RCA VICTOR MODEL 342

Eight-Tube, Four-Band, A. C. Radio-Phonograph

SERVICE NOTES

ELECTRICAL SPECIFICATIONS

Voltage Rating ..... 105–125 Volts and 105–130/200–250 Volts (Double Range)
Frequency Rating ..... 25, 30, 40, 50 and 60 Cycles
Power Consumption ..... 170 Watts, 60 Cycles
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 .....
Band X— 140 KC.– 410 KC.
Band A— 540 KC.– 1720 KC.
Band B—1720 KC.– 5400 KC.
Band C—5400 KC.–18,000 KC.
Line-up Frequencies ..... 175 K. C., 410 K. C., 460 K. C., 600 K. C., 1720 K. C., 5160 KC., 18,000 KC.
Maximum Undistorted Output ..... 4.0 Watts
Maximum Output ..... 5.0 Watts
Type of Magnetic Pickup ..... High Impedance, Viscoloid
Turntable Speed ..... 78 R. P. M.

PHYSICAL SPECIFICATIONS

Height ..... 43 5/16 Inches
Width ..... 26 Inches
Depth ..... 16 7/8 Inches

The eight-tube, four-band all-wave combination radio-phonograph instrument provides entertainment either from the perfected all-wave radio receiver or from records of the standard (78 r.p.m.) variety. Record or radio reproduction is characterized by unusual tone quality.

This receiver is of the "all-wave" Superheterodyne 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 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 and a large loudspeaker unit.

DESCRIPTION OF ELECTRICAL CIRCUIT

RADIO

The general circuit arrangement consists of an R. F. stage, a combined oscillator and first detector, an I. F. stage, a combined second detector, A. F. amplifier and automatic volume control, a driver audio stage and a push-pull Pentode output stage. An RCA-5Z3 rectifier, together with a suitable filtering system, provides plate and grid voltages for all tubes and field excitation for the loudspeaker. Figure 1 shows the schematic diagram, Figures 2 and 3 the chassis wiring, Figure 4 the loudspeaker wiring and Figure 7 the assembly 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 oscillation, which is 460 K. C. higher than the signal frequency. A separate coil system and the third unit of the gang capacitor are used in this circuit.

In conjunction with these circuits, it is well to point out that four groups of tuned circuits are used, one for each tuning band. A four-position selector switch is

