

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

	Model: 143	Chassis:	Year: Pre November 1935
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		

Resources

[Riders Volume 6 - RCA 6-45](#)

[Riders Volume 6 - RCA 6-46](#)

[Riders Volume 6 - RCA 6-47](#)

[Riders Volume 5 - RCA 5-81](#)

[Riders Volume 5 - RCA 5-82](#)

[Riders Volume 5 - RCA 5-83](#)

[Riders Volume 5 - RCA 5-84](#)

[Riders Volume 5 - RCA 5-85](#)

[Riders Volume 5 - RCA 5-86](#)

[Riders Volume 5 - RCA 5-87](#)

[Riders Volume 5 - RCA 5-88](#)

[Riders Volume 5 - RCA 5-89](#)

[Riders Volume 5 - RCA 5-90](#)

MODELS 143, 242, 243
1935 Production
Parts List

RCA MFG. CO., INC.

REPLACEMENT PARTS—Models 143, 242 and 243 (1935 Production)

Stock No.	Description	List Price	Stock No.	Description	List Price	Stock No.	Description	List Price	Stock No.	Description	List Price
4632	RECEIVER ASSEMBLIES Bracket—Terminal board—Two terminals and link—For changing fidelity.....	\$0.25	7809	Coil—Oscillator coil "Band X-B" (L17, L18, L21, L22, C22, C26).....	\$1.70	3930	Shield—I. F. amplifier Radiotron shield.....	\$0.26	4377	Spring—Band indicator and arm tension spring—Package of 5.....	\$0.25
4379	Board—Antenna terminal board.....	.20	4896	Condenser—3-pole variable tuning condenser (C5, C16, C18).....	5.64	4663	Shield—I. F. amplifier shield—Shields oscillator coil wiring from R. F. coil—Complete with terminal board, clamp and terminal strip.....	.42	4722	Pinion—Vernier pointer pinion—Station selector pointer zero.....	.18
4427	Bracket—Volume control, tone control or noise suppressor mounting bracket.....	.18	4371	Cover—Fuse mount cover.....	.15	4664	Shield—Oscillator wiring shield—Shields oscillator coil wiring from R. F. coil—Complete with terminal board, clamp and terminal strip.....	.32	4378	Stud—Band indicator operating arm stud—Package of 5.....	.25
4144	Cap—Contact cap—Package of 5.....	.20	10907	Fuse—3-ampere—Package of 5.....	.40	4664	Shield—Oscillator wiring shield—Shields oscillator coil wiring from R. F. coil—Complete with terminal strip and resistor.....	.36		REPRODUCER ASSEMBLY (TABLE MODEL)	
3861	Capacitor—Oscillator trimmer capacitor (C21, C25).....	.78	3376	Mount—Fuse mount—105-125-volt instrument.....	.40	4630	Shield—R. F. amplifier—Radiotron shield.....	.50	5038	Cable—4-conductor—Reproducer cable with female connector plug.....	.60
4633	Capacitor—50 mmfd. (C19).....	.25	4604	Mount—Fuse mount for 200-250-volt instrument.....	.35	4665	Shield—R. F. coil wiring shield with two terminals and terminal board.....	.32	9334	Coil—Field coil (L31).....	1.90
4635	Capacitor—100 mmfd. (C41).....	.25	4625	Resistor—Wire wound resistor—Comprising one 630-ohm—R30, R31, R50 and 450 watt (R3, R9, R12).....	.70	3329	Socket—Dial lamp socket.....	.15	9333	Cone—Cone mounted and centered on housing (L30).....	3.50
4248	Capacitor—300 mmfd. (C8).....	.22	3704	Resistor—400 ohms—Carbon type—1/4 watt (R3, R9, R12).....	1.00	4784	Socket—4-contact Radiotron socket.....	1.15	5039	Connector—4-prong male connector for reproducer cable.....	.25
4811	Capacitor—340 mmfd. (C24).....	.25	4812	Resistor—600 ohms—Carbon type—1/4 watt (R6, R11, R13).....	1.00	4787	Socket—7-contact Radiotron socket.....	.15	5040	Connector—4-contact female connector for reproducer cable.....	.25
4183	Capacitor—400 mmfd. (C39).....	.26	35	Resistor—2600 ohms—Carbon type—1/4 watt (R17).....	1.00	4617	Switch—Bang switch (S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12).....	3.32	9393	Reproducer complete.....	7.50
4412	Capacitor—1120 mmfd. (C27).....	.35	4242	Resistor—3000 ohms—Carbon type—1/4 watt (R17).....	1.00	4813	Tone control (R24, S1).....	1.42	9335	Transformer—Output transformer (T3).....	1.50
4409	Capacitor—1120 mmfd. (C43).....	.35	2871	Resistor—5000 ohms—Carbon type—1/4 watt (R22).....	1.00	4431	Transformer—Fix intermediate frequency transformer (L25, L26, C32, C33, C34).....	2.28		REPRODUCER ASSEMBLY (CONSOLE MODEL)	
4634	Capacitor—2850 mmfd. (C29).....	.34	3998	Resistor—15,000 ohms—Carbon type—1/4 watt (R20).....	1.00	9505	Transformer—Power transformer—105-125 volts—50-60 cycles (T1).....	6.35	5038	Cable—4-conductor—Reproducer cable with female connector plug.....	.60
4615	Capacitor—2850 mmfd. (C36).....	.28	3602	Resistor—60,000 ohms—Carbon type—1/4 watt (R8, R18, R23, R26).....	1.00	9506	Transformer—Power transformer—105-125 volts—25-40 cycles.....	8.90	9591	Coil—Field coil magnet and cone support (L31).....	4.00
3787	Capacitor—0.01 mfd. (C48).....	.30	3118	Resistor—100,000 ohms—Carbon type—1/4 watt (R2, R7, R19).....	1.00	9507	Transformer—Power transformer—105-125 volts—40-60 cycles.....	6.40	8969	Cone—Reproducer cone (L30)—Package of 5.....	6.35
4624	Capacitor—0.01 mfd. (C44).....	.30	3619	Resistor—400,000 ohms—Carbon type—1/4 watt (R2, R7, R19).....	1.00	4433	Transformer—Second intermediate frequency transformer and rectifier transformer (L27, L28, C35, C36, C38, R14).....	2.15	5039	Connector—4-prong male connector for reproducer cable.....	.25
4836	Capacitor—0.05 mfd. (C5, C15, C37).....	.24	4783	Resistor—1,000,000 ohms—Carbon type—1/4 watt (R16).....	1.00	4620	Transformer and rectifier transformer (L27, L28, C35, C36, C38, R14).....	2.98	9392	Reproducer complete.....	8.00
4885	Capacitor—0.1 mfd. (C7, C18, C38).....	.28	6242	Resistor—10,000 ohms—Carbon type—1/4 watt (R15, R21, R28).....	1.00	4809	Volume control (R32).....	1.45	5041	Transformer—Output transformer (T3).....	1.40
4940	Capacitor—0.25 mfd. (C47).....	.30	3078	Resistor—10,000 ohms—Carbon type—1/4 watt (R27).....	1.00	4362	Arm—Band indicator operating arm.....	.28		MISCELLANEOUS PARTS	
7790	Capacitor—10 mfd. (C53, C54).....	1.05	4623	Resistor—13,000 ohms—Carbon type—1/4 watt (R23).....	2.00	10194	Ball—Steel ball for variable condenser drive assembly—Package of 20.....	.25	4677	Bezel—Metal bezel (acousticon) for station selector dial.....	.56
4619	Capacitor pack—Comprising one 0.5 mfd., one 10 mfd. capacitor (C41, C51).....	1.44	2240	Resistor—50,000 ohms—Carbon type—1/4 watt (R23).....	1.50	4422	Clutch—Tuning condenser drive clutch assembly—Comprising drive shaft, bulk ring, spring and washers assembled.....	1.00	4621	Dial—Station selector dial.....	.65
4626	Capacitor pack—Comprising one 4 mfd., one 10 mfd. and one 8 mfd. capacitor (C45, C46, C55).....	2.82	4419	Resistor—100 ohms—Flexible type (R1, R4).....	.15	7799	Drive—Variable tuning condenser drive complete.....	2.45	4895	Exciticon—Station selector exciticon and celluloid crystal.....	.55
4358	Clamp—Electrolytic capacitor clamp—For capacitor Stock No. 7790.....	.15	4618	Resistor—100 ohms—Flexible type (R1, R4).....	1.25	4827	Gray—Spring gear assembly complete with hub, pinion, gear, cover and spring.....	1.25	6614	Glass—Station selector dial glass.....	.30
4693	Clamp—Electrolytic capacitor clamp—For capacitor Stock No. 4626.....	.15	4742	Shield—Antenna, detector or oscillator coil shield.....	.40	4704	Indicator—Band indicator—Celluloid.....	.12	4449	Knob—Station selector, volume control, tone control, noise suppressor rheostat on range switch knob—Package of 5.....	.60
7810	Coil—Antenna coil "Band B-X" (L1, L2, L5, L6, C1, C3).....	2.10	4627	Shield—First detector—Oscillator Radiotron shield.....	.36	4367	Indicator—Band indicator—Celluloid.....	.15	4340	Lamp—Dial lamp—Package of 5.....	.60
7803	Coil—Antenna coil "Band A-C" (L3, L4, L7, L8, C2, C4).....	1.82	6956	Shield—First detector—Oscillator Radiotron shield top.....	2.05	4520	Indicator—Station selector vernier pointer—Large.....	.18	4678	Ring—Retaining ring for dial glass—Package of 5.....	.35
7808	Coil—Detector coil "Band X-B" (L9, L10, L13, L14, C5, C11).....	2.05	3943	Screw—Translucence screen for dial light—Package of 2.....	.15	4446	Screw assembly—Chain mounting screw assembly—Comprising four lock-washers, four washers, four spacers and eight cushions—For cable model.....	.18	4446	Screw—No. 8-32-1/2" headless set screw for knob—Package of 10.....	.25
7805	Coil—Detector coil "Band A-C" (L11, L12, L15, L16, C10, C12, C15).....	2.15	3993	Screw—No. 6-32-5/32" square head set screw for band indicator operating arm or condenser drive—Package of 10.....	.15						
7807	Coil—Oscillator coil "Band A-C" (L19, L20, L23, L24, C23, C28).....	1.62									

