

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

**Model:** K80

**Chassis:**

**Year:** Pre June 1940

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

[Riders Volume 11 - RCA 11-92](#)

[Riders Volume 11 - RCA 11-93](#)

[Riders Volume 11 - RCA 11-94](#)

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MODEL K60, Chassis RC415  
 MODEL K80, Chassis RC415A  
 Alignment, Trimmers  
 Socket

RCA MFG. CO., INC.

### Alignment Procedure

**Cathode-Ray Alignment** is the preferable method. Connections for the oscillograph are shown in the chassis drawing.

**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 Scale on Indicator-Drive-Cord-Drum.**—The tuning dial is fastened in the cabinet and cannot be used for reference during alignment; therefore, a calibration scale is attached to the tuning drum. The setting of the gang condenser is read on this scale, which is calibrated in degrees. The correct setting of the gang in degrees, for each alignment frequency, is given in the alignment table.

As the first step in r-f alignment, check the position of the drum. The 180° mark on the drum scale must be vertical and directly under the center of the shaft of the tuning drum when the plates are fully meshed. The drum is held to the shaft by means of two set-screws, which must be tightened securely when the drum is in the correct position.

On the inner side of the tuning drum are two projections which serve as stops to prevent extreme rotation of the gang condenser. The tuning drum should be set so that the stop limiting clockwise movement of the drum takes effect just as the gang condenser plates are becoming fully meshed, thus preventing stress on the gang due to extreme rotation.

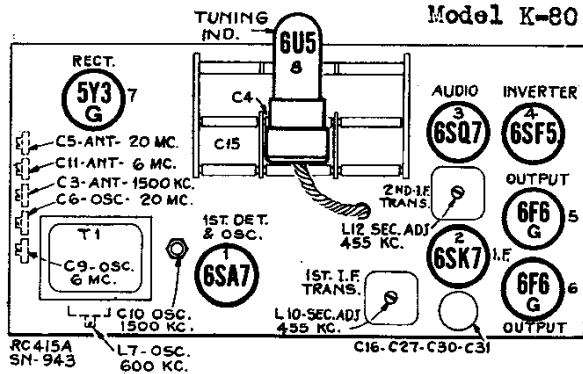
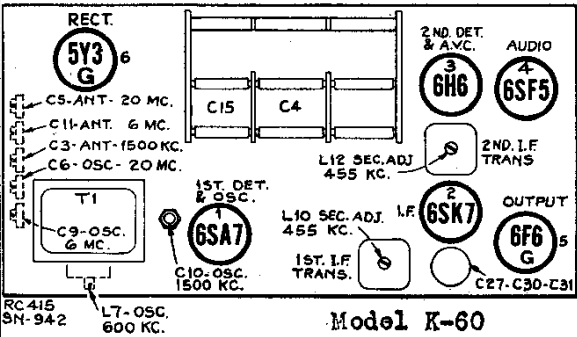
**Pointer for Calibration Scale.**—Improvise a pointer for the calibration scale by fastening a piece of wire to the chassis, and bend the wire so that it points to the 0° mark on the calibration scale when the plates are fully meshed.

Steps	Connect the high side of the test-osc. to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for maximum peak output
1	6SK7 grid in series with .01 mfd.	455 kc	"A" Band Quiet Point between 550-750 kc	L11 and L12 (2nd I-F Trans.)
2	6SA7 grid in series with .01 mfd.			L9 and L10 (1st I-F Trans.)
3	Ant. terminal in series with 300 ohms	20 mc	20 mc (200°) "C" Band	C6 (osc.)* C5 (ant.)
4		6 mc	6 mc (187.5°) "B" Band	C9 (osc.)** C11 (ant.)
5	Ant. terminal in series with 200 mmfd.	1,500 kc	1,500 kc (198.25°) "A" Band	C10 (osc.) C3 (ant.)
6		600 kc	600 kc (39.75°) "A" Band	L7 (osc.) Rock Gang
7	Repeat step 5.			

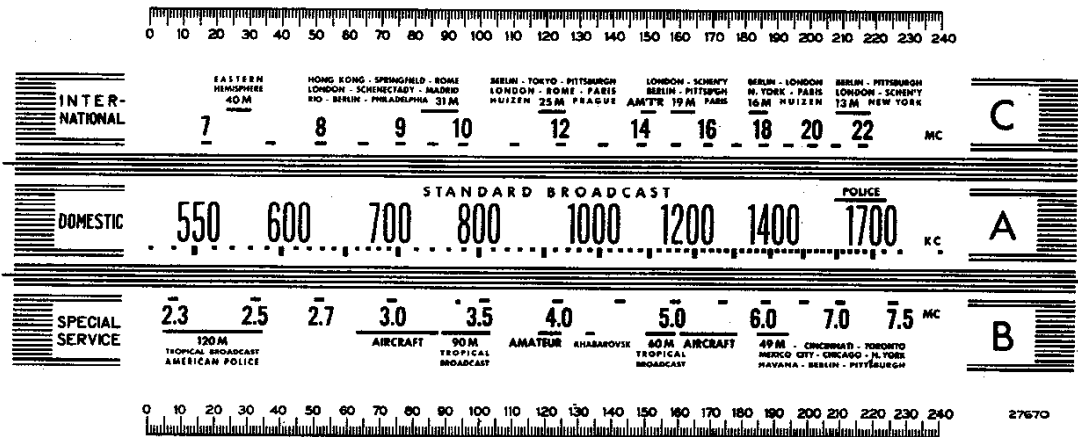
\* Use minimum capacity peak if two can be obtained. Check to determine that C6 has been adjusted to correct peak by tuning receiver to approximately 19.09 mc where a weaker signal should be received.