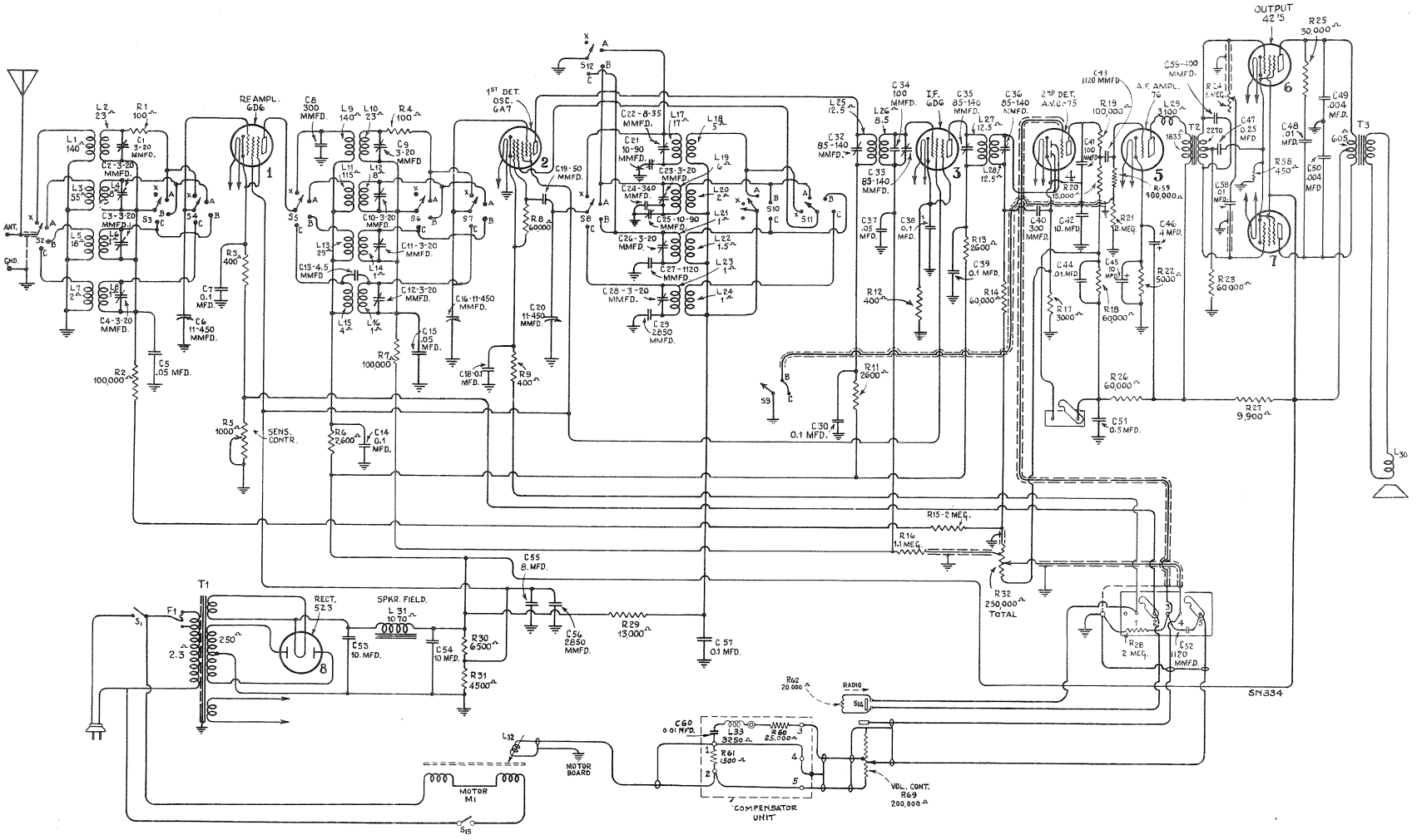


Figure 1—Schematic Circuit Diagram

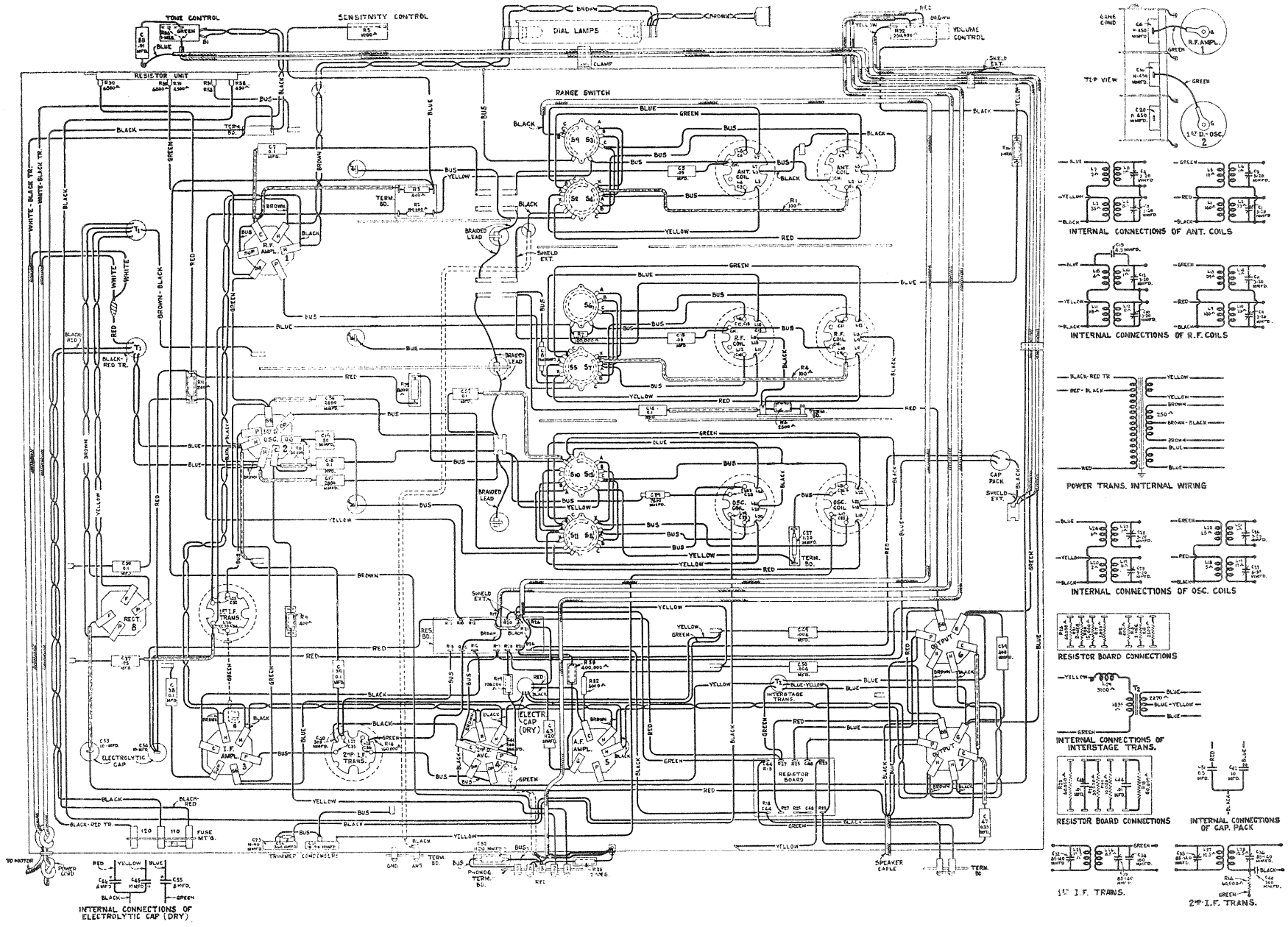
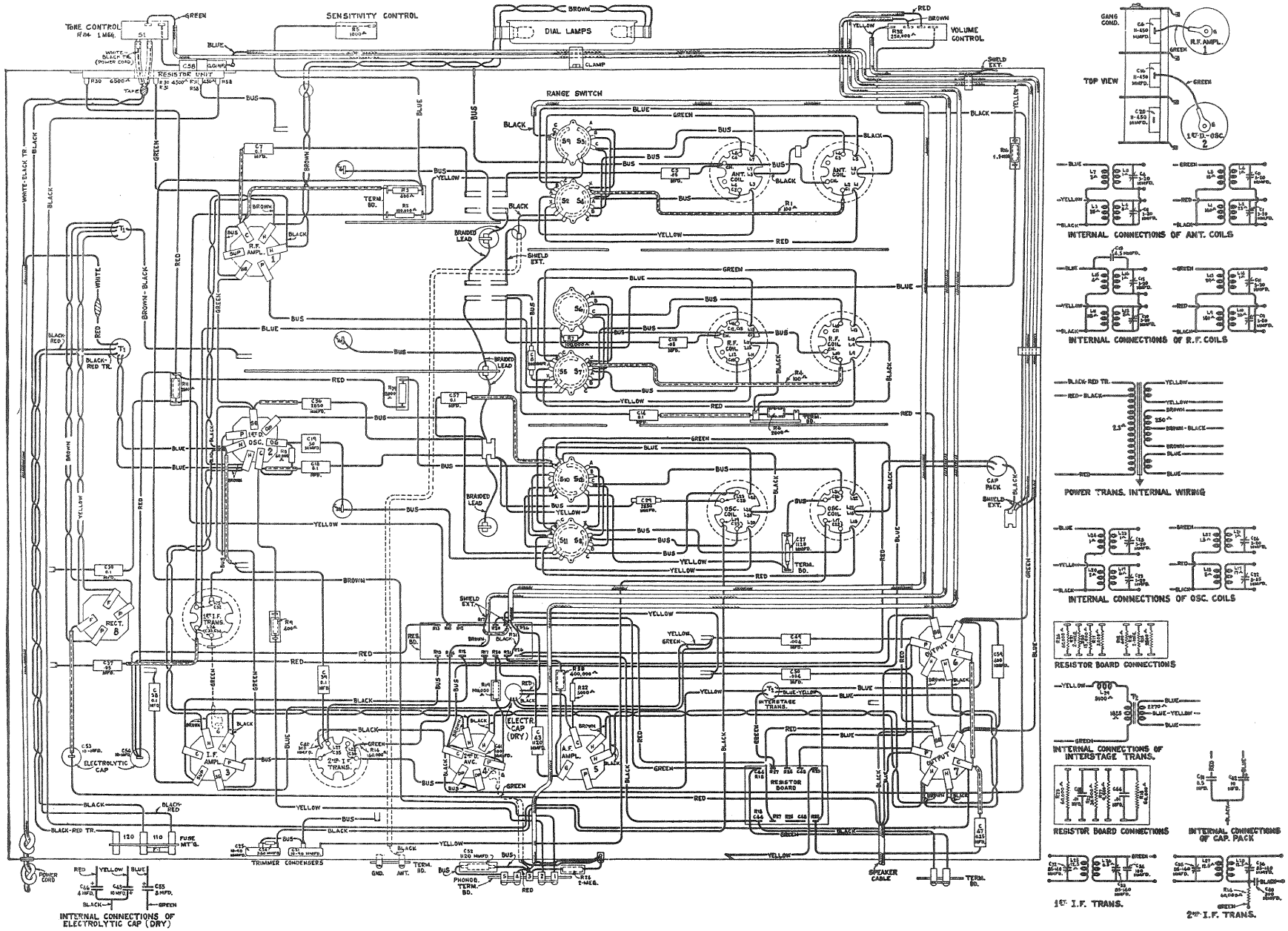