* Used on some models.
† Cf. Volume 114.

RCA-VICTOR CO., INC.

RCA VICTOR MODELS 143 AND 242

SERVICE NOTES

ELECTRICAL SPECIFICATIONS

Voltage Rating.....	105-125 Volts and 100-130/195-250 Volts (Double Range)												
Frequency Rating.....	25-60 and 50-60 Cycles												
Power Consumption.....	130 Watts (All Frequencies)												
Type and Number of Radiotrons.....	2 RCA-6D6, 1 RCA-6A7, 1 RCA-75, 1 RCA-76, 2 RCA-42, 1 RCA-5Z3—Total, 8												
Tuning Frequency Range.....	<table> <tr> <td>Band X—</td> <td>140 K. C.—</td> <td>410 K. C.</td> </tr> <tr> <td>Band A—</td> <td>540 K. C.—</td> <td>1720 K. C.</td> </tr> <tr> <td>Band B—</td> <td>1720 K. C.—</td> <td>5400 K. C.</td> </tr> <tr> <td>Band C—</td> <td>5400 K. C.—</td> <td>18000 K. C.</td> </tr> </table>	Band X—	140 K. C.—	410 K. C.	Band A—	540 K. C.—	1720 K. C.	Band B—	1720 K. C.—	5400 K. C.	Band C—	5400 K. C.—	18000 K. C.
Band X—	140 K. C.—	410 K. C.											
Band A—	540 K. C.—	1720 K. C.											
Band B—	1720 K. C.—	5400 K. C.											
Band C—	5400 K. C.—	18000 K. C.											
Line-up Frequencies.....	175 K. C., 410 K. C., 460 K. C., 600 K. C., 1720 K. C., 5160 K. C., 18000 K. C.												
Maximum Undistorted Output.....	4.0 Watts												
Maximum Output.....	5.0 Watts												

PHYSICAL SPECIFICATIONS

	Model 143	Model 242
Height.....	20 $\frac{1}{8}$ Inches	41 $\frac{1}{2}$ Inches
Width.....	17 $\frac{3}{8}$ Inches	26 Inches
Depth.....	14 $\frac{1}{2}$ Inches	14 Inches

This eight-tube, four-band Superheterodyne receiver is of the "all-wave" type, having a continuous tuning range extending from 140 K. C. to 18,000 K. C., except for one break between 410 K. C. and 540 K. C. Such a tuning range permits the listener to receive all of the important broadcasting, police, aircraft and amateur call bands used throughout the world.

