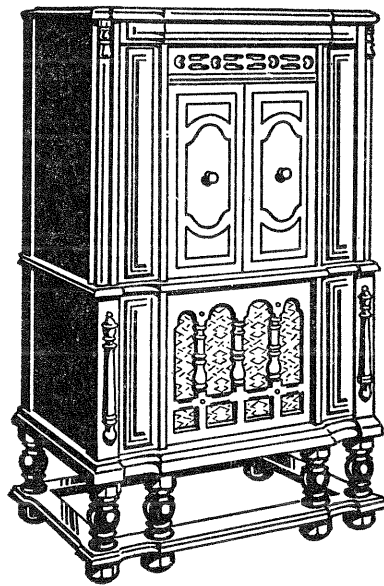


RCA Victor Radiola Electrola, Model RE-81

SERVICE NOTES



RCA Victor RE-81

{ Fourth Edition
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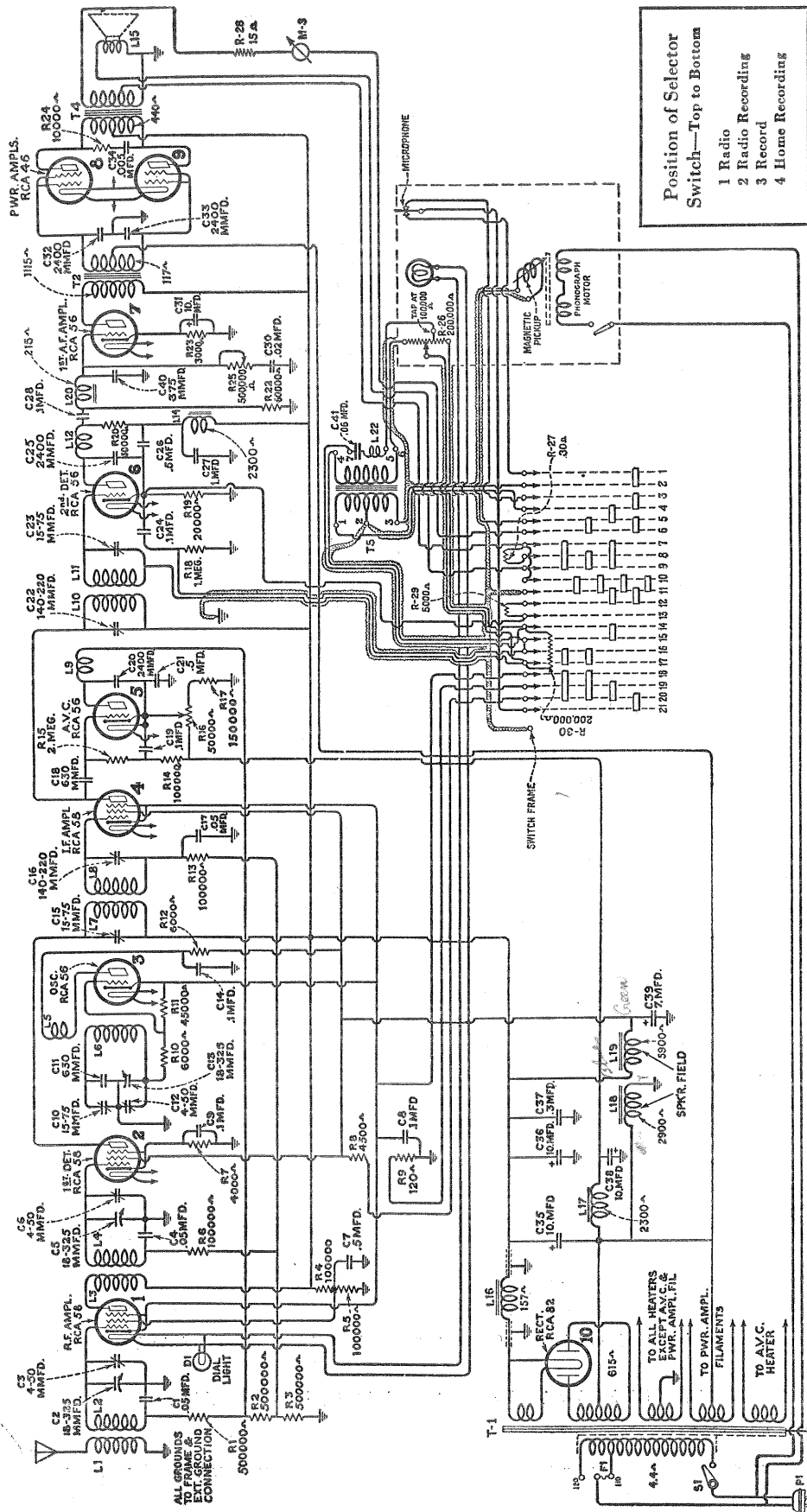
SERVICE DIVISION

