

SUPPLEMENT TO

RCA VICTOR MODELS 5T, 8T2, AND 8U

Model 5T (Speaker No. 72203-5)

On Model 5T, two different speakers are used which are readily identified by the following numbers stamped on them: (1) RL-63C1 and (2) 72203-5. Replacement parts for No. RL-63C1 are listed in the Service Data for Model 5T while the replacement parts for No. 72203-5 are listed below:

| <u>Stock No.</u> | <u>Description</u> |
|------------------|--|
| 9579 | Coil - Field coil |
| 9533 | Cone - Reproducer cone mounted and centered in housing |
| 5118 | Connector - 3-contact male connector for reproducer |
| 9578 | Reproducer complete |
| 4818 | Transformer - Output transformer |

Model 8T2 (Speaker No. RL-63E2)

On Model 8T2, four different speakers are used which are readily identified by the following numbers stamped on them: (1) RL-63-4, (2) 76365-1, (3) 76365-3, and (4) RL-63E2. Replacement parts for Nos. RL-63-4, 76365-1, and 76365-3 are listed in the Service Data for Model 8T2, while the replacement parts for No. RL-63E2 are listed below:

| <u>Stock No.</u> | <u>Description</u> |
|------------------|---|
| 12641 | Board - Reproducer terminal board |
| 12640 | Bracket - Output transformer mounting bracket |
| 11254 | Coil - Field coil |
| 11233 | Coil - Hum neutralizing coil |
| 12642 | Cone - Reproducer cone and dust cap |
| 5118 | Connector - 3-contact male connector for reproducer |
| 9773 | Reproducer complete |
| 11253 | Transformer - Output transformer |
| 11886 | Washer - Spring washer to hold field coil securely |

Model 8U (Motor No. 56992-1)

On Model 8U, two different motors are used which are readily identified by the following numbers stamped on the motor nameplate: (1) 72444-1 and (2) 56992-1. No. 72444-1 is an induction motor with a governor-type speed regulator while No. 56992-1 is a synchronous motor. Replacement parts for No. 72444-1 are listed in the Service Data for Model 8U while the replacement parts for No. 56992-1 are listed below:

| <u>Stock No.</u> | <u>Description</u> |
|------------------|--|
| 8989 | Motor complete, 105-125 volts, 60 cycles |
| 8993 | Rotor and shaft for Stock No. 8989 |
| 3398 | Spring - Motor mounting spring assembly |
| 3817 | Stud - Motor mounting stud |

RCA VICTOR MODELS 8U and 8U2

Eight-Tube, Three-Band, A-C, Radio—Phonographs

TECHNICAL INFORMATION

Electrical Specifications

| | | | |
|------------------------------------|---------------------------|----------------------------|--|
| FREQUENCY RANGES | | ALIGNMENT FREQUENCIES | |
| "Long Wave" (X) | 155-320 kc | "Long Wave" (X) | 175 kc (osc.), 300 kc (osc., det., ant.) |
| "Medium Wave" (A) | 530-1,500 kc | "Medium Wave" (A) | 600 kc (osc.), 1,500 kc (osc., det., ant.) |
| "Short Wave" (C) | 5,400-18,000 kc | "Short Wave" (C) | 15,000 kc (osc., det., ant.) |
| Intermediate Frequency | | | 460 kc |
| RADIOTRON COMPLEMENT | | | |
| (1) RCA-6K7 | Radio-Frequency Amplifier | (5) RCA-6F5 | Audio Voltage Amplifier |
| (2) RCA-6A8 | First Detector—Oscillator | (6) RCA-6F6 | Audio Power Amplifier |
| (3) RCA-6K7 | Intermediate Amplifier | (7) RCA-5Z4 | Full-Wave Rectifier |
| (4) RCA-6H6 | Second Detector—A.V.C. | (8) RCA-6E5 | Tuning Indicator |
| Pilot Lamps (3) | | | Mazda No. 46, 6.3 volts, 0.25 ampere |
| POWER SUPPLY RATING | | | |
| Rating A | | | 105-125 volts, 50-60 cycles, 135 watts |
| Rating B | | | 105-125 volts, 25 cycles, 140 watts |
| Rating C | | | 100-130/140-160/195-250 volts, 50-60 cycles, 135 watts |
| POWER OUTPUT RATING | | LOUDSPEAKER | |
| Undistorted | 2 $\frac{1}{4}$ watts | Type | Electrodynamic |
| Maximum | 5 watts | Voice Coil Impedance | 2.25 ohms at 400 cycles |
| PHONOGRAPH | | | |
| Type | Manual | Type of Pickup | Low-impedance Magnetic |
| Turntable Speed (adjustable) | 78 r.p.m. | Pickup Impedance | 8 $\frac{1}{2}$ ohms at 1,000 cycles |

Mechanical Specifications

| | |
|-------------------------------|---|
| Height | 43 $\frac{5}{8}$ inches |
| Width | 24 $\frac{1}{4}$ inches |
| Depth | 14 $\frac{3}{4}$ inches |
| Weight (net) | 98 pounds |
| Weight (shipping) | 150 pounds |
| Chassis Base Dimensions | 13 $\frac{7}{8}$ inches x 7 $\frac{3}{4}$ inches x 2 $\frac{1}{2}$ inches |
| Over-all Chassis Height | 7 $\frac{3}{4}$ inches |
| Operating Controls: | |
| Radio | (1) Volume, (2) Tuning, (3) Range Selector, (4) Power Switch—Tone |
| Phonograph | (5) Radio-Record Transfer Switch, (6) Motor Switch |
| Tuning Drive Ratios | 10 to 1 and 50 to 1 |

General Features

This Radio-Phonograph Combination consists of an eight-tube radio receiver and a manually-operated phonograph combined in one cabinet. The super-heterodyne circuit is used with such features of design as improved antenna wave-trap, an r-f amplifier stage, all-metal tubes, aurally-compensated volume control, 3-position tone control with music-speech switch, automatic volume control, resistance-coupled audio system, tuning tube "Magic Eye," edge-lighted

band indicator dial, and a dust-proof electrodynamic loudspeaker. A record storage compartment is located in the lower front of the cabinet. Trimming adjustments are located at accessible points. Their number is reduced to the least that is consistent with efficient operation. The tuning dial ratio of 10 to 1 with a 50 to 1 vernier permits ease of tuning, especially in the "Short wave" band.

Circuit Arrangement

The conventional superheterodyne type of circuit, consisting of an r-f stage, a combined first-detector—oscillator stage, a single i-f stage, a diode-detector—automatic-volume-control stage, an audio voltage-amplifier stage, an audio power-output stage, a high-voltage rectifier power-supply stage, and a tuning indicator "Magic Eye" stage, is used.