Excellent sensitivity, selectivity and tone quality,

together with a high output (4 watts undistorted), Class A amplifier gives the receiver outstanding performance. Operating features include an "airplane" type dial, a double-ratio vernier drive, a visual band indicator, and a special "second hand" on the dial for logging short-wave stations. Other important features include automatic volume control, sensitivity control, large loudspeaker unit and a terminal board for easily attaching a magnetic pickup.

DESCRIPTION OF ELECTRICAL CIRCUIT

The general circuit arrangement consists of an R. F. stage, a combined oscillator and first detector, an I. F. stage, a combined second detector and automatic volume control, a first audio stage and a push-pull Pentode output stage. An RCA-80 rectifier, together with a suitable filtering system, provides plate and grid voltages for all tubes and field excitation for the loudspeaker. Figures 1 and 2 show the schematic diagrams, Figures 5 and 7 the chassis wiring, and Figures 3 and 4 the loudspeaker wiring.

The signal enters the receiver through a shielded antenna lead and is applied to the grid of the R. F. tube through the antenna coupling transformer. The secondary of this transformer is tuned to the signal frequency by means of one unit of the gang capacitor. The output of this stage is transformer coupled to the grid circuit of the first detector, which is also tuned to the signal frequency by a unit of the gang capacitor.

Combined with the signal in the first detector is the local oscillator, which is always at a 460 K. C. frequency difference (higher) from the signal frequency. A separate coil system and the third unit of the gang capacitor are used in this circuit.

In conjunction with these three tuned circuits, it is well to point out that four different groups of tuned circuits are used, one for each tuning band. A four-position selector switch is provided for selecting the band in which the desired signal is located. In addition to selecting the desired coil system, additional groups of contacts are provided for short-circuiting the preceding lower frequency R. F. and detector coils and the two preceding oscillator coils. This is to prevent "dead" spots due to the absorption effects caused by the coils, the natural period of which, with the tuning capacitor disconnected, falls in the next higher frequency band.

MODEL 143,242
Loud Speaker Data
Circuit Data

RCA-VICTOR CO., INC.

The output of the first detector, which is the I. F. signal (460 K. C.), is fed directly through two tuned circuits to the grid of the I. F. amplifier stage. The I. F. stage, which utilizes Radiotron RCA-6D6, uses two transformers, which consist of four tuned circuits, all of which are tuned to 460 K. C.

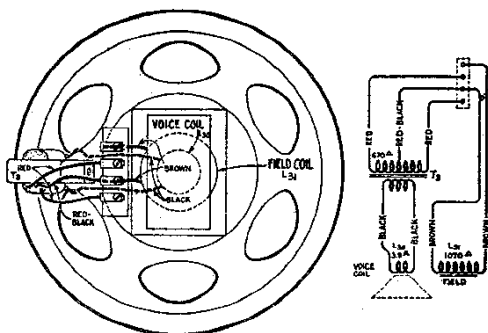


Figure 3—Console Loudspeaker Wiring

The output of the I. F. amplifier is then applied to the diode electrodes of the RCA-75, which is a combined second detector, automatic volume control and A. F. amplifier. The direct current component of the rectified signal produces a voltage drop across resistor R-32. The full voltage drop constitutes the automatic bias voltage for the R. F. while a tap is provided for the first detector and I. F. voltage. These automatic bias voltages for the R. F., first detector and I. F. give the automatic volume control action of the receiver. The volume control selects the amount of audio voltage that is applied to the grid of the RCA-75 and thereby regulates the audio output of the entire receiver.

The output of the detector is resistance coupled to the grid of the RCA-76, first audio stage, which is transformer coupled to the push-pull output stage. On some models the grid coupling resistor between

the detector and audio stage is 1 megohm (R-21, Figure 1). Other models have two resistors, R-59, 400,000 ohms, and R-21, 2 megohms (Figure 2), with the band selector switch shorting out R-21 in bands B and C. The purpose of this latter type of connection is to reduce the low frequency output in bands B and C, thereby improving the performance of the receiver in these bands.

The output stage uses two RCA-42's, which give a low distortion, high audio output to the loudspeaker. A high frequency tone control, which consists of a variable resistor and capacitor, is connected across the grids of the output stage. At the minimum resistance position of the variable resistor, maximum attenuation of the high audio frequencies is obtained.

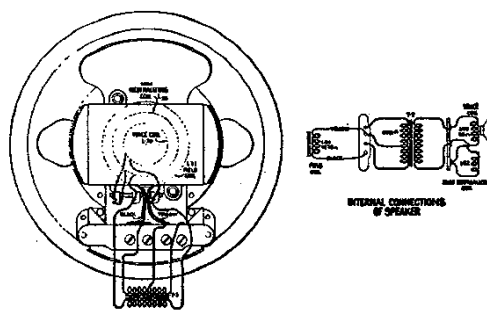


Figure 4—Table Loudspeaker Wiring

The plate circuit of the output stage is matched to the cone coil of the reproducer by means of a step-down transformer.

Plate and grid voltages for all tubes are supplied from the output of the rectifier-filter system. An RCA-5Z3 is used as a rectifier and a suitable network of capacitors and resistors gives the necessary filtering and voltages. The loudspeaker field is used as a filter reactor.

SERVICE DATA

(1) LINE-UP PROCEDURE

The line-up procedure of this receiver is somewhat involved and it is important that these instructions be carefully followed when making adjustments. Properly aligned, this receiver has outstanding performance; improperly aligned, it may be impossible to receive signals on all bands.

Equipment

To properly align this receiver, proper test equipment must be used. This consists of a modulated R. F. oscillator having proper frequency range, an output indicator, an alignment tool and a tuning wand.

These parts, which are shown on page 15, have been developed by the manufacturer of this receiver for use by service men to duplicate the original factory adjustments.

