

# EDISON RADIO SERVICE MANUAL

— Comprising —

DIAGRAMS AND COMPREHENSIVE DATA  
WHICH WILL BE FOUND USEFUL IN THE  
INSTALLATION, ADJUSTMENT AND RE-  
PAIR OF "JR", "JC" AND "SC" CHASSIS AND  
ACCESSORY EQUIPMENT, AS EMPLOYED  
IN EDISON RADIO RECEIVERS OF THE  
FOLLOWING MODELS:

R-1 — R-2 — C-2 and C-1

Price, \$1.50

TRADE MARK

Thomas A Edison

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THOMAS A. EDISON, INC.

ORANGE, N. J.

## DESCRIPTION OF CIRCUIT

*By CHARLES T. JACOBS,  
Research Engineering Department.*

The Edison radio receivers, Models R-1, R-2 and C-2, each consist of a three stage radio frequency amplifier, detector, two stage audio amplifier and dynamic loud speaker, and A. C. operated power supply for the entire receiver.

The radio frequency amplifier employs 226 tubes; is stabilized by means of grid suppressors; employs conventional type inter-stage couplings, consisting of shielded R. F. transformers whose secondaries are tuned by .00035 mfd variable condensers; and is coupled to the antenna by a circuit similar to the inter-stage couplings, but with the addition of two antenna series capacities, the use of either of which is optional.

The detector is a 227 tube. The coupling to it of the last R. F. stage is similar to the inter-stage R. F. couplings.

Volume control is effected by two variable resistances simultaneously operated, the first shunting the primary of the second R. F. stage input transformer and the second shunting the primary of the detector input R. F. transformer. By a switching arrangement the second may be made to function as a detector regeneration control instead of as a volume control, it becoming a potentiometer, to the movable contact of which is fed a portion of the R. F. output of the detector. The function of the first volume control remains unaltered, however, and affords reduction of volume as regeneration is reduced to a negligible value.

The audio amplifier employs a 226 tube in the first stage and a 250 in the second. Coupling from the detector to the first stage and between the first and second stages is accomplished by audio transformers of high primary impedance, the first having a tapped primary impedance matched for use of the audio amplifier and speaker in conjunction with Edison electrical phonograph pickup. The loud-speaker is of the dynamic type, with single turn voice coil.

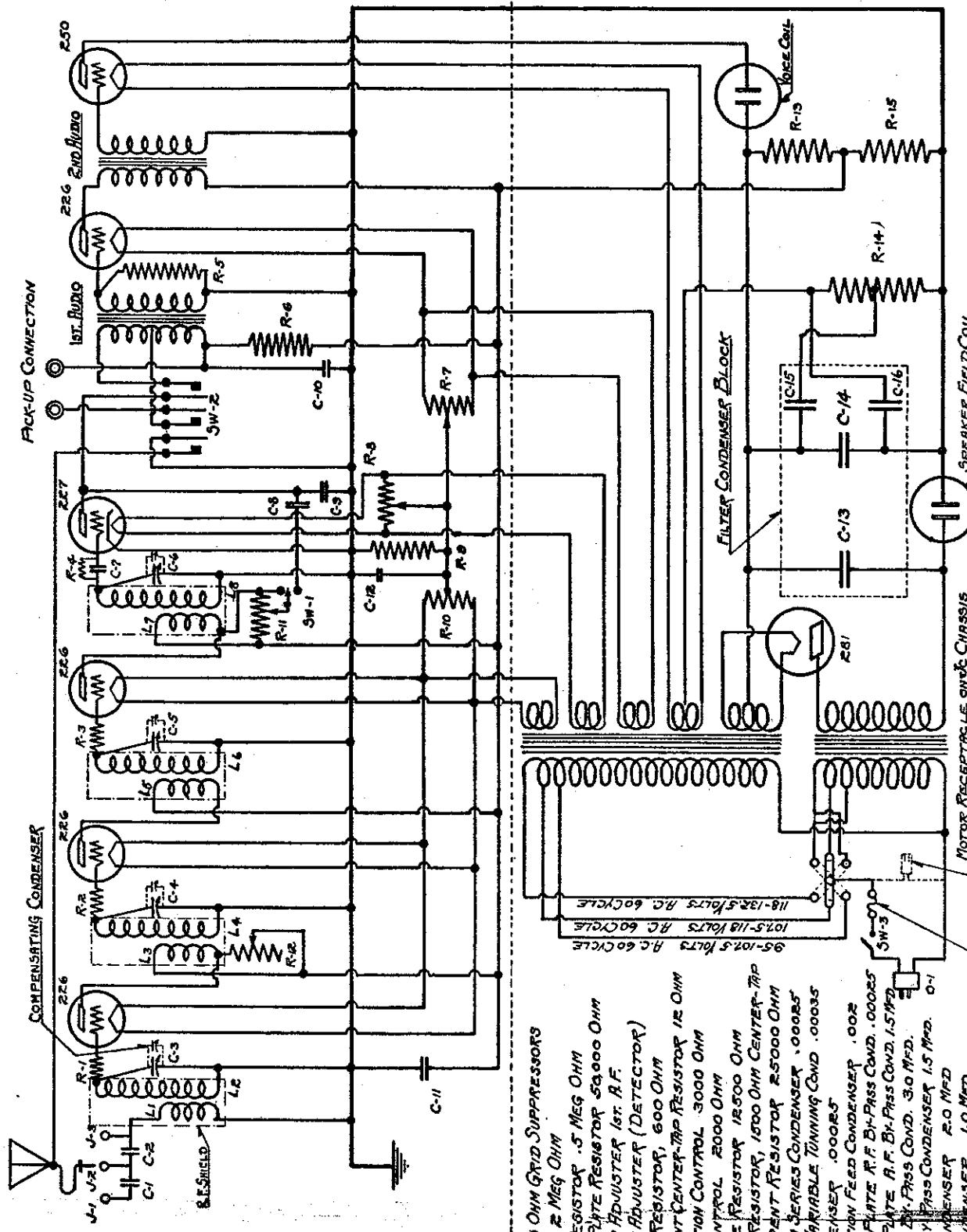
The power supply for plate current and dynamic speaker field excitation consists of a half wave rectifier system, employing a 281 tube, power transformer and appropriate condensers and resistors. The power supply for all tube filaments (and for heater of the 227) is alternating current, obtained from the several secondaries of a separate power transformer.

The plate voltages for the R. F. and first audio tubes are cut down from that of the 250 by a suitable resistor; and that for the detector is cut down from that of the last mentioned tubes by another resistor. These resistors, in association with by-pass condensers from their low potential ends to ground, have an extensive filtering effect.

The plate current of the 250 is applied across a resistor to furnish bias for this tube. The combined plate currents of the three R. F. tubes and the first audio tube are applied across another resistor to furnish bias for these tubes.

The dynamic speaker field is used as the only choke in the filter supply.

The 250 plate current contains an appreciable ripple, which is largely neutralized by the application of some of this ripple across a portion of the biasing resistor for this tube, thus causing the grid voltage to vary and produce an effect opposite that of the ripple in the plate current.



**SCHEMATIC DIAGRAM**  
**EDISON RADIO FOR MODELS JR, R2 + C2**  
**CHASSIS JR + JC**

TRADE MARK  
*Thomas Al Edison*

## POWER SUPPLY UNIT

### EXPLANATION OF MIESSNER CIRCUIT EMPLOYED IN POWER SUPPLY UNIT

In the power circuit of the Edison Models R-1, R-2 and C-2, which employ the JR and JC chassis, a plate supply transformer yielding approximately 640 volts, r. m. s., under load is used. This output is rectified by a 281 tube and applied across C-13 (see the schematic diagram of the receiver), which is a 2 mfd. condenser. The voltage taken off across this condenser contains, superimposed on the D. C., a ripple voltage of almost 100 volts, principally 60 cycles. This output passes through the field coil of the dynamic speaker, which is thus supplied with D. C. plus a large A. C. component. This A. C. component has no appreciable effect on the operation of the speaker except to such extent as it produces a ripple in the voice coil circuit by transformer action between the field and voice coils. This effect is reduced to a very low value by the use of a "shading ring" of thick copper, interposed within the speaker casting, between the field coil and the plane of the voice coil.

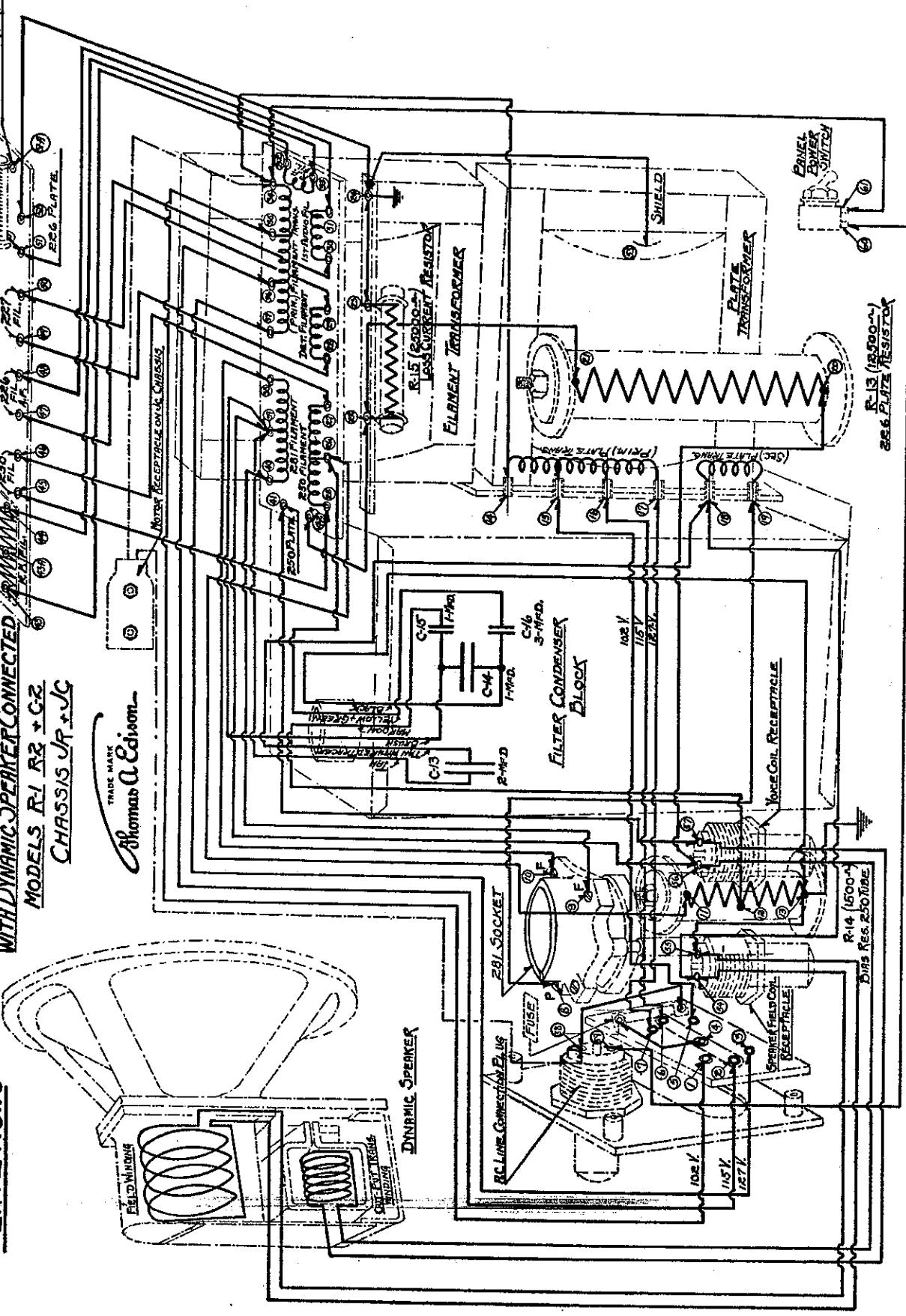
The filtration of the B and C supply for the 250 consists of a single stage filter formed by C-13, the speaker field coil, and C-14 (a 1 mfd. condenser). The ripple in the 250 B and C current remaining after this filtration is further reduced by an application of the Miesner circuit, as follows:

C-15, a 1 mfd. condenser, is placed between the positive of the B supply and the center of the 250 bias resistor. Thus C-15, in series with a parallel circuit, is connected across C-14. The two branches of this parallel circuit are, first, the 750 ohms comprising the lower half of R-14, and secondly, the 750 ohms comprising the upper half of R-14 in series with C-16 (3 mfds.). An analysis of the A. C. voltage drops in C-15, in the two halves of R-14, and C-16, having regard for instantaneous current directions, shows that across the entire R-14 there will appear approximately .2 of the ripple voltage present across C-14; approximately .9 of the ripple voltage across C-14 is applied across the external and internal plate circuits of the 250. Thus, there is introduced in the grid circuit of the tube a ripple voltage approximately two-ninths of that impressed across the external and internal plate circuits. Except for the phase displacement due to the capacities in the circuit C-15, R-14, C-16, the phase relations of the grid and plate current ripples are such as to cancel out the ripple in the plate current. Further, if this displacement were not present, the ratio of amplitude of the ripples for exact balance would be equal to the MU of the 250 tube, or 3.8:1. Because of the displacement which is present, however, balancing of ripple has been found superior with a slightly reduced amplitude in the grid circuit with relation to the plate circuit—i. e., with a ratio of about 4.5:1, as mentioned above.

The plate currents of the 226 tubes receive a far higher degree of filtration than the 250, due to R-13 (12,500 ohms) and C-11 (3 mfds.); and the plate current of the detector is still further filtered through R-6 (50,000 ohms) and C-10 (1.5 mfds.).

## PLATE No. 2

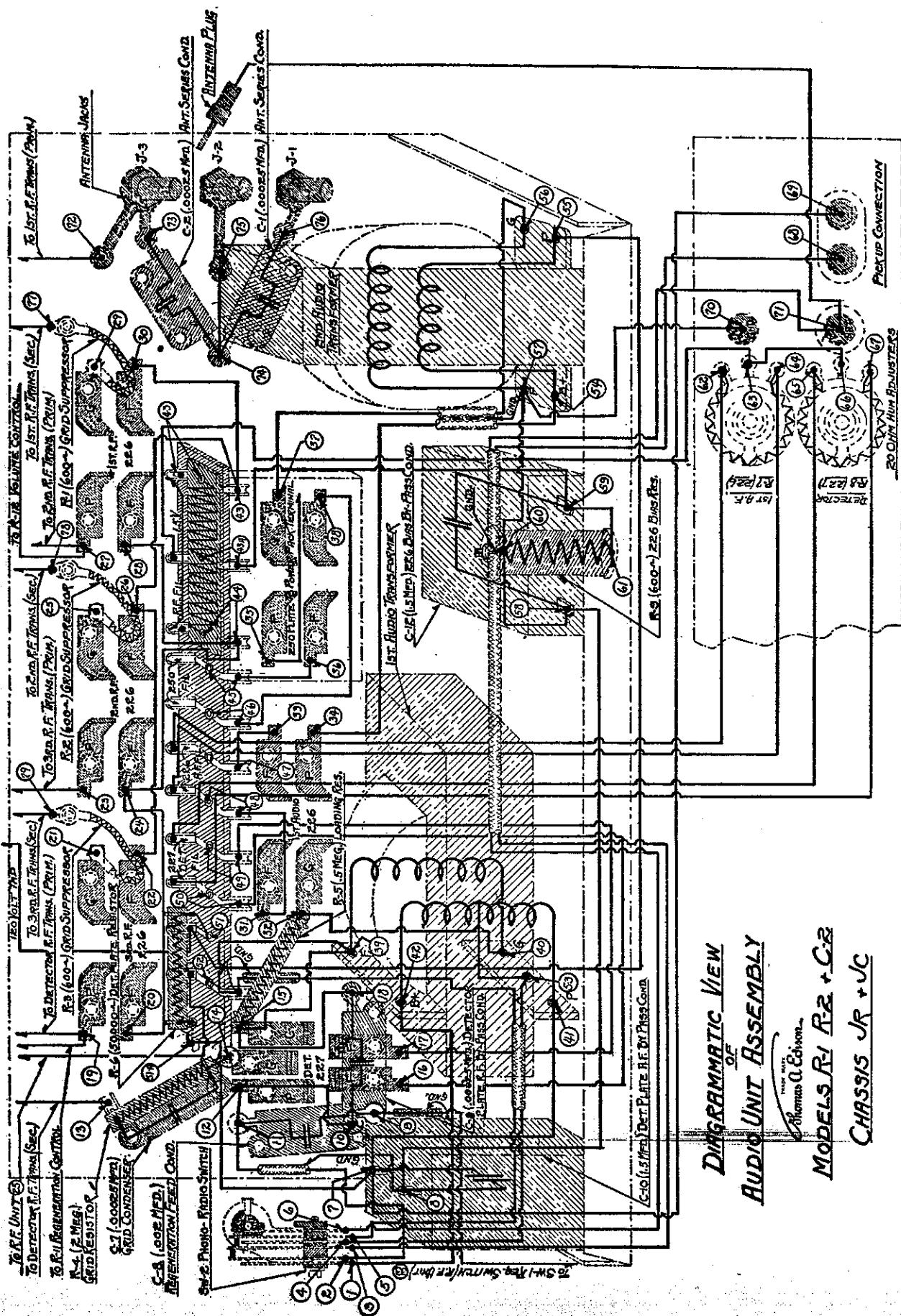
### Diagrammatic View of Power Pack With Dynamic Speaker Connected Models R-1 R-2 + C-2 Chassis JP + JC



