



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

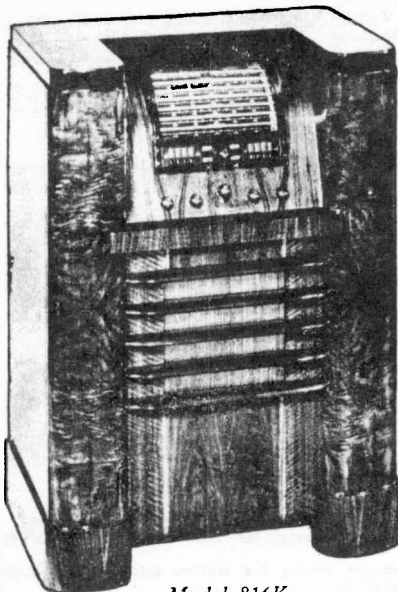
	Model: 816K	Chassis:	Year: Pre October 1938
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		

Resources

RCA Service Data 1933-37 612-B
RCA Service Data 1933-37 613-B
RCA Service Data 1933-37 614-B
RCA Service Data 1933-37 615-B
RCA Service Data 1933-37 616-B
RCA Service Data 1933-37 617-B
RCA Service Data 1933-37 618-B
RCA Service Data 1933-37 619-B
RCA Service Data 1933-37 620-B
RCA Service Data 1933-37 621-B
RCA Service Data 1933-37 622-B
Riders 9 (IX) RCA 9-192
Riders 9 (IX) RCA 9-194
Riders 9 (IX) RCA 9-195
Riders 9 (IX) RCA 9-196
Riders 9 (IX) RCA 9-197
Riders 9 (IX) RCA 9-198
Riders 9 (IX) RCA 9-199
Riders 9 (IX) RCA 9-200

MODEL 816K

Sixteen-Tube, Seven-Band, AC, Superheterodyne Receiver



Model 816K

Radiotron Cathode Current Readings

Measured with Milliammeter Connected at Tube Socket
Cathode Terminals Under Conditions Similar to
Those of Voltage Measurements

(1) RCA-6K7—R-F Amp.....	6.2 ma.
(2) RCA-6L7—1st Det.....	3.0 ma.
(3) RCA-6J7—Osc.....	10.0 ma.
(4) RCA-6J7—Osc. Control.....	1.2 ma.
(5) RCA-6K7—1st I-F Amp.....	6.7 ma.
(6) RCA-6K7—A-V-C, A-F-C, Eye I-F Amp.	8.0 ma.
(7) RCA-6K7—2nd I-F Amp.....	6.9 ma.
(8) RCA-6H6—2nd Det.....	—
(9) RCA-6H6—A.V.C., A.F.C., and Eye..	—
(10) RCA-6C5—A-F Amp.....	1.0 ma.
(11) RCA-6F6—Driver.....	23.0 ma.
(12) RCA-6L6—Output.....	51.5 ma.
(13) RCA-6L6—Output.....	51.5 ma.
(14) RCA-6G5—Tuning Tube.....	2.2 ma.
(15) RCA-5T4—Rectifier.....	90 ma.**
(16) RCA-5T4—Rectifier.....	90 ma.**

(**Cannot be measured at socket)

Electrical Specifications

FREQUENCY RANGES

"Standard Broadcast" (A).....	530-1,720 kc
"M.W." Medium Wave (B).....	2,400-7,100 kc
"S.W." Short Wave (C).....	7,100-21,750 kc
"49M." (49 Meters).....	5,970-6,240 kc
"31M." (31 Meters).....	9,410-9,690 kc
"25M." (25 Meters).....	11,680-11,920 kc
"19M." (19 Meters).....	15,090-15,380 kc

Intermediate Frequency..... 460 kc

RADIOTRON COMPLEMENT

(1) RCA-6K7.....	R-F Amplifier
(2) RCA-6L7.....	First Detector
(3) RCA-6J7.....	Heterodyne Oscillator
(4) RCA-6J7.....	Oscillator Control
(5) RCA-6K7.....	First I-F Amplifier
(6) RCA-6K7.....	A-V-C, A-F-C, and Eye I-F Amplifier
(7) RCA-6K7.....	Second I-F Amplifier
(8) RCA-6H6.....	Second Detector

R-F ALIGNMENT FREQUENCIES

"49M." (49 Meters).....	6,100 kc (osc., det., ant.)
"31M." (31 Meters).....	9,600 kc (osc.)
"25M." (25 Meters).....	11,700 kc (osc.)
"19M." (19 Meters).....	15,300 kc (osc.)
"S.W." Short Wave (C).....	9,500 kc (osc.), 20,000 kc (osc.)
"M.W." Medium Wave (B).....	6,000 kc (osc.)
"Standard Broadcast" (A)...	600 kc (osc.), 1,500 kc (osc.)

Pilot Lamps (11)..... Mazda No. 46, 6.3 volts, 0.25 amp.

POWER SUPPLY RATINGS

Rating A	105-125 volts, 50-60 cycles, 200 watts
Rating B	105-125 volts, 25 cycles, 200 watts
Rating C	100-130/140-160/195-250 volts, 50-60 cycles, 200 watts

POWER OUTPUT

Undistorted.....	25 watts
Maximum.....	30 watts

LOUDSPEAKER

Type.....	12-inch Electrodynamic
Impedance (v.c.).....	11.5 ohms at 400 cycles

Precautionary Lead Dress.—(1) Green bus lead from C1 to S2 should be 2¼ inches long, (2) green bus lead from C59 to S4 should be 2½ inches long, (3) green bus lead from C13 to S3 should be 2¼ inches long, (4) bare bus lead from C12 to S3 should be 1½ inches long, (5) blue and red leads from tube No. 3 to L9 should be dressed away from the coil, (6) tube No. 3 grid lead should be 6 inches long, (7) all leads to rear of oscillator coils should be dressed close to the chassis, (8) clamp "Magic Eye" cable to the dial bracket, (9) filament leads should all be twisted, (10) leads from C44 and C48 should be replaced dressed away from other leads, (11) twisted a-c leads near R22 should be dressed away from R22, (12) leads from S5 to the first i-f transformer should be twisted, (13) temperature-stabilizing capacitors marked 1A, 2A, and 3A should be

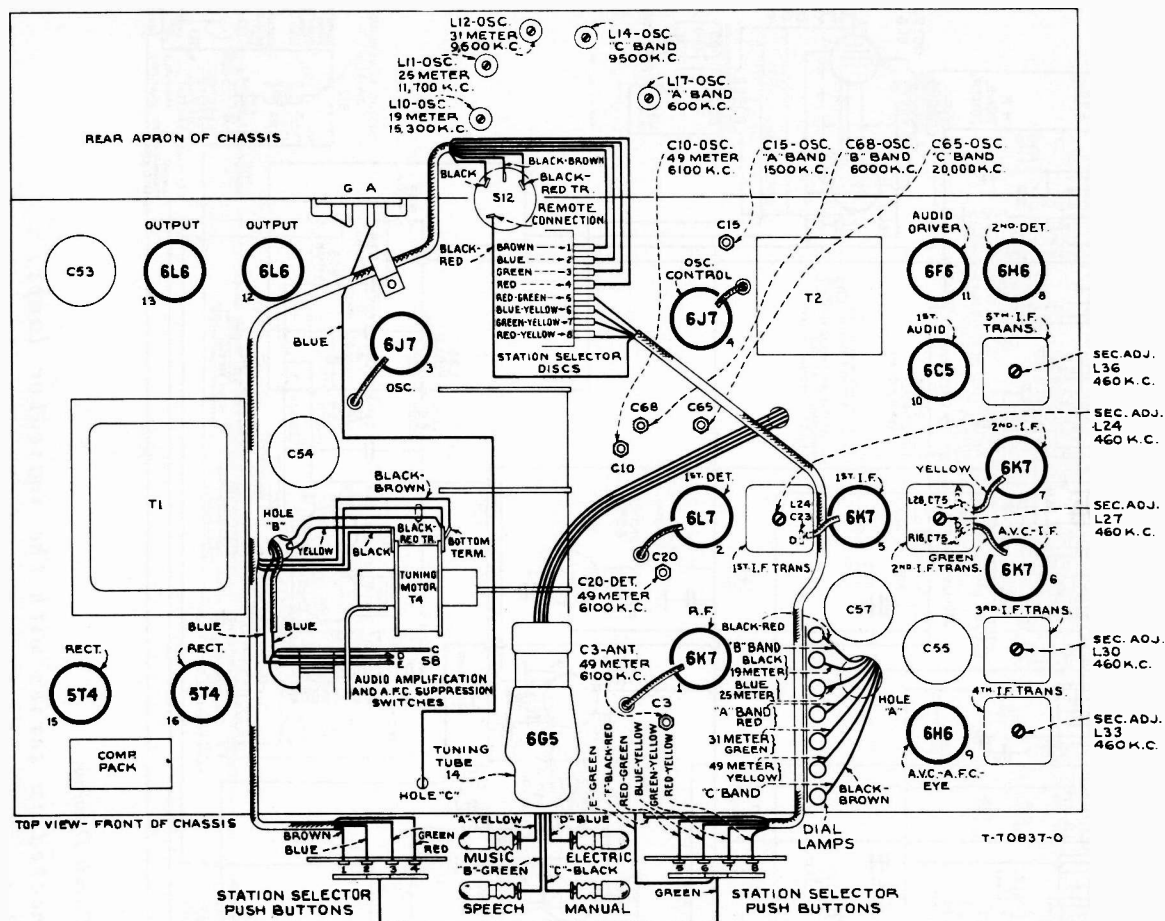
dressed perpendicular to chassis, (14) blue bus lead from L21 to tube No. 1 plate should be dressed away from shield plate on range selector assembly, (15) C36, C38, and K_a of tube No. 9 should be grounded to the ground lances near corner of chassis. The following should be dressed away from chassis: (16) Yellow bus lead from cathode of tube No. 3 to S3, (17) yellow bus lead to OG of tube No. 2, (18) yellow bus lead from the 5th i-f transformer to phonograph terminal board, (19) blue bus lead from C47 to R26. When necessary to replace bus leads, use only wire having same diameter as original.