\*\* Use minimum capacity peak if two can be obtained. Check to determine that C9 has been adjusted to correct peak by tuning receiver to approximately 5.09 mc where a weaker signal should be received.

Note: Oscillator tracks above signal on all bands.



### Calibration Scale



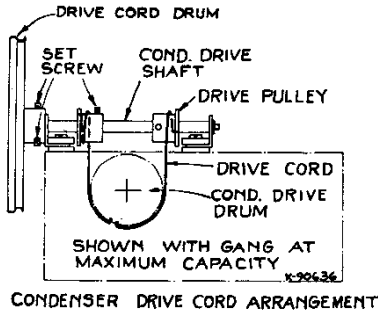
Receiver Dial Scales, and Corresponding 0-240° Calibration Scales

The corresponding position of the dial indicator for any setting of the calibration scale can be determined by drawing a line from this point on the bottom calibration scale to the same point on the top calibration scale. For example 39.75° on the calibration scale corresponds to 600 kc on "A" band. Read instructions under "Alignment Procedure."

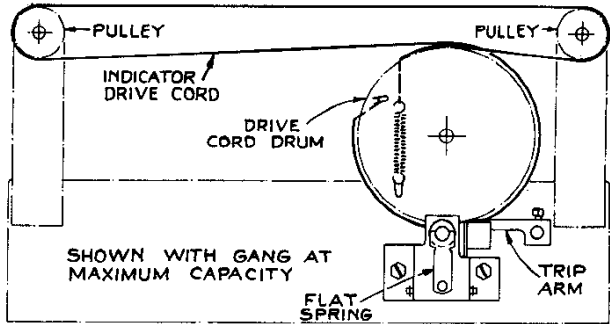
MODEL K105  
Drive Cord Data

RCA MFG. CO., INC.

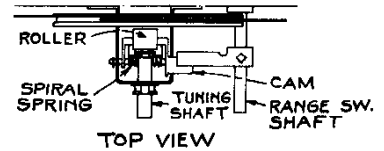
MODEL K60, Chassis RC415  
MODEL K80, Chassis RC415A  
Dial Data, Parts List



CONDENSER DRIVE CORD ARRANGEMENT



DIAL INDICATOR DRIVE CORD ASSEMBLY



TOP VIEW

Note: In the Dial Indicator Drive Cord Assembly drawing at the right the mechanism is shown with the range switch in the "A" band position. In this position the trip arm on the range switch shaft must be adjusted so that when push-buttons are operated, the drive cord drum will turn freely without rubbing or binding against the drive roller.

