

RCA VICTOR MODEL 7U2

Seven-Tube, Three-Band, A-C, Radio—Phonograph

TECHNICAL INFORMATION

Electrical Specifications

FREQUENCY RANGES		ALIGNMENT FREQUENCIES	
"Standard broadcast" (A)	540-1,625 kc	"Standard broadcast" (A) ...	600 kc (osc.), 1,400 kc (osc. and ant.)
"Medium wave" (B)	1,625-5,700 kc	"Medium wave" (B)	None required
"Short wave" (C)	5,700-18,000 kc	"Short wave" (C)	15,000 kc (osc. and ant.)
Intermediate Frequency			460 kc
RADIOTRON COMPLEMENT		(4) RCA-6F5	Audio voltage amplifier
(1) RCA-6A8	First-detector-oscillator	(5) RCA-6F6	Audio power amplifier
(2) RCA-6K7	Intermediate amplifier	(6) RCA-5Z4	Full-wave rectifier
(3) RCA-6H6	Second-detector-a.v.c.	(7) RCA-6G5	Tuning tube
Pilot Lamps (5)			Mazda No. 46, 6.3 volts, 0.25 amperes
POWER SUPPLY RATINGS		TOTAL	
		RADIO	RADIO AND PHONOGRAPH
Rating A-6	105-125 volts, 60 cycles	95 watts	120 watts
Rating A-5	105-125 volts, 50 cycles	95 watts	120 watts
Rating B-2	105-125 volts, 25 cycles	95 watts	120 watts
Rating C-6	105-130/140-160/200-250 volts, 60 cycles	95 watts	120 watts
Rating C-5	105-130/140-160/200-250 volts, 50 cycles	95 watts	120 watts
POWER OUTPUT		LOUDSPEAKER	
Undistorted	2.0 watts	Type	Electrodynamic
Maximum	4.5 watts	Impedance (v.c.)	2.2 ohms at 400 cycles
PHONOGRAPH		Type of Pickup	High-impedance magnetic
Type	Manual	Pickup Impedance	1,400 ohms at 1,000 cycles
Turntable Speed	78 r.p.m.		

Mechanical Specifications

Height	42 inches
Width	25 ¹ / ₄ inches
Depth	15 ¹ / ₄ inches
Weight (net)	77 pounds
Weight (shipping)	113 pounds
Chassis Base Dimensions	12 inches x 7 inches x 2 ¹ / ₂ inches
Over-all Chassis Height	8 inches
Operating Controls. (1) Power switch-Tone, (2) Tuning, (3) Volume, (4) Range selector, (5) Radio-Phono-volume	
Tuning Drive Ratios	10 to 1 and 50 to 1

General Description

The Model 7U2 combination instrument consists of a seven-tube radio receiver and a manually-operated phonograph combined in one cabinet. The superheterodyne circuit is used with such features of design as antenna wave-trap, magnetite-core adjusted i-f transformers, aural compensated volume control, continuously variable tone control with music-voice switch, automatic volume control, resistance-coupled audio system, tuning tube "Magic Eye," and band selective indication of dial scales.

The circuit arrangement consists of a combined first-detector--oscillator stage, an i-f amplifier stage,

a diode-detector--automatic-volume-control stage, an audio voltage-amplifier stage, an audio power-output stage, a tuning indicator "Magic Eye" and a full-wave rectifier. Additional information may be obtained concerning the functions of the various circuits by referring to "Circuit Arrangement" in "Technical Information and Service Data" for Model 7U, noting that molded magnetite-core tuned i-f transformers are used in Model 7U2. The tuning tube consists of an RCA-6G5. The phonograph motor is of the governor induction type.