REFER TO INDEX FOR ADDITIONAL DATA PERTAINING TO ELECTRIC TUNING

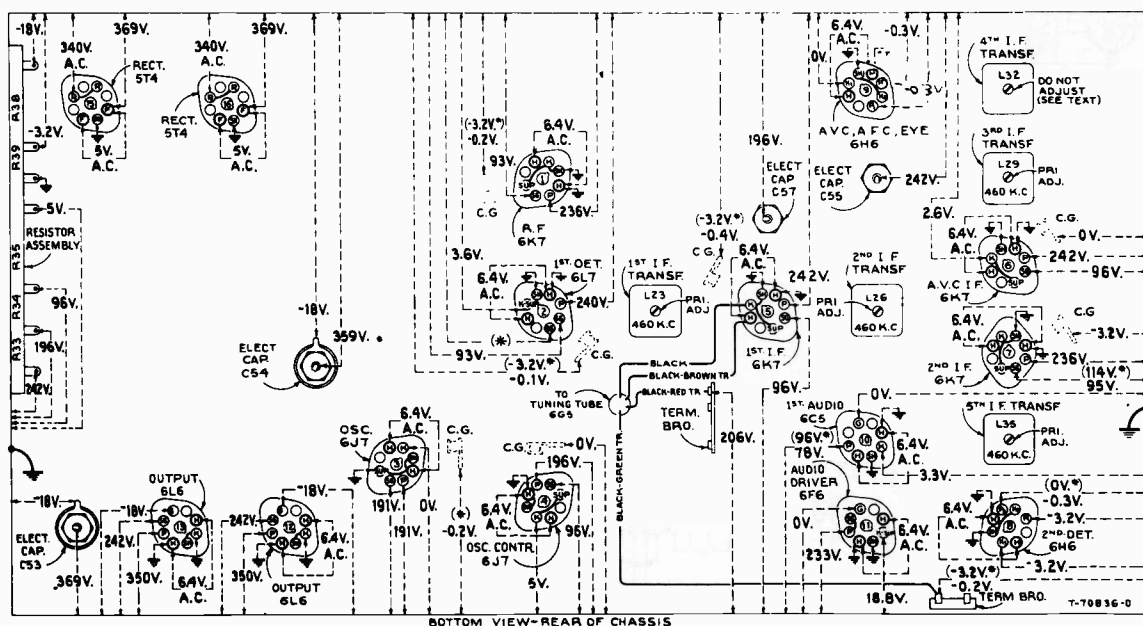


Schematic Circuit Diagram

NOTE: On later production, a 1.8 ohm resistor is connected in series with the indicator lamps. When servicing, this resistor should be installed. Refer to text for additional changes and service hints.



-Radiotron, Coil, and Trimmer Locations



-Radiotron Socket Voltages, Coil, and Trimmer Locations

Measured at 115 volts, 60-cycle supply—Tuned to approximately 1,000 kc ("Standard Broadcast")—"Manual" control—No signal being received—Volume control minimum—Fidelity control optional

Note: Two voltage values are shown for some readings. The value shown in parentheses with asterisk (*) indicates operating conditions without voltmeter loading.

Alignment Procedure

Calibrate the tuning dial by adjusting dial pointer to the left ends of horizontal calibration lines with the gang tuning-condenser plates in full-mesh position. This is a screw-driver adjustment.

The "Fidelity" control should be turned counter-clockwise during all alignment operations. The "Manual-Electric-Remote" switch should be turned to "Manual" (clockwise) during alignment unless otherwise specified. The bottom shield pan must be in place during spread-band alignment. Permit the set to operate at least five minutes before attempting alignment.

The Magic Eye may be used as an output indicator for all adjustments except L35 and L36. It is preferable to replace the 6G5 tuning tube with a 6E5 during alignment.

CAUTION.—The magnetite core screw L32 on the bottom of the 4th i-f transformer has been accurately adjusted, for an exact electrical balance of coil L32 to center tap, during manufacture and should not be disturbed. However, if for any reason the adjustment has been moved from its original position, it will be necessary to mechanically adjust this screw until the end of the stud protrudes exactly $\frac{1}{8}$ of an inch (four threads exposed) above the brass bushing prior to any alignment operations.

Order of Alignment	Test Oscillator			Range-Selector	Receiver Dial Setting	Circuit to Adjust	Adjustment Symbols	Adjust to Obtain
	Connection to Receiver	Dummy Antenna	Frequency Setting					
1	—	—	—	—	—	4th I-F Trans.	L33	Turn Extreme Counter-clockwise
2	No. 6 6K7 Eye I-F Grid Cap	.001 Mfd.	460 kc	"Standard Broadcast"	No Signal 550-750 kc	3rd I-F Trans.	L29 and L30	Min. Eye
3	No. 5 6K7 1st I-F Grid Cap	.001 Mfd.	460 kc	"Standard Broadcast"	No Signal 550-750 kc	2nd I-F Trans.	L26 and L27	Min. Eye
4	No. 2 6L7 Det. Grid Cap	.001 Mfd.	460 kc	"Standard Broadcast"	No Signal 550-750 kc	1st I-F Trans.	L23 and L24	Min. Eye
5	No. 2 6L7 Det. Grid Cap	.001 Mfd.	460 kc	"Standard Broadcast"	No Signal 550-750 kc	5th I-F Trans.	L35 and L36	Max. (peak)
6	Ant. Term.	300 Ohms	6,000 kc _a	"49M."	6.0 mc	"49M." Osc.	C10	Min. Eye _b
7	Ant. Term.	300 Ohms	6,100 kc	"49M."	6.1 mc	"49M." Osc.	C10	Min. Eye
8	Ant. Term.	300 Ohms	6,100 kc	"49M."	6.1 mc	"49M." Det.	C20	Min. Eye
9	Ant. Term.	300 Ohms	6,100 kc	"49M."	6.1 mc	"49M." Ant.	C3	Min. Eye
10	Ant. Term.	300 Ohms	1,200 kc _c	"31M."	9.6 mc	"31M." Osc.	L12	Min. Eye _d
11	Ant. Term.	300 Ohms	1,300 kc	"25M."	11.7 mc	"25M." Osc.	L11	Min. Eye _e
12	Ant. Term.	300 Ohms	1,700 kc	"19M."	15.3 mc	"19M." Osc.	L10	Min. Eye _f
13	Ant. Term.	300 Ohms	20,000 kc	"S.W."	20 mc	"S.W." H-F Osc. ("C")	C65	Min. Eye _g
14	Ant. Term.	300 Ohms	8,500 kc	"S.W."	9.5 mc	"S.W." L-F Osc. ("C")	L14	Min. Eye _h
15	Ant. Term.	300 Ohms	20,000 kc	"S.W."	20 mc	"S.W." H-F Osc. ("C")	C65	Min. Eye
16	Ant. Term.	300 Ohms	6,000 kc	"M.W."	6.0 mc	"M.W." Osc. ("B")	C68	Min. Eye
17	Ant. Term.	200 Mmfd.	1,500 kc	"Standard Broadcast"	1,500 kc	"A" H-F Osc.	C15	Min. Eye
18	Ant. Term.	200 Mmfd.	600 kc	"Standard Broadcast"	600 kc	"A" L-F Osc.	L17	Min. Eye
19	Ant. Term.	200 Mmfd.	1,500 kc	"Standard Broadcast"	1,500 kc	"A" H-F Osc.	C15	Min. Eye
20	Proceed to A-F-C Discriminator Adjustments Outlined Below							

a—Refer to "Spread-band Adjustments" below for method of using the RCA Stock No. 9572 Crystal Calibrator for adjustments 6, 7, 8, and 9.

b—Use minimum capacity peak if two peaks can be obtained from 1,000 kc harmonics.

c—Refer to "Spread-band Adjustments" below for Test Oscillator setting for adjustments 10, 11 and 12.

d—To check for correct harmonic carefully set Test Oscillator to 1,600 kc using Crystal Calibrator. Signal should be indicated by "Magic Eye" in "31M." band near 9.6 mc.

e—To check for correct harmonic carefully set Test Oscillator to 900 kc using Crystal Calibrator. Signal should be indicated by "Magic Eye" in "25M." band near 11.7 mc.

f—To check for correct harmonic carefully set Test Oscillator to 900 kc using Crystal Calibrator. Signal should be indicated by "Magic Eye" in "19M." band near 15.3 mc.

g—After this adjustment, check for image signal by shifting receiver dial to 19.08 mc. (19,080 kc).

h—Check for image at 8.58 mc. (8,580 kc).

Spread-band Adjustments.—Alignment of the spread ("Overseas") bands requires special procedure since test oscillators used alone are not ordinarily sufficiently accurate for this purpose. The RCA Stock No. 9572 Crystal Calibrator affords a convenient and accurate alignment standard. Wrap a few turns of wire around the crystal calibrator and connect one free end to the antenna terminal of the receiver. Snap crystal calibrator "Hi-Lo" switch to "Hi" (1,000 kc), turn the range selector to "49M." band, and set receiver dial pointer to 6.0 mc. Adjust oscillator trimming capacitor C10 for minimum "Magic Eye" opening (Min. Eye). Use the peak indicated by the alignment table. Snap "Hi-Lo" switch to "Lo" (100 kc) and locate 6,100 kc (the first 100 kc harmonic above 6,000 kc) by slightly readjusting C10 with the dial pointer set at 6.1 mc. This method insures selection of correct crystal calibrator harmonic. Adjust 1st detector and antenna trimming capacitors, C20 and C3, for maximum output.

Follow the tabulated alignment procedure for the "31M.", "25M.", and "19M." bands. Use the crystal calibrator to obtain the necessary accuracy. For example, tune the receiver to the 1,000 kc crystal calibrator output with the crystal calibrator "Hi-Lo" switch in "Hi" position. Snap "Hi-Lo" switch to "Lo" and carefully tune receiver to 1,200 kc (the second 100 kc harmonic above 1,000 kc) for minimum "Magic Eye" opening. Move crystal calibrator away from antenna wire, connect test oscillator, and carefully adjust test oscillator for minimum "Magic Eye" opening at a setting of approximately 1,200 kc. Raise test-oscillator output to give sufficient harmonic output and use 8th harmonic (9,600 kc) for aligning in "31M." band at 9.6 mc. Align in the "25M." band at 11.7 mc. (11,700 kc), the 9th harmonic of the test-oscillator 1,300 kc output. Align in the "19M." band at 15.3 mc (15,300 kc), the 9th harmonic of the test-oscillator 1,700 kc output. In each case select the peak giving minimum "Magic Eye" opening.

When aligning with the RCA Stock No. 150 Test Oscillator use the variable (unmodulated) oscillator and "Magic Eye" indication of receiver output. Set test-oscillator dial 800 kc lower than the desired signal for the four lower frequency ranges and 800 kc higher than the desired signal for the two high ranges and use in same manner as TMV97-C. Insert an open-circuit telephone plug in the test oscillator "Ext. Mod." jack, so the modulated fixed-frequency oscillator will be cut off, and align on the unmodulated variable oscillator signal, which will close the "Magic Eye" and evidence itself by a rushing noise in the speaker.

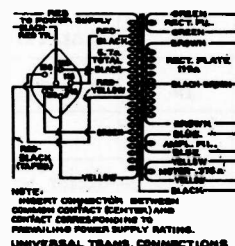
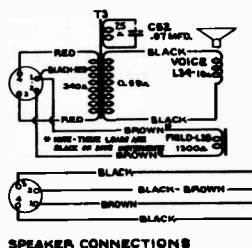
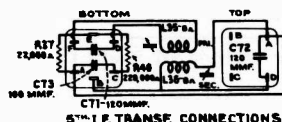
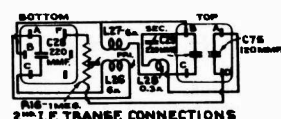
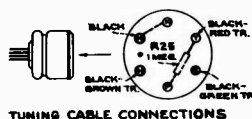
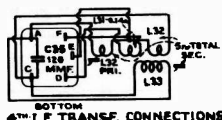
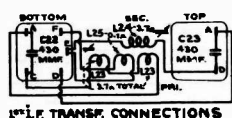
If the crystal calibrator signals are weak, disconnect test oscillator while using the crystal calibrator.

More accurate alignment in the spread-bands can be accomplished by making final slight adjustments using American, English, or German short-wave broadcasting stations of known frequency for frequency standards.

†The No. 150 Test Oscillator employs a fixed-frequency (800 kc), modulated oscillator and a variable, unmodulated oscillator. The scale is calibrated to the sum frequency for the two higher frequency ranges and to the difference frequency for the four lower frequency ranges.