STOCK No.	DESCRIPTION	Unit List Price	STOCK No.	DESCRIPTION	Unit List Price
<b>CHASSIS ASSEMBLIES (RC-415A)</b>					
33620	Arm—Push arm and cam assembly on tuning unit—less lock screw	.35	13730	Resistor—1 meg., 1/2 watt (R1)	.20
33432	Arm—Trip arm and set screw located on range switch shaft	.15	12679	Resistor—2.2 meg., 1/2 watt (R4)	.20
33430	Board—Antenna and ground terminal board	.20	13601	Resistor—10 meg., 1/2 watt (R7, R13)	.20
30766	Cap—Rubber cap for Magic Eye—Model K80 only	.15	30340	Retainer—Retainer for shaft of tuning shaft cam and arm	.02
12714	Capacitor—Air-trimmer, 2-12 mmfd. (C10)	.50	33419	Roller—Friction roller for tuning knob shaft	.10
33429	Capacitor—Trimmer capacitor bank, 2 sections 4-50 mmfd., and 3 sections 2-20 mmfd. (C3, C5, C8, C9, C11)	.80	4689	Screw—No. 8-32 square head set screw for drum	.03
31871	Capacitor—20 mmfd. (C2)	.25	33621	Screw—Push arm lock screw	.05
12723	Capacitor—56 mmfd. (C12)	.25	33624	Shaft—Tuning condenser drive shaft and washer	.15
30904	Capacitor—100 mmfd. (C19, C20)	.25	33422	Shaft—Tuning shaft—less friction roller	.20
12404	Capacitor—120 mmfd. (C21, C22)	.30	31364	Socket—Dial lamp socket	.20
14712	Capacitor—180 mmfd. (C23)	.30	13871	Socket—Magic Eye tube socket*	.45
30232	Capacitor—220 mmfd. (C14)	.35	14278	Socket—Phonograph or Television input socket	.25
30608	Capacitor—510 mmfd. (C1)	.35	31319	Socket—Tube socket	.25
31433	Capacitor—560 mmfd. (C7)	.35	33175	Spring—Drive cord tension spring	.05
12537	Capacitor—560 mmfd. (C32)	.35	33622	Spring—Drive drum cord spring	.04
31403	Capacitor—3,300 mmfd. (C8)	.60	33421	Spring—Push arm return spring	.08
31405	Capacitor—6,000 mmfd. (C13)	.75	33420	Spring—Tuning shaft flat spring	.10
5107	Capacitor—.0025 mfd. (C25)	.20	33420	Spring—Tuning shaft cam spiral spring	.08
4838	Capacitor—.005 mfd. (C24, C26, C28, C33)*	.25	33428	Switch—Range switch (S1, S2)	1.10
4937	Capacitor—.01 mfd. (C28)	.25	33428	Transformer—First i-f transformer (L9, L10, C19, C20)	1.95
32787	Capacitor—.05 mfd., 400 V. (C17, C34)*	.20	14308	Transformer—Second i-f transformer (L11, L12, C21, C22, C23, R5)	2.90
32786	Capacitor—.1 mfd. (C18)	.25	33618	Transformer—Power transformer—105-120 volts, 25 cycle (T1)	6.40
33014	Capacitor—Electrolytic, 3 sections 10 mfd., one section 20 mfd. (C16, C27, C30, C31)	1.90	33112	Transformer—Power transformer—105-120 volts, 60-80 cycle (T1)	4.30
32821	Coil—Antenna coil (L1, L2, L3, L4)	1.35	<b>SPEAKER ASSEMBLIES (RL-7011)</b>		
32824	Coil—Oscillator coil (L5, L6, L7)	1.00	31825	Cap—Cone center dust cap	.05
33424	Control—Tone control (S3, S4)	1.15	11469	Coil—Hum neutralizing coil (L13)	.30
33425	Control—Volume control and power switch (R6, S5)	2.00	33116	Coil—Speaker field coil (L15)	2.10
32635	Cord—Condenser drive cord	.24	31275	Cone—Speaker cone, voice coil, and dust cap (L14)	1.75
32634	Cord—Drive cord	.10	5039	Plug—4-prong male, for speaker*	.30
32713	Core—Adjustable core and stud for oscillator coil	.35	33444	Transformer—Output transformer (T2)*	2.00
33627	Drum—Condenser drive drum	.25	<b>MISCELLANEOUS ASSEMBLIES</b>		
33174	Drum—Drive cord drum with set screws and calibrator dial	.65	33473	Button—Push button	.10
11891	Lamp—Dial lamp	.17	30718	Clip—Magic Eye clip	.25
33625	Plate—Front guide plate for push arms	.25	33437	Dial—Dial scale (glass)	1.10
5040	Plug—4-contact female for speaker cable	.30	33439	Escutcheon—Dial escutcheon—less push buttons	2.20
33427	Pulley—Drive cord pulley and mounting bracket	.30	33435	Frame—Dial scale holder, mounting brackets, pointer, and Magic Eye bracket and clip assembled—less dial*	2.50
33626	Pulley—Drive pulley—less bronze drive cord	.25	33383	Indicator—Dial pointer, carriage, and clip	.40
14439	Resistor—100 ohms, 1/2 watt (R12)	.20	33434	Knob—Volume control, tone control, range switch, or station selector knob	.30
30735	Resistor—560 ohms, 1 watt (R8)	.32	33431	Link—Link for "Antenna-Ground" terminal board	.02
13714	Resistor—5,600 ohms, 1 watt (R11)	.20	33842	Marker—Station selectors call letter markers	.25
12265	Resistor—6,800 ohms, 1/2 watt (R17)	.20	33438	Screw—Thumb screw for Magic Eye clip*	.05
33489	Resistor—15,000 ohms, 2.5 watt (R3)	.65	34143	Shaft—Pointer carriage slide rod	.15
14284	Resistor—22,000 ohms, 1/10 watt (R5)	.15	14270	Spring—Retaining spring for knob	.05
12454	Resistor—33,000 ohms, 1/2 watt (R2)	.20			
12285	Resistor—470,000 ohms, 1/2 watt (R9, R10, R14, R16)*	.20			
12013	Resistor—1 meg., 1/10 watt (R13)*	.15			

\* in Model K 80

\* IN MODEL K80 ONLY

ALL PRICES ARE SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

NOTE: Above Parts List applies to both Model K-60 and K-80 except for items noted. Items on the right apply only to Model K-60.

4839	Capacitor—.01 mfd. (C18)	.30
32240	Capacitor—Electrolytic, 2 sections 10 mfd., one section 20 mfd. (C27, C30, C31)	1.45
5119	Plug—3-contact female for speaker cable	.25
31388	Resistor—390 ohms, 1 watt (R8)	.22
30148	Resistor—4,700 ohms, 1/2 watt (R11)	.20
<b>SPEAKER ASSEMBLIES (RL-70H6)</b>		
5118	Plug—3-contact male, for speaker	.25
31301	Transformer—Output transformer (T2)	1.70
33436	Frame—Dial scale holder, mounting brackets, and pointer assembled—less dial	2.35

MODELS K60, K62, Ch. RC415B  
MODELS K80, K81, K82,  
Chassis RC415C, RC415D  
Alignment, Parts

RCA MFG. CO., INC.