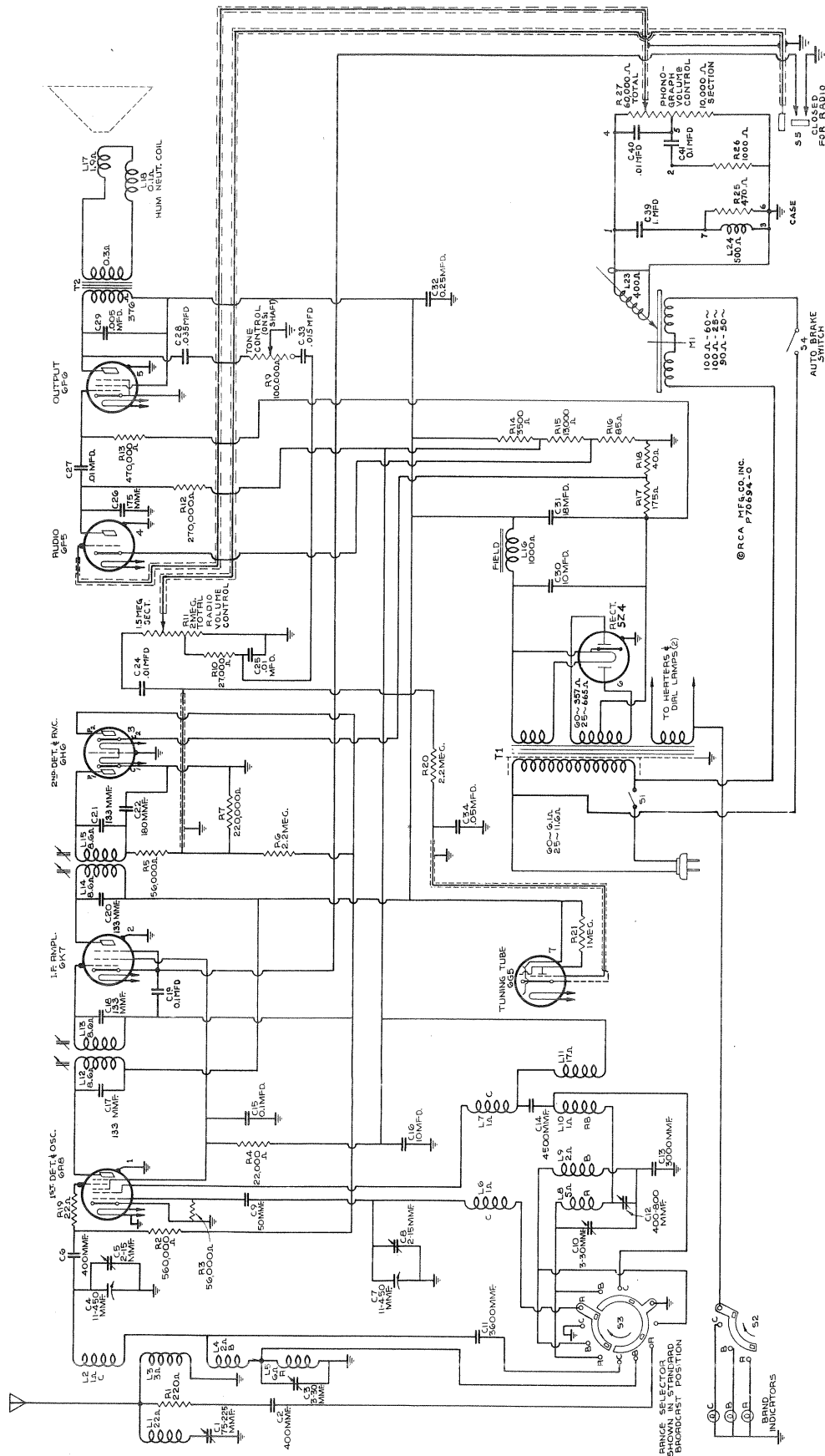
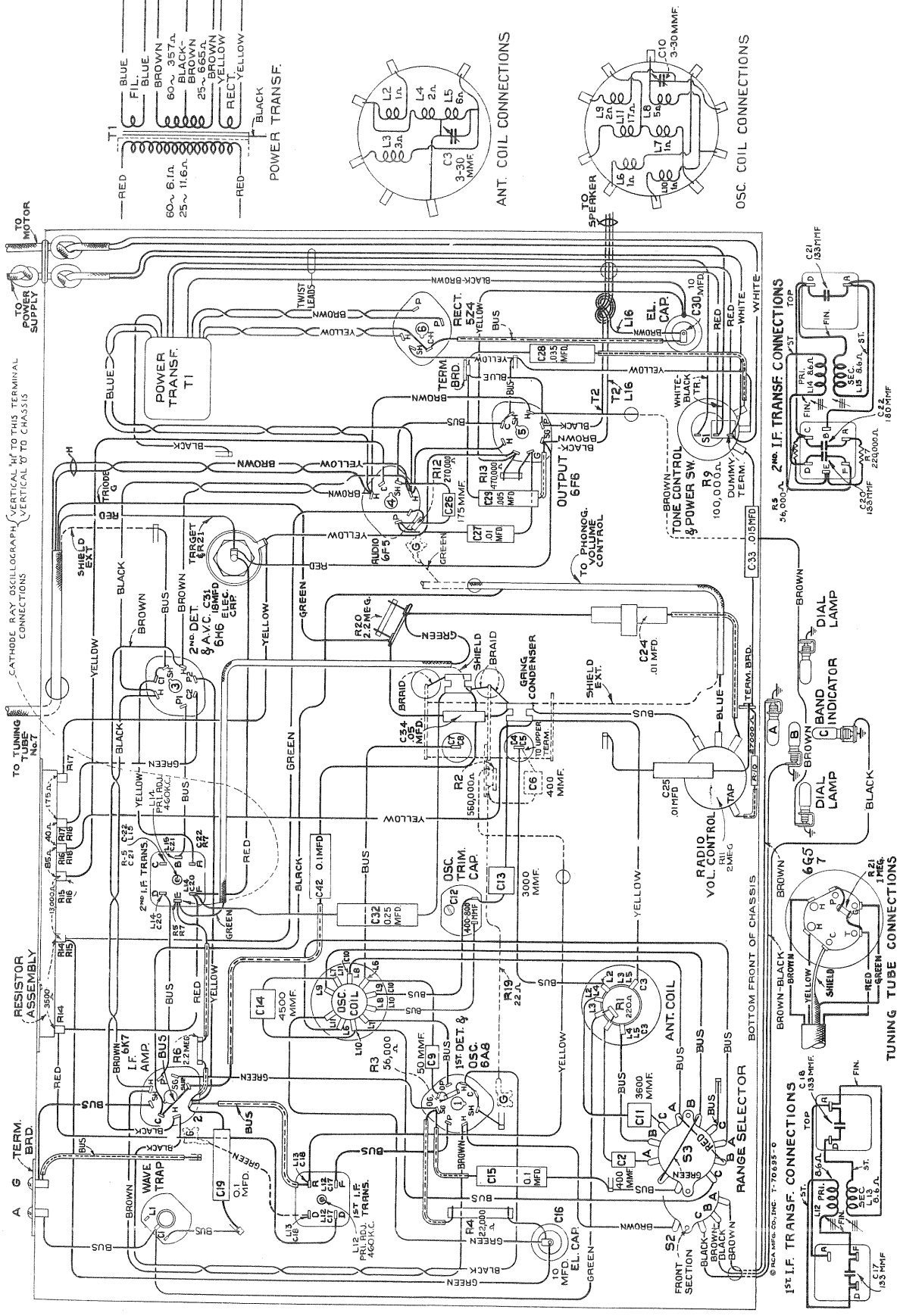