Figure 2 —Wiring Diagram—(Early Production)



NOTE: MOTOR POWER CABLE CONNECTS TO POWER TRANSFORMER INPUT

Figure 3—Chassis Wiring Diagram—(Late Production)

provided for selecting the desired signal range. 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.

The output of the first detector, which an 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 an RCA-6D6 Radiotron, uses two transformers, which consist of four tuned circuits, all of which are resonated at 460 K. C.

The output of the I. F. amplifier is then applied to the input electrodes of the RCA-75, which is a combined second detector, audio amplifier and AVC. 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 A. F. section of the RCA-75 is resistance-coupled to the grid of the RCA-76, first audio stage, which is transformer-coupled to the push-pull output stage.

The output stage uses two RCA-42's, which give a low distortion, high audio output to the loudspeaker. A high-frequency tone control, consisting 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.

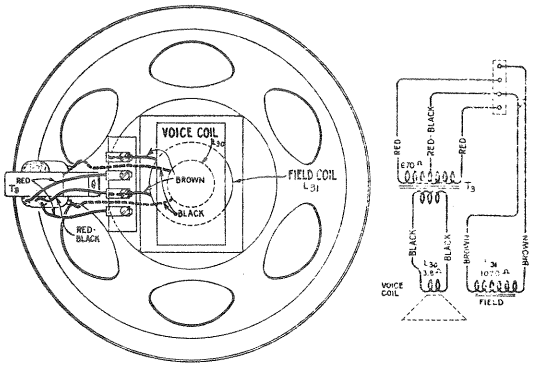


Figure 4—Loudspeaker Wiring

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.

PHONOGRAPH

The record reproducing device consists of a high impedance magnetic pickup with an inertia type tone arm, a compensated volume control, the audio amplifier of the receiver and the loudspeaker. The radio receiver is made inoperative by the switch used for changing from radio to record reproduction. The turntable assembly consists of a perfected manual record player, which is simple and fool-proof in operation.

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.

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.

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, while inserting the iron end increases its inductance. From this, it is seen that unless the trimmer adjustment for a particular coil is correct 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 shield over each R. F. coil assembly has a hole at its top for entrance of the tuning wand. The locations of the various coils inside these shields are shown in Figure 5. 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 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.

(2) I. F. TUNING CAPACITOR ADJUSTMENTS

This receiver has one I. F. stage. Two transformers, having four adjustments, are used. 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 at 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 tuning control until a point is reached (Band A) where no signals are heard and turn the volume control to its maximum position. Reduce the test oscillator output until the output indicator glows faintly.

(c) Refer to Figure 6. 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." Three are required in Bands "B" and "C."

To properly align the various bands, each must be aligned individually. The preliminary set-up requires that the external oscillator 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 their maximum positions and the output of the oscillator at the minimum output which will afford an indication under the conditions stated. 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 be 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 that band.

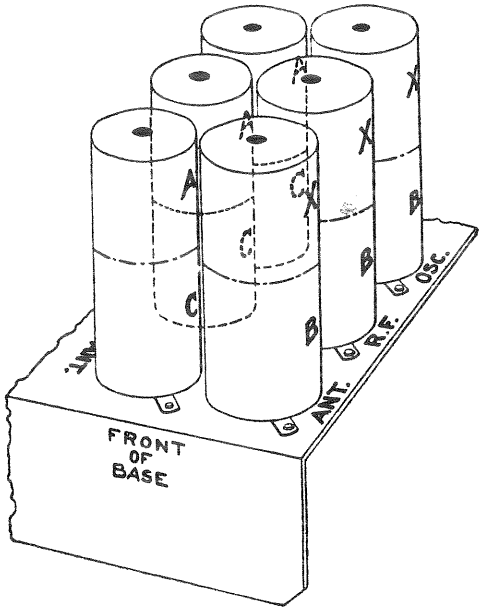


Figure 5—Location of Coils in Shields

Figure 6 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 6, 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 6, 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.

(c) Check for the image signal, which will be received at approximately 4,240 K. C. on the dial if (b) has been correctly done. 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 will be received at approximately 17,080 on the dial if (b) has been properly done.

(d) Reduce the capacity of the detector trimmer, while rocking the tuning capacitor, until the signal disappears. The first detector circuit is then at 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.

(4) POWER TRANSFORMER CONNECTIONS

The 220-volt, 50 or 60 cycle, power transformer furnished with some instruments includes taps for operating on 110-volt lines. Figure 12 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) FIDELITY LINK

It will be noted that a small link, normally, open, is mounted on the rear apron of the chassis. Closing the link reduces the low frequency output of the receiver.

(6) VOLTAGE READINGS

The voltages given 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 11 shows the voltages at each individual socket contact.