A-F-C Discriminator Adjustments.—These adjustments are rather critical and should be performed with extreme care. Improper adjustment may result in complete failure of the oscillator control tube to function or else may cause it to detune the oscillator instead of tuning it to the signal. It is assumed that the magnetite core adjusting screw L33 (top of 4th i-f transformer) has been turned all the way out (extreme counter-clockwise) during the preceding tabulated adjustments. Adjustments are as follows: Remove spring "N" on link and arm assembly which connects the "Manual-Electric-Remote" switch shaft to the throw-out gear bracket. Turn "Fidelity" control counter-clockwise. Connect antenna to receiver antenna terminal. With the "Manual-Electric-Remote" switch in "Manual" (right) position, tune in a strong local station near 600 kc or the low-frequency end of the "A" band as accurately as possible by means of the tuning tube "Magic Eye." The most accurate adjustment will be obtained by adjusting the "vernier" tuning knob mid-way between the two points where the eye just appears to start to open. This will place the generated i-f carrier signal frequency exactly in the center of the i-f amplifier response curve (should be 460 kc if i-f amplifier was properly aligned) and is the frequency to which the a-f-c discriminator (4th i-f transformer) should be tuned to resonance. Without disturbing any of the receiver adjustments, place the "high" test-oscillator lead about $\frac{3}{4}$ of an inch from the grid cap lead of the RCA-6K7, 1st i-f amplifier tube, adjust the test-oscillator output to maximum, turn test-oscillator "Modulation" off, and carefully zero-beat the test-oscillator frequency (approximately 460 kc) with the i-f carrier signal. Avoid placing the test-oscillator lead nearer to the grid cap lead than specified above, as doing so will tend to detune the i-f amplifier. It may be necessary to reduce the local station signal, during this operation, by shortening antenna lead or grounding antenna "A" terminal to chassis in order to increase the loudness of the beat note sufficiently for accurate zero-beat adjustment.

Throw "Manual-Electric-Remote" switch to "Electric" (center) position. A high whistle or beat note will now be heard. Turn the magnetite core screw L33 (top of 4th i-f transformer) slowly clockwise. As this screw is turned, the beat note will first increase to a high audio frequency and will then decrease to a zero-beat and then increase in frequency again. The point of exact zero-beat is the position for correct adjustment of the discriminator. Zero-beat should also still exist when the "Manual-Electric-Remote" switch is thrown back to "Manual" position. The adjustment is now complete and may be checked by slightly detuning the receiver above and below the local station frequency with the "Manual-Electric-Remote" in "Manual" position, switching to "Electric" position, and noting the oscillator pull-in. Replace spring "N."



NOTE: INSERT CONNECTION BETWEEN COMMON CONTACT (CENTER) AND CONTACT CORRESPONDING TO PREVALING POWER SUPPLY RATING.

816K

Loudspeaker Jumper Cable:

The jumper cable assembly used on later instruments is available in complete form, including the male plug and female connector, as Stock No. 30678. The cable is 25 inches long.

DIAL CALIBRATION

Abnormal variations of dial readings on the 49, 31, 25 or 19 meter spread bands, from the correct frequency may be caused in some instances by insecure contact at various points in the oscillator circuit. The following points should be carefully checked should this type of trouble be exhibited.

- (1) Poor or intermittent contact of the oscillator section of the range switch. The rotary disc may be loose on the shaft causing insecure and irregular connection. A metal or wooden wedge should be driven between the disc and the shaft to make the two rigid with each other.
- (2) Intermittent contact of the metal sleeves or spacers on the support rods of the band switch will upset the ground circuit and produce frequency variations. These should be tightly pinched with a pair of pliers at their ends in order to provide solid contact with the assembly rods.
- (3) The connection between the feet of the band switch shield partitions and the chassis must be secure. Soldering of the shield to the chassis is effective in eliminating variations of ground circuit at this point.
- (4) Vibration of rear end shield partition of the band switch may be causing trouble. A strip of felt, mounted on the chassis shelf directly below the shield partition to prevent its vibration will be of considerable advantage.
- (5) Variation of R-F potential of band switch shaft and consequent change of circuit constants may be minimized by grounding the inner end of the shaft with a flexible pigtail to the chassis.

Service Hints

- a. Capacitors C18 and C74 should be carefully checked for leakage or short circuit in cases of intermittent operation or no operation. C74 should be eliminated from the circuit, R9 should be shorted out, and C18 replaced by Stock No. 4839, as shown by the Schematic Circuit Diagram figure 1, in the event of trouble in this circuit.
- b. Capacitor C5 should be checked for leakage or short circuit.
- c. Resistor R5 was 33,000 ohms in some instruments. Replace with Stock No. 12333.
- d. Capacitor C16 was 82 mmfd. in some instruments. Replace with Stock No. 14021.

OSCILLATOR CAPACITORS

The 100 mmfd. molded Luscite capacitors which connect in parallel with the band spread oscillator tuning condenser for short wave operation, are specially designed to have a negative thermal co-efficient of capacity to compensate for variations in other parts of the oscillator circuit with temperature changes. These capacitors are therefore *not* interchangeable with ordinary types and replacements should always be made with the particular RCA Stock No. specified in the replacement parts list. Care must be exercised in replacing these parts, to avoid twisting the leads excessively or allowing too much heat to be applied when soldering.

ADDITIONAL REPLACEMENT PARTS

- 30623 Capacitor - 1.0 mfd (C38).
 30587 Connector - 4 contact female with metal shell for reproducer cable (some models only).
 5040 Connector - 4 contact female for reproducer. Inter connecting cable (some models only).
 30568 Connector - 4 contact male with metal shell for reproducer inter connecting cable. (some models only).
 30647 Resistor - 1.8 ohm resisto-fuse lamp. (R42).

REPLACEMENT PARTS

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

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
RECEIVER ASSEMBLIES		30016	Capacitor—12 Mmfd. (C34)
14726	Arm—Hub and arm complete with set screws—Connects station selector drum to rear of tuning condenser shaft	12896	Capacitor—15 Mmfd. (C64)
14883	Arm—Arm and hub assembly located on "Manual-Electric-Remote" switch shaft	30015	Capacitor—15 Mmfd. (C33)
14517	Board—Antenna and ground terminal board	14021	Capacitor—22 Mmfd. (C16)
12717	Board—Phonograph terminal board	12948	Capacitor—33 Mmfd. (C40)
14886	Bracket—Left hand dial bracket and pulley assembly	14910	Capacitor—90 Mmfd. (C21)
14884	Bracket—Right hand dial bracket and pulley assembly	14908	Capacitor—98.5 Mmfd. (C9)
14878	Bracket—Tuning tube mounting bracket and clamp assembly	14906	Capacitor—100 Mmfd. (C7)
5237	Bushing—Variable condenser rubber mounting bushing assembly	12720	Capacitor—100 Mmfd. (C36, C58)
14919	Cable—5 conductor push-button selector cable	14960	Capacitor—100 Mmfd. (C73)
14918	Cable—7 conductor tuning drive motor and push-button selector cable	14907	Capacitor—103.5 Mmfd. (C8)
12807	Cap—First or second I-F transformer shield cap	14909	Capacitor—110 Mmfd. (C6)
12581	Cap—Third, fourth or fifth I-F transformer shield cap	12404	Capacitor—120 Mmfd. (C35, C71, C72, C75)
11350	Cap—Grid contact cap	14712	Capacitor—180 Mmfd. (C31, C32)
12884	Capacitor—Adjustable trimmer (long) (C3, C10, C15, C20, C65, C68)	14711	Capacitor—220 Mmfd. (C28, C29)
14392	Capacitor—4.7 Mmfd. (C62)	12952	Capacitor—330 Mmfd. (C2, C19, C45)
13002	Capacitor—12 Mmfd. (C67)	14710	Capacitor—430 Mmfd. (C22, C23)
		13052	Capacitor—470 Mmfd. (C14)
		14911	Capacitor—580 Mmfd. (C11)
		13140	Capacitor—1500 Mmfd. (C63)
		30160	Capacitor—2700 Mmfd. (C66)
		12897	Capacitor—4700 Mmfd. (C5)
		4838	Capacitor—.005 Mfd. (C49, C51)
		4937	Capacitor—.01 Mfd. (C50)

REPLACEMENT PARTS (Continued)