Figure 1—Schematic Circuit Diagram



TO MOTOR

TO SUPPLY

CATHODE RAY OSCILLOGRAPH (VERTICAL) W/ TO THIS TERMINAL (VERTICAL) TO CHASSIS

TO TUNING No. 7

RESISTOR ASSEMBLY

A G TERM. BRD.

TO MOTOR

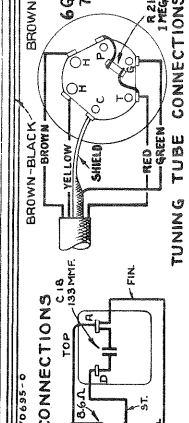
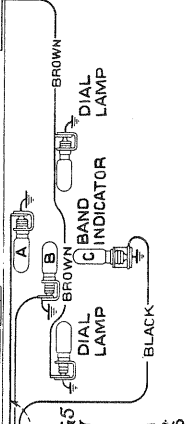
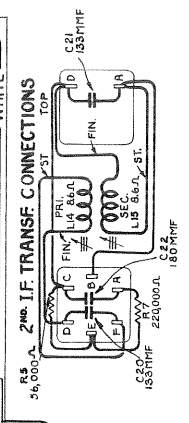
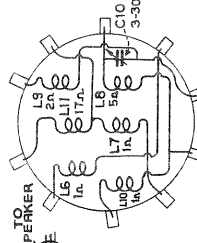
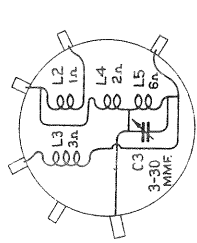
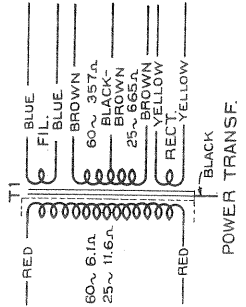