Tuned Circuits

The antenna coil system and the detector coil system each consist of two series-connected primary and three series-connected secondary windings to provide the three ranges of tuning. The oscillator coil system is wound on a single form. A range selector switch (S1) is used for connecting the various sections of these three coil systems into the circuit to provide operation on the band desired. The coils are tuned by a variable three-section gang condenser having trimmer capacitors in shunt with each section. There are additional trimmer capacitors across the section of each coil used for the "Medium wave" (A) band as well as the "Long wave" (X) band. A series trimmer is also associated with the "Medium wave" (A) and "Long wave" (X) band oscillator coils.

The intermediate-frequency amplifier system consists of an RCA-6K7 in a transformer-coupled circuit. This stage operates at a basic frequency of 460 kc. Each winding of both i-f transformers (input and output) is tuned by an adjustable trimmer.

Detector and A.V.C.

The modulated signal as obtained from the output of the i-f stage is detected by an RCA-6H6 twin-diode tube (No. 1 diode). The audio frequency secured by this process is transferred to the a-f system for amplification and final reproduction. The d-c voltage which results from detection of the signal is used for automatic volume control. This voltage, which develops across resistor R8, is applied as automatic control-grid bias to the r-f, first-detector, and i-f tubes through a suitable resistance filter circuit. The No. 2 diode of the RCA-6H6 is used to supply residual bias for the controlled tubes under conditions of little or no signal. This diode, under such conditions, draws current which flows through resistors R10 and R8, thereby maintaining the desired minimum operating bias on such tubes. On application of signal energy above a certain level, however, the auxiliary bias-diode ceases to draw current and the a.v.c diode takes over the biasing function.

Audio System

The manual volume control consists of an acoustically tapered potentiometer in the audio circuit between the output of the detector diode and the input grid of the audio-voltage-amplifier tube. This control has a tone compensating filter connected to it so that the correct aural balance will be obtained at different volume settings.

Resistance-capacitance coupling is used between the first-audio stage and the power-output stage. The output of the power amplifier is transformer-coupled into the dynamic loudspeaker. High-frequency tone

control is effected by a capacitor across the plate circuit of the output tube. Speech-music control is effected by a resistor connected to the compensated volume control circuit. Control of tone is obtained by means of the switch (S2).

Phonograph Circuit

The electrical impulses generated in the pickup L24 are boosted in the step-up transformer T3, after which they are applied to the grid of the RCA-6F5 audio amplifier stage through the compensated phonograph volume control R27. This phonograph volume control also incorporates switches for transferring from radio to record reproduction. In the radio position, arm "X" of the phonograph volume control contacts lug "Y" which completes the audio circuit from the radio volume control R11 to the grid of the RCA-6F5 audio amplifier; also, switch S5 closes which completes the cathode circuit of the RCA-6K7 i-f amplifier stage. In the phonograph position, switch S5 opens and arm "X" of the phonograph volume control disconnects from lug "Y" and moves onto the phonograph volume control resistance as shown by figure 2.

"Magic Eye"

An RCA-6E5 cathode-ray tuning tube is used as a means of visually indicating when the receiver is accurately tuned to the incoming signal. This tube consists of an amplifier section and a cathode-ray section built in the same glass envelope. Correct tuning of the receiver to the incoming carrier is evidenced by the minimum width of the dark sector of the tuning tube.

Rectifier

The power required for operation of this receiver is supplied through transformer T1. This transformer has an efficient electrostatic shield between its primary and secondary windings. This shield prevents interference which is on the power-supply circuit from entering the receiver and conversely reduces the tendency of the receiver to re-radiate into the power circuit. An RCA-5Z4 furnishes the d-c voltages necessary for plate, screen, cathode, and grid potentials. The field winding of the loudspeaker is used as a reactor in the filter circuit from which it simultaneously receives its magnetizing current.

Phonograph Mechanism

An improved manually-operated phonograph mechanism is used in this model. The 12-inch turntable will accommodate either the 10-inch or the 12-inch phonograph records. The turntable rotates at a speed of 78 r.p.m. A speed regulator is provided for accurate adjustment of this speed. *It is important that a machine of any particular rating be operated at the frequency and voltage for which it is rated.* Attempts to operate at ratings other than specified for the particular instrument may result in damage to both the phonograph motor and the radio receiver. An automatic switch is provided to turn "off" the phonograph motor at the completion of record play when the eccentric-type inside groove record is used.

SERVICE DATA

The various diagrams of this booklet contain such information as will be needed to locate causes for defective operation if such develops. Values of the resistors, capacitors, coils, etc., are indicated adjacent to the symbols signifying these parts on the diagrams. Identification titles, such as R30, L1, C45, etc., are provided for reference between the diagrams and the replacement parts list. Locating of the parts in the

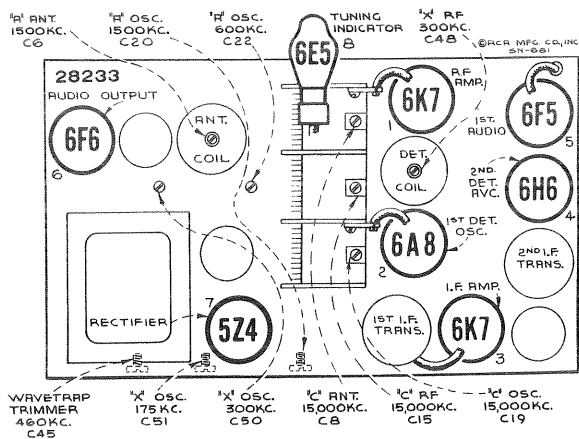


Figure 1—Radiotron, Coil, and Trimmer Locations

schematic circuit is facilitated by the fact that the numerical titles increase from left to right on the diagram. The coils, reactors, and transformer windings are rated in terms of their d-c resistances only. Resistance values of less than one ohm are generally omitted.

Alignment Procedure

Precise alignment is vital to the proper functioning of this receiver. There are four trimming adjustments provided in the i-f system, five in the oscillator coil system, three in the detector coil system, and three in the antenna coil system. Each of these trimmers has been accurately adjusted during manufacture and should remain properly aligned unless affected by abnormal conditions of climate or have been altered for service purposes. Incorrect alignment is usually evidenced by loss of sensitivity, improper tone quality, and poor selectivity. These indications will generally be present together.

