model 55F can be operated on 105-125 volts AC, 50-60 cycles, or 105-125 DC, by means of an RCA CV-42 Electrifier.

**LOUDSPEAKER (5 inch) 92515-1** ..... 3.4 ohms  
 Voice coil impedance at 400 cycles. .... 3.4 ohms

**POWER SUPPLY**  
 Battery ..... RCA VS022 or equivalent  
 Battery Drain .....  
 "A" 1 1/2 volt section ..... 3 ampere  
 "B" 90 volt section ..... 10 m.a. (Switch in "Battery Saver Position")  
 14 m.a. (Maximum Output Position)

**POWER CONSUMPTION**  
 With CV-42 Electrifier Unit (switch in "Electric" position) ..... 22.5 watts  
 Cabinet Dimensions (inches) ..... 18 x 9 1/4 x 10 1/4

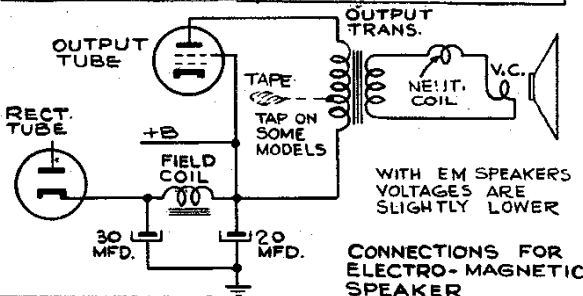
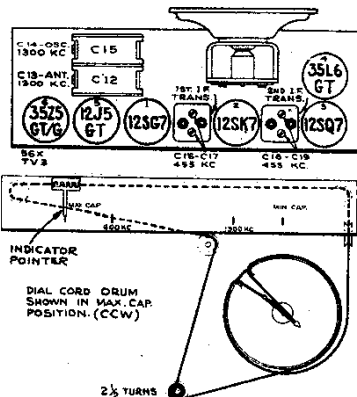
**Models 56X, 56X2, 56X3**

Steps	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	Stator of C-12 in series with .01 mfd.	455 kc	Quiet-point end of dial	C18 and C19 2nd I-F transformer
2				C16 and C17 1st I-F transformer
3	Ant. lead in series with 200 mmfd.	1,300 kc	1,300 kc	C14 (osc.) C13 (ant.)
4	Repeat step 3.			

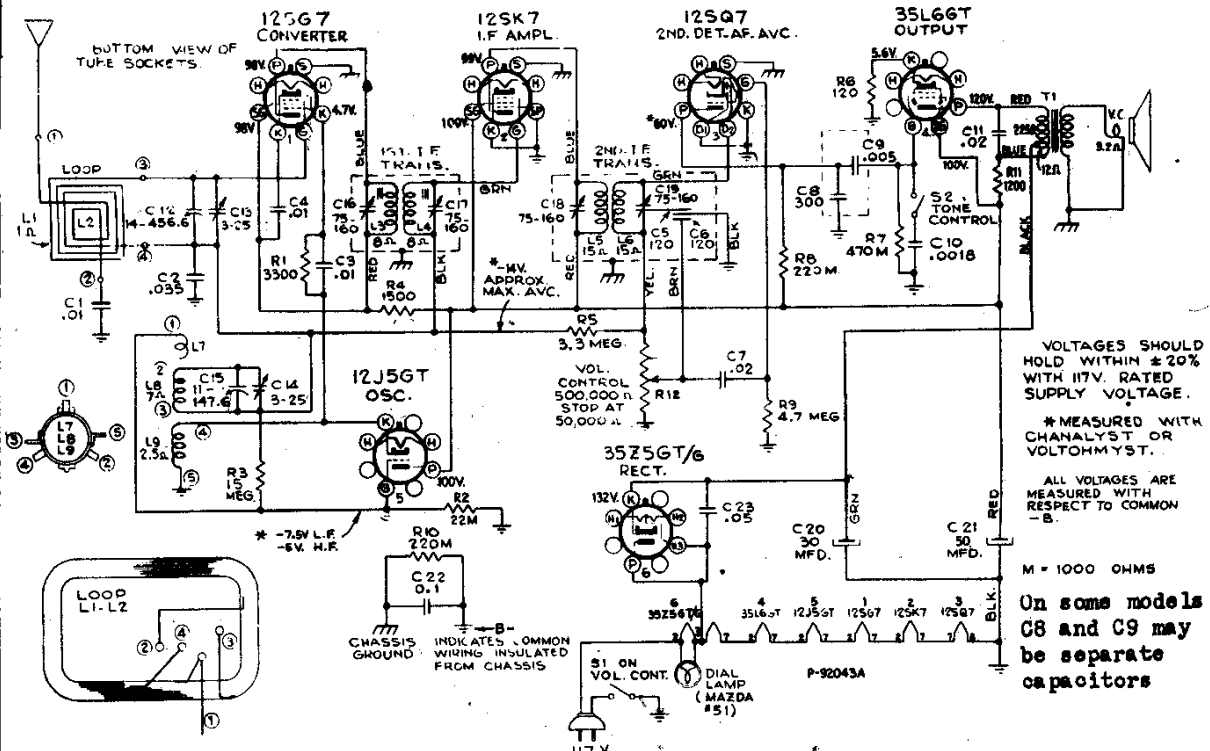
**Test Oscillator.**—Connect high side of test oscillator as shown in chart. Connect low side through a .01 mf capacitor to common "B". Keep the output signal as low as possible to avoid AVC action.

