Most - Often - Needed

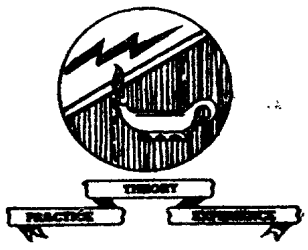
1926-1938

RADIO DIAGRAMS

and Servicing Information

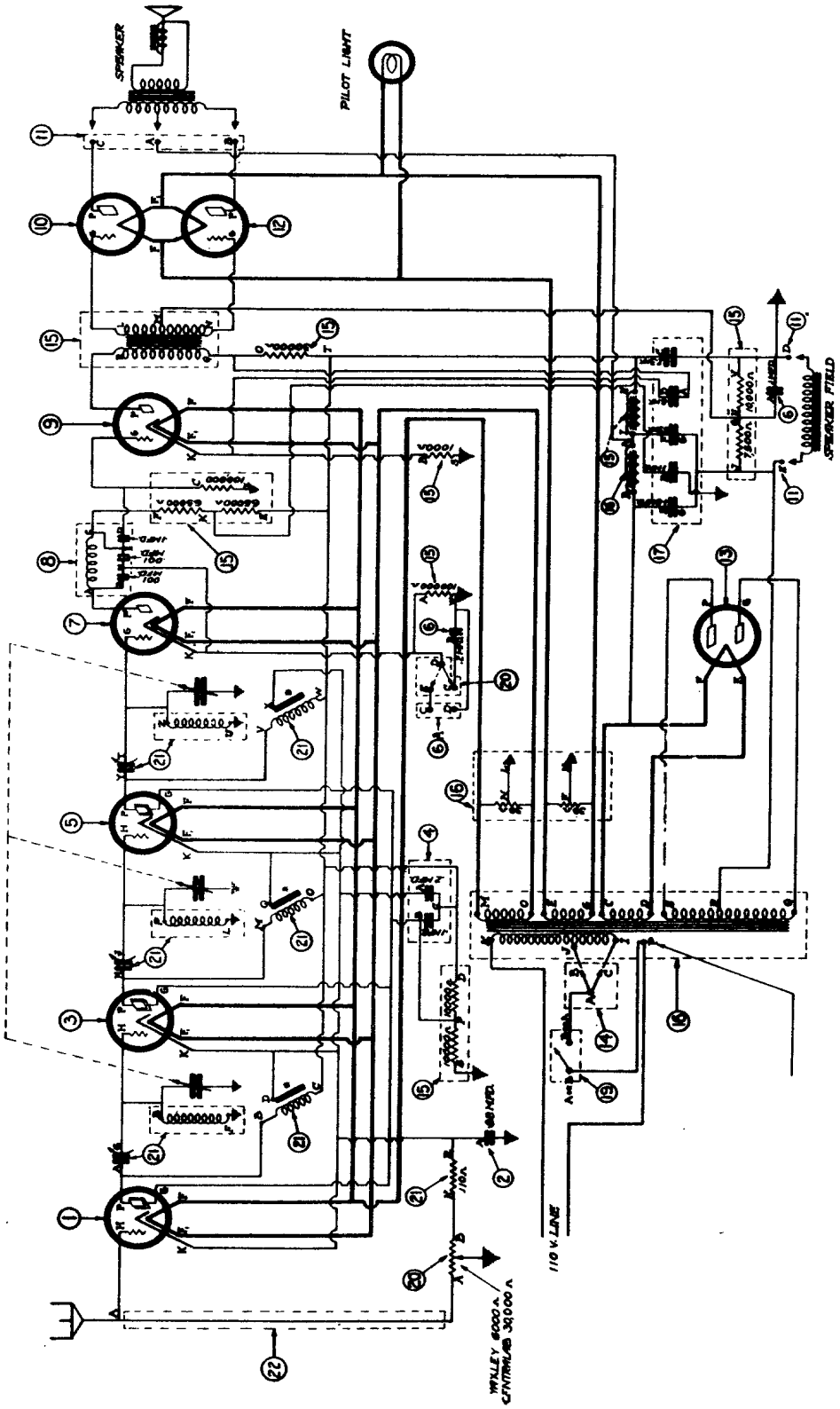
Compiled by

M. N. BEITMAN

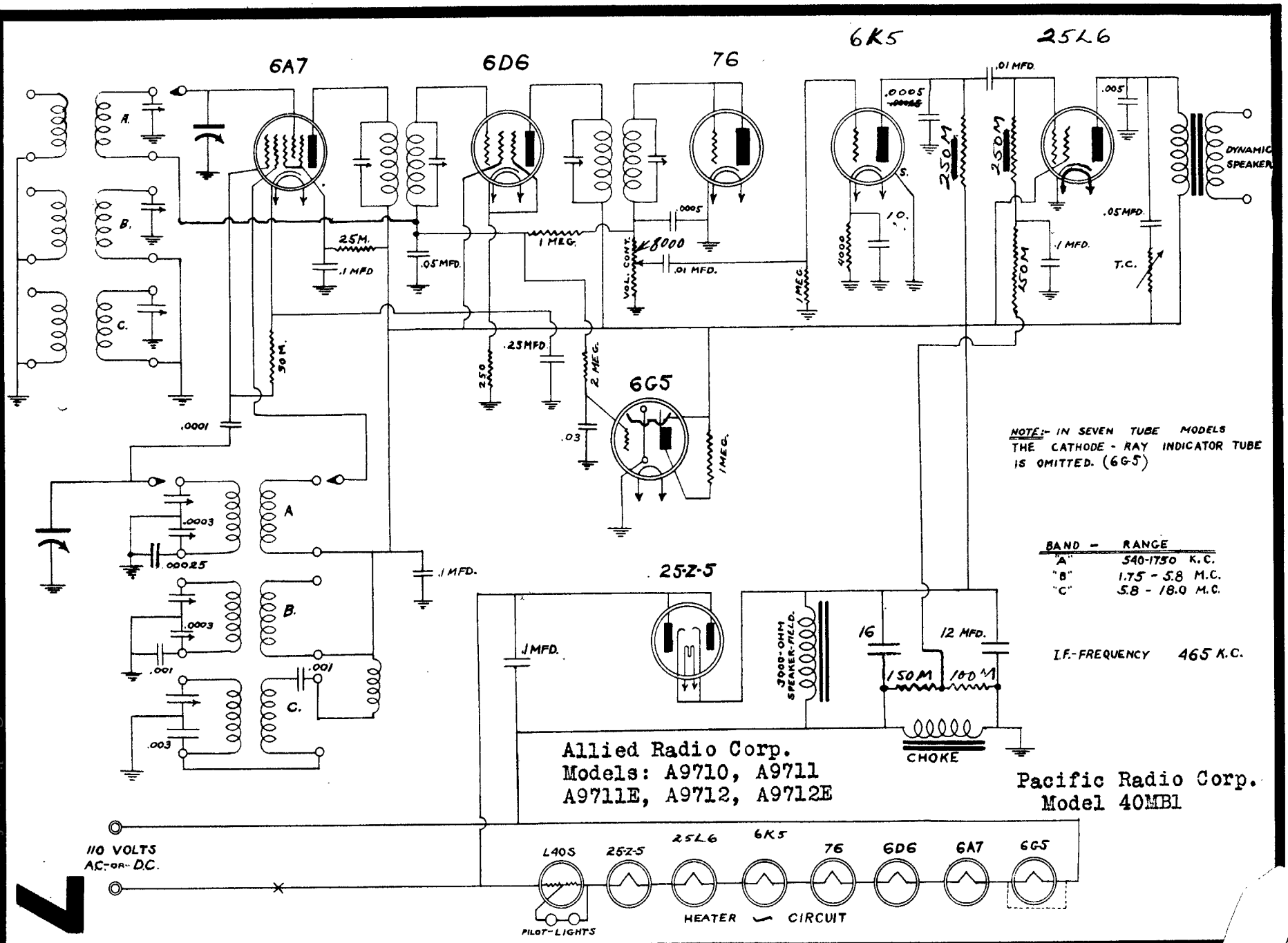


SUPREME PUBLICATIONS
CHICAGO

Index



Allied Radio Corp.
Columbia SG-8



NOTE:- IN SEVEN TUBE MODELS THE CATHODE - RAY INDICATOR TUBE IS OMITTED. (6G-5)

BAND	RANGE
"A"	540-1750 K.C.
"B"	1.75 - 5.8 M.C.
"C"	5.8 - 18.0 M.C.

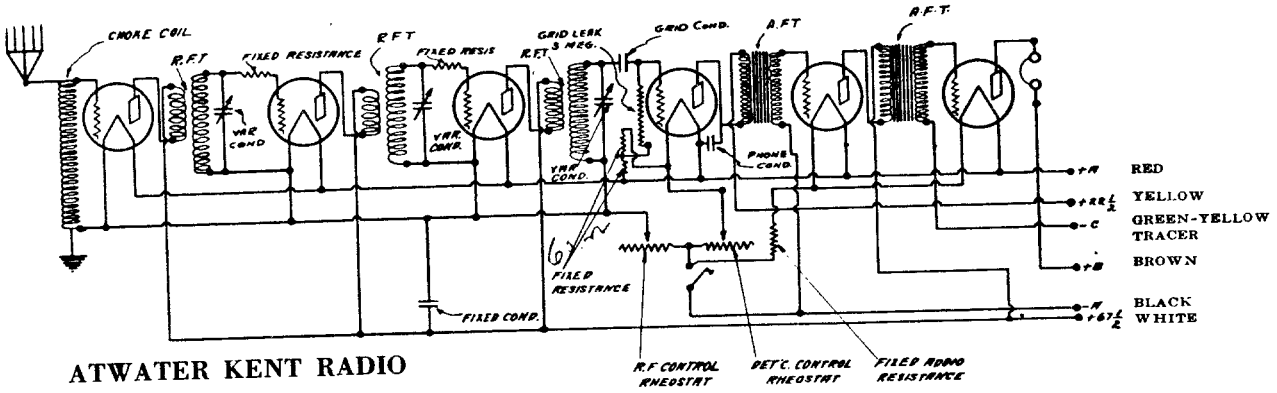
I.F.-FREQUENCY 465 K.C.

Allied Radio Corp.
Models: A9710, A9711
A9711E, A9712, A9712E

Pacific Radio Corp.
Model 40MB1

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

MODEL 30, 32, 35 AND 48



ATWATER KENT RADIO

WIRING DIAGRAM OF MODEL 30, 35 AND 48.

In Model 35, one rheostat controls the three R. F. filaments and a fixed resistor is connected in series with the detector and two A. F. filaments

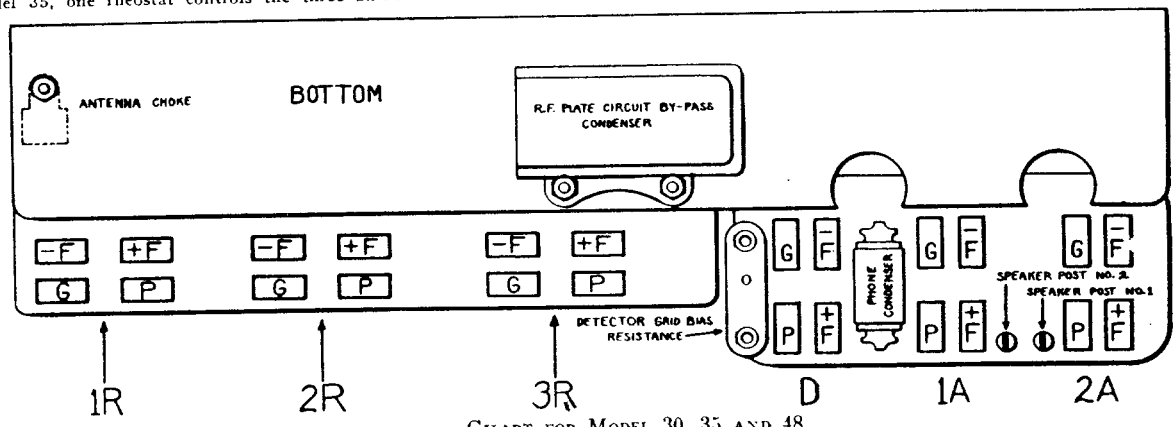
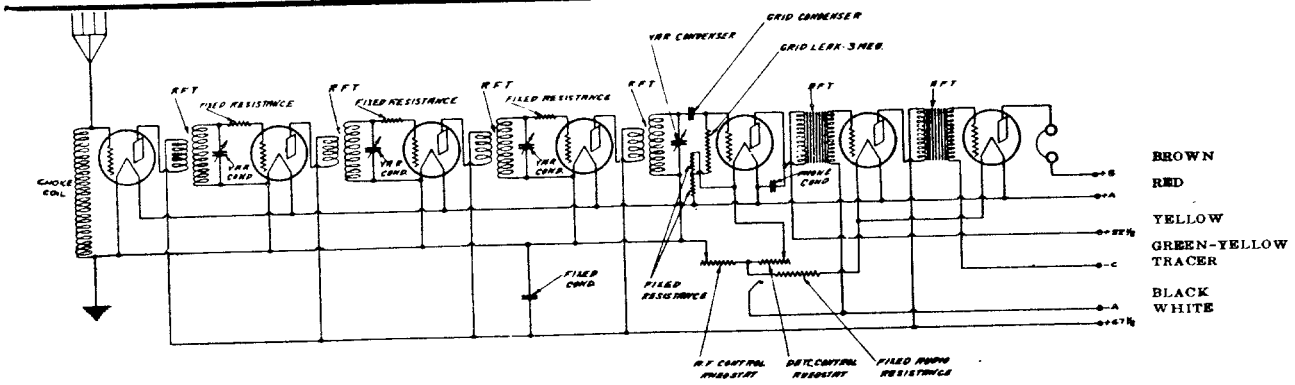


CHART FOR MODEL 30, 35 AND 48.

Early Model 30 Sets have separate R. F. sockets, but the socket contacts are in same relative position as shown in above chart.



WIRING DIAGRAM OF MODEL 32.

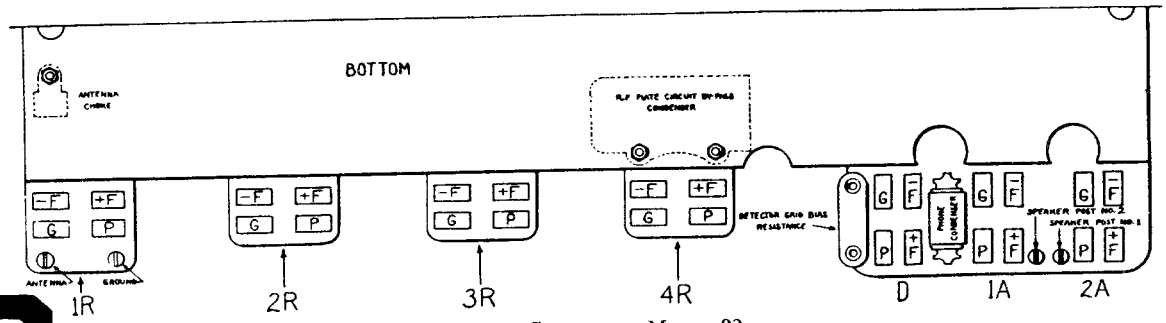


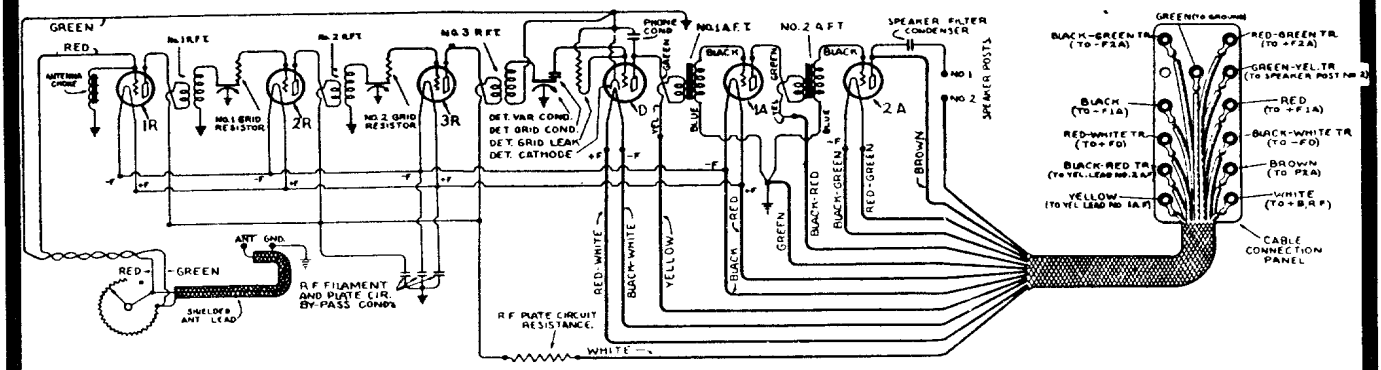
CHART FOR MODEL 32.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

ATWATER KENT RADIO

MODEL 37, 37-F. 37-C CHASSIS



WIRING DIAGRAM OF MODEL 37, 37-F, 37-C.

A 2nd-A. F. filament-shunt resistor is used before Serial No. 1,385,000, in which case speaker post No. 2 connects to the centre-tap of this resistor, and the green-yellow tracer lead is not used. The R. F. plate circuit resistor is used after Serial No. 1,385,000.

In Model 37-C the on-off switch is connected to the two terminals on either side of the ground eyelet. A 2nd A. F. filament shunt resistor is used in the chassis of all Model 37-C receivers.

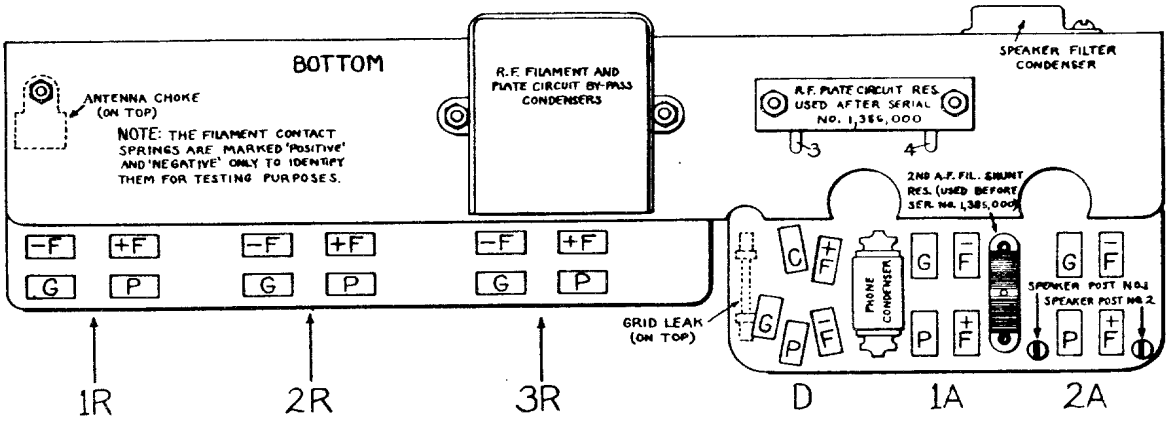
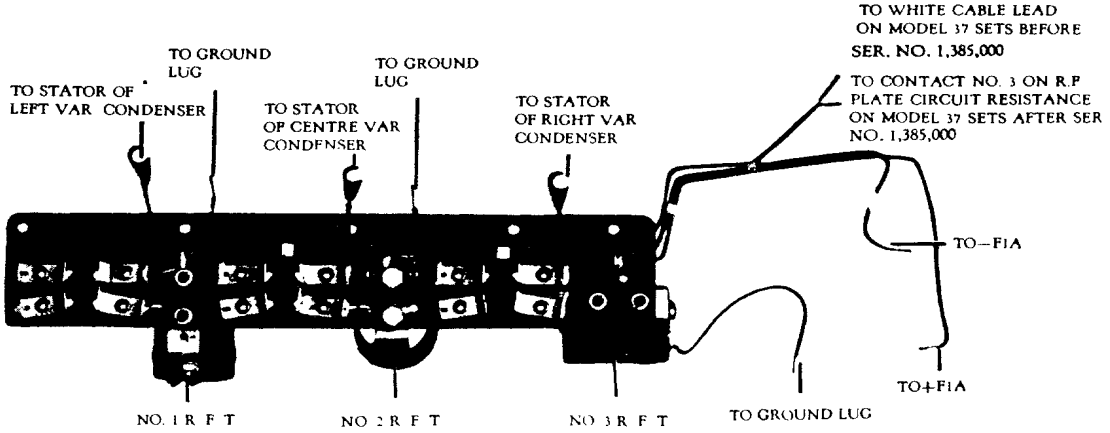


CHART FOR MODEL 37, 37-F, 37-C.

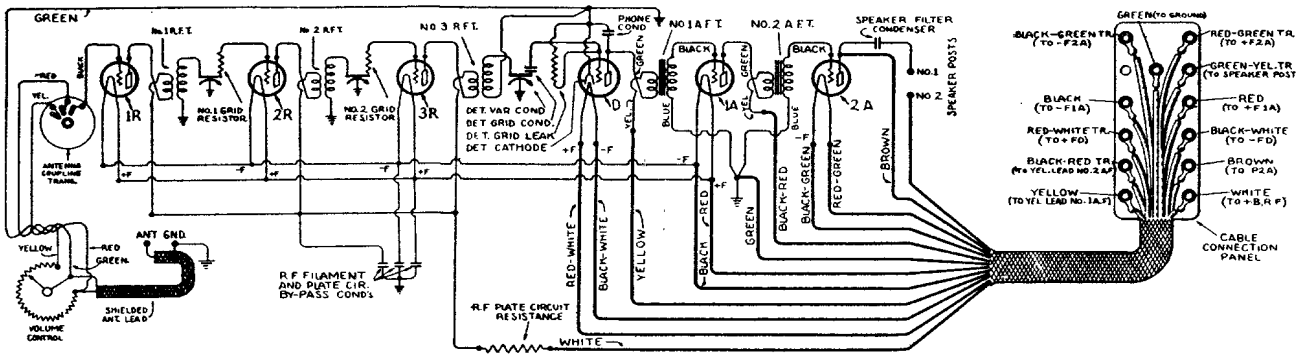


VIEW OF R. F. AMPLIFIER.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

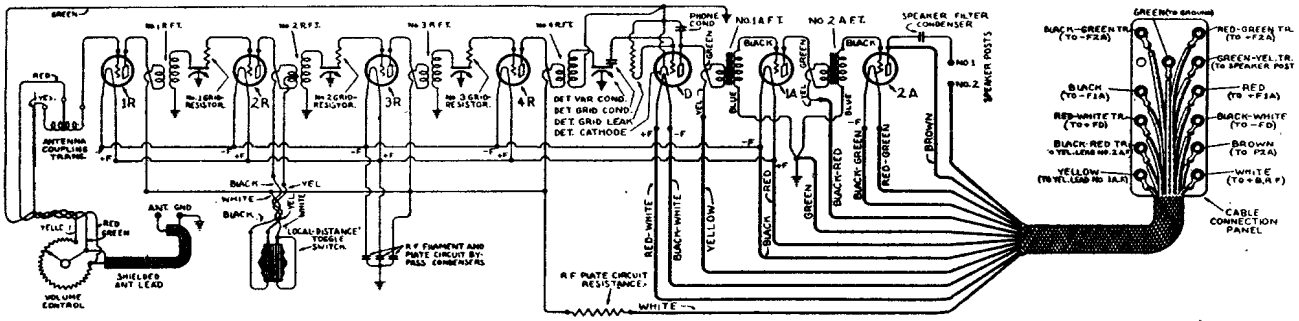
ATWATER KENT RADIO

MODEL 40, 40-F, 42, 42-F, 44, 44-F, 45, 52, 56 AND 57 CHASSIS

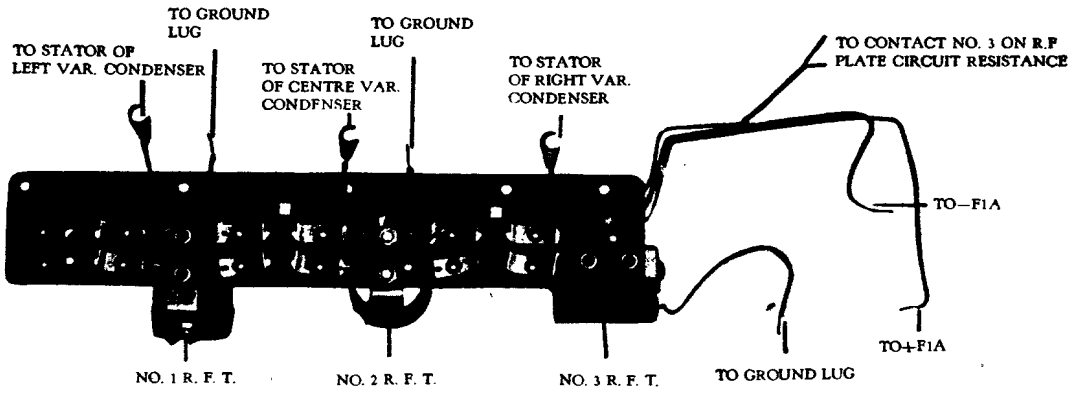


WIRING DIAGRAM OF MODEL 40, 40-F, 42, 42-F, 52, 56 AND 57.

Model 52 does not have the shielded antenna lead, but is provided with two twenty-foot leads which are connected to the volume control, black antenna and black-green tracer for ground. Model 56 and 57 have antenna and ground posts at the bottom of the cabinet.



WIRING DIAGRAM OF MODEL 44, 44-F AND 45.

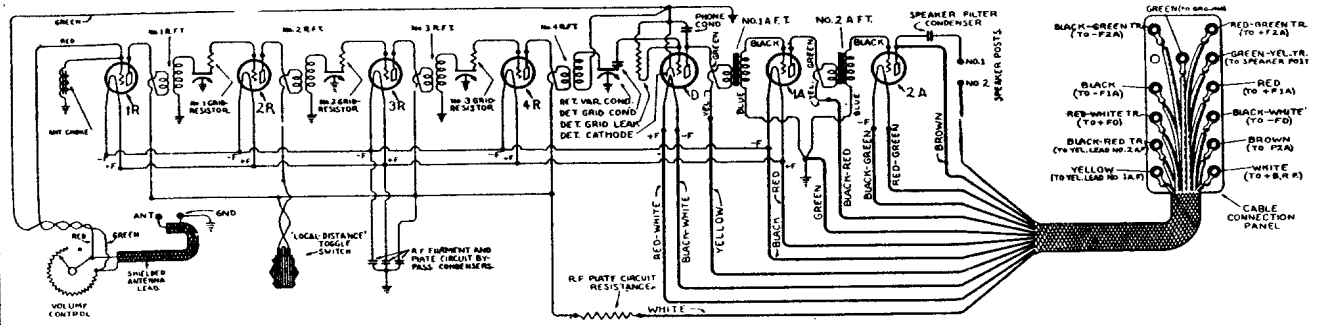


VIEW OF R. F. AMPLIFIER ASSEMBLY IN MODEL 40, 40-F, 42, 42-F, 52, 56 AND 57.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

ATWATER KENT RADIO

MODEL 38 CHASSIS



WIRING DIAGRAM OF MODEL 38.

A 2nd-A. F. filament-shunt resistor is used before Serial No. 1,752,000 and the green-yellow tracer cable lead is not used.

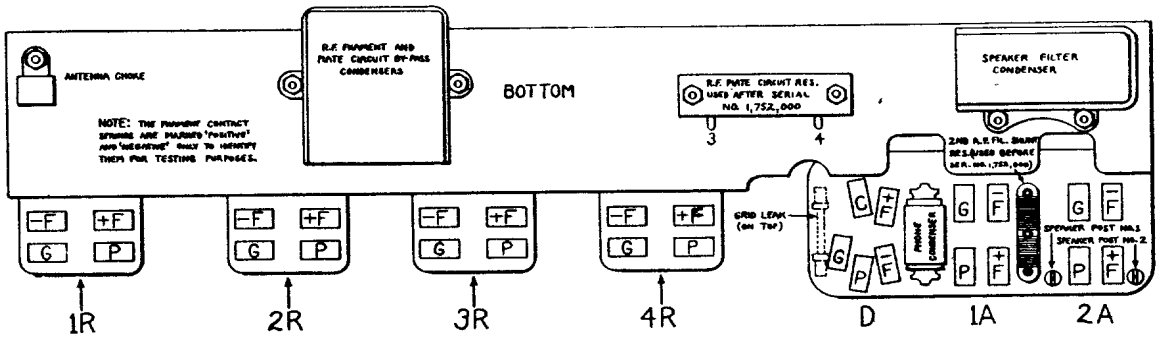
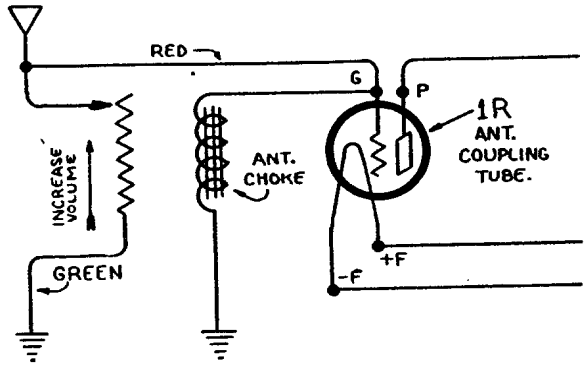
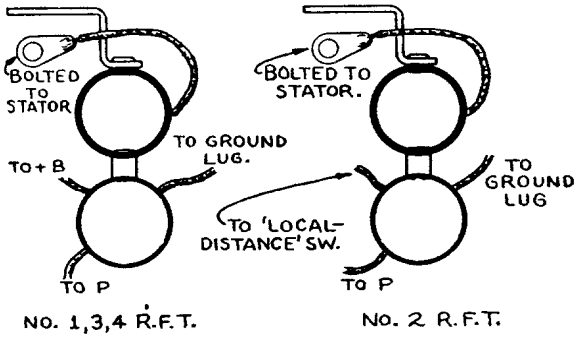


CHART FOR MODEL 38.



SCHEMATIC DIAGRAM OF VOLUME CONTROL IN MODEL 37, 37-F, 37-C AND 38.



SKETCH SHOWING CONNECTIONS FROM R. F. TRANSFORMERS, MODEL 38.

ATWATER KENT RADIO

MODEL 43, 46, 47 AND 53

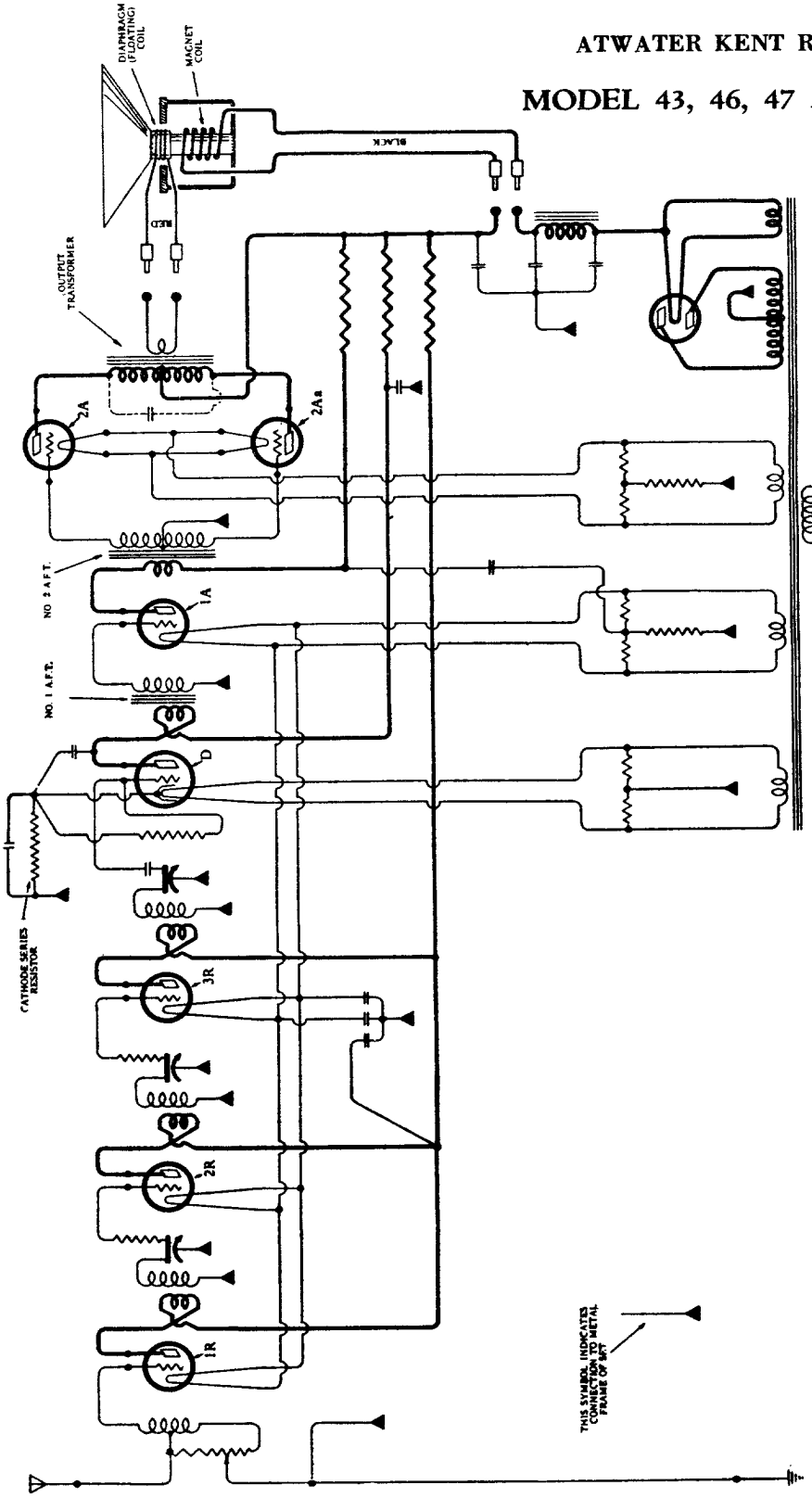
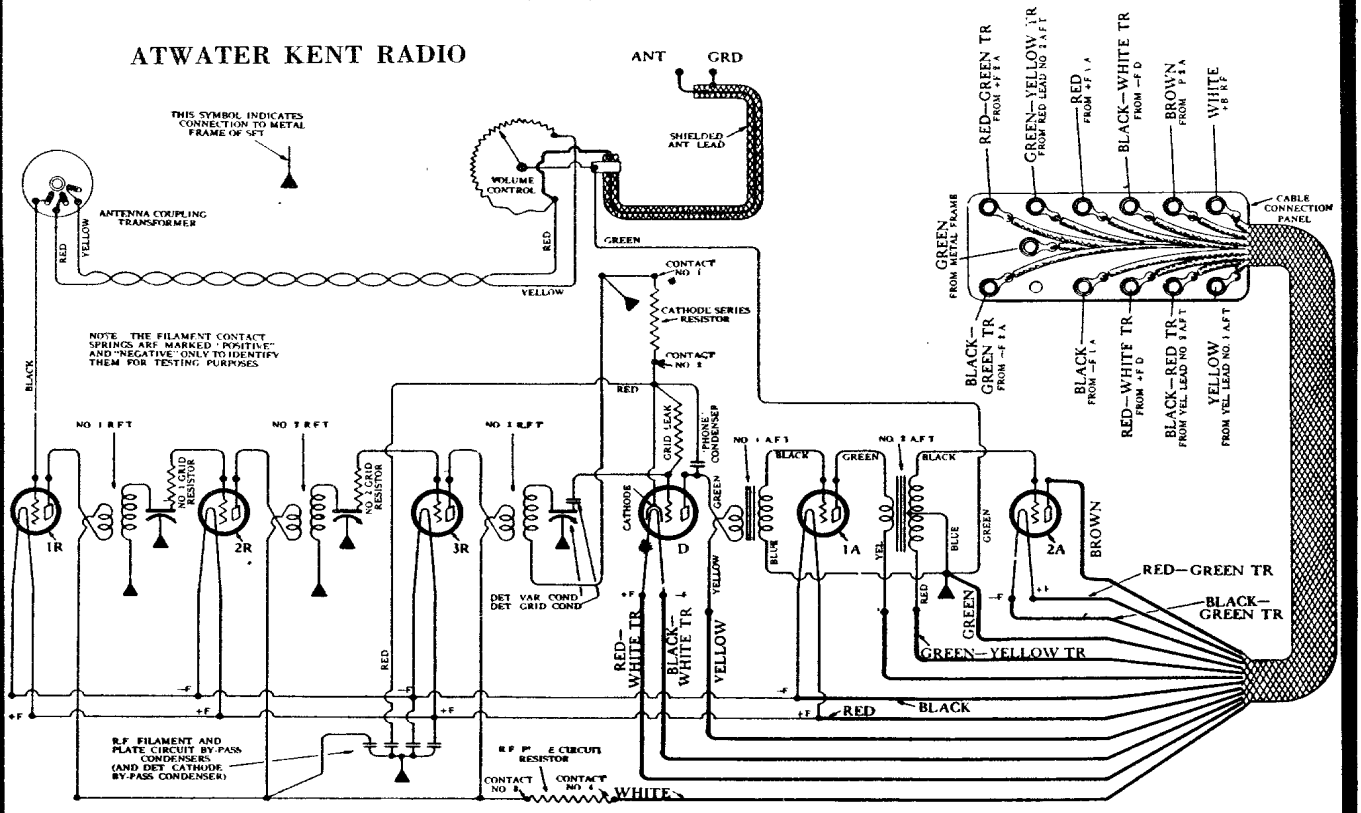


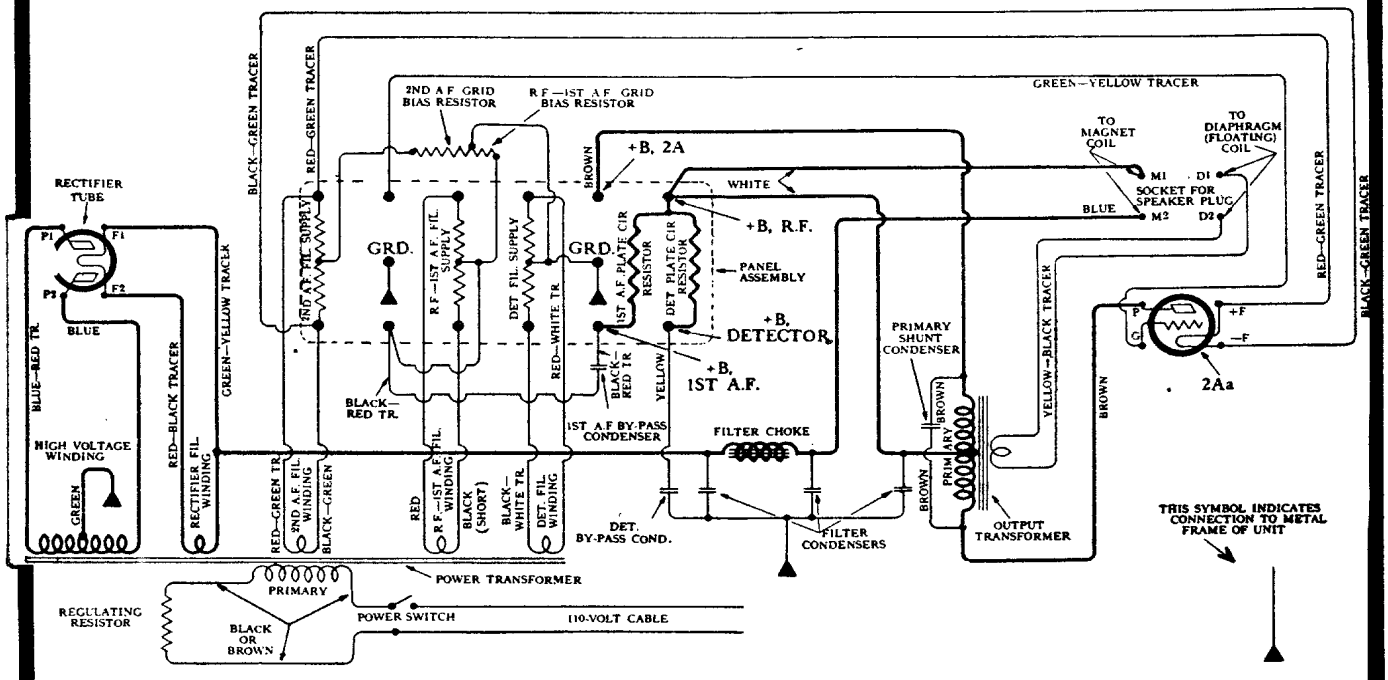
DIAGRAM OF MODEL 43, 46 AND 53. (The output transformer is sealed in the power unit.)
Model 47 is similar to this but has one extra stage of R. F. amplification and a local-distance switch similar to that in Model 44.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

MODEL 43, 46, 47 AND 53 DIAGRAM



WIRING DIAGRAM OF MODEL 43, 46 AND 53.
The +B, 1st A. F. cable lead is black with a red tracer.
Model 47 is similar but has one additional stage of R. F. amplification and a local-distance switch like that on Model 44.



WIRING DIAGRAM OF POWER UNIT IN MODEL 43.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MODEL 55 AND 55-C

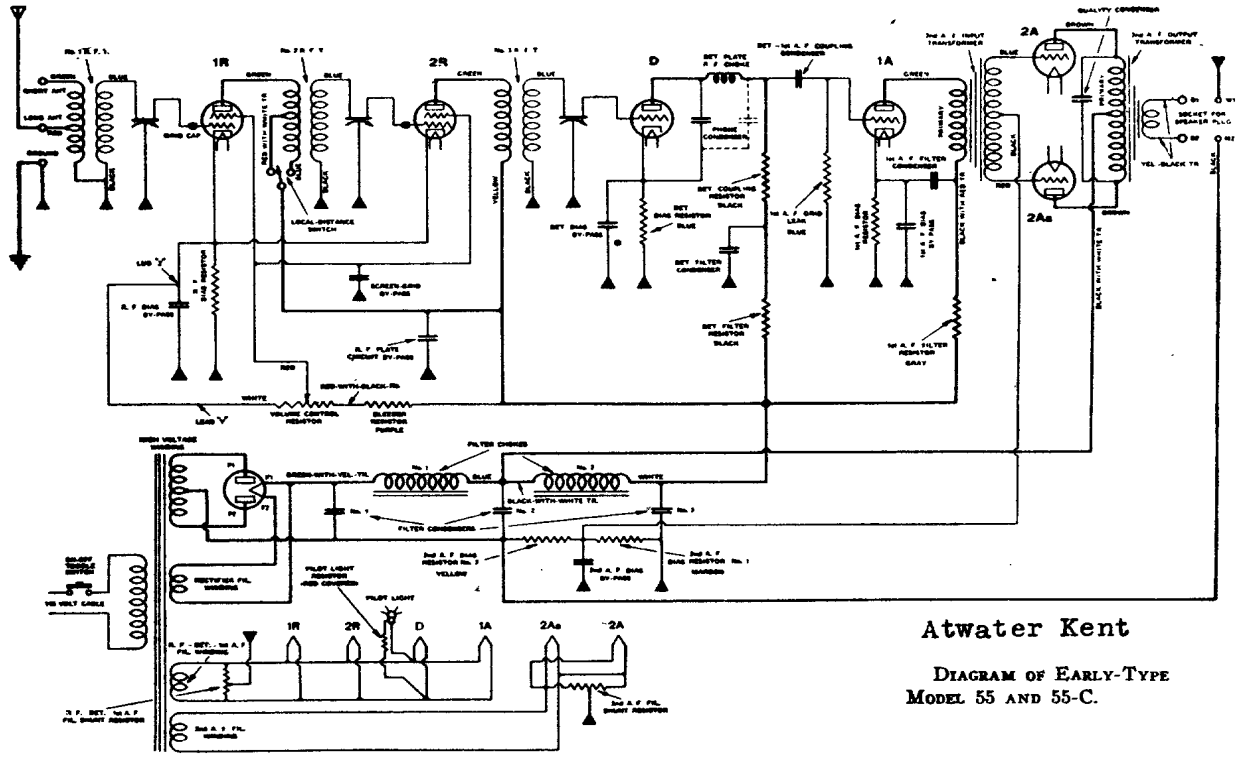


DIAGRAM OF EARLY-TYPE MODEL 55 AND 55-C.

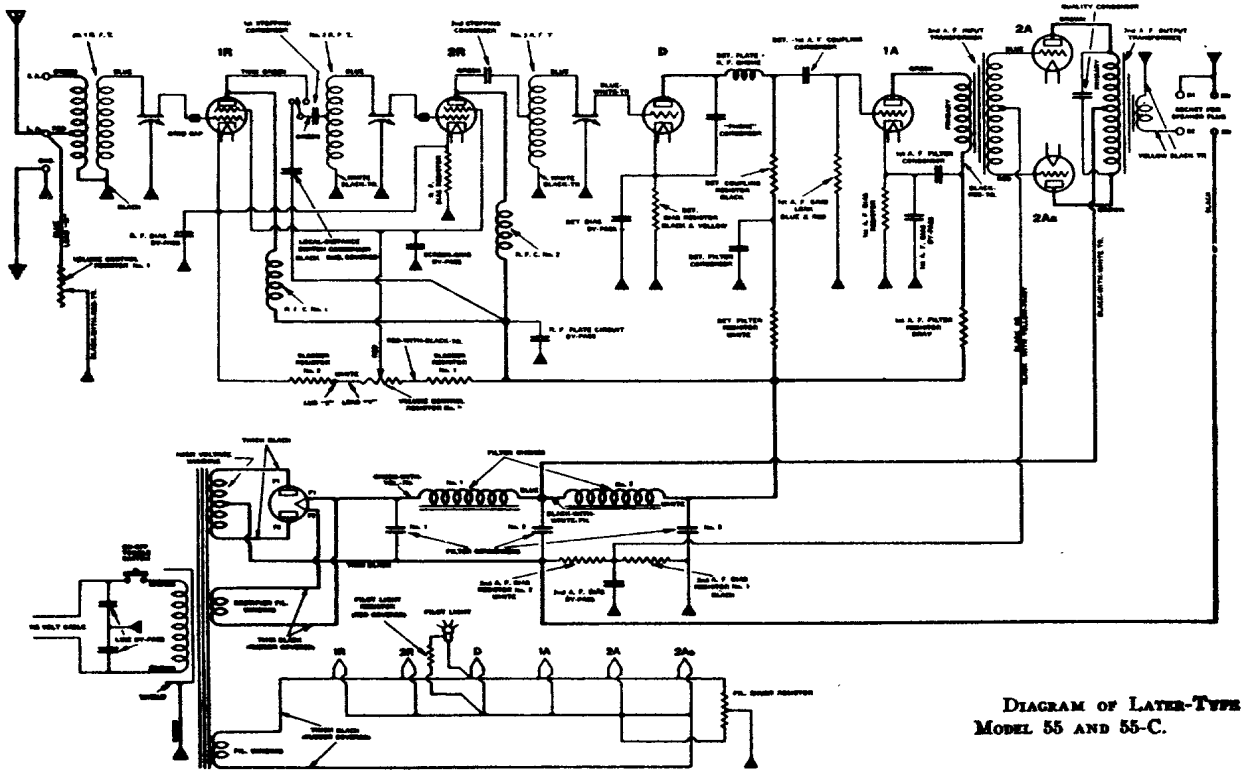
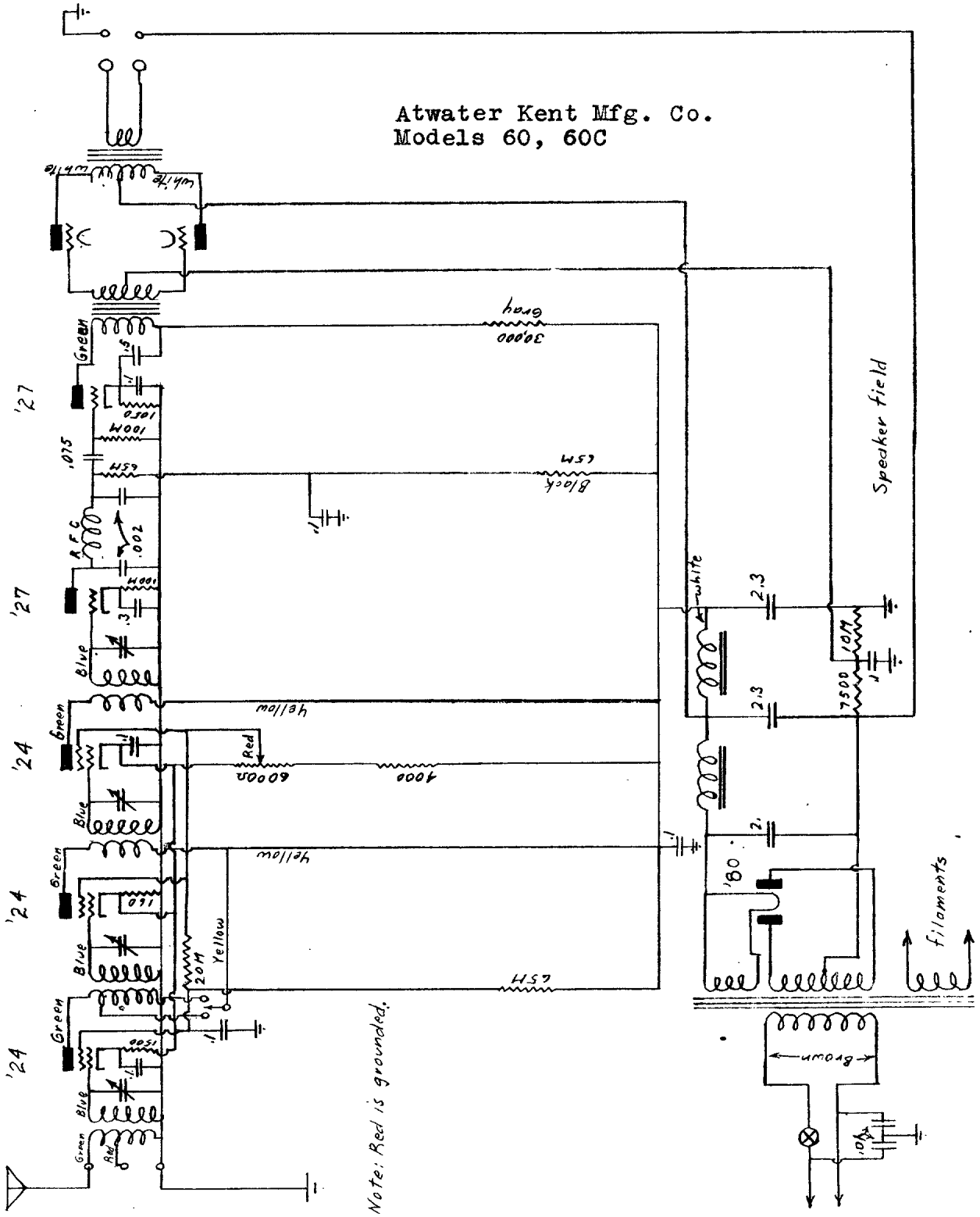
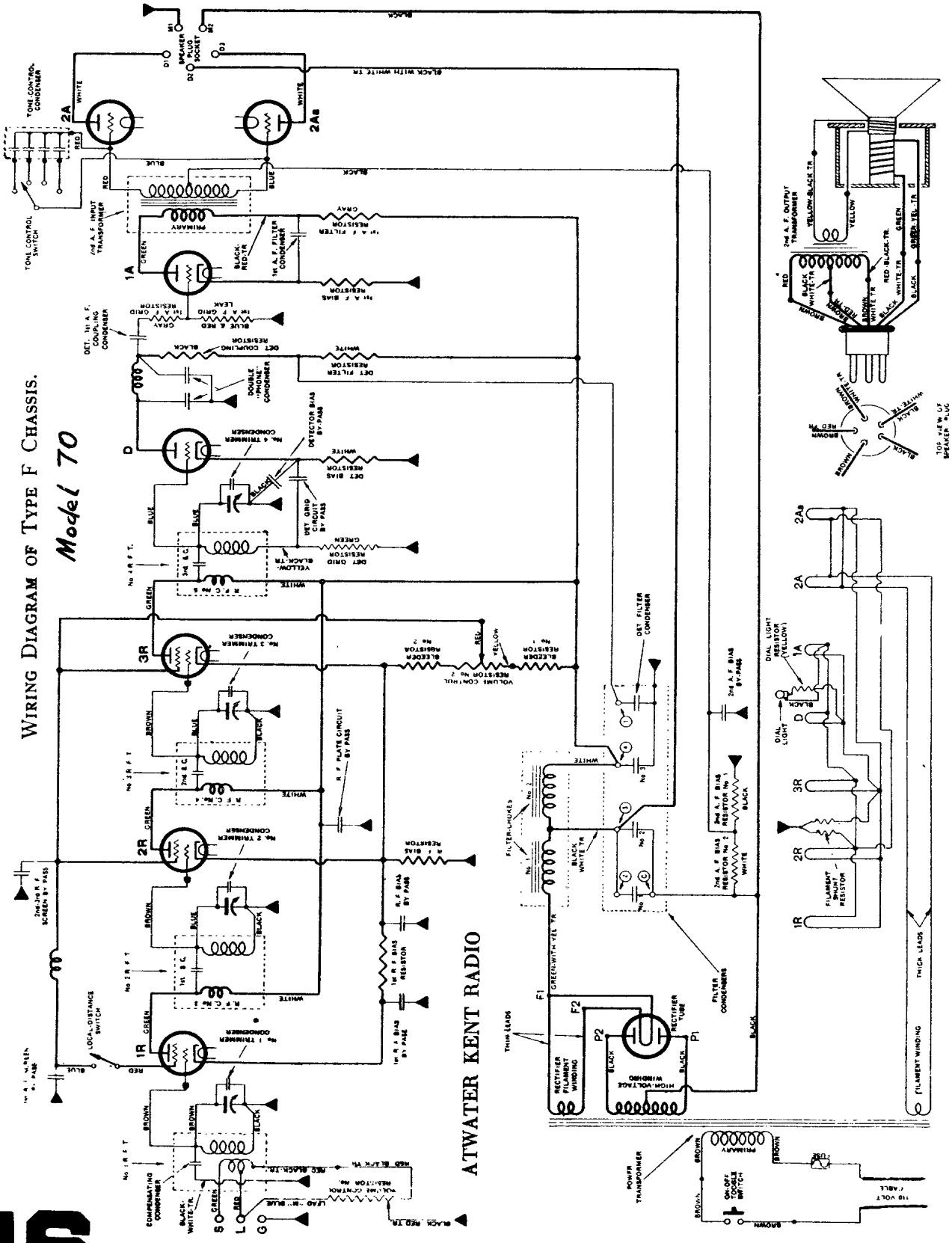
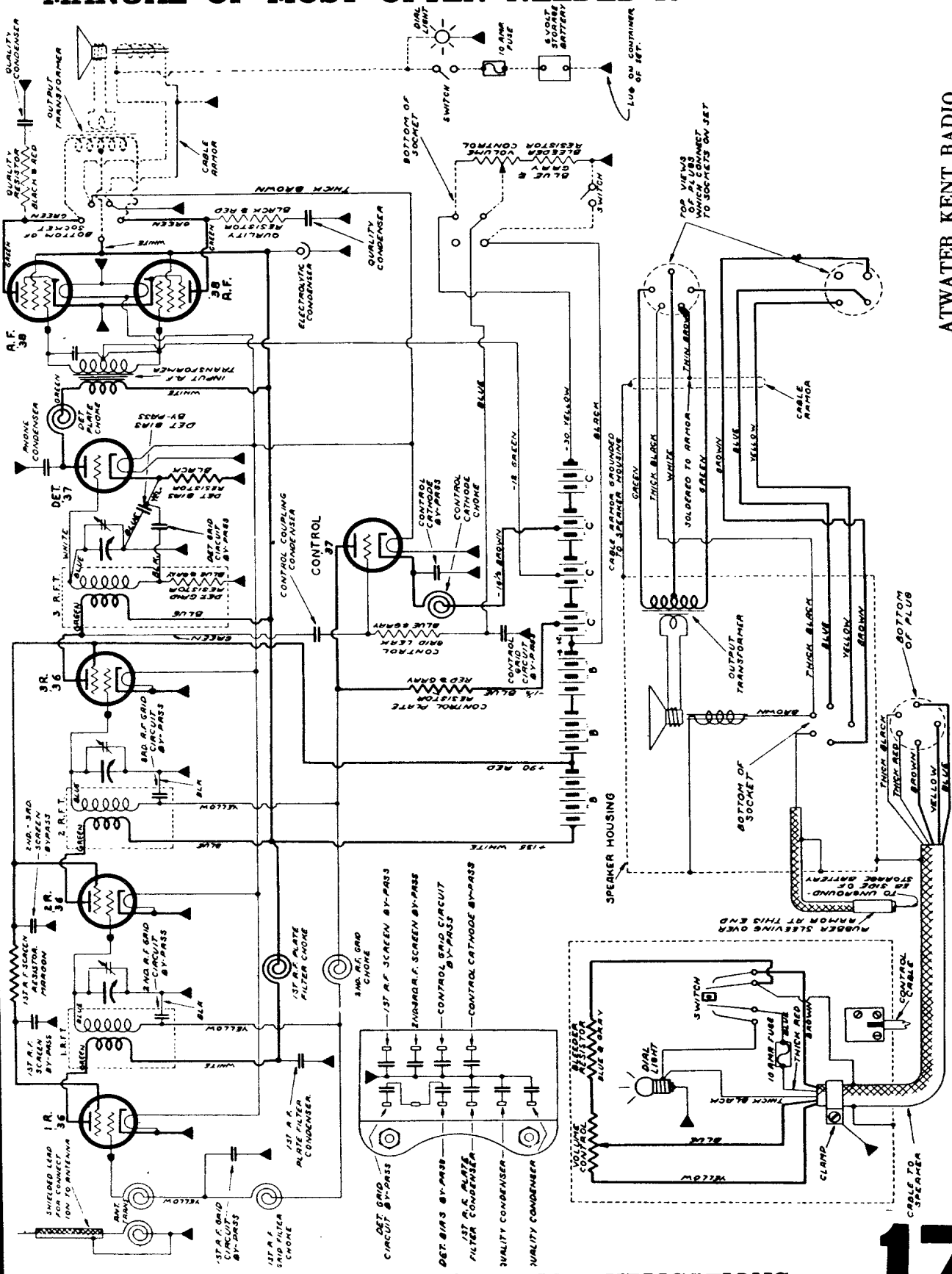


DIAGRAM OF LATER-TYPE MODEL 55 AND 55-C.

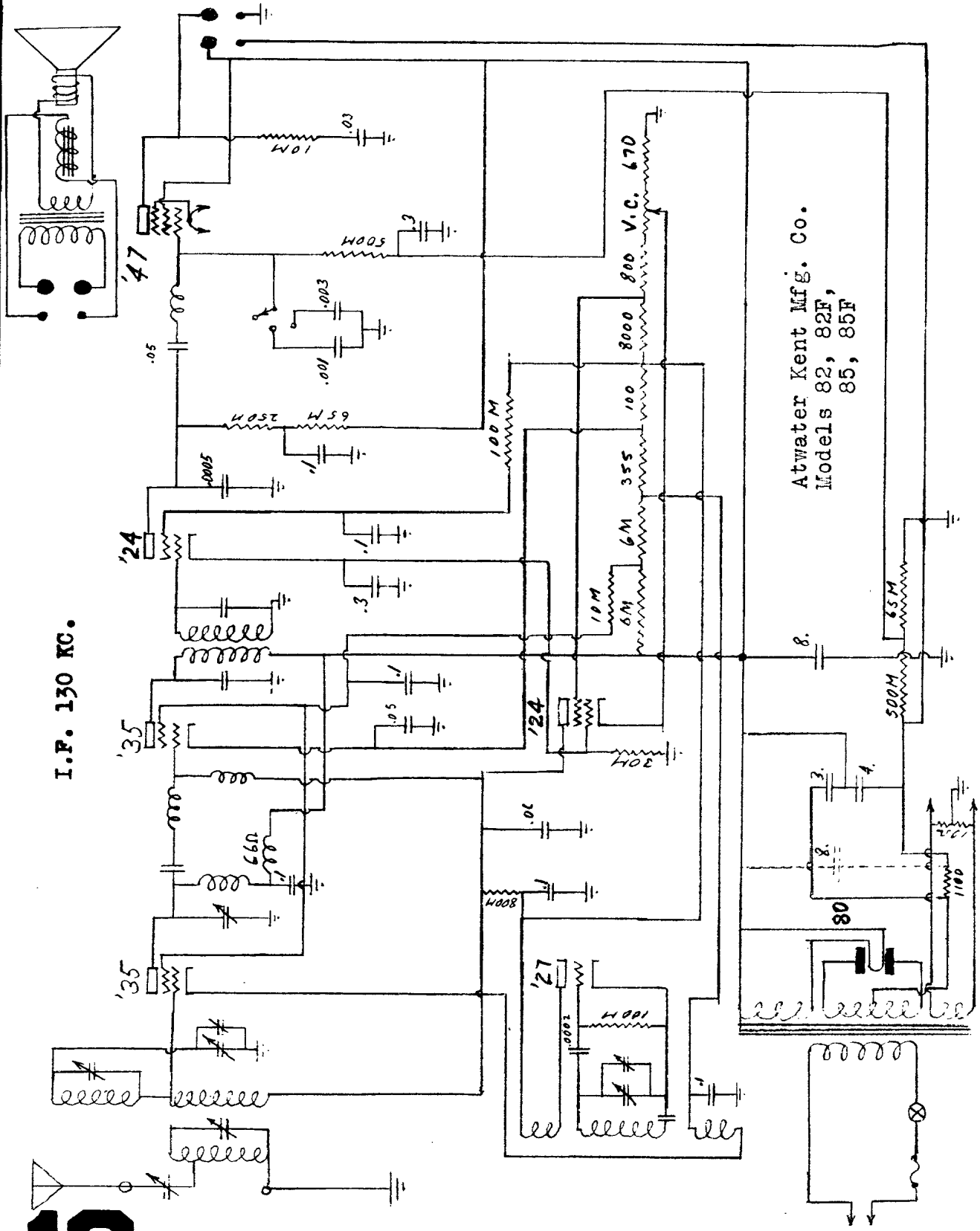






COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

17



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

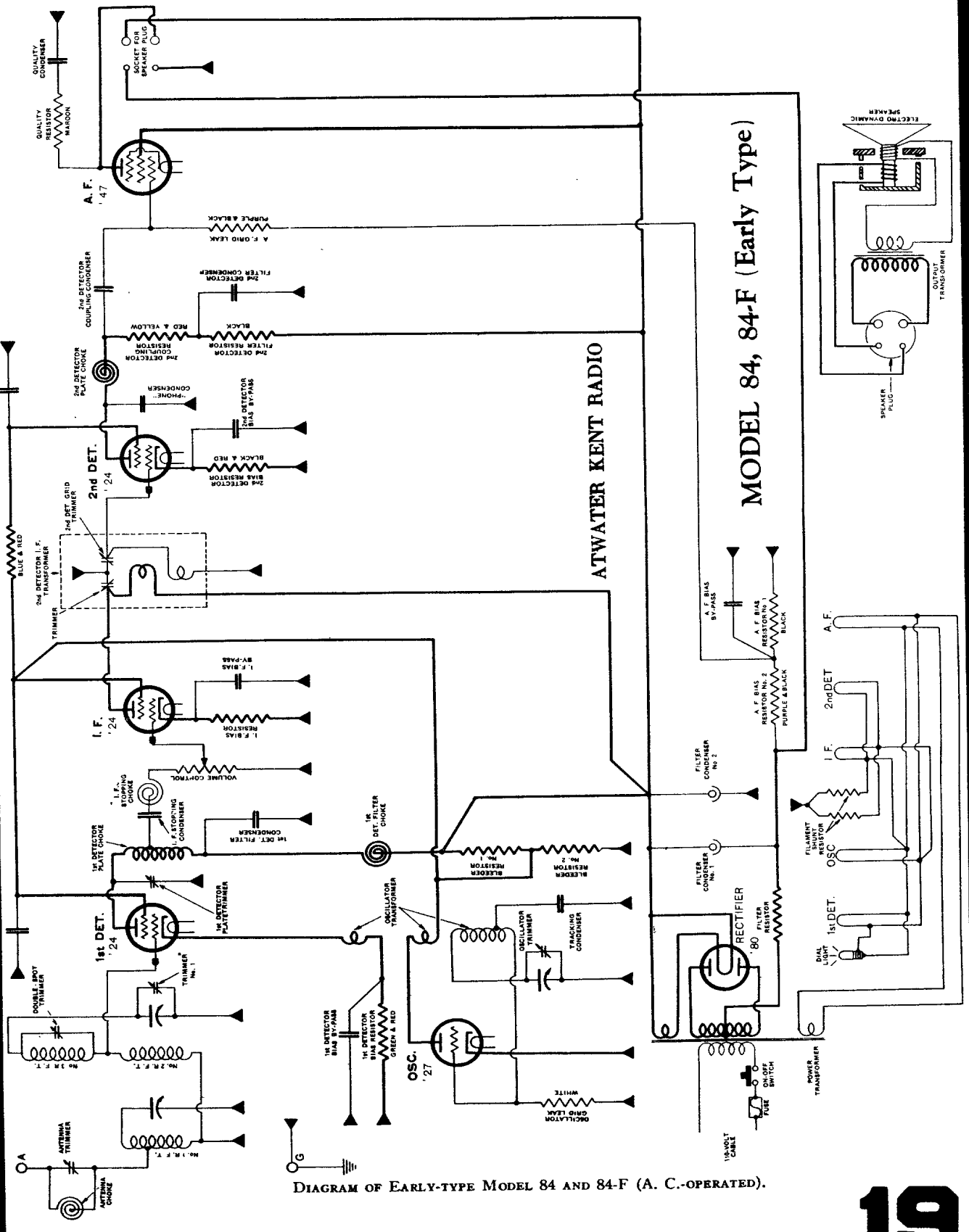


DIAGRAM OF EARLY-TYPE MODEL 84 AND 84-F (A. C.-OPERATED).

ATWATER KENT RADIO

MODEL 84, 84-F (Late Type)

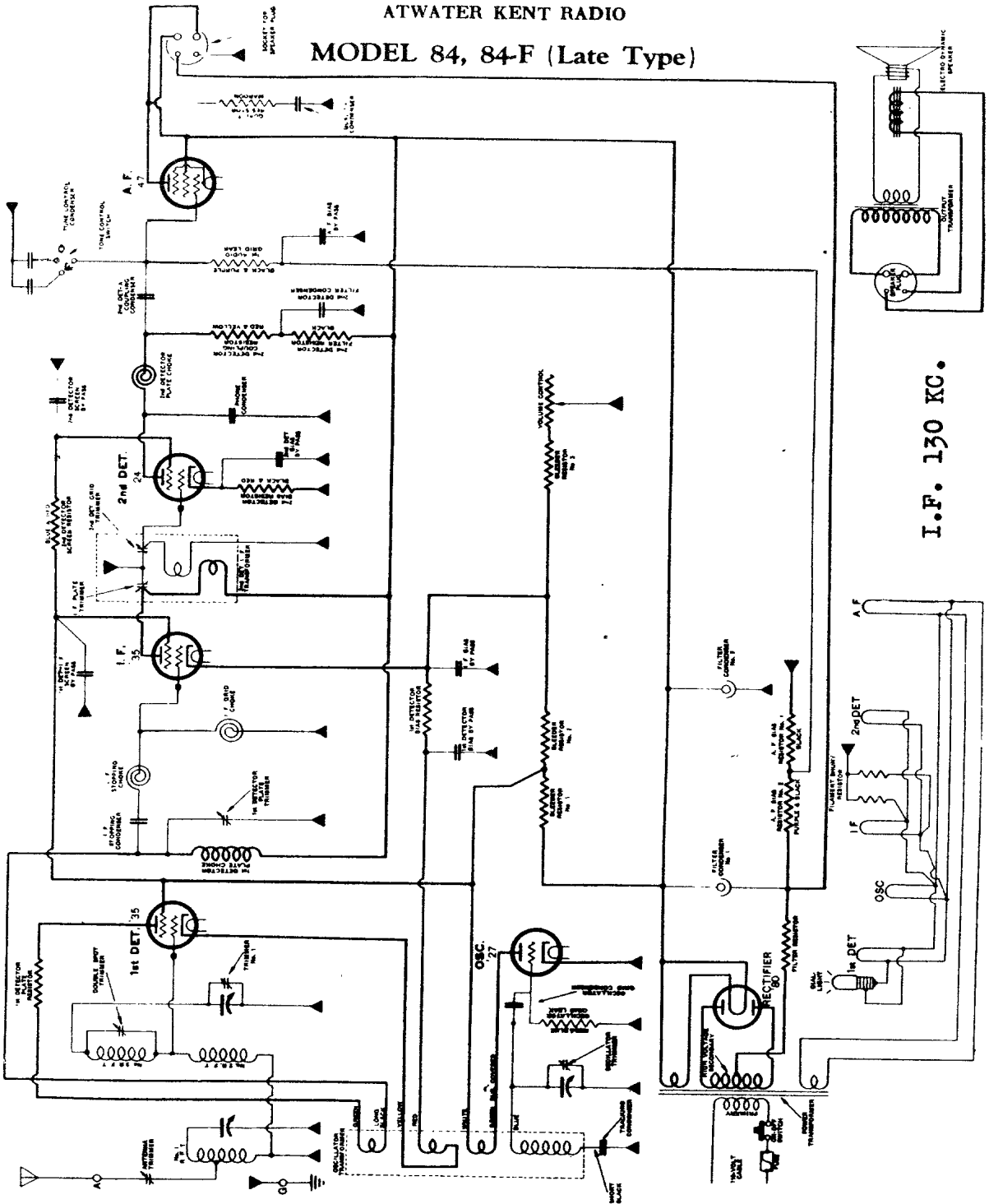
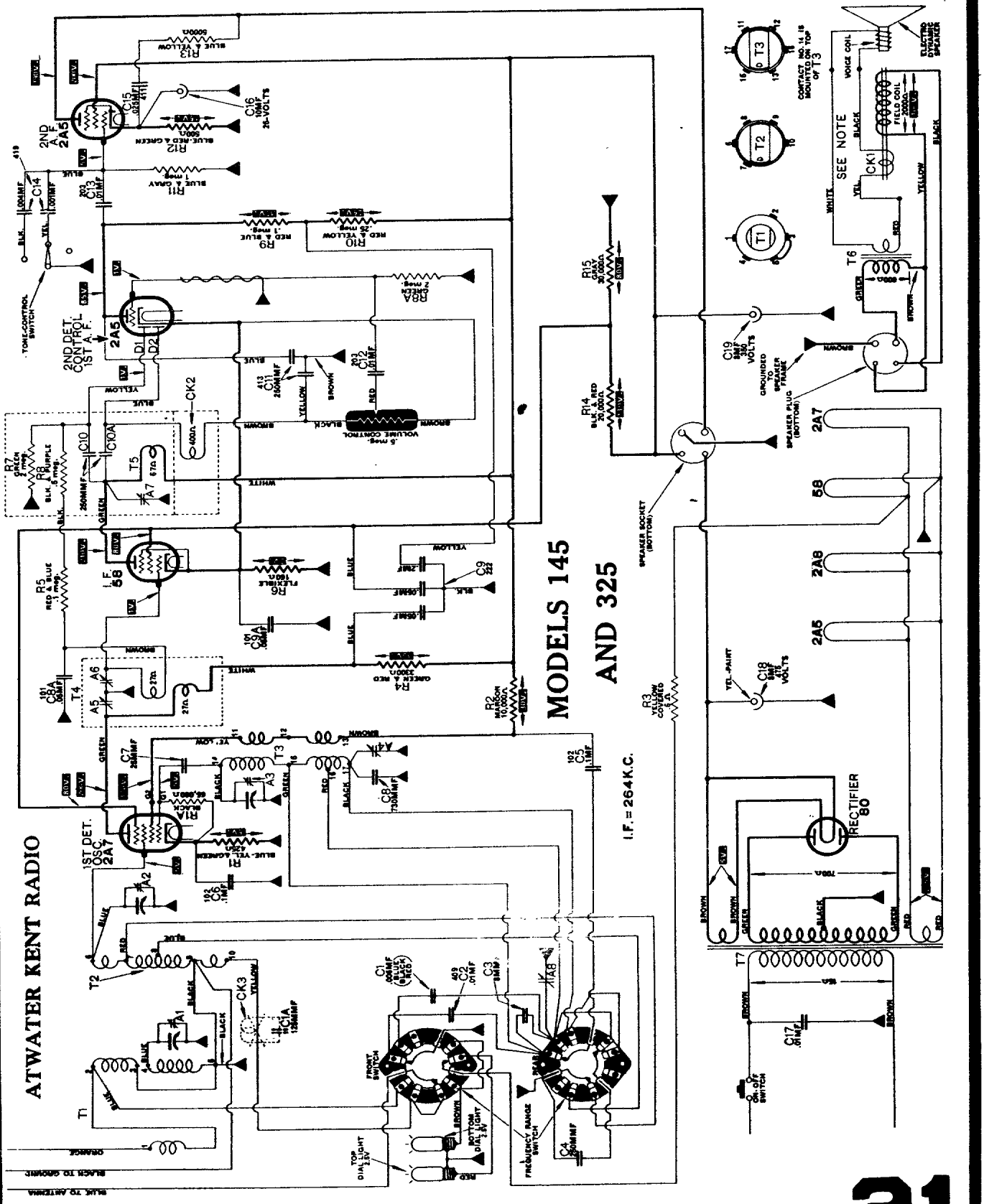


DIAGRAM OF LATE-TYPE MODEL 84 AND 84-F (A. C.-OPERATED).

A few late-type Model 84 and 84-F receivers have slightly different oscillator transformers, as explained in the notes accompanying the parts list for these sets. The filter resistor shown in the above diagram is NOT used in Model 84-F. This set has a 1st-detector plate filter choke and condenser not shown in the diagram.

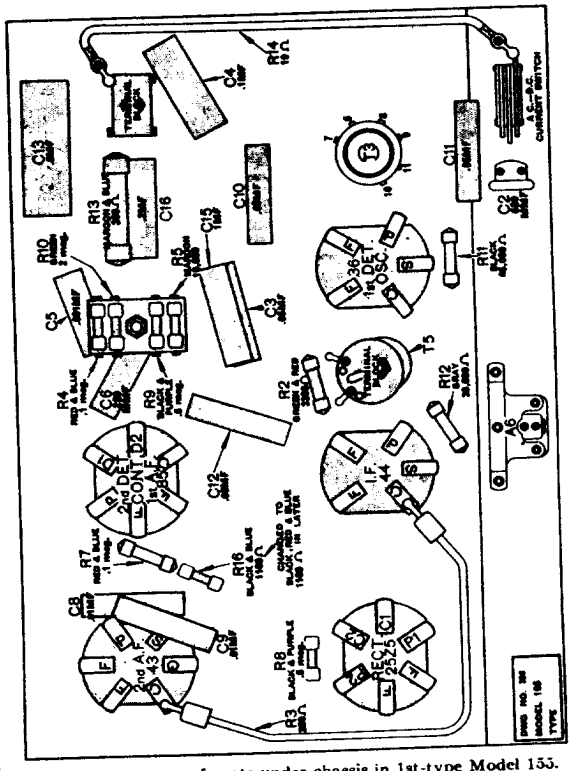


COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

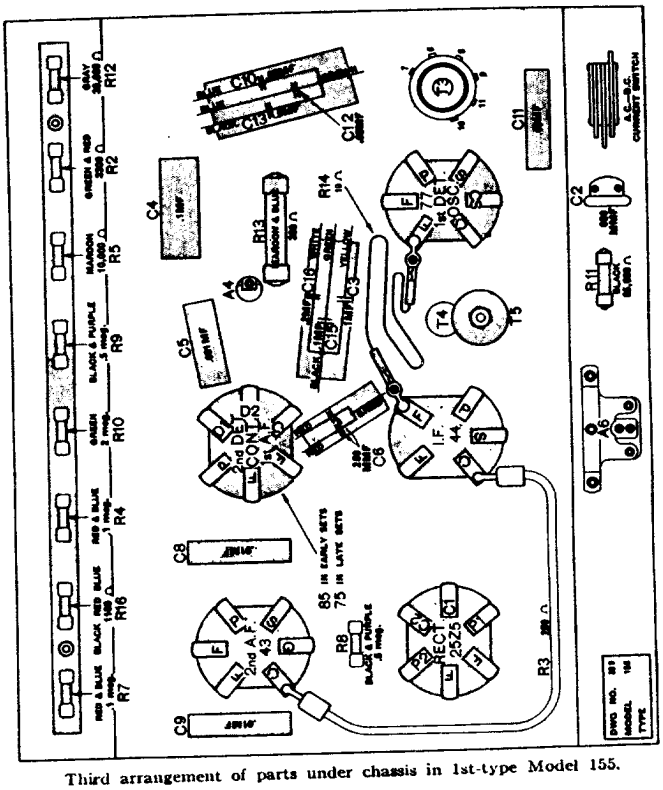
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

ATWATER KENT RADIO

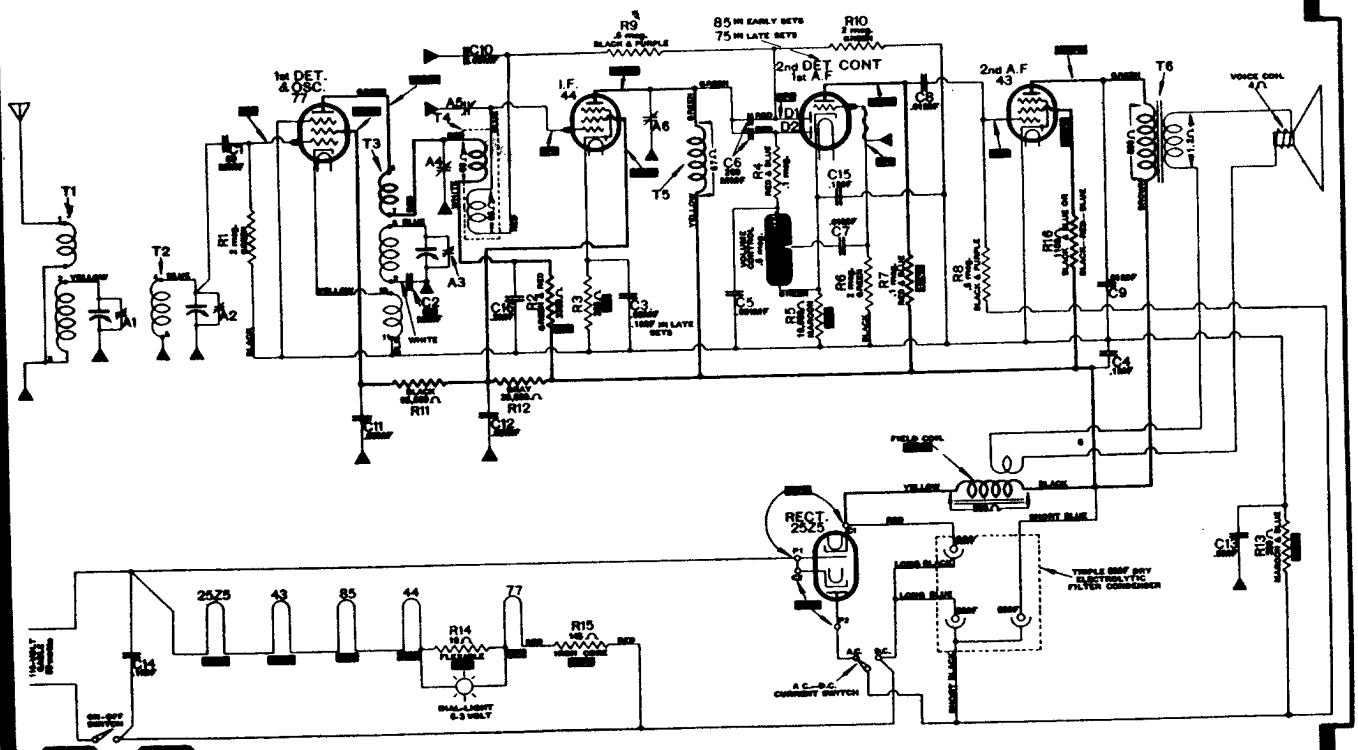
MODEL 155, 1st TYPE, Below Serial No. 7086900



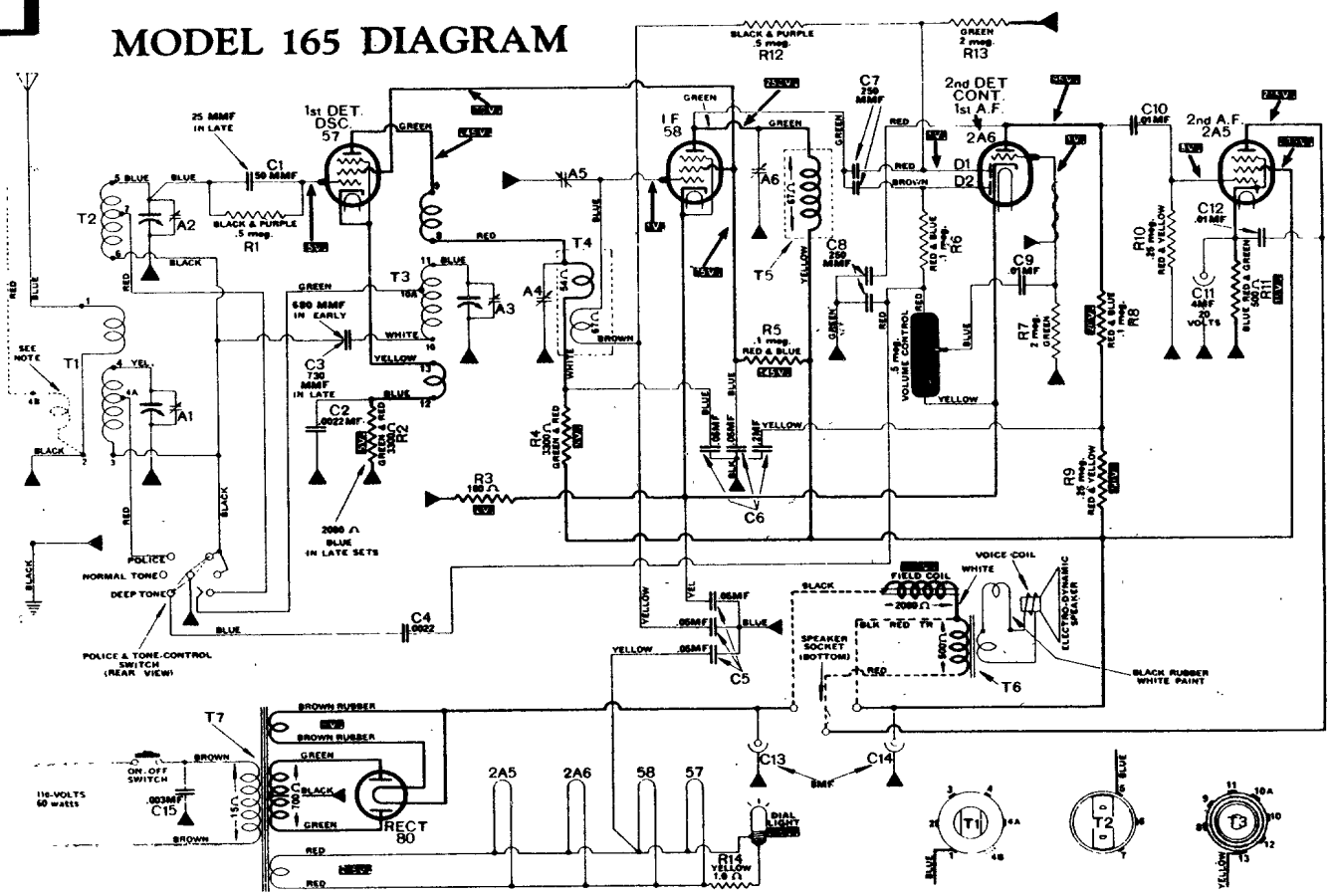
First arrangement of parts under chassis in 1st-type Model 155.

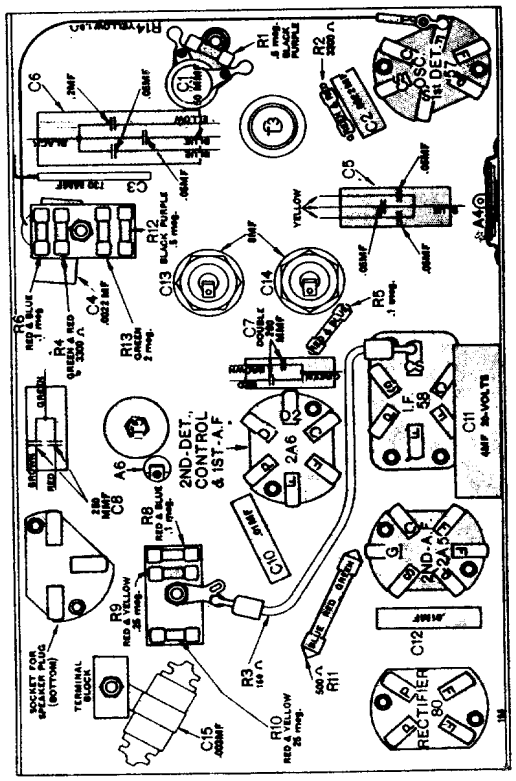


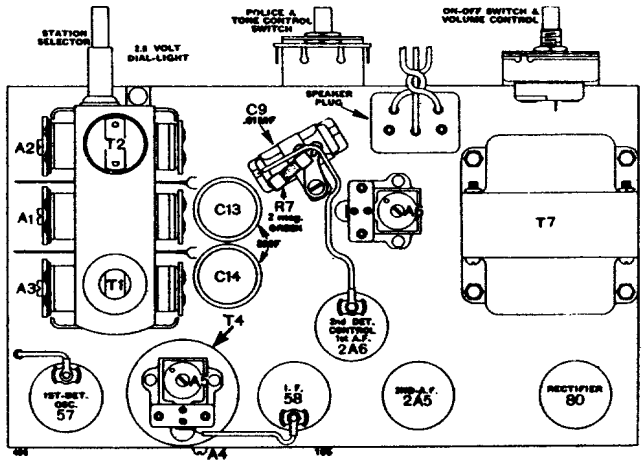
Third arrangement of parts under chassis in 1st-type Model 155.



MODEL 165 DIAGRAM







In late type 165, the 1st-detector bias resistor R2 is 2000 ohms, ½ watt (blue).

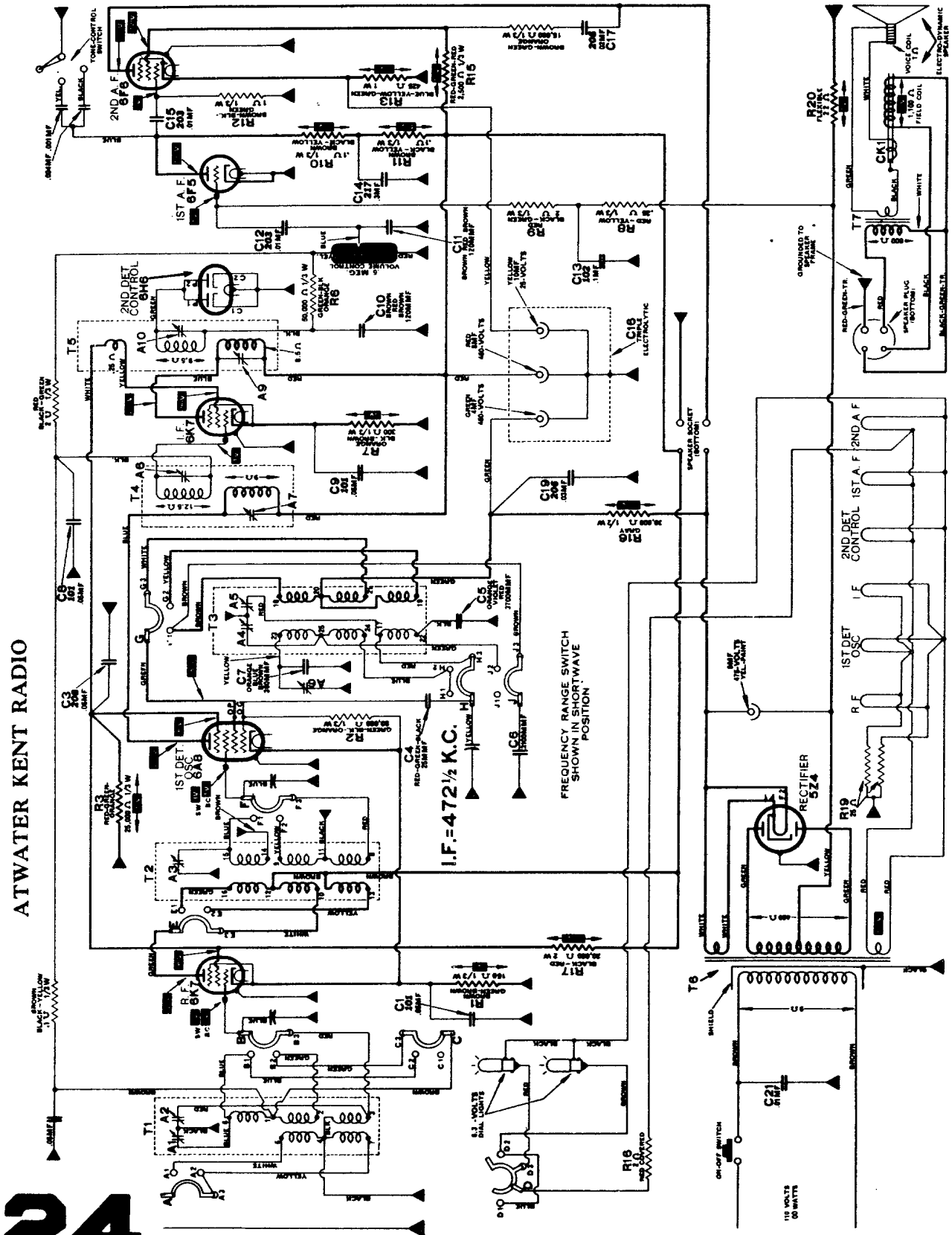
In a few early 165 sets, the tracking condenser C3 is 680MMF.

In late sets, C1 is 25MMF instead of 50MMF.

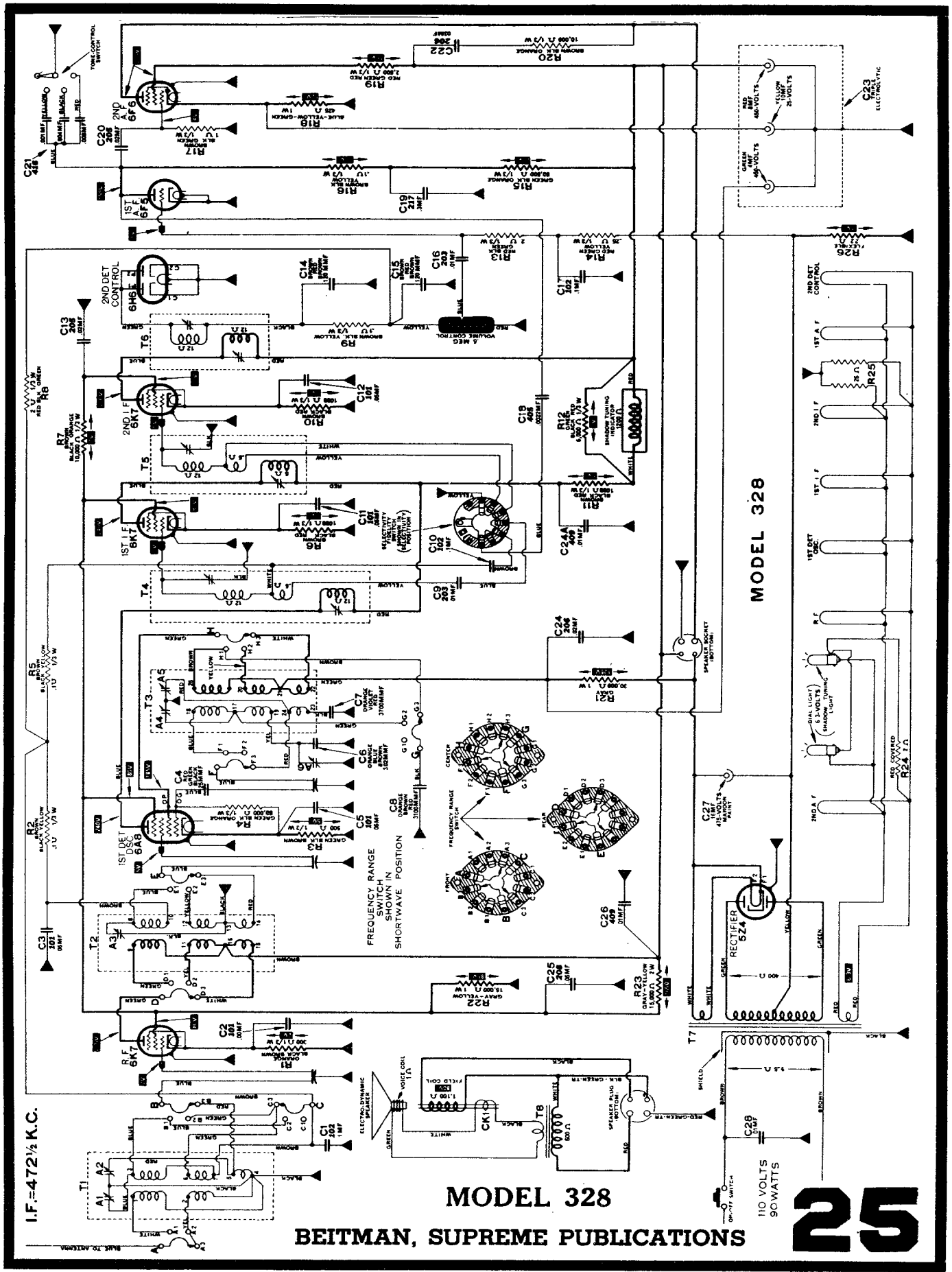
The additional primary, shown in dotted lines on No. 1 R.F.T., is used in some 165 sets.

I.F. 262.5 KC.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS
MODELS 317 AND 337



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



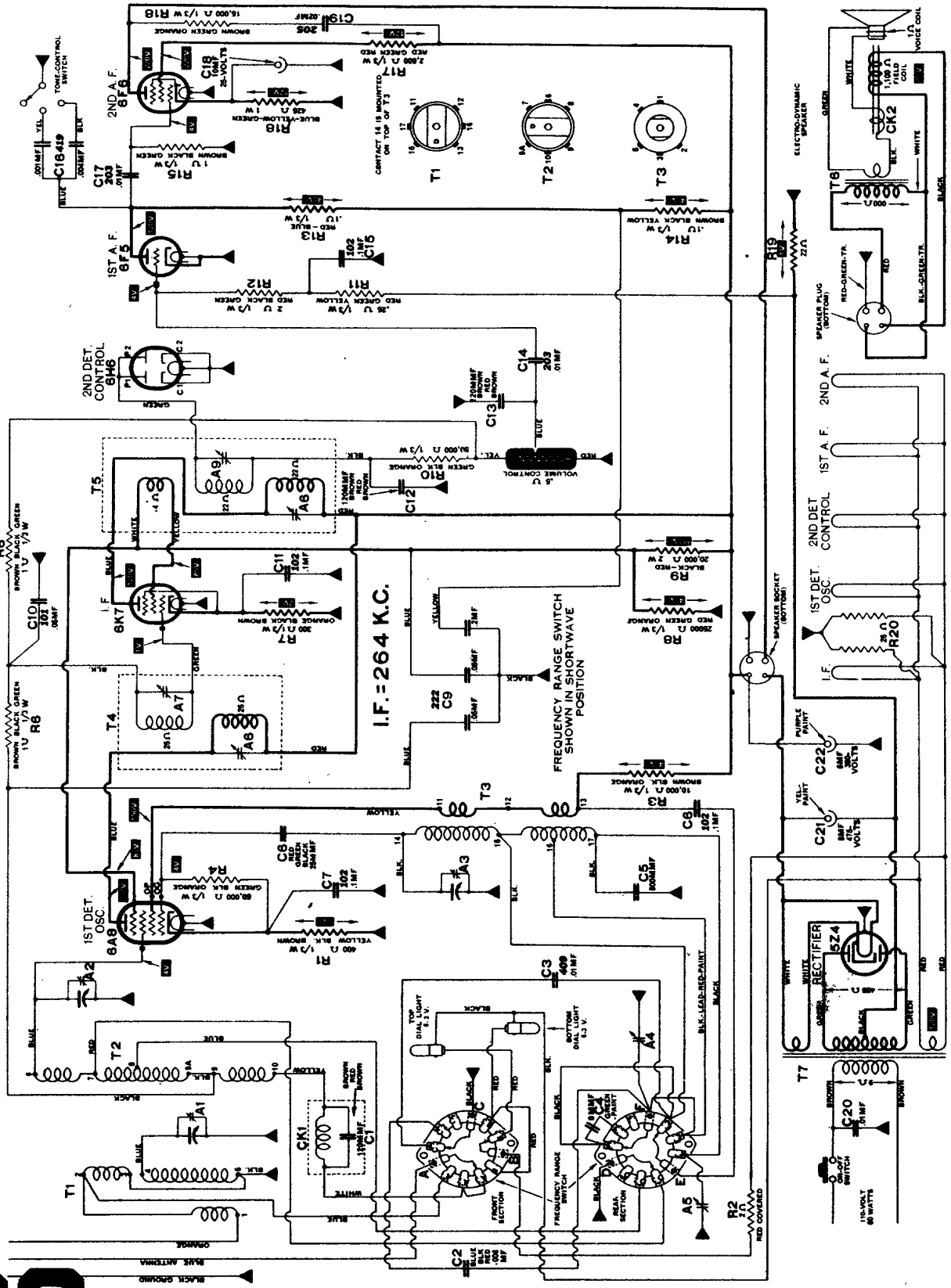
MODEL 328

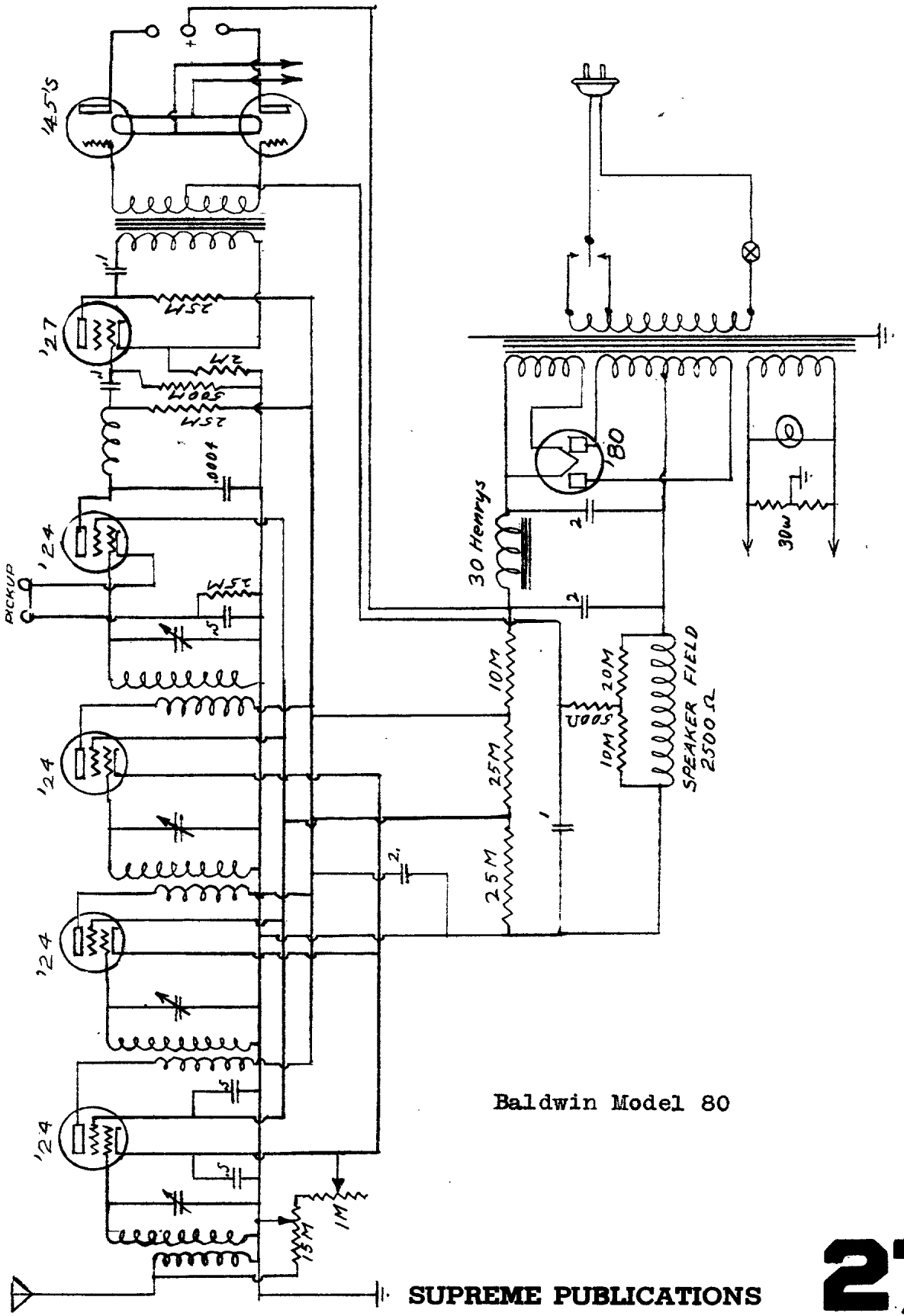
BEITMAN, SUPREME PUBLICATIONS

25

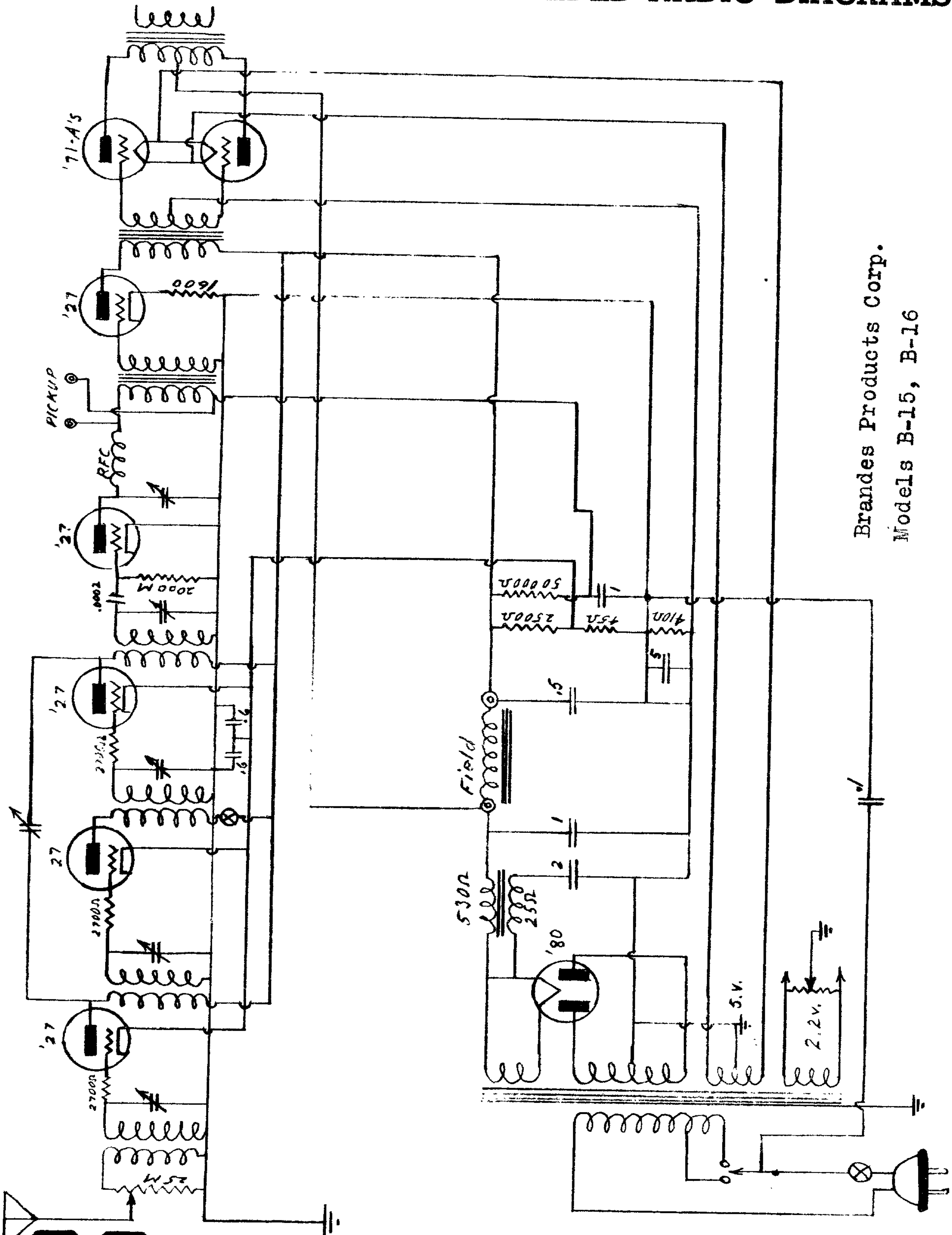
MODELS 856 AND 976

ATWATER KENT RADIO

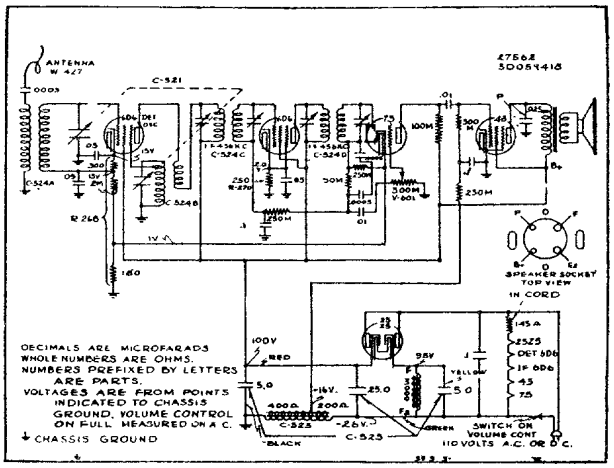




Baldwin Model 80



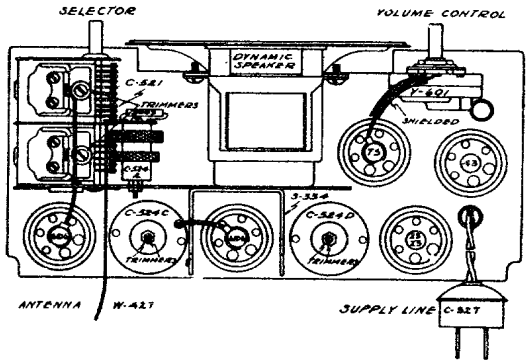
Brandes Products Corp.
Models B-15, B-16



Schematic circuit diagram Model 525 AC-DC Superheterodyne, with automatic volume control

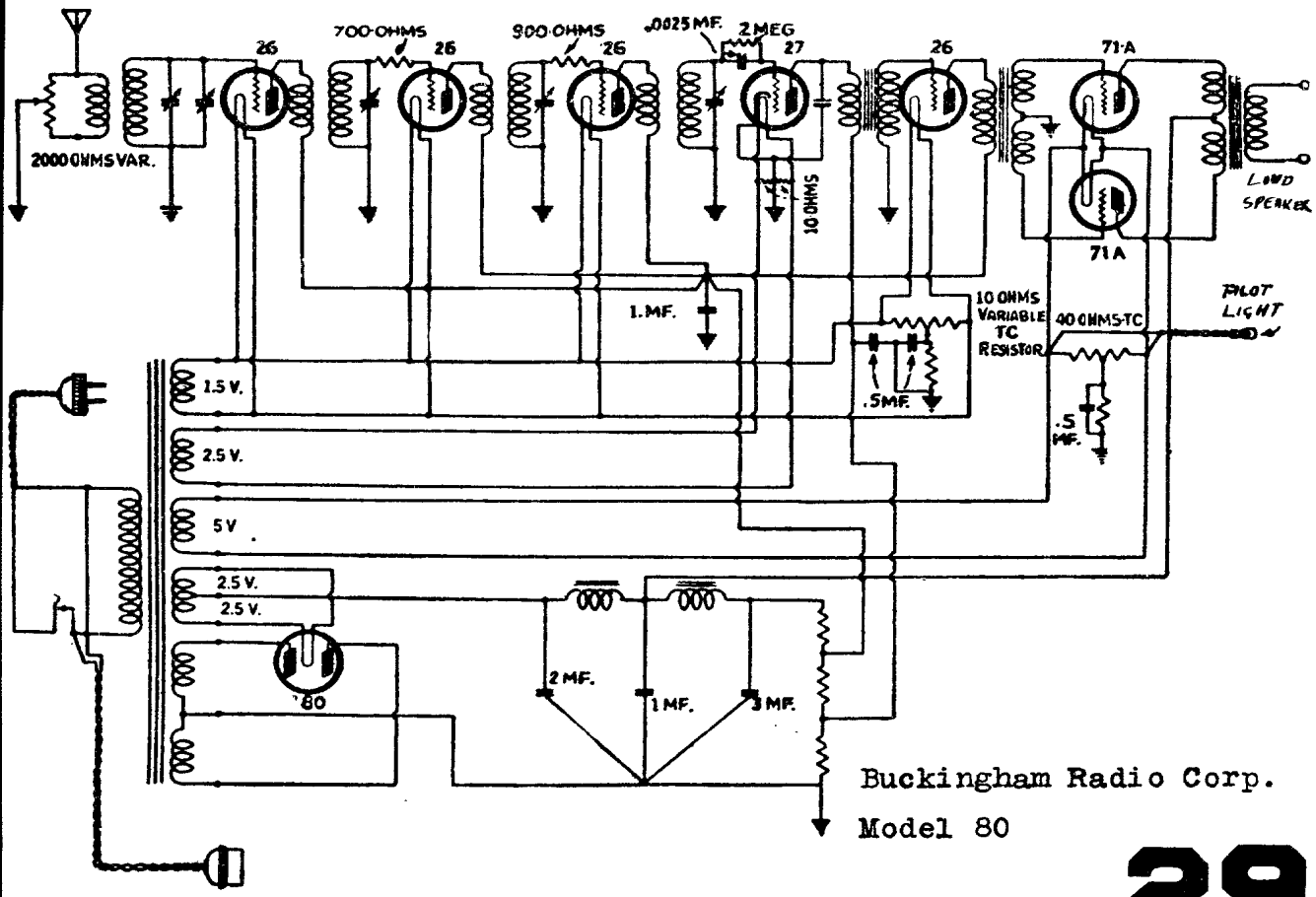
Should it be necessary, at any time, to rebalance this set the procedure is as follows: Attach a 456 kilocycle oscillator to the grid of the 6D6 tube in back of the variable condenser and adjust the trimming condensers of the I. F. transformers to maximum deflection on an output meter connected across the primary of the speaker input transformer. While adjusting these trimmers, the variable condenser should be at the maximum capacity position—at the extreme right of its rotation.

Next disconnect the antenna wire and connect an oscillator in series with a 75 mmf. condenser to the antenna coil. Rotate the condenser plates to the minimum capacity position—extreme left turn, and adjust the trimmer condenser of the rear section of the variable condenser to resonance with an oscillator set at 1725 kilocycles, then adjust the condenser of the front section of the variable condenser to resonance. Align at 1400—1200—1000—800—600—550 kilocycles. Lead slotted plates of variable condenser if necessary.



Belmont Radio Corp.

MODEL 525

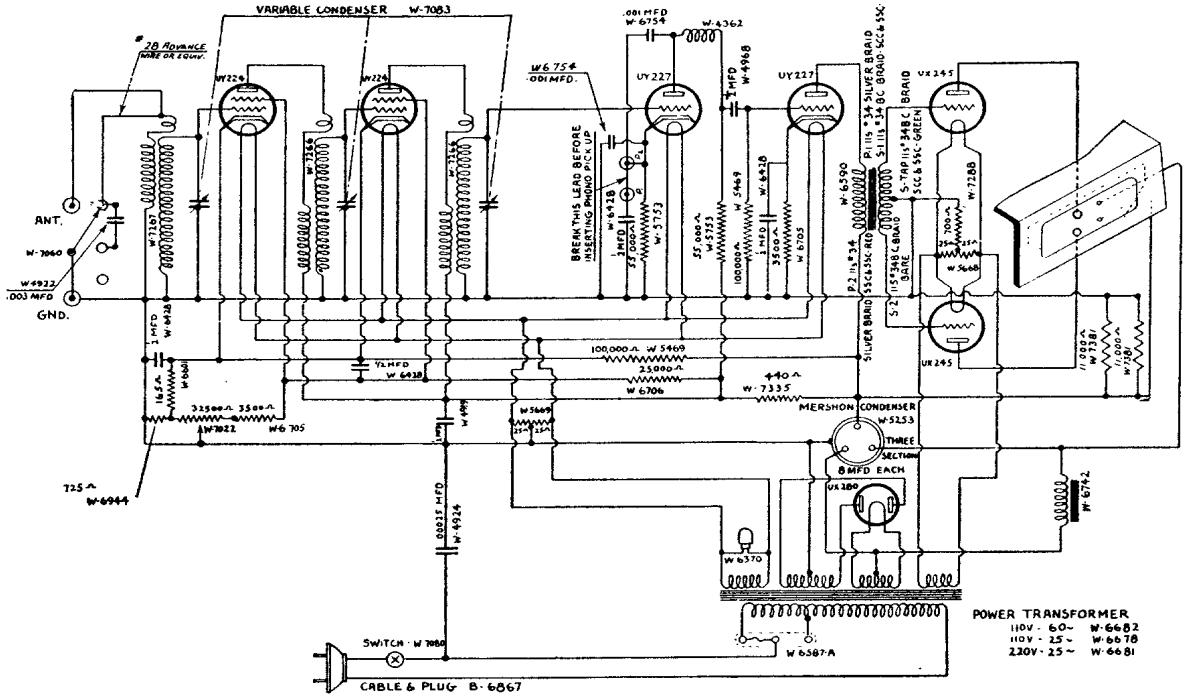


Buckingham Radio Corp.

Model 80

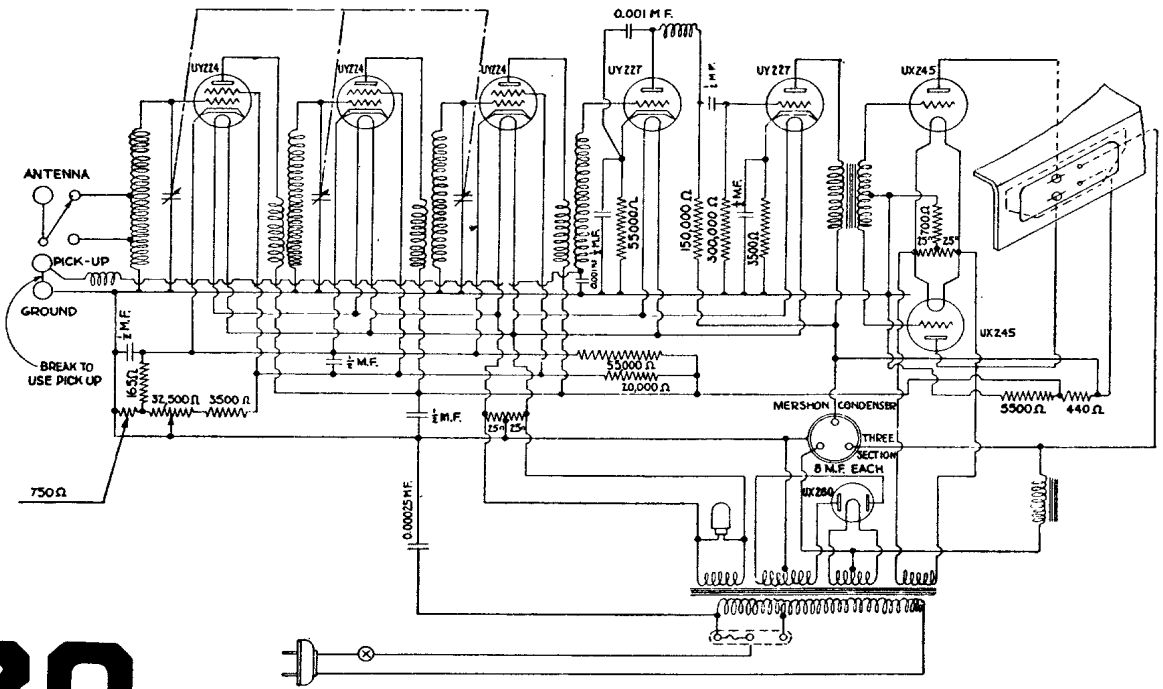
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

MODELS 30S, 31S, 33S, 34S.



Crosley Corp., Cincinnati, Ohio

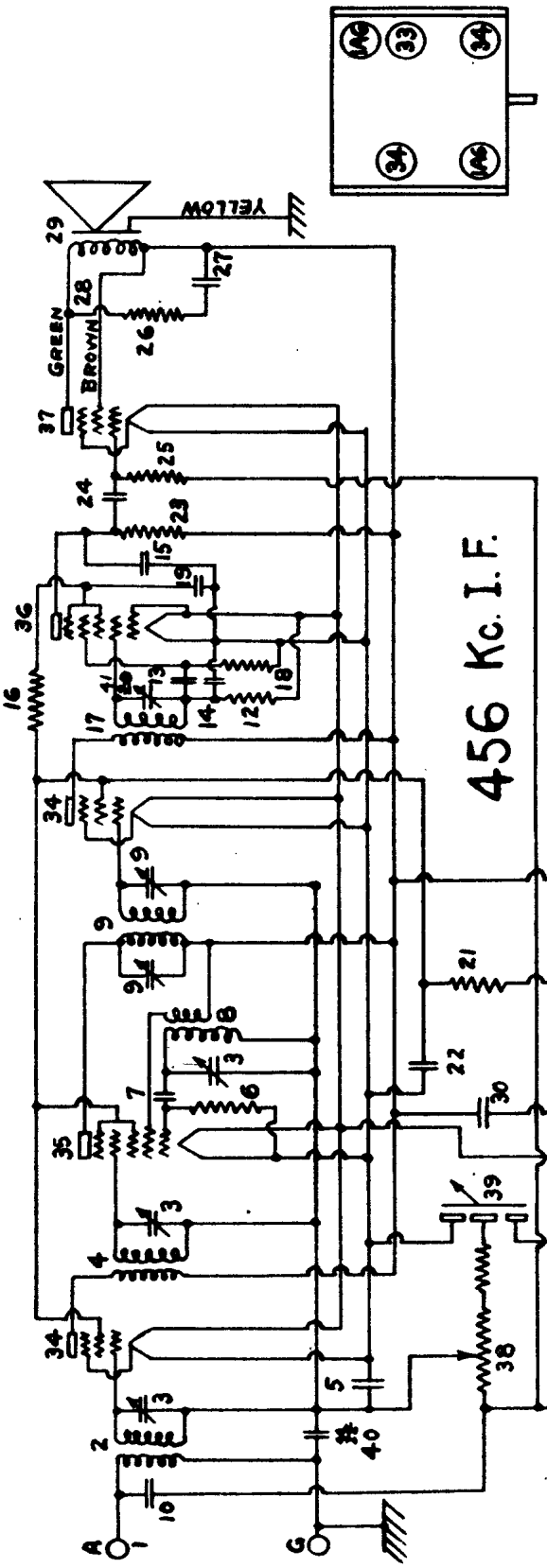
Models 40S, 41S, 42S, 82S



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Wiring Diagram For Model 5B3

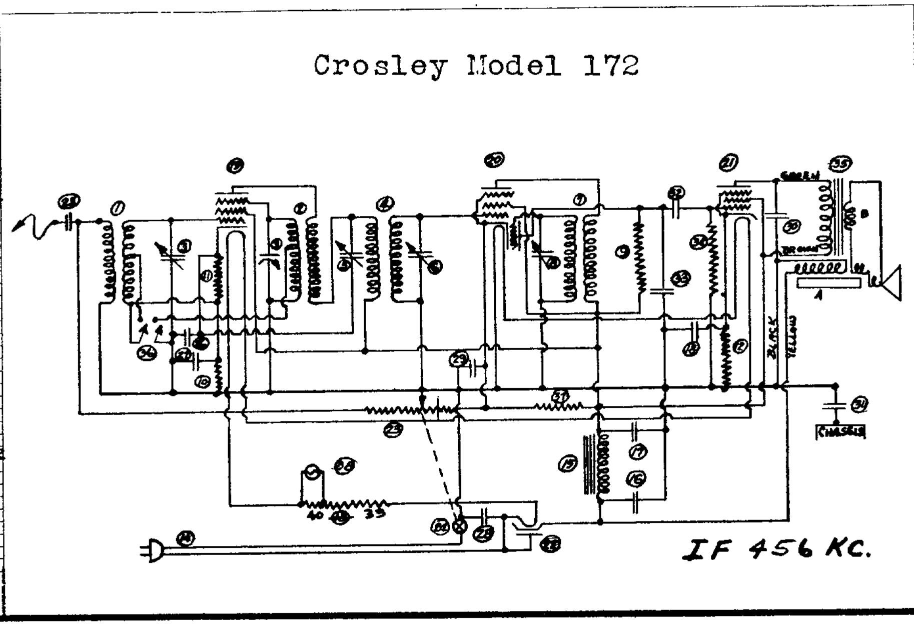
The Crosley Corp.



4	G17	—32001	R. F. Transformer		
5	W	—24049-B	0.1 Mfd. 200 Volt		
6		21875	100,000 Ohms		
7	G1	—34004	.025 Mfd. (Mica)		
8	G9	—32002	Oscillator Coil		
9	G9	—32004	1st I. F. Trans.		
10	W	—28621	.02 Mfd. 200 Volt		
12		23785	500,000 Ohms		
13	W	—28621	.02 Mfd. 200 Volt		
14	W	—26152-A	.00015 Mfd. 400 Volt		
15	W		.0001 Mfd. 400 Volt		
16		21237-A	60,000 Ohms		
17	G13	—32004	2nd I. F. Trans.		
18		21454	1 Megohm		
19	W	—24049-B	0.1 Mfd. 200 Volt		
21	W	—21452	1,100 Ohms		
22	W	—30321-A	1.0 Mfd. 160 Volt		
23		23785	500,000 Ohms		
24	W	—28621	0.02 Mfd. 200 Volt		
25		21454	1 Megohm		
26		24814	7,000 Ohms		
27	W	—28619	.006 Mfd.		
28	W	—27933	Speaker Cable		
29		30418	336-3B Speaker		
30	W	—29910-A	0.25 Mfd. 200 Volt		
31		27121	5,000 Ohms		
32	G2	—29237	Battery Cable		
33	G2	—23300	Air Cell Resistor .53 Ohms		
34	G31	—27975	34 Socket		
35	G55	—27975	1A6 Socket		
36	G4	—33070	1A6 Flex. Socket		
37	G36	—27975	33 Socket		
38	W	—32649	Volume Cont. 10,000 Ohms		
39			Switch 3. P. S. T.		
40	W	—24049-B	O.1 Mfd. 200 Volt		

Figures in first column correspond to figures in diagram

1	G15-24995	ANTENNA COIL
2	G20-24996	OSCILLATOR COIL
3	B-28592E	GANG CONDENSER
4	G7-25444	1ST I.F. TRANS.
5	G8-25948	1ST I.F. TUNING COND.
6		I.F. SEC. TUNING COND.
7	G9-25445	2ND I.F. TRANS.
8	G9-25948	2ND I.F. TUNING COND.
9	26577	3 MEG.
10	28588	2700 Ω
11	W-28589	350 Ω
12	W-22514	750 Ω
13	[illegible]	[illegible]
14	W-27888A	CORD & PLUG
15	G1-28859	POWER SUPPLY FIL. CHOKE
16	W-29264A	16 MFD. 125V. D.C.
17		18 MFD. 100V. D.C.
18		8 MFD. 10V. D.C.
19	G39-28807	78 SOCKET
20	G49-28807	6F7 SOCKET
21	G15-28807	38 SOCKET
22	G50-28807	1223 SOCKET
23	W-28594A	VOLUME CONTROL
24		S.P.S.T. SWITCH
25	W-28620	0.003 MFD. 200V.
26	W-28623	0.02 MFD. 200V.
27		0.02 MFD. 200V.
28	W-29271	0.02 MFD. 400V.
29		0.02 MFD. 400V.
30	W-29265	0.008 MFD. 200V.
31		0.05 MFD. 200V.
32	W29266A	0.03 MFD. 400V.
33		0.00017 MFD. 400V.
34	26578	5 MEG.
35	29315	346-2M SPEAKER
36	W-28959A	D.P.S.T. SWITCH
37	22199A	25,000 Ω
38	W-4099A	6.3V. DIAL LIGHT.
39	W-29597-A	244 Ω
40		26.7 Ω
41		
42		
43		
44		
45		



Control Grid Voltages

Pentode ..0.5 to 1.5
I. F. ......1.5 to 2.5 (20-30 vol. cont. off)
1st Det. ..5.5 to 7.5
2nd Det. ..4.0 to 6.0

Filament Voltages

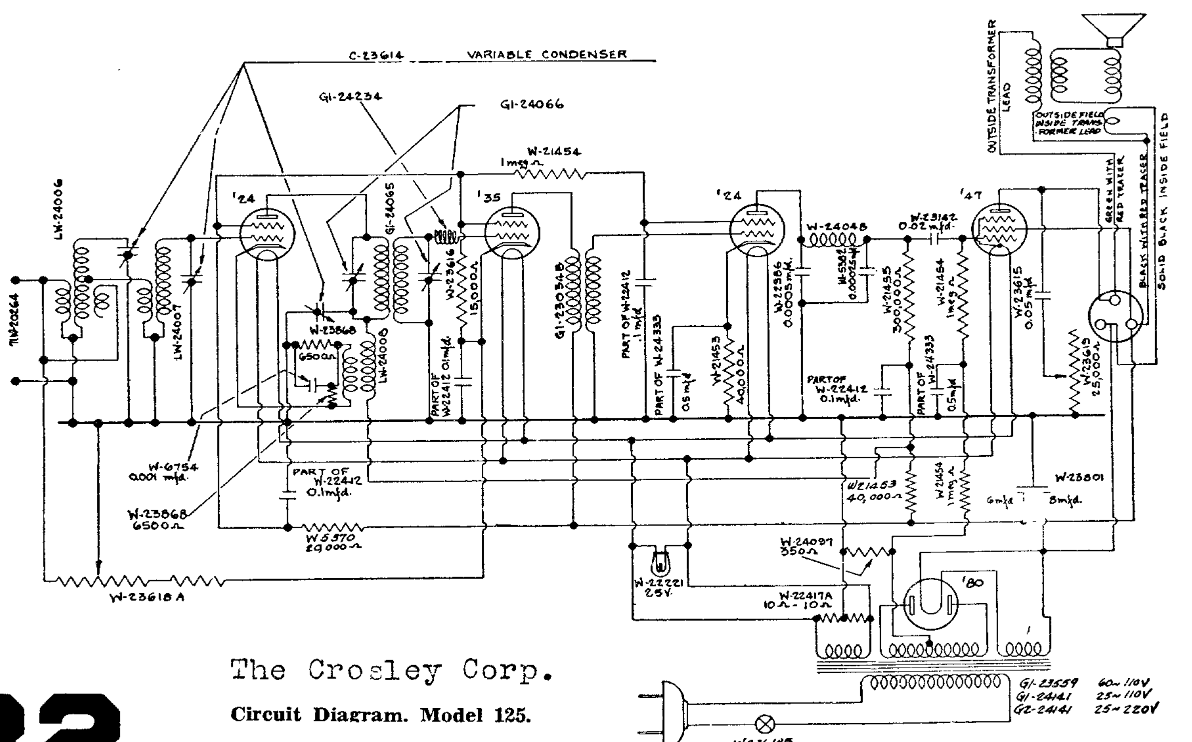
All tubes but rectifier ......2.3 to 2.5
Rectifier tube ......4.6 to 5.0

Screen Grid Voltages

Pentode ..200 to 230
I. F. .... 75 to 95
1st Det. .. 75 to 95
2nd Det. 15 to 25 (250V scale), 3-8 (50V scale)

Plate Voltages

Pentode 200 to 230
I. F. ....200 to 230
1st Det. ..160 to 180
2nd Det. 75 to 90 (250V scale), 20-30 (50V scale)

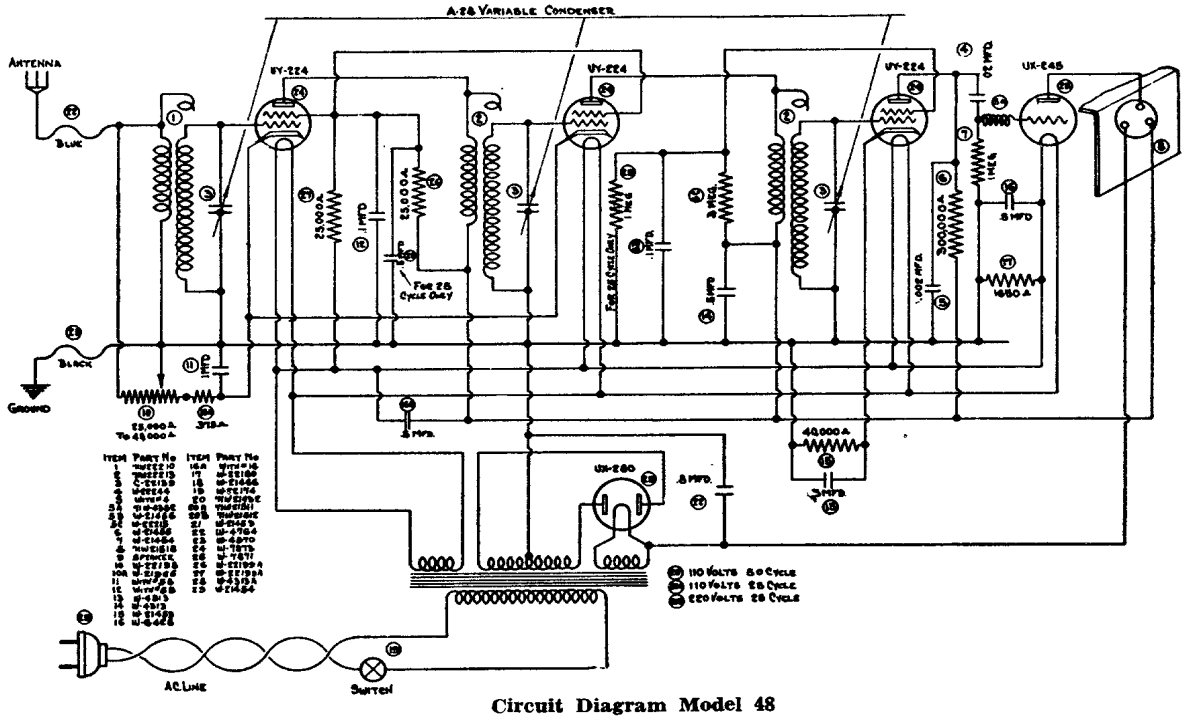


The Crosley Corp.

Circuit Diagram. Model 125.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

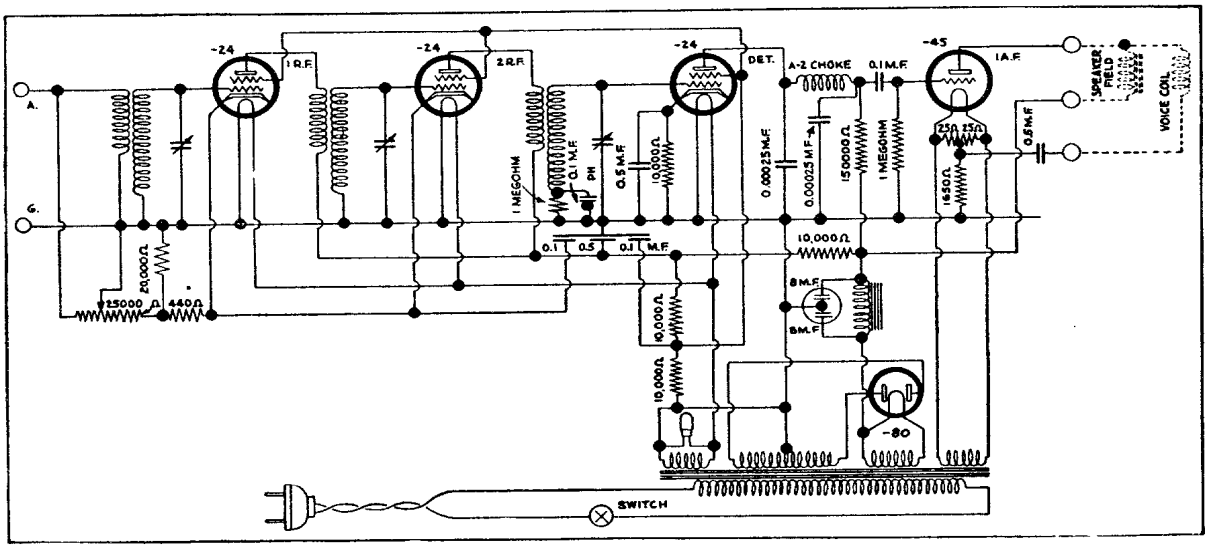
MODEL 48



Circuit Diagram Model 48

The Crosley Corp.