Checking With Tuning Wand

Before making any R. F., oscillator or first detector adjustments, the accuracy of the present adjustments may be checked by means of the tuning wand (Stock No. 6679). The tuning wand consists of a bakelite rod having a brass cylinder at one end and a special finely divided iron insert at the other end. Inserting the cylinder into the center of a coil lowers its inductance,

RCA-VICTOR CO., INC.

MODEL 143,242
Alignment Data
Voltage

(4) POWER TRANSFORMER CONNECTIONS
The 220-volt power transformer furnished with some instruments includes taps for operating on 110-volt lines. Figure 9 shows the schematic circuit of the transformer and the proper voltage to be applied to the various taps. The taps are located on the power transformer assembly and are accessible without removing the chassis from the cabinet.

(5) MAGNETIC PICKUP CONNECTIONS
A Terminal Board is provided at the rear of the chassis for adding phonograph facilities to this instrument. Figure 11 shows the various types of connections that will be required for the different turntable assemblies.

(6) VARIATIONS IN MODELS
There are four slight variations in the electrical circuits of these receivers, which should be noted in event service work is necessary in the circuits that differ from the diagrams.
Group 1—C-52 1170 mmfd.
R-18 60,000 ohms
R-19 100,000 ohms
R-20 15,000 ohms

Group 2—C-52 200 mmfd.
R-18 100,000 ohms
R-19 60,000 ohms
R-20 10,000 ohms

(c) Check for the image signal, which should be received at approximately 4,240 K.C. on the dial. It will be necessary to increase the external oscillator output for this check.
(d) The antenna and detector trimmers should now be peaked for maximum output.

Band "C"

(a) Set the band switch at "C."
(b) Tune the external oscillator to 18,000 K.C. and set the pointer at 18 M. C. Adjust the oscillator trimmer for maximum output. The trimmer should be set at the first peak obtained when increasing the trimmer capacitor from minimum to maximum.
(c) Check for the image signal, which should be received at approximately 17,080 on the dial. It may be necessary to increase the external oscillator output for this check.
(d) Reduce the capacity of the detector trimmer, until the signal disappears. The first detector circuit is the oscillator, frequency and the RCA-6A7 tube is blocked. Then increase the capacity of the detector trimmer, while rocking the tuning capacitor, until the signal is peaked for maximum output.

(e) The antenna trimmer should now be peaked for maximum output. It is not necessary to rock the main tuning capacitor while making this adjustment.

RADIOTRON SOCKET VOLTAGES
120-Volt A. C. Line—Maximum Volume and Sensitivity—No Signal

Radiotron No.	Cathode to Ground, D. C.	Screen Grid to Ground, D. C.	Plate to Ground, D. C.	Cathode to M. A.	Heater, Volts, A. C.
RCA-6D6 R. F.	4.2	110	272	10.5	6.3
RCA-6A7 Oscillator 1st Detector	—	—	225	11.4	6.3
	4.6	110	282	—	—
RCA-6D6 I. F.	4.2	110	172	10.5	6.3
RCA-75 2nd Det.	4.2	—	170*	0.4	6.3
RCA-76 A. F.	14.0	—	252	2.8	6.3
RCA-42 Power	22.0	295	290	24.5	6.3
RCA-42 Power	22.0	295	290	24.5	6.3
RCA-5Z3 Rectifier	—	—	768/384 R. M. S.	110.0	5.0

*Cannot be measured with ordinary voltmeter.

To properly align the various bands, each band must be aligned individually. The preliminary set-up requires the external oscillator to be connected between the antenna and ground terminals of the receiver and the output indicator across the voice coil of the loudspeaker. The volume and sensitivity controls must be at the maximum position and the input from the oscillator must be at the minimum value possible to get an output indication under these conditions. In the high frequency bands, it may be necessary to disconnect the oscillator from the receiver and place it at a distance in order to get a sufficiently low input to the receiver.
The dial pointer must be properly set before starting any actual adjustments. This is done by turning the variable capacitor until it is at its maximum capacity position. One end of the pointer should point exactly at the horizontal line at the lowest frequency end of Band "A," while the other end should point to within 1/64 inch of the horizontal line at the highest frequency end of Band "A."

Figure 8 shows the location of the trimmers for each band. Care must be exercised to only adjust the trimmers in the band under test.

Band "X"

(a) Set the band switch at "X."
(b) Tune the external oscillator to 410 K.C. set the dial pointer at 410 K.C. and adjust the oscillator, detector and R.F. trimmers for maximum output.
(c) Shift the external oscillator frequency to 175 K.C. Tune in the 175 K.C. signal irrespective of scale calibration and adjust the series trimmer, marked 175 K.C. on Figure 8, for maximum output, at the same time rocking the variable tuning capacitor. Then readjust at 410 K.C. as described in (b).

Band "A"

(a) Set the band switch at "A."
(b) Tune the external oscillator to 1,720 K.C. set the pointer at 1,720 K.C. and adjust the oscillator, detector and R.F. trimmers for maximum output.
(c) Shift the external oscillator frequency to 600 K.C. Tune in the 600 K.C. signal, irrespective of scale calibration, and adjust the series trimmer, marked 600 K.C. on Figure 8, for maximum output, at the same time rocking the variable tuning capacitor. Then readjust at 1,720 K.C. as described in (b).

Band "B"

(a) Set the band switch at "B."
(b) Tune the external oscillator to 5,160 K.C. and set the pointer at 5,160 K.C. Adjust the oscillator trimmer for maximum output. The trimmer should be set at the first peak obtained when increasing the trimmer capacitor from minimum to maximum.

while inserting the iron end increases its inductance. From this it is seen that unless the trimmer adjustment for a particular coil is perfect at alignment frequencies, inserting one end of the wand may increase the output of a particular signal. A perfect adjustment is evidenced by a lowering of output when either end of the wand is inserted into a coil.

The shields over the R. F. coil assembly have a hole at their top for entrance of the tuning wand. The location of the various coils inside of the shield is shown in Figure 6. An example of the proper manner of using the tuning wand would be to assume the external oscillator were set at 1720 K. C. and the signal tuned in, and the output indicator connected across the voice coil of the loudspeaker. Then the tuning wand should be inserted, first one end and then the other end, into the top of the three transformers at the left of the R. F. assembly, facing the front of the chassis. A perfect adjustment of the trimmer would be evidenced by a reduction in output when each end of the wand is inserted in each of the three transformers. If in one end—for example, the iron end—when inserted in one coil caused an increase in output, then that circuit is low. An increase in the trimmer capacitance would be the proper remedy.