The correct performance of this receiver can only be obtained when the alignment is performed with adequate and reliable test apparatus and in the sequence given. The manufacturer of this instrument has a complete assortment of such service equipment available for sale through its dealers and distributors.

Two methods of alignment are applicable. One method requires the cathode-ray oscillograph, while the other requires a voltmeter or glow-type indicator. The oscillographic method is advantageous in that the indication is in the form of a wave-image which represents the resonance characteristic of the tuned circuits. Alignment by this method should be per-

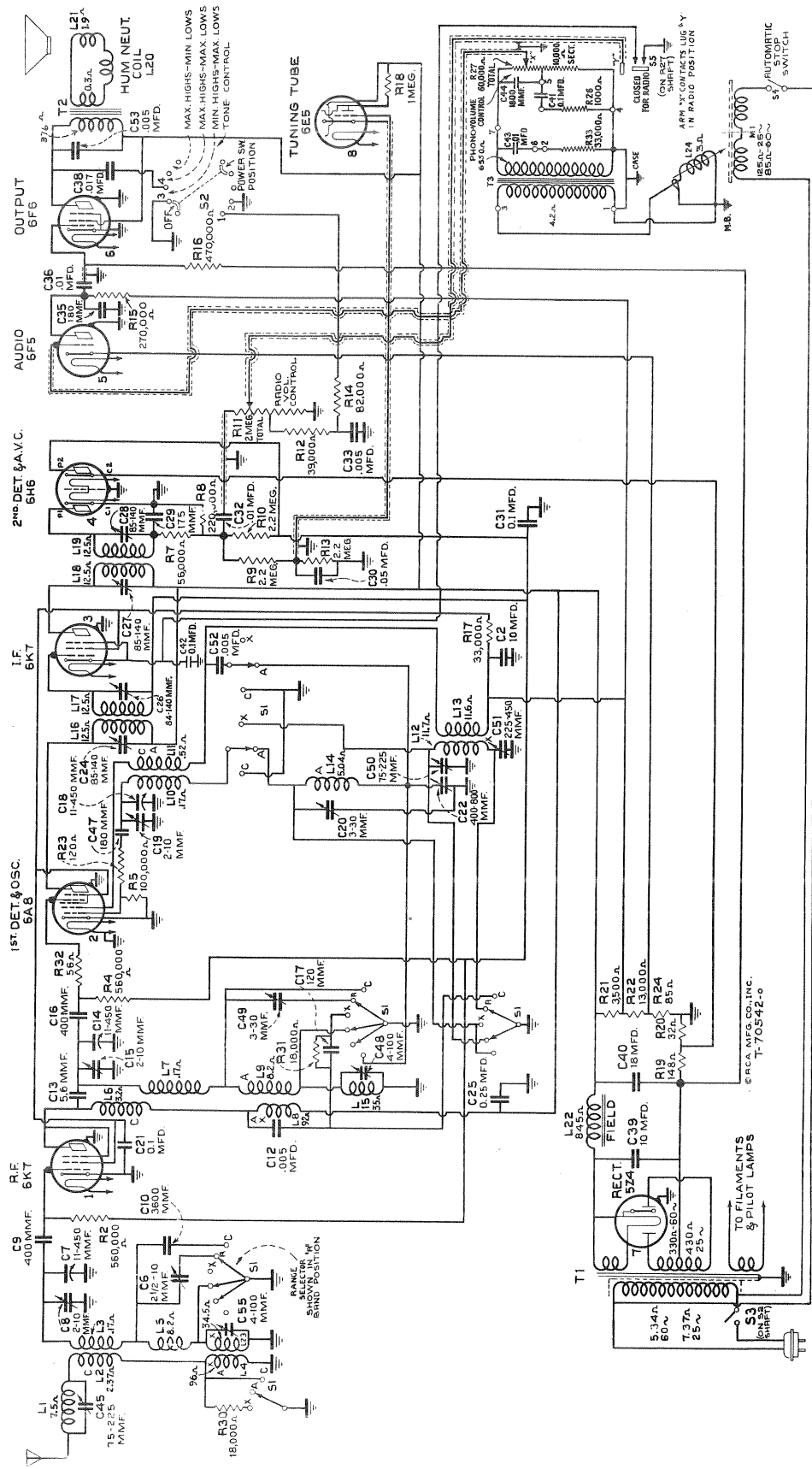
formed with equipment such as an RCA Stock No. 9545 Cathode-Ray Oscillograph and an RCA Stock No. 9558 Frequency Modulator. For the output indicator method, an instrument such as an RCA Stock No. 4317 should be used. Either of the above methods requires a reliable test oscillator for the source of alignment frequencies such as the RCA Stock No. 9595 Test Oscillator. Cathode-ray alignment is similar to the output indicator alignment outlined below, except as follows: The frequency modulator should be used to sweep the test oscillator signal when aligning the i-f amplifier and the low-frequency oscillator series trimmers. It will only be necessary to first adjust the trimmers to peak response, as outlined below, without the frequency modulator connected. Then, interconnect the test oscillator with the frequency modulator and re-tune the test oscillator (increase frequency) until the forward and reverse curves coincide at their highest points. Next, adjust the trimmers until the curves coincide throughout their length and have maximum amplitude. The proper place for connection of the oscillograph input to the receiver is indicated on the Chassis Wiring Diagram (figure 3). The high-frequency trimmers on all three bands should be adjusted for maximum (peak) amplitude of the images.

I-F Trimmer Adjustments

The four trimmers of the two i-f transformers are located as shown by figure 5. Each must be aligned to a basic frequency of 460 kc. To do this, attach the output indicator across the voice-coil circuit. Attach the receiver chassis to a good external ground. Connect the output of the test oscillator between the control-grid of the RCA-6A8 first-detector tube and chassis-ground through a .001 mfd. capacitor. Tune the test oscillator to 460 kc. Advance the receiver volume control to its full-on position and adjust the receiver tuning control to a point where no interference is encountered from broadcast stations, or short stator of oscillator tuning capacitor C18 to chassis eliminating local oscillator signals. Increase the output of the test oscillator until a slight indication is apparent on the output indicator. Adjust the two trimmers, C28 and C27 of the second i-f transformer to produce maximum (peak) indicated receiver output. Then, adjust the two trimmers, C26 and C24, of the first i-f transformer for maximum (peak) receiver output as shown by the indicating device. During these adjustments, regulate the test-oscillator output so that the receiver output indication is always as low as possible. By doing so, broadness of tuning, due to a.v.c., action will be avoided. It is advisable to repeat the adjustment of all i-f trimmers a second time to assure that the inter-action between them has not disturbed the original adjustment.