Models 53, 54 and 57

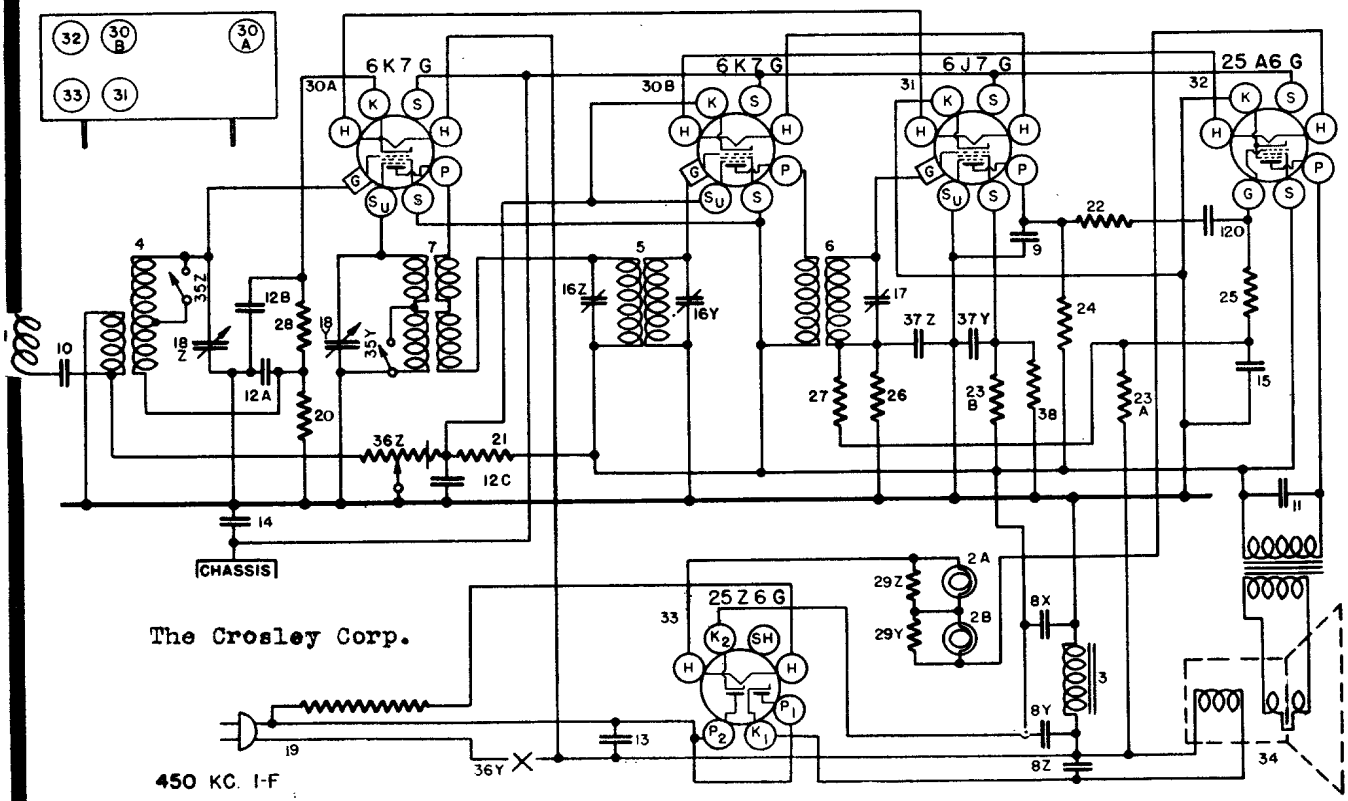


MODEL 536 AND 5536

Figures in first column refer to parts in Diagrams.

Item No.	Part No.	Description
1	W —29784B	Antenna—Flexible
2A	W — 4099B	Dial Light
2B	W — 4099B	Dial Light
	G6 —27134	Dial Light Socket Assembly
3	G4 —28859	Filter Choke
4	G106—32000	Ant. Coil
5	G104—32004	1st I-F Coil
6	G103—32004	2nd I-F Coil
7	G94 —32002	Osc. Coil
8Z, 8Y, 8X	W —29804A	Condenser, 8 Mfd. 125 V. / 16 Mfd. 125 V. / 25 Mfd. 100 V.
9	G1 —34002	Condenser, .00025 Mfd. (Molded)
10	W —28620	Condenser, .003 Mfd. 200 V.
11	W —23191A	Condenser, .01 Mfd. 400 V.
12A	W —36541	Condenser, .02 Mfd. 160 V.
12B	W —36541	Condenser, .02 Mfd. 160 V.
12C	W —36541	Condenser, .02 Mfd. 160 V.
12D	W —36541	Condenser, .02 Mfd. 160 V.
13	W —32780B	Condenser, .05 Mfd. 400 V.
14	W —24049C	Condenser, 1 Mfd. 160 V.
16	W —37075	Condenser, 2 Section Trimmer
17	W —40998	Condenser, 1 Section Trimmer
18	G22 —33001	2 Section Var. Tuning Condenser
	C —40926	Dial Glass—536 only
	W —40632B	Pointer Disc—536 only
	W —41014A	Dial Glass Bracket R-H—536 only
	W —41013A	Dial Glass Bracket L-H—536 only
	W —41227	Drive Chain—536 only
	W —40633B	Bearing Support—536 only
	W —41112A	Driven Sprocket—536 only
	W —41113A	Driver Sprocket
	W —40486	Pointer Disc Mtg. Screw
	C —40927	Dial Glass—5536 only
	B —40818B	Pointer Disc—5536 only
	W —41158	Support Bracket L-H—5536 only
	W —41143	Support Bracket R-H—5536 only
	W —40797	Dial Glass Bracket—5536 only

Item No.	Part No.	Description
	W —41162	Drive Chain—5536 only
	W —41160	Bearing Bracket—5536 only
	W —41159A	Shaft—5536 only
	W —40909	Spring Washer—5536 only
	W —31840A	Snap Ring—5536 only
19	B —40999	Power Cord & Plug
20	—36316	Resistor, 2700 Ohm ¼W.
21	— 4921C	Resistor, 10,000 Ohm 1W.
22	—35928	Resistor, 60,000 Ohm ¼W.
23A	—35600	Resistor, 100,000 Ohm ¼W.
23B	—35600	Resistor, 100,000 Ohm ¼W.
24	—35601	Resistor, 300,000 Ohm ¼W.
25	—36322	Resistor, 500,000 Ohm ¼W.
26	—35927	Resistor, 2 Megohm ¼W.
27	—33490	Resistor, 10 Megohm ¼W.
28	W —28589	Resistor, 350 Ohm ½W. Flex.
29	W —41000	Candohm—2 Sections
30A	G151—36400	Socket Type 6K7
30B	G151—36400	Socket Type 6K7
31	G157—36400	Socket Type 6J7
32	G161—36400	Socket Type 25A6
33	G162—36400	Socket Type 25Z6
	W —40911	Tube Shield
	W —27981A	Tube Shield Base
34	B —41012	Speaker 237BL9
	W —40593	Speaker Mtg. Bracket
	— 6415	Mtg. Bracket Screw
35	—41004	Band Selector Switch
36Z, 36Y	—41002	Volume Control 4800 Ohm Tap 160 Ohm Line Switch
	B —40590	Escutcheon
	D — 28	Escutcheon Mtg. Screws (4) — 536 only
	W —41019	Knob
	W —40839	Escutcheon — 5536 only
	W —40840	Escutcheon Plate — 5536 only
	W —29760A	Escutcheon Pin — 5536 only
	W —41019	Knob (2) — 5536 only
	W —41021	Knob (1) — 5536 only



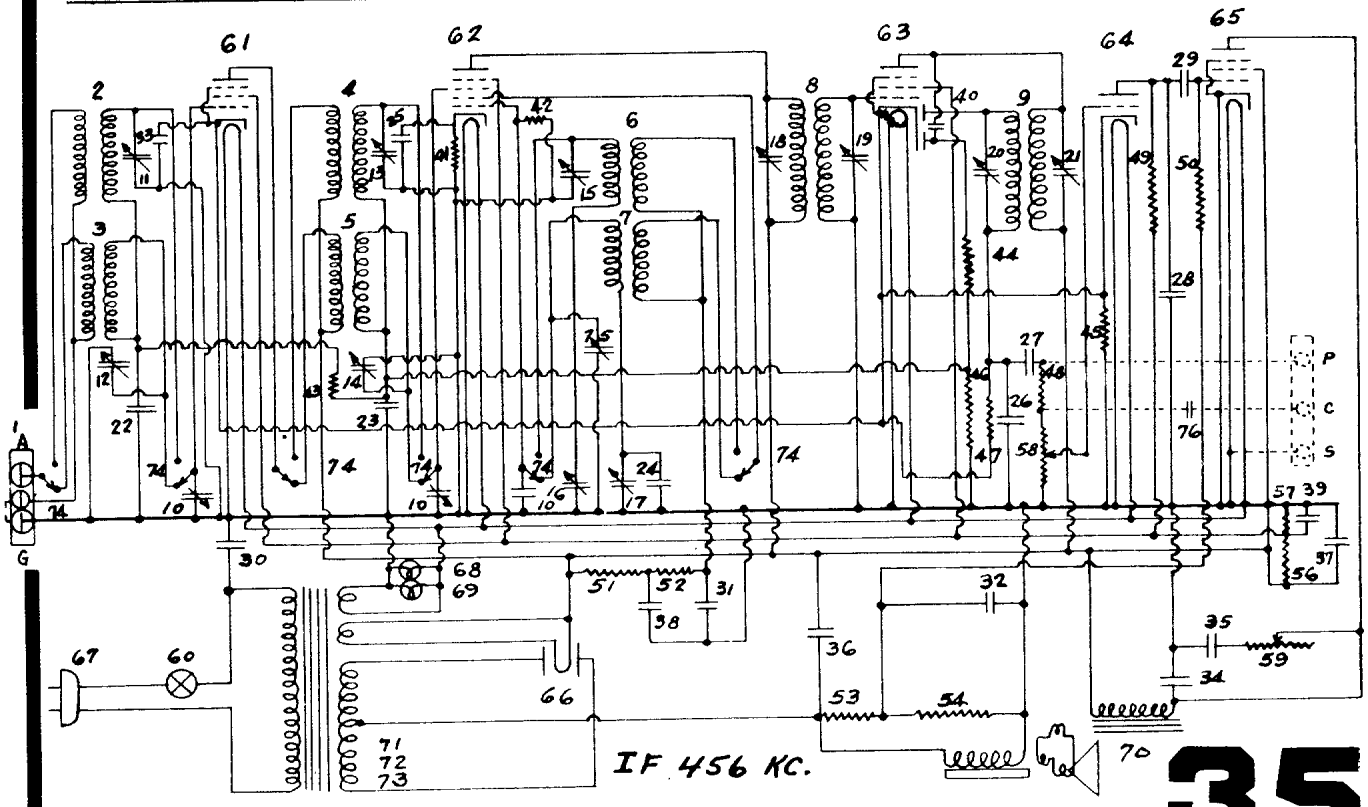
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

PARTS LIST—MODEL 6H2

* Figures in 2nd last column refer to parts shown in wiring diagram of Model 6H2

Qty.	Part No.	Description	Item
1	G3-32000	Antenna Coil (Low Freq.)	2
1	G1-32002	Antenna Coil (High Freq.)	3
1	G2-32001	R. F. Trans. Coil (L. F.)	4
1	G1-32001	R. F. Trans. Coil (H. F.)	5
1	G2-32002	Oscillator Coil (L. F.)	6
1	G1-32002	Osc. Coil (H. F.)	7
1	G9-32004	1st I. F. Trans. (With Trimmers	8-18 19
1	G10-32004	2nd I. F. Trans. (With Trimmers	9-20 21
6	W25200	Coil Shield Socket	
3	W30802	Coil Shield	
2	W25025A	Coil Shield	
1	W25025A	Coil Shield	
3	W26891	Insulating Washer L. F. Ant.-R. F. and Osc.	2-4-6
3	W21541B	Retaining Ring	2-4-6
2	W30026	Retaining Ring	3-5-7
1	G1-33008	L. F. & H. F. Antenna Trimmer Cond.	11-12
1	G1-33008	L. F. & H. F. R. F. Trimmer Cond.	13-14
1	G15-33009	L. F. & H. F. Osc. Trimmer Condenser	15-75
1	G2-33007	L. F. & H. F. Osc. Seriea Trimmer Cond.	16-17
1	G19-33002	Variable Tuning Condenser Gang	10
1	G5-32086	Dial Drive Assm.	
1	W32208A	Dial Hand	
2	W32293	Dial Hand Nut	
1	G75-27456	6D6 Socket	61
1	G47-27456	6A7 Socket	62
1	G48-27456	6B7 Socket	63
1	G80-27456	76 Socket	64
1	G25-27456	42 Socket	65
1	G6-27456	80 Socket	66
3	W26010	Tube Shield Base	
2	W27328A	Tube Shield (6A7, 6B7)	
1	B26009C	Tube Shield (6D6)	
1	G6-30745	Power Transformer 60 cy. 110 V.	71
	G7-30745	Power Transformer 25 cy. 110 V.	72
	G8-30745	Power Transformer 25 cy. 220 V.	73
1	B32285	Band Change Switch	74

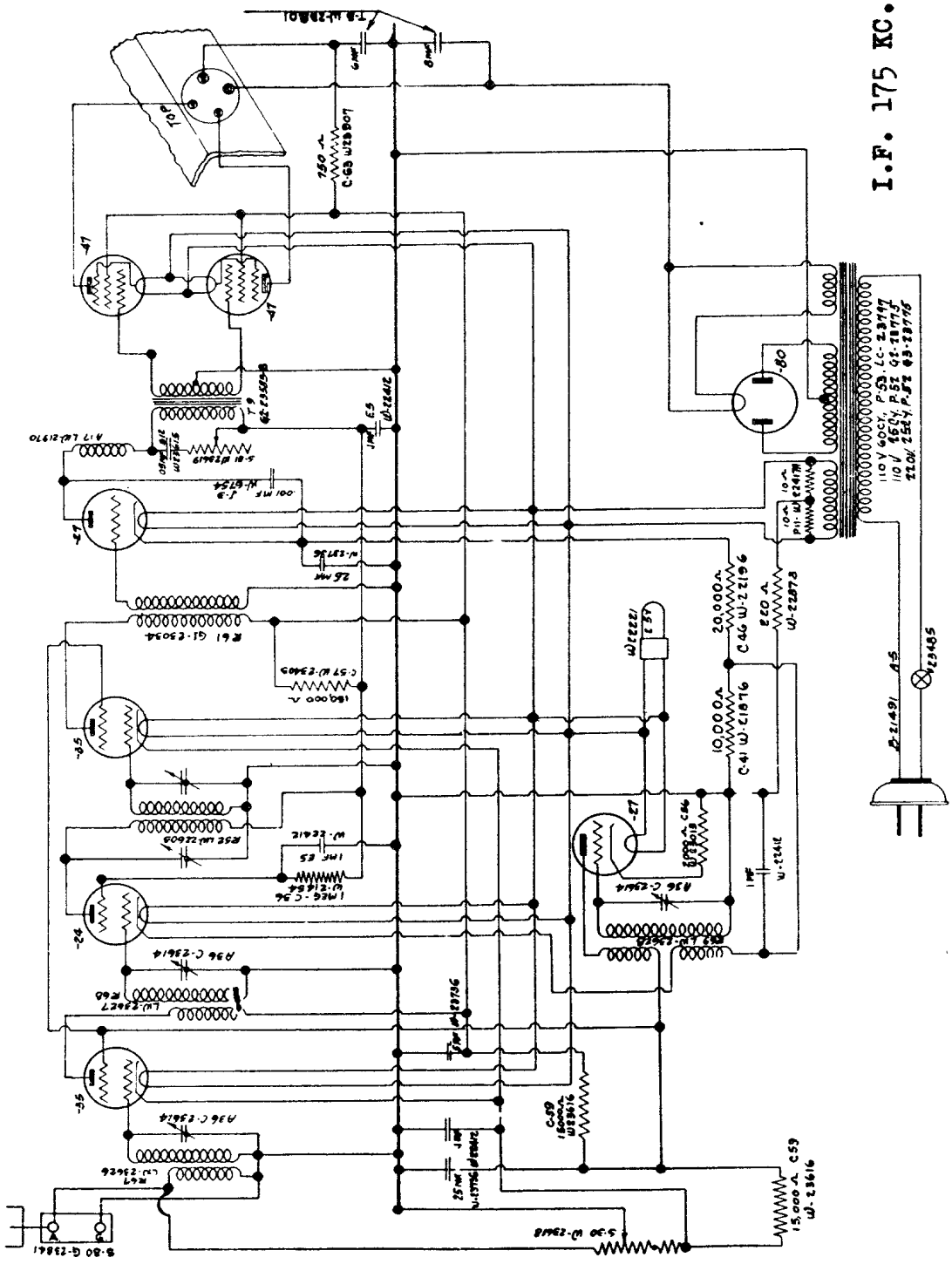
Qty.	Part No.	Description	Item
1	B30375A	Cable & Plug	67
1	W28552	Level Control (Volume) (3 Megohms)	58
2	G4-27134	Dial Light Brkt Assm.	
1	W25594B	Tone Control (80000 Ohm) & Line Switch	59-60
1	G16-26719	Ant.-Gnd. Terminal	1
		FILTER & BY-PASS CONDENSERS	
1	W29097C	8.-8.-8. Mfd. 450 V.-450 V.-250 V.	37-38 39
1	W26194B	12. Mfd. 475 V.	36
1	W30321	1. Mfd. 160 V.	32
3	W32379	0.02 Mfd. 200 V.	22 23 25
1	W32304	0.0014 Mfd.	24
1	W30322A	0.00017-0.006 Mfd. 200 V.-200 V.	26-27
1	W25537A	0.001-0.03 Mfd. 400 V.-400 V.	28-29
1	W30805	0.01 Mfd. 400 V.	30
1	W32378	0.01 Mfd. 400 V.	31
1	W24784	0.25 Mfd. 200 V.	33
1	W25517	0.008-0.05 Mfd. 400 V.-400 V.	34-35
1	W27540	0.0005 Mfd. 400 V.	40
		RESISTORS	
1	W28589	350 Ohms (Flexible)	41
1	21453	40000 Ohms	42
4	23785	500000 Ohms	43-48 50-53
2	26577	3 Megohms	44-46
1	W27504	100 Ohms (Flexible)	45
1	21454	1 Megohm	47
1	23403	150000 Ohms	49
1	21876	10000 Ohms	51
1	24814	7000 Ohms	52
1	33474	120000 Ohms	54
1	W31883	8500-25000 Ohms	56-57
3	W32352	Knob	
1	W32353	Knob	
1	W31007A	Speaker Cord (4 Lead)	
1	W32219A	Dial Glass	
1	W32220A	Dial Glass Retainer	
1	B32190C	Escutcheon	
1	W33106A	Escutcheon Gasket	
4	D28	Escutcheon Screws (.10 doz)	



Crosley Radio Corporation

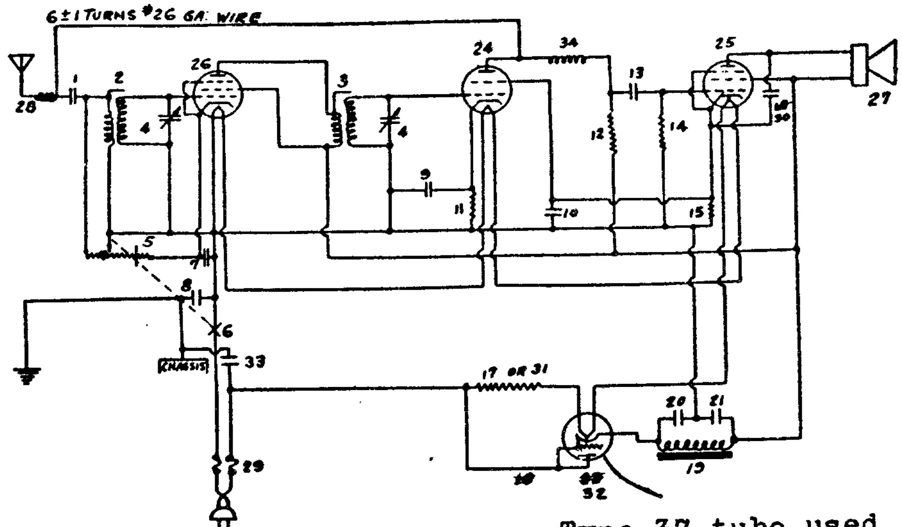
Model 124

I.F. 175 KC.



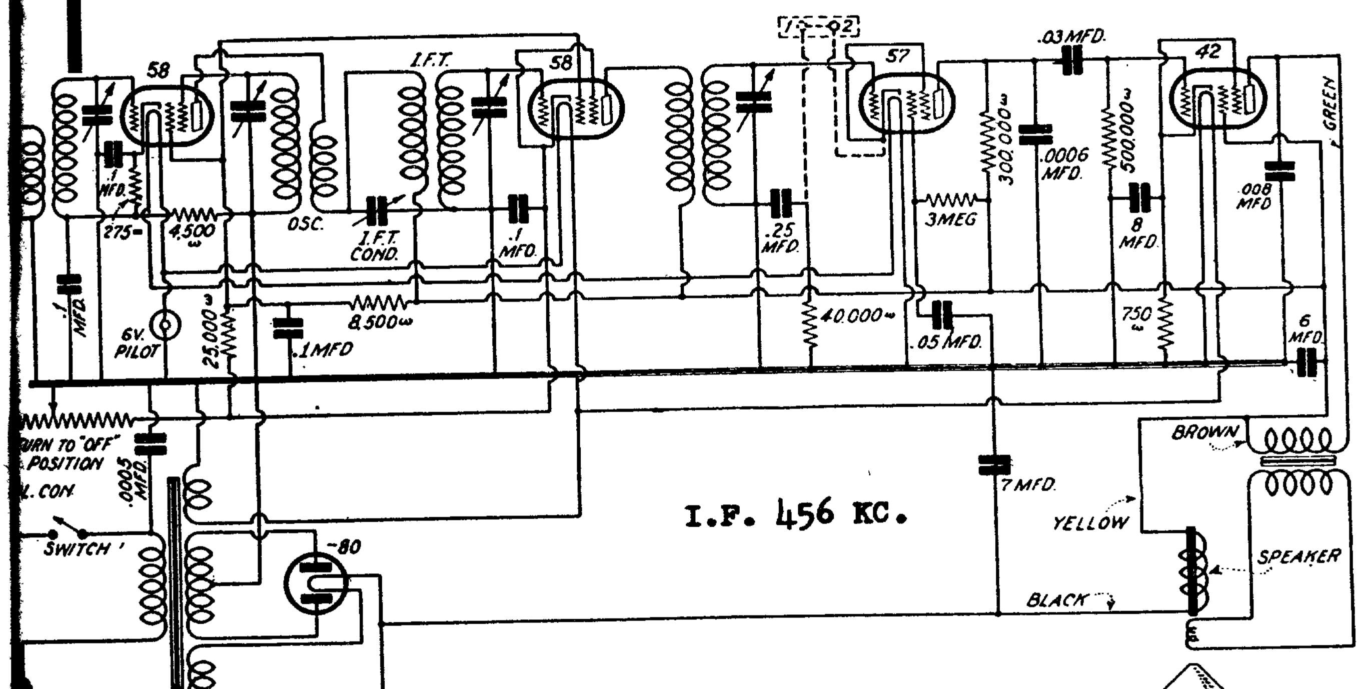
Crosley Model 147

1	W-27652	.003 MFD.
2	LW-27680	ANTENNA COIL
3	LW-27681	INTERSTAGE COIL
4	B-27706	TUNING CONDENSER
5	W-27694	VOLUME CONT. 4500 Ω
6		LINE SWITCH
7	W-25438	.1 MFD.
8		.1 MFD.
9	W-27677A	8 MFD.
10		8 MFD.
11	W-21237A	60,000 Ω
12	W-26577	3 MEG.
13	W-27203	.02 MFD.
14	W-26578	5 MEG.
15	W-26690	4500 Ω
16	~~[illegible]~~	~~.003 MFD.~~
17	W-27675	300 Ω RED DEV.
18	~~[illegible]~~	~~[illegible]~~
19	G2-24774	FILTER CHOKE
20	W-27676	4 MFD.
21		4 MFD.
22	LW-27815	CORD & PLUG
23		~~[illegible] SOCKET~~
24	G11-27727	-36 SOCKET
25	G15-27727	-38 SOCKET
26	G17-27727	-39 SOCKET
27	27790	340 SPEAKER
28	W-26072	ANTENNA LEAD
29	W-4639C	2 AMP. FUSE
30	W-27652	.003 MFD.
31	W-28100	300 Ω CANDOHM
32	G12-27727	- 37 SOCKET
33	W-27652	.003 MFD.
34	G1-24234	FILTER CHOKE



Type 37 tube used,
Early models used
type KR tube.

Crosley Model 148



The Crosley Radio Corporation, Cincinnati, Ohio

Model 158

Specifications

Model 158 is a seven tube superheterodyne designed for operation from A. C. electric circuits. The intermediate frequency used is 181.5 KC.

Tubes And Voltage Limits

The following are the voltages measured with the receiver in operating condition, but with no signal to the antenna circuit. Use a high resistance D. C. Voltmeter (1000 ohms per volt, or more) for all but filament voltages. In measuring filament or heater voltages use a low range A. C. meter. The voltage limits are + or — 10% of values given in the following table.

Line voltage—117.5 (235 for 220 volt receivers).

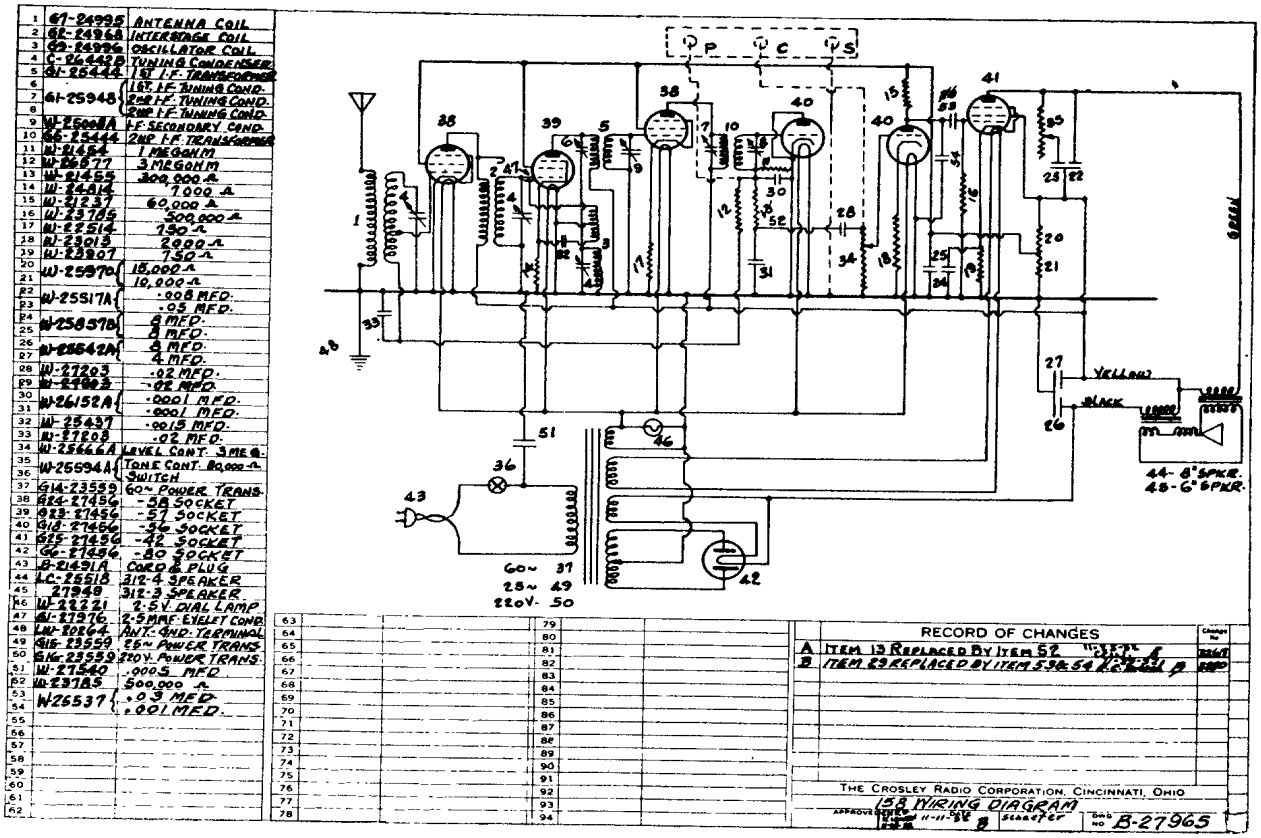
Plate voltage measured from plate contact to cathode contact.

Screen grid voltage measured from screen grid contact to cathode contact.

Suppressor grid voltage measured from suppressor grid contact to cathode contact.

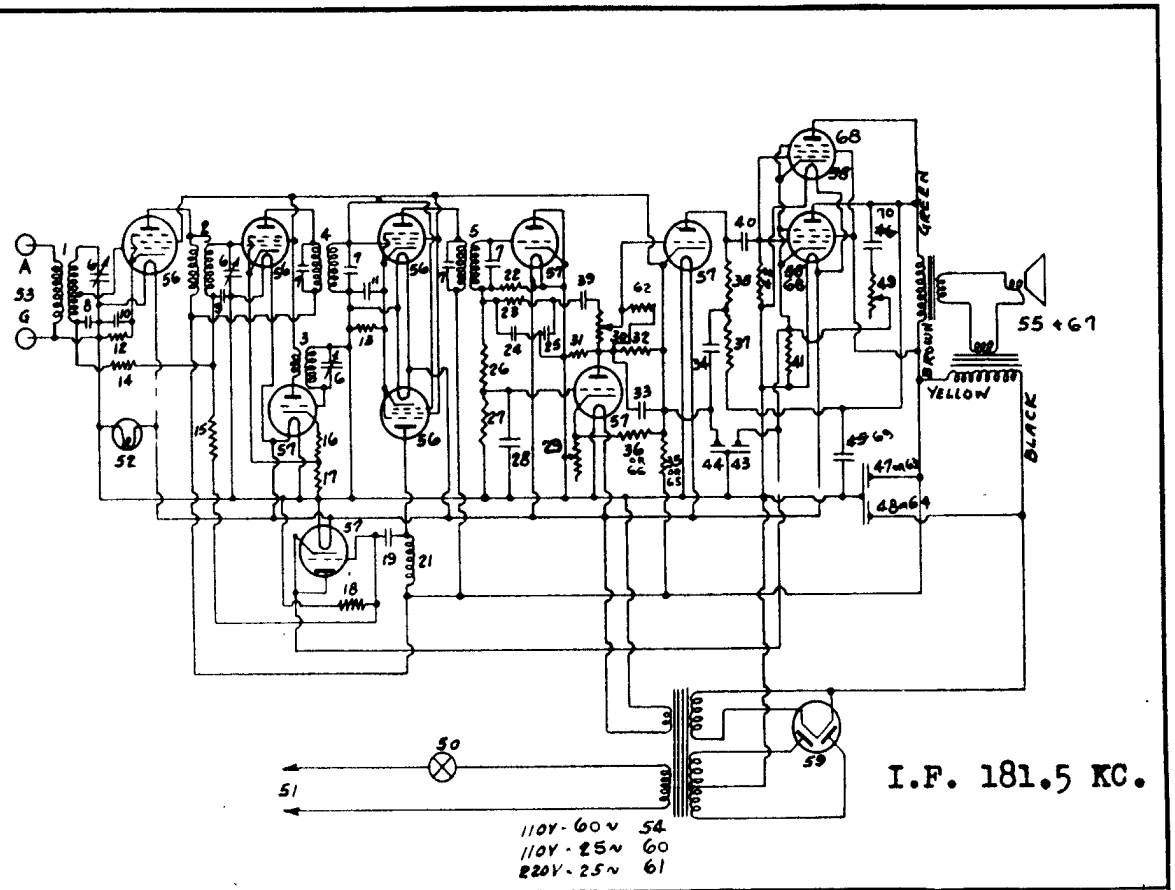
Bias voltage measured from cathode contact to chassis.

Tube	Position	Voltages Plate	Screen Grid	Supp. Grid	Bias	Fil.
-58	R. F. Amplifier	270	85	0	0	2.5
-57	Oscillating Detector	270	80	0	6.0	2.5
-58	I. F. Amplifier	275	80	0	4.0	2.5
-56	Detector	0				2.5
-56	A. F. Amplifier	40			1.6	2.5
-42	Output	245	250		22.0	6.3
-80	Rectifier	350				4.8



Model 160

1	G1-24995	ANTENNA COIL
2	G2-25968	INTERSTAGE COIL
3	G14-24996	OSCILLATOR COIL
4	G5-24065	1ST I.F. TRANS.
5	G10-24065	2ND I.F. TRANS.
6	C-26442B	TUNING CONDENSER
7	G3-25948	I.F. TUNING COND.
8	W-27204	.02 MFD.
9		.02 MFD.
10	W-25438	.1 MFD.
11		.1 MFD.
12	W-25937	275 Ω
13	W-21964	165 Ω
14	W-23785	500,000 Ω
15	W-21454	1 MEGOHM
16	W-23013	2000 Ω
17	W-22514	750 Ω
18	W-21455	300,000 Ω
19	W-27540	.0005 MFD.
20		
21	G3-25445	COUPLING CHOKE
22	W-21454	1-MEGOHM
23	W-23785	500,000 Ω
24	W-26152	.00015 MFD.
25		.0001 MFD.
26	W-26578	5-MEGOHM
27	W-26577	3-MEGOHM
28	W-27203	.02 MFD.
29	W-28287A	LEVEL CONT. 5000 Ω
30	W-25666	AUDIO LEVEL CONT. 3 MEG
31	W-26577	3-MEGOHM
32	W-23403	150,000 Ω
33	W-25516	.25 MFD.
34		.25 MFD.
35	W-27120	8500 Ω
36		25,000 Ω
37	W-21237	60,000 Ω
38	W-21875	100,000 Ω
39	W-23142	.02 MFD.
40	W-23615	.05 MFD.
41	W-22873	220 Ω
42	W-21455	300,000 Ω
43	W-25857A	8 MFD. 25 V
44		8 MFD. 200 V
45		
46		
47	W-28340	8 MFD. 350 V
48		12 MFD. 475 V
49	W-25594A	TONE CONT. 80,000 Ω
50		LINE SWITCH
51	B-21491A	CABLE & PLUG
52	W-22221	2.5 V. DIAL LAMP
53	LW-20264	ANT.-GND. TERMINAL
54	G19-25669	POWER TRANS. 60 ~
59	27869	337-4M SPEAKER
60	G24-27456	-58 SOCKET
61	G18-27456	-56 SOCKET
62		
63	G6-27456	-80 SOCKET
64	G20-25669	POWER TRANS. 25 ~
65	G21-25669	POWER TRANS. 220 V.
66	W-21454	1-MEGOHM



63	N-28468	8 MFD. 350 V 12 MFD. 475 V	79		
64			80		
65	W-28471	8500 ~ 25,000 ~	81		
66			82		
67	27870	337-5M. SPEAKER	83		
68	643-27456	2A5 SOCKET	84		
3	W-28860	.008 MFD. .15 MFD.	85		
70			86		
71			87		
72			88		
73			89		
74			90		
75			91		
76			92		
77			93		
78			94		

RECORD OF CHANGES

		Change No.
A	ITEM 62 ADDED 12-29-32 CRW	3309
B	ITEMS 63 AND 64 ADDED 1-6-33 CRW	3310
B	ITEMS 65 AND 66 ADDED 1-9-33 CRW	3311
C	ITEM 58 REPLACED BY ITEM 68 1-18-33 CRW	3353
D	ITEMS 45 & 46 REPLACED WITH ITEMS 69 & 70 2-10-33 CRW	3362

THE CROSLEY RADIO CORPORATION, CINCINNATI, OHIO

160 WIRING DIAGRAM

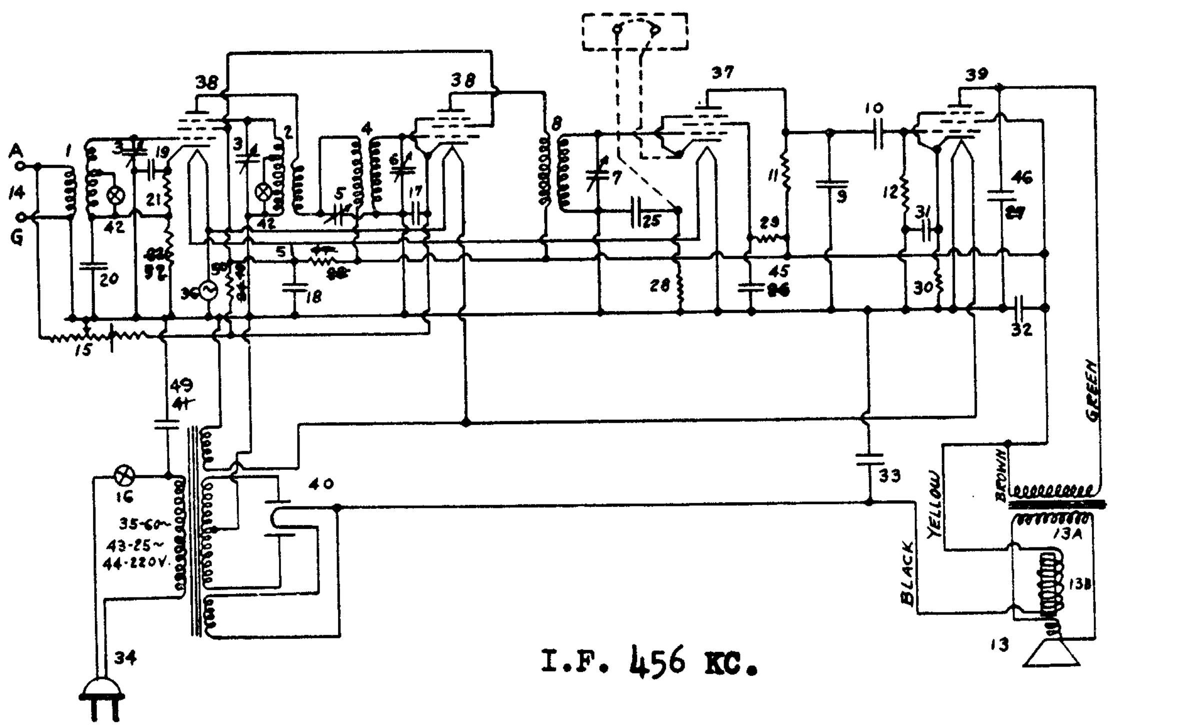
Schaefer 12-15-32

DWG NO B-28334

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Model 167

No.	Part No.	Description
1	G20-24995	ANTENNA COIL
2	G11-24996	OSCILLATOR COIL
3	L-27426	VARIABLE CONDENSER
4	G7-25444	1ST I.F. TRANS.
5	G2-25948	1ST I.F. TRANS. PRI. TUN. COND.
6	W-25008A	1ST I.F. SEC. TUN. COND.
7	W-27548	2ND I.F. TRANS. SEC. TUN. COND.
8	G7-25445	2ND I.F. TRANS.
9	W-25537A	0.0006 μf 400V.
10	W-25537A	0.03 μf 400V.
11	W-21455	300,000 Ω
12	W-23785	500,000 Ω
13	27610	335-3 SPEAKER
14	LW-20264	ANT.-GND. TERM.
15	W-26573B	VOLUME CONTROL
16	W-26573B	LINE SWITCH
17	W-25438	0.1 μf 200V.
18	W-25438	0.1 μf 200V.
19	W-25438	0.1 μf 200V.
20	W-25438	0.1 μf 200V.
21	W-25937	275 Ω
22	W-20090	4600 Ω
23	W-27120	8500 Ω
24	W-27120	25,000 Ω
25	W-24784	0.25 μf 200V.
26	W-25817A	0.05 μf
27	W-25817A	0.008 μf
28	W-21453	40,000 Ω
29	W-26577	3 MEG.
30	W-23907	750 Ω
31	W-27488	8 μf 25V.
32	W-27488	6 μf 800V.
33	W-23701B	7 μf 440V.
34	B-21491A	CORD & PLUG
35	G11-23559	POWER TRANS. (60~)
36	W-4099A	6V. DIALLIGHT
37	G23-27456	-57 SOCKET
38	G24-27456	-58 SOCKET
39	G25-27456	-42 SOCKET
40	G6-27456	-80 SOCKET
41	W-27546	0.0005 μf
42	W-28913	WAVE CHANGE SWITCH
43	G12-23559	POWER TRANS. (25~)
44	G13-23559	POWER TRANS. (220V.)
45	W-29089	0.02 MFD. 400V.
46	W-29089	0.016 MFD. 400V.
47	W-25970	10,000 Ω
48	W-25970	15,000 Ω
49	W-29591A	.0005 MFD 400V.
50	W-27120	28,000 Ω
51	W-27120	8,500 Ω
52	38133	3,500 Ω
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		



	RECORD OF CHANGES	Change No.
A	ITEMS 26 & 27 REPLACED WITH ITEMS 45 & 46 B	3395
B	ITEMS 15 & 16 WAS W-26573A 4-3-33 R.E.D. B	3396
B	ITEMS 23 & 24 REPLACED WITH ITEMS 47 & 48 4-5-33 R.E.D. B	3398
C	ITEM 41 REPLACED BY ITEM 49	3434
D	ITEMS 23, 47 & 48 REPLACED BY 50 & 51	3451

THE CROSLEY RADIO CORPORATION, CINCINNATI, OHIO

167 WIRING DIAGRAM

APPROVED — DATE — Schaefer — DWG. NO. B-28932

The Crosley Radio Corporation, Cincinnati, Ohio

Model 168

Specifications

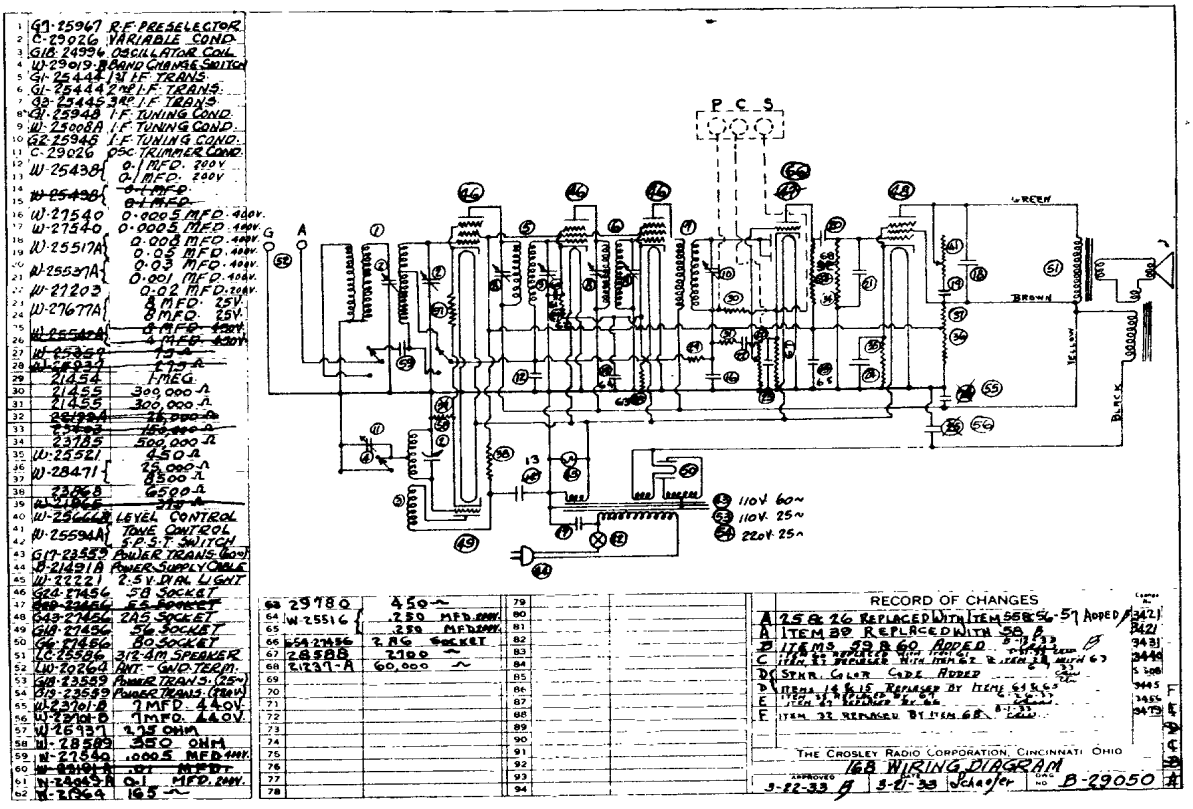
Model 168 is a seven tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency is 181.5 Kc.

Tubes and Voltage Limits

The following are the tubes and voltages measured with the receiver in operating condition but with no signal to the antenna circuit. Line voltage should be 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament, are measured from tube contact to chassis with a 500 volt D.C. voltmeter (1000 ohms per volt). Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
56	Oscillator	66		6.5		2.5
58	Modulator	270	122	8.0	8.0	2.5
58	I. F. Amplifier	270	122	8.5	8.5	2.5
58	I. F. Amplifier	270	122	7.0	7.0	2.5
2A6	Detector and A. F. Amplifier	231		2.0		2.5
2A5	Output	257	270	18.0		2.5
80	Rectifier	380				4.9

Voltage limits are plus or minus 10% of values given.



The Crosley Radio Corporation, Cincinnati, Ohio

Model 169

Specifications

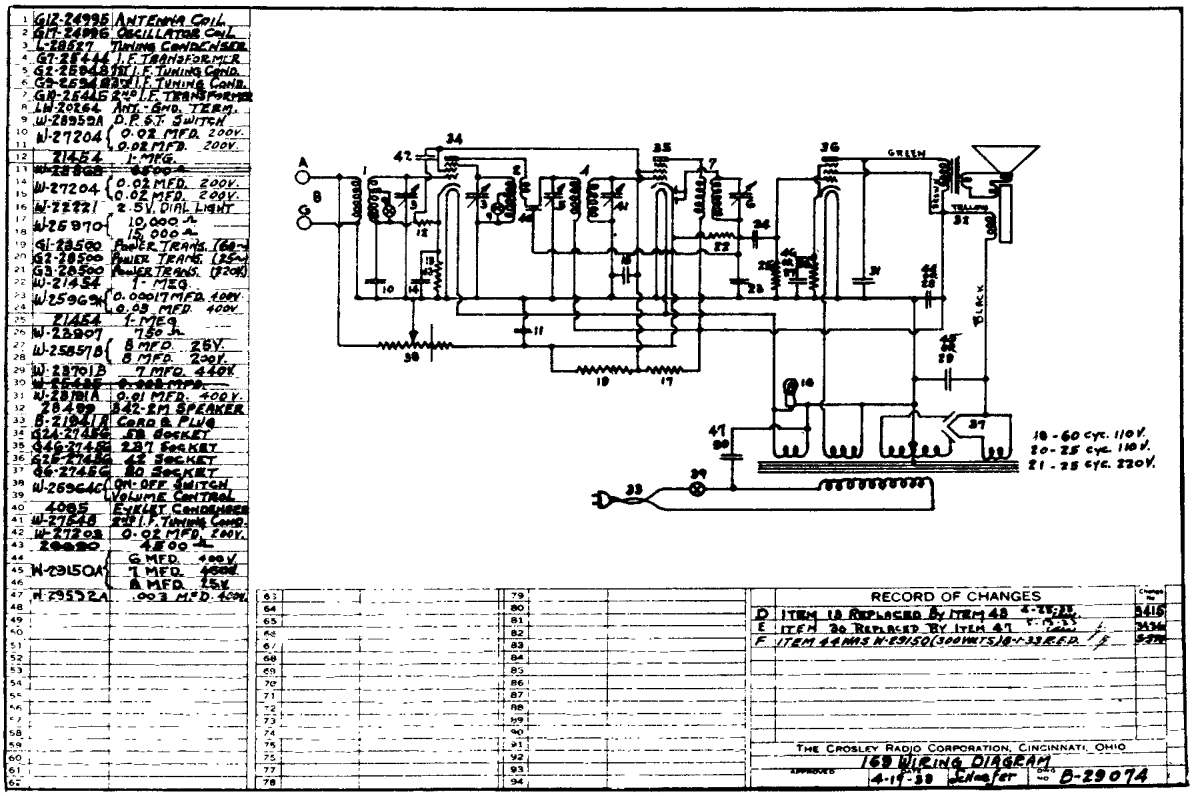
Model 169 is a four tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency is 456 Kc.

Tubes and Voltage Limits

The following are the tubes and voltages measured with the receiver in operating condition but with no signal to the antenna circuit, with a line voltage of 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament, are measured with a 500 volt D.C. voltmeter (1000 ohms per volt) from tube contact to chassis. Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
58	Oscillator-Modulator	188	88	28	0	2.5
2B7	I. F. Amplifier and Detector	188	88	2		2.5
42	Output	178	188	14.5		2.5
80	Rectifier	322				4.9

Voltage limits are plus or minus 10% of values given.



The Crosley Radio Corporation, Cincinnati, Ohio

Model 170

Specifications

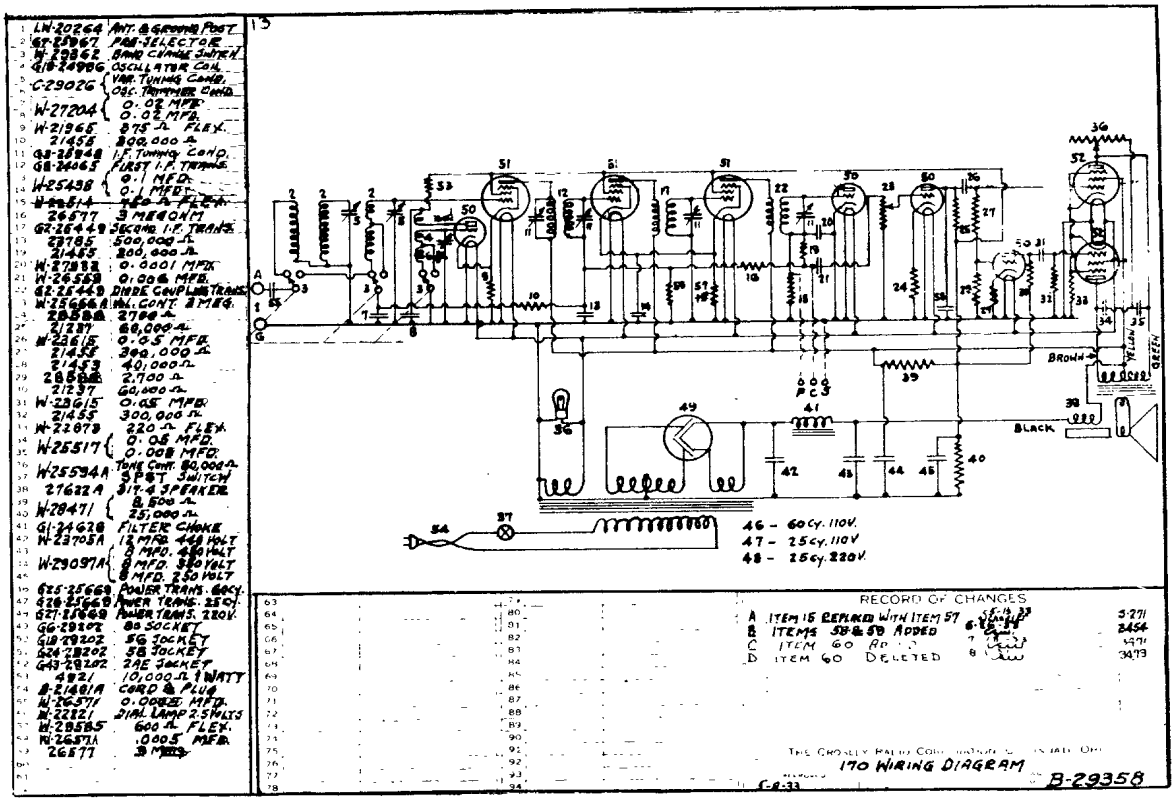
Model 170 is a ten tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency used is 181.5 Kc.

Tubes and Voltage Limits

The following are the tubes and voltages measured with the receiver in operating condition but with no signal to the antenna circuit, and with a line voltage of 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament, are measured with a 500 volt D.C. voltmeter (1000 ohms per volt) from tube contact to chassis. Filament voltages are measured with a low range A.C. voltmeter.

Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
58	Modulator	276	120	6.0	6.0	2.5
56	Oscillator	50		6.0		2.5
58	I. F. Amplifier	276	120	8.0	8.0	2.5
58	I. F. Amplifier	276	120	8.0	8.0	2.5
56	Detector	0				
56	Phase Shifter	55		0		2.5
56	A. F. Amplifier	56		2.0		2.5
2-2A5	Output	269		3.0		2.5
80	Rectifier	355	276	18.0		2.5 4.9

Voltage limits are plus or minus 10% of values given.



The Crosley Radio Corporation, Cincinnati, Ohio

Model 171

Specifications

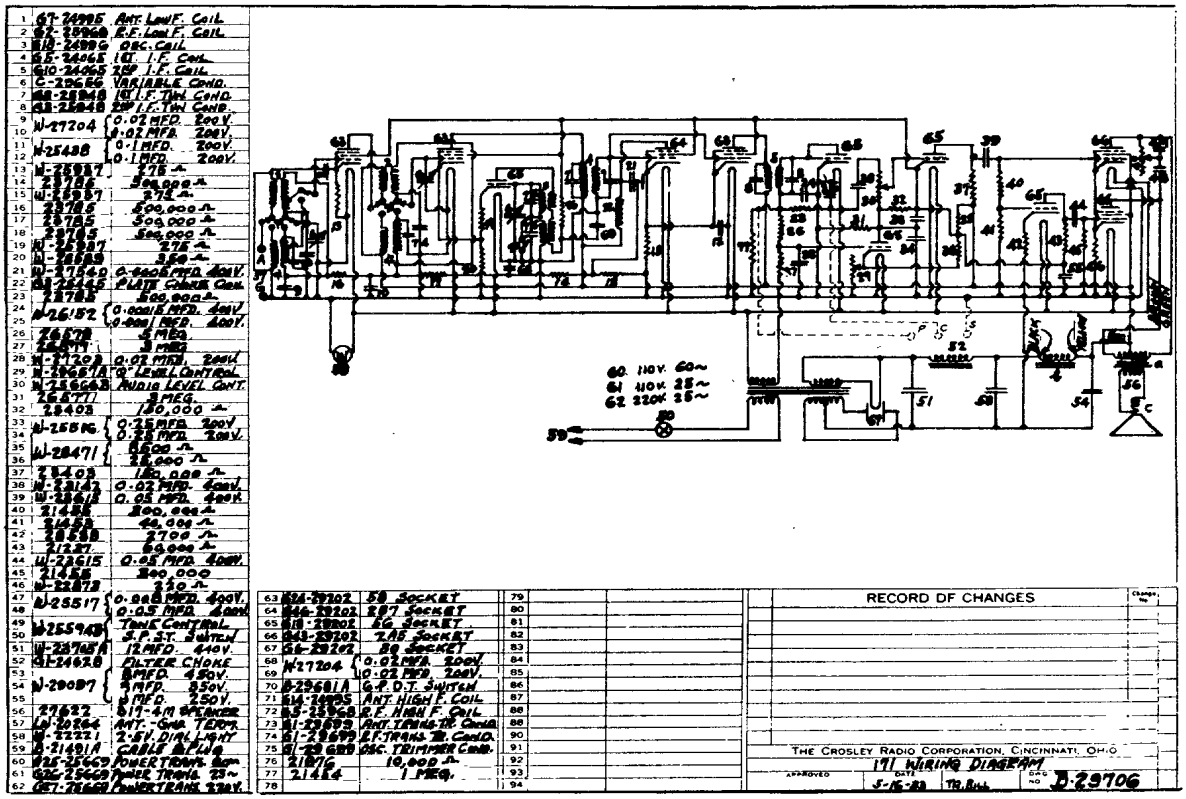
Model 171 is a twelve tube dual band superheterodyne designed for operation from A.C. electric circuits. The intermediate frequency is 181.5 Kc.

Voltages and Tube Limits

The following are the tubes and voltages measured with the receiver in operating condition but with no signal to the antenna circuit, and with a line voltage of 117.5 volts (235 volts for 220 volt receivers). All voltages, except filament are measured with a 500 volt D.C. voltmeter (1000 ohms per volt) from tube contact to chassis. Filament voltages are measured with a low range A.C. voltmeter.

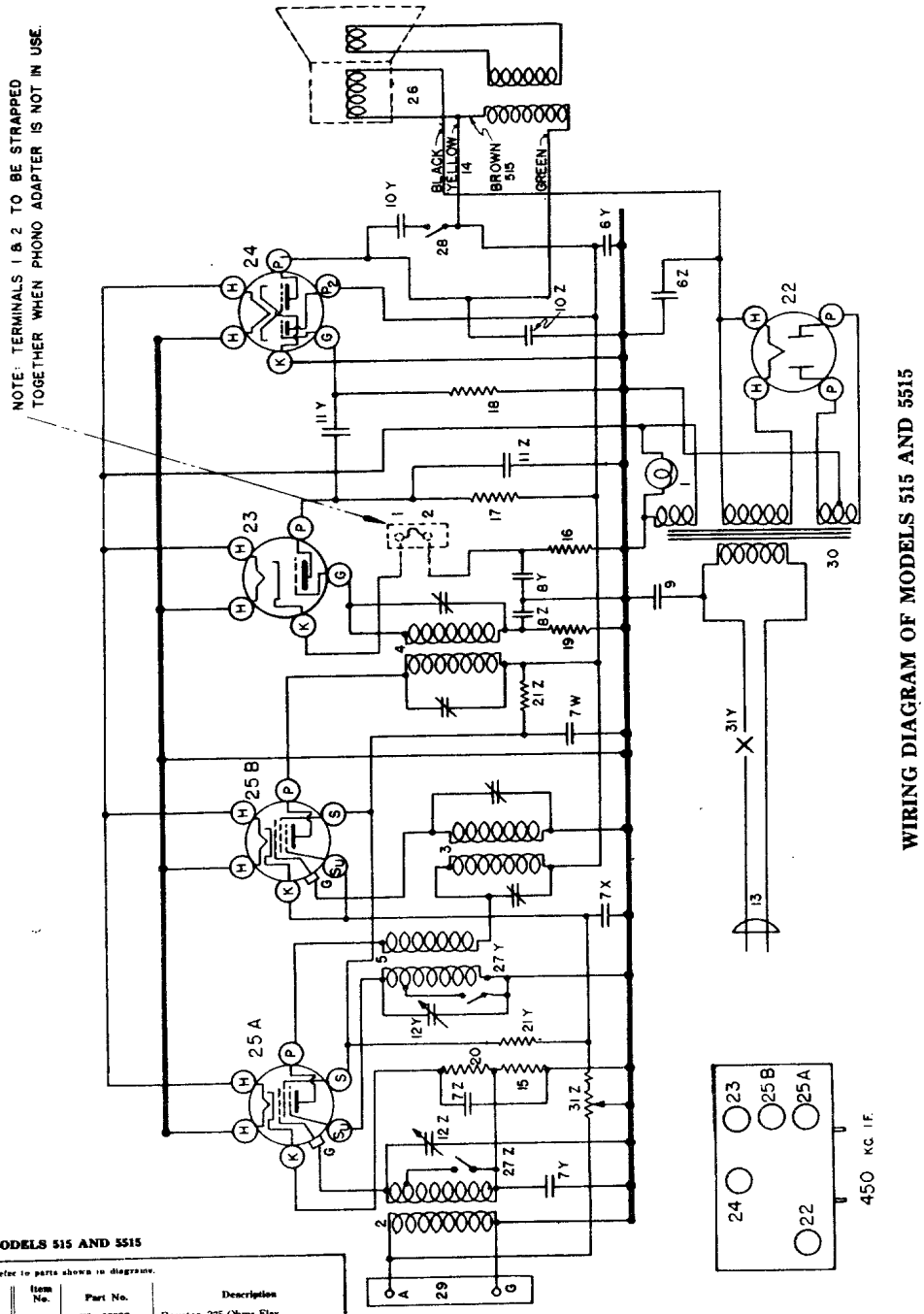
Tube	Position	Plate	Screen Grid	Cathode	Suppressor Grid	Filament
58	R. F. Amplifier	267	115	3.0	3.0	2.5
56	Oscillator	60		7.0		2.5
58	Modulator	267	115	5.5	5.5	2.5
58	I. F. Amplifier	267	115	4.5	4.5	2.5
2B7	A. V. C. Tube	267	115	4.5	4.5	2.5
56	QAVC Tube	70		0-20.0*		2.5
56	Detector	0		0		2.5
56	Phase Shifter	58		2.5		2.5
56	A. F. Amplifier	170		115		2.5
2-2A5	Output	260	267	17.5		2.5
80	Rectifier	355				4.9

Voltage limits are plus or minus 10% of values given.
***Voltage depends on position of "Q" control.**



Crosley Radio

I.F. 450 KC.

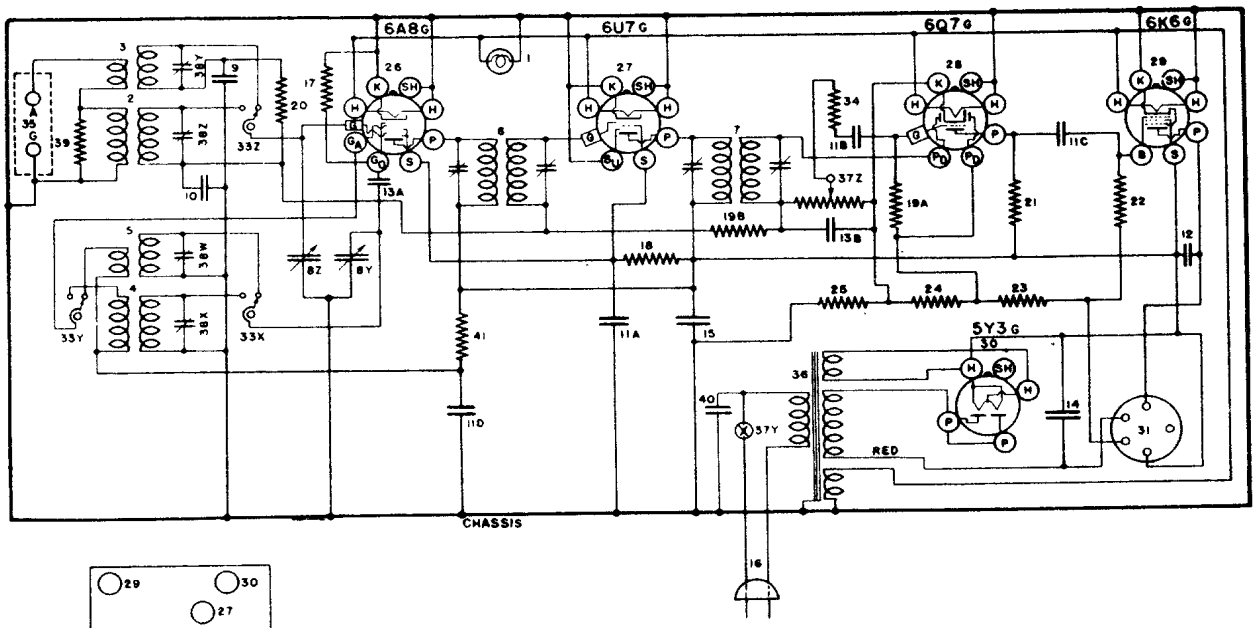


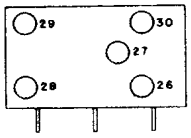
WIRING DIAGRAM OF MODELS 515 AND 5515

PARTS LIST—MODELS 515 AND 5515

Figures in first column refer to parts shown in diagrams.

Item No.	Part No.	Description
1	G4—27134	Dial Light Socket Assembly.
2	G42—32000	Coil Ant.
3	G48—32004	1st. I. F. Trans.
4	G49—32004	2nd. I. F. Trans.
5	G47—32002	Osc. Coil.
6Z, 6Y	W—36719	Condenser, 8 Mfd., 450 Volts. Condenser, 6 Mfd., 450 Volt.
7Z, 7Y	W—28623	Condenser, 0.02 Mfd. 200 Volt Condenser, 0.02 Mfd. 200 Volt.
7X, 7W	W—28623	Condenser, 0.02 Mfd. 200 Volt. Condenser, 0.02 Mfd. 200 Volt.
8Z, 8Y	W—28622	Condenser, 0.1 Mfd. 200 Volt. Condenser, 0.1 Mfd. 200 Volt.
9	W—30805	Condenser, 0.01 Mfd. 400 Volt.
10Z	W—35011	Condenser, 0.006 Mfd. 400 Volt.
10Y		Condenser, 0.03 Mfd. 400 Volt.
11Z, 11Y	W—25537A	Condenser, 0.001 Mfd. 400 Volt. Condenser, 0.05 Mfd. 400 Volt.
12Z, 12Y	G14—33001	Variable Tuning Condenser Gang.
	—36148	Dial Assembly complete.
13	B—33906A	Cord—Power Supply.
14	G3—35896	Speaker Cable (5515 only)
15	—31094	Resistor, 4,500 Ohms.
16	—21237A	Resistor, 60,000 Ohms.
17	—21455	Resistor, 300,000 Ohms
18	—23785	Resistor, 500,000 Ohms.
19	—21454	Resistor, 1 Megohm.
20	W—25937	Resistor, 275 Ohms Flex.
21Z, 21Y	W—35963	Resistor, 8,500 Ohms. Resistor, 25,000 Ohms
22	G6—28807	Socket, 80.
23	G80—28807	Socket, 76.
24	G90—28807	Socket, 6B5.
25A	G75—28807	Socket, 6D6.
25B	G75—28807	Socket, 6D6.
	W—35772	Tube Shield, Half.
	W—35773	Tube Shield Cap.
	W—35774	Tube Shield Base
26	—219-BL9	Speaker
27Z, 27Y	W—35753A	Band Change Switch.
28	W—36184A	Tone Control Switch.
29	G1—26719	Ant. Gnd. Terminal.
30	G5—28500	Power Transformer, 60 Cy., 110 V.
	G6—28500	Power Transformer 25 Cy., 110 V.
	G7—28500	Power Transformer, 25 Cy., 220 V.
31Z, 31Y	—37343	Volume Control. On-Off Switch
	B—35917	Escutcheon.
	—37158	Dial Glass
	—37156	Dial Pointer.
	—37157	Pointer Screw.
	W—31585B	Knob (2) large
	W—36355	Knob (2) small.





MODELS 517 & 547 455 K.C. I.F.

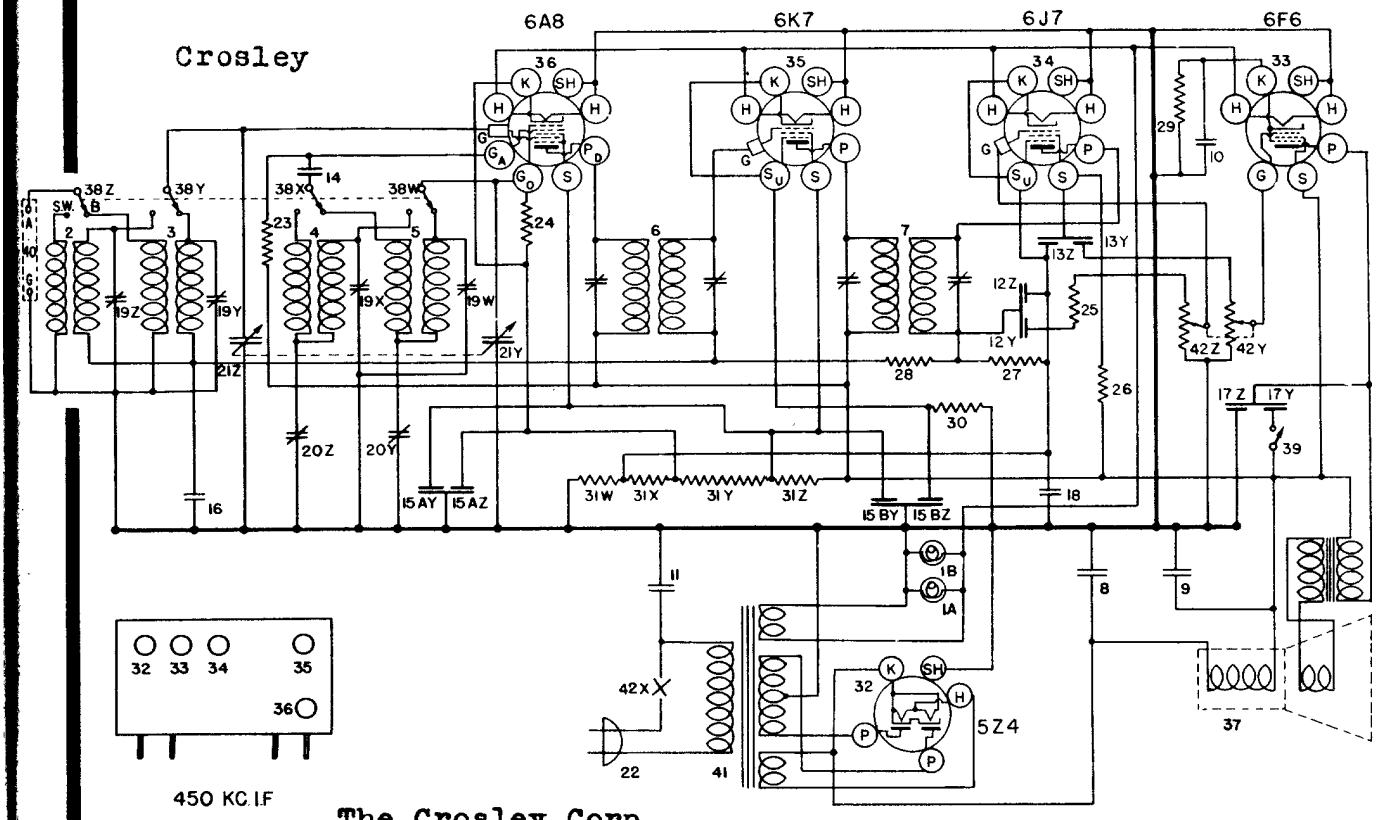
The Crosley Corp.

WIRING DIAGRAM—MODEL 517 AND 547

PARTS LIST — MODEL 517 AND 547

Figures in first column refer to parts in Diagrams.

Item No.	Part No.	Description
1	W —43567	Bulb—Dial Light
	W —43568	Light Bracket
2	G132—32000	Ant. Coil, B. C.
3	G133—32000	Ant. Coil, H. F.
4	G132—32002	Osc. Coil, B. C.
5	G133—32002	Osc. Coil, H. F.
6	G136—32004	1st I-F Assembly
7	G137—32004	2nd I-F Assembly
8	G33 —33001	2 Sect. Var. Tuning Cond.(547 only)
8	G31 —33001	2 Sect. Var. Tuning Cond.(517 only)
	B —43551	Dial Face (517 only)
	B —43729	Dial Face (Tel. Tun. Dial only)
	W —43694	Disc—Center of Dial
	W —43693	Mask Ring (Dial)
	W —43778	Dial Support Ring
	B —43544	Dial Glass Support
	G1 —43564	Pullay Assembly }
	W —43548	Drive Shaft }
	W —43549	Retaining Ring } Dial Drive
	W —43550	Pointer (517 only) }
	W —43542A	Drive Shaft Bracket }
	W —43561	Drive Cable Spring }
	—41582	Drive Cable }
9	G12 —34002	Condenser .0005 Mf. H.F. Osc. Ser.
10	—36541	Condenser .02 Mf. 160 V.
11ABCD	W —28621	Condenser .02 Mf. 200 V.
12	W —34647	Condenser .01 Mf. 400 V.
13AB	G1 —34002	Condenser .00025 Mf. Molded
14	W —41081	Condenser 16 Mf. 250 V.
15	W —43450	Condenser 16 Mf. 200 V.
16	B —33906A	Power Cord and Plug
17	—21237A	Resistor 60,000 Ohm ¼W.
18	—24814	Resistor 7,000 Ohm ½W.
19AB	—36688	Resistor 3 Megohm ¼W.
20	—21455	Resistor 300,000 Ohm ¼W.
21	—35601	Resistor 300,000 Ohm ½W.
22	—23785	Resistor 500,000 Ohm ½W.
23	W —28589	Resistor 350 Ohm ½W. Flex.
24	W —33012A	Resistor 40 Ohm ½W. Flex.
25	W —24537	Resistor 60 Ohm ½W. Flex.
26	G156—36400	Socket Type 6A8
27	G171—36400	Socket Type 6U7
28	G160—36400	Socket Type 6Q7
29	G172—36400	Socket Type 6K6
30	G173—36400	Socket Type 5Y3
	W —40911	Tube Shield
31	G103—28807	Socket—Speaker
32	257BP11"B"	Speaker, Spec. No. 51-A-5 (Cab. 6K & 7KA)
	—42927	Cone for 257BP11 "B" Speaker
	—41473	O. P. Trans. for 257BP11 "B" Spkr.
	—43539	Cardb'd Ring for 257BP11 "B" Spk.
	257BP18 "B"	Speaker, Spec. No. 51-A-8 (Cab. 7H & 7HA)
	—42927	Cone for 257BP18 "B" Speaker
	—43986	O. P. Trans. for 257BP18 "B" Spkr.
	—43539	Cardb'd Ring for 257BP18 "B" Spk.
	462CP11 "M"	Spkr., Spec. No. 1-D-971 (Cab.6FF)
	—40405	Cone for 462CP11 "M" Speaker
	—43989	O. P. Trans. for 462CP11 "M" Spkr.
	—43988	Field Coil for 462CP11 "M" Spkr.
	464BP15 "M"	Spkr., Spec. No. 1-D-1017(Cab. 7M)
	—43993	Cone for 464BP15 "M" Speaker
	—43994	Field Coil for 464BP15 "M" Spkr.
	—43995	O. P. Trans. for 464BP15 "M" Spkr.
33	W —43448	Switch Band Selector
34	—36761	Resistor 40,000 Ohm ½W.
35	G1 —26719	Ant. and Ground Terminal Board
36	—43479	Power Trans. 110 V. 60 Cy.
	—43480	Power Trans. 110 V. 25 Cy.
	—43481	Power Trans. 220 V. 25 Cy.
37Z }	—43449	Volume Control, 1 Megohm
37Y }		Line Switch
38Z }		Trimmer Cond. B. C. Ant.
38Y }		Trimmer Cond. H. F. Ant.
38X }	W —41247A	Trimmer Cond. B. C. Osc.
38W }		Trimmer Cond. H. F. Osc.
39	—22196	Resistor 20,000 Ohm ½W
40	W —30805	Condenser .01 Mf. 400 V.
41	—30137	Resistor 3,500 Ohm ¼W.
	G1 —43724	Tel. Tun. Escutcheon
	W —43769	Pointer—Cabinet (547 only)
	W —43554	Knob (1 required) Small
	W —43625	Knob (2 required) Large
	W —43553	Rubber Mtg.-Foot
	W —43552	Clamp—Speaker Plug
	W —43726	Celluloid Disc (547 only)



The Crosley Corp.

WIRING DIAGRAMS—MODELS 555 AND 5555

Item No.	Part No.	Description
1A	G6 —27134	Dial Light Assm.
1B	G6 —27134	Dial Light Assm.
2	G82 —32000	Ant. Coil, S. W. B.
3	G81 —32000	Ant. Coil, B. C. B.
4	G65 —32002	Osc. Coil, S. W. B.
5	G66 —32002	Osc. Coil, B. C. B.
6	G71 —32004	1st I. F. Assm.
7	G72 —32004	2nd I. F. Assm.
8	W —36055	Condenser, 35. Mfd. 400 Volt
9	W —36057	Condenser, 40. Mfd. 300 V.
10	W —36931	Condenser, 12 Mfd. 25 V.
11	W —30805	Condenser, 0.01 Mfd. 400 V.
12Z	W —30322A	Condenser, 0.00017 Mfd. 200 V.
12Y		Condenser, 0.006 Mfd. 200 V.
13Z	W —25537A	Condenser, 0.001 Mfd. 400 V.
13Y		Condenser, 0.03 Mfd. 400 V.
14	W —23191A	Condenser, 0.01 Mfd. 400 V.
15AZ	W —28623	Condenser, 0.02 Mfd. 200 V.
15AY		Condenser, 0.02 Mfd. 200 V.
15BZ	W —28623	Condenser, 0.02 Mfd. 200 V.
15BY		Condenser, 0.02 Mfd. 200 V.
16	W —27216	Condenser, 0.05 Mfd. 200 V.
17Z	W —35011	Condenser, 0.006 Mfd. 400 V.
17Y		Condenser, 0.03 Mfd. 400 V.
18	W —36541	Condenser, 0.02 Mfd. 160 V.
19Z		
19Y	W —37241A	4 Section Trimmer Cond.
19V		
19W		
20Z	G29 —33006	S. W. Osc. Series Padder
20Y		B. C. Osc. Series Padder
21Z	G17 —33001	Var. Tuning Cond. Gang
21Y		
	—37353C	Dial Assm. Complete
	—37158	Dial Glass
	—37156	Dial Pointer
	—37157	Pointer Screw

Item No.	Part No.	Description
	—37354	Dial Face only
22	B —33906A	A. C. Cord & Plug
23	—5370A	Resistor, 20,000 Ohm
24	—21237	Resistor, 60,000 Ohm
25	—21875	Resistor, 100,000 Ohm
26	—21455	Resistor, 300,000 Ohm
27	—33344	Resistor, 400,000 Ohm
28	—37245	Resistor, 1.5 Megohm
29	W —25291	Resistor, 500 Ohm 1½ W. (Flex)
30	W —28106	Resistor, 500 Ohm ½ W. (Flex)
31Z		Resistor, 10,000 Ohm Candohm
31Y	W —37246A	Resistor, 25,000 Ohm Candohm
31X		Resistor, 185. Ohm Candohm
31W		Resistor, 185. Ohm Candohm
32	G154—36400	Socket, 5Z4
33	G153—36400	Socket, 6F6
34	G157—36400	Socket, 6J7
35	G151—36400	Socket, 6K7
36	G156—36400	Socket, 6A8
37	331—CL—9	Speaker, (555)
	432—CJ—3M	Speaker, (5555) Console
	G3 —35696	Speaker Cable (5555)
38W To 38Z	—37247	Band Change Switch
39	W —36184A	Tone Control Switch
40	G1 —26719	Ant. & Grd. Terminal
41	G12 —28500	Power Trans. 60 Cy. 110 V.
	G13 —28500	Power Trans. 25 Cy. 110 V.
	G14 —28500	Power Trans. 25 Cy. 220 V.
42Z		Volume Control A. F. Grid
42Y	—37395	Volume Control Output Grid
42X		On-Off Switch

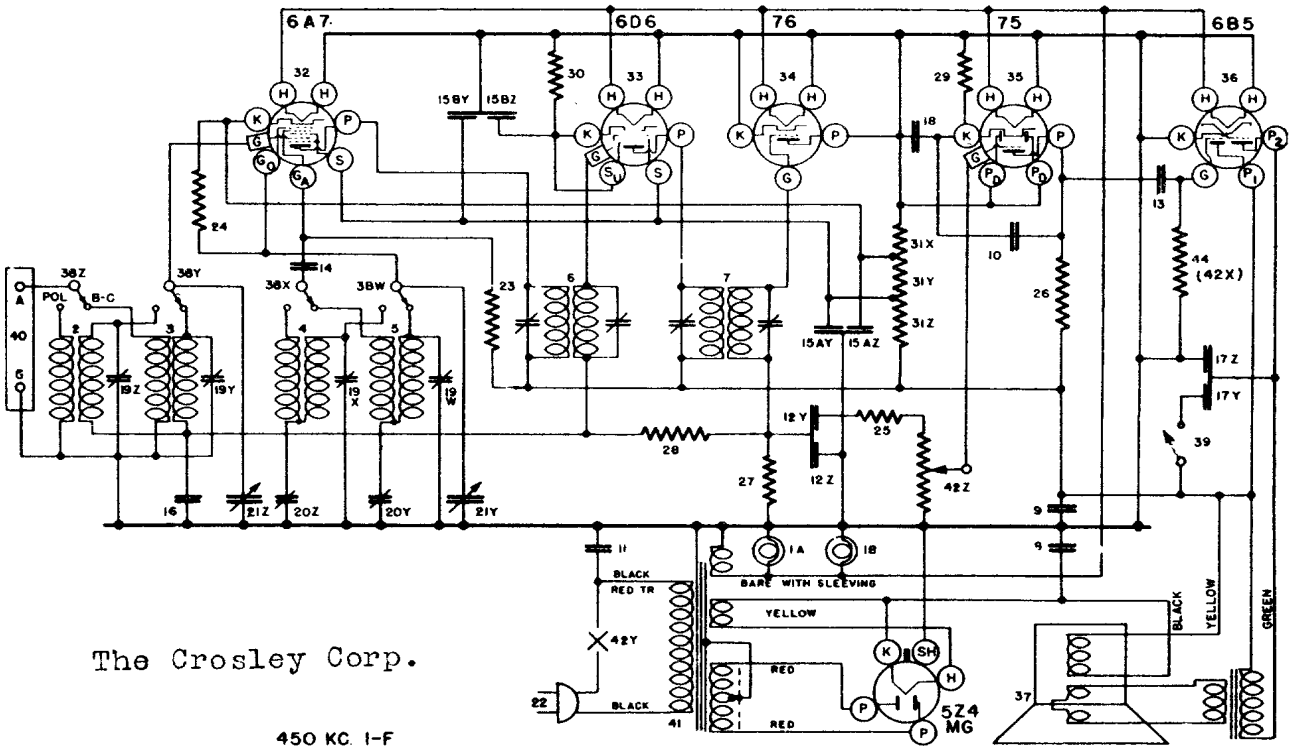
PARTS LIST—MODELS 666 and 5666

Figures in first column refer to parts in Diagrams.

Item No.	Part No.	Name	
1	W —37922	6-8 V. Bulb, Dial Light	
	G3 —37965	Socket Assy., Dial Light	
2	G82 —32000	Coil Antenna—2350—7000 Kc.	
3	G81 —32000	Coil Antenna—540—1725 Kc.	
4	G 65—32002	Coil—2350—7000 Kc., Osc.	
5	G 66—32002	Coil— 540—1725 Kc., Osc.	
6	G118—32004	Coil—Assy., 1st I-F.	
7	G 72—32004	Coil—Assy., 2nd I-F.	
8	W —36055	Cond. 35 Mf. 400 V.	
9	W —36057	Cond. 40 Mf. 300V.	
10	W —30270	Cond. .001 Mf. 400V.	
11	W —30805	Cond. .01 Mf. 400V.	
12Z, 12Y	W —30322-A	Cond. .00017 Mf. / Cond. .006 Mf.	
13	W —23615	Cond. .05 Mf. 400V.	
14	W —23191-A	Cond. .01 Mf. 400V.	
15 AZ	W —28623	Cond. .02 Mf. 400V.	
15 AY		Cond. .02 Mf. 400V.	
15 BZ	W —28623	Cond. .02 Mf. 400V.	
15 BY		Cond. .02 Mf. 400V.	
16	W —27216	Cond. .05 Mf. 200V.	
17 Z, 17 Y	W —31052	Cond .004 Mf. 400V. / Cond. .05 Mf. 400V.	
18	W —37732	Cond. .3 Mf. 160V.	
19	W —37241	Cond. 4 Section Trimmer	
20	G 31—33006	Cond. Series Trimmers	
21	G 17—33001	Cond. Var. Tuning	
	W —41736	Drive Unit,8Pt.Disc.Assy.	
	W —41897	Dial-Calibrated Glass	Model 666
	W —41737	Mtg. Brkt. Dial Glass R.H.	—Only
	W —41738	Mtg.Brkt.,Dial Glass,L.H.	
	W —41739	Drive Unit	
	B —42517	Dial (Calibrated)	Model
	MG—14—41980	DialGlass,Mtg.Brkt.R.H.	5666
	W —40798	DialGlass,Mtg.Brkt.,L.H.	Only
	W —40797-A	DialGlass Retaining Brkt.	
	W —42629	Pointer—Dial	
	W —40795	Shaft—Pointer	
	W —40909	Washer (Spring) Shaft	
	W —41611	Ring-Shaft, Retaining	
	B —42374-A	Mask (Metal) Dial	
22	B —33906-A	Cord & Plug—Power	
23	— 5370-A	Resistor, 20,000 Ohm 1W	
24	—35928	Resistor, 60,000 Ohm ½W	

Item No.	Part No.	Name	
25	—21875	Resistor, 100,000 Ohm, ½W	
26	—35929-C	Resistor, 150,000 Ohm, ½W	
27	—33344	Resistor, 400,000 Ohm, ½W	
28	—37245-C	Resistor, 1.5 Megohm ½W	
29	—36316	Resistor, 2,700 Ohm, ½W	
30	W —28106	Resistor, 500 Ohm, ½W. Flex.	
31Z		Resistor,1,000 Ohm	
31Y	W —37246	Resistor,2,000 Ohm / Resistor,185-185 Ohm	Candohm
31X			
32	G47 —28807	Socket—Type 6A7	
33	G75 —28807	Socket—Type 6D6	
34	G80 —28807	Socket—Type 76	
35	G41 —28807	Socket—Type 75	
36	G90 —28807	Socket—Type 6B5	
	W —27981	Base—Tube Shield	
	W —40911	Shield—Tube	
37	244—BL—9	Speaker, "B" Spec. 50A-2	
	—42928	Cone Assy., For above Speaker	
	—41473	Output Trans., For above Speaker	
	632—CJ—3	Speaker, "M" Spec. 1-D-610	
	—42879	Cone Assy., For above Speaker	
	—42880	Field Coil, For above Speaker	
	—42881	Output Trans., For above Speaker	
38	—37247	Switch, Band Sel.	
39	W—36184-A	Switch, Tone Con.	
40	G1 —26719	Terminal Board, Ant. & Grid	
41	—41978	Transformer, 110V.—60 Cy. Power	
42Z		Volume Control (3 Meg.) 1st A-F Grid	
42Y	—37395	Line Switch	
42X		Volume Control (1 Meg.) Output Grid	
43	NONE		
44	—35601	Resistor, 300 000 Ohm ¼ W. Output Grid to Grd.*	
B	—40590	Escutcheon, 666)	
W	—42345	Escutcheon, (5666)	
D	—28	Escutcheon Mtg. Screws	
W	—37339	Knob, (2) V.C.&S.S.	
W	—37341	Knob, (2) T. C. & B. S. W.	
	—36297	Volume Control, 3 Meg.*	
	AG	Cabinet Model 666	
	MA	Cabinet Model 5666	

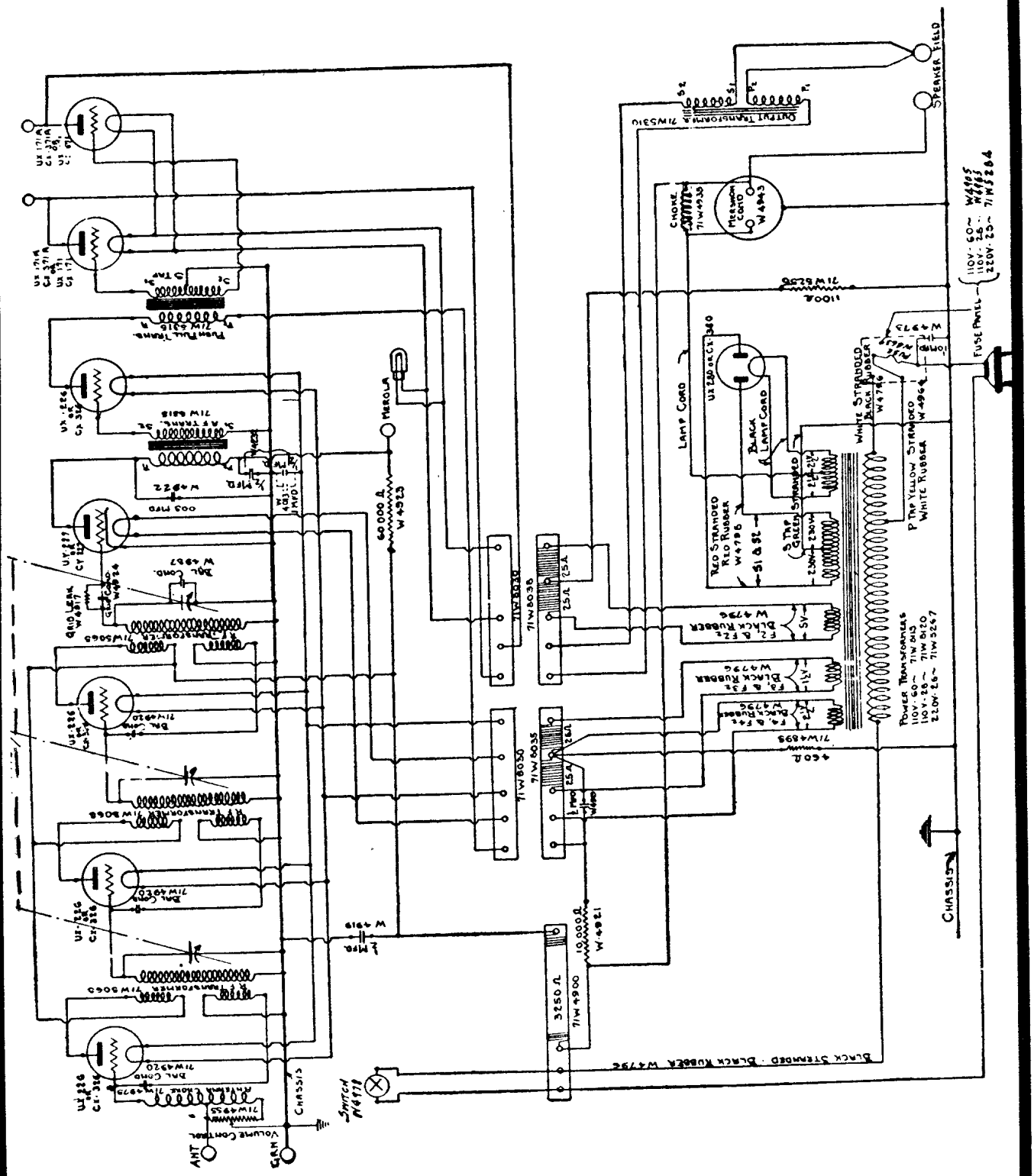
*May be used in place of Dual Volume Control.

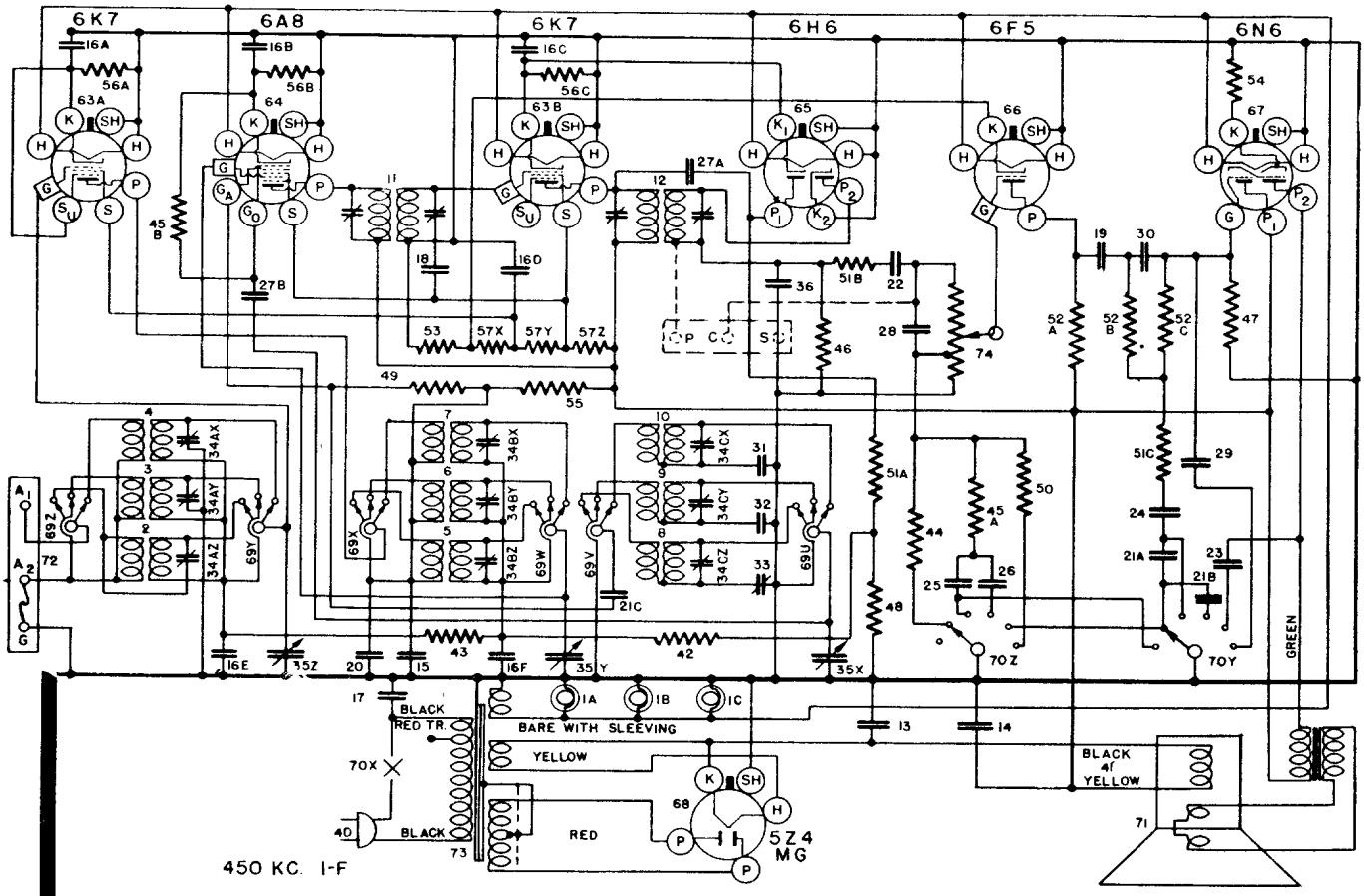


WIRING DIAGRAM—MODELS 666 AND 5666

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Crosley Model 706





WIRING DIAGRAM—MODEL 726

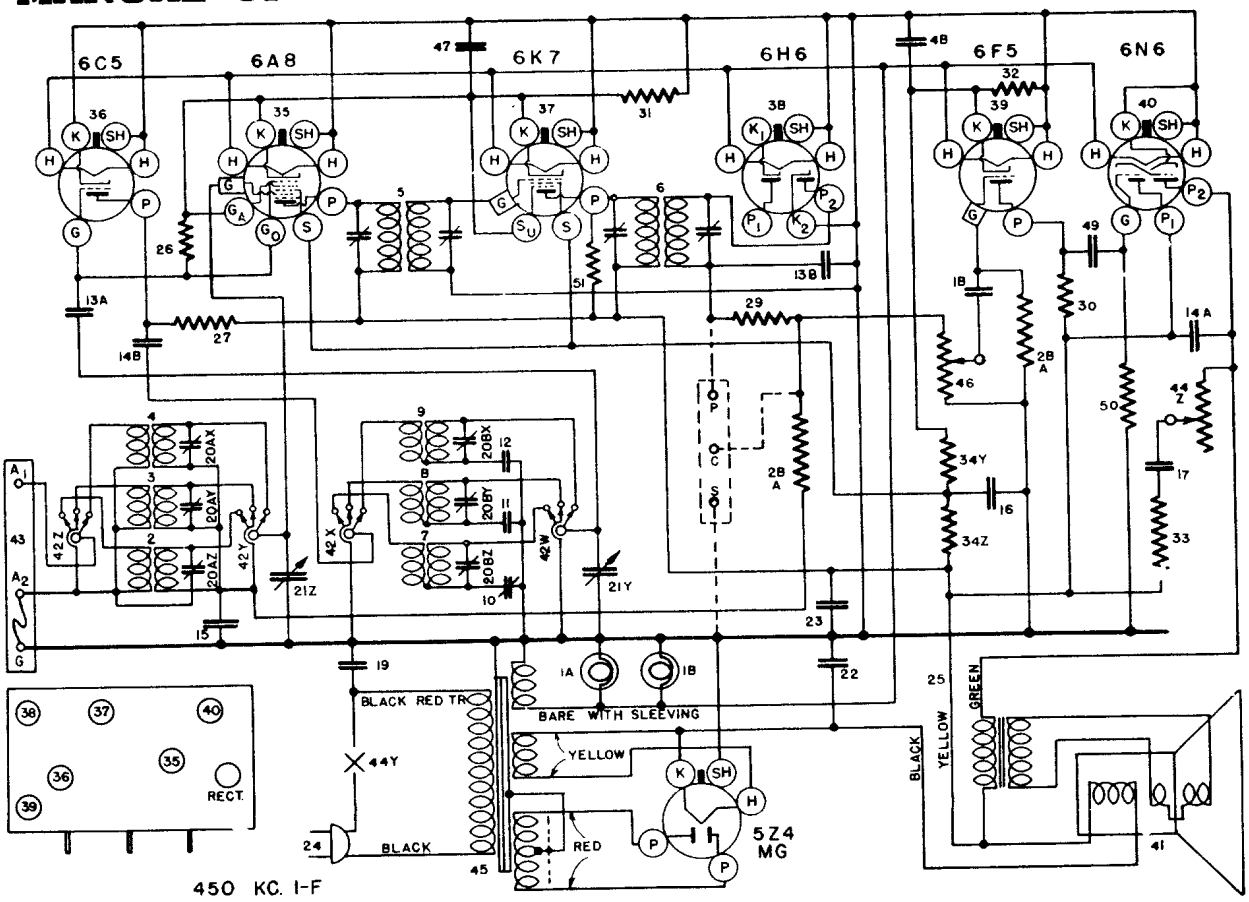
The Crosley Corp.

PARTS LIST—MODEL 726

Figures in first column refer to parts in Diagram.

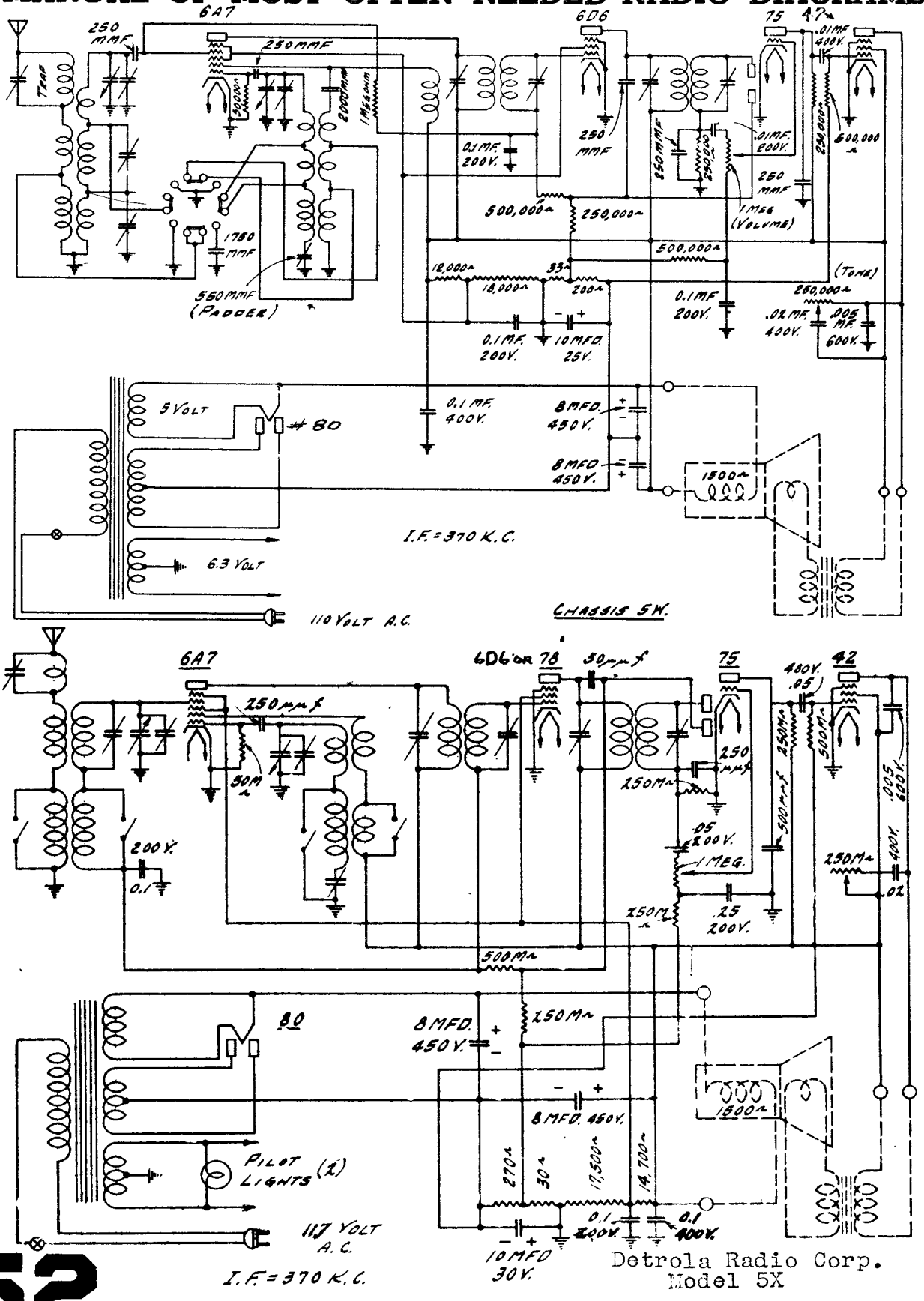
Item No.	Part No.	Description
1ABC	W —37922	Dial Light
	G3 —37965	Socket Assy. Dial Light
2	G110—32000	Coil Ant. 540-1800 Kc.
3	G111—32000	Coil Ant. 1800-6000 Kc.
4	G112—32000	Coil Ant. 6-18 Mc.
5	G76 —32001	Coil R. F. 540-1800 Kc.
6	G89 —32001	Coil R. F. 1800-6000 Kc.
7	G90 —32001	Coil R. F. 6-18 Mc.
8	G115—32002	Coil Osc. 590-1800 Kc.
9	G121—32002	Coil Osc. 1800-6000 Kc.
10	G122—32002	Coil Osc. 6-18 Mc.
11	G121—32001	1st. I.F. Assy.
12	G120—32004	2nd. I.F. Assy.
13	W —36055	Condenser, 35Mf. 400V.
14	W —36057	Condenser, 40Mf. 300V.
15	W — 41081	Condenser 16Mf. 250V.
16A		
TO	W —36541	Condenser, .02Mf. 160V.
16F	W — 36541	Condenser .02Mf. 160V.
17	W — 30805	Condenser, .01Mf. 400V.
18	W — 35936	Condenser, .05Mf. 200V.
19	W —32780B	Condenser, .05Mf. 400V.
20	W —32378	Condenser, .01Mf. 400V.
21A	W —35139	Condenser, .004Mf. 400V.
21B	W —35139	Condenser, .004Mf. 400V.
21C	W —35139	Condenser, .004Mf. 400V.
22	W — 29621	Condenser, .02Mf. 200V.
23	W — 23615	Condenser, .05Mf. 200V.
24	W — 30323	Condenser, .01Mf. 200V.
25	W — 29619	Condenser, .006Mf. 200V.
26	W — 25435	Condenser, .003Mf. 400V.
27A	G2 — 34002	Condenser, .0001Mf. (Mica)
27B	G2 — 34002	Condenser .0001Mf. (Mica)
28	G8 — 34002	Condenser, .00301Mf. (Mica)
29	G3 — 34002	Condenser, .0005Mf. (Mica)
30	G6 — 34002	Condenser, .000025Mf. (Mica)
31	G20 — 34000	Condenser, 4910Mmf. (Mica)
32	G7 — 34000	Condenser, 1450Mmf. (Mica)
33	— 40769	Condenser, B. C. Osc. Series Trim
34	W — 35951	Condenser, 3 Section Trimmer
35	G52 — 38002	Condenser, 3 Gang Var. Tuning
	MG33 — 42255	Dial Drive Assy.
	C — 42491	Dial Glass (Calibrated)
	— 42300	Drive Unit
	— 42597	Dial Mask, (Cardboard)
	W — 42180	Dial Hand, Pointer
	— 41114	Dial Hand, Time Log
	W — 40486	Pointer Mtg. Screw
36	G1 — 34002	Condenser, .00025 Mf. (Mica)
37	W — 30270	Condenser .01 Mf. 400V.
40	H — 33906A	Power Cord & Plug
41	G3 — 35696	Cable, Speaker
42	— 37245	Resistor, Meg. Ohm ½ W.
43	— 35600	Resistor, 100,000 Ohm ½ W.
44	— 36319	Resistor, 75,000 Ohm ½ W.
45A	— 35428	Resistor, 60,000 Ohm ½ W.
45B	— 35928	Resistor, 50,000 Ohm ½ W.
46	— 36321	Resistor, 400,000 Ohm ¾ W.
47	— 38623	Resistor 750,000 Ohm 1½ W.
48	— 36322	Resistor, 500,000 Ohm 1½ W.
49	— 37377	Resistor, 20,000 Ohm 1 W.
50	— 35929	Resistor, 150,000 Ohm ½ W.
51A	— 35601	Resistor, 300,000 Ohm ½ W.
51B	— 35601	Resistor, 300,000 Ohm ½ W.
51C	— 35601	Resistor, 300,000 Ohm ½ W.
52A	— 35930	Resistor, 200,000 Ohm 1½ W.
52B	— 35930	Resistor, 200,000 Ohm 1½ W.
52C	— 35930	Resistor, 200,000 Ohm 1½ W.
53	W — 30127	Resistor, 450 Ohm. ½ W. Flex
54	W — 23012A	Resistor, 40 Ohm 3½ W. Flex.
55	— 6705	Resistor, 3500 Ohm 1 W.
56A	W — 28589	Resistor, 350 Ohm ½ W. Flex.
56B	W — 28589	Resistor, 350 Ohm ½ W. Flex.
56C	W — 28589	Resistor, 350 Ohm ½ W. Flex
57		Resistor, 16,500 Ohm.
57I	W — 37781	Resistor, 4 000 Ohm. Cand Ohm.
57X		Resistor 18,500 Ohm.
63A	G151 - 36400	Socket Type 6K7
63B	G151 - 36400	Socket Type 6K7
64	G156 - 36400	Socket Type 6AR
65	G155 - 36400	Socket Type 6H6
66	G158 - 36400	Socket Type 6F5
67	G165 - 36400	Socket Type 6N6
68	G154 - 36400	Socket Type 5Z4
69	C — 40910A	Band Selector Switch
70Z		Fidelity Switch
70Y	B — 42387C	Fidelity Switch
70X		Line Switch
71	— 615CJ3	Speaker "M" Spec. D640
	— 42883	Cone Assy. For Above Speaker
	40406	Field Coil
	— 42885	Outp. t Trans.
72	G27 — 26719	Ant. & Gnd. Terminal Assy.
73	— 42260	Power Trans 60 Cy 110 V
	42261	Power Trans 25 Cy, 110 V.
74	— 42501	Volume Control 5 Meg
		Misc. Parts
	C — 42045	Escutcheon
	B — 42013	Escutcheon Rubber
	D — 30	Screws - Escutcheon Mtg.
	C — 42044	Lens - Escutcheon
	W — 40230P	Emblem
	W — 32620	Nut — Emblem Mtg.
	W — 35117	Rubber Mtg. Foot
	W — 37339	Knob (2 Req.)
	W — 40192B	Knob, B. S. Ss. (1 Req.)
	W — 42490	Knob, S. S. (1 Req.)
	6-NG	Cabinet

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



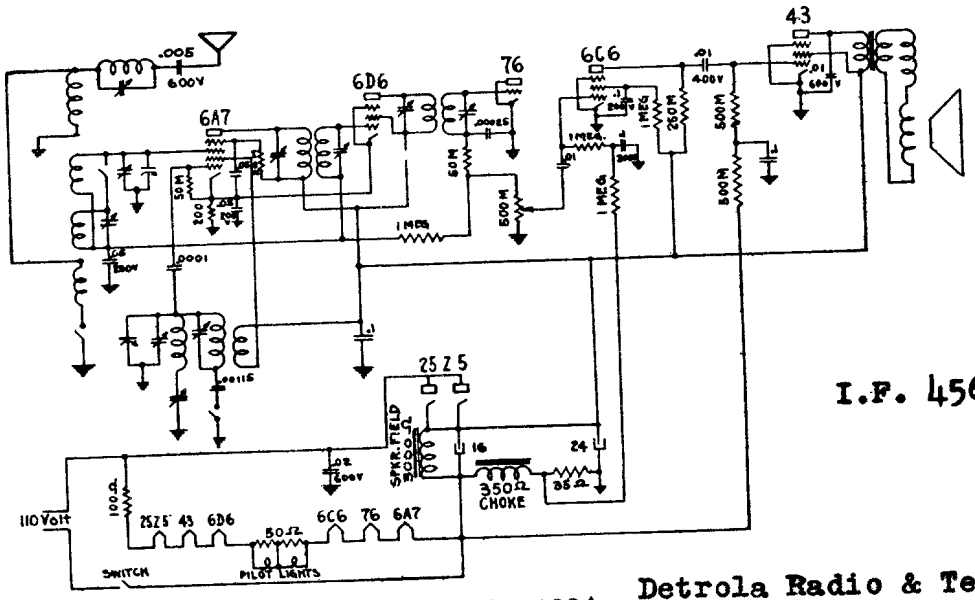
WIRING DIAGRAM—MODEL 716

Item No.	Part No.	Name
-AB	W —37922	Bulb 6-8V., Dial Light
	G3 —37965	Socket Assv., Dial Light
2	G120 —32000	Coil, Ant. (540-1800 Kc.)
3	G119 —32000	Coil Ant. (1800 6000 Kc.)
4	G121 —32000	Coil, Ant. (5800-18000 Kc.)
5	G122 —32004	Coil Assv. 1st I-F (450Kc.)
6	G123 —32004	Coil Assy. 2nd I-F (450Kc.)
7	G112 —32002	Coil, Osc. (540-1800 Kc.)
8	G111 —32002	Coil, Osc. (1800-6000 Kc.)
9	G123 —32002	Coil Os . (5800-18000 Kc.)
10	—40769	Cond. 400-500 M.n .
11	G7 —34007	Cond. 1750 Mmf.
12	G 8 —34007	Cond. 4350 Mmf.
13A	G 2 —34002	Cond., .0001Mf.(Molded)
13B	G 2 —34002	Cond., .0001 Mf.(Molded)
14A	W —35139	Cond., .004 Mf. 400V.(Tub.)
14B	W —35139	Cond., .004Mf.400V.(Tub.)
15	W —35936	Cond., .05Mf.200V.(Tub.)
16	W — 24049-B	Cond., .1Mf.200V.(Tub.)
17	W —37873	Cond., .1Mf. 400V.(Tub.)
18	W —30488	Cond., .02Mf.400 V.Tub.)
19	W —30805	Cond., .01 Mf.400V.(Tub.)
20	W —35951	Cond.-3 Section Trimmer
21	G21 —33001	Cond.-2 Section Tuning
	B —42142-A	Dial-Calibrated Glass
	—42346	Drive Unit
	B —42338	Mask-Metal
	—41145	Pointer-Dial
	W —40486	Screw, Pointer Mtg.
	MG27—42151	Dial Drive Complete
	—41582	Cable, Drive
22	W —36055	Cond., 35Mf.400V.(Elect.)
23	W —36057	Cond., 40Mf.300V.(Elect.)
24	B —33906-A	Cord and Plug, Power
25	G4 —35696	Speaker Cable
26	—40757	Resistor, 50,000 Ohm ¼W. (Car.)
27	W —37987	Resistor, 15,000 Ohm 1W (WireWound)
28A	—36688	Resistor, 3 Megohm ¼W. (Car.)
28B	—36688	Resistor, 3 Megohm ¼W. (Car.)
29	—21455	Resistor, 300,000 Ohm ¼W. (Car.)
30	—35930	Resistor, 200,000 Ohm ¼W. (Car.)
31	W —21964	Resistor, 165 Ohm ¾W. (Flex.)
32	W —35457	Resistor, 210 Ohm ¾W. (Flex.)
33	W —27503	Resistor, 1400 Ohm ¾W. (Flex.)
34Z	W —32301	Resistor, 10,000Ohm } Candohm
34Y		Resistor, 15,000Ohm } Candohm
35	G156 —36400	Socket Type 6AB
36	G152 —36400	Socket Type 6C5
37	G151 —36400	Socket Type 6K7
38	G155 —36400	Socket Type 6H6
39	G158 —36400	Socket Type 6F5
40	G165 —36400	Socket Type 6N6
41	332—BJ3	Speaker "M" Spec. 1-D-390
	—41638	Cone Assv. for "M"332BJ3
	—40275	Field Coil for "M"332BJ3
	—41639	Output Trans. for "M" 332BJ3
	—40770-A	Switch, Band Selector
42		
43	G27 —26719	Terminal Board, Antenna & Grd.
44Z	—37908	Tone Control, 100,000 Ohm
44Y		Switch, Line
45	—41978	Transformer, 110V. 60 Cy.
	—42149	Transformer, 110V. 25 Cy.
	—42150	Transformer, 220V. 25 Cy.
46	—37967	Volume Control 1Megohm
47	W —29910-A	Cond., .25Mf.200V.(Tub.)
48	W —28621	Cond., .02Mf.200V.(Tub.)
49	W —35758	Cond., .008, 400V. (Tub.)
50	—23785	Resistor, 500,000 Ohm ¼W. (Car.)
	W —42345	Escutcheon
	D —28	Screw Escutcheon Mtg.



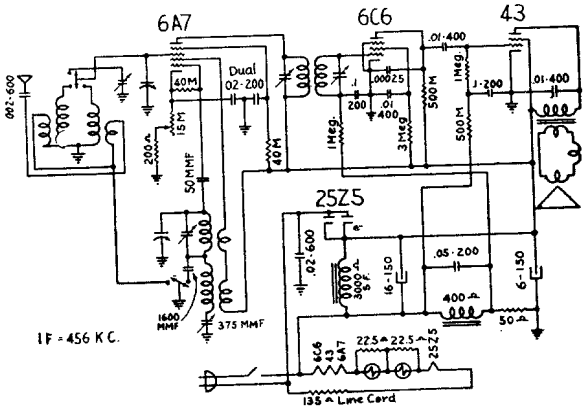
Detrola Radio Corp.
Model 5X

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

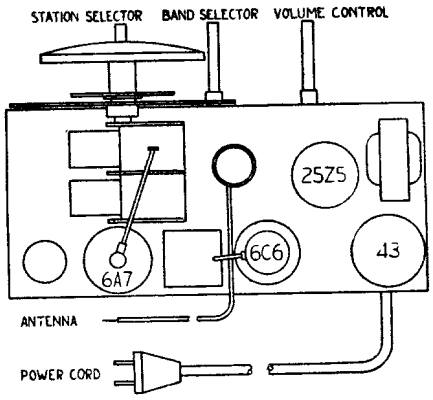


I.F. 456 KC.

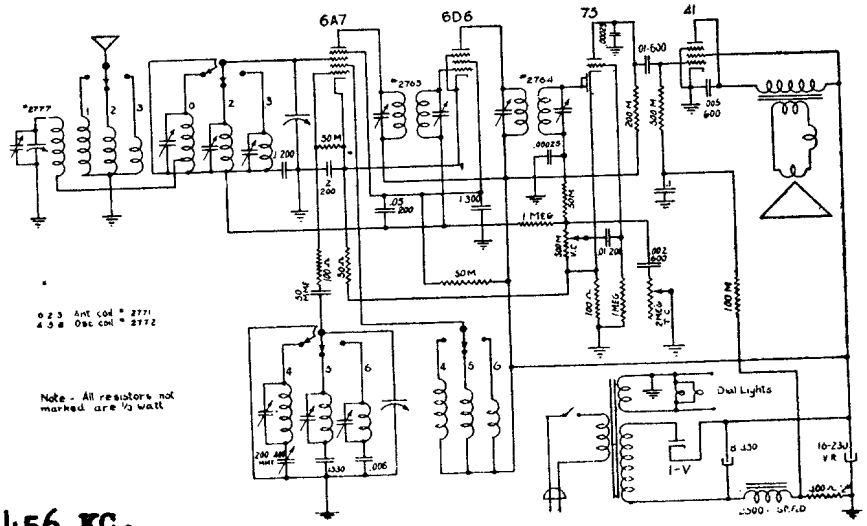
MODEL 100A — Detrola Radio & Tel. Corp.



IF = 456 KC.



MODEL 134



I.F. 456 KC.

MODEL 106

MODELS 107 and 111

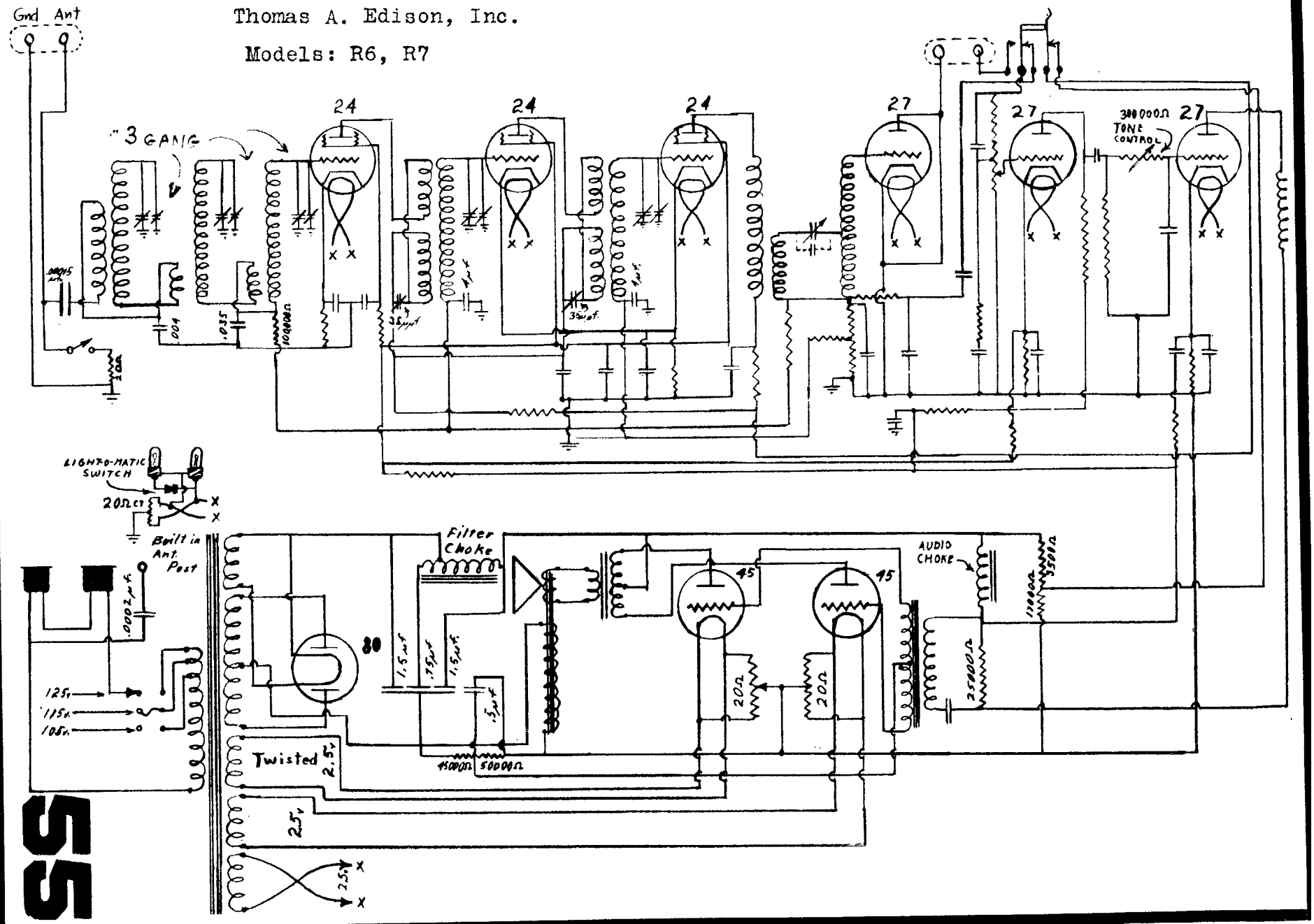
Emerson Radio

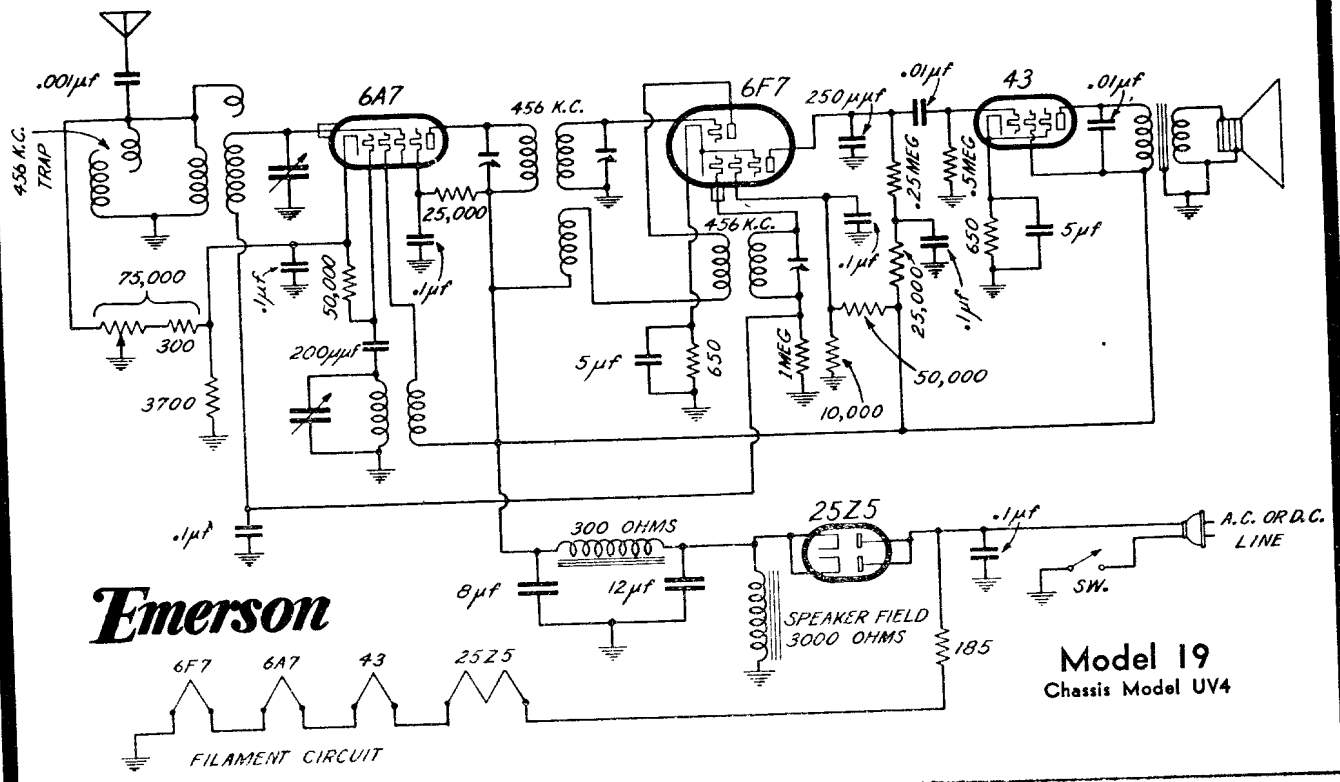
Chassis Model U6A

L1	456 kc adjustable wave-trap	
L2	Filter choke—500 ohms	
T1, T2, T3	Three-band antenna coil assembly	
T4, T5, T6	Three-band oscillator coil assembly	
T7	456 kc first i-f transformer	
T8	456 kc second i-f transformer	
R1, R8	50,000 ohm, ½ watt carbon resistor	
R2	500 ohm, ½ watt wire-wound resistor	
R3, R7, R11	1 megohm, ½ watt carbon resistor	
R4	30,000 ohm, ½ watt carbon resistor	
R5, R17	10,000 ohm, ½ watt carbon resistor	
R6	850 ohm, ½ watt wire-wound resistor	
R9, R13	100,000 ohm, ½ watt carbon resistor	
R10, S2	Volume control with line switch—0.5 megohms	
R12	200,000 ohm, ½ watt carbon resistor	
R14	Tone control—0.25 megohms	
R15, R16	500,000 ohm, ½ watt carbon resistor	
R18	5,000 ohm, ½ watt carbon resistor	
R19	Wire-wound ballast resistor—130 ohms	
C1, C2	Two-gang variable condenser	
C3, C4, C21, C22, C25	0.1 mf, 200 volt tubular condenser	
C5	0.0001 mf mica condenser	
C6, C7	Dual adjustable padding condenser C6—250 to 550 mmf. C7—800 to 1400 mmf.	
C8, C9, C10, C11, C12, C13, C14	Seven-section condenser block C8—0.1 mf, 200 v. C9—0.1 mf, 200 v. C10—0.2 mf, 200 v. C11—0.05 mf, 200 v.	C12—0.1 mf, 200 v. C13—0.1 mf, 200 v. C14—0.1 mf, 200 v.
C15	0.02 mf, 200 v. tubular condenser	
C16, C20, C24	0.00025 mf mica condenser	
C17, C18	0.01 mf, 200 v. tubular condenser	
C19	0.006 mf, 200 v. tubular condenser	
C23, C31	0.001 mf mica condenser	
C26	0.25 mf, 200 v. tubular condenser	
C27, C28, C29	4, 8 and 16 mf electrolytic filter condenser block C27—4 mf, 150 v. C29—16 mf, 150 v. C28—8 mf, 150 v.	
C30	Tubular 4 mf, 150 v. electrolytic condenser	
C32	0.005 mf mica condenser	

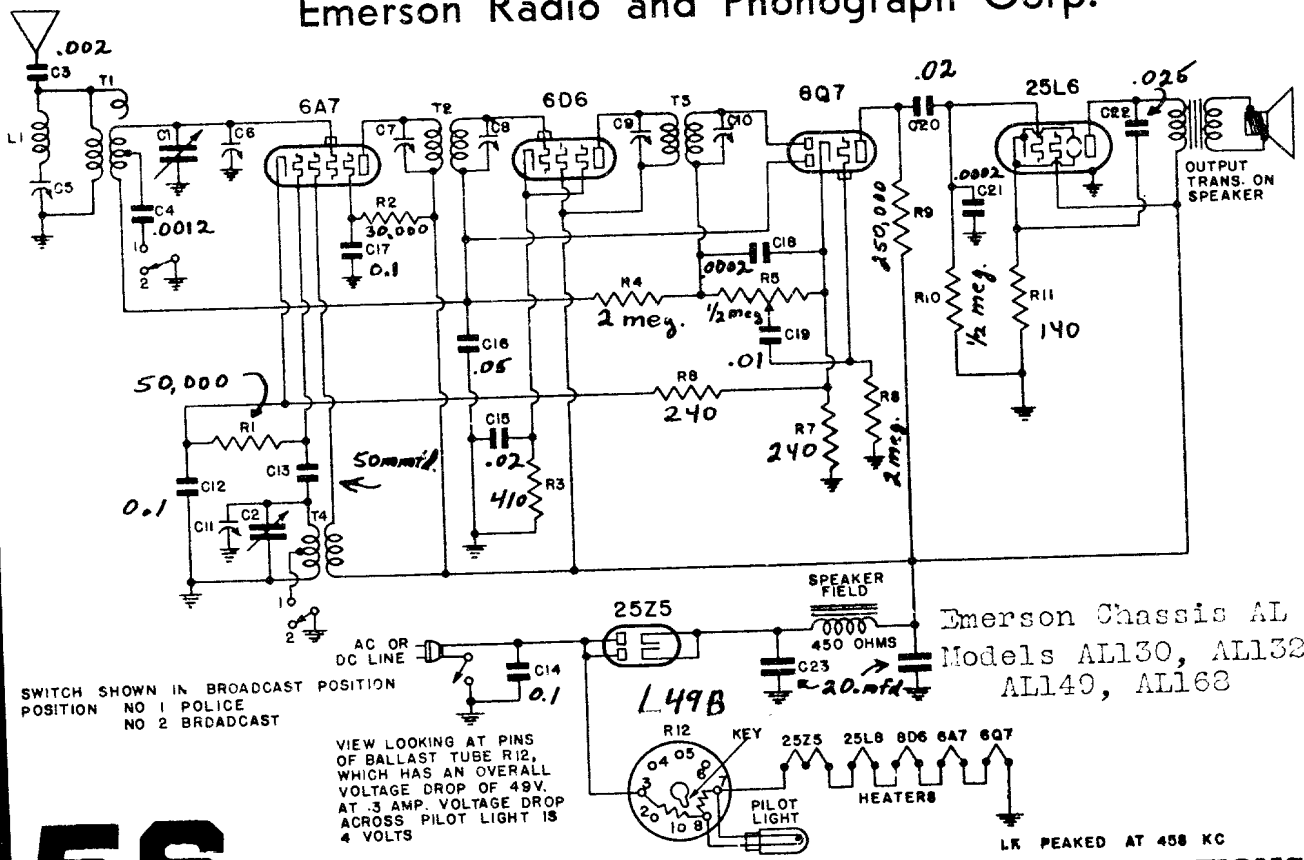
Thomas A. Edison, Inc.

Models: R6, R7





Emerson Radio and Phonograph Corp.

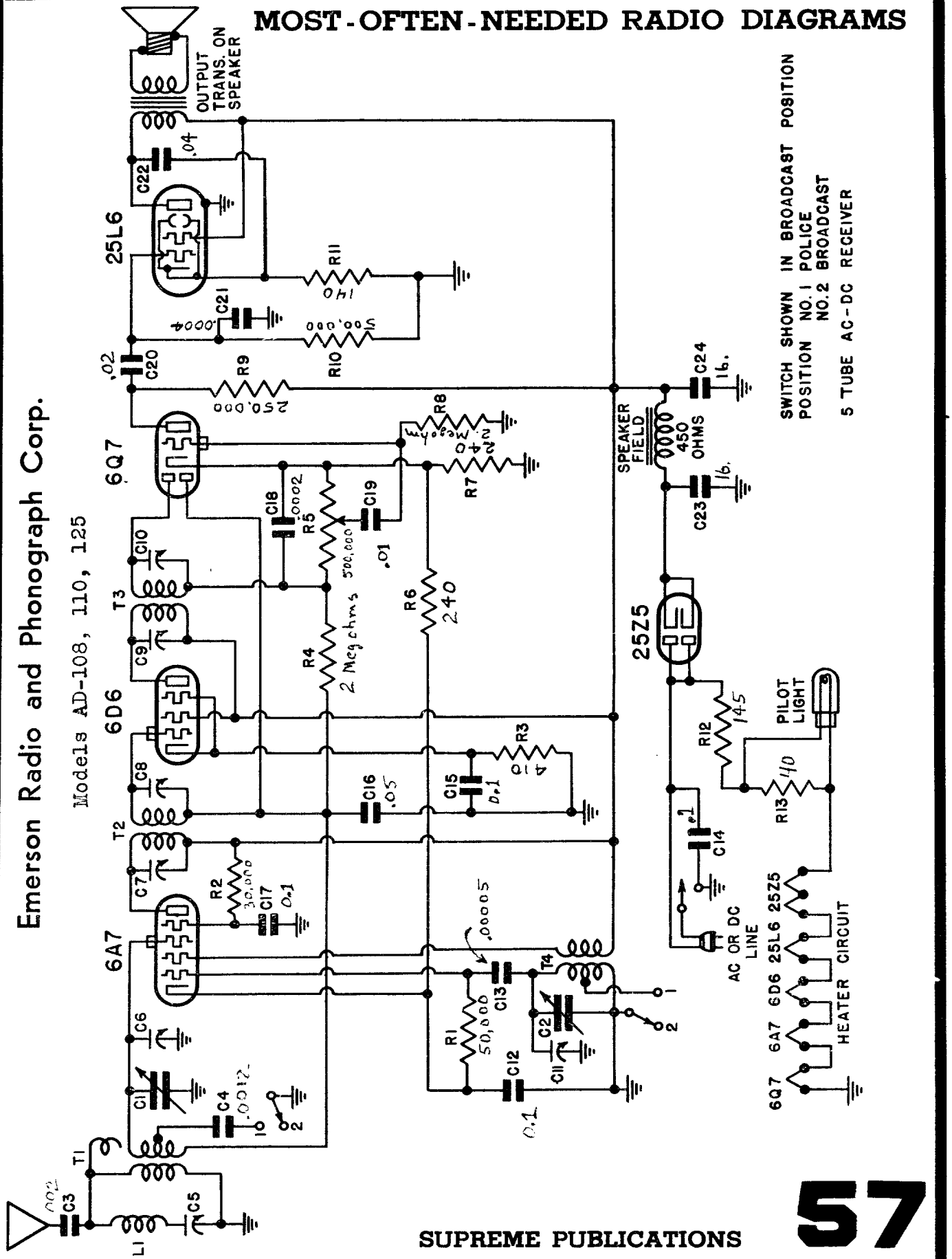


Emerson Chassis AL
Models AL130, AL132
AL149, AL168

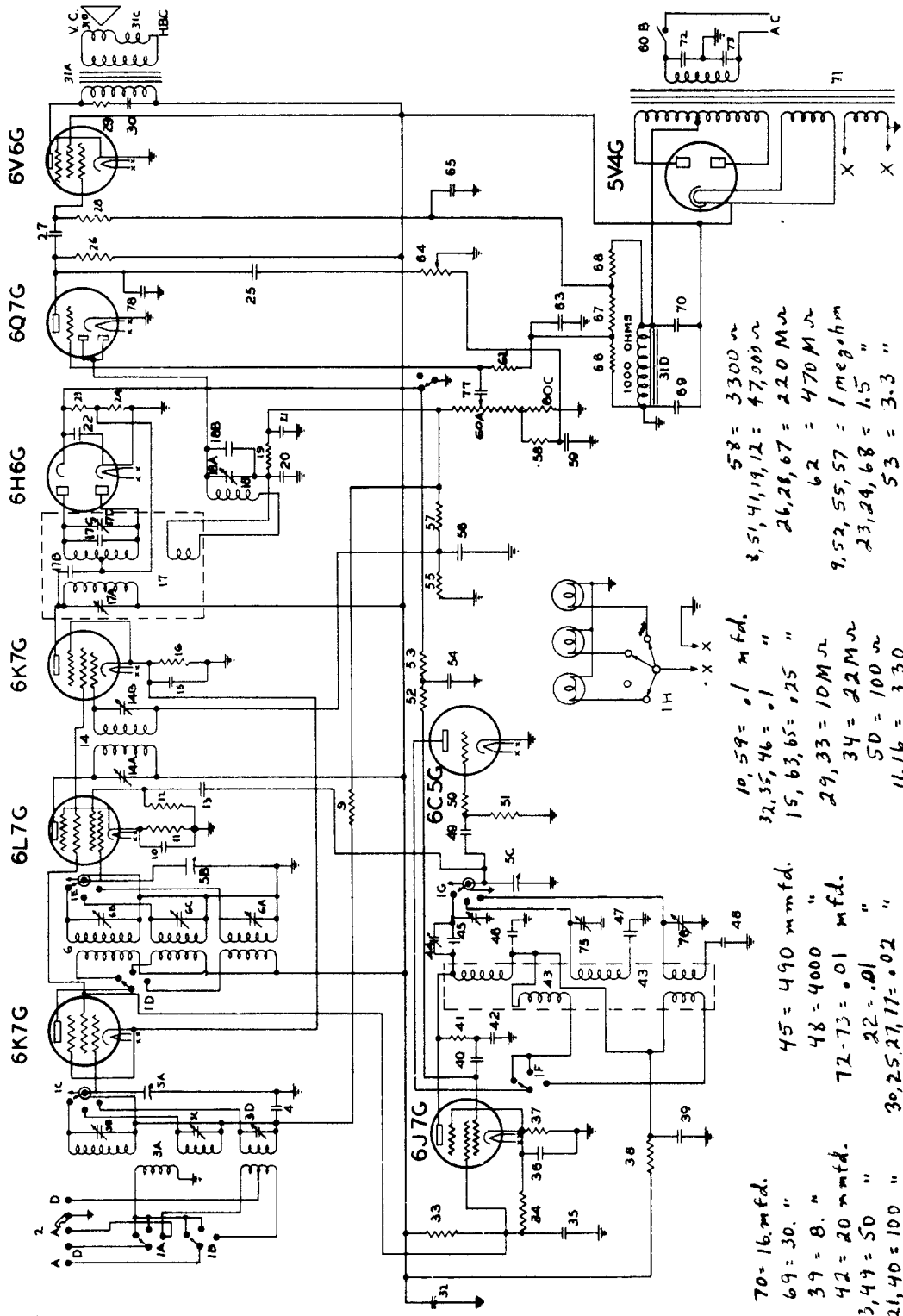
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Emerson Radio and Phonograph Corp.