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
13138	Capacitor—.01 Mfd. (C17, C24, C27, C30, C39, C46, C69, C70)	14887	Retainer—Indicator drive cord pulley retainer
11315	Capacitor—.015 Mfd. (C47)	30014	Scale—19 meter glass dial strip
4870	Capacitor—.025 Mfd. (C42)	30013	Scale—25 meter glass dial strip
4886	Capacitor—.05 Mfd. (C61)	30011	Scale—31 meter glass dial strip
4839	Capacitor—.01 Mfd. (C4, C18, C25, C26, C37, C60)	30010	Scale—49 meter glass dial strip
5212	Capacitor—.16 Mfd. (C55)	14962	Scale—"C" band glass dial strip
14377	Capacitor—.16 Mfd. (C57)	14961	Scale—"B" band glass dial strip
13611	Capacitor—.20 Mfd. (C56)	30285	Scale—"A" band glass dial strip
14531	Capacitor—.25 Mfd. (C53, C54)	4669	Screw—No. 8-32x5/32 square head set screw for drum Stock No. 14856, arm Stock No. 14728 and Stock No. 14883
30053	Capacitor Pack—Compensating capacitor pack comprising two .015 mfd. capacitors, one 27,000 ohm and one 33,000 ohm resistors (C41, C43, R21, R23)	12418	Screw—No. 8-32x3/16 milled head screw for gear Stock No. 14739
14902	Capacitor Pack—Comprising two sections 10 mfd. each (C44, C48)	14848	Selector—Station selector drum mechanism—comprising selector contactor disc's, spring contacts, and motor reversing switch assembled in metal frame
14948	Coil—"A" band antenna coil (L7, L8)	14882	Shield—Chassis bottom shield
14949	Coil—"B" band antenna coil (L5, L6)	12735	Shield—Dial lamp shield
14950	Coil—"C" band antenna coil (L3, L4)	12008	Shield—I-F transformer shield can
14951	Coil—Special band spread antenna coil (L1, L2)	14901	Shield—Rubber shield for tuning tube
14867	Coil—"A" band detector coil (L21, L22)	14992	Slide—Indicator pointer slider and spring assembly
14952	Coil—"B" band detector coil (L20)	11195	Socket—5 contact 6T4 Radiotron socket
14953	Coil—"C" band detector coil (L19)	11196	Socket—8 contact 6K7, 6L6, 6J7, 6F6, 6H6, or 6C5 Radiotron socket
14954	Coil—Special band spread detector coil (L18)	14877	Socket—8 contact 6J7 Radiotron impregnated socket for socket mounting plate Stock No. 12471 and 6K7 or 6L7 Radiotron
14869	Coil—"A" band oscillator coil (L16, L17)	14114	Socket—Dial lamp socket
14955	Coil—"B" band oscillator coil (L15)	13638	Spring—Drive cord tension spring
14956	Coil—"C" band oscillator coil (L14)	12007	Spring—Retaining spring for core Stock No. 12006
14873	Coil—19 meter band oscillator coil (L9, L10)	3676	Spring—Tension spring for link and arm Stock No. 14883
14872	Coil—25 meter band oscillator coil (L11)	14694	Spring—Tension spring for station selector push-button switch latch bar
14871	Coil—31 meter band oscillator coil (L12)	14889	Strap—Strap and bolt assembly used to hold glass dial strips in position
14957	Coil—49 meter band oscillator coil (L13)	14891	Strip—Finish strip used between glass dial strips
14858	Condenser—3 gang variable tuning condenser complete with gear train (C1, C12, C13, C59)	14742	Stud—Mounting stud for gear and arm Stock No. 14738
5040	Connector—4 contact female connector for reproducer cable	14874	Switch—"Manual-Electric-Remote" switch (S6, S10, S13)
14733	Contact—Spring contact for engaging discs in station selector drum for type 1 contact assembly	14863	Switch—L-F tone and power switch (S7, S9, S11)
30365	Contact—Comprising 8 spring contacts assembled on insulating strip for engaging discs in station selector drum (type 2 contact assembly)	14732	Switch—Motor reversing switch and mounting plate for station selector (S12)
14857	Cord—Indicator drive cord	14947	Switch—Range switch (S2, S3, S4)
12006	Core—Adjustable core and stud for I-F transformers	14728	Switch—A-F-C and A-F amplification suppression switch (S8)
14890	Cushion—Black rubber dial cushion	14904	Switch—Station selector switch parts comprising one 4 point contact board, one 4 point conductor plate, insulator and lockplate
14862	Drive—Tuning condenser vernier drive shaft and pinion gear	14703	Tone control—H-F tone control (R26, S5)
14856	Drum—Drive cord drum complete with set screws	14706	Transformer—First I-F transformer (L23, L24, L25, C22, C23)
14731	Drum—Station selector drum rotor—comprising 8 station selector contactor discs assembled on shaft	14958	Transformer—Second I-F transformer (L26, L27, L28, C28, C29, C75, R16)
10907	Fuse—3 Amp. (F1)	14708	Transformer—Third I-F transformer (L29, L30, C31, C32)
14738	Gear—Drive pinion gear and arm	14709	Transformer—Fourth I-F transformer (L31, L32, L33, C35)
14739	Gear—Drive gear and set screws—located on tuning condenser knob shaft	14959	Transformer—Fifth I-F transformer (L35, L36, C71, C72, C73, R37, R40)
14734	Gear—Intermediate gear assembly—comprising one .749-in. O.D., 34 tooth gear and one .291-in. O.D., 12 tooth pinion assembled.	14855	Transformer—Driver transformer (T2)
14735	Gear—Intermediate gear assembly—comprising one 1.541-in. O.D., 72 tooth gear and one .291-in. O.D., 12 tooth pinion assembled.	14944	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14860	Gear—Intermediate gear assembly—comprising one 1.541-in. O.D., 72 tooth gear and hub assembled	14945	Transformer—Power transformer 105-125 volts, 25-60 cycle (T1)
14861	Gear—Throwout gear and bracket	30156	Transformer—Power transformer 100-130/140-160/195-250 volts, 50-60 cycle (T1)
14900	Indicator—Station selector indicator pointer	12861	Volume Control (R22)
5226	Lamp—Dial lamp	REPRODUCER ASSEMBLIES (RL76-S)	
14729	Motor—Tuning drive motor for 60 cycle models only (M-1)	14606	Cap—Dust cap for cone center
14730	Motor—Tuning drive motor for 25 cycle models only (M-1)	14922	Coil—Reproducer field coil (L38)
14859	Plate—Tuning condenser front plate and studs assembled for mounting drive gears	14602	Cone—Reproducer cone, voice coil, center suspension and dust cap (L34)
12471	Plate—6J7 socket mounting plate assembly for cushion socket—less socket	5039	Plug—4 contact male plug for reproducer
30557	Plug—Power cord plug less fuses Stock No. 10907	30131	Reproducer—Complete
14886	Pulley—Indicator drive cord pulley—located on right or left hand dial bracket	14992	Transformer—Output transformer (T3, C52)
14946	Reactor—Filter reactor (L37)	14357	Washer—Spring washer to hold field coil securely
13250	Resistor—330 ohms, carbon type, 1/2 watt (R15)	MISCELLANEOUS ASSEMBLIES	
11355	Resistor—390 ohms, carbon type, 1/2 watt (R6)	14745	Button—Station selector switch button
30158	Resistor—820 ohms, carbon type, 1/2 watt (R30)	30381	Card—Call letter cards for station selector
11935	Resistor—1000 ohms, carbon type, 1/10 watt (R2, R13)	14925	Crystal—Dial escutcheon crystal only
14720	Resistor—1000 ohms, carbon type, 1/2 watt (R10, R36)	14923	Escutcheon—Dial and tuning tube escutcheon only—less crystal and buttons
14993	Resistor—1200 ohms, carbon type, 1/10 watt (R41)	14924	Escutcheon—Dial and tuning tube escutcheon and crystal complete
13031	Resistor—3300 ohms, carbon type, 1/10 watt (R29)	14926	Indicator—"Electric-Manual" indicating screen
5114	Resistor—15,000 ohms, carbon type, 1 watt (R31)	14927	Indicator—"Music-Speech" indicating screen
14078	Resistor—18,000 ohms, carbon type, 1 watt (R24)	14751	Key—Key for use in adjusting "Electric Tuning"
14284	Resistor—22,000 ohms, carbon type, 1/10 watt (R37)	14359	Knob—Large station selector knob
12454	Resistor—33,000 ohm, insulated, 1/2 watt (R4, R12)	14688	Knob—Range switch knob
12333	Resistor—68,000 ohms, carbon type, 1/2 watt (R5)	14269	Knob—Volume control, "Manual-Electric-Remote" switch, H-F tone control, L-F tone control or small station selector knob
11365	Resistor—82,000 ohms, carbon type, 1/2 watt (R32)	5210	Screw—Chassis mounting screw and washer assembly
5145	Resistor—100,000 ohms, carbon type, 1/2 watt (R14, R28)	14746	Shield—Celluloid shield for station markers
11398	Resistor—220,000 ohms, carbon type, 1/10 watt (R40)	4992	Spring—Retaining spring for knob Stock No. 14359
11452	Resistor—470,000 ohms, carbon type, 1/10 watt (R17, R18)	14270	Spring—Retaining spring for knob Stock Nos. 14369 and 14698
11172	Resistor—470,000 ohms, carbon type, 1/2 watt (R8)		
11397	Resistor—560,000 ohms, carbon type, 1/10 watt (R1, R27)		
5035	Resistor—560,000 ohms, carbon type, 1/2 watt (R11)		
12013	Resistor—1 Megohm, carbon type, 1/10 watt (R25)		
3033	Resistor—1 Megohm, carbon type, 1/2 watt (R7)		
12200	Resistor—1 Megohm, insulated, 1/2 watt (R16)		
12679	Resistor—2.2 Megohm, insulated, 1/2 watt (R19, R20)		
14876	Resistor—Voltage divider comprising one 1450 ohm, one 5200 ohm, one 7700 ohm, one 18 ohm and one 82 ohm sections (R33, R34, R35, R38, R39)		

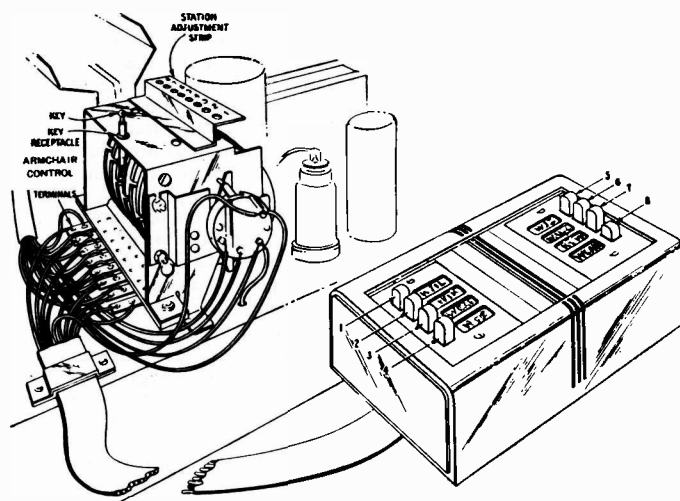
ELECTRIC TUNING & MODEL G-8

(ARMCHAIR CONTROL)

USED WITH MODELS U 108, U 109, 811T, 811K, 812K, 813K & 816K

REPLACEMENT PARTS

Stock No.	MODEL G 8	DESCRIPTION
14850		Bar—Tie bar for connecting push button lock plates.
14851		Box—Control box case only—less buttons, switches, cable and top and bottom covers.
14745		Button—Station selector push button.
14853		Cable—9-conductor flat cable, approximately 25 feet long.
14747		Card—Station call letter cards.
14852		Cover—Control box top cover.
14746		Shield—Celluloid shield for station markers.
14694		Spring—Tension spring for push button lock plate.
14693		Switch—Station selector button switch, comprising 4 contacts and 1 lock plate completely assembled, on insulating strip.



Model G8 ARMCHAIR CONTROL

Extra lengths of control cable should not be used where power-line voltages are low. The voltage drop in the cable circuit, due to the added resistance, will reduce the power of the drive motor and prevent correct operation.

CONTINUOUS OPERATION - ELECTRIC TUNING DRIVE

The mechanical drive mechanism of the Electric Tuning instruments is not rated for continuous operation over sustained periods. Tests and demonstrations which require constant running should therefore be avoided. Temperature rise of the motor coils, wear of contact fingers, wear of gears, and wear of bearings are likely consequence of abnormal operation. Under conditions of regular operation, wear and mechanical deterioration of parts will not become excessive within several years of usage.

ARcing CONTACTS - ELECTRIC TUNING DRIVE

Noisy reception due to an arcing condition at the selector disc contacts should be remedied by the following procedure:

- (1) Thoroughly clean all excess grease and dirt from the selector discs. It is necessary to clean between the discs as well as on their edges. Carbona or an equivalent cleaning fluid may be used if necessary.
- (2) Clean and polish spring contacts with a plain cloth or crocus cloth.
- (3) Complete cleaning and polish the periphery of each disc with crocus cloth. Make sure the insulating segment is smooth and clean.
- (4) Moisten a cloth with a very slight amount of Vaseline or Petrolatum and apply sparingly to discs. Wipe off excess, so that only a film remains.
- (5) Check adjustment of contact springs.
- (6) Check instrument for operation.

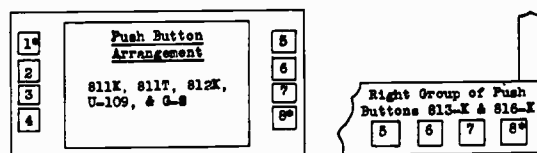
40-CYCLE OPERATION - MODELS 811K, 811T, 812K, 813K, 816K

These instruments may be operated on 40-cycles, 115-volt, A-C circuits by making the following modifications:-

- (A) Standard 105-125 volt, 50-60 cycle instruments (Rating A) to be altered as follows for 105-125 volt, 40-cycle operations:
 - (1) Replace power transformer with either the 25 cycle, or the Universal type (105-240 volts) specified in Service Notes for particular instrument concerned.
 - (2) Insert a 5 ohm, 25 watt resistor in series with one of the "yellow" leads of the power transformer secondary winding which supplies drive motor current.
- (B) Where the instrument available is 105-125 volts, 25 cycles (Rating B) -
 - (1) Change Electric Tuning motor to 60 cycle type.
 - (2) Add resistor as in (2) of "A" above.

PUSH BUTTON RELEASE - ELECTRIC TUNING

Provisions are incorporated on the Electric Tuning control buttons for simple release where the entire group of eight have been pushed in and are latched.