**TEST CHART No. 1**  
**TO ACCOMPANY PLATE No. 2**  
**DESIGNATING CONTINUITY TESTS ON POWER UNIT PARTS**

EDISON RADIO SERVICE MANUAL

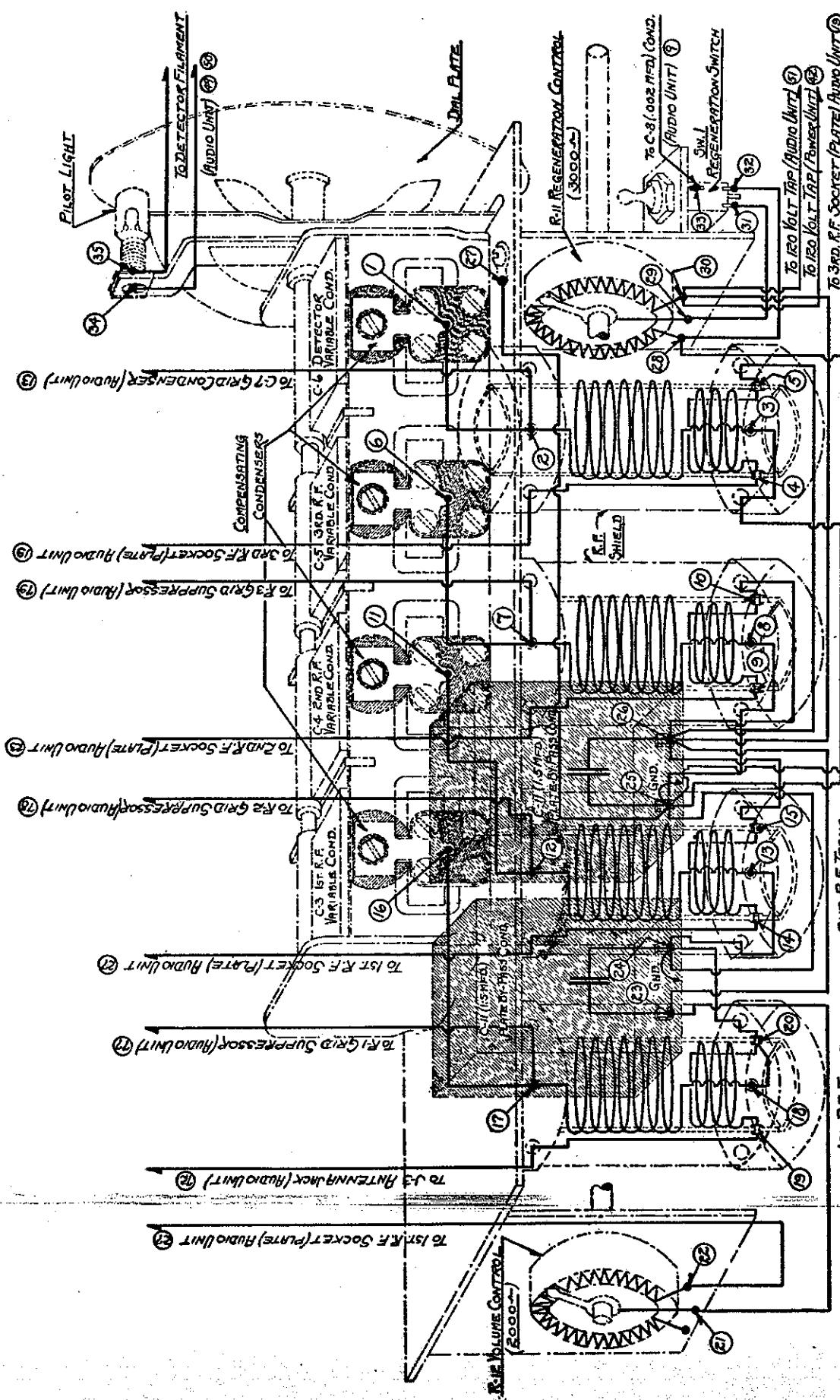
CIRCUIT BEING TESTED	TEST FROM	TEST TO	CORRECT READING	WRONG READING INDICATES	REMARKS
<b>TRANSFORMERS</b>					
<i>Before making the following tests remove Line Plug, Speaker Plugs and Tubes.</i>					
Primary Filament Transformer	58	59	Full	Open Primary Filament Transformer	Insert insulating paper between line switch blade and Contact Point at No. 6 and turn Panel Power Switch on.
Primary Plate Transformer	58	59	Full	Open Primary Plate Transformer.	Insert insulating paper between line switch blade and Contact Point at No. 2 and turn Panel Power Switch on.
Primary to Core and Ground	58	Frame	Nil	Grounded Lug at Points 5, 6, 7 on line switch panel.	If this condition exists "high" side of line becomes grounded through and burns out antenna primary coil, if ground is connected to antenna post.
R. F. Filament Winding	32	33	Full	Open Winding.	Remove wire from 32 or from 33, otherwise test current will flow through hum adjuster.
1st A. F. Filament Winding	30	31	Full	Open Winding.	Remove wire from 30 or from 31, otherwise test current will flow through hum adjuster.
Det. Filament Winding	28	29	Full	Open Winding.	Remove wire from 28 or from 29, otherwise test current will flow through hum adjuster.
250 Filament Winding	25	26	Full	Open Winding.	Use three points testing each half of winding.
26	27	Full	Open Winding.		
281 Filament Winding	38	39	Full	Open Winding.	Use three points testing each half of winding.
39	40	Full	Open Winding.		
281 Filament Leads	9	10	Full	Open Winding or Open Leads.	NOTE : With all leads disconnected from filament transformer terminal board no reading should be obtained when test is made from any terminal to core or ground.
Sec. Winding Plate Transformer	18	19	Partial	Open Winding (Result: No Plate from No. 8 Plate of 281, to No. 54, speaker plug receptacle)	This test can be made without removal of power unit, testing from No. 8 Plate of 281, to No. 54, speaker plug receptacle.
<b>FILTER CONDENSER</b>					
C-13	18	39	Momentary Deflection	Full reading reveals short.	No meter deflection indicates open condenser. If test doubtful, reverse prods for second test. Slight meter deflection indicates condenser takes charge and is O. K.
C-14	Lead	Frame	"	Full reading reveals short.	To make test, remove interconnecting lead which joins C-14 and C-15 to No. 39, as well as wire from point 12.
C-15	Lead	13	"	Full reading reveals short.	To make test, remove interconnecting lead which joins C-14 and C-15 to No. 39, as well as wires from points 12 and 26.
C-16	Lead	Frame	"	Full reading reveals short.	To make test, remove interconnecting lead which joins C-16 to 250 Center tap on terminal board.
<b>RESISTORS</b>					
R-13	20	21	Partial	Open Resistor Winding.	
R-15	22	23	Partial	Open Resistor Winding.	Disconnect lead from point 22.
R-14	$\left\{ \begin{array}{l} 11 \\ 12 \\ 13 \end{array} \right\}$		Partial	Open Resistor Winding.	(Test must be made from each end terminal to center tap terminal.) Condensers C-14, 15, 16 must test O. K.
<b>MISCELLANEOUS</b>					
Field Plug Receptacle	54	55	Nil	Shorted Plug.	Partial reading indicates insulation breakdown, which causes hum. (This condition sometimes results when speaker plugs are removed without throwing line switch to "OFF" position, causing weak volume and noisy reception.)
Voice Coil Receptacle	56	57	Nil	Shorted Plug.	Disconnect lead No. 57. Partial reading indicates insulation breakdown. (This condition sometimes results when speaker plugs are removed without throwing line switch to "OFF" position, causing weak volume and noisy reception.)



## EDISON RADIO SERVICE MANUAL

**TEST CHART No. 2**  
**TO ACCOMPANY PLATE No. 3**  
**DESIGNATING CONTINUITY TESTS ON AUDIO FREQUENCY UNIT PARTS**

CIRCUIT BEING TESTED	TEST FROM	TEST TO	SCALE READING	WRONG READING INDICATES	REMARKS
<b>TRANSFORMERS</b>					
Primary 1st A. F.	1	4	Partial	Open Half Primary or open leads.	Points 1 and 4 are Phonograph-Radio Switch Blades.
Primary 1st A. F.	4	67	Partial	Open Half Primary or open leads.	This test includes full primary winding.
Primary 1st A. F.	1	67	Partial	Open Half Primary or open leads.	{ R-5 Loading Resistor is shunted across the secondary winding, it is therefore necessary to unsolder resistor at point 15.
Secondary 1st A. F.	32	15	Partial	Open Secondary or open leads.	
Primary 2nd A. F.	54	55	Partial	Open Primary or open leads.	
Secondary 2nd A. F.	56	57	Partial	Open Secondary or open leads.	
<b>CONDENSERS</b>					
C-10 By-pass	7	8	Deflection	Constant reading indicates short.	Unsolder wires from point No. 8.
C-10 By-pass	Frame	7	Nil	Constant reading indicates grounded lug.	No reading indicates open condenser.
C-10 By-pass	Frame	8	Nil	Constant reading indicates grounded lug.	No reading indicates no short to case.
C-12 By-pass	58	59	Deflection	Full reading indicates short.	{ Unsolder wires from point No. 58.
C-12 By-pass	Frame	58	Nil	Full reading indicates grounded lug.	No reading indicates no short to case.
C-12 By-pass	Frame	59	Nil	Full reading indicates grounded lug.	No reading indicates open condenser.
C-8 Reg. Cond.	11	9	Nil	Full reading indicates short.	{ Test in series with 1.5 mfd. external cond. with Reg. Switch Off.
C-7 Grid Cond.	13	14	Nil	Full reading indicates short.	{ No deflection on meter indicates cond. open.
C-9 By-pass	12	18	Nil	Full reading indicates short.	No deflection on meter indicates cond. open.
C-1 Ant. Cond.	73	74	Nil	Full reading indicates short.	No deflection on meter indicates cond. open.
C-2 Ant. Cond.	74	76	Nil	Full reading indicates short.	No deflection on meter indicates cond. open.
<b>RESISTANCES</b>					
R-1 Grid Sup.	Stator	29	Partial	No reading indicates open resistor.	
R-2 Grid Sup.	Stator	25	Partial	No reading indicates open resistor.	
R-3 Grid Sup.	Stator	21	Partial	No reading indicates open resistor.	
R-6 Det. Plate	69	55	Partial	No reading indicates open resistor.	
R-5 Loading Res.	32	Frame	Deflection	No reading indicates open resistor.	Disconnect from point No. 15. Test from resistor to point No. 32.
R-4 Grid Leak	13	14	Nil	No reading indicates open resistor.	
R-9 Bias Res. 226	Frame	61	Partial	No reading indicates open resistor.	
R-7 Hum Adjuster	62	63	Full	No reading indicates open resistor.	
R-7 Hum Adjuster	62	64	Full	No reading indicates open resistor.	
R-8 Hum Adjuster	65	66	Full	No reading indicates open resistor.	
R-8 Hum Adjuster	65	67	Full	No reading indicates open resistor.	
R-10 Hum Adjuster	43	43A	Full	No reading indicates open resistor.	
R-10 Hum Adjuster	43	44	Full	No reading indicates open resistor.	
<b>MISCELLANEOUS</b>					
Radio Phono Switch	3	4	Full	No reading indicates open contact.	Test with switch in phonograph position.
Radio Phono Switch	5	6	Full	No reading indicates open contact.	Test with switch in phonograph position.
Radio Phono Switch	1	2	Nil	Full reading indicates contact.	Test with switch in phonograph position.
Radio Phono Switch	1	2	Full	No reading indicates open contact.	Test with switch in radio position.
Radio Phono Switch	3	4	Nil	Full reading indicates contact.	Test with switch in radio position.
Radio Phono Switch	5	6	Nil	Full reading indicates contact.	Test with switch in radio position.



*Patent No. 2,080,616*  
Model S R1 R2 + C2

DETECTOR  
R.F. TRANS.

To Ground Bus (Power Unit) ⑤  
To Ground Bus (Power Unit) ⑥

**NOTE:-** C11 3 MFD CONDENSER  
PLATE BY-PASS CONDENSER COMPOSED  
OF TWO 1.5 MFD. CONDENSERS IN PARALLEL

**TEST CHART No. 3**  
**TO ACCOMPANY PLATE NUMBER 4**  
**DESIGNATING CONTINUITY TESTS ON RADIO FREQUENCY UNIT PARTS**

CIRCUIT BEING TESTED	TEST FROM	TEST TO	SCALE READING	WRONG READING INDICATES	REMARKS
<b>RESISTANCES</b>					
R-11 Reg. Control	28	30	Partial Partial to Full	No reading indicates open res. No reading indicates open res. No reading indicates open res.	NOTE:—Unsolder leads from terminal No. 30. Rotate volume control for even variation. Rotate volume control for even variation. No reading first half revolution.
R-11 Reg. Control	28	29	Nil to Full		
R-12 Vol. Control	21	22	Nil to Full		
<b>COILS</b>					
Primary 1 R. F.	19	20	Full	No reading indicates open primary	Unsolder wires from 1, 6, 11, 16. Reading may also be obtained from J-3 Ant. Jack lead to frame.
Secondary 1 R. F.	17	18	Full	No reading indicates open secondary.	Reading may also be obtained from R-1 grid suppressor to frame.
Primary 2 R. F.	14	15	Full	No reading indicates open primary	Disconnect wire from No. 22 terminal vol. control.
Secondary 2 R. F.	12	13	Full	No reading indicates open secondary.	Reading may also be obtained from 1 R. F. plate lead to No. 26 terminal By-pass condenser C-11.
Primary 3 R. F.	9	10	Full	No reading indicates open primary	Reading may also be obtained from R-2 grid suppressor to frame.
Secondary 3 R. F.	7	8	Full	No reading indicates open secondary.	Reading may also be obtained from R-3 grid suppressor to frame.
Primary Det. R. F. Coil	4	5	Full	No reading or partial reading indicates open primary.	Reg. Switch in distance position. Reading may also be obtained from 3 R. F. plate lead to No. 26 terminal By-pass condenser C-11.
Secondary Det. R. F. Coil	2	3	Full	No reading indicates open secondary.	Reading may also be obtained from C-7 grid cond. to frame.
<b>CONDENSERS</b>					
C-11 By-pass Cond.	23	24	Deflection Deflection	Full reading indicates short	Unsolder wires from points 24 and 25.
C-11 By-pass Cond.	25	26	Nil	Full reading indicates short	No deflection indicates open condenser.
C-11 By-pass Cond.	Frame	23	Nil	Full reading indicates short to case	No deflection indicates open condenser.
C-11 By-pass Cond.	Frame	24	Nil	Full reading indicates short to case	No deflection indicates condenser O. K.
C-11 By-pass Cond.	Frame	25	Nil	Full reading indicates short to case	No deflection indicates condenser O. K.
C-11 By-pass Cond.	Frame	26	Nil	Full reading indicates short to case	No deflection indicates condenser O. K.
C-3, C-4, C-5, C-6 Variable Gang Cond.	Stator	Rotor	Nil	Full reading indicates short	Unsolder wires from 1, 6, 11, 16. Rotate condenser rotors as test is made.
Compensating Condensers	Rotor	Comp.	Nil	Full reading indicates short	Test comp. cond. for short to frame at any setting.

SCHEMATIC DIAGRAM  
Edison Radio Model C-1

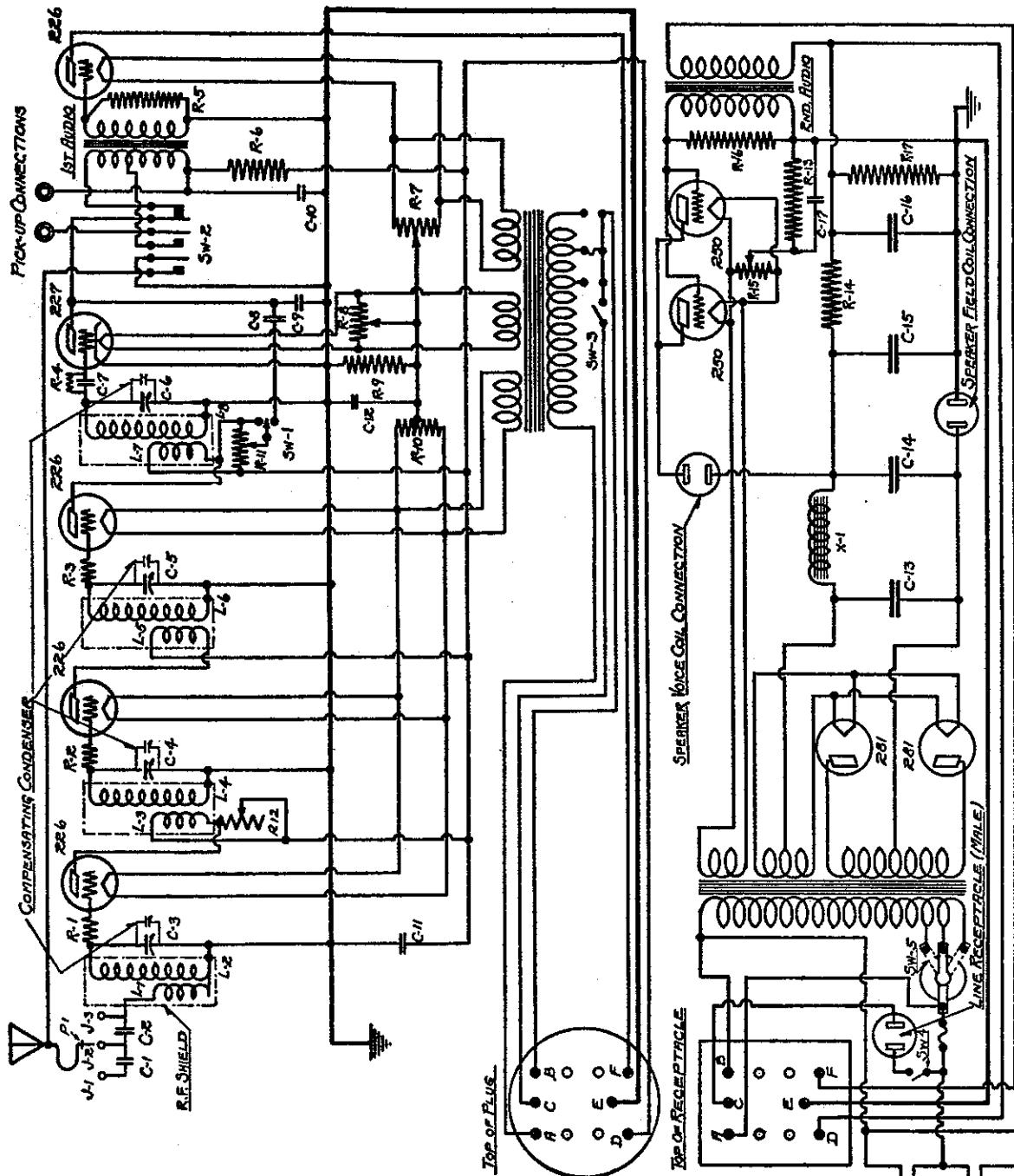
CHASSIS A Edison

TRADE MARK

Thomas A Edison

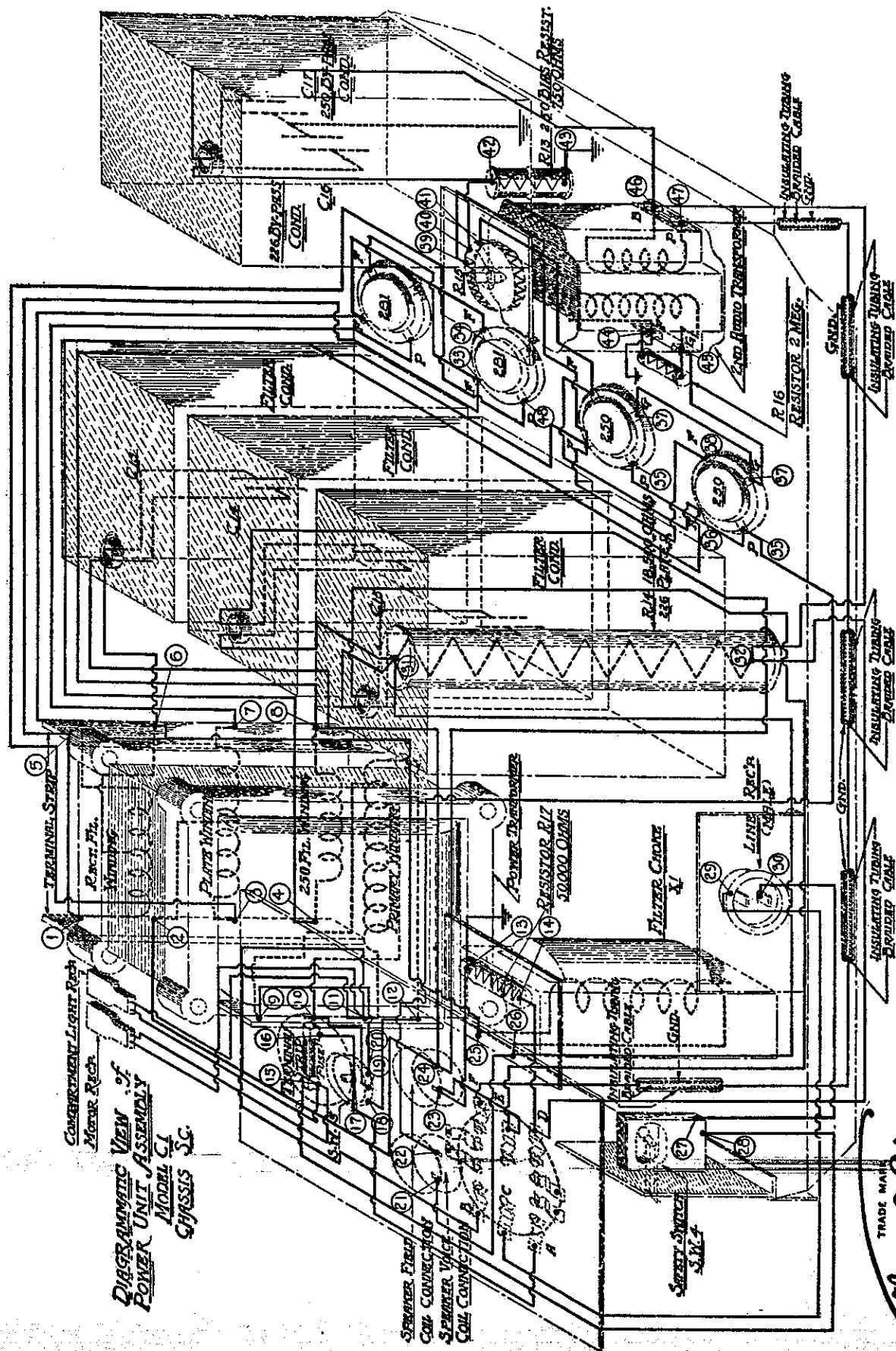
R-1 R.F. DETECTOR GRID LEAK 2-MEG OHM  
R-2 LOADING RESISTOR 5-MEG OHM  
R-3 DETECTOR PLATE RESISTOR 5000 OHM  
R-4 200 HUM BALANCER 100 K.C.  
R-5 200 HUM BALANCER (DETECTIVE)  
R-6 226 Bias Resistor 600 OHM  
R-7 FILAMENT CENTER TUBE RESISTOR 12 OHM  
R-8 VOLUME CONTROL 2000 OHM  
R-9 TUBE GENERATOR CONTROL 3000 OHM  
R-10 250 PLATE RESISTOR 18,500 OHM  
R-11 250 PLATE RESISTOR 20,000 OHM  
R-12 250 HUM BALANCER 50 OHM  
R-13 LOADING RESISTOR 2-MEG  
C-1 CATHODE BY-PASS CAPACITOR .00005  
C-2 ANTENNA SERIES CAPACITOR .00005  
C-3 C-4-C-5-C-6 VARIABLE TUNING CAPACITOR .00005  
C-7 GRID CAPACITOR .00005  
C-8 RECEIVER TUNING FEED CAPACITOR .0005  
C-9 DETECTOR PLATE R.F. BY-PASS .0005  
C-10 FILTER CAPACITOR .0005  
C-11 PLATE BY-PASS 1.5 MFD  
C-12 226 BY-PASS 1.5 MFD  
C-13 FILTER CAPACITOR 2.5 MFD  
C-14 FILTER CAPACITOR 2.5 MFD  
C-15 FILTER CAPACITOR AS NEEDED  
C-16 226 R.F. BY-PASS CAPACITOR .00005  
C-17 250 BY-PASS CAPACITOR .00005  
J-1 J-2-J-3 ANTENNA JACKS  
SW-1 REGISTRATION SWITCH  
SW-2 RADIO-RADIO SWITCH  
SW-3 ON-OFF SWITCH  
SW-4 SAFETY SWITCH  
SW-5 LINE VOLTMETER CONTROL  
X-1 FILTER CHOKES 250 OHM  
R-17 50,000 OHM LOAD CURRENT RES.