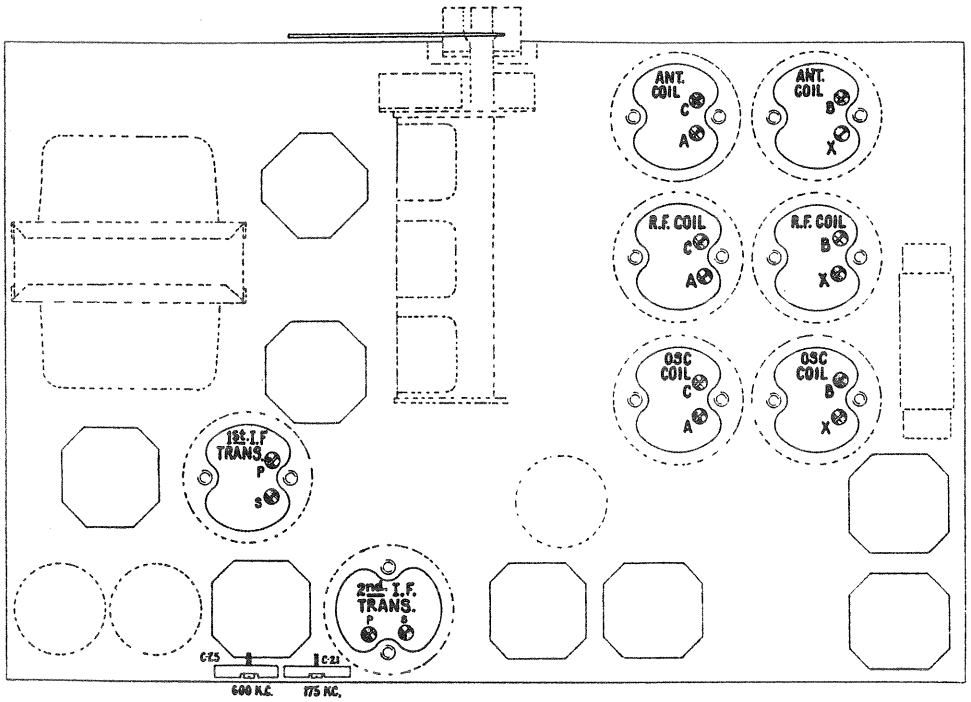


Figure 6—Location of Trimmer Capacitors

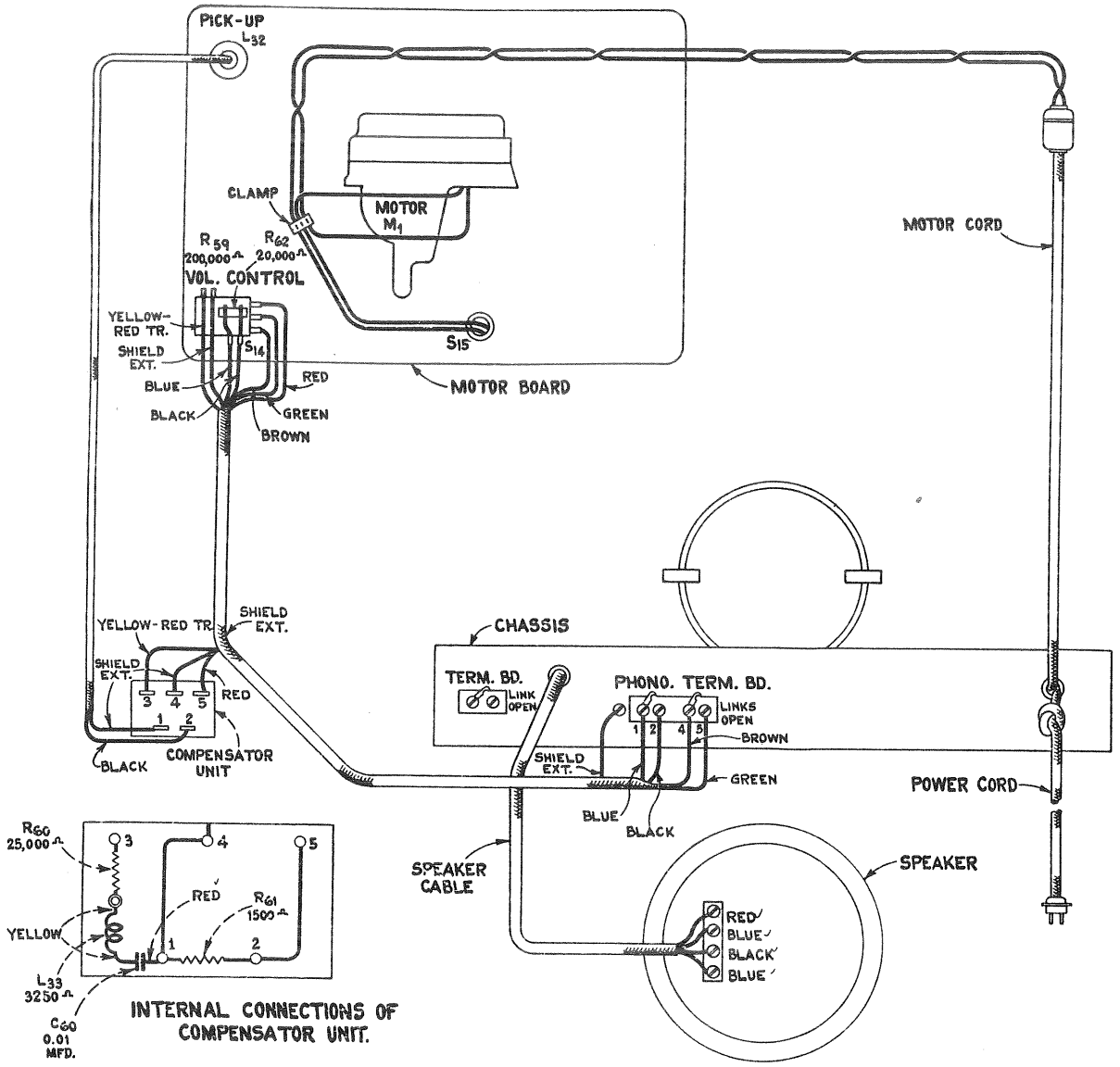


Figure 7—Phonograph Wiring Diagram

(7) SERVICE DATA ON MAGNETIC PICKUP

The magnetic pickup used in this combination instrument is of a new design with an improved frequency range. Although in physical appearance it is similar to that of the older type, details of construction are considerably different. It consists essentially of a chromium steel magnet, two thin pole pieces, a mechanism support and bracket, a coil, and an armature that is damped by means of an anchored damping block.