Replacement Parts

made 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
33500	Arm—Chassis and cam assembly on tuning unit	.35	31384	Socket—Dial lamp socket	.40
33432	Arm—Top arm and set screw located on range switch shaft	.15	31387	Socket—Magic Eye tube socket (Models K-60, K-62)	.25
34674	Cap—1 meg. 500 ohm, 1/2 watt (R3)	.20	31378	Socket—Phonograph or Television input socket	.25
15681	Cap—1 meg. 500 ohm, 1/2 watt (R3)	.20	31319	Socket—Tube socket	.25
50769	Cap—Rubber cap for Magic Eye	.04	34823	Spring—Drive drum cam spring	.04
34573	Capacitor—Trimmer, 2 sections 2-10 mfd., each section 50 mfd., (C7)	.15	33982	Spring—Push arm return spring	.04
34572	Capacitor—Trimmer, 2 sections 4-50 mfd., each section 50 mfd., (C8)	.20	33440	Spring—Tuning shaft cam spiral spring	.09
14079	Capacitor—68 mfd., (C3)	.35	34577	Switch—Range switch	2.55
35609	Capacitor—89 mfd., (C2)	.35	34578	Switch—Tuning shaft cam	2.55
33949	Capacitor—88 mfd., (C1)	.35	33836	Transformer—Second 1/2 transformer	2.50
33946	Capacitor—100 mfd., (C14, C20)	.35	33835	Transformer—Power transformer—100-120 volts, 50-60 cycle (T1)	6.40
34581	Capacitor—850 mfd., (C7)	.40	33112	Transformer—Power transformer—100-120 volts, 50-60 cycle (T1)	6.40
34433	Capacitor—70 mfd., (C1)	.35			
34582	Capacitor—1700 mfd., (C5)	.55			
31379	Capacitor—2025 mfd., (C26)	.55			
33584	Capacitor—51 mfd., (C16, C21, C23, C24, C25)	.25			
4839	Capacitor—51 mfd., (C16, C21, C23, C24, C25)	.25			
32717	Capacitor—10 mfd., (C34—Models K-60, K-81, C18—All Models)	.35			
4839	Capacitor—1 mfd., (C18) (Model K-60 only)	.30			
32769	Capacitor—1 mfd., 2 sections 10 mfd., on section 20 mfd., (C27, C30, C31) (Model K-60 only)	1.45			
33014	Capacitor—20 mfd., (C15, C37, C30, C31) (K-60, K-81)	1.80			
34579	Control—Tone control	1.35			
34578	Control—Volume control and power switch	XX			
34885	Core—Adjustable core and stand for oscillator coil	.70			
32854	Core—Drive cord	.85			
32713	Core—Adjustable core and stand for oscillator coil	.85			
33174	Core—Drive cord drum with set screws and calibrator dial	.48			
31825	Core—Dial lamp plate for push arm	.25			
31826	Core—Dial lamp plate for speaker cable (Model K-60-A only)	.25			
31818	Core—Dial lamp plate for speaker cable (Model K-60, K-81)	.25			
5040	Core—Dial lamp plate for speaker cable (Model K-60, K-81)	.25			
34427	Core—Drive cord pulley and mounting bracket	.25			
31558	Core—Drive cord pulley and mounting bracket	.25			
31558	Core—Drive cord pulley and mounting bracket	.25			
30796	Core—Drive cord pulley and mounting bracket	.25			
14084	Core—Drive cord pulley and mounting bracket	.25			
12696	Core—Drive cord pulley and mounting bracket	.25			
34428	Core—Drive cord pulley and mounting bracket	.25			
12484	Core—Drive cord pulley and mounting bracket	.25			
51322	Core—Drive cord pulley and mounting bracket	.25			
15413	Core—Drive cord pulley and mounting bracket	.25			
12286	Core—Drive cord pulley and mounting bracket	.25			
12013	Core—Drive cord pulley and mounting bracket	.25			
19876	Core—Drive cord pulley and mounting bracket	.25			
33271	Core—Drive cord pulley and mounting bracket	.25			
13691	Core—Drive cord pulley and mounting bracket	.25			
33985	Core—Drive cord pulley and mounting bracket	.25			
33416	Core—Drive cord pulley and mounting bracket	.25			
34624	Core—Drive cord pulley and mounting bracket	.25			
34624	Core—Drive cord pulley and mounting bracket	.25			
31672	Core—Drive cord pulley and mounting bracket	.25			

ALL PRICES ARE SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

XX Price upon application to your RCA Victor Parts Distributor.

Calibration Scale on Indicator-Drive-Cord-Drum—The tuning dial is located in the cabinet and cannot be used for reference when the chassis is removed. Therefore a calibration scale is provided on the top of the chassis. The scale is graduated in degrees and is read on this scale, which is calibrated in degrees.

As the first step in alignment, check the position of the drum. The 180° mark on the drum scale must be vertical and directly under the 180° mark on the chassis scale. The drum is held in the correct position by the set screws on the right by means of two set screws, which must be tightened securely when the drum is in the correct position.