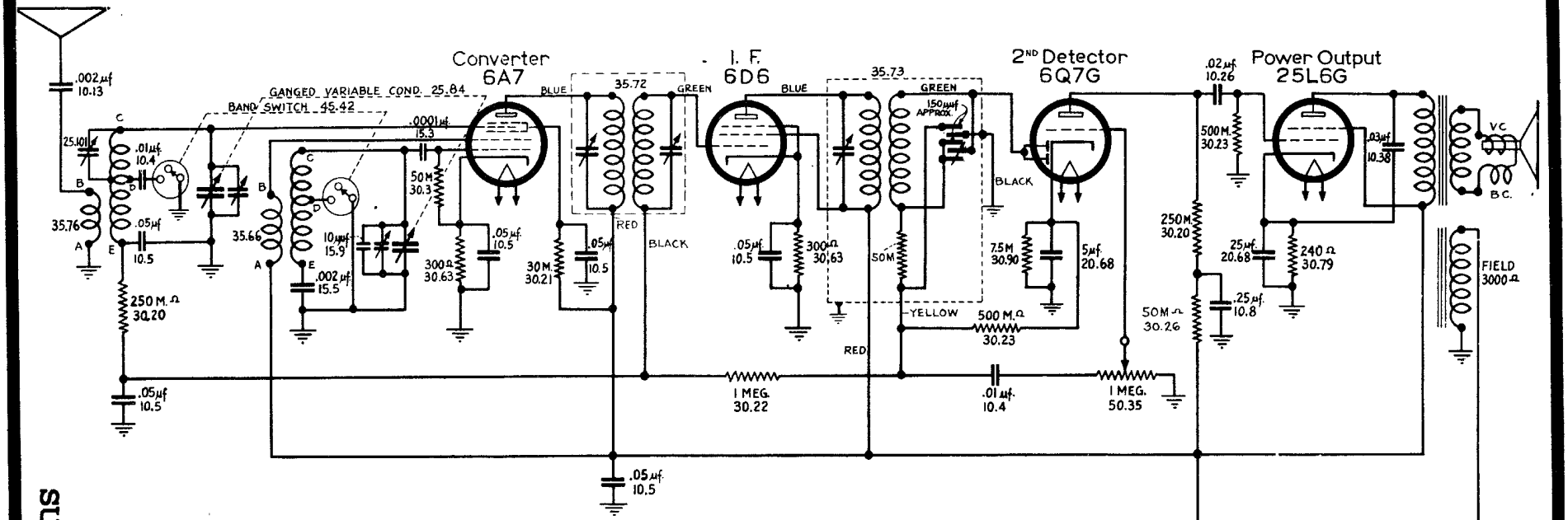
Models AD-108, 110, 125



Fairbanks-Morse Radio, Chassis Model 9A

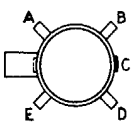


COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



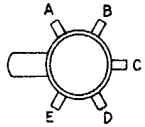
Note
⏚ = chassis
Band sw. shown in B.C. pos.
M = thousand

35.76 Ant. Coil



A-B = PRI. = 36. Ω
C-D = S.W.SEC. = .97 Ω
C-D-E = B.C. SEC. = 2.4 Ω

35.66 Osc. Coil



A-B = TICKLER = 2. Ω
C-D = S.W.SEC. = 2.55 Ω
C-D-E = B.C. SEC. = 7. Ω

35.72 1ST I. F.

PRI & SEC. = 28. Ω

35.73 2ND I. F.

PRI & SEC = 28. Ω

I. F. Peak = 456 Kc.

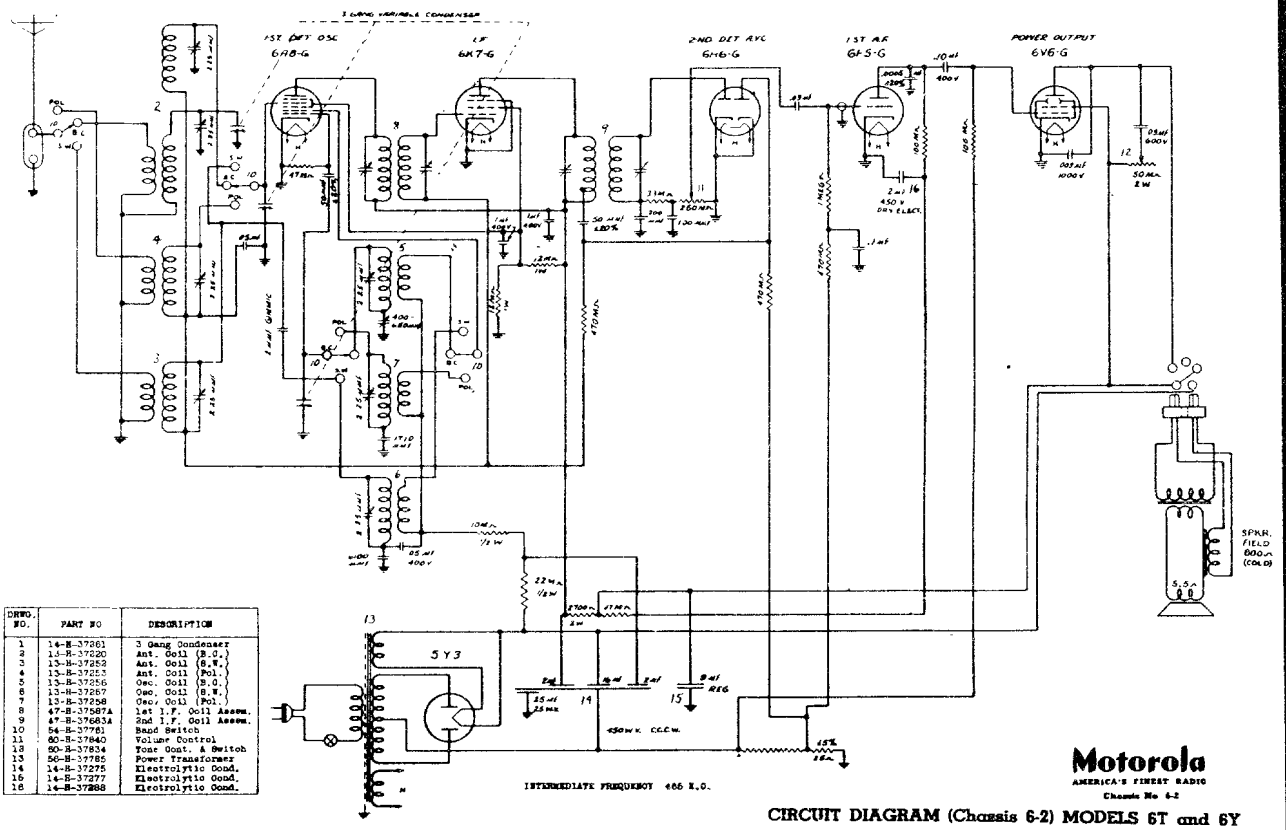
FADA RADIO & ELECTRIC CO. LONG ISLAND CITY, N.Y.	
MODEL 360	
DRAWN BY HHD	DATE 8-31-37
CHECKED BY 9/8/37	APPROVED BY

SUPREME PUBLICATIONS

59

RADIO DIAGRAMS

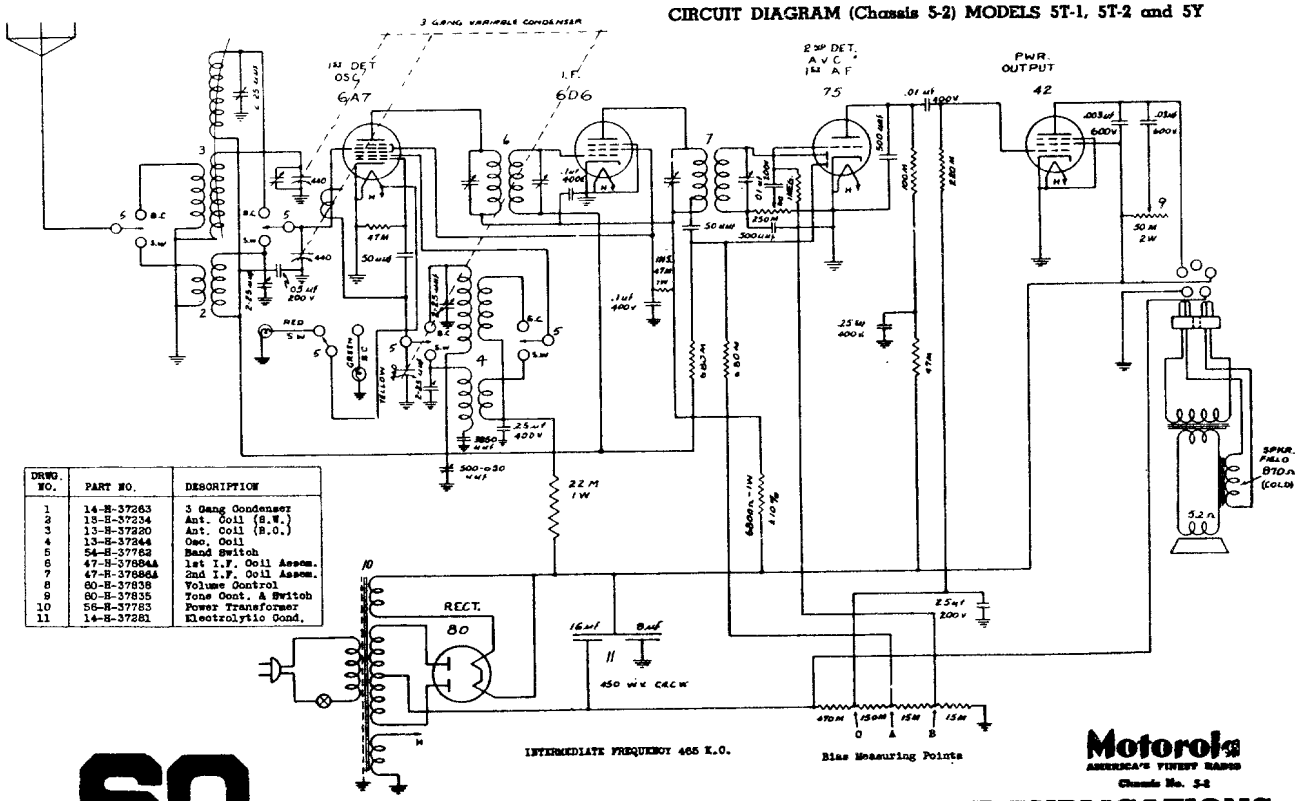
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS



DRWG. NO.	PART NO	DESCRIPTION
1	14-H-37261	3 Gang Condenser
2	15-H-37220	Ant. Coil (B.C.)
3	13-H-37252	Ant. Coil (S.W.)
4	13-H-37253	Ant. Coil (Pol.)
5	13-H-37256	Osc. Coil (B.C.)
6	13-H-37257	Osc. Coil (S.W.)
7	13-H-37258	Osc. Coil (Pol.)
8	47-H-37587A	1st I.F. Coil Assem.
9	47-H-37683A	2nd I.F. Coil Assem.
10	54-H-37761	Band Switch
11	60-H-37840	Volume Control
12	60-H-37834	Tone Cont. & Switch
13	56-H-37785	Power Transformer
14	14-H-37275	Electrolytic Cond.
15	14-H-37277	Electrolytic Cond.
16	14-H-37288	Electrolytic Cond.

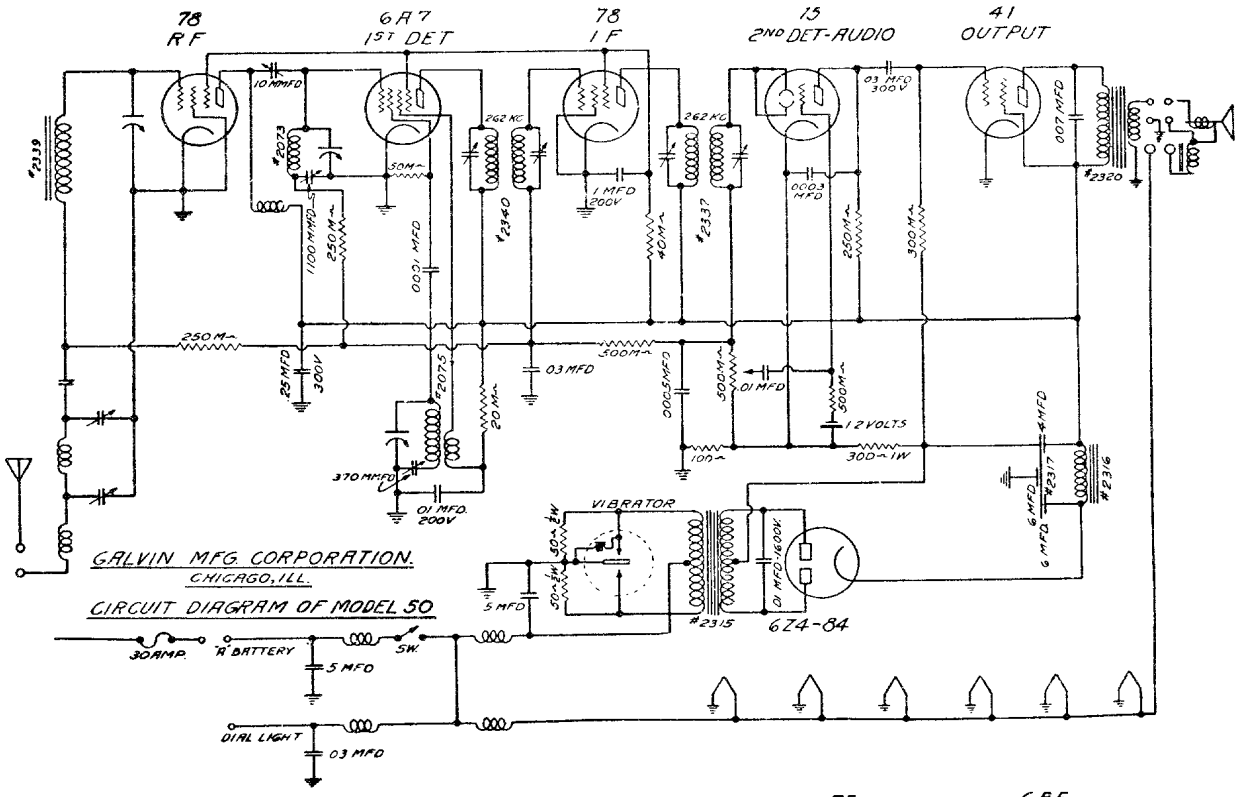
CIRCUIT DIAGRAM (Chassis 6-2) MODELS 6T and 6Y

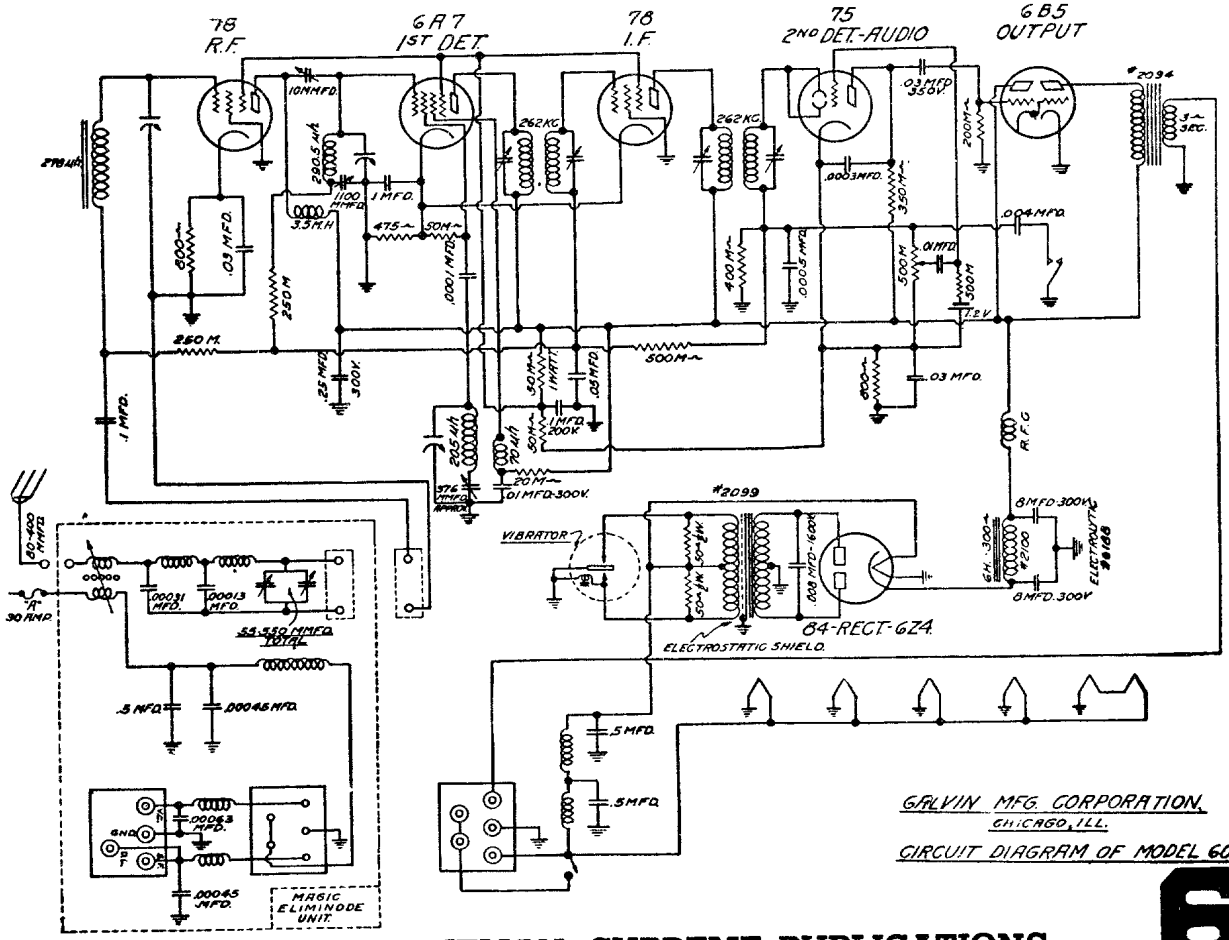
CIRCUIT DIAGRAM (Chassis 5-2) MODELS 5T-1, 5T-2 and 5Y

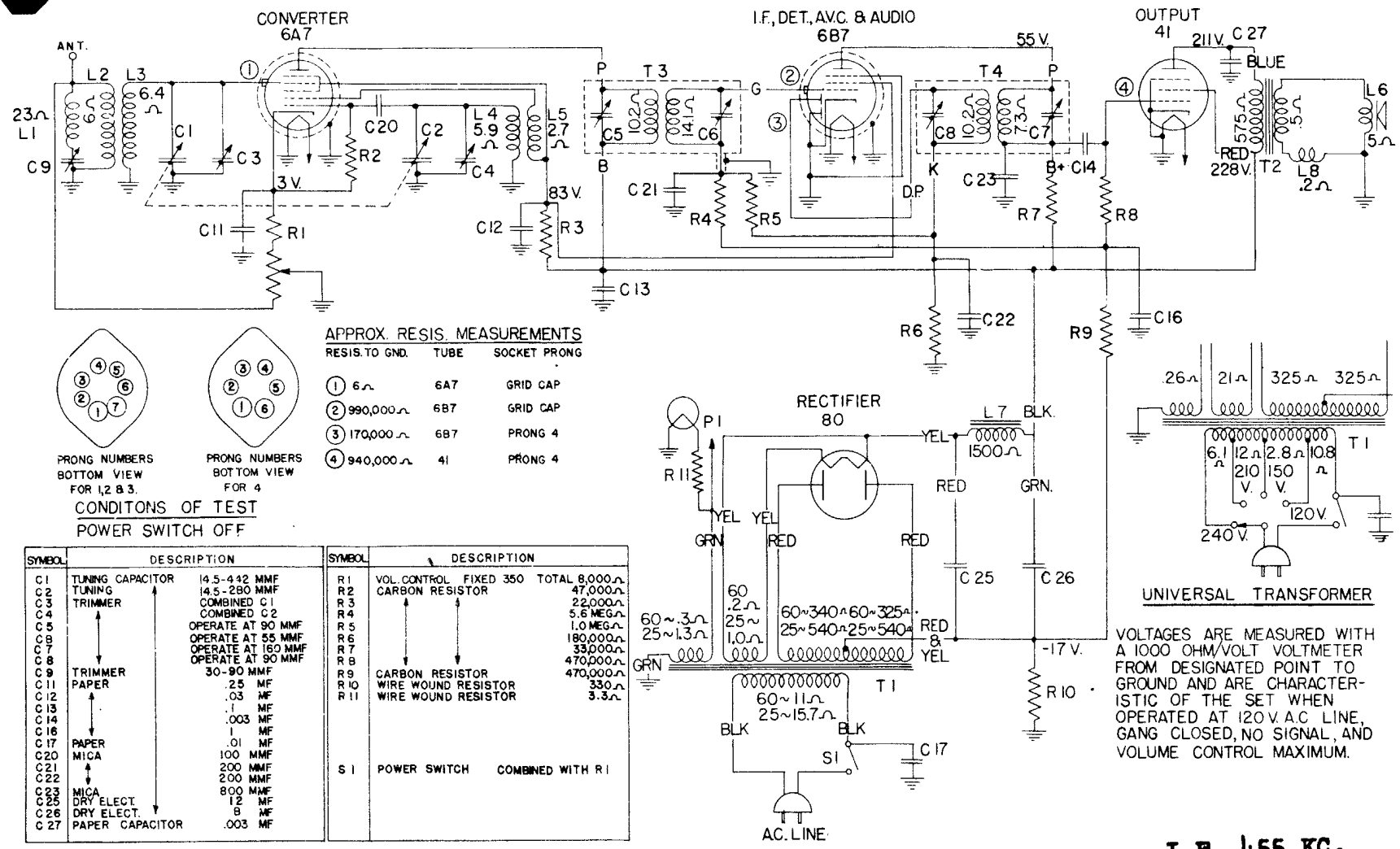


DRWG. NO.	PART NO.	DESCRIPTION
1	14-H-37263	3 Gang Condenser
3	15-H-37234	Ant. Coil (S.W.)
3	13-H-37220	Ant. Coil (B.C.)
4	13-H-37244	Osc. Coil
5	54-H-37762	Band Switch
6	47-H-37884A	1st I.F. Coil Assem.
7	47-H-37886A	2nd I.F. Coil Assem.
8	60-H-37838	Volume Control
9	60-H-37835	Tone Cont. & Switch
10	56-H-37763	Power Transformer
11	14-H-37281	Electrolytic Cond.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS







APPROX. RESIS. MEASUREMENTS

RESIS. TO GND.	TUBE	SOCKET PRONG
(1) 6Ω	6A7	GRID CAP
(2) 990,000Ω	6B7	GRID CAP
(3) 170,000Ω	6B7	PRONG 4
(4) 940,000Ω	41	PRONG 4

CONDITONS OF TEST
POWER SWITCH OFF

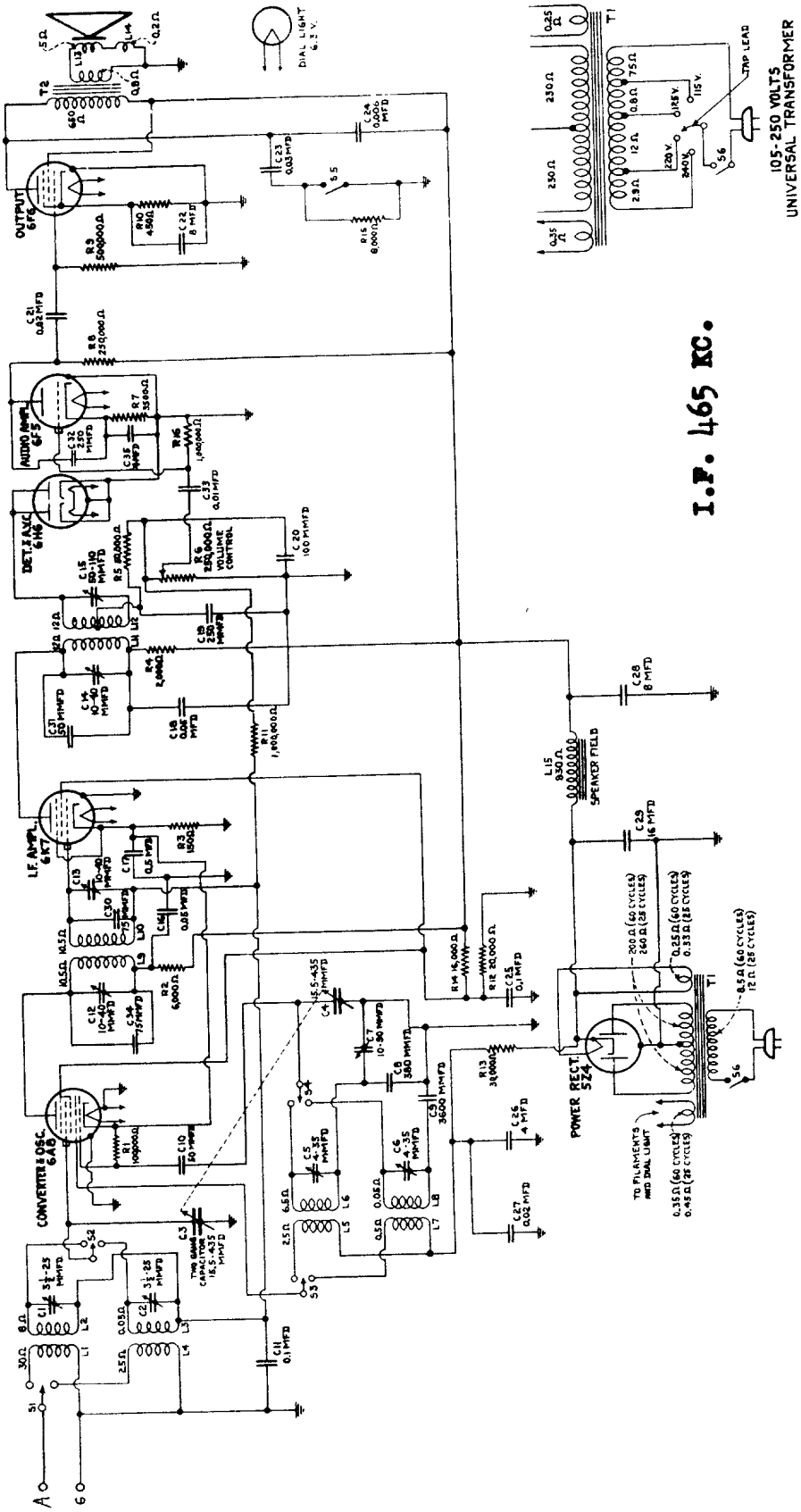
SYMBOL	DESCRIPTION	
C1	TUNING CAPACITOR	14.5-442 MMF
C2	TUNING	14.5-280 MMF
C3	TRIMMER	COMBINED C1
C4		COMBINED C2
C5		OPERATE AT 90 MMF
C6		OPERATE AT 55 MMF
C7		OPERATE AT 160 MMF
C8		OPERATE AT 90 MMF
C9	TRIMMER	30-90 MMF
C11	PAPER	.25 MF
C12		.03 MF
C13		.1 MF
C14		.003 MF
C16		1 MF
C17	PAPER	.01 MF
C20	MICA	100 MMF
C21		200 MMF
C22		200 MMF
C23	MICA	800 MMF
C25	DRY ELECT.	12 MF
C26	DRY ELECT.	8 MF
C27	PAPER CAPACITOR	.003 MF

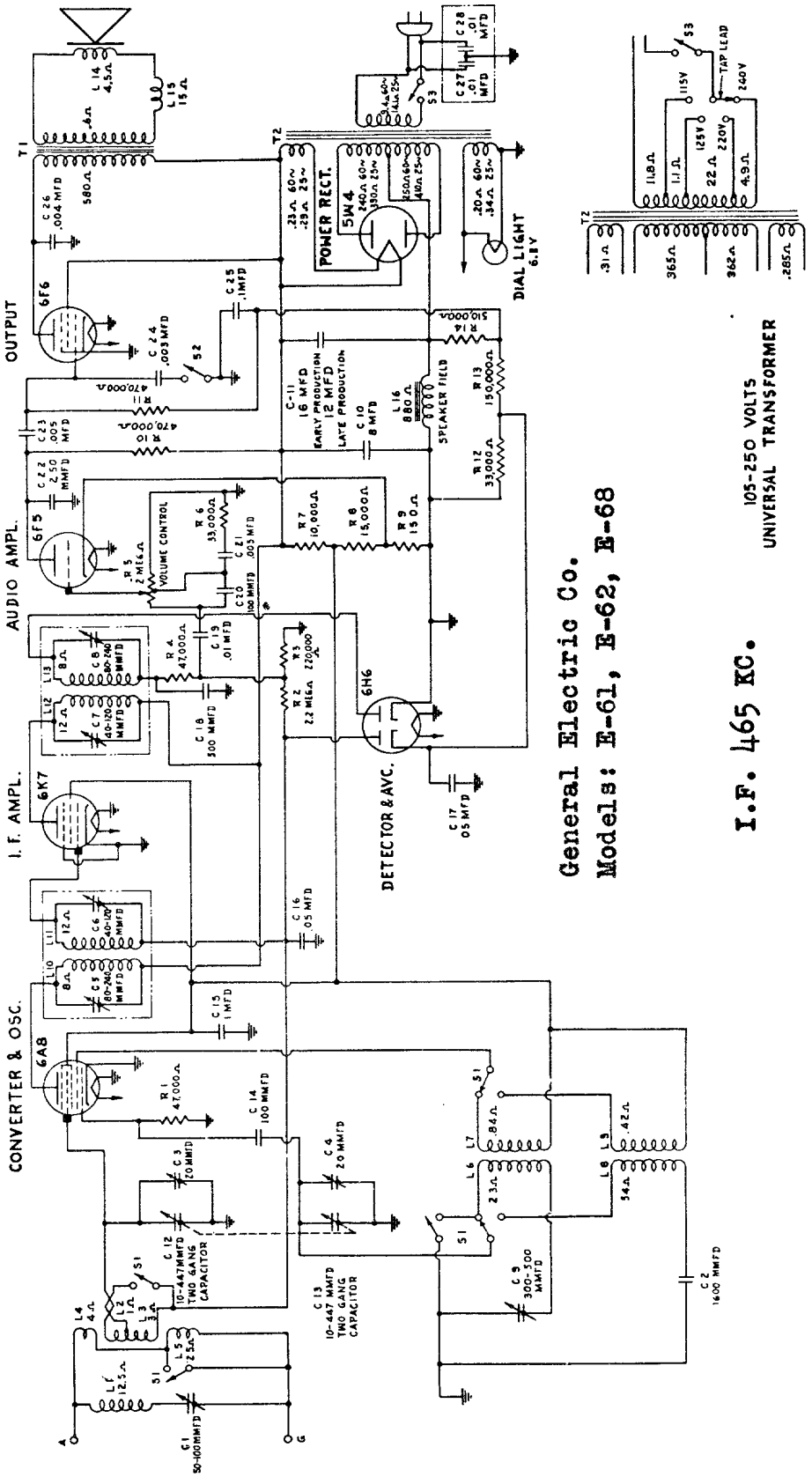
SYMBOL	DESCRIPTION	
R1	VOL. CONTROL FIXED 350	TOTAL 8,000Ω
R2	CARBON RESISTOR	47,000Ω
R3		22,000Ω
R4		5.6 MEGΩ
R5		1.0 MEGΩ
R6		180,000Ω
R7		33,000Ω
R8		470,000Ω
R9	CARBON RESISTOR	470,000Ω
R10	WIRE WOUND RESISTOR	330Ω
R11	WIRE WOUND RESISTOR	3.3Ω
S1	POWER SWITCH	COMBINED WITH R1

VOLTAGES ARE MEASURED WITH A 1000 OHM/VOLT VOLTMETER FROM DESIGNATED POINT TO GROUND AND ARE CHARACTERISTIC OF THE SET WHEN OPERATED AT 120 V. A.C LINE, GANG CLOSED, NO SIGNAL, AND VOLUME CONTROL MAXIMUM.

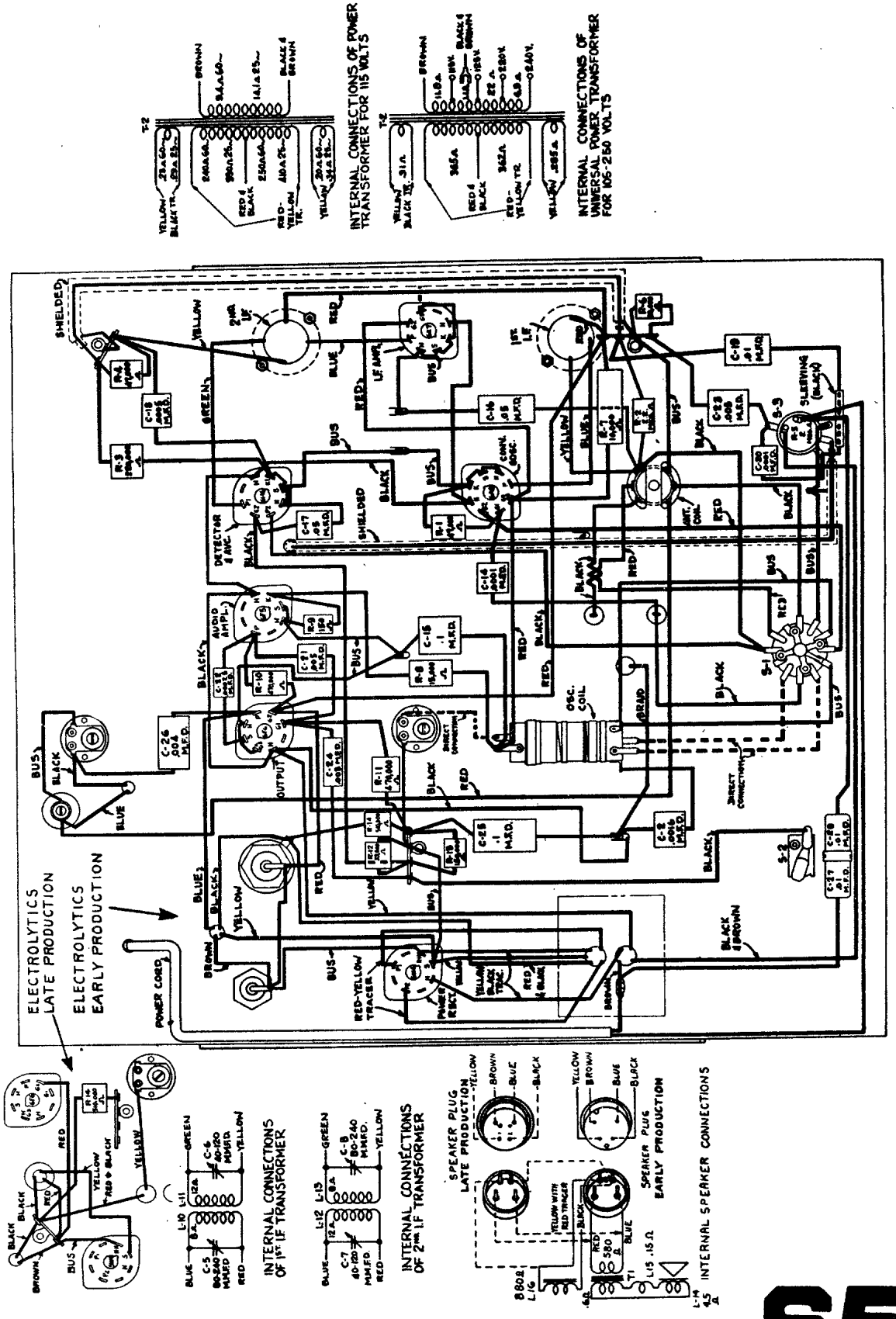
I.F. 455 KC.

Models A-63 and A-65 General Electric Co.





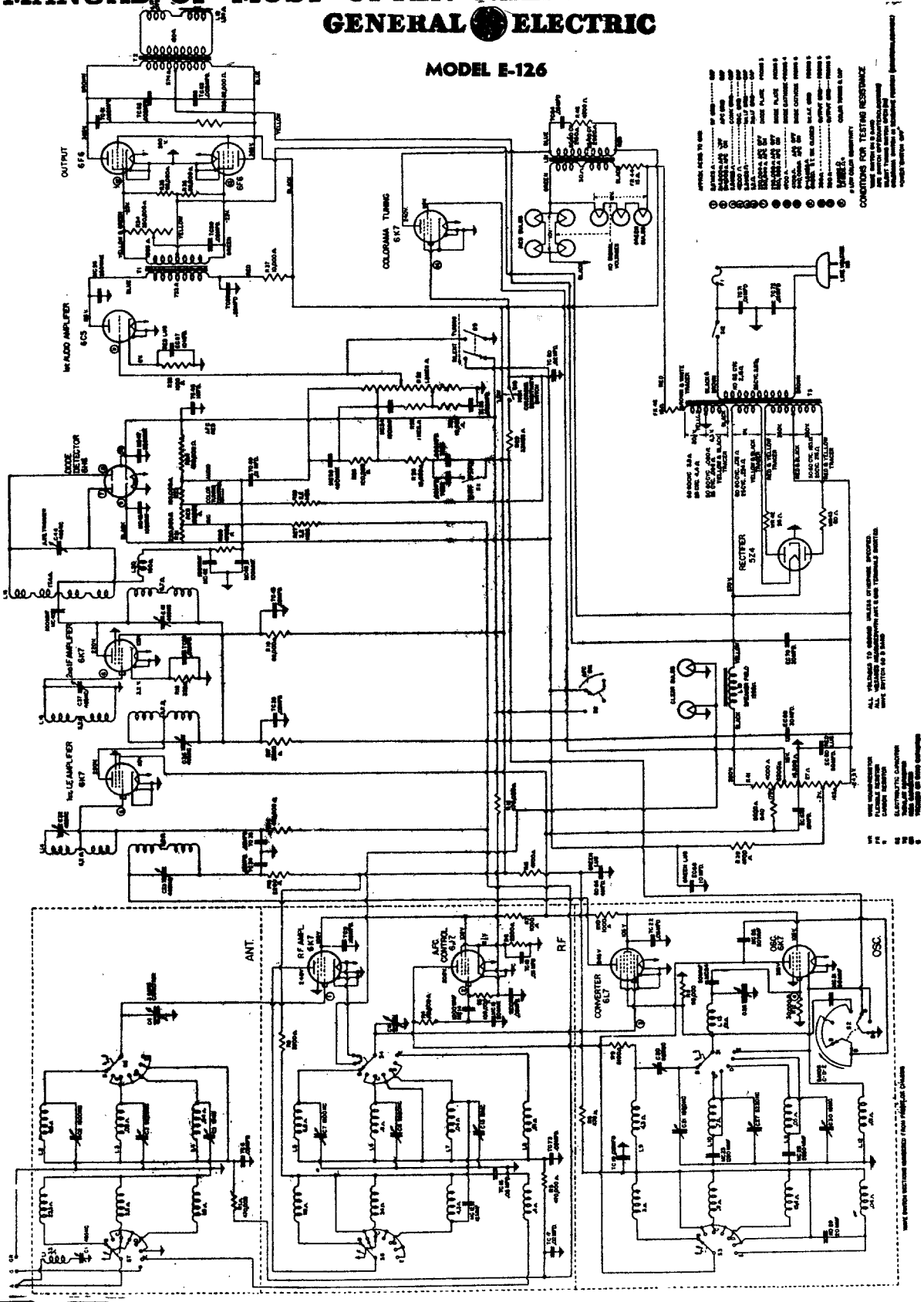
General Electric *Radio Receivers, Models E-61, E-62, and E-68*



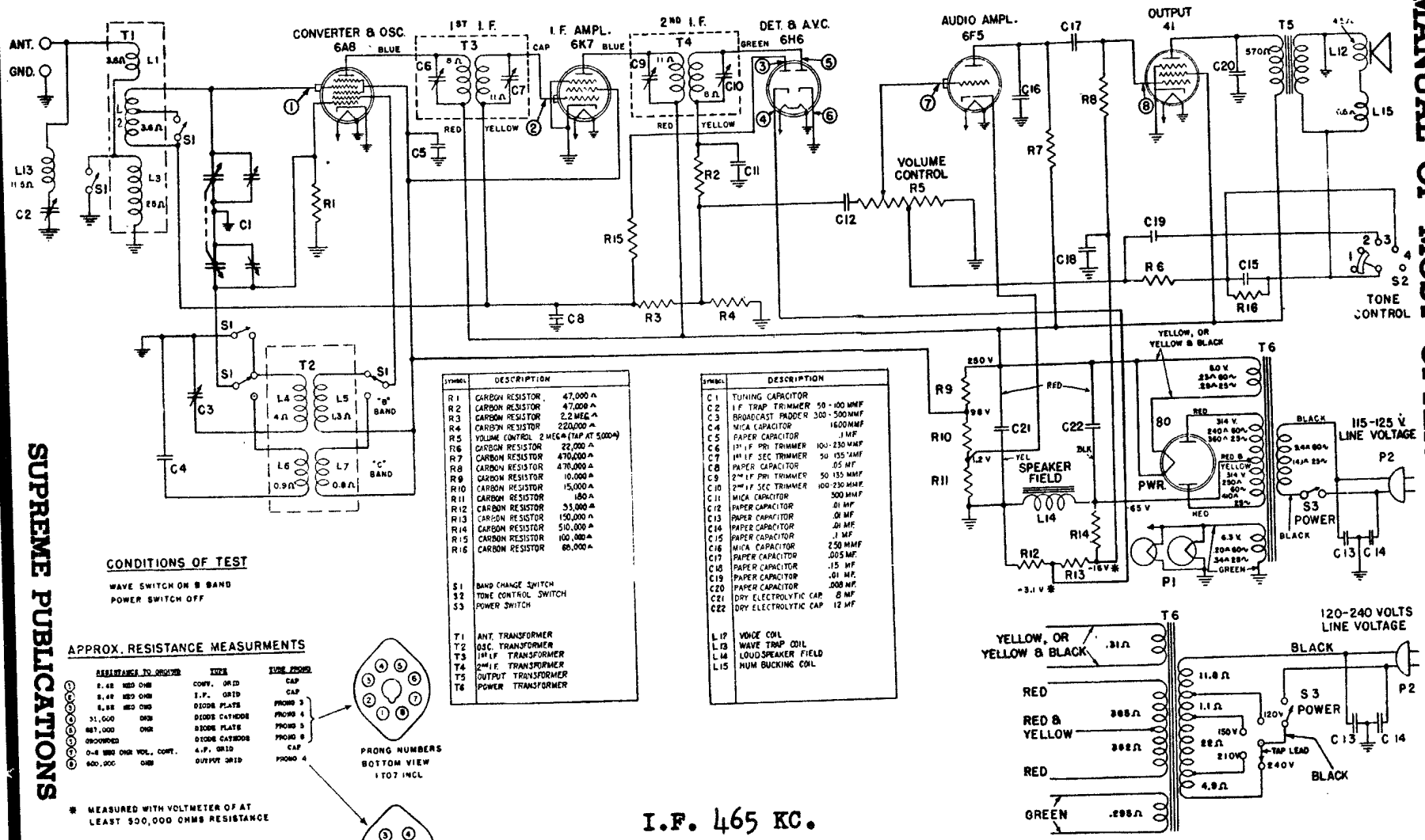
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

GENERAL ELECTRIC

MODEL E-126



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



SYMBOL	DESCRIPTION	
R1	CARBON RESISTOR	47,000 Ω
R2	CARBON RESISTOR	47,000 Ω
R3	CARBON RESISTOR	2.2 MEG Ω
R4	CARBON RESISTOR	220,000 Ω
R5	VOLUME CONTROL	2 MEG Ω (TAP AT 5,000Ω)
R6	CARBON RESISTOR	22,000 Ω
R7	CARBON RESISTOR	470,000 Ω
R8	CARBON RESISTOR	470,000 Ω
R9	CARBON RESISTOR	10,000 Ω
R10	CARBON RESISTOR	15,000 Ω
R11	CARBON RESISTOR	180 Ω
R12	CARBON RESISTOR	33,000 Ω
R13	CARBON RESISTOR	150,000 Ω
R14	CARBON RESISTOR	510,000 Ω
R15	CARBON RESISTOR	100,000 Ω
R16	CARBON RESISTOR	68,000 Ω
S1	BAND CHANGE SWITCH	
S2	TONE CONTROL SWITCH	
S3	POWER SWITCH	
T1	ANT. TRANSFORMER	
T2	OSC. TRANSFORMER	
T3	1st I.F. TRANSFORMER	
T4	2nd I.F. TRANSFORMER	
T5	OUTPUT TRANSFORMER	
T6	POWER TRANSFORMER	

SYMBOL	DESCRIPTION	
C1	TUNING CAPACITOR	
C2	I.F. TRAP TRIMMER	50 - 100 MMF
C3	BROADCAST PADDER	300 - 500 MMF
C4	MICA CAPACITOR	1600 MMF
C5	PAPER CAPACITOR	.1 MF
C6	1st I.F. PRI. TRIMMER	100-230 MMF
C7	1st I.F. SEC. TRIMMER	50-135 MMF
C8	PAPER CAPACITOR	.05 MF
C9	2nd I.F. PRI. TRIMMER	50-135 MMF
C10	2nd I.F. SEC. TRIMMER	100-230 MMF
C11	MICA CAPACITOR	500 MMF
C12	PAPER CAPACITOR	.01 MF
C13	PAPER CAPACITOR	.01 MF
C14	PAPER CAPACITOR	.01 MF
C15	PAPER CAPACITOR	.1 MF
C16	MICA CAPACITOR	250 MMF
C17	PAPER CAPACITOR	.005 MF
C18	PAPER CAPACITOR	.15 MF
C19	PAPER CAPACITOR	.01 MF
C20	PAPER CAPACITOR	.008 MF
C21	DRY ELECTROLYTIC CAP.	.8 MF
C22	DRY ELECTROLYTIC CAP	12 MF
L12	VOICE COIL	
L13	WAVE TRAP COIL	
L14	LOUDSPEAKER FIELD	
L15	HUM BUCKING COIL	

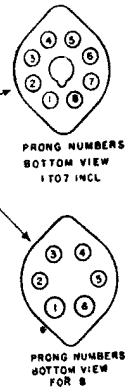
CONDITIONS OF TEST

WAVE SWITCH ON B BAND
POWER SWITCH OFF

APPROX. RESISTANCE MEASURMENTS

	RESISTANCE TO GROUND	TUBE	TUBE PRONG
C	2.45 MEG OHM	CONV. GRID	CAP
C	2.45 MEG OHM	I.F. GRID	CAP
C	2.55 MEG OHM	DIODE PLATE	PRONG 3
C	31,000 OHM	DIODE CATHODE	PRONG 4
C	667,000 OHM	DIODE PLATE	PRONG 5
C	GROUNDED	DIODE CATHODE	PRONG 6
C	0-6 MEG OHM VOL. CONT.	A.F. GRID	CAP
C	600,000 OHM	OUTPUT GRID	PRONG 4

* MEASURED WITH VOLTMETER OF AT LEAST 500,000 OHMS RESISTANCE



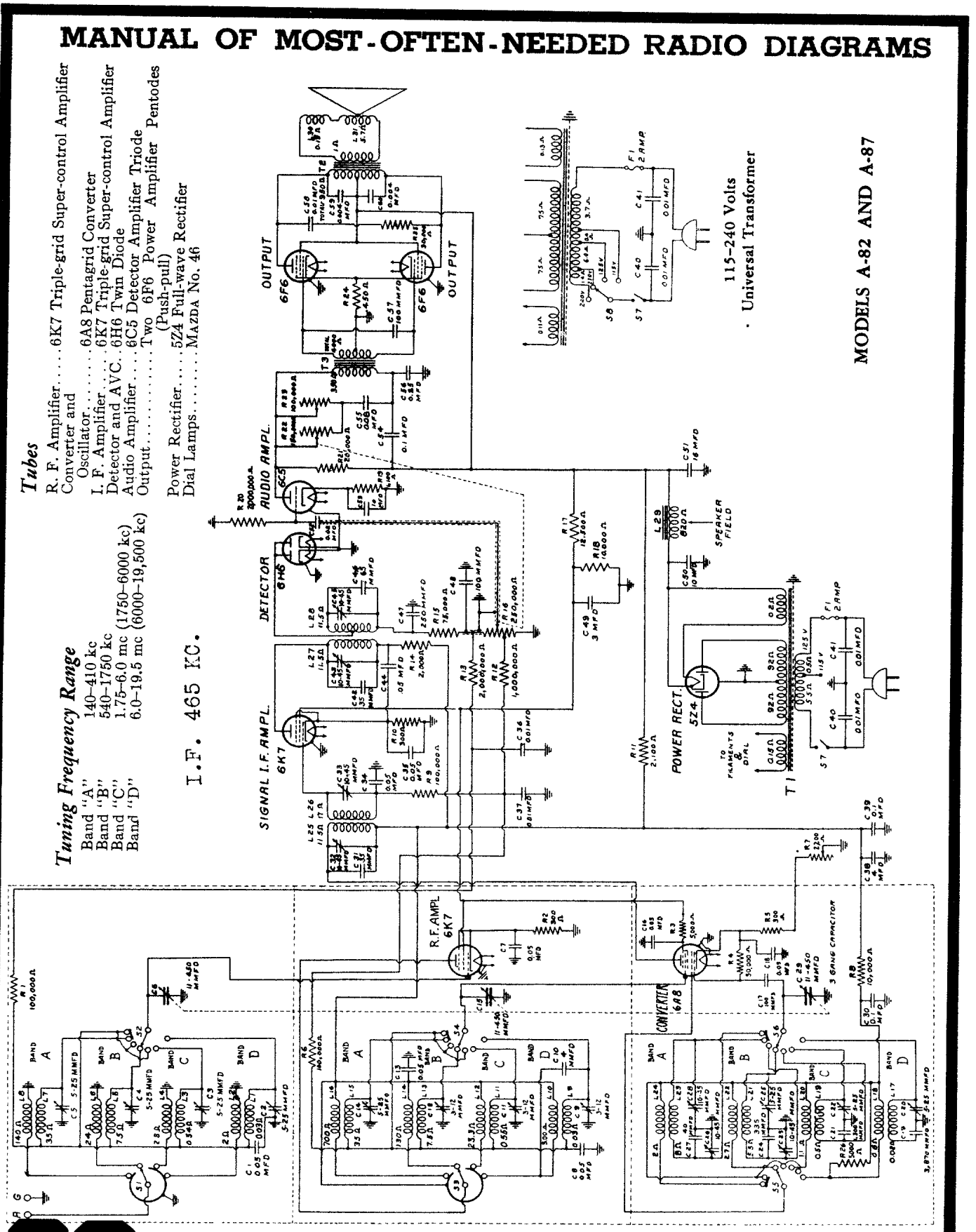
I.F. 465 KC.

General Electric Co.

Receivers, Models F-63, F-65 and F-66

SUPREME PUBLICATIONS

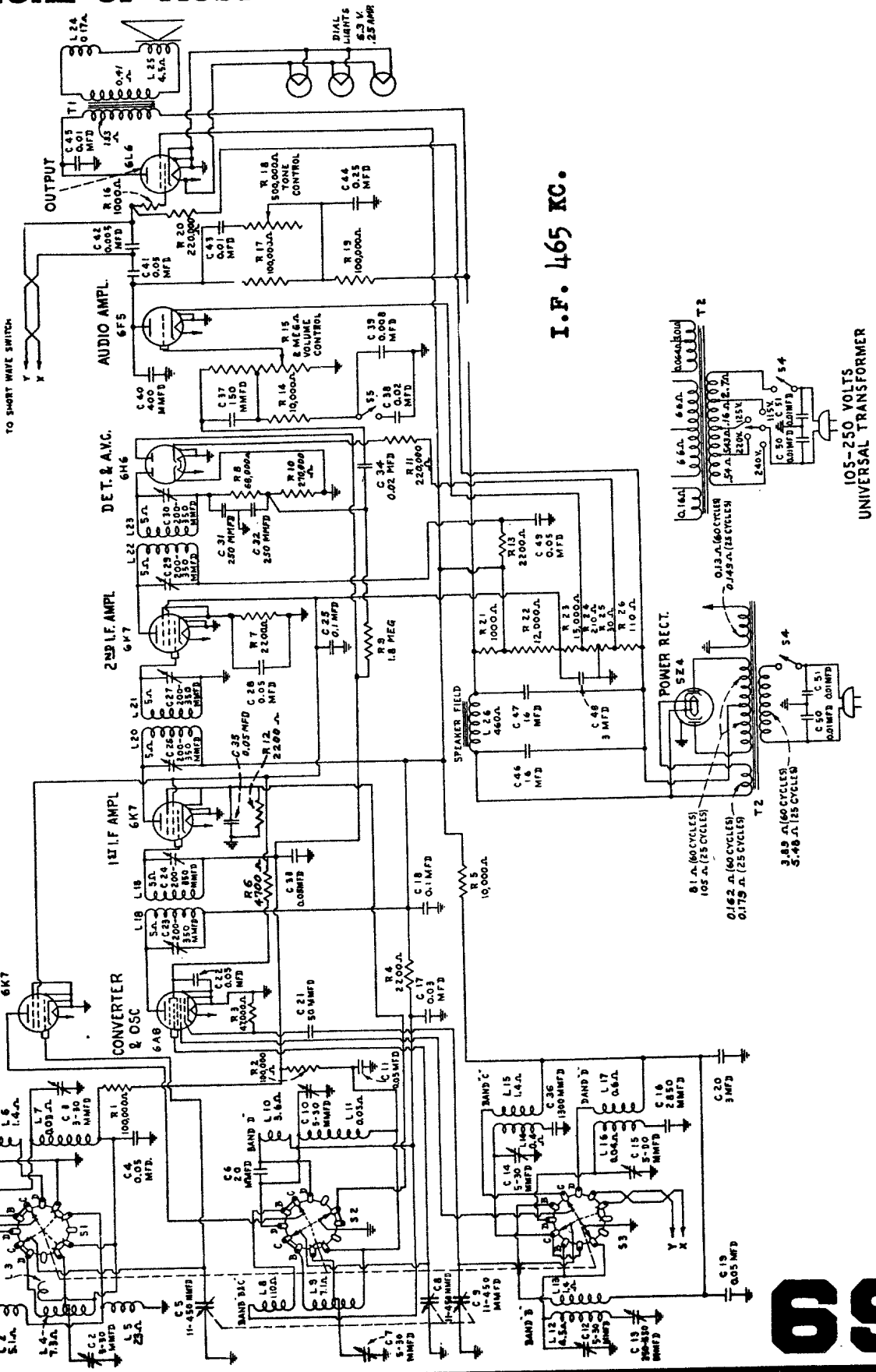
67



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

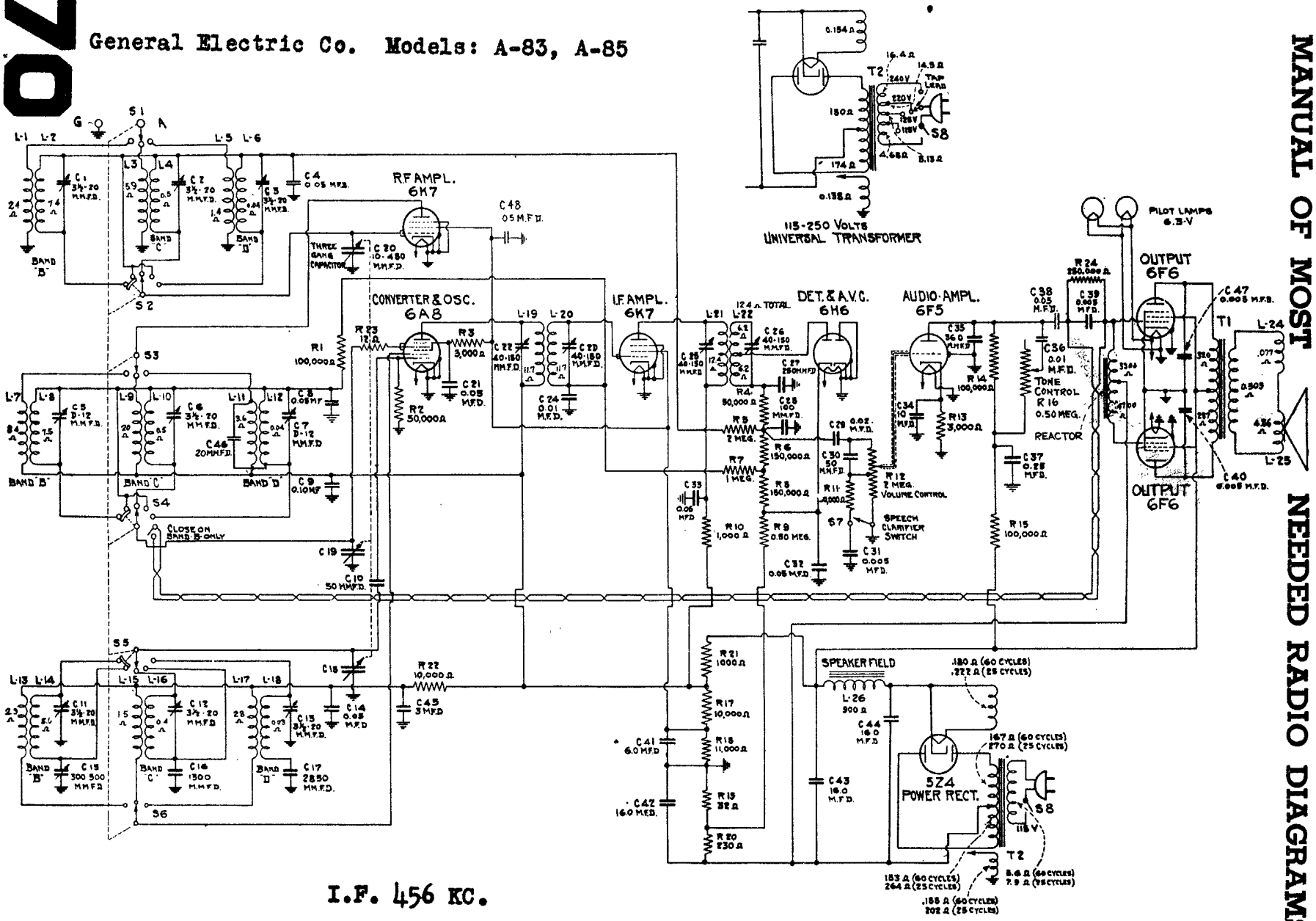
General Electric Co.

Radio Receivers, Models E-81 and E-86

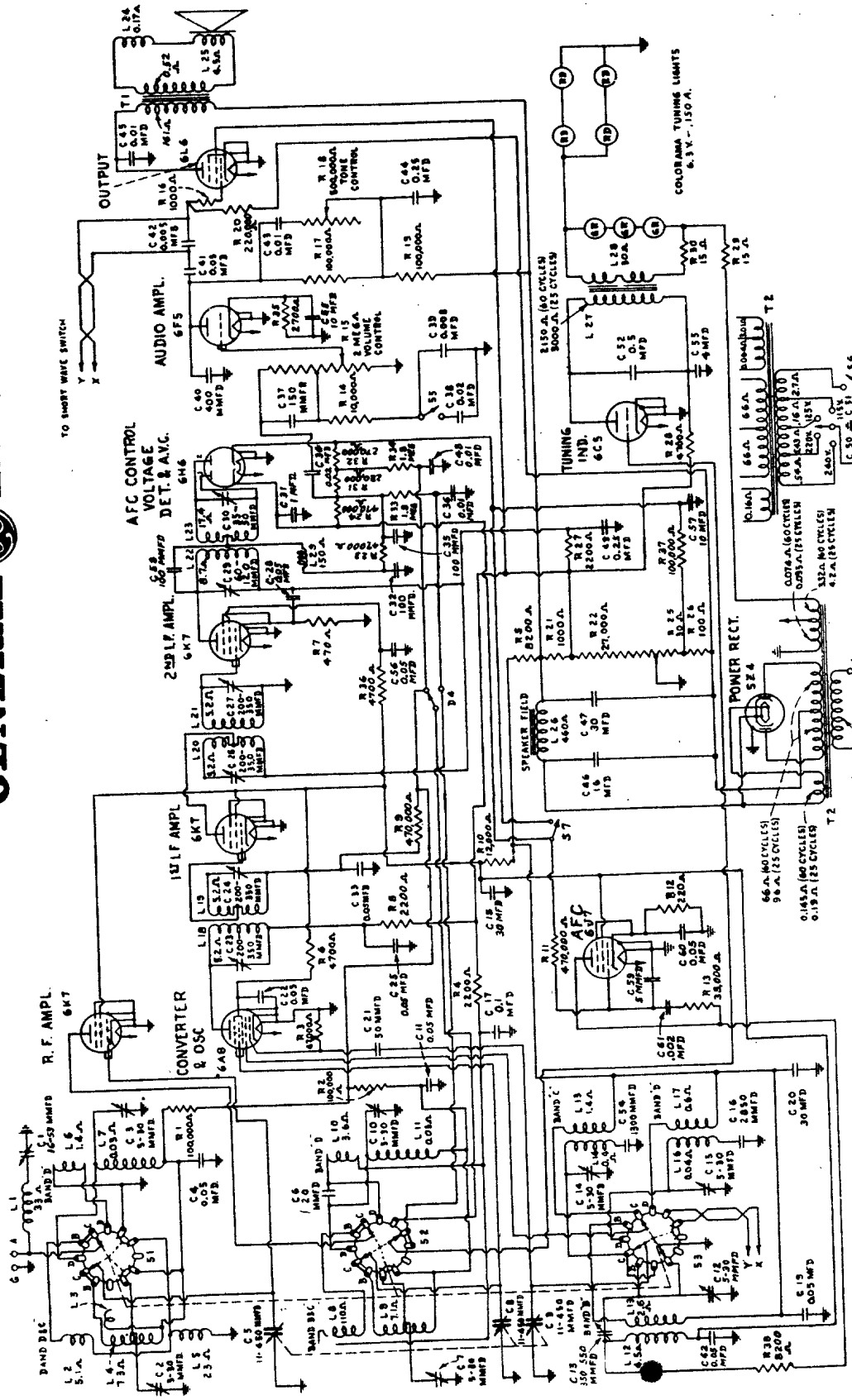


70

General Electric Co. Models: A-83, A-85



GENERAL ELECTRIC

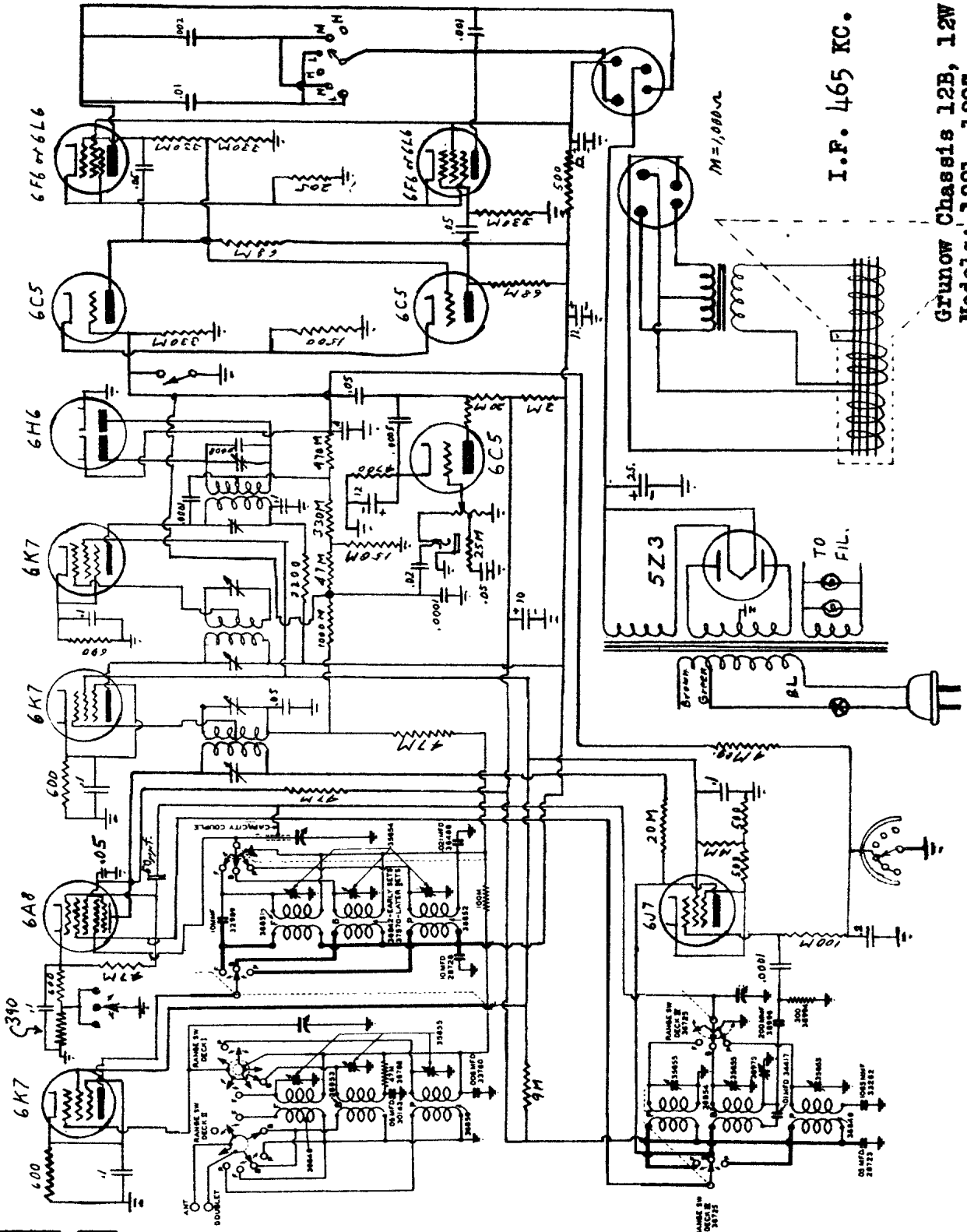


ALIGNMENT FREQUENCIES

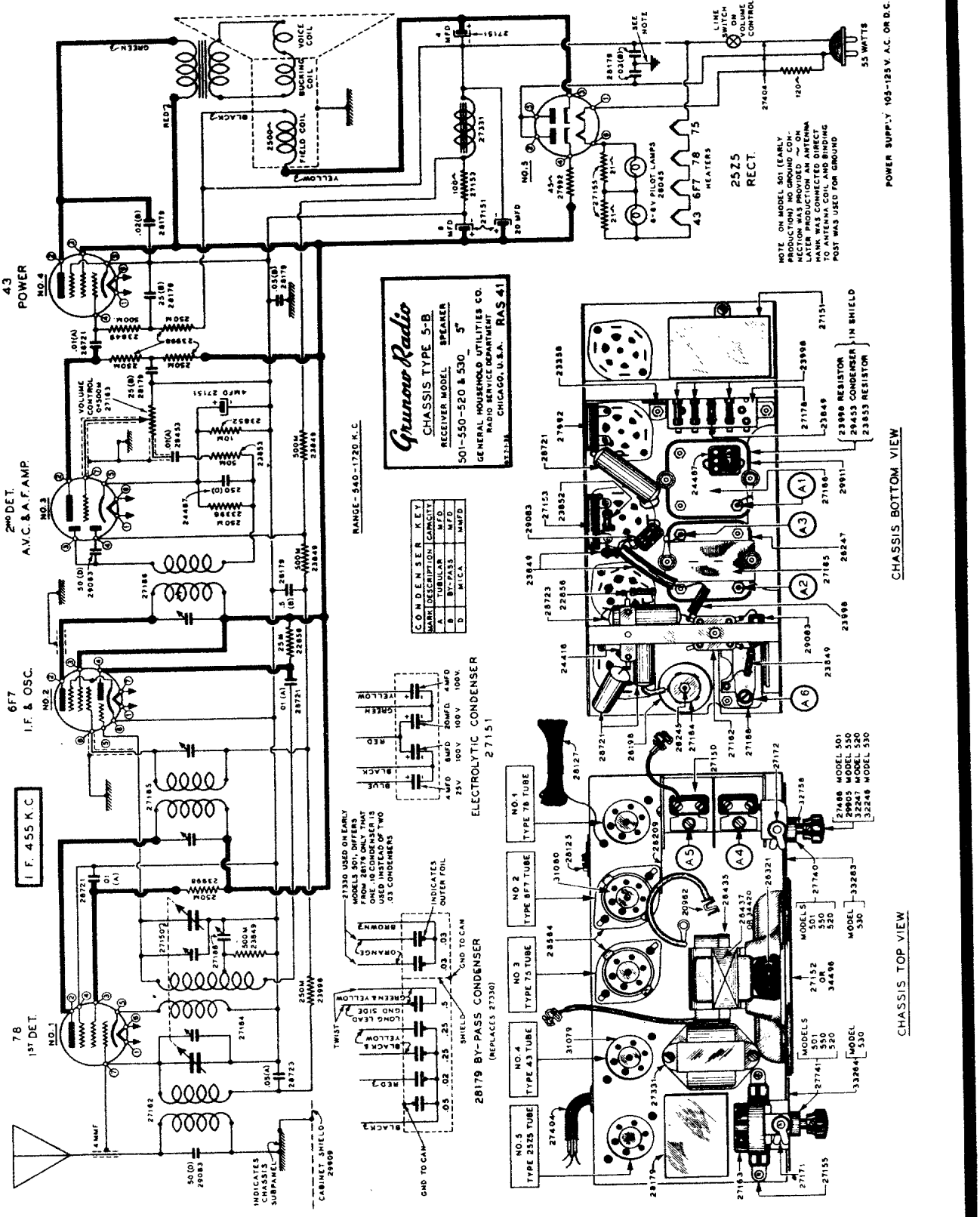
I.F.	Band "B"	Band "C"	Band "D"	Wave Trap
465 kc.	580 kc.	5220 kc.	18,000 kc.	465 kc.
	1500 kc.			

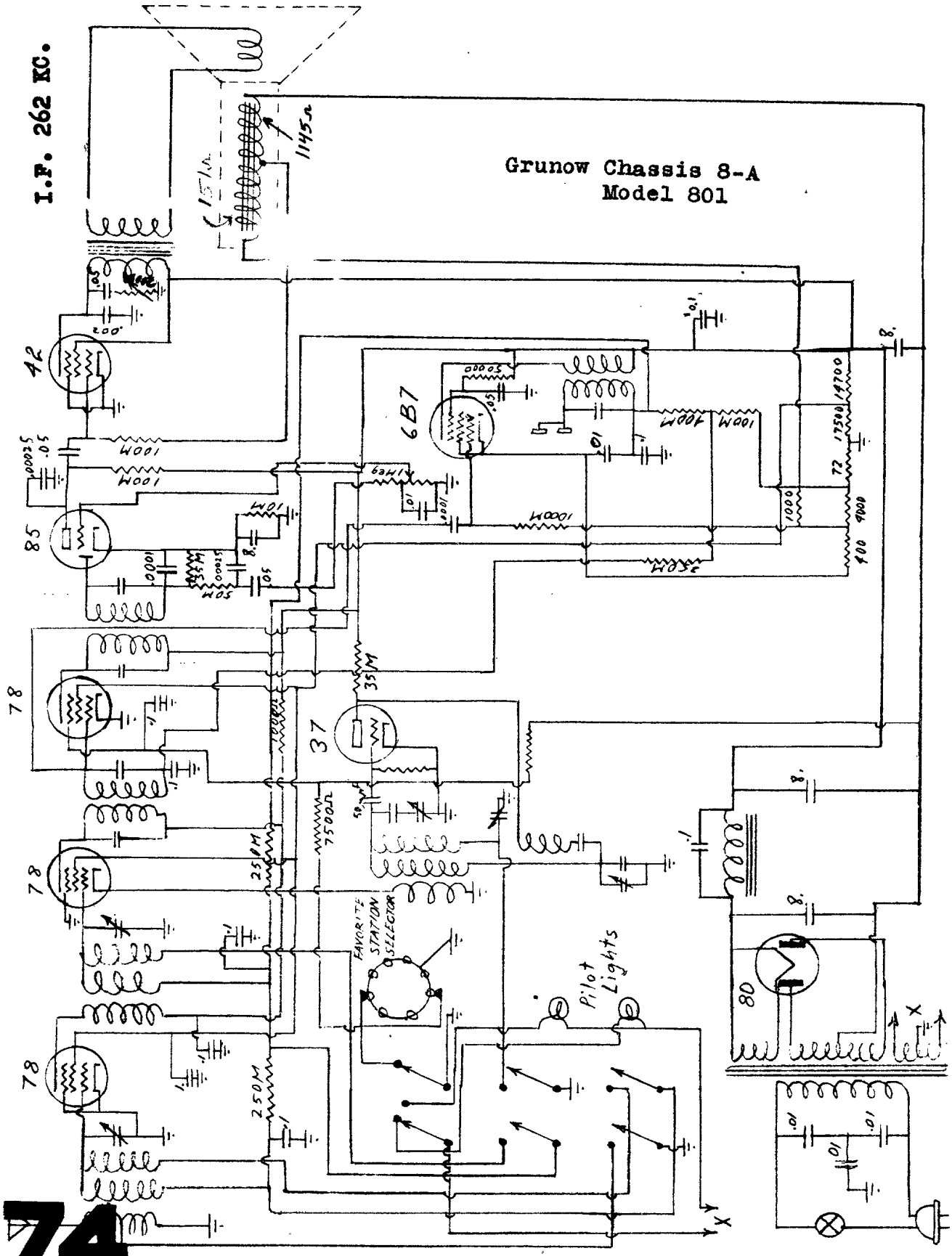
Radio Receivers, Models E-101, E-106 and E-106

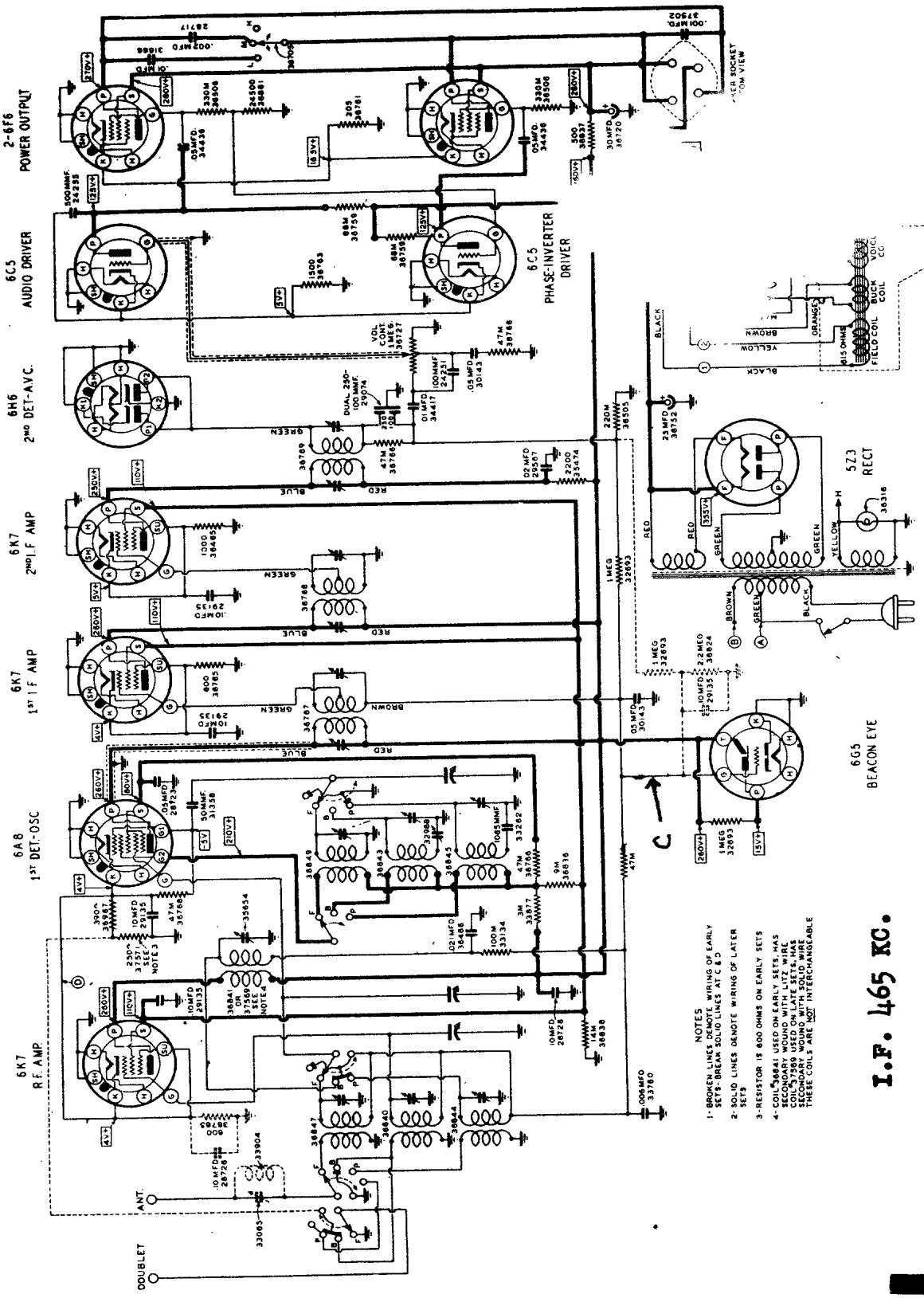
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

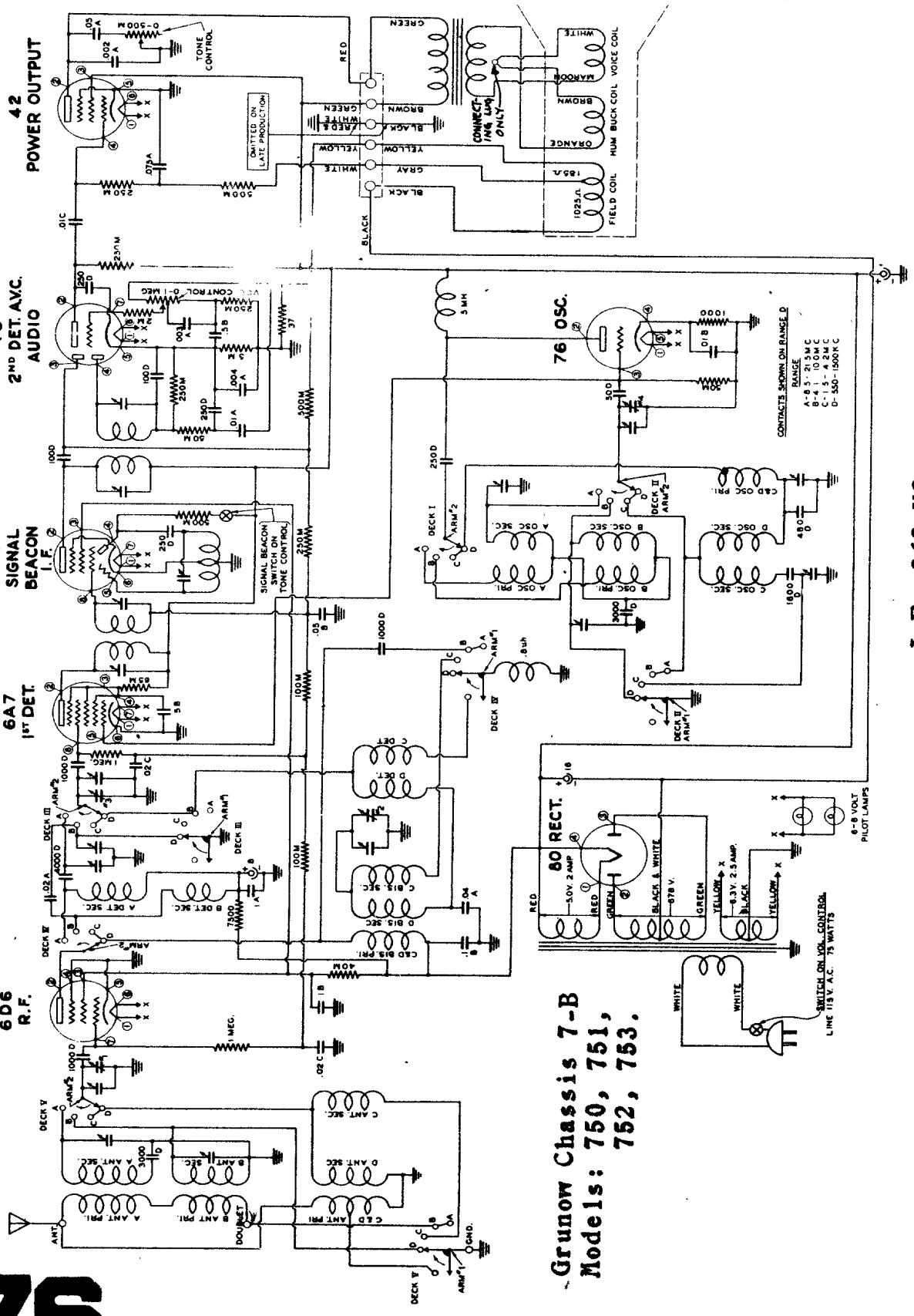






I.F. 465 KC.

Grunow Chassis 11-G
Models: 1191, 1191B



Grunow Chassis 7-B
Models: 750, 751,
752, 753.

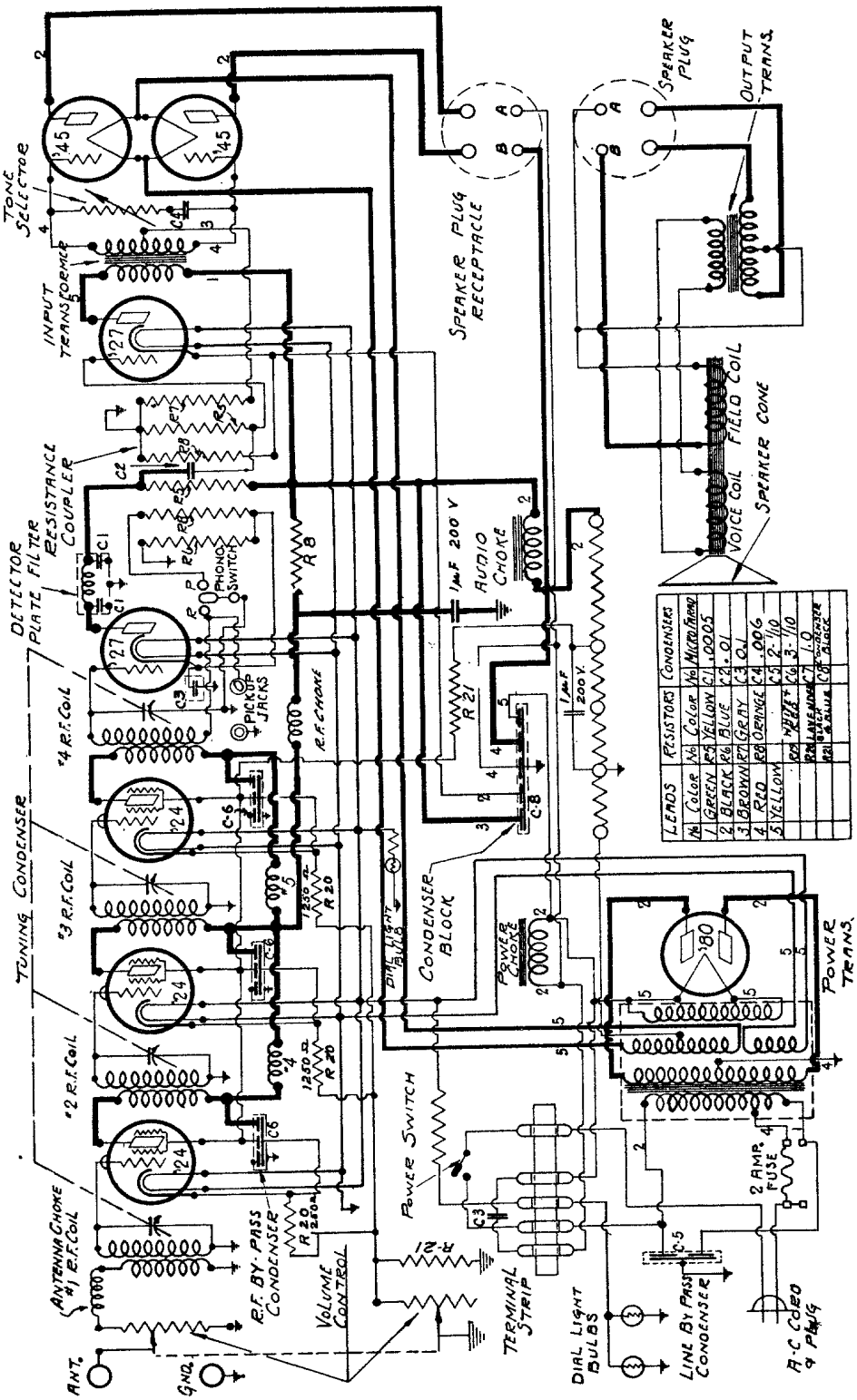
76

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

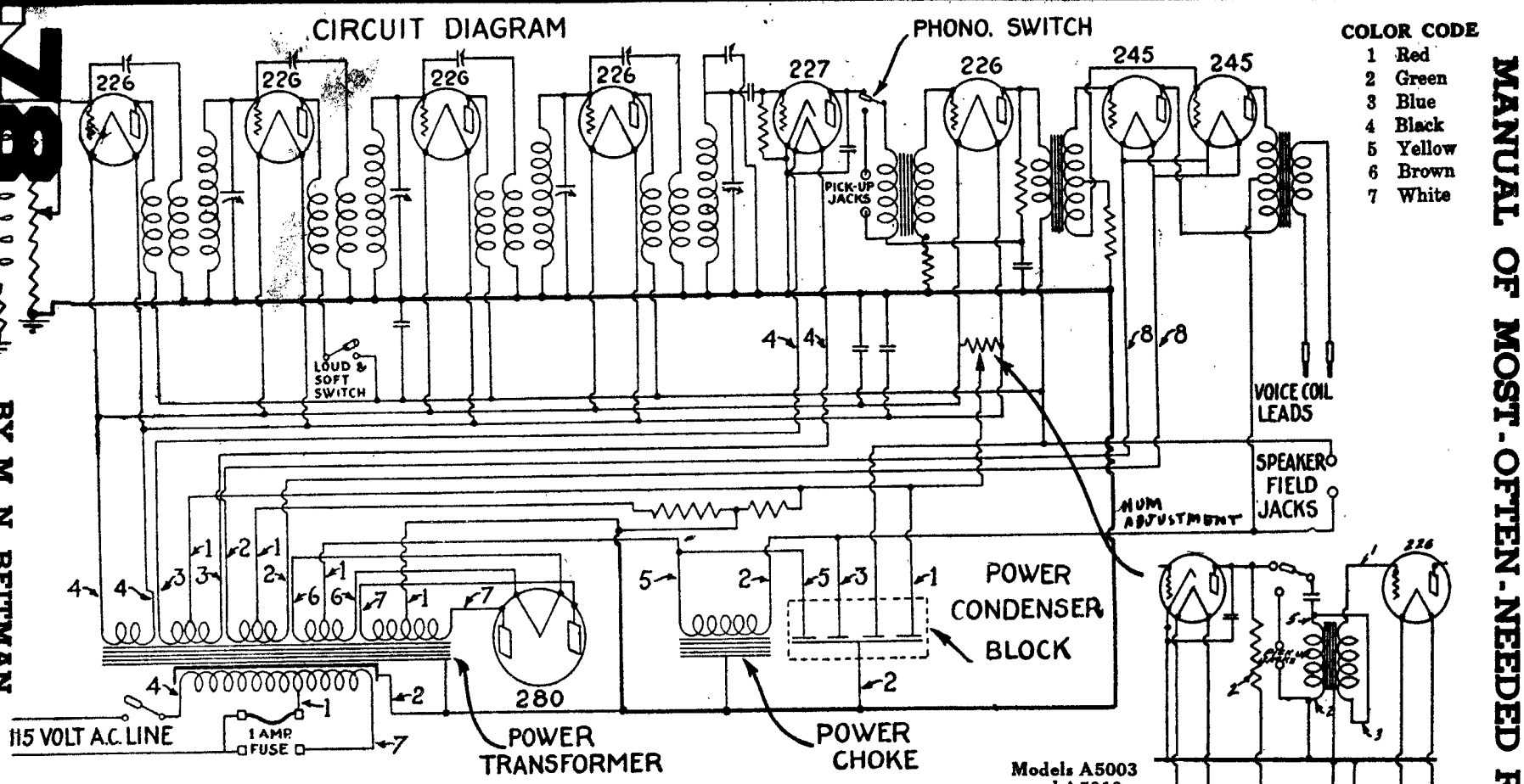
MODELS 120, 130 and 140

CHASSIS MODELS "A" and "B"

General Motors



Circuit Diagram of Chassis with Serial Numbers Between 29100A and 6200A; and 1700B and 1946B.



Models A5003 and A5010

Models 5091 (60 Cycle) and A5004 (25 Cycle) **General Motors**

The Circuit incorporates four balanced, tuned stages of radio frequency amplification, a semi-tuned antenna input system, detector, one stage of audio frequency amplification and one stage of push-pull audio frequency amplification. (Two 245 Power Tubes.)

An output push-pull transformer is used in order to match the impedance of the voice coil of the dynamic speaker with the output of the power tubes.

A switch is connected in the plate circuit of the second radio frequency tube, termed the soft and loud switch, which breaks the circuit, thereby reducing amplification in the first two tubes and improving the tone quality of local reception.

A phonograph pick-up unit may be permanently connected by inserting the tips in jacks provided for this purpose. A switch is provided which connects the pick-up to the first audio transformer, or connects the plate lead of the transformer to the plate of the detector, depending on whether radio reception or phonograph music is desired.

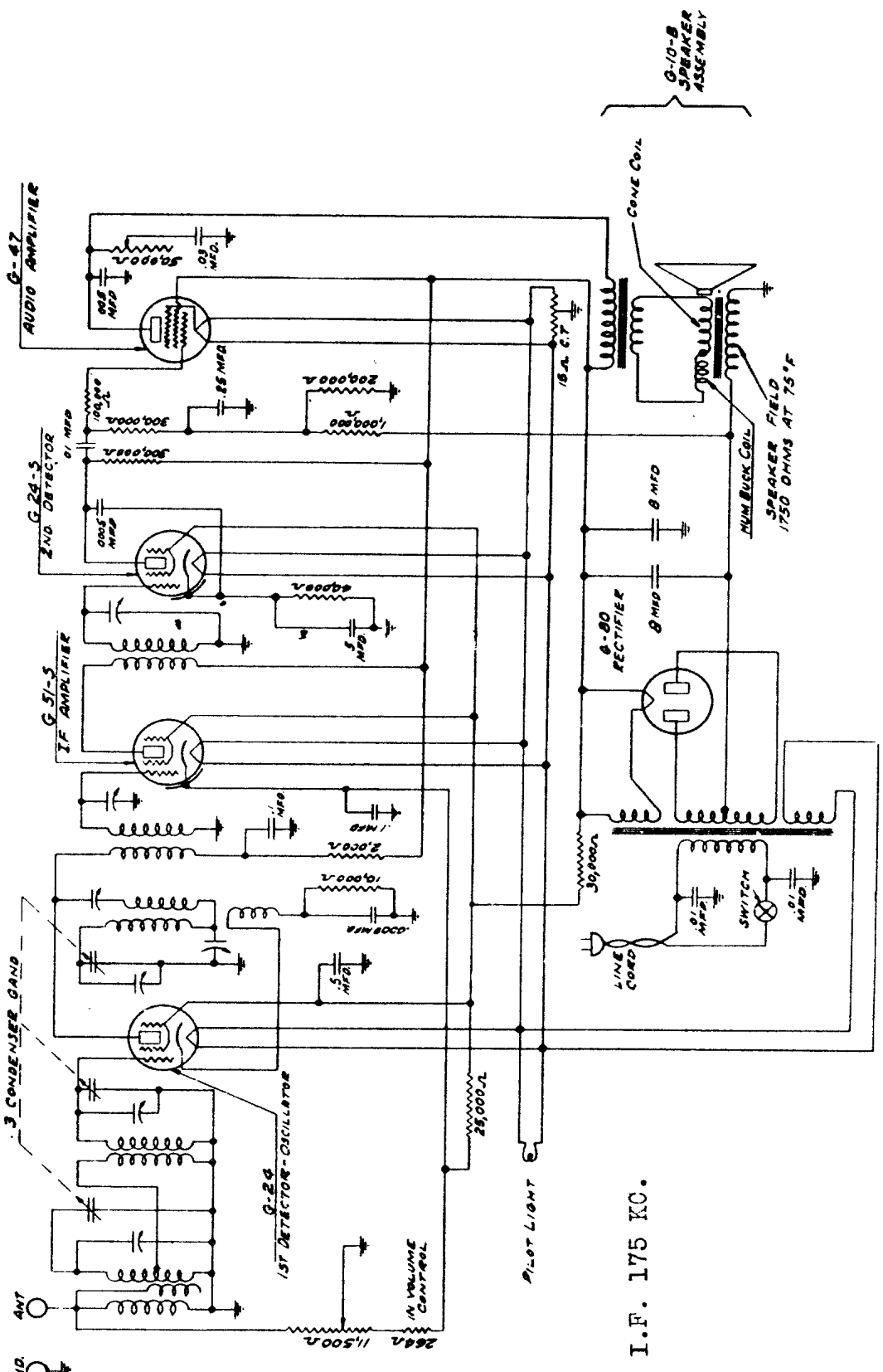
Power Pack 8-P-6 and 8-P-3
Model 181—Chassis 180

Power Pack 7-BP-6 and 7-BP-3
Models 71 and 72—Chassis 70-B

Power Pack 7-P-6 and 7-P
Models 71 and 72—Chassis 70

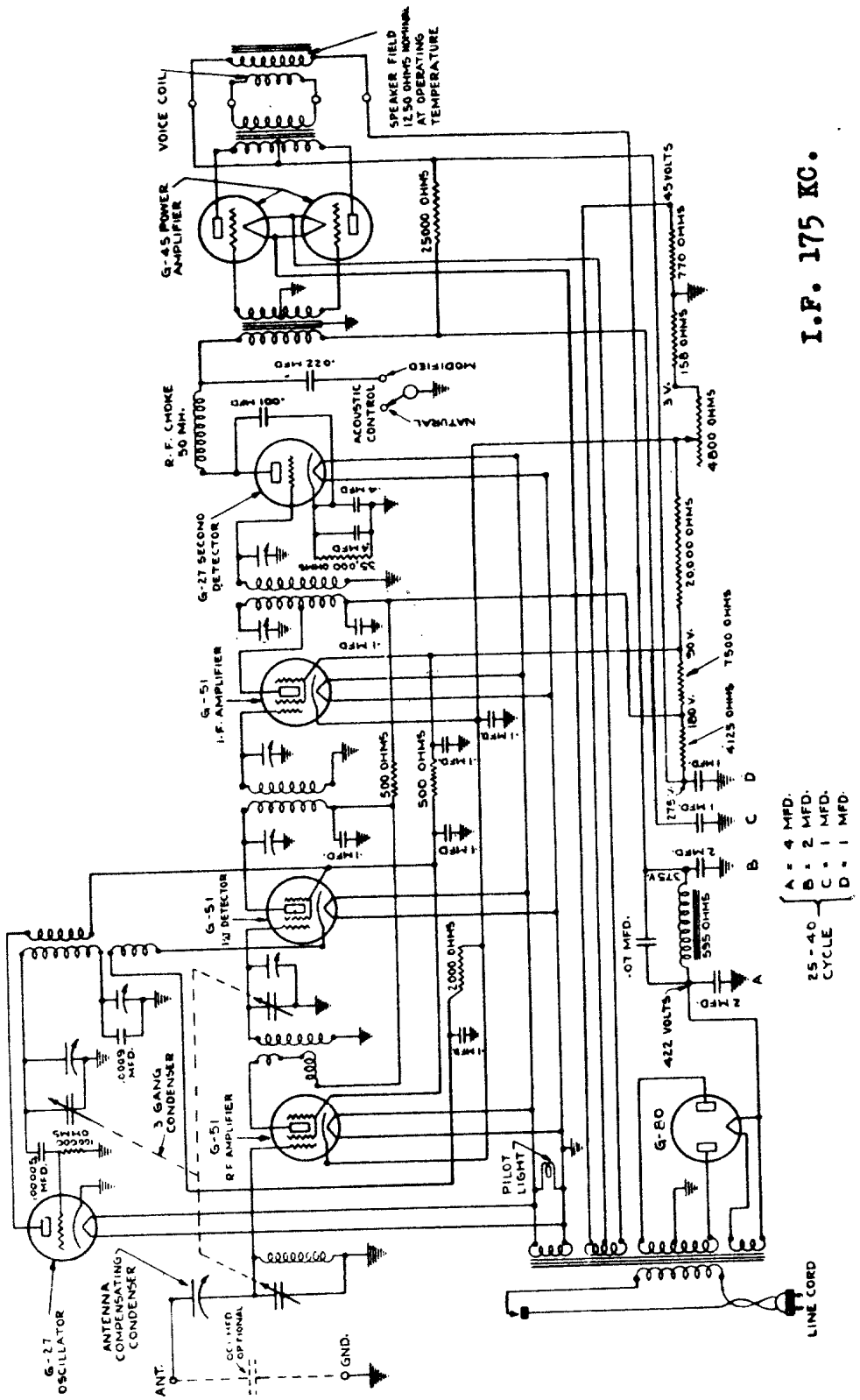
SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE RECEIVER

MODEL 15 AND 15-B CHASSIS (65,150 AND OVER) SERIAL NO. 115 AND 230 VOLTS, 25-50 AND 50-60 CYCLES.
POWER REQD. — 60 WATTS



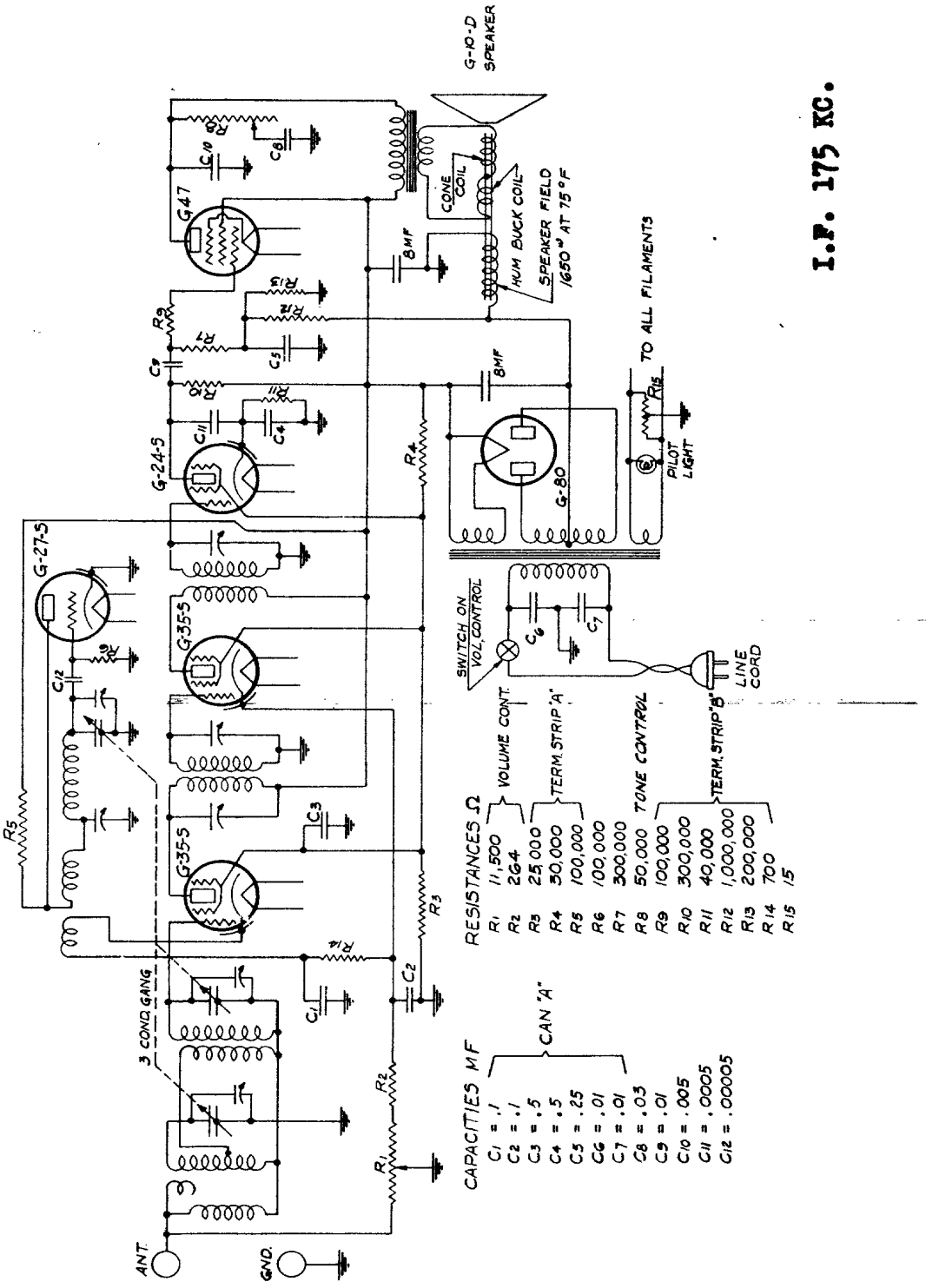
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE RECEIVER
MODEL 20 CHASSIS 110 AND 220 VOLTS - 50-60 AND 25-40 CYCLE



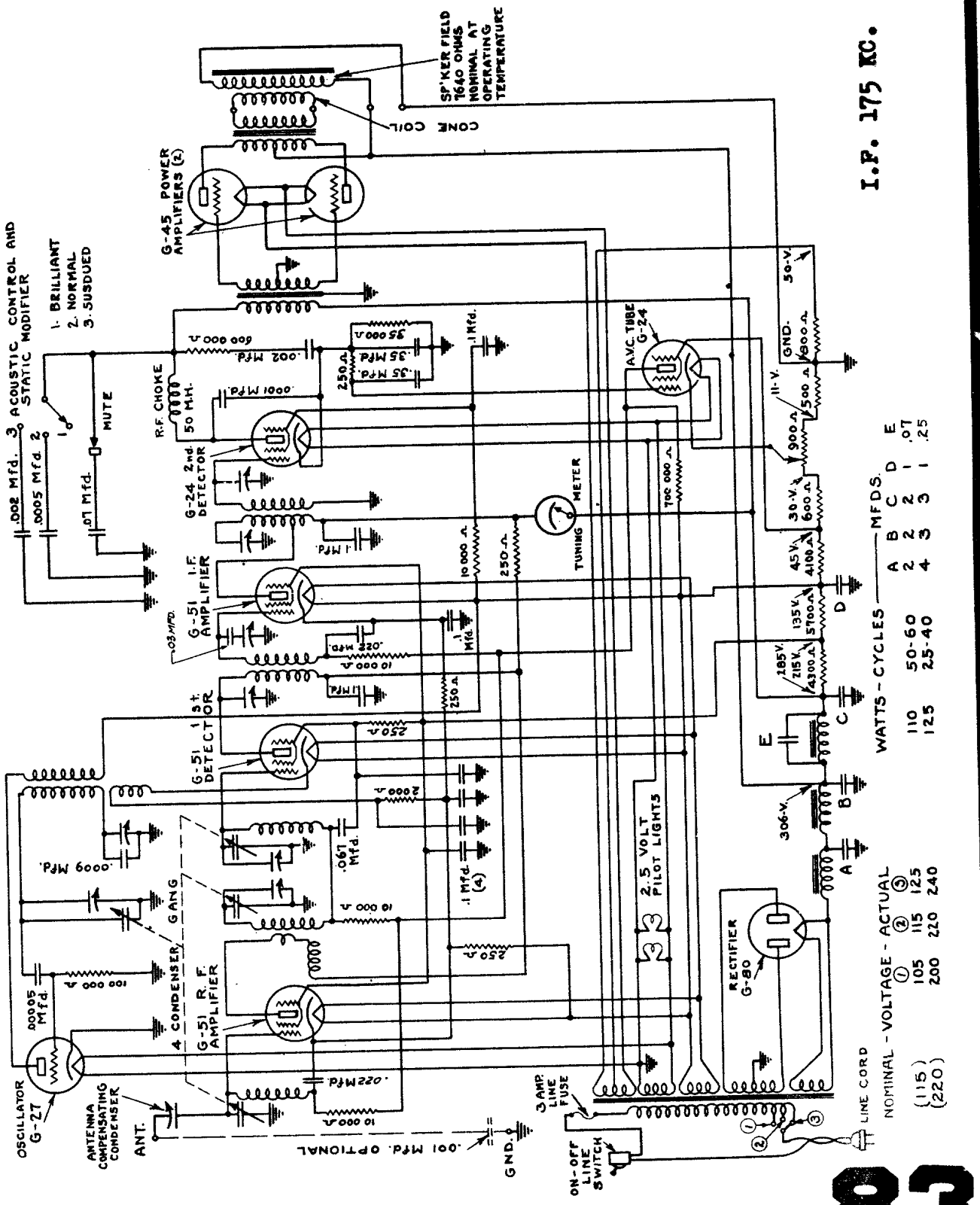
SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE RECEIVER

MODEL 55 CHASSIS — 115 VOLTS 50-60 CYCLES 70 WATTS



MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

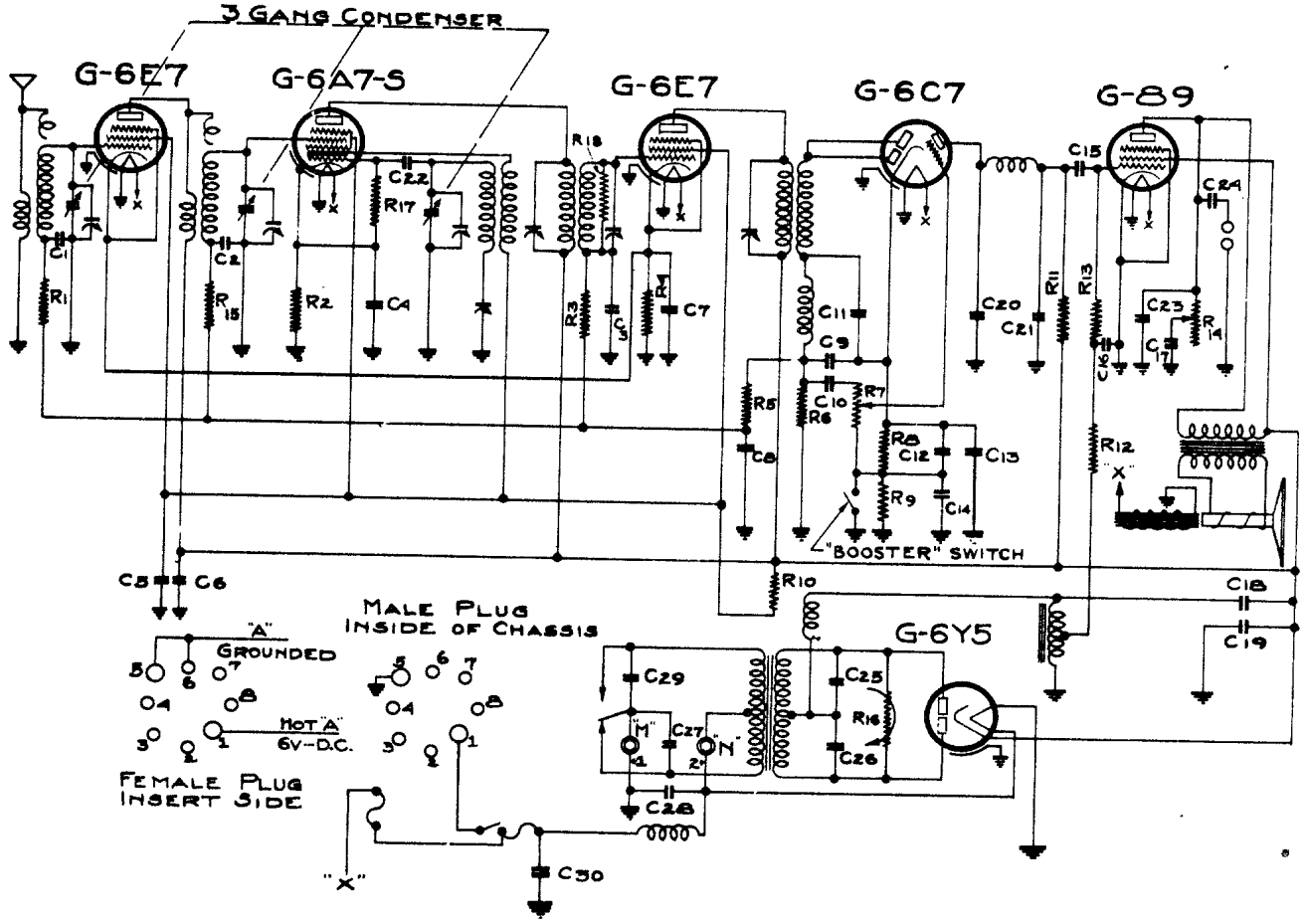
SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE AUTOMATIC VOLUME CONTROL RECEIVER – MODEL 60 CHASSIS 115 AND 220 VOLTS,



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

83

SCHEMATIC DIAGRAM OF MAJESTIC MODEL 66 AUTOMOBILE RECEIVER.



CONDENSERS

C1—.05	C16—.25
C2—.05	C17—.02
C3—.01	C18—8.0
C4—.1	C19—8.0
C5—.25	C20—.0005
C6—.25	C21—.0005
C7—.25	C22—.00025
C8—.03	C23—.005
C9—.0005	C24—.1
C10—.03	C25—.008
C11—.0005	C26—.008
C12—10.	C27—.1
C13—.25	C28—.5
C14—.25	C29—.1
C15—.05	C30—.5

RESISTORS

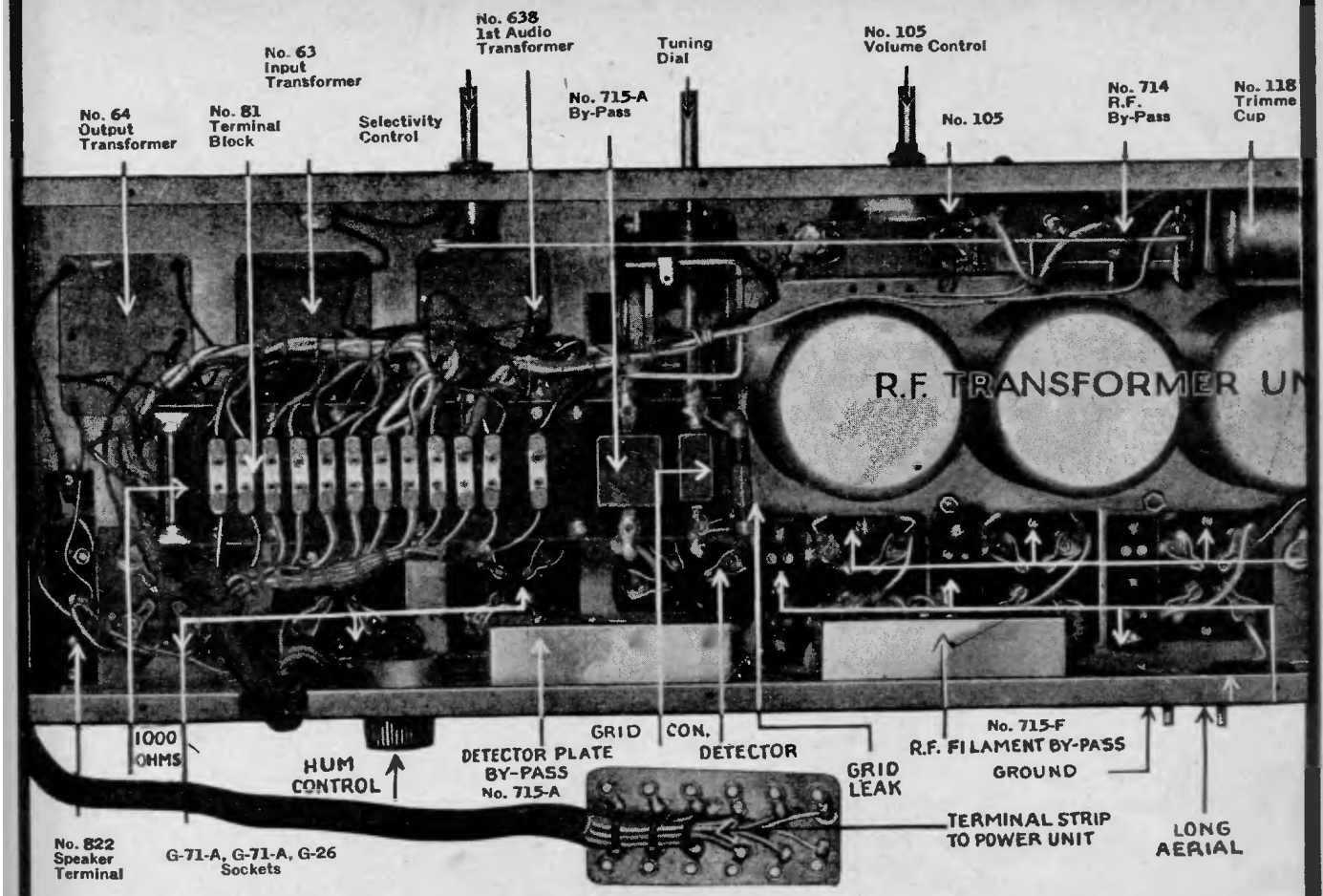
R1—300,000	R10—10,000
R2—250	R11—250,000
R3—300,000	R12—250,000
R4—400	R13—250,000
R5—300,000	R14—50,000
R6—100,000	R15—300,000
R7—200,000	R16—500,000 GLOBAR
R8—2,500	R17—50,000
R9—10,000	R18—1,000,000

NOTE

WHEN A+ IS GROUNDED VIBRATOR LEAD #1 (BLUE) SHOULD CONNECT TO TERMINAL "M" (VIBRATOR ARMATURE) AND LEAD #2 (BLACK) SHOULD CONNECT TO TRANS. PRIMARY CENTER TAP (TERMINAL "N") WHEN A- IS GROUNDED REVERSE ABOVE CONNECTIONS.

I.F. 175 KC.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



CHASSIS 70 and 70-B

Models 71 and 72

TUBES

R. F.	G-26	1st A. F.	G-26
R. F.	G-26	P. P. Ampl.	G-71-A
R. F.	G-26	P. P. Ampl.	G-71-A
Det.	G-27	G-80 Rect.	Power Unit

THE CIRCUIT

Tuned Radio Frequency. Built upon unit assembly plan.

Chassis. Has the 3 A.F. transformers, the volume control and input circuit, sockets, balancing condensers and by-pass condensers.

Tuning Condenser. 4 gang variable condenser, dial lamp and dial.

R.F. Transformers. Entirely Contained in shield, with leads that connect to various parts.

Terminal Strip. Includes power cable, grid condenser, grid leak, detector plate R.F. by-pass condenser, 2 center tapped resistances and 2 bias resistance units.

Wiring Cable. Accomplishes the internal wiring of receiver.

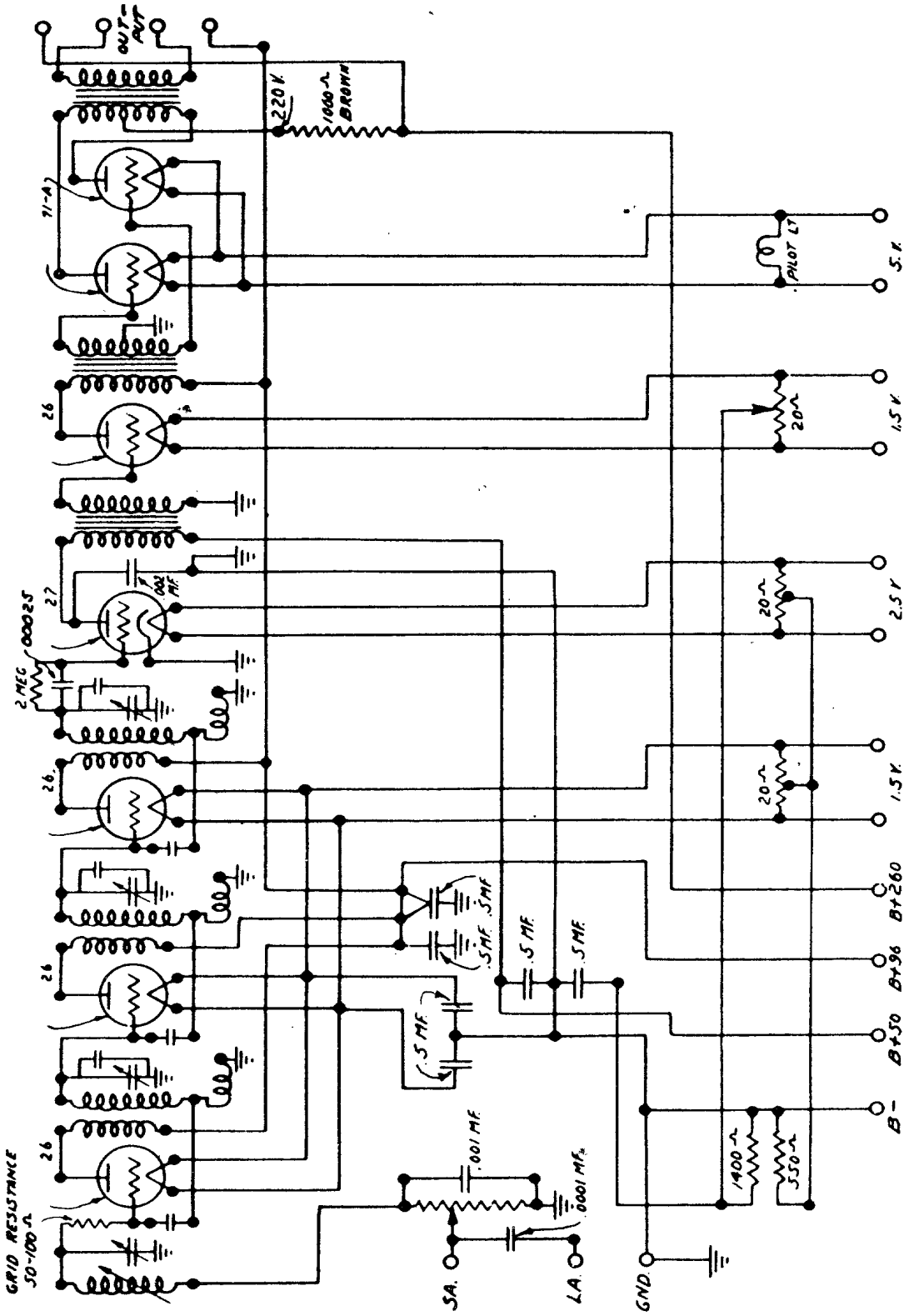
INPUT SYSTEM AND VOLUME CONTROL

The volume control is effected in the input circuit, making a smooth control due to the fact that R.F. amplifiers are functioning at maximum efficiency at any degree of volume. A potentiometer is placed across the .001 condenser with the movable arm attached to the antenna and controls signal voltage impressed across this condenser.

SELECTIVITY CONTROL

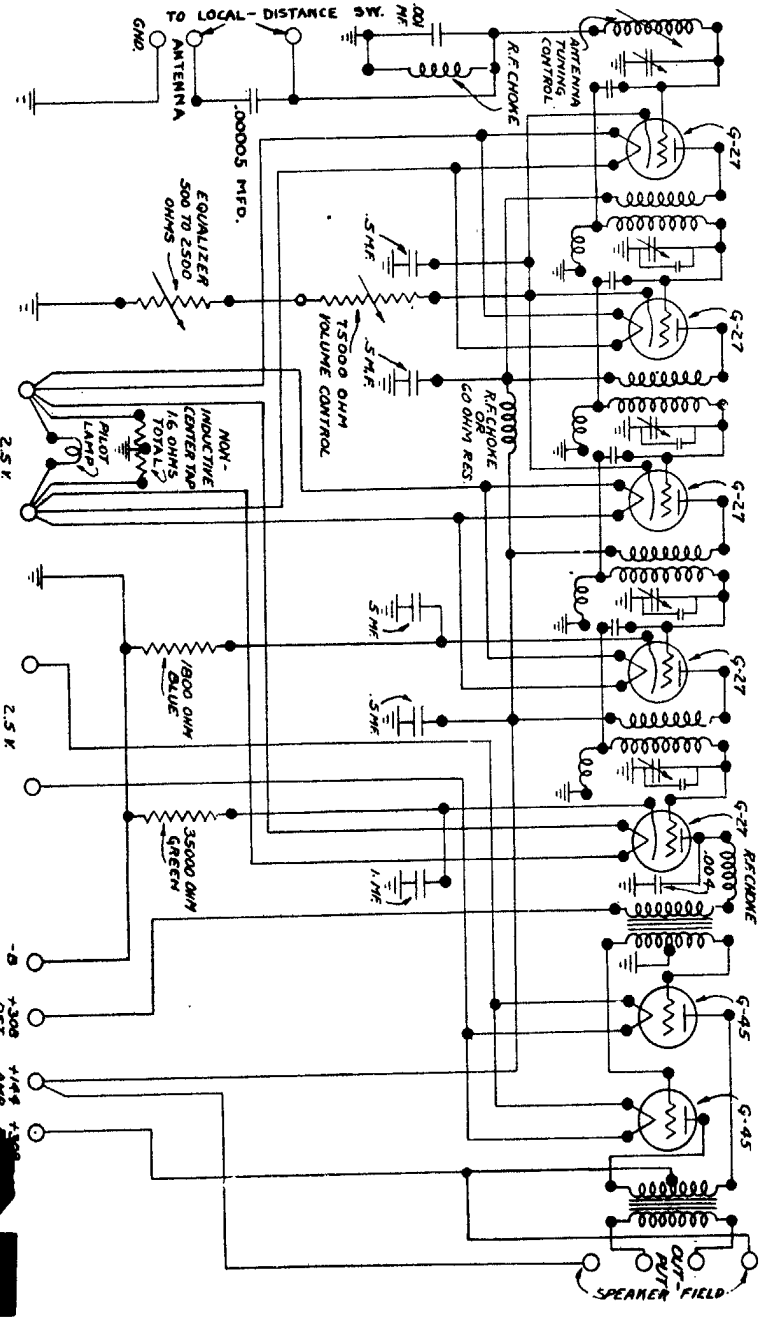
Integral with the input system is the antenna trimmer, which operates to vary the inductance of the antenna input coil and permits adjusting the input circuit to exact resonance with the other 3 tuned circuits.

SCHEMATIC DIAGRAM FOR MODEL 70B MAJESTIC RECEIVER



CHASSIS 90

Models 91, 92



METHOD OF BIASING

Grid Biasing of the various tubes is accomplished by grounding the grids and applying a positive potential to the cathodes of three tubes.

The biasing of the first, second and third R.F. Tubes is accomplished by the use of a variable resistance from 500 to 2,500 Ohm, which is in series with the volume control resistance and is known as the Equalizer. It is mounted on the rotor shaft of the variable gang condenser and the movable arm turns as the rotor plates are moved. A potential of from 8 to 15 Volt is applied, depending on the tuning dial frequency. The Equalizer is adjusted for a resistance of 1,500 Ohm at 1,000 kilocycles, 500 Ohm at 550 kilocycles, 2,500 Ohm at 1,500 kilocycles, with 15% allowable variation for the last two measurements. The equalizer adjustment arm is secured by a set screw to the back of the gang condenser frame.

The position and tightness of this arm is important. Make sure that the set screw holding the Equalizer Shaft to the gang condenser just inside the gang frame is against the flat portion of the equalizer shaft.

BIASING	RESISTOR	BIAS VOLTAGE
4th R. F. Stage	1,800 Ohm	9
Detector	35,000 Ohm	32
45	800 Ohm	On Power Unit Terminal Strip

ALIGNING AND BALANCING

Make certain that resonance is obtained for each stage, using both Master Tuning Control and Trimmer. When using dummy tube for balancing, place shield over it, to include capacity effect of shield. A dummy tube having a Grid to Plate of appr. 3.4 m.m.f. is suggested, as this capacity is used when receiver was originally balanced. PROCEDURE OF BALANCING IS THE SAME AS FOR CHASSIS 70, 70B

ANTENNA SWITCH

To prevent distortion of tone from close-by powerful transmitters on moderately long antenna, snap switch to "Local" position. Use "Distance" position for stations with less powerful reception.

POWER UNIT

The Power Unit 9-P-6 and 9-P-3 is described on Page 79.

INPUT CIRCUIT

On early production models, a fixed condenser of .0001 MFD. capacity is used, on later production a condenser of .00005 MFD. for the input circuit.

TABLE OF VOLTAGES

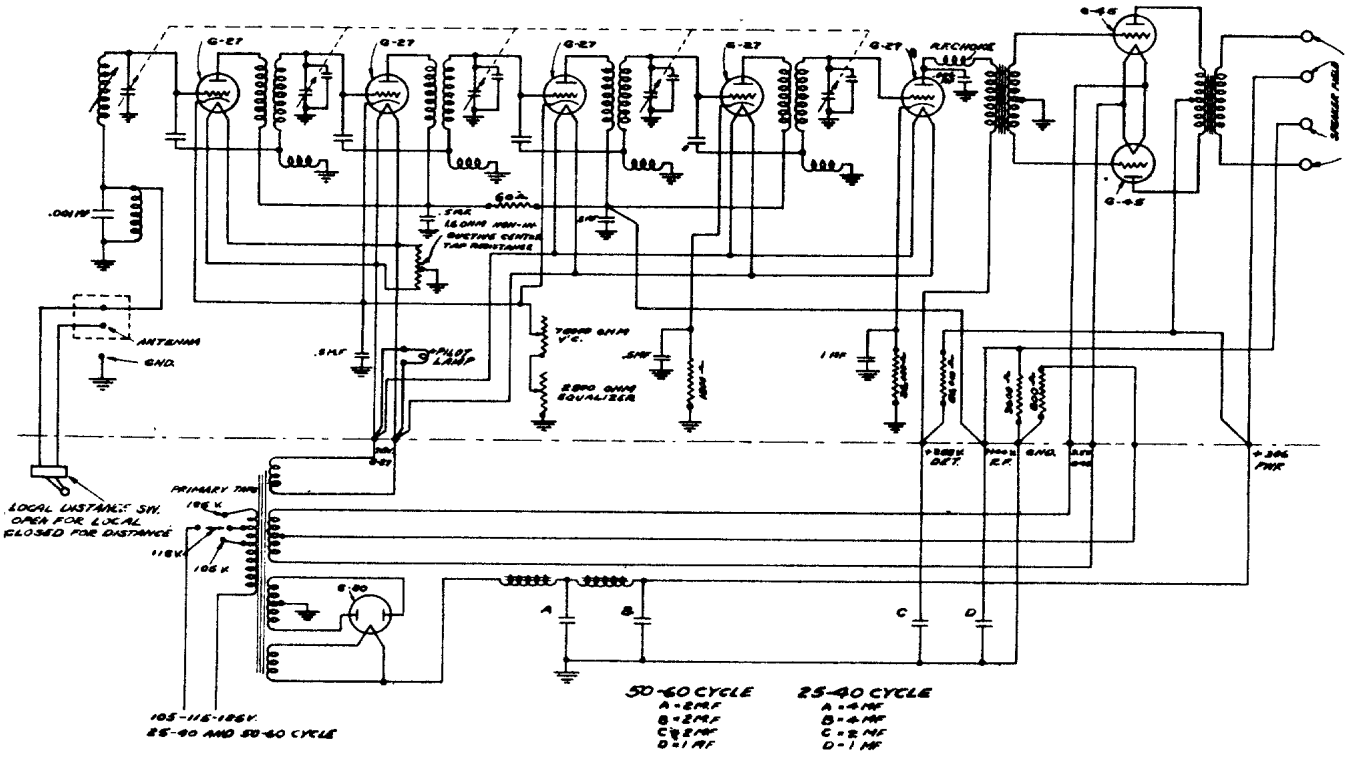
The voltage readings given below were taken with the receiver turned to 550 Kilocycles, and the volume control set at maximum. When taking comparative readings, be certain that receiver is tuned to 550 kilocycles and volume control is set at maximum.

Purpose	Tube Type	A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.
1st R. F.	27	2.35	130	8	8	5.5
2nd R. F.	27	2.35	130	8	8	5.5
3rd R. F.	27	2.35	130	8	8	5.5
4th R. F.	27	2.35	130	9	9	5.0
Detector	27	2.35	270	30	30	1
Power	45	2.45	250	50	..	32
Power	45	2.45	250	50	..	32
Rectifier	80	...	...	..	..	..

Line Voltage 115 A. C.

CHASSIS 90-B

Models 90, 91, 93



ANTENNA SWITCH

To prevent distortion of tone from close-by powerful transmitters on moderately long antenna, snap switch to "Local" position. Use "Distance" position for stations with less powerful reception.

ADJUSTMENT FOR LINE VOLTAGE

On the left side, directly in front of the G-80 Socket, you will note a small plate. Determine with A. C. Voltmeter or from local power company the average line voltage.

Upon removing the adjustment plate, you will find three taps, marked 105 Volts, 115 Volts and 125 Volts.

TABLE OF VOLTAGES

The voltage readings given below were taken with the receiver turned to 550 kilocycles, and the volume control set at maximum. When taking comparative readings, be certain that receiver is tuned to 550 kilocycles and volume control is set at maximum.

Purpose	Tube Type	Filament Voltage	Plate Voltage	Grid Bias Voltage	Cathode Volts	Normal Plate Milli-amperes
1st R. F.	G-27	2.35	130	8	8	5.5
2nd R. F.	G-27	2.35	130	8	8	5.5
3rd R. F.	G-27	2.35	130	8	8	5.5
4th R. F.	G-27	2.35	130	9	9	5.0
Detector	G-27	2.35	230	25	25	.8
Power	G-45	2.45	250	50	..	32
Power	G-45	2.45	250	50	..	32
Rectifying	G-80	...	...	..	..	..

Line Voltage 115 A. C. on 115 volt tap.

THE CIRCUIT

The T.R.F. balanced circuit is employed with a single control, five gang condenser. The detector output is fed directly to the push-pull audio stage. The selectivity control or trimmer functions by varying the inductance of the antenna input coil and permits adjustin the input circuit to exact resonance with the other turned circuits.