When all eight buttons are latched due to error or tampering, it is only necessary to push either the number 1 or number 8 button on the 811K, 811T, 812K, U-109 or G-8 type; while on the 813-K and 816-K, push the number 8 button. These buttons are asterisked in the above diagrams. In pushing the indicated buttons they must be forced slightly (more than required for tuning) so as to actuate the auxiliary release lever.

CLUTCH PIN ON ELECTRIC TUNING MOTORS

The small clutch pin, which is fitted to the end of electric tuning motor shaft, and engages with the gear mechanism may be obtained separately as a replacement by ordering stock #30252. Five pins are supplied in each package.

Mechanism Adjustments

A-F-C and A-F Amplification Suppression Switches.— This switch assembly is located on the motor bracket and closes due to solenoid action of motor armature. Before attempting switch adjustment, loosen "Tilt Compensating Spring" adjusting screws (rear of tuning-motor bracket) and move spring to extreme travel away from motor armature shaft. The tension of the long contact spring "C" is important in bringing about quick disengagement of the motor and in permitting the motor to pull into mesh with the drive mechanism. Normal adjustment is attained when the short springs "D" and "E" are aligned exactly straight with contact points separated approximately 1/32 of an inch and with the spring "C" spaced approximately 7/32 of an inch from spring "D" at the point of contact. If necessary, in order to obtain positive pull-in

ELECTRIC TUNING

and quick dis-engagement of the motor, the tension of spring "C" should be increased or decreased by bending. This action should be checked with the front apron of the chassis raised two inches higher than the rear. Contacts of the switch must be kept clean. Crocus cloth or a relay burnisher may be used for this purpose.

Tilt Compensating Spring.—The function of this spring is to compensate for the force of gravity, acting to the rear, on the tuning motor armature when the chassis is tilted as mounted in cabinet. The "Tilt Compensating Spring" is located on the rear of the tuning-motor bracket. After completion of adjustment "A-F-C and A-F Amplification Suppression Switches," raise the front apron of chassis six inches higher than the rear, and then adjust spring by means of its elongated mounting holes until the pin "F" on the motor shaft will pull in and remain in mesh with the arm "G" on the pinion when a push button is pressed. This adjustment should be made with the lowest power-supply voltage that will be encountered at the installation.

Motor Reversing Switch.—It is necessary to automatically stop and reverse the drive motor before the tuning condenser reaches the ends of its travel. Approximately 175 degrees of sweep is required, and the reversal must take place above 1,700 kc and below 540 kc but not too near the limits of the scale. The coupling between the station selector drum and the tuning condenser shaft should be attached so that the reversing switch trip lever "H" is exactly vertical when the condenser is full-out of mesh. There should be 1/32 of an inch clearance between the end of the condenser shaft and the selector drum shaft. While the trip lever is in this position the reversing switch bracket should be adjusted by means of its elongated mounting holes until the switch pin "I" just lightly touches trip lever "H."

Main Pinion Gear.—Clearance between the small high-speed pinion gear "E" and the intermediate gear "K" determines the amount of mechanical noise produced. Correct adjustment will give approximately 1/32 of an inch movement of back lash at the end of pinion arm "G" when gear "K" is held stationary. Arm "G" must also be adjusted for correct mesh with motor shaft drive pin "F." With the motor shaft completely forward and pinion "E" tight against its front bearing, the pinion mounting stud "J" should be adjusted so that pin "F" meshes its full thickness with the rotating arm "G." An increase of this mesh will increase over travel on tuning while a decrease of mesh will decrease the over travel. The elongated hole in the front bracket allows sufficient movement of the mounting stud "J" to permit above mentioned gear mesh adjustment.

MODELS 811T, 811K, 812K, U108 & U109

"Manual-Electric-Remote" Changeover.—(1) Link and lever adjustment—To properly line up the mechanical link between the switch shaft and throw-out gear bracket "MM," the set screws holding the link lever on the switch shaft must be loosened, the switch turned to the "Remote" position (extreme left) and the link lever revolved until the distance between the bottom of its link-connecting pin (extends through chassis apron) and the bottom of the "C" slot, in front apron of chassis, is exactly 1/4 of an inch.

MODELS 813K & 816K

"Manual-Electric-Remote" Changeover.—(1) Link and arm adjustment—To properly line up the mechanical link between the switch shaft and throw-out gear bracket "MM," the set screws holding the link arm on the switch shaft must be loosened, the switch turned to the "Manual" position (extreme right) and the link lever revolved until the distance between the link-connecting pin (extends through chassis apron) and the right-hand (viewed from front) side of the slot, in front apron of chassis, is exactly 5/16 of an inch.

If this adjustment is not properly made, correct operation of "Electric" or "Remote" tuning will not result. (2) Throw-out Gear Adjustment—To obtain smooth operation on "Electric" or "Remote" positions it is important that the proper clearance is maintained between the throw-out gear "M" and the intermediate gear "L." With the "Manual-Electric-Remote" control thrown to "Remote" position (extreme left) adjust the mesh between these gears by means of the eccentric screw "O" and lock nut "P" on the throw-out gear bracket "MM" until there is approximately 1/64 of an inch backlash of gear "L" when gear "M" is held stationary.

Vernier Tuning.—In case it becomes necessary to remove tuning condenser drive shaft "T," it should be replaced by sliding anti-backlash gear "R" on condenser shaft apart so that compression amounting to one tooth on the gear is obtained in the springs. Adjust mesh of gear "R" with pinion gear "U" on vernier shaft before tightening screws "S" so that smooth tuning is obtained throughout the range.

Motor Alignment.—The motor shaft must be exactly aligned with the axis of the pinion gear with which it engages. This may be adjusted by loosening the mounting screws "V" of the motor and aligning shaft by sight. Correct alignment may be tested by slowly rotating motor and observing the relation between the pin "F" of the motor shaft and the arm "G" on the pinion. The relation of the two should remain the same throughout the revolution. Additional movement for adjustment may be obtained by the motor bracket screws "W" if necessary.

Station Selector Drum.—(1) Bearing Adjustment—The selector drum may be removed by unscrewing the two bearing adjusting screws "X" on the front and rear bearings and sliding shaft out of slots on frame. To replace drum, the reverse procedure should be followed holding bearing adjusting plates "Y" firmly against the shaft and tightening adjusting screws. (2) Contact adjustment—Two types of contact strips are used. They are designated on figure , as types 1 and 2, on which the individual contacts are respectively adjustable and fixed. On type 1, the individual contacts should be adjusted by setting the end contact springs near the mid-position of their travel and aligning the remaining springs to them by means of a straight edge. Either type of contact strip should be adjusted to the selector drum by placing two selector adjusting keys in the station adjustment strip, positions 1 and 8, loosening contact strip adjusting nuts "Z" and shifting the contact strip until the end contacts are exactly centered on the respective disc insulating segments. More accurate adjustment may be made by silhouetting the point of contact with a piece of white paper held behind the contact. Adjustment will be facilitated by removing complete assembly from rear of tuning condenser by unscrewing the three mounting screws. Contacts and discs must be kept free of dirt, filings, and other extraneous matter.

Station Adjustment

Any eight stations may be chosen for "Electric" tuning. Remove the two escutcheon plates from the side of the dial, place proper call letter labels in the celluloid windows, and replace escutcheons. Turn the power on and proceed to set up the "Electric" tuning as follows:

1. Set Range Selector to "Broadcast."
2. Turn "Manual-Electric-Remote" control to "Electric."
3. Turn Fidelity control counter-clockwise.
4. Press push button No. 1 and wait until station pointer comes to rest.
5. Turn the "Manual-Electric-Remote" control to "Manual."
6. Remove adjusting key from receptacle on top of station selector drum mechanism.
7. Insert key in position marked, "1" in station adjustment strip and push the key all the way down to properly fit in slot in disc.
8. Tune the receiver very carefully by means of the manual tuning knob and the "Magic Eye," to station chosen for No. 1.
9. Remove key.
10. Turn the "Manual-Electric-Remote" control to "Electric."

Button No. 1 is now properly set for "Electric" tuning. Proceed similarly for the other seven push buttons, matching each station on the dial with the same number on the station adjustment strip. Repeat the above steps but place the key respectively in positions 2, 3, 4, etc., and in each case tune to the proper station. Now when you press a button the desired station will be tuned in electrically.

Note.—In the event that all the push-button switches are locked "in" at once, they may be released by pressing either the upper left-hand or the lower right-hand push buttons (Nos. 1 or 8) in farther than would ordinarily be required.

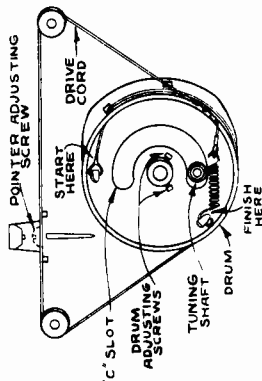
ELECTRIC TUNING

Scissors Gear:

In servicing chassis from any of these instruments or similar types, it is advisable to adjust the reversing switch of the electric tuning mechanism as low as possible to assure that it is positively actuated at the ends of the tuning range. Failure to reverse may result in a damaged "scissors gear" on the tuning condenser shaft. A satisfactory repair of this gear can be made, where necessary, as follows:

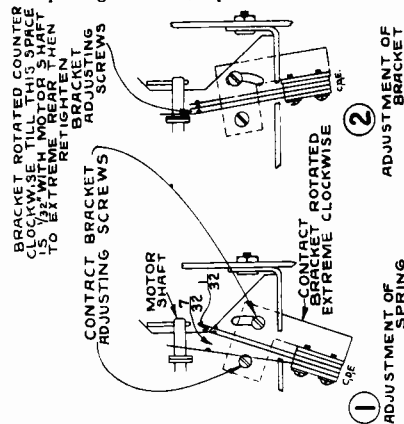
- Remove compression springs from gears.
- Mesh and align both gears accurately with pinion gear.
- Solder the movable and fixed gears together at each end.
- Re-adjust mesh with the pinion and run through cycle several times to wear-in any irregularities.
- Re-adjust reversing switch as suggested; replacing same if questionable.

Stock No. 32167 covers the Tuning Condenser, less gear assembly, for models 811K, 812K, U-109, and U-108. This condenser is being made available in lieu of No. 14727.

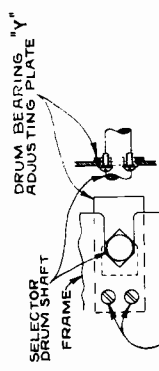
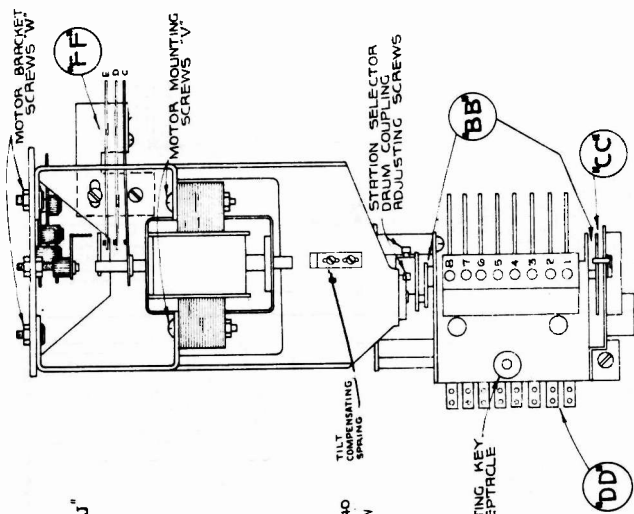
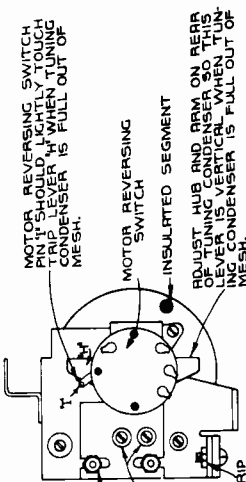


CAUTION: ADJUST INDICATOR DRUM ON CHASSIS TO "C" SLOT IS CLEAR OF TUNING CONDENSER "VERNIER" DRIVE SHAFT FOR CONDENSER FULL-OUT AND FULL-IN MESH POSITIONS.