R-F Trimmer Adjustments

The eleven trimmers associated with the r-f, first detector, and oscillator tuned circuits have their locations shown by figures 1 and 5. The three trimmers which are at all times directly in shunt with the



SERVICE HINT
 Excessive heating of the 6E5 tube may be due to high cathode current in excess of 7 ma. The tube should be replaced and the condition of the 6Z4 rectifier checked.

Figure 2—Schematic Circuit Diagram

variable tuning condensers necessitate that the "Short wave" (C) band be aligned first. The range selector switch should, therefore, be turned to its "Short wave" position for the first adjustments. Leave the output indicator connected to the output system.

Calibrate the dial by rotating the tuning control until the variable condenser plates are in their full-mesh (maximum capacity) position and adjust the dial pointer so that its end points to the horizontal graduation (520 kc) at the low-frequency end of the "Medium wave" (A) dial scale.

Wave-Trap Adjustment

Connect the test oscillator to the antenna and ground terminals of the receiver, leaving it tuned to 460 kc. Adjust the wave-trap trimmer C45 for maximum suppression of the 460 kc signal. An increase in test-oscillator output may be necessary before the point of minimum output (maximum suppression of signal) is obtained.

"Short Wave" Band

- (a) Adjust the test oscillator to 15,000 kc and set the receiver tuning control to a dial reading of 15,000 kc.

"Medium Wave" Band

- (b) Adjust trimmer C19 on the oscillator section of the variable condenser to the point at which it produces maximum indicated receiver output. Two points may be found, each of which produces such a maximum. The one of maximum trimmer capacitance is correct and should be used. The local (heterodyne) oscillator will be 460 kc below the signal frequency at this adjustment point.
- (c) Adjust trimmer C15 of the detector section of the variable condenser, simultaneously rocking the receiver tuning control backward and forward through the 15,000 kc input signal, until maximum receiver output results from these combined operations.
- (d) With the receiver tuning control set to 15,000 kc adjust trimmer C8 on the antenna section of the variable condenser to the point which produces maximum (peak) indicated receiver output.