RCA Victor Company, Inc.

Camden, N. J., U. S. A.

A RADIO CORPORATION OF AMERICA SUBSIDIARY

REPRESENTATIVES IN PRINCIPAL CITIES



Position of Selector
Switch—Top to Bottom

- 1 Radio
- 2 Radio Recording
- 3 Record
- 4 Home Recordings

Figure 1—Schematic Diagram of RE-81

SERVICE NOTES

for

RCA Victor Model RE-81

ELECTRICAL SPECIFICATIONS

Voltage Rating	105-125 Volts
Frequency Rating	25, 30, 50 and 60 Cycles
Power Consumption	25, 135 Watts; 30, 130 Watts; 50, 139 Watts; 60, 135 Watts
Recommended Antenna Length	25-100 Feet
Type of Circuit	Super-Heterodyne with A. V. C. and Class "B" Output Stage
Type and Number of Radiotrons	4 RCA-56, 3 RCA-58, 2 RCA-46, 1 RCA-82—Total 10
Number of R. F. Stages	One
Number of I. F. Stages	One
Number of A. F. Stages	Radio: Two, One Single and One Class "B" RCA-46 Record: Three, Two Single and One Class "B" RCA-46 Recording: Three, Two Single and One Class "B" RCA-46
Type of A. V. C.	RCA-56
Grid voltage supplied by output of I. F. Drop across resistor in plate circuit of A. V. C. constitutes bias voltage for R. F., 1st detector and I. F. Manual volume control adjusts grid bias of A. V. C. tube.	
Type of Second Detector	Power Grid Bias
Type of Tone Control	Variable Resistor and capacitor for reducing high frequency output of driver A. F. stage
Type of Rectifier	Mercury Vapor Full Wave RCA-82
Undistorted Output	7.0 Watts
Type of Microphone	Carbon Two Button
Type of Phonograph Motor	Induction Running at Synchronous Speed
Diameter of Turntable	12 Inches
Turntable Speed	33 $\frac{1}{3}$ and 78 R. P. M.
Type of Speed Reducer	Ball Bearing Giving Very Smooth Operation
Type of Pickup and Tone Arm	Low Impedance Pickup with Inertia Type Tone Arm

PHYSICAL SPECIFICATIONS

Height	43 Inches
Width	25 $\frac{7}{8}$ Inches
Depth	15 $\frac{1}{4}$ Inches
Weight Alone	113 Pounds
Weight Packed for Shipment	158 Pounds

RCA Victor Radiola Electrola RE-81 is a ten tube Super-Heterodyne phonograph combination instrument using the chassis of Model R-76 and R-77. Features such as Class "B" output stage, tone chambers for eliminating cabinet resonance, automatic volume control, continuously variable tone control, ball bearing speed reducer for two-speed turntable operation and the sensitivity, selectivity and tone quality of RCA Victor receivers are included in Model RE-81. Also an improved type of home recording is incorporated in this model.

A reference to Service Notes of Models R-74, R-76 and R-77 will give the details of any service information necessary for Model RE-81. Figures 1, 2 and 3 show the schematic, wiring and assembly diagrams respectively.