TUNING CONDENSER INDICATOR DRIVE



"F-F" AFC AND AF AMPLIFICATION SUPPRESSION SWITCHES.



SELECTOR DRUM BEARING "X" ADJUSTING SCREWS

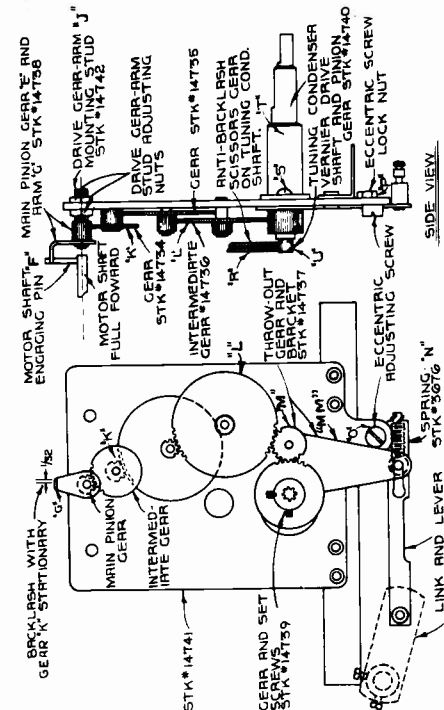
"B-B" STATION SELECTOR DRUM BEARING.

TX-260926
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CONTRACT ADJUSTED TO CENTER OF INSULATED SEGMENT WITH KEY IN SLOT

"C-C" MOTOR REVERSING SWITCH ADJUSTMENT

"D-D" STATION SELECTOR DRUM CONTACT ADJUSTMENTS



REAR VIEW

ADJUST TO THIS DIMENSION

LINK AND LEVER ASSEMBLY REMOTE SWITCH IN "REMOTE" POSITION.

ADJUST TO THIS DIMENSION

LINK AND LEVER ASSEMBLY REMOTE SWITCH IN "REMOTE" POSITION.

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ADJUST TO THIS DIMENSION

LINK AND LEVER ASSEMBLY REMOTE SWITCH IN "REMOTE" POSITION.

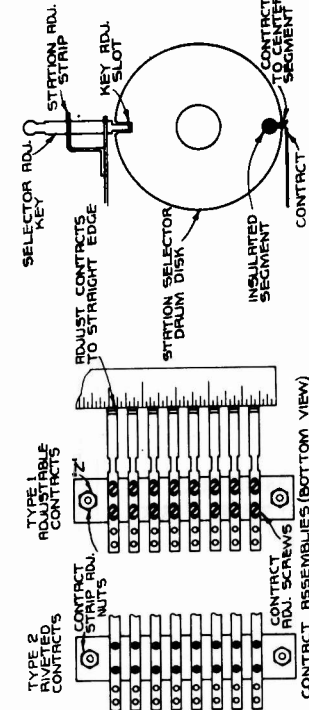
ADJUST TO THIS DIMENSION

LINK AND LEVER ASSEMBLY REMOTE SWITCH IN "REMOTE" POSITION.

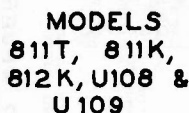
"A-A" DRIVE GEAR TRAIN ASSEMBLY

NOTE: Stock No's. and adjustments do not apply in entirety to Models 813K and 818K.

SEE TEXT



"Electric Tuning" Mechanism Adjustments



*-“Electric Tuning” Wiring Diagram
(Viewed from rear of chassis)*

MODEL 813K
MODEL 816K
Tuner Mechanism
Adjustments

RCA MFG. CO. INC.
SN-754

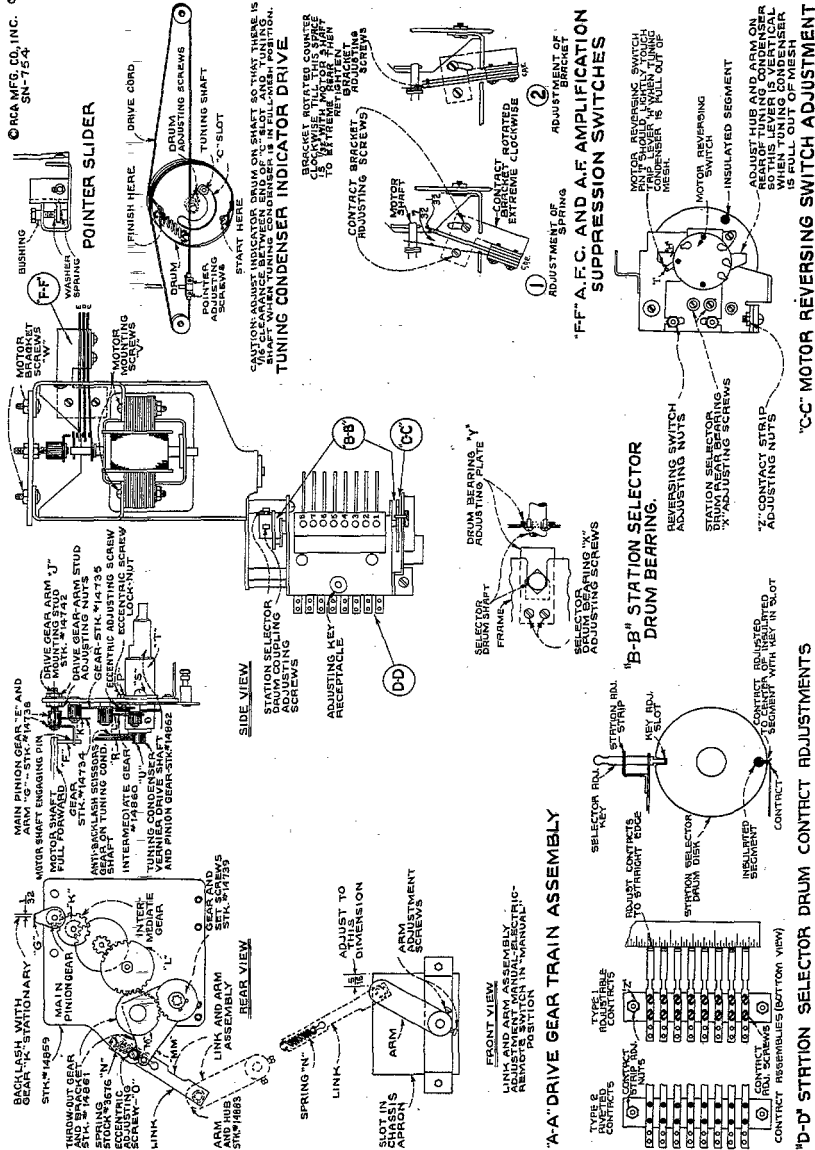


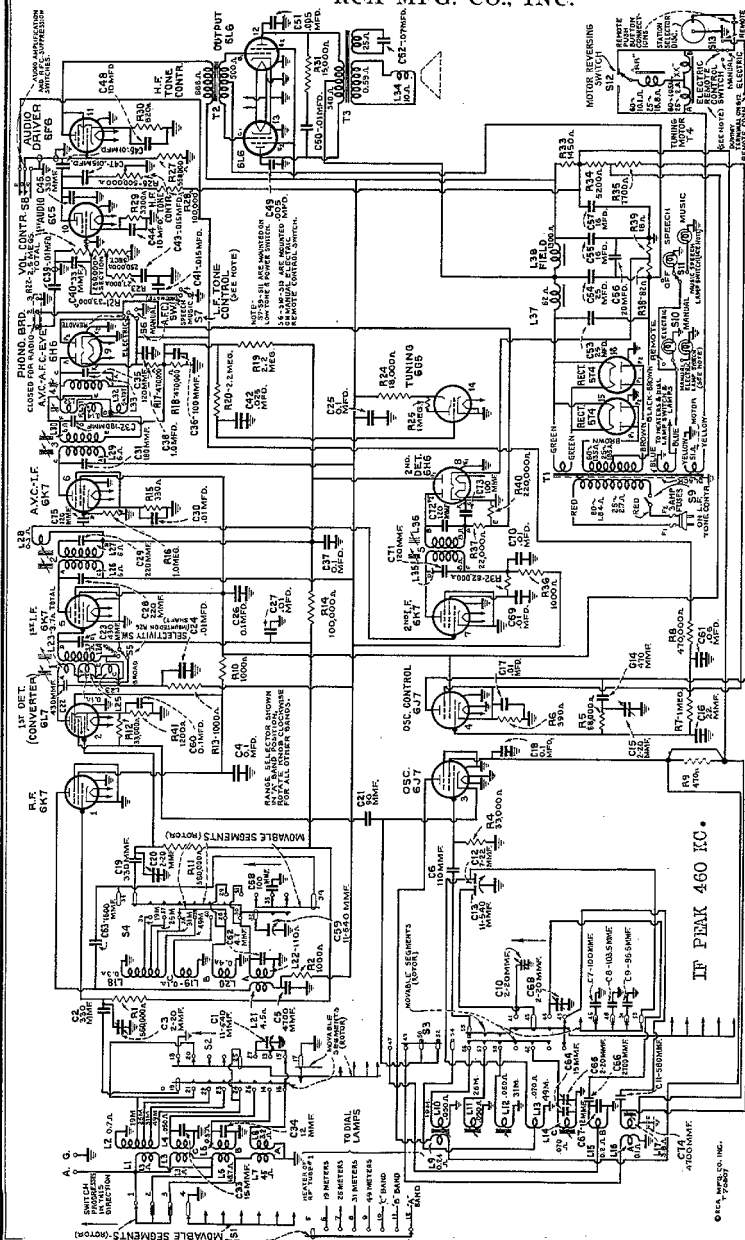
Figure 4—"Electric Tuning" Mechanism Adjustments

MODEL 816K
Parts List

RCA MFG. CO., INC.