Figure 2—Chassis Wiring Diagram

SERVICE DATA

Alignment

The r-f and i-f adjustments on this instrument should be performed as outlined under "Alignment" in "Technical Information and Service Data" for Model 7U, substituting the magnetite-core symbols L15, L14, L13 and L12 for the trimming capacitor symbols C21, C20, C18 and C17 respectively in "I-F Adjustments."

Phonograph

The phonograph motor is of the governor induction type and is designed to be simple and foolproof. Occasionally, however, certain adjustments may be required. These adjustments are illustrated and explained in Figures 4 and 5.

Application of oil to the felt pad which rubs against the governor disc will insure smooth operation.

Pickup adjustments are the same as outlined for Model 7U.

Resistance and Voltage Measurements

Voltage and resistance measurements for this receiver are the same as for Model 7U (Figures 4 and 7), with the following exception:

The resistance value shown on Figure 4, between the plate and capacitor C31 terminals of the RCA-6A8 first-detector and oscillator, and the RCA-6K7 i-f amplifier, should be 8.6 ohms instead of 13 ohms.

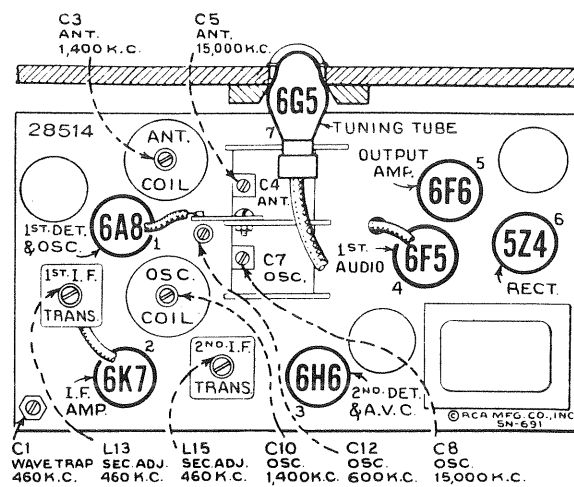


Figure 3—Radiotron, Coil, and Trimmer Locations

SERVICE HINT
Hum or rumble during phonograph operation may be corrected by re-mounting the motor solid to motor board using Stock No. 13573 mounting parts.