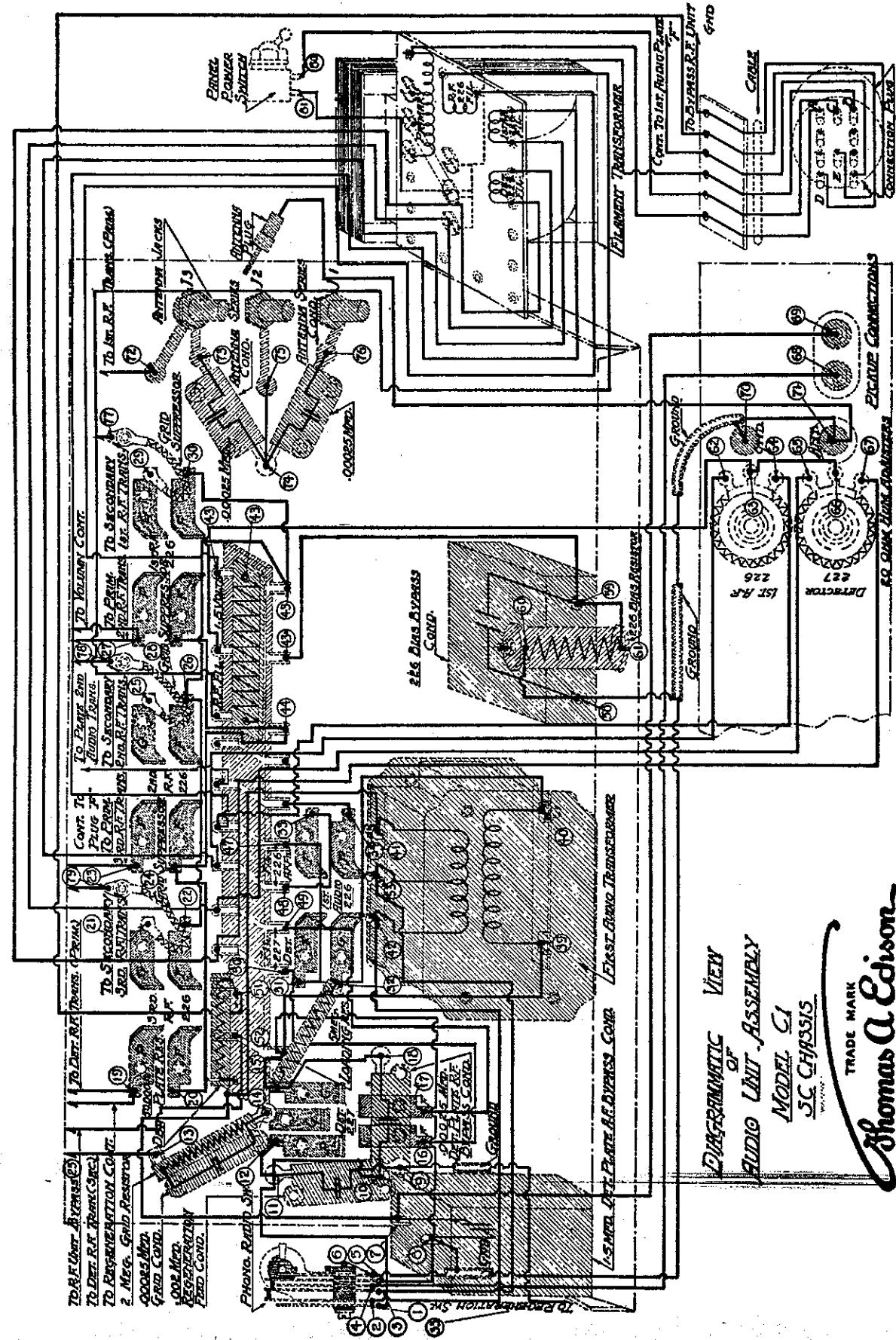
MOTOR RECTIFIER  
COMPARTMENT LIGHT RECEPTACLE

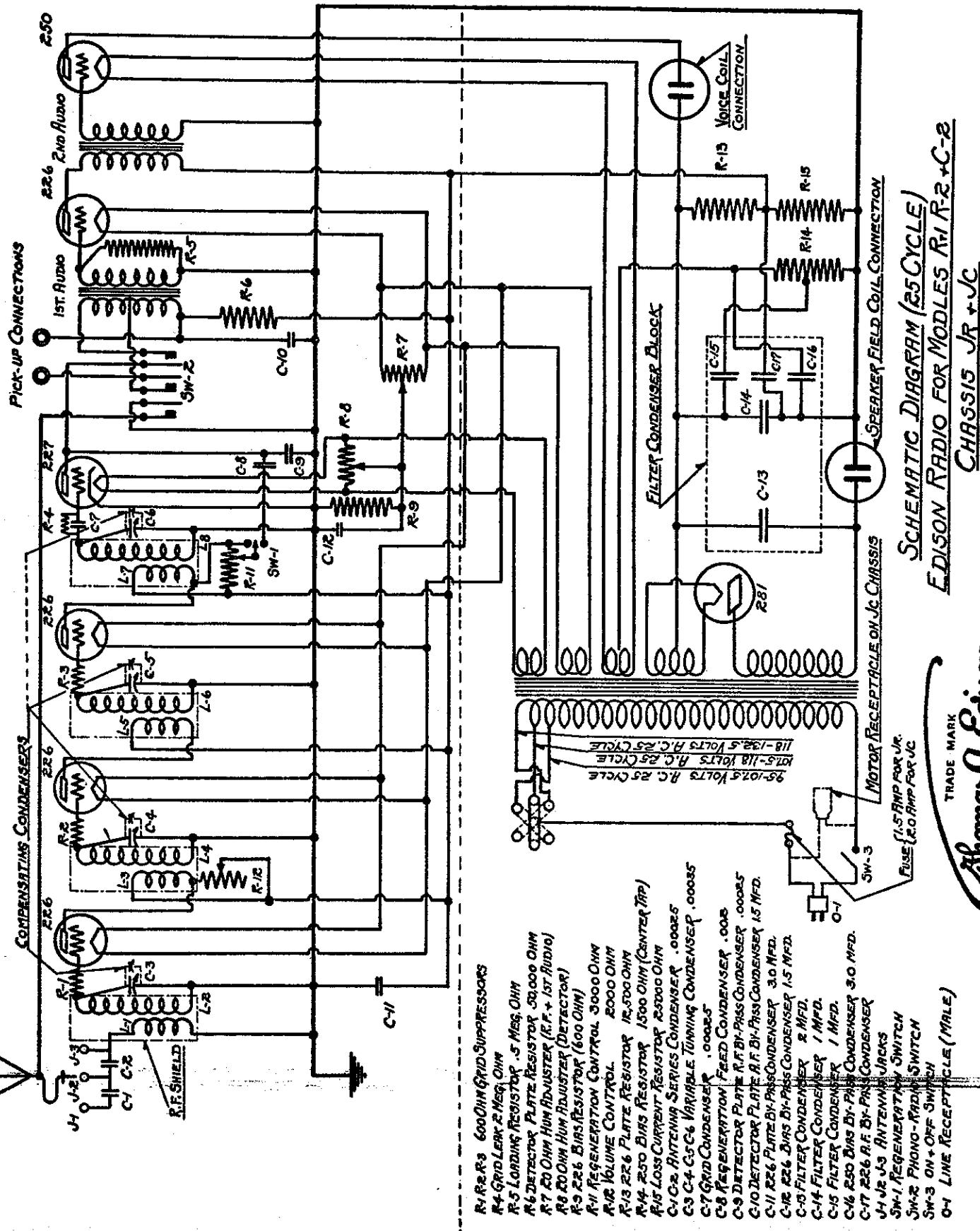


Comerford  
Moor Rech-  
Diagrammatic View of

5  
—TERRA VIVA STYLIS



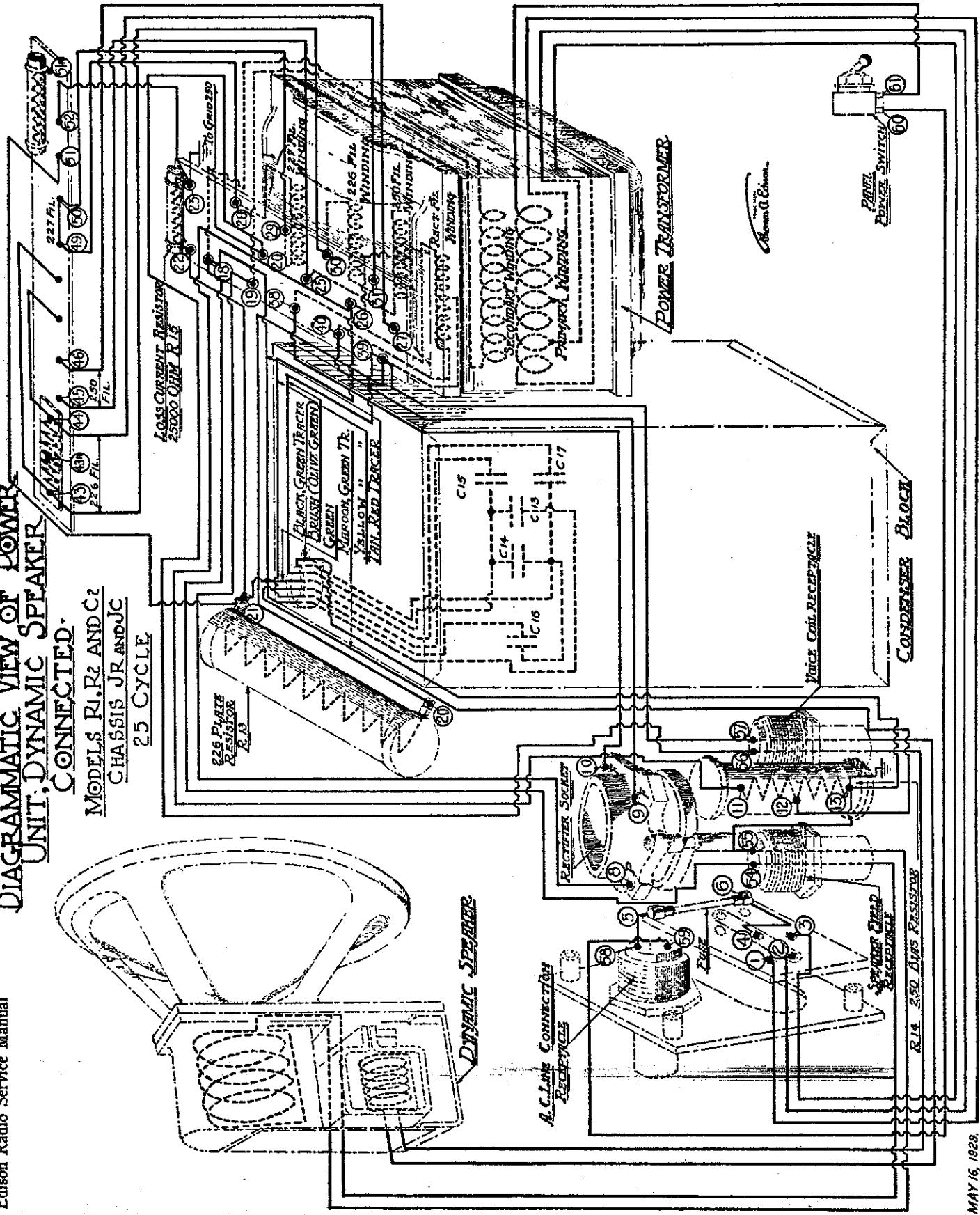


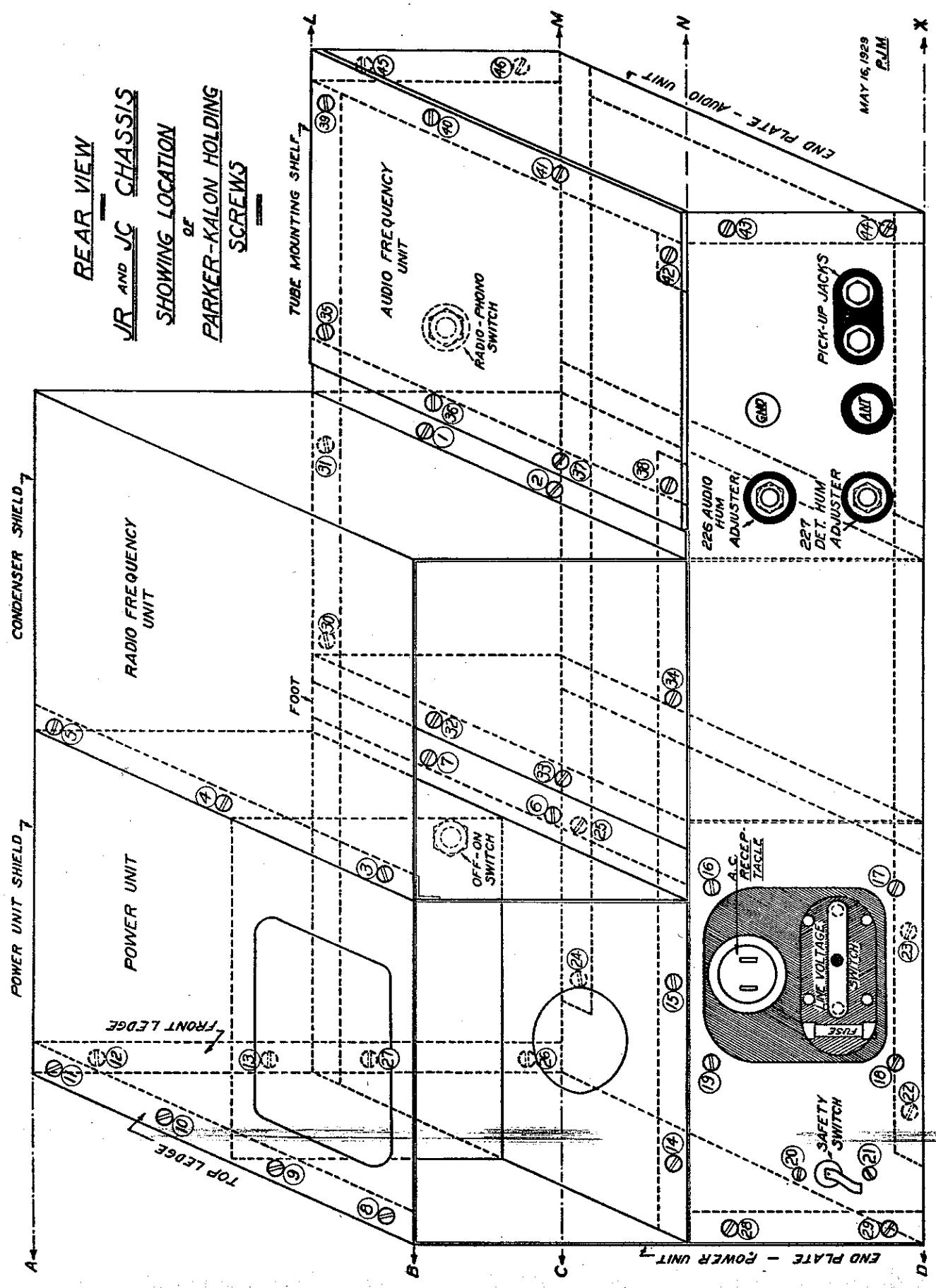


## DIAGRAMMATIC VIEW OF POWER UNIT, DYNAMIC SPEAKER

CONCLUDING.

MODELS R1, R2 AND C2  
CHASSIS JR AND JC  
25 CYCLE





# EQUIPMENT FOR RADIO SET TESTING



**Efficient Radio Receiver Servicing an Absolute Essential to all Radio Dealers**

*The lack of adequate servicing facilities will restrict your profits. In order to conduct tests efficiently the Dealer MUST EQUIP HIS SHOP with well designed testing apparatus.*

Weston Test Set Model 537 is recommended by the Edison Laboratories for use by Edison Radio Dealers

## APPROXIMATE CURRENT AND VOLTAGE READINGS USING WESTON MODEL 537

Type Tube	Position of Tube	"A" Volts	"B" Volts	"A" Volts	"B" Volts	"C" Volts	Normal MA.	Grid Test	Cathode
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### EDISON RADIO RECEIVERS, MODELS R-1, R-2 AND EDISON RADIO - PHONOGRAPH COMBINATION C-2

'26	1 R. F.	1.55	125	1.45	120	9.5	3.5	10	
'26	2 R. F.	1.55	125	1.45	120	9.5	3.5	10	
'26	3 R. F.	1.55	125	1.45	120	9.5	3.5	10	
'27	Det.	2.1	105	1.9	33		1.5		
'26	1 A. F.	1.45	120	1.35	1.15	8.5	2.5	10	
'50	2 A. F.	7.5	550	7.2	320	55	38	58	
'81	Rect.	7.5		7.2			65		

### EDISON RADIO - PHONOGRAPH COMBINATION C-1

'26	1 R. F.	1.55	125	1.45	120	9.5	3.5	10	
'26	2 R. F.	1.55	125	1.45	120	9.5	3.5	10	
'26	3 R. F.	1.55	125	1.45	120	9.5	3.5	10	
'27	Det.	2.25	115	2.1	33		2		
'26	1 A. F.	1.5	125	1.4	116	9	3	10	
2 ('50s)	2 A. F.	7.25	600+	7.25	405	70	96	130	
2 ('81s)	Rect.	7.25		7.2			124		

LINE VOLTAGE — 102.

LINE VOLTAGE SWITCH — 102.5.

## TEST CHART

Outlining causes of trouble which may be investigated if incorrect reading results when employing Weston Model 537 Test Box.