On the inner side of the tuning drum are two positions, which are used for extreme variation of the tank condenser. The tuning drum should be set so that the stop limiting clockwise movement of the drum takes effect just after the drum has reached its extreme rotation, thus preventing stress on the drag due to extreme rotation.

Pointer for Calibration Scale—Improve a pointer for the calibration scale by issuing a piece of wire to the chassis manufacturer and having the pointer made to the dimensions shown on the drawing. The pointer is marked on the calibration scale when the plates are fully meshed.

Steps	Connect test-osc. output to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for maximum signal—
1	Headset grid in series with .01 mfd.	456 kc	"C" band quiet point	19 1/2" (17 1/2") Band (2nd 1/2" trim.) 19 1/4" (18 1/4") Band (1st 1/2" trim.)
2		16 mc	19 1/2" "C" band	C9 (occ.)*
3		2.44 mc	11 1/2" "B" band	C9 (occ.)
4			Fasten chassis in cabinet, see that link is closed on the indicator at 950 kc mark and gauge at maximum capacity.	
5		15 mc	14 mc signal "C" band	C11 Rock gang
6		6.0 mc	6.0 mc signal "C" band	"C" loop Inductance
7		Repeat step 5	Repeat step 5	
8		800 kc	800 kc "A" band	L3 (occ.) Rock gang
9		1,600 kc	1,600 kc "A" band	C10 (occ.) C96 (loop)
10		Repeat steps 8 and 9	Repeat steps 8 and 9	
11		2.44 mc	2.44 mc "B" band	C9 (occ.) Rock gang

\* Use minimum capacity peak if two peaks can be obtained.

\*\* Adjust spacing between two leads from "C" band loop. NOTE: Oscillator tracks above signal on all bands.

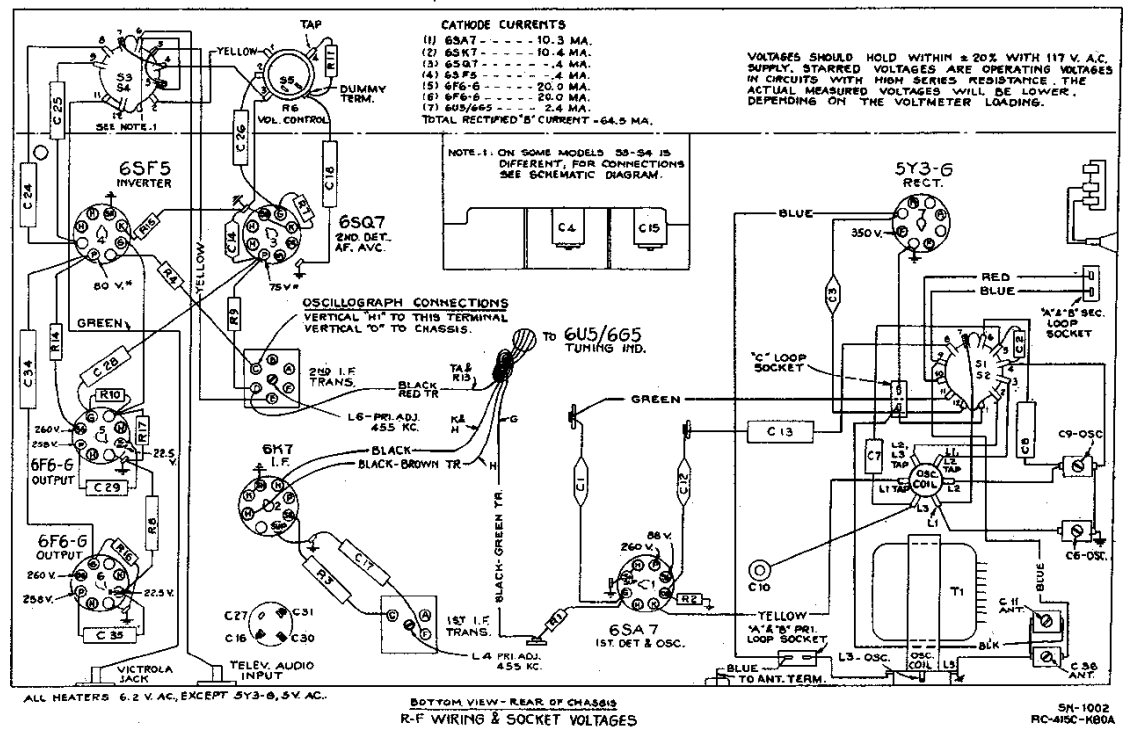
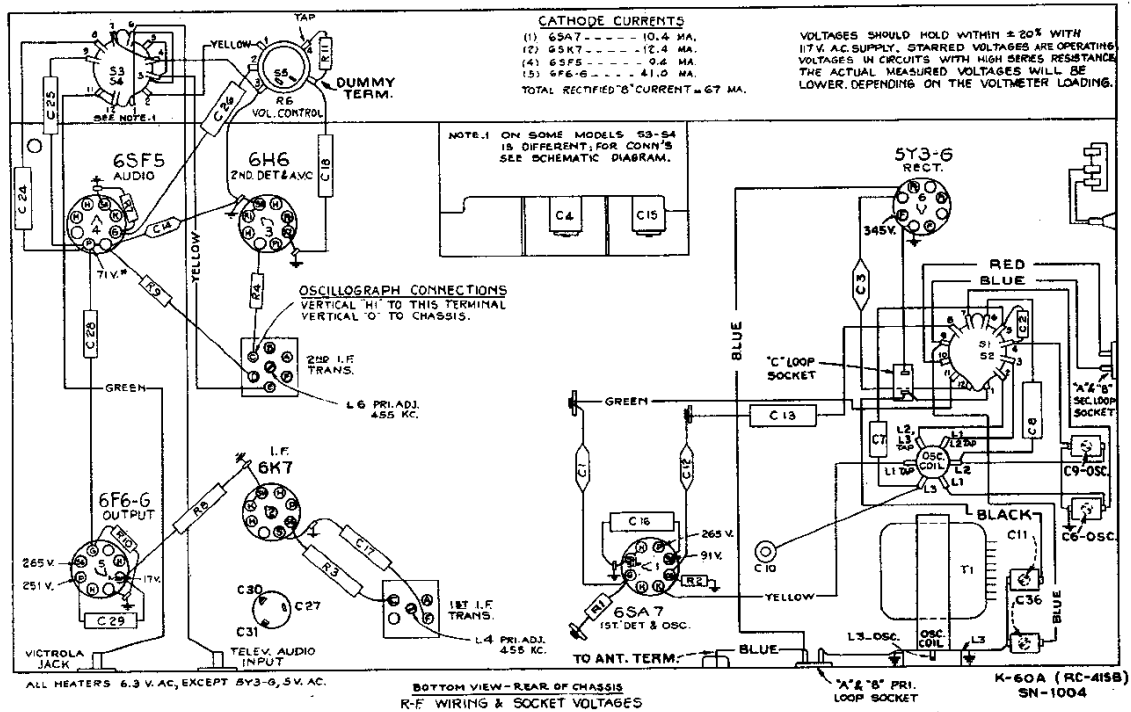
The push-buttons should be adjusted for eight favorite stations after the receiver is operating, and has had a brief warm-up period.