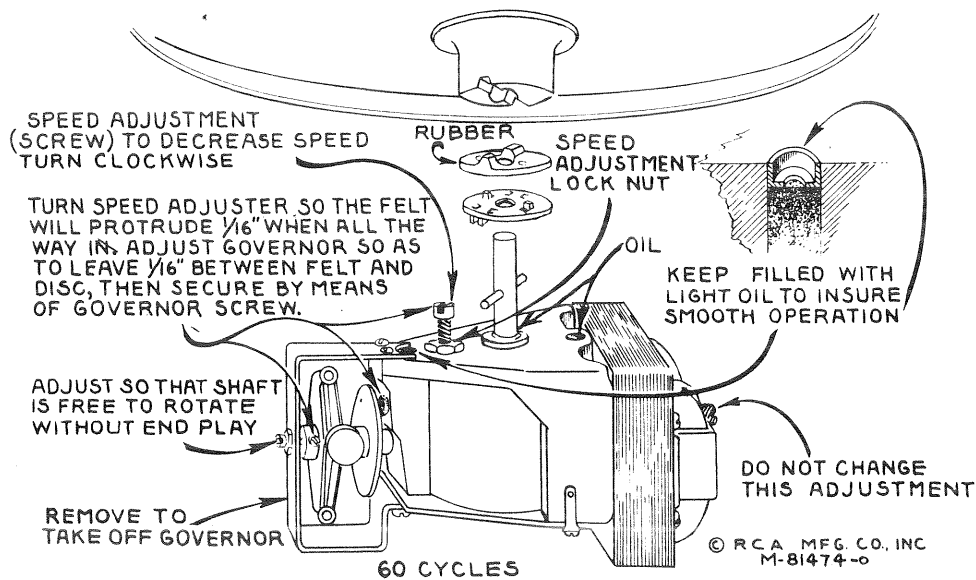


Figure 4—Details of 60-Cycle Motor

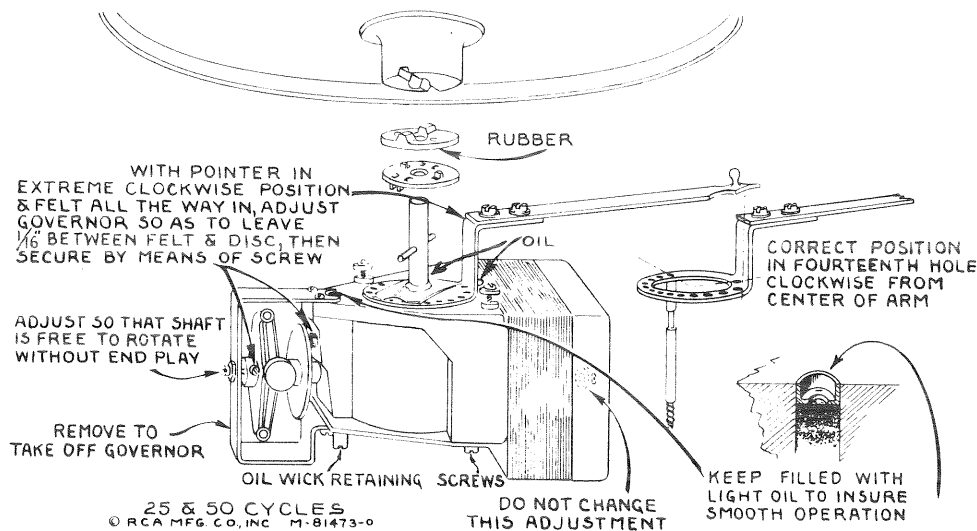


Figure 5—Details of 25- or 50-Cycle Motor

REPLACEMENT PARTS

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

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
RECEIVER ASSEMBLIES					
12930	Board—Antenna and ground terminal board	\$0.20	4573	Connector—2-contact female connector for motor cable, receiver section	\$0.30
5237	Bushing—Variable condenser mounting bushing assembly—Package of 3	.43	5119	Connector—3-contact female connector for chassis reproducer cable	.25
11888	Cable—Tuning lamp cable and socket	1.06	6123	Connector—4-contact male connector for cable, Stock No. 12032	.30
12032	Cable—3-conductor, shielded, volume control cable, approx. 8 inches long, complete with 4-contact male connector and grid contact cap	.90	12006	Core—Adjustable core and stud for Stock No. 13106 and No. 13107	.22
11350	Cap—Grid contact cap—Package of 5	.20	13598	Drive—Variable tuning condenser vernier drive	.80
12511	Cap—Grid contact cap—Package of 5	.15	13599	Foot—Chassis mounting foot and bracket assembly—Package of 2	.55
11289	Capacitor—50 Mmfd. (C9)	.26	12770	Holder—Dial scale holder and lamp bracket assembly	.55
12946	Capacitor—133 Mmfd. (C17, C18, C20, C21)	.20	12712	Indicator—Station selector indicator pointer	.22
11623	Capacitor—175 Mmfd. (C26)	.18	4340	Lamp—Dial lamp—Package of 5	.60
12406	Capacitor—180 Mmfd. (C22)	.26	12718	Mask—Dial light diffuser complete with red, orange and green-colored screen	.40
11290	Capacitor—400 Mmfd. (C2, C6)	.25	11466	Resistor—Voltage divider, comprising one 3,500-ohm, one 13,000-ohm, one 85-ohm, one 40-ohm and one 175-ohm sections (R14, R15, R16, R17, R18)	.95