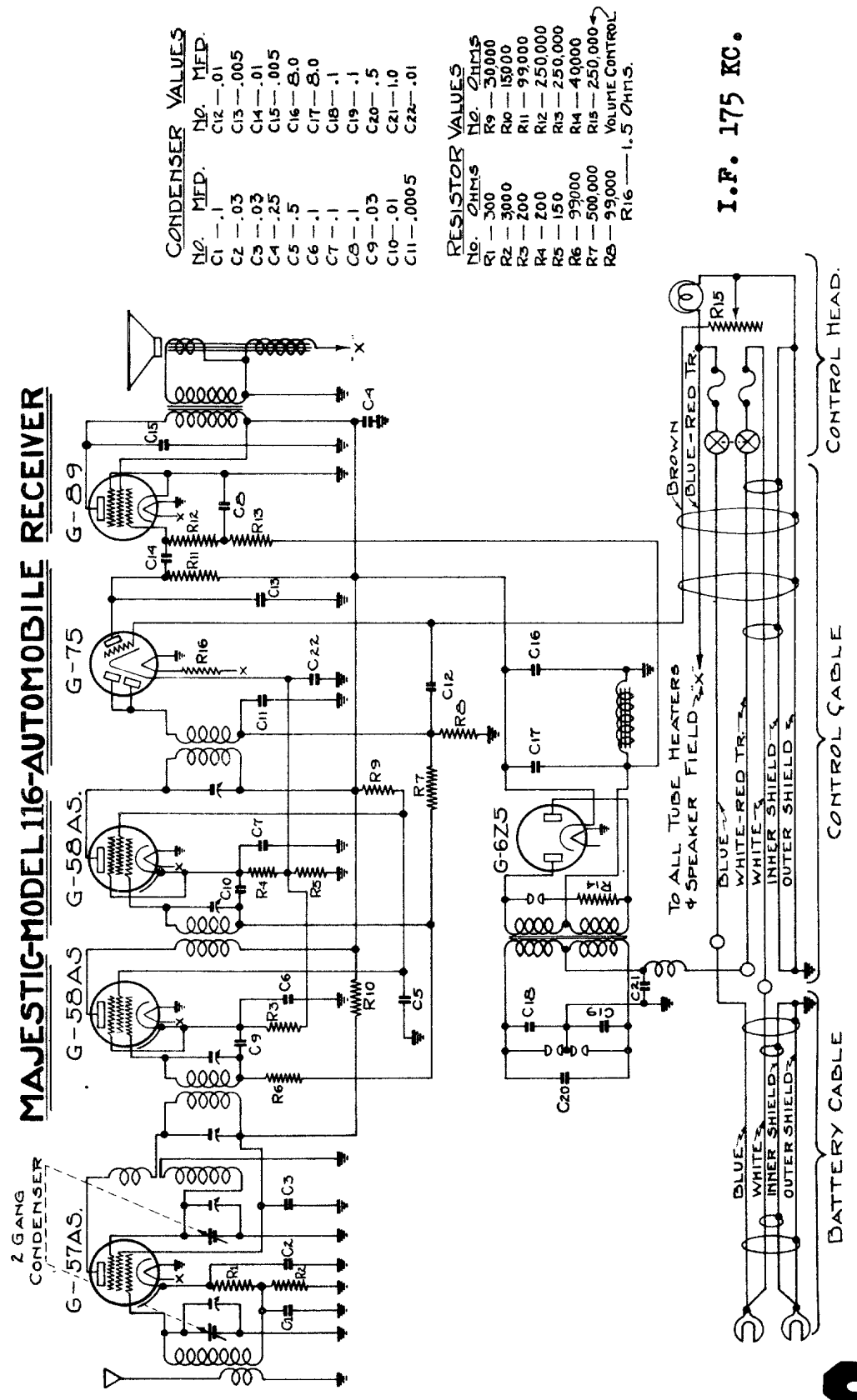
The R. F. Unit assembly (No. 1434) includes the radio frequency transformers with shields, the R. F. Sockets, the balancing condensers and the radio frequency, cathode and plate By-Pass Condensers. The terminal strip includes one 800 Ohm, one 1,800 Ohm and one 50,000 Ohm Resistor, being the bias resistors of the Power Tubes, the 4th R.F. Tube and the Detector Plate resistance respectively.

POWER SUPPLY

Composed of Power Transformer, a Choke Unit and Condenser Bank for the filter system. The resistors (800 and 3,600 Ohm) are placed on terminal strip. A Type G-80 Rectifying tube is used.

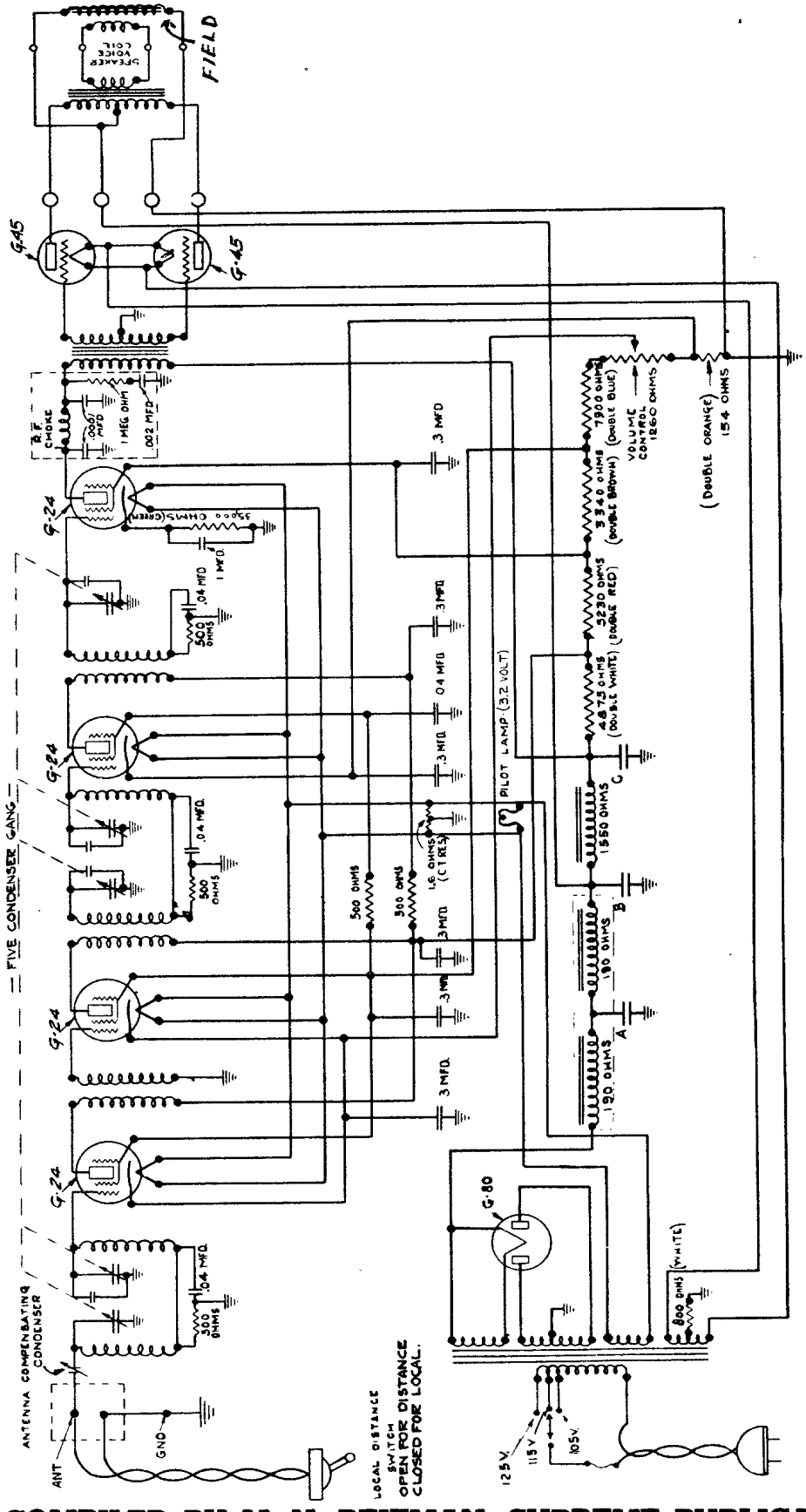
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MAJESTIC-MODEL 116-AUTOMOBILE RECEIVER



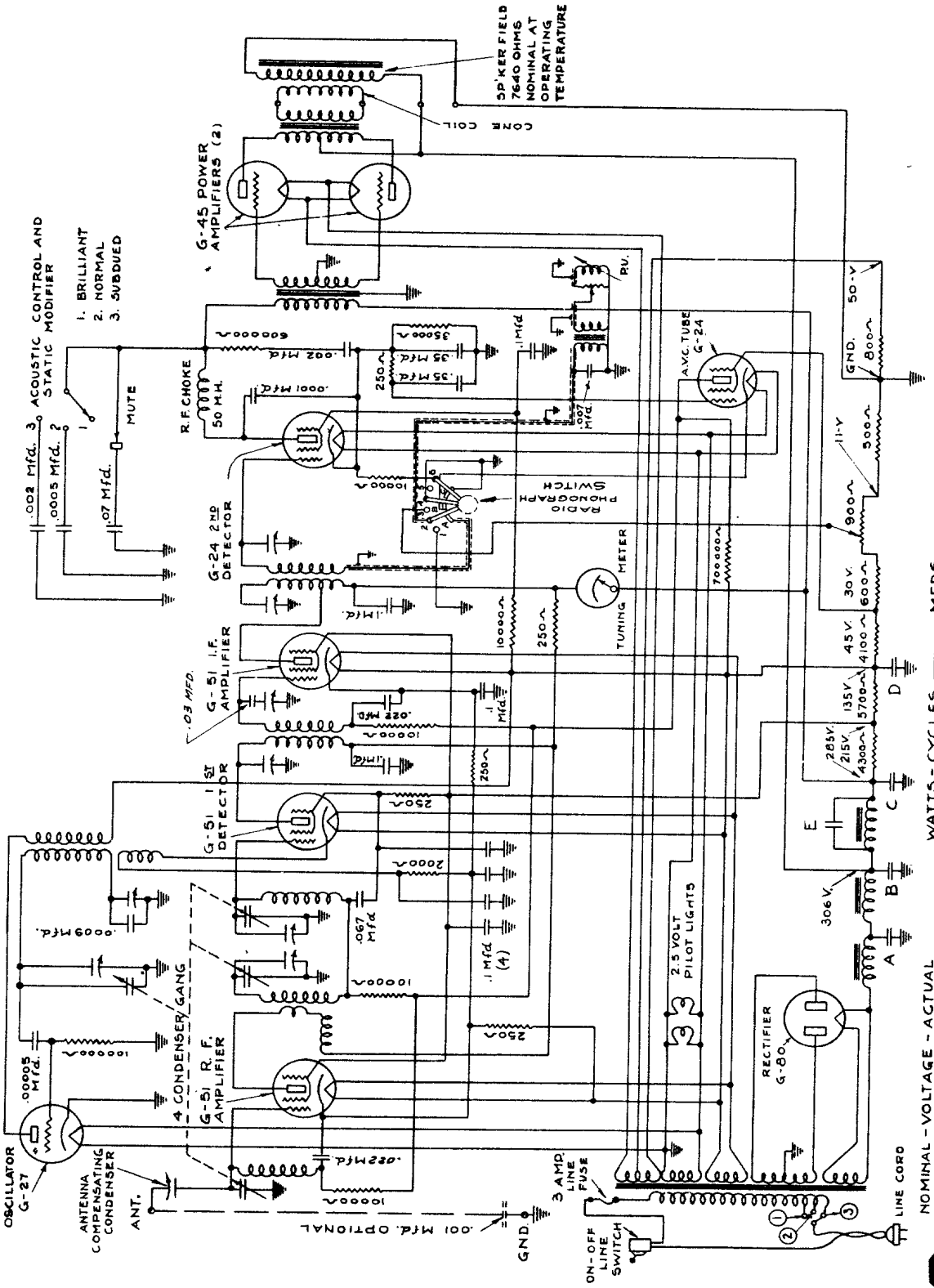
SCHEMATIC DIAGRAM of MAJESTIC SUPER SCREEN GRID RECEIVER

MODEL 130-A CHASSIS 25-40 & 50-60 CYCLE



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE AUTOMATIC VOLUME CONTROL RECEIVER AND ELECTRIC PHONOGRAPH COMBINATION MODEL 160 CHASSIS 115 AND 220 VOLTS, 25-40 AND 50-60 CYCLES.



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE AUTOMATIC VOLUME CONTROL RECEIVER — MODEL 200 CHASSIS.

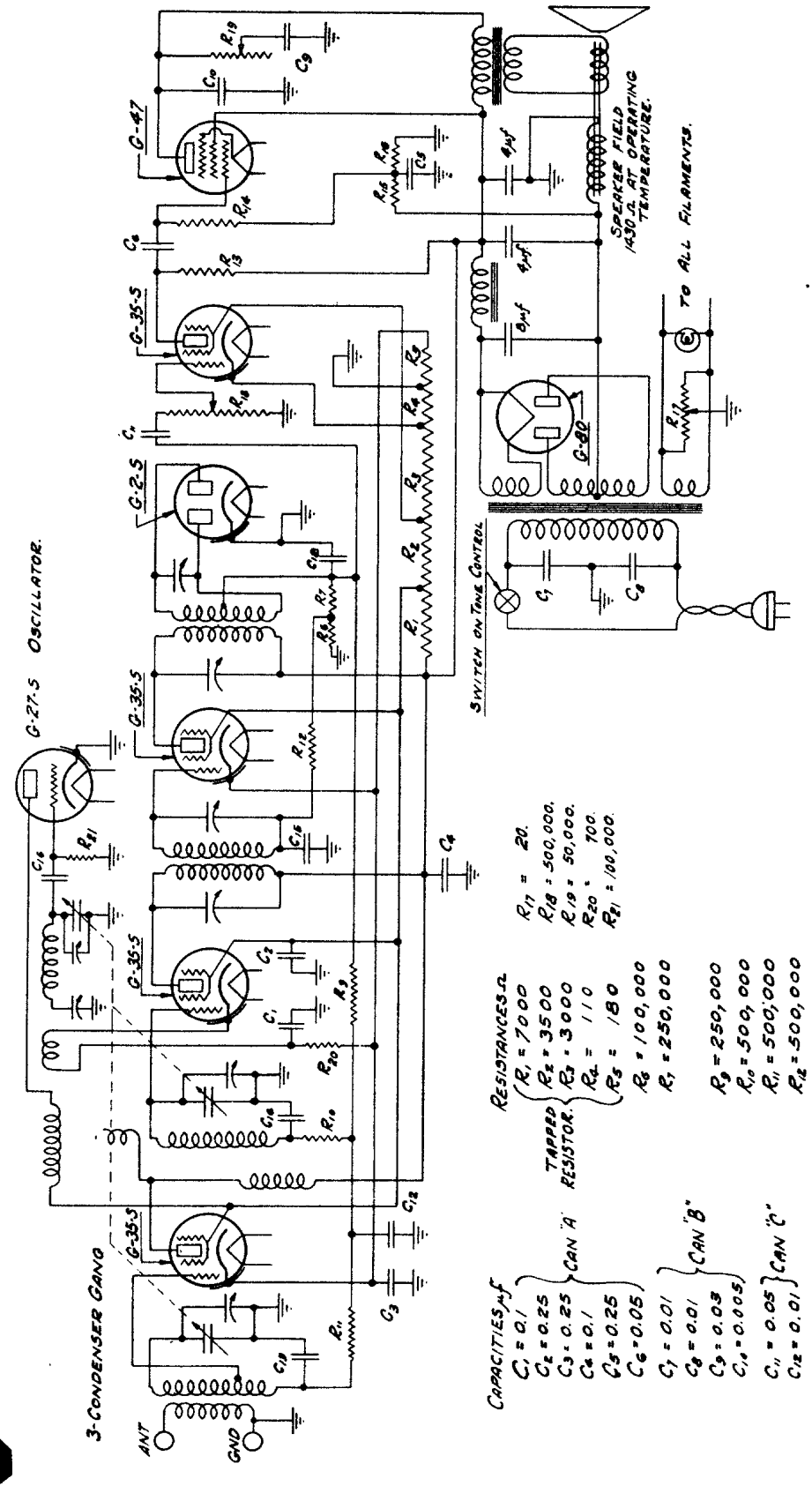


DIAGRAM OF MAJESTIC AUTOMATIC VOLUME CONTROL SUPERHETERODYNE RECEIVER MODEL 220

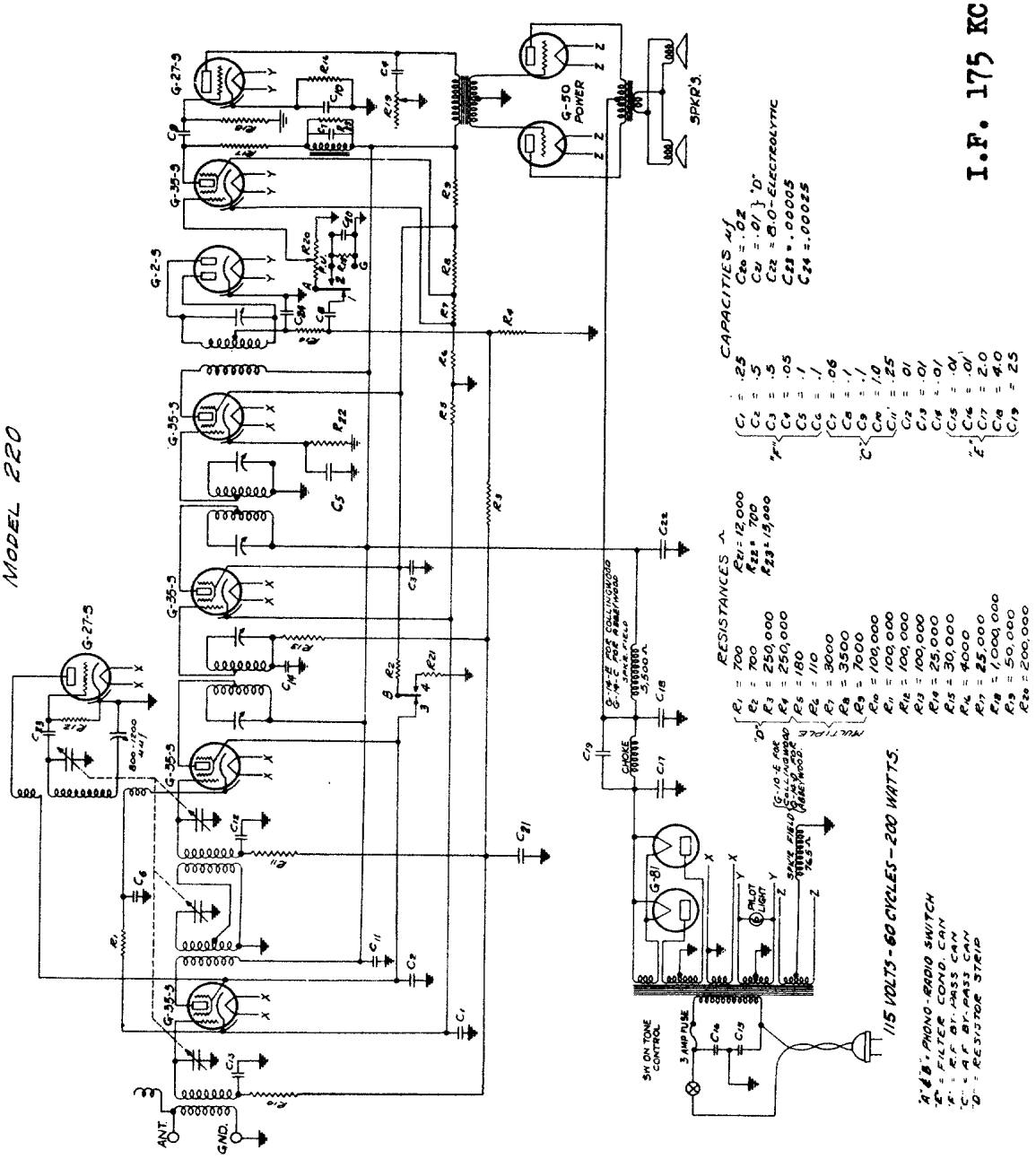


DIAGRAM of MAJESTIC SUPER SCREEN GRID RECEIVER

MODEL 230-A CHASSIS

25 - 40 & 50 - 60 CYCLE

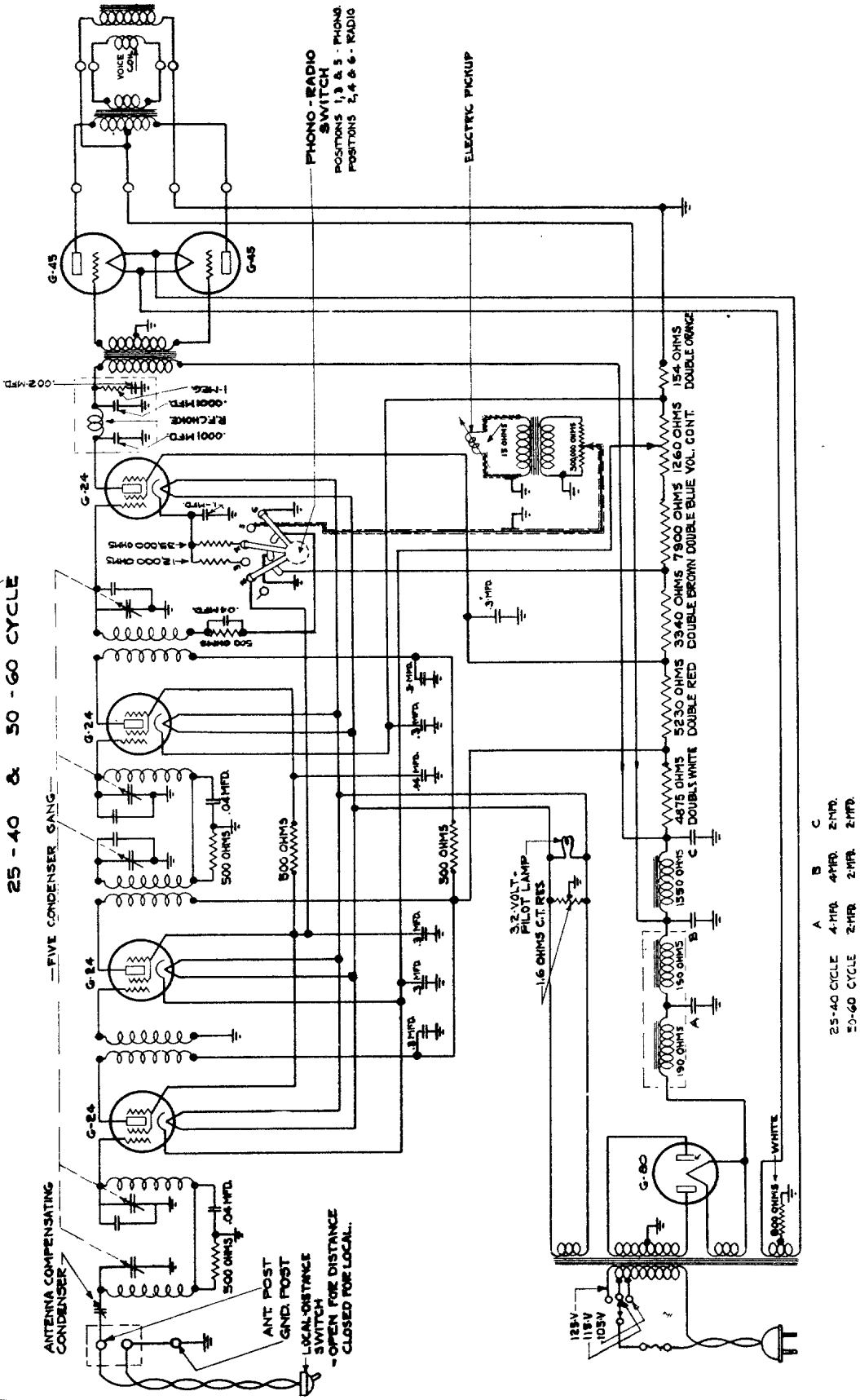


DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE
AUTOMATIC VOLUME CONTROL RECEIVER MODEL 290 — 115 VOLTS 50-60 CYCLE

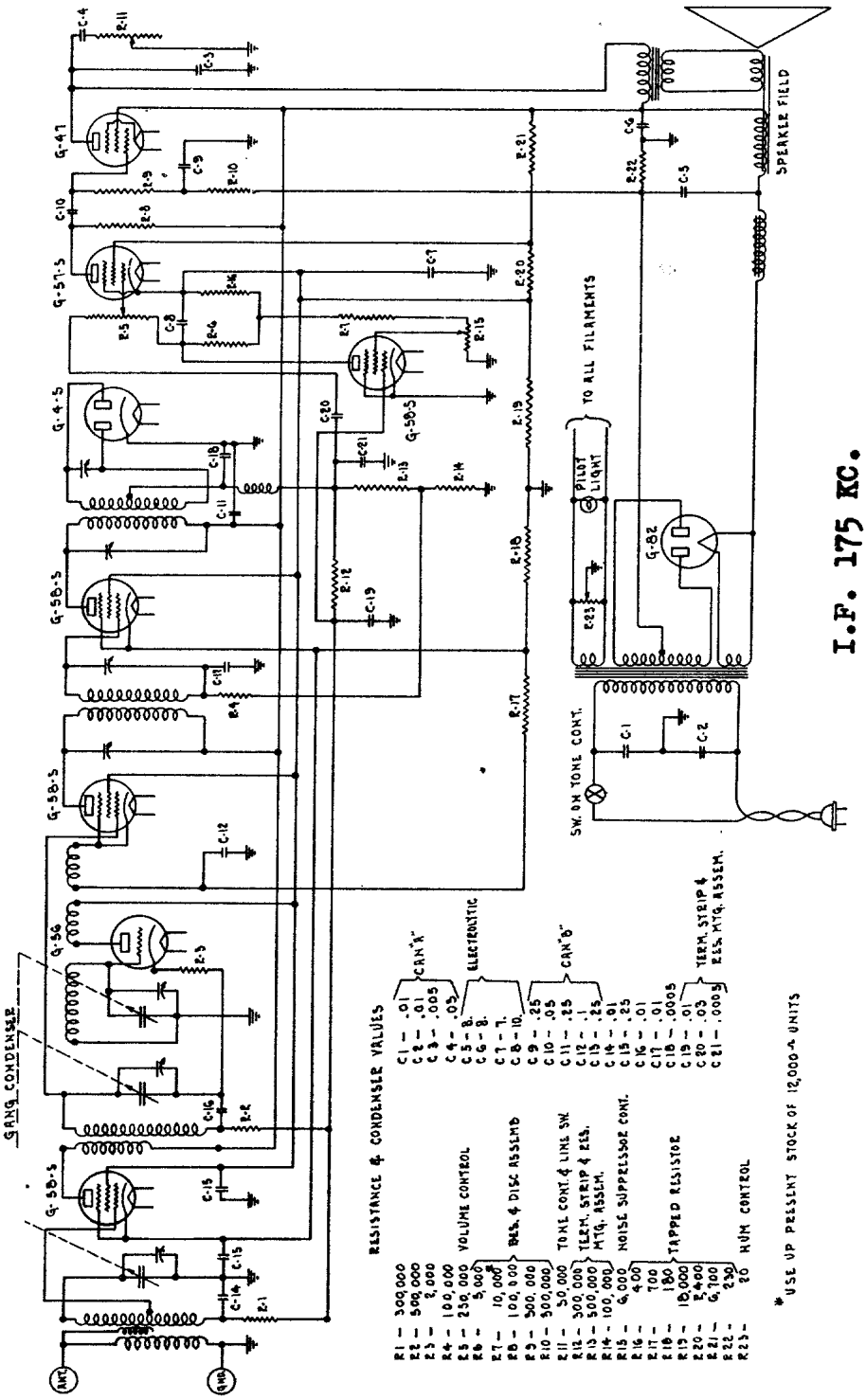
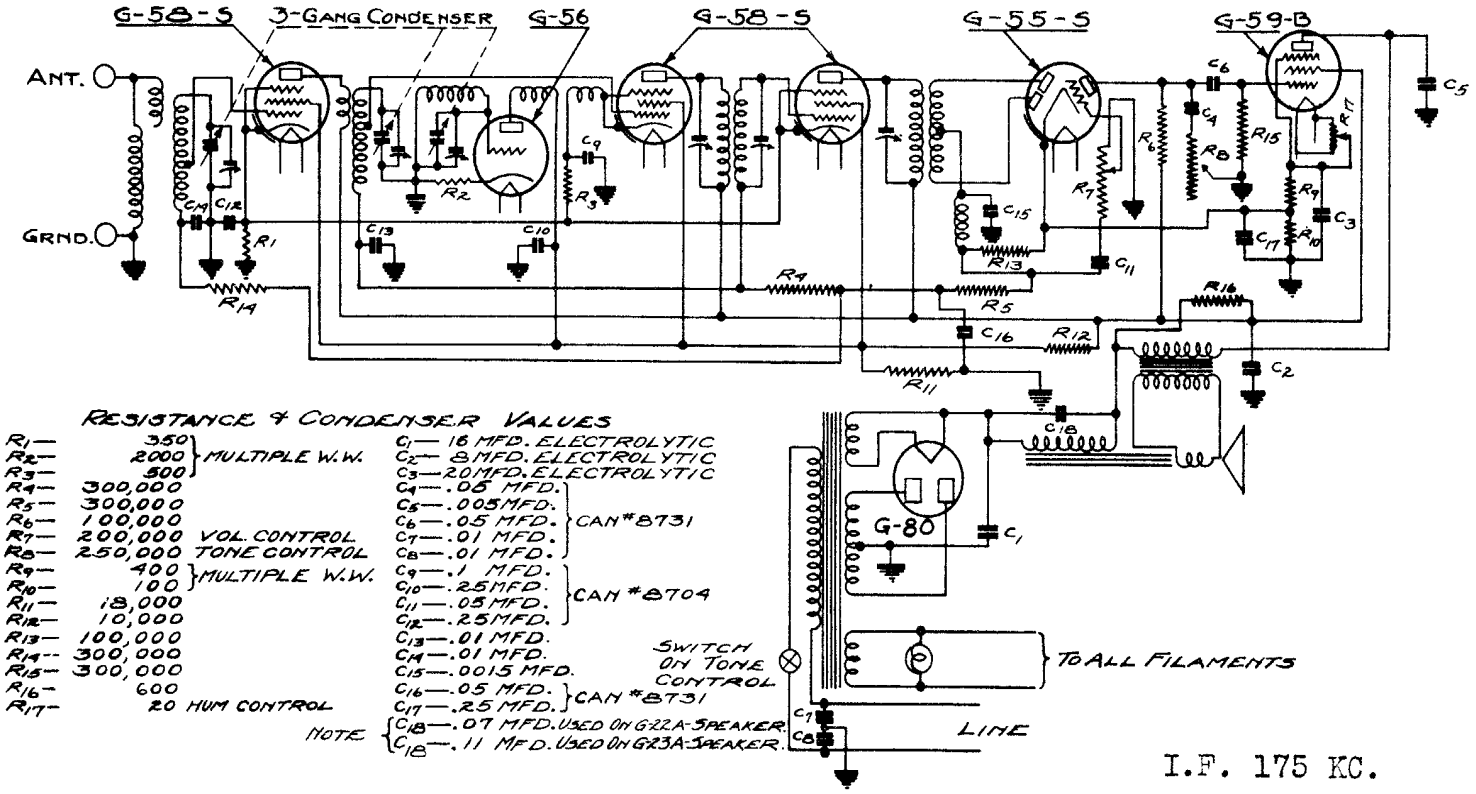


DIAGRAM OF MAJESTIC AUTOMATIC VOLUME CONTROL SUPERHETERODYNE

MODEL 330



RESISTANCE & CONDENSER VALUES

R_1 —	350	MULTIPLE W.W.
R_2 —	2000	MULTIPLE W.W.
R_3 —	500	MULTIPLE W.W.
R_4 —	300,000	
R_5 —	300,000	
R_6 —	100,000	
R_7 —	200,000	VOL. CONTROL
R_8 —	250,000	TONE CONTROL
R_9 —	400	MULTIPLE W.W.
R_{10} —	100	MULTIPLE W.W.
R_{11} —	18,000	
R_{12} —	10,000	
R_{13} —	100,000	
R_{14} —	300,000	
R_{15} —	300,000	
R_{16} —	600	
R_{17} —	20	HUM CONTROL

C_1 —	16 MFD.	ELECTROLYTIC
C_2 —	8 MFD.	ELECTROLYTIC
C_3 —	20 MFD.	ELECTROLYTIC
C_4 —	.05 MFD.	
C_5 —	.005 MFD.	
C_6 —	.05 MFD.	CAN #8731
C_7 —	.01 MFD.	CAN #8731
C_8 —	.01 MFD.	CAN #8731
C_9 —	.1 MFD.	
C_{10} —	.25 MFD.	
C_{11} —	.05 MFD.	CAN #8704
C_{12} —	.25 MFD.	CAN #8704
C_{13} —	.01 MFD.	
C_{14} —	.01 MFD.	
C_{15} —	.0015 MFD.	
C_{16} —	.05 MFD.	CAN #8731
C_{17} —	.25 MFD.	CAN #8731

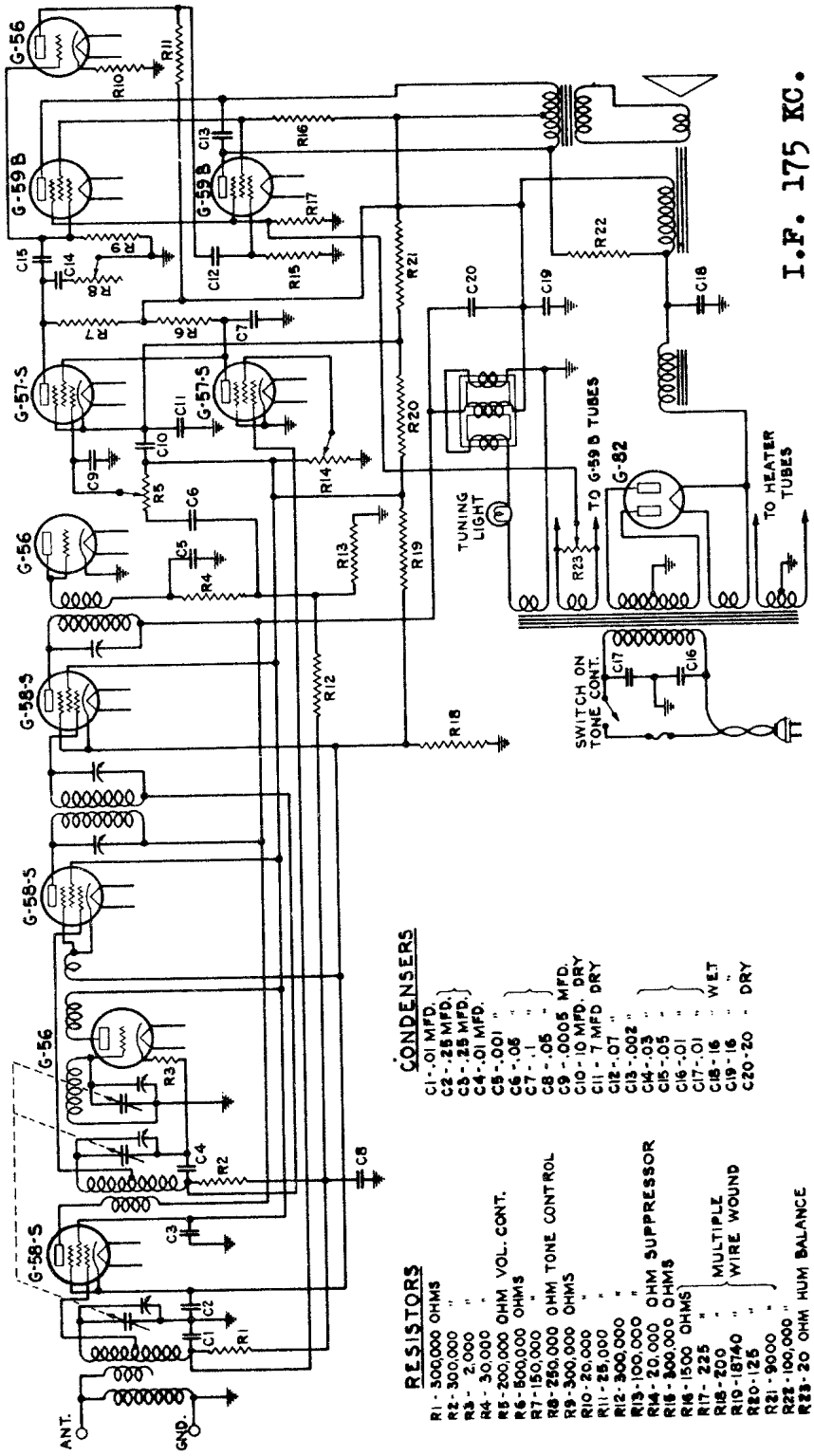
NOTE — C_{18} — .07 MFD. USED ON G22A-SPEAKER.
C_{18} — .11 MFD. USED ON G23A-SPEAKER.

I.F. 175 KC.

Automatic volume control bias voltage is developed across resistors R-13 and R-10 and is applied to the grid of the radio frequency, first detector and intermediate frequency tubes to control their amplification.

The manual volume control is a 200,000 ohm potentiometer which is connected in the grid circuit of the G-55-S tube and works entirely independent of the automatic volume control.

MAJESTIC MODEL 360 RECEIVER



RESISTORS

R1 - 300,000 OHMS
R2 - 300,000 "
R3 - 2,000 "
R4 - 30,000 "
R5 - 200,000 OHM VOL. CONT.
R6 - 500,000 OHMS
R7 - 150,000 "
R8 - 250,000 OHM TONE CONTROL
R9 - 300,000 OHMS
R10 - 20,000 "
R11 - 25,000 "
R12 - 300,000 "
R13 - 100,000 "
R14 - 20,000 OHM SUPPRESSOR
R15 - 300,000 OHMS
R16 - 1500 OHMS } MULTIPLE WIRE WOUND
R17 - 225 "
R18 - 200 "
R19 - 18740 "
R20 - 125 "
R21 - 9000 "
R22 - 100,000 "
R23 - 20 OHM HUM BALANCE

CONDENSERS

C1 - .01 MFD.
C2 - .25 MFD. } WAX
C3 - .25 MFD. }
C4 - .01 MFD. "
C5 - .001 "
C6 - .05 "
C7 - .1 "
C8 - .05 "
C9 - .0005 MFD.
C10 - 10 MFD. DRY
C11 - 7 MFD DRY
C12 - .07 "
C13 - .002 "
C14 - .03 "
C15 - .05 "
C16 - .01 "
C17 - .01 "
C18 - 16 " WET
C19 - 16 " "
C20 - 20 " DRY

The Model 360 is an eleven tube chassis designed for single speaker operation in the Model 363 receiver. This chassis is very similar to the Model 300 chassis in that it provides Synchro-Silent Tuning, resistance coupled push-pull output, reactance dimmer action and automatic volume control. The tubes employed and their respective stages are as follows: G-58-S, R.F. amplifier; G-56, Oscillator: G-58-S, first detector; G-58-S, I.F. amplifier; G-56, second detector; G-57-S, first audio amplifier, G-57-S, suppressor; G-56, phase rotator; two G-59-B push-pull output and G-82 rectifier.

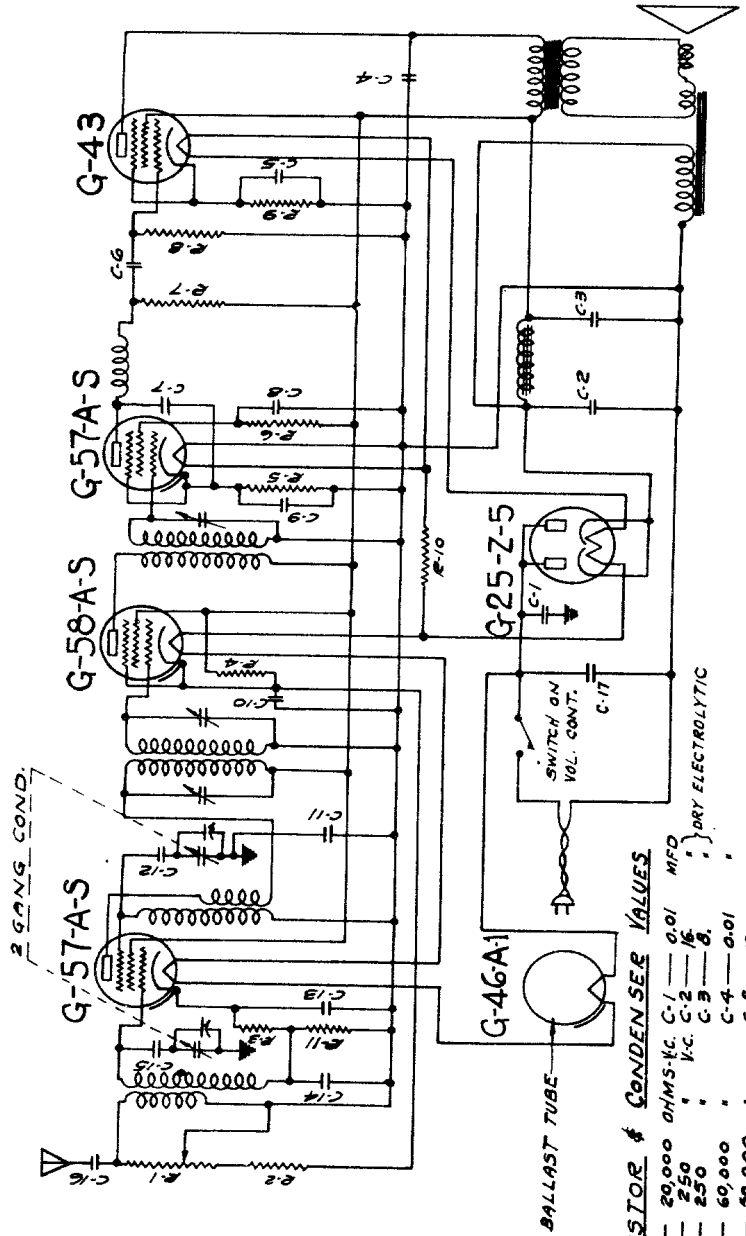
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

MODEL 400 CHASSIS

and

MODEL G-26-C SPEAKER

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID A.C.-D.C. SUPERHETERODYNE RECEIVER MODEL - 400



ALIGNMENT PROCEDURE

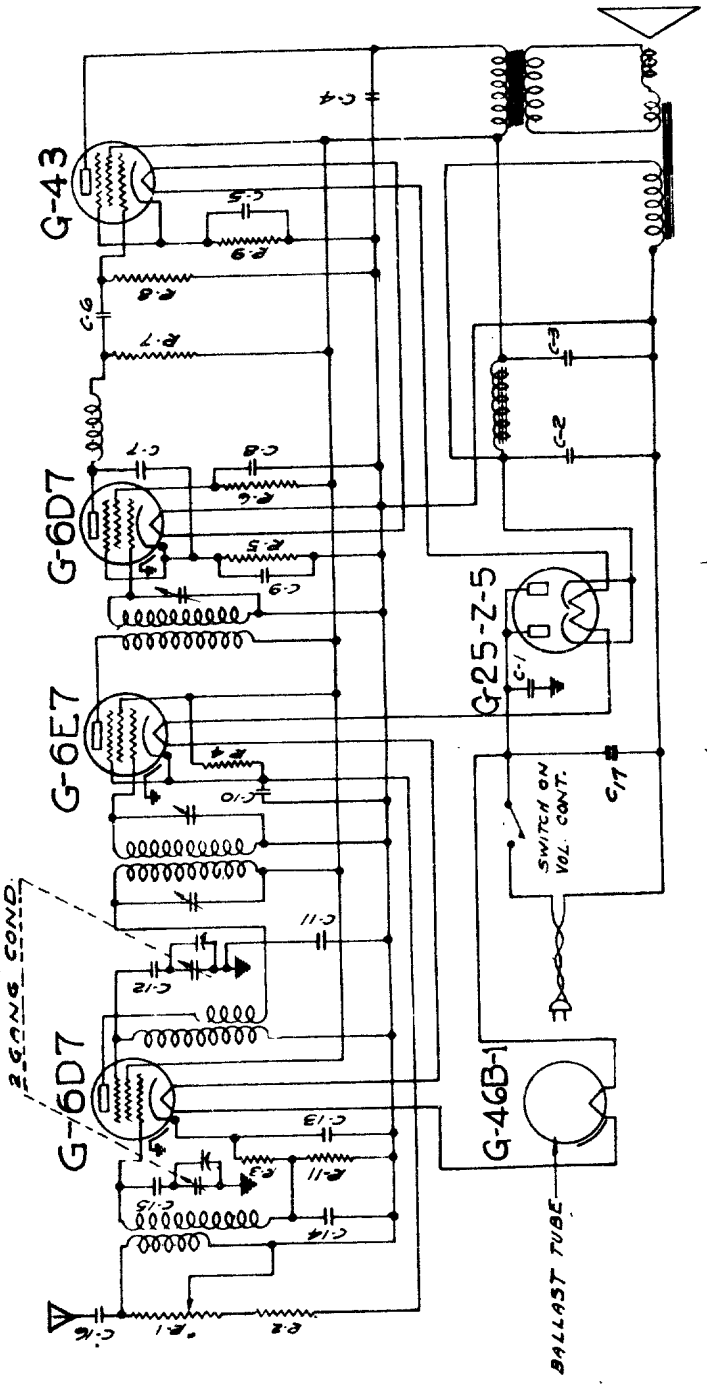
1 - With the volume control in maximum volume position and the gang condenser completely out of mesh, supply a 456 K.C. signal to the grid of the modulator tube and adjust the 4 I.F. tuning condensers for maximum sensitivity.

2 - With the gang condenser and volume control in the same position, supply a 1730 K.C. signal to the input of the receiver and align the 2 R.F. trimmer condensers for maximum sensitivity.

98

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID A.C.-D.C. SUPERHETERODYNE RECEIVER MODEL-400-A



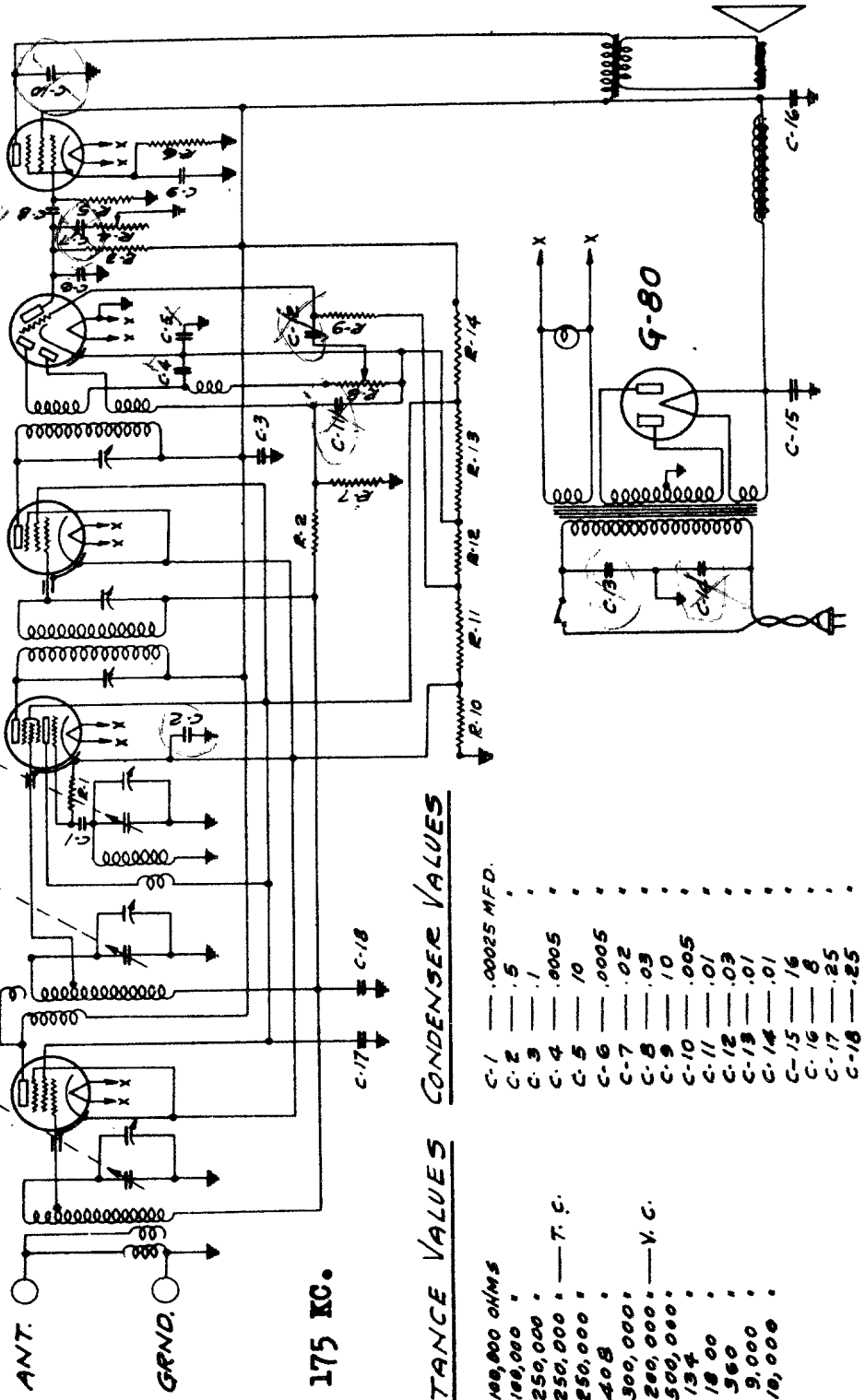
RESISTOR & CONDENSER VALUES

R-1 — 20,000 OHMS-V.C.	C-1 — 0.01 MFD		
R-2 — 250 " V.C.	C-2 — 16. " } DRY ELECTROLYTIC		
R-3 — 160 "	C-3 — 8. "		
R-4 — 60,000 "	C-4 — 0.01 "		
R-5 — 50,000 "	C-5 — 10. " DRY ELECTROLYTIC		
R-6 — 1,000,000 "	C-6 — 0.10 "		
R-7 — 500,000 "	C-7 — 0.0005 "		
R-8 — 500,000 "	C-8 — 0.10 "		
R-9 — 700 "	C-9 — 0.25 "		
R-10 —	C-10 — 0.25 "		
R-11 — 2500 "	C-11 — 0.25 "		
	C-12 — 0.01 "		
	C-13 — 0.25 "		
	C-14 — 0.10 "		
	C-15 — 0.01 "		
	C-16 — 0.001 "		
	C-17 — 0.10 "		

The circuit of the Model 400-A chassis is practically the same as that of the Model 400. The main differences being that the types G-6D7 and G-6E7 tubes are used in place of types G-57A-S and G-58A-S respectively; and that a type G-46A-1 tube is used as a ballast in place of the G-46B-1.

Resistors R-3 and R-11 have a value of 160 and 2500 ohms respectively in the Model 400-A chassis while they have a value of 250 and 200 ohms in the Model 400 chassis. Resistor R-10 is omitted entirely.

SCHEMATIC DIAGRAM OF MAJESTIC MODEL-460 RECEIVER

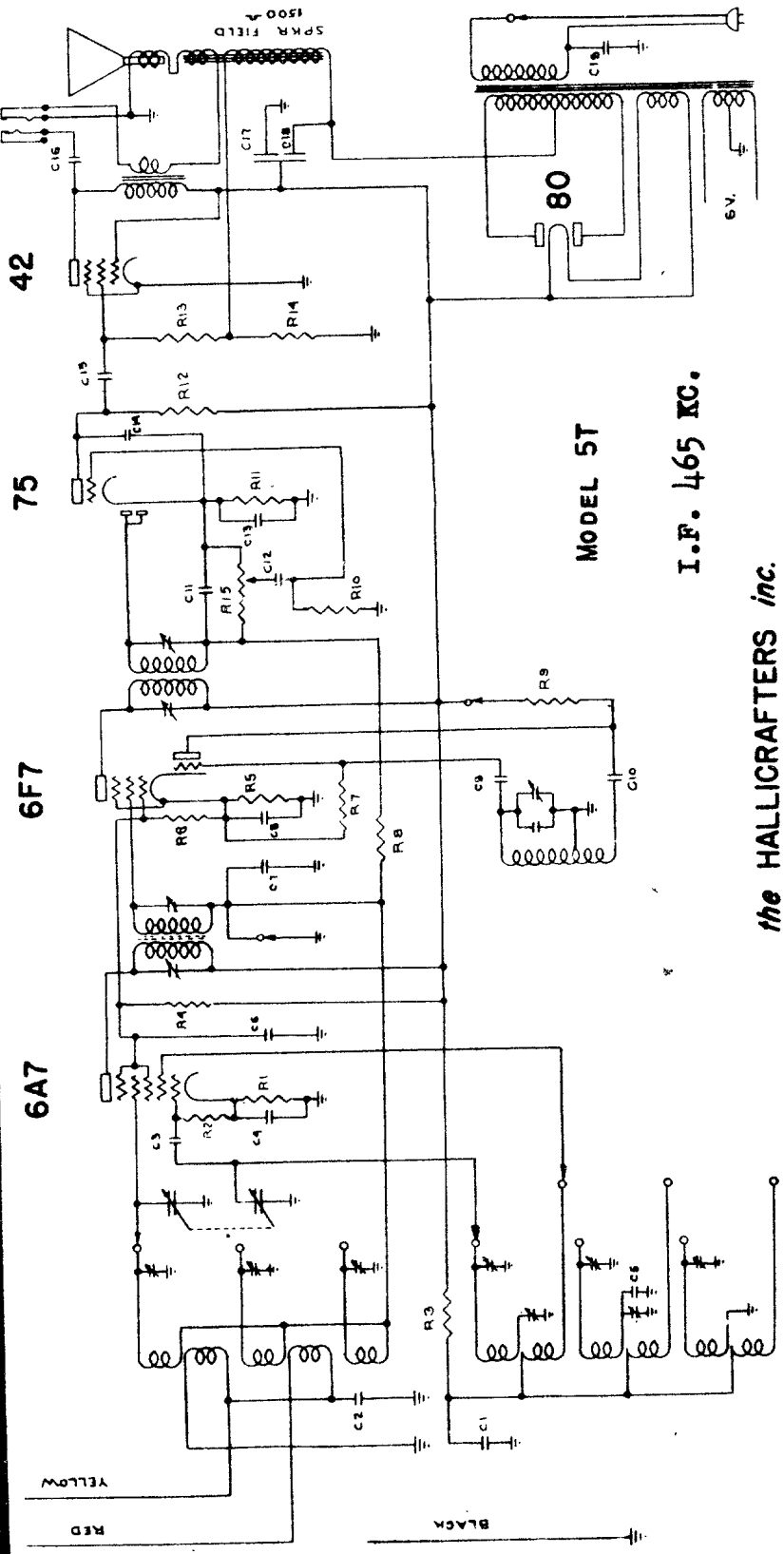


RESISTANCE VALUES

R-1	100,000 OHMS
R-2	100,000 "
R-3	250,000 " — T. C.
R-4	250,000 " — T. C.
R-5	250,000 "
R-6	408 "
R-7	300,000 " — V. C.
R-8	200,000 " — V. C.
R-9	500,000 "
R-10	134 "
R-11	18.00 "
R-12	360 "
R-13	9,000 "
R-14	10,000 "

CONDENSER VALUES

C-1	.00025 MFD.
C-2	.5 "
C-3	.1 "
C-4	.0005 "
C-5	10 "
C-6	.0005 "
C-7	.02 "
C-8	.03 "
C-9	.10 "
C-10	.005 "
C-11	.01 "
C-12	.03 "
C-13	.01 "
C-14	.01 "
C-15	16 "
C-16	8 "
C-17	.25 "
C-18	.25 "



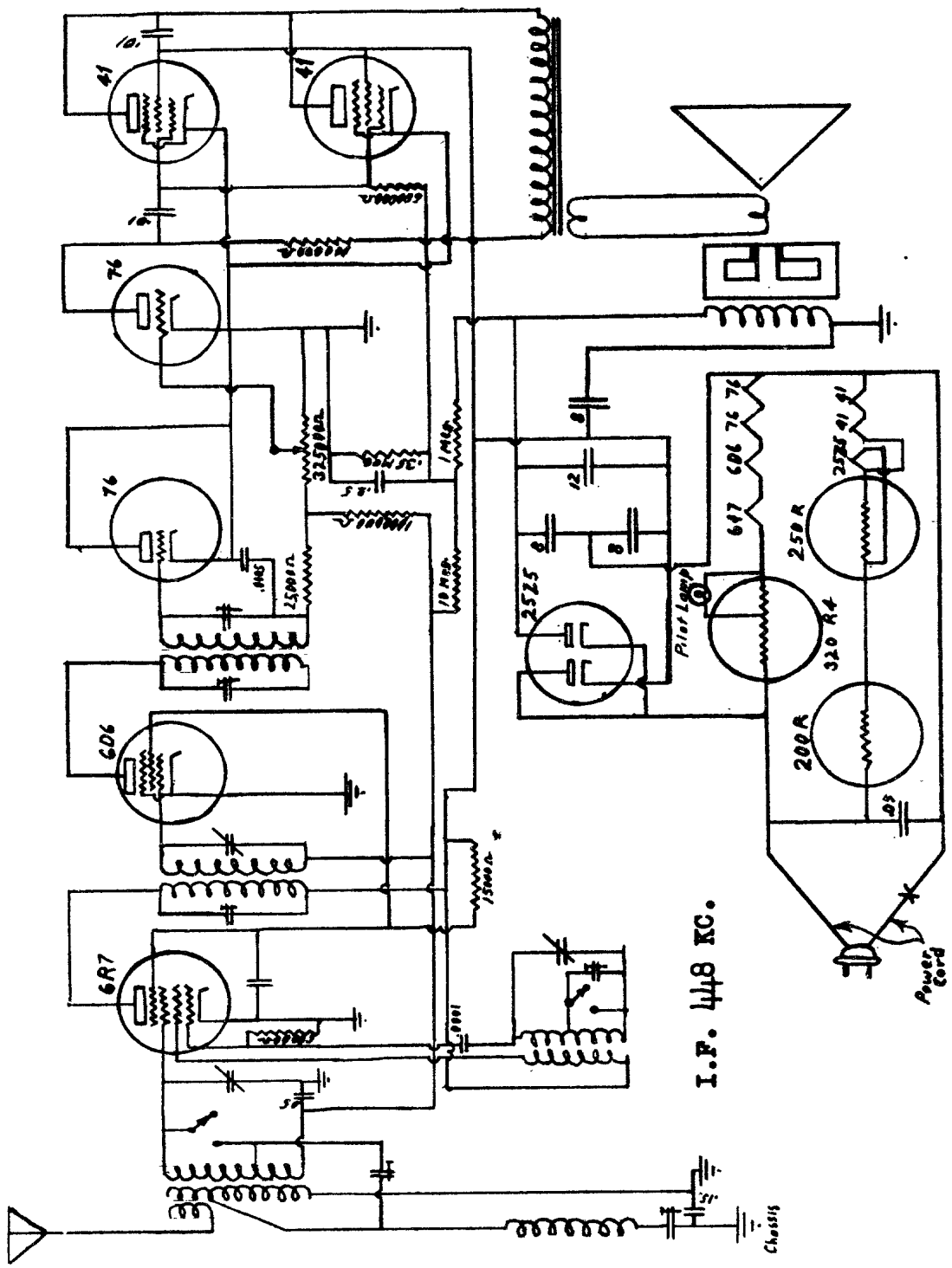
MODEL 5T

I.F. 465 KC.

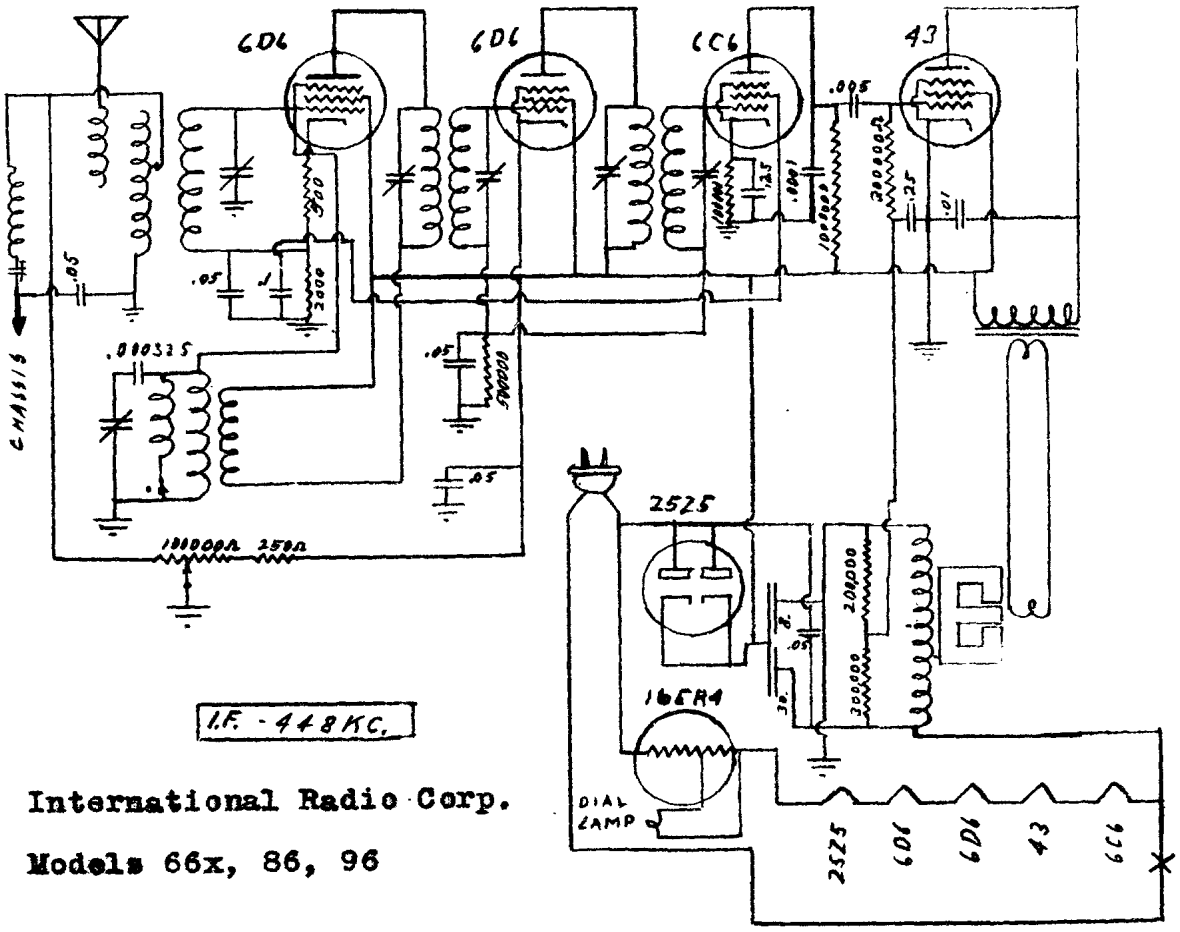
the HALLICRAFTERS *inc.*

SKY BUDDY

R1	250				
R2	30,000				
R3	25,000				
R4	25,000				
R5	200				
R6	25,000				
R7	100,000				
R8	1 meg				
R9	100,000				
R10	1 meg				
R11	4000				
R12	260,000				
R13	400,000				
R14	250				
C1	.1	400	C14	250 mmf	
C2	10 mmf		C15	.01	400
C3	100 mmf	200	C16	.05	400
C4	.1		C17	8.mfd	
C5	1000 mmf		C18	4.mfd	
C6	.1	400	C19	.01	400
C7	.05	200			
C8	.1	200			
C9	250				
C10	.01	400			
C11	250 mmf				
C12	.01	400			
C13	.1	200			

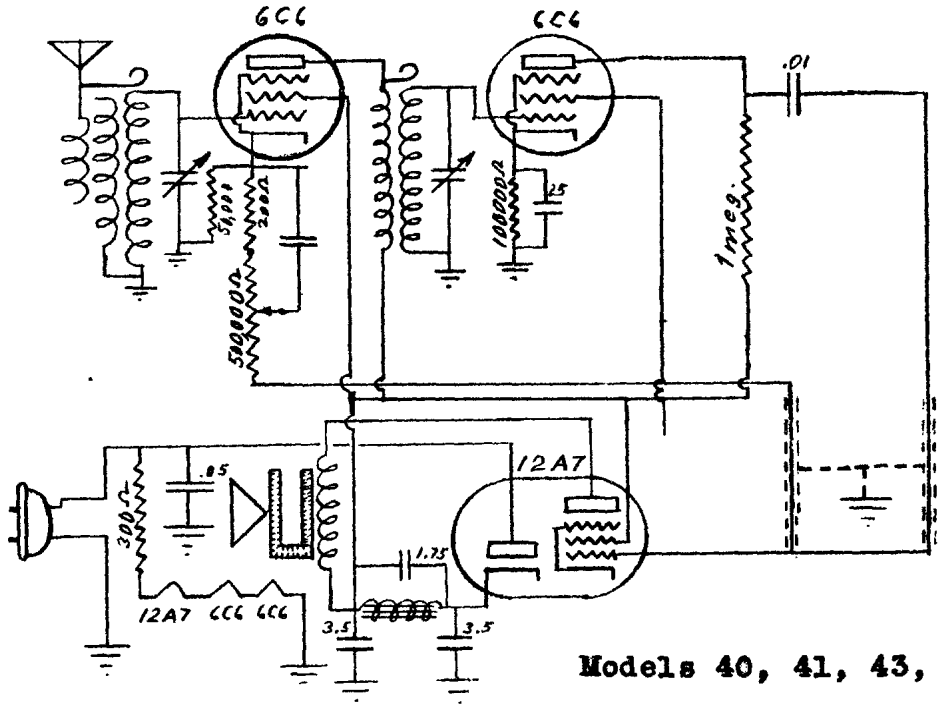


International Radio Corp.
Model 1019

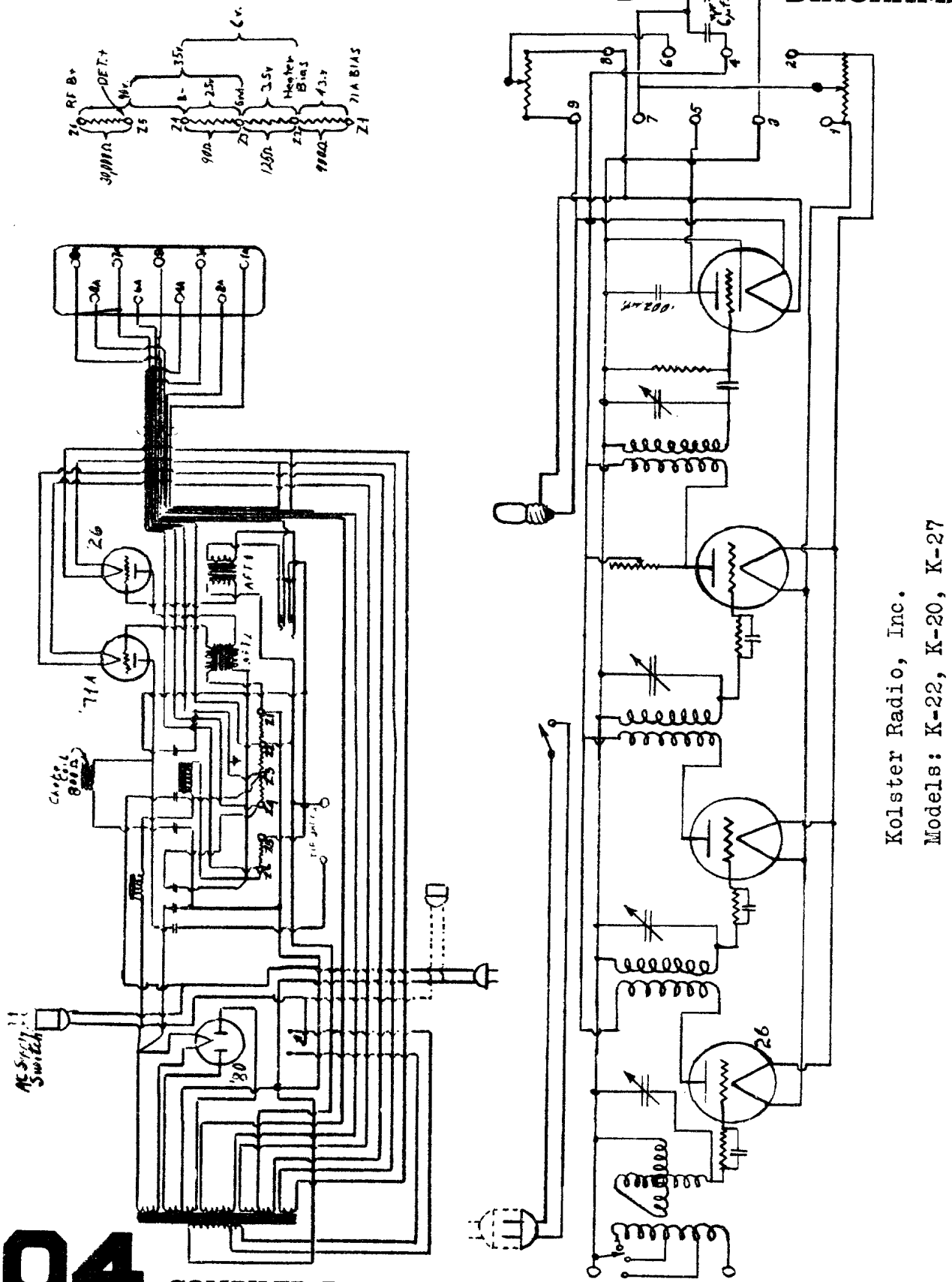


International Radio Corp.

Models 66x, 86, 96

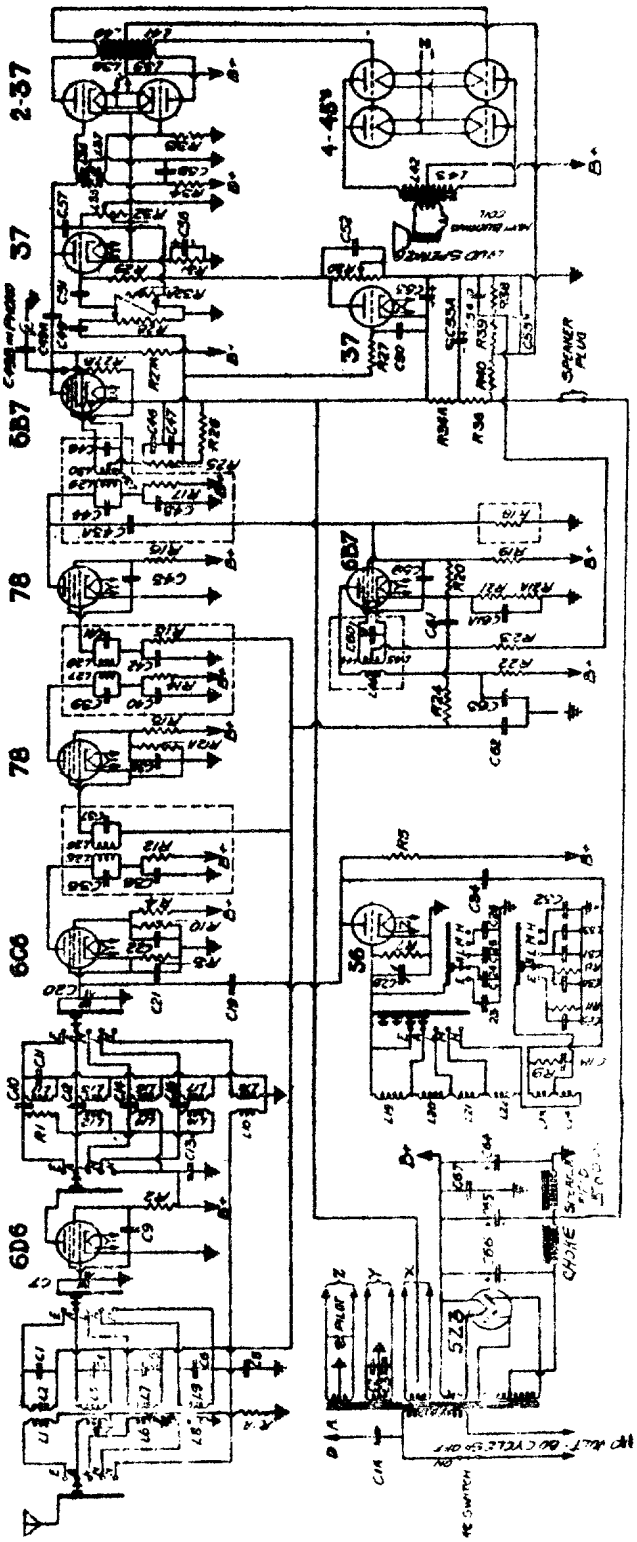


Models 40, 41, 43, 44



Kolster Radio, Inc.

Models: K-22, K-20, K-27

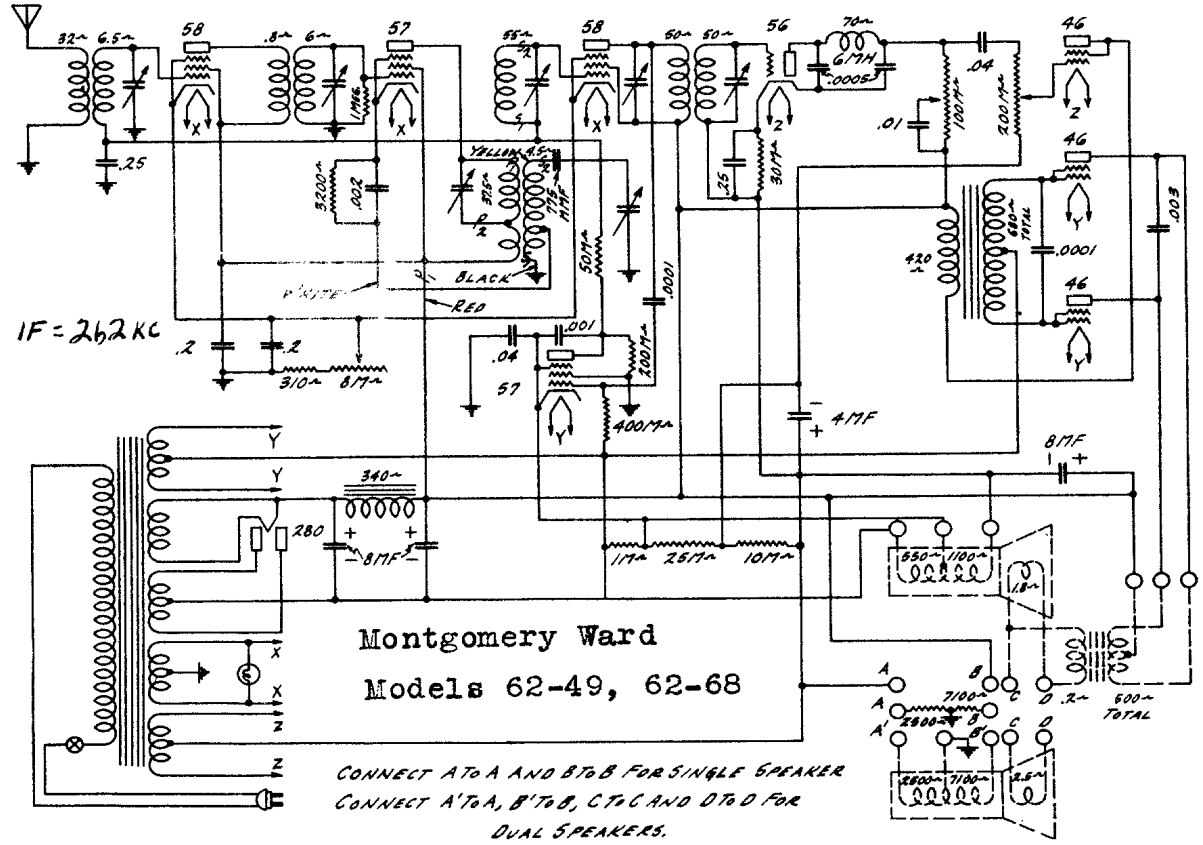


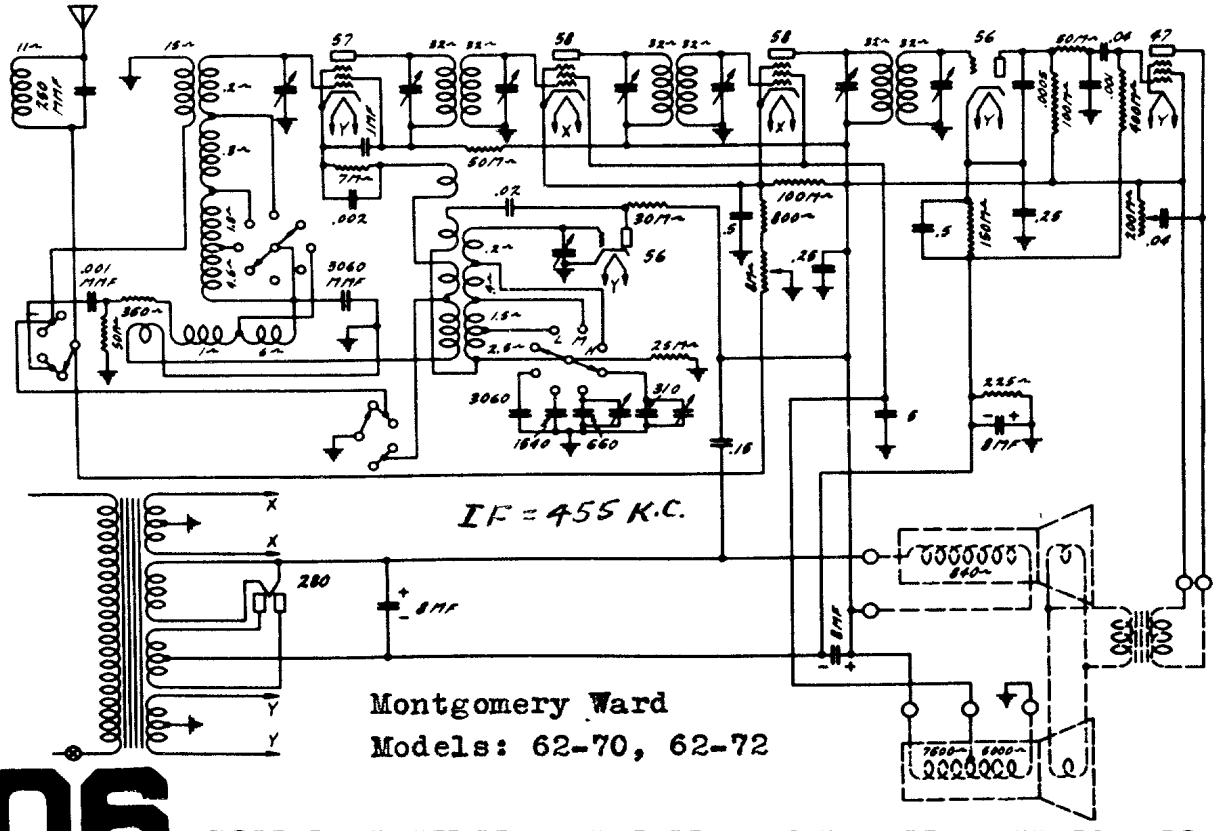
THE MIDWEST RADIO CORP.
909 BROADWAY CINCINNATI, OHIO.

SCHEMATIC CIRCUIT DIAGRAM OF THE MODEL 16-34 SET

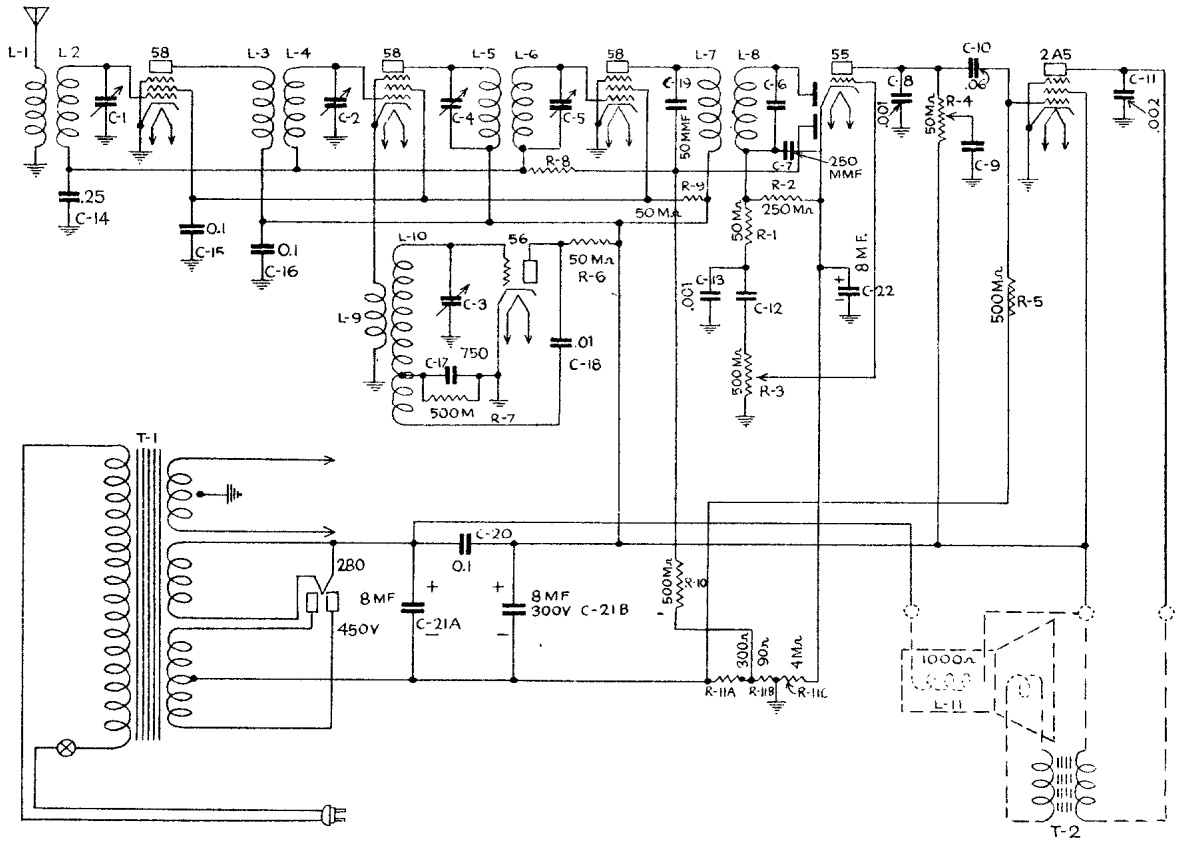
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

105





MONTGOMERY WARD & CO.



No. 62-99 AND 62-97

Circuit

The complete circuit consists of a type 58 tube functioning as an R. F. Amplifier, followed by another type 58 tube operating as a 1st detector, or mixer tube. A type 56 tube is used as an oscillator.

The I. F. amplifier utilizes a type 58 tube and is followed by the type 55 tube described above, functioning as a second detector, A. V. C. and first audio amplifier. A type 2A5 is used in the power audio stage.

The 58 R. F. Amplifier Tube is inductively coupled to the antenna by means of the antenna transformer, L-1, L-2, the secondary of which is tuned by one section of the three gang Tuning Condenser.

The second R. F. or first detector transformer provides inductive coupling between the plate circuit of the 58 R. F. Tube and grid circuit of the 58 1st Detector Tube. The secondary of this transformer is tuned by the second section of the three gang Tuning Condenser.

The stage of R. F. amplification consisting of the 58 R. F. Tube, together with its associated R. F. Transformers serves the double purpose of increasing the sensitivity and selectivity of the receiver as well as practically eliminating image or double frequency response.

Grid bias for the 58 R. F. Tube is variable and is controlled by the A. V. C. diode in accordance with the strength of the incoming signal.

A type 58 Tube is used as a first detector or mixer which is of the bias type. The grid bias of this tube is also controlled by the A. V. C.

The oscillator is of the tuned grid type and is tuned by the third section of the three gang Tuning Condenser.

The oscillator frequency is exactly 262 K. C. above the frequency of the received signal. To provide that the oscillator shall track accurately it is provided with a 675 Mmf. Series Padder Condenser, C-17, and also a shunt trimmer condenser which allows accurate alignment at high frequencies.

Voltages at Sockets

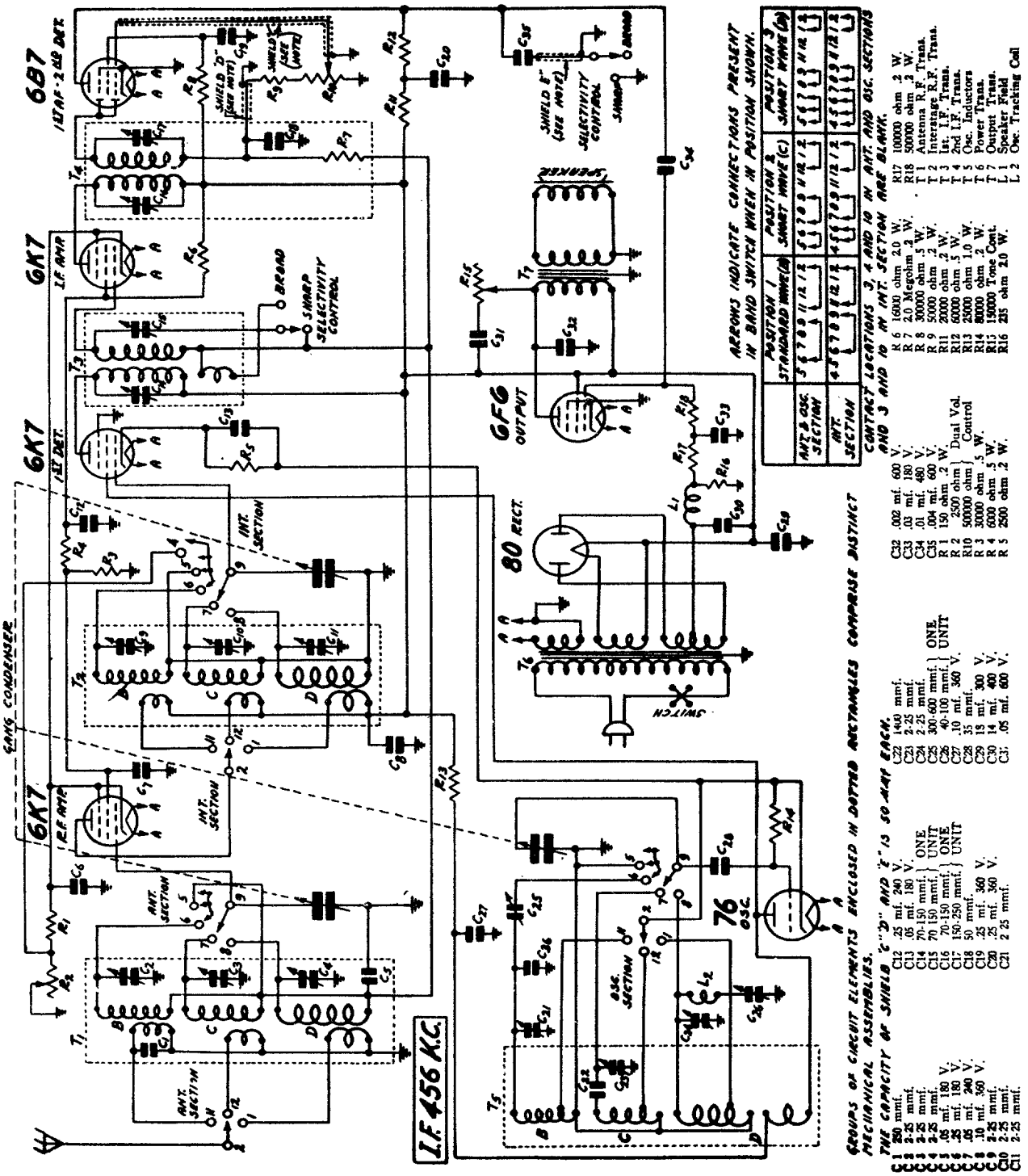
Line Voltage 115—Volume Control at Maximum

Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control Grid "C" Volts	Screen Grid Volts	Screen Current MA	Plate Current MA	Cathode Volts
56	1	Osc.	2.3	110	15-30(1)	.....	...	3-3.4(1)	0
58	2	R. F.	2.3	260	2.0(2)	90(3)	1.2	4.8	0
58	3	1st Det.	2.3	260	2.0(2)	90(3)	1.3	5.4	0
58	4	I. F.	2.3	260	2.0(2)	90(3)	1.2	4.6	0
55	5	2nd Det.	2.3	Diode 1-0					
		AVC-1st		Diode 2-3					
		Audio		Triode 135	2.0(5)	.....	...	4.6	12
2A5	6	Power	2.3	255	3.0(6)	260	...	.....	0
80	7	Rectifier	4.8	.....	.....	.....	..	26 Per Plate	..

(1)Varies with frequency approximately as shown.
(2)Voltage as read with 60,000 ohm meter—across 90 ohm section of R-11—50 volts.
(3)Voltage as read with 600,000 ohm meter.
(4)Not actual voltage due to resistance in circuit—tone voltage- 17 volts.
(5)Voltage as read with 60,000 ohm meter—across 4000 ohm section of R-11— 12 volts.
(6)Voltage as read with 60,000 ohm meter—across 300 and 90 ohm section of R-11 —22 volts.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

Montgomery Ward Models 62-185, 62-187, 62-190, 62-196



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Montgomery Ward Radio Model 62-233

DESCRIPTION

Tubes

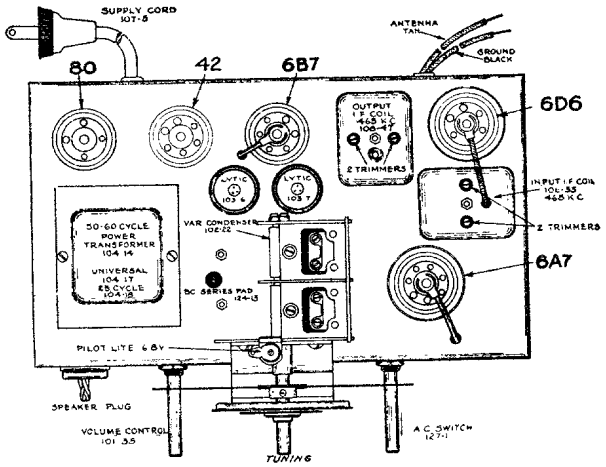
The Tube complement of this chassis is as follows:

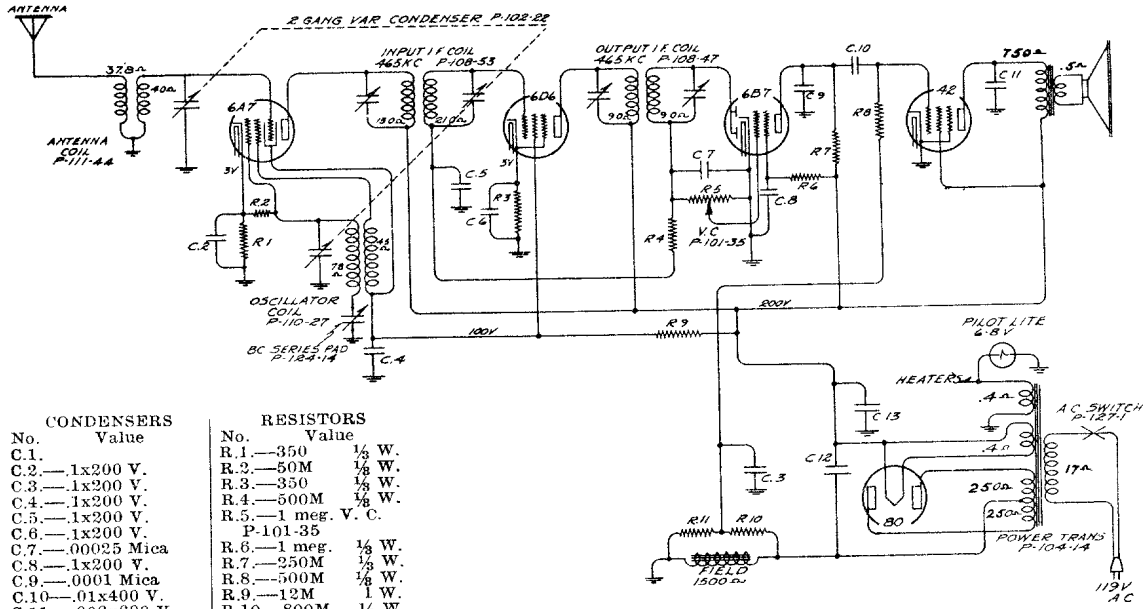
1 Type 6A7—pentagrid electron coupled oscillator and first detector.
1 Type 6D6—remote cut-off pentode as I.F. amplifier.
1 Type 6B7—duplex diode pentode as diode detector, A.V.C. and A.F.
1 Type 42—pentode output tube.
1 Type 80—high vacuum rectifier.

Voltages taken from different points of circuit to chassis are measured with volume control full on, all tubes in their sockets and speaker connected, with a volt meter having a resistance of 1000 ohms per volt. These voltages are clearly indicated on the circuit diagram

All voltages are measured with 119 volts on the primary of the power transformer.

Resistance of coils and transformer windings are indicated in ohms on schematic circuit diagram.

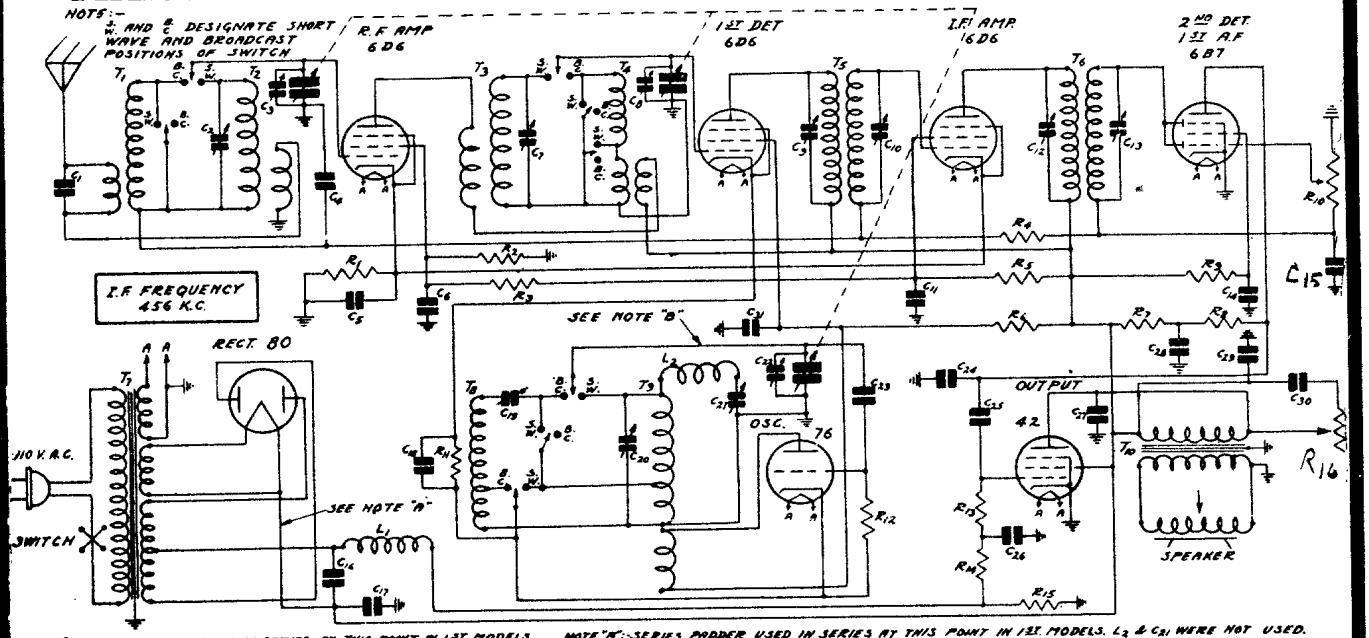




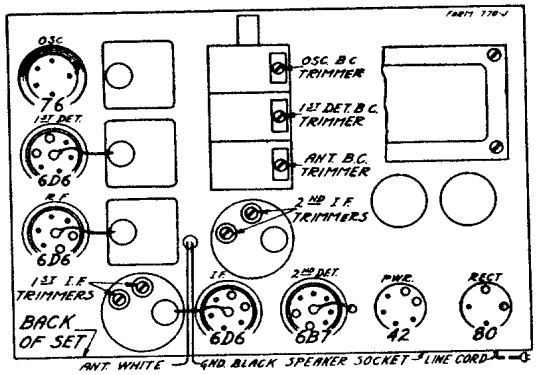
CONDENSERS		RESISTORS	
No.	Value	No.	Value
C.1.		R.1.—350	1/3 W.
C.2.—.1x200 V.		R.2.—50M	1/3 W.
C.3.—.1x200 V.		R.3.—350	1/3 W.
C.4.—.1x200 V.		R.4.—500M	1/3 W.
C.5.—.1x200 V.		R.5.—1 meg. V. C. P-101-35	
C.6.—.1x200 V.		R.6.—1 meg.	1/3 W.
C.7.—.00025 Mica		R.7.—250M	1/3 W.
C.8.—.1x200 V.		R.8.—500M	1/3 W.
C.9.—.0001 Mica		R.9.—12M	1 W.
C.10—.01x400 V.		R.10—800M	1/3 W.
C.11—.006x600 V.		R.11—201M	1/3 W.
C.12—8 mfd. lytic x 350 V.—P-103-6			
C.13—8 mfd. lytic x 300 V.—P-103-7			

Service Notes

To check for open by-pass condensers, shunt each condenser with another of similar capacity and of the same voltage rating, which is known to be good, until the defective unit is located. Open by-pass condensers frequently cause oscillation and distorted tone. Defective and shorted electrolytic filter condensers cause excessive hum, motor-boating, low volume and a reduction in all D.C. voltages. Open or shorted electrolytic and by-pass condensers (across bias resistor of type 42 tube) will cause low volume and distorted tone.



Montgomery Ward Models
62-123, 62-131, 62-133, 62-142, 62-144, 62-152,



Voltages at Sockets

LINE VOLTAGE — 115

ANTENNA SHORTED TO GROUND

Type of Tube	Function	Across Fila. or Heater	Plate to Cath.	Screen to Cath.	Control Grid to Cath.	Normal Plate M. A.
6D6	R. F.	6.3	246	100	3.6(1)	5.3
6D6	1st Det.	6.6	237	97	8.0(2)	3.4
76	Osc.	6.3	115		0	4.8
6D6	I. F.	6.3	246	130	3.6(1)	8.3
6B7	2nd Det.	6.3	50(3)	40(3)	0	2.7
42	Power	6.3	230	245	17.0(4)	33.0
80	Rectifier	5.0				37.0 per plate

(1) Cathode to ground
(2) Subject to variation
(3) Read with 1,000,000 ohm meter
(4) As read across R15

Code	Capacity	Volts	Type
C1	.00025 mfd.		Moulded
C2	3-40 mmfd.		Ant. S. W. Trimmer
C3	(See 3 Gang Cond.)		Gang Trimmer
C4	.05 mfd.	200V.	Tubular
C5	.25 mfd.	200V.	Tubular
C6	.05 mfd.	400V.	Tubular
C7	3-40 mmfd.		1st Det. S. W. Trim
C8	(See 3 Gang Cond.)		Gang Trimmer
C9	90±30 mmfd.		Dual Trimmer
C10	90±30 mmfd.		Part of I. F. Assem.
C11	.25 mfd.	300V.	Tubular
C12	90±30 mmfd.		Dual Trimmer
C13	90±30 mmfd.		Part of I. F. Assem.
C14	.25 mfd.	400V.	Tubular
C15	.0001 mfd.		Moulded
C16	18.0 mfd.	300V.	Electrolytic Wet
C16	8.0 mfd.	450V.	Electrolytic Wet
C-17	8.0 mfd.	500V.	Electrolytic Wet
C17	14.0 mfd.	400V.	Electrolytic Wet
C18	.05 mfd.	200V.	Tubular
C19	300-500 mmfd.		600 K. C. Trimmer
C20	3-40 mmfd.		Osc. S. W. Trimmer
C21	70±30 mmfd.		6000 K. C. Trimmer
C22	(See 3 Gang Cond.)		Gang Trimmer
C23	.000035 mfd.		Moulded
C24	.002 mfd.	600V.	Tubular
C25	.01 mfd.	400V.	Tubular
C26	.03 mfd.	400V.	Tubular
C27	.002 mfd.	600V.	Tubular
C28	.25 mfd.	400V.	Tubular
C29	.1 mfd.	400V.	Tubular
C30	.05 mfd.	400V.	Tubular
C31	.1 mfd.	400V.	Tubular

Code	Resistance	Watts	Type
R1	200 ohm	.2	Flex. Wire Wound
R2	30,000 ohm	.5	Carbon
R3	6,000 ohm	.5	Carbon
R4	2.0 megohm	.2	Carbon
R5	16,000 ohm	1.5	Armored
R6	25,000 ohm	1.0	wire wound
R7	20,000 ohm	.2	Carbon
R8	60,000 ohm	.5	Carbon
R9	250,000 ohm	.5	Carbon
R10	500,000 ohm		Vol. Control & Switch
R11	2,500 ohm	.2	Carbon
R12	100,000 ohm	.2	Carbon
R13	500,000 ohm	.2	Carbon
R14	100,000 ohm	.2	Carbon
R15	235 ohm	2.0	Flex. Wire Wound
R16	150,000 ohm		Tone Control

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

WARDS AIRLINE RADIO

MODELS 62-425 and 62-265

The tube complement of this chassis is as follows:

1 Type 6A7—pentagrid oscillator and first detector.
1 Type 78 —remote cut-off pentode as I.F. amplifier.
1 Type 75 —duplex diode triode as diode detector, A.V.C. and A.F.
1 Type 41—pentode output tube.
1 Type 5Z4 or 5Y3—high vacuum rectifier.

ALIGNING INSTRUCTIONS:

CAUTION:—No aligning adjustments should be attempted without first thoroughly checking over all other possible causes of trouble, such as poor installations, open or grounded antenna systems, low line voltages, defective tubes, condensers and resistors. In order to properly align this chassis, an oscillator (generator) is absolutely necessary. No aligning adjustments should be attempted with the chassis in the cabinet. Remove the knobs and the two bolts which are used to fasten the chassis.

All adjustments should be made with a non-metallic screw driver.

RESONANCE INDICATOR:

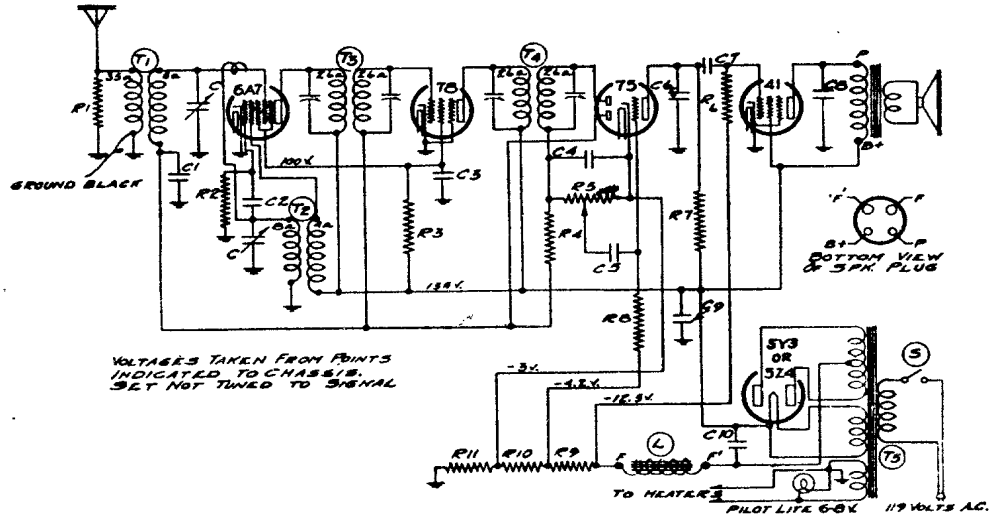
Use as a resonance indicator an ontput meter connected across the primary of the speaker inpnt transformer, or by means of an adapter between the plate and screen terminals of the type 41 output tube. Use only enough signal to get a readily readable ontput. A low range output meter or the low scale of a multi-range voltmeter should be used.

ALIGNING I. F. TRANSFORMERS: (465 K. C.)

Connect external oscillator which has been adjusted to 465 kilocycles in series with .1 mfd. condenser, to the control grid cap of the type 6A7 tube. Ground the chassis to the oscillator. Adjust output I.F. transformer (No. 108-83) and input I.F. transformer (No. 108-82) to resonance. See label on bottom of cabinet for location of these transformers.

R. F. ALIGNMENT: (535-1720 K. C.)

1. With gang condenser in its minimum capacity position, plates entirely out of mesh, connect an external oscillator in series with a 200 mmf. condenser to tan antenna and black ground leads and make the following adjustments:
   (a) With external oscillator set at 1720 kilocycles, adjust oscillator trimmer (rear of gang condenser).
   (b) Re-set external oscillator to 1400 kilocycles, rotate condenser, pick up oscillator signal and adjust antenna trimmer to resonance (front section of gang condenser).
   (c) Check sensitivity at 600 and 1000 kilocycles.



CONDENSERS

Part No.	Schematic Reference	Description	No. Used In Set
BE 100-11	C-5:C-7	.01 x 400 Volt Tubular	2
BE 100-19	C-8	.006 x 600 Volt Tubular	1
BE 100-1	C-3	.1 x400 Volt Tubular	1
BE 100-22	C-1	.05 x 200 Volt Tubular	1
BE 119-24	C-9:C-10	Dual 5 mfd. x 200 Volt Electrolytic	1
BE 129-5	C-6	.0001 Mica—Type MT—20%	1
BE 129-12	C-2:C-4	.00025 Mica—Type MT—20%	2

RESISTORS

BE 106-29	R-9:R-10 R-11	(R9, 200 ohm): (R10, 33 ohm): (R11, 100 ohm) Metal clad resistor	1
BE 130-17	R-1	10M Ohm-1/3 Watt-20%-20 V.Carbon	1
BE 130-109	R-3	7500 Ohm-½ Watt-20%-10 V. Carbon	1
BE 130-117	R-2	50M Ohm-1/10 Watt-20%-50 V.Carbon	1
BE 130-118	R-6	600M Ohm-1/3 Watt-20%-100 V.Carbon	1
BE 130-121	R-4:R-8	3.2 Meg Ohm-1/3 Watt-30%-100 V.Carbon	2
BE 130-122	R-7	210M Ohm-1/10 Watt-30%-20%-50 V. Carbon	1

COILS

BE 108-82	T3	Input I.F. Coil Assem. Comp. with Can.	1
BE-108-83	T4	Output I.F. Coil Assem. Comp. with Can.	1
BE 110-46	T2	Oscillator Coil Assembly Complete	1
BE 111-58	T1	Antenna Coil Assembly Complete	1

SOCKETS

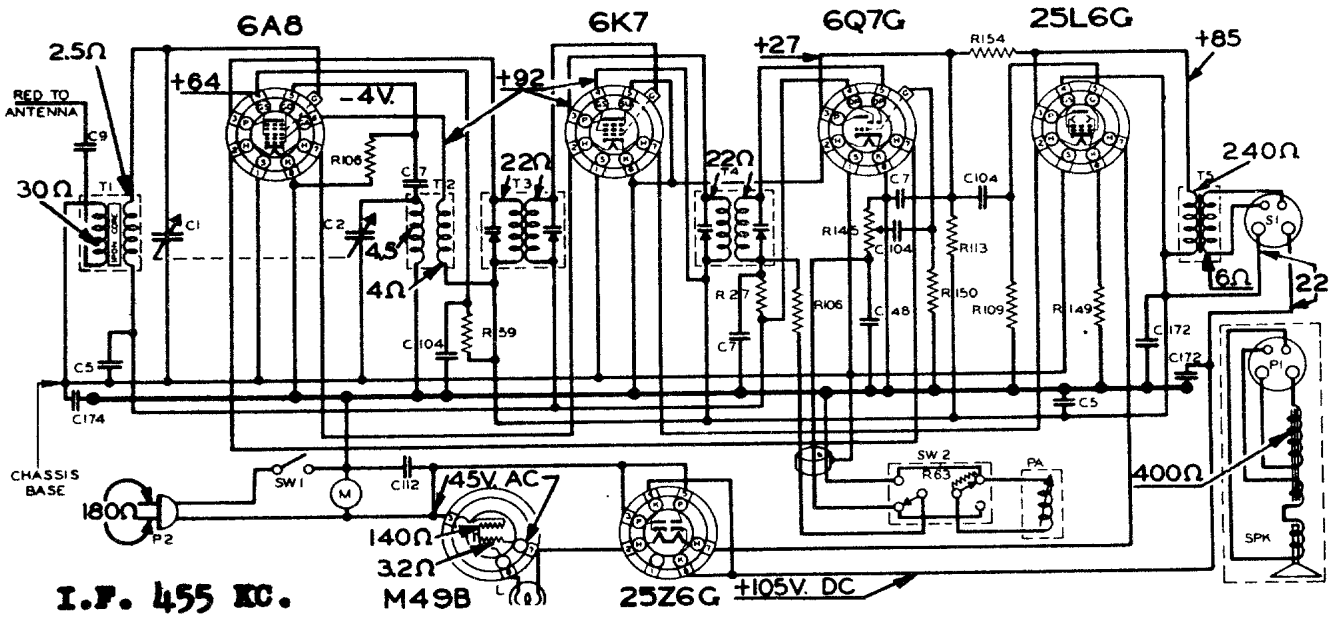
BE 121-6	Six Prong Socket—Marked "41"	1
BE 121-6	Six Prong Socket—Marked "75"	1
BE 121-6	Six Prong Socket—Marked "78"	1
BE 121-7	Seven Prong Socket—Marked "6A7"	1
BE-121-9	Four Prong Socket—Marked "SPKR"	1
BE 121-16	Five Prong Socket—Marked "5Z4"(Octal)	1

MISCELLANEOUS

Part No.	Schematic Reference	Description	No. Used In Set
BE 101-54	R-5	Volume Control and Switch (1 meg ohm)	1
BE 102-33	C	Two Gang Variable Condenser	1
BE 107-39		Line Cord & Plug	1
BE 128-8		Ivory Bakelite Knob (Model 62-265)	2
BE 131-2		Brown Bakelite Knob	1
BE 131-8		Spring for above knob	2
		DIAL PARTS LIST	
BE 107-28		Pilot Light Socket	1
BE 112-15		Dial Crystal only—less escutcheon	1
BE 112-160		Dial Pointer Complete with screw	1
BE 112-164		Brown Bakelite Escutcheon complete with crystal	1
BE 112-226		Ivory Bakelite Escutcheon complete with glass (Model 62-265)	1
BE 112-167A		Dial Scale	1
BE 116-13		6-8 Volt, T-51 Pilot Light Bulb	1
BE 117-59		Pointer Bushing Stud	1
BE 117-60		Pointer Bushing Assembly	1
BE 117-61		Drive Pulley	1
BE 117-68		Dial Bracket	1
BE 120-7A		Take-up Spring	1
BE 131-52		Drive Belt	1
BE 134-9		Horse Shoe Washer	1

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

ARVIN RADIO CHASSIS RE29 AND RE35 MODEL NUMBERS 58, 58A AND 88



RESISTORS

Ref. No.	Part No.	Description
R59	17-4191	15,000 ohms ½ watt
R27	17-4788	2,000,000 ohms ½ watt
R106	17-14171	50,000 ohms ½ watt
R109	17-14174	500,000 ohms ½ watt
R-113	17-14178	250,000 ohms ½ watt
R149	17-14241	150 ohms ½ watt
R150	17-14242	5,000,000 ohms ½ watt
R154	17-14244	1,500,000 ohms ½ watt

CONDENSERS

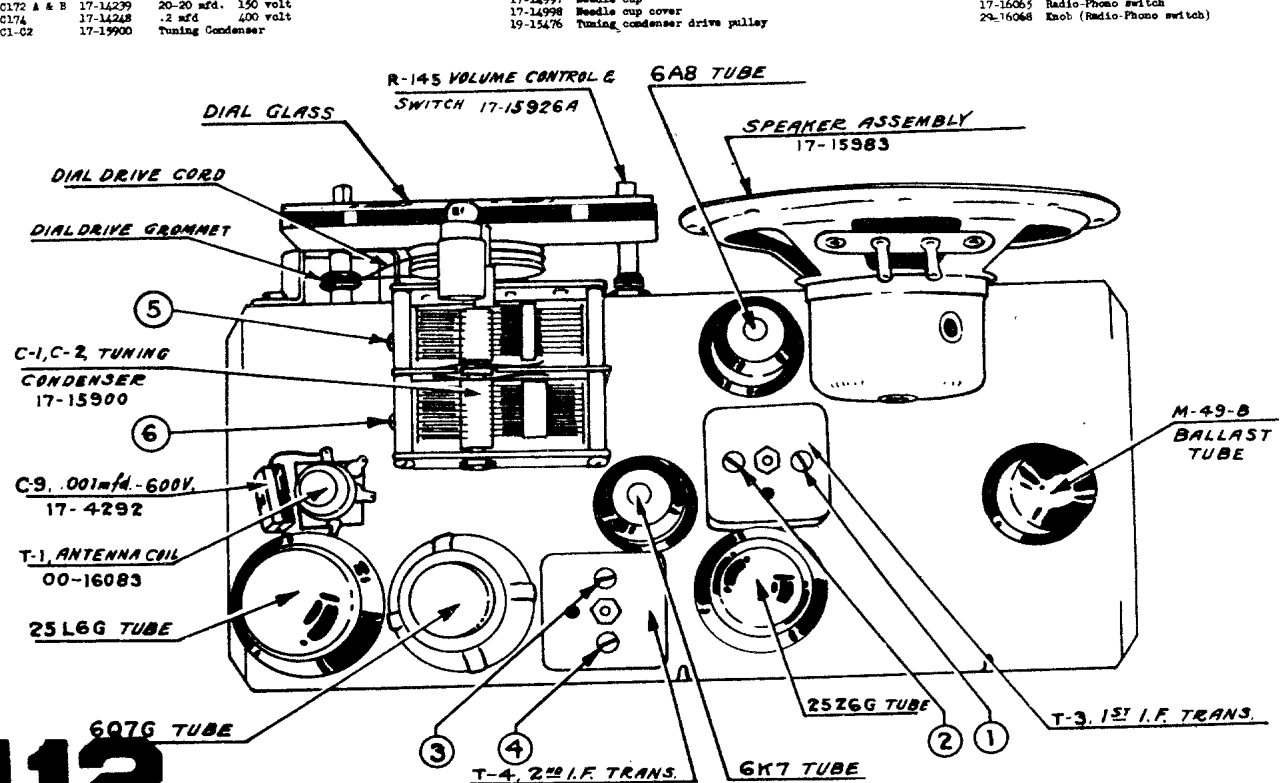
Ref. No.	Part No.	Description
C7	17-2064	.0001 mfd. 600 volt
C104	17-4206	.01 mfd. 200 volt
C48	17-4207	.00025 mfd. 600 volt
C9	17-4292	.001 mfd. 600 volt
C5	17-14015	.05 mfd. 200 volt
C112	17-14139	.05 mfd. 400 volt
C172 A & B	17-14239	20-20 mfd. 150 volt
C174	17-14248	.2 mfd 400 volt
C1-C2	17-15900	Tuning Condenser

COILS and TRANSFORMERS

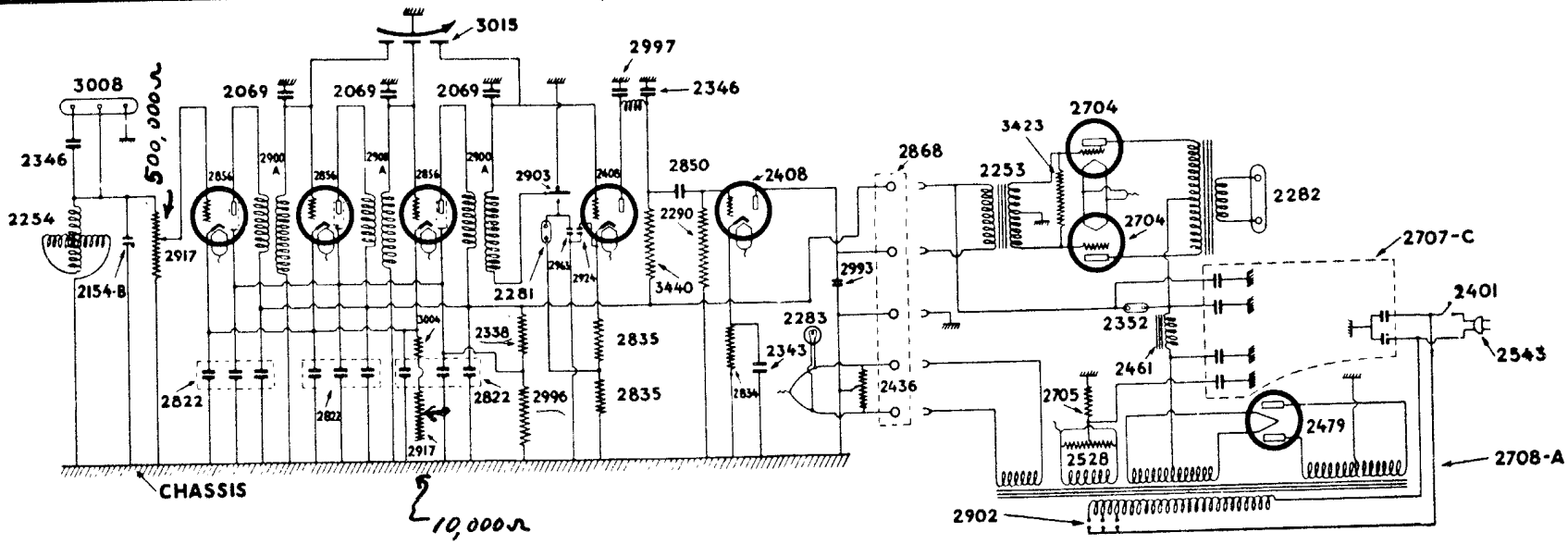
Ref. No.	Part No.	Description
T2	00-15979	Oscillator Coil
T-5	00-15980	Output Transformer
T3	00-16060	1st I.F. Transformer
T4	00-16061	2nd I.F. Transformer
T1	00-16083	Antenna Coil

SPEAKERS, DIAL PARTS, CABINETS & MISCELLANEOUS

Part No.	Description
10-5181	Chassis Mounting Screw per doz.
28-5188	Dial drive pulley (rubber)
83-2357	Grille cloth (ivory rayon)
29-13470	Tuning shaft retaining washer
29-13583	Dial drive cord (16" long)
34-13360	Dial drive takeup spring
17-14997	Needle cup
17-14998	Needle cup cover
19-15476	Tuning condenser drive pulley
17-15791E	Line cord and plug
29-15905	Cabinet (58A- Ivory)
32-15907	Chassis bottom cover
29-15909	Cabinet (58-Black)
32-15915	Tuning shaft bracket
29-15916	Cabinet back cover
17-15926A	Volume control switch
29-15929	Knob (wood-walnut finish)
29-15937	Knob (walnut bakelite)
25-15958	Tuning Shaft
17-15973	Dial light socket and clip
81-15974	Dial glass (black background)
17-15983	Speaker (5" diameter)
17-15989	Speaker (6" diameter)
81-16015	Dial glass (brown background)
27-16020	Cabinet (Model 88)
17-16021	Phono pickup and arm
17-16022	Phono turntable and motor
29-16024	Knob (ivory bakelite)
17-16065	Radio-Phono switch
29-16066	Knob (Radio-Phono switch)



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



FIXED CONDENSERS

The fixed condensers used in Series 50 Receivers are listed below:

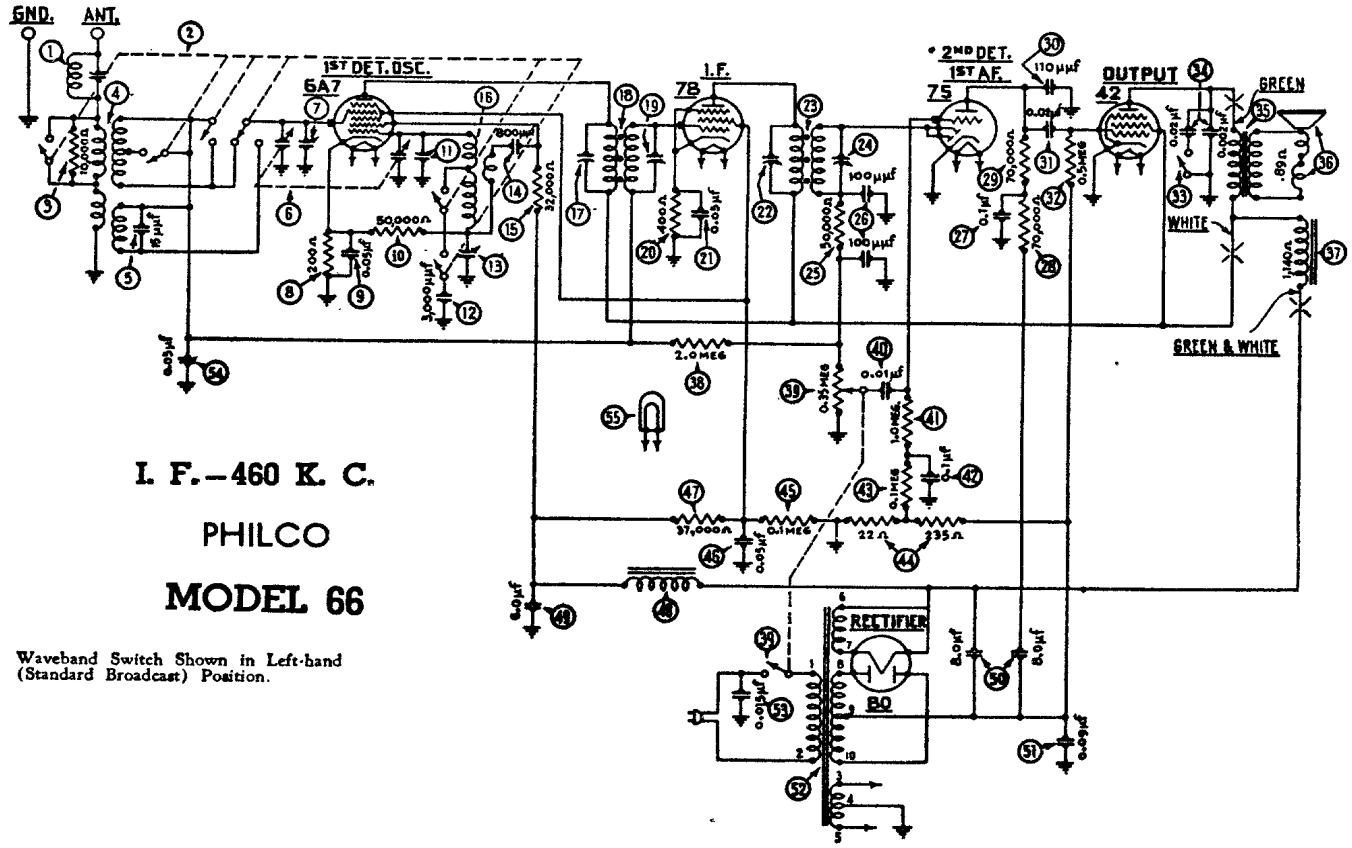
Part Number	Capacity, mfd.	Function
2346	.0001	Antenna series and detector plate by-pass.
2822	three 0.5 in one can	Screen grid, plate and cathode by-pass.
2924	1.0	Detector bias resistor by-pass.
2850	.01	AF coupling condenser.
2343	2.0	AF bias resistor by-pass.
2963	.002	Phonograph pick-up by-pass.
2993	.004	Audio by-pass.
2997	.0005	RF filter condenser.

National Carbon Co.
Models 50, 52, 53, 54

FIXED RESISTORS

Part Number	Resistance
2290	2 megohm
2835	4000 ohms
3440	125000 ohms
3004	200 ohms
2834	3000 ohms
2338	2500 ohms
2996	2250 ohms

VOLUME CONTROL: 500,000 Ω AND 10,000 Ω



I. F.—460 K. C.

PHILCO

MODEL 66

Waveband Switch Shown in Left-hand (Standard Broadcast) Position.

No. on Figs.	Description	Part No.
(1)	Wave Trap	38-5199
(2)	Wave-band Switch	42-1066
(3)	Resistor (10,000 ohms) (Brown-Black-Orange)	33-1000
(4)	Antenna Transformer	32-1412
(5)	Condenser (.000015 Mfd.)	30-1030
(6)	Tuning Condenser Assembly	31-1231
(7)	Compensating Condenser (ANT)	Part of (6)
(8)	Resistor (200 ohms Flexible) (Red-Black-Brown)	7217
(9)	Condenser (.05 Mfd. Tubular)	30-4020
(10)	Resistor (50,000 ohms) (Green-Green-Orange)	6098
(11)	Compensating Condenser (OSC. HF)	Part of (6)
(12)	Condenser (.003 Mfd. Mica)	30-1022
(13)	Compensating Condenser (Osc. I. F.)	04000-S
(14)	Condenser (.0008 Mfd. Mica)	5978
(15)	Resistor (32,000 ohms) (Orange-Red-Orange)	5279
(16)	Oscillator Transformer	32-1413
(17)	Compensating Condenser (1st I. F. Pri.)	04000M
(18)	1st I. F. Transformer	32-1414
(19)	Compensating Condenser (1st I. F. Secondary)	04000M
(20)	Resistor (400 ohms Flexible)	33-3016
(21)	Condenser (.05 Mfd. Tubular)	30-4020
(22)	Compensating Condenser (2d I. F. Primary)	04000M
(23)	2d I. F Transformer	32-1415
(24)	Compensating Condenser (2d I. F. Secondary)	04000J
(25)	Resistor (50,000 ohms) (Green-Brown-Orange)	6098
(26)	Condenser (.0001 Mfd. Twin Bakelite Block)	8035-B
(27)	Condenser (.1 Mfd. Tubular)	30-4170
(28)	Resistor (70,000 ohms) (Violet-Black-Orange)	33-1115
(29)	Resistor (70 000 ohms) (Violet-Black-Orange)	33-1115
(30)	Condenser (.00011 Mfd. Mica)	30-1006
(31)	Condenser (.02 Mfd. Tubular)	30-4113
(32)	Resistor (500,000 ohms) (Yellow-White-Yellow)	6097
(33)	Tone Control	30-4192
(34)	Condensers in Tone Control	Inside (28)

No. on Figs.	Description	Part No.
(35)	Output Transformer	32-7019
(36)	Voice Coil & Cone Assembly (8-12)	36-3014
(37)	Field Coil and Pot. Assembly (8-12)	36-3341
(38)	Resistor (2 Megohms) (Red-Black-Green)	33-1025
(39)	Volume Control and On-Off Switch	33-5006
(40)	Condenser (.01 Mfd.) (Bakelite Block)	3903-AB
(41)	Resistor (1 Megohm) (Brown-Black-Green)	33-1096
(42)	Condenser (.1 Mfd.)	30-4122
(43)	Resistor (.1 Meg.) (White-White-Orange)	6099
(44)	Resistor (B. C. Wire-wound) (22, 235 ohms)	33-3037
(45)	Resistor (.1 Meg.) (White-White-Orange)	6099
(46)	Condenser (.05 Mfd. Tubular)	30-4123
(47)	Resistor (37,000 ohms) (Orange-Violet-Orange)	33-1098
(48)	Filter Choke	32-7018
(49)	Condenser (Electrolytic—6 Mfd.)	30-2021
(50)	Condenser (Electrolytic—8-8 Mfd.)	30-2028
(51)	Condenser (.09 Mfd. Bakelite Block)	4989-D
(52)	Power Transformer	8046
(53)	Condenser (.015 Mfd. Bakelite Block)	3793-W
(54)	Condenser (.05 Mfd. Tubular)	30-4020
(55)	Dial Light	6608
	Four Prong Socket	7544
	Six Prong Socket	7547
	Seven Prong Socket	27-5005
	Tube Shield	28-1107
	Chassis Mounting Screw	W-567
	Chassis Mounting Washer (Metal)	W-315
	Chassis Mounting Washer (Rubber)	5189
	Knob (Large)	27-4051
	Knob (Small)	27-4052
	Dial Assembly	31-1234
	Dial Scale	27-5057
	A. C. Cord and Plug Assembly	L-943A

PHILCO AUTO RADIO MODEL 5

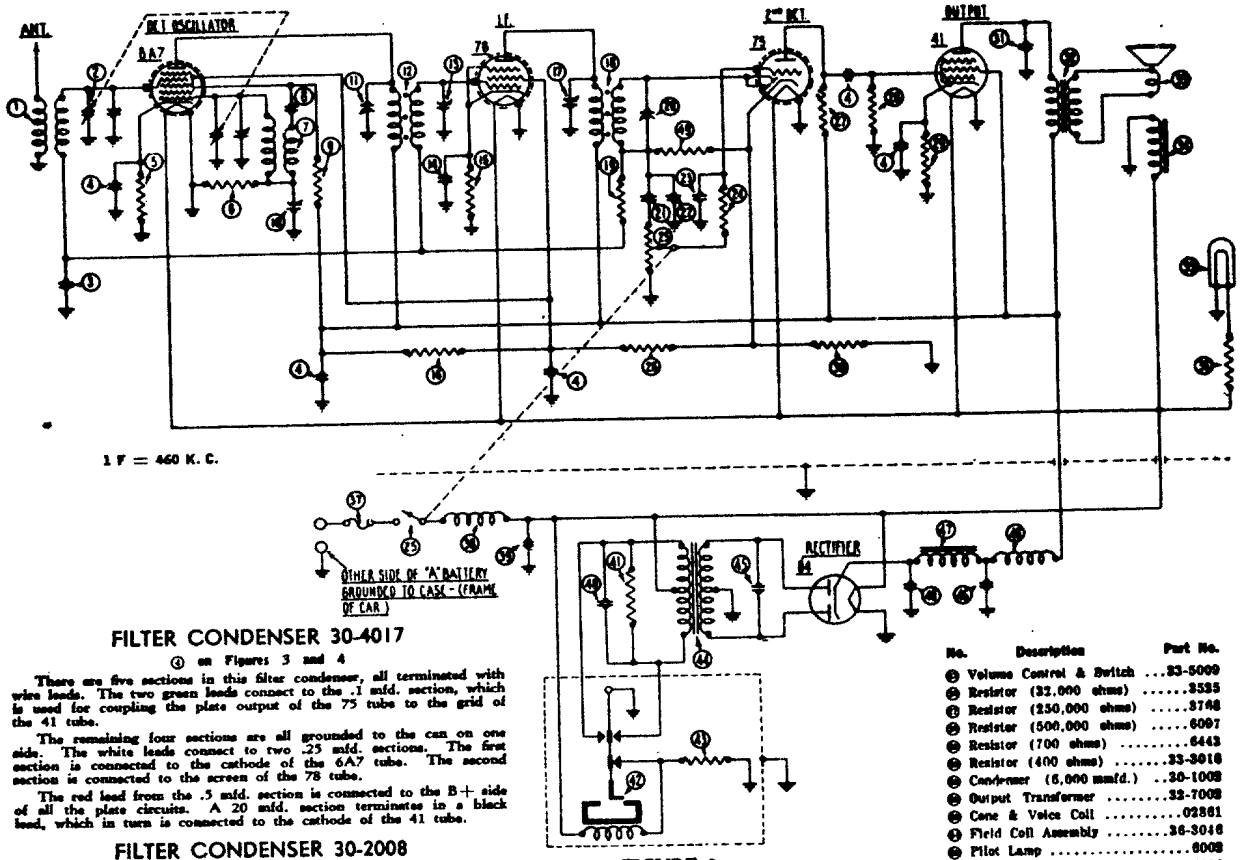


FIGURE 3

FILTER CONDENSER 30-4017

④ on Figures 3 and 4

There are five sections in this filter condenser, all terminated with wire leads. The two green leads connect to the .1 mfd. section, which is used for coupling the plate output of the 75 tube to the grid of the 41 tube.

The remaining four sections are all grounded to the can on one side. The white leads connect to two .25 mfd. sections. The first section is connected to the cathode of the 6A7 tube. The second section is connected to the screen of the 78 tube.

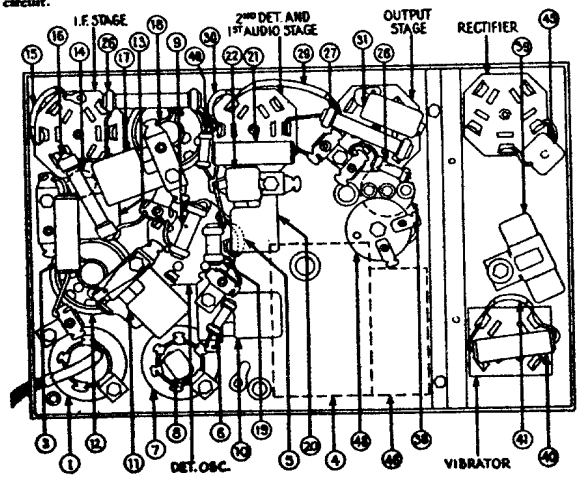
The red lead from the .5 mfd. section is connected to the B+ side of all the plate circuits. A 20 mfd. section terminates in a black lead, which in turn is connected to the cathode of the 41 tube.

FILTER CONDENSER 30-2008

⑭ on Figures 3 and 4

The condenser consists of two sections, a 4 mfd. section and an 8 mfd. section, both of them grounded on one side.

The 4 mfd. section terminates in a red lead, which is connected to the cathode of the 84 tube. The 8 mfd. section terminates in a green lead, which is connected between the two chokes in the rectifier filter circuit.