**Output Meter.**—Connect leads between speaker voice coil and chassis. Turn volume control to maximum clockwise, tone control to maximum highs (clockwise).

**Dial Pointer Adjustment.**—Rotate tuning condenser fully counter-clockwise (plates closed). Adjust indicator pointer to left (max. Cap.) mark on dial back plate.



RCA MFG. CO.



STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
<b>CHASSIS ASSEMBLIES</b>			
RC 1011			
37359	Capacitor—Comprising 1 section of .0003 mfd. and 1 section of .005 mfd. (C-8, C-9)	34449	Socket—Lamp socket
70712	Capacitor—Paper .0018 mfd., 600 volts (C-10)	37905	Socket—Tube socket, moulded
70652	Capacitor—Paper .01 mfd., 600 volts (C-1, C-3, C-4)	31418	Spring—Drive cord tension spring
70711	Capacitor—Paper .02 mfd., 700 volts (C-7, C-11)	36228	Switch—Tone switch (S-2)
70635	Capacitor—Paper .035 mfd., 300 volts (C-2)	70411	Transformer—First I.F. transformer (L-3, L-4, C-16, C-17)
70615	Capacitor—Paper .05 mfd., 400 volts (C-23)	70412	Transformer—Second I.F. transformer (L-5, L-6, C-5, C-6, C-18, C-19)
70617	Capacitor—Paper 0.1 mfd., 400 volts (C-22)	38800	Transformer—Output transformer (T-1)
39152	Capacitor—Electrolytic, comprising 1 section of 30 mfd., 150 volts, and 1 section of 50 mfd., 150 volts (C-20, C-21)	33726	Washer—"C" washer for tuning knob shaft
38824	Coil—Oscillator coil (L-7, L-8, L-9)	<b>SPEAKER ASSEMBLY</b>	
36228	Condenser—Variable tuning condenser (C-12, C-13, C-14, C-15)	92510-1	
36242	Control—Volume control and power switch (R-12, S-1)	70413	Speaker—5-inch PM speaker, complete
32834	Cord—Drive cord (approx. 48" long)	NOTE: If stamping on speaker in instrument does not agree with above speaker number, order replacement parts by referring to model number of instrument, number stamped on speaker and full description of part required.	
70392	Cord—Power cord	<b>MISCELLANEOUS ASSEMBLIES</b>	
36237	Drum—Drive drum	39953	Back—Cabinet back for 56X
36236	Indicator—Station selector indicator for 56X and 56X2	70408	Back—Cabinet back for 56X2
37089	Indicator—Station selector indicator for 56X3	70415	Back—Cabinet back for 56X3
38821	Loop—Antenna loop (L-1)	X1604	Board—Baffle board and grille cloth
11765	Lamp—Dial lamp	36990	Clamp—Dial clamp, left hand, for 56X and 56X2
36228	Plate—Dial back plate complete with pulleys less dial	36981	Clamp—Dial clamp, right hand, for 56X and 56X2
36230	Pulley—Drive cord pulley	39954	Dial—Glass dial scale for 56X3
30188	Resistor—120 ohms, 1/4 watt (R-6)	70410	Dial—Glass dial scale for 56X2
6134	Resistor—1200 ohms, 1/4 watt (R-11)	37931	Fastener—Push fastener (1 set) for cabinet backs on 56X and 56X2
30654	Resistor—1500 ohms, 1/4 watt (R-4)	33006	Feet—Rubber feet for cabinet (4 required)
30793	Resistor—3300 ohms, 1/4 watt (R-1)	70414	Knob—Control knob (ivory) for 56X2
30492	Resistor—22,000 ohms, 1/4 watt (R-2)	36222	Knob—Control knob (walnut) for 56X and 56X3
14583	Resistor—220,000 ohms, 1/4 watt (R-9, R-10)	30800	Spring—Retaining spring for knob
30648	Resistor—470,000 ohms, 1/4 watt (R-7)		
38785	Resistor—15 megohms, 1/4 watt (R-3)		
12928	Resistor—3.3 megohms, 1/4 watt (R-5)		
30931	Resistor—4.7 megohms, 1/4 watt (R-8)		
36887	Shaft—Tuning knob shaft		

Critical Lead Dress

- Dress output plate bypass capacitor (C-11 .02 mf) against chassis.
- Dress 35L6GT plate lead (red) against chassis and away from volume control, leads and terminals.
- Dress audio coupling capacitor (C-7 .02 mf) away from 35L6GT heater leads.
- Dress tone control lead against front apron.
- Dress 2nd I.F. yellow and brown leads away from output plate bypass capacitor (C-11, .02 mf.) and away from all heater leads.
- Dress lead to speaker voice coil away from tuning shaft "C" washer.
- Dress tone control capacitor (C-10, .0018 mf.) away from oscillator coil.
- Dress all uninsulated leads away from each other and away from chassis to prevent short circuits.
- Dress blue and green leads of both IF transformers back in shielda leaving exposed lengths as short as possible.

Frequency Range .....	540-1600 kc
Intermediate Frequency .....	455 kc
Power Output	
Undistorted .....	1.0 watt
Maximum .....	1.5 watts
Power Supply Rating	
105-125 volts, AC, 50 or 60 cycles, or DC .....	30 watts
Pilot Lamp .....	Mazda No. 51, 6-8 volts, 0.2 amp.
Tuning Drive Ratio .....	20:1
Loudspeaker (92510-1)	
Type .....	5-inch PM
V. C. Impedance .....	3.4 ohms at 400 cycles