The use of the anchored damping block eliminates any bad peaks in the frequency range. The response characteristic is substantially flat from 50 to 5,000 cycles.

(8) REPLACING MAGNET COIL, PIVOT RUBBERS, ARMATURE OR DAMPING BLOCK

In order to replace a defective coil or the hardened pivot rubbers (see Figure 9), it is necessary to proceed as follows:

(a) Remove the pickup cover by removing the center holding screw and needle screw.

(b) Remove the pickup magnet and the magnet clamp by pulling them forward.

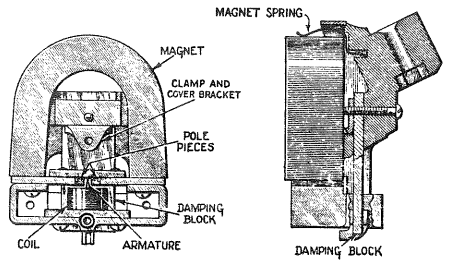


Figure 8—Details of Pickup

(c) Unsolder the coil leads and remove the mechanism assembly from the back plate by releasing the two mounting screws and the damping block clamping screw.

(d) Remove screws A and B, Figure 9, and then remove the mechanism assembly from the pole pieces.

(e) The coil or the front pivot rubber may now be removed and replaced. If it is desired to replace the rear pivot rubber, then the end of the armature soldered to the mechanism support must be

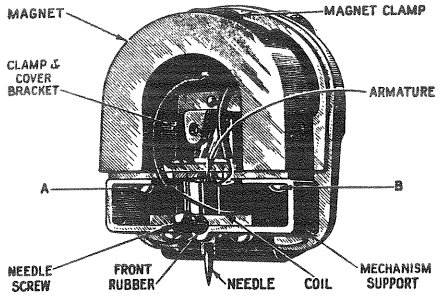


Figure 9—Pickup Nomenclature

unsoldered and the damping block removed. The rear pivot rubber may now be replaced. After putting the pivot rubbers in place a new damping block should be fastened to the armature as outlined in instructions on replacing the damping block.

(f) The mechanism should now be reassembled, except for the magnet, which must be magnetized. After being magnetized, the mechanism—with the pole pieces upward—should be placed so that the magnet may be slid from the magnetizer onto the pole pieces without breaking physical contact. After placing the pole pieces on the magnet, the entire assembly should be remagnetized thoroughly, being careful not to change the polarity obtained by the initial magnetization. The magnetizer shown on page 2 is useful for magnetizing pickups.

(g) After assembling the mechanism, the entire assembly should be fastened to the back plate by means of the screws provided, making sure the damping block is securely clamped. At the same time, the metal dust cover must be placed in position.

(h) After remagnetizing, it is necessary to correctly center the armature. This may be done quite accurately by feeling its play after the needle is inserted. A little practice will quickly show which way an adjustment is necessary to have the armature centered properly. The adjustment is made by loosening screws A and B (Figure 9), and sliding the mechanism into proper relation with the pole pieces.

(i) The cover may be now replaced over the entire assembly, and the pickup returned to the tone arm.

In assembling, it may be desirable to check the armature air gap by means of a small feeler gauge. This air gap should be *.009"* on each side of the armature. However, a little practice with the needle in place will quickly disclose whether or not the armature is centered.

(9) REPLACING THE DAMPING BLOCK

If it is desired to replace the damping block, it may be done in the following manner:

(a) Disassemble the pickup as described under the preceding section.

(b) Remove the armature entirely by unsoldering it at its joint with the mechanism support.

(c) Remove the damping block from the armature and clean the bushing for holding the damping block with emery paper.

(d) Insert the armature through the new block so that it occupies the same position as that of the old. Also ascertain that the block is in correct vertical alignment with the armature. It will be noted that the hole in the damping block is somewhat smaller than the diameter of the armature. This is done so that a snug fit will be obtained.

(e) After properly locating the damping block, a soldering iron should be applied to the armature so that the block will melt slightly at its point of contact with the armature. A special tip, constructed as shown in Figure 10, will prove desirable for fusing the block in place. The iron should be applied long enough to slightly melt the block and cause a small bulge on both sides, but should not be applied long enough to cause any bubbling. The pickup should then be reassembled as described in the preceding section.

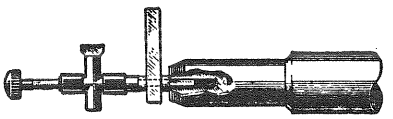


Figure 10—Special Soldering Iron Tip

Only rosin core solder should be used for soldering the coil leads in the pickup. Also rosin core solder should be satisfactory for resoldering the end of the spring in the hole in the mechanism, since both these parts have been previously tinned. In case the parts are not well tinned, it will be necessary to scrape the end of the spring and the hole in the mechanism until bright. These parts may now be tinned by using as a flux a water solution of zinc chloride (commonly called acid flux). After tinning, dip the parts in water to wash off the acid flux and thereby prevent serious subsequent corrosion. After making sure that the pivot rubbers and damping block are properly in place, as described under (e) above, the armature may now be soldered in place in the mechanism by using rosin core solder, since the parts are now tinned. Care must be exercised to get the needle hole perfectly square with respect to the mechanism, or otherwise it will be difficult if not impossible to center the armature in the air gap as explained under (h), section (8).

(10) ADJUSTMENT OF DIAL VERNIER MECHANISM

A small vernier indicator is provided for giving a simple means of band spread. Under normal conditions, adjustment of this mechanism will not be required. However, in event the initial adjustment is not satisfactory or adjustment is required because of replacement, the following procedure should be used:

(a) Remove the chassis from the cabinet to a place convenient for work.

(b) Check the tension on the vernier hand by pushing it in a counter-clockwise direction. There should be considerable tension against such a push. If this tension does not exist, the action of the hand may be erratic and possibly fail to return to the same position for a particular station.