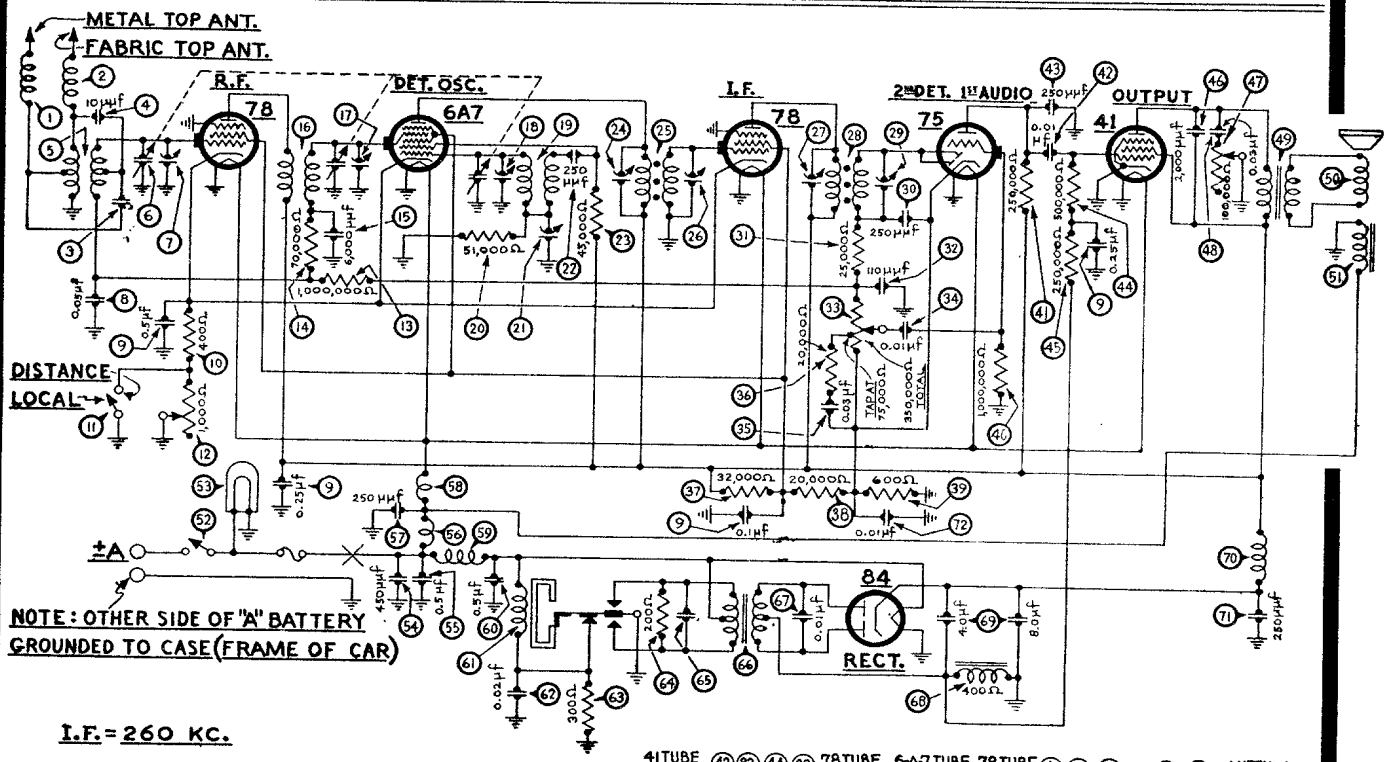


PARTS LIST

No.	Description	Part No.
①	Antenna Transformer	33-1084
②	Tuning Condenser	31-1019
③	Condenser (.05) mfd.)	30-4020
④	Filter Condenser (.25, .25, .5, 20 mfd.)	30-4017
⑤	Resistor (200 ohms)	7217
⑥	Resistor (13,000 ohms)	8367
⑦	Oscillator Transformer	33-1085
⑧	Condenser (250 mmfd.)	3083
⑨	Resistor (15,000 ohms)	6205
⑩	Padder	040006
⑪	Padder	04000J
⑫	First I. F. Transformer	33-1000
⑬	Padder	04000Y
⑭	Condenser (.5 mfd.)	30-4016
⑮	Resistor (1000 ohms)	33-3017
⑯	Resistor (10,000 ohms)	4412
⑰	Padder	04000D
⑱	Second I. F. Transformer	33-1087
⑲	Resistor (1,000,000 ohms)	4408
⑳	Padder	040003H
㉑	Condenser (.05 mfd.)	30-4020
㉒	Condenser (250 mmfd.)	3083
㉓	Condenser (500 mmfd.)	3918
㉔	Resistor (100,000 ohms)	6068
㉕	Volume Control & Switch	33-5009
㉖	Resistor (32,000 ohms)	3535
㉗	Resistor (250,000 ohms)	3748
㉘	Resistor (500,000 ohms)	6097
㉙	Resistor (700 ohms)	6443
㉚	Resistor (400 ohms)	33-3018
㉛	Condenser (6,000 mmfd.)	30-1008
㉜	Output Transformer	32-7008
㉝	Cone & Voice Coil	02881
㉞	Field Coil Assembly	36-3048
㉟	Pilot Lamp	6008
㊱	Resistor (7 ohms)	5116
㊲	Fuse (15 amp.)	7227
㊳	R. F. Choke	32-1032
㊴	Condenser (.5 mfd.)	30-4015
㊵	Condenser (.05 mfd.)	30-4020
㊶	Resistor (200 ohms)	7217
㊷	Vibrator	41-3136
㊸	Resistor (200 ohms)	7217
㊹	Transformer	33-7030
㊺	Condenser (6000 mmfd.)	30-1002
㊻	Condenser (4 mfd., 5 mfd.)	30-2008
㊼	Filter Choke	32-7026
㊽	R. F. Choke (high voltage)	32-1078
㊾	Resistor (250,000 ohms)	4410
	Control Assembly (direct drive)	42-5048
	Tuning Shaft	26-8006
	Volume Shaft	28-8007
	Dial	27-5006
	Knob	93234
	Fuse	7227
	Fuse Insulator	27-7181
	Antenna Lead	38-5131
	"A" Lead	38-5296
	Bracket (control mtg.)	6035
	Studs (set mtg.)	28-8036
	Nuts (set mtg.)	W55A
	Strap (control mtg.)	04944

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

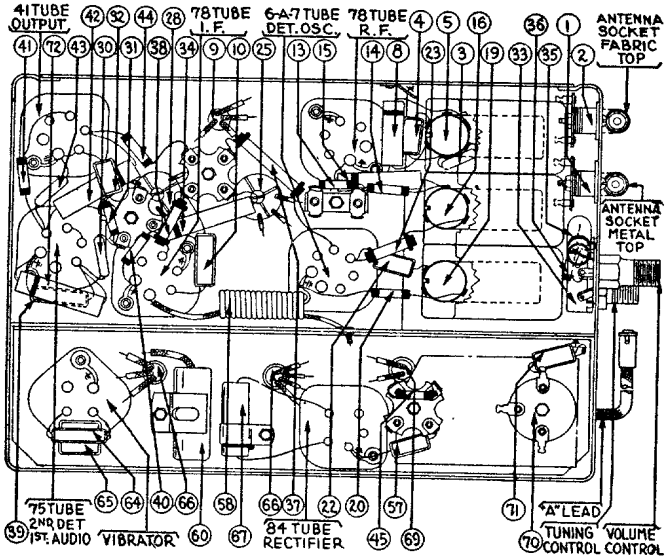
PHILCO AUTO RADIO MODEL T11



I.F. = 260 KC.

PARTS LIST

No.	Description	Part No.
①	Antenna Choke	38-7210
②	Antenna Choke	38-7210
③	Condenser (70 mmfd.)	30-1068
④	Condenser (10 mmfd.)	30-1065
⑤	Antenna Transformer	32-1925
⑥	Tuning Condenser	31-1674
⑦	First Padder (on Tun. Cond.)	
⑧	Condenser (.05 mfd.)	30-4444
⑨	Condenser (.1-.25-.25-.5 mfd.)	30-4374
⑩	Resistor (400 ohms)	33-1211
⑪	Sensitivity Control Switch	42-1140
⑫	Sensitivity Control	33-5129
⑬	Resistor (1,000,000 ohms)	33-510344
⑭	Resistor (70,000 ohms)	33-370334
⑮	Condenser (6,000 mmfd.)	30-4445
⑯	R. F. Transformer	32-1926
⑰	Second Padder (on Tun. Cond.)	
⑱	Third Padder (on Tun. Cond.)	
⑲	Oscillator Transformer	32-1927
⑳	Resistor (51,000 ohms)	33-351344
㉑	Low Frequency Padder	31-6056
㉒	Condenser (250 mmfd.)	30-1032
㉓	Resistor (45,000 ohms)	33-345344
㉔	Padder (Pri. 1st I. F. Trans.)	
㉕	First I. F. Transformer	32-1260
㉖	Padder (Sec. 1st I. F. Trans.)	
㉗	Padder (Pri.. 2nd I. F. Trans.)	
㉘	Second I. F. Transformer	32-2164
㉙	Padder (Sec 2nd I. F. Trans.)	
㉚	Condenser (250 mmfd.)	30-1032
㉛	Resistor (25,000 ohms)	33-325344
㉜	Condenser (110 mmfd.)	30-1031
㉝	Volume Control (350,000 ohms)	33-5121
㉞	Condenser (.01 mfd.)	30-4124
㉟	Condenser (.03 mfd.)	30-4449
㊱	Resistor (20,000 ohms)	33-320334
㊲	Resistor (32,000 ohms)	33-332434
㊳	Resistor (20,000 ohms)	33-320334
㊴	Resistor (600 ohms)	33-1212
㊵	Resistor (1,000,000 ohms)	33-510344
㊶	Resistor (250,000 ohms)	33-424344
㊷	Condenser (.01 mfd.)	30-4145
㊸	Condenser (250 mmfd.)	30-1032
㊹	Resistor (500,000 ohms)	33-449344
㊺	Resistor (250,000 ohms)	33-424344
㊻	Condenser (2,000 mmfd.)	30-4177
㊼	Tone Control	
㊽	Condenser (.03 mfd.)	
㊾	Output Transformer	
㊿	Cone & Voice Coil	
(51)	Field Coil Assembly	
(52)	On & Off Switch	
(53)	Pilot Lamp	
(54)	Condenser (450 mmfd.)	
(55)	Condenser (.5 mfd.)	
(56)	"A" Choke	
(57)	Condenser (250 mmfd.)	
(58)	Filament Choke	
(59)	Vibrator Choke	
(60)	Condenser (.5 mfd.)	
(61)	Vibrator	
(62)	Condenser (.02 mfd.)	
(63)	Resistor (300 ohms)	
(64)	Resistor (200 ohms)	
(65)	Condenser (.05 mfd.)	
(66)	Power Transformer	
(67)	Condenser (.01 mfd.)	
(68)	Filter Choke	
(69)	Filter Condenser (4-8 mfd.)	
(70)	R. F. Choke	
(71)	Condenser (250 mmfd.)	
(72)	Condenser (.01 mfd.)	



CHANGES — "Run Numbers" are stamped on the chassis sub-base for identification. These "Run Numbers" are changed consecutively as major changes are made in the Receiver wiring and parts.

RUN No. 3 — A 250 mmfd. condenser has been added to the Receiver. One side is connected between resistors ㊲ and ㊳ and the other side to ground.

RUN No. 4 — The 250 mmfd. condenser added in Run No. 3 has been removed.

RUN No. 5 — The Antenna Transformer ⑤ is replaced with a new type having the same part number. It can be identified by the red and blue paint marks on the fibre.

RUN No. 6 — Condenser ⑪ has been removed from the cathode side of the "B" choke ⑩ and connected to the plate side of choke ⑩.

RUN No. 6A — A 250 mmfd. condenser has been added to the Receiver. One side is connected between resistors ㊹ and ㊸ and the other side to ground.

RUN No. 8 — Condenser ㊽ removed (1250 mmfd.). Part No. 30-4020 added. (.05 mfd.)

RUN No. 13 — The 250 mmfd. condenser that was added in Run No. 6A has been removed.

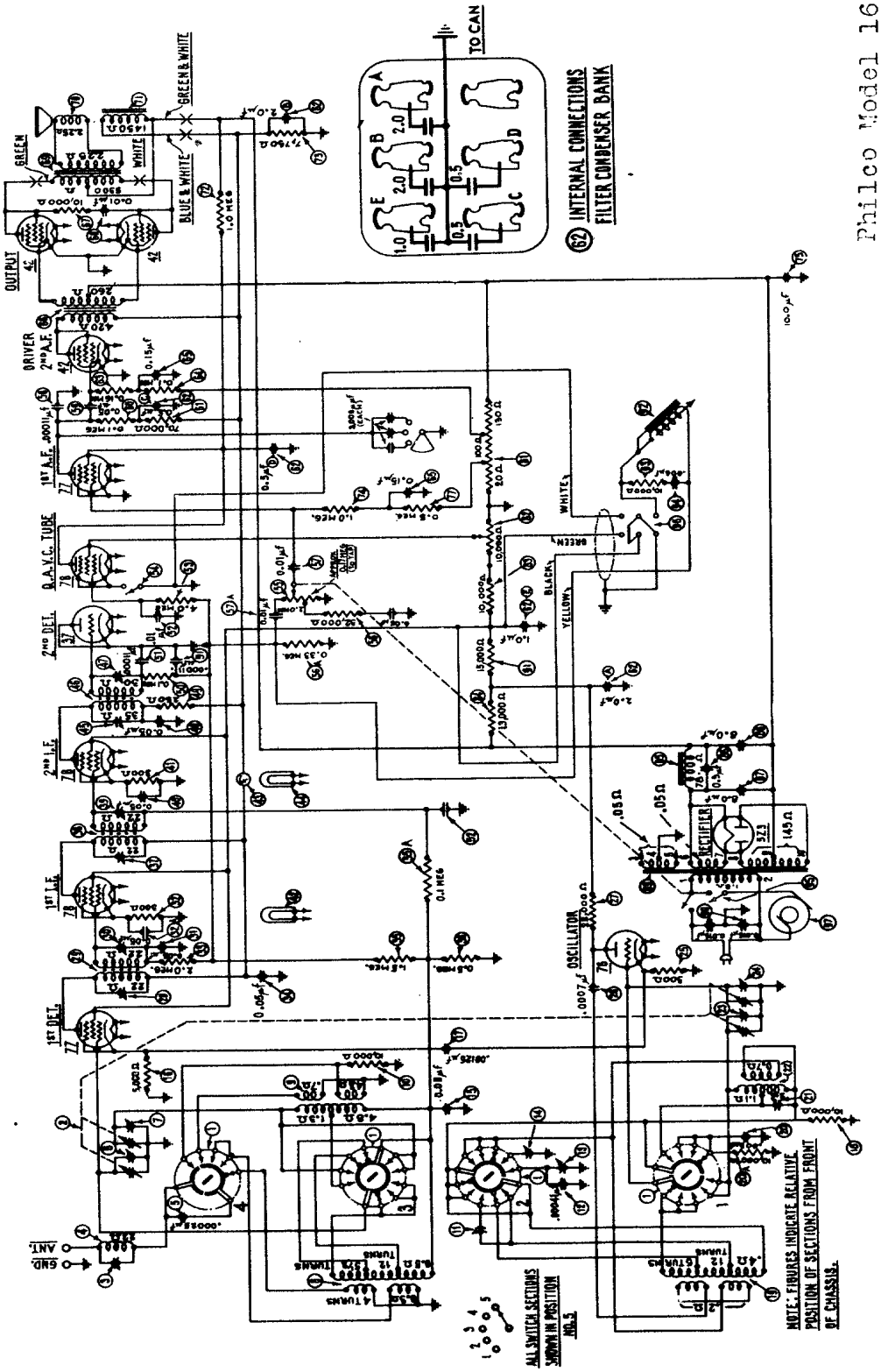
RUN No. 14 — Resistor ⑩ removed (400 ohms). Part No. 33-1225 added. (350 ohms.)

No major changes were involved in Run Nos. 2, 7, 9, 10, 11, 12.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

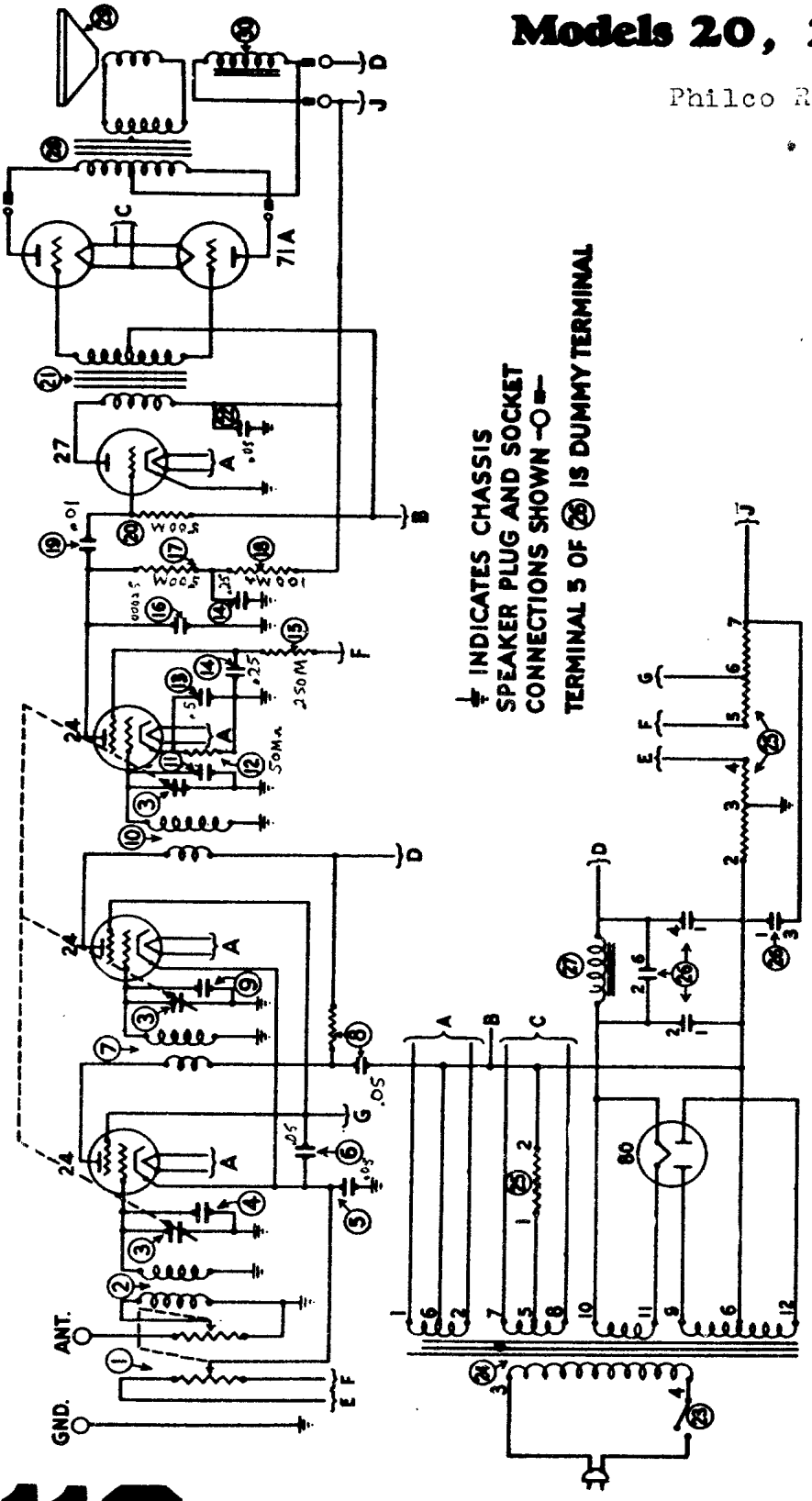
MODEL 16

Philco Model 16
I.F. 460 KC.

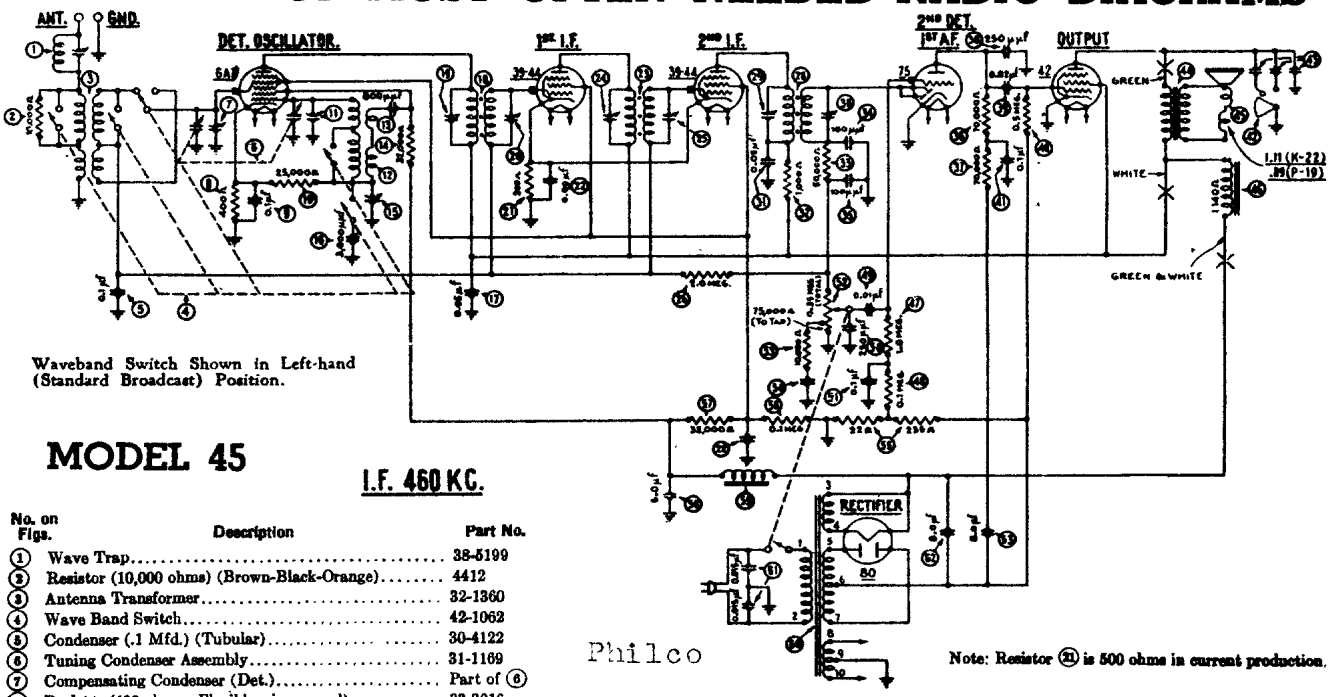


Models 20, 20-A and 21

Philco Radio



No.	Description	Part No.
①	Volume Control	4094
②③④	First R. F. Transformer, Tuning Condenser and First Compensating Condenser (Part of Tuning Condenser Assembly)	3884-N, 4200-A
⑤	By-Pass Condenser (.05) and Resistor	3615-J
⑥	By-Pass Condenser (.05)	3615-M
⑦	Second R. F. Transformer	3884-P
⑧	By-Pass Condenser (.05) and Second Compensating Condenser (Part of Tuning Condenser Assembly)	3615-K
⑨	Third R. F. Transformer	3884-P
⑩	Third Compensating Condenser (Part of Tuning Condenser Assembly)	4237
⑪⑫	Resistor (50,000) and By-Pass Condenser (.5)	3583
⑬⑭	By-Pass Condenser (double .25) and Resistor (250,000)	3557, 3768
⑮⑯	By-Pass Condenser (.00025) and Resistor (500,000)	3062, 3769
⑰⑱	Resistor (100,000) and Condenser (.01)	3767, 3903-F
⑲⑳	Resistor (500,000) and Push-pull Input Transformer	3769, 4232
㉑㉒	By-Pass Condenser (.05) and On-off Switch	3615-L, 4095
㉓	Power Transformer (50-60 cycle)	4234
	Power Transformer (25-60 cycle)	4268
㉔㉕	B. C. Resistor and Filter Condenser (50-60 cycle)	4230, 4235
	Filter Condenser (25-60 cycle)	4269
㉖	Filter Choke	4231
㉗㉘㉙㉚	Push-Pull Output Transformer, Voice Coil and Cone and Field Coil	2766, 2769-B, 2768



Waveband Switch Shown in Left-hand (Standard Broadcast) Position.

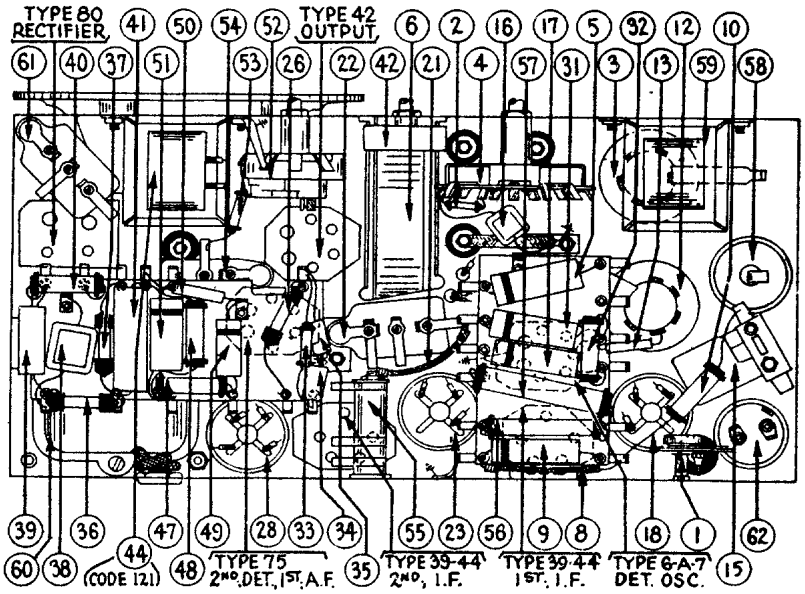
MODEL 45

I.F. 460 KC.

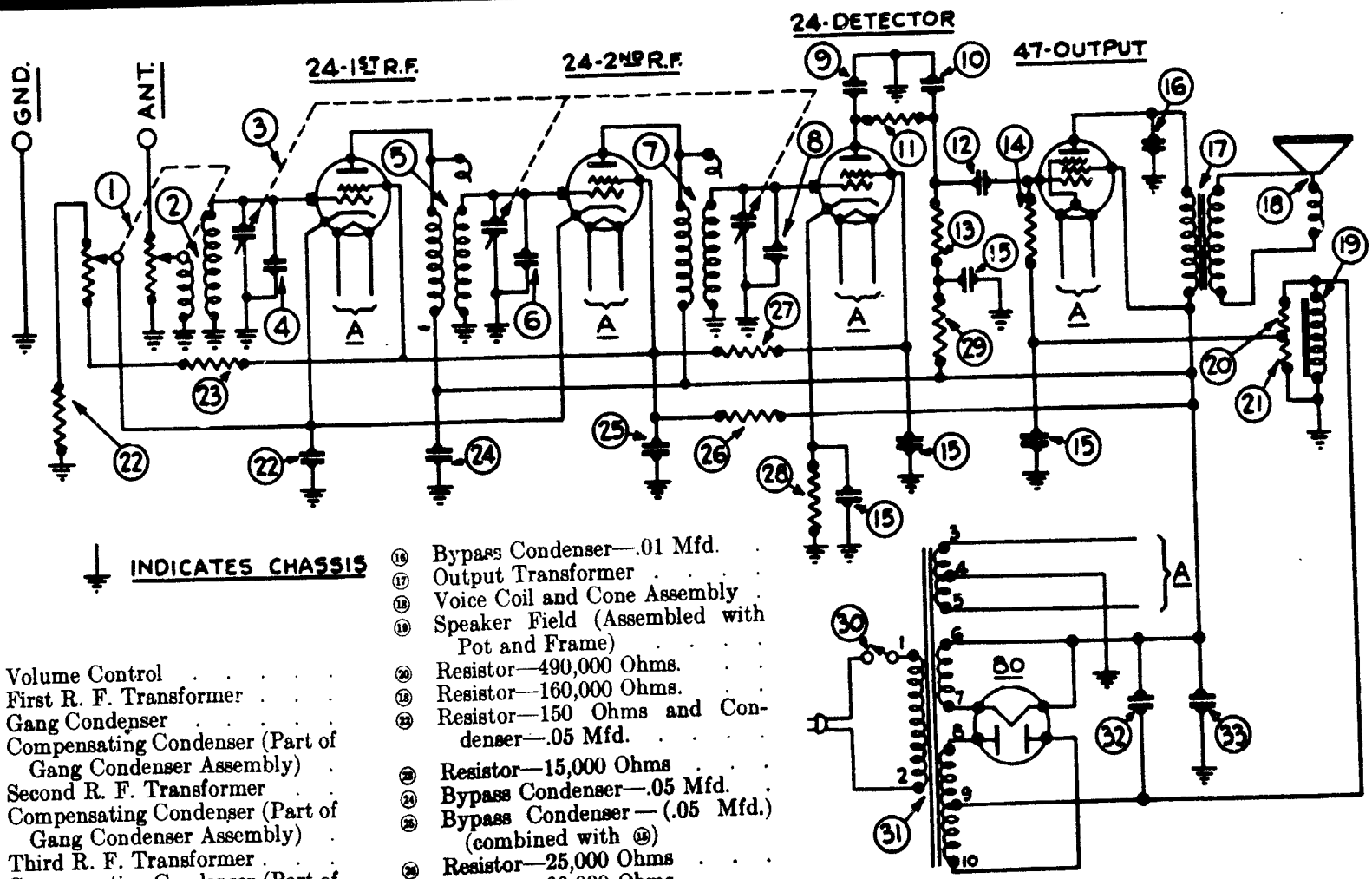
No. on Figs.	Description	Part No.
1	Wave Trap	38-5199
2	Resistor (10,000 ohms) (Brown-Black-Orange)	4412
3	Antenna Transformer	32-1360
4	Wave Band Switch	42-1062
5	Condenser (.1 Mfd.) (Tubular)	30-4122
6	Tuning Condenser Assembly	31-1169
7	Compensating Condenser (Det.)	Part of 6
8	Resistor (400 ohms—Flexible wire wound)	33-3016
9	Condenser (.1 Mfd.) (Tubular)	30-4122
10	Resistor (25,000 ohms) (Red-Green-Orange)	4516
11	Compensating Condenser (Osc. H. F.)	Part of 6
12	Oscillator Transformer	32-1361
13	Condenser (.0008 Mfd.—Mica)	5878
14*	Resistor (32,000 ohms) (Orange-Red-Orange)	3525
15	Compensating Condenser (Osc. L. F.)	04000-S
16	Condenser (.003 Mfd.—Mica)	7301
17	Condenser (.05 Mfd.—Tubular)	30-4123
18	1st I. F. Transformer	32-1362
19	Compensating Condenser (1st I. F. Primary)	Part of 18
20	Compensating Condenser (1st I. F. Secondary)	Part of 18
21	Resistor (500 ohms—Flexible wire wound)	6977
22	Condenser (.09 Mfd. twin) (Bakelite block)	4989-Z
23	2d I. F. Transformer	32-1363
24	Compensating Condenser (2d I. F. Primary)	Part of 18
25	Compensating Condenser (2d I. F. Secondary)	Part of 23
26	Resistor (2 megs.) (Red-Black-Green)	5872
27	Pilot Lamp	6608
28	3d I. F. Transformer	32-1364
30	Compensating Condenser—3d I. F. Primary	Part of 18
29	Compensating Condenser—3d I. F. Secondary	Part of 18
31	Condenser (.05 Mfd. Tubular)	30-4123
32	Resistor (1,000 ohms) (Brown-Black-Red)	5837
33	Resistor (50,000 ohms) (Green-Brown-Orange)	4518
34	Condenser (.0001 Mfd. Mica)	30-1051
35	Condenser (.0001 Mfd. Mica)	30-1051
36	Resistor (70,000 ohms) (Violet-Black-Orange)	5385
37	Resistor (70,000 ohms) (Violet-Black-Orange)	5385
38	Condenser (.00025 Mfd. Mica)	5858
39	Condenser (.02 Mfd. Tubular)	30-4113
40	Resistor (.5 meg.) (Yellow-White-Yellow)	4517
41	Condenser (.1 Mfd.) (Tubular)	30-4170
42	Tone Control	30-4178
43	Condensers	Inside 42
44	Output Transformer (Code 121)	32-7041
	Output Transformer (Code 122)	2580
45	Voice Coil & Cone Assembly P-19 (Compact)	36-3027
	K-22 (Lowboy)	36-3174
46	Field Coil and Pot Assembly P-19 (Compact)	36-3298
	K-22 (Lowboy)	02767

Philco

Note: Resistor (21) is 500 ohms in current production.



47	Resistor (1 meg.) (Brown-Black-Green)	4409
48	Resistor (.1 meg) (White-White-Orange)	4411
49	Condenser (.01 Mfd. Tubular)	30-4124
50	Condenser (.00025 Mfd. Mica)	5858
51	Condenser (.1 Mfd. Tubular)	30-4122
52	Volume Control and On-Off Switch	33-5066
53	Resistor 10,000 ohms (Brown-Black-Orange)	33-1000
54	Condenser (Code 121) (.05 Mfd.) (Bakelite Block)	3615-W
	Condenser (Code 122) (.09 Mfd.) (Bakelite Block)	4989-AM
56	Voltage Divider (BC Resistor 22—235 ohms) (Wire wound)	33-3037
56	Resistor .1 meg (White-White-Orange)	3767
57	Resistor 32,000 ohms (Orange-Red-Orange)	33-1026
58	Condenser (Electrolytic—6 Mfd.)	30-2020
59	Filter Choke	32-7018
60	Power Transformer	32-7226
61	Condenser (.015 Mfd. twin—Bakelite block)	3793-E
62, 63	Condenser (Electrolytic 8—8 Mfd. 450 Volts)	30-3028



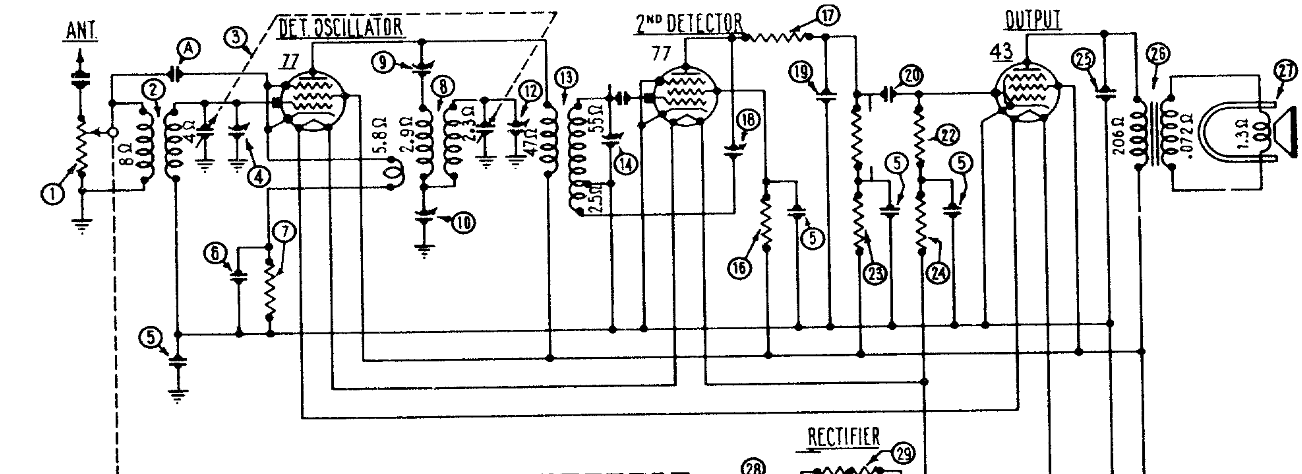
INDICATES CHASSIS

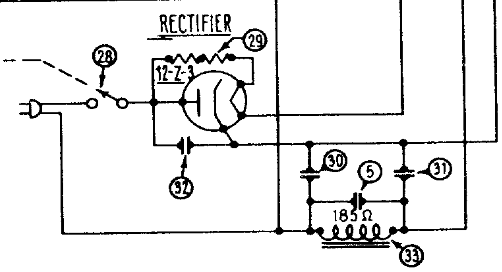
① Volume Control
② First R. F. Transformer
③ Gang Condenser
④ Compensating Condenser (Part of Gang Condenser Assembly)
⑤ Second R. F. Transformer
⑥ Compensating Condenser (Part of Gang Condenser Assembly)
⑦ Third R. F. Transformer
⑧ Compensating Condenser (Part of Gang Condenser Assembly)
⑨ Condenser—250 Mmf.
⑩ Condenser—250 Mmf.
⑪ Resistor—10,000 Ohms
⑫ Condenser—.01 Mfd.
⑬ Resistor—240,000 Ohms
⑭ Resistor—490,000 Ohms
⑮ Bypass Condenser (.15 Mfd., .25 Mfd., 2-.5 Mfd., .1 Mfd.) 50-60 cycles
⑯ Bypass Condenser—.01 Mfd.
⑰ Output Transformer
⑱ Voice Coil and Cone Assembly
⑲ Speaker Field (Assembled with Pot and Frame)
⑳ Resistor—490,000 Ohms.
㉑ Resistor—160,000 Ohms.
㉒ Resistor—150 Ohms and Condenser—.05 Mfd.
㉓ Resistor—15,000 Ohms
㉔ Bypass Condenser—.05 Mfd.
㉕ Bypass Condenser—(.05 Mfd.) (combined with ⑲)
㉖ Resistor—25,000 Ohms
㉗ Resistor—99,000 Ohms
㉘ Resistor—32,000 Ohms
㉙ Resistor—99,000 Ohms
㉚ On-Off Switch
㉛ Power Transformer—50-60 cycles
㉜ Electrolytic Condenser—6 Mfd.—50-60 cycles
Electrolytic Condenser—10 Mfd. 25-40 cycles
㉝ Electrolytic Condenser—6 Mfd.—

Philco Radio

MODELS 50 AND 50-A

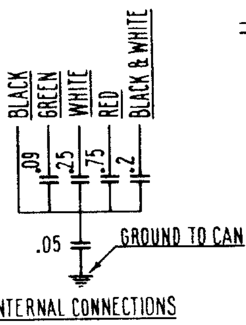
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS





RESISTOR VALUES IN (OHMS)	
(7)	8,000
(15)(17)	10,000
(16)(22)	490,000
(21)	240,000
(23)	51,000
(24)	99,000
(29)	216 (TOTAL)

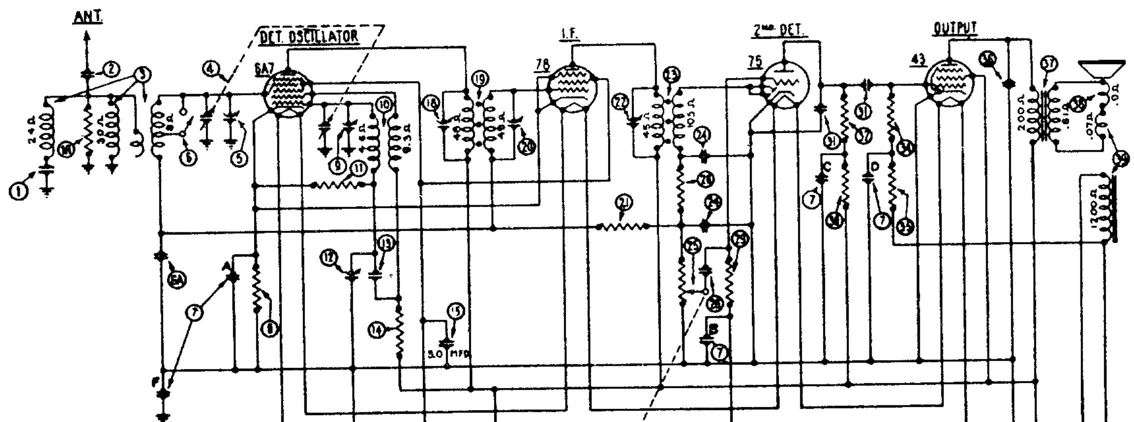
FIXED CONDENSER VALUES (MFD)	
(5)	.05
	.09
	.25
	.75
	.2
(6)	.0014
(11)	10.0
(19)	.00025

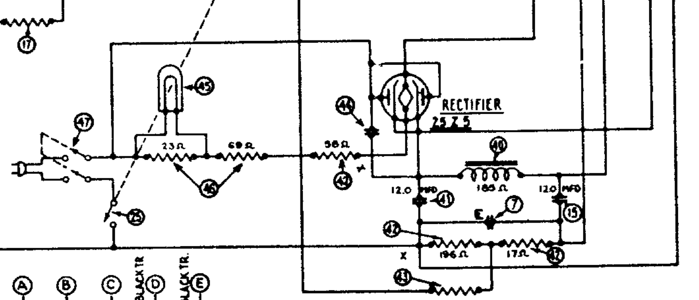


(5) INTERNAL CONNECTIONS

MODEL 53 Philco Radio

I.F. 450 KC.

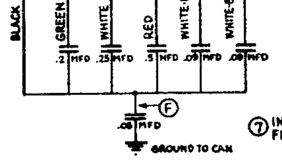




MODEL 54

RESISTANCE VALUES (OHMS)	
(18)(14)	3,000
(0)	300 (Flexible Wire Wound)
(11)(26)(30)	51,000
(16)	99,000
(17)	6,000
(21)	2,000,000
(23)(34)(43)	490,000
(32)	240,000
(35)	25,000

FIXED COND. VALUES (MFD)	
(1)(13)(24)(27)(31)	.00011
(2)	.001
[illegible]	.05
(7)	.2
	.25
	.5
	.09
[illegible]	.01
[illegible]	.015

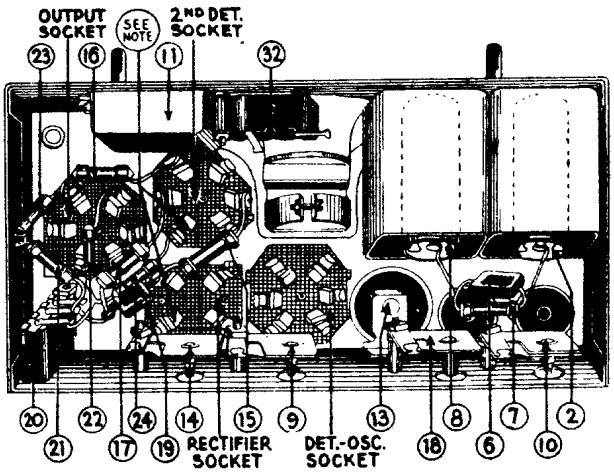


(7) INTERNAL CONNECTIONS FILTER CONDENSER

I.F. 460 KC.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

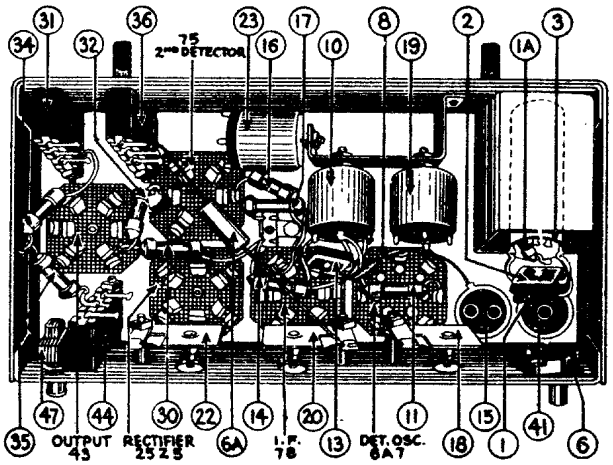
Model 53



No. on Figs. 2, 3 and 4	Description	Part No.
①	Volume Control	33-5001
②	Antenna Transformer	32-1000
③	Tuning Condenser Assembly	31-1000
④	Compensating Condenser (Part of Tuning Condenser Assembly)	
⑤	Filter Condenser Block (.05-.09-.25-.75-.2 Mfd.)	30-4000
⑥	Condenser (.0014 Mfd.)	7007
⑦	Resistor (8,000 ohms) Gray-Black-Red	5838
⑧	Oscillator Transformer	32-1001
⑨	Compensating Condenser (I.F. Primary)	04000-A
⑩	Compensating Cond. (Low Frequency)	04000-S
⑪	Condenser (10.0 Mfd.)	7440
⑫	Compensating Condenser (Part of Tuning Condenser Assembly)	
⑬	I.F. Transformer	32-1002
⑭	Compensating Cond. (I.F. Secondary)	04000-A
⑮	Resistor (10,000 ohms) Brown-Black-Orange	4412
⑯	Resistor (490,000 ohms) Yellow-White-Yellow	4517
⑰	Resistor (10,000 ohms) Brown-Black-Orange	4412
⑱	Compensating Condenser (Regeneration)	04000
⑲	Condenser (.00025 Mfd.)	3082
⑳	Condenser (.01 Mfd.)	3903-AM
㉑	Resistor (240,000 ohms) Red-Yellow-Yellow	4410
㉒	Resistor (490,000 ohms) Yellow-White-Yellow	4517
㉓	Resistor (51,000 ohms) Green-Brown-Orange	4518
㉔	Resistor (99,000 ohms) White-White-Orange	4411
㉕	Condenser (.015 Mfd.)	3793-S
㉖	Output Transformer	32-7000
㉗	Voice Coil and Cone Assembly	36-3000
㉘	A. C. Switch (Part of Volume Control Assembly)	33-5001
㉙	Resistors (2 Wire Wound-108 ohms each)	33-3000 / 33-3001
㉚	Electrolytic Condenser (8 Mfd.)	30-2000
㉛	Electrolytic Condenser (8 Mfd.)	30-2000
㉜	Condenser (.05 Mfd.)	3615-E
㉝	Filter Choke	32-7001
	Tube Shield	7172
	Knobs (Both Controls)	03064
	Four Prong Socket	7544

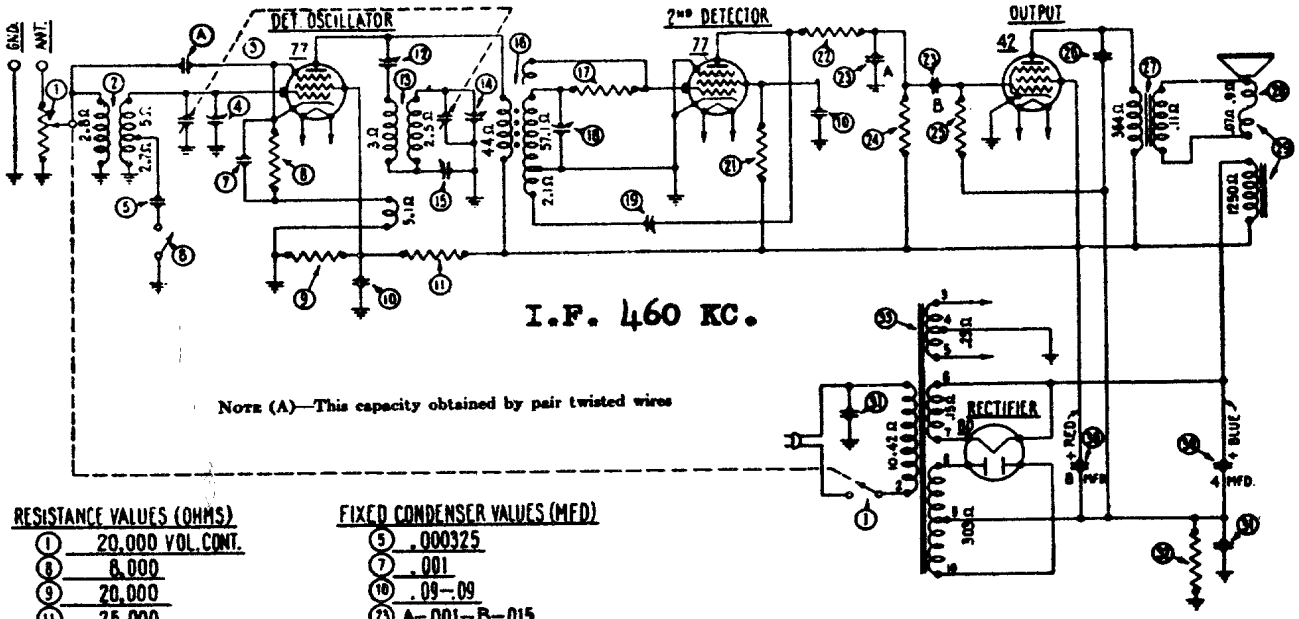
Model 54

(A. C.—D. C.)



No. on Figs.	Description	Part No.
①	Condenser	30-1005
①a	Resistor (Green-Black-Red)	6096
②	Condenser	5215
③	Antenna Transformer Assembly	32-1117
④	Tuning Condenser Assembly	31-1027
⑤	Compensating Condenser (Part of ④)	
⑥	Wave Band Switch	42-1027
⑥a	Condenser	30-4020
⑦	Filter Condenser (Block)	30-4023
⑧	Resistor (Flexible)	33-3010
⑨	Compensating Condenser (High Frequency 1400) Part of ④	
⑩	Oscillator Coil	32-1118
⑪	Resistor (Green-Brown-Orange)	4518
⑫	Compensating Condenser (Low Freq.)	04000-B
⑬	Condenser	4519
⑭	Resistor (Green-Black-Red)	5310
⑮	Electrolytic Condenser (Double)	30-2002
⑯	Resistor (White-White-Orange)	4411
⑰	Resistor (Gray-Black-Red)	5838
⑱	Compensating Cond. (1st I. F. Primary)	04000-A
⑲	1st I. F. Transformer	32-1115
⑳	Compensating Condenser (1st I. F. Secondary)	04000-A
㉑	Resistor (Red-Black-Green)	5872
㉒	Compensating Cond. (2nd I. F. Primary)	04000-A
㉓	2nd I. F. Transformer	32-1116
㉔	Condenser (Double)	8035-G
㉕	Volume Control and "On-Off" Switch	33-5010
㉖	Resistor (Green-Brown-Orange)	4518
㉗	Condenser	3903AM
㉘	Resistor (Yellow-White-Yellow)	6097
㉙	Resistor (Green-Brown-Orange)	4518
㉚	Condenser (Double)	8035-F
㉛	Resistor (Red-Yellow-Yellow)	4410
㉜	Resistor (Yellow-White-Yellow)	4517
㉝	Resistor (Red-Green-Orange)	4516
㉞	Condenser	3793-Y
㉟	Output Transformer	32-7020
㊱	Voice Coil and Cone Assembly	36-3029
㊲	Field Coil and Pot Assembly	36-3040
㊳	Filter Choke	32-7036
㊴	Electrolytic Condenser	30-2001
㊵	Resistor (Wire Wound)	33-3012
㊶	Resistor (Yellow-White-Yellow)	6097
㊷	Condenser	3615-B
㊸	Pilot Lamp	4567
㊹	Resistor (Wire Wound)	33-3011
㊺	Safety Switch	42-1026
	Tube Shield	28-1130
	Six Prong Socket	7547
	Seven Prong Socket	27-6005

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



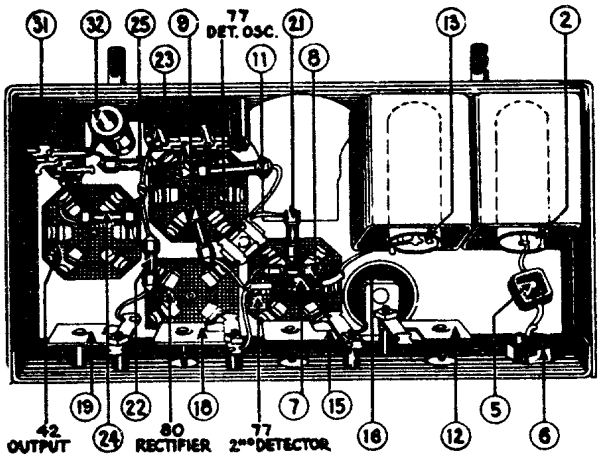
Note (A)—This capacity obtained by pair twisted wires

RESISTANCE VALUES (OHMS)

(1)	20,000 VOL. CONT.
(8)	6,000
(9)	20,000
(11)	25,000
(17)	4000,000
(21)	1,000,000
(22)	10,000
(24)	240,000
(25)	490,000
(32)	325 (WIRE WOUND)

FIXED CONDENSER VALUES (MFD)

(5)	.000325
(7)	.001
(10)	.09—.09
(23)	A—.001—B—.015
(26)	.006
(31)	.015—.015

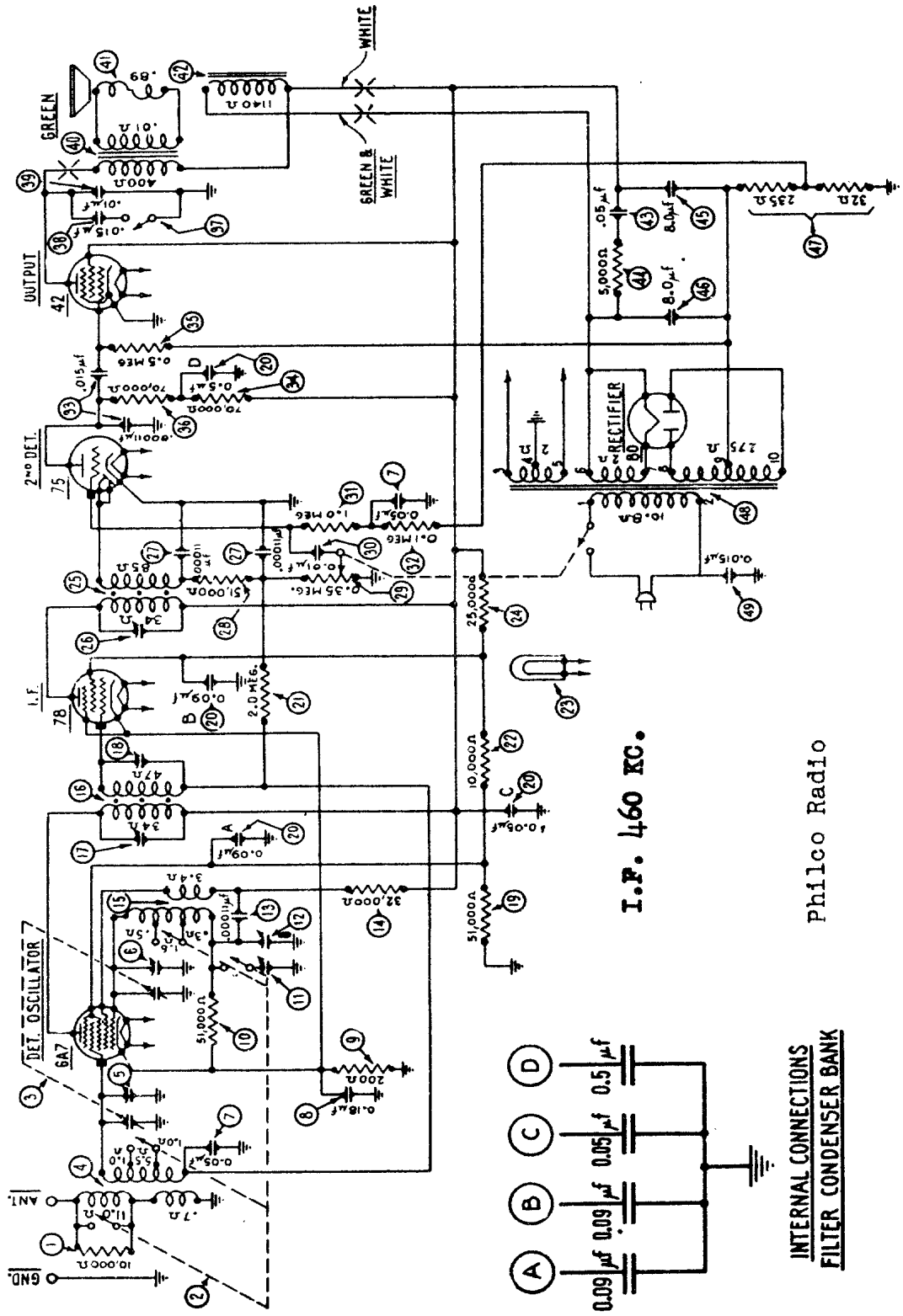


PHILCO

MODEL 57

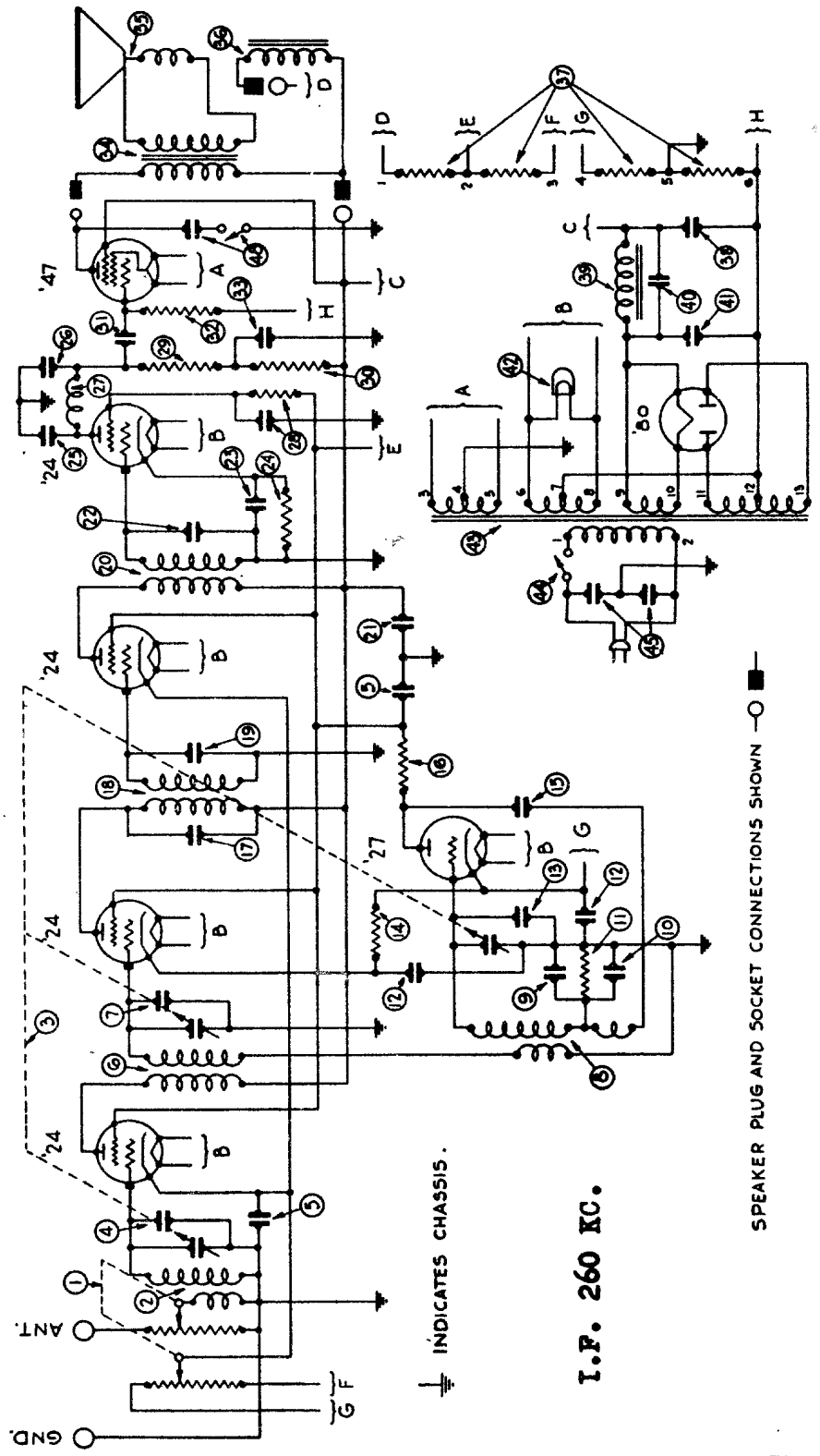
No. on Figs.	Description	Part No.
(1)	Volume Control and "On-Off" Switch	33-5011
(2)	Antenna Transformer	32-1153
(3)	Tuning Condenser Assembly	31-1035
(4)	Compensating Condenser (Antenna; Part of (3))	
(5)	Condenser	30-1004
(6)	Wave Band Switch	42-1027
(7)	Condenser	5215
(8)	Resistor (Gray-Black-Red)	5838
(9)	Resistor (Red-Black-Orange)	6650
(10)	Condenser (Double)	4989-C
(11)	Resistor (Red-Green-Orange)	3656
(12)	Compensating Condenser (I. F. Primary)	04000-A
(13)	Oscillator Coil	32-1023
(14)	Compensating Cond. (High Frequency—1400 kilocycles) (Part of (3))	
(15)	Compensating Cond. (Low Frequency)	04000-S
(16)	I. F. Transformer	32-1155
(22)	Resistor (Yellow-Black-Green)	6010
(18)	Compensating Cond. (I. F. Secondary)	04000-D
(18)	Compensating Condenser	04000
(21)	Resistor (Brown-Black-Green)	4409
(23)	Resistor (Brown-Black-Orange)	4412
(18)	Condenser (Double)	7762-B
(24)	Resistor (Red-Yellow-Yellow)	4410
(25)	Resistor (Yellow-White-Yellow)	3769
(26)	Condenser	7625-E
(27)	Output Transformer	32-7041
(18)	Voice Coil and Cone Assembly	36-3029
(29)	Field Coil and Pot Assembly	36-3081
(30)	Electrolytic Condenser (Double)	30-2004
(31)	Condenser (Double)	3793-R
(15)	Resistor (Wire Wound)	7465
(30)	Power Transformer	32-7046
	Tube Shield	28-1107
	Four Prong Socket	7544
	Six Prong Socket	7547

Model 60

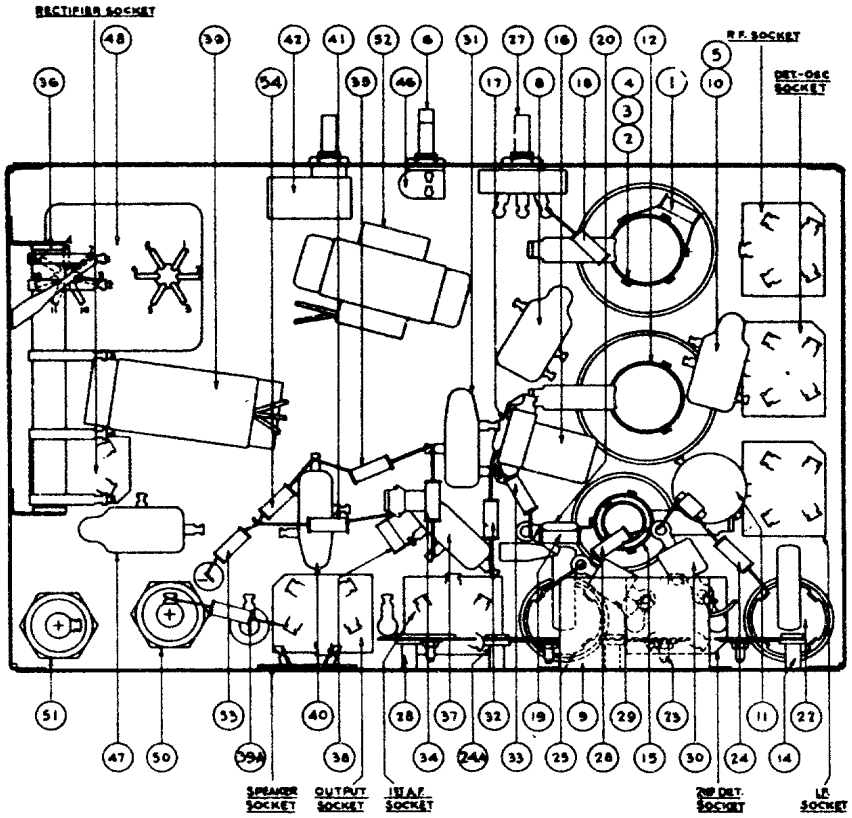


COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MODELS 70 AND 70-A



Philco Radio



REPLACEMENT PARTS MODELS 70 AND 70-A

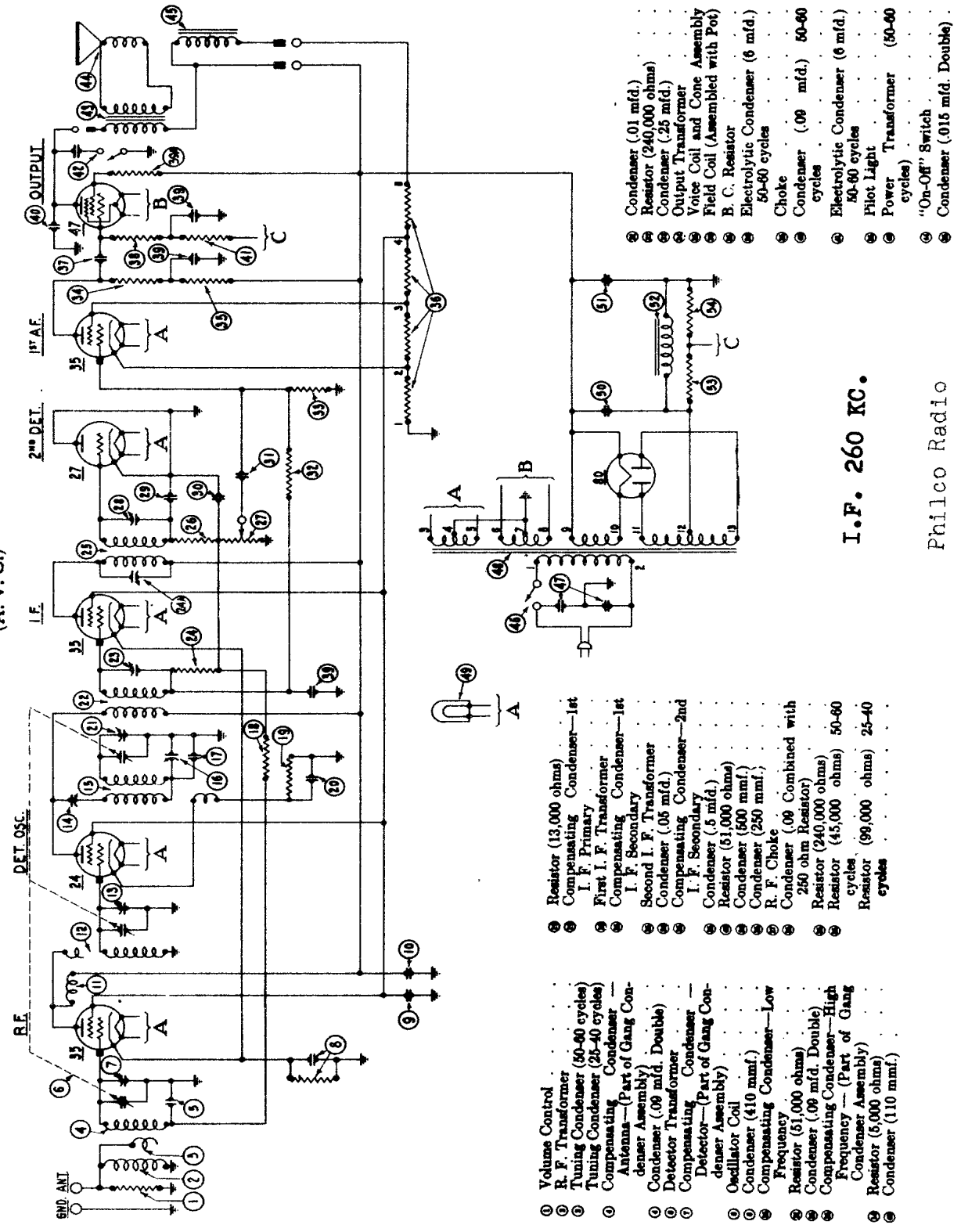
(Above Serial No. B-22,000)

No. on Figs. 3 and 4	Description	Part No.
①	Resistor (10,000 ohms)	4112
②③④	Antenna Coil	04339
⑤	Condenser (.05 mfd.) double	3615-AF
⑥	Tuning Condenser Assembly 50-60 cycles	04164
	Tuning Condenser Assembly 25-40 cycles	04165
⑦	Compensating Condenser — Antenna — (Part of Tuning Condenser Assembly)	
⑧	Condenser (.09 mfd. and 200 ohm Resistor)	4989-L
⑨	Condenser (.5 mfd.)	3583
⑩	Combined with ⑧	
⑪	R. F. Choke	04196
⑫	Interstage Coil	04185
⑬	Compensating Condenser — Detector — (Part of Tuning Condenser Assembly)	
⑭	Compensating Condenser—Coupling	04000-M
⑮	Oscillator Coil	04186
⑯	Compensating Condenser — Low Frequency	04000-F
⑰	Condenser (410 mmf.)	5120
⑱	Resistor (2,000,000 ohms)	5872
⑲	Resistor (10,000 ohms)	4412
⑳	Condenser (700 mmf.)	4520
㉑	Compensating Condenser - High Frequency—(part of Tuning Condenser Assembly)	
㉒	First I. F. Transformer	04190
㉓	Compensating Condenser—First I. F.	04000-M
㉔	Resistor (2,000,000 ohms)	5872
㉔A	Compensating Condenser 2nd I.F. Primary	04000-M
㉕	Second I. F. Transformer	03038
㉖	Resistor (99,000 ohms)	4411
㉗	Volume Control	6015
㉘	Compensating Condenser —Second I. F.	04000-M
㉙	Condenser (110 mmf.)	4519
㉚	Condenser (110 mmf.)	4519
㉛	Condenser (.01 mfd.)	3903-G
㉜	Resistor (4,000,000 ohms)	6010
㉝	Resistor (1,000,000 ohms)	4409
㉞	Resistor (70,000 ohms)	5385
㉟	Resistor (25,000 ohms)	4516

No. on Figs. 3 and 4	Description	Part No.
㊱	B. C. Resistor	04196
㊲	Condenser (.01 mfd.)	3903-T
㊳	Resistor (490,000 ohms)	4517
㊴	Filter Condenser Block (.05, .25, 1.5 mfd.)	04194
㊵A	Resistor (3,000 ohms)	5309
㊶	Condenser (.01 mfd.)	3903-U
㊷	Resistor (330,000 ohms) 50-60 cybles	6046
	Resistor (490,000 ohms) 25-40 cycles	4517
㊸	Tone Control	03637
㊹	Output Transformer	2673
㊺	Voice Coil & Cone Assembly	02996
㊻	Field Coil Assembled with Pot	02966
㊼	On-Off Switch	4095
㊽	Condenser (.015 mfd. Double)	3793-H
㊾	Power Transformer (50-60 cycles)	5117
	Power Transformer (25-40 cycles)	5118
	Power Transformer (50-60 cycles, 230 volts)	5119
㊿	Pilot Light	3463
(51)	Electrolytic Condenser (6 mfd.) 50-60 cycles	4916
	Electrolytic Condenser (14 mfd.) 25-40 cycles	5725
(52)	Electrolytic Condenser (6 mfd.) 50-60 cycles	4916
	Electrolytic Condenser (10 mfd.) 25-40 cycles	5142
(53)	Filter Choke	4819
(54)	Resistor (51,000 ohms)	4518
(55)	Resistor (490,000 ohms)	4517
	Tube Shield	04166
	Knob (Large)	03064
	Knob (Small)	03437
	Knob Spring	4147
	Grid Clip	4897
	Five Prong Socket Assembly	4956
	Four Prong Socket Assembly	4955
	Dial Complete	03031
	Bezel	5312
	Chassis Mounting Screw	W-468
	Mounting Washer	W-815
	Rubber Washer	5189

MODELS 70 AND 70-A

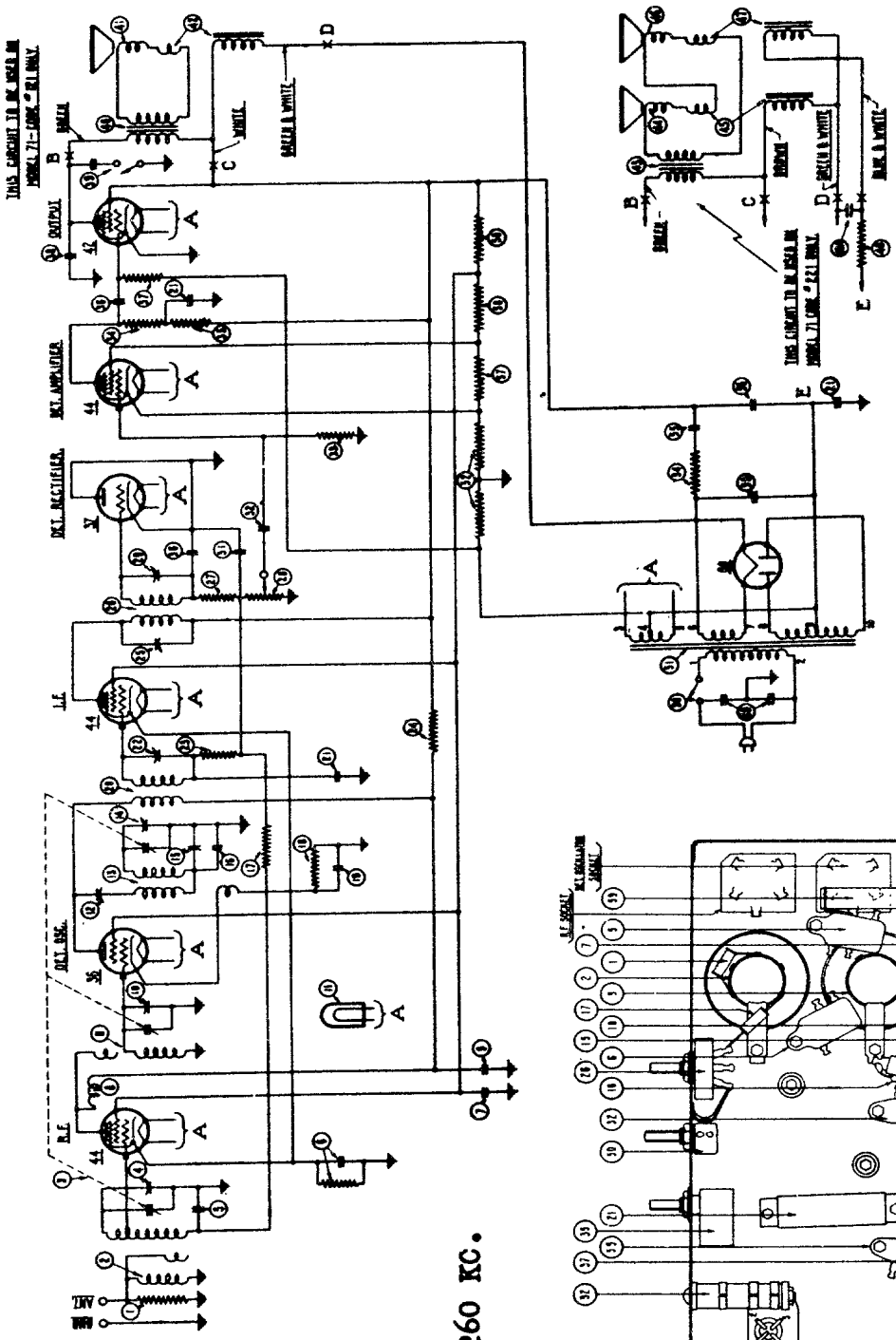
(A. V. C.)



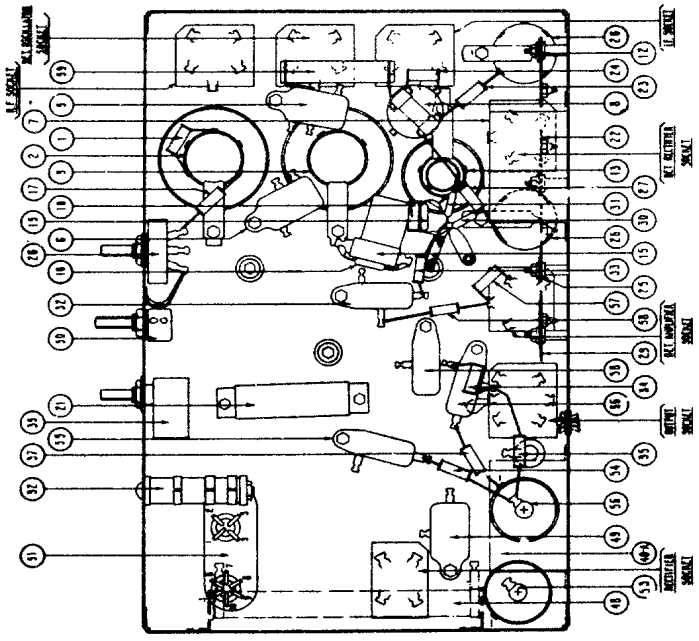
① Volume Control
② ③ R. F. Transformer
④ Tuning Condenser (50-60 cycles)
Tuning Condenser (25-40 cycles)
⑤ Compensating Condenser — Antenna—(Part of Gang Condenser Assembly)
⑥ Condenser (.09 mfd. Double)
⑦ ⑧ Detector Transformer
⑨ Compensating Condenser — Detector—(Part of Gang Condenser Assembly)
⑩ Oscillator Coil
⑪ ⑫ Condenser (410 mmf.)
⑬ ⑭ Compensating Condenser—Low Frequency
⑮ Resistor (51,000 ohms)
⑯ ⑰ Condenser (.09 mfd. Double)
⑱ ⑲ Compensating Condenser—High Frequency — (Part of Gang Condenser Assembly)
⑳ Resistor (5,000 ohms)
㉑ Condenser (110 mmf.)
㉒ Resistor (13,000 ohms)
㉓ ㉔ Compensating Condenser—1st I. F. Primary
㉕ ㉖ First I. F. Transformer
㉗ ㉘ Compensating Condenser—1st I. F. Secondary
㉙ ㉚ Second I. F. Transformer
㉛ ㉜ Condenser (.05 mfd.)
㉝ ㉞ Compensating Condenser—2nd I. F. Secondary
㉟ ㊱ Condenser (.5 mfd.)
㊲ ㊳ Resistor (51,000 ohms)
㊴ ㊵ Condenser (500 mmf.)
㊶ ㊷ Condenser (250 mmf.)
㊸ ㊹ R. F. Choke
㊺ ㊻ Condenser (.09 Combined with 250 ohm Resistor)
㊼ ㊽ Resistor (240,000 ohms)
㊾ ㊿ Resistor (45,000 ohms) 50-60 cycles
Resistor (99,000 ohms) 25-40 cycles
(51) Condenser (.01 mfd.)
(52) (53) Resistor (240,000 ohms)
(54) (55) Condenser (.25 mfd.)
(56) (57) Output Transformer
(58) (59) Voice Coil and Cone Assembly
(60) (61) Field Coil (Assembled with Pot)
(62) (63) B. C. Resistor
(64) (65) Electrolytic Condenser (6 mfd.) 50-60 cycles
(66) (67) Choke
(68) (69) Condenser (.09 mfd.) 50-60 cycles
(70) Electrolytic Condenser (6 mfd.) 50-60 cycles
(71) (72) Pilot Light
(73) (74) Power Transformer (50-60 cycles)
(75) (76) "On-Off" Switch
(77) (78) Condenser (.015 mfd. Double)

I.F. 260 KC.

Philco Radio



I.F. 260 KC.



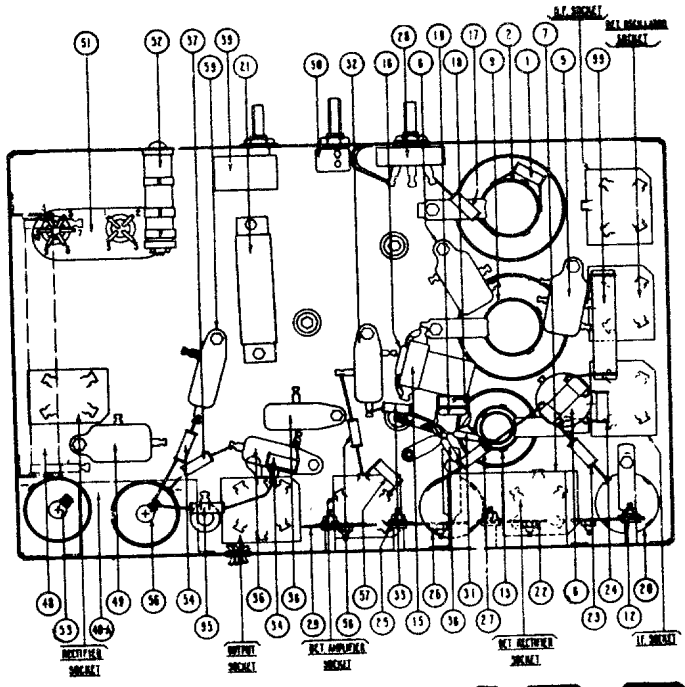
Model 71

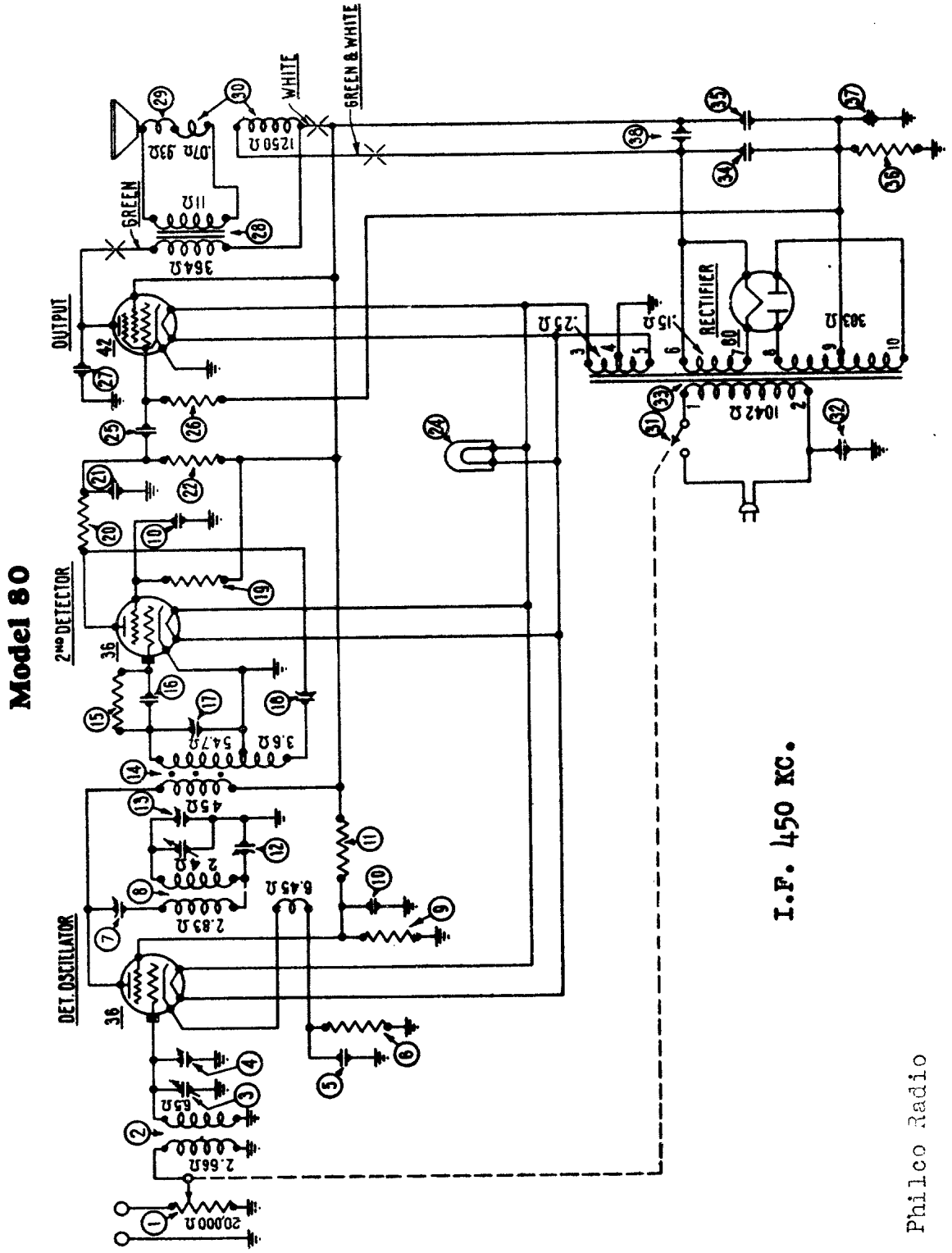
Philco Radio

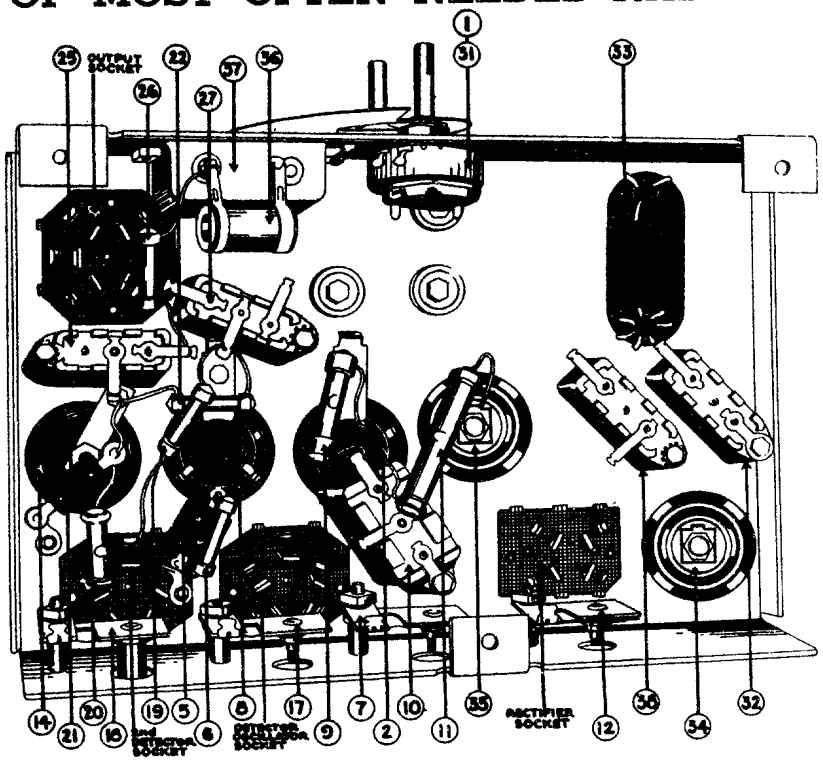
Replacement Parts for Model 71 Series

①	Resistor (10,000 ohms)	4412
②	R. F. Transformer	04339
③	Tuning Condenser (50-60 cycles)	04733
④	Tuning Condenser (25-40 cycles)	04734
⑤	Condenser (.05 Mfd. double)	3615-AF
⑥	Condenser (.09 Mfd. and 200 ohm resistor)	4989-L
⑦	Condenser (.5 Mfd.)	3583
⑧	R. F. Choke	04198
⑨	Detector Transformer	04185
⑩	Compensating Condenser—Detector—Part of tuning condenser assembly	
⑪	Pilot Light	6608
⑫	Compensating Condenser — 1st I. F. primary	04000-M
⑬	Oscillator Coil	04186
⑭	Compensating Condenser—High frequency—Part of tuning condenser assembly	
⑮	Compensating condenser—Low frequency	04000-F
⑯	Condenser (410 Mmf.) (Yellow and Orange)	5120
⑰	Resistor (1,000,000 ohms)	4409
⑱	Resistor (15,000 ohms)	6208
⑲	Condenser (700 Mmf.) (White and Yellow)	4520
⑳	First I. F. Transformer	04190
㉑	Filter Condenser Bank (2 —.05, .25 Mfd.)	04731
㉒	Compensating Condenser — 1st I. F. secondary	04000-M
㉓	Resistor (1,000,000 ohms)	4409
㉔	Resistor (1,000 ohms)	5837
㉕	Compensating Condenser—2nd I. F. primary	04000-M
㉖	Second I. F. Transformer	04319
㉗	Resistor (99,000 ohms)	4411
㉘	Volume Control	6499
㉙	Compensating Condenser—2nd I. F. secondary	04000-M
㉚	Condenser (110 Mmf.) (Blue and Golden Yellow)	4519
㉛	Condenser (110 Mmf.) (Blue and Golden Yellow)	4519
㉜	Condenser (.01 Mfd.)	3903-J
㉝	Resistor (1,000,000 ohms)	4409
㉞	Resistor (70,000 ohms)	5385
㉟	Resistor (25,000 ohms) Single Speaker	4516
	Resistor (51,000 ohms) Twin Speaker Models	4518
㊱	Condenser (.01 Mfd.)	3903-N
㊲	Resistor (490,000 ohms)	4517
㊳	Condenser (.01 Mfd.)	3903-AA
㊴	Tone Control	04757
㊵	Output Transformer — single speaker models	2580
㊶	Voice Coil and Cone assembly.	02823
㊷	Speaker Field and Bucking Coil assembled with pot—(K-7) single speaker models	02761
㊸	Output Transformer — Twin speaker models	2564
㊹	Voice Coil and cone assembly.	02823
㊺	Speaker Field and Bucking Coil assembled with pot—(K-10) Twin speaker models	02767
㊻	Voice coil and cone assembly.	02823
㊼	Speaker field assembled with pot —(K-9) Twin speaker models	02762
㊽	Resistor (5620 ohms) wire wound —Twin speaker models	6451
㊾A	Condenser (.25 Mfd.) Twin Speaker Models	04997
㊾	Condenser (.015 Mfd. Double)	3793-H
㊿	On-off Switch	6498
(51)	Power Transformer—50-60 cycles—single speaker	6454
	Power Transformer—25-40 cycles—single speaker	6455
	Power Transformer—50-60 cycles—230 volts—single speaker	6456
	Power Transformer—50-60 cycles—twin speaker	6457
	Power Transformer—25-40 cycles—twin speaker	6458
	Power Transformer—50-60 cycles—230 volts—twin speaker	6459
(52)	Resistor—wire wound (245 ohms and 185 ohms)	6452
(53)	Electrolytic Condenser (6 Mfd.) (50-60 cycles) single speaker	6453
	8 Mfd. Twin speaker	6707
(54)	Resistor (10,000 ohms)	4412
(55)	Condenser (.05 Mfd.)	3615-G
(56)	Electrolytic Condenser (6 Mfd.) (50-60 cycles) single speaker	4916
	8 Mfd. Twin speaker	6706
(57)	Resistor (5,000 ohms)	5310
(58)	Resistor (5,000 ohms)	5310
(59)	Resistor (13,000 ohms)	6450
	Tube Shield (small)	5387
	Tube Shield (large)	04735

Philco Radio







REPLACEMENT PARTS MODEL 80

No. on Figs. 2 and 3	Description	Part No.
①	Volume Control—Combined with On-Off Switch	7439
②	Antenna Transformer	05831
③	Tuning Condenser Assembly	05794
④	Compensating Condenser — Antenna — Part of Tuning Con. Assembly	
⑤	Condenser (710 Mmf.) White and Yellow	4520
⑥	Resistor (10,000 Ohms)	4412
⑦	Compensating Condenser—I.F. Primary	04000-A
⑧	Oscillator Coil	05832
⑨	Resistor (9,000 Ohms)	7501
⑩	Condenser (.09 Twin)	4989-B
⑪	Resistor (16,000 Ohms)	7500
⑫	Compensating Condenser — Low Frequency:	04000-S
⑬	Compensating Condenser — High Frequency — Part of Tuning Con. Assembly	
⑭	I.F. Transformer	05834
⑮	Resistor (4,000,000 Ohms) Mounted on I.F. Transformer	6010
⑯	Condenser (50 Mmf.) White—Mounted on I.F. Transformer	3774
⑰	Compensating Condenser—I.F. Secondary	04000-D
⑱	Compensating Condenser	04000
⑲	Resistor (1,000,000 Ohms)	4409*
⑳	Resistor (10,000 Ohms)	4412
㉑	Condenser (1,000 Mmf.) Green and White	5215
㉒	Resistor (240,000 Ohms)	4410
㉔	Pilot Light	6608

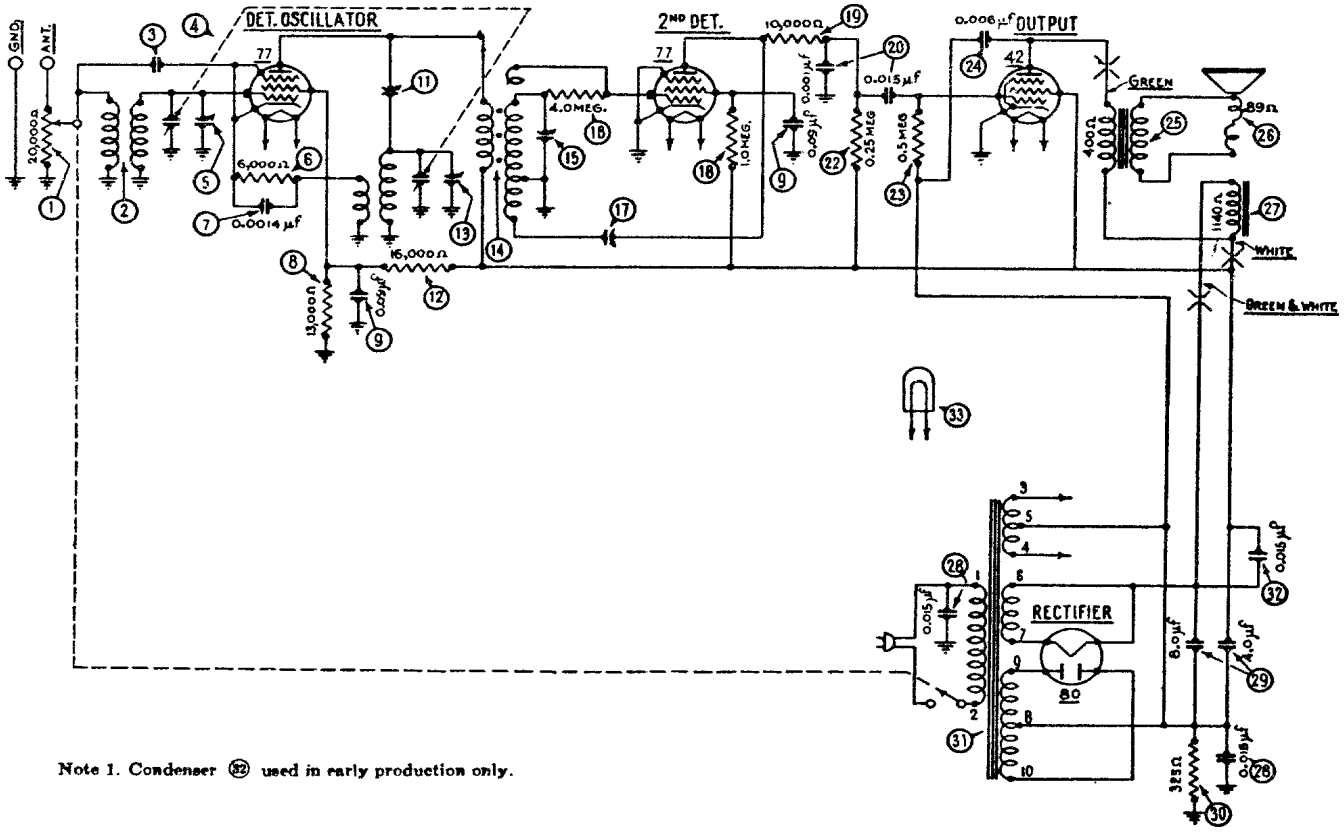
No. on Figs. 2 and 3	Description	Part No.
㉕	Condenser (.015 Mfd.)	3793-B
㉖	Resistor (490,000 Ohms)	4517*
㉗	Condenser (.006 Mfd.)	7625-B*
㉘	Output Transformer	2660
㉙	Voice Coil and Cone Assembly	02861
㉚	Speaker Field and Bucking Coil Assembled with Pot	02677*
㉛	On-Off Switch—Combined with Volume Control	7439
㉜	Condenser (.01 Mfd.)	3903-AH*
㉝	Power Transformer 50-60 Cycles	7421
	Power Transformer 25-40 Cycles	7422
	Power Transformer 50-60 Cycles, 230 Volts	7423
㉞	Electrolytic Condenser (8.0 Mfd.)	6707
㉟	Electrolytic Condenser (4.0 Mfd.)	7467
㊱	Resistor (325 Ohms) Wire Wound	7465*
㊲	Electrolytic Condenser—Dry—(10 Mfd.)	7440*
㊳	Condenser (.01 Mfd.)	3903-AJ*
	Bezel	7417
	Dial Complete	05828
	Tube Shield	7172
	Knob (Large)	03063
	Knob (Small)	03064
	Knob Spring	5262
	Grid Clip	4897
	Four Prong Socket Assembly	5026
	Five Prong Socket Assembly	4956
	Six Prong Socket Assembly	6417
	Chassis Mounting Screw	W-567
	Chassis Mounting Washer	W-315
	Rubber Washer	5189
	Pilot Lamp Shield	5760

* A number of circuit changes were made on chassis of run No. 5 and above. This run number is rubber stamped in a star on the back of the chassis. Refering to Figs 2 and 3, the condenser ㉗ connects to the B- end of resistor ㉖ instead of to ground. The bucking coil - that section of ㉚ in series with the voice coil - is shorted out. The 10 mfd. dry electrolytic condenser ㊲ is eliminated, and replaced with a substitute .015 section combined with ㉕, part 3793R. The .01 mfd. condenser ㊳ is eliminated. The positions of ⑲ ㉔ and ㉚ are changed in the chassis from that shown in Fig. 8.

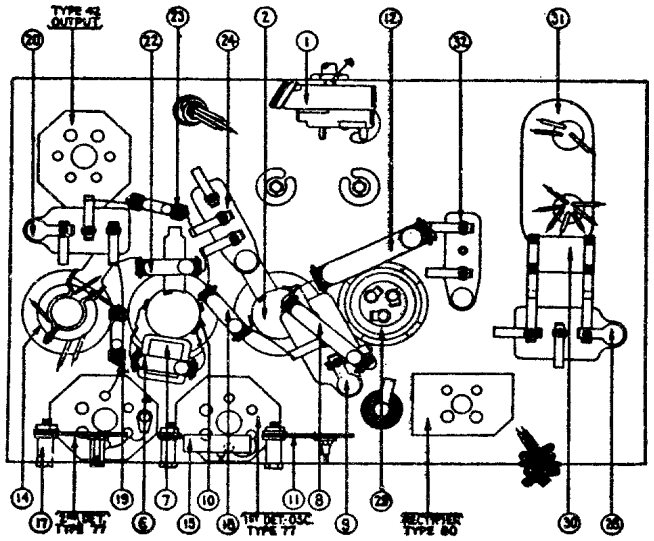
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

MODEL 84

Philco Radio



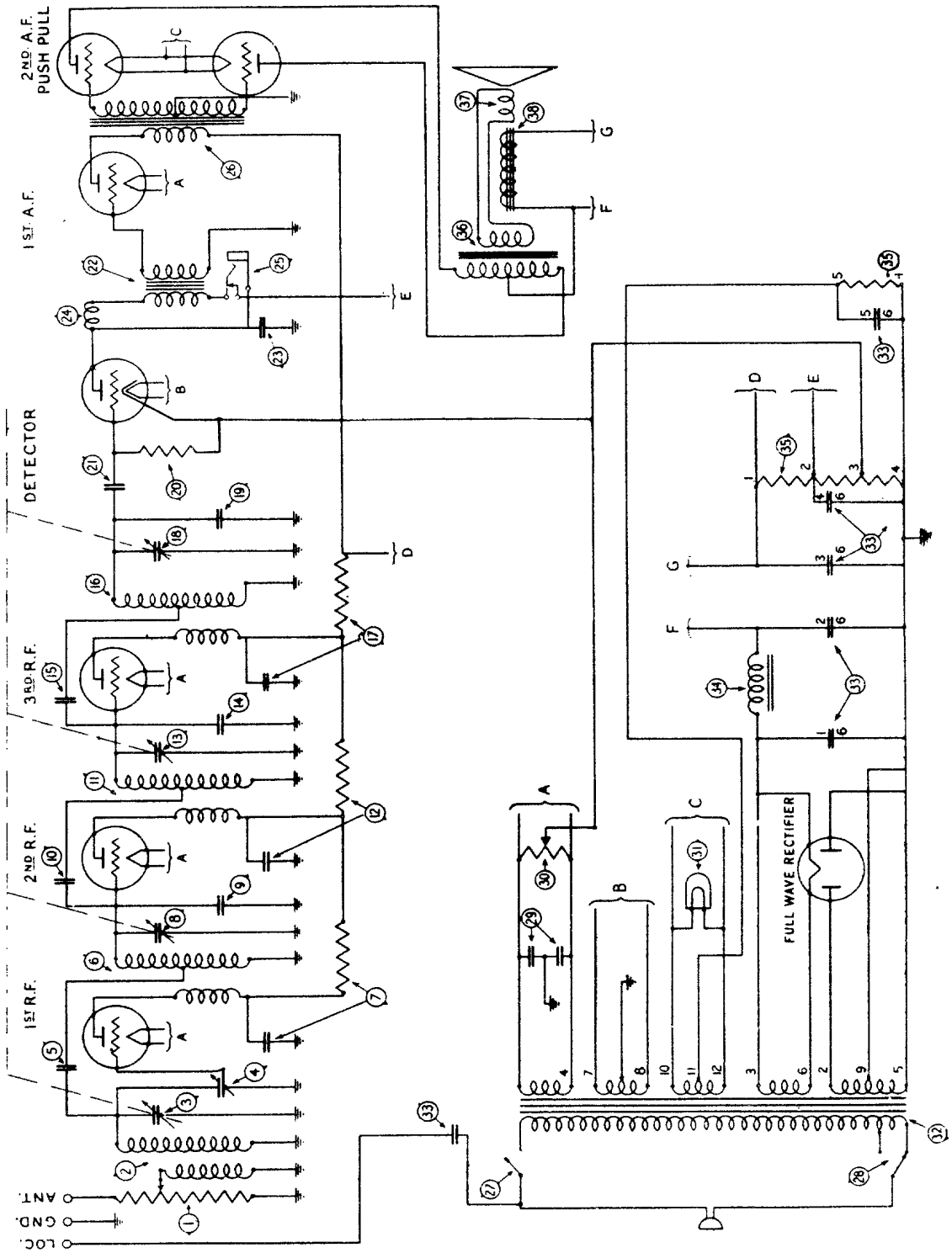
Note 1. Condenser (32) used in early production only.



I. F. 460 K. C.

132 COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Model 86 and 82



Replacement Parts for Model 86

	Part Name	Part No.
①	Volume Control	3076
②	R. F. Transformer (Antenna Tuning)	3075-B
③ - ⑧ - ⑫ - ⑱	Tuning Condenser (complete with drum and scale)	3001-B
④	Range Control	3133
⑤ - ⑩ - ⑭	Neutralizing Condenser	3025-A
⑥ - ⑪ - ⑯	R. F. Transformer	3075-A
⑦ - ⑬ - ⑰	By-Pass Condenser (.1 mfd. with Plate Resistor Winding)	3292-A
⑨ - ⑭ - ⑲	Compensating Condensers	3282-A
⑳	Grid Leak	3083
㉑	Grid Condenser	3082
㉒	Audio Transformer	3241
㉓	By-Pass Condenser (.001 mfd.)	3081
㉔	Detector R. F. Choke	3256-A
㉕	Phonograph Pick-Up Jack	3087
㉖	Push-Pull Input Transformer	3242
㉗	Power-Toggle Switch	3253
㉘	Primary Tap Switch	3116
㉙	Filament By-Pass Condenser (2 sections .5 mfd.)	3080
㉚	6-Ohm Hum Adjuster	3096
㉛	Pilot Lamp	3105
㉜	Power Transformer (60 cycle)	3271
㉝	Filter Condenser Block (60 cycle)	3246
㉞	Filter Choke Coil	3269
㉟	B-C Section Resistor	3232
㊱	Push-Pull Output Transformer	2897
	Speaker Plug	2871-A
㊲	Speaker Cone and Voice Coil	2898
㊳	Speaker Field Coil	2896
	Cable Spring	3012
	Control Knob Tuning Condenser	3035-A
	Control Knob (Volume and Range Control)	3036-A
	226 Tube Socket	3051-A
	Condenser Drive Cable	3054-A
	Knob Spring	3103
	Fibre Adjusting Wrench	3164
	280 Tube Socket	3169-A
	171 Tube Socket	3170-A
	Pilot Lamp Socket Assembly	3202-A
	Jack Insulator Nut	3231
	Terminal Panel Assembly	3236-A
	Speaker Socket	3247-A
	227 Tube Socket, Spring Type	3263-A
	Jack Insulator	3272
	A.C. Attachment Cord and Plug	L-943-A
	Wiring Cable	L-1037
	Speaker Cable	L-1039
	Socket Wrench for Speaker Mounting Bolts	3312

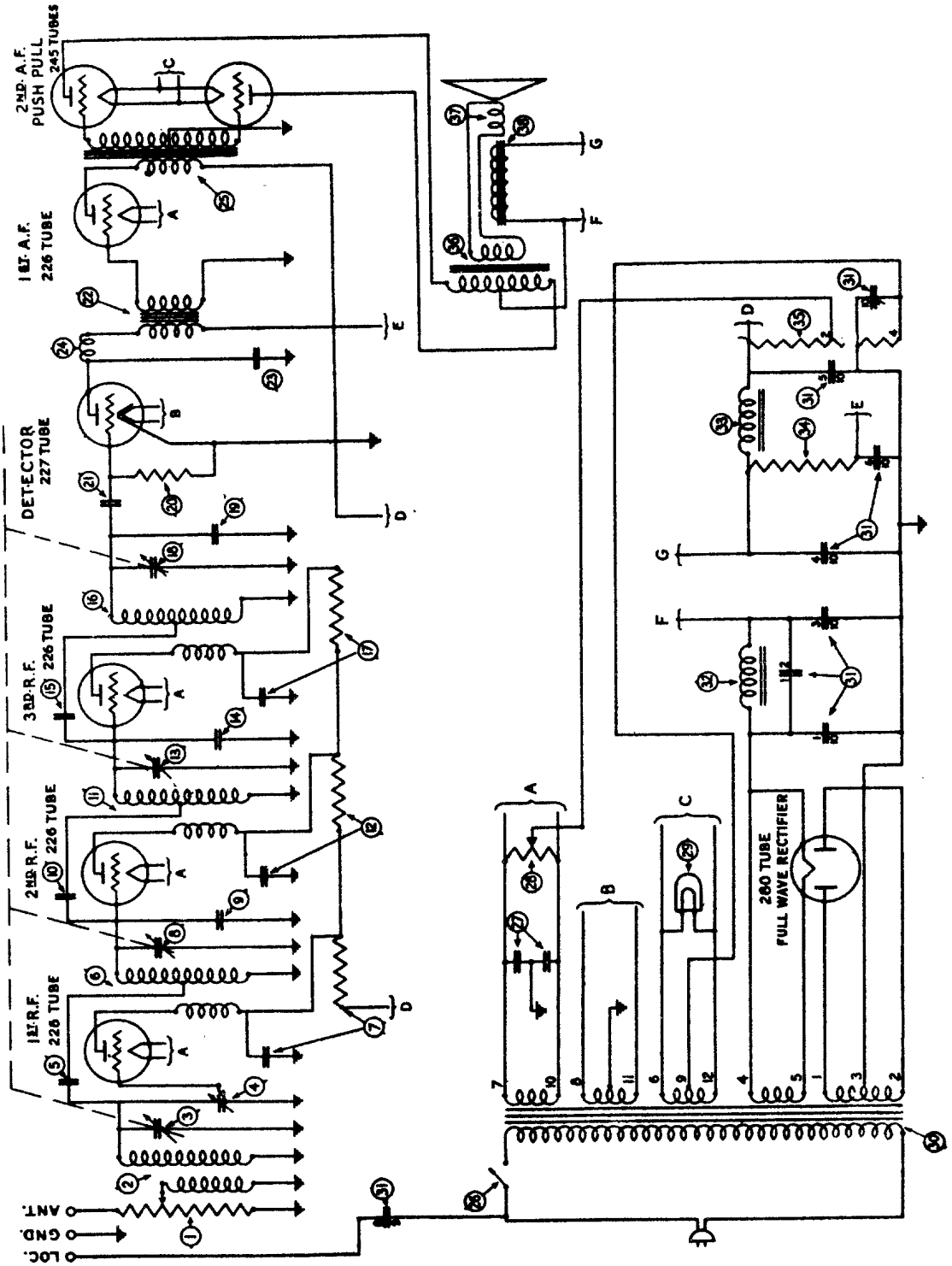
Note:—**When ordering replacements for 25-cycle Receivers (Model 82) use the following part numbers instead of those given above. All other part numbers remain the same.**

㉜	Power Transformer (25 cycle)	3278
㉝	Filter Condenser Block (25 cycle)	3279

Replacement Parts for Model 87

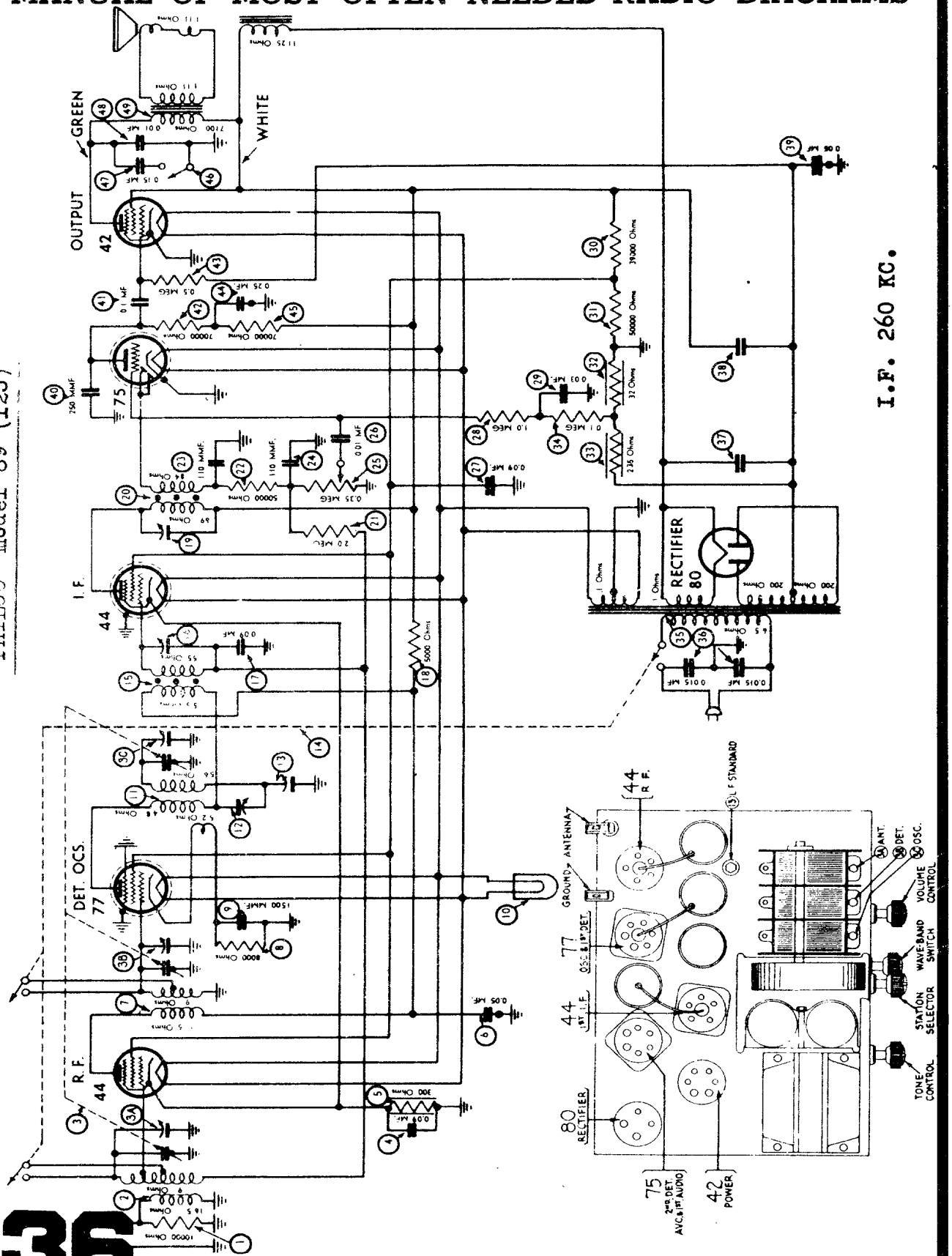
	Part Name	Part No.
①	Volume Control	3076
②	R. F. Transformer (Antenna Tuning)	3075-B
③ - ⑧ - ⑫ - ⑱	Tuning Condenser (Complete with Drum and Scale)	3001-B
④	Range Control	3133
⑤ - ⑩ - ⑭	Neutralizing Condenser	3441-A
⑥ - ⑪ - ⑯	R. F. Transformer	3075-A
⑦ - ⑬ - ⑰	By-Pass Condenser (.1 mfd. with Plate Resistor Winding)	3292-A
⑨ - ⑭ - ⑲	Compensating Condensers	3435-A
⑳	Grid Leak	3083
㉑	Grid Condenser	3082
㉒	Audio Transformer	3241
㉓	By-Pass Condenser (.001 mfd.)	3081
㉔	Detector R. F. Choke	3256-A
㉕	Push-Pull Input Transformer	3242
㉖	Power Toggle Switch	3501
㉗	Filament By-Pass Condenser (2 Sections .5 mfd.)	3080
㉘	6-Ohm Hum Adjustor	3096
㉙	Pilot Lamp	3463
㉚	Power Transformer	3400
㉛	Filter Condenser Block	3401
㉜	Filter Choke Coil (First)	3422
㉝	Filter Choke Coil (Second)	3472
㉞	Detector Resistor	3542
㉟	B-C Resistor	3399
㊱	Push-Pull Output Transformer	2848
㊲	Speaker Cone and Voice Coil	2844-A
㊳	Speaker Field Coil	2850
	Speaker Plug	2871-A
	Cable Spring	3012
	Control Knob Tuning Condenser	3301
	Control Knob (Volume and Range Control)	3300
	Condenser Drive Cable	3484
	Knob Spring	3305
	Fibre Adjusting Wrench	3164
	4-Hole Tube Socket	3423-A
	Pilot Lamp Socket Assembly	3202-A
	Terminal Panel Assembly	3236-A
	Speaker Socket	3464-A
	5-Hole Tube Socket	3442-A
	A.C. Attachment Cord and Plug	L-943-A
	Speaker Cable	L-1056-A
	Socket Wrench for Speaker Mounting Bolts	3312
	Tuning Scale	3298
	Oscillator Kit	3540
	Wood Switch Plug	3627

Model 87



PHILCO Model 89 (123)

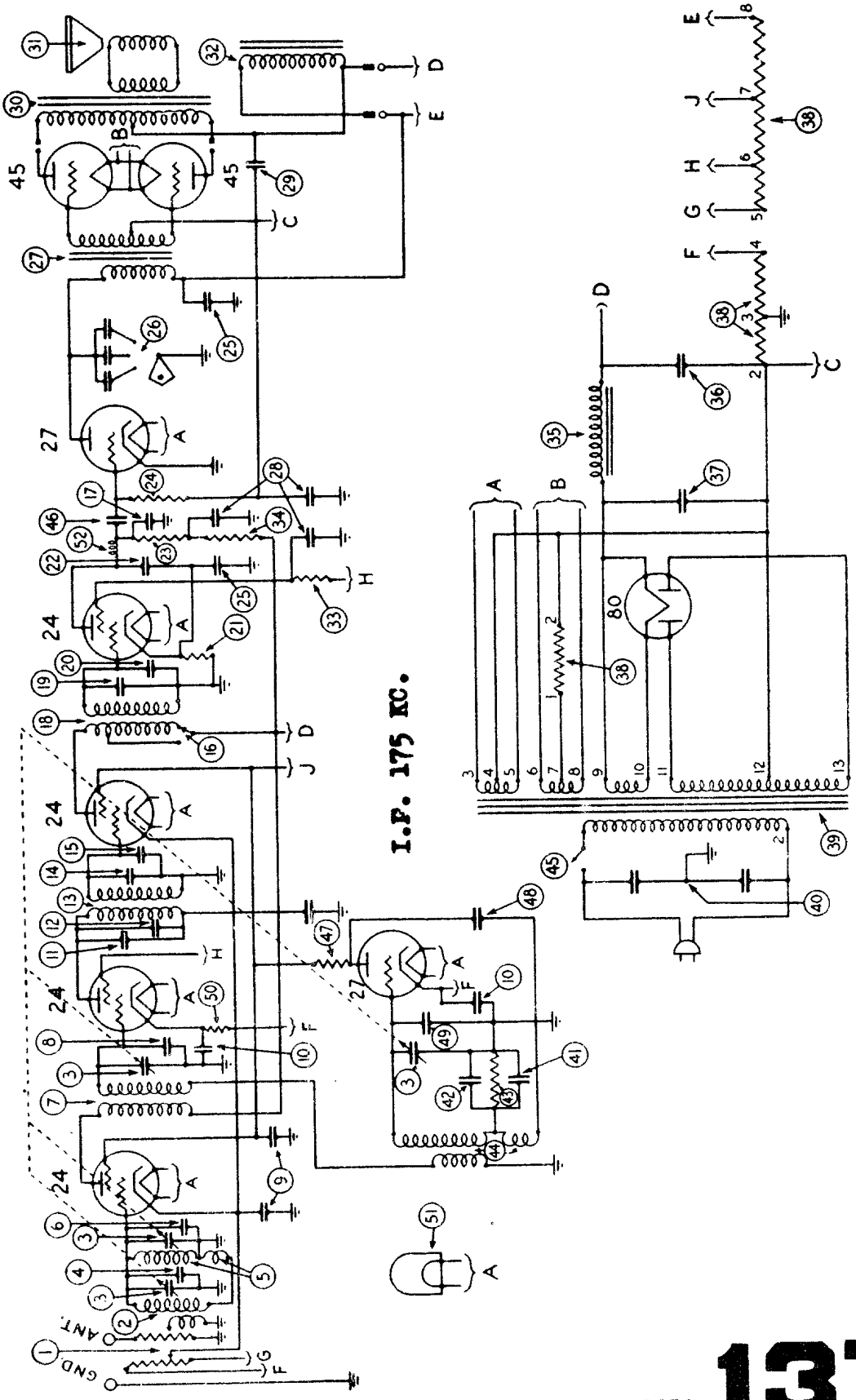
I.F. 260 KC.



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Models 90 and 90-A

WITH 2- TYPE 45 TUBES



MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

Models 90 and 90-A

WITH 2- TYPE 45 TUBES

No. on Figs. 3 and 4	Description	Part No.
①	Volume Control	5039
②	1st R. F. Transformer	03013
③	Gang Condenser—60 to 60 cycles	03001
	Gang Condenser—25 to 40 cycles	03078
④	Compensating Condenser (Part of Tuning Condenser Assembly)	
⑤	2nd R. F. Transformer	03014
⑥	Compensating Condenser (Part of Tuning Condenser Assembly)	
⑦	1st Det. Transformer	03015
⑧	Compensating Condenser (Part of Tuning Condenser Assembly)	
⑨	Condenser .09 M. F. (Double)	4989-C
⑨a	Condenser .09 M. F. (Double)	4989-B
⑩	Fixed Condenser .00011 } Assembled	3772-C
⑩a	Compensating Condenser }	
⑪	1st I. F. Transformer	03009
⑫	Compensating Condenser } Assembled	03051
⑫a	Fixed Condenser .00011 }	
⑬	Normal Maximum Switch	3116
⑭	Condenser (.000035 mf)	4990
⑮	2nd I. F. Transformer	03143
⑯	Compensating Condenser } Assembled	03061
⑯a	Fixed Condenser .00011 }	
⑰	Resistor—50,000 Ohms	4518
⑱	Condenser .00035	4990
⑲	Resistor—250,000 Ohms	4410
⑳	Resistor—1,000,000 Ohms	4409
㉑	Condenser .5 M. F. (Double)	03024
㉒	Tone Control	4037-A
㉓	1st Audio Transformer	4952
㉔	Condensers 2—.25 M. F. and 1—.5 M. F.	03029
㉕	Condenser .05 M. F.	3615-G
㉖	Output Transformer:	
	H_1 (For Large Cone Assembly)	2848
	K_1 (For Small Cone Assembly)	2766
㉗	Voice Coil Assembly and Cone:	
	H_2 (Large Cone)	02997
	K_2 (Small Cone)	02996
㉘	Speaker Field—Assembled with Pot and Frame	
㉙	Resistor—250,000 Ohms	3706
㉚	Resistor—250,000 Ohms	4410
㉛	Filter Choke	4951
㉜	Condenser 6 M. F. Electrolytic Type (50-60 cycles)	4916
	Condenser 10 M. F. Electrolytic Type (25-40 cycles)	5142
㉝	Condenser 6 M. F. Electrolytic Type (25-40) and (40-60) cycles	4916
㉞	B. C. Resistor	4963
㉟	Power Transformer (50 to 60 cycles)	4938
	Power Transformer (25 to 40 cycles)	4966

No. on Figs. 3 and 4	Description	Part No.
㊱	Condenser .015 M. F. (Double)	3793-E
㊲	Condenser .0007 M. F. } Assembled	03060
㊲a	Compensating Condenser }	
㊳	Resistor—50,000 Ohms	4237
㊴	Oscillator Coil	03016
㊵	On-Off Switch	4095
㊶	Condenser .001 M. F.	5215
㊷	Resistor—13,000 Ohms	3766
㊸	Condenser .00011 M. F.	4519
㊹	Compensating Condenser (Part of Tuning Condenser Assembly)	
㊺	Resistor—5,000 Ohms	3626
㊻	Pilot Bulb	3463
㊼	R. F. Choke	03086
	Line Cord and Plug	L-943
	Tube Shield	03002
	Knob (large) Dial Control	4956-A
	Spring (Dial Knobs)	4147
	Knobs (small) Tone and Volume Control	4959-A
	Knob (switch)	4290-A
	Grid Clip	4897
	Speaker Plug and Cable	L-1134-A
	Grommet for R. F. Transformer Shield	3747
	Rectifier Tube Socket	5026
	Four Prong Socket Assembly	4955
	Five Prong Socket Assembly	4956
	Speaker Socket	4957
	Volume Control Insulator	4092
	Volume Control Insulator	4296
	Fahnstock Clip	L-1126
	Finishing Rosettes	4267
	Speaker Mounting Screws (8 used)	W-493
	Speaker Mounting Screws (1 used)	W-483
	Dial	5021
	Mica for Gang Condenser Compensating Condenser	3473
	Insulating Washer for Compensating Condenser	3500
	Tuning Condenser Mounting Washer	3514
	Tuning Condenser Mounting Washer	3915
	Tuning Condenser Mounting Sleeve	3916
	Spring for Tuning Condenser	4255
	Bezel	5009
	Complete Pilot Bracket	03081-A
	Dial Disc	4925
	Light Shield Screen	4957
	Friction Drive Bracket	4956
	Brass Collar for Friction Drive	4956
	Shaft	4951

REPLACEMENT PARTS—MODELS 90 and 90-A RECEIVERS

(Above Serial No. 237,001)

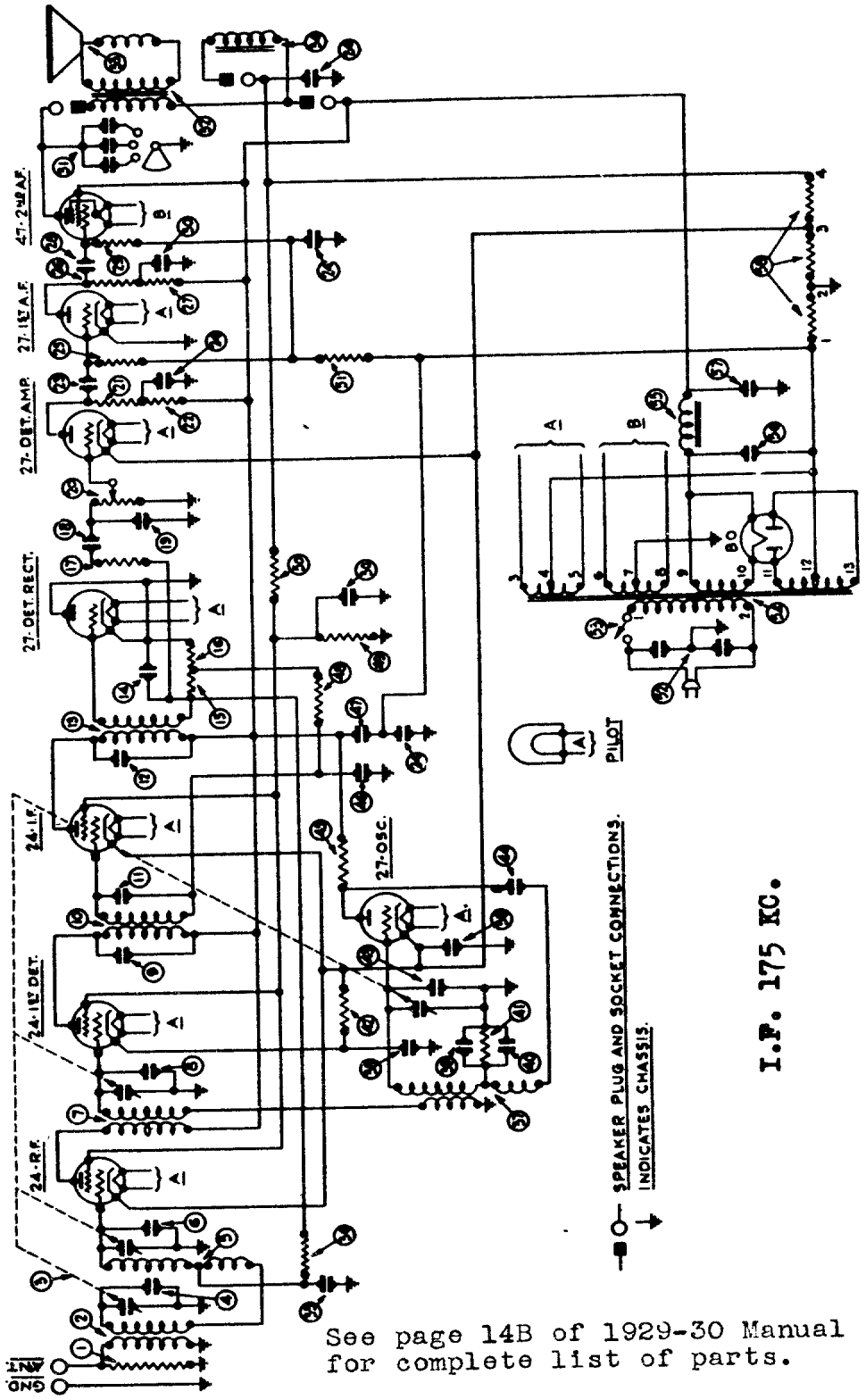
No. on Figs. 3 and 4	Description	Part No.
①	Resistor (10,000 ohms)	4412
②	First R. F. Transformer	03360
③	Gang Condenser (50-60 cycles)	03001
	Gang Condenser (25-40 cycles)	03078
④	Compensating Condenser (part of gang condenser assembly)	
⑤	Second R. F. Transformer	03014
⑥	Compensating Condenser (part of gang condenser assembly)	
⑦	First Detector Transformer	03015
⑧	Compansating Condenser (part of gang condenser assembly)	
⑨	Compensating Condenser (First I. F. Primary)	03315
⑩	First I. F. Transformer	03009
⑪	Compansating Condenser (First I. F. Secondary)	03315
⑫	Compensating Condenser (Second I. F. Primary)	03317
⑬	Second I. F. Transformer	03345
⑭	Condenser (110 mmf.)	4519
⑮	Resistor (51,000 ohms)	4518
⑯	Resistor (51,000 ohms)	4518
⑰	Resistor (99,000 ohms)	4411
⑱	By-Pass Condenser (.01 mfd.)	3903-M
⑲	Condenser (.00025 mfd.)	8082
⑳	Volume Control	5366
㉑	Resistor (51,000 ohms)	4518
㉒	Resistor (70,000 ohms)	5385
㉓	By-Pass Condenser (.01 mfd.)	3903-M
㉔	Condenser (1-.1 mfd., 1-.13 mfd., 2-.25 mfd.)	03325
㉕	Resistor (240,000 ohms)	4410
㉖	Resistor (35,000 ohms)	3656
㉗	Resistor (85,000 ohms)	3656
㉘	By-Pass Condenser (.01 mfd.)	3903-P
㉙	Resistor (340,000 ohms)	4410
㉚	Condenser (.25 mfd., 1 mfd.)	03327
㉛	Tone Control	4037-A
㉜	Output Transformer	2672
㉝	Voice Coil Assembly and Cone:	
	H_2 (Large Cone)	02997
	K_2 (Small Cone)	02996
㉞	Speaker Field (Assembled with pot and frame)	
㉟	By-Pass Condenser (.05 mfd.)	3615-W
㊱	Resistor (490,000 ohms)	4517
㊲	Oscillator Coil	03016
㊳	By-Pass Condenser (.09 mfd.) double	4989-G
㊴	Compensating Condenser } Assembled	03050
㊴a	Condenser (.0007 mfd.) }	
㊵	Resistor (51,000 ohms)	4518
㊶	Resistor (5,000 ohms)	5310
㊷	Compensating Condenser (part of tuning condenser assembly)	
㊸	Condenser (110 mmf.)	4519
㊹	Resistor (51,000 ohms)	4237
㊺	By-Pass Condenser (.05 mfd.)	3615-U
㊻	By-Pass Condenser (.05 mfd.)	3615-E
㊼	Resistor (490,000 ohms)	4517
㊽	Resistor (70,000 ohms)	5385
㊾	Resistor (25,000 ohms)	4516
㊿	Resistor (240,000 ohms)	3768
(51)	Condenser (.015 mfd.) double	3793-E
(52)	On-Off Switch	4095
(53)	Power Transformer (50-60 cycles)	5362
	Power Transformer (25-40 cycles)	5363
	Power Transformer (50-60 cycles, 220 volts)	5364
(54)	Choke	4951
(55)	Condenser (6 mfd.) Electrolytic type (50-60 cycles)	4916
	Condenser (10 mfd.) Electrolytic type (25-40 cycles)	5142
(56)	Condenser (6 mfd.) Electrolytic type (50-60 cycles)	4916
	Condenser (10 mfd.) Electrolytic type (25-40 cycles)	5142
(57)	B. C. Resistor	5365
	Line Cord and Plug	L-943
	Tube Shield (Large)	03373

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Models 90 and 90-A

ABOVE SERIAL NO. 237,001
WITH 1-TYPE 47 TUBE

Philco Radio

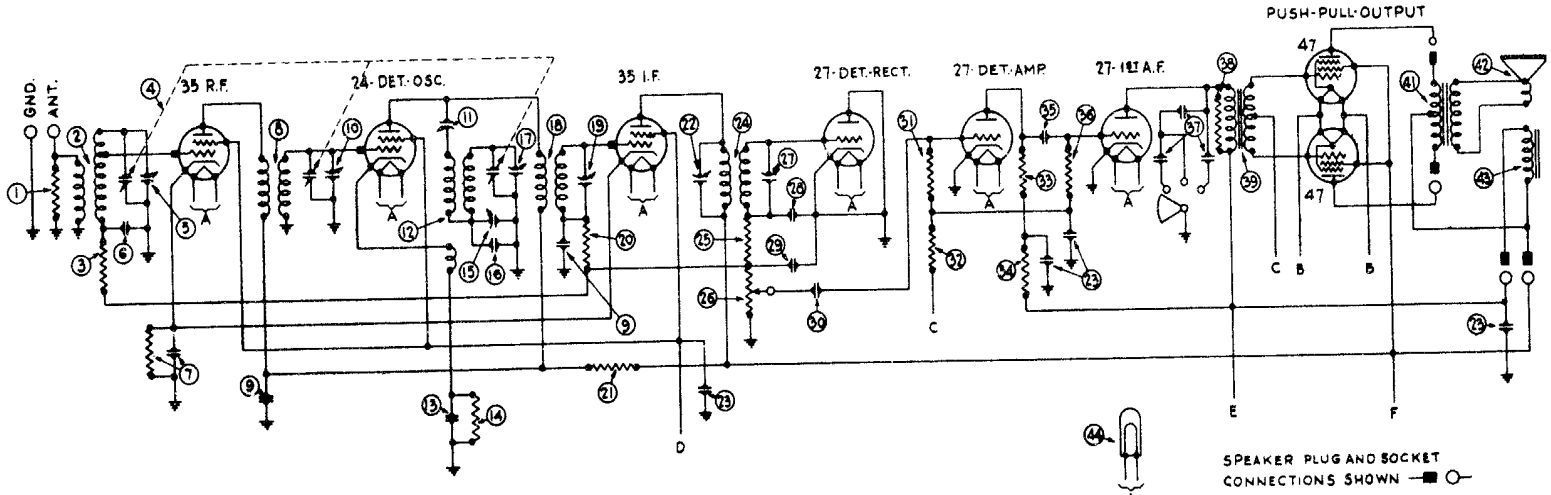


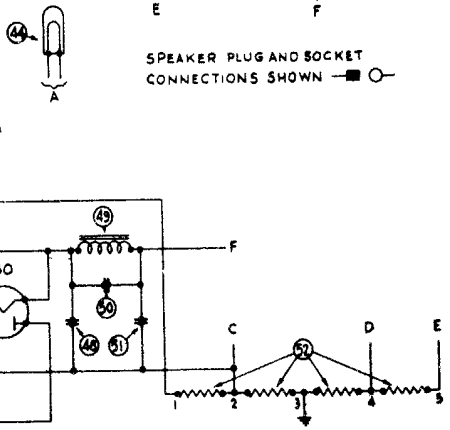
See page 14B of 1929-30 Manual for complete list of parts.

140

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS





No. on Figs. 1 and 2	Description	Part No.
1	Resistor (10,000 Ohms)	4412
2	Antenna Transformer	04317
3	Resistor (1,000,000 Ohms)	4409
4	Tuning Condenser (50–60 cycles)	04309
	Tuning Condenser (25–40 cycles)	04310
5	Compensating Condenser — Antenna — Part of Tuning Condenser Assembly	
6	Condenser (.05 Mfd.)	3615-L
7	Condenser (.09 Mfd. and 200 Ohm Resistor)	4989-L
8	Detector Transformer	04408
9	Condenser (.09 Mfd.)	3615-AJ
10	Compensating Condenser — Detector — Part of Tuning Condenser Assembly	
11	Compensating Condenser—Coupling	04000-M
12	Oscillator Coil	04409
13	Condenser (700 Mmf.)	4520
14	Resistor (15,000 Ohms)	6206
15	Compensating Condenser—Low Frequency	04000-B
16	Condenser (410 Mfd.)	5120
20	Resistor (1,000,000 Ohms)	4409
21	Resistor (1,000 Ohms)	4590
22	Compensating Condenser—Second I.F. Primary	04000-M
23	Condenser (2-.25, 2-.5 Mfd.)	04407
24	Second I.F. Transformer	04320
25	Resistor (99,000 Ohms)	4411
26	Volume Control	6015

No. on Figs. 1 and 2	Description	Part No.
28	Condenser (110 Mmf.)	4519
29	Condenser (110 Mmf.)	4519
30	Condenser (.01 Mfd.)	3908-N
31	Resistor (1,000,000 Ohms)	4517
32	Resistor (490,000 Ohms)	4516
33	Resistor (25,000 Ohms)	4409
34	Resistor (25,000 Ohms)	4409
35	Condenser (.01 Mfd.)	3908-X
36	Resistor (1,000,000 Ohms)	4409
37	Tone Control	03137
38	Resistor (51,000 Ohms)	4518
39	Push-Pull Input Transformer	6064
40	Condenser (1,000 Mmf.) *	5215
41	Push-Pull Output Transformer	2635
42	Voice Coil and Cone Assembly	02874
43	Speaker Field Assembled with Pot	02892
44	Pilot Light	3462
45	Condenser (.015 Mfd. Double)	3793-E
46	On-Off Switch	4095
47	Power Transformer (50–60 cycles)	6072
	Power Transformer (25–40 cycles)	6073
	Power Transformer (50–60 cycles, 230 volts)	6074
48	Electrolytic Condenser (6 Mfd.) 50–60 cycles	4916
49	Filter Choke	4819
50	Condenser (.15 Mfd.)	6287-B
51	Condenser (6 Mfd.)	4916
52	B. C. Resistor	6071

I.F. 260 KC.