FIRST R. F. SOCKET

SECOND R. F. SOCKET

TEST	APPROXIMATE READING	NO READING INDICATES	LOW READING INDICATES
Filament	1.45	Open filament leads. Open filament winding. Burned out fuse. Burned out Primary filament transformer.	Low line voltage. Improper adjustment of Line Voltage Switch.
Grid	9.5	Open (R-1) Grid Suppressor. Open secondary, 1st R. F. coil. Shorted C-12 Condenser.	Shorted R-9 Bias Resistor. HIGH READING indicates open R-9 Bias Resistor.
Plate	120	Grounded Plate Lead.  NOTE. Primary and volume control connected in parallel.  No reading, with volume control set at maximum, indicates open Primary.  With open Primary winding and volume control set at minimum or "off" position, NORMAL READING results.  Open plate lead. Open R-13 Resistor. Open coil (speaker field). Shorted C-11 by-pass condenser.	Improper adjustment of Line Voltage Switch.  Low emission tube (Rectifier).    Shorted turns secondary winding of Plate Transformer.
Plate Current	3.5	Paralyzed tube. No plate, grid or filament voltage.	Low emission tube. Low plate voltage.
Grid Test	10	Paralyzed tube.	Low emission tube.
Filament	1.45	Open filament leads. Open filament winding. Burned out fuse. Open or grounded primary filament transformer.	Improper adjustment of Line Voltage Switch.
Grid	9.5	Open (R-2) Grid Suppressor. Open secondary (L <sub>4</sub> ) R. F. transformer. Shorted C-12 Condenser.	Shorted R-9 Bias Resistor. HIGH READING indicates open R-9 Bias Resistor.
Plate	120	Open plate leads. Open primary winding (L <sub>5</sub> ). Open R-13 Resistor. Open coil (speaker field). Shorted C-11 By-pass Condenser.	Improper adjustment of Line Voltage Switch.
Plate Current (M. A.)	3.5	Paralyzed tube. No plate, filament or grid voltage.	Low emission tube. Low plate voltage.
Grid Test	10	Paralyzed tube.	Low emission tube.

TEST CHART (*Continued*)

THIRD R. F. SOCKET

DETECTOR SOCKET

FIRST AUDIO SOCKET

TEST	APPROXIMATE READING	NO READING INDICATES	LOW READING INDICATES
Filament	1.45	Open filament winding. Open filament leads. Burned out fuse. Open or grounded primary filament transformer.	Improper adjustment of Line Voltage Switch.
Grid	9.5	Open R-3 Grid Suppressor. Open R. F. Secondary. (L6) coil. Shorted C-12 Condenser.	Shorted R-9 Bias Resistor. HIGH READING indicates open R-9 Bias Resistor.
Plate	120	Open leads to coil. Open primary coil (L7). Open R-13 Resistor. Open coil (speaker field). Shorted C-11 By-pass Condenser.	Improper adjustment of Line Voltage Switch. NOTE: Volume and Regeneration Control are connected in parallel with primary, therefore open primary winding will not be indicated on meter unless volume control lead is disconnected.
Plate Current	3.5	Paralyzed tube. No plate, grid or filament voltage.	Low emission tube. Low plate voltage.
Grid Test	10	Paralyzed tube.	Low emission tube.
Filament	1.9	Open leads to transformer. Open (filament transformer) winding. Burned out fuse. Open Primary winding (filament transformer).	Improper adjustment of Line Voltage Switch.
Cathode Bias	9.5	Shorted C-12 By-pass Condenser.	Rosin joint, cathode connection. HIGH READING indicates open R-9 Bias Resistor.
Plate	33	Open Primary winding, first audio transformer. Open R-6 Resistor. Shorted C-10 By-pass Condenser. Open contacts radio-phono switch.	Improper adjustment of Line Voltage Switch. Low emission rectifier tube. Shorted turns, secondary winding Plate Transformer.
Plate Current	1.5	Paralyzed tube. No plate, grid or filament voltages.	Low emission tube. Low plate voltage.
Filament Voltage	1.35	Open filament leads. Open filament winding. Burned out fuse. Open Primary filament transformer.	HIGH OR LOW READING indicates Improper adjustment of Line Voltage Switch.
Grid Voltage	8.5	Open secondary winding, 1st A. F. transformer. Shorted C-12 By-pass Condenser.	HIGH READING indicates open R-9 Bias Resistor. Incorrect value R-9 resistance.

TEST CHART (*Continued*)

FIRST AUDIO SOCKET (Continued)

SECOND AUDIO SOCKET

RECTIFIER

TEST	APPROXIMATE READING	NO READING INDICATES	LOW READING INDICATES
Plate Voltage	115	Open Primary winding, 2nd A. F. transformer. Grounded plate leads. Open leads. Open R-13 Resistor. Open coil, speaker field. Shorted C-11 By-pass Condenser.	Improper adjustment of Line Voltage Switch.  Low emission rectifier. Shorted turns plate transformer, secondary winding.
Plate Current	2.5	Paralyzed tube. No plate, grid or filament voltage.	Low emission tube. Low plate voltage.
Grid Test	10	Paralyzed tube. No plate, grid or filament voltage.	Low emission tube.
Filament Voltage	7.2	Open filament leads. Open filament winding. Burned out fuse. Open Primary (filament transformer).	Improper adjustment of Line Voltage Switch.
Grid Voltage	55	Open secondary winding, 2nd A. F. transformer. Shorted C-15 or C-16 Condenser.	Improper adjustment of Line Voltage Switch. HIGH BIAS VOLTAGE indicates open R-14 Resistor.
Plate Voltage	320	Open Primary (output transformer in speaker). Open speaker field coil. Open receptacle connection. Open R-14 Bias Resistor.	Improper adjustment of Line Voltage Switch.  Low emission rectifier. Shorted turns, secondary plate transformer.
Plate Current	38	Paralyzed tube. No plate, grid or filament voltage.	Low emission tube. Low plate voltage.
Grid Test	58	Paralyzed tube.	Low emission tube.
Filament Voltage	7.2	Open filament leads. Open filament winding. Open Primary filament transformer.	Improper adjustment of Line Voltage Switch.
Plate Current	65	Paralyzed tube. Open or shorted primary. Open secondary winding.	Low emission tube. Low plate voltage.

## Directions Outlining Operations Involved in Removal and Replacement of Units and Parts

### POWER SUPPLY UNIT

**{ See Plate No. 10 for Location of Holding Screws.  
See Plate No. 2 for Location of Connecting Wires. }**

#### REMOVAL OF CONDENSER SHIELD.

1. Remove screws 1, 2, 3, 4, 5 and lift shield free.  
(Note. Condenser shield is not being attached to later models.)

#### REMOVAL OF POWER SHIELD.

1. Remove screws 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15.
2. Lift foot of shield (as indicated on plate No. 9) about one-quarter inch above condenser shelf on which it rests. Pull the shield gently toward the variable condenser assembly, in a direction opposite that indicated by the arrows at A, B, C and D, then lift shield upward and free.

#### REPLACEMENT OF POWER UNIT SHIELD.

1. Top of Power Pack Shield should be fitted so that it rests above Top Ledge (See Plate No. 9).
2. Likewise front side of Power Pack Shield must cover Front Ledge.
3. Foot of Power Pack Shield may then be forced into its original position, whereupon all screws may be replaced.

#### REMOVAL OF POWER UNIT.

(Involving a number of operations, including unsoldering of cable leads, detachment of Panel Power Switch, removal of Line Switch and Power Plug Panel and removal of Safety Switch from chassis frame.)

1. Unsolder cable wires connecting to the Filament Terminal Board at points 25, 27, 28, 29, 30, 31, 32, 33, 41, 42.
2. The 226 plate lead soldered to point 51 of Audio Terminal Strip should run to point 42 on Filament Terminal Board. (Not fully shown on Plate No. 2.)
3. On Plate No. 2 one lead is shown connecting point 52 of Audio Terminal Strip to point 24 of Filament Sub-Terminal Board. This lead actually connects to point 23, therefore unsolder cable lead from point 23, on Sub-Terminal Board.
4. Remove "holding nut" releasing Panel Power Switch, known as "On and Off" Switch, attached to front chassis frame. Push back into power unit.
5. Remove screws 16, 17, 18 and 19, releasing Line Switch Panel.
6. Remove screws 20 and 21, releasing Safety Switch. (Note. To eliminate difficulties which might be incurred through improper operation, we suggest the complete removal of the safety switch, soldering together the switch leads, securely taping the joint.)

7. Invert chassis, with bottom side uppermost, remove screws 22, 23, 24 and 25.

8. With top side again uppermost, remove screws 26, 27, 28 and 29.

9. With all electrical connections unsoldered and all holding screws and nuts removed we may now pull Power Unit directly away from the chassis frame, as indicated by arrows at A, B, C and D. If "On and Off" Switch, Line Switch Panel and Safety Switch have been freed from chassis frame, no difficulty will be experienced in removal.

#### REPLACEMENT OF POWER UNIT.

1. Back Ledge and Front Ledge (as shown on Plate No. 9) must be fitted inside chassis frame, otherwise difficulty may be experienced in lining up screw holes 14 and 15.
2. First replace screws 26, 27, 28, 29, then 22, 23, 24 and 25.
3. Fit "On and Off" Switch in panel hole and replace nut.
4. Replace Line Switch Panel screws 16, 17, 18 and 19.
5. Replace cable connections at Filament Terminal Board. If the service man, when removing these leads, made a careful observation as to relative length of the free ends, no difficulty will be experienced in replacing. Otherwise continuity test method must be employed, checking each cable lead from Audio Terminal Strip connection to free end of wire. See Plate No. 2 for diagrammatic wiring view. Remember that the 250 plate lead connects to point 41 and the 226 plate lead connects to point 42 on Filament Terminal Board.

#### REMOVAL OF FILAMENT POWER TRANSFORMER.

1. With Power Unit Shield removed, rotate variable condenser until plates are fully enmeshed, then the four holding bolts which secure the Filament Power Transformer may be removed by means of a short blade screw driver.
2. Unsolder all leads from Filament Terminal Board. Unsolder the two leads connecting the Sub-Terminal Board at points 23 and 24.
3. The inexperienced service man may encounter difficulties in removing Filament Power Transformer, in which case we recommend removal of Power Unit for greater freedom of operations.

#### REPLACEMENT OF FILAMENT POWER TRANSFORMER.

1. Brass mounting studs are supplied with replacement transformers. Replacement studs need not be used, pro-

POWER SUPPLY UNIT (*Continued*)

viding the original studs are firmly riveted to Power Unit end plate.

2. If it becomes necessary to employ the replacement studs, riveting may be accomplished by means of ball peen hammer.

3. If the relative length and arrangement of the leads is carefully observed, when unsoldering, no difficulty will be experienced in replacing leads on the new Terminal Board.

## REMOVAL OF PLATE POWER TRANSFORMER.

1. Removal of Power Unit is necessary to permit free access to Plate Power Transformer.

2. Remove R-13, 226 Plate Resistor, holding bolt, permitting free access to Plate Power Transformer leads.

3. Unsolder connecting wires from lugs numbered 14, 15, 16, 17, 18 and 19.

4. Unsolder Shield Lead from lug 24 on Filament Transformer Sub-Terminal Board.

5. Remove the four holding screws which secure transformer core to brass mounting studs.

## REPLACEMENT OF PLATE POWER TRANSFORMER.

1. Use original mounting studs if securely rivited to end plate.

2. Secure core at four corners with holding screws.

3. Replace all leads, including Shield Lead to point 24.

4. Secure R-13 Resistor to base and replace Power Supply Unit.

## REMOVAL OF FILTER CAPACITOR BLOCK.

1. Note. Six leads are shown issuing from condenser can in Plate No. 2. Condensers are now being supplied with only five leads. Two leads run from the condenser can and are connected to the same lug No. 39, located on Filament Power Transformer Terminal Board. In the five lead condenser, these two leads are joined together—inside the condenser can, one tan colored lead being brought out and connected to lug No. 39.

2. Unsolder each condenser lead from points 12 and 13, on R-14, 250 Bias Resistor.

3. Unsolder each condenser lead from Filament Power Transformer Terminal Board at points 18 and 26.

4. Unsolder the two condenser leads from point 39 on Filament Power Terminal Board. In the five lead condenser only one wire will be found connected to point 39.

5. Remove the four holding screws securing base flanges to frame.

6. Remove single screw securing top to Power Unit end plate.

## REPLACEMENT OF FILTER CAPACITOR BLOCK.

1. Replace holding screws through base flanges and frame. One of these screws is obscured by Plate Power Transformer. Replacement of this screw is not absolutely essential. Nut may be centered over hole in flange and sweated to flange with solder, or Plate Power Transformer may be removed from supporting studs, permitting accessibility.

2. Replace top holding screw.

3. Solder leads as shown on Plate No. 2.

## AUDIO FREQUENCY UNIT

(See Plate No. 3 for Location of Connecting Wires.)

## REMOVAL OF AUDIO FREQUENCY UNIT.

1. Unscrew holding nuts from the following parts:  
Phonograph Radio Switch.  
226 Hum Adjuster.  
227 Hum Adjuster.

2. Unsolder leads from:  
Pick-up Jacks.  
Antenna Post.  
Ground Post.

3. Unsolder the 250 plate lead at point 35.

4. Unsolder cable leads from the Audio Terminal Strip at the following points: 43, 44, 45, 46, 47, 48, 49, 50, 51, 52.

5. Unsolder leads from:

Point 13 (to Detector R. F. Secondary).  
Point 19 (one lead to Regeneration Control  
one lead to Detector Primary).  
Points 77, 78, 79 (Grid Suppressor Leads to  
R. F. Secondaries).  
Point 23 (to third R. F. Primary).  
Point 27 (two wires, one to R-12 Volume Con-  
trol and one to second R. F. Primary).  
Point 72 (to first R. F. Primary).

6. Remove Parker Kalon screws numbered 35, 36, 37,  
38, 39, 42, 43, 44, 45, 46. Plate No. 9.

7. The Audio Unit may be freed from chassis if pulled  
in the direction of arrows as indicated at L, M, N, X.

AUDIO FREQUENCY UNIT (*Continued*)

8. Remove screws 40 and 41 if you desire to release tube shelf from audio end plate.

## REPLACEMENT OF AUDIO FREQUENCY UNIT.

1. Place Audio Unit in its original position and secure with the following screws 35, 36, 37, 38, 39, 42, 43, 44, 45, 46.
2. Secure Phonograph-Radio Switch, Hum Adjusters, Pick-up Jacks and Antenna and Ground Posts.
3. Resolder all leads from R. F. Unit, observing carefully Plate No. 3. Then replace cable leads from Power Unit.

## REMOVAL OF FIRST AUDIO TRANSFORMER.

1. Refer to Diagrammatic View Plate No. 3.
2. Unsolder wires from points 51 and 51-A located at each end of gray resistor R-6 (50,000 ohms) on Terminal Strip.
3. Unsolder copper braid from point 52, on Terminal Strip.
4. Unscrew the two 6-32 round head machine screws that hold Terminal Strip in place, so that Terminal Strip can be raised up out of the way.
5. Remove the three 6-32 round head machine screws that hold the transformer to end plate. Two of these screws are located at the bottom of transformer near terminals, while the other is located at the top of transformer, near power tube Socket.
6. Unsolder all wires from transformer terminals at points 39, 42; then at 40, 41 and 53, and transformer is free.
7. Remove brass supporting stud and brass mounting plate that is held to the bottom bracket by a 6-32 machine screw, lock washer and nut.

## REPLACEMENT OF FIRST AUDIO TRANSFORMER.

1. Attach brass mounting plate to base bracket of Audio Transformer, using 6-32 round head machine screw, lock washer and nut.
2. Attach terminal strip mounting pillar to opposite base bracket of Audio Transformer, using 6-32 machine screw and washer.
3. Place transformer in position, but standing on end until wires are soldered to points 40, 41 and 53.
4. Lay transformer down so that mounting plate and bracket at the other end comes opposite the three mounting pillars located on side wall of audio unit.
5. Fasten transformer in place with three 6-32 round head machine screws and lock washers.
6. Solder wires to points 39 and 42 and installation is complete.

## REMOVAL OF SECOND AUDIO TRANSFORMER.

1. Unsolder leads from 54, 55, 56, 57.
2. Remove rivets which hold transformer to end plate. Use drill, file or side cutting pliers for this operation.
3. Remove the 6-32 round head machine screw and lock washer that secures the end of the transformer to tube shelf.
4. Transformer may now be lifted free.

## REPLACEMENT OF SECOND AUDIO TRANSFORMER.

1. Place transformer in position.
2. Attach transformer end bracket to mounting stud on tube shelf, using the 6-32 round head machine screw.
3. Fasten transformer base to end plate, using 6-32 round head machine screws, lock washers and nuts.
4. As outlined on Plate No. 3, solder wires to points 54, 55, 56 and 57.
5. Installation is now complete.

## REMOVAL OF 226 BY-PASS CONDENSER (C-12)

1. Unsolder leads from condenser terminals 58 and 59.
2. Drill, file or cut away mounting rivets and remove condenser.

## REPLACEMENT OF 226 BY-PASS CONDENSER (C-12)

1. Mount condenser in place, securing flanges to end plate with 6-32 round head machine screws, lock washers and nuts.
2. Solder leads to terminals 58 and 59.

## REMOVAL OF DETECTOR PLATE A. F. BY-PASS CONDENSER (C-10).

1. Unsolder all leads from condenser terminals 7 and 8.
2. Unsolder copper braid shielding of regeneration switch lead from side of condenser.
3. Remove mounting rivets which hold condenser to end plate, then remove condenser.

## REPLACEMENT OF DETECTOR PLATE A. F. BY-PASS CONDENSER (C-10).

1. Mount condenser in proper position, securing with two round head 6-32 machine screws, lock washers and nuts.
2. See drawing, Plate No. 3, and resolder all wires to terminals 7 and 8.
3. Scrape paint from side of condenser near bakelite tube socket panel and tin surface. Solder copper shielding at this point.

# THE ELECTRO-DYNAMIC SPEAKER USED IN EDISON RADIO RECEIVERS

MODELS R-1, R-2, C-1 AND C-2

## Description — Adjustment — Repairs

### ELECTRO-DYNAMIC PRINCIPLE.

The Speakers used in Edison receivers are so simple in their principle of operation that a brief explanation should serve to acquaint anyone with the factors descriptive of Edison Electro-Dynamic superiority.

This new Electro-Dynamic cone offers a power operated speaker capable of giving more volume than the average set owner will ever want to use and tone quality of an entirely new order with a range covering the entire musical scale from well below 50 to more than 5,000 cycles.

Three notable advances in speaker engineering are incorporated. The first of these is a voice coil of a single turn of copper strip, eliminating mechanical weaknesses inseparable from the windings of fine wire found in most designs where great power is desired. The second is the extremely rugged suspension integral with the voice coil. The third is the in-put transformer with secondary consisting of one or two turns of heavy copper strip, again reducing resistance losses to a minimum and achieving a new standard of power.

The rugged construction of this Electro-Dynamic Speaker insures long life and trouble-free service far beyond anything hitherto achieved. Due to the construction, the only moving parts of the entire assembly consist of the combined suspension and lead-ins integral with the single turn voice coil. Repairs are easily made if ever needed. All parts are accessible, but adjustments are seldom necessary due to its rugged construction. Especially designed to Edison specifications, we know its performance will amaze and please the most critical listener.

It is well known that the same notes played on different instruments or sung by different people have a different tone quality by which the instrument or person is identified. These delicate differences, which may be called quality, color, shading, or timbre are caused by harmonics of higher pitches which are added to the fundamental notes. These harmonics are extremely sensitive to distortion causes. Therefore, any mechanism designed to reproduce sounds must follow certain definite laws and be as free as possible from the distorting effects of inertia, friction, stresses, and resonance in the moving system. The Electro-Dynamic type of speaker used in Edison receivers fulfills these requirements very closely.

The general construction can easily be understood by referring to the cross sectional drawing, Figure 1. An extremely light-weight cone serves as a diaphragm. It is very flexibly mounted to vibrate freely. The apex is mounted upon a light bakelite ring, to which is attached rigidly a single turn voice coil of very low resistance.

This voice coil is suspended in the air gap of a very strong electromagnet. The voice coil and its leads are punched out of a single flat piece of metal, which is attached directly to the one or two turn copper secondary

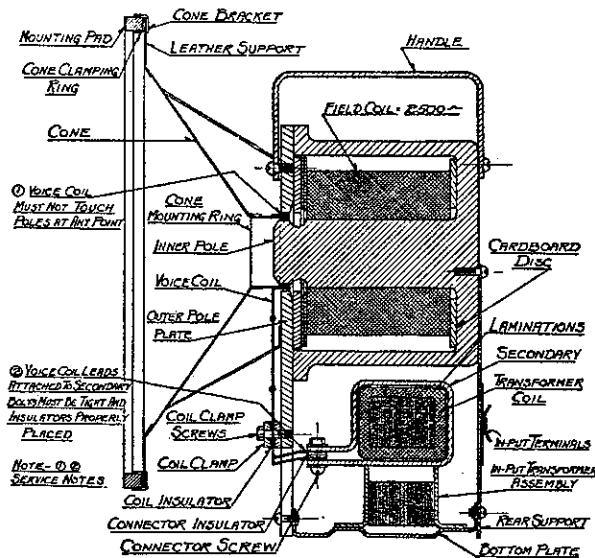


FIGURE 1

CROSS SECTIONAL DRAWING OF  
ELECTRO-DYNAMIC SPEAKER USED IN EDISON RECEIVERS  
MODELS R1, R2, C1 AND C2

of the "in-put" transformer. The resistance of this combination, including transformer secondary, voice coil, and the voice coil leads is of the order of 0.001 ohms. The great efficiency of this system makes possible the attainment of an extremely efficient motor system.