11622	Capacitor—3,000 Mmfd. (C13)	.36	11624	Resistor—22 ohms, flexible type complete with grid contact cap (R19)	.22
11621	Capacitor—3,600 Mmfd. (C11)	.38	11620	Resistor—220 ohms, carbon type, 1/10 watt—Package of 5 (R1)	.75
11287	Capacitor—4,500 Mmfd. (C14)	.30	8070	Resistor—22,000 ohms, carbon type, 1/2 watt—Package of 5 (R4)	1.00
4868	Capacitor—.005 Mfd. (C29)	.20	11400	Resistor—27,000 ohms, carbon type, 1/4 watt—Package of 5 (R10)	1.00
11315	Capacitor—0.15 Mfd. (C33)	.20	11282	Resistor—56,000 ohms, carbon type, 1/10 watt—Package of 5 (R5)	.75
12670	Capacitor—.035 Mfd. (C28)	.20	12286	Resistor—56,000 ohms, insulated, 1/4 watt—Package of 5 (R3)	1.00
11395	Capacitor—.01 Mfd. (C24)	.18	11398	Resistor—220,000 ohms, carbon type, 1/10 watt—Package of 5 (R7)	.75
4858	Capacitor—.01 Mfd. (C25, C27)	.25	11453	Resistor—270,000 ohms, carbon type, 1/10 watt—Package of 5 (R12)	.75
4836	Capacitor—.05 Mfd. (C34)	.30	11452	Resistor—470,000 ohms, carbon type, 1/10 watt—Package of 5 (R13)	.75
11414	Capacitor—0.1 Mfd. (C15, C42)	.20	11397	Resistor—560,000 ohms, carbon type, 1/10 watt—Package of 5 (R2)	.75
4841	Capacitor—0.1 Mfd. (C19)	.22	12013	Resistor—1 megohm, carbon type, 1/10 watt—Package of 5 (R21)	.75
5170	Capacitor—.25 Mfd. (C32)	.25			
11240	Capacitor—10 Mfd. (C30)	1.08			
11387	Capacitor—10 Mfd. (C16)	.86			
5212	Capacitor—18 Mfd. (C31)	1.16			
11465	Capacitor—Adjustable trimmer (C12)	.48			
11256	Capacitor—Adjustable trimmer for wave-trap, Stock No. 11391 (C1)	.48			
11617	Coil—Antenna coil less shield (L2, L3, L4, L5, C3, R1)	1.68			
11618	Coil—Oscillator coil less shield (L6, L7, L8, L9, L10, L11, C10)	2.22			
13597	Condenser—2-gang variable tuning condenser (C4, C5, C7, C8)	4.55			

The prices quoted above are subject to change without notice.

REPLACEMENT PARTS (Continued)