(3) I. F. TUNING CAPACITOR ADJUSTMENTS

This receiver has one I. F. stage with two transformers having four adjustable capacitors that may require adjustment. The transformers are all peaked at 460 K. C.
A detailed procedure for making this adjustment follows:

- (a) Connect the output of an external oscillator tuned to 460 K. C. between the first detector grid and ground. Connect the output indicator across the voice coil of the loudspeaker.
- (b) Place the oscillator in operation at 460 K. C. Place the receiver in operation and adjust the station selector until a point is reached (Band A) where no signals are heard and turn the volume control to its maximum position. Reduce the oscillator input until a slight indication is obtained in the output indicator.
- (c) Refer to Figure 8. Adjust each trimmer of the I. F. transformers until maximum output is obtained. Go over the adjustments a second time.

This completes the I. F. adjustments. However, it is good practice to follow the I. F. adjustments with the R. F. and oscillator adjustments due to interlocking which always occurs.

(3) R. F., OSCILLATOR AND FIRST DETECTOR ADJUSTMENTS

Four R. F. oscillator and first detector adjustments are required in Bands "A," and "X." These are required in Bands "B," and "C."

MODEL 143,242
Trimmer Layout
Alignment Data

RCA-VICTOR CO., INC.

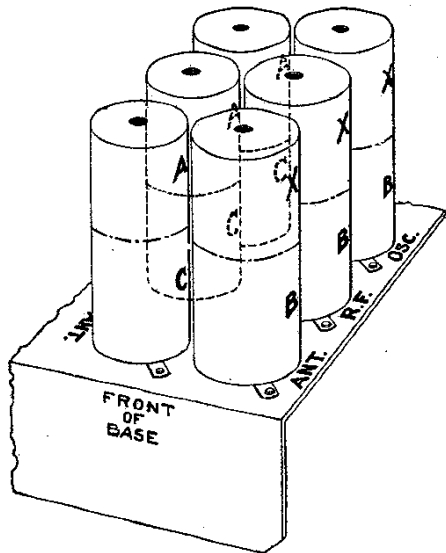


Figure 6—Location of Coils in Shields

Group 3—R-28 and C-52 are removed from the resistor board inside of chassis and mounted externally on phonograph terminal board. No. 3 terminal has been added to terminal board. Electrically, this group is identical with Group 2, the schematic and wiring diagrams being shown in Figures 1 and 5.

Group 4—Resistor R-10 has been removed. Resistor R-59 has been added and Resistor R-21 has been changed to 2 megohms. Capacitors C-52 and C-43 have been changed to 1120 mmfd. Figures 2 and 7 show the schematic and wiring diagrams of the models having these changes.

(7) FIDELITY LINK

It will be noted that a small link is mounted on the rear apron of the chassis which is closed on table models and open on console models. The purpose of the link is to increase the low frequency output of the receiver when open.

(8) VOLTAGE READINGS

The following voltages are those at the various tube sockets while the receiver is in operating condition. No allowance has been made for currents drawn by the meter, and if low-resistance meters are used, such allowances must be made.

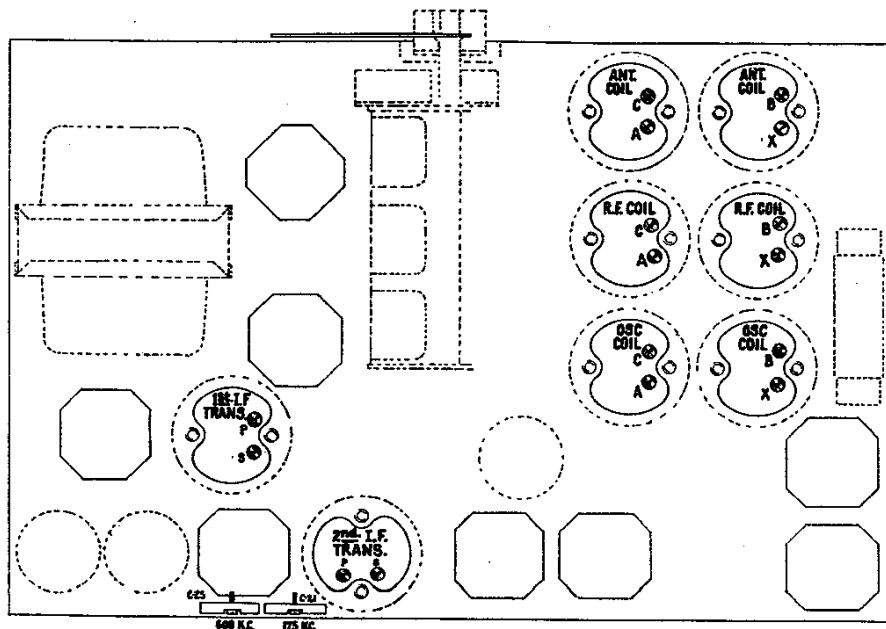


Figure 8—Location of Trimmer Capacitors

MODEL 145,242
Schematic with
Fidelity Change

RCA-VICTOR CO., INC.