The voice coil leads are clamped rigidly between two metallic pieces to the pole piece of the pot; insulators are used to prevent contact of the voice coil leads with these metallic pieces.

The voice coil leads thus serve not only the purpose of conducting the speech and musical currents to the voice coil from the transformer, but they also serve to support the cone in just the right manner to give the desired flexibility to the whole vibrating system and conical diaphragm. These leads also serve the purpose of centering the voice coil very accurately and definitely in the air gap. When once the adjustment is properly carried out and the voice coil leads are clamped rigidly, it is impossible for the voice coil to get out of adjustment.

Wires from the primary winding of the transformer connect directly through the speaker cord to the radio set. When impulses from the radio receiver are conducted to the transformer and thence to the moving coil, a reaction is set up between the voice coil and the magnetic field, causing the former to vibrate in unison with the impulses of the radio receiver. The voice coil being connected directly to the cone, causes the latter to vibrate and generate the sound impulses in the surrounding area.

The core of the electromagnet consists of an iron center pole which projects into but does not touch the moving coil. The back of this pole is attached to a heavy iron cup which encircles the field coil and forms part of the magnetic circuit. The magnetic circuit is completed by a cover plate pole piece which covers the front to within a few thousandths of an inch of the moving coil. This places the moving coil in a ring shaped air gap. When direct current from a suitable supply is sent through the field coil an intense magnetic field is set up across the circular air gap in which the moving coil is suspended.

### IN-PUT TRANSFORMER.

The Speaker used in Edison receivers is equipped with a step down audio "in-put" transformer located in the base of the unit. The heavy bus bar secondary matches the low impedance of the single turn voice coil and is connected directly thereto. The primary winding is connected directly to the "Terminal Board" located back of and just below the field coil assembly.

### BAFFLE REQUIREMENTS.

Speakers of the cone type set up two distinct sets of sound waves when played. One is from the front and the other from the back of the cone. Unless prevented by a suitable baffle, these two waves meet and partially neutralize or weaken each other. On high notes the cone itself provides sufficient baffle for these short waves. The neutralizing effect is most serious on low notes where the relatively long waves are completely lost unless a good baffle is provided.

The purpose of the baffle board is simply to delay the meeting of the two sound waves by increasing the distance from the front to the back of the cone.

### SERVICE NOTES.

The following information has to do with the actual problems that may arise in servicing Electro-Dynamic Speakers used in Edison receivers. Nearly every possible complaint is listed and with each is given the proper test procedure to be made to determine the trouble. Directions are given for correcting the trouble wherever it is possible to make repairs in the field.

But little equipment is required to make the tests described herein. A tester consisting of an 0-10 direct current volt meter connected in series with a battery of suitable voltage, and equipped with test leads is suggested.

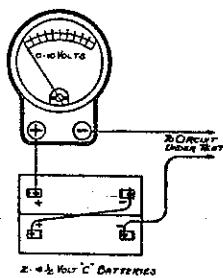


FIGURE 2.  
CIRCUIT TESTER

See Figure 2, showing volt meter connected in series with two  $4\frac{1}{2}$  volt C batteries, giving 9 volts. On circuits of very low resistance, the meter will show a 9 volt deflec-

tion. If the resistance of circuit under test is relatively high, a lower reading will result. When the circuit is open, no meter reading will be obtained.

### SECTION 1.—RATTLES OR BUZZES.

#### A. Overloaded Power Tube Distortion.

The most frequent source of rattling and buzzing noises is not the speaker, but distortion in the set, generally caused by overloaded tubes. Naturally any disturbances originating in the set will be heard in the speaker. Make sure the set is not at fault before condemning the speaker. If operated beyond its rated volume "out-put," any tube will cause distortion, which often results in buzzing, rattling, or blasting noises in the speaker. The volume control on your set has much to do with the tone quality of the speaker; never carry this higher than necessary for best results.

#### B. Dirt Particles in Air Gap.

Bits of dirt, dust, or magnetic particles in the air gap are common causes of buzzing. If such particles are between the center pole and inner surface of the moving coil, they can often be removed by running a small strip of paper, slightly moistened with the lips, around in the air gap or by directing a blast of air between coil and pole piece with current to field shut-off.

#### C. Loose Clamping of Flexible Edge of Cone.

Buzzing only on certain notes, may sometimes be traced to loose clamping of flexible edge of cone. This trouble sometimes occurs when the screws holding the clamping ring become loose. Be sure that these screws are firmly tightened, and any slack in the flexible edge of the cone must be taken up.

(1) *Damaged Cones.* If the cone is damaged, or the cement has broken loose where the cone is attached to the bakelite mounting ring, it will cause rattling or buzzing sounds. In case of damage of this nature it is usually possible to repair the damage by applying Ambroid cement to the damaged portion.

(2) *Loose Screws, Nuts, etc.* Care should be exercised that all other screws, nuts, etc., on this speaker chassis are tight, as they also cause buzzing, rattling, etc. In many cases rattles, etc., may be traced to objects in the room with or near the speaker, being set into vibration, by the powerful sound waves or vibrations of the speaker itself.

#### D. Moving Coil Off Center.

Occasionally, after long periods of use, the single turn voice coil of the Electro-Dynamic unit may shift slightly from its central position and rest against the center pole or gap side. This will cause rattling, loss of volume, or both. A close inspection of the gap between the moving coil form and center pole will show whether or not this condition is present. The cone may also be gently pushed up and down, parallel with axis of the cone or center leg, while listening carefully or feeling to determine if it is scraping on the pole piece or center leg.

#### E. Recentering Single Turn Voice Coil.

To re-center the single turn voice coil, remove the speaker from the cabinet. This is accomplished by removing the screws from the bottom of the speaker chassis. The speaker chassis now can be lifted from the cabinet.

Lay the Electro-Dynamic Speaker from the Edison receiver on its back and loosen the five screws in the plate, clamping the voice coil leads as shown in Figure 1. Then the voice coil can be recentered, using the eye to secure uniform spacing between the voice coil and the center leg of pot. The service man usually makes this adjustment by cutting a business card into four narrow strips, inserting these strips between the voice coil ring and inner pole piece. While the voice coil is held in this position with one hand, the center clamping screw previously loosened can be tightened securely, before the remaining four screws are tightened, making sure not to grip the bakelite ring too tightly, because warping of the voice coil to an oval shape will result. The cone should be moved gently up and down to make certain that it moves freely without scraping throughout the working range of the voice coil. After making certain of this, the four screws can be tightened securely.

Extreme care must be exercised so that the voice coil or leads to the coil are not bent out of their regular shape. Test the speaker before placing in the cabinet and if O. K., replace.

#### F. Voice Coil Loose Where Cemented to Bakelite Mounting Ring.

In case the voice coil has become loosened from the Bakelite mounting ring, same can be recemented by using Ambroid Cement, which can be purchased at most hardware stores.

To do this, it is necessary to remove cone and voice coil from the speaker. This is accomplished as follows: First, remove the two screws which clamp the voice coil leads to the secondary of transformer, carefully removing insulating washers and bushings at this junction. Second, remove the cone clamping ring by taking out the screws from the rear of the cone mounting bracket ring. Third, remove the five screws in the clamping plate which fasten the voice coil leads. The voice coil and cone may now be removed.

The uncemented voice coil and Bakelite ring should now be scraped very gently to remove the old cement. New cement can now be applied and the parts placed together firmly and laid aside to dry for at least an hour and preferably longer if possible. After the cement has thoroughly dried, the cone and voice coil may be reassembled, reversing the order of operation as described above. The voice coil should be centered properly as described in Section 1, letter E—Recentering Single Turn Voice Coil. Caution must be exercised to make certain that the fibre insulating strips are placed above and below the voice coil leads, where they are clamped at the face plate by the metallic plate.

The fibre strips prevent the plate from short-circuiting the voice coil leads.

Be sure that the insulating bushings and fibre strips are replaced as originally assembled. The two screws can then be replaced, holding voice coil leads to secondary of transformer. It is important that these screws be turned ex-

tremely tight by making use of a small wrench to hold the nuts behind voice coil leads, while the two screws are being tightened as securely as possible. The importance of this tightening of bolts cannot be over-emphasized because loosening of contact here will result in loss in volume and quality of the speaker. Before fastening voice coil leads to secondary, scrape or sand the voice coil leads and the secondary leads of transformer, making sure of a clean electrical contact.

### SECTION 2.—LOW VOLUME OR COMPLETELY DEAD SPEAKER.

#### A. Trouble in Set, or Electro-Dynamic Speaker.

The first place to look for trouble in case of low volume or complete failure of the speaker is in the receiving set itself. Make sure the set is working properly by substituting another speaker. Make sure that the speaker is working properly by using it on another set.

#### B. Low Plate Voltage.

*Defective Power Transformer.* Shorted turns in the primary or secondary of the power transformer will cause low secondary voltage. This will also be accompanied by excessive heating of the transformer. Transformer should be removed and replaced.

#### C. Defective In-Put Transformer.

A burnt out winding in the audio in-put transformer will cause a speaker to be entirely dead. To test the primary of the in-put transformer, touch the leads from the voltmeter battery test outfit to the in-put cord terminals on the back of the speaker base. These are shown on accompanying figures. A small reading should be obtained. No reading indicates a burnt out transformer or wire broken from the terminal. If the transformer tests O. K., make the same test at the tips of the voice coil plug. Now if no reading is shown, the in-put cord is open or broken.

#### D. Single Turn Voice Coil.

Failure of the speaker to operate may be caused by breakage of either the voice coil or its leads. However, this has seldom occurred.

#### E. Secondary Connection to Voice Coil.

It must be understood that the total resistance of the transformer secondary single turn voice coil and its leads does not exceed 0.001 ohms and any contact resistance at the point where voice coil leads attach to secondary of transformer must be ENTIRELY eliminated. This can be checked by tightening the two screws holding voice coil leads to transformer secondary, making use of small wrench to hold the small nuts while this is being tightened, as much as possible.

Refer to last paragraph under F, Section 1. NOTE: Loose connector screws results in loss of volume and quality. Always make sure these connector screws are set up tight.

# EDISON RADIO PARTS CATALOGUE

CHASSIS  
CABINETS  
SPEAKERS  
ELECTRIC PICKUPS  
ELECTRIC MOTORS

TEST EQUIPMENT

SPECIAL TOOLS

BLUE PRINTS

TRADE MARK  
*Thomas A Edison*

THOMAS A. EDISON, INC.

ORANGE, N. J.

## PROCEDURE WHEN ORDERING RADIO PARTS

For ready reference, Radio Parts that make up the different units in Edison Radio Sets have been arranged in their respective classes and are pictured in groups.

Each page of Unit Assembly Parts bears a plate number. Each part is named also numbered.

Reference to the plate number is made at the top of each list of Unit Assembly Parts, indicating the plate on which these parts are shown.

When ordering parts, always state Model letter and serial number of Chassis, Speaker or Electric Motor.

Give name and number of parts ordered.

Use a separate sheet, or use your order form when ordering parts.

Dealers must send all orders direct to their Jobbers. The Factory is not equipped to handle dealers' orders. If dealers' orders are sent direct to the Factory, unnecessary delay will result in obtaining service.

Dealers should not return parts direct to the Factory. Parts must be shipped to the Jobber for repair or replacement. Jobbers stock a complete line of parts and are equipped to give prompt service.

When shipping parts to the Jobber upon which the dealer expects "No Charge" replacement, the dealer must supply the Jobber with the following information:

*Serial number of Set.*

*Date of Instrument sale to the retail customer.*

## POWER UNIT ASSEMBLY PARTS

FOR MODEL R-1, R-2 AND C-2 — CHASSIS JR AND JC  
(See Plate No. 1)

Part No.	Part	Price Each
32969	Filament Transformer	\$ 9.50
32972	Plate Transformer	10.50
32949	Condenser Block 7 MFD	22.00
37165	Fuse Clip and Mount	.90
34602	Cable No. 11 Assembly	.80
34603	Cable No. 12 Assembly	.80
34593	Cable No. 10 Assembly	.80
34609	Cable No. 9 Assembly for Rectifier Tube	.70
34595	Resistor—12,500 Ohm R-13—226 Plate Resistor	1.70
31575	Rectifier Tube Socket	.80
34176	Mount and Spacer Assembly	.70
34605	Male Receptacle (Metal Socket)	.55
34598	Female Receptacle (Metal Socket)	.55
34597	Line Switch (On and Off) SW-3	1.00
34601	Safety Fuse—2 Amperes	.10
32869	Socket Spacer (Long)	.05
32888	Clamping Ring (Fibre 1 1/2")	.10
34618	Resistor Washers (Bakelite)	.30
32502	Resistor Washers (Asbestos)	.20
33798	Resistor Washers (Brass)	.25
34596	Resistor 25,000 Ohms, 4 Watts, R-15	.60
34599	Resistor Stud	.10
29223	Machine Screw, 8/32"-6/32"	.20
29722	Machine Screw, 8/16"-6/32"	.20
34593	Machine Screw, 2 1/2"-6/32" (Resistor Stud)	.10
30028	Hexagon Nut, 6/32" (Resistor Stud Nut) Doz.	.20
30028	Hexagon Nut, 6/32" Doz.	.20
34518	Machine Screw, 5/8"-6/32" Doz.	.25
32869	Socket Spacer (Short)	.05
37149	Power Base	1.40
16319	Lock Washers No. 6	.20
34594	Resistor 1,500 Ohm Center Tap, R-14	1.40
32983	Power Line Cord (Complete)	1.85
32841	Base Plug	.10
33998	Base Plug Cap	.10
32981	Female Plug (Line Cord Chassis End)	.45

## RADIO UNIT ASSEMBLY PARTS (Continued)

Part No.	Part	Price Each
32890	Volume Control Shaft	\$0.10
32885	Toggle Switch (Regeneration Control Switch—SW-1)	1.00
32495	Lock Washers, S. P. 8/32"	.20
32881	Volume Control Bakelite Washer	.25
34704	Machine Screw Edg. Head 5/16"-6/32" Doz.	.20
30028	Hexagon Nut No. 6	.20
16319	Lock Washer No. 6	.25
34578	Rubber Grommet, 7/16"	.05
1706	Lock Washer No. 8	.25
37143	Variable Condenser	18.00
34577	Condenser Holding Screw, 3/8"-10-32 Doz.	.25
3055	Lock Washer No. 10	.20
34531	Dial Light, 2 1/2 Volts	.80
32886	Dial Mechanism	8.00
34679	Dial Plate	.50
29630	Hexagon Nut, 8/32"	.25
32964	Radio Frequency Coil Assembly 2, Each	1.60
32964A	Radio Frequency Coil Assembly 1, Each	1.60
32963	Detector Coil Assembly 1	1.60
34649	Matched set of 4 Coils with Leads	6.70
32863	Coil Shield Cap	.10
32861	Coil Shield Base	.10
32862	Coil Shield	.30
32853	Coil Clamp	.05
34706	Coil and Shield Assembly in Set of 4	18.00
34518	Dial Attachment Bolt	.25
32348	Dial Attachment Bushing	.05
32342	Ground Binding Post	.10
32344	Antenna Binding Post	.10
34601	2 Ampere Fuse (see Plate No. 1)	.10
32600	Chassis Holding Bolts, 10/24"	.15
3055	Chassis Holding Bolt Lock Washer (Kantlink)	.20
34680	Chassis Holding Bolt Prong Washer, Doz.	.20

## AUDIO FREQUENCY UNIT ASSEMBLY PARTS

FOR MODEL R-1, R-2 AND C-2 — CHASSIS JR AND JC

(See Plate No. 2)

Part No.	Part	Price Each
37157	Condenser Base	\$0.80
32864	Stud for Coil Clamp	.10
32977	Volume Control Bracket Assembly (Rear)	.40
32975	Volume Control Bracket Assembly (Front)	.70
32944	Volume Control (Regeneration) 8,000 Ohm R-11	2.20
34576	Regeneration Control and Switch Assembly	4.00
32959	Regeneration Switch Lever (see Plate No. 9)	.10
30483	Regeneration Switch Lever Screw, (see Plate No. 9)	.20
32988	Regeneration Switch Lever Bushing (hard rubber) (see Plate No. 9)	.40
37851	Regeneration Switch Lever Clip (see Plate No. 9)	.05
34610	Regeneration Switch Lever Washer (see Plate No. 9)	.05
32989	Volume Control Coupling (Short)	.40
37364	Volume Control Coupling (Long)	.60
32942	Volume Control 2,000 Ohm R-12	2.20

Part No.	Part	Price Each
32947	Spacer (1st Audio)	\$0.05
37155	Audio Base	.65
32989	Tube Base with Contacts	2.80
34562	.00025 MFD Condenser	.30
32821	600 Ohm Grid Resistor (Suppressor) R-1, R-2, R-3	.15
34559	2 Meg. Resistor, R-4	.40
34561	.002 MFD. Condenser	.45
34558	1/2 Meg. Resistor, R-5	.40
32857	Power Tube Base and Contacts	.30
34565	No. 7 Filament Cable Assembly	.65
34519	No. 6 Cable Assembly	1.60
34525	No. 1 Audio Cable Assembly	.70
34600	No. 2 Harmonic Adjusting Cable Assembly	.70
33688	Conductor Cable (Metal Shielded)	.20
33689	Single Conductor Cable (Metal Shielded)	.10
34556	Antenna Pin Tip Assembly	.30
32498	6-MT-5" Varnished Tubing	.05
34666	7-MT-2" Varnished Tubing	.10
32999	Terminal Board and Lugs	.90
34532	600 Ohm Bias Resistor, R-9	.90
34567	50,000 Ohm Resistor, R-6	.45
50474	1.5 MFD Condenser Type B Small Size Bypass for R-9, 226	2.00
50453	1.5 MFD Condenser Type A Large Size Bias Resistor, C-10	2.80

**RADIO FREQUENCY UNIT ASSEMBLY PARTS**  
*(Continued)*

Part No.	Part	Price Each
34540	Pacent 4-1 2nd Audio Transformer . . .	\$8.50
34538	Pacent 3-1 1st Audio Transformer . . .	9.50
34543	6 Prong Phono. Switch, SW-2 . . .	1.70
34607	20 Ohm Hum Adjuster (Potentiometer), R-7 . . .	.90
34557	Antenna Pin Jacks, J-1, J-2, J-3 . . .	.40
37346	12 Ohm Shunt Resistor, R-10 . . .	.40
32984	Antenna Pin Jack Soldier Lugs . . . Doz.	.25
32495	Antenna Pin Jack Lock Washer, 3/8", Doz. . .	.20
32495	Lock Washer, 3/8" S. P. . . . . Doz.	.20
32468	Terminal Board Spaces . . . . .	.05
34533	Machine Screw, 2 1/2"-6/32" (Resistor Std) . . .	.10
37358	Hum Adjustor Insulator . . . . .	.20
16319	Lock Washer No. 6, 6/32" . . . . . Doz.	.25
32594	Insulator for Resistor (Paper) . . . . . Doz.	.20
32966	1st Audio Transformer Mounting Strip . . .	.05
63594	Bakelite Resistor Washer . . . . . Doz.	.20
37598	Soldier Lug . . . . . Doz.	.20
33990	Machine Screws, 1/4"-6/32" . . . . . Doz.	.20
29229	Machine Screws, 5/16"-6/32" . . . . . Doz.	.20
30028	Resistor Screw Nut (Hex. 6/32") . . . Doz.	.20

**SENIOR CHASSIS PARTS****MODEL C-1 — CHASSIS SC**

(See Plate No. 4)

When ordering Senior Chassis Parts not listed below, they will be found in Junior Chassis Parts Lists Plates, No. 1, No. 2, No. 3.