(c) Pull off the long hand with a pair of long-nose pliers.

(d) Straighten the lugs that hold the dial in place. Then remove the dial "vernier" hand and stem gear together.

(e) Then remove the "vernier" hand from the stem gear.

(f) Turn the dial to each extreme and to its center position and check the backlash of the back gear (closest to reflector). There should be definite backlash in each direction at each of these three positions.

(g) If this backlash is not obtained it will be necessary to readjust the gears. Loosen the lockscrew located above the central set of gears and move the adjoining gear in or out of mesh as required.

(h) After making sure there is backlash at the three check points mentioned, turn the outside gear in a clockwise direction 1½ turns. Hold it at this position and replace the stem gear.

(i) Turn the dial throughout its range. If the gears become noisy, move the gear further toward the reflector edges described in (g).

(j) Replace the dial scale, making sure the hole clears the spindle.

(k) Replace the vernier hand. It should point at zero when the tuning capacitor is fully meshed.

(l) Replace the large hand. One end of the pointer should point exactly at the horizontal line at the lowest frequency end of Band "A" when the tuning capacitor is fully meshed.

The above covers the proper manner of making adjustments, assuming all parts are in normal condition. Of course, if any part is defective, it must be replaced. The spring gear may be checked by turning it until the spring is tight and unwinding it slowly. It should unwind 4¼ turns.

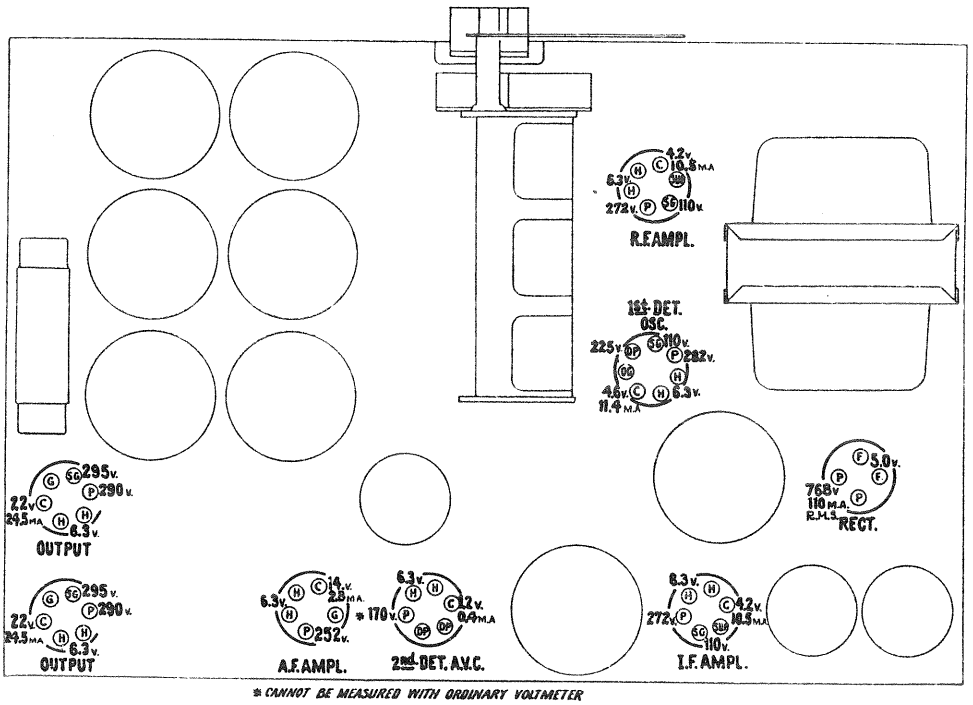


Figure 11—Radiotron Socket Voltages

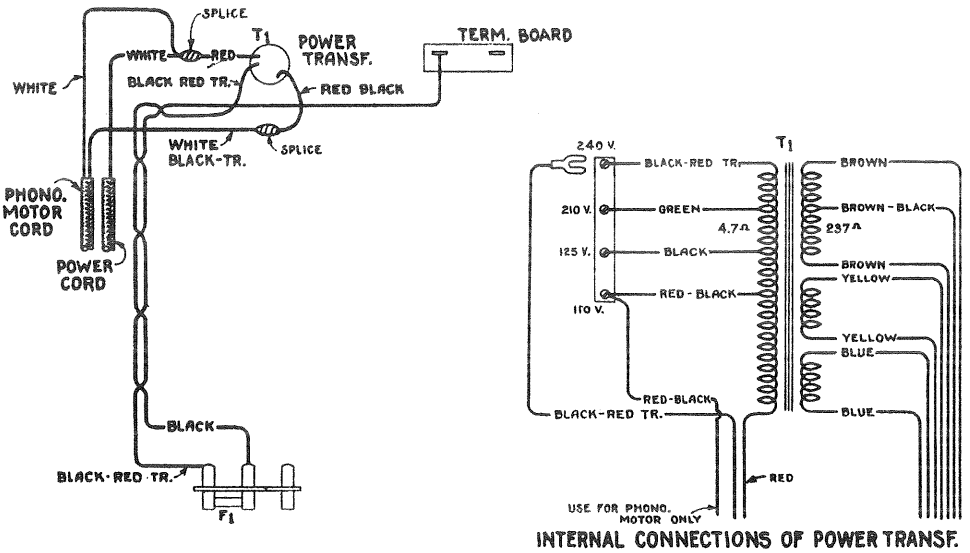


Figure 12—Universal Power Transformer Connections

RADIOTRON SOCKET VOLTAGES

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

Radiotron No.		Cathode to Ground Volts, D. C.	Screen Grid to Ground Volts, D. C.	Plate to Ground Volts, D. C.	Cathode Current M. A.	Heater Volts, A. C.
RCA-6D6 R. F.		4.2	110	272	10.5	6.3
RCA-6A7	Oscillator	—	—	225	11.4	6.3
	1st Detector	4.6	110	282		
RCA-6D6 I. F.		4.2	110	272	10.5	6.3
RCA-75 2nd Detector		1.2	—	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.