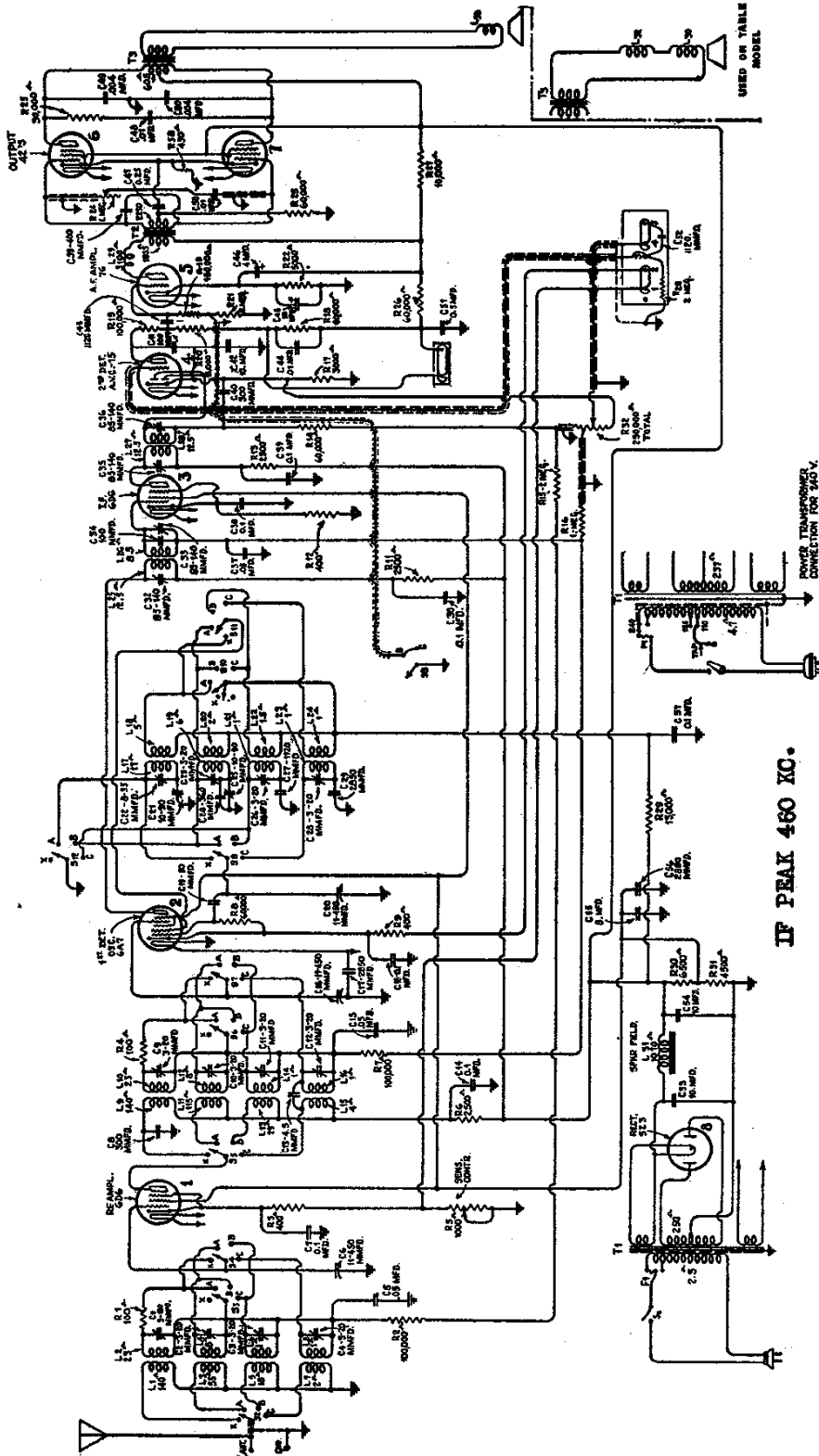


Figure 2—Schematic Circuit Diagram—Fidelity Change with Band position

RCA-VICTOR CO., INC.