Part No.	Part	Price Each
37353	Terminal Strip . . . . .	\$0.50
38939	Senior Filament Transformer . . . . .	8.00
33996	1st Audio Transformer . . . . .	17.00
34567	Tube Shelf and Contacts . . . . .	2.75
32680	Cable Clamp . . . . .	.05
37173	Filament Unit Cover Plate . . . . .	.70
30883	Multiplug . . . . .	1.35
30888	Multiplug Cap . . . . .	.50
34677	Multi Cable (only) . . . . .	1.20
29670	Multiplug Screw 1 1/8" x 6-32" . . . Doz.	.25
16319	Multiplug Screw Lock Washer No. 6 Doz. . .	.25
34663	Multiplug Cable Assembly (Complete) . . .	8.90
34714	Parker Kalon Chassis Screw, 3/8"-No. 6 Doz. . .	.25
34514	Parker Kalon Chassis Screw, 1/4"-No. 6 Doz. . .	.25

**SENIOR POWER SUPPLY UNIT PARTS****MODEL C-1 — CHASSIS SC**

(See Plate No. 6)

Part No.	Part	Price Each
50502	Condenser Pack 2 1/2 MFD . . . . .	\$9.00
50482	Condenser Pack, 8 MFD . . . . .	12.00
33914	Power Transformer . . . . .	38.00
34692	50,000 Ohm Resistor (4 Watts) . . . . .	.60
33913	Choke Coil and Panel Assembly . . . . .	11.00
33910	2nd Audio Transformer (Amertran 4-1) . . . . .	17.25
23412	Brown Silk Cable, 23 3/4" . . . . .	.15
33940	No. 21 Cable . . . . .	.75
33903	No. 17 Cable, E. C. 6 . . . . .	.70
32503	Socket Insulator—4 used . . . . . Each	.05
32485	Socket (4 used) . . . . . Each	1.10
33922	Insulator for 18,500 Ohm Resistor . . . . .	1.00
63594	Resistor Washer (Bakelite) (2 used) Doz. . .	.20

**SENIOR POWER SUPPLY UNIT PARTS**  
*(Continued)*

Part No.	Part	Price Each
32502	Asbestos Washer (8 used) . . . . . Doz.	\$0.20
33798	Flat Brass Washer . . . . .	.25
32833	Resistor Stud, 7 1/8" x 6-32 . . . . .	.20
33969	18,500 Ohm Resistor . . . . .	2.00
33970	750 Ohm Resistor . . . . .	1.50
34533	Resistor Stud, 2 1/2" x 6-32 . . . . .	.10
16305	Flat Washer No. 10 . . . . . Doz.	.20
33929	Safety Switch Bracket . . . . .	.30
30483	Machine Screw, 8/16" x 4-36 . . . . . Doz.	.20
16391	Lock Washer No. 4 . . . . . Doz.	.20
32365	Ground Clamp . . . . .	.15
32351	Machine Screw, 8/4" x 10-32 . . . . . Doz.	.20
34719	Panel and Hexagon Post Assembly . . . . .	3.15
33908	Fuse Clip and Mount . . . . .	.35
33968	Safety Fuse, 2 1/2 Amp. . . . .	.10
33924	Line Voltage Control Switch . . . . .	.80
34598	Female Receptacle . . . . .	.55
32495	Lock Washer, 3/8" S. P. . . . . Doz.	.20
33935	50 Ohm Potentiometer (Hum Adjuster) . . .	.70
34559	Resistor 2 Meg. . . . .	.40
34524	2 Meg. Resistor Insulator . . . . . Doz.	.20
33911	Hum Adjuster Panel Assembly . . . . .	3.80
33931	Receptacle Bracket . . . . .	.30
34605	A. C. Receptacle (Male) . . . . .	.55
63594	Bakelite Audio Resistor Washer . . . . . Doz.	.20
30028	Hexagon Nut No. 6 x 6-32 . . . . . Doz.	.20
16319	Lock Washer No. 6 . . . . . Doz.	.25
29406	Flat Washer No. 6 . . . . . Doz.	.20
3055	Lock Washer No. 10 . . . . . Doz.	.20
34696	Machine Screw, 1/4" x 10-32 . . . . . Doz.	.20
34515	Hexagon Nut No. 10 . . . . . Doz.	.20
29229	Machine Screw, 5/16" x 6-32 . . . . . Doz.	.20
29223	Machine Screw, 8/8" x 6-32 . . . . . Doz.	.20

**ELECTRIC PICKUP PARTS****FOR MODELS C-1 AND C-2**

(See Plate No. 7)

Part No.	Part	Price Each
80695	Volume Control Knob with Set Screw . . .	\$0.70
80693	Volume Control Knob Set Screw . . . . .	.05
80694	Volume Control with Lock Nuts and Washer . . . . .	2.00
80584	Radio Leads Assembled (2) . . . . .	.60
34648	Phone Plug (Female) . . . . .	.50
34653	Phone Cord with Plug . . . . .	.70
80697	Motor Cord, Male G. E. Plug (Connector) . . . . .	.40
80718	Motor Cord with Plug . . . . .	1.00
80739	Motor Cord (2) 18" long . . . . .	.10
80752	Pickup Leads with Terminals . . . . .	.60
80753	48" Pickup Lead Wire . . . . .	.30
80754	Pickup Lead Terminals . . . . .	.05
80712	Scratch Filter . . . . .	4.00
1350	Scratch Filter Holding (Wood Screws) (2) . . . . .	.05
7712	Speed Adjusting Stud Nut . . . . .	.05
80684	Speed Adjusting Knob with Stud . . . . .	.65
80691	Speed Adjusting Cam Spring . . . . .	.05
80681	Speed Indicator Dial with Hub . . . . .	1.00
626	Speed Indicator Dial Screws (2) . . . . .	.05
1789826	Speed Regulator Cam . . . . .	.10
80794	Speed Indicator with Set Screw . . . . .	.40
2639	Speed Indicator Set Screw (1) . . . . .	.05
80671	Front Cover . . . . .	1.20
80643	Pickup Body . . . . .	4.50
80667	Magnet . . . . .	2.25
80645	Pickup Locking Spring . . . . .	.15
80674	Bottom Cover . . . . .	.50
80669	Magnet Clamping Plate . . . . .	.20
80657	Pickup Magnet Coil . . . . .	1.50
80649	Terminal (Left) . . . . .	.05
80648	Terminal (Right) . . . . .	.05
80676	Needle Clamping Screw . . . . .	.10
80670	Magnet Clamping Screw . . . . .	.05
80673	Bottom Cover Insulator . . . . .	.05
80675	Bottom Cover Screw . . . . .	.05
80672	Front Cover Screws . . . . .	.05

## ELECTRIC PICKUP PARTS (Continued)

Part No.	Part	Price Each
80662	Pickup Pole Piece, Assembled	\$1.50
80663	Pickup Pole Piece	.140
80666	Damper Cushion	.05
80619	Damper Screw	.05
80647	Terminal Block (Bakelite)	.20
80678	Terminal Block Screw	.05
7228	Terminal Screw (2)	.05
80603	Pole Piece Screw (2)	.05
80665	Damper	.05
80664	Damper Adjusting Washer	.05
80795	Pickup Locking Screw	.10
80656	Armature Retaining Plate (Left)	.80
80655	Armature Retaining Plate (Right)	.80
80654	Armature Insulator (2)	.05
80650	Armature Complete with Dia. Point	8.00
80677	Armature Retaining Plate Screw (2)	.05
80806	Pickup, Complete with Lead (Less Arm)	80.00
80688	Pickup Arm Stop Pin Rail	.35
17243	Pickup Arm Stop Pin Rail Screw (2)	.05
80621	Pickup Arm Assembled (Less Pickup)	20.00
80622	Pickup Arm (only)	10.00
80653	Pickup Arm Ring Screw (2)	.05
80630	Pickup Arm Trunnion Assembled	3.50
80631	Trunnion with Centers (only)	1.75
1290	Stop Pin Hinge Pin	.05
26433	Pivot Screw Nut (2)	.05
80635	Trunnion Pin Set Screw	.05
80774	Stop Pin Tip	.10
80629	Pickup Arm Pivot Screw (2)	.10
80633	Balance Spring	.20
80637	Pickup Arm Yoke Screw (2)	.05
80639	Pickup Arm Stop Pin	.35
80634	Trunnion Pin	.25
80636	Balance Spring Adjusting Screw	.05
80705	Stop Pin Adjusting Knob	.40
80704	Stop Pin Adjusting Screw	.05
80628	Pickup Arm Bracket	2.50
80638	Pickup Arm Ring	.50
7776	Automatic Stop Holding Screw (8)	.05
80735	Automatic Stop Assembled, C-1	3.00
80720	Automatic Stop Assembled, C-2	3.00
80732	Stop Lever Stud (3)	.05
80723	Stop Lever	.40
80733	Brake Bar and Starting Lever Assembled	1.10
44160	Brake Bar Spacing Washer	.05
80730	Base Plate and Pins	.30
80737	Brake Bar Stud	.05
80736	Brake Bar and Post Assembly	.35
80727	Brake Bar Spring	.10
80726	Brake Disc (Leather)	.05
80738	Brake Disc Washer (Metal)	.05
27	Brake Disc Screw	.05
80734	Starting Lever with Switch Plate	.60
8056	Switch Plate Pin (2)	.05
80729	Switch Plate (Fibre)	.05
1845	Pickup Arm Holding Screw (3)	.05

## ELECTRIC INDUCTION MOTOR

## USED IN MODELS C-1 AND C-2

(See Plate No. 8)

Part No.	Part	Price Each
2072614-G1	Frame complete with Bearing Bushing and Nameplates (give nameplate rating so nameplate can be stamped)	\$5.50
2072615	Left Hand Element complete (give nameplate data complete)	9.00
2066062	Right Hand Element complete (give nameplate data complete)	9.00
1796326	Connection Lead	.15
35222236	Lower Bearing Screw Furnished only with Turntable Shaft No. 3521932 and Ball No. 2072880-G21	

## ELECTRIC INDUCTION MOTOR (Continued)

Part No.	Part	Price Each
2072880-G21	Ball for Lower Bearing	\$0.10
80609	Turn-Table Shaft, Always furnished complete with Bearing Screw No. 35222236 and Ball No. 2072880-G21	2.50
1789918	Caps for Shaft (state whether brass or nickel finish is wanted)	.15
1789767	Oil Retainer Felt for Top Bearing	.10
1787394	Caps for Oil Retainer No. 1789767	.10
2066016	Disc Complete with Hub and Screw	3.75
P3 & P4		
3520507	Set Screw for Disc No. 2066016-P3 & P4 V	.25
2066016	Worm Gear complete with Hub Set Screw	.75
P5 & P18	Set Screw for Worm Gear	.15
3522486	Governor complete with Shaft	5.25
2072615	Governor Bearing complete	.25
3539731	Set Screw for Governor Bearing, Doz.	.20
2072880	Lower Mounting Screw for Element Clip for Lead	.10
P-22	Mounting Screw for Motor	.20
1789787	Felt Washer for Mounting Motor	.15
394261	Metal Washer for Mounting Motor	.10
1789762	Eccentric Cam for Regulator	.10
1788136	Spring for Mounting Motor	.30
1789996	Control Lever complete	1.15
1789826	Bushing for Control Lever	.10
1789763	Bearing Screw for Control Lever	.20
2066378	Friction Washer for Bearing Screw, Doz.	.25
1789999	Nut for Bearing Screw	.25
3520000	Top Mounting Screw for Element	.25
1788180	Doz.	
2072631-G8	Needle Cup complete	1.25
3522698	Needle Cup	.40
80615	Needle Cup Base	.85
42407	Turntable with Felt	7.50
42408	Turntable Felt	1.00
80739	Connection Lead	.05
80697	Connector Plug (male)	.40
80718	Motor Lead (assembled) with Plug	1.00

## CABINET HARDWARE AND MISCELLANEOUS PARTS

(See Plate No. 9)

## MODEL R-1

Part No.	Part	Price Each
80407	Back Frame Catch (flat)	\$0.05
14679	Leg Glide	.05
80513	Door Hinge Assembled	.40
1845	Door Hinge Screw (No. 5 x 3/4" flat head)	.05
80512	Door Pull	.50
977	Door Pull Screw (No. 10—24 x 1", R. H.)	.05
2153	Door Pull Screw Washers	.05
44222	Door Catch	.05
44223	Door Catch Striker	.05
44224	Door Catch Striker Nail	.10
1828	Door Pull Escutcheon Pin	.05
80518	Back Frame Catch, Complete with Striker and Nails	.10
8004	Back Frame Dowel Pins	.05
80742	Safety Switch Strike Plate	.05
80517	Grille Silk (10" x 10")	.60
80618	Dial Window	.10
80741	Edison Plate	.10
95321	Edison Plate Pin	.05
80509	Baffle Board	.75
1258	Baffle Board Screws, (No. 8 x 7/8" R.H.)	.05

**CABINET HARDWARE AND MISCELLANEOUS PARTS (Continued)**

Part No.	Part	Price Each
2153	Baffle Board Screw Washer .....	\$0.05
80719	Loud Speaker Connector (Type M. C.—H. & H. Midget Male Plug) .....	.55
10306	Loud Speaker Bolts, 8/16" x 2 1/4" R. H. with Sq. Nut .....	.05
10306	Loud Speaker Bolt, Square Nut (3/16") .....	.05
2153	Loud Speaker Bolt Washers .....	.05
16665	Loud Speaker Bolt Lockwashers .....	.05
80749	Loud Speaker Clamp Plate .....	.10
80759	Loud Speaker Felt Pads .....	.05
80412	Wooden Knob with Set Screw (1 1/2" Dia.) Dial .....	.55
80413	Wooden Knob with Set Screw (1 1/4" Dia.) Volume Control .....	.50
80414	Wooden Knob with Set Screw (1" Dia.) Radio Phono. Switch .....	.45
80414	Wooden Knob with Set Screw (1" Dia.) Switch, on and off .....	.45
80519	Upper Back Screen (16 x 9 1/2") .....	.50
80520	Lower Back Screen (16 x 11 3/4") .....	.55

**CABINET HARDWARE AND MISCELLANEOUS PARTS (Continued)**

Part No.	Part	Price Each
95321	Edison Plate Pin .....	\$0.05
1258	Baffle Board Screw .....	.05
2153	Baffle Board Screw Washer .....	.05
80719	Loud Speaker Connectors (Type M. C.—H. & H. Midget Male Plugs) .....	.55
1352	Loud Speaker Bolts (8/16" x 1 1/4" R.H. with Square Nut) .....	.05
1352	Loud Speaker Bolt, Square Nut .....	.05
16665	Loud Speaker Bolt Lock Washer .....	.05
2153	Loud Speaker Bolt Washer .....	.05
80749	Loud Speaker Clamp Plate .....	.10
80759	Loud Speaker Felt Pads .....	.05
80412	Wooden Knob with Set Screw (1 1/2" Dia.) Dial .....	.55
80413	Wooden Knob with Set Screw (1 1/4" Dia.) Volume Control .....	.50
80414	Wooden Knob with Set Screw (1" Dia.) Radio Phono. Switch .....	.45
80414	Wooden Knob with Set Screw (1" Dia.) Switch, on and off .....	.45
80586	Back Screen .....	.85

**CABINET HARDWARE AND MISCELLANEOUS PARTS**
**MODEL R-2**

(See Plate No. 9)

Part No.	Part	Price Each
14679	Leg Glider .....	\$0.05
80407	Back Frame Catch (flat) .....	.05
1850	Back Frame Catch Screw No. 4 x 5/8" R. H. Brass .....	.05
80518	Back Frame Catch with Striker and Nails .....	.10
8004	Back Frame Dowel Pin .....	.05
80742	Safety Switch Strike Plate .....	.05
80416	Cabinet Grille Silk (10" x 11 1/2") .....	.60
80618	Dial Window .....	.10
80741	Edison Plate .....	.10
95321	Edison Plate Pin .....	.05
80409	Baffle Board .....	.60
1258	Baffle Board Screw No. 8 x 7/8" R. H. ....	.05
2153	Baffle Board Screw Washers .....	.05
80719	Loud Speaker Connectors (Type M. C.—H. & H. Midget) (Male Plugs) .....	.55
1352	Loud Speaker Bolt, 8/16" x 1 1/4" R. H. with Square Nut .....	.05
1352	Loud Speaker Bolt, Squart Nut (8/16") .....	.05
16665	Loud Speaker Bolt Lock Washer .....	.05
2153	Loud Speaker Bolt Washer .....	.05
80749	Loud Speaker Clamp Plate .....	.10
80759	Loud Speaker Felt Pads .....	.05
80412	Wooden Knob with Set Screw (1 1/2" Dia.) Dial .....	.55
80413	Wooden Knob with Set Screw (1 1/4" Dia.) Volume Control .....	.50
80414	Wooden Knob with Set Screw (1" Dia.) Switch, on and off .....	.45
80414	Wooden Knob with Set Screw (1" Dia.) Radio Phono. Switch .....	.45
80418	Upper Back Screen (16 x 6 3/4") .....	.40
80507	Lower Back Screen (16 x 11") .....	.50

**CABINET HARDWARE AND MISCELLANEOUS PARTS**
**MODEL C-2**

(See Plate No. 9)

Part No.	Part	Price Each
44425	Leg Glide .....	\$0.10
80513	Door Hinge .....	.40
1694	Door Hinge Screw (No. 5 x 5/8" F. H. Bright) 4 used .....	.05
1345	Door Hinge Screw (No. 5 x 3/4" F. H.) 12 used .....	.05
80512	Dood Pull .....	.50
999	Door Pull Screw (No. 10-24 x 7/8" R.H.) .....	.05
2153	Door Pull Screw Washers .....	.05
1328	Door Pull Escutcheon Pin .....	.05
44222	Door Catch .....	.05
44223	Door Catch Striker .....	.05
44224	Door Catch Striker Nail .....	.10
80616	Cover Hinge .....	2.00
1273	Cover Hinge Screw (22 used) .....	.05
42443	Cover Cushions (Brown Felt) .....	.05
80518	Back Frame Catch with Striker and Nails .....	.10
8004	Back Frame Dowel Pin .....	.05
80605	Motor Board Bracket (4 used) .....	.10
1258	Motor Board Bracket Screw (No. 8 x 7/8" R. H.) 12 used .....	.05
48099	Motor Board Screw (No. 8-32 x 1 1/4" oval head) .....	.05
42186	Motor Board Screw Washer .....	.05
80679	Stay Arm (right) .....	4.00
80680	Stay Arm (left) .....	4.00
71	Stay Arm Screw (No. 6 x 5/8" R. H.) 8 used .....	.05
9382	Stay Arm Fibre Washer .....	.05
17782	Stay Arm Metal Washer .....	.05
18090	Stay Arm Cotter Pin .....	.05
80407	Back Frame Catch (flat) .....	.05
80742	Safety Switch Strike Plate .....	.05
1350	Back Frame Catch Screw (No. 4 x 5/8" R. H.) .....	.05
80613	Grille Silk (10" x 11") .....	.60
80618	Dial Window .....	.10
80741	Edison Plate .....	.10
95321	Edison Plate Pin .....	.05
80617	Baffle Board .....	.75
1258	Baffle Board Screw (No. 8 x 7/8" R. H.) .....	.05
2153	Baffle Board Screw Washer .....	.05
80719	Loud Speaker Connector (Type M. C.—H. & H. Midget Male Plugs) .....	.55
1353	Loud Speaker Bolts (8/16" x 3" R. H. with Square Nut) .....	.05

**CABINET HARDWARE AND MISCELLANEOUS PARTS**
**MODEL C-1**

(See Plate No. 9)

Part No.	Part	Price Each
80618	Dial Window .....	\$0.10
80741	Edison Plate .....	.10

**CABINET HARDWARE AND MISCELLANEOUS  
PARTS (Continued)**

Part No.	Part	Price Each
1853	Loud Speaker Bolt Square Nut (3/16")	\$0.05
16665	Loud Speaker Lock Washer .....	.05
2153	Loud Speaker Washer .....	.05
80749	Loud Speaker Clamp Plate .....	.10
80759	Loud Speaker Felt Pads .....	.05
80412	Wooden Knob with Set Screw (1 1/2" Dia.) Dial .....	.55
80413	Wooden Knob with Set Screw (1 1/4" Dia.) Volume Control .....	.50
80414	Wooden Knob with Set Screw (1" Dia.) Radio Phono. Switch .....	.45
80414	Wooden Knob with Set Screw (1" Dia.) Switch, on and off .....	.45
80750	Upper Back Screen (16" x 5 1/2") .....	.35
80751	Lower Back Screen (16" x 13 1/2") .....	.60