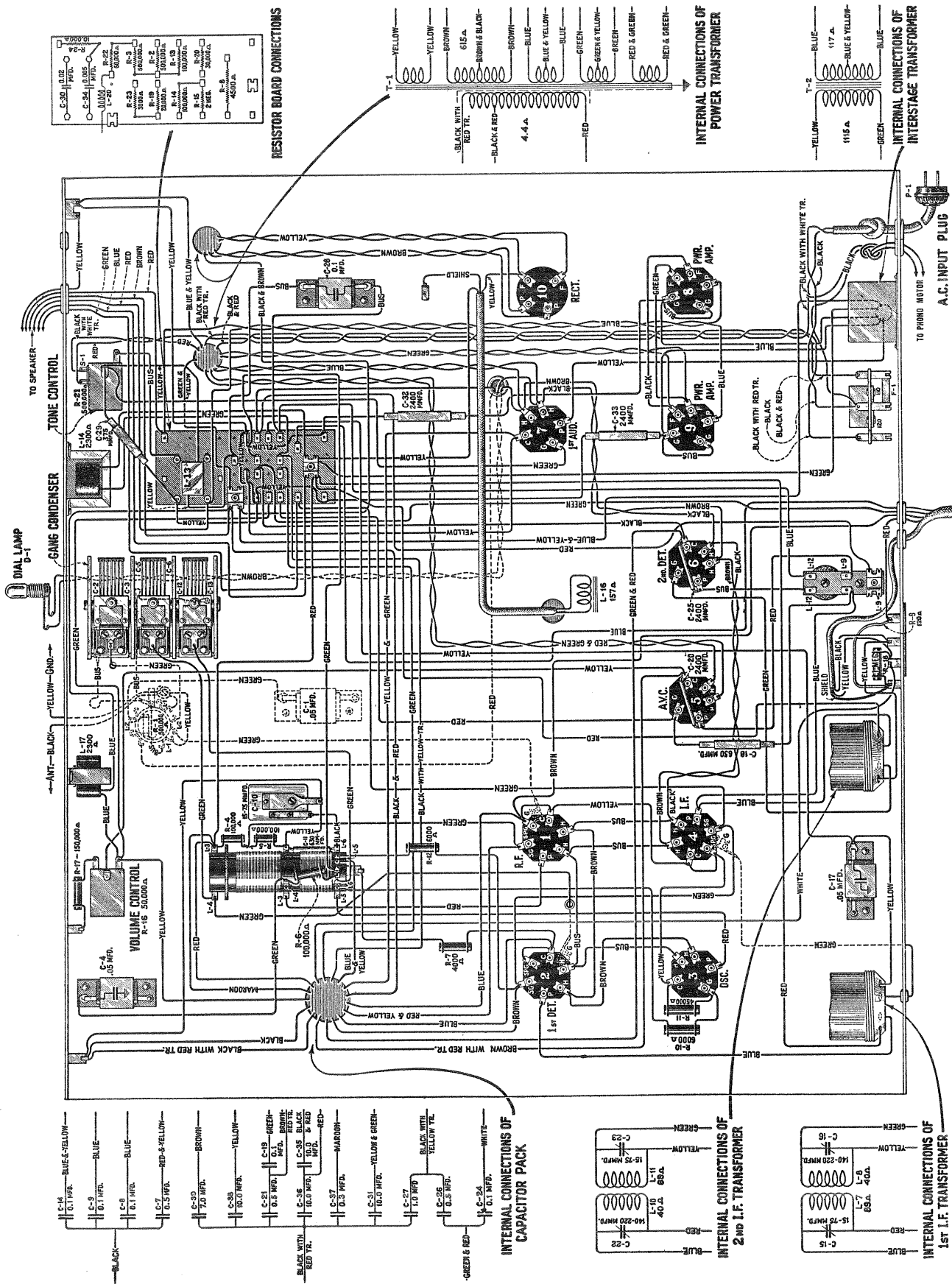
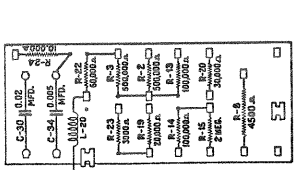
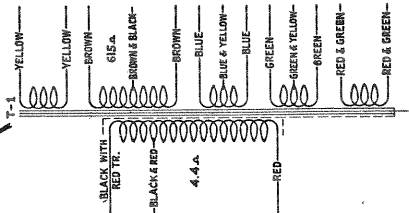