Any standard broadcast stations may be chosen. The preferable arrangement is to adjust for stations in the order of frequency, from low to high. Proceed as follows:

1. Loosen the push-button screws in back of the station marker recesses.
2. Set Accessory-Tune Knob to "Radio", and turn the range selector to "A."
3. Press in the tuning knob and accurately tune in the first station.
4. With station accurately tuned in, press in the first push-button and tighten the screw.
5. Repeat steps 2 through 4 for the other stations.
6. Proceed in a similar manner to adjust the remainder of the push-buttons.

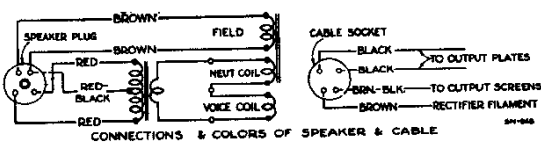
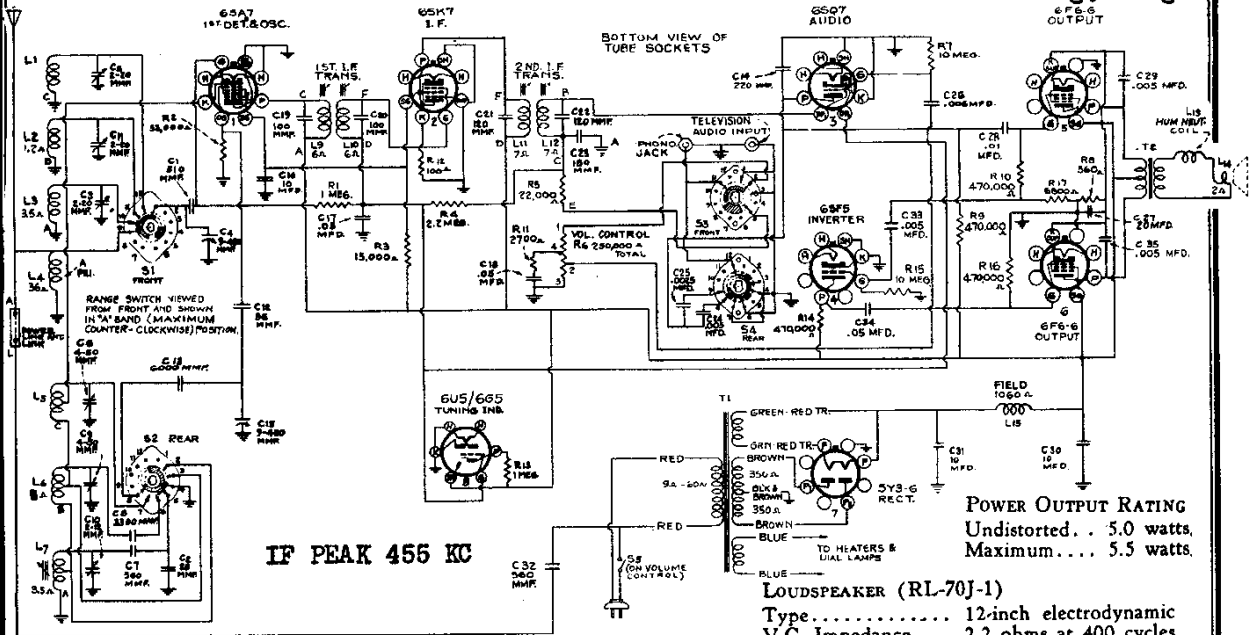
MODELS K60, K62, Ch. RC415B  
 MODELS K80, Ch. RC415C, RC415D  
 K81, K82, Chassis RC415C  
 Chassis Wiring, Voltage

RCA MFG. CO., INC.