**DYNAMIC SPEAKER PARTS (Continued)**

Part No.	Part	Price Each
10306	Speaker Holding Bolt with Nut and Washers, Model R-1 .....	\$0.05
1853	Speaker Holding Bolt with Nut and Washers, Model C-2 .....	.05
10306	Speaker Holding Bolt with Nut and Washers, Model C-1 .....	.05

**SPECIAL TOOLS**

(Plate No. 5)

Prices Furnished on Request

**DYNAMIC SPEAKER PARTS**
**MODELS C-1, C-2, R-1, R-2**

(See Plate No. 10)

Part No.	Part	Price Each
6016-E	Transformer Bracket .....	\$1.30
6017	Laminations .....	2.90
6030-K	Transformer Coil .....	2.80
6035	Transformer Assembly (only) .....	11.00
6502-K	Transformer and Base, Assembled .....	15.50
6093-F	Power Pot Assembly .....	36.00
6015-F	Power Coil .....	18.00
6096	Voice Coil and Cone, Assembled .....	11.00
6090	Cone Clamping Ring Assembly .....	6.00
6026-E	Strap (copper) .....	2.70
S-5	Clamp Screw .....	Doz. .20
N-2	Clamp Screw Nut .....	Doz. .20
L-2	Clamp Screw Nut Washer .....	Doz. .20
6040	Bottom Plate .....	1.45
6018	Rear Support .....	.80
6098	Name Plate .....	.35
6011-A	Terminal Board .....	.40
M-5	United Shoe Eyelet .....	Doz. .20
S-3	Transformer Screw .....	Doz. .20
L-2	Transformer Screw Lock Washer, Doz. .....	.20
S-6	Rear Support Screw .....	Doz. .20
L-4	Rear Support Screw Lock Washer, Doz. .....	.20
6002	Power Pot .....	9.25
6029	Rubber Bushing .....	.05
6036	Shading Ring .....	1.80
S-6	Shading Ring Screw .....	Doz. .20
S-24	Pole Piece Screws .....	.10
L-5	Transformer and Pot Assembly Screw Lock Washer .....	.20
S-15	Transformer and Power Pot Assembly Screw .....	Doz. .20
6097	Voice Coil Assembly .....	4.80
S-16	Connector Screw .....	Doz. .20
N-5	Connector Screw Nut .....	Doz. .20
W-6	Connector Screw Washer .....	Doz. .20
6021	Coil Clamp .....	.55
6024	Coil Insulator (outer) .....	.05
6029	Rubber Bushing .....	.05
6039	Cone Clamping Ring (less pad) .....	2.60
6044	Cone Mounting Pad .....	.70
S-38	Cone Clamp Ring Screw .....	Doz. .20
6069	Coil Insulator (inner) .....	.05
6023	Coil Clamp Screw .....	.05
83964	Male Plug .....	.45
6022	Strap Clamping Screw Insulator .....	.05
6117	Strap Clamp Spacer .....	.05
6025	Strap Screw Insulator .....	.05
80749	Speaker Clamp Plate .....	.10
1852	Speaker Holding Bolt with Nut and Washers, Model R-2 .....	.05

**BLUE PRINTS**

Size 16" x 24"

Plate No. 1 .....	\$0.25
Plate No. 2 .....	.25
Plate No. 3 .....	.25
Plate No. 4 .....	.25
Plate No. 5 .....	.25
Plate No. 6 .....	.25
Plate No. 7 .....	.25
Plate No. 8 .....	.25
Plate No. 9 .....	.25

NOTE. These Plate Numbers refer to Drawing Plates contained in Radio Service Manual. These Blueprints are especially recommended for shop use.

**TEST EQUIPMENT**

	List Price
Weston Test Box, Model 527, Type 2 .....	\$100.00
Hickok Set Tester, No. AC-4600 .....	125.00
Roller Smith Radio Continuity Tester Type HTD .....	25.00

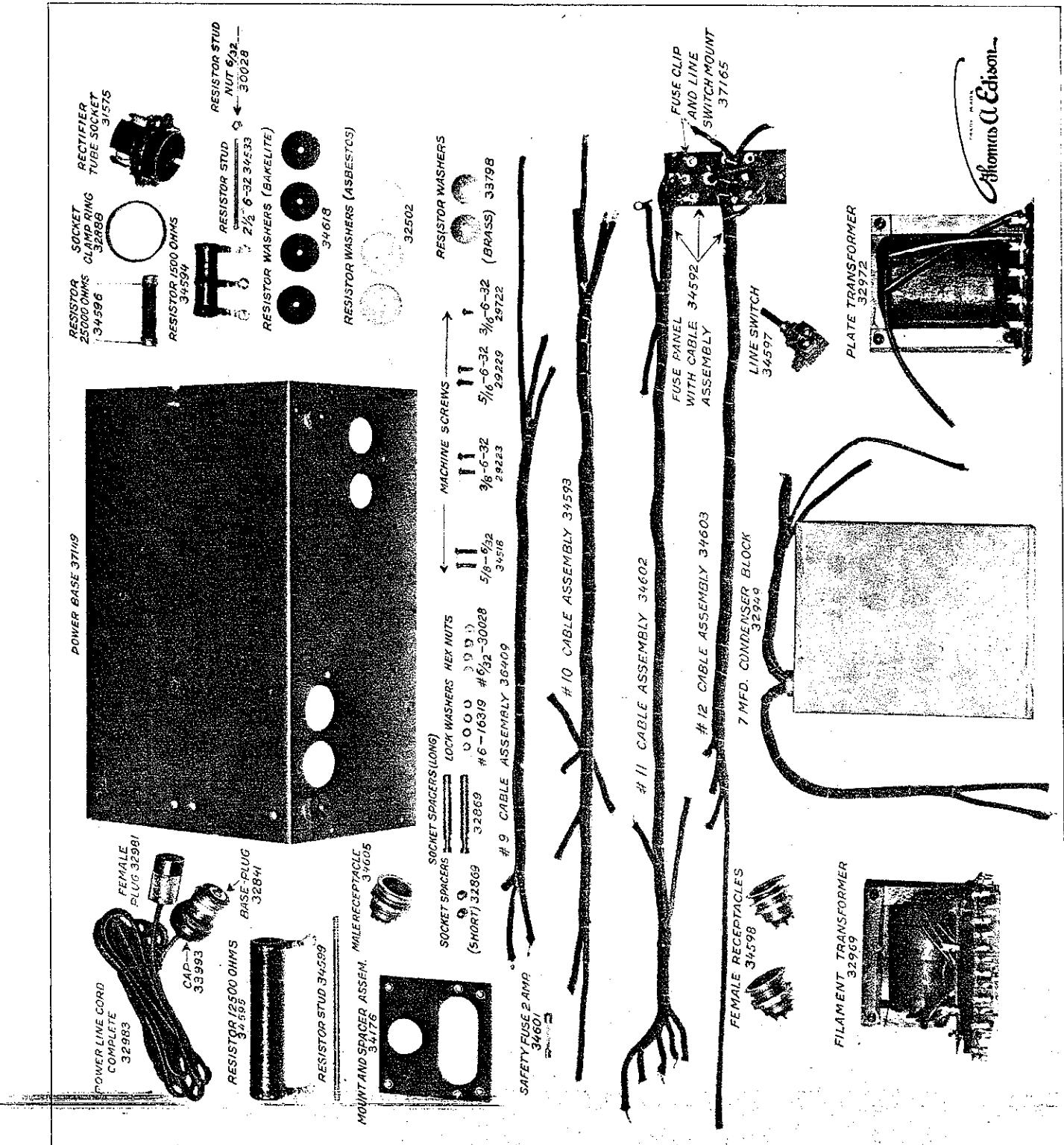
(Discounts on all Test Equipment may be had on application)

**25 CYCLE POWER UNIT**

Part No.	Part	Price Each
52356	Filter Block 10. MFD .....	\$26.00
84698	Power Transformer and Panel Assembly .....	50.00

NOTE. All other parts identical with 60 cycle chassis.

## EDISON RADIO PARTS CATALOGUE



**PLATE No. 1.**

**POWER UNIT ASSEMBLY PARTS**  
**MODELS R-1, R-2 and C-2      CHASSIS JR. and JC.**

EDISON RADIO PARTS CATALOGUE

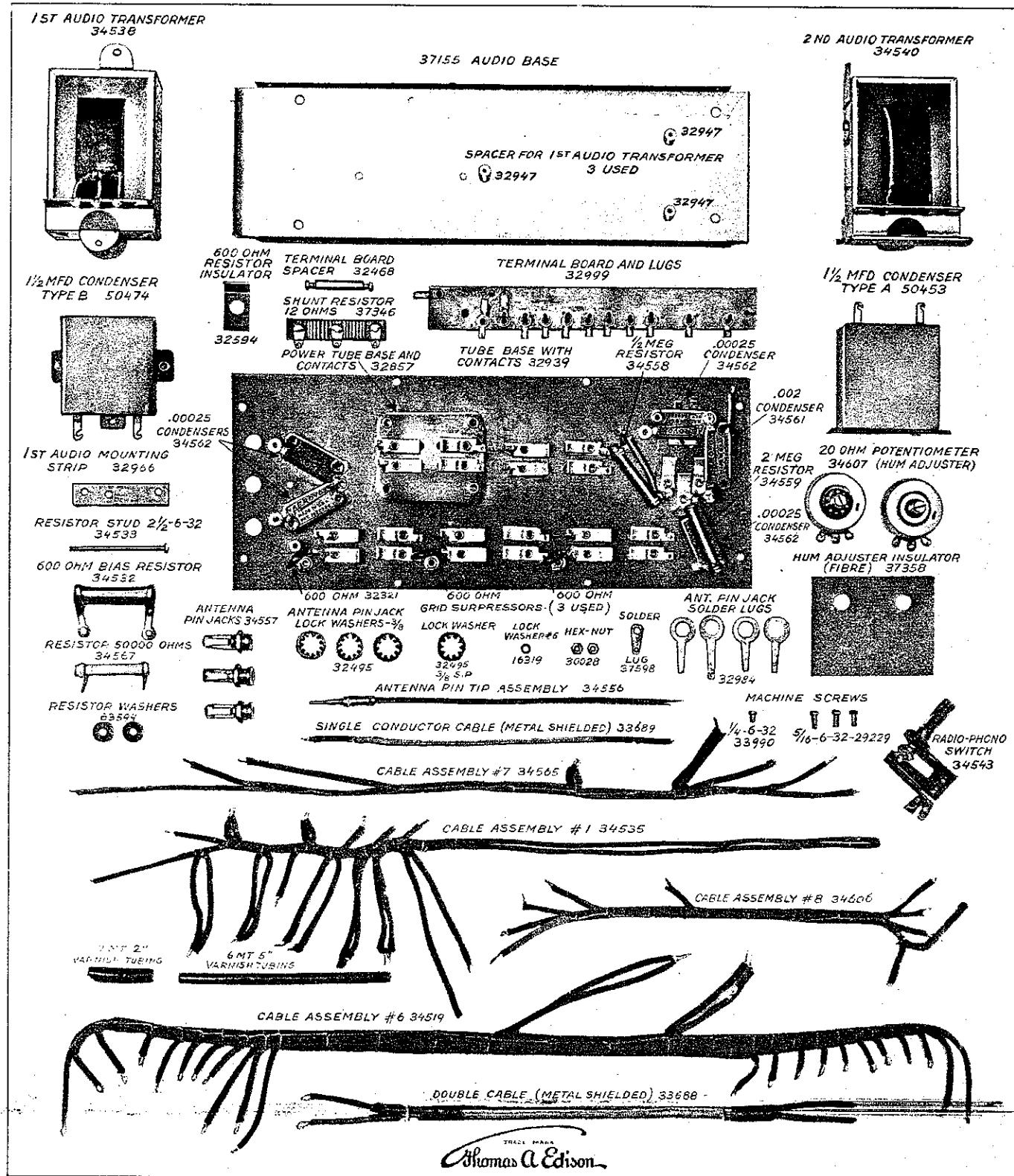
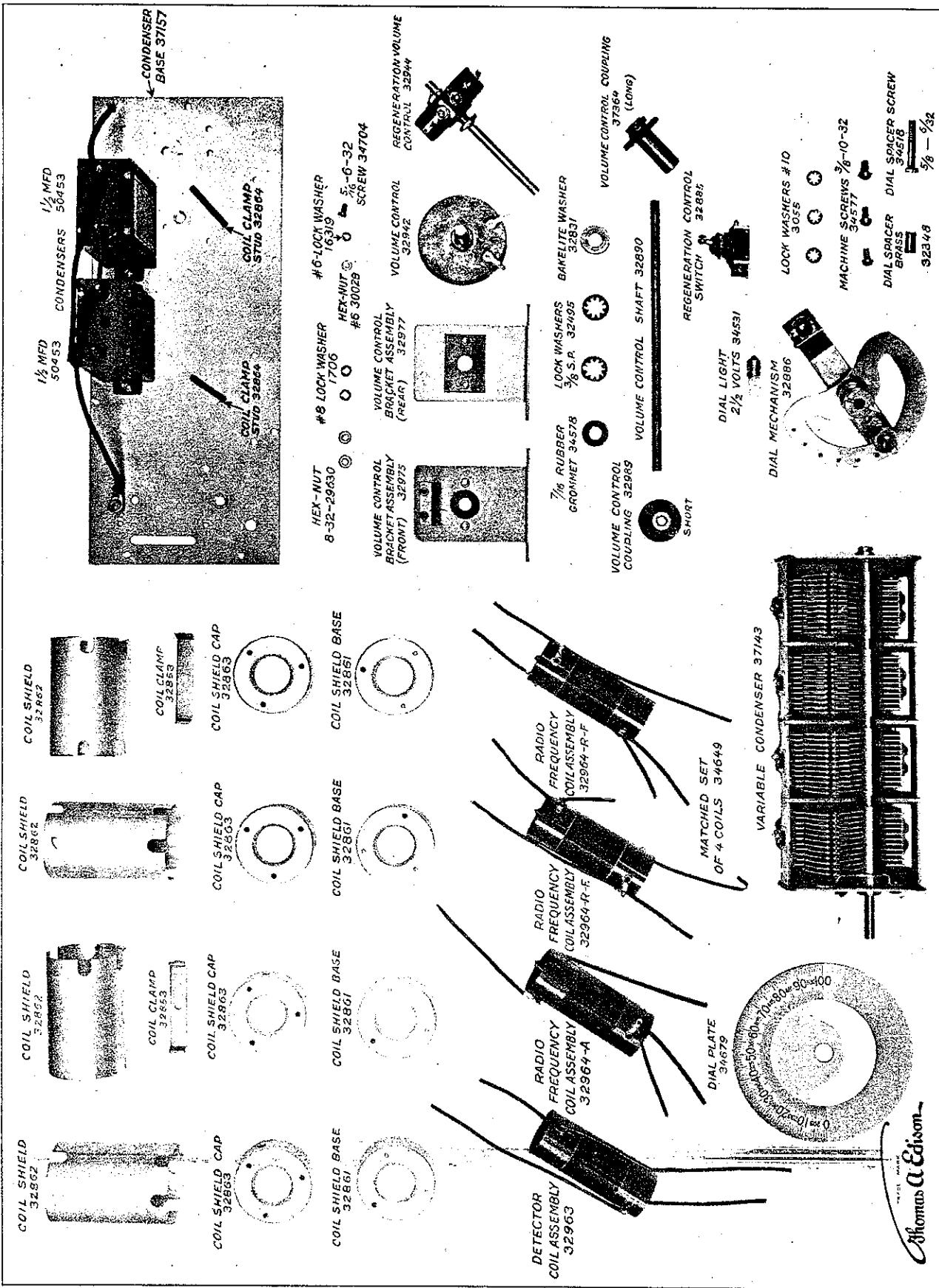


PLATE No. 2.

AUDIO UNIT ASSEMBLY PARTS  
MODELS R-1, R-2 and C-2 CHASSIS JR. and JC.

## EDISON RADIO PARTS CATALOGUE



**PLATE No. 3.**

## RADIO FREQUENCY UNIT ASSEMBLY PARTS

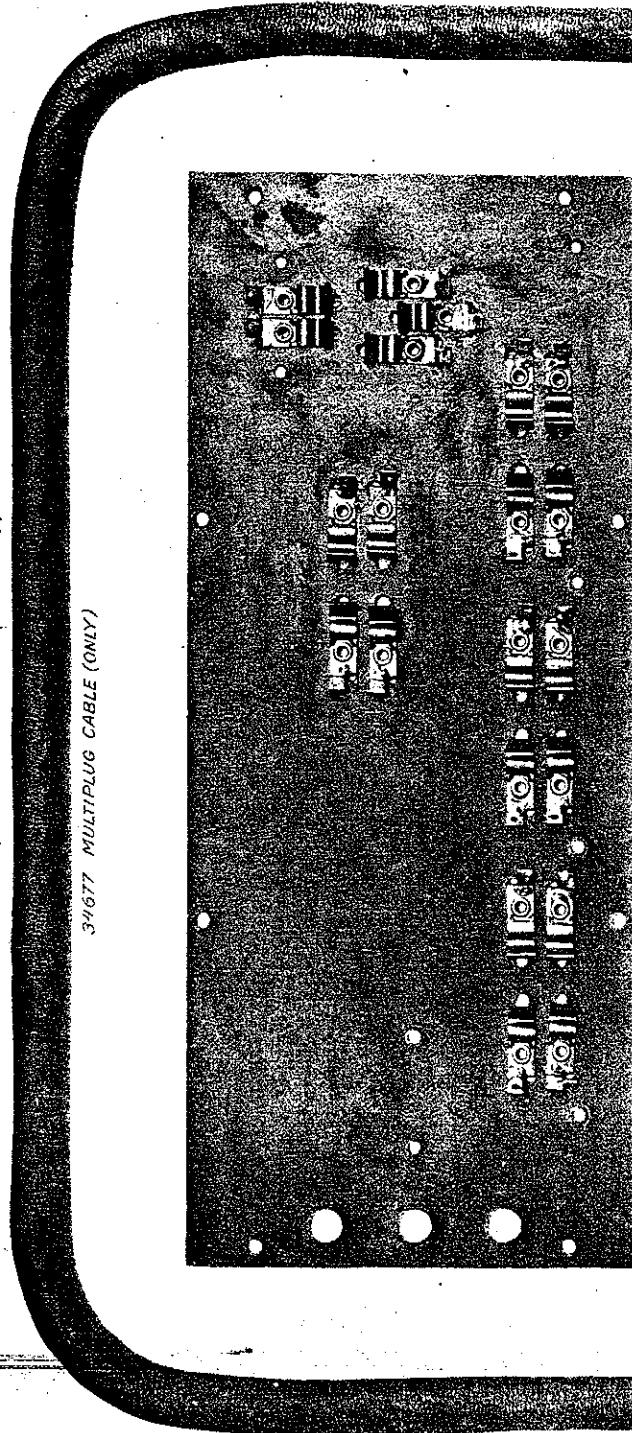
### MODELS R-1, R-2 and C-2

CHASSIS JR. and JC.