REPLACEMENT PARTS

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

Stock No.	Description	List Price
	RECEIVER ASSEMBLIES	
4632	Board—Terminal board—Two terminals and link—For changing fidelity	$0.25
4379	Board—Antenna terminal board	.20
4427	Bracket—Volume control, tone control or noise suppressor mounting bracket	.18
4244	Cap—Contact cap—Package of 5	.20
3861	Capacitor — Oscillator trimmer capacitor (C21, C25)	.78
4633	Capacitor—50 mmfd. (C19)	.25
4635	Capacitor—100 mmfd. (C41)	.25
4248	Capacitor—300 mmfd. (C8)	.22
4811	Capacitor—340 mmfd. (C24)	.25
4183	Capacitor—400 mmfd. (C59)	.26
4412	Capacitor—1120 mmfd. (C27)	.25
4409	Capacitor—1120 mmfd. (C43)	.35
4634	Capacitor—1120 mmfd. (C52)	.35
4524	Capacitor—2850 mmfd. (C29)	.35
4615	Capacitor—2850 mmfd. (C56)	.34
4628	Capacitor—0.004 mfd. (C49, C50)	.28
3787	Capacitor—0.01 mfd. (C48)	.30
4212	Capacitor—0.01 mfd. (C44)	.30
4624	Capacitor—0.01 mfd. (C58)	.54
4836	Capacitor—0.05 mfd. (C5, C15, C37)	.30
4791	Capacitor—0.1 mfd. (C7, C18, C38)	.24
4885	Capacitor—0.1 mfd. (C14, C30, C39, C57)	.28
4840	Capacitor—0.25 mfd. (C47)	.30
7790	Capacitor—10 mfd. (C53, C54)	1.05
4619	Capacitor pack—Comprising one 0.5 mfd., one 10 mfd. capacitor (C42, C51)	1.44
4626	Capacitor pack—Comprising one 4 mfd., one 10 mfd. and one 8 mfd. capacitor (C45, C46, C55)	2.82
4358	Clamp—Electrolytic capacitor clamp—For capacitor Stock No. 7790	.15
4693	Clamp—Electrolytic capacitor clamp—For capacitor Stock No. 4626	.15
7810	Coil—Antenna coil "Band B-X" (L1, L2, L5, L6, C1, C3)	2.10
7803	Coil—Antenna coil "Band A-C" (L3, L4, L7, L8, C2, C4)	1.82
7808	Coil—Detector coil "Band X-B" (L9, L10, L13, L14, C9, C11)	2.05
7805	Coil—Detector coil "Band A-C" (L11, L12, L15, L16, C10, C12, C13)	2.15
7807	Coil—Oscillator coil "Band A-C" (L19, L20, L23, L24, C23, C28)	1.62
7809	Coil—Oscillator coil "Band X-B" (L17, L18, L21, L22, C22, C26)	1.70
4806	Condenser—3-gang variable tuning condenser (C6, C16, C20)	5.64
4371	Cover—Fuse mount cover	.15
4631	Cover—Terminal strip cover	.15
10907	Fuse—3-ampere—Package of 5	.40
3376	Mount — Fuse mount — 105–125-volt instrument	.40
4604	Mount—Fuse mount for 200–250-volt instrument	.35
4625	Resistor—Wire wound resistor—Comprising one 6500-ohm—4500-ohm and 450 section (R30, R31, R58)	1.00
3704	Resistor—400 ohms—Carbon type—¼ watt (R3, R9, R12)—Package of 5	1.00
4812	Resistor — 2600 ohms — Carbon type — ¼ watt (R6, R11, R13)—Package of 5	1.00
4242	Resistor — 3000 ohms — Carbon type — ¼ watt (R17)—Package of 5	1.00
2871	Resistor — 5000 ohms — Carbon type — ¼ watt (R22)—Paskage of 5	1.00
3998	Resistor—15,000 ohms—Carbon type—¼ watt (R20)—Package of 5	1.00
3602	Resistor—60,000 ohms—Carbon type—¼ watt (R8, R18, R23, R26)—Package of 5	$1.00
3118	Resistor—100,000 ohms—Carbon type—¼ watt (R2, R7, R19)—Package of 5	1.00
3619	Resistor—400,000 ohms—Carbon type—¼ watt (R59)—Package of 5	1.00
4783	Resistor—1,100,000 ohms—Carbon type—¼ watt (R16)—Package of 5	1.00
6242	Resistor — 2 megohms — Carbon type — ¼ watt (R15, R21, R28)—Package of 5	1.00
3078	Resistor—10,000 ohms—Carbon type—½ watt (R27)—Package of 5	1.00
4623	Resistor—13,000 ohms—Carbon type—½ watt (R29)—Package of 10	2.00
2240	Resistor—30,000 ohms—Carbon type—1 watt (R25)	.22
4418	Resistor—100 ohms—Flexible type (R1, R4)—Package of 10	1.50
4618	Rheostat—Sensitivity control (R5)	1.25
4742	Shield—Antenna, detector or oscillator coil shield	.40
4627	Shield—First detector—Oscillator Radiotron shield	.36
6956	Shield—First detector—Oscillator Radiotron shield top	.15
4452	Shield—Second detector—"A.V.C." Radiotron shield	.35
4629	Shield—Second detector—"A.V.C." Radiotron shield top	.15
3950	Shield—I. F. amplifier Radiotron shield	.26
4521	Shield—I. F. amplifier shield	.42
4663	Shield—Oscillator coil wiring shield—Shields oscillator coil wiring from R. F. coil—Complete with terminal board, clamp and resistor	.32
4664	Shield—Oscillator wiring shield—Shields oscillator coil wiring from R. F. coil—Complete with terminal strip and resistor	.36
4630	Shield—R. F. amplifier—Radiotron shield	.36
4665	Shield—R. F. coil wiring shield with two resistors and terminal board	.50
3529	Socket—Dial lamp socket	.32
4784	Socket—4-contact Radiotron socket	.15
4814	Socket—5-contact Radiotron socket	.15
4786	Socket—6-contact Radiotron socket	.15
4787	Socket—7-contact Radiotron socket	.15
4617	Switch—Range switch (S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12)	3.32
4813	Tone control (R24, S1)	1.42
4431	Transformer—First intermediate frequency transformer (L25, L26, C32, C33, C34)	2.28
9505	Transformer—Power transformer—105–125 volts—50–60 cycles (T1)	6.35
9506	Transformer—Power transformer—105–125 volts—25–40 cycles	8.90
9507	Transformer—Power transformer—105–250 volts—40–60 cycles	6.40
4433	Transformer—Second intermediate frequency transformer (L27, L28, C35, C36, C40, R14)	2.15
4620	Transformer and reactor—Interstage transformer and reactor (T2, L29)	2.98
4809	Volume control (R32)	1.45
	DRIVE ASSEMBLIES	
4362	Arm—Band indicator operating arm	.28
10194	Ball—Steel ball for variable condenser drive assembly—Package of 20	.25
4422	Clutch—Tuning condenser drive clutch assembly—Comprising drive shaft, balls, ring, spring and washers assembled	.88