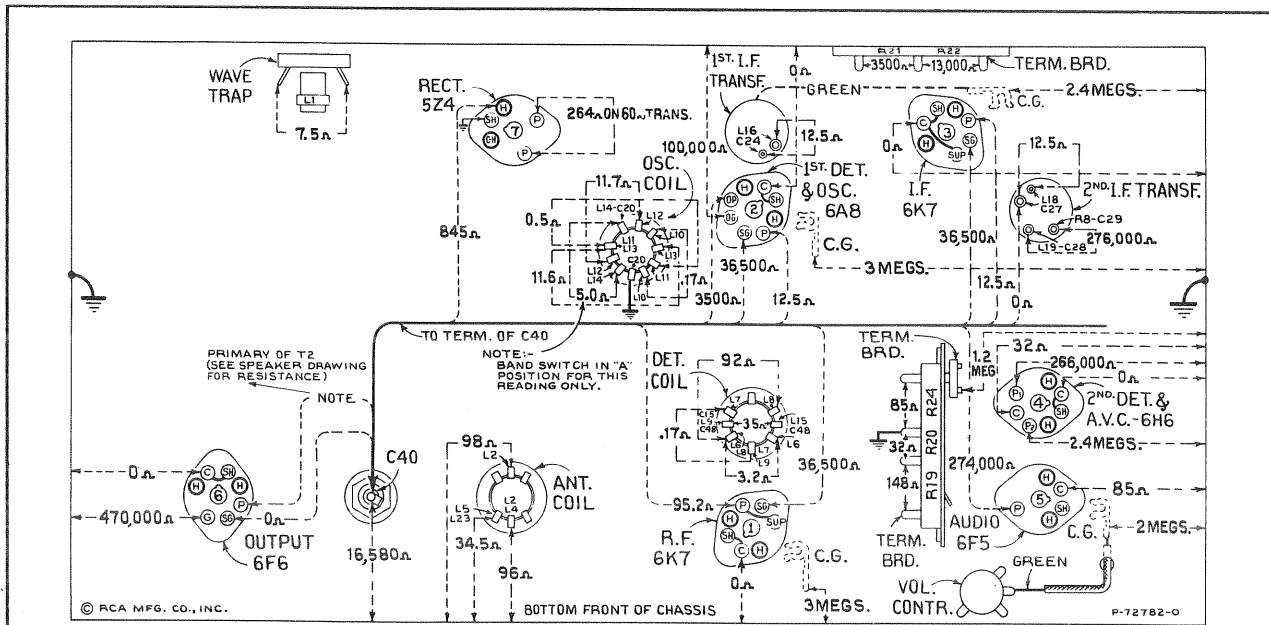


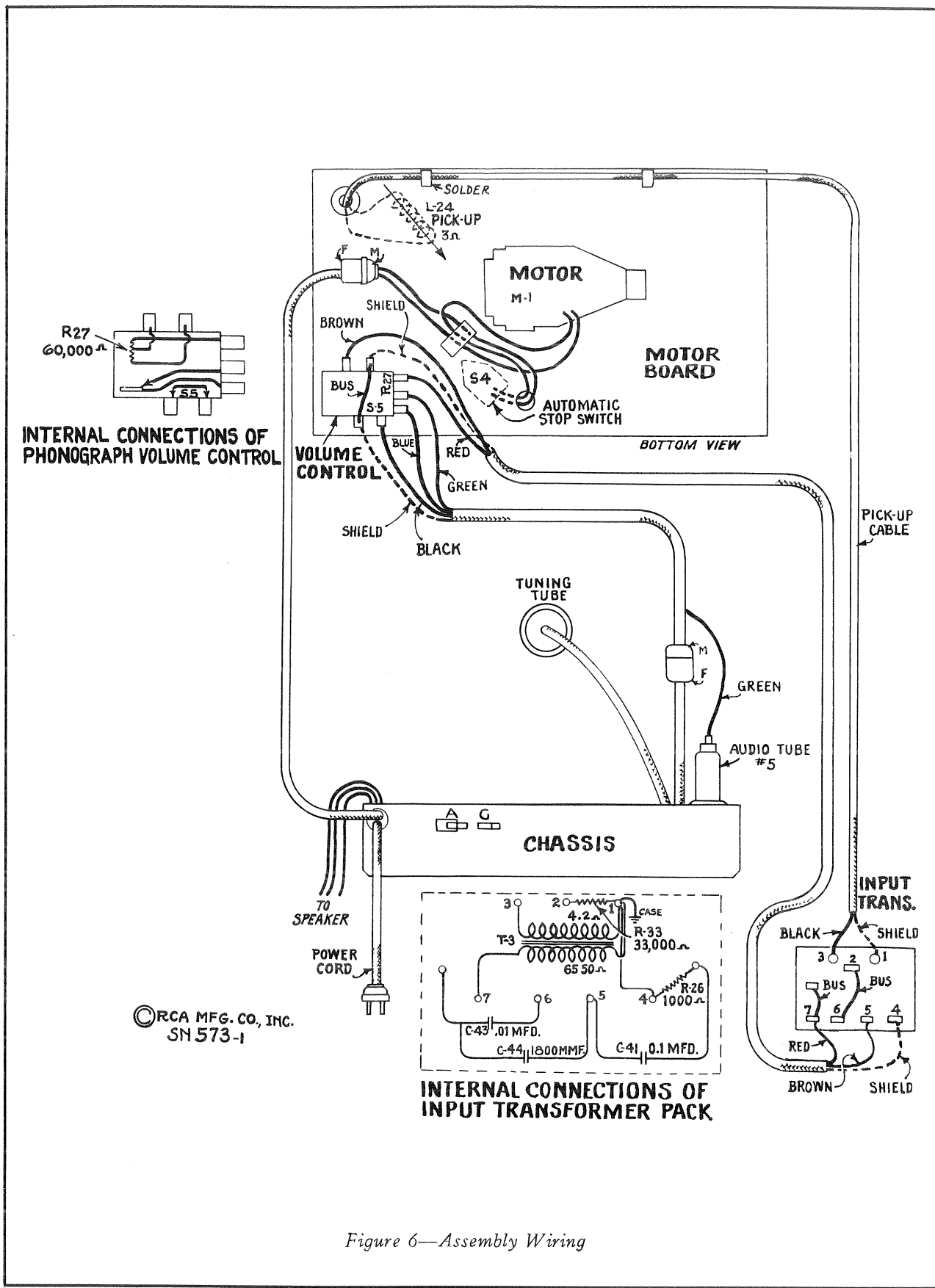
Figure 4—Resistance Diagram

Power supply disconnected—Radiotrons in sockets—Tuning condenser in full-mesh—Range selector in "Long wave" position—Volume control maximum—Power switch—Tone in "OFF" position—Radio—Record switch to "Radio"

Resistance Measurements

The resistance values shown between Radiotron socket contacts, grid caps, resistors, and terminals to receiver chassis ground or other pertinent point on figure 4, permit a rapid continuity check of the circuits. The use of this diagram in conjunction with the Schematic Circuit Diagram, figure 2, and Wiring Diagram, figure 3, will permit the location of certain troubles which might otherwise be difficult to ascertain. Each value as specified should hold within

± 20%. Variations in excess of this limit will usually be indicative of trouble in circuit under test. When measuring the resistance between points of the circuit and ground, it will be necessary to connect the negative terminal of the resistance meter to chassis ground. If the polarity of the resistance meter is not known, it may be readily ascertained by connecting a d-c voltmeter of indicated polarity across the terminals of the device.



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C55, respectively, for maximum indicated receiver output.

- (j) Set receiver to 175 kc and tune test oscillator to 175 kc. Adjust trimmer C51 for maximum indicated output, simultaneously rocking tuning control of the receiver backward and forward through the signal.
- (k) The adjustment of C50, C48, and C55 should now be repeated at 300 kc as described in (i) to compensate for any changes caused by the adjustment of the low-frequency trimmer C51.

Phonograph Mechanism

The phonograph motor is of the governor induction type and designed to be simple and foolproof. Under normal operating conditions, service difficulties should be negligible. Occasionally, however, certain adjustments may be required. These adjustments are illustrated and explained in figure 8. Application of oil to the felt pad which rubs against the governor disc will insure smooth operation.

Magnetic Pickup

The pickup used in the phonograph unit is of an improved design. The horseshoe magnet is rigidly welded to the pole pieces and is irremovable. There is a centering spring attached to the armature to

maintain proper adjustment and to provide a limiting effect on the movement of the armature. The frequency response is substantially uniform over a wide range. Service operations which may be necessary on the pickup are as follows:

Centering Armature

Refer to figure 7 showing the pickup inner structure. The armature is shown in its proper relation to

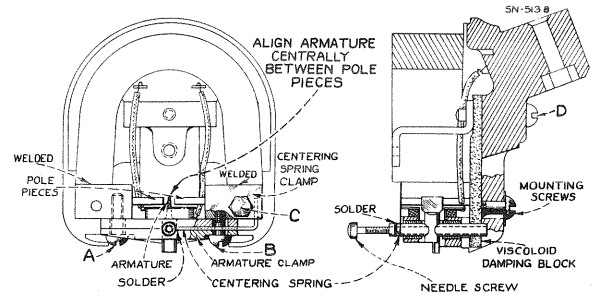
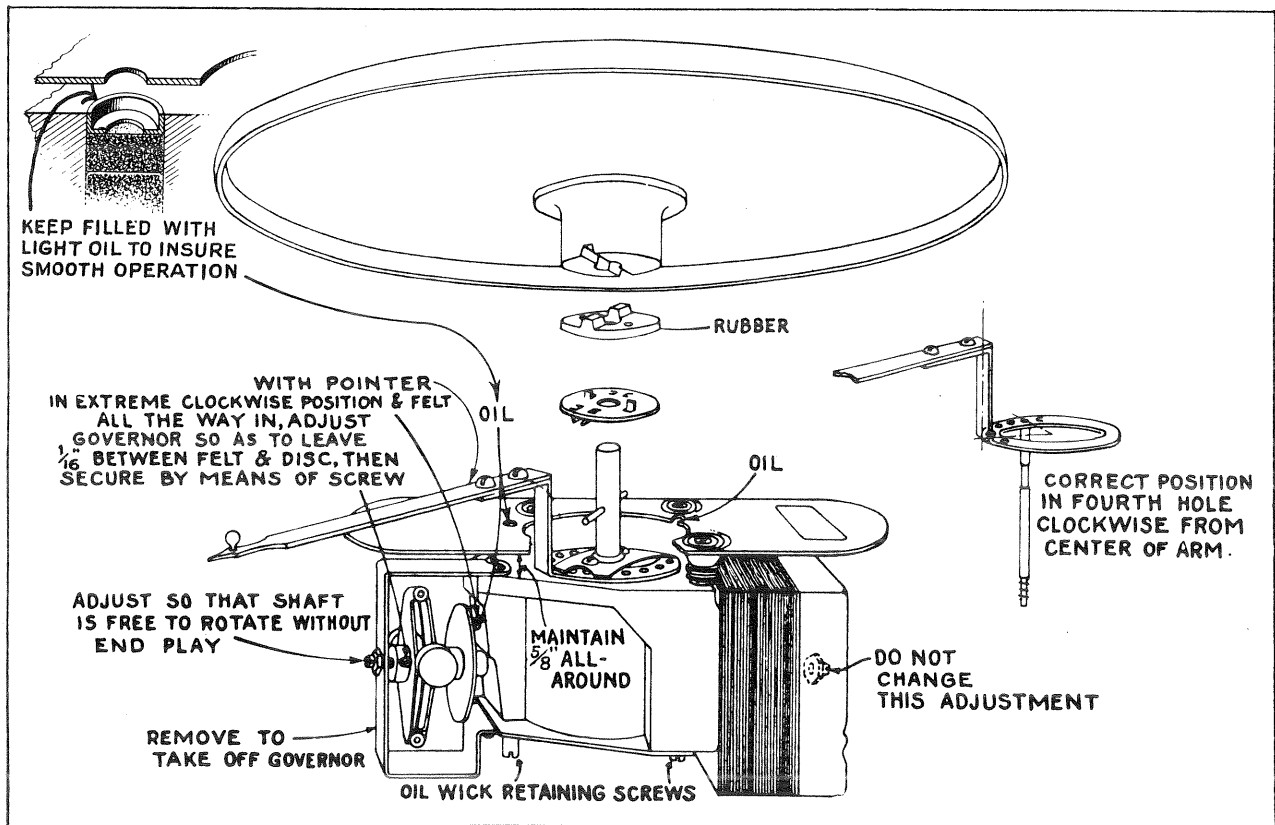