MODEL 143,242
Socket Layout
Parts Schematics

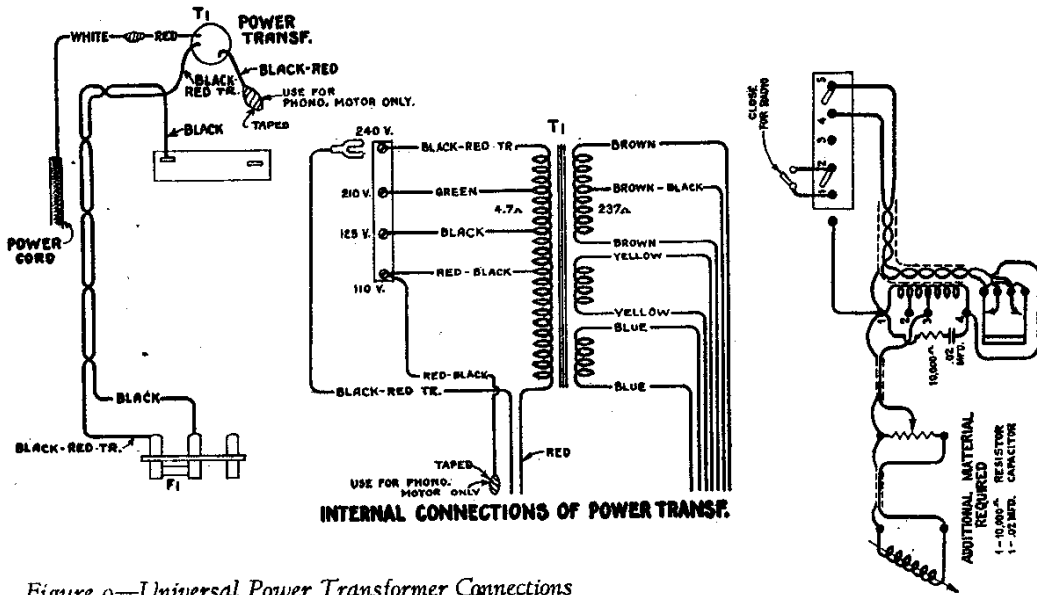


Figure 9—Universal Power Transformer Connections

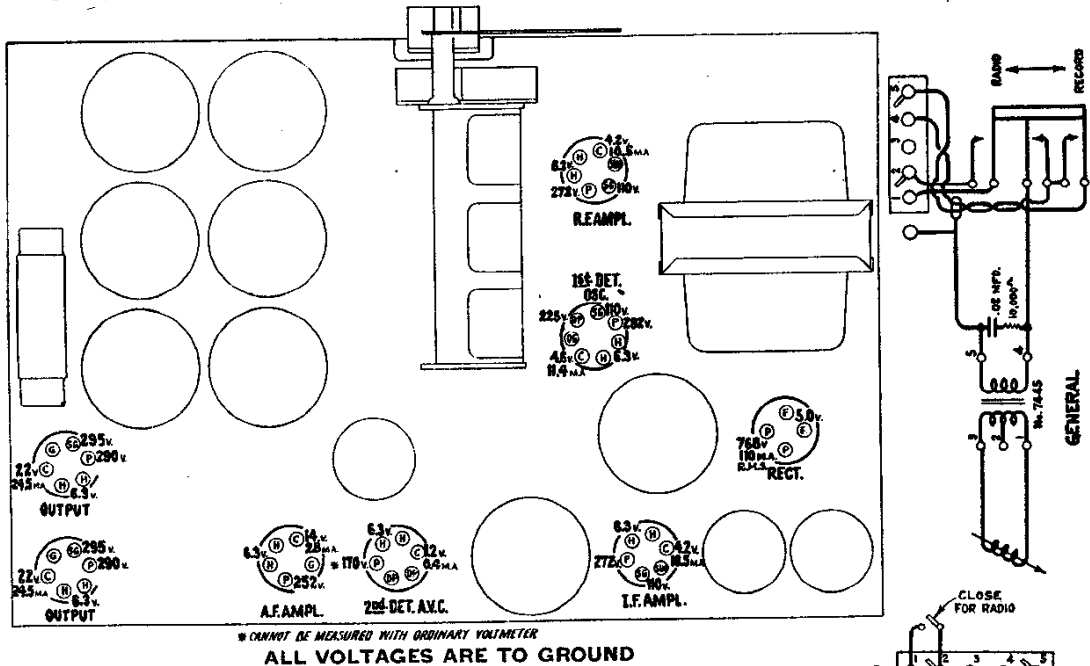
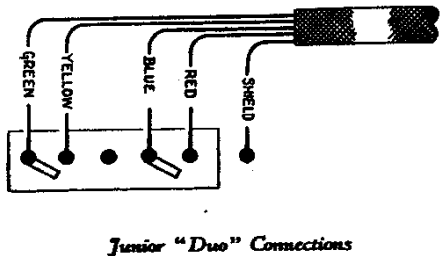
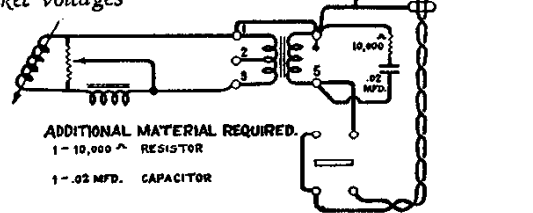


Figure 10—Radiotron Socket Voltages

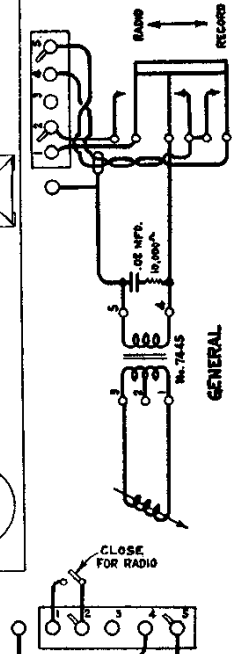


Junior "Duo" Connections



Portable Turntable Connections

End-Table Connections
General Connections
Figure 11—Magnetic Pickup Connections—Place Range Switch in A or X position during record reproduction for models with fidelity switching



MODEL 143,242
Parts List

RCA-VICTOR CO., INC.

REPLACEMENT PARTS

REPLACEMENT PARTS

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

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

Stock No.	Description	List Price	Stock No.	Description	List Price
4632	RECEIVER ASSEMBLIES Board—Terminal board—Two terminals and link—For changing affinity.....	\$0.25	7808	Coil—Detector coil "P.B.L.W." (L9, L10, L11, L14, C9, C11).....	\$2.05
4379	Board—Antenna terminal board.....	.20	7805	Coil—Detector coil "B.S.W." (L11, L12, L15, L16, C10, C12, C25).....	2.15
4427	Bracket—Volume control, tone control or noise suppressor mounting bracket.....	.18	7807	Coil—Oscillator coil "B.S.W." (L19, L20, L23, L24, C23, C28).....	1.62
4244	Cap—Contact cap—Package of 5.....	.20	7809	Coil—Oscillator coil "P.B.L.W." (L17, L18, L22, C2, C2, C26).....	1.70
3961	Capacitor—Oscillator trimmer capacitor (C21, C25).....	.78	7801	Condenser—3 gang variable tuning condenser (C6, C16, C20).....	4.42
4633	Capacitor—50 mmfd. (C19).....	.25	4374	Cover—Fuse mount cover.....	.15
4635	Capacitor—100 mmfd. (C14).....	.25	4634	Cover—Terminal strip cover.....	.15
4697	Capacitor—200 mmfd. (C52).....	.35	10907	Fuse—3-ampere—Package of 5.....	.40
3937	Capacitor—300 mmfd. (C3).....	.34	3376	Mount—Fuse mount—105-125-volt instrument.....	.40
4413	Capacitor—360 mmfd. (C24).....	.26	4604	Mount—Fuse mount for 200-250-volt instrument.....	.35
4412	Capacitor—400 mmfd. (C59).....	.25	4625	Resistor—Wire wound resistor—Comprising one 6500-ohm—500-ohm and 450 section (R30, R31, R38).....	.70
4409	Capacitor—1120 mmfd. (C27).....	.35	3704	Resistor—400 ohms—Carbon type—1/4 watt—Package of 5 (R9, R3, R12).....	1.00
4634	Capacitor—2850 mmfd. (C29).....	.35	4622	Resistor—500 ohms—Carbon type—1/4 watt—Package of 10 (R10).....	2.00
4618	Capacitor—4120 mmfd. (C52)*.....	.28	4338	Resistor—2850 mmfd. (C47, C56).....	2.00
4615	Capacitor—0.004 mfd. (C40, C50).....	.28	4242	Resistor—3000 ohms—Carbon type—1/4 watt—Package of 5 (R17).....	1.00
6532	Capacitor—0.005 mfd. (C43).....	.30	4436	Resistor—5000 ohms—Carbon type—1/4 watt—Package of 10 (R22).....	2.00
3787	Capacitor—0.01 mfd. (C48).....	.54	3881	Resistor—40,000 ohms—Carbon type—1/4 watt (R20)—Package of 5.....	1.00
4212	Capacitor—0.01 mfd. (C44).....	.25	3998	Resistor—15,000 ohms—Carbon type—1/4 watt—Package of 5 (R28).....	1.00
4624	Capacitor—0.05 mfd. (C57).....	.32	3602	Resistor—60,000 ohms—Carbon type—1/4 watt—Package of 5 (R8, R18, R19, R23, R26).....	1.00
4417	Capacitor—0.05 mfd. (C5, C15).....	.30	3118	Resistor—100,000 ohms—Carbon type—1/4 watt—Package of 5 (R2, R7, R18, R19).....	1.00
3877	Capacitor—0.1 mfd. (C38).....	1.05	3619	Resistor—400,000 ohms—Carbon type—1/4 watt (R39)—Package of 5.....	1.00
4415	Capacitor—0.1 mfd. (C18).....	1.44	3033	Resistor—1 megohm—Carbon type—1/4 watt—Package of 5 (R16, R21).....	1.00
4615	Capacitor—0.1 mfd. (C7, C14, C30, C39, C47).....	2.82	6242	Resistor—2 megohm—Carbon type—1/4 watt—Package of 5 (R15, R24, R28).....	1.00
3750	Capacitor—0.25 mfd. (C47).....	.15	3078	Resistor—10,000 ohms—Carbon type—1/4 watt—Package of 5 (R27).....	2.00
7790	Capacitor—10 mfd. (C53, C54).....	.15	4623	Resistor—15,000 ohms—Carbon type—1/4 watt—Package of 10 (R25).....	2.00
4619	Capacitor rack—Comprising one .05 mfd., one 10 mfd. capacitor (C42, C54, C46, C53).....	2.10	2240	Resistor—30,000 ohms—Carbon type—1/4 watt (R25).....	1.50
4616	Capacitor rack—Comprising one .4 mfd., one 10 mfd. and one 8 mfd. capacitor (C45, C46, C53).....	1.82	4418	Resistor—50,000 ohms—Flexible type—Package of 10 (R4, R44).....	1.25
4358	Clamp—Electrolytic capacitor clamp—For capacitor stock No. 7790.....	.15	4618	Rheostat—Sensitvity control (R5).....	1.25
4693	Clamp—Electrolytic capacitor clamp—For capacitor stock No. 4605.....	.15			
7810	Coil—Aerobic coil "P.B.L.W." (L1, L1, L5, L5, C1, C2).....	2.10			
7803	Coil—Antenna coil "B.S.W." (L3, L4, L7, L3, C1, C1).....	1.82			