RCA MFG. CO., INC.

MODEL K80, Ch. RC415A  
Schematic, Voltage  
Chassis Wiring, Changes



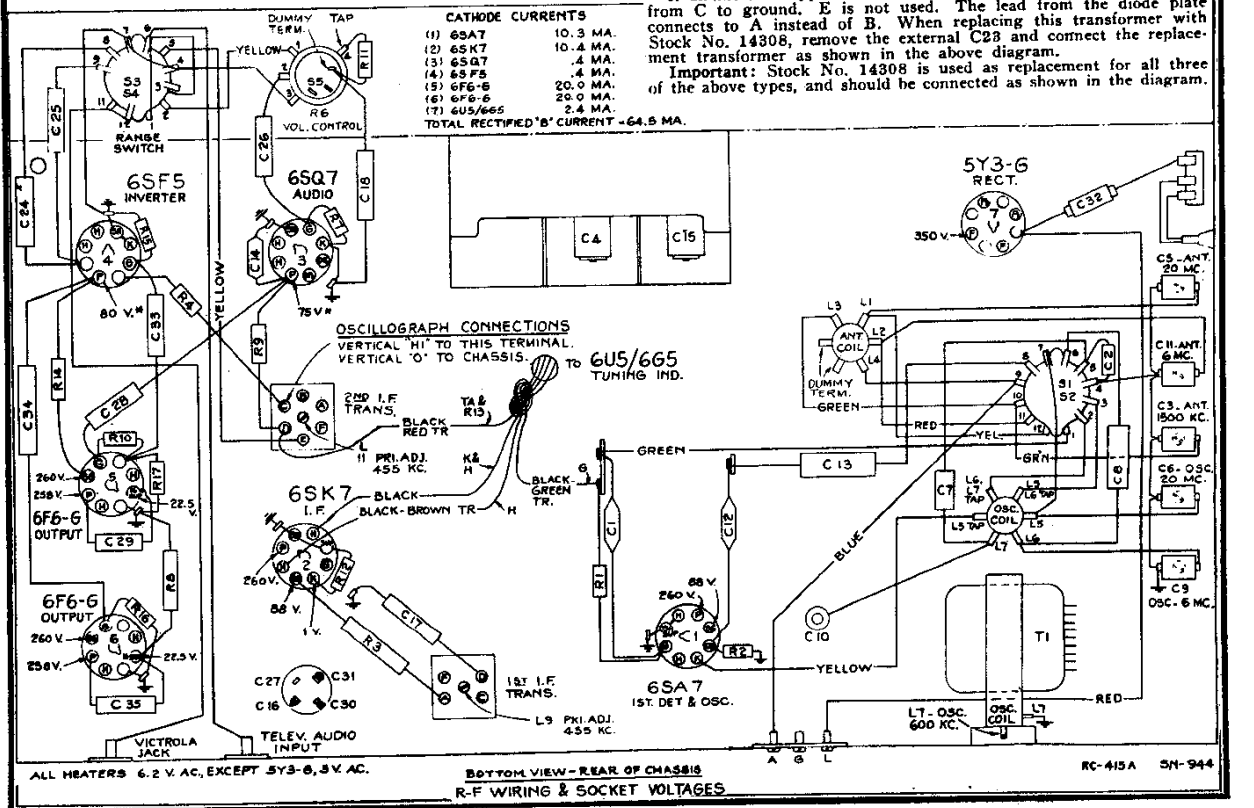
Note: On some receivers the following circuit modifications are in effect:

1. R11 is 5,600 ohms, and C18 is 0.1 mfd.
2. C1 is 470 mmfd.; R15 is 2,700 ohms and is connected from cathode of 6SF5 inverter to ground; R17 is 15,000 ohms; and C33 is omitted.
3. There are three types of 2nd I.F. transformers in use.
  - a. The first type (Stock No. 14308) has C23 and R5 mounted inside the case, and is connected exactly as shown above.
  - b. In the second type R5 is omitted and the lead from S4 connects to C instead of E. E is not used.
  - c. In a third type R5 is omitted and C23 is connected externally from C to ground. E is not used. The lead from the diode plate connects to A instead of B. When replacing this transformer with Stock No. 14308, remove the external C23 and connect the replacement transformer as shown in the above diagram.

Important: Stock No. 14308 is used as replacement for all three of the above types, and should be connected as shown in the diagram.