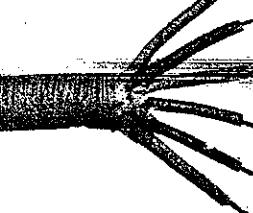
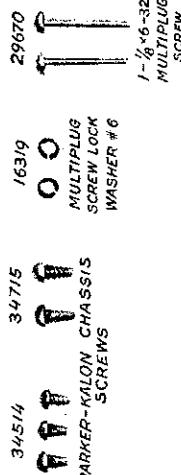
EDISON RADIO PARTS CATALOGUE

34663 MULTIPUG CABLE ASSEMBLY (COMPLETE)

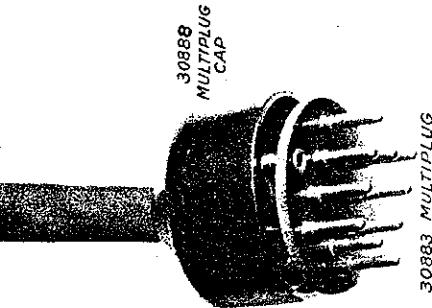
34677 MULTIPUG CABLE (ONLY)



34567 TUBE SHELF AND CONTACTS



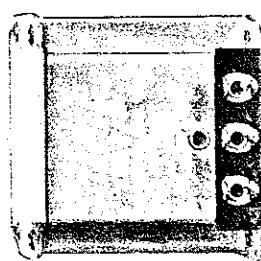
SENIOR CHASSIS PARTS  
MODEL C-1 CHASSIS SC



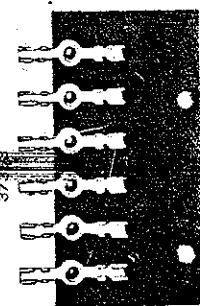
*Thomas A Edison*

FILAMENT TRANSFORMER

1ST AUDIO TRANSFORMER



33996



TERMINAL STRIP WITH CONTACTS

## EDISON RADIO PARTS CATALOGUE

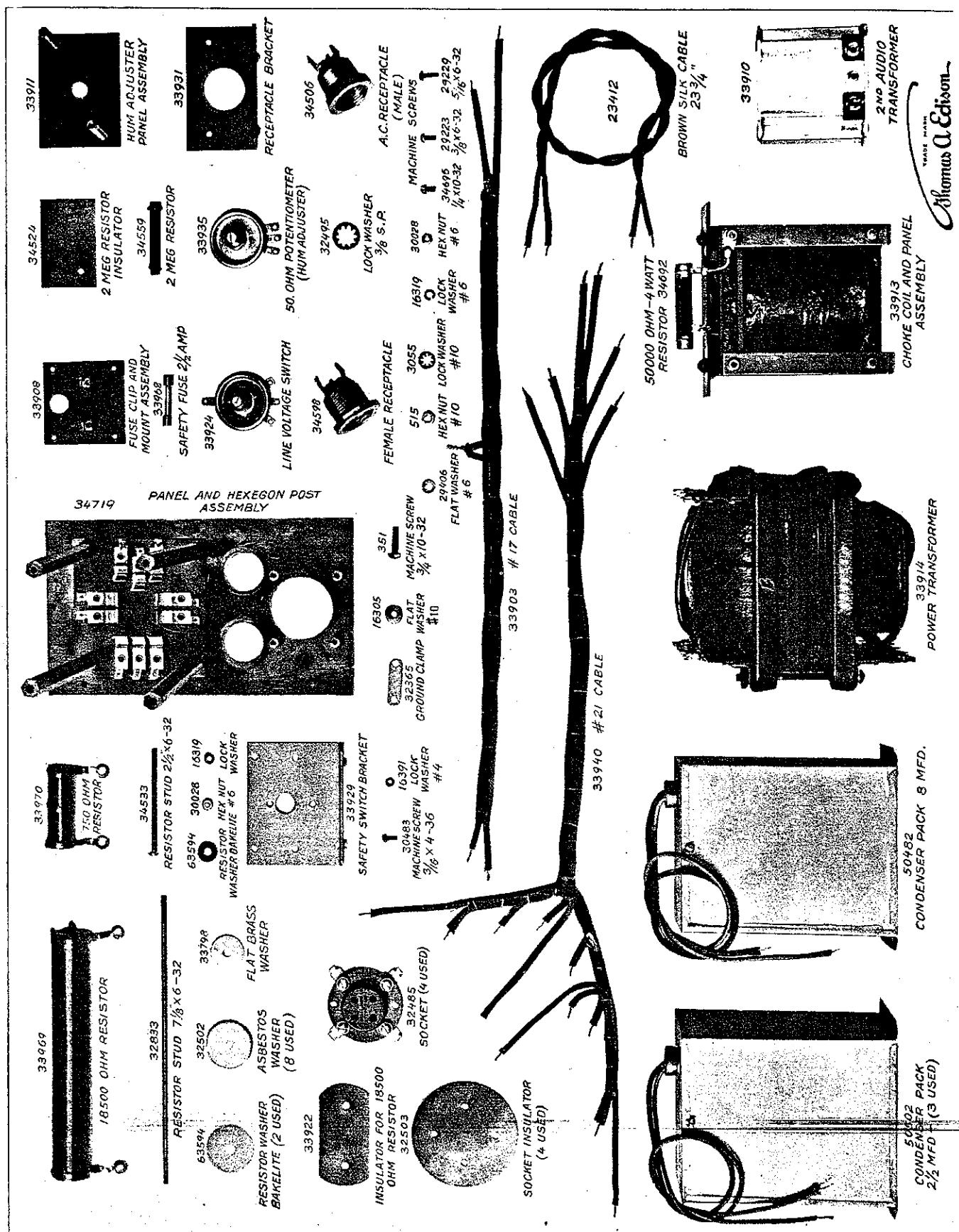


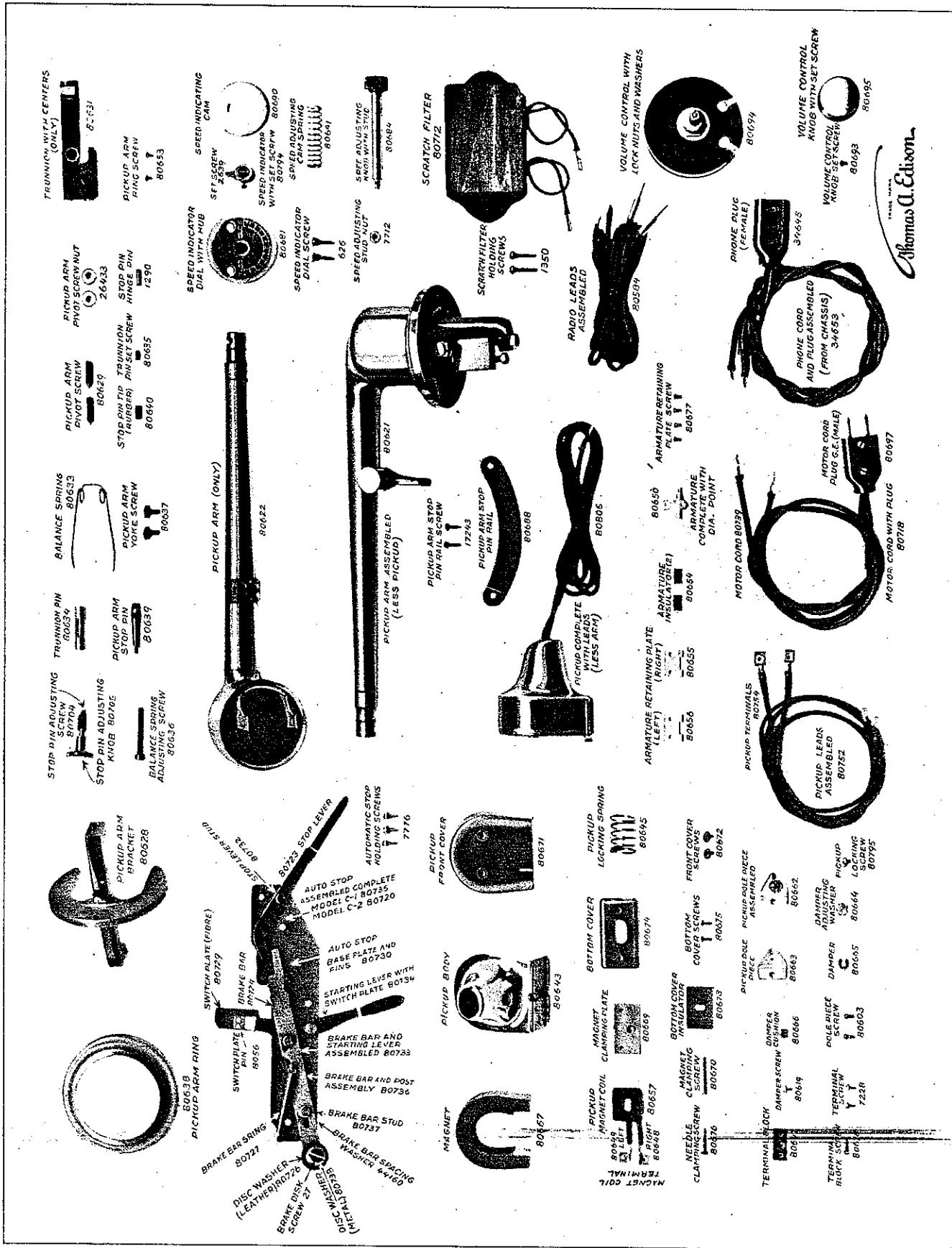
PLATE No. 6.

## **SENIOR POWER SUPPLY UNIT PARTS**

## **MODEL C-I**

## **CHASSIS SC**

## EDISON RADIO PARTS CATALOGUE



**PLATE No. 7.**

## **ELECTRIC PICKUP PARTS**

## MODELS C-1 AND C-2

EDISON RADIO PARTS CATALOGUE

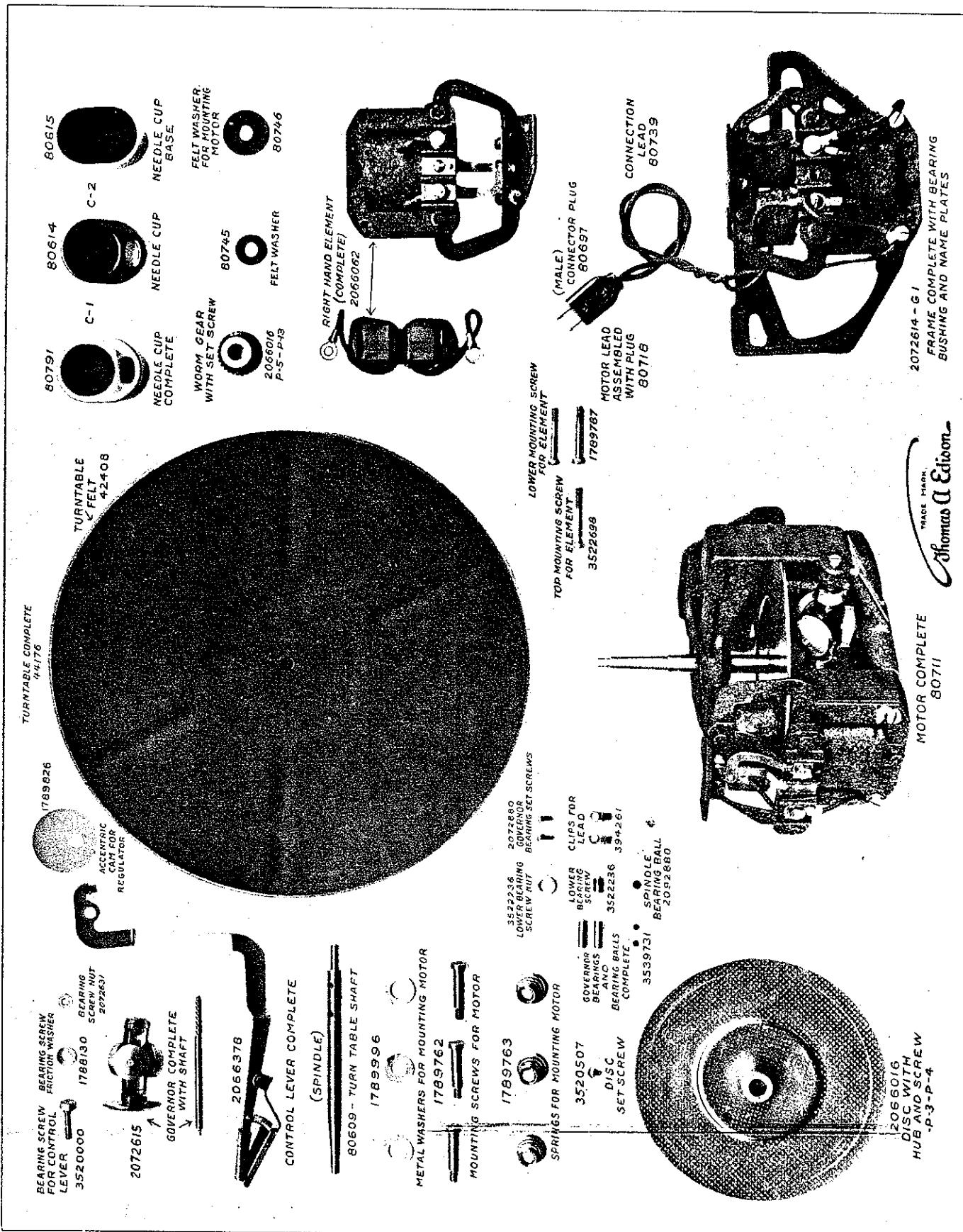


PLATE No. 8.

ELECTRIC INDUCTION MOTOR PARTS  
MODELS C-1 AND C-2

EDISON RADIO PARTS CATALOGUE

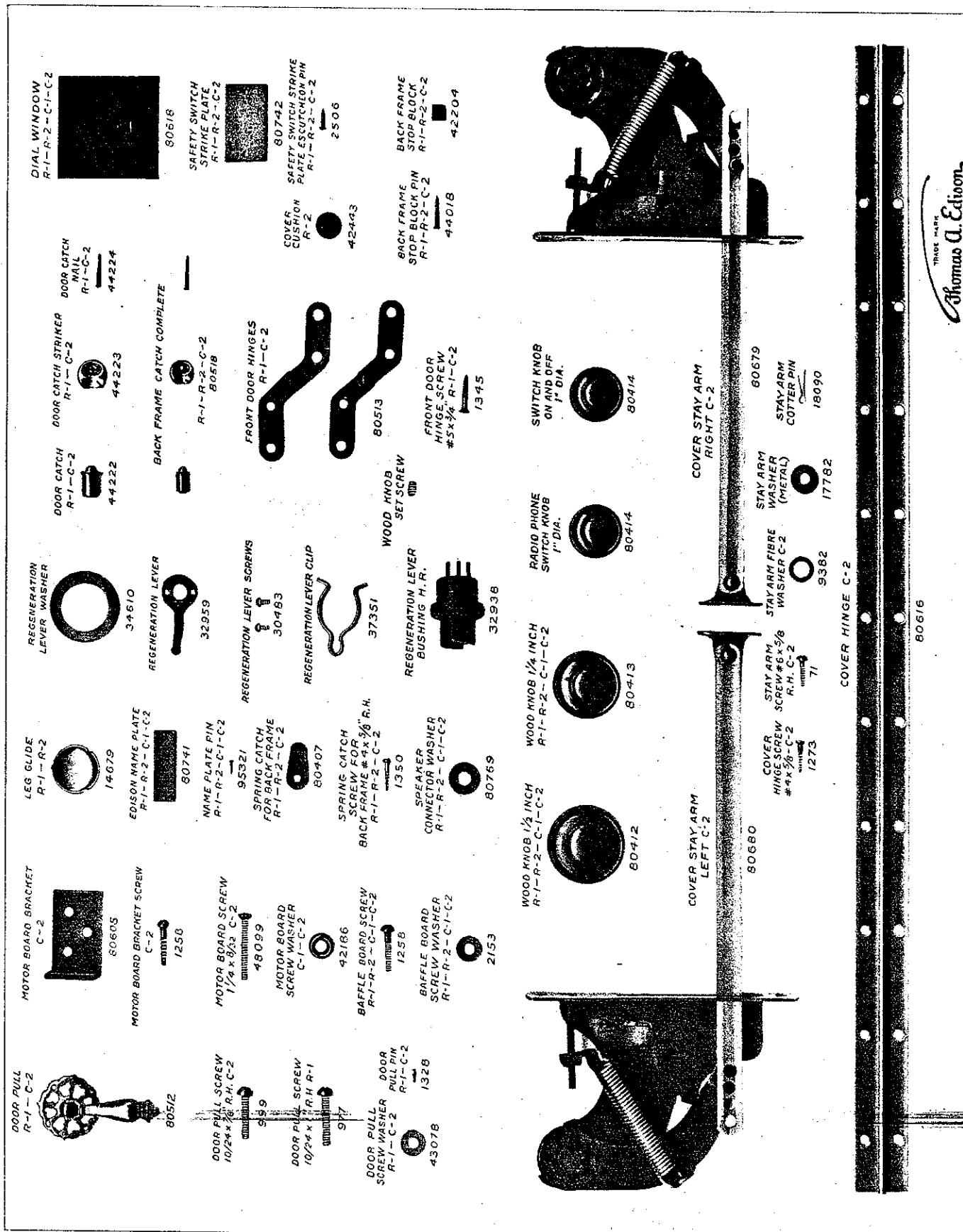


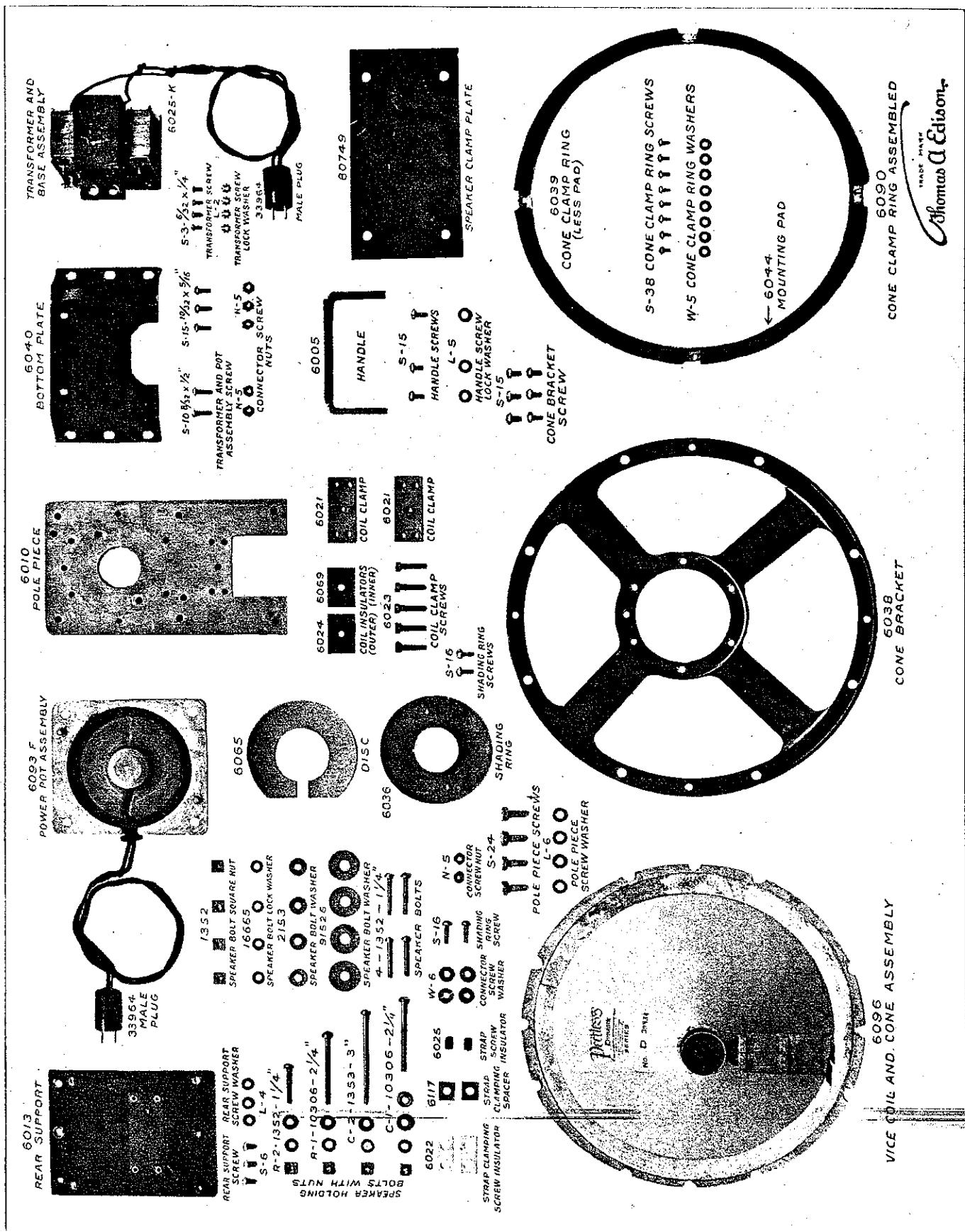
PLATE No. 9.

CABINET HARDWARE AND MISCELLANEOUS PARTS

MODELS R-1, R-2, C-1 AND C-2

TRADE MARK  
*Thomas A. Edison.*

## EDISON RADIO PARTS CATALOGUE



**PLATE No. 10.**

## DYNAMIC SPEAKER PARTS

## **MODELS R-1, R-2, C-1 AND C-2**