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
RECEIVER ASSEMBLIES			
14726	Arm—Hub and arm complete with set screws—Connects station selector drum to rear of tuning condenser shaft	14886	Pulley—Indicator drive cord pulley—located on right or left hand dial bracket
14883	Arm—Hub and arm complete with set screws—Connects station selector drum to rear of tuning condenser shaft	14946	Reactor—Filter reactor (L37)
14517	Board—Antenna and ground terminal board	13250	Resistor—330 ohms, carbon type, 1 watt (R15)
14717	Board—Graphical tuning scale board	11755	Resistor—300 ohms, carbon type, 1 watt (R5)
14885	Bracket—Left hand dial bracket and pulley assembly	14720	Resistor—200 ohms, carbon type, 1 watt (R20)
14884	Bracket—Right hand dial bracket and pulley assembly	14893	Resistor—1000 ohms, carbon type, 1/10 watt (R2, R13)
14878	Bracket—Left hand dial bracket and pulley assembly	14893	Resistor—1000 ohms, carbon type, 1/10 watt (R2, R13)
5237	Bushing—Variable condenser rubber mounting bushing assembly	13031	Resistor—3000 ohms, carbon type, 1/10 watt (R29)
14919	Cable—5 conductor push-button speaker cable	14078	Resistor—18,000 ohms, carbon type, 1 watt (R24)
14918	Cable—5 conductor push-button speaker cable	11284	Resistor—2000 ohms, carbon type, 1/10 watt (R31)
15007	Cap—Pilot or start of I-F transformer shield cap	14545	Resistor—33,000 ohms, carbon type, 1/10 watt (R37)
12581	Cap—Third, fourth or fifth I-F transformer shield cap	12533	Resistor—68,000 ohms, carbon type, 1 watt (R5)
11850	Cap—Grid contact cap	11795	Resistor—22,000 ohms, carbon type, 1/10 watt (R28)
12584	Cap—Adjustable trimmer (long) (C3, C10, C15, C20, C68, C68)	11452	Resistor—470,000 ohms, carbon type, 1/10 watt (R17, R18)
14392	Capacitor—4.7 Mmfd. (C62)	11179	Resistor—470,000 ohms, carbon type, 1 watt (R2)
13002	Capacitor—12 Mmfd. (C87)	11397	Resistor—560,000 ohms, carbon type, 1/10 watt (R1, R27)
30016	Capacitor—12 Mmfd. (C34)	5035	Resistor—560,000 ohms, carbon type, 1 watt (R11)
12896	Capacitor—15 Mmfd. (C64)	12013	Resistor—1 Megohm, carbon type, 1/10 watt (R25)
30015	Capacitor—15 Mmfd. (C35)	3053	Resistor—1 Megohm, carbon type, 1 watt (R7)
14021	Capacitor—22 Mmfd. (C16)	12200	Resistor—1 Megohm, insulated, 1 watt (R18)
12942	Capacitor—22 Mmfd. (C16)	12878	Resistor—2.2 Megohm, insulated, 1 watt (R19, R20)
14910	Capacitor—30 Mmfd. (C21)	14876	Resistor—Voltage divider, 500 ohm, one 1450 ohm, one 5200 ohm, one 7700 ohm, one 150 ohm and one 92 ohm sections (R33, R34, R35, R36, R39)
14908	Capacitor—36.5 Mmfd. (C9)	14897	Resistor—Voltage divider, 500 ohm, one 1450 ohm, one 5200 ohm, one 7700 ohm, one 150 ohm and one 92 ohm sections (R33, R34, R35, R36, R39)
14906	Capacitor—36.5 Mmfd. (C9)	30014	Scale—19 meter glass dial strip
12720	Capacitor—100 Mmfd. (C36, C38)	30015	Scale—65 meter glass dial strip
14900	Capacitor—100 Mmfd. (C36, C38)	14907	Scale—65 meter glass dial strip
14909	Capacitor—110 Mmfd. (C6)	30010	Scale—49 meter glass dial strip
12644	Capacitor—20 Mmfd. (C37, C71, C72, C75)	11902	Scale—"B" band glass dial strip
14712	Capacitor—180 Mmfd. (C37, C71, C72, C75)	14961	Scale—"B" band glass dial strip
14711	Capacitor—220 Mmfd. (C28, C29)	30285	Scale—"A" band glass dial strip
12822	Capacitor—330 Mmfd. (C28, C29)	4660	Scale—"A" band glass dial strip
14710	Capacitor—430 Mmfd. (C28, C29)	14887	Scale—"A" band glass dial strip
14911	Capacitor—470 Mmfd. (C14)	12418	Selector—8-32x3/16 milled head screw for gear Stock No. 14739
14910	Capacitor—480 Mmfd. (C14)	14848	Selector—Station selector drum mechanism—comprising selector contactor disc's, spring contacts and motor reversing switch assembled in metal frame
13140	Capacitor—1650 Mmfd. (C63)	14882	Shield—Station selector drum mechanism—comprising selector contactor disc's, spring contacts and motor reversing switch assembled in metal frame
10160	Capacitor—1700 Mmfd. (C63)	12735	Shield—Dial lamp shield
12897	Capacitor—4700 Mmfd. (C63)	12735	Shield—Dial lamp shield
4888	Capacitor—500 Mmfd. (C49, C51)	14903	Shield—I-F transformer shield can
4897	Capacitor—512 Mmfd. (C20)	14903	Shield—I-F transformer shield can
13138	Capacitor—0.1 Mfd. (C17, C34, C37, C50, C59, C46, C69, C70)	14892	Slide—Indicator pointer slide for tuning assembly
11315	Capacitor—0.15 Mfd. (C47)	11986	Slide—Indicator pointer slide for tuning assembly
4870	Capacitor—0.25 Mfd. (C42)	11986	Slide—Indicator pointer slide for tuning assembly
14866	Capacitor—0.15 Mfd. (C47)	11986	Slide—Indicator pointer slide for tuning assembly
4839	Capacitor—0.1 Mfd. (C4, C18, C25, C26, C37, C50, C54)	11986	Slide—Indicator pointer slide for tuning assembly
12741	Capacitor—0.5 Mfd. (2 in parallel) (C38)	11986	Slide—Indicator pointer slide for tuning assembly
12512	Capacitor—1.5 Mfd. (C57)	11986	Slide—Indicator pointer slide for tuning assembly
14377	Capacitor—1.5 Mfd. (C57)	11986	Slide—Indicator pointer slide for tuning assembly
12511	Capacitor—20 Mmfd. (C37, C71, C72, C75)	11986	Slide—Indicator pointer slide for tuning assembly
14831	Capacitor—25 Mmfd. (C38, C54)	11986	Slide—Indicator pointer slide for tuning assembly
30053	Capacitor—25 Mmfd. (C38, C54)	11986	Slide—Indicator pointer slide for tuning assembly
14902	Capacitor Pack—Compensating capacitor pack comprising two 2 mfd. capacitors, one 27,000 ohm and one 33,000 ohm resistors (C41, C43, R21, R23)	11986	Slide—Indicator pointer slide for tuning assembly
14902	Capacitor Pack—Compensating two sections 10 mfd. each (C44, C45)	11986	Slide—Indicator pointer slide for tuning assembly
14948	Coil—"A" band antenna coil (L7, L8)	11986	Slide—Indicator pointer slide for tuning assembly
14949	Coil—"B" band antenna coil (L9, L10)	11986	Slide—Indicator pointer slide for tuning assembly
14950	Coil—"C" band antenna coil (L1, L2)	11986	Slide—Indicator pointer slide for tuning assembly
14951	Coil—"Special band spread antenna coil (L1, L2)	11986	Slide—Indicator pointer slide for tuning assembly
14897	Coil—"Special band spread antenna coil (L1, L2)	11986	Slide—Indicator pointer slide for tuning assembly
14952	Coil—"B" band detector coil (L20)	11986	Slide—Indicator pointer slide for tuning assembly
14953	Coil—"C" band detector coil (L19)	11986	Slide—Indicator pointer slide for tuning assembly
14954	Coil—"Special band spread detector coil (L18)	11986	Slide—Indicator pointer slide for tuning assembly
14899	Coil—"A" band oscillator coil (L16, L17)	11986	Slide—Indicator pointer slide for tuning assembly
14955	Coil—"B" band oscillator coil (L15)	11986	Slide—Indicator pointer slide for tuning assembly
14956	Coil—"C" band oscillator coil (L14)	11986	Slide—Indicator pointer slide for tuning assembly
14873	Coil—"19 meter band oscillator coil (L9, L10)	11986	Slide—Indicator pointer slide for tuning assembly
14872	Coil—"65 meter band oscillator coil (L1, L2)	11986	Slide—Indicator pointer slide for tuning assembly
14871	Coil—"31 meter band oscillator coil (L12)	11986	Slide—Indicator pointer slide for tuning assembly
14897	Coil—"31 meter band oscillator coil (L13)	11986	Slide—Indicator pointer slide for tuning assembly
14898	Condenser—1 gang variable tuning condenser complete with gear train (C1, C12, C13, C59)	11986	Slide—Indicator pointer slide for tuning assembly
5040	Connector—Contact female connector for reproducer cable	11986	Slide—Indicator pointer slide for tuning assembly
14738	Contact—Spring contact for engaging discs in station selector drum for tuning assembly	11986	Slide—Indicator pointer slide for tuning assembly
30365	Contact—Comprising 3 spring contacts assembled on insulating strip for engaging discs in station selector drum (type 2 contactor assembly)	11986	Slide—Indicator pointer slide for tuning assembly
14857	Cord—Indicator drive cord	11986	Slide—Indicator pointer slide for tuning assembly
12006	Cord—Adjustable cord for I-F transformers	11986	Slide—Indicator pointer slide for tuning assembly
14890	Cushion—Black rubber dial cushion	11986	Slide—Indicator pointer slide for tuning assembly
14862	Drive—Tuning condenser vernier drive shaft and pinion gear	11986	Slide—Indicator pointer slide for tuning assembly
14856	Drum—Drive cord drum complete with set screws	11986	Slide—Indicator pointer slide for tuning assembly
14738	Drum—Station selector drum complete comprising 8 station selector contactor discs assembled on shaft	11986	Slide—Indicator pointer slide for tuning assembly
10807	Fuse—3 Amp. (F1)	11986	Slide—Indicator pointer slide for tuning assembly
14738	Gear—Drive pinion gear and arm	11986	Slide—Indicator pointer slide for tuning assembly
14739	Gear—Drive gear and set screws—located on tuning condenser knob shaft	11986	Slide—Indicator pointer slide for tuning assembly
14784	Gear—Intermediate gear assembly—comprising one .749 in. O.D., 34 tooth gear and one .291-in. O.D., 12 tooth pinion assembled	11986	Slide—Indicator pointer slide for tuning assembly
14735	Gear—Intermediate gear assembly—comprising one .749 in. O.D., 34 tooth gear and one .291-in. O.D., 12 tooth pinion assembled	11986	Slide—Indicator pointer slide for tuning assembly
14860	Gear—Intermediate gear assembly—comprising one .749 in. O.D., 34 tooth gear and one .291-in. O.D., 12 tooth pinion assembled	11986	Slide—Indicator pointer slide for tuning assembly
14861	Gear—Throwout gear and bracket	11986	Slide—Indicator pointer slide for tuning assembly
14900	Indicator—Station selector indicator pointer	11986	Slide—Indicator pointer slide for tuning assembly
12928	Lamp—Incandescent lamp	11986	Slide—Indicator pointer slide for tuning assembly
14729	Motor—Tuning drive motor for 60 cycle models only (M-1)	11986	Slide—Indicator pointer slide for tuning assembly
14730	Motor—Tuning drive motor for 25 cycle models only (M-2)	11986	Slide—Indicator pointer slide for tuning assembly
14859	Plate—Tuning condenser front plate and studs assembled for mounting drive gears	11986	Slide—Indicator pointer slide for tuning assembly
12471	Plate—87 socket mounting plate assembly for cushion socket—less socket	11986	Slide—Indicator pointer slide for tuning assembly
30557	Plug—Power cord less fuses Stock No. 10907	11986	Slide—Indicator pointer slide for tuning assembly
REPRODUCER ASSEMBLIES (RL7-63)			
14800	Cap—Dust cap for cone center	14800	Cap—Dust cap for cone center
14801	Cap—Dust cap for cone center	14801	Cap—Dust cap for cone center
14802	Cap—Dust cap for cone center	14802	Cap—Dust cap for cone center
5039	Plug—4 contact male plug for reproducer	5039	Plug—4 contact male plug for reproducer
30131	Reproducer—Complete	30131	Reproducer—Complete
14857	Transformer—Output transformer (T3, C52)	14857	Transformer—Output transformer (T3, C52)
14858	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14858	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14859	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14859	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14860	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14860	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14861	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14861	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14862	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14862	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14863	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14863	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14864	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14864	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14865	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14865	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14866	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14866	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14867	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14867	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14868	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14868	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14869	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14869	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14870	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14870	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14871	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14871	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14872	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14872	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14873	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14873	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14874	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14874	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14875	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14875	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14876	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14876	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14877	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14877	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14878	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14878	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14879	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14879	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14880	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14880	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14881	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14881	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14882	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14882	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14883	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14883	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14884	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14884	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14885	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14885	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14886	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14886	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14887	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14887	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14888	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14888	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14889	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14889	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14890	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14890	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14891	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14891	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14892	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14892	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14893	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14893	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14894	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14894	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14895	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14895	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14896	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14896	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14897	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14897	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14898	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14898	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14899	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14899	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14900	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14900	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14901	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14901	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14902	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14902	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14903	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14903	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14904	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14904	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14905	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14905	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14906	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14906	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14907	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14907	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14908	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14908	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14909	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14909	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14910	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14910	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14911	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14911	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14912	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14912	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14913	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14913	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14914	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14914	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14915	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14915	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14916	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14916	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14917	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14917	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14918	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14918	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14919	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14919	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14920	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14920	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14921	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14921	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14922	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14922	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14923	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14923	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14924	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14924	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14925	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14925	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14926	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)	14926	Transformer—Power transformer 105-125 volts, 50-60 cycle (T1)
14927	Transformer—Power transformer		