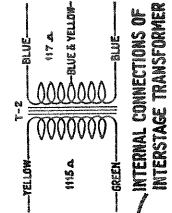
Figure 2—Wiring Diagram of RE-81 Receiver Assembly



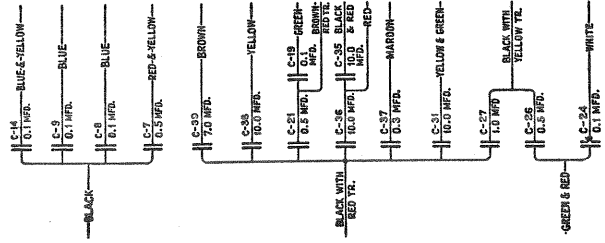
RESISTOR BOARD CONNECTIONS



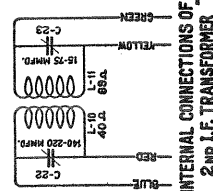
INTERNAL CONNECTIONS OF POWER TRANSFORMER



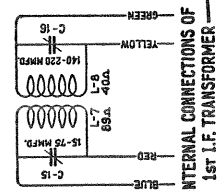
INTERNAL CONNECTIONS OF INTERSTAGE TRANSFORMER



INTERNAL CONNECTIONS OF CAPACITOR PACK



INTERNAL CONNECTIONS OF 2ND I.F. TRANSFORMER



INTERNAL CONNECTIONS OF 1ST I.F. TRANSFORMER

RCA Victor RE-81

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					
2725	Fuse — 1.5 ampere — Cartridge type fuse—Package of 5.....	\$0.40	6315	Resistor—45,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	\$1.00
2731	Resistor—10,000 ohms—Carbon type resistor—1 watt—Package of 5.....	1.10	6317	Capacitor—0.05 mfd. capacitor.....	.40
2746	Socket—Dial lamp socket.....	.20	6322	Volume control—Complete with mounting nut.....	1.25
2747	Cap—Contact cap—Package of 5.....	.50	6323	Shaft—Tuning condenser drive shaft with one flat washer and two "C" washers—Package of 2.....	.20
2749	Capacitor—2,400 mmfd. capacitor.....	.35	7054	Cord—Power cord.....	.60
3048	Resistor—500,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	7062	Capacitor—Adjustable tuning capacitor 15 to 70 mmfd.....	.50
3055	Cushion—Sponge rubber chassis cushion support—Package of 4.....	.30	7439	Drum—Dial drum with set screws and 3 dial mounting nuts.....	.35
3056	Shield—Radiotron tube shield—Package of 2.....	.40	7440	Scale—Dial and dial scale.....	.50
3076	Resistor—1 megohm—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	7484	Socket—UY type Radiotron socket—6 used.....	.35
3077	Resistor—30,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	7485	Socket—6-contact socket—4 used.....	.40
3099	Capacitor—0.005 mfd. capacitor.....	.50	7487	Shield—Radiotron tube shield—6 used—Plain finish.....	.25
3252	Resistor—100,000 ohms—Carbon type resistor— $\frac{1}{2}$ watt—Package of 5.....	1.00	7488	Shield—Tube shield top—1 used—Plain finish.....	.20
3358	Resistor—3,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	7501	Capacitor — 3-gang variable tuning capacitor complete with mounting screws and washers.....	4.20
3359	Resistor—120 ohms—Flexible wire type—Package of 5.....	1.00	7504	Coil—Detector and oscillator coil complete with mounting bracket.....	2.25
3360	Resistor—150,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	7510	Shield—Radiotron tube shield—6 used—Maroon finish.....	.30
3368	Socket—UX type Radiotron socket.....	.40	7511	Shield—Radiotron shield top—1 used—Maroon finish.....	.25
3369	Resistor—4,500 ohms—Porcelain type—20 watt.....	.85	7512	Reactor—Detector plate reactor.....	1.15