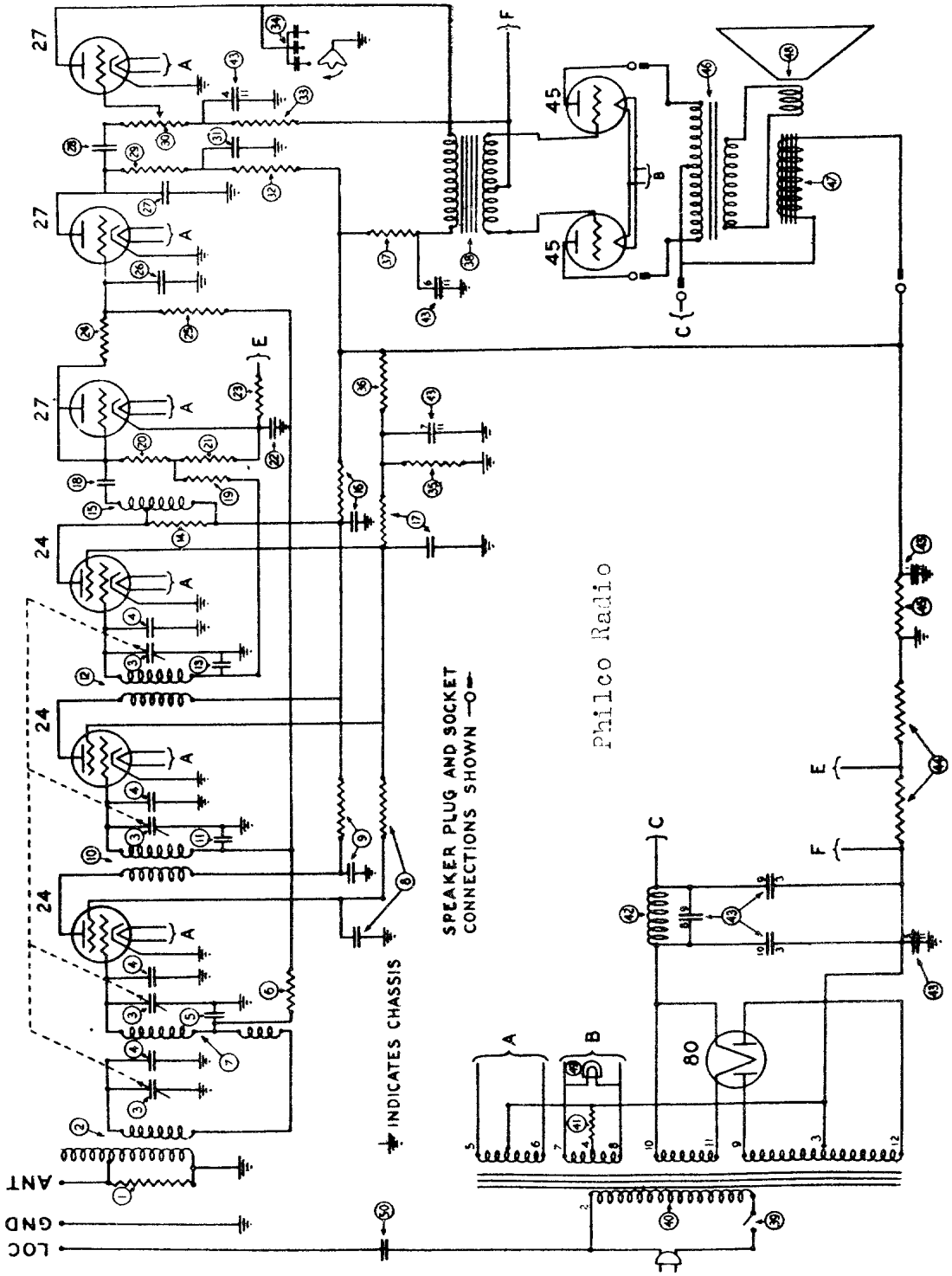
Philco Radio

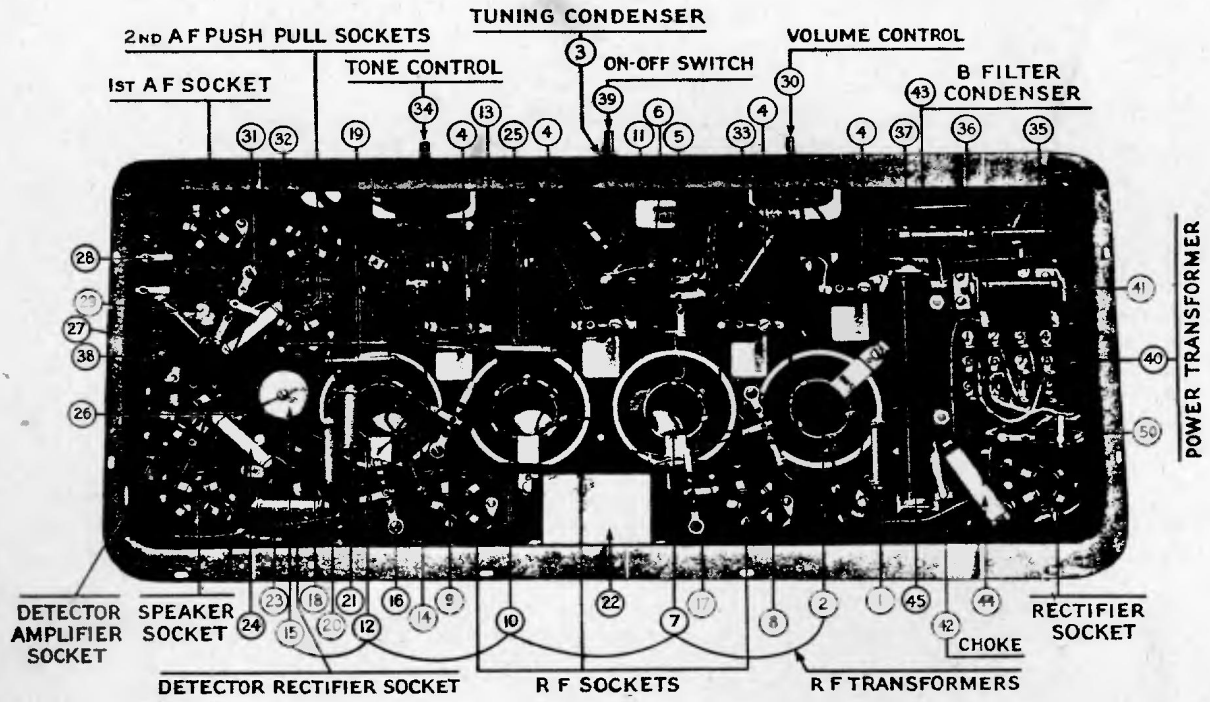
MODEL 90

WITH 2- TYPE 47 TUBES

SERIAL No. 32,001 TO B35,000 AND ABOVE B53,100

MODEL 96





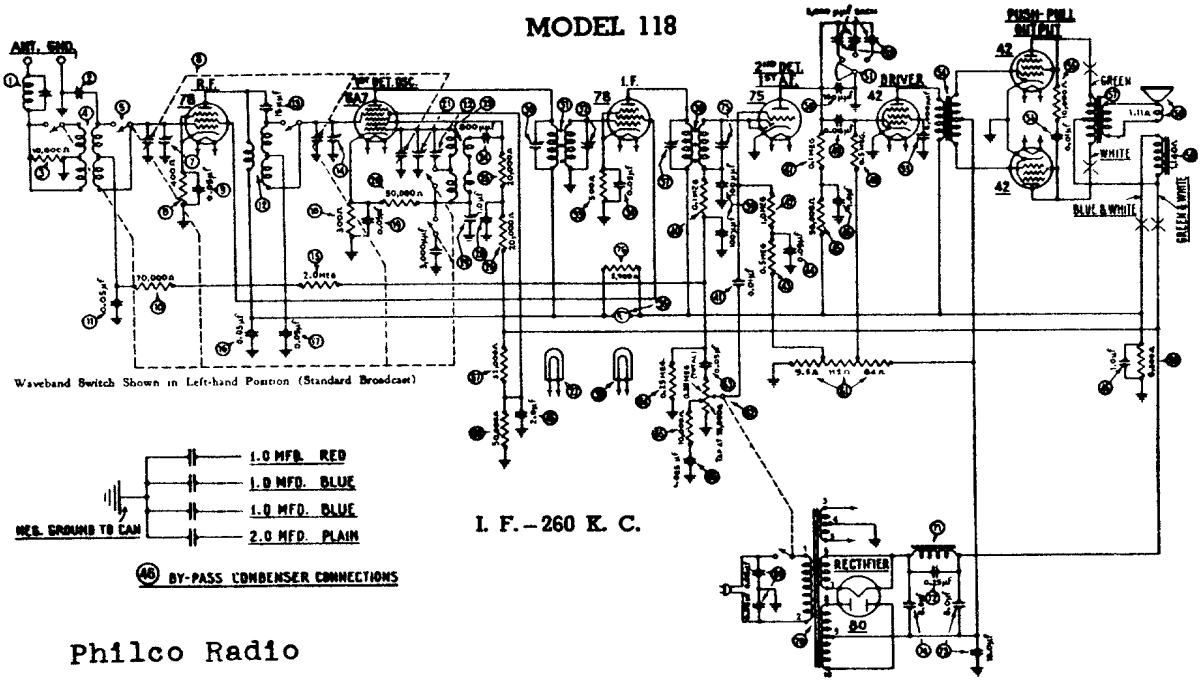
Replacement Parts for Model 96

No.	Description	Part No.
1	Antenna Resistor	3526
2	First R. F. Transformer	3744-A
3	Tuning Condenser	4000-D
4	Compensating Condenser	3772-A
5	By-Pass Condenser	3615-F
6	Resistor	3542
7	Second R. F. Transformer	3744-B
8	By-Pass Condenser and Resistor	3615-C
9	By-Pass Condenser and Resistor	3615-B
10	Third R. F. Transformer	3744-C
11	By-Pass Condenser	3615-E
12	Fourth R. F. Transformer	3744-C
13	By-Pass Condenser	3615-E
14	Resistor	3766
15	Fifth R. F. Transformer	3775-B
16	By-Pass Condenser and Resistor	3615-B
17	By-Pass Condenser and Resistor	3615-C
18	Condenser	3774
19	Resistor	3769
20	Resistor	3767
21	Resistor	3767
22	By-Pass Condenser	3583
23	Resistor	3767
24	Resistor	3768
25	Resistor	3769
26	By-Pass Condenser	3082
27	By-Pass Condenser	3082
28	Condenser	3793-C
29	Resistor	3769

No.	Description	Part No.
30	Volume Control	4093
31	By-Pass Condenser	3615-D
32	Resistor	3768
33	Resistor	3542
34	Tone Control	4037-A
35	Resistor	3542
35	Resistor	3766
37	Resistor	3656
38	Input Transformer	3537
39	On-Off Switch	4095
41	Power Transformer (60 Cycle)	3752
40	Power Transformer (25 Cycle)	3753
41	C Resistor	3763
42	Choke	3422
43	Filter Condenser (60 Cycle)	3754
43	Filter Condenser (25 Cycle)	3755
44	Resistor	3764
45	B Resistor	3762
46	Out-Put Transformer	2848
47	Field Coil	2850
48	Voice Coil and Cone	2794-B
49	Pilot Lamp	3463
50	Condenser (LOC)	3793-B
	Knob (Vol. Control)	3579
	Knob (Tuning Condenser)	3580
	Dial Indicator	4006
	Scale	4118
	Speaker Plug and Cable (Short)	L-1101-A
	Speaker Plug and Cable (Long)	L-1102-A

NOTE: The first two Compensating Condensers ④ are 3772-A; the third and fourth Condensers are 3968-A.

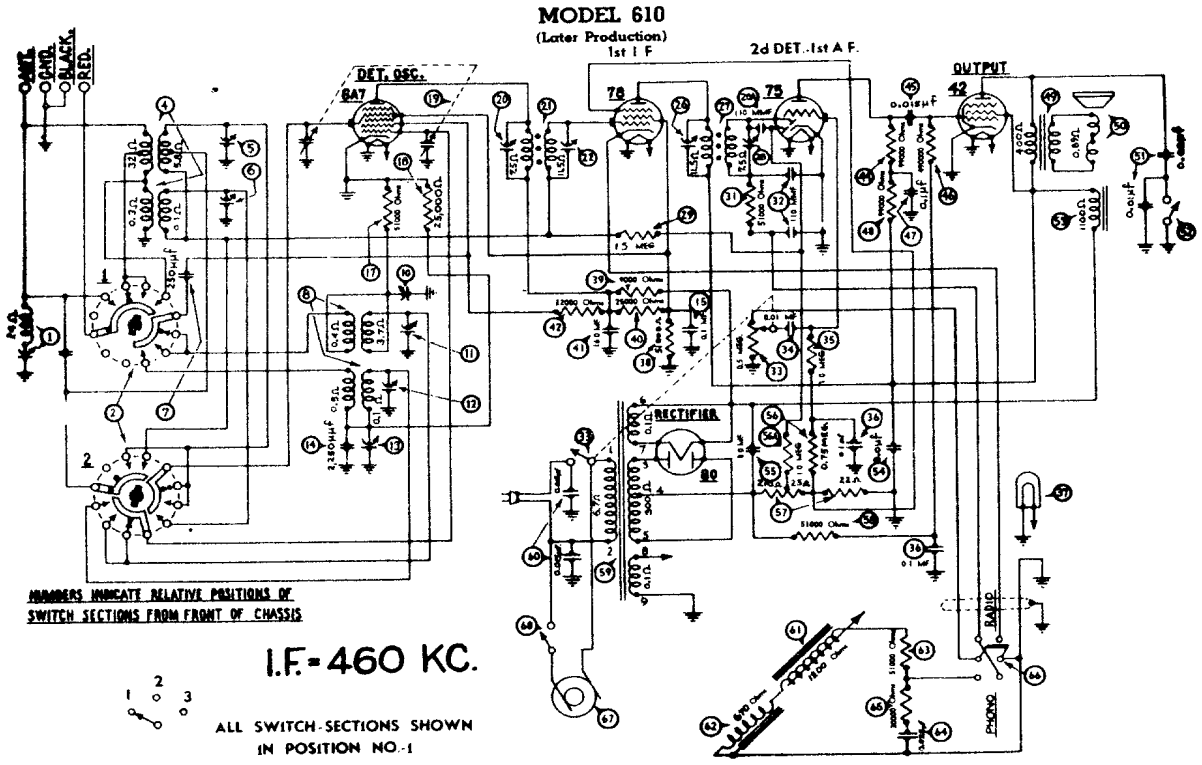
MODEL 118



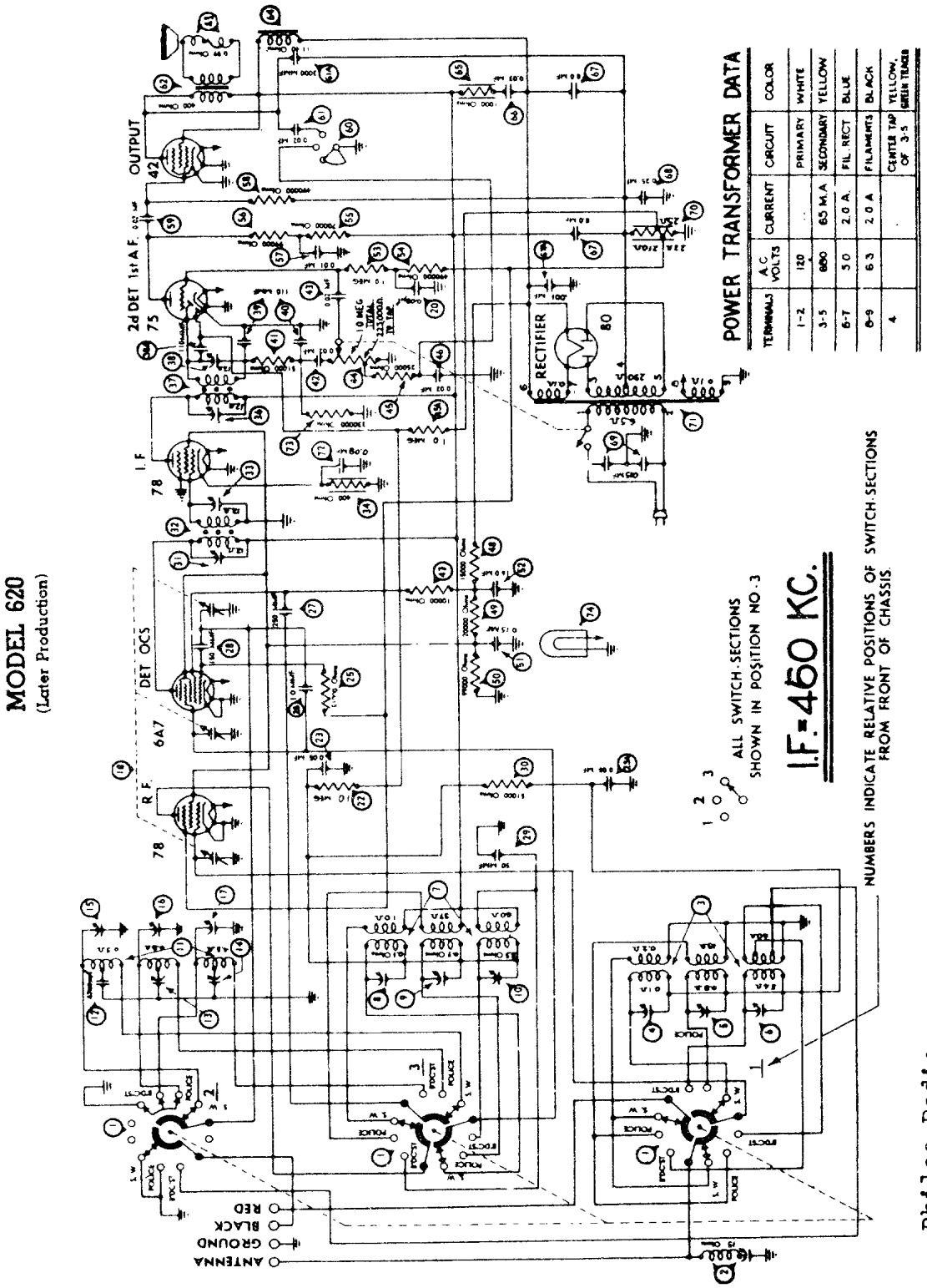
Philco Radio

MODEL 610

(Later Production)

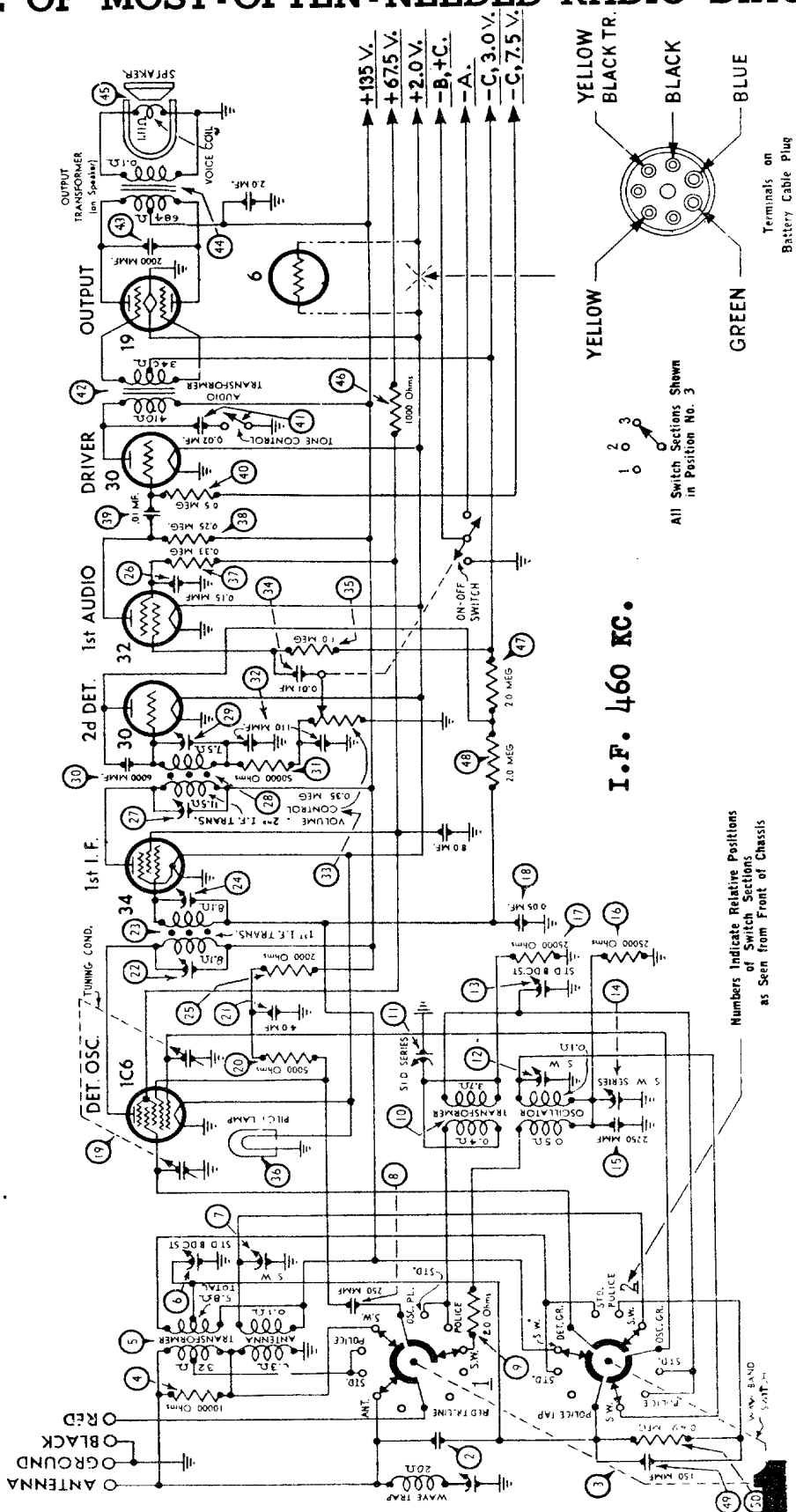


Philco Radio

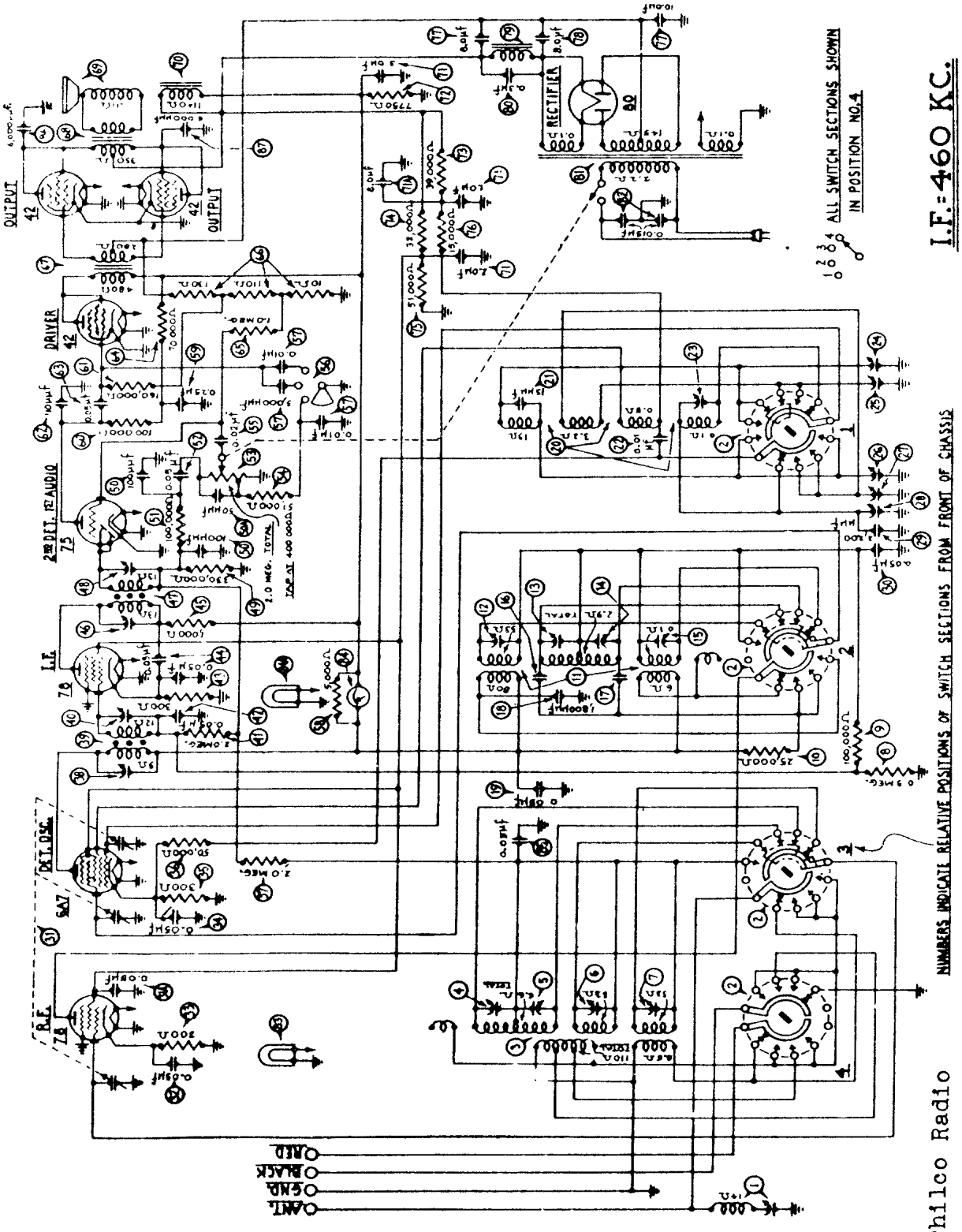


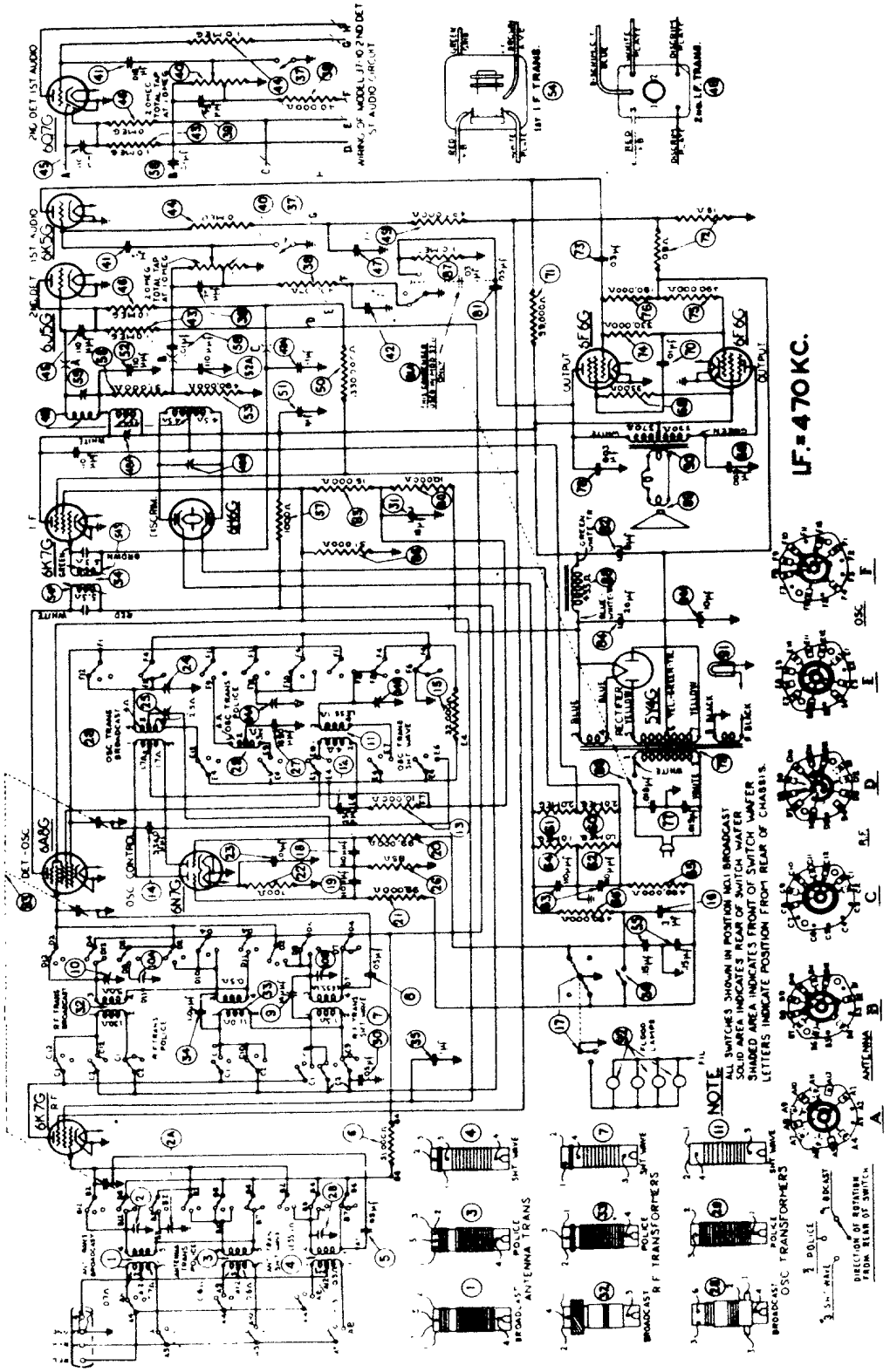
Philco Radio

MODEL 623
(Battery Operated)

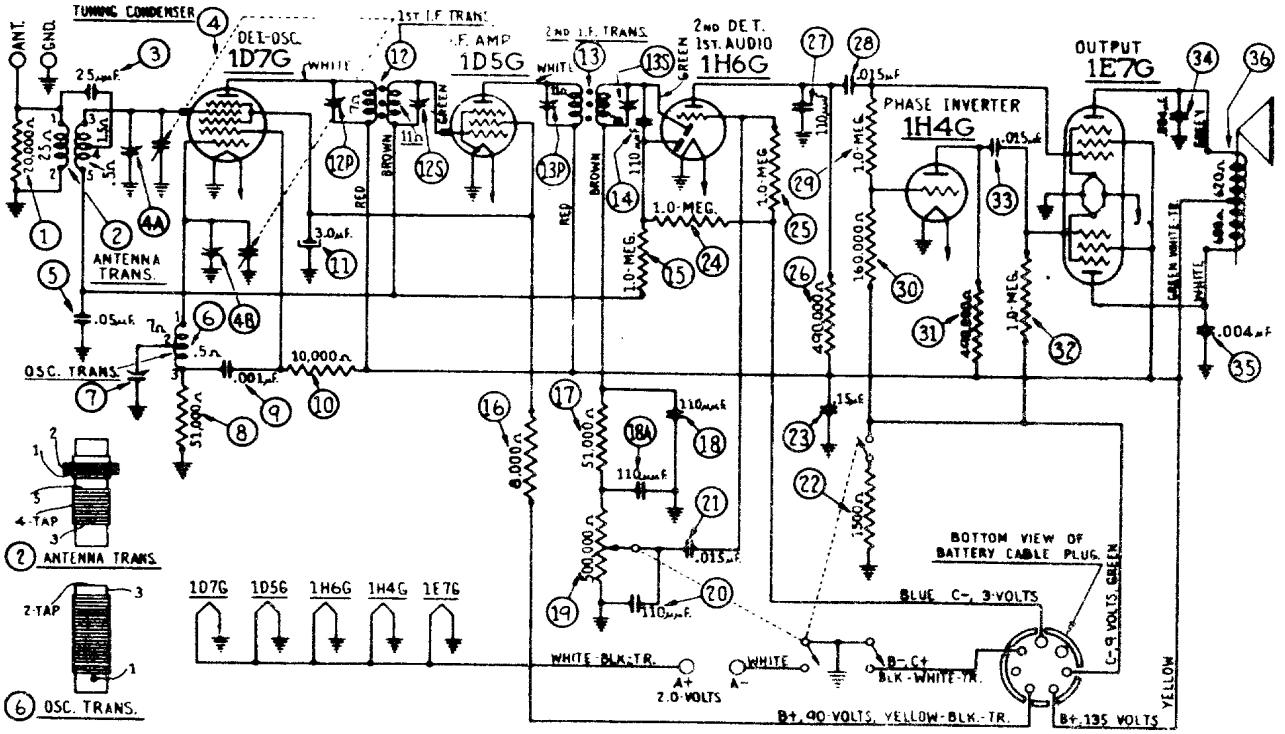


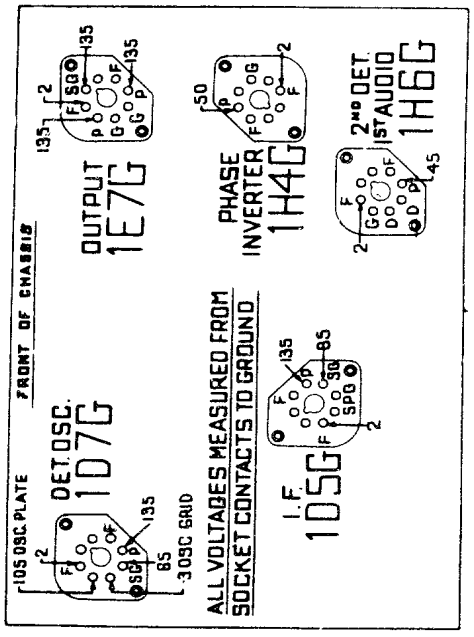
Philco Radio





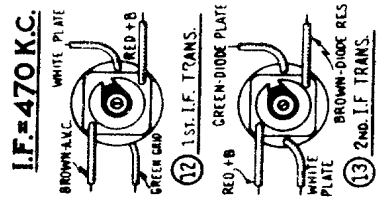
PHILCO *Model 37-33*

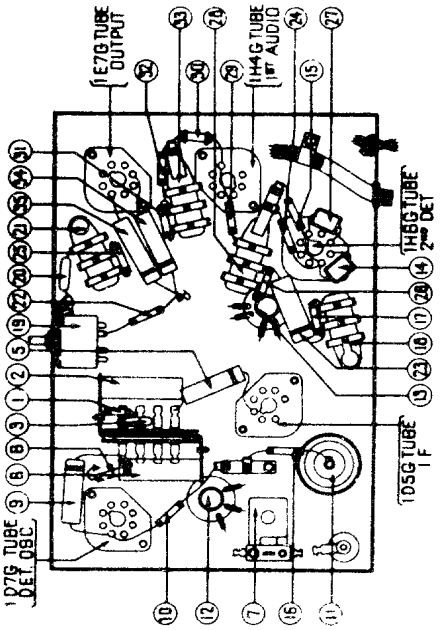




View of Sockets from Underside Chassis

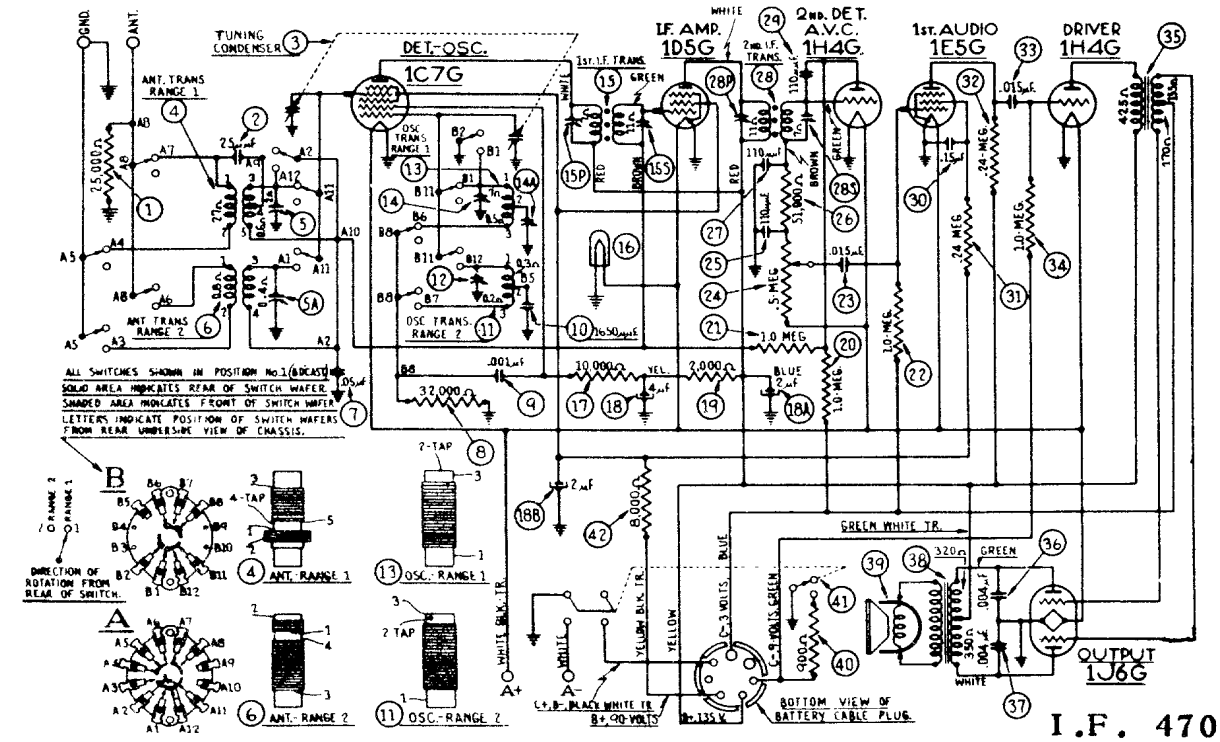
The voltages indicated by arrows were measured with a **Philco 25 Circuit Tester** which contains a voltmeter having a resistance of 1000 ohms per volt. Volume Control at minimum.

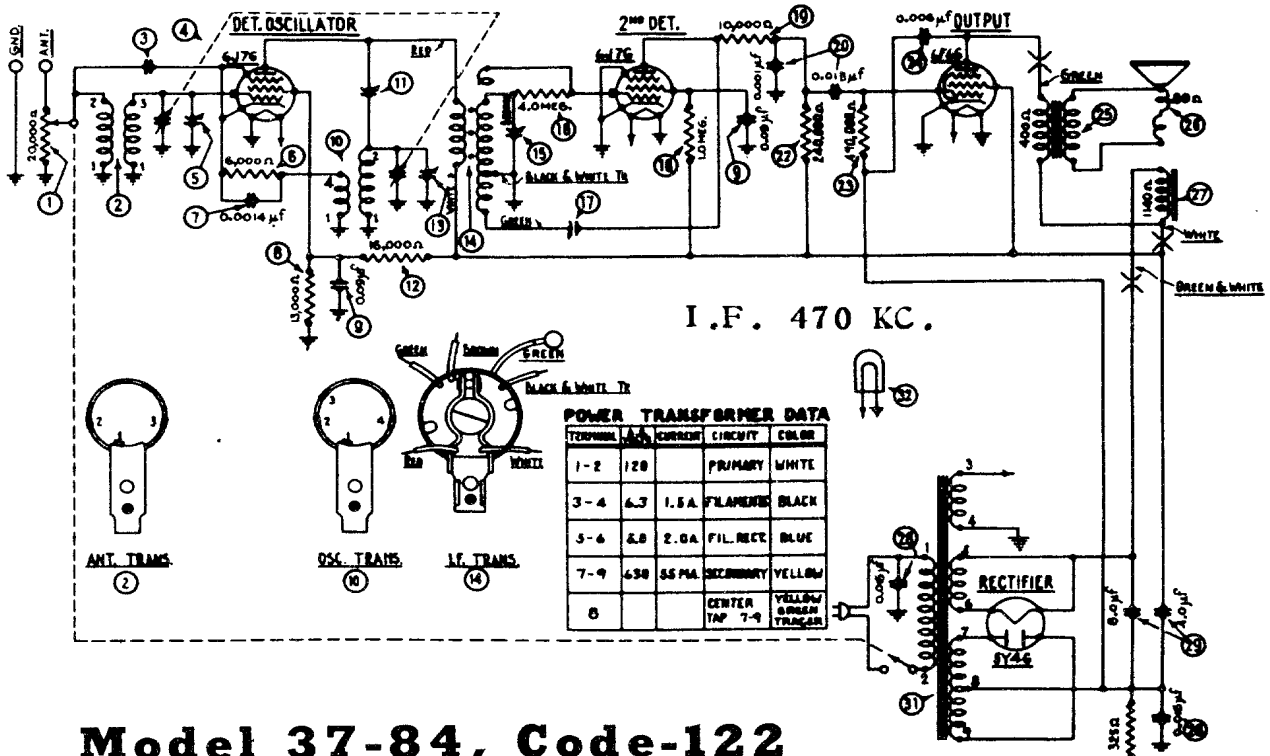




COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

PHILCO *Model 37-38*



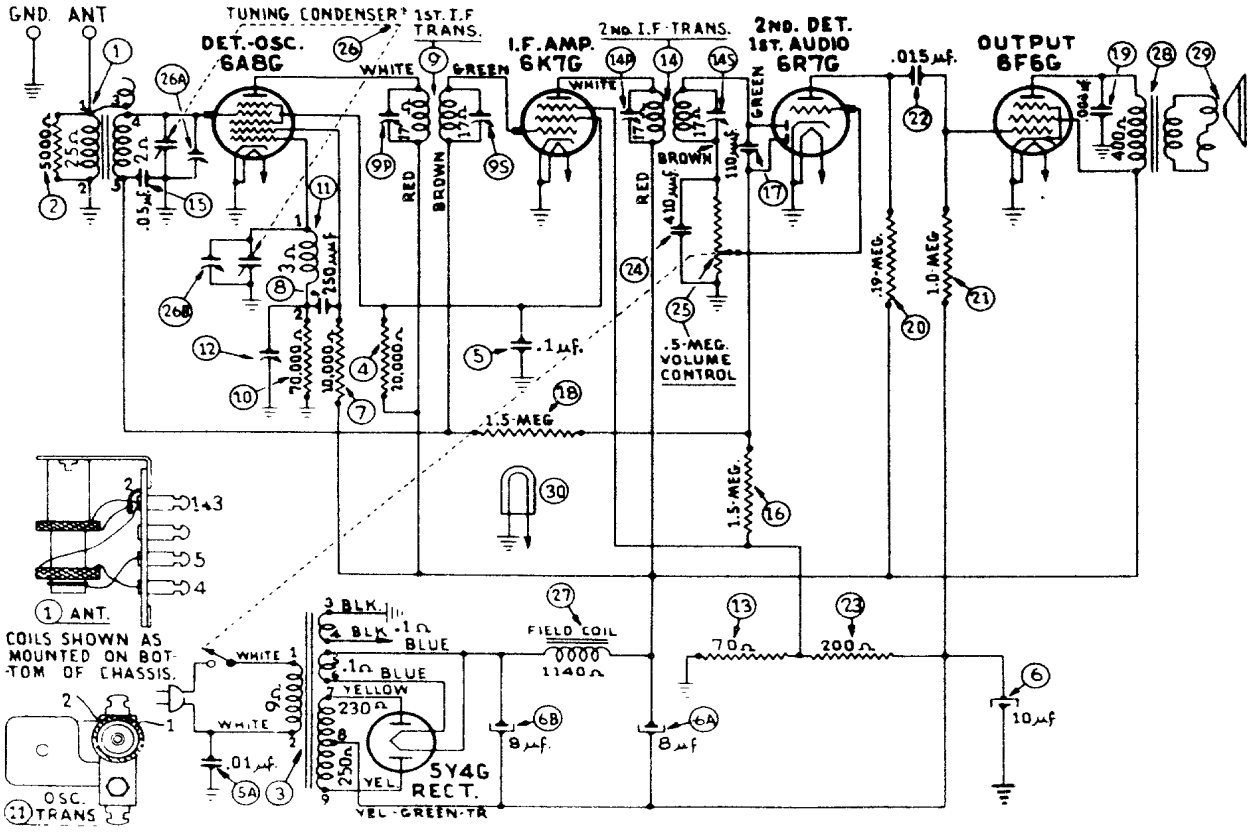


Model 37-84, Code-122

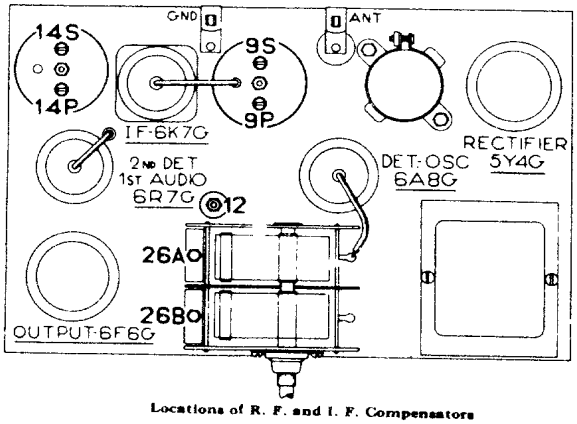
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

149

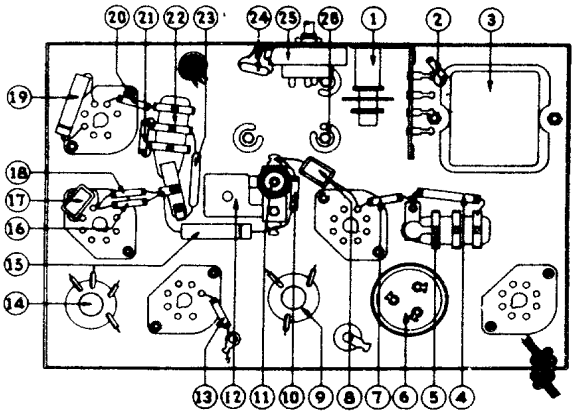
Philco Model 37-93



Schematic Diagram, Model 37-93



Locations of R. F. and I. F. Compensators

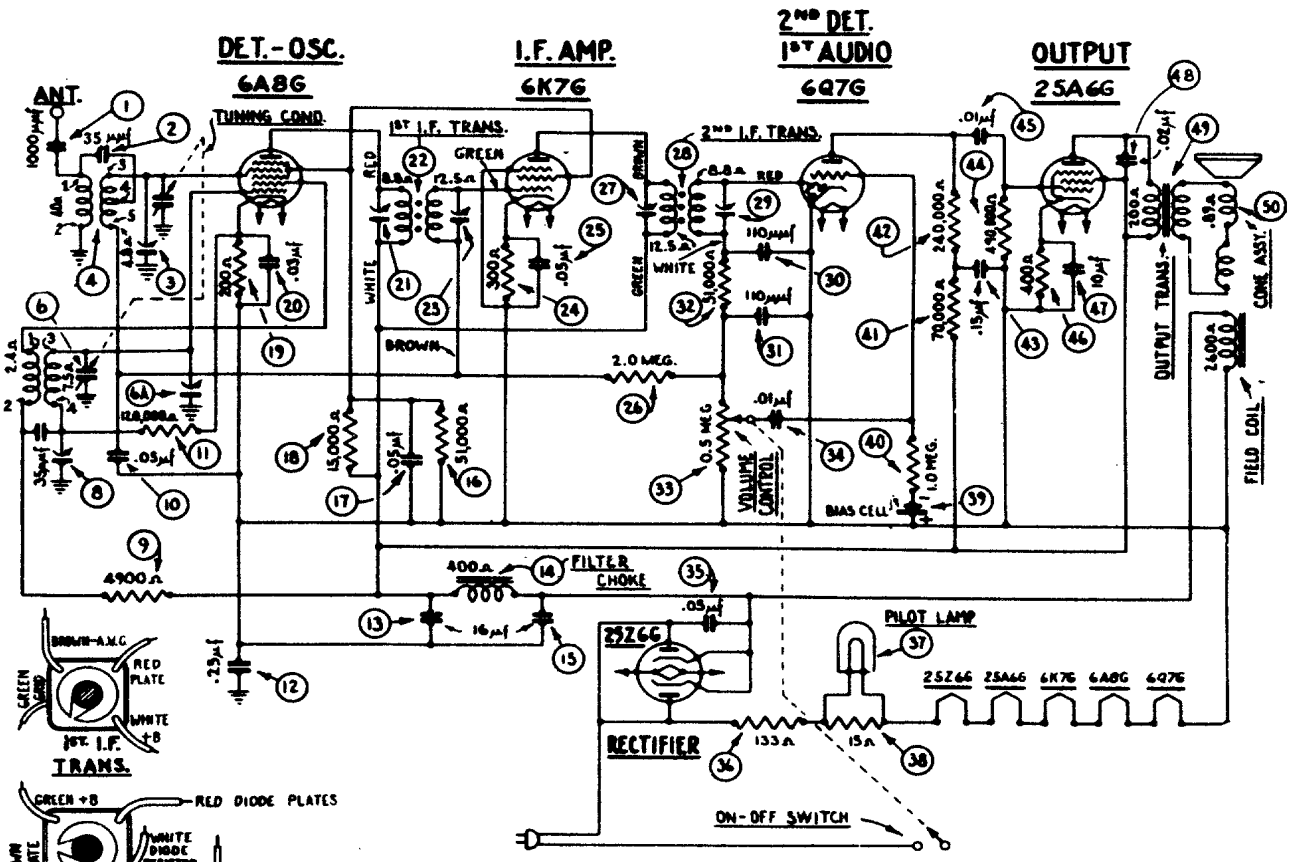


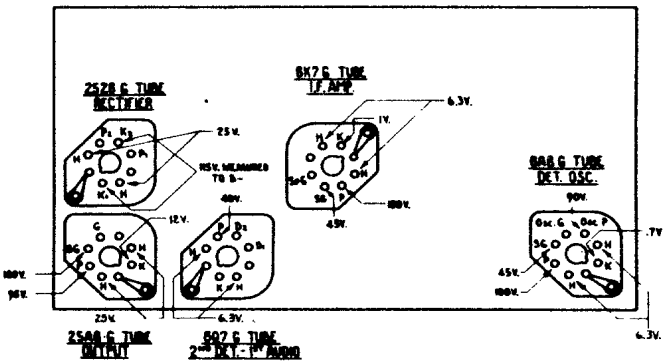
Part Locations, underside of Chassis

I.F. 470 KC.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

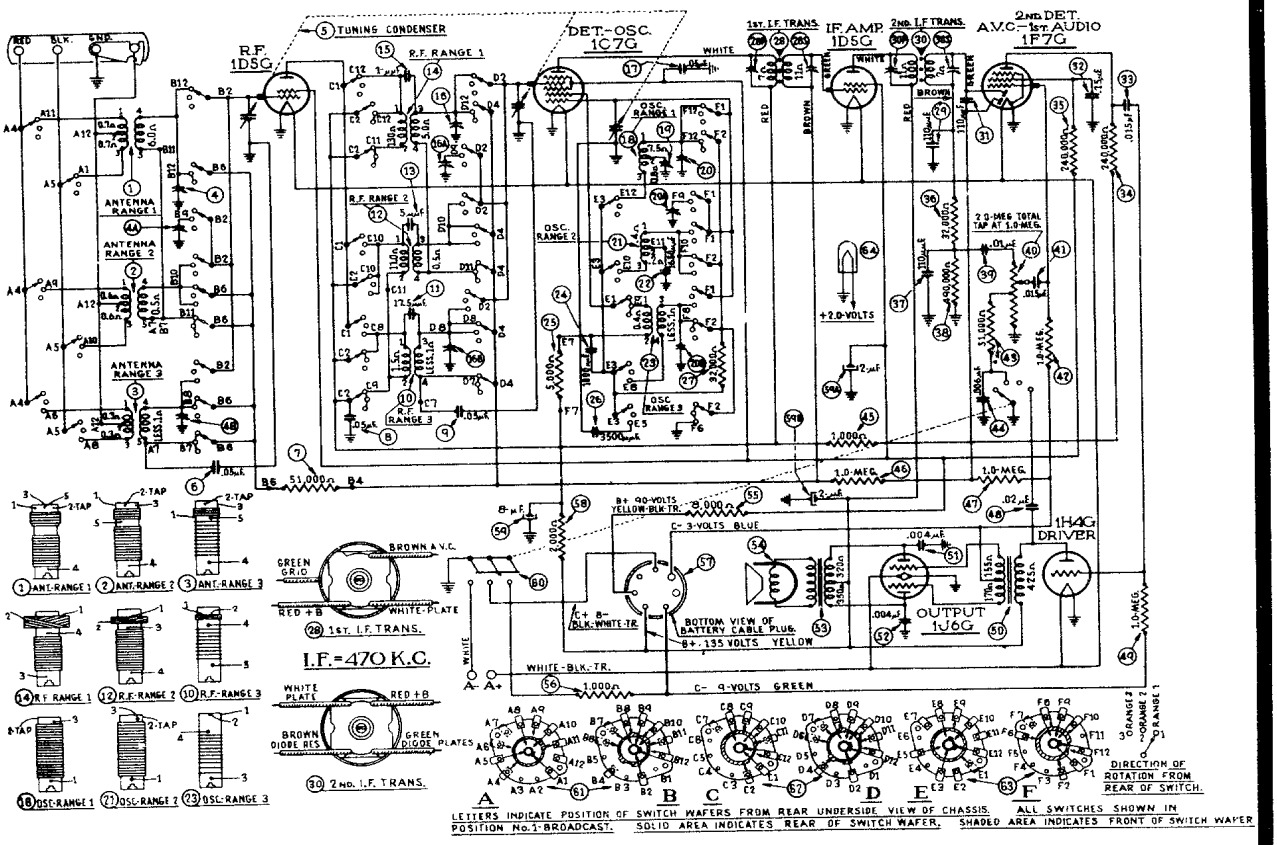
PHILCO Model 37-602





Tube Sockets as viewed from underside of chassis. (Voltages measured from socket contacts to B—)

TYPE CIRCUIT: Superheterodyne with pentode output.
POWER SUPPLY: 115 V., 25 or 60 cycle, A. C.; D. C.
TUBES USED: 1 type 6A8G, Osc. Det., 1 type 6K7G I.F. Amplifier, 1 type 6Q7G, 2nd Det. 1st audio, 1 type 25A6G output, 1 type 25Z6G rectifier.
FREQUENCY RANGE: 530--1800 K.C.
INTERMEDIATE FREQUENCY: 470 K.C.
CURRENT CONSUMPTION: 55 watts.
SPEAKER: B-4.
POWER OUTPUT: ¾ watt.



Philco Radio

Replacement Parts — Model 37-623

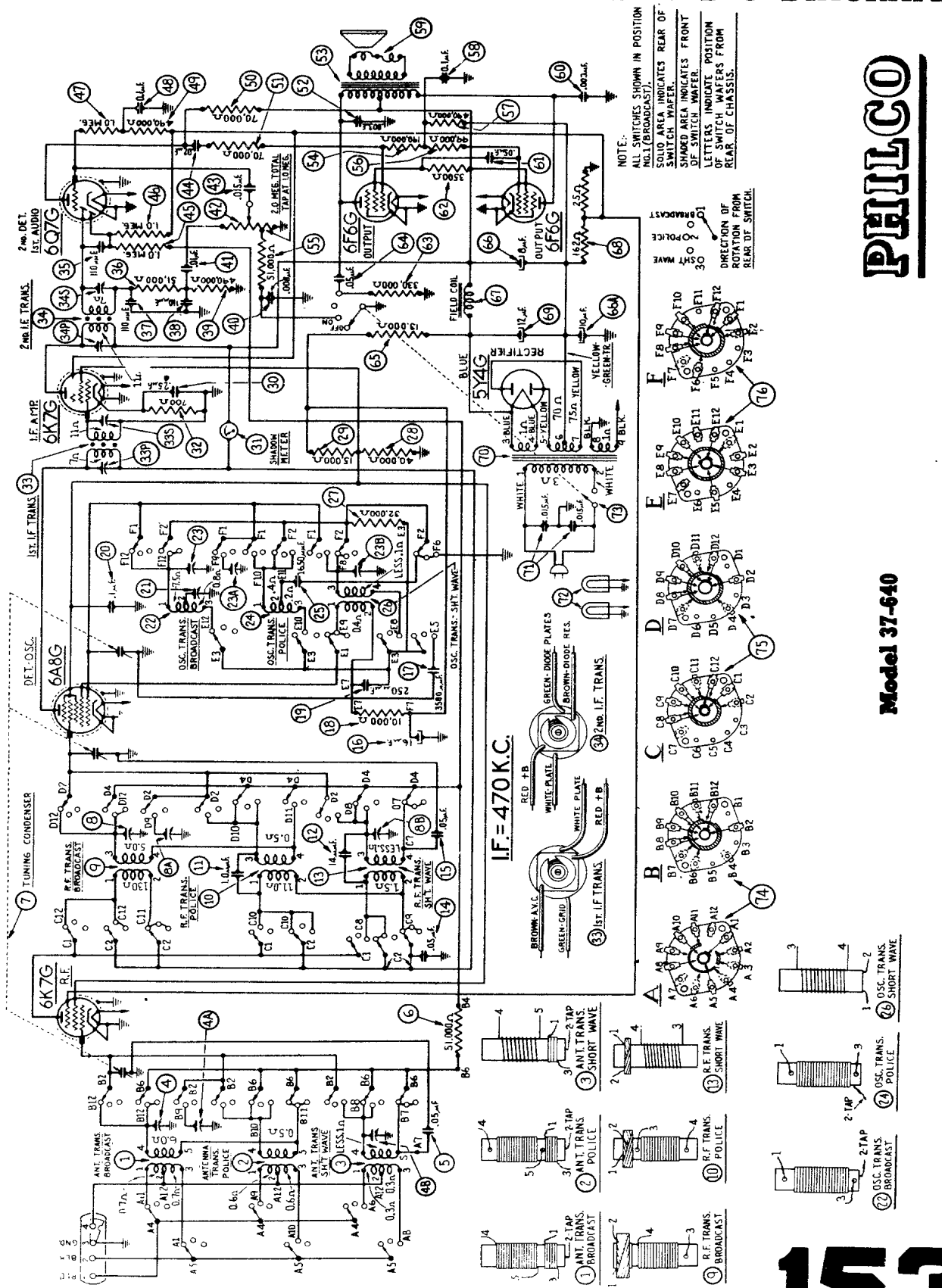
Schem. No.	Description	Part No.
1	Antenna Transformer (530-1720 K.C.)	32-2108
2	Antenna Transformer (2.3 to 7.4 M.C.)	32-2119
3	Antenna Transformer (7.35 to 22 M.C.)	32-2109
4	Compensator (Three Sections)	31-6092
5	Tuning Condenser	31-1818
6	Condenser (.05 mfd. Tubular)	30-4020
7	Resistor (51,00 ohms, ½ watt)	33-351339
8	Condenser (.05 mfd. Tubular)	30-4020
9	Condenser (.05 mfd. Tubular)	30-4020
10	R. F. Transformer (7.35 to 22 M.C.)	32-2126
11	Condenser (17.5 mmfd. Mica)	30-1079
12	R. F. Transformer (2.3 to 7.4 M.C.)	32-2106
13	Condenser (5 mmfd. Mica	30-1080
14	R. F. Transformer (530-1720 K.C.)	32-2105
15	Condenser (Twist wire and lug)	38-7878
16	Compensator (Three section)	31-1621
17	Condenser (.05 mfd. Tubular)	30-4020
18	Oscillator Transformer (530-1720 K.C.)	32-2120
19	Compensator (580 K.C.)	31-6036
20	Compensator (Three section)	31-6092
21	Oscillator Transformer (2.3 to 7.4 M.C.)	32-2121
22	Condenser (1650 mmfd.)	31-6096
23	Oscillator Transformer (7.35 to 22 M.C.)	32-2110
24	Condenser (1,000 mmfd. Mica)	30-4453
25	Resistor (5,000 ohms, ½ watt)	33-250393
26	Condenser (3,500 mmfd Semifixed)	31-6097
27	Resistor (32,000 ohms, ½ watt)	33-332339
28	First I. F. Transformer	32-2100
29	Condenser (110 mmfd. Mica)	30-1031
30	Second I. F. Transformer	32-2102
31	Condenser (110 mmfd. Mica)	30-1041
32	Condenser (15 mfd. Bakelite)	6287SG
33	Condenser (.015 mfd Tubular)	30-4226
34	Resistor (240,000 ohms, ½ watt)	33-424339
35	Resistor (240,000 ohms, ½ watt)	33-424339
36	Resistor (32,000 ohms, ½ watt)	33-332339
37	Condenser (110 mmfd. Mica)	30-1031
38	Resistor (490 000 ohms, ½ watt)	33-449339
39	Condenser (01 mfd. Tubular)	30-4124
40	Volume Control	33-5158
41	Condenser (.015 mfd. Tubular)	30-4358
42	Resistor (1 megohm, ½ watt)	33-510339
43	Resistor (51,000 ohms, ½ watt)	33-351339
44	Condenser (.006 mfd. Tubular)	30-4125
45	Resistor (1,000 ohms, ½ watt)	33-210339
45	Resistor (1 megohm, ½ watt)	33-510339
47	Resistor (1 megohm, ½ watt)	33-510339
48	Condenser (.02 mfd. Tubular)	30-4113
49	Resistor (1 megohm, ½ watt)	33-510339
50	Audio Input Transformer	32-7637
51	Condenser (.004 mfd. Tubular)	30-4456
52	Condenser (.004 mfd. Tubular)	30-4456
53	Output Transformer	32-7638
54	Cone and Voice Coil Assembly KR-17	36-3540
	Cone and Voice Coil Assembly HR-12	36-3557
55	Resistor (8,000 ohm, ½ watt)	33-280339
56	Resistor (1,000 ohms, ½ watt)	33-210339
57	Cable Battery	41-3198
58	Resistor (2,000 ohms, ½ watt)	33-220339
59	Electrolytic Condenser (2, 2, 8 mfd.)	30-2161
60	Power and Tone Control Switch	42-1207
61	Range Switch (ANT)	42-1200
62	Range Switch (R.F.)	42-1245
63	Range Switch (Osc.)	42-1246
	Pilot Lamp Assembly	38-7875
	Pilot Lamp	34-2160
	Vernier Drive Assembly	31-1871
	Dial	27-5214
	Dial Hub	28-7187
	Dial Clamp	28-2837
	Dial Guard	27-8324
	Set Screw	W-1641
	Gear (Dial)	28-7185
	Thrust Spring	28-3611
	Thrust Washer	28-3976
	C Washer	28-3904
	Gear (Drive)	31-1884
	Mask	27-5198
	Mask Arm and Assembly	31-1940
	Shaft Coupling (Mask)	31-1941
	Felt Washers	27-8399
	Washer	27-8318
	Snap Fastener	28-4279
	Indicator Bracket and Lens Assembly	38-7912
	Mask Guide and Lamp Support	39-7844
	Shaft and Index Plate (Range Switch)	42-1173
	Shaft (Volume Control)	38-8059
	Retaining Clip (Vol. Shaft)	28-4394
	Spring (Vol. Shaft)	28-4117
	Socket (8 prong)	27-6058
	Socket (7 prong)	27-6057
	Shield Tube	28-2726
	Base Tube Shield	28-3898
	Grommet Mtg. R. F. Unit	27-4317
	Sleeve Mtg. R. F. Unit	28-2257
	Screw Mtg. R. F. Unit	W-729
	Washer Mtg. R. F. Unit	28-3927
	Washer Mtg. R. F. Unit	27-8339
	Rubber Mtg. Tuning Condenser	27-4325
	Mtg. Plate (Trans.)	28-3808
	Mtg. Spacer (Trans.)	27-8228
	Mtg. Screw (Trans.)	W-1635
	Terminal Panel I. F. Unit	38-7703
	Cable Speaker	41-3207
	Mtg. Bolt (Chassis)	W-1495
	Mtg. Rubbers	5189
	Mtg. Bushing	27-4360
	Knob	27-4330
	Knob	27-4331
	Knob	27-4326
	Knob	27-4332
	"B" Battery	41-8007
	"A" Battery (Wet)	172R
	"A" Battery (Dry)	41-8011
	Ballast Lamp	1FI
	Bezel Plate and Frame	40-5939
	Gasket	27-8311
	Glass	27-8298
	Ring	28-3967
	Screws	W-1644

B CABINET

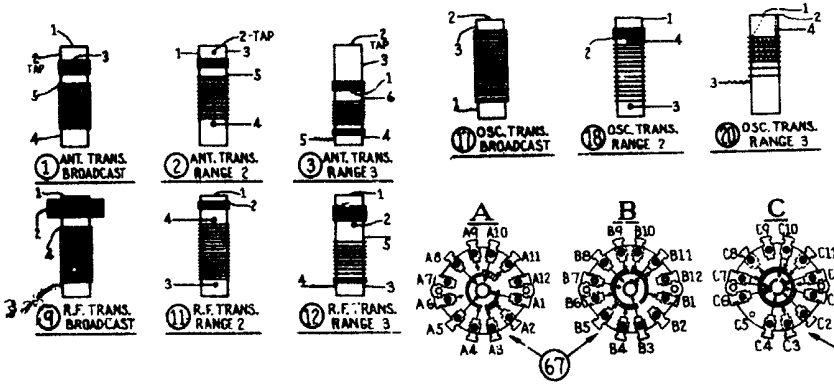
Baffle and Silk Assembly	40-5970
Speaker—KR17	36-1248

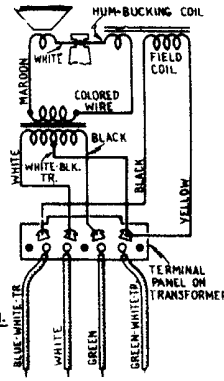
J CABINET

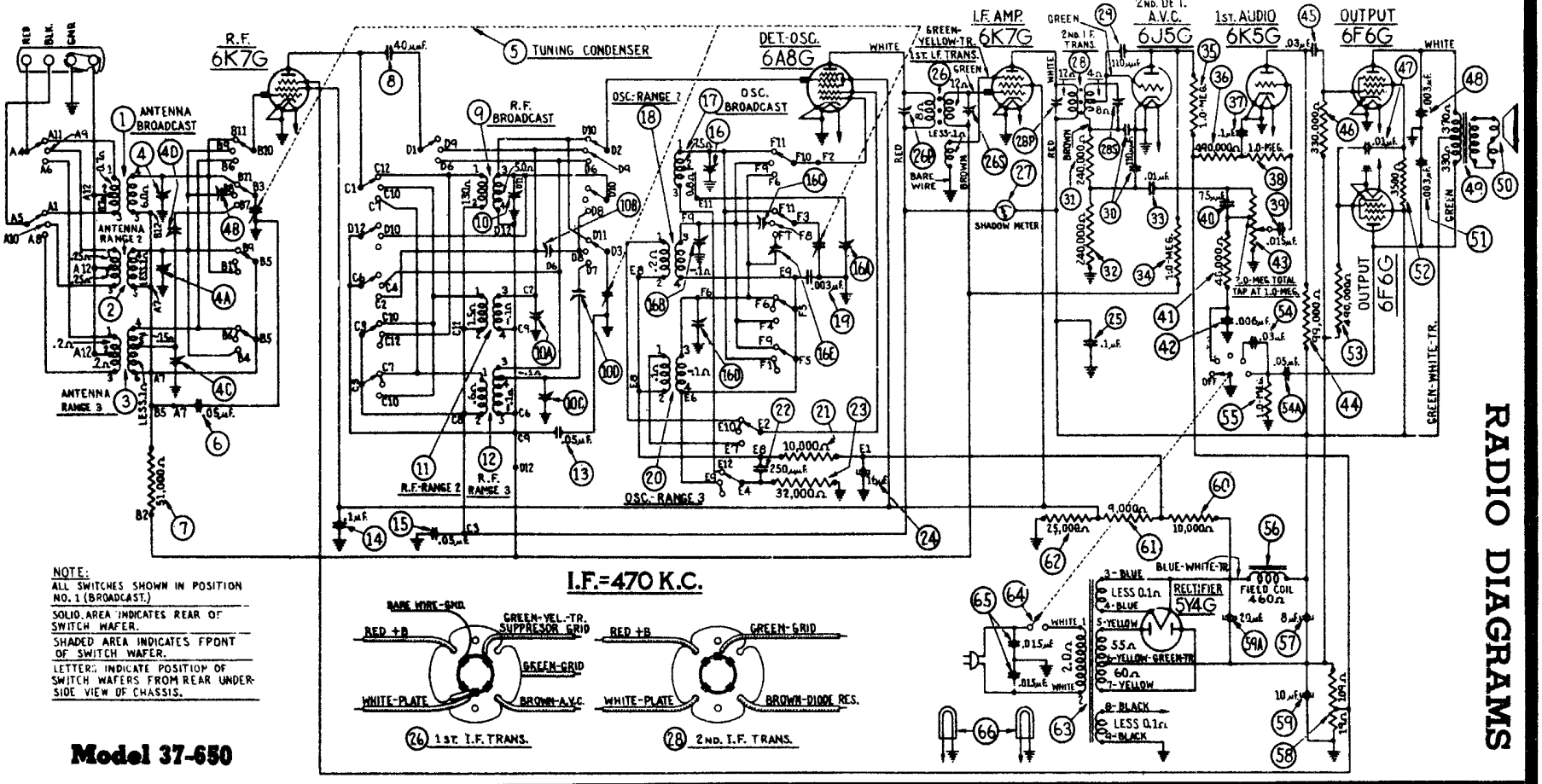
Speaker—HR12	36-1250
Baffle and Silk Assembly	40-5971
Speaker	36-1250
Speaker Ring	27-8016
Speaker Bolts	W-1693



Philco Radio
Model 37-650





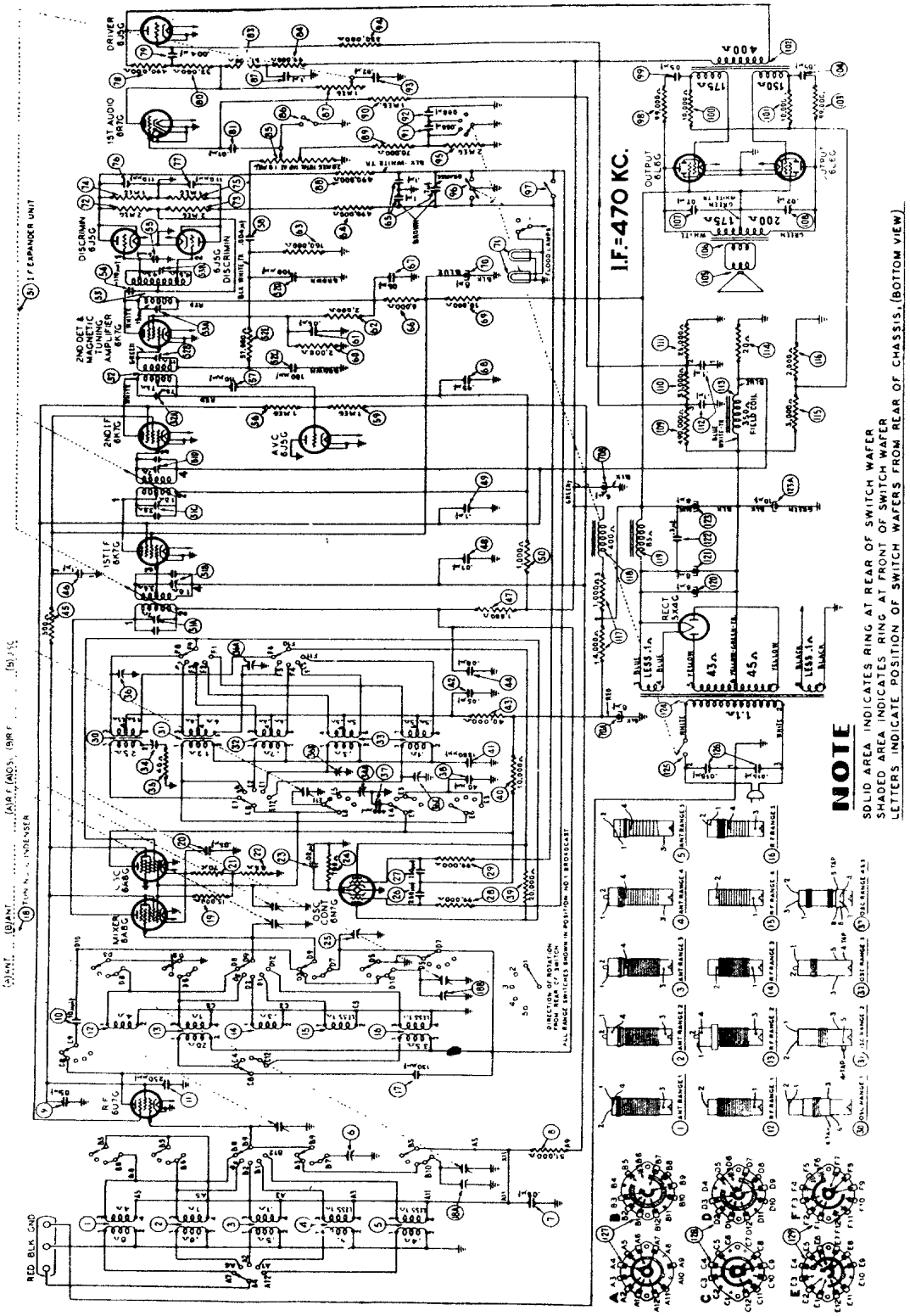


NOTE:
ALL SWITCHES SHOWN IN POSITION NO. 1 (BROADCAST.)
SOLID AREA INDICATES REAR OF SWITCH WAFER.
SHADED AREA INDICATES FRONT OF SWITCH WAFER.
LETTERS INDICATE POSITION OF SWITCH WAFERS FROM REAR UNDER-SIDE VIEW OF CHASSIS.

Model 37-650

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

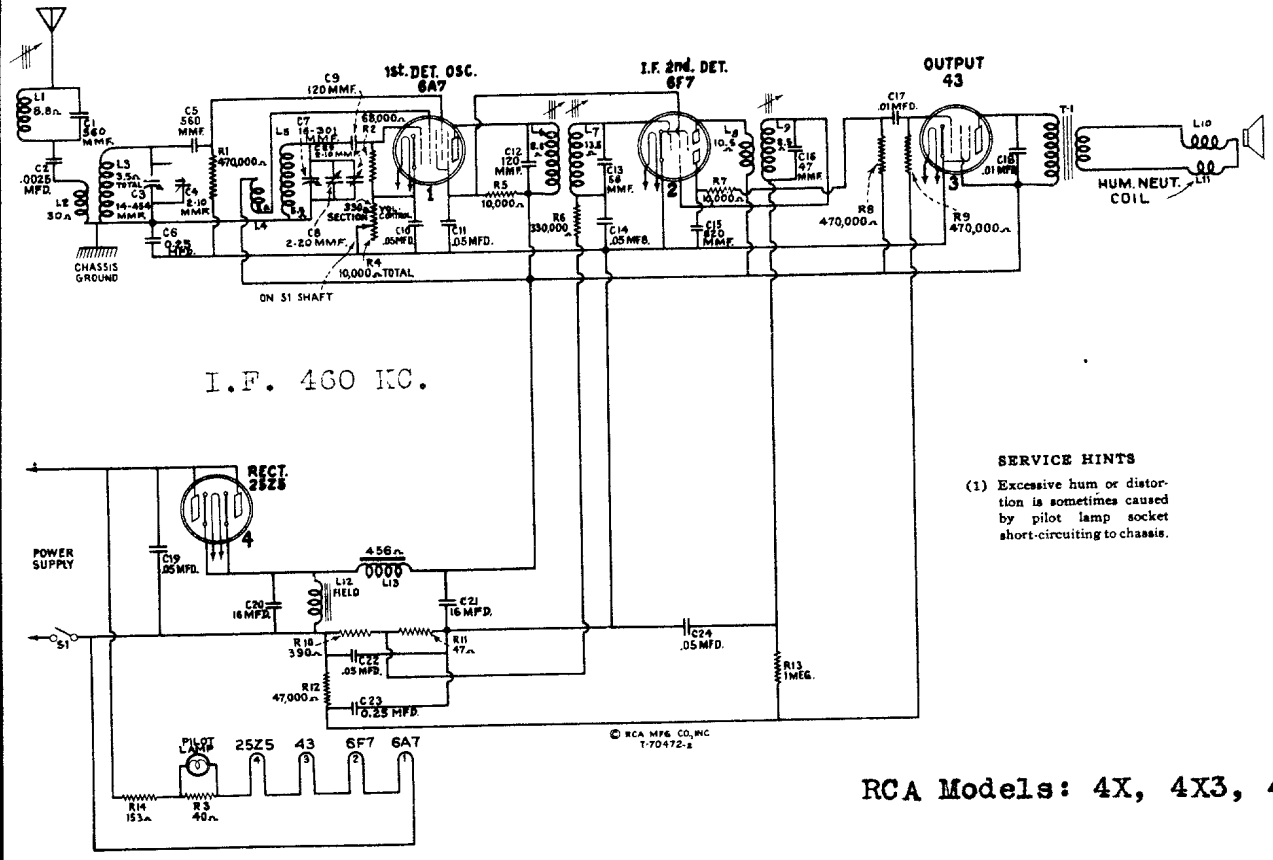
PHILCO . . . . . Model 38-116, Code 121



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

155

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

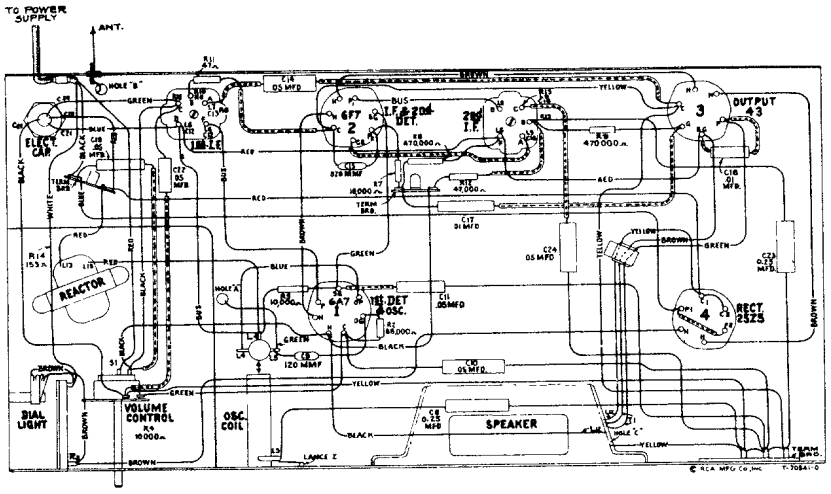


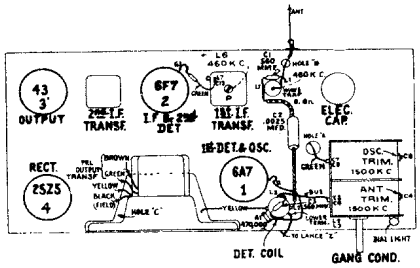
SERVICE HINTS

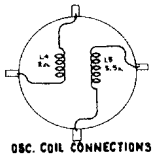
(1) Excessive hum or distortion is sometimes caused by pilot lamp socket short-circuiting to chassis.

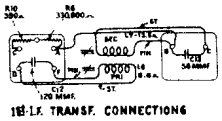
RCA Models: 4X, 4X3, 4X4

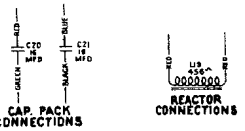
Schematic Circuit Diagram



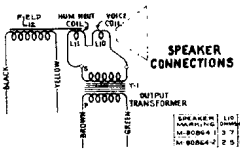


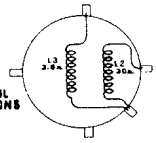

OSC. COIL CONNECTIONS

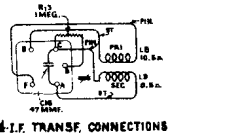

1st I.F. TRANSF. CONNECTIONS


CAP. PACK CONNECTIONS

REACTOR CONNECTIONS



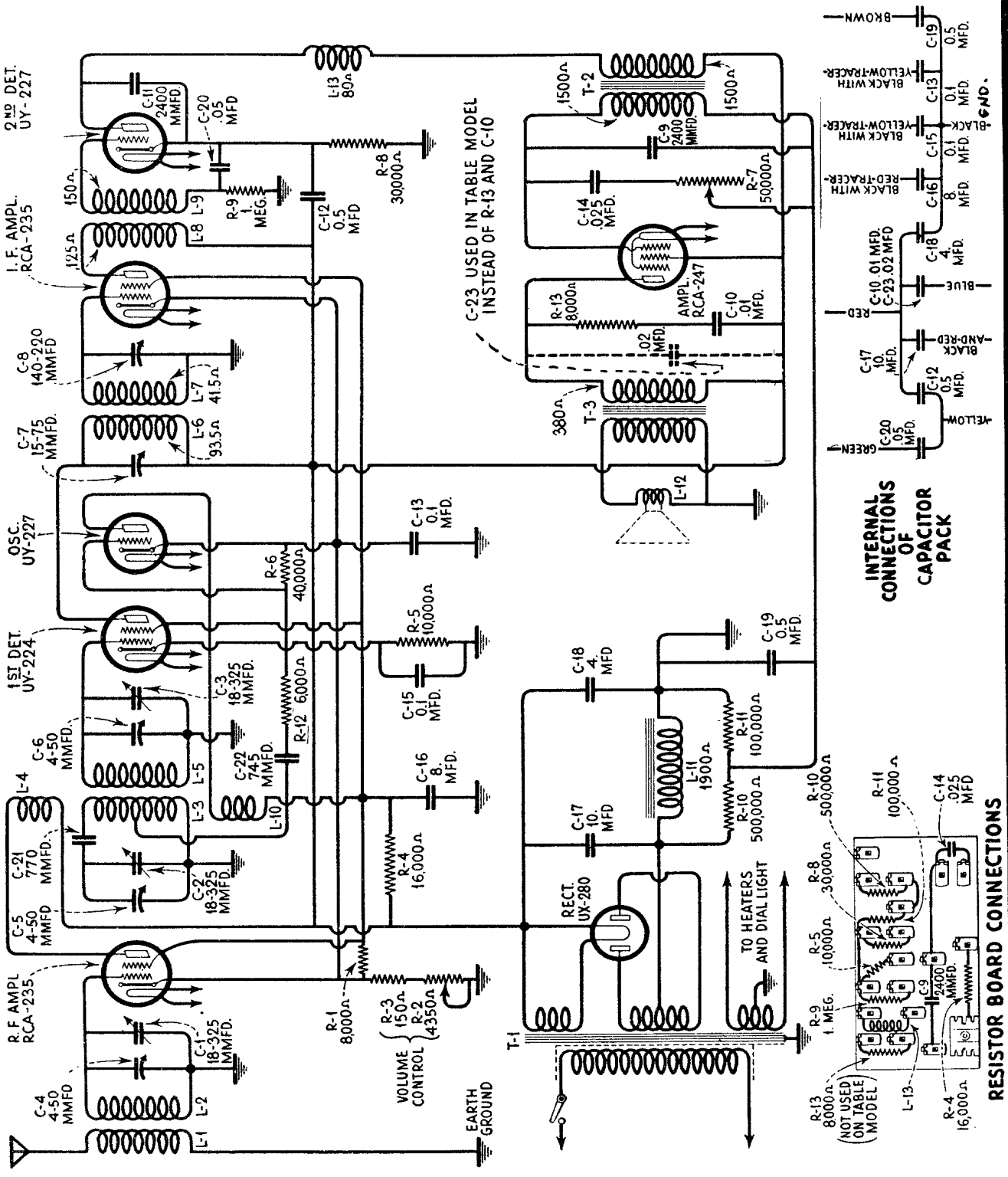

DET. COIL CONNECTIONS


2nd I.F. TRANSF. CONNECTIONS

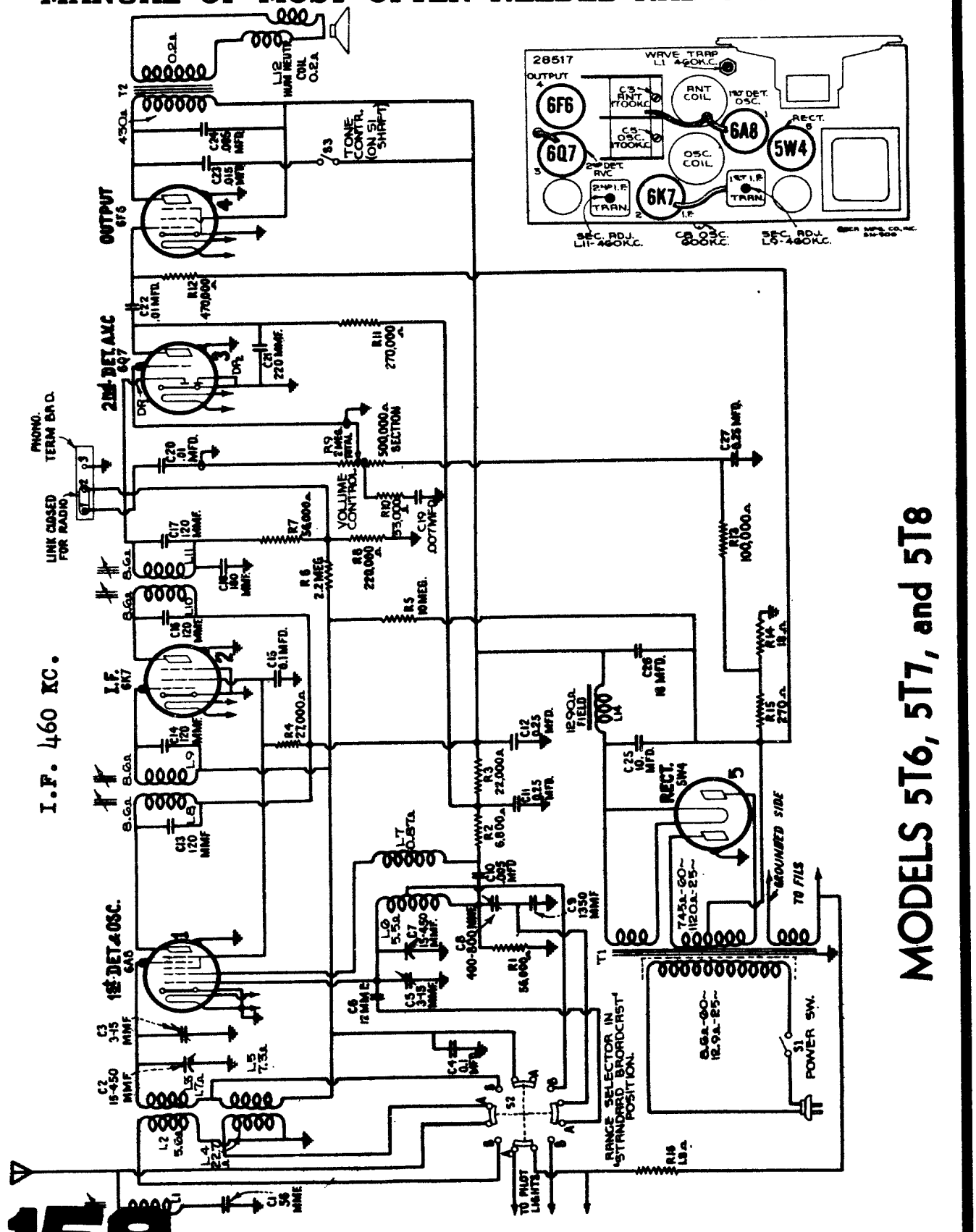
Chassis Wiring Diagram, Radiotron, Coil, and Trimmer Locations

156

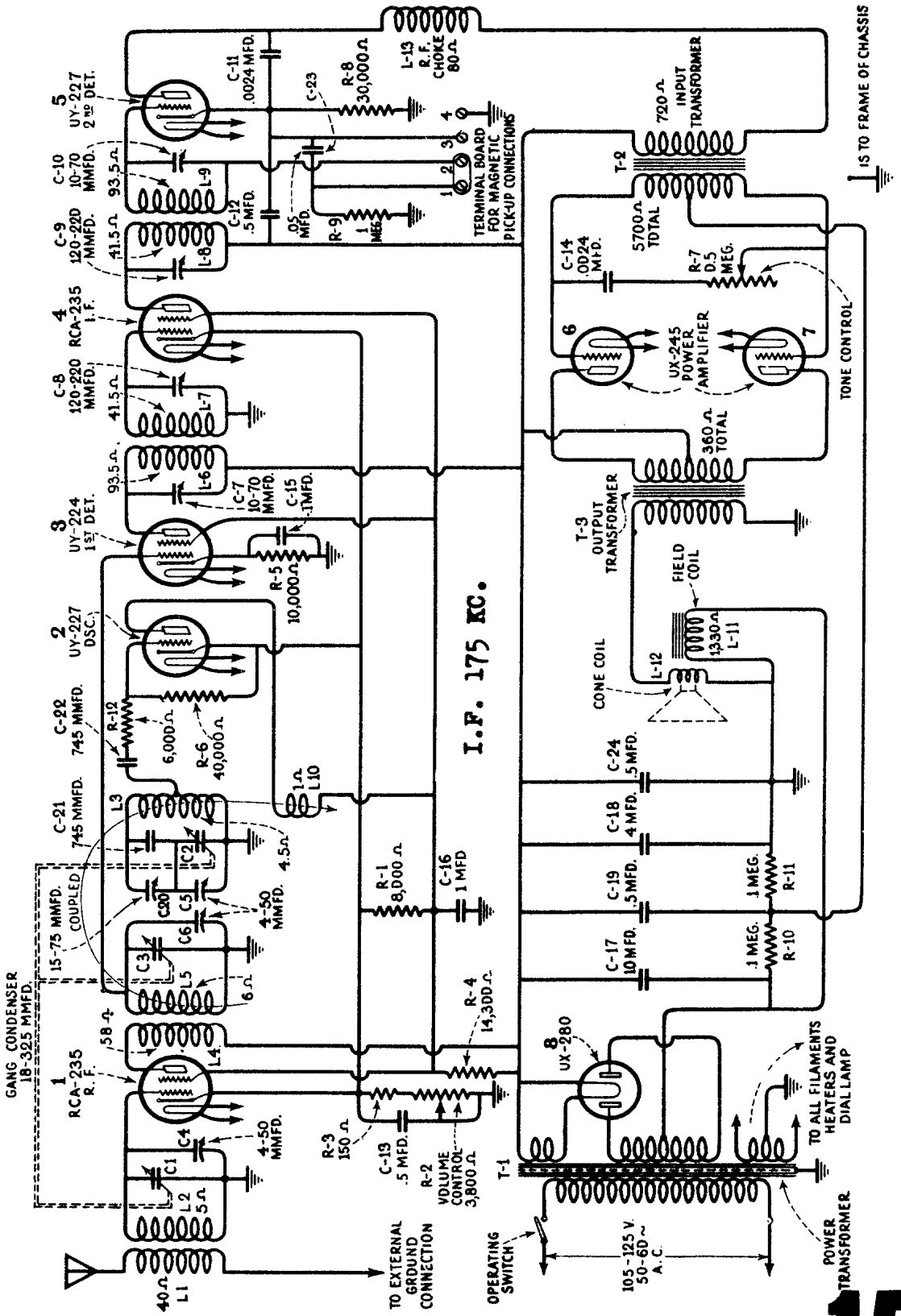
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

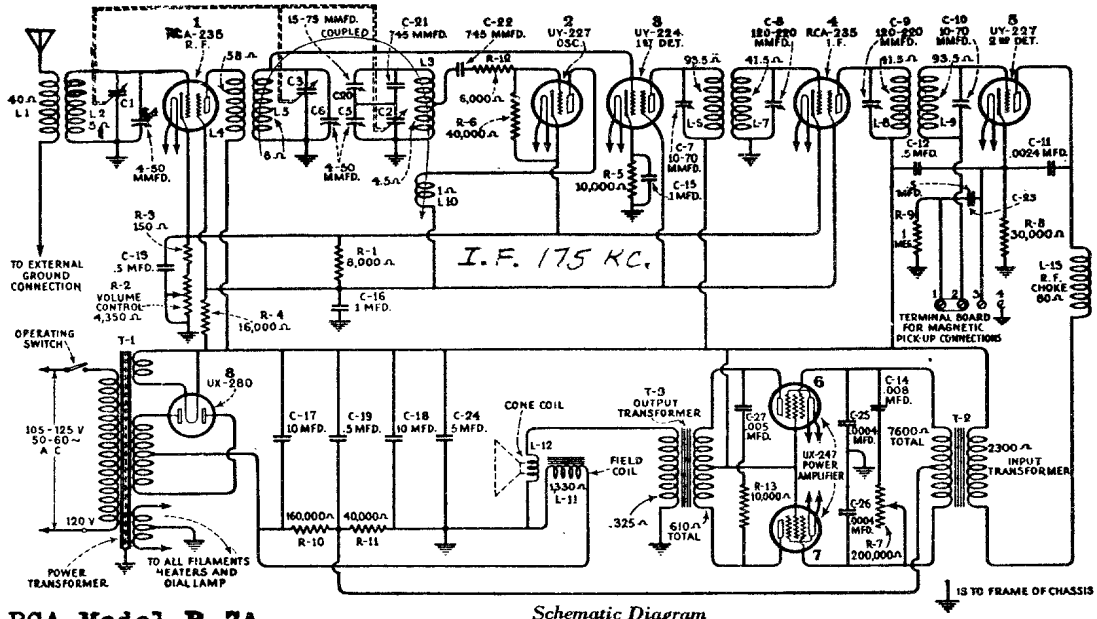


RCA Victor Models R-4 and R-6



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



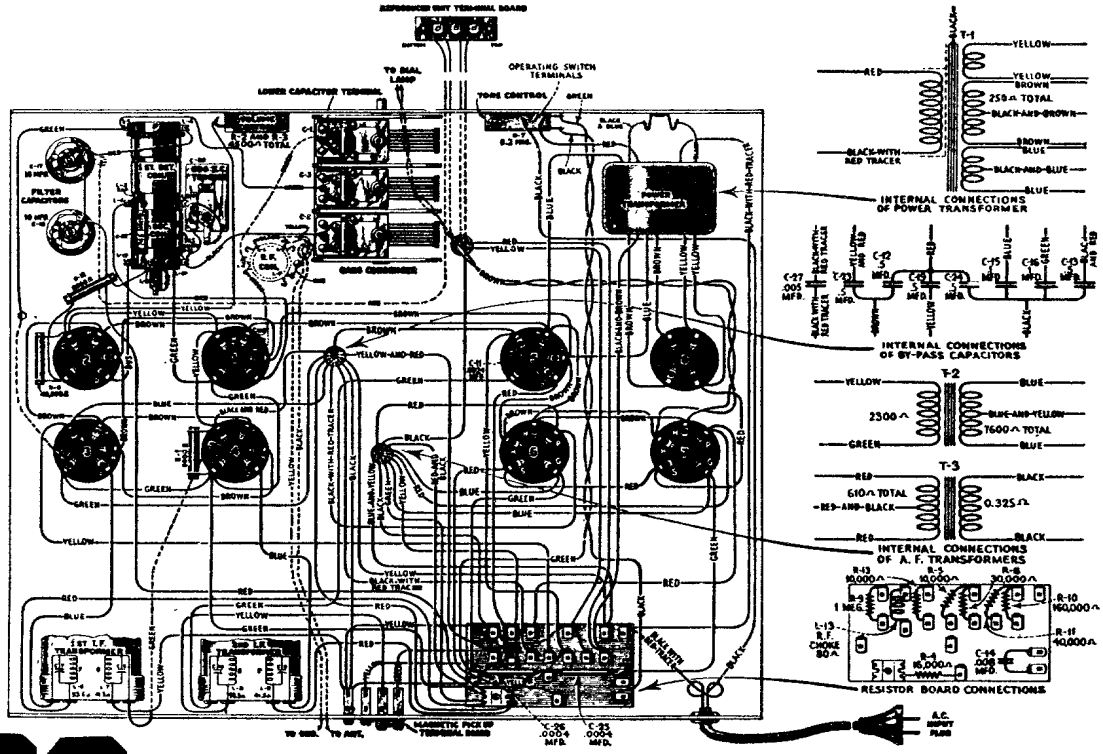


RCA Model R-7A

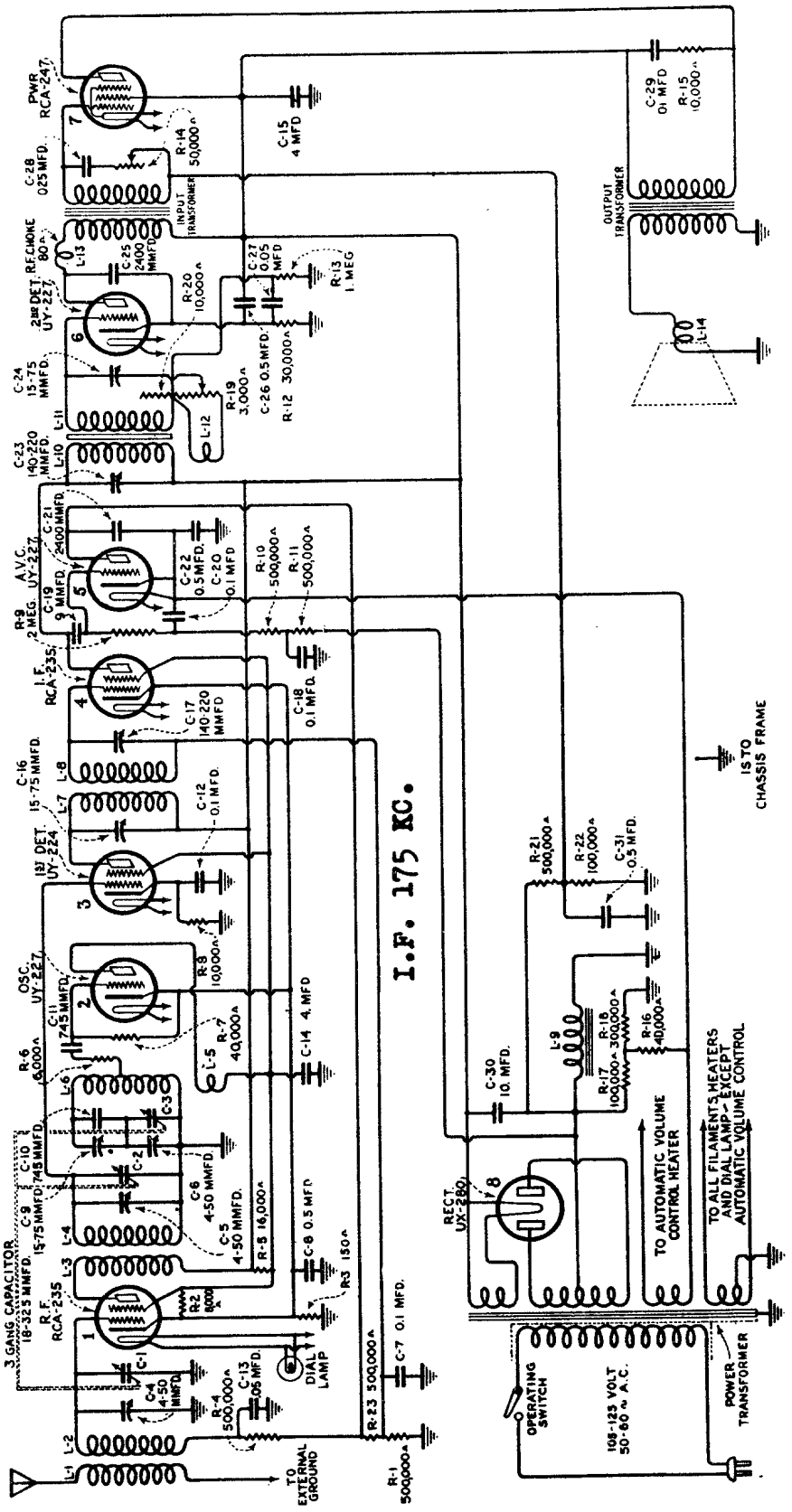
Schematic Diagram

SOCKET VOLTAGES—110 VOLT A. C. LINE

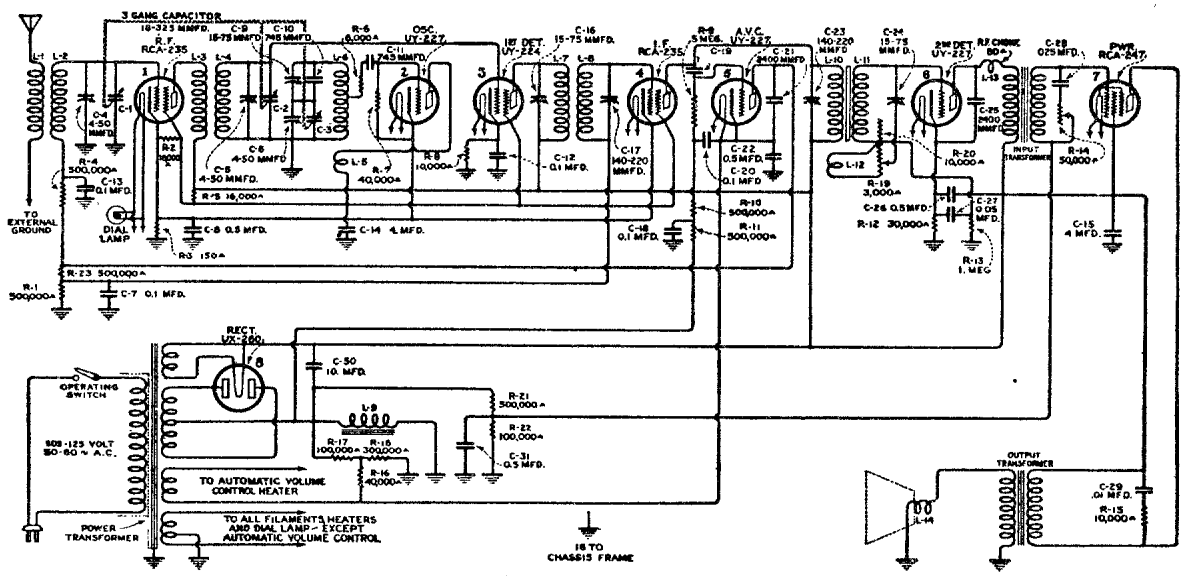
Radiotron No.	Cathode to Heater Volts D. C.	Cathode or Filament to Control Grid Volts D. C.	Cathode to Screen Grid Volts D. C.	Cathode or Filament to Plate Volts D.C.	Plate Current M. A.	Heater or Filament Volts A. C.	Radiotron No.	Cathode to Heater Volts D. C.	Cathode or Filament to Control Grid Volts D. C.	Cathode to Screen Grid Volts D. C.	Cathode or Filament to Plate Volts D.C.	Plate Current M. A.	Heater or Filament Volts A. C.
VOLUME CONTROL AT MINIMUM							VOLUME CONTROL AT MAXIMUM						
1	38	35	50	200	.0	2.2	1	2.0	2.5	60	235	3.5	2.2
2	38	0	—	50	3.5	2.2	2	2.0	.0	—	50	4.5	2.2
3	7	6	80	235	0.5	2.2	3	4.0	4.0	55	230	0.5	2.2
4	38	35	50	200	.0	2.2	4	2.0	2.5	58	235	3.5	2.2
5	22	8	—	210	0.7	2.2	5	22	8	—	210	0.7	2.2
6	—	12	225	220	30	2.2	6	—	12	225	220	30	2.2
7	—	12	225	220	30	2.2	7	—	12	225	220	30	2.2



RCA Models R-8, R-12 AC



Radiotron No.	Cathode to Heater Volts, D. C.	Cathode or Filament to Control Grid Volts, D. C.	Cathode or Filament to Screen Grid Volts, D. C.	Cathode or Filament to Plate Volts, D. C.	Plate Current M. A.	Screen Current M. A.	Heater or Filament Volts, A. C.
1. R. F.	4.0	0.5	70	260	4.0	0.5	2.66
2. Osc.	4.0	0	—	65	6.0		2.66
3. 1st Det.	7.0	6.0	70	260	0.75	0.1	2.66
4. I. F.	4.0	4.0	70	260	4.0	0.5	2.66
5. 2nd Det.	28.0	10.0	—	250	1.0	—	2.66
6. A. V. C.	0	0	—	25	0		2.66
7. Power	—	10.0	290	280	35.0	-	2.66



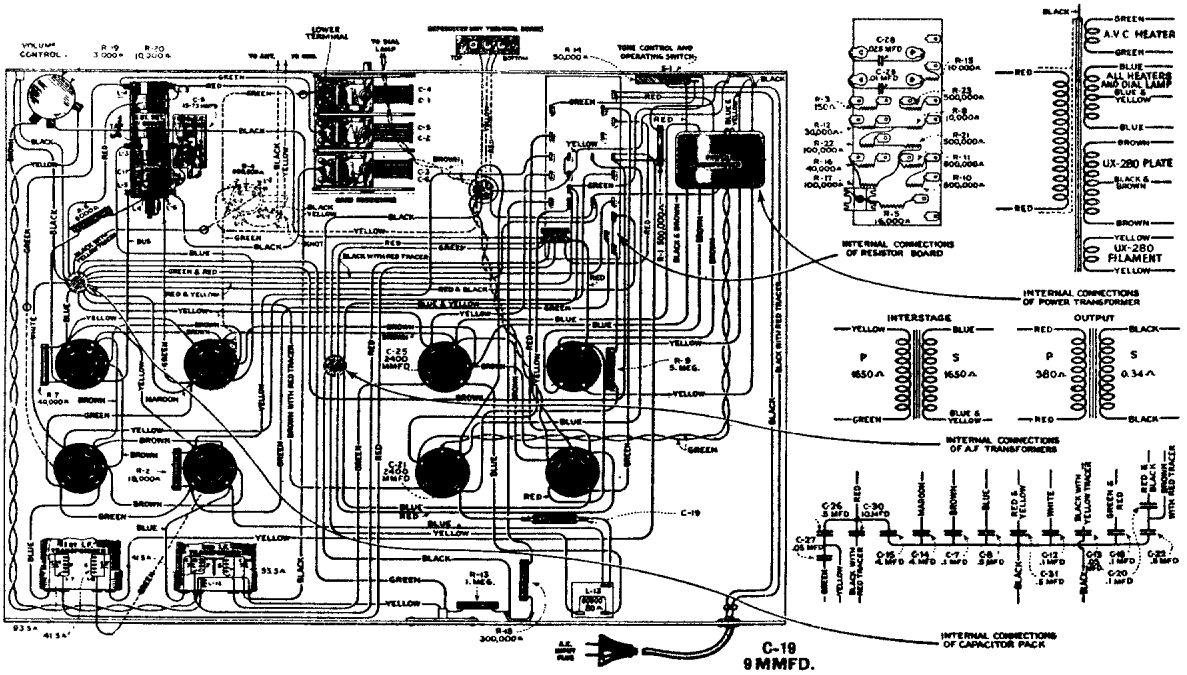
Schematic Wiring Diagram R-10

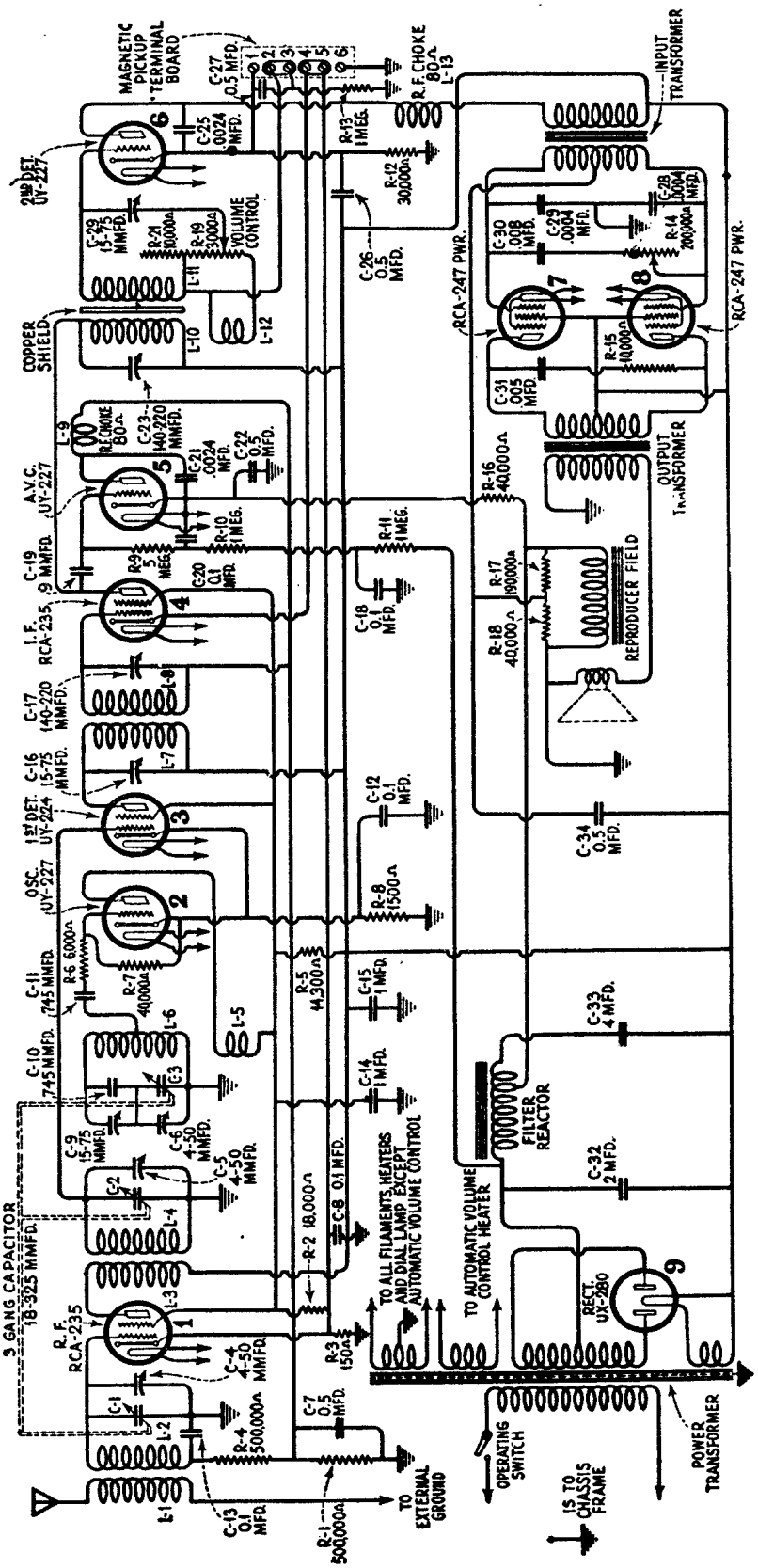
RCA Victor

I.F. 175 KC.

Radiotron No.	Cathode to Heater Volts, D. C.	Cathode or Filament to Control Grid Volts, D. C.	Cathode or Filament to Screen Grid Volts, D. C.	Cathode or Filament to Plate Volts, D. C.	Plate Current M. A.	Screen Current M. A.	Heater or Filament Volts, A. C.
1	2	*0.1	75	210	5.0	0.5	2.2
2	8	0	—	60	5.0	—	2.2
3	7	7.0	70	205	0.5	0.1	2.2
4	2	*0.1	75	210	5.0	0.5	2.2
5	0	0	—	30	0	—	2.2
6	20	*8.0	—	185	0.5	—	2.2
7	—	10	210	210	25	—	2.2

*Not true reading due to resistance in circuit.



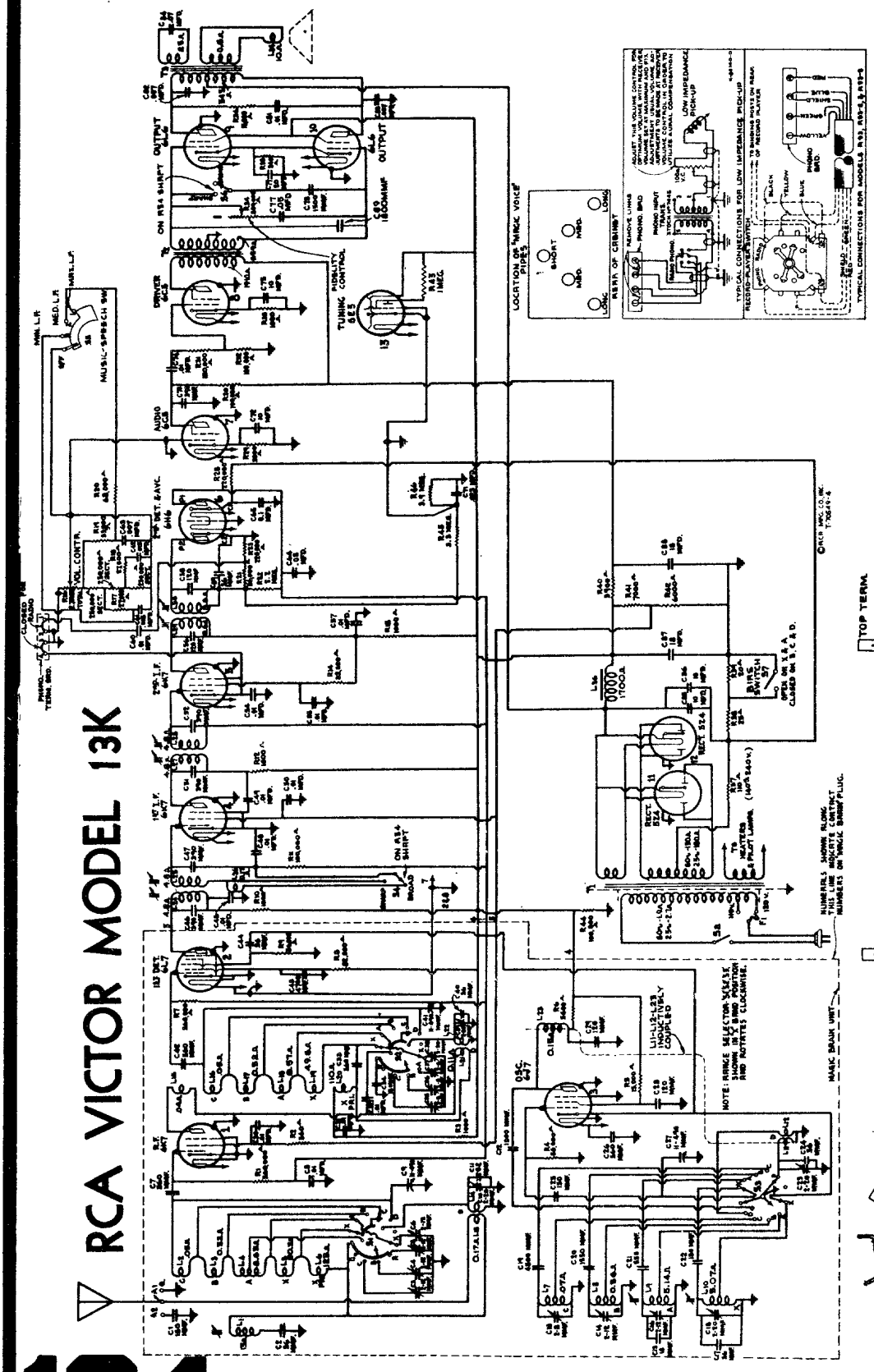


R.C.A. Schematic Circuit Diagram of Model R-11

Radiotron No.	Cathode to Heater Volts D. C.	Cathode or Filament to Control Grid Volts, D. C.	Cathode or Filament to Screen Grid Volts, D. C.	Cathode or Filament to Plate Volts, D. C.	Plate Current M. A.	Screen Current M. A.	Heater or Filament Volts, A. C.
1	2	*0.1	75	205	5.0	0.5	2.2
2	8	0	—	60	5.0	—	2.2
3	7	7.0	70	200	0.5	0.1	2.2
4	2	*0.1	75	205	5.0	0.5	2.2
5	0	0	—	25	0	—	2.2
6	20	*8.0	—	180	0.5	—	2.2
7	—	10	210	205	25	—	2.2
8	—	10	210	205	25	—	2.2

* Not true reading due to resistance in circuit.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS



RCA VICTOR MODEL 13K

I.F. 460 KC.

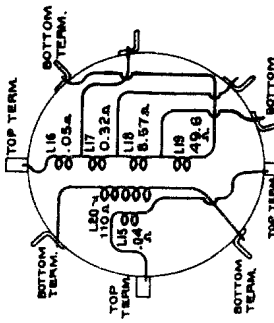
SERVICE HINTS

(1) Excessive heating of the 6E5 tube may be due to high cathode current — in excess of 7 ma. The tube should be replaced and the condition of the 5Z4 rectifier checked.

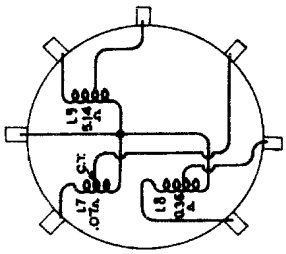
(2) Low sensitivity or intermittent operation may be caused by C-43 or C-33 developing low-resistance leakage. Check both capacitors and replace if found defective.

(3) Low sensitivity around 15—16 megacycles may be caused by dirty or poor contact of grounding contact finger on S-3.

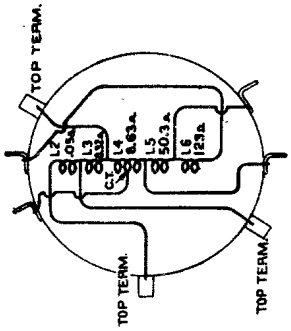
(4) Motorboating may be due to intermittent capacitor Stock No. 13025.



DET. COIL CONNECTIONS



OSC. COIL CONNECTIONS

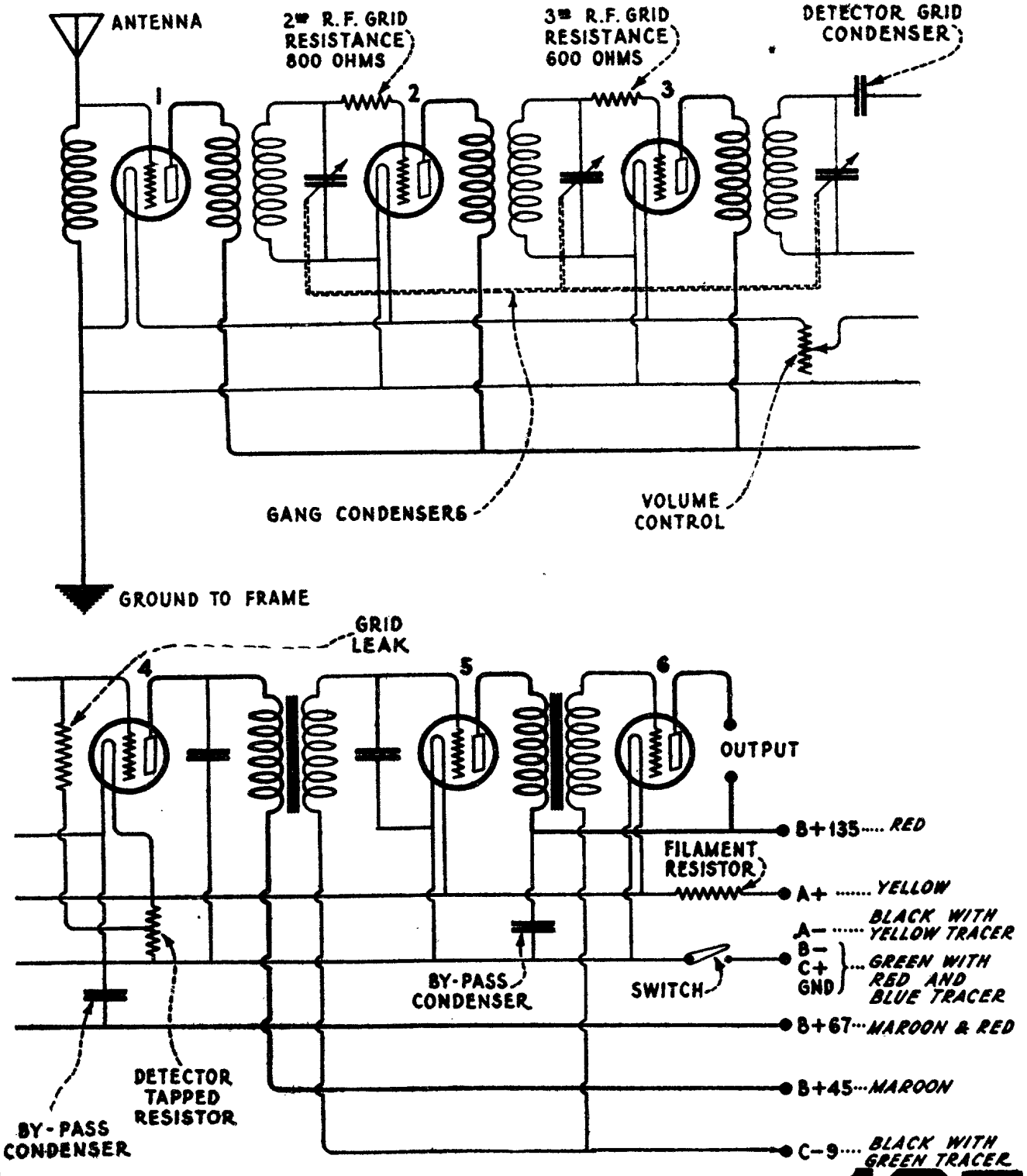


ANT. COIL CONNECTIONS

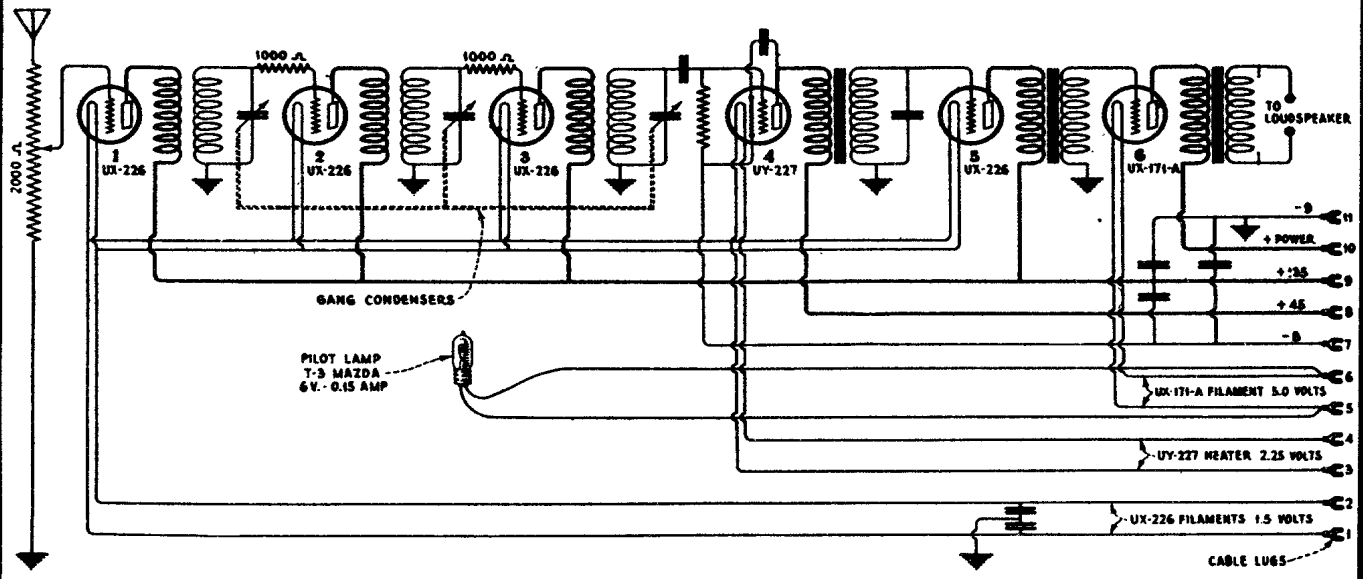
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

RCA RADIOLA 16

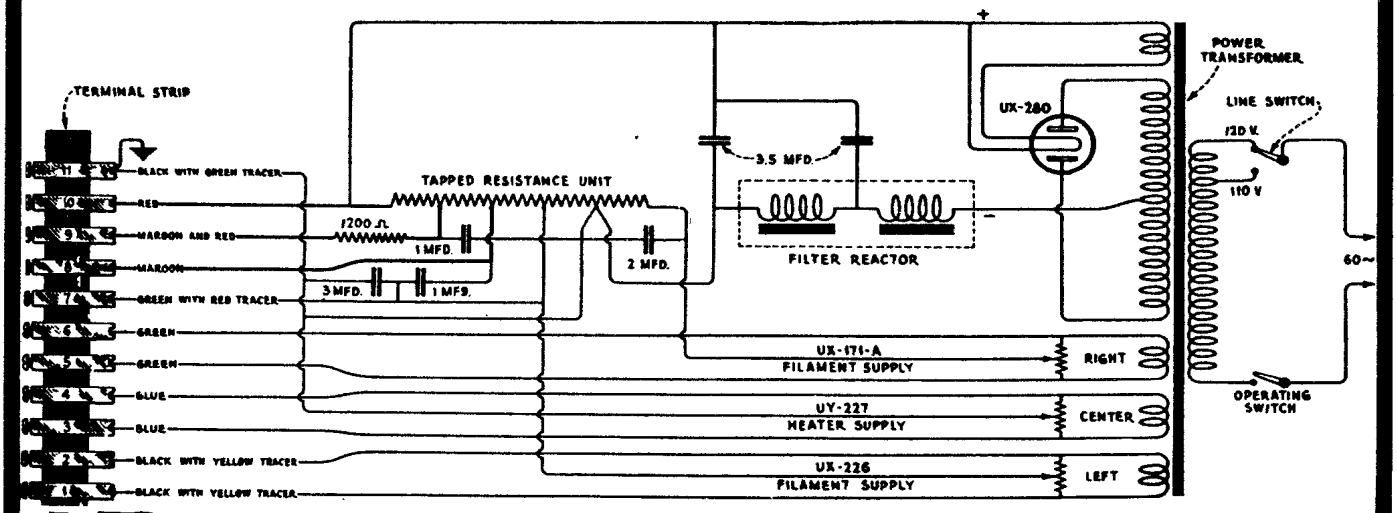


RCA RADIOLA 17



Schematic circuit diagram of receiver assembly.

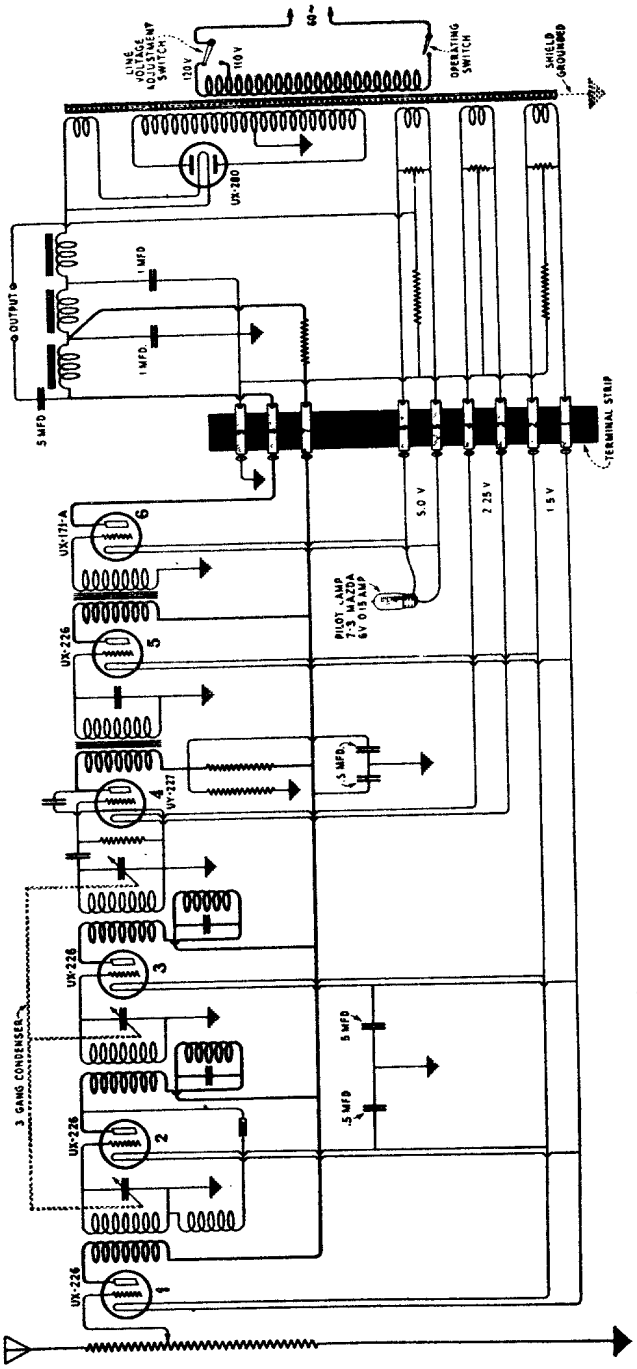
Indication	*Cause*	*Remedy*
No signals	Defective operating switch	Repair or replace switch
	Loose volume control arm	Tighten volume control arm
	Defective power cable	Replace power cable
	Defective R.F. transformer	Replace R.F. transformer assembly
	Defective A.F. transformer	Replace A.F. transformer assembly
	Defective By-pass condenser	Replace By-pass condenser
	Defective socket power unit	Check socket power unit by means of continuity test and make any repairs or replacements necessary

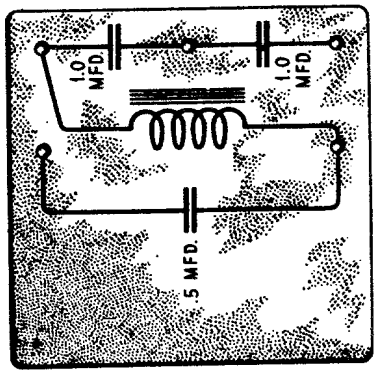


COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

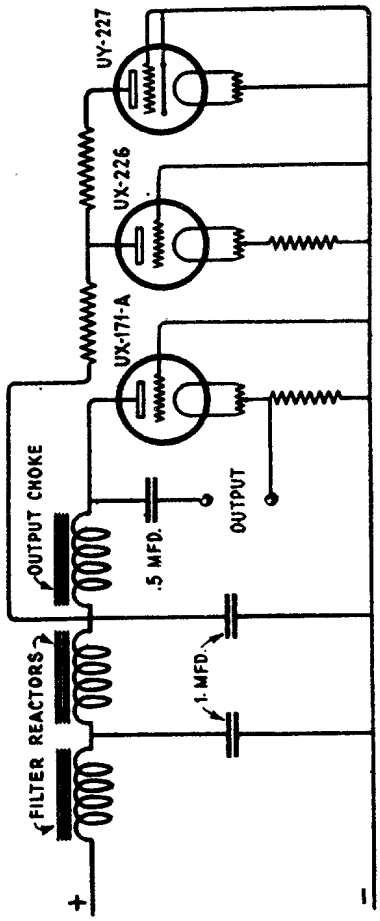
RCA RADIOLA 18

(105-125 Volts, 50-60 Cycle A.C.)





Internal connections of condensers.



Schematic circuit illustrating method of obtaining grid and plate voltages.

Schematic Wiring Diagram Victor Radio and Victor Radio with Electrola
Model R-32, R-52, RE-45, RE-75

Internal Connections of Filter Condenser Bank

GENERAL TESTS

1. EXCESSIVE HUM—This condition can be caused by:

a. Improperly adjusted or faulty hum controls. See subject 4, under Installation.
b. Defective UX-280 or UY-227.
c. Wire or terminal grounded to the frame, or open circuit in any of the various ground connections.
d. Shorted condenser, 10, Fig. 1, across UX-226 filament supply.
e. Open or shorted center tap resistor, 43, Fig. 1, across UX-226 filament supply.
f. Shorted condenser, 64, Fig. 3, across power line in power-amplifier unit.
g. Shorted condenser in condenser bank, 56, Fig. 2, of power-amplifier unit.