Figure 7—Details of Pickup

the magnet pole pieces, i. e., exactly centered. Whenever this centering adjustment has been disturbed, the screws A, B, and C should be loosened and the armature clamp adjusted to the point where the vertical



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Figure 8—Motor Details

axis of the armature is at right angles to the horizontal axis of the pole pieces, and centered between them. This centering operation may be facilitated by inserting a small rod or nail into the armature needle hole, using it as a lever to test the angular movement of the armature. The limitations of the movement in each direction will be caused by the armature striking the pole pieces. The proper adjustment is obtained when there is equal angular displacement of the armature and adjustment rod or nail to each side of the vertical axis of the magnet and coil assembly. The screws A and B should then be secured, observing care not to disturb the adjustment of the armature clamp. Then place the pickup in a vise and secure the centering spring-clamp by means of the screw C, allowing the centering spring to remain in the position at which the armature is exactly centered between the pole pieces. With a little practice, the correct adjustment of the armature may be readily obtained. The air gap between the pole pieces and the armature should be kept free from dust, filings, and other such foreign materials which would obstruct the movement of the pickup armature.

Damping Block

The viscoloid block which is attached to the back end of the armature shank serves as a mechanical filter to eliminate undesirable resonances and to cause the frequency response to be uniform. Should it be necessary to replace this damping block, it may be done by removing screw D and the cover support bracket from the mechanism and taking off the old viscoloid block. The surface of the armature which is in contact with the viscoloid should be thoroughly

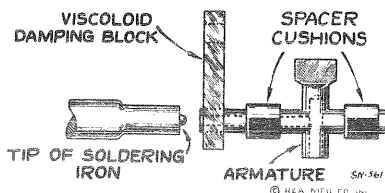


Figure 9—Special Soldering-Iron Tip

cleaned with fine emery cloth. Then insert the new block so that it occupies the same position as it did originally. Make certain that the block is in correct vertical alignment with the armature. The hole in the new viscoloid block is somewhat smaller than the diameter of the armature in order to permit a snug fit. With the viscoloid aligned on the armature, screw D and the cover support bracket should then be replaced. Heat should be applied to the armature (viscoloid side) so that the viscoloid block will fuse at the point of contact and become rigidly attached to the armature. A special-tip soldering iron constructed as shown in figure 9 will be found very useful in performing this operation. The iron should be applied

only long enough to slightly melt the block and cause a small bulge on both sides.

Replacing Coil

Whenever there is defective operation due to an open or shorted pickup coil, this coil should be replaced. The method of replacement will be obvious upon inspection of the pickup assembly and by study of the cut-a-way illustrations. Make sure that the new coil is properly centered with the hole in the support strip and glued securely in that position. It is important to re-adjust the armature as previously explained after re-assembly of the mechanism. Only rosin core solder should be used for soldering the coil leads in the pickup. This same type of solder should be used when necessary for soldering the centering spring to the armature.

Magnetizing

Loss of magnetization will not usually occur when the pickup has received normal care because the magnet and pole pieces are one unit and the magnetic circuit remains practically closed at all times. When the pickup has been mishandled, subjected to a strong a-c field, jolted, or dropped, there may be an appreciable loss of magnetic strength, in which case it will be necessary to re-magnetize the entire structure. To do this, it will be necessary to first remove the pickup mechanism from the tone arm, and then remove the magnet assembly. Place the magnet assembly on the poles of a standard pickup magnetizer such as the RCA Stock No. 9549 Pickup Magnetizer and charging the magnet in accordance with the instructions accompanying the magnetizer. It is preferable to check the polarity of the pickup magnet and to re-magnetize it so that the same polarity is maintained.

Loudspeaker

Centering of the loudspeaker voice coil is made in the usual manner with three narrow paper feelers after first removing the front paper dust cover. This may be removed by softening its cement with a very light application of acetone, using care not to allow the acetone to flow down into the air gap. The dust cover should be cemented back in place with ambroid upon completion of adjustment.

Universal Transformer

The transformer used on some models of this receiver is adaptable to several ranges of voltage as given under Rating C of Electrical Specifications. Its schematic and wiring are shown by figure 11. Terminals are provided at the top of the transformer case for changing the primary connections to suit the voltage being used. Note that a 110-volt tap is brought out separately for supplying a phonograph motor.