3370	Capacitor—0.02 mfd. capacitor.....	.35	7513	Capacitor pack—Comprising five 0.1 mfd., three 0.5 mfd., one 7.0 mfd., four 10.0 mfd., one 0.3 mfd., and one 1.0 mfd. capacitors in metal container.....	8.60
3372	Cover—Fuse cover.....	.40	7514	Transformer—1st intermediate frequency transformer.....	2.04
3373	Board—Terminal board—1 terminal and insulator.....	.40	7515	Transformer — 2nd intermediate frequency transformer.....	2.00
3374	Reactor—A. V. C. filter reactor.....	1.25	7517	Shield—Metal shield—Located under power transformer and Radiotron RCA-82.....	.30
3375	Reactor—Tone compensating reactor.....	1.00	7518	Reactor—Filter reactor.....	2.30
3376	Mounting board—Fuse mounting board complete with mounting screws and lock washers—Less fuse.....	.40	7519	Transformer—Audio input transformer.....	2.35
3377	Coil—Choke coil.....	1.00	7521	Reactor—Tone compensating reactor.....	1.10
3378	Capacitor — 375 mmfd. capacitor — Package of 5.....	1.50	7522	Tone control—Complete with mounting nut.....	1.30
3384	Capacitor—630 mmfd. oscillator series capacitor—Package of 5.....	1.50	7528	Cable—6 conductor shielded cable complete with terminal strip.....	1.20
6142	Resistor—6,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	8932	Transformer—Power transformer 105-125 volts—50-60 cycles.....	7.70
6186	Resistor—500,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	8933	Transformer—Power transformer 105-125 volts—25-50 cycles.....	9.45
6188	Resistor—2 megohm—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	9034	Transformer—Power transformer step-down—220-110 volts.....	4.00
6192	Spring—3-gang tuning capacitor drive cord tension spring—Package of 10.....	.30	REPRODUCER ASSEMBLIES		
6250	Resistor—4,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	3237	Screw assembly—Comprising 4 screws, 8 nuts, 4 washers, and 4 eyelets—Package of 1 set.....	.50
6277	Capacitor — 0.1 mfd. capacitor — Located on metal shield.....	.35	6184	Board—Terminal board with 3 terminals—Package of 5.....	.50
6282	Resistor—60,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	6334	Transformer—Output transformer.....	2.80
6288	Knob—Station selector, volume control or tone control knob—Package of 5.....	1.00	8920	Ring—Cone retaining ring.....	.35
6298	Cord—3-gang tuning capacitor drive cord—Package of 5.....	.60	8935	Cone — Reproducer cone complete — Package of 5.....	5.25
6302	Bracket—Dial lamp bracket and indicator—Package of 2.....	.32	9420	Coil assembly—Comprising field coil, cone bracket and magnet.....	4.64
6303	Resistor—20,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00			
6308	Coil—R. F. coil complete with mounting bracket.....	1.36			