* R18—6000 ohms—Same model.
* R19—10000 ohms—Same model.
* C52—110 mmfd.—Same model.

Stock No.	Description	List Price	Stock No.	Description	List Price
7800	Shield—Antenna, detector or oscillator coil shield.....	\$0.45	4384	Cra—Spring gear assembly complete with hub, piston gear, cover and spring.....	\$0.96
4627	Shield—First detector—Oscillator Radiotron shield.....	.36	4701	Indicator—Band indicator—Celluloid.....	.12
7488	Shield—First detector—Oscillator Radiotron shield top.....	.20	4967	Indicator—Station selector vernier pointer—Small.....	.15
4452	Shield—1. F. amplifier Radiotron shield.....	.35	4520	Indicator—Station selector main pointer—Large.....	.18
4629	Shield—Oscillator coil wiring shield.....	.15	3943	Screen—Translucent screen for dial light—Package of 2.....	.18
4663	Shield—Oscillator coil wiring shield—Shields oscillator coil wiring from R. F. coil—Resistor.....	.37	3998	Screw—No. 6-32 x 1/2" square head set screw with lockwasher—Cover.....	.25
4664	Shield—Oscillator wiring shield—Shields oscillator coil wiring from R. F. coil—Place with terminal strip and resistor.....	.36	4377	Spring—Band indicator and arm tension spring—Package of 8.....	.25
4630	Shield—R. F. amplifier—Radiotron shield.....	.36	4360	Stem—Station selector pointer stem.....	.35
4665	Shield—R. F. coil wiring shield with two resistors and terminal board.....	.50	4378	Sud—Band indicator operating arm sud—Package of 5.....	.25
3529	Socket—Dial lamp socket.....	.32		REPRODUCER ASSEMBLY (TABLE MODEL)	
3859	Socket—Contact Radiotron socket.....	.30	9534	Coil—Field coil (L31).....	1.90
7484	Socket—5-contact Radiotron socket.....	.35	9533	Cone—Cone mounted and centered on housing (L20).....	3.50
7485	Socket—6-contact Radiotron socket.....	.48	9532	Reproducer complete.....	7.90
3572	Socket—7-contact Radiotron socket.....	.38	9535	Transformer—Output transformer (T3).....	1.50
4617	Switch—Range switch (S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12).....	3.32		REPRODUCER ASSEMBLY (CONSOLE MODEL)	
4616	Tone control (R24, S1).....	1.28	4636	Cable—4-conductor—Reproducer cable.....	.50
4431	Transformer—First intermediate frequency transformer (L25, L26, C24, C23, C24).....	2.28	9537	Coil—Field coil magnet and cone support (L31).....	3.85
9505	Transformer—Power transformer—105-115 volts—30-60 cycle (T1).....	6.35	8969	Cone—Reproducer cone—Package of 5 (L30).....	6.35
9506	Transformer—Power transformer—105-115 volts—25-40 cycle.....	8.90	9536	Reproducer complete.....	8.40
9507	Transformer—Power transformer—105-250 volts—40-60 cycle.....	6.40	4637	Transformer—Output transformer (T3).....	1.50
4433	Transformer—Second intermediate frequency transformer (L27, L28, C35, C36, C40, R14).....	2.15		MISCELLANEOUS PARTS	
4620	Transformer and reactor—Intermediate transformer and reactor (T7, L29).....	2.98	4677	Bezel—Metal bezel (encircled) for station selector dial.....	.56
4519	Volume control (R32).....	1.25	4621	Dial—Station selector dial.....	.66
			6614	Class—Station selector dial glass.....	.30
			4449	Knob—Station selector, volume control, tone control, noise suppressor rheostat on range switch knob—Package of 5.....	.60
			4340	Lamp—Dial Lamp—Package of 5.....	.90
			4678	Ring—Retaining ring for dial glass—Package of 5.....	.35
			4446	Screw assembly—Chassis mounting screw as lockwashers, four washers, four spacers and eight cushions.....	.28
			4613	Screw—No. 8-32 x 1/4" headless set screw for knobs—Package of 10.....	.25

* R18—6000 ohms—Same model.
* R19—10000 ohms—Same model.
* C52—110 mmfd.—Same model.