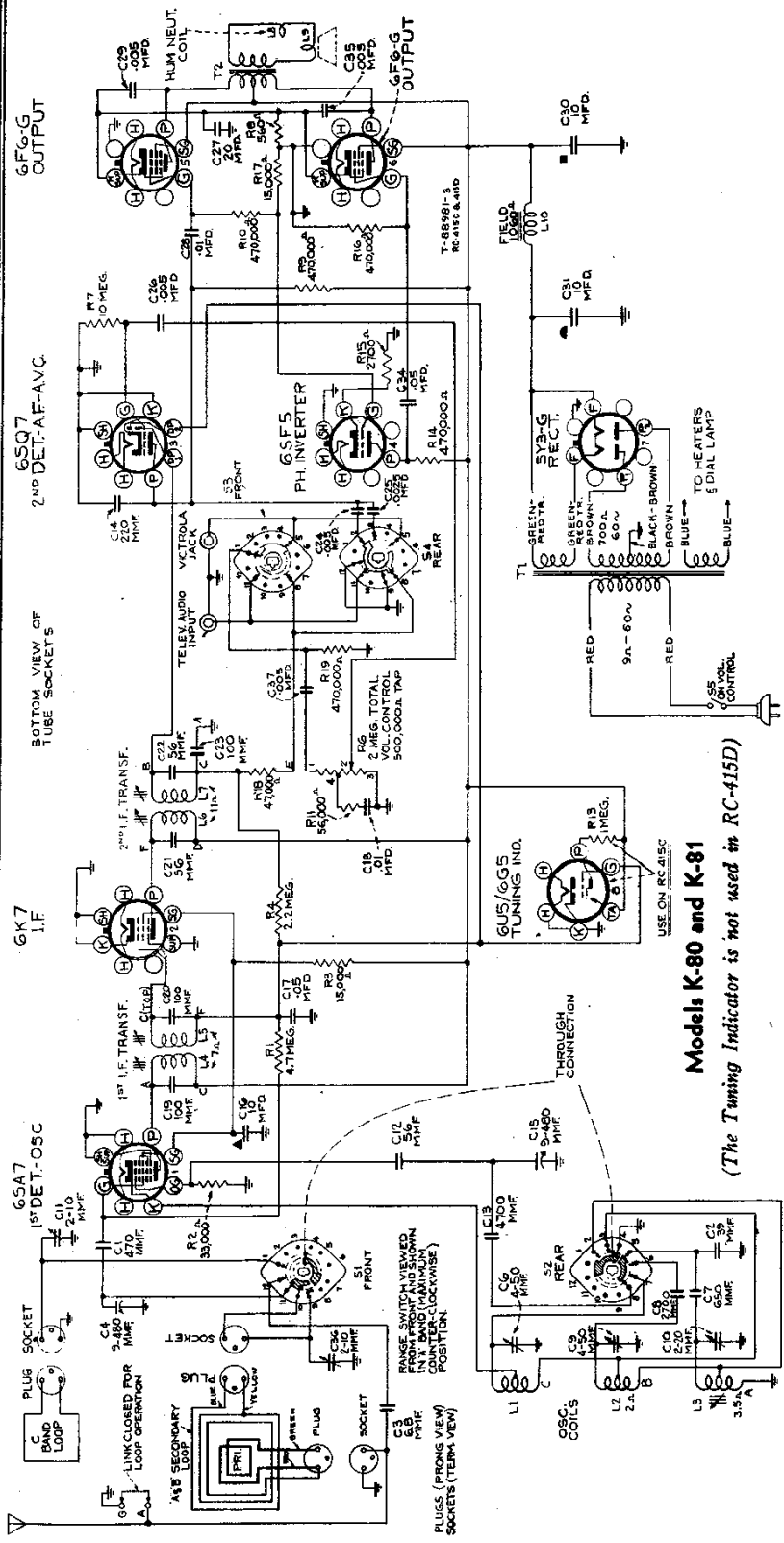
CATHODE CURRENTS

(1) 6SA7	10.3 MA.
(2) 6SK7	10.4 MA.
(3) 6SA7	.4 MA.
(4) 6SF5	.4 MA.
(5) 6F6-6	20.0 MA.
(6) 6F6-6	20.0 MA.
(7) 6U5/665	2.4 MA.
TOTAL RECTIFIED 'B' CURRENT - 64.5 MA.	



MODELS K80, Ch. RC415C, RC415D  
K81, K82, Ch. RC415C  
Schematic, Socket, Trimmers

RCA MFG. CO., INC.



Models K-80 and K-81

(The Tuning Indicator is not used in RC-415D)

FOR OTHER DATA  
SEE INDEX

- PILOT LAMPS (2)..... Mazda No. 44, 6.3 volts, 0.25 amp.
- POWER OUTPUT RATING
  - Undistorted..... 5.0 watts
  - Maximum..... 5.5 watts
- LOUDSPEAKER (RL-701-1)
  - Type..... 12-inch electrodynamic
  - V.C. Impedance..... 2.2 ohms at 400 cycles
- POWER CONSUMPTION..... 85 Watts

The Dial Drive used in this chassis is the same as is used in Chassis RC415