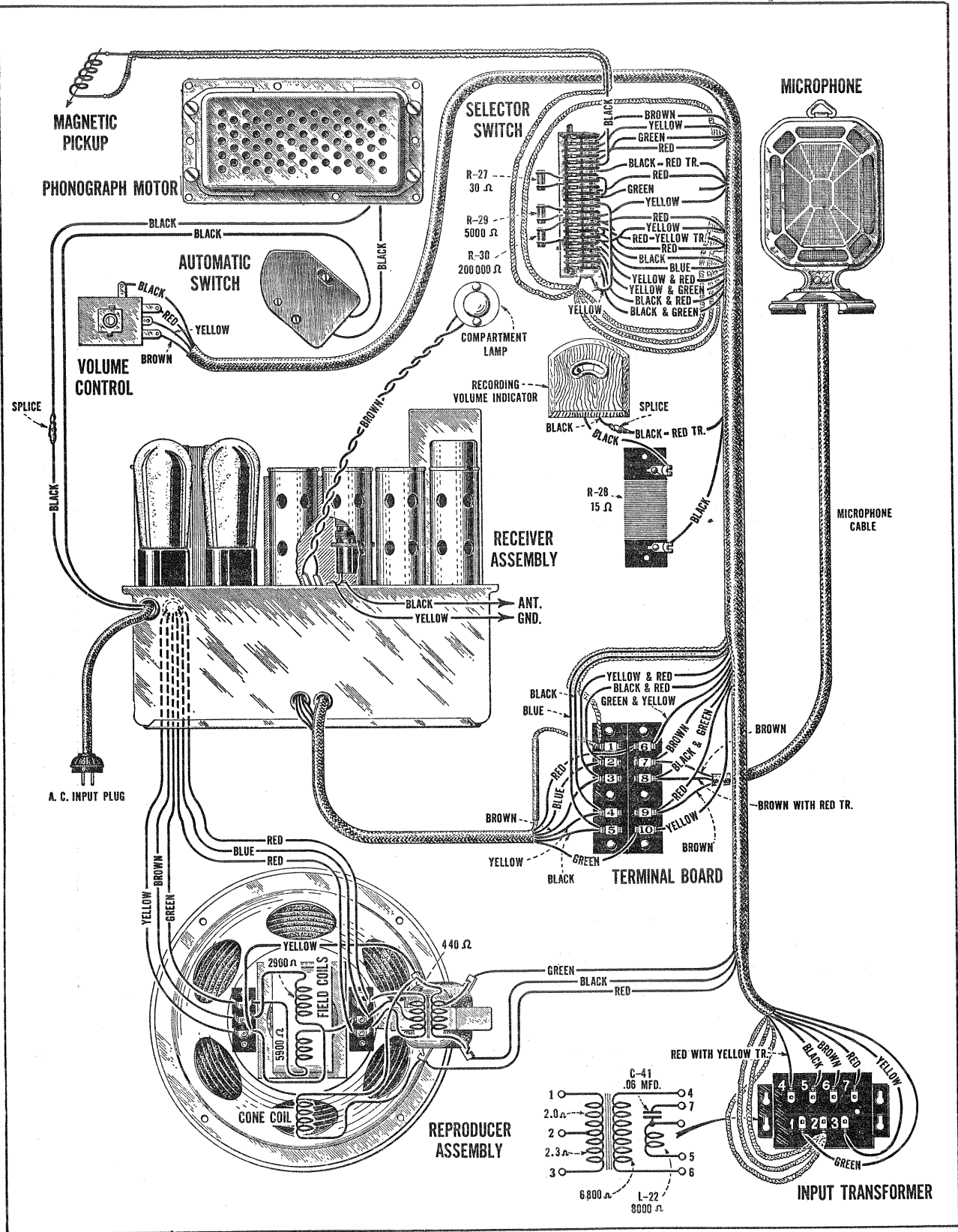


Figure 3—Assembly Wiring Diagram of RE-81

REPLACEMENT PARTS (Continued)