2. HOWL—Microphonic howl can be traced to:

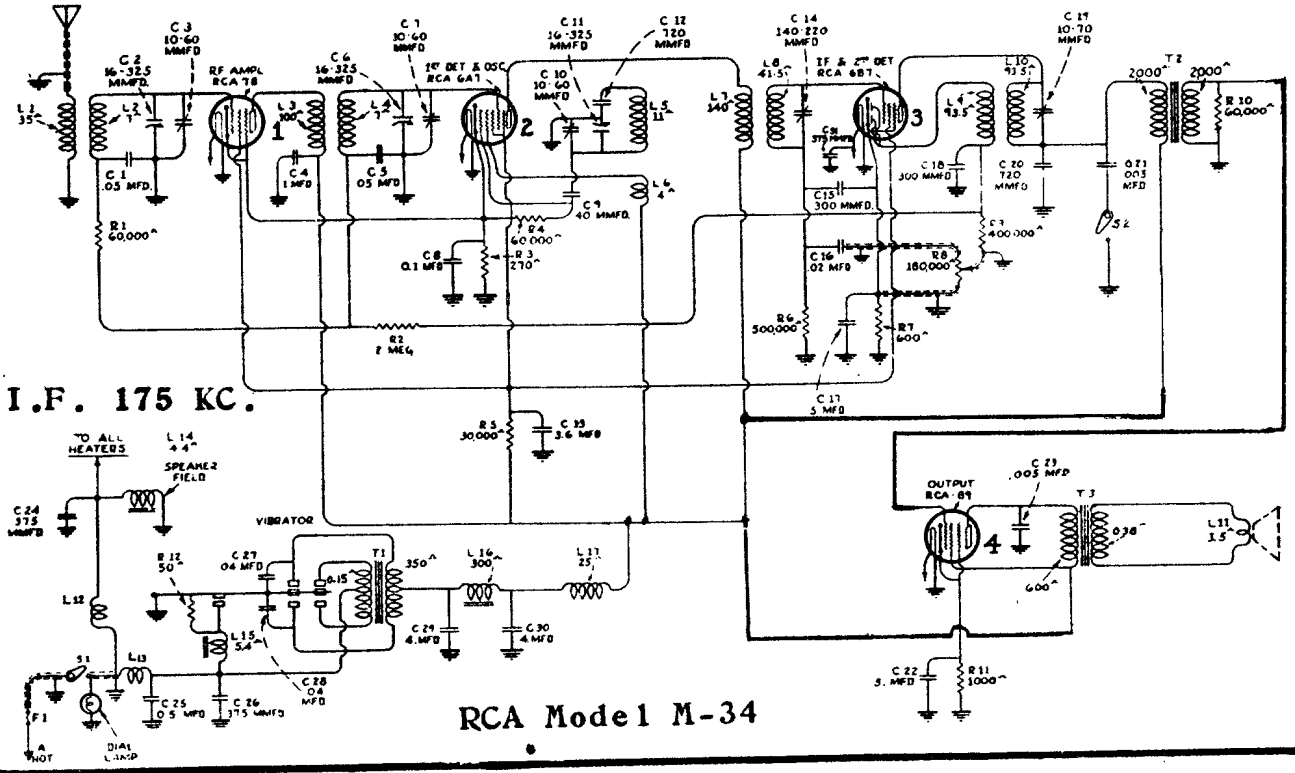
a. Defective Radiotron, particularly in the detector or audio stages.
b. Improper neutralization. See subject 1 under Special Adjustments below.
c. Speaker not felt insulated from baffle. Remove speaker and arrange felt properly.
d. Open condenser, 15, Fig. 1.
e. Loose metal parts such as shielding, screws, etc., or improperly centered cone may set up a howl or mechanical rattle. See subject 2 under Special Adjustments for method of centering cone.

3. DISTORTED REPRODUCTION—Distortion may be caused by any of the following:

a. Low emission Radiotron, particularly in the detector or in the power supply unit. For best reproduction the plate currents of the two UX-245 should balance within 2 milliamperes.
b. Operation with volume control advanced too far on powerful local stations, causing overloading of the detector.
c. Incorrect setting of the tone control in the base of the power-amplifier. See subject 5, under Installation.
d. Improper neutralization. See subject 1, under Special Adjustments.
e. Cone in speaker unit improperly centered. See subject 2 under Special Adjustments.

4. NOISY REPRODUCTION—Station carrier noise, static, and power line disturbances should not be confused with noise which is set up within the receiver. This latter condition may be caused by any one of the following:

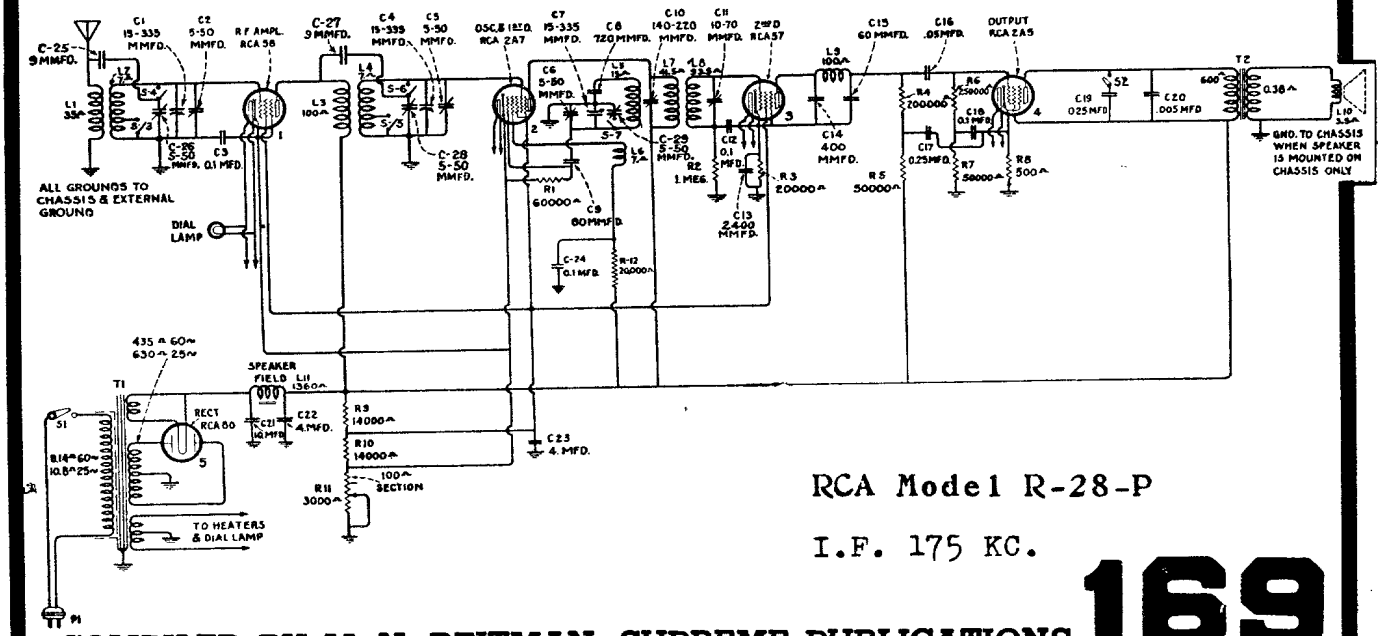
a. *Volume Control.* Dirt or corrosion on the resistance wire or contact arms of the volume control will produce noise when the control is operated. This condition can usually be corrected by rubbing the parts lightly with very fine sandpaper and then cleaning with gasoline.
b. *Shorted Tuning Condenser.* If the plates of one or more of the tuning condensers are shorted, noise will be produced when the tuning lever is operated. If such a condition is found, the faulty condenser should be replaced.
c. *Intermittent short or open circuit* in any of the various soldered connections or in power switch.
d. *High resistance grid leak.* Any of the grid leaks which have developed an excessive high resistance will produce a "frying noise."
e. *Faulty power or audio transformer* will also produce this same type noise.



RCA Model M-34

MAXIMUM VOLUME CONTROL SETTING—NO SIGNAL

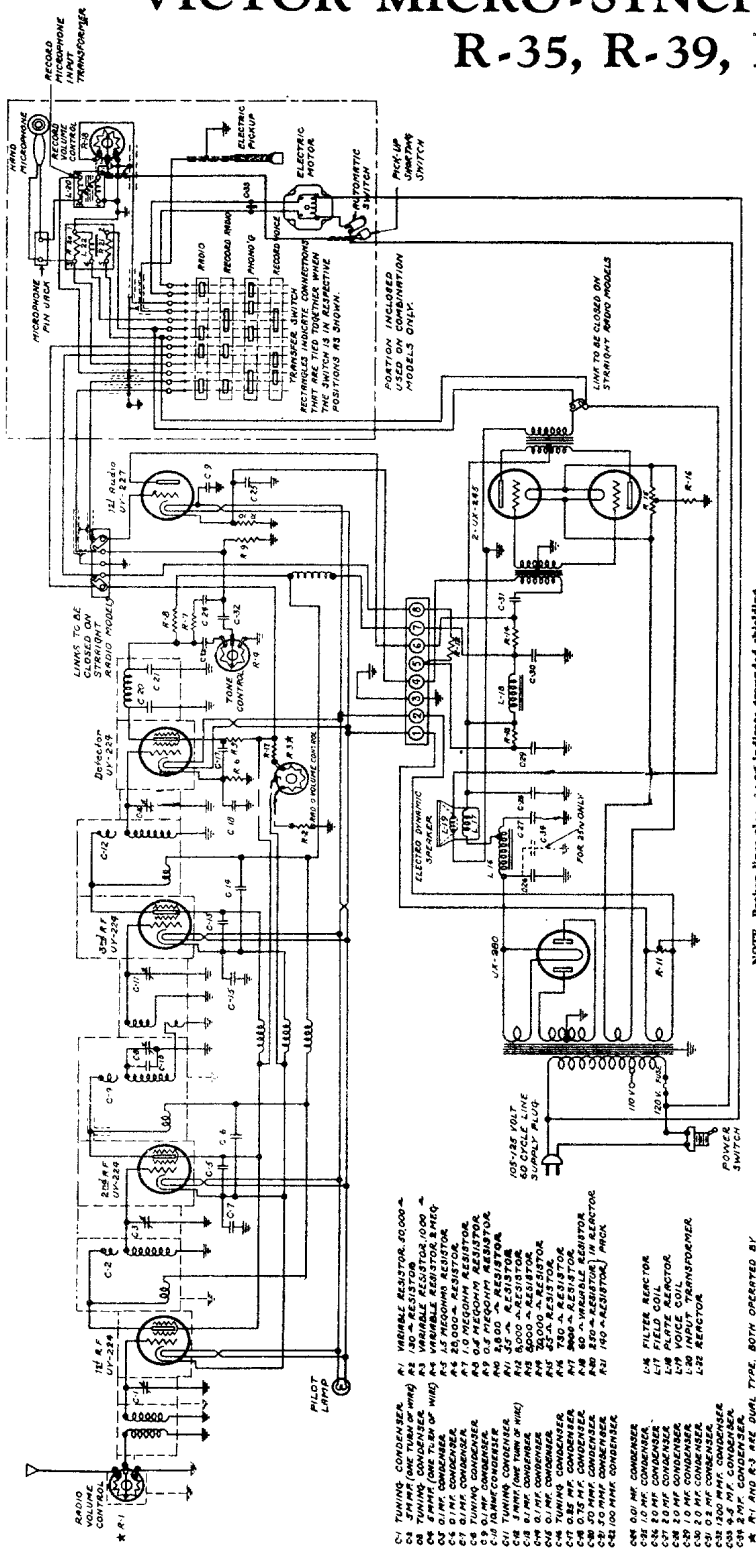
Radiotron No.	Cathode to Control Grid, Volts	Cathode to Screen Grid, Volts	Cathode to Plate, Volts	Plate Current, M. A.	Heater Volts
1. RCA-58 R. F. Amplifier	3.0	95	250	5.0	2.33
2. RCA-2A7 First Detector Oscillator	3.0	95	250	3.0	2.33
3. RCA-57 Second Detector	6.0	89	170	0.3	2.33
4. RCA-2A5 Power Amplifier	18.0	235	220	32.0	2.33
5. RCA-80 Rectifier	275 Volts PLATE TO PLATE—60 M. A. TOTAL				4.82
TOTAL CATHODE CURRENT—11 M. A.					



RCA Model R-28-P

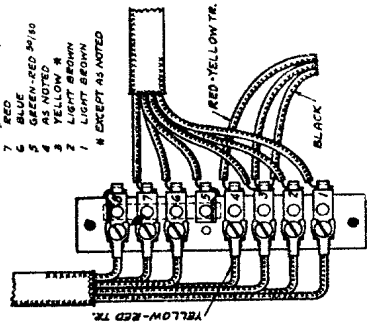
I.F. 175 KC.

VICTOR MICRO-SYNCHRONOUS RADIO
R-35, R-39, RE-57



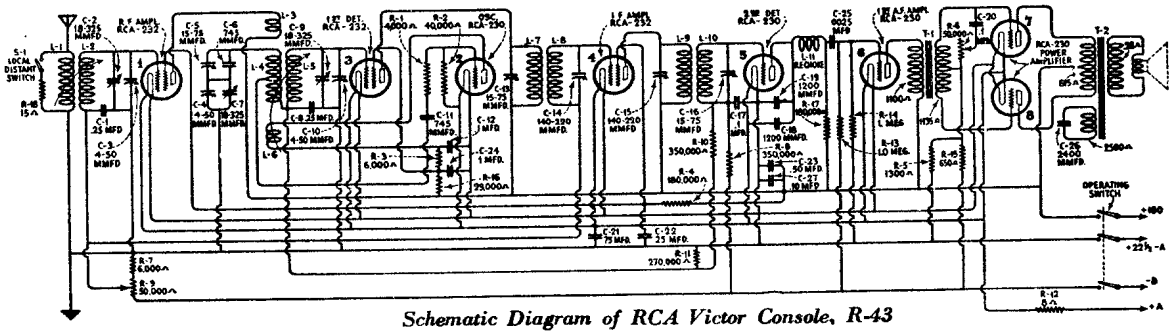
Schematic Wiring Diagram Victor Mico-Synchronous Radio, Models R-35, R-39, and RE-57.

NOTE—Broken lines show wiring indicate grounded shielding.



Top View of Amplifier Terminal Strip.

TEST BETWEEN TERMINALS	PART	APPROXIMATE VOLTAGE (10 V SCALE)	APPROXIMATE RESISTANCE (OHMETER)
F and 7 of Terminal Board	Tapped Choke	8.4 Volts	300 Ohms
4 and 6 of Terminal Board	Speaker Field	7.2 Volts	1,500 Ohms
Brown-Grey Resistor	8000 Ohm Resistor	3.4 Volts	8,000 Ohms
Brown-Grey Resistor	8000 Ohm Resistor	3.4 Volts	8,000 Ohms
Green-Red Resistor	70,000 Ohm Resistor	.5 Volts	70,000 Ohms
7 and 8 of Condenser Bank	Plate Choke	4.0 Volts	6,000 Ohms
2 of Condenser Bank and 4 of Terminal Strip	Primary Interstage Transformer	6.4 Volts	2,600 Ohms
UX-245 Grids	Secondary Interstage Transformer	2.4 Volts	14,600 Ohms
UX-245 Grids to Chassis	One-half Secondary Interstage Transformer	3.4 Volts	5,500 Ohms
UX-245 Plates	Primary Output Transformer	3.6 Volts	7,500 Ohms
UX-245 Plates and No. 3 of Condenser Bank	One-half Primary Output Transformer	8.4 Volts	330 Ohms
Voice Coil	Speaker Voice Coil	8.8 Volts	165 Ohms
14 and 15 of Terminal Board	Primary Power Transformer	9.0 Volts	0 Ohms
P and P	High Voltage Secondary Output Transformer	9.0 Volts	0 Ohms
F and F	UX-280 Filament Secondary Output Transformer	8.4 Volts	340 Ohms
		9.0 Volts	0 Ohms



Schematic Diagram of RCA Victor Console, R-43

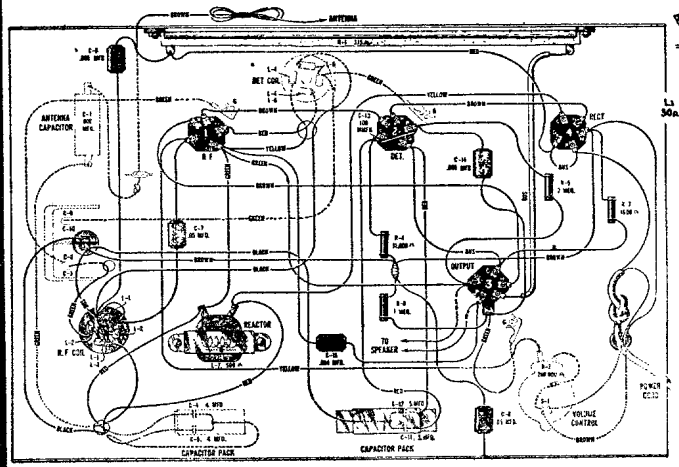
Tube No.	Filament to Control Grid Volts	Filament to Screen Grid Volts	Filament to Plate Volts	Plate Current M. A.	Filament Volts
VOLUME CONTROL AT MINIMUM					
1	22	55	155	0	2.0
2	—	—	50	3.0	2.0
3	0.5	65	150	0.5	2.0
4	22	55	155	0	2.0
5	5.0	—	90	0	2.0
6	2.0	—	150	2.5	2.0
7	15.0	—	150	0.5	2.0
8	15.0		150	0.5	2.0
VOLUME CONTROL AT MAXIMUM					
1	1.5	45	150	2.5	2.0
2	—	—	50	3.0	2.0
3	0.5	60	150	0.5	2.0
4	1.5	45	150	2.5	2.0
5	5.0	—	90	0	2.0
6	2.0	—	150	2.5	2.0
7	15.0	—	150	0.5	2.0
8	15.0	—	150	0.5	2.0

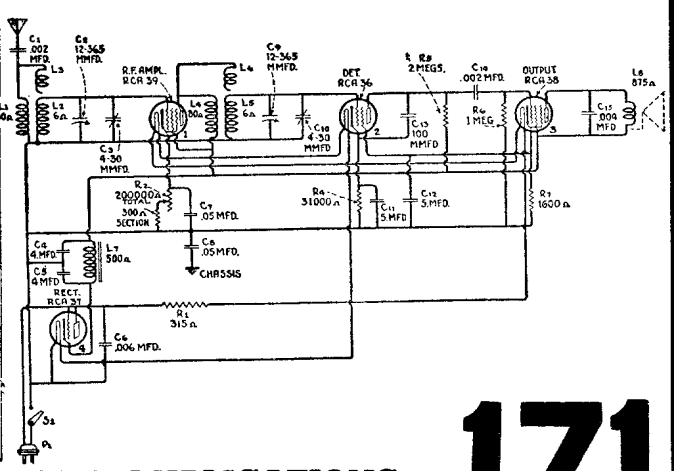
RCA Victor R-17-M

Radiotron No.	Cathode or Filament to Control Grid Volts	Cathode or Filament to Screen Grid Volts	Cathode or Filament to Plate Volts	Plate Current M. A.	Filament or Heater Volts
1. RCA-39 R. F.	3.0	105.0	105	7.0	6.0
2. RCA-36 Detector	*0.75	11.0	*60	0.025	6.0
3. RCA-38 Output	11.0	100.0	95	5.0	6.0
4. RCA-37 Rectifier	——	——	115	15.0	6.0

*Impossible to measure on ordinary voltmeter.

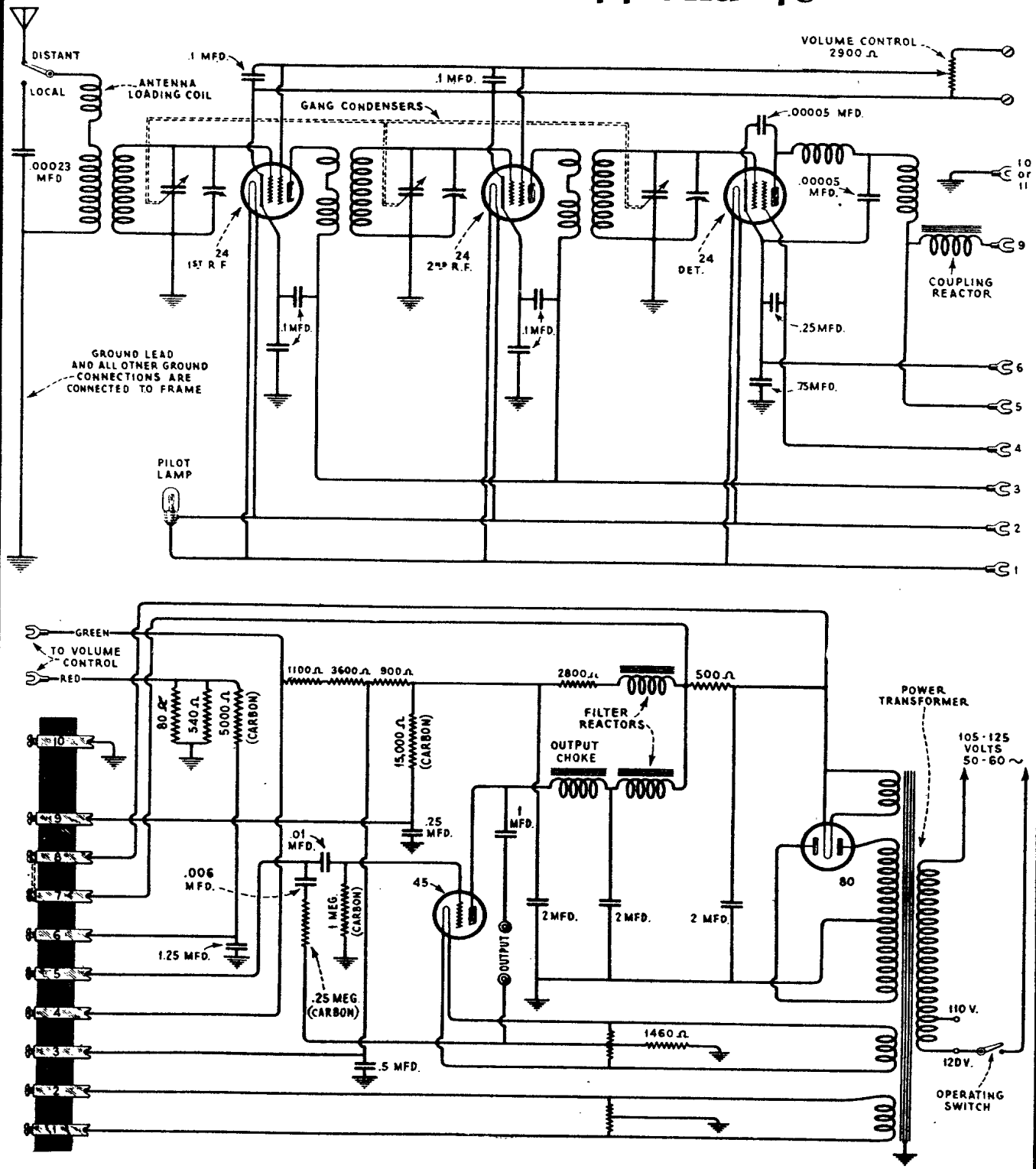
All Voltages on D. C. will be slightly lower





MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

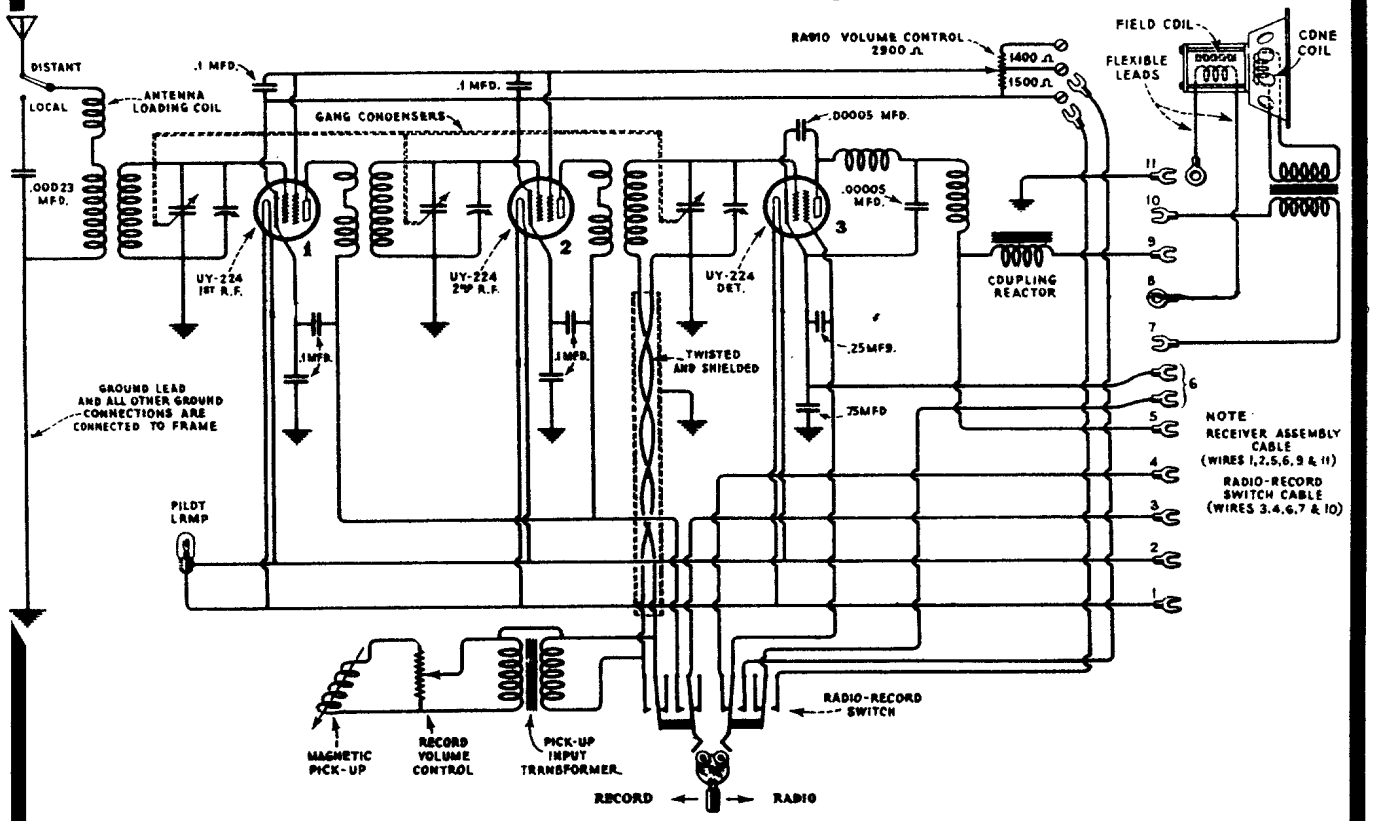
RCA RADIOLAS 44 and 46



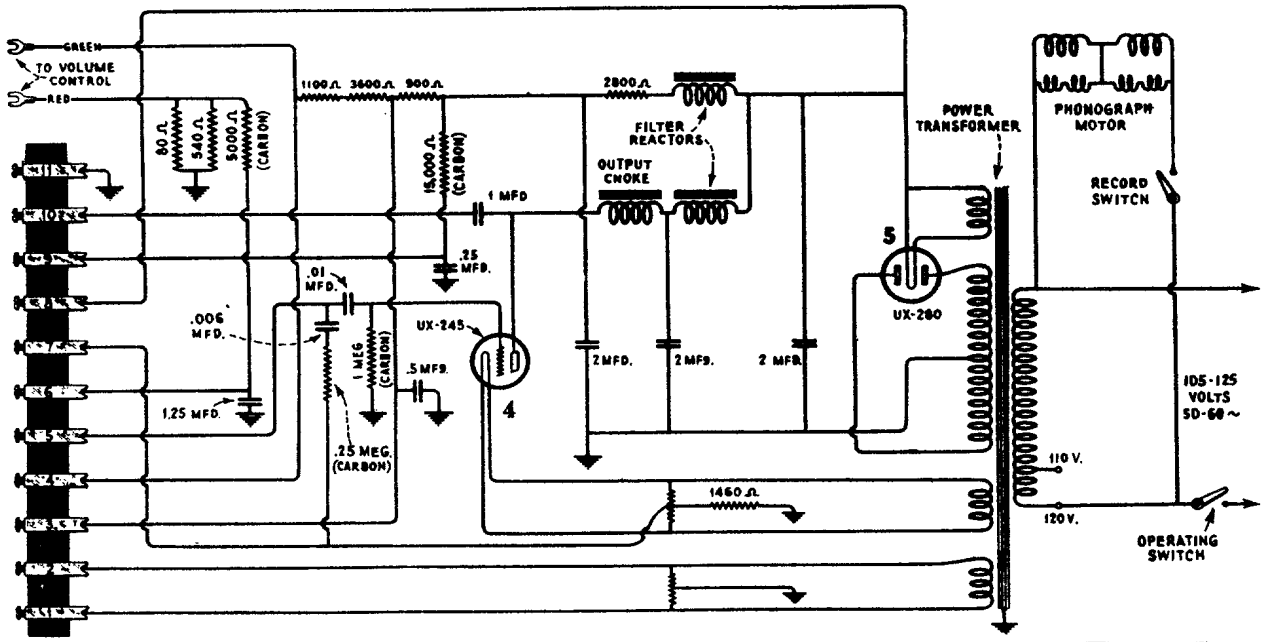
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS **172**

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

Radiola 47



Schematic circuit diagram of receiver, phonograph pick-up and reproducer

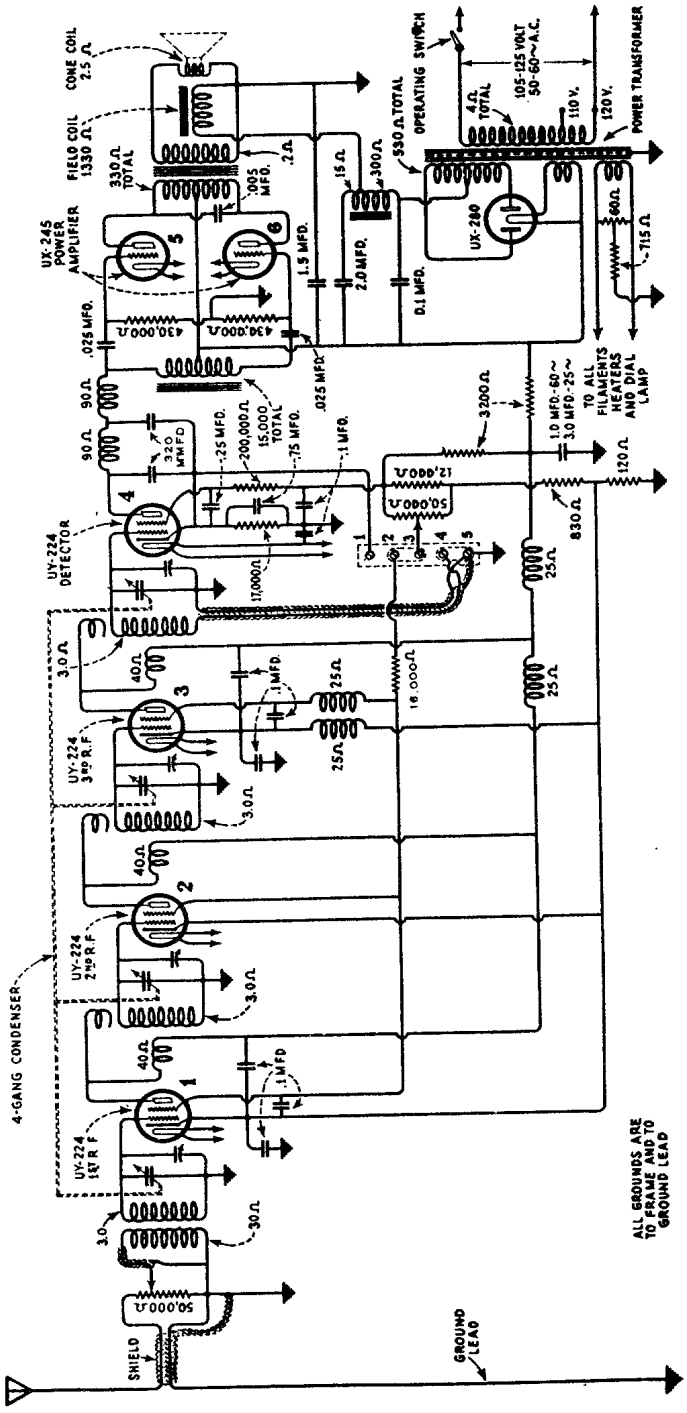


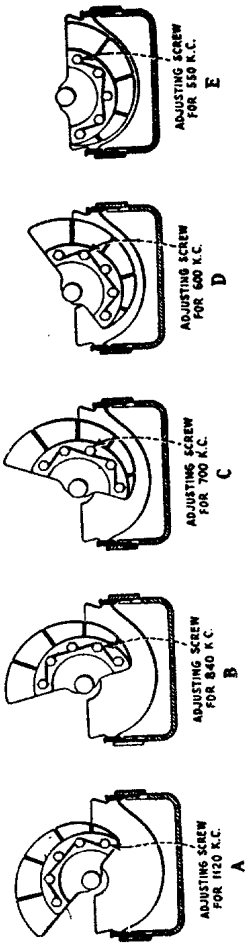
Schematic circuit diagram of socket power unit

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

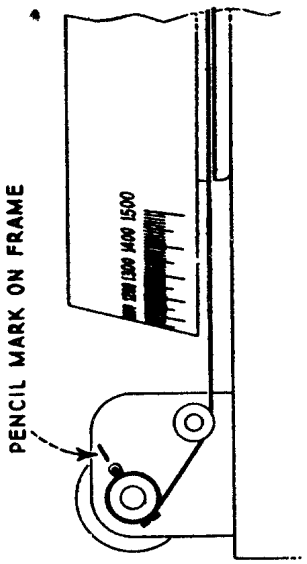
173

RCA RADIOLA 48





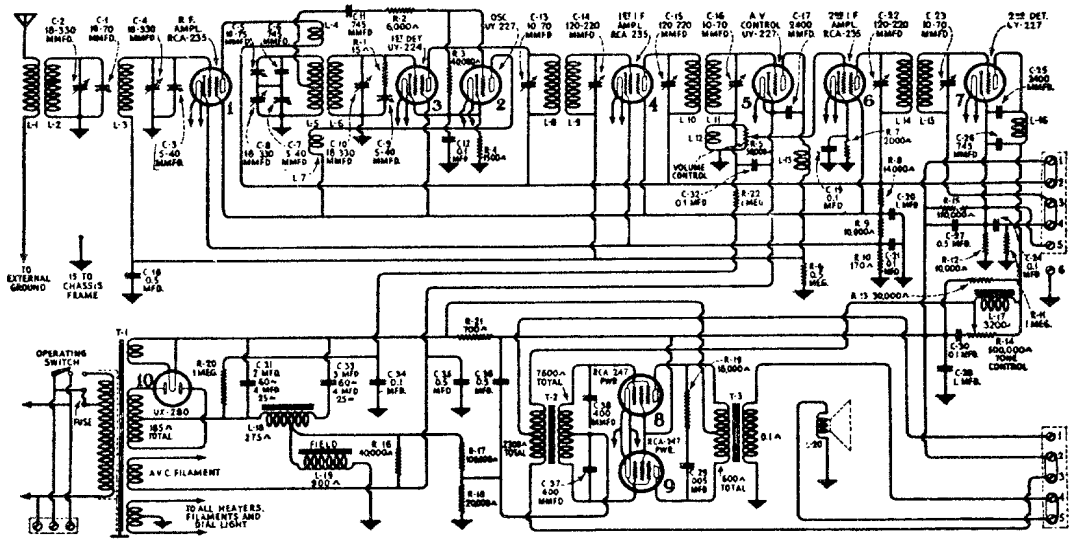
Gang condenser adjustment positions.



View showing method of checking position of dial.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

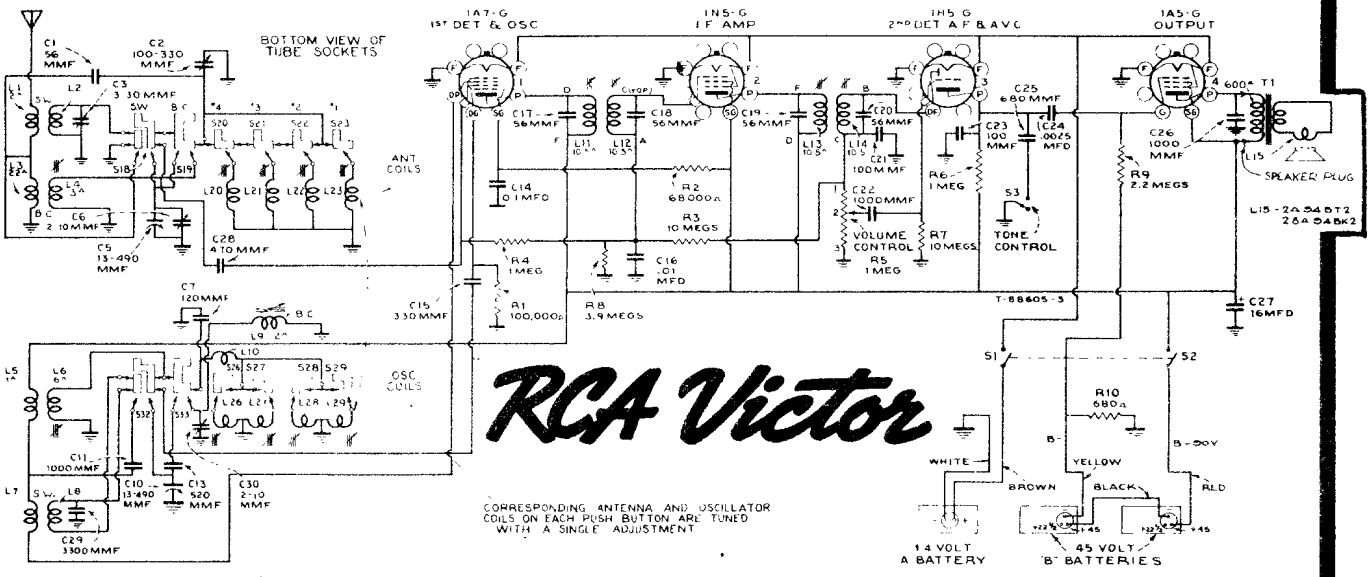
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

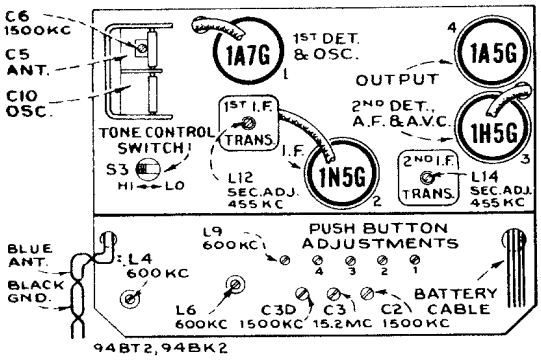


RCA Models R-50, R-55 I.F. 175 KC.

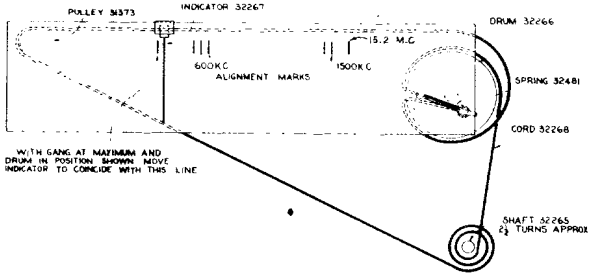
MODELS 94BK2 and 94BT2

Chassis No. RC-390 RC-390





Tube and Trimmer Locations



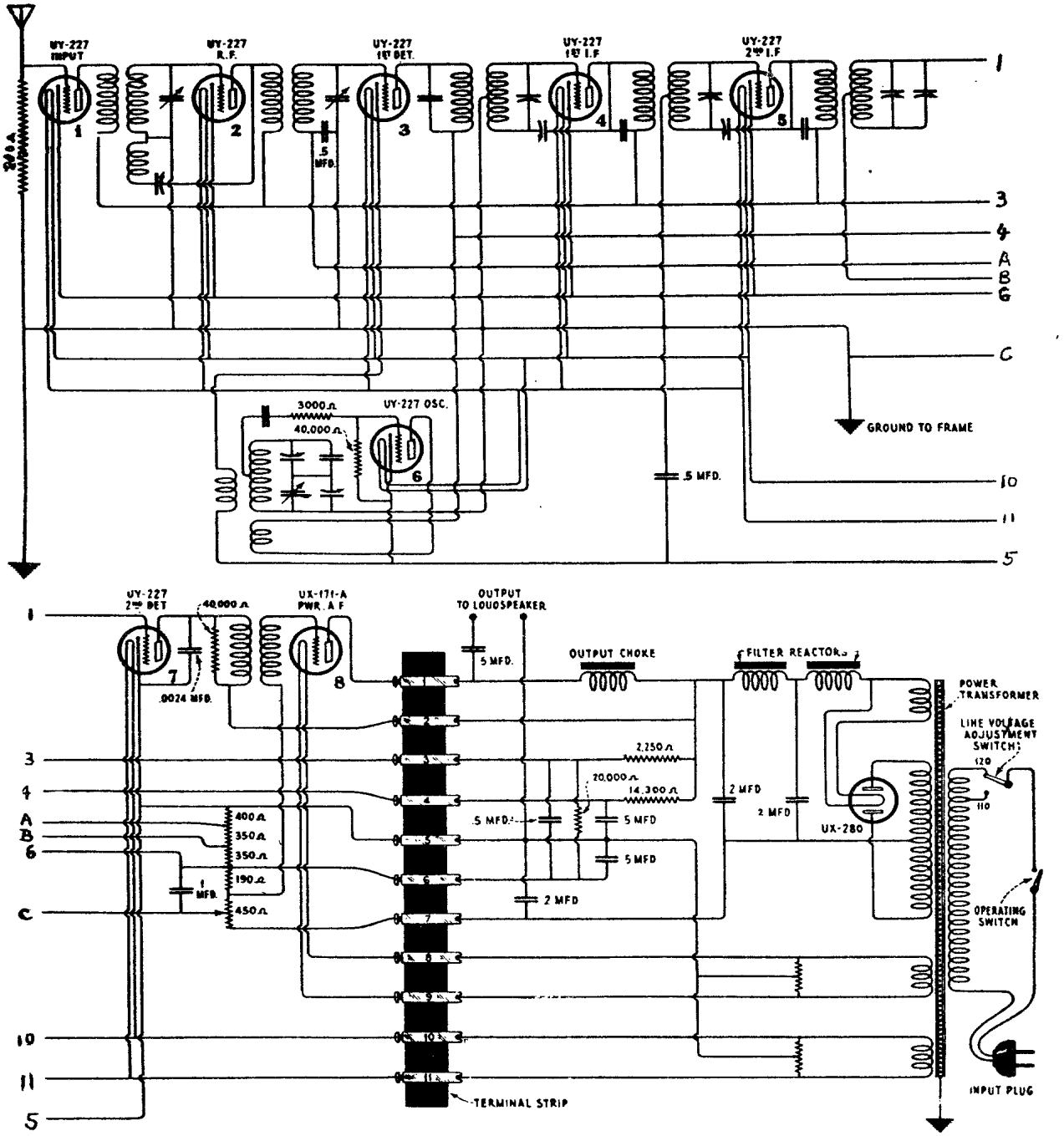
Dial Drive Hookup and Alignment Marks

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS **175**

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

RCA RADIOLA 60

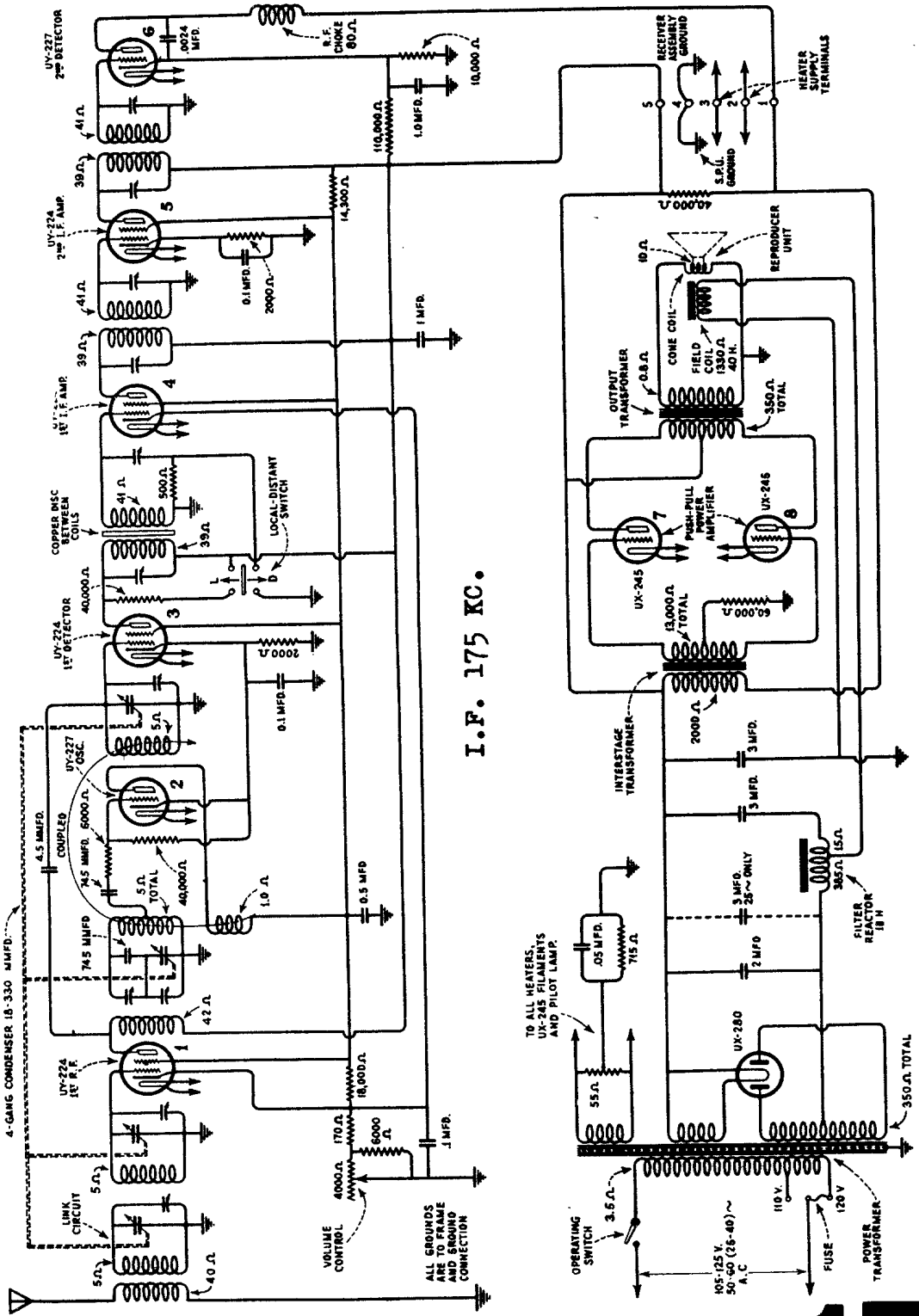
(105-125 Volts. 50-60 Cycle A. C.)



I.F. 180 KC.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

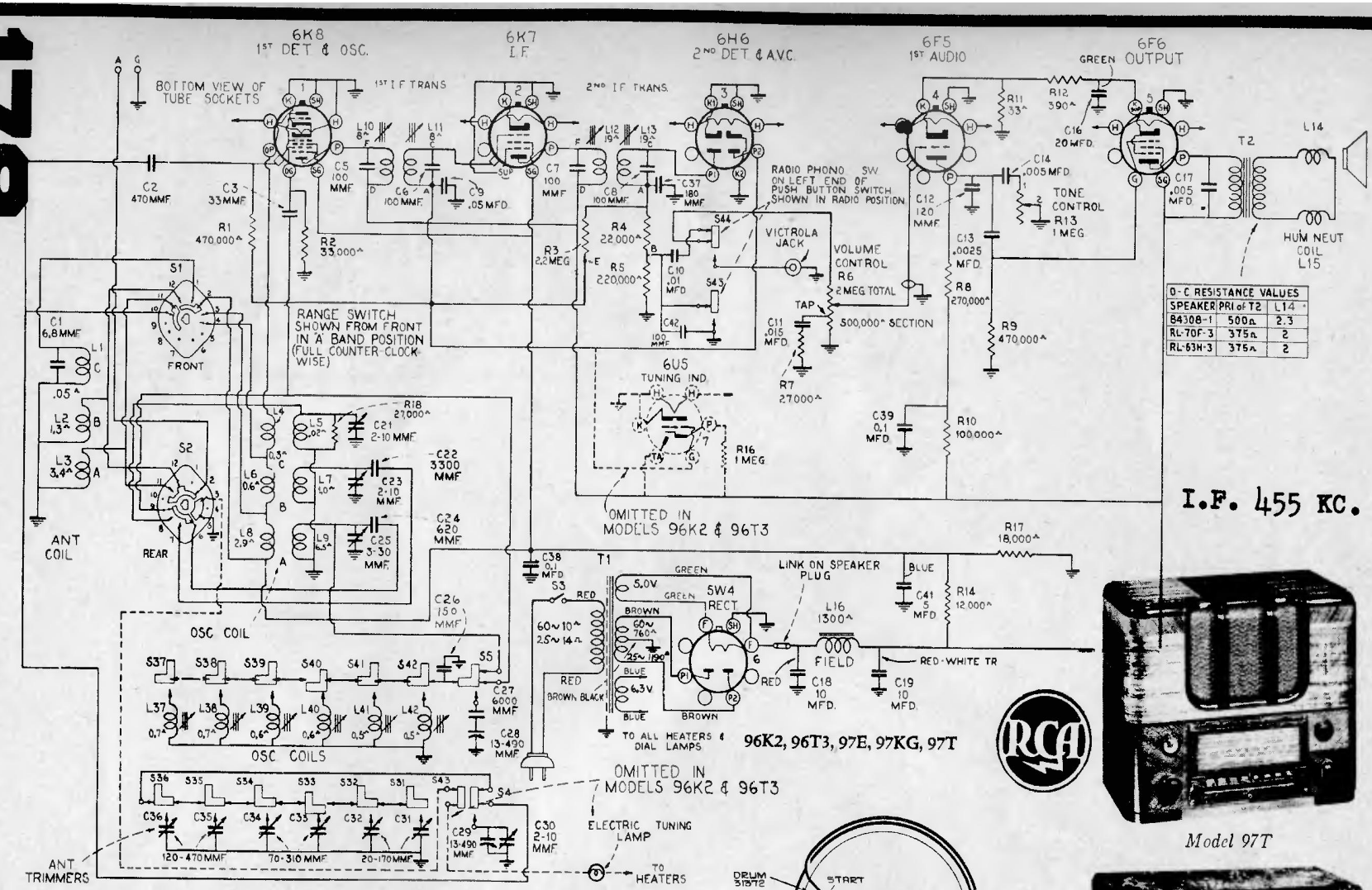
RCA Radiola 80, 82, 86



178

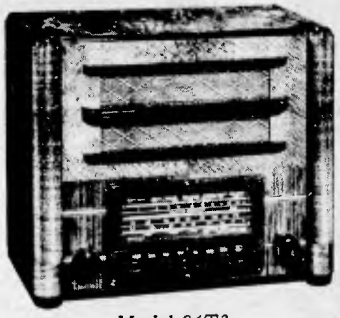
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

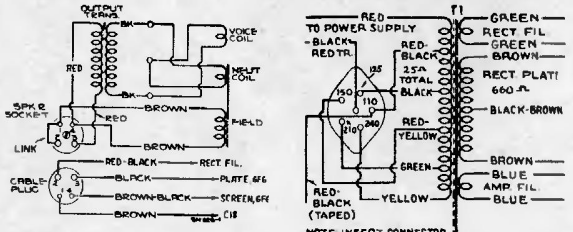


O-C RESISTANCE VALUES		
SPEAKER	PRI of T2	L14
84308-1	500Ω	2.3
RL-70F-3	375Ω	2
RL-63H-3	375Ω	2

Model 97T

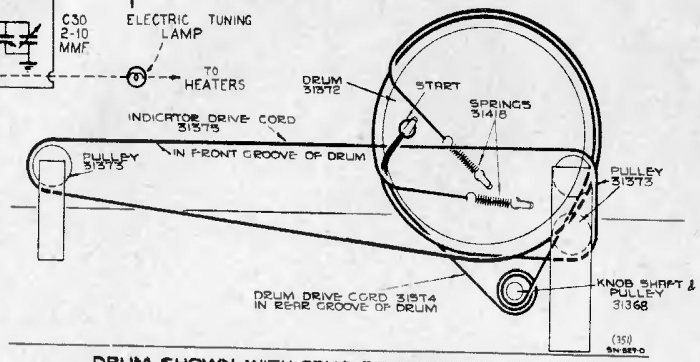


Model 96T3



Above — Connections and Colors of Loudspeaker and Cable.

UNIVERSAL TRANS. CONNECTIONS



DRUM SHOWN WITH GANG AT MAXIMUM CAPACITY

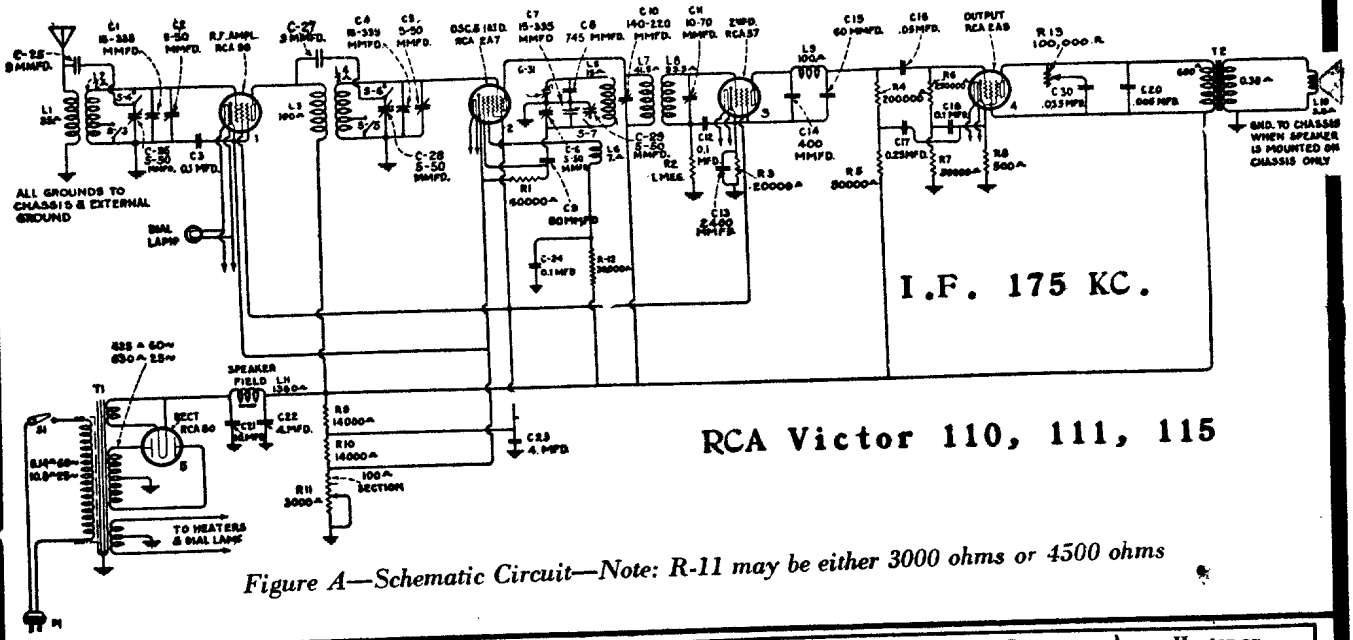
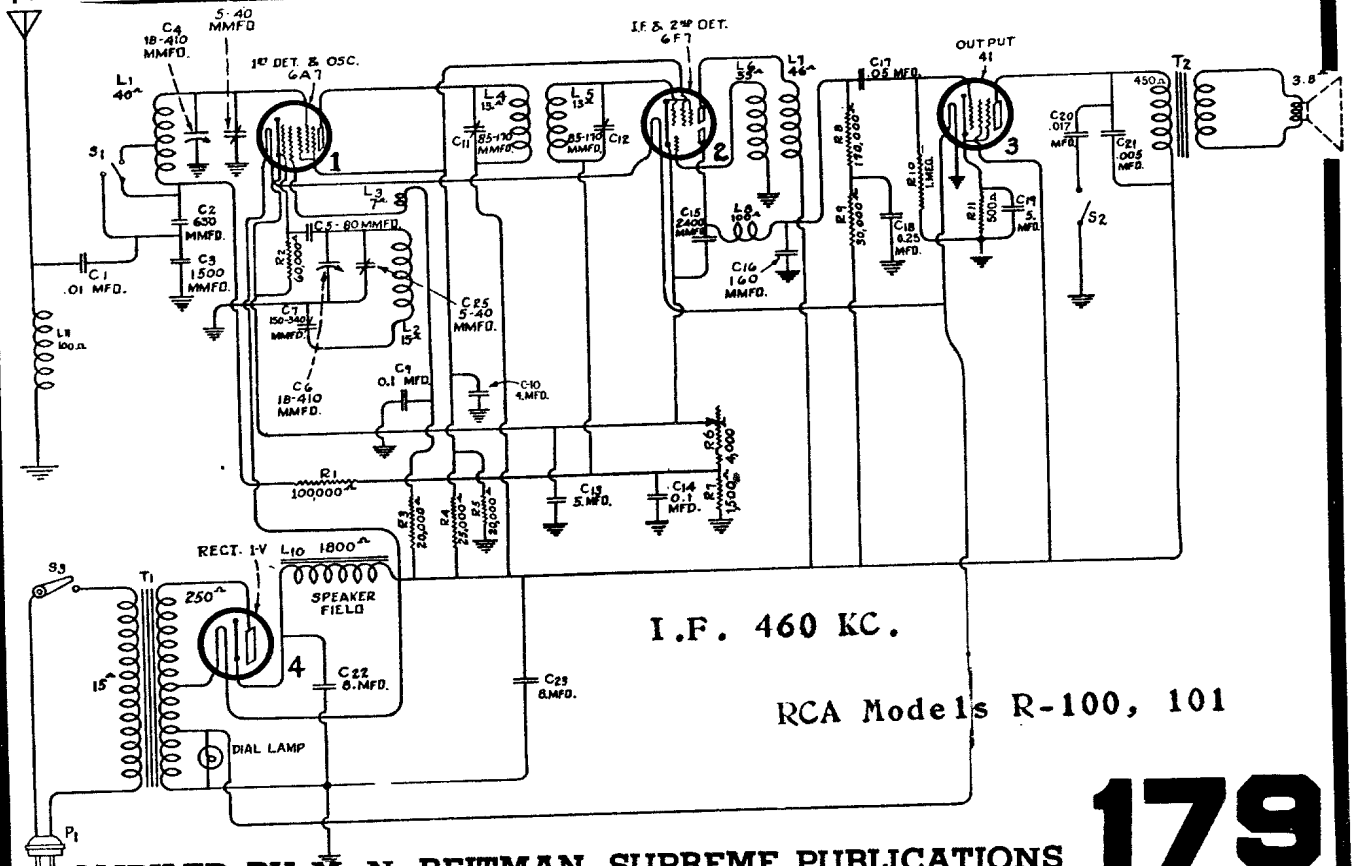


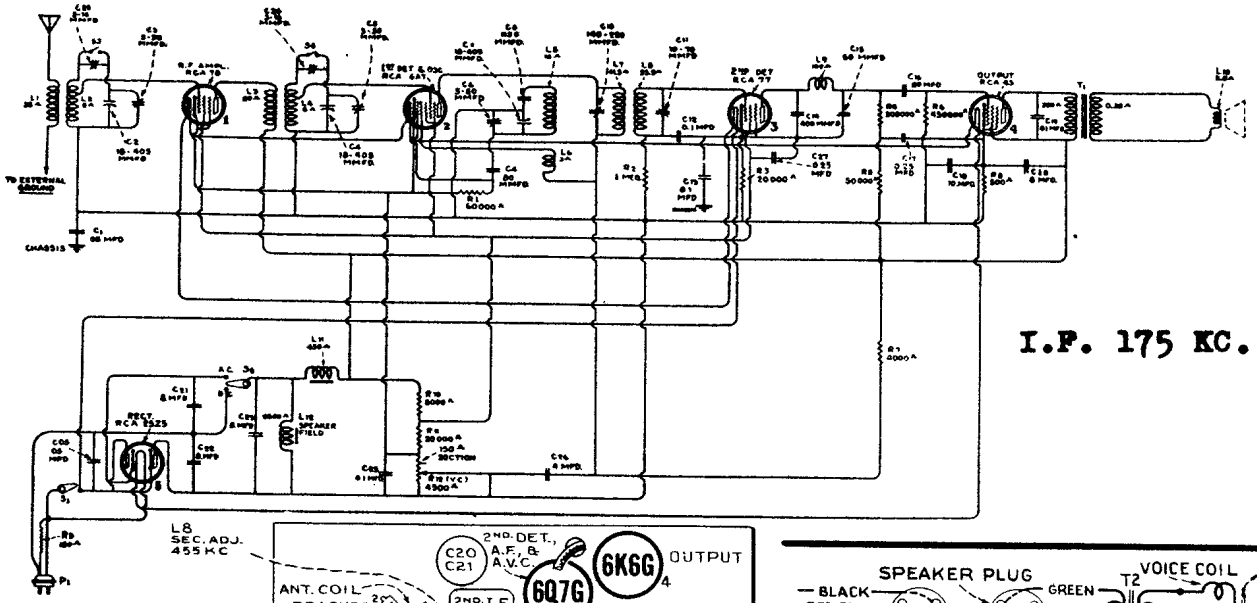
Figure A—Schematic Circuit—Note: R-11 may be either 3000 ohms or 4500 ohms

Radiotron No.		Cathode to Control Grid, Volts D. C.	Cathode to Screen Grid, Volts, D. C.	Cathode to Plate, Volts D. C.	Plate Current, M. A.	Heater or Filament, Volts
RCA-6A7	First Detector	1.25	70	235	2.5	6.3
	Oscillator	—	—	180	3.5	
RCA-6F7	I. F.	1.25	70	235	5.5	6.3
	Second Detector	19	—	145*	0.4	
RCA-41 Output		17	240	230	26.5	6.3
RCA-1-V Rectifier		—	—	335 RMS	50	6.3

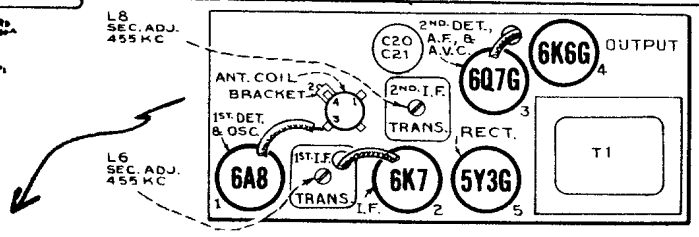


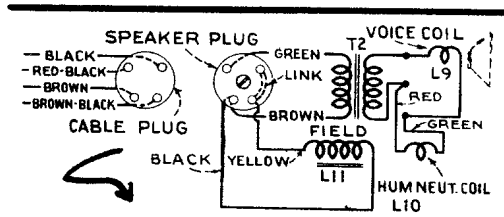
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

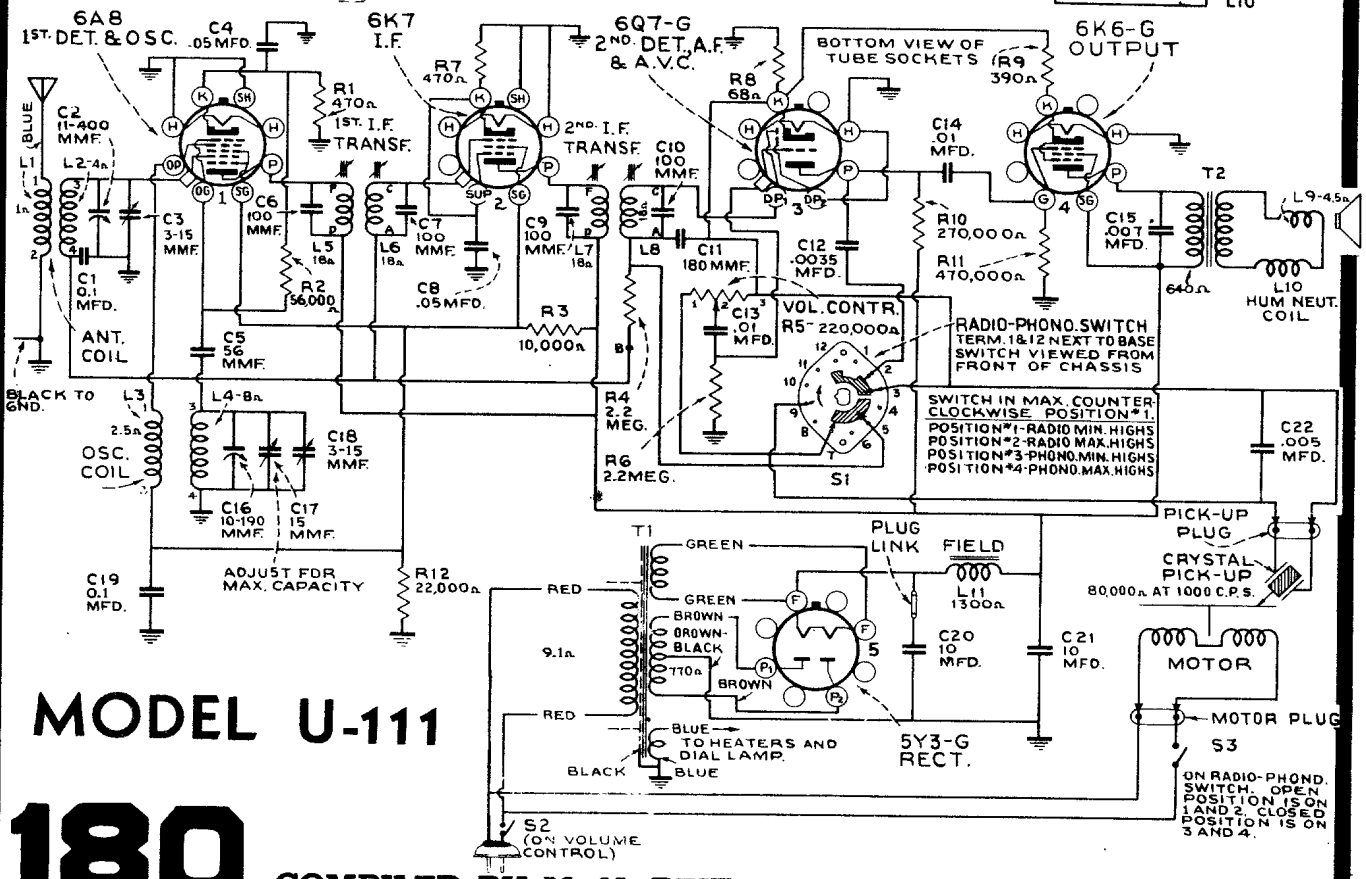
RCA Victor 114



I.F. 175 KC.







MODEL U-111

180

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

RCA Victor 120

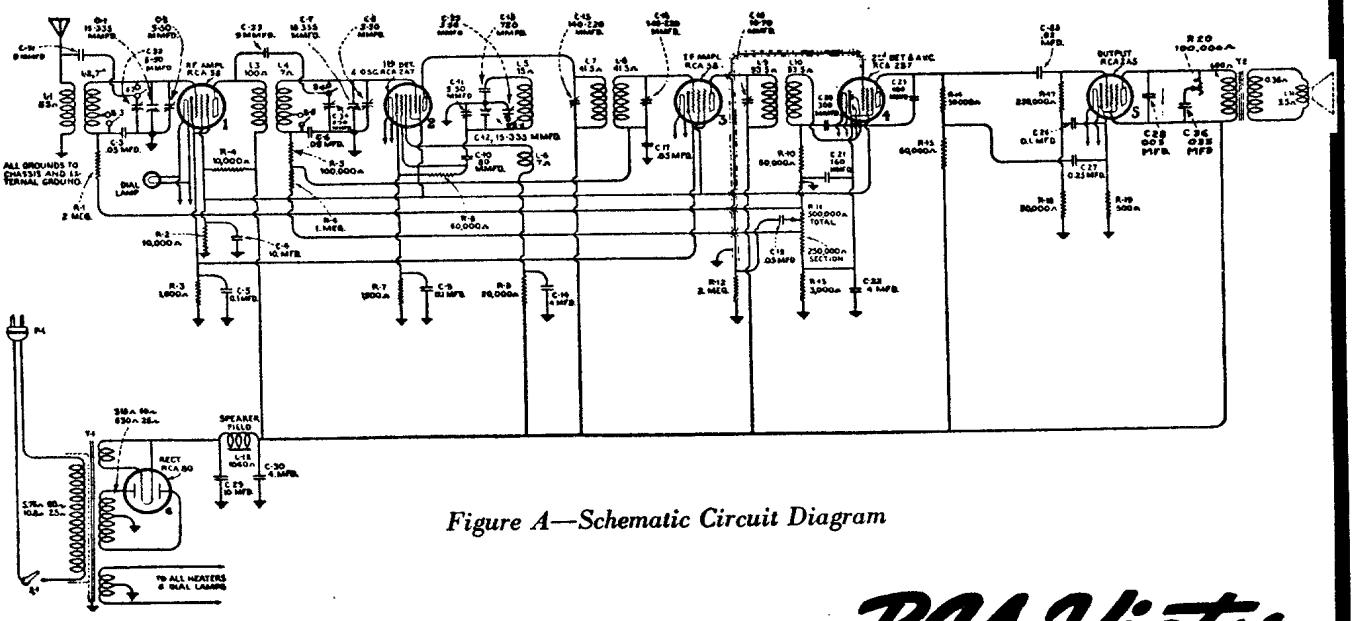


Figure A—Schematic Circuit Diagram

I.F. 175 KC.

RCA Victor

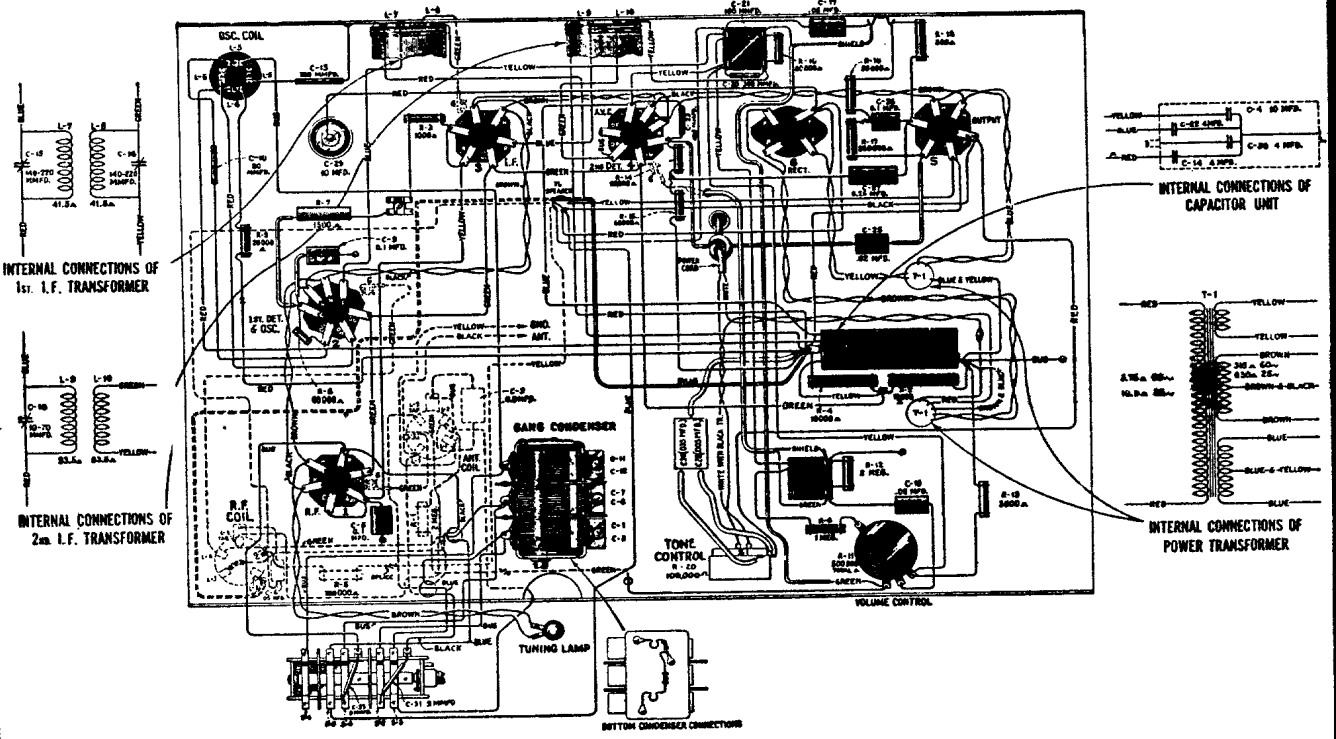
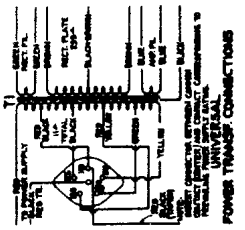


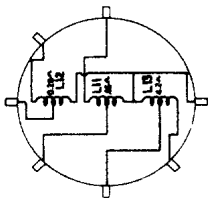
Figure B—Wiring Diagram

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

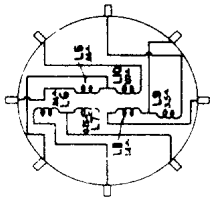
MODELS 810K, 810K1, and 810T



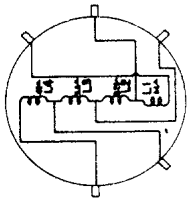
POWER TRANSF. CONNECTIONS



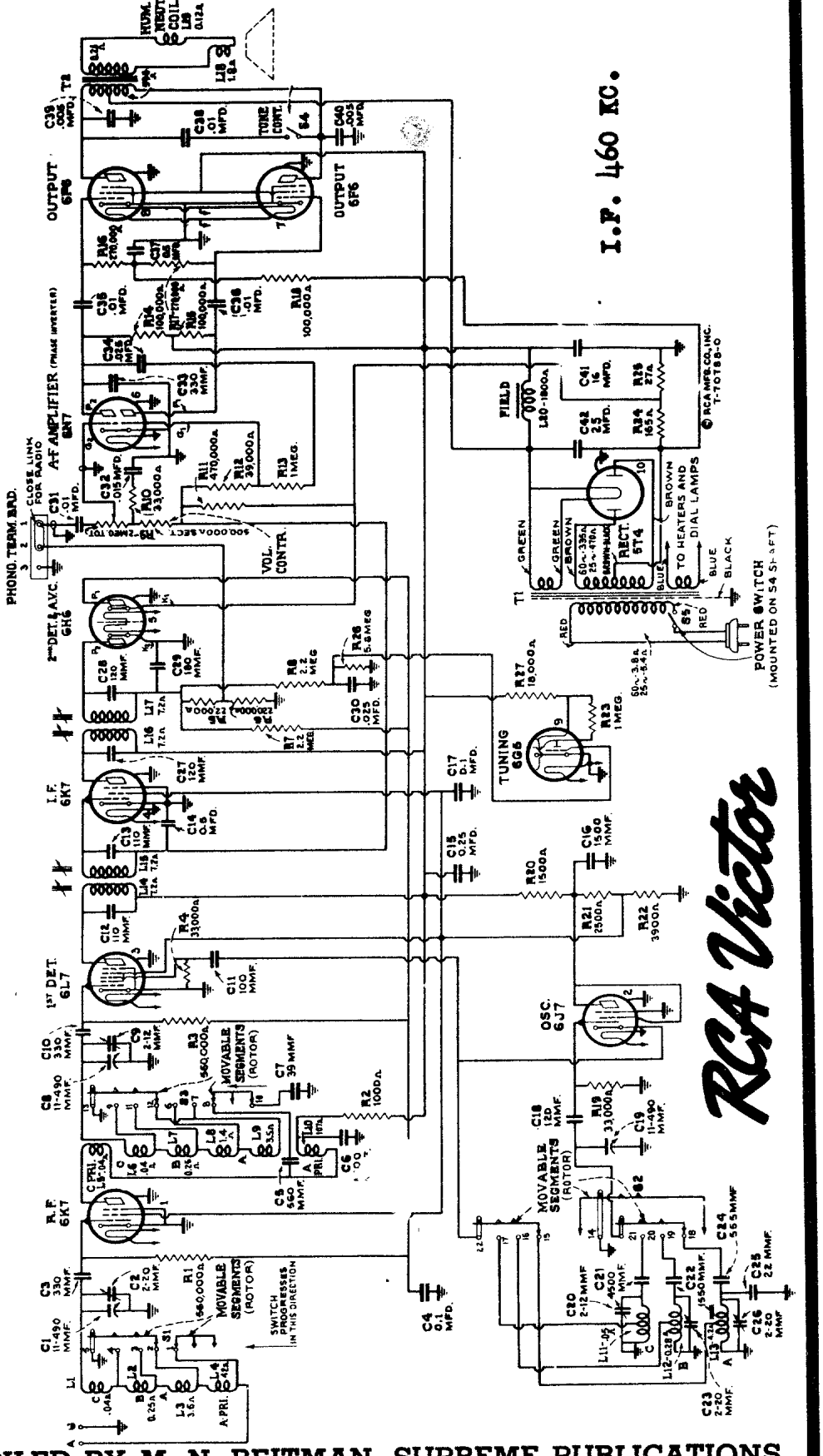
OSC. COIL CONNECTIONS



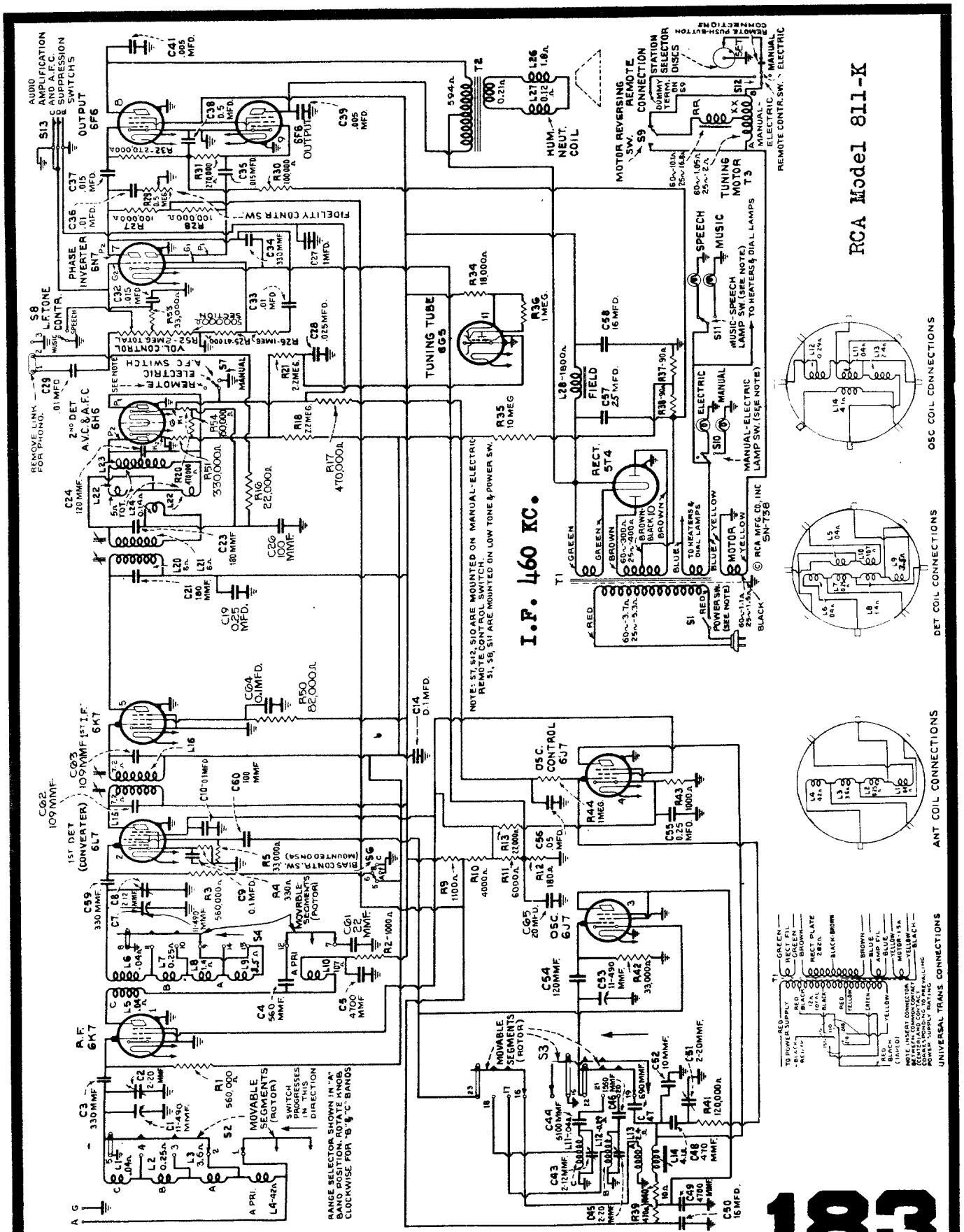
DET. COIL CONNECTIONS



ANT. COIL CONNECTIONS



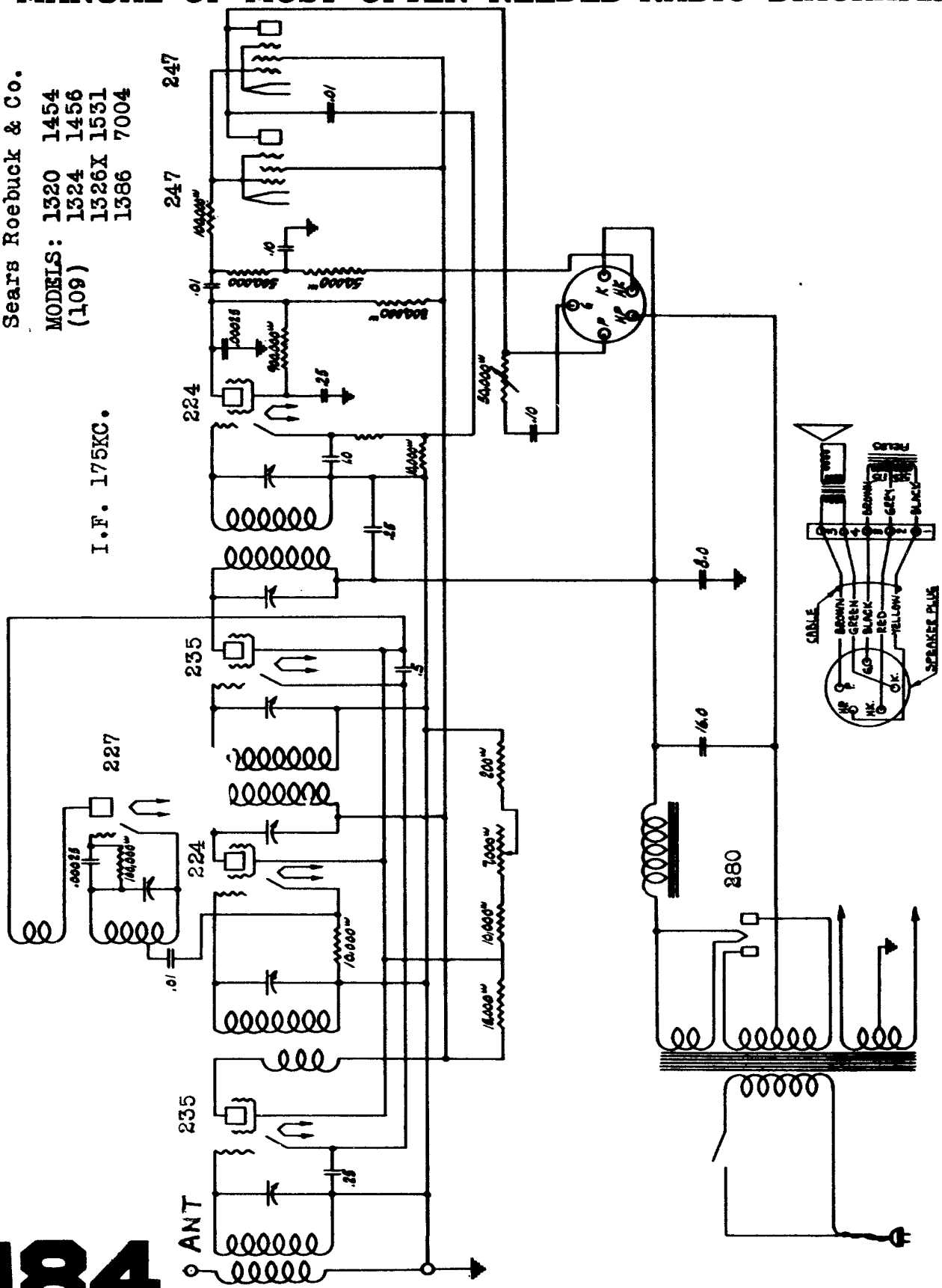
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



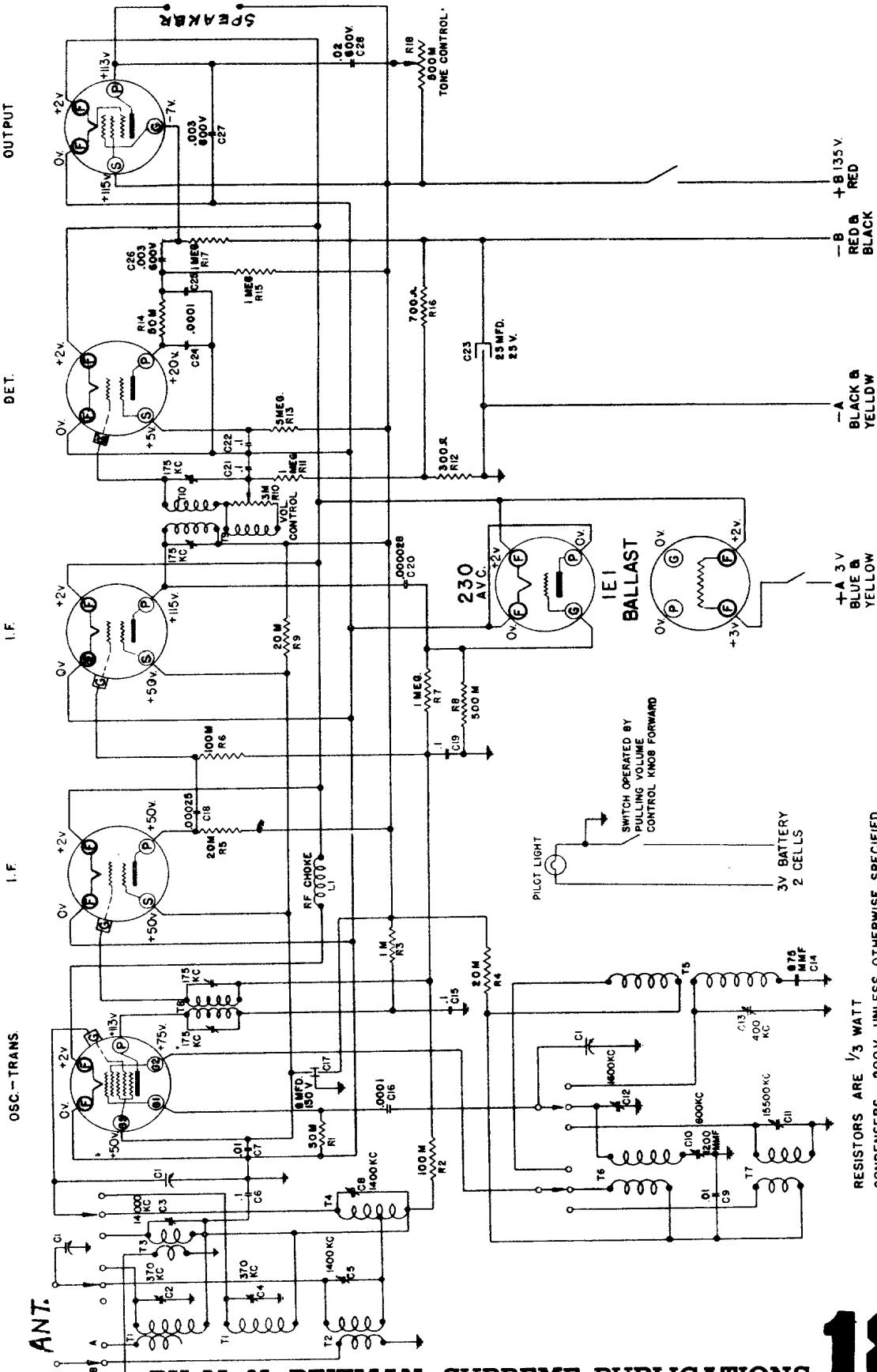
Sears Roebuck & Co.

MODELS: 1320 1454
(109) 1324 1456
1326X 1531
1386 7004

I.F. 175KC.

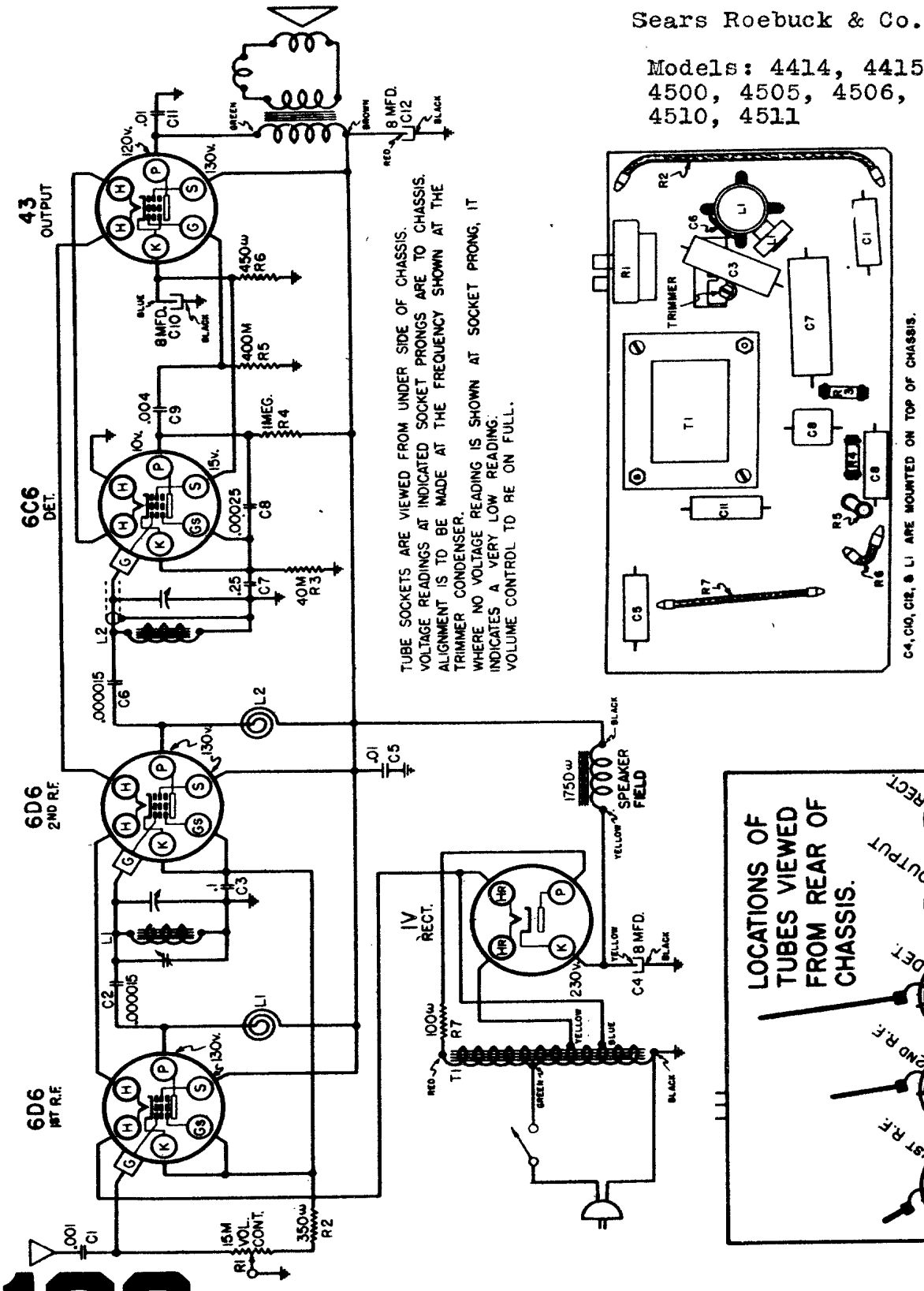


COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

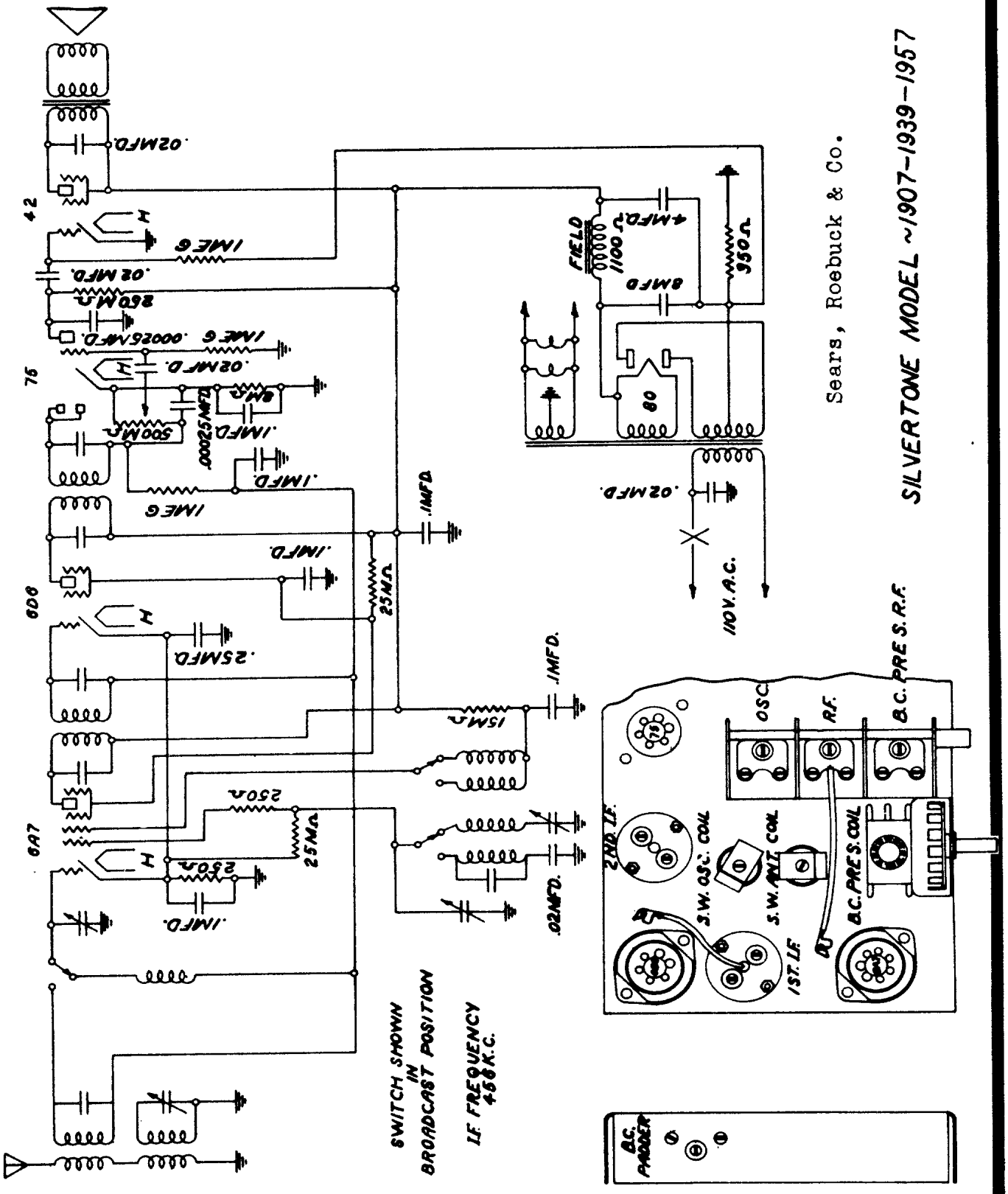


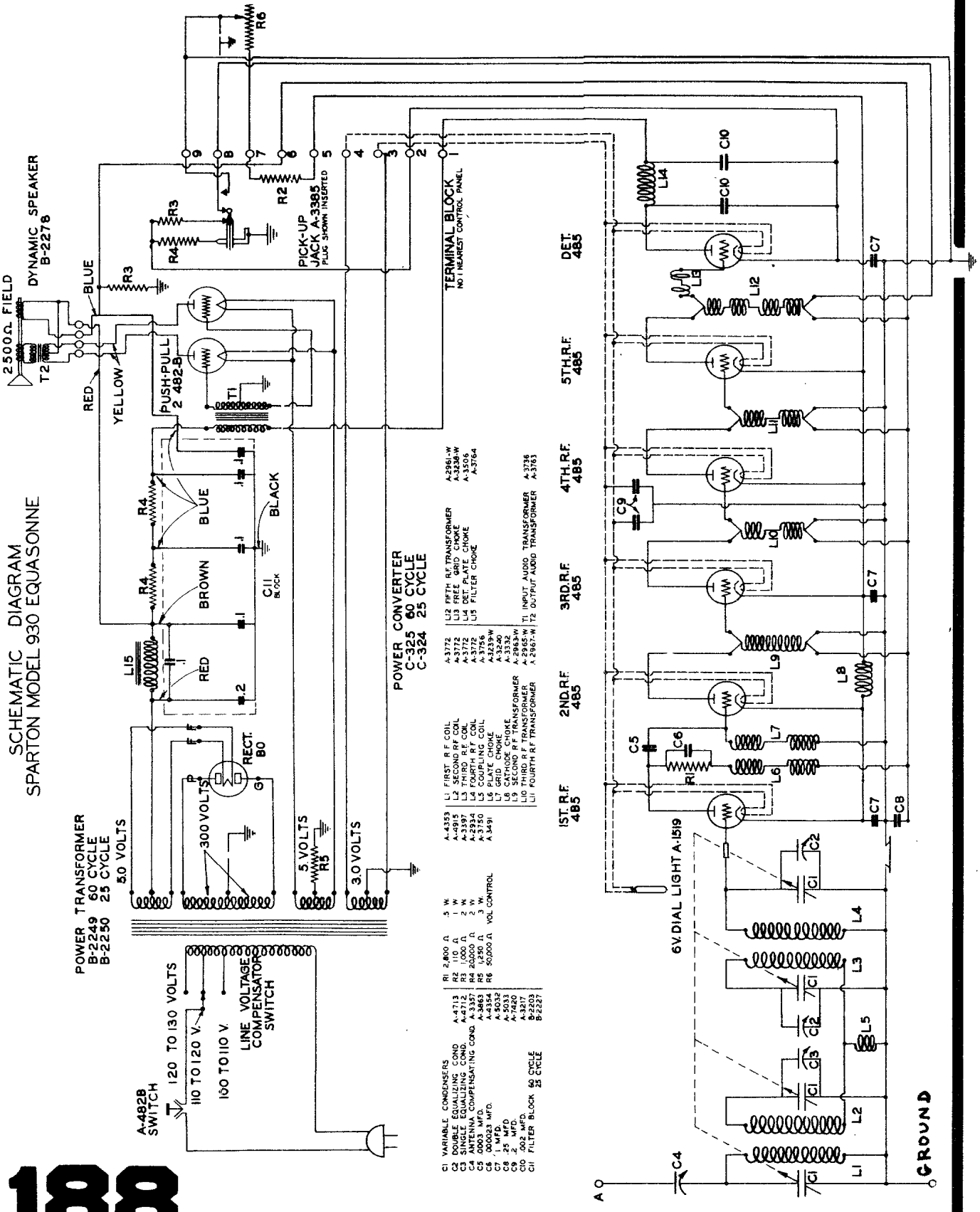
Sears Roebuck & Co.

Models: 4414, 4415, 4500, 4505, 4506, 4510, 4511



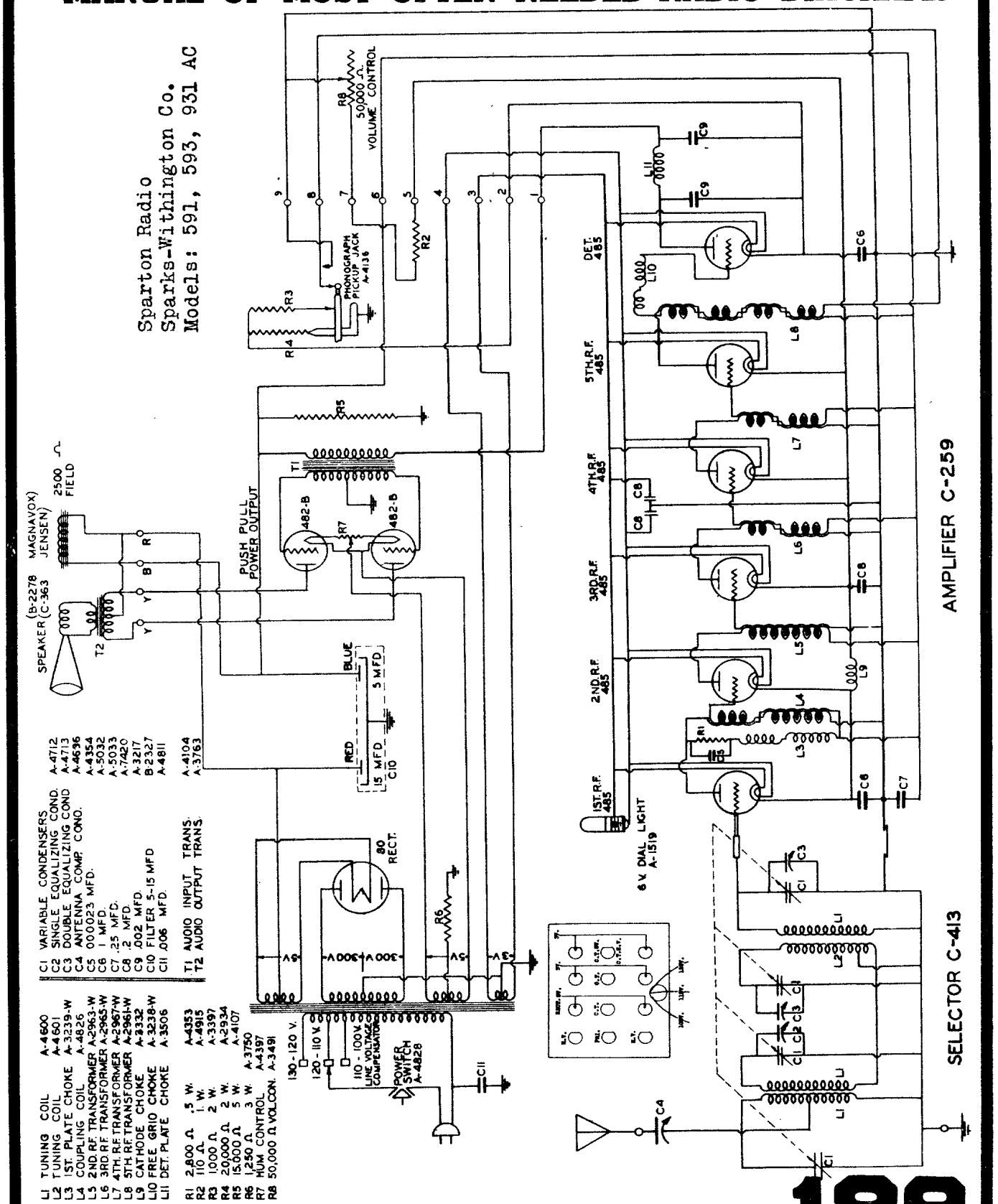
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS





COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Sparton Radio
Sparks-Withington Co.
Models: 591, 593, 931 AC



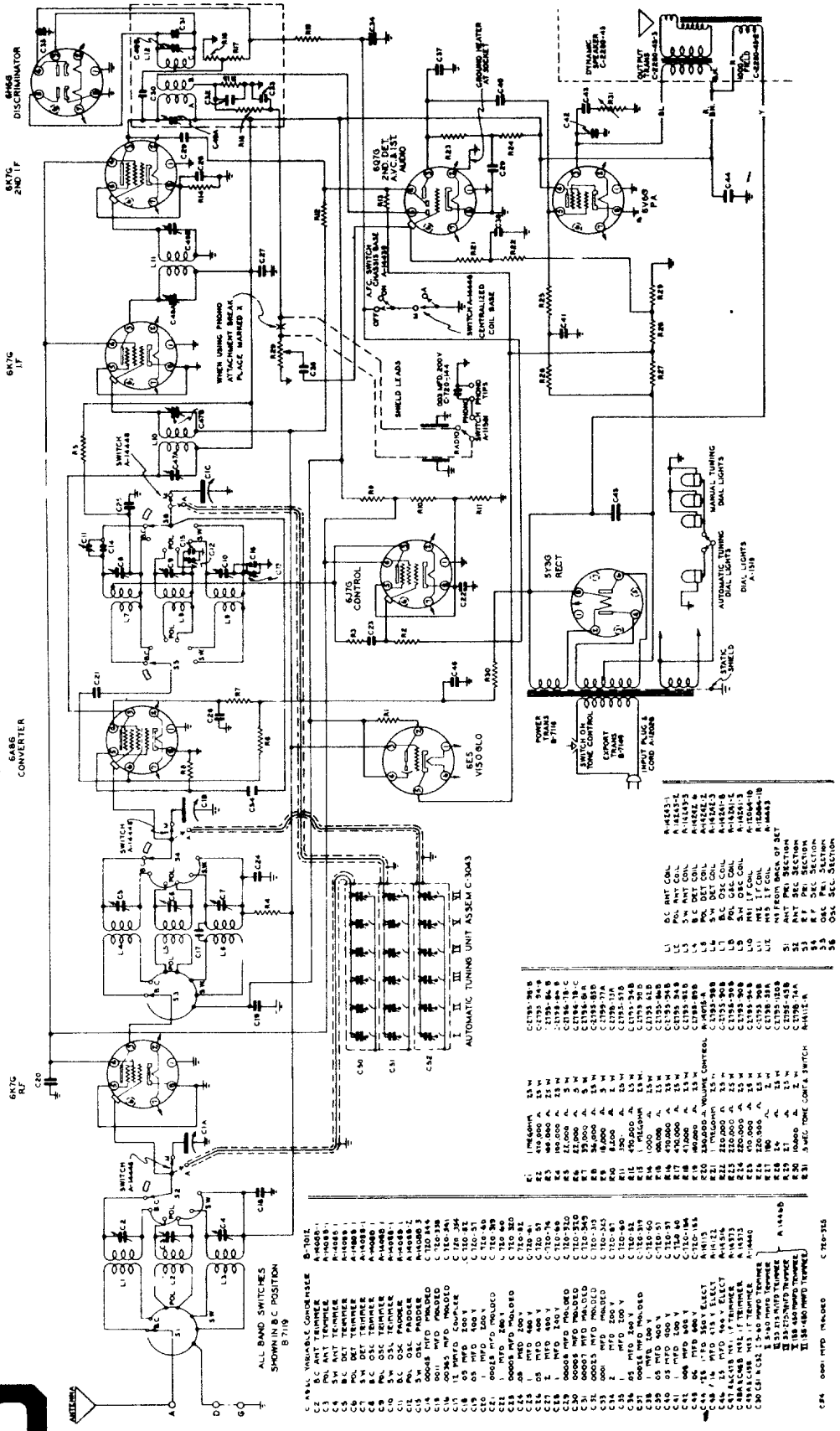
C1 VARIABLE CONDENSERS A-4712
C2 SINGLE EQUALIZING COND. A-4713
C3 DOUBLE EQUALIZING COND A-4636
C4 ANTENNA COMP. COND. A-4354
C5 .000023 MFD. A-5032
C6 1 MFD. A-5033
C7 .25 MFD. A-7420
C8 .2 MFD. A-3217
C9 .002 MFD B 2327
C10 FILTER 5-15 MFD A-4811
C11 .006 MFD. A-3506

T1 AUDIO INPUT TRANS. A-4104
T2 AUDIO OUTPUT TRANS. A-3763

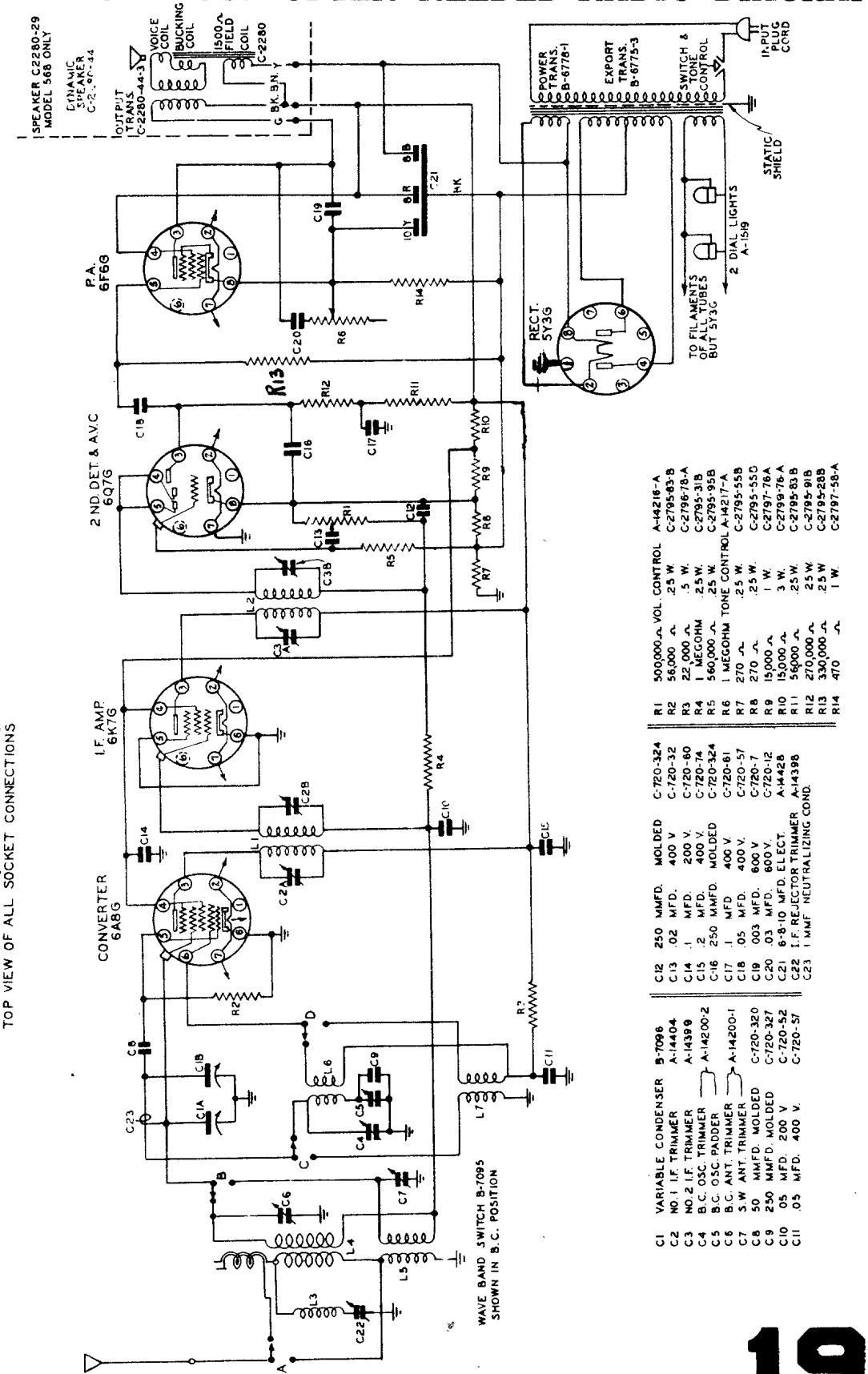
L1 TUNING COIL A-4600
L2 TUNING COIL A-4601
L3 1ST. PLATE CHOKE A-3239-W
L4 COUPLING COIL A-4826
L5 2ND. RF TRANSFORMER A-2963-W
L6 3RD. RF TRANSFORMER A-2965-W
L7 4TH. RF TRANSFORMER A-2967-W
L8 5TH. RF TRANSFORMER A-2961-W
L9 CATHODE CHOKE A-3332
L10 FREE GRID CHOKE A-3238-W
L11 DET. PLATE CHOKE A-3506

R1 2,800 Ω .5 W. A-4353
R2 110 Ω. 1 W. A-4915
R3 1000 Ω. 2 W. A-3397
R4 20,000 Ω. 2 W. A-2934
R5 15,000 Ω. 5 W. A-4107
R6 1,250 Ω. 3 W. A-3750
R7 HUM CONTROL. A-4397
R8 50,000 Ω VOL.CON. A-3491

SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODEL 1068, 1078, 1068X & 1078X
INTERMEDIATE FREQUENCY 456 K.C.
TOP VIEWS OF ALL SOCKET CONNECTIONS

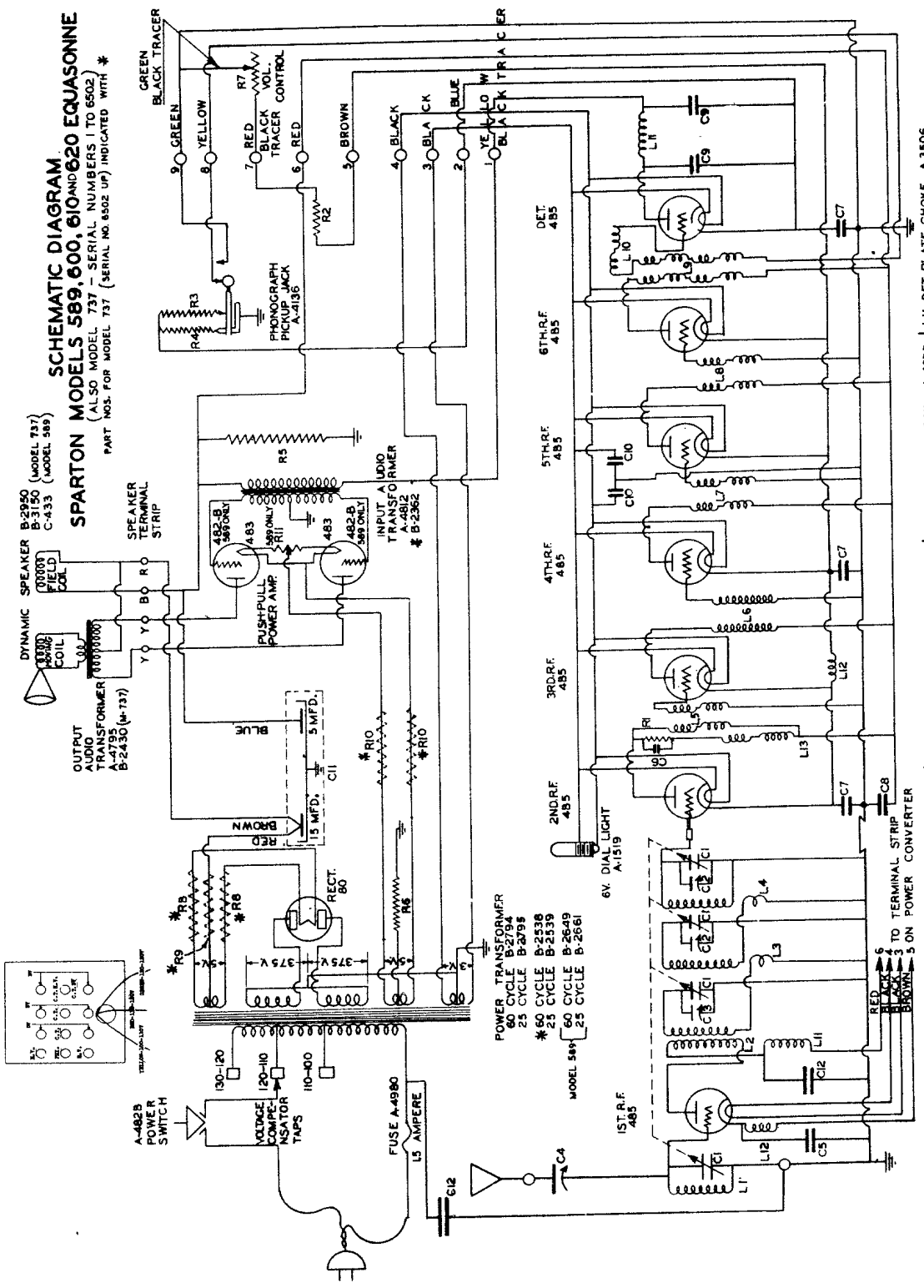


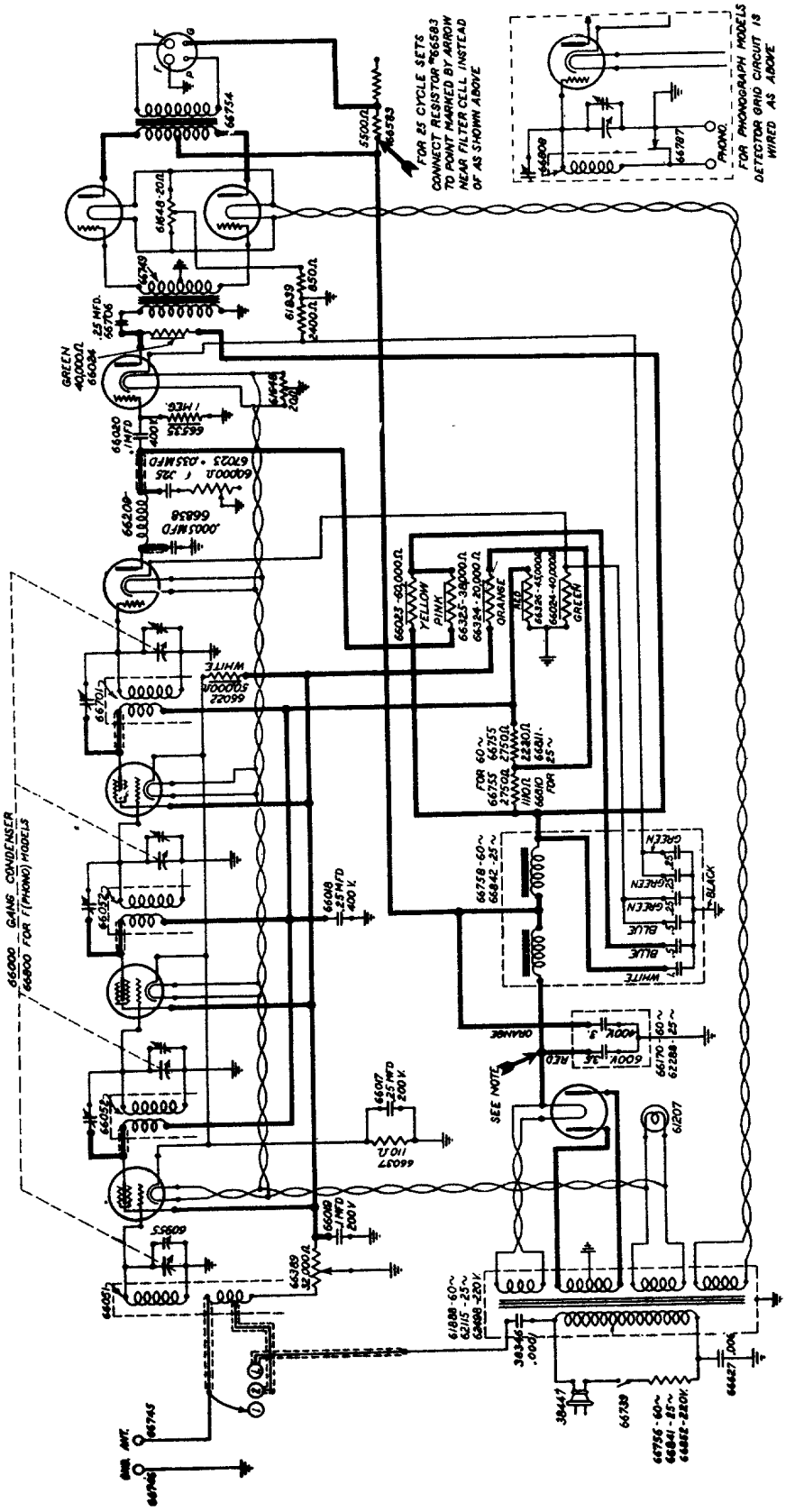
SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODEL 518, 518X, 558 & 558X 568
INTERMEDIATE FREQUENCY 456 K.C.
TOP VIEW OF ALL SOCKET CONNECTIONS



C1	VARIABLE CONDENSER	B-7096	C12	250 MMFD.	MOLDED	C-720-324
C2	NO. 1 I.F. TRIMMER	A-14404	C13	.02 MFD.	400 V	C-720-32
C3	NO. 2 I.F. TRIMMER	A-14399	C14	.1 MFD.	200 V.	C-720-60
C4	B.C. OSC. TRIMMER	A-14200-2	C15	.2 MFD.	400 V.	C-720-74
C5	B.C. OSC. PADDER		C16	250 MMFD.	MOLDED	C-720-324
C6	B.C. ANT. TRIMMER	A-14200-1	C17	.1 MFD	400 V.	C-720-61
C7	S.W. ANT. TRIMMER		C18	.05 MFD.	400 V.	C-720-57
C8	50 MMFD. MOLDED	C-720-320	C19	.003 MFD.	600 V	C-720-7
C9	250 MMFD. MOLDED	C-720-327	C20	.03 MFD.	600 V.	C-720-12
C10	.05 MFD. 200 V	C-720-52	C21	8-8-10 MFD. ELECT.		A-14428
C11	.05 MFD. 400 V.	C-720-57	C22	I.F. REJECTOR TRIMMER		A-14398
			C23	1 MMF NEUTRALIZING COND.		

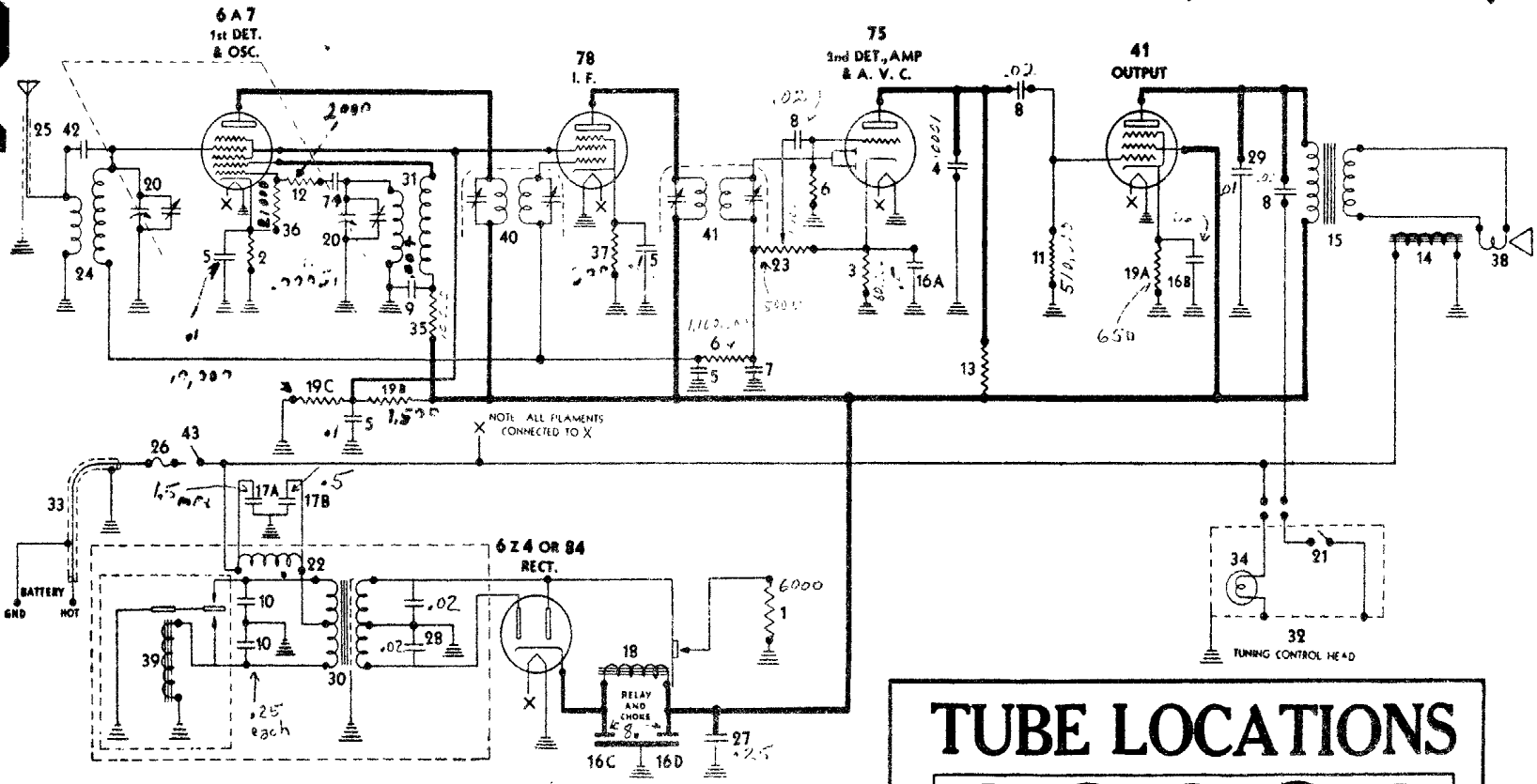
R1	500,000Ω	VOL. CONTROL	A-14216-A
R2	56,000 Ω	.25 W.	C-2795-83-B
R3	22,000 Ω	.5 W.	C-2796-78-A
R4	1 MEGOHM	.25 W.	C-2795-31B
R5	560,000 Ω	.25 W.	C-2795-95B
R6	1 MEGOHM	TONE CONTROL	A-14217-A
R7	270 Ω	.25 W.	C-2795-55B
R8	270 Ω	.25 W.	C-2795-55C
R9	15,000 Ω	1 W.	C-2797-76A
R10	15,000 Ω	3 W.	C-2799-76-A
R11	56,000 Ω	.25 W.	C-2795-83B
R12	270,000 Ω	.25 W.	C-2795-91B
R13	330,000 Ω	.25 W	C-2795-28B
R14	470 Ω	1 W.	C-2797-58-A





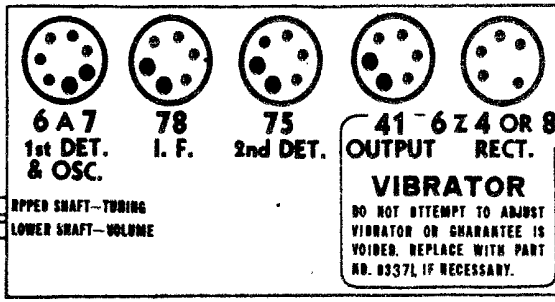
Stewart-Warner Model R-100-A, B, and E, Alternating Current Sets

STEWART-WARNER MODEL 1121 AUTO RADIO (112 CHASSIS)



Tube Type	Position in Circuit	Filament Voltage	Plate Voltage	Screen Grid Voltage	Cathode (Bias) Voltage
6A7	1st Det. and Osc.	5.5	144	70	1.4
78	I. F.	5.5	144	70	2.0
75	2nd Det.	5.5	60	—	1.0
41	Output	5.5	142	144	9.0
84	Rect.	5.5	—	—	179

TUBE LOCATIONS

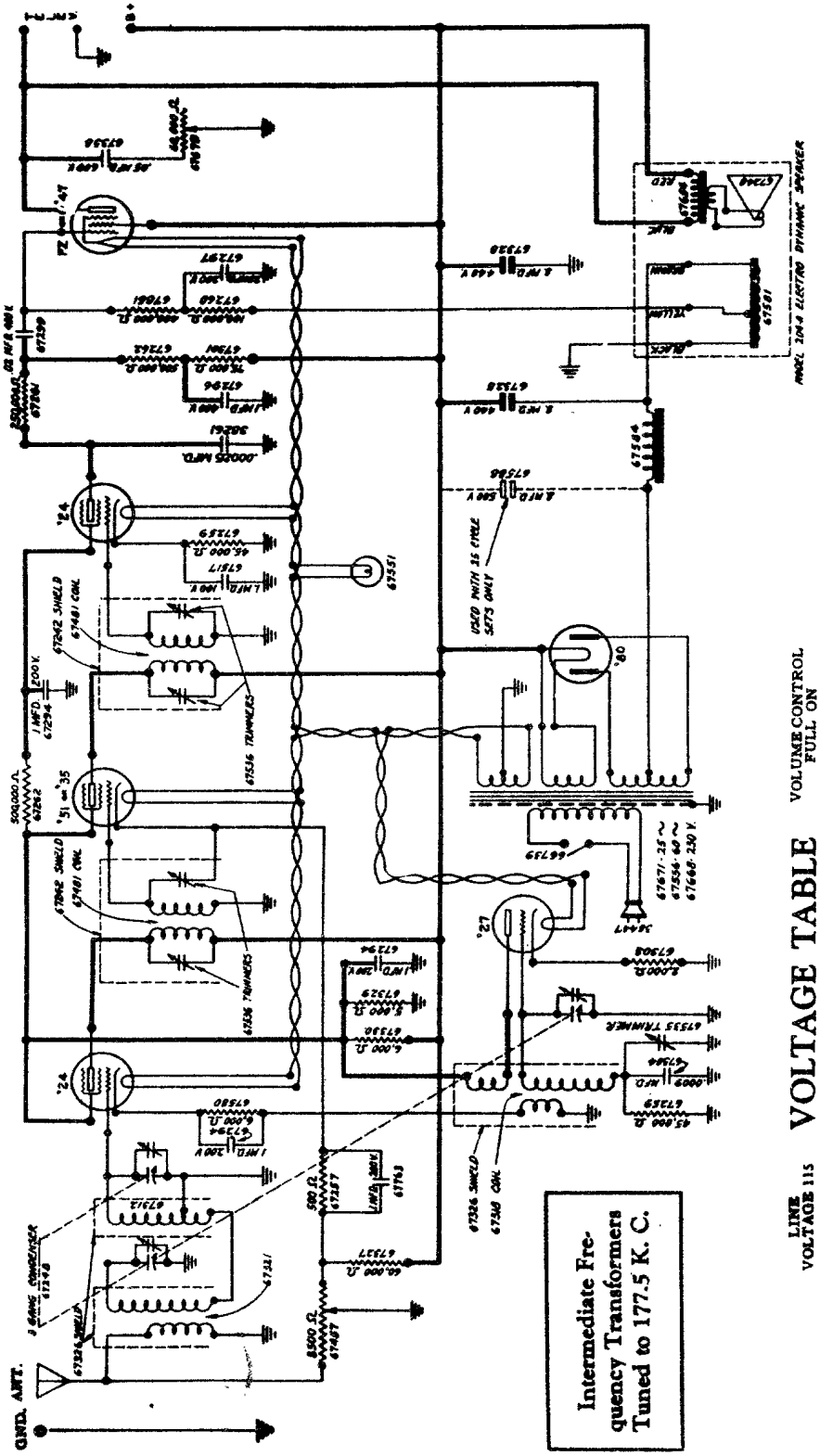


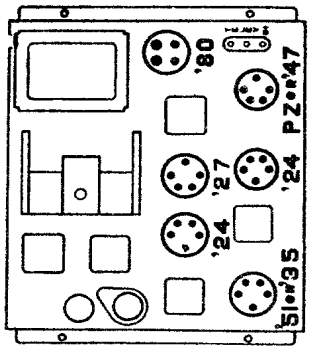
FRONT OF SET

I. F. FREQUENCY 456 K. C.

MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

Circuit Data of Stewart-Warner Models R-102-A, B & E.*





LINE VOLTAGE 115 — VOLUME CONTROL FULL ON

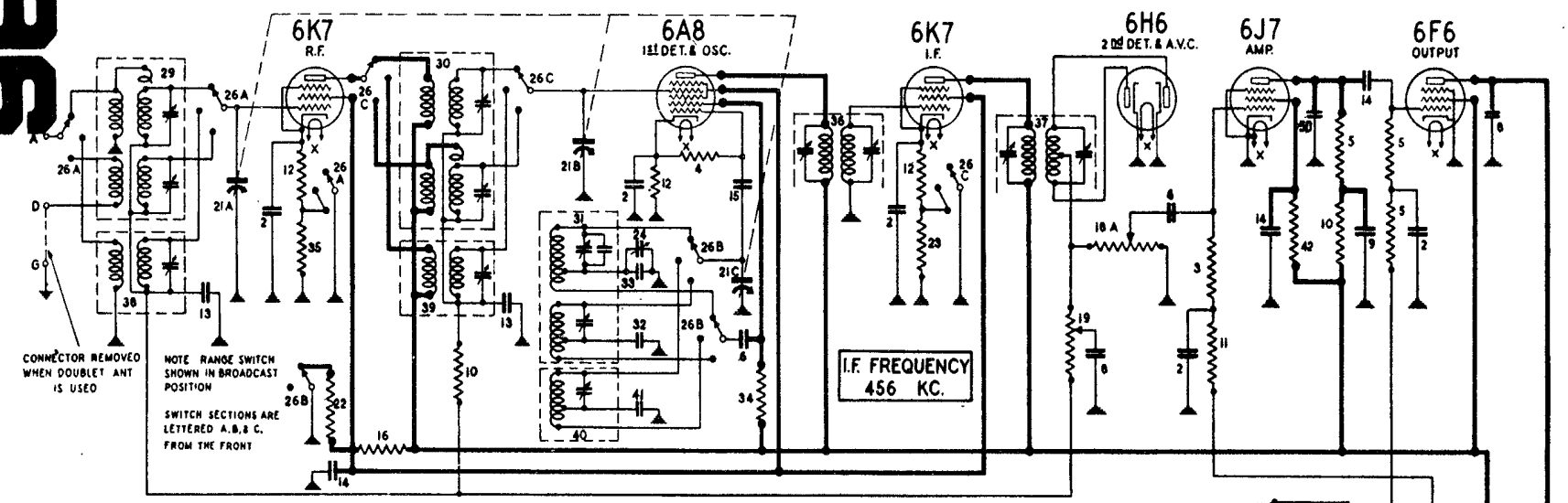
VOLTAGE TABLE

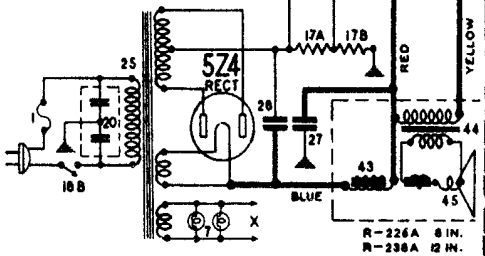
Type of Tube	Tube Circuit	Filament Voltage	Plate Voltage	Screen Grid Voltage	Bias Voltage
'24	1st Det.	2.45	250	95	6.5
'27	Osc.	2.45	95		9
'51	I. F.	2.40	250	95	3
'24	2nd Det.	2.45	70	30	7
P. Z. or '47	Output	2.45	230	250	15 ‡
'80	Rect.	4.8	170		

All D. C. voltages measured with respect to ground, using high resistance voltmeter of 1000 ohms per volt. Readings will vary, depending upon voltage range of meter, being higher for higher range instruments. This variation is most marked for second detector screen grid and plate voltages.