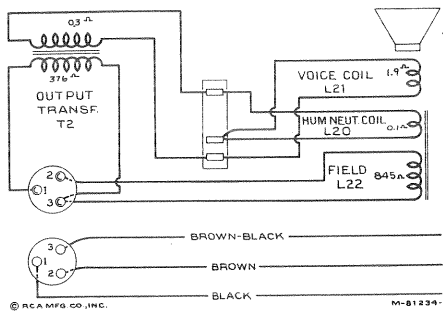
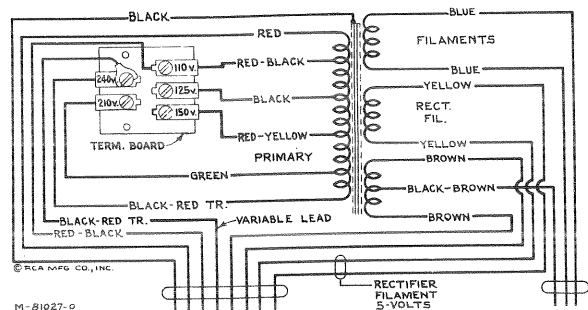


Figure 10—Loudspeaker Wiring



Primary resistance—10.5 ohms total
Secondary resistance—265 ohms total

Figure 11—Universal Transformer

REPLACEMENT PARTS

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 |
|----------------------------|--|------------|-----------|--|------------|
| RECEIVER ASSEMBLIES | | | | | |
| 12706 | Arm—Arm and hub assembly for operating shutter | \$0.22 | 11394 | Foot—Chassis foot assembly—Package of 2 | \$0.70 |
| 13098 | Board—Antenna and ground terminal board | .25 | 12712 | Indicator—Station selector indicator pointer | .22 |
| 5237 | Bushing—Variable tuning condenser mounting bushing assembly—Package of 3 | .43 | 5226 | Lamp—Dial lamp—Package of 5 | .70 |
| 11625 | Cable—Radiotron tuning tube cable complete with socket | 1.26 | 12718 | Mask—Dial Light Diffuser with colored screen | .40 |
| 11759 | Cable—2-conductor shielded volume control cable—complete with 4-contact female connector | .92 | 11393 | Resistor—Voltage divider resistor—comprising one 3,500 ohm and one 13,000 ohm sections—(R21, R22) | .74 |
| 12511 | Cap—Contact cap—Package of 5 | .15 | 11329 | Resistor—Voltage divider resistor—comprising one 148 ohm, one 32 ohm and one 85 ohm sections—(R19, R20, R24) | .52 |
| 11465 | Capacitor—Adjustable trimmer (C22) | .48 | 12075 | Resistor—56 ohms—Flexible type complete with contact cap—(R32) | .28 |
| 11256 | Capacitor—Adjustable trimmer (C50) | .48 | 12071 | Resistor—120 ohms—Carbon type— $\frac{1}{4}$ watt—(R23)—Package of 5 | 1.00 |
| 4955 | Capacitor—Adjustable trimmer (C45) | .48 | 12070 | Resistor—18,000 ohms—Carbon type— $\frac{1}{10}$ watt—(R30, R31)—Package of 5 | .75 |
| 12065 | Capacitor—Adjustable trimmer (C51) | .65 | 5033 | Resistor—33,000 ohms—Carbon type—1 watt—(R17)—Package of 5 | 1.10 |
| 12814 | Capacitor—5.6 Mmfd.—(C13) | .20 | 11322 | Resistor—39,000 ohms—Carbon type— $\frac{1}{4}$ watt—(R12)—Package of 5 | 1.00 |
| 12974 | Capacitor—120 Mmfd.—(C17) | .20 | 11365 | Resistor—82,000 ohms—Carbon type— $\frac{1}{4}$ watt—(R14)—Package of 5 | 1.00 |
| 5116 | Capacitor—175 Mmfd.—C29 | .18 | 3118 | Resistor—100,000 ohms—Carbon type— $\frac{1}{4}$ watt—(R5)—Package of 5 | 1.00 |
| 13003 | Capacitor—180 Mmfd.—(C35, C47) | .20 | 11453 | Resistor—270,000 ohms—Carbon type— $\frac{1}{10}$ watt—(R15)—Package of 5 | .75 |
| 11290 | Capacitor—400 Mmfd.—(C9, C16) | .25 | 11452 | Resistor—470,000 ohms—Carbon type— $\frac{1}{10}$ watt—(R16)—Package of 5 | .75 |
| 11621 | Capacitor—3,600 Mmfd.—(C10) | .38 | 11397 | Resistor 560,000 ohms—Carbon type— $\frac{1}{10}$ watt—(R2, R4)—Package of 5 | .75 |
| 4868 | Capacitor—.005 Mfd.—(C12, C33, C52, C53) | .20 | 12013 | Resistor—1 megohm—Carbon type— $\frac{1}{10}$ watt—(R18)—Package of 5 | .75 |
| 11451 | Capacitor—.017 Mfd.—(C38) | .18 | 11626 | Resistor—2.2 megohms—Carbon type— $\frac{1}{4}$ watt—(R9, R10, R13)—Package of 5 | 1.00 |
| 11395 | Capacitor—.01 Mfd.—(C32) | .18 | 4669 | Screw—No. 8-32 set screw for arm Stk No. 12706—Package of 10 | .25 |
| 4858 | Capacitor—.01 Mfd.—(C36) | .25 | 12064 | Shield—Antenna or detector coil shield | .28 |
| 4839 | Capacitor—0.1 Mfd.—(C21) | .28 | 11604 | Shield—Oscillator coil shield | .24 |
| 4841 | Capacitor—0.1 Mfd.—(C31) | .22 | 11390 | Shield—Intermediate frequency transformer shield | .25 |
| 11414 | Capacitor—0.1 Mfd.—(C42) | .20 | 12735 | Shield—Dial lamp shield—Package of 5 | .25 |
| 5170 | Capacitor—0.25 Mfd.—(C25) | .25 | 12971 | Shutter—Dial scale holder and shutter assembly | .85 |
| 4836 | Capacitor—.05 Mfd.—(C30) | .30 | 11222 | Socket—Dial lamp socket | .18 |
| 11240 | Capacitor—10 Mfd.—(C39) | 1.08 | 11195 | Socket—5-contact rectifier Radiotron socket | .15 |
| 11387 | Capacitor—10 Mfd.—(C2) | .86 | | | |
| 5212 | Capacitor—18 Mfd.—(C40) | 1.16 | | | |
| 12061 | Coil—Antenna coil—Less shield—(L2, L3, L4, L5, L23, C6, C55) | 1.90 | | | |
| 12062 | Coil—Detector coil—Less shield—(L6, L7, L8, L9, L15, C48, C49) | 1.94 | | | |
| 12063 | Coil—Oscillator coil—Less shield—(L10, L11, L12, L13, L14, C20) | 2.62 | | | |
| 12965 | Condenser—Three-gang variable tuning condenser—(C7, C8, C14, C15, C18, C19) | 6.15 | | | |
| 4153 | Connector—4-contact female connector for volume control cable | .48 | | | |
| 4573 | Connector—2-contact female connector for motor cable | .30 | | | |
| 13094 | Dial—Station selector dial scale | 1.05 | | | |