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
MOTOR BOARD ASSEMBLIES					
2779	Pointer—Selector switch pointer—Package of 10.....	\$0.50	3417	Armature—Pickup armature.....	\$0.72
2947	Leather—Friction leather—Package of 20.....	.50	3418	Cushions—Pickup rubber cushions—Comprising one damper and two spacer cushions and one damper bushing—Package of 5 sets.....	1.10
3021	Resistor—5,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5.....	1.00	3419	Screw—Pickup cover mounting screw—Package of 10.....	.40
3116	Resistor—200,000 ohms—Carbon type $\frac{1}{2}$ watt—Package of 5.....	1.00	6335	Pickup—Pickup unit complete.....	4.00
3322	Switch—Automatic brake switch with mounting screws.....	.75	6336	Weight—Home recording weight.....	1.20
3391	Suspension spring and washer assembly for motor board—Comprising 1 bolt, 1 top spring, 1 bottom spring, 1 "C" washer, 2 cup washers and 1 nut.....	.50	6346	Back—Pickup housing back.....	.45
3392	Spacer—Volume control spacer block.....	.35	6460	Housing—Microphone housing.....	2.42
3393	Spacer—Selector control switch spacer block.....	.30	7530	Arm—Pickup arm complete less escutcheon, pickup, pickup mounting screw, nut and washer.....	4.00
3394	Socket—Socket and base assembly—Less shade—For compartment lamp.....	.72	7532	Meter—Home recording volume indicator meter.....	2.50
3395	Shade—Compartment lamp shade.....	.36	7533	Mechanism—Microphone mechanism less housing.....	6.80
3396	Receptacle—Needle receptacle with mounting screws.....	.52	7534	Cord—Microphone cord.....	.70
3400	Resistor—30 ohms—Carbon type— $\frac{1}{4}$ watt—Package of 5.....	1.00	TURNTABLE ASSEMBLIES		
3430	Box—Needle box with lid—Package of 2.....	.90	3338	Ring—Clamp ring assembly—Comprising spring, latch lever and stud.....	.50
6288	Knob—Selector switch or volume control knob—Package of 5.....	1.00	3340	Washer—Thrust washer—Package of 2.....	.56
6337	Volume control—Complete with mounting nut.....	1.60	3341	Pin—Groove-Pin—Package of 2.....	.56
6338	Switch—Selector control switch complete—Less knob.....	5.00	3342	Spring—Latch spring—Located on clamping ring—Package of 2.....	.56
6339	Escutcheon—Selector switch escutcheon.....	.90	3343	Sleeve—Sleeve complete with ball race.....	2.86
7529	Transformer pack—Comprising phonograph input transformer, reactor and capacitor assembly.....	4.50	3344	Cover—Grease retainer cover—Package of 2.....	.70
7531	Cable—Selector switch, volume control, terminal strip, volume indicator meter phonograph input transformer and reproducer output transformer connecting cable.....	1.50	3346	Bushing—Speed shifter lever bushing—Package of 4.....	.66
10174	Springs—Automatic brake springs—One set of 4 springs—Package of 2 sets.....	.50	3347	Spring—Speed shifter lever spring—Package of 2.....	.30
10184	Plate—Automatic brake latch trip plate with mounting screws—Package of 5.....	.40	3399	Lever—Speed shifter lever with mounting screws.....	.50
PICKUP, PICKUP ARM, MICROPHONE AND VOLUME INDICATOR ASSEMBLIES					
3216	Cushion—Microphone rubber cushions—Package of 6.....	.24	7084	Cover—Suede cover for turntable.....	.40
3385	Coil—Pickup coil.....	.50	8948	Turntable—Complete.....	5.50
3386	Cover—Pickup cover.....	.56	MOTOR ASSEMBLIES		
3387	Screw assembly—Pickup mounting screw assembly comprising one screw, one nut and one washer—Package of 10.....	.40	3261	Bushing—Rubber bushing used on turntable spindle for long-playing Records—Package of 5.....	.40
3388	Screw—Pickup needle holding screw—Package of 10.....	.60	3398	Motor mounting washer assembly—Comprising 2 cup washers, 4 springs and 1 "C" washer—Package of 1 set.....	.48
3389	Rod—Automatic brake trip rod with lock nut—Package of 5.....	.40	8939	Motor—Motor complete 105-125 volts—60 cycle.....	15.92
3390	Escutcheon—Pickup arm escutcheon complete with mounting rivets.....	.46	8940	Motor—Motor complete 105-125 volts—50 cycle.....	20.20
3397	Resistor—15 ohm—Flat type—Volume indicator meter series resistor.....	.52	8941	Motor—Motor complete 105-125 volts—25 cycle.....	24.64
			8942	Rotor and shaft for 105-125 volts, 60 cycle motor.....	9.00
			8943	Rotor and shaft for 105-125 volts, 50 cycle motor.....	7.00
			8944	Rotor and shaft for 105-125 volts, 25 cycle motor.....	9.00
			8945	Spindle—Turntable spindle with fibre gear for 60 cycle motor.....	4.68
			8946	Spindle—Turntable spindle with fibre gear for 50 cycle motor.....	4.68
			8947	Spindle—Turntable spindle with fibre gear for 25 cycle motor.....	4.68



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