‡ This reading obtained between ground and yellow speaker lead. Direct reading from grid to ground or reading taken with a set tester will show about 3 volts because of high resistance in grid circuit.

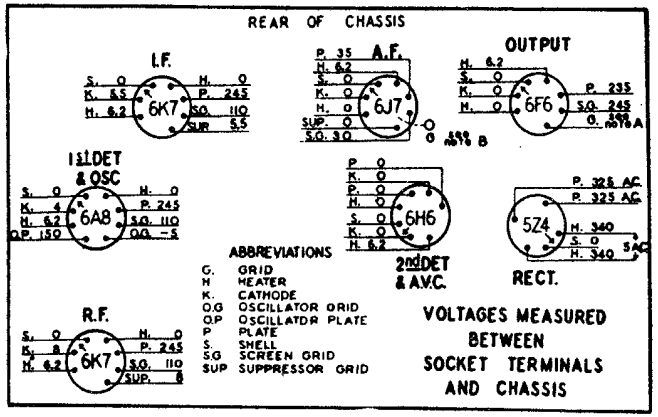
STEWART-WARNER MODEL R-136 CHASSIS (RECEIVER MODELS 1361 to 1369)





SOCKET VOLTAGES

LINE VOLTAGE 115 VOLTS Volume Control on Full ANTENNA GROUNDED
RANGE SWITCH SET ON BROADCAST POSITION DIAL TUNED TO 540 KC.



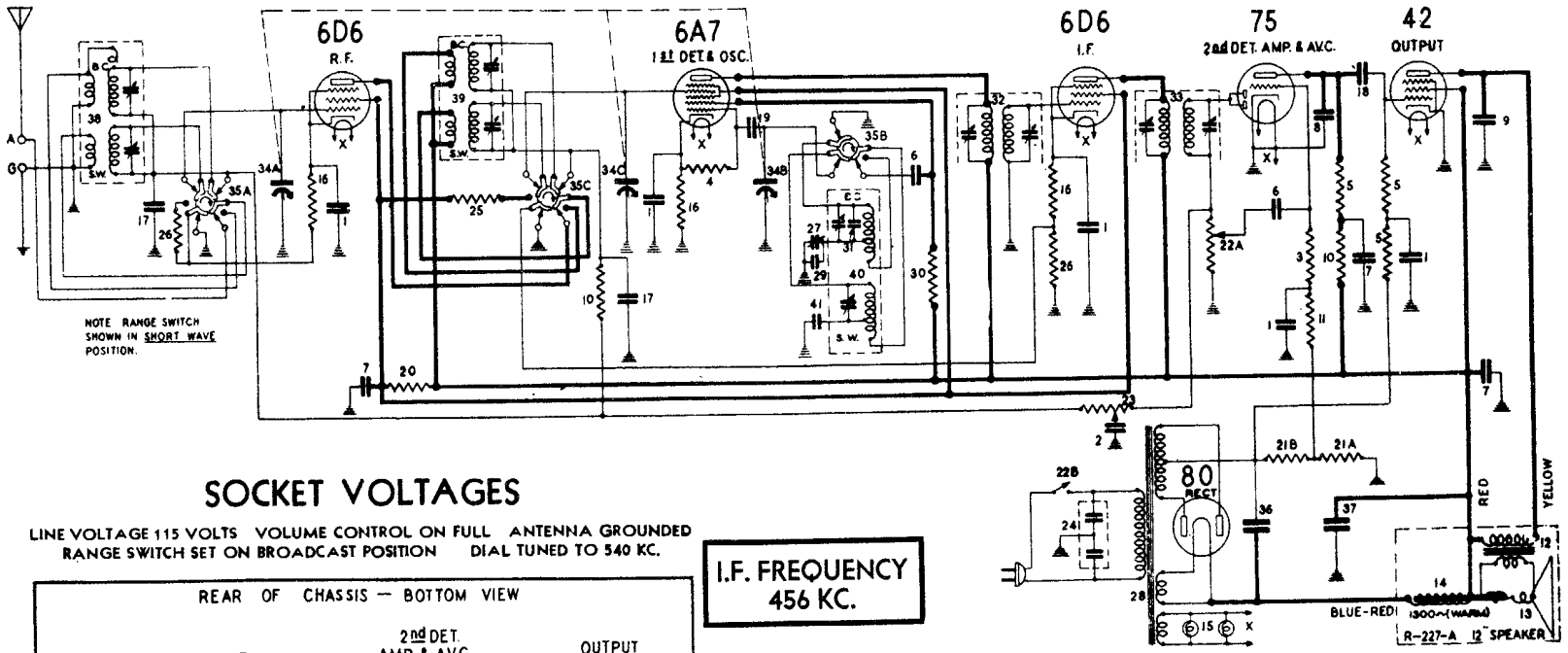
IMPORTANT: Use a high resistance meter of 1000 ohms per volt.
NOTE A: The grid bias on the 6F6 output tube is —16.5 volts, measured across the resistors 17A and 17B.
NOTE B: The grid bias on the 6J7 amplifier tube is —1.7 volts measured across resistor 17B.
Speaker field resistance is 1300 ohms with coil warm.

18-A, 18-B	85073	{250,000 ohm volume control / Line switch}	one unit
19	85074	500,000 ohm tone control	
20	85075	Dual .01 mfd. 750 volt A.C. paper cond.	
21A to C	85084	3 Gang variable condenser	
22	85116	25,000 ohm ½ watt carbon resistor	
23	85117	1,000 ohm ½ watt carbon resistor	
24	85285	Padding trimmer	
25	85428	Power trans. 115 V 60 cycle (136-A only) (See 85760 for other voltages and frequencies)	
26A to C	85429	Three deck range switch	
27	85430	16 mfd. 300 volt electrolytic condenser	
28	85431	16 mfd. 400 volt electrolytic condenser	
29	85432	Antenna coil and shield assembly (B & No. 3 S.W.)	
30	85433	R. F. coil and shield assembly (B & No. 3 S.W.)	
31	85434	Oscillator coil and shield assembly (B & No. 3 S.W.)	
32	85440	.00351 mfd. mica condenser	
33	85441	.00042 mfd. mica condenser	
34	85442	21,000 ohm ½ watt carbon resistor	
35	85443	2,000 ohm ½ watt carbon resistor	
36	85452	1st I.F. transformer	
37	85453	2nd I.F. transformer	
38	85455	Antenna coil assembly (No. 2 S.W.)	
39	85456	R.F. coil assembly (No. 2 S.W.)	
40	85457	Oscillator coil assembly (No. 2 S.W.)	
41	85467	.00137 mfd. mica condenser	
42	85472	1.6 megohm ¼ watt carbon resistor	
43	85478	Field coil assembly (R-236-A spkr.) (See 84505 for R-225-A 8" spkr.)	
44	85482	Output transformer (R-236-A 12" spkr.) (See 84312 on R-225-A 8" spkr.)	
45	85592	Diaphragm and shell assembly (R-236-A 12" spkr.) (See 84504 for R-225-A 8 inch speaker)	
50	84370	.00011 mfd. mica condenser	

R-136 PARTS LIST

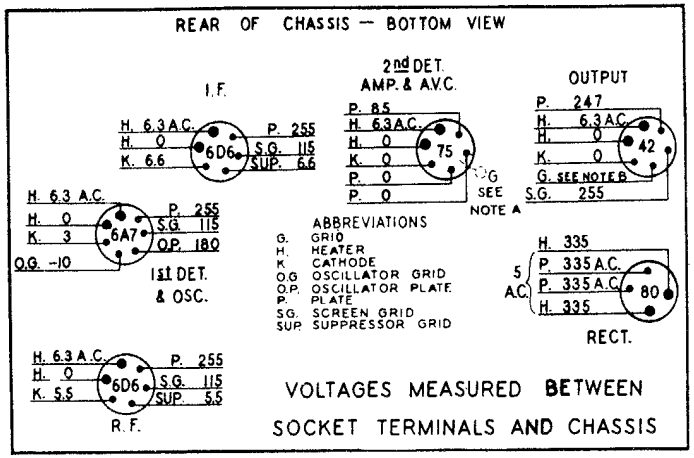
Diagram No.	Part No.	DESCRIPTION	
1	38841	Fuse, 1 amp.	
2	81630	.1 mfd. 175 volt paper condenser	
3	83072	510,000 ohm ¼ watt carbon resistor	
4	83080	51,000 ohm ¼ watt carbon resistor	
5	83082	260,000 ohm ¼ watt carbon resistor	
6	83219	.01 mfd. 600 volt paper condenser	
7	83278	Dial lamp 6.3 volt	
8	83706	.006 mfd. 600 volt paper condenser	
9	83974	.1 mfd. 200 volt paper condenser	
10	84198	110,000 ohm ¼ watt carbon resistor	
11	84235	1.1 megohm ¼ watt carbon resistor	
	84312	Output transformer (R-225-A 8" spkr.)	
	84504	Diaphragm and shell assembly (R-225-A 8 inch speaker)	
	84505	Field coil assembly (R-225-A 8" spkr.)	
12	84888	300 ohm ½ watt wire wound resistor	
13	85053	.05 mfd. 100 volt paper condenser	
14	85059	.05 mfd. 300 volt paper condenser	
15	85061	.000051 mfd. mica condenser	
16	85063	15,000 ohm 2 watt carbon resistor	
17-A, 17-B	85067	{275 ohm wire wound bias resistor / 25 ohm wire wound bias resistor}	one unit

STEWART-WARNER MODEL R-134 CHASSIS (RECEIVER MODELS 1341 to 1349)



SOCKET VOLTAGES

LINE VOLTAGE 115 VOLTS VOLUME CONTROL ON FULL ANTENNA GROUNDED
RANGE SWITCH SET ON BROADCAST POSITION DIAL TUNED TO 540 KC.



IMPORTANT: Use a high resistance meter of 1000 ohms per volt.

NOTE A: The grid bias for the 75 triode section is —1.2 volts measured across resistor 21A.

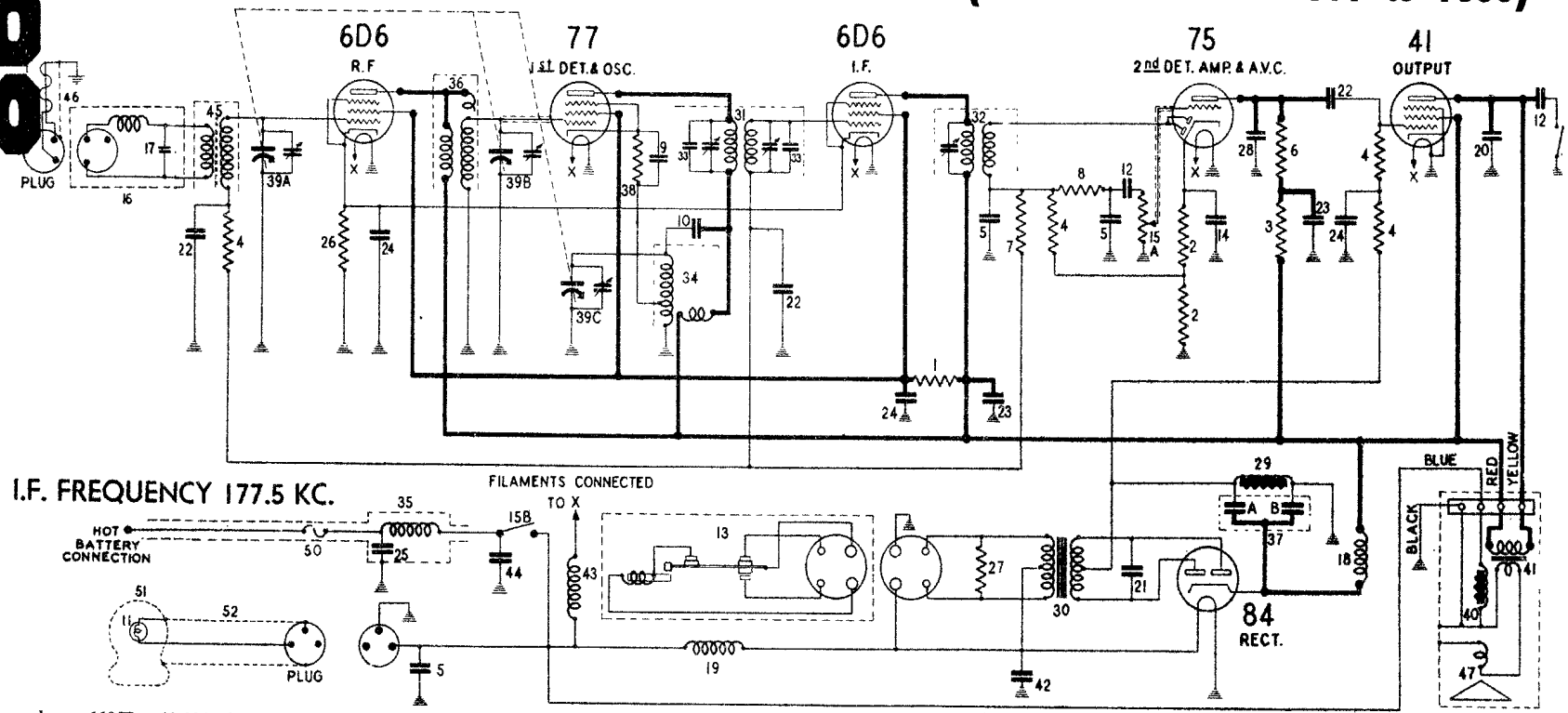
NOTE B: The grid bias on the 42 output tube is —16 volts, measured across the resistors 21A and 21B.

I.F. FREQUENCY 456 KC.

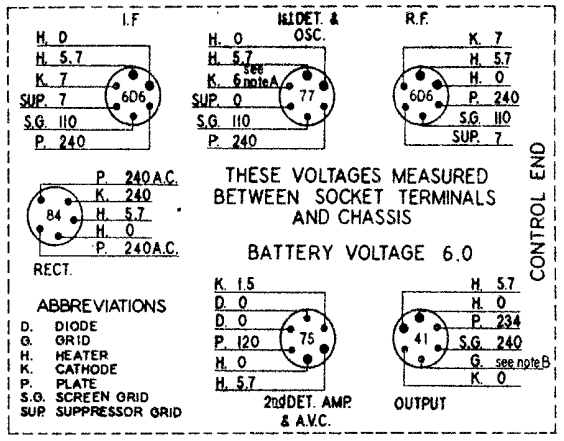
MODEL R-134 PARTS LIST

Diag. No.	Part No.	DESCRIPTION
1	81630	.1 mfd. 175 volt paper condenser
2	83011	.004 mfd. 600 volt paper condenser
3	83072	510,00 ohm ¼ watt carbon resistor
4	83080	51,000 ohm ¼ watt carbon resistor
5	83082	260,000 ohm ¼ watt carbon resistor
6	83219	.01 mfd. 600 volt paper condenser
7	83440	.1 mfd. 400 volt paper condenser
8	83539	260 mmfd. mica condenser
9	83706	.006 mfd. 600 volt paper condenser
10	84198	110,000 ohm ¼ watt carbon resistor
11	84235	1.1 megohm ¼ watt carbon resistor
12	84312	Output transformer (on R-227-A Spkr.)
13	84506	Diaphragm and shell assembly for (R-227-A Spkr.)
14	84507	Field coil and housing for (R-227-A Spkr.)
15	84759	Pilot lamp, 6-8 volt
16	84888	300 ohm ½ watt W.W. resistor
17	85053	.05 mfd. 100 volt paper condenser
18	85059	.05 mfd. 300 volt paper condenser
19	85061	51 mmfd. mica condenser
20	85063	15,000 ohm 2 watt carbon resistor
21A, 21B	85067	20 ohm, 220 ohm Bias resistor (wire wound)
22A, 22B	85073	Volume Control (250,000 ohm), Line Switch
23	85074	Tone Control (500,000 ohm)
24	85075	Dual .01 mfd. 750 volt paper condenser
25	85116	25,000 ohm ½ watt carbon resistor
26	85117	1,000 ohm ½ watt carbon resistor
27	85285	Padding trimmer
28	85428	Power transformer, 115 volt 60 cycle
29	35441	420 mmfd. mica condenser
30	85442	21,000 ohm ½ watt carbon resistor
31	85454	11 mmfd. mica condenser
32	85788	1st I.F. transformer
33	85789	2nd I.F. transformer
34 A to C	85790	Three gang condenser
35 A to C	85791	Range switch
36	85792	16 mfd. 475 volt electrolytic condenser
37	85793	16 mfd. 475 volt electrolytic condenser
38	85829	Antenna coil and shield assembly
39	85830	R.F. coil and shield assembly
40	85831	Oscillator coil and shield assembly
41	85837	.00194 mfd. mica condenser

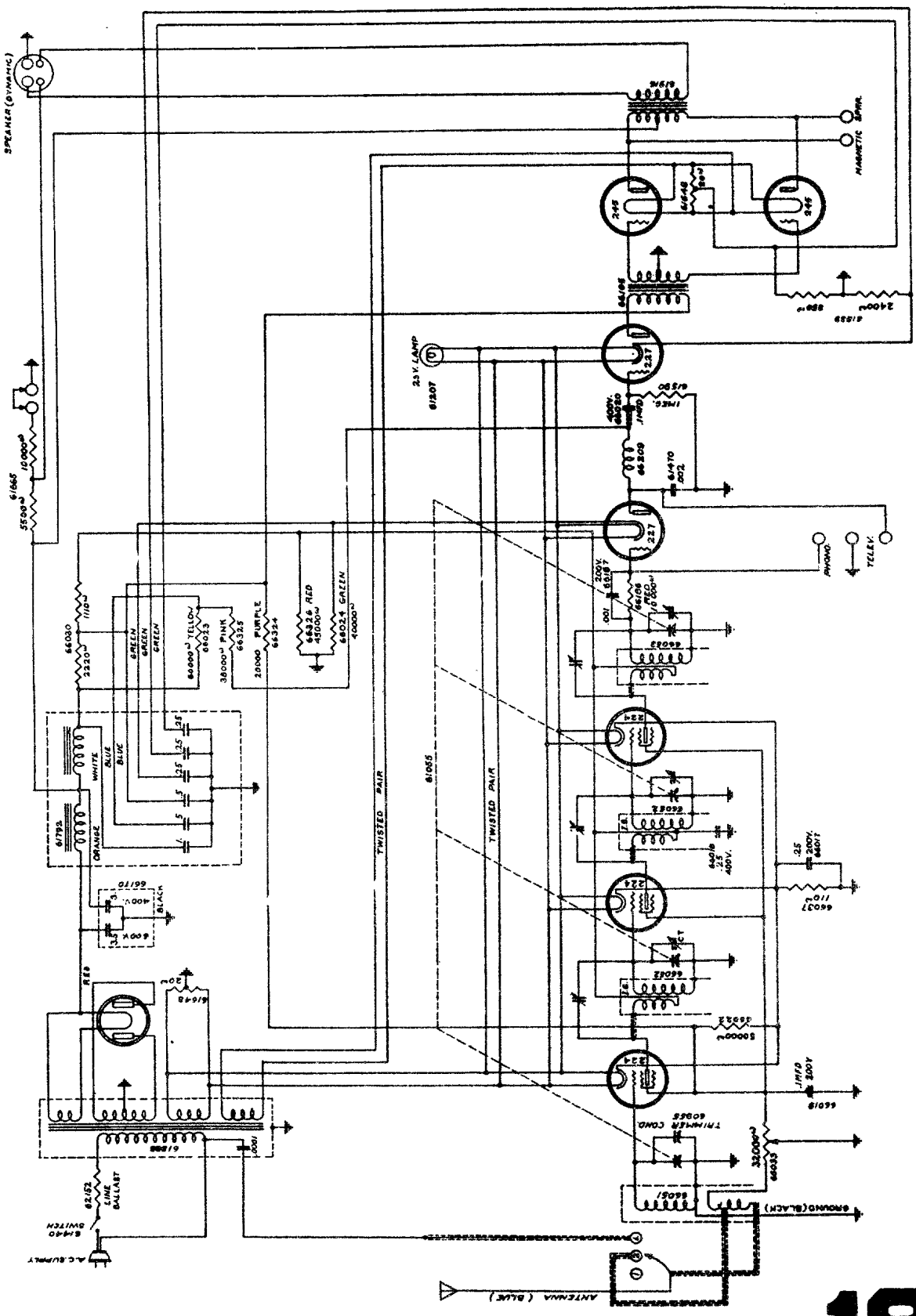
STEWART-WARNER MODEL R-160 AUTO RADIO CHASSIS (RECEIVER MODELS 1601 to 1609)



1	66023	60,000 ohm 1 watt carbon resistor
2	67303	2,000 ohm ½ watt carbon resistor
3	83080	51,000 ohm ½ watt carbon resistor
4	83082	260,000 ohm ½ watt carbon resistor
5	83539	260 mmfd. mica condenser
48	83777	Battery cable and fuse housing
6	84198	110,000 ohm ½ watt carbon resistor
7	84235	1.1 megohm ½ watt carbon resistor
8	84238	11,000 ohm ½ watt carbon resistor
9	84282	.001 mfd. mica condenser
10	84833	70 mmfd. mica condenser
11	85296	Pilot lamp 6-8 volt (bayonet base)
12	88026	.02 mfd. 400 volt paper condenser
49	88054	Tone control switch
13	88156	Vibrator
14	88170	10 mfd. 25 volt electrolytic condenser
15A, 15B	88171	(Volume control 500,000 ohm) (Line switch)
16	88172	Antenna Filter
17	88173	50 mmfd. mica condenser
18	88181	R. F. choke coil
19	88183	R. F. choke coil (to vibrator)
20	88185	.006 mfd. 600 volt paper condenser
21	88187	.01 mfd. 1500 volt paper condenser
22	88189	.05 mfd. 200 volt paper condenser
23	88191	.1 mfd. 300 volt paper condenser
24	88193	.25 mfd. 150 volt paper condenser
25	88195	.5 mfd. 150 volt paper condenser
26	88203	600 ohm ½ watt carbon resistor
27	88204	210 ohm ½ watt carbon resistor
28	88205	.0021 mfd. mica condenser
29	88210	Filter choke
30	88213	Power transformer
31	88222	1st I.F. transformer
32	88223	2nd I.F. transformer
33	88233	110 mmfd. mica condenser
34	88234	Oscillator coil and shield assembly
35	88239	"A" filter
36	88250	R.F. coil and shield assembly
37A, 37B	88256	(Electrolytic condenser 4 mfd. 350 volt) (Electrolytic condenser 8 mfd. 350 volt)
38	88257	9,500 ohm ½ watt carbon resistor
39A to C	88258	Three gang variable condenser
40	88274	Field coil and housing (for R-245-A spkr.)
41	88276	Output transformer
42	88285	1.25 mfd. 150 volt paper condenser
43	88289	R.F. choke (to filaments)
44	88298	.25 mfd. 150 volt paper condenser (low reactance)
45	88312	Antenna coil and shield assem. (iron core)
46	88327	Antenna cable and plug
47	88328	Diaphragm and shell assem. (R-245-A spkr.)
48	83777	Battery cable and fuse housing
49	88054	Tone control switch
50	88365	Fuse, 10 amperes
51	88730	Control head less shafts
52	88738	Pilot light cable with plug, 31"



MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

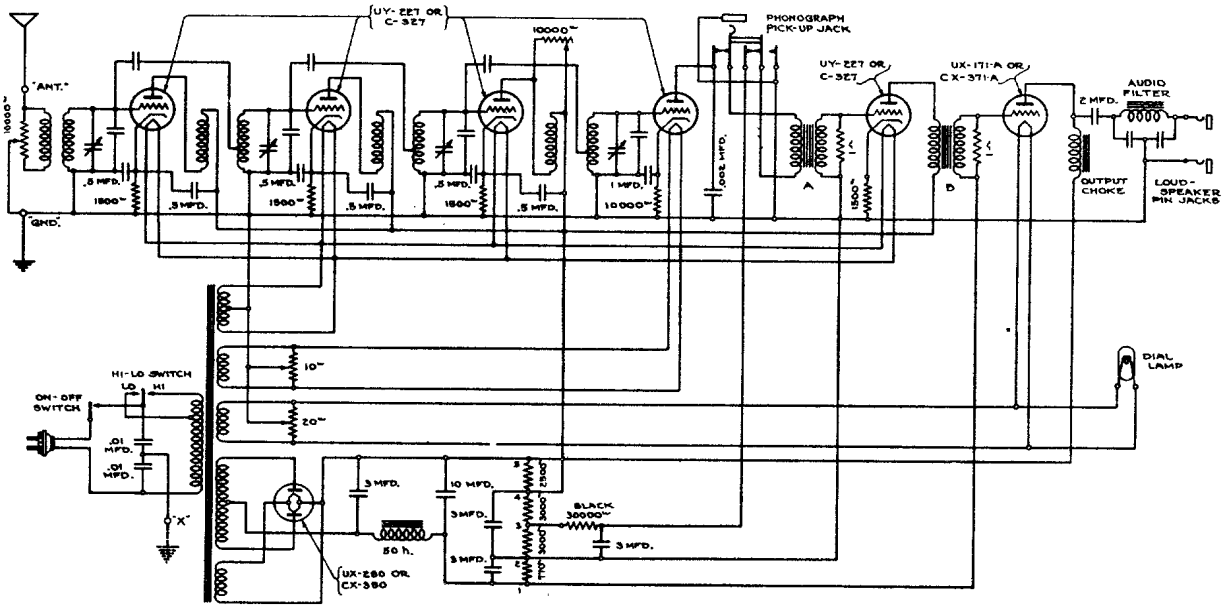


Stewart-Warner 950 Series A. C. Radio Receivers

19

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM

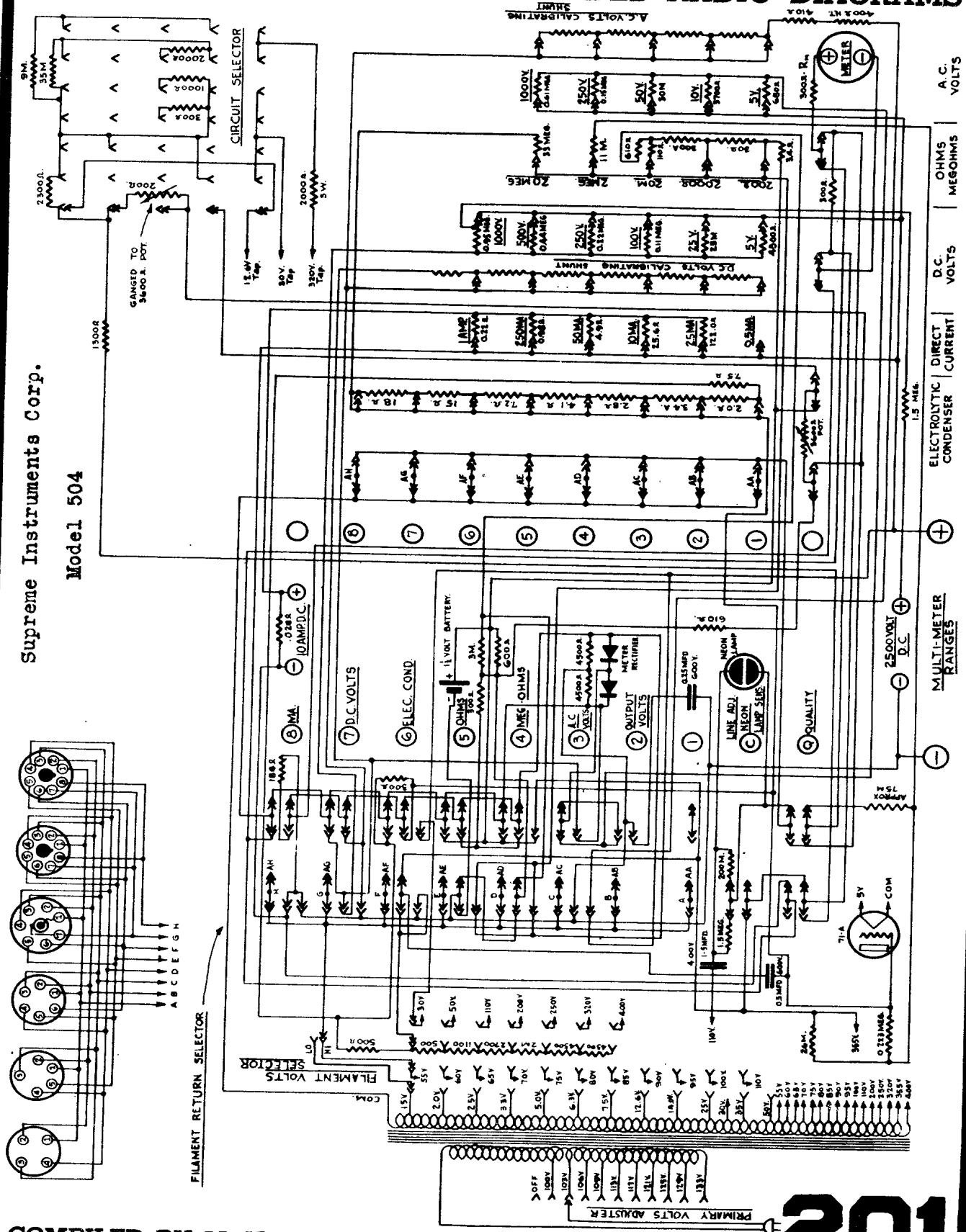


STROMBERG–CARLSON NOS. 635 AND 636 RECEIVERS

The following table shows how the filament, plate and grid voltages vary with different line voltages, in the No. 635 receiver. The plate voltages are measured between tube plates and Tap No. 2 of the voltage divider. The grid voltages of the heater type tubes are measured across the cathode resistors; and that of the audio output tube is measured between Taps No. 1 and No. 2 of the voltage divider.

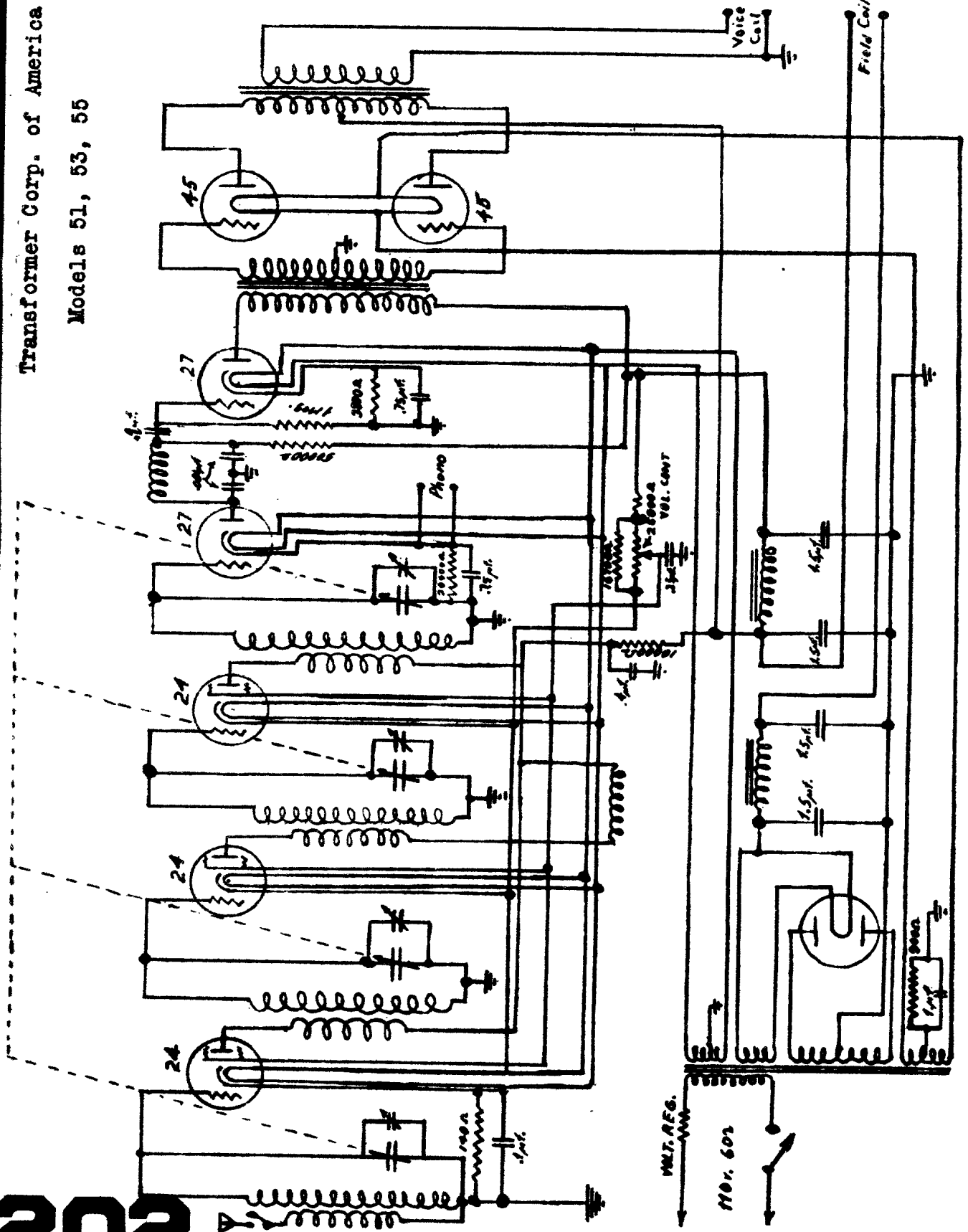
Line Voltage "HI-LO" Switch	105 "LO"	110 "LO"	115 "LO"	115 "HI"	120 "HI"	125 "HI"
UX-280						
Filament Voltage (RMS)	4.5	4.75	5.0	4.5	4.7	4.93
Voltage per anode (RMS)	236.0	248.0	259.0	236.0	248.0	258.0
Amplifiers						
Heater Voltage (RMS)	2.17	2.27	2.38	2.16	2.26	2.35
Plate Voltage	106.0	110.0	115.0	106.0	110.0	115.0
Grid Voltage	— 5.0	— 5.5	— 5.75	— 4.7	— 5.2	— 5.6
Detector						
Heater Voltage (RMS)	2.11	2.22	2.32	2.1	2.2	2.3
Plate Voltage	39.0	40.0	42.0	38.0	40.0	41.0
Grid Voltage	— 3.25	— 3.5	— 3.75	— 3.25	— 3.5	— 3.75
Audio Output Tube						
Filament Voltage (RMS)	4.5	4.75	5.0	4.53	4.72	4.94
Plate Voltage	167.0	175.0	184.0	165.0	174.0	182.0
Grid Voltage	—37.0	—40.0	—41.0	—36.0	—40.0	—41.0

NOTE—The grid voltage on the 1st audio tube will be slightly lower than that on the R. F. amplifier tubes, due to the drop in the secondary of the 1st audio transformer.



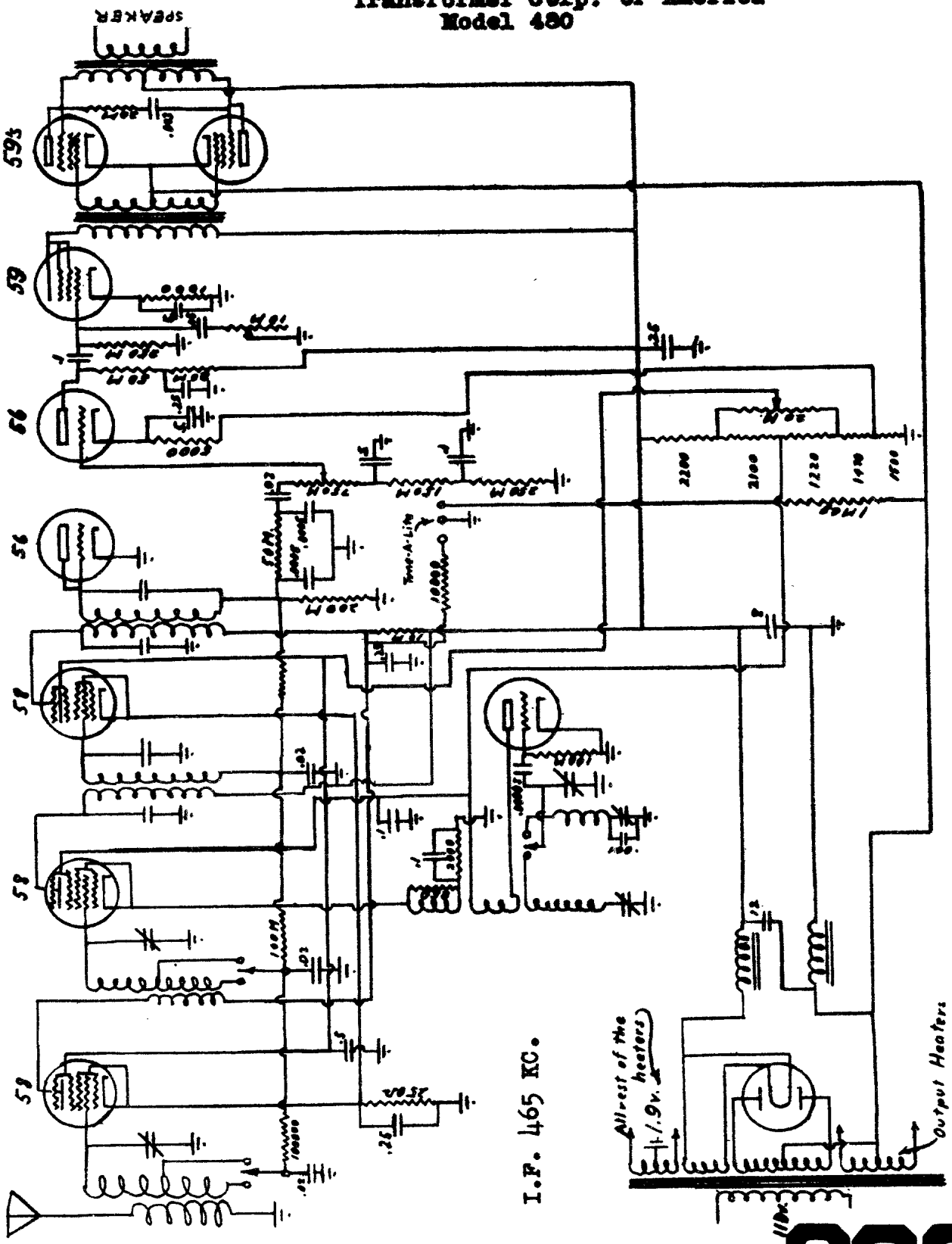
Transformer Corp. of America

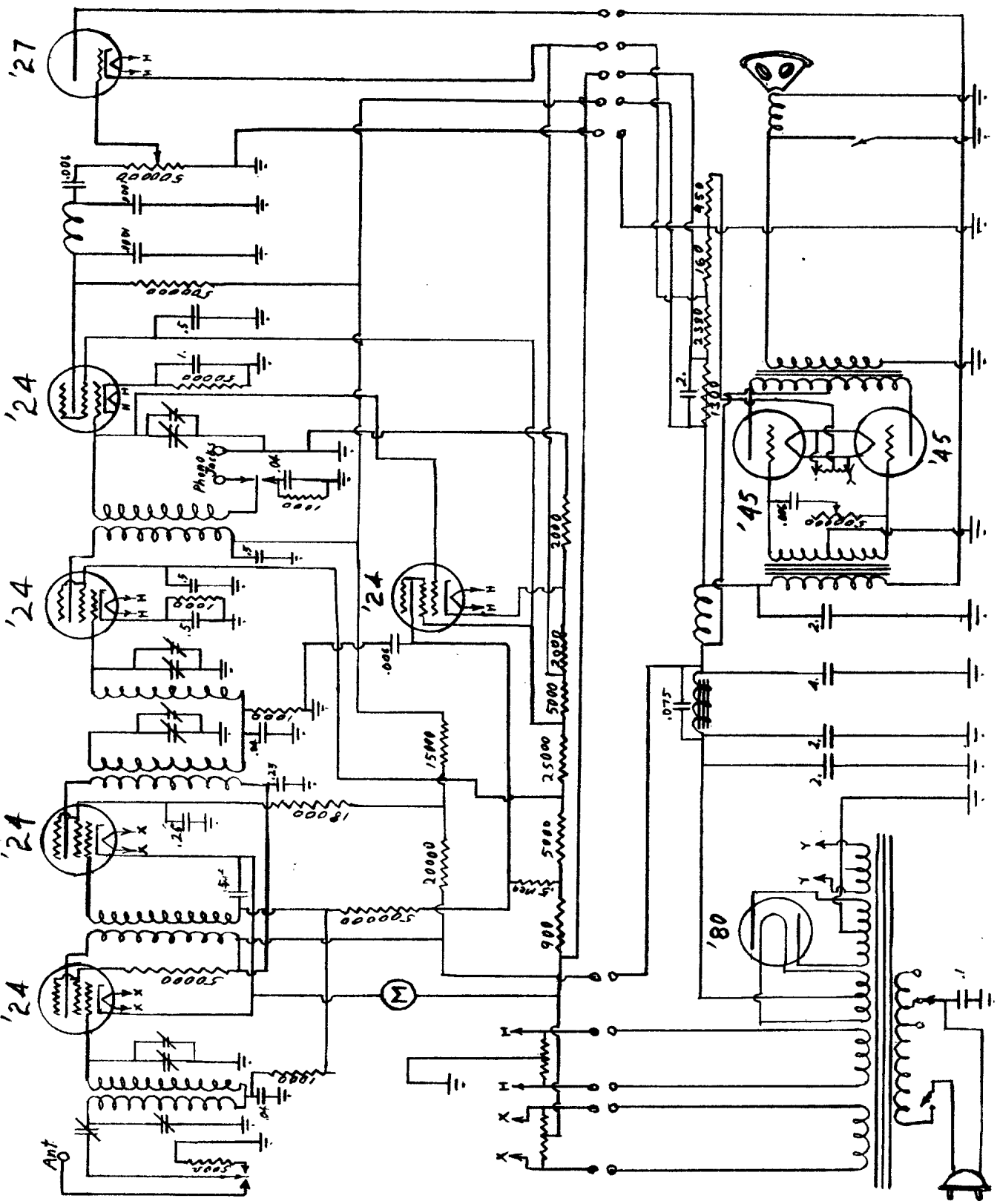
Models 51, 53, 55



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

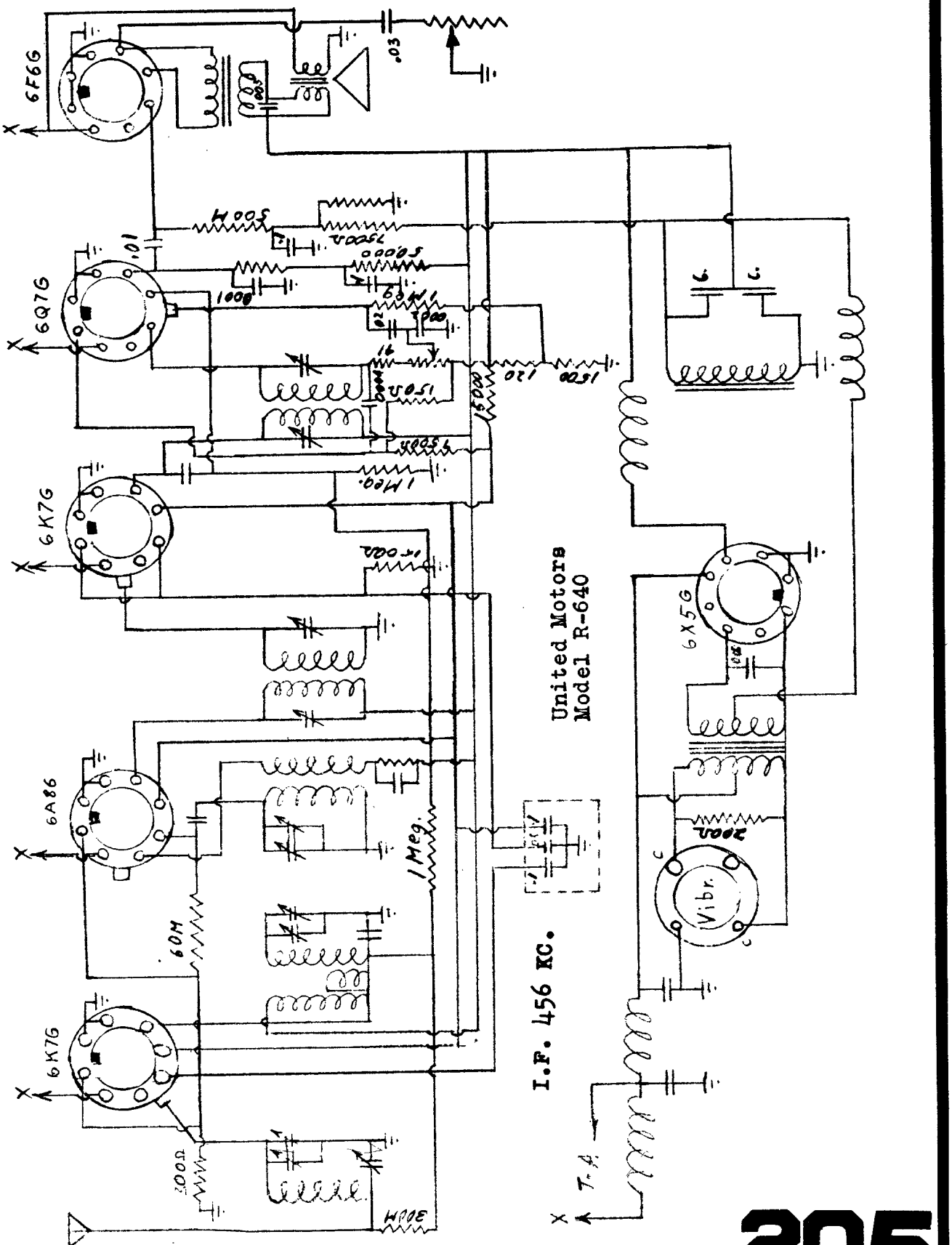
Transformer Corp. of America
Model 480

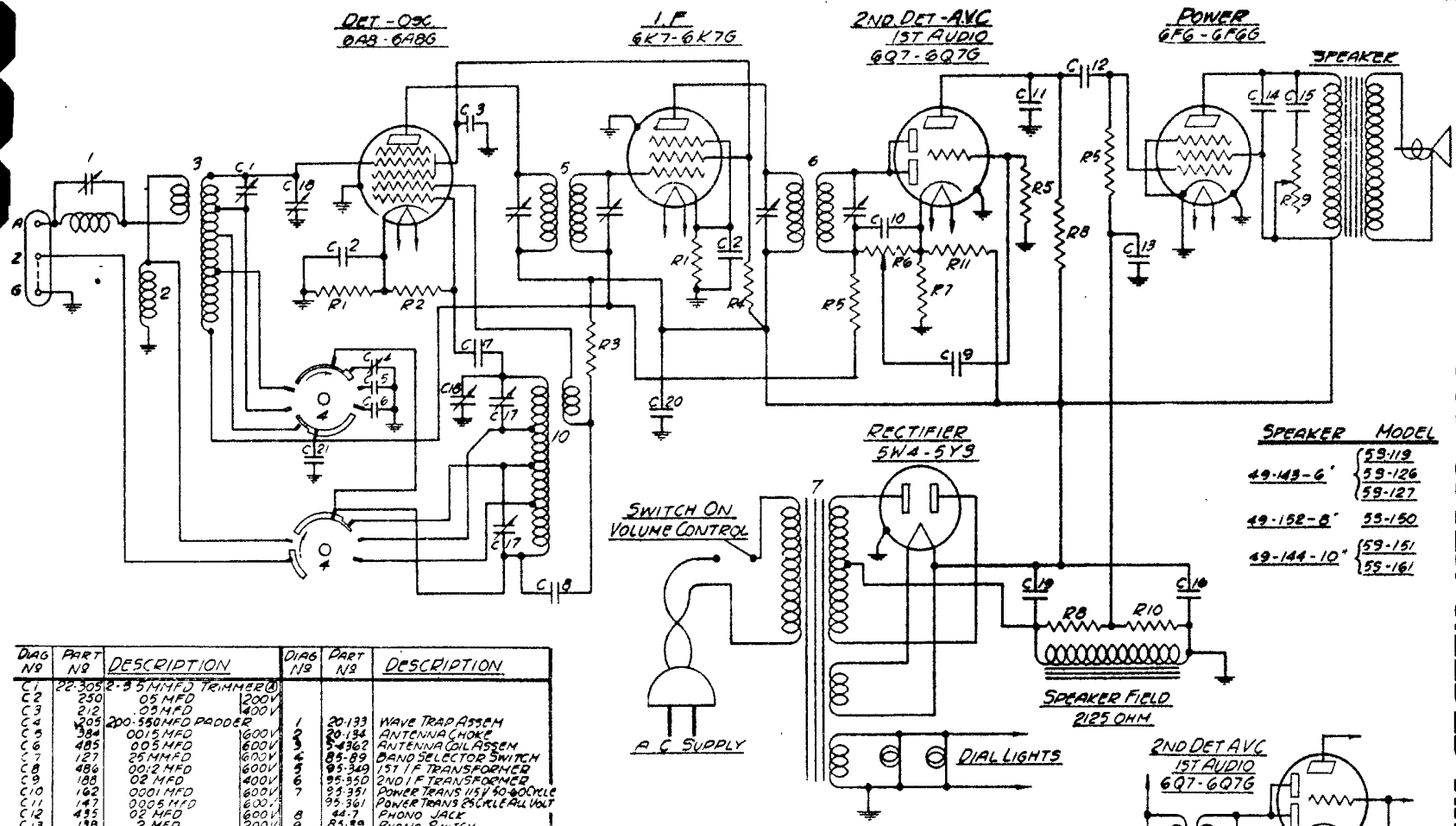




United American Bosch Corp.
Models: 60, 60D, 60E, 61

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS





DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION
C1	22-305	2-8.5 MMFD TRIMMER (A)				
C2	250	.05 MFD	200V			
C3	212	.03 MFD	400V			
C4	205	200-550 MFD PADDER		1	20-133	WAVE TRAP ASSEM
C5	384	.0015 MFD	600V	2	20-134	ANTENNA CHOKE
C6	485	.005 MFD	600V	3	54-362	ANTENNA COIL ASSEM
C7	127	25 MMFD	600V	4	85-89	BAND SELECTOR SWITCH
C8	486	.0012 MFD	600V	5	95-349	1ST I.F. TRANSFORMER
C9	188	.02 MFD	400V	6	95-350	2ND I.F. TRANSFORMER
C10	162	.0001 MFD	600V	7	99-351	POWER TRANS 115V 40-60 CYCLE
C11	147	.0005 MFD	600V		99-361	POWER TRANS 25 CYCLE ALL VOLT
C12	435	.02 MFD	600V	8	44-7	PHONO JACK
C13	198	.2 MFD	200V	9	85-99	PHONO SWITCH
C14	82	.001 MFD	600V	10	54-363	OSC COIL ASSEM
C15	494	1 MFD	600V			
C16	506	16 MFD ELEC COND WET	250V			
C17	408	2-35 MMFD TRIMMER COND				
C18	482	2-GANG VARIABLE COND				
C19	505	12 MFD ELEC COND WET	325V			
C20	170	1 MFD	400V			
C21	487	.05 MFD (BRAID LEADS)	400V			
R1	49-362	400 OHMS	1/4 W			
R2	280	49 M OHMS	1/4 W			
R3	373	11 M OHMS	1/2 W			
R4	263	30 M OHMS	1/2 W			
R5	293	990 M OHMS	1/2 W			
R6	320	400 M OHM VOL CONT & SW				
R7	518	990 OHMS	1/4 W			
R8	258	490 M OHMS	1/4 W			
R9	321	50 M OHM TONE CONTROL				
R10	370	190 M OHMS	1/4 W			
R11	486	80 M OHMS	1 W			

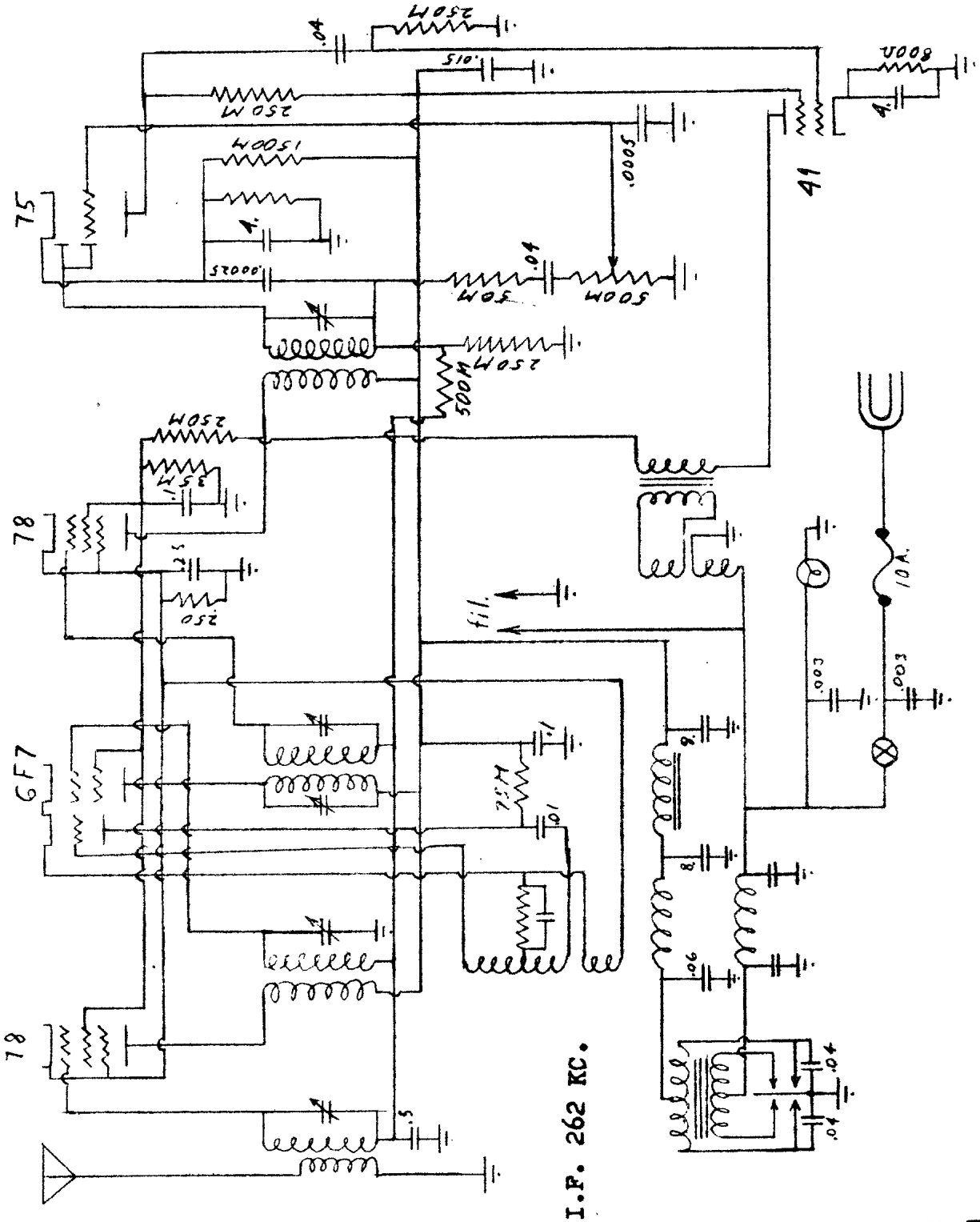
I.F FREQUENCY 456 KC
5 TUBE SUPERHETERODYNE - 3 BANDS
CHASSIS Nº 5516

ZENITH RADIO CORPORATION
CHICAGO, ILLINOIS

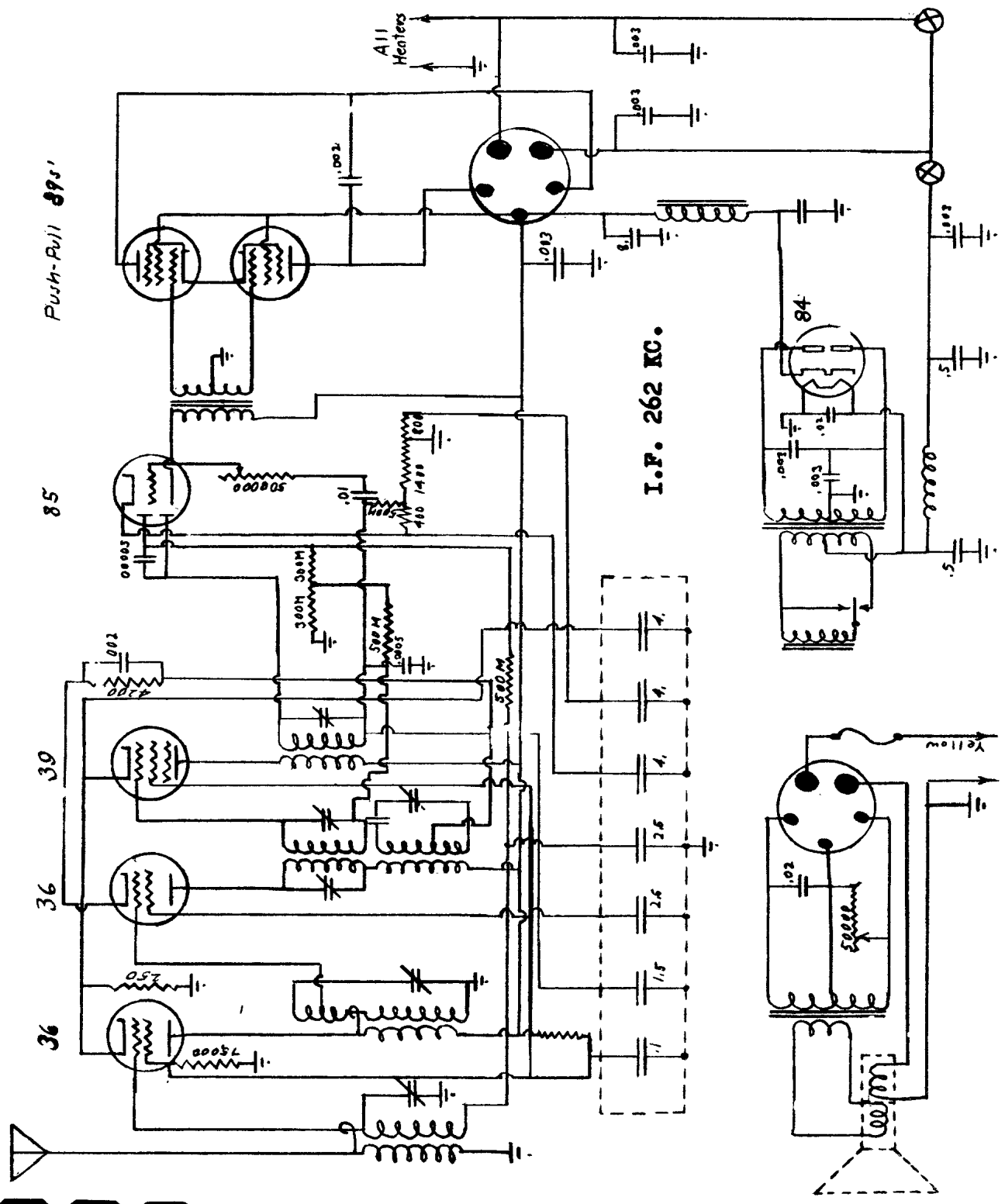
Models 5-S-119, 5-S-126, 5-S-127, 5-S-150, 5-S-151, 5-S-161. (Chassis No. 5516)

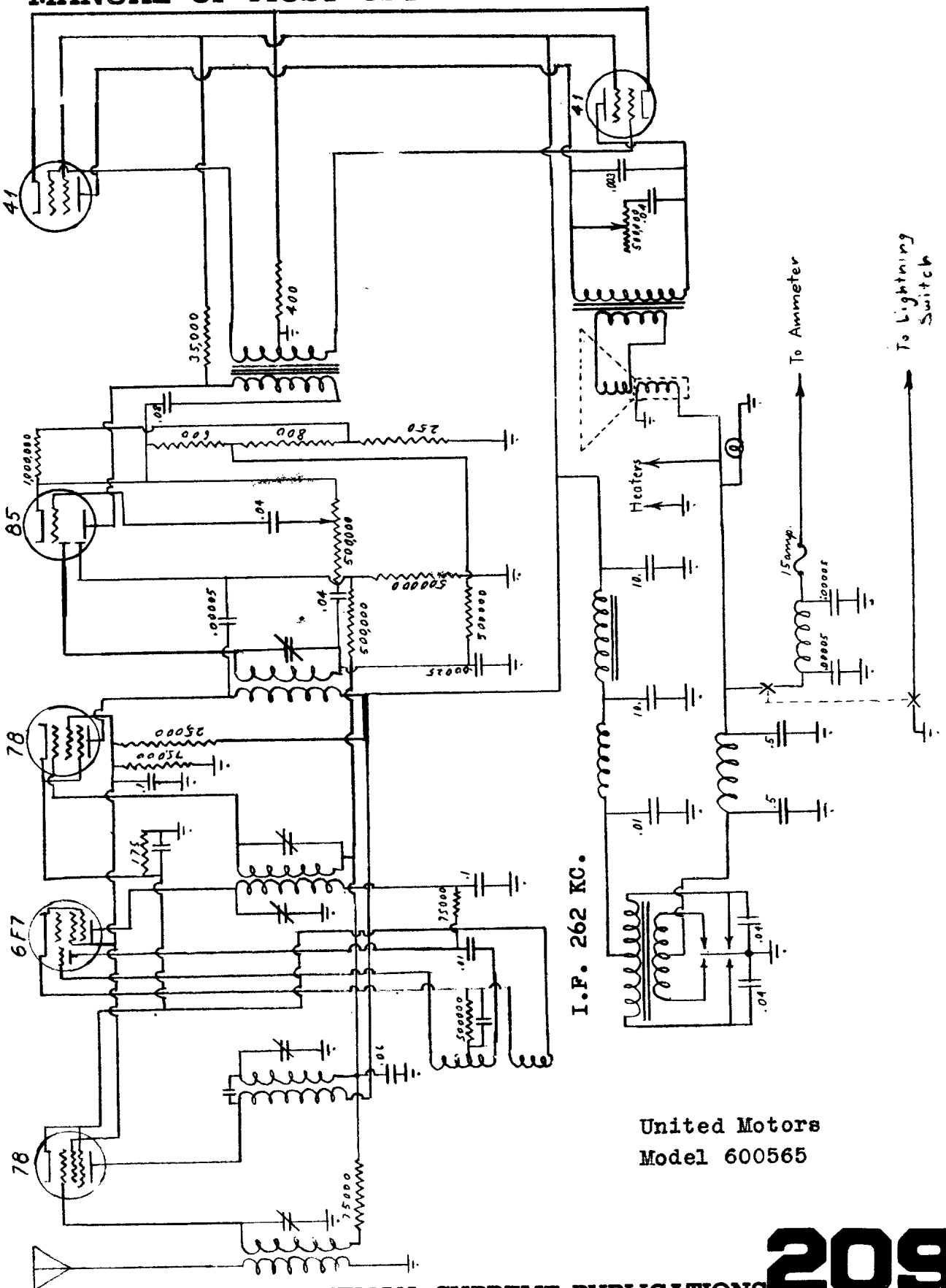
MANUAL OF MOST-OFTEN-NEEDED RADIO DIAGRAMS

United Motors Service Model 4037



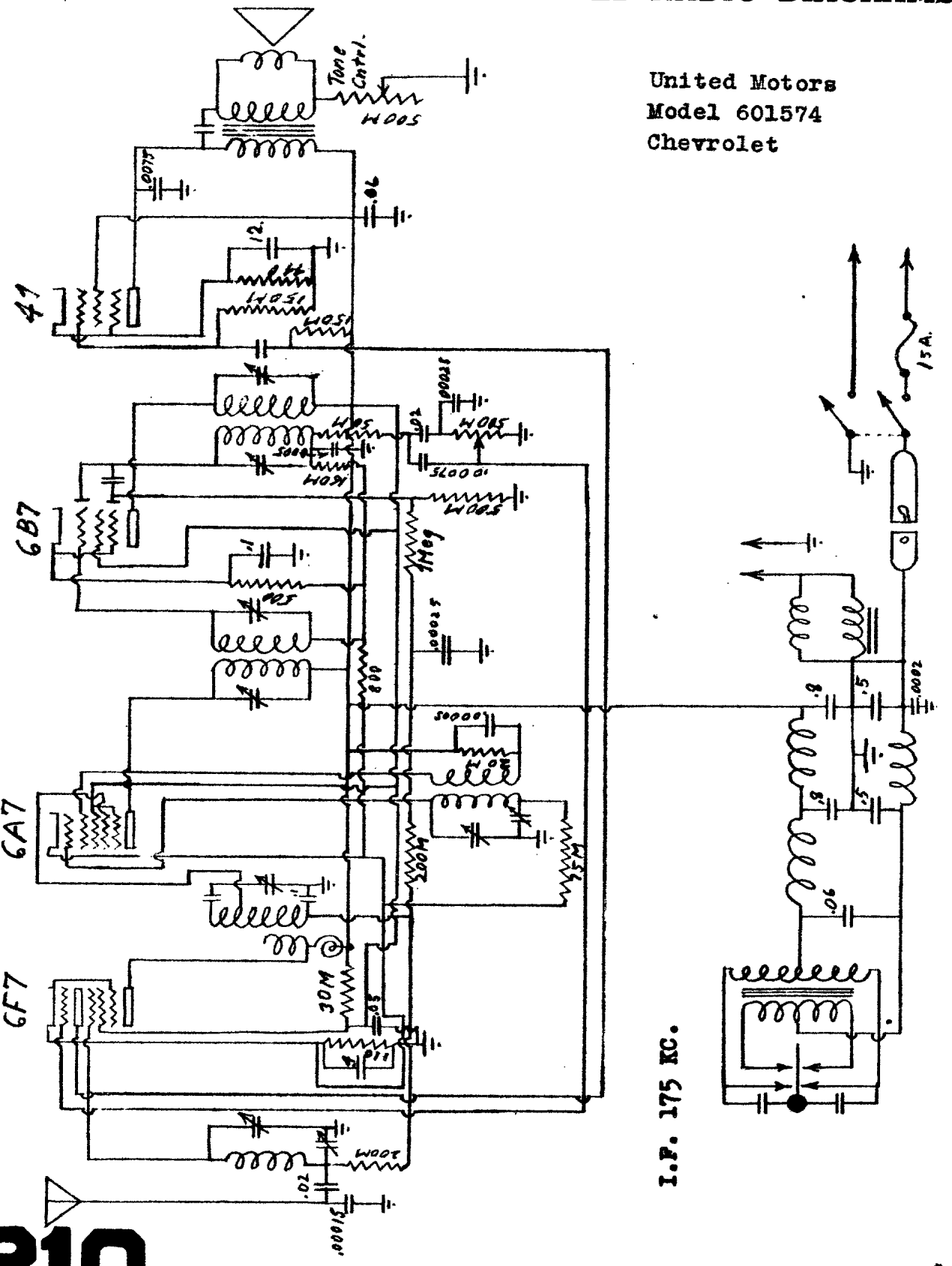
United Motors Model 364441





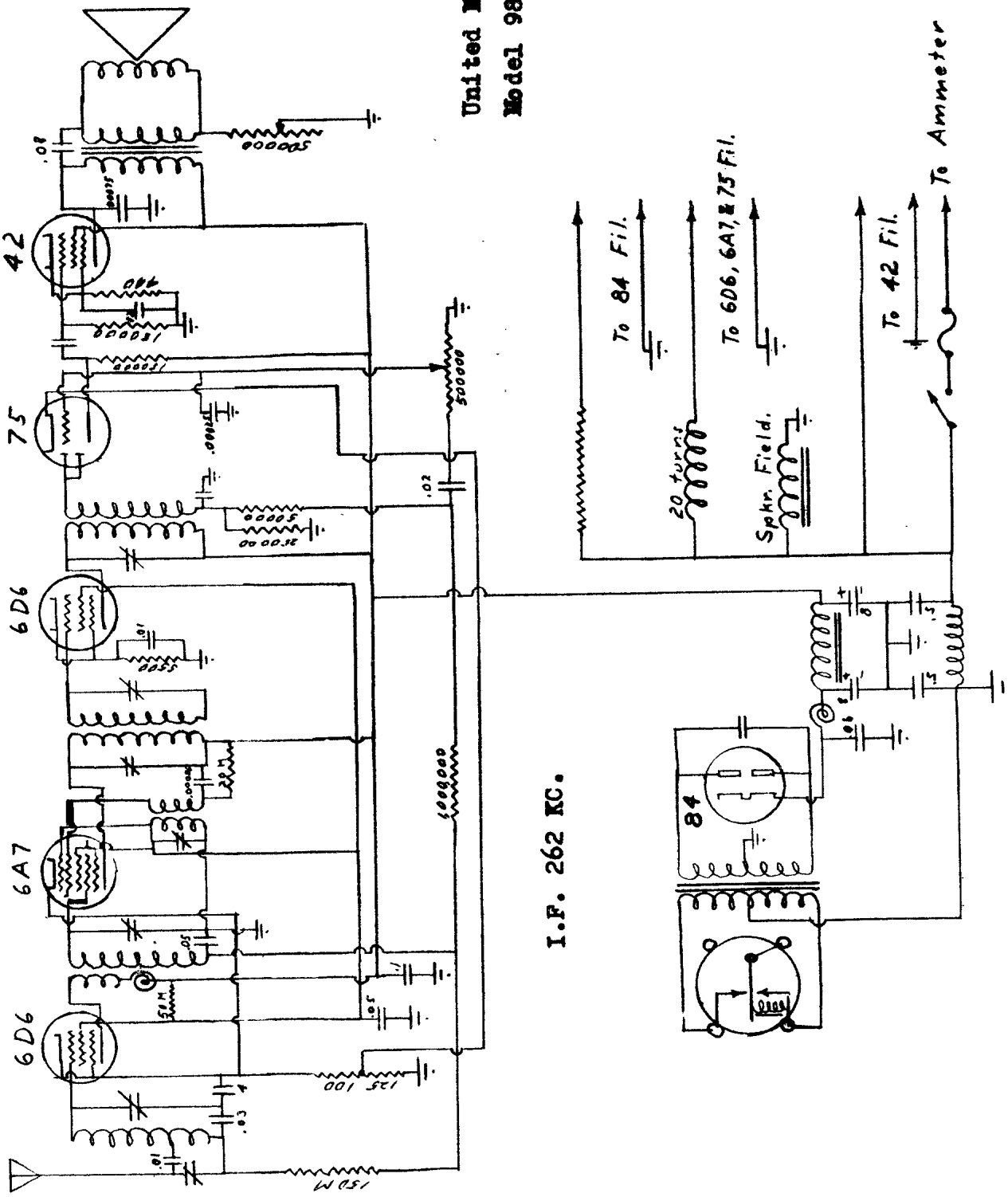
United Motors
Model 600565

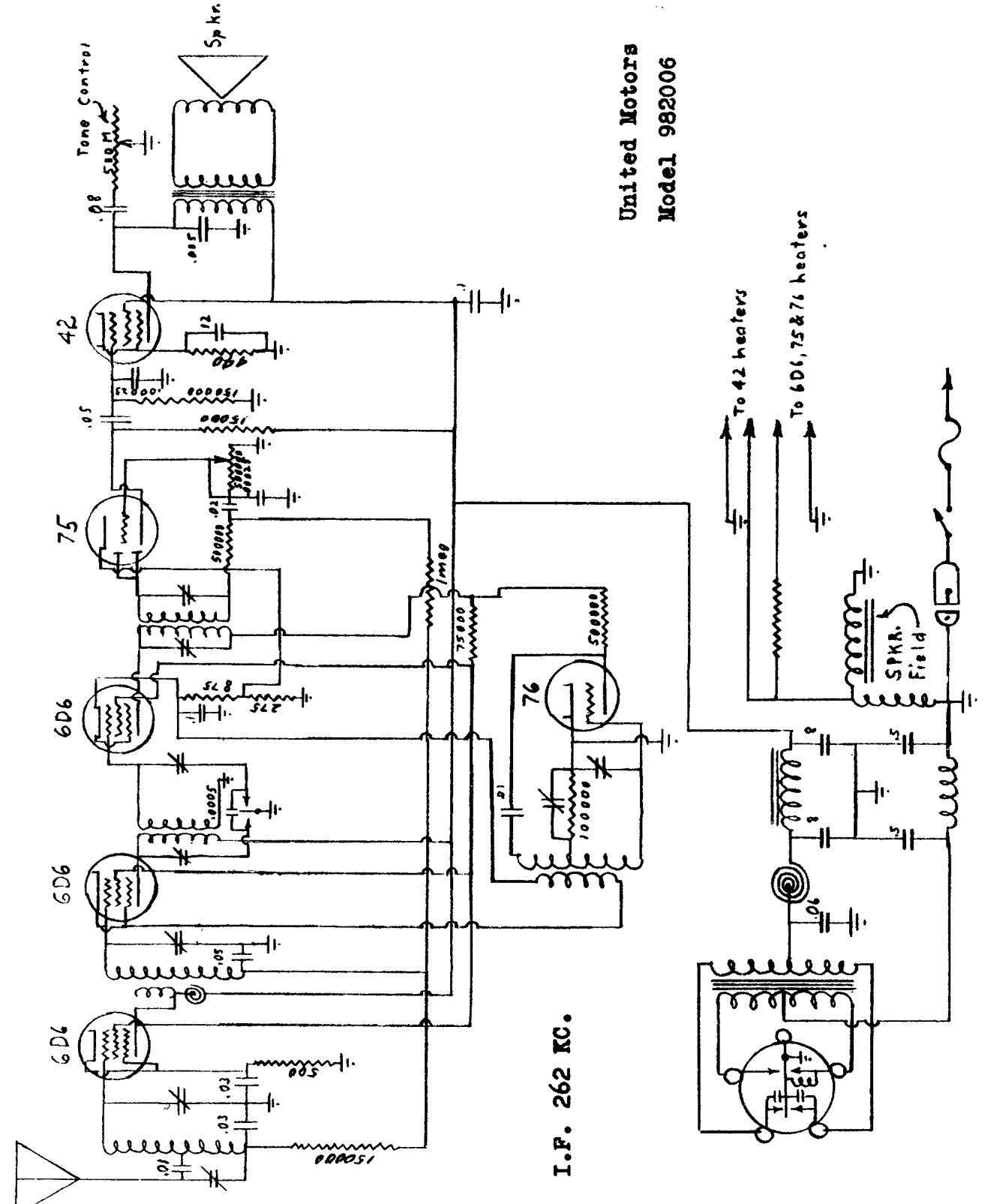
United Motors
Model 601574
Chevrolet



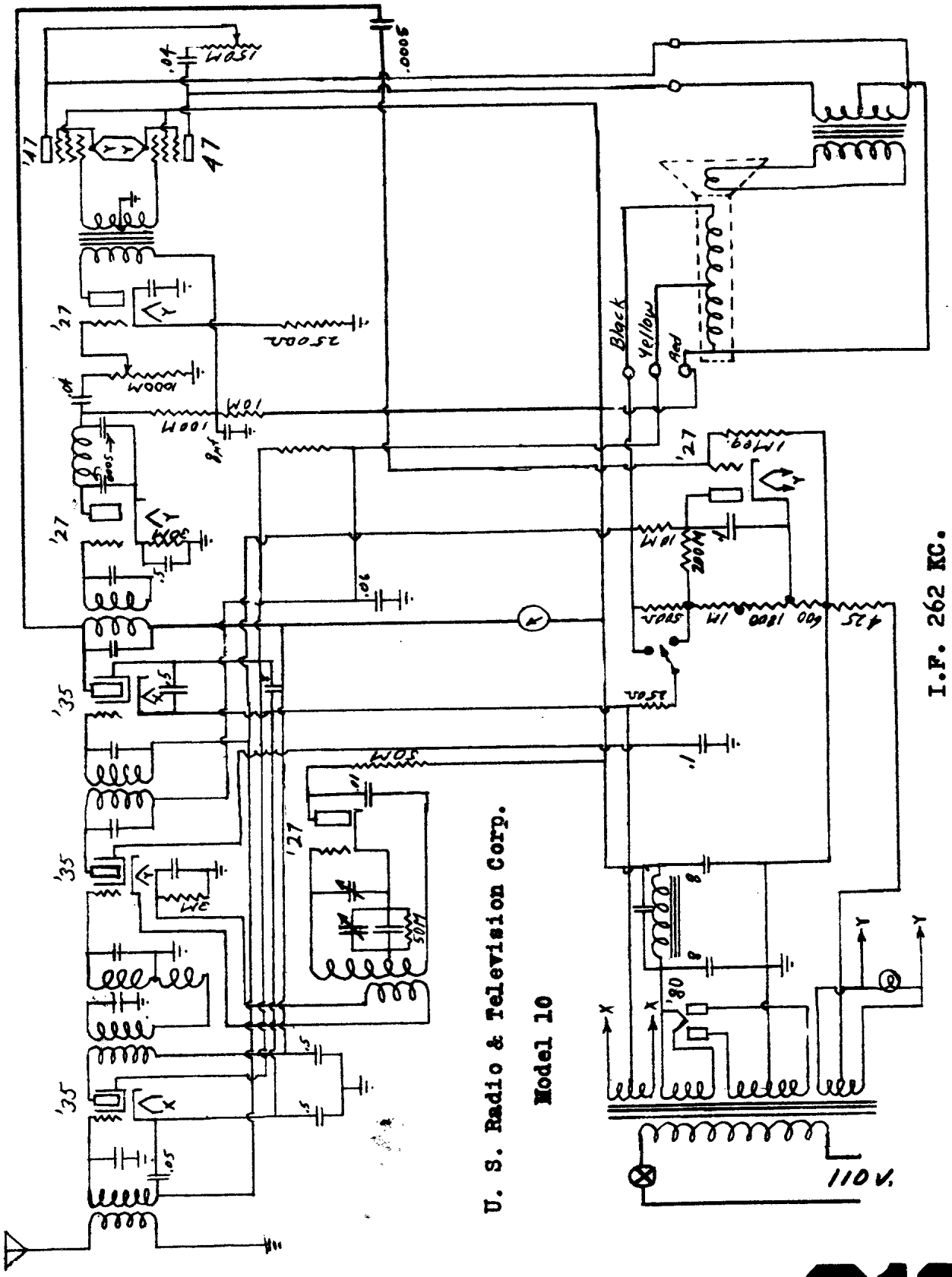
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

United Motors
Model 985100





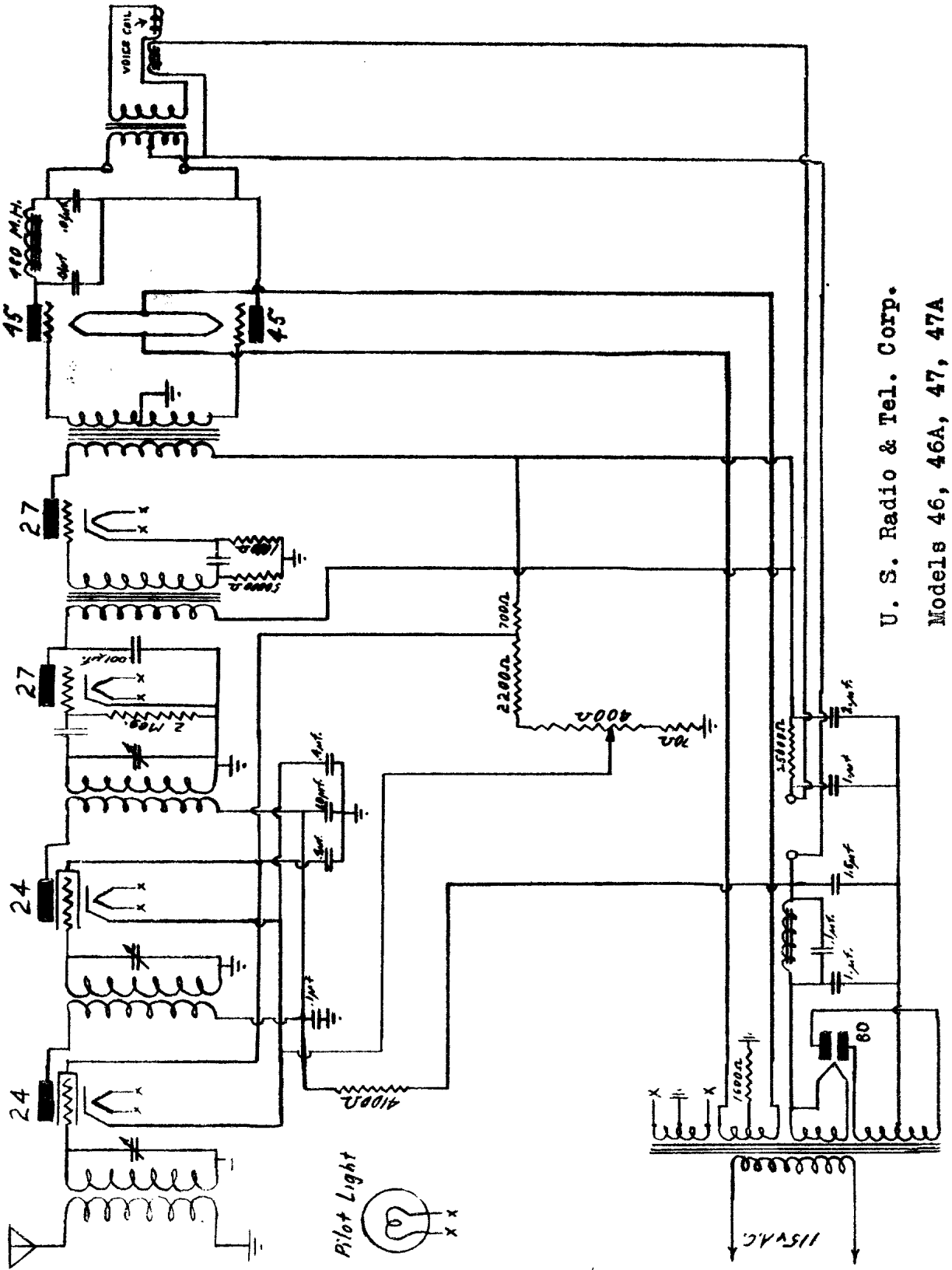
United Motors
Model 982006



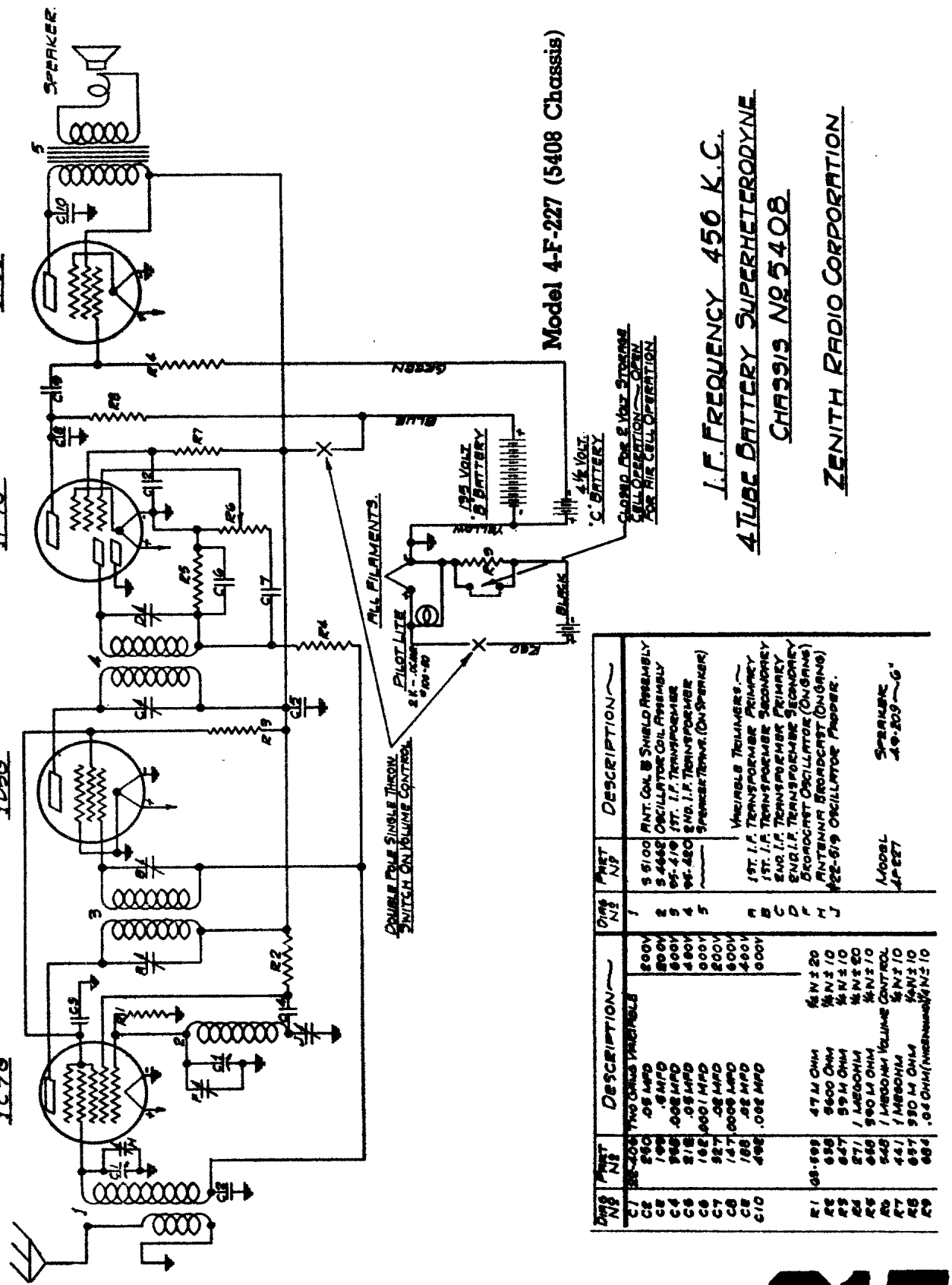
I.F. 262 KC.

U. S. Radio & Television Corp.

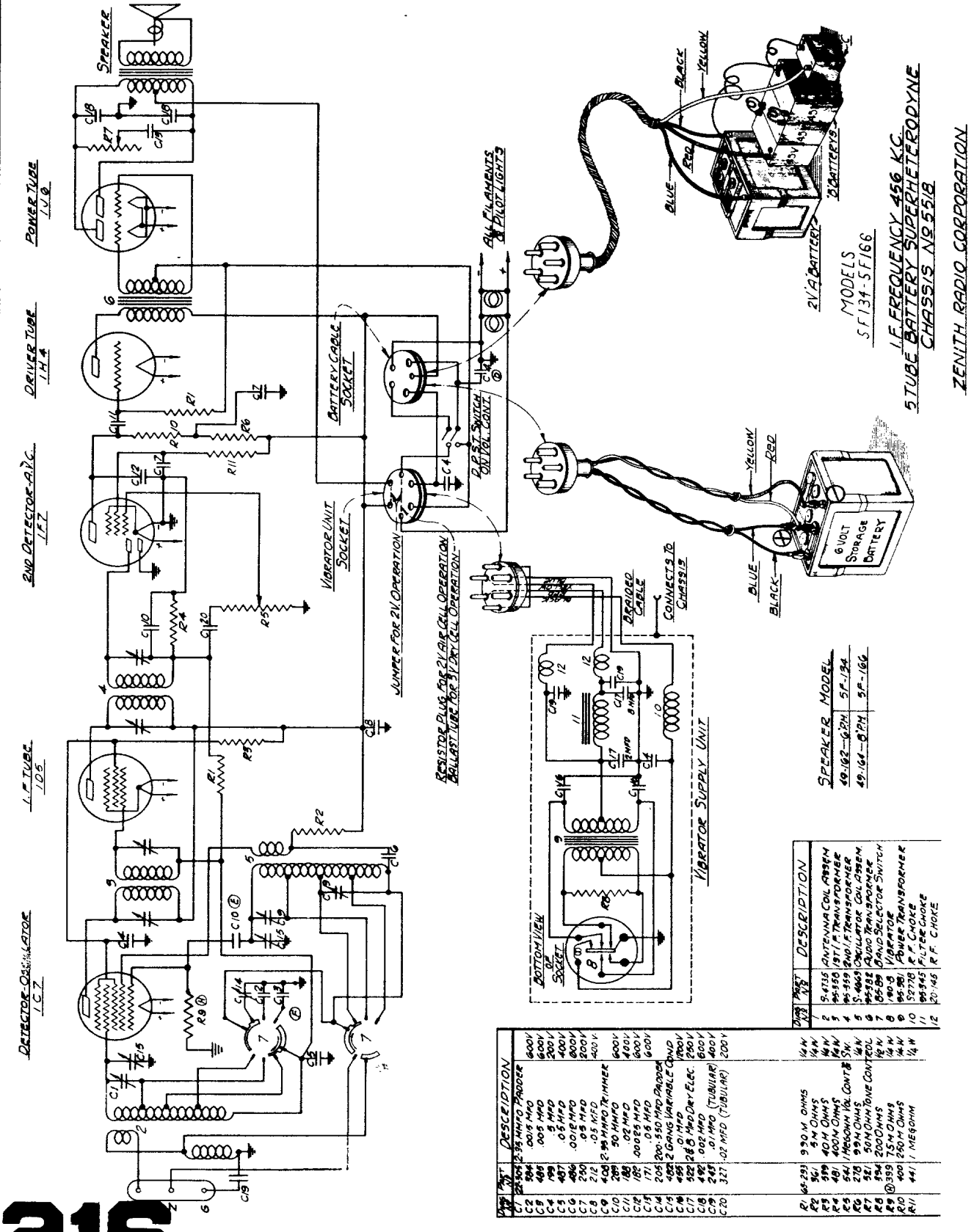
Model 10



U. S. Radio & Tel. Corp.
Models 46, 46A, 47, 47A
Apex



Diag. No.	Part No.	Description		Diag. No.	Part No.	Description
C1	32-208	TWO GANG VARIABLE		1		
C2	260	.05 MFD	200V		5 6100	ANT. COIL & SHIELD ASSEMBLY
C3	198	.1 MFD	200V	2	5 4442	OSCILLATOR COIL ASSEMBLY
C4	196	.002 MFD	600V	3	95-419	1ST. I.F. TRANSFORMER
C5	218	.05 MFD	400V	4	95-420	2ND. I.F. TRANSFORMER
C6	192	.0001 MFD	600V	5	——	SPEAKER TRANS. (ON SPEAKER)
C7	527	.02 MFD	200V			VARIABLE TRIMMERS:—
C8	147	.0005 MFD	600V	A		1ST. I.F. TRANSFORMER PRIMARY
C9	188	.02 MFD	400V	B		1ST. I.F. TRANSFORMER SECONDARY
C10	498	.002 MFD	600V	C		2ND I.F. TRANSFORMER PRIMARY
				D		2ND I.F. TRANSFORMER SECONDARY
				E		BROADCAST OSCILLATOR (ON GANG)
				F		ANTENNA BROADCAST (ON GANG)
				H		M22-619 OSCILLATOR PADDER.
				J		
					MODEL 4F227	SPEAKER 40-209—6"
R1	68-698	47 M OHM	½ W ± 20			
R2	658	9600 OHM	½ W ± 10			
R3	647	99 M OHM	½ W ± 10			
R4	671	1 MEGOHM	½ W ± 20			
R5	660	990 M OHM	½ W ± 10			
R6	645	1 MEGOHM VOLUME CONTROL	½ W ± 10			
R7	441	1 MEGOHM	½ W ± 10			
R8	657	330 M OHM	½ W ± 10			
R9	684	.04 OHM (WIREWOUND)	½ W ± 10			



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

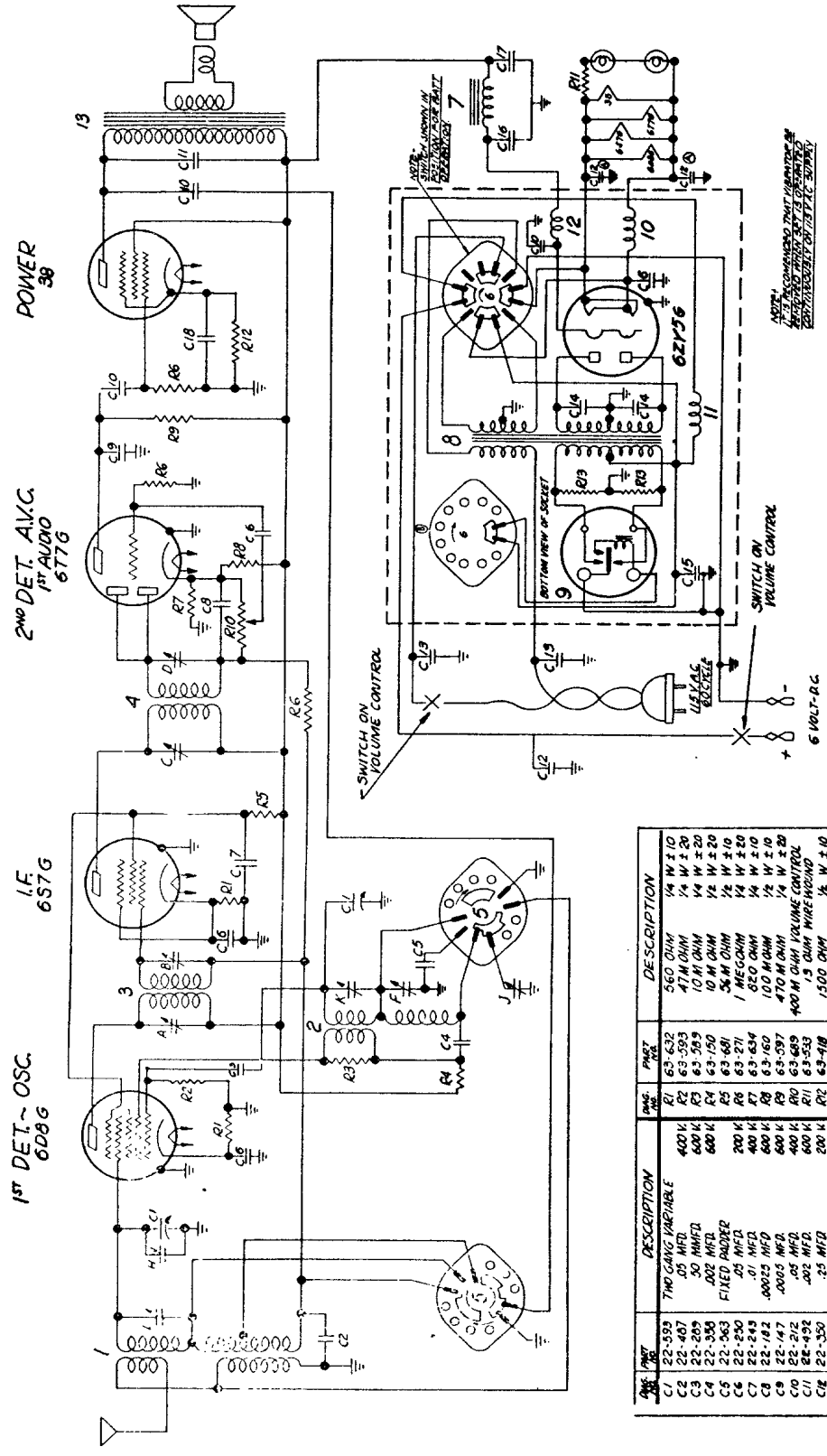


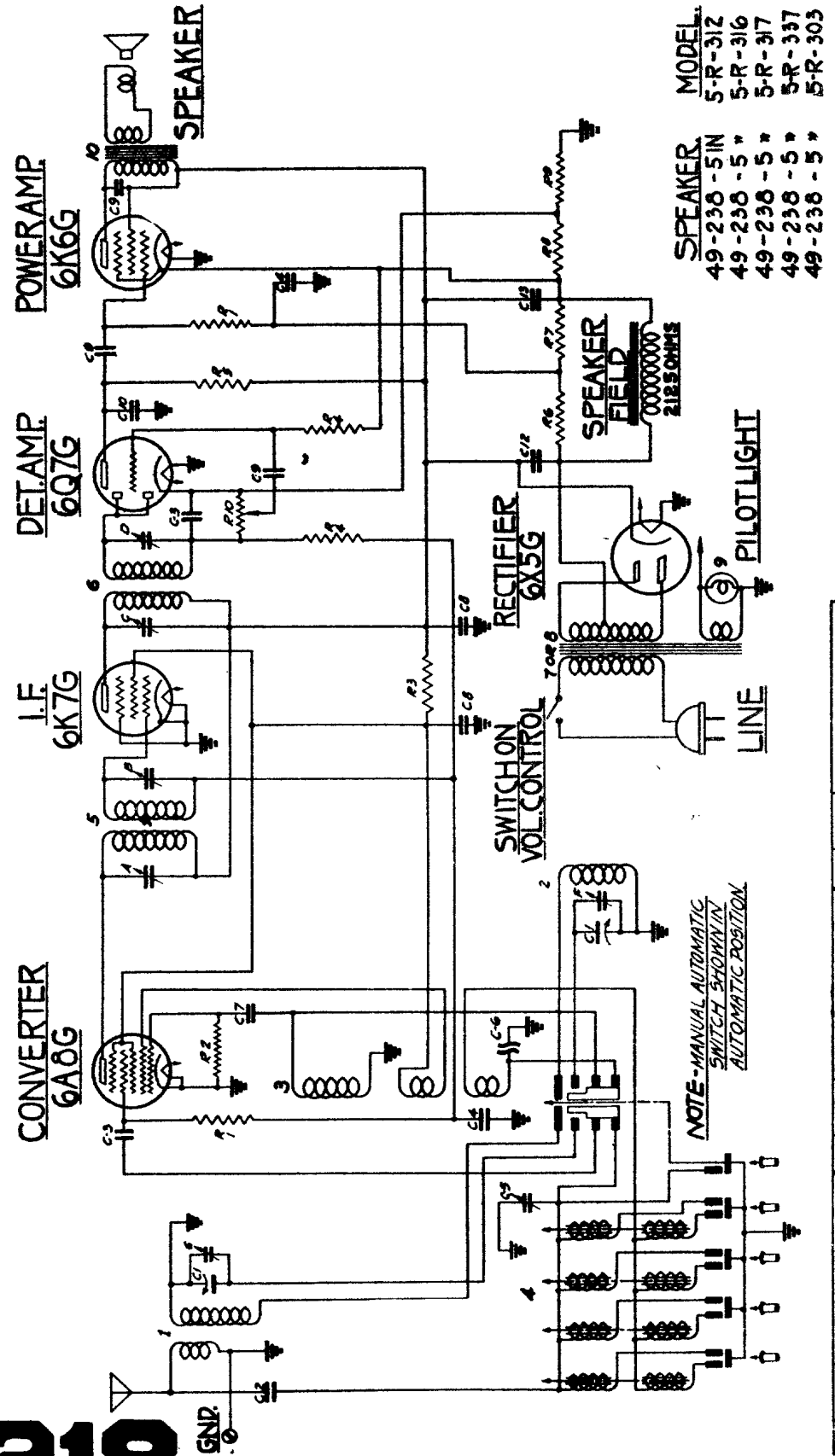
CHART NO.	PART NO.	DESCRIPTION		CHART NO.	PART NO.	DESCRIPTION	
C1	22-593	TWO GANG VARIABLE	400 V.	R1	63-632	560 OHM	1/4 W ± 10
C2	22-467	.05 MFD.	400 V.	R2	63-593	47 M OHM	1/4 W ± 20
C3	22-269	.50 MMFD.	600 V.	R3	63-589	10 M OHM	1/4 W ± 20
C4	22-358	.002 MFD.	600 V.	R4	63-150	10 M OHM	1/2 W ± 20
C5	22-363	FIXED PADDER		R5	63-681	56 M OHM	1/4 W ± 10
C6	22-230	.05 MFD.	200 V.	R6	63-271	1 MEGOHM	1/4 W ± 20
C7	22-243	.01 MFD.	400 V.	R7	63-634	820 OHM	1/4 W ± 10
C8	22-182	.0025 MFD.	600 V.	R8	63-160	100 M OHM	1/2 W ± 10
C9	22-147	.0005 MFD.	600 V.	R9	63-597	470 M OHM	1/4 W ± 20
C10	22-212	.05 MFD.	400 V.	R10	63-669	400 M OHM VOLUME CONTROL	
C11	22-492	.002 MFD.	600 V.	R11	63-533	15 OHM WIRE WOUND	
C12	22-350	.25 MFD.	200 V.	R12	63-418	1500 OHM	1/2 W ± 10
C13	22-433	.02 MFD.	600 V.	R13	63-577	100 OHM	1/4 W ± 20
C14	22-374	.02 MFD.	600 V.				
C15	22-199	.5 MFD.	200 V.				
C16	22-577	8 MFD ELECTROLYTIC	250 V.				
C17		8 MFD "	150 V.	1	5-5303	ANT. COIL & SHIELD ASSEMBLY	
C18		10 MFD "	25 V.	2	5-4909	OSCILLATOR COIL ASSEMBLY	
		VARIABLE TRIMMERS		3	95-443	1ST I.F. TRANSFORMER	
				4	95-444	2ND I.F. TRANSFORMER	
A		1ST I.F. TRANSFORMER PRIMARY		5	85-104	BAND SELECTOR SWITCH	
B		1ST I.F. TRANSFORMER SECONDARY		6	85-425	POWER SUPPLY SWITCH	
C		2ND I.F. TRANSFORMER PRIMARY		7	95-298	POWER CHOKE	
D		2ND I.F. TRANSFORMER SECONDARY		8	95-425	POWER TRANSFORMER	
E		BROADCAST OSCILLATOR (see note)		9	190-11	VIBRATOR	
F		ANTENNA BROADCAST (see note)		10	5-2778	R.F. CHOKE ASSEMBLY	
J		*22-59 BROADCAST PADDER		11	5-5048	R.F. CHOKE ASSEMBLY	
K		SHORT WAVE OSCILLATOR (see note)		12	20-82	R.F. CHOKE	
L		SHORT WAVE DETECTOR (see note)		13		SPEAKER TRANSFORMER	

NOTE — TRIMMERS F, K, & L MOUNTED ON BAKELITE STRIP *ER-324

I.F. FREQUENCY 456 K.C. 5 TUBE BATTERY SUPERHETERODYNE 6 VOLT D.C. & 115 VOLT A.C. CHASSIS No 5524

ZENITH RADIO CORP.

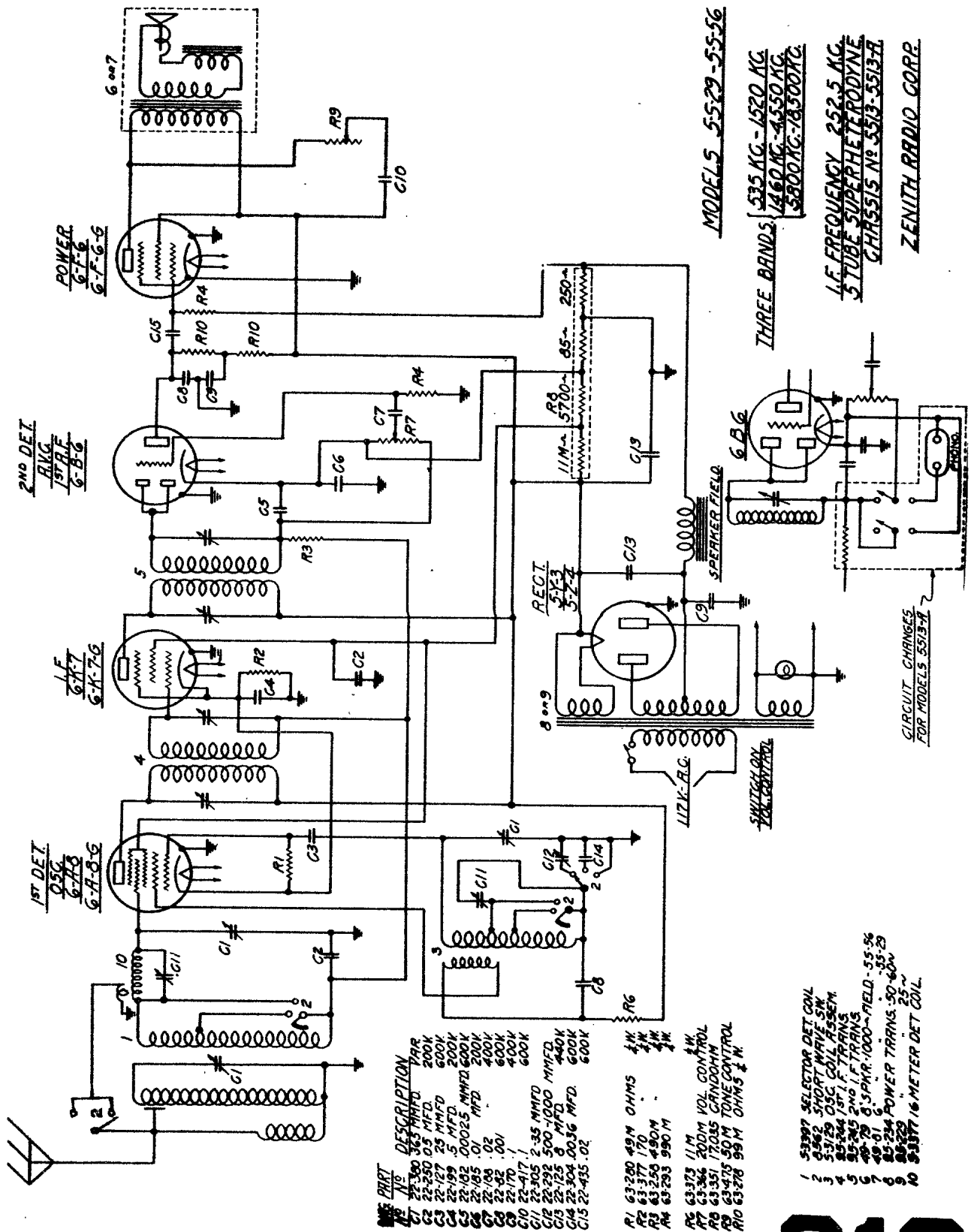
Models 5-J-217, 5-J-247, 5-J-255 (5524 Chassis)



MODEL	SPEAKER
5-R-312	49-238-5 IN
5-R-316	49-238-5"
5-R-317	49-238-5"
5-R-337	49-238-5"
5-R-303	49-238-5"

I.F. FREQUENCY 455 K.C.
5 TUBE SUPERHETERODYNE
CHASSIS Nº 5528 A.C.
ZENITH RADIO CORPORATION

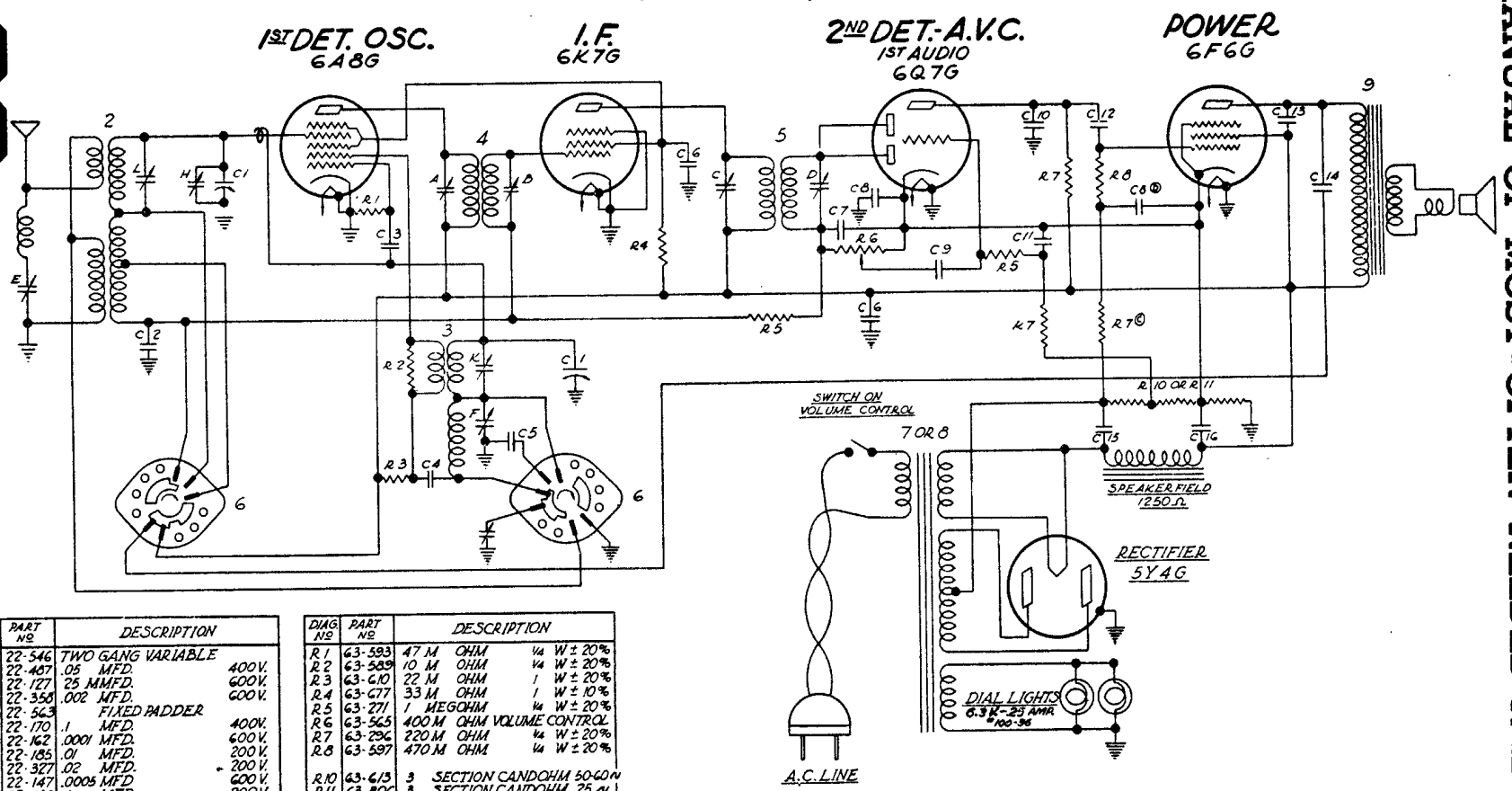
DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION
C-1	22-695	TWO GANG VAR. COND.	6-VOLT	R-1	63-537	470 M OHM	1/4 W	1	95-515	1 ST. I.F. TRANS.
C-2	22-259	50 M MFD	6-VOLT	R-2	63-553	47 M OHM	1/4 W	5	95-520	2 ND I.F. TRANS.
C-3	22-162	.0001 MFD	6-VOLT	R-3	63-204	12 M OHM	1 W	6	95-521	POWER TRANS. (WITH RP-69~
C-4	22-250	.05 MFD	200V	R-4	63-271	1 MEGOHM	1/4 W	7	95-523	POWER TRANS. 25~
C-5	22-519	TRIMMER COND.		R-5	63-296	220 M OHM	1/4 W	8	95-523	PILOT LIGHT .15 A 6.3V
C-6	22-729	COMPENSATING COND.		R-6	63-458	330 M OHM	1/4 W	9	100-56	SPEAKER TRANS
C-7	22-181	.00025 MFD.	400V	R-7	63-260	100 M OHM	1/4 W	10		
C-8	22-212	.05 MFD.	400V	R-8	63-363	80 OHM WIRE WOUND	1/2 W	A		1 ST. I.F. TRANS PRI.
C-9	22-196	.01 MFD.	600V	R-9	63-696	150 OHM WIRE WOUND		B		1 ST. I.F. TRANS SEC
C-10	22-147	.0005 MFD	600V	R-10	63-935	220 M OHM VOL. CONT.		C		2 ND I.F. TRANS PRI
								D		2 ND I.F. TRANS SEC
C-11	22-691	8 MFD ELECTROLYTIC	450V	1	5-5808	ANTENNA COIL ASSEM.		E		BROADCAST OSC (IN BANK)
C-12	22-692	8 MFD ELECTROLYTIC	350V	2	5-6039	OSC. COIL ASSEM.		F		ANTENNA (BROADCAST IN BANK)
				3	20-107	COMPENSATING COIL		G		



PART NO.	DESCRIPTION
C1 22-360	365 MMFD. VAR.
C2 22-350	.05 MFD. 200V
C3 22-127	25 MMFD 600V
C4 22-99	.5 MFD. 200V
C5 22-82	.00025 MMFD 600V
C6 22-85	.01 MFD 200V
C7 22-108	.02 400V
C8 22-52	.001 600V
C9 22-176	.1 400V
C10 22-417	.1 600V
C11 22-305	2-35 MMFD
C12 22-292	500-1000 MMFD 400V
C13 22-125	8 MFD. 600V
C14 22-304	.0036 MFD. 600V
C15 22-435	.02
R1 63-280	49M OHMS 1W.
R2 63-377	170 " 1W.
R3 63-258	480M " 1W.
R4 63-293	990M " 1W.
R5 63-373	11M 1W.
R7 63-366	2000M VOL CONTROL
R8 63-351	17035 CARBOHM
R9 63-470	50M TONE CONTROL
R10 63-278	99M OHMS 1/2 W.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Models 5-S-201, 5-S-218, 5-S-220, 5-S-228, 5-S-237, 5-S-250, 5-S-252
(5521 Chassis)



DIAG Nº	PART Nº	DESCRIPTION
C1	22-546	TWO GANG VARIABLE
C2	22-467	.05 MFD. 400V.
C3	22-127	25 MMFD. 600V.
C4	22-358	.002 MFD. 600V.
C5	22-563	FIXED PADDER
C6	22-170	.1 MFD. 400V.
C7	22-162	.0001 MFD. 600V.
C8	22-185	.01 MFD. 200V.
C9	22-327	.02 MFD. 200V.
C10	22-147	.0005 MFD 600V.
C11	22-190	.1 MFD 200V.
C12	22-435	.02 MFD. 600V.
C13	22-492	.002 MFD. 600V.
C14	22-171	.05 MFD. 600V.
C15 C16	22-596	{ 8 MFD DRY ELECTROLYTIC 450V / 14 MFD DRY ELECTROLYTIC 450V

VARIABLE TRIMMERS	
A	1ST I.F. TRANS. PRIMARY
B	1ST I.F. TRANS. SECONDARY
C	2ND I.F. TRANS. PRIMARY
D	2ND I.F. TRANS. SECONDARY
E	#22-570 WAVE TRAP
F	BROADCAST OSCILLATOR (SEE NOTE)
H	ANTENNA BROADCAST (ON GANG)
J	#22-519 BROADCAST PADDER
K	SHORT WAVE OSCILLATOR (SEE NOTE)
L	SHORT WAVE DETECTOR #22-305

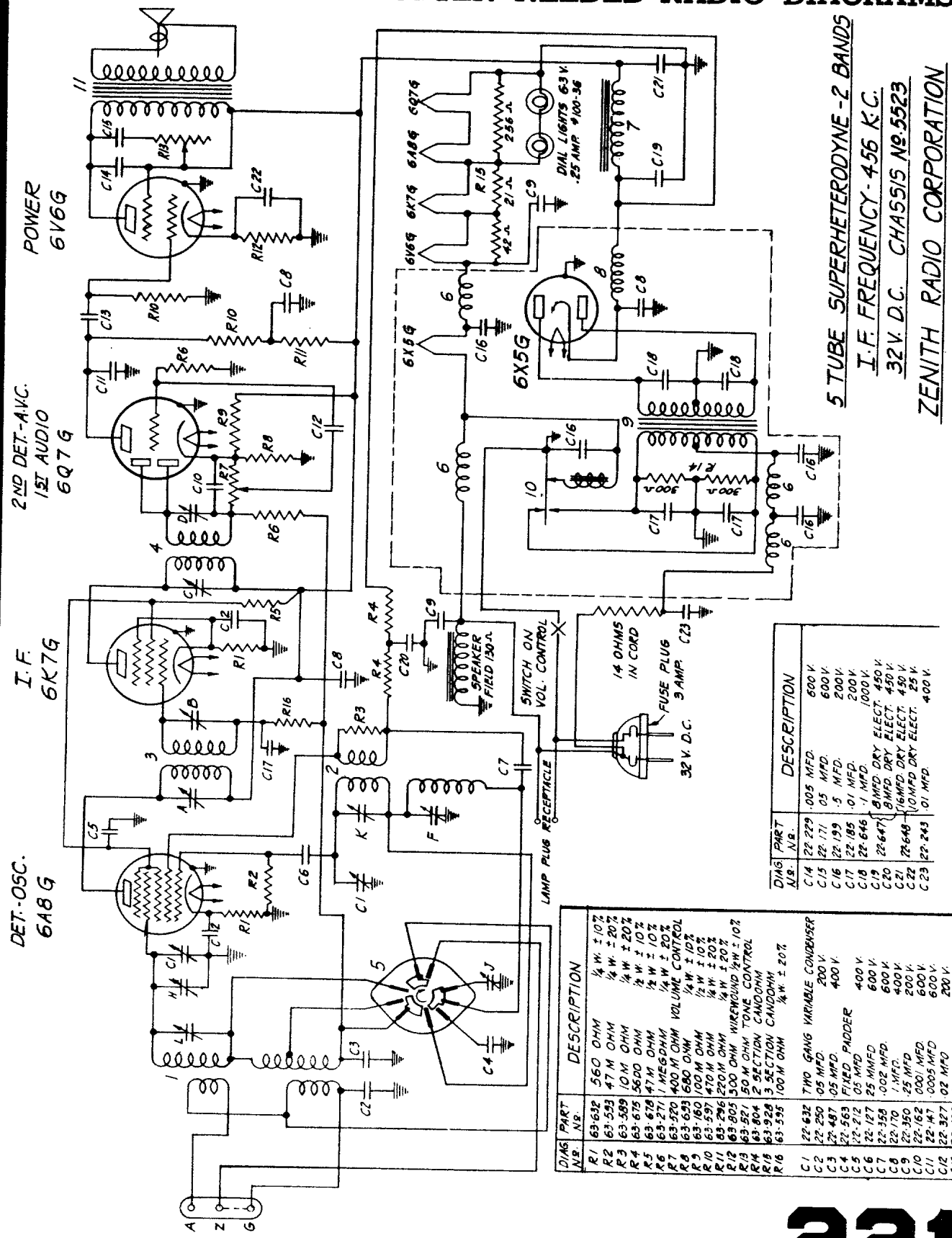
TRIMMERS F & K MOUNTED ON BAKELITE STRIP #22-408

DIAG Nº	PART Nº	DESCRIPTION
R1	63-593	47 M OHM 1/2 W ± 20%
R2	63-589	10 M OHM 1/4 W ± 20%
R3	63-610	22 M OHM 1 W ± 20%
R4	63-677	33 M OHM 1 W ± 10%
R5	63-271	1 MEGOHM 1/2 W ± 20%
R6	63-565	400 M OHM VOLUME CONTROL
R7	63-296	220 M OHM 1/2 W ± 20%
R8	63-597	470 M OHM 1/2 W ± 20%
R10	63-613	3 SECTION CANDOHM 50-60 Ω
R11	63-806	3 SECTION CANDOHM 25 Ω
1		WAVE TRAP COIL MOUNTED ON ANTENNA COIL ASSEMBLY
2	S-4934	ANT COIL & SHIELD ASSEMBLY
3	S-4909	OSCILLATOR COIL ASSEMBLY
4	95-407	1ST I.F. TRANSFORMER
5	95-408	2ND I.F. TRANSFORMER
6	85-104	BAND SELECTOR SWITCH
7	95-406	POWER TRANSFORMER 117 VOLT 50-60 CYCLE
8	95-452	POWER TRANSFORMER ALL VOLTAGE 25 CYCLE
9		SPEAKER TRANSFORMER

MODEL	SPEAKER	
5-S-218	49-178	5"
5-S-220	49-178	5"
5-S-228	49-178	5"
5-S-237	49-180	6"
5-S-250	49-179	8"
5-S-252	49-208	10"

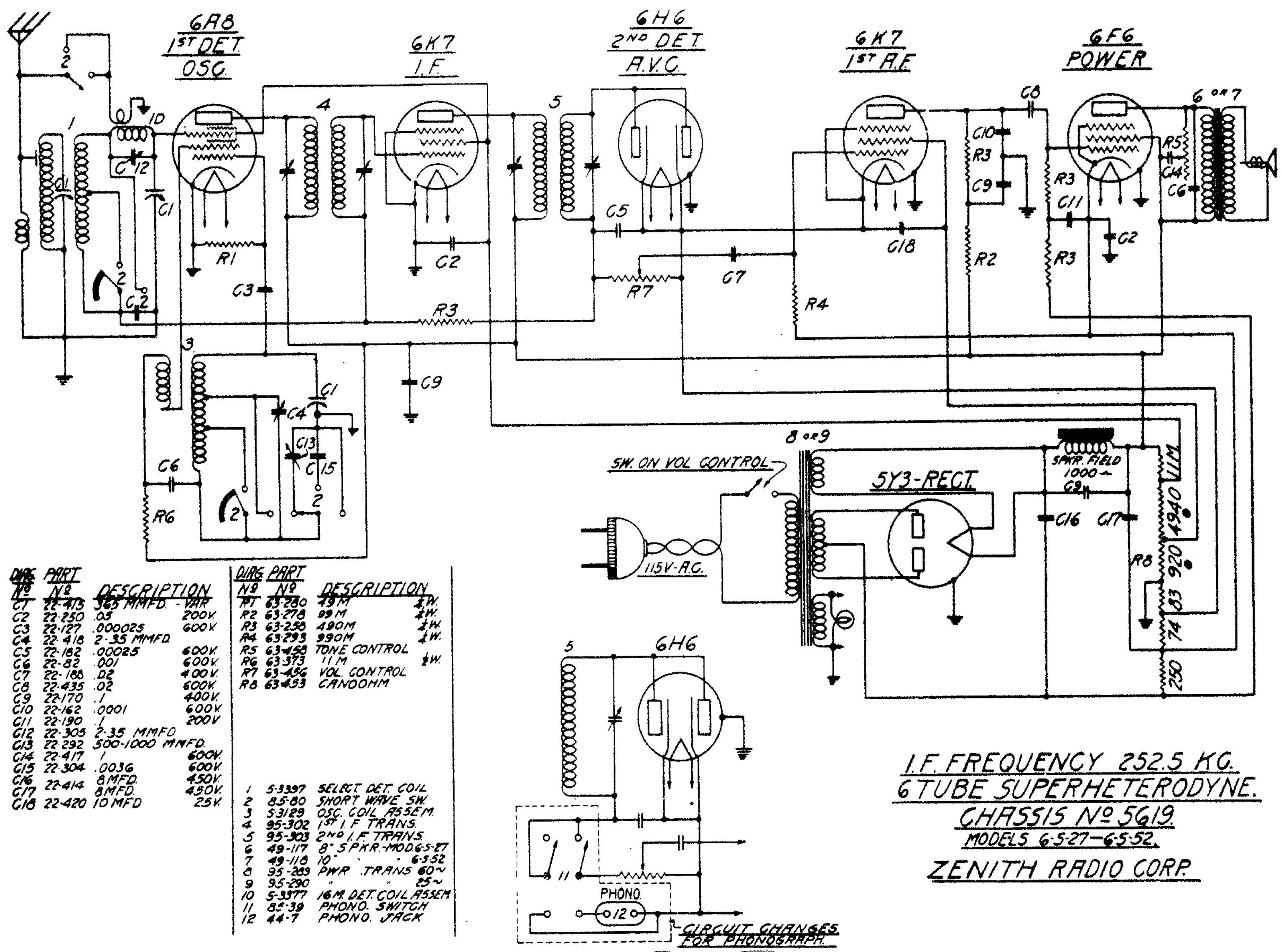
I.F.-FREQUENCY 456K.C.
5 TUBE SUPERHETERODYNE
2 BAND
CHASSIS Nº 5521

ZENITH RADIO CORP.



DIAG. NO.	PART NO.	DESCRIPTION
R1	63-632	560 OHM ¼ W. ± 10%
R2	63-553	47 M OHM ¼ W. ± 20%
R3	63-589	10 M OHM ¼ W. ± 20%
R4	63-675	5600 OHM ½ W. ± 10%
R5	63-678	47 M OHM ½ W. ± 10%
R6	63-271	1 MEGOHM ½ W. ± 20%
R7	63-520	400 M OHM VOLUME CONTROL
R8	63-653	680 OHM ¼ W. ± 10%
R9	63-160	100 M OHM ½ W. ± 10%
R10	63-597	470 M OHM ¼ W. ± 20%
R11	63-296	220 M OHM ¼ W. ± 20%
R12	63-805	300 OHM WIREWOUND ½W ± 10%
R13	63-521	50 M OHM TONE CONTROL
R14	63-804	2 SECTION CANDOHM
R15	63-928	3 SECTION CANDOHM
R16	63-555	100 M OHM ¼ W. ± 20%
C1	22-632	TWO GANG VARIABLE CONDENSER
C2	22-250	.05 MFD. 200 V.
C3	22-481	.05 MFD. 400 V.
C4	22-563	FIXED PADDER
C5	22-212	.05 MFD. 400 V.
C6	22-127	25 MMFD. 600 V.
C7	22-358	.002 MFD. 600 V.
C8	22-170	.1 MFD. 400 V.
C9	22-350	.25 MFD. 200 V.
C10	22-162	.0001 MFD. 600 V.
C11	22-147	.0005 MFD 600 V.
C12	22-327	.02 MFD 200 V.
C13	22-435	.02 MFD 600 V.

DIAG. NO.	PART NO.	DESCRIPTION
C14	22-229	.005 MFD. 600 V.
C15	22-171	.05 MFD. 600 V.
C16	22-139	.5 MFD. 200 V.
C17	22-185	.01 MFD. 200 V.
C18	22-646	.1 MFD. 1000 V.
C19	22-647	8 MFD. DRY ELECT. 450 V.
C20		8 MFD. DRY ELECT. 450 V.
C21	22-648	16 MFD. DRY ELECT. 450 V.
C22		10 MFD DRY ELECT. 25 V.
C23	22-243	.01 MFD. 400 V.



I.F. FREQUENCY 252.5 KC.
6 TUBE SUPERHETERODYNE.
CHASSIS No 5G19.
MODELS 6-5-27—6-5-52.
ZENITH RADIO CORP.

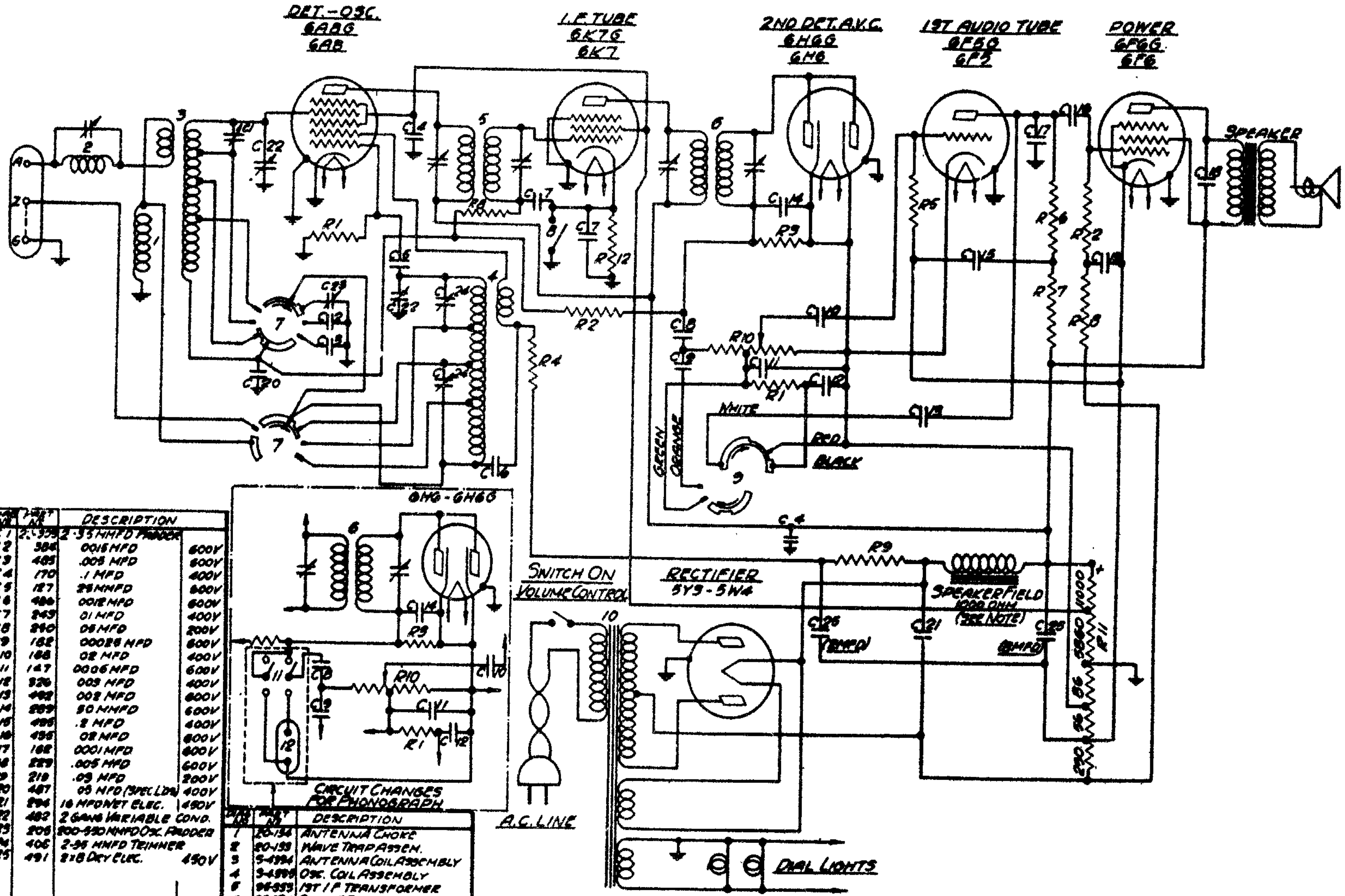
DIAG. No	PART No	DESCRIPTION	
C1	22-415	365 MMFD.	VAR
C2	22-250	.05	200V.
C3	22-127	.000025	600V.
C4	22-418	2-35 MMFD.	
C5	22-182	.00025	600V.
C6	22-82	.001	600V.
C7	22-188	.02	400V.
C8	22-435	.02	600V.
C9	22-170	.1	400V.
C10	22-162	.0001	600V.
C11	22-190	.1	200V.
C12	22-305	2-35 MMFD.	
C13	22-292	500-1000 MMFD.	
C14	22-417	.1	600V.
C15	22-304	.0036	600V.
C16	22-414	8 MFD.	450V.
C17	22-414	8 MFD.	450V.
C18	22-420	10 MFD.	25V.

DIAG. No	PART No	DESCRIPTION	
R1	63-280	49M	½W.
R2	63-278	99M	½W.
R3	63-258	490M	½W.
R4	63-293	990M	½W.
R5	63-458	TONE CONTROL	
R6	63-373	11M	½W.
R7	63-456	VOL. CONTROL	
R8	63-453	CANOOHM	

DIAG. No	PART No	DESCRIPTION
1	5-3397	SELECT. DET. COIL
2	85-80	SHORT WAVE SW.
3	5-3129	OSC. COIL ASSEM.
4	95-302	1ST I.F. TRANS.
5	95-303	2ND I.F. TRANS.
6	49-117	8" SPKR.-MOD. 6-5-27
7	49-118	10" " " 6-5-52
8	95-289	PWR. TRANS. 60~
9	95-290	" " 25~
10	5-3377	16M. DET. COIL ASSEM.
11	85-39	PHONO. SWITCH
12	44-7	PHONO. JACK

 COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Models 6-S-128, 6-S-137, 6-S-147, 6-S-152, 6-S-157. (Chassis No. 5634)



DIAG. NO.	PART NO.	DESCRIPTION	
C1	22-355	2-35 MMFD PADDER	
C2	384	.0015 MFD	600V
C3	485	.005 MFD	600V
C4	170	.1 MFD	400V
C5	127	25 MMFD	600V
C6	486	.0012 MFD	600V
C7	243	.01 MFD	400V
C8	210	.05 MFD	200V
C9	162	.00025 MFD	600V
C10	166	.02 MFD	400V
C11	147	.0006 MFD	600V
C12	326	.003 MFD	400V
C13	492	.002 MFD	600V
C14	289	50 MMFD	600V
C15	486	.2 MFD	400V
C16	456	.02 MFD	600V
C17	162	.0001 MFD	600V
C18	229	.005 MFD	600V
C19	219	.05 MFD	200V
C20	487	.05 MFD (SPEC. LDG)	400V
C21	294	16 MFD WET ELEC.	490V
C22	482	2 GANG VARIABLE COND.	
C23	205	200-550 MMFD OSC. PADDER	
C24	406	2-35 MMFD TRIMMER	
C25	491	8x8 DRY ELEC.	450V
R1	63-280	49 M OHMS	½ W
R2	295	990 M OHMS	½ W
R3	481	400 M OHMS	½ W
R4	279	11 M OHMS	½ W
R5	629	2 MEGOHM	½ W
R6	288	490 M OHMS	¼ W
R7	276	190 M OHMS	¼ W
R8	278	99 M OHMS	¼ W
R9	963	19 M OHMS	½ W
R10	922	2 MEGOHM VOL. CONTROL & SW	
R11	919	CANDOHM RESISTOR	
R12	261	9900 OHMS	¼ W

DIAG. NO.	PART NO.	DESCRIPTION
1	20-136	ANTENNA CHOKE
2	20-133	WAVE TRAP ASSEM.
3	S-4394	ANTENNA COIL ASSEMBLY
4	S-4396	OSC. COIL ASSEMBLY
5	95-553	1ST I.F. TRANSFORMER
6	95-554	2ND I.F. TRANSFORMER
7	85-90	BAND SELECT SWITCH
8	85-91	SENSITIVITY CONTROL
9	85-92	TONE CONTROL SWITCH
10	95-285	POWER TRANS. 115V-50-60 CYCLE
	95-290	POWER TRANS. 25 CYCLE ALL VOLT
11	85-89	PHONO. SWITCH
12	44-7	PHONO. JACK