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REPLACEMENT PARTS (Continued)

| Stock No. | DESCRIPTION | List Price | Stock No. | DESCRIPTION | List Price |
|-----------|---|------------|-----------|--|------------|
| 11198 | Socket—7-contact 6K7—6F5—or 6H6 Radiotron socket | .15 | 3389 | Rod—Eccentric automatic brake trip rod—Package of 5 | \$0.40 |
| 11196 | Socket—8 contact 6A8 or 6F6 Radiotron socket | .15 | 3387 | Screw assembly—Pickup mounting screw assembly—comprising one screw, one lockwasher and one nut—Package of 10 | .50 |
| 12849 | Spring—Tension spring shutter—Package of 5 | .18 | 11549 | Screw—Pickup front cover screw—Package of 10 | .42 |
| 12966 | Switch—Range switch—(S1) | 1.75 | 11547 | Screw—Pickup needle holding screw—Package of 10 | .42 |
| 11392 | Switch—Tone control and power switch assembly—(S2, S3) | 1.14 | | REPRODUCER ASSEMBLIES | |
| 11388 | Transformer—First intermediate frequency transformer—(L16, L17, C24, C26) | 1.90 | 11232 | Board—Terminal board with two lead wire clips | .18 |
| 11389 | Transformer—Second intermediate frequency transformer—(L18, L19, C27, C28, C29, R7, R8) | 3.02 | 11231 | Bolt—Yoke and core assembly bolt and nut | .16 |
| 11803 | Transformer—Power transformer—105-125 volts—50-60 cycles—(T1) | 4.38 | 8060 | Bracket—Output transformer mounting bracket | .14 |
| 11805 | Transformer—Power transformer—105-130, 140-160, 195-250 volts—40-60 cycles (T1) | 7.95 | 11257 | Clamp—Cone center suspension clamping nut and screw assembly—Package of 5 | .25 |
| 11667 | Trap—Wave trap—(L1, C45) | 1.22 | 11254 | Coil—Field coil—(L22) | 2.00 |
| 13144 | Volume control—(R11) | 1.00 | 11233 | Coil—Neutralizing coil (L20) | .30 |
| | MOTOR ASSEMBLIES | | 11258 | Cone—Reproducer cone—(L21) | 1.00 |
| 11703 | Governor—Governor complete for phonograph motor—Stock No. 11701 or No. 11702 | 3.05 | 5118 | Connector—3 contact male connector for reproducer | .25 |
| 11701 | Motor—Phonograph turntable motor—110 volts—50 to 60 cycles—(M1) | 21.20 | 5119 | Connector—3-contact female connector for reproducer cable | .25 |
| | MOTOR BOARD ASSEMBLIES | | 9619 | Reproducer—Complete | 6.05 |
| 4594 | Box—Used needle box (cup) | .30 | 11253 | Transformer—Output transformer—(T2) | 1.56 |
| 4577 | Connector—2-contact male connector for motor cable | .30 | 11886 | Washer—Spring washer used to hold field coil securely—Package of 5 | .20 |
| 7084 | Cover—Turntable cover | .40 | | MISCELLANEOUS ASSEMBLIES | |
| 11704 | Damper—Turntable rubber damper and damper plate | .24 | 11996 | Bracket—Tuning tube mounting bracket and clamp | .22 |
| 4596 | Escutcheon—Speed regulator escutcheon plate | .36 | 11947 | Cable—2-conductor shielded cable, approximately 35 inches long—connects volume control to input transformer | .85 |
| 4597 | Screw—Motor mounting screw assembly—comprising four screws, four lockwashers, four spacers, and four nuts | .22 | 11948 | Cable—3-conductor shielded volume control cable (control end)—complete with 4-contact male connector | 1.50 |
| 11696 | Turntable—Complete | 2.48 | 6123 | Connector—4-contact male connector for volume control cable | .30 |
| 11695 | Volume control—Phonograph volume control—(R27, S5) | 1.60 | 12698 | Crystal—Station selector escutcheon and crystal | 1.02 |
| | ECCENTRIC AUTOMATIC BRAKE SWITCH ASSEMBLIES | | 11276 | Escutcheon—Tuning tube escutcheon | .40 |
| 3994 | Cover—Eccentric automatic switch cover and screw | .26 | 11347 | Knob—Phonograph volume control, radio volume control, range switch, or tone control and power switch knob—Package of 5 | .75 |
| 10174 | Springs—Automatic brake springs—comprising one each of four springs—Package of 2 sets | .50 | 11610 | Knob—Station selector knob assembly, comprising one large and one small knob—Package of 5 | 1.00 |
| 6896 | Switch—Eccentric automatic brake and switch assembly—less switch cover | 2.50 | 12556 | Receptacle—Needle holder | .40 |
| 3322 | Switch—Eccentric automatic switch only—less cover—(S13) | .75 | 11210 | Screw—Chassis mounting screw assembly—Package of 4 | .28 |
| | PICKUP AND ARM ASSEMBLIES | | 11349 | Spring—Retaining spring for knob Stk. No. 11347, and small knob in Stk. No. 11610—Package of 5 | .25 |
| 11944 | Arm—Pickup arm complete—less pickup unit | 6.00 | 4982 | Spring—Retaining spring for large knob in Stk. No. 11610—Package of 10 | .50 |
| 13404 | Armature—Pickup armature | .95 | 3391 | Spring—Suspension spring and washer assembly for mounting motor board, comprising 1 bolt, 1 top spring, 1 bottom spring, 2 cup washers, 1 C washer and 1 cap nut | .50 |
| 11548 | Back—Pickup housing back | .52 | 11949 | Transformer—Phonograph input transformer pack, comprising one input transformer, one 1,800 Mmfd., one .01 Mfd. and one 0.1 Mfd. capacitors and one 1,000-ohm, one 33,000-ohm resistors (T3, C41, C43, C44, R26, R33) | 7.05 |
| 11946 | Coil—Pickup coil—(L24) | .65 | | | |
| 3521 | Cover—Pickup back cover | .18 | | | |
| 11708 | Cover—Pickup front cover | .15 | | | |
| 12354 | Damper—Pickup damper | .16 | | | |
| 3516 | Damper—Pickup arm damper—comprising one upper and one lower damper, one upper bushing and one lower bearing | .14 | | | |
| 3390 | Escutcheon—Pickup arm escutcheon | .46 | | | |
| 11945 | Pickup unit—Complete—(L24) | 5.50 | | | |

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