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
11626	Resistor—2.2 megohms, carbon type, 1/4 watt—Package of 5 (R6, R20)	\$1.00		REPRODUCER ASSEMBLIES	
12607	Shield—First I. F. transformer shield top	.30	12641	Board—Terminal board assembly	\$0.15
12581	Shield—Second I. F. transformer shield top	.36	12640	Bracket—Output transformer mounting bracket	.18
11603	Shield—Coil shield for Stock Nos. 11617 and 11618	.26	13600	Coil—Field coil (L16)	1.75
12735	Shield—Dial lamp shield—Package of 5	.25	11469	Neutralizing coil (L18)	.20
12008	Shield—I. F. transformer shield for Stock Nos. 13106 and 13107	.28	12667	Cone—Reproducer cone (L17)	1.00
11199	Socket—Dial lamp socket	.14	5118	Connector—3-contact male connector for reproducer	.25
12771	Socket—Dial lamp socket, located at top of dial scale	.25	5119	Connector—3-contact female connector for reproducer cable	.25
11381	Socket—Tuning lamp socket and cover	.45	9766	Reproducer complete	7.25
11195	Socket—5-contact 5Z4 Radiotron socket	.15	11253	Transformer—Output transformer (T2)	1.56
11198	Socket—7-contact 6F5 or 6H6 Radiotron socket	.15	11886	Washer—Spring washer used to hold field coil securely—Package of 5	.20
11196	Socket—8-contact 6A8, 6F6 or 6K7 Radiotron socket	.15		MOTOR ASSEMBLIES	
12007	Spring—Retaining spring for core, Stock No. 12006—Package of 10	.36	13576	Motor—105-125 volts, 60-cycle motor complete (M1)	18.90
12769	Switch—Range switch (S2, S3)	1.25	13577	Motor—105-125 volts, 50-cycle motor complete	25.20
12668	Tone control and power switch (R9, S1)	1.22	13578	Motor—105-125 volts, 25-cycle motor complete	25.20
11391	Trap—Wave-trap (L1, C1)	1.22	13583	Regulator—Motor speed regulator pointer, used on 25- and 50-cycle motors only	.25
13106	Transformer—First I. F. transformer (L12, L13, C17, C18)	1.60		MISCELLANEOUS ASSEMBLIES	
13107	Transformer—Second I. F. transformer (L14, L15, C20, C21, C22, R5, R7)	2.06	11762	Box—Used needle box	.25
11848	Transformer—Power transformer, 100-125 volts, 50-60 cycles (T1)	4.40	11996	Bracket—Tuning lamp mounting bracket and clamp	.22
11849	Transformer—Power transformer, 100-125 volts, 25-40 cycles (T1)	5.70	12030	Cable—2-conductor shielded cable, approx. 18 inches long, connects phonograph volume control to compensator pack	.52
11850	Transformer—Power transformer, 105-250 volts, 40-60 cycles (T1)	8.00	12031	Cable—3-conductor shielded cable, approx. 19 inches long, complete with 4-contact female connector, connects phonograph volume to receiver	1.04
13144	Volume control (R11)	1.00	11272	Clamp—Cable clamp for phonograph volume control cable, Stock Nos. 12030 and 12031—Package of 5	.10
	MOTOR BOARD ASSEMBLIES		11760	Compensator—Phonograph compensator pack, comprising one 470-ohm and one 1,000-ohm resistors, one .01 Mfd., one .1 Mfd. and one 1 Mfd. capacitors and one .25 Henry reactor, L24, C39, C40, C41, R25, R26)	3.85
4577	Connector—2-contact male connector for motor leads	.30	4153	Connector—4-contact female connector for cable, Stock No. 12031	.48
13575	Escutcheon—Motor speed regulator escutcheon for 25- or 50-cycle motors only	.25	12666	Cover—Reproducer cover	.65
13065	Lever—Brake mechanism actuating lever, fastens to pivot shaft under base	.20	12698	Escutcheon—Station selector escutcheon and crystal	1.02
3261	Rest—Pickup rubber rest—Package of 5	.40	12742	Escutcheon—Tuning tube escutcheon	.22
13573	Screw—Motor mounting screw assembly, for 60-cycle motor only—Package of 3	.85	11347	Knob—Phonograph volume control, receiver volume control, or range switch knob—Package of 5	.75
13574	Screw—Motor mounting screw assembly, for 25- or 50-cycle motors only—Package of 3	.85	12699	Knob—Large station selector knob—Package of 5	.68
11750	Screw—No. 4-40 x 9/32, cone pointed, headless set screw for lever, Stock No. 13065—Package of 10	.22	12700	Knob—Small (vernier) station selector knob—Package of 5	.58
	AUTOMATIC BRAKE AND SWITCH ASSEMBLIES		11582	Knob—Tone and power switch knob—Package of 5	.50
13582	Brake—Automatic brake and switch complete	2.65	11763	Receptacle—Needle receptacle	.38
4577	Connector—2-contact male connector for brake switch power supply leads	.30	11210	Screw—Chassis mounting screw assembly, comprising one screw, one washer, and one lockwasher—Package of 4	.28
3994	Cover—Switch cover and screw	.26	4982	Spring—Retaining spring for large knob in Stock No. 12699—Package of 10	.50
10174	Springs—Complete set of springs for automatic brake—Package of 2 sets	.50	11349	Spring—Retaining spring for small knob in Stock Nos. 12699, 11347 and 11582—Package of 5	.25
3322	Switch—Automatic brake switch (S4)	.75	11696	Turntable—Complete	2.48
	PICKUP AND ARM ASSEMBLIES		11695	Volume control—Phonograph volume control and switch (R27, S5)	1.60
11731	Armature—Pickup armature	.64			
11732	Coil—Pickup coil (L23)	.60			
4543	Damper—Pickup damper block complete with damper plate	.10			
13579	Pickup and arm complete	7.85			
11951	Screw—Needle holding screw—Package of 10	.46			

First Edition.

The prices quoted above are subject to change without notice.