RCA MFG. CO., INC.

MODEL 816K
Schematic

lar; phonograph terminal board; "Magic Eye" tuning tube; twelve-inch electrodynamic loudspeaker; plunger-type, air-dielectric trimming capacitors; temperature-stabilized capacitors; two-point aural-compensated volume control; "Fidelity" control; "Music-Speech" control; and a driven push-pull power output stage. In addition, this model has a cabinet incorporating the "Sonic Arc" Magic Voice.

This receiver employs a sixteen-tube, seven-band, "Magic Brain" superheterodyne circuit. Features of design include "Electric Tuning" with push-button operation; automatic frequency control; spread-band "Overseas" dial; "cumulative-wound" antenna and detector "A" band coils; tuned π -I amplifier; magnetic-core adjusted π -I transformers and low-frequency "A" and "C" oscillator tracking; two-stage signal π -I amplifier; parallel a-v-c, a-f-c, and "Magic Eye" π -I amplifier.

Figure 1—Schematic Circuit Diagram

Figure 2—Chassis Wiring Diagram

RCA MFG. CO., INC.

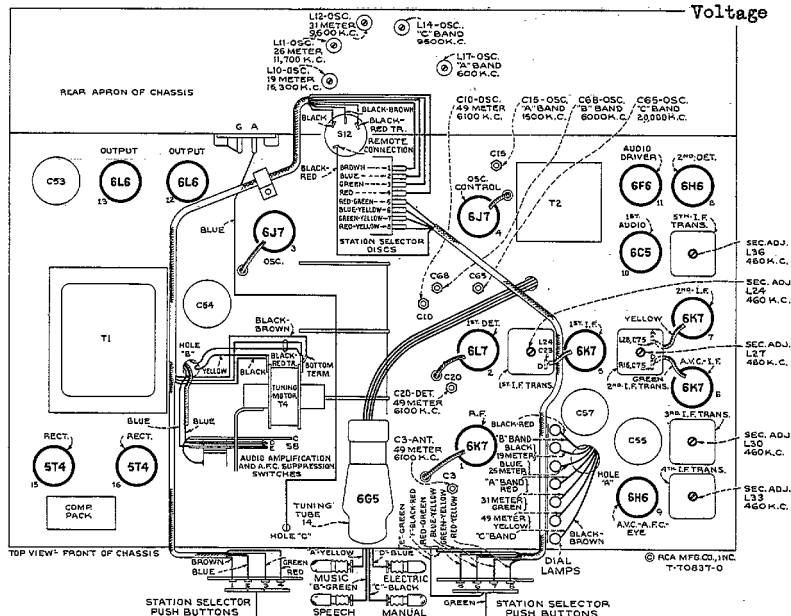
MODEL 816K
Socket, Trimmers
Voltage

Figure 3—Radiotron, Coil, and Trimmer Locations

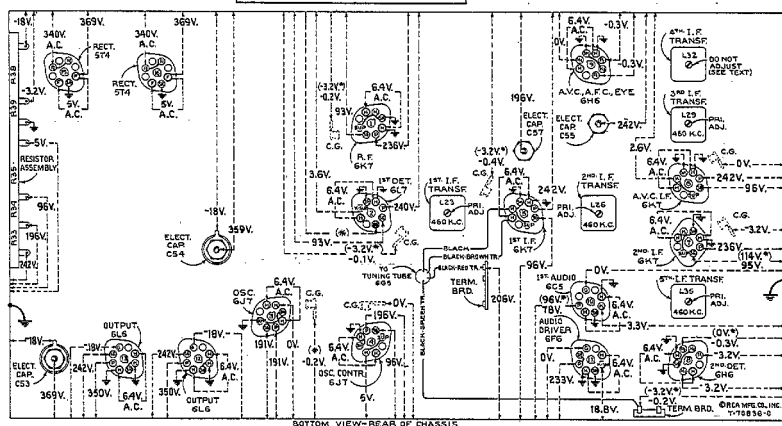


Figure 6—Radiotron Socket Voltages, Coil, and Trimmer Locations

Measured at 115 volts, 60-cycle supply—Tuned to approximately 1,000 kc ("Standard Broadcast")—"Manual" control—No signal being received—Volume control minimum—Fidelity control optional

Note: Two voltage values are shown for some readings. The value shown in parentheses with asterisk (*) indicates operating conditions without voltmeter loading. The other value (generally lower) is the actual measured voltage and differs from the value shown in parentheses because of the additional loading of the voltmeter.

Voltage values as specified should hold within $\pm 20\%$ when the receiver is normally operative at its rated line voltage. To duplicate the conditions under which the voltages were measured requires a 1,000-ohm-per-volt d.c. meter, having ranges of 10, 50, 250 and 500 volts. Use the nearest range above the specified measured voltage. A.c. voltages were measured with a corresponding a.c. meter.

MODEL 816K

"Electric Tuning" Wiring
Specifications

RCA MFG. CO., INC.

Electrical Specifications

FREQUENCY RANGES

"Standard Broadcast" (A).....	530-1,720 kc
"M.W." Medium Wave (B).....	2,400-7,100 kc
"S.W." Short Wave (C).....	7,100-21,750 kc
"49M." (49 Meters).....	5,970-6,240 kc
"31M." (31 Meters).....	9,410-9,690 kc
"25M." (25 Meters).....	11,680-11,920 kc
"19M." (19 Meters).....	15,090-15,380 kc

R-F ALIGNMENT FREQUENCIES

"49M." (49 Meters).....	6,100 kc (osc., det., ant.)
"31M." (31 Meters).....	9,600 kc (osc.)
"25M." (25 Meters).....	11,700 kc (osc.)
"19M." (19 Meters).....	15,300 kc (osc.)
"S.W." Short Wave (C).....	9,500 kc (osc.), 20,000 kc (osc.)
"M.W." Medium Wave (B).....	6,000 kc (osc.)
"Standard Broadcast" (A).....	600 kc (osc.), 1,500 kc (osc.)

Intermediate Frequency.....

460 kc

RADIOTRON COMPLEMENT

(1) RCA-6K7.....	R-F Amplifier
(2) RCA-6L7.....	First Detector
(3) RCA-6J7.....	Heterodyne Oscillator
(4) RCA-6J7.....	Oscillator Control
(5) RCA-6J7.....	First I-F Amplifier
(6) RCA-6K7.....	A-V-C, A-F-C, and Eye I-F Amplifier
(7) RCA-6K7.....	Second I-F Amplifier
(8) RCA-6H6.....	Second Detector

(9) RCA-6H6.....	A.V.C., A.F.C., and Eye
(10) RCA-6C5.....	First Audio Amplifier
(11) RCA-6P6.....	Audio Driver
(12) RCA-6L6.....	Power Output
(13) RCA-6L6.....	Power Output
(14) RCA-6G5.....	"Magic Eye" Tuning Tube
(15) RCA-5T4.....	Half-wave Rectifier
(16) RCA-5T4.....	Half-wave Rectifier

Pilot Lamps (11)..... Mazda No. 46, 6.3 volts, 0.25 amp.

POWER SUPPLY RATINGS

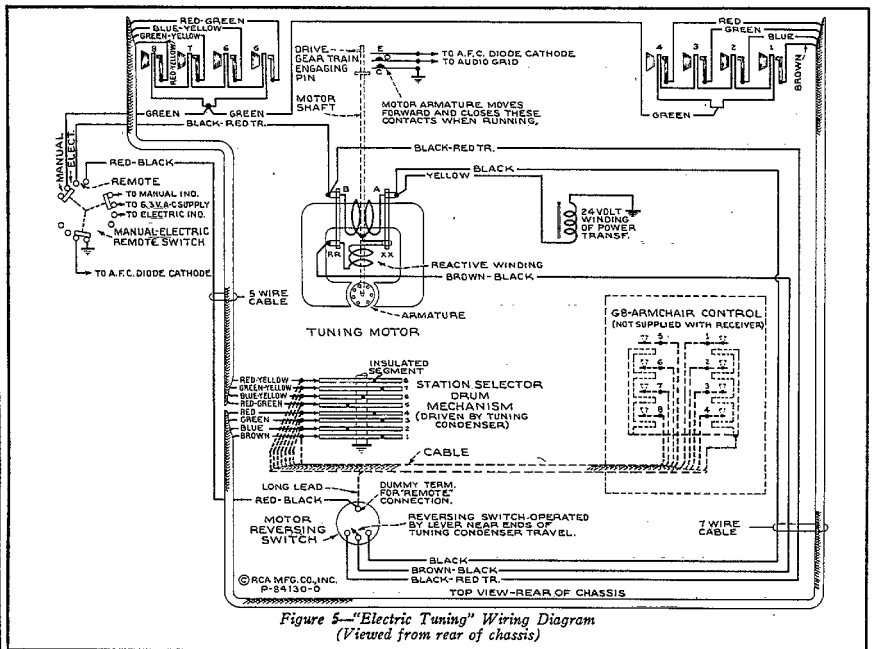
Rating A.....	105-125 volts, 50-60 cycles, 200 watts
Rating B.....	105-125 volts, 25 cycles, 200 watts
Rating C.....	100-130/140-160/195-250 volts, 50-60 cycles, 200 watts

POWER OUTPUT

Undistorted.....	25 watts
Maximum.....	30 watts

LOUDSPEAKER

Type.....	12-inch Electrodynamic
Impedance (v.c.).....	11.5 ohms at 400 cycles

Figure 5—"Electric Tuning" Wiring Diagram
(Viewed from rear of chassis)