REPLACEMENT PARTS (Continued)

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

Stock No.	Description	List Price
7799	Drive—Variable tuning condenser drive complete	$2.45
4827	Gear—Spring gear assembly complete with hub, pinion, gear, cover and spring	1.25
4704	Indicator—Band indicator—Celluloid	.12
4367	Indicator—Station selector vernier pointer—Small	.15
4520	Indicator—Station selector main pointer—Large	.18
3943	Screen—Translucent screen for dial light—Package of 2	.18
3993	Screw—No. 6-32-5/32" square head set screw for band indicator operating arm or condenser drive—Package of 10	.25
4377	Spring — Band indicator and arm tension spring—Package of 5	.25
4722	Pinion — Vernier pointer pinion — Station selector pointer stem	.18
4378	Stud—Band indicator operating arm stud—Package of 5	.25
	REPRODUCER ASSEMBLY	
5038	Cable—4-conductor—Reproducer cable with female connector plug	.60
9591	Coil—Field coil magnet and cone support (L31)	4.00
8969	Cone—Reproducer cone (L30)—Package of 5.	6.35
5039	Connector—4-prong male connector for reproducer cable	.25
5040	Connector—4-contact female connector for reproducer cable	.25
9592	Reproducer complete	8.00
5041	Transformer—Output transformer (T3)	1.40
	MOTOR ASSEMBLIES	
4577	Connector—Male section two-prong motor connector plug	.30
8989	Motor—105-125 volts—60 cycle motor complete	18.52
8990	Motor—105-125 volts—50 cycle motor complete	18.52
8992	Motor—105-125 volts—25 cycle motor complete	23.36
8993	Rotor and shaft—For 105-125 volt—60 cycle motor	7.00
8995	Rotor and shaft—For 105-125 volt—50 cycle motor	7.00
8999	Rotor and shaft—For 105-125 volt—25 cycle motor	8.00
8994	Spindle—Turntable spindle with fibre gear for 60 cycle motor	4.75
8996	Spindle—Turntable spindle with fibre gear for 50 cycle motor	4.75
9001	Spindle—Turntable spindle with fibre gear for 25 cycle motor	5.50
3817	Stud—Motor mounting stud—Package of 3	.18
3398	Motor mounting—Spring and washer assembly—Comprising 2 cup washers, 4 springs and 1 "C" washer	.48
	SWITCH ASSEMBLIES	
3994	Cover—Motor switch cover	.26
10184	Plate—Automatic brake latch plate—Package of 5	.40
10174	Springs—Automatic brake springs—Package of 4	.50
6896	Switch—Eccentric automatic switch complete.	2.50
3322	Switch—Motor switch (S15)	.75

Stock No.	Description	List Price
	TURNTABLE ASSEMBLIES	
7084	Cover—Turntable cover	$0.40
7838	Turntable complete	2.15
	PICKUP AND ARM ASSEMBLIES	
4942	Arm—Pickup arm complete, less escutcheon and pickup	4.00
4940	Armature—Pickup armature	.80
6346	Back—Pickup housing back	.45
4941	Coil—Pickup coil (L32)	.60
5091	Cushion—Pickup armature spacer cushion—Package of 10	.50
3386	Cover—Pickup cover	.56
3521	Cover—Magnetic pickup back cover	.18
3737	Damper—Pickup damper—Package of 5	.65
3516	Damper assembly—Comprising one upper and one lower damper, one upper bushing and one lower bearing—Located in bottom of pickup base	.14
3390	Escutcheon—Pickup arm escutcheon complete with mounting rivers	.46
4939	Pickup—Pickup unit complete	4.00
3389	Rod—Automatic brake trip rod with lock nut—Package of 5	.40
3387	Screw assembly—Pickup mounting screw assembly comprising one screw, one nut and one washer—10 sets	.40
3388	Screw—Pickup needle holding screw—Package of 10	.60
3419	Screw—Pickup cover mounting screw—Package of 10	.40
	MISCELLANEOUS ASSEMBLIES	
7837	Bezel—Station selector (escutcheon) bezel	.82
3430	Box—Needle box with lid—Package of 2	.90
5092	Cable—2-conductor motor cable with section of connector plug—From receiver chassis to motor cord connector	.95
4673	Cable—6-conductor shielded—From phonograph volume control to compensator unit and chassis	1.90
4938	Compensator unit—Comprising one reactor, one 1500 ohm resistor, one 25,000 ohm resistor and one .01 mfd. capacitor (L33, R60, R61, C60)	1.92
4573	Connector—Female section (2-contact) of connector plug for cable Stock No. 5092	.30
6614	Glass—Station selector dial glass	.30
4449	Knob—Station selector volume control, range switch, sensitivity control, tone control or phonograph volume control knob—Package of 5	.60
4340	Lamp—Dial lamp—Package of 5	.60
3396	Receptacle—Needle receptacle	.52
6306	Resistor—20,000 ohms—Carbon type—¼ watt (R62)—Package of 5	1.10
4678	Ring—Dial retaining ring—Package of 5	.34
5093	Screw—8-32-7/16" set screw for knob No. 4449—Package of 10	.52
4698	Screw—Chassis mounting screw assembly—Comprising 1 screw, 1 lockwasher, 1 washer, 2 cushions and 1 spacer	.45
3391	Suspension spring and washer assembly—For motor board—Comprising 1 bolt, 1 top spring, 1 bottom spring, 2 cup washers, 1 "C" washer and 1 nut	.50
6766	Volume control—Phonograph volume control (R59, S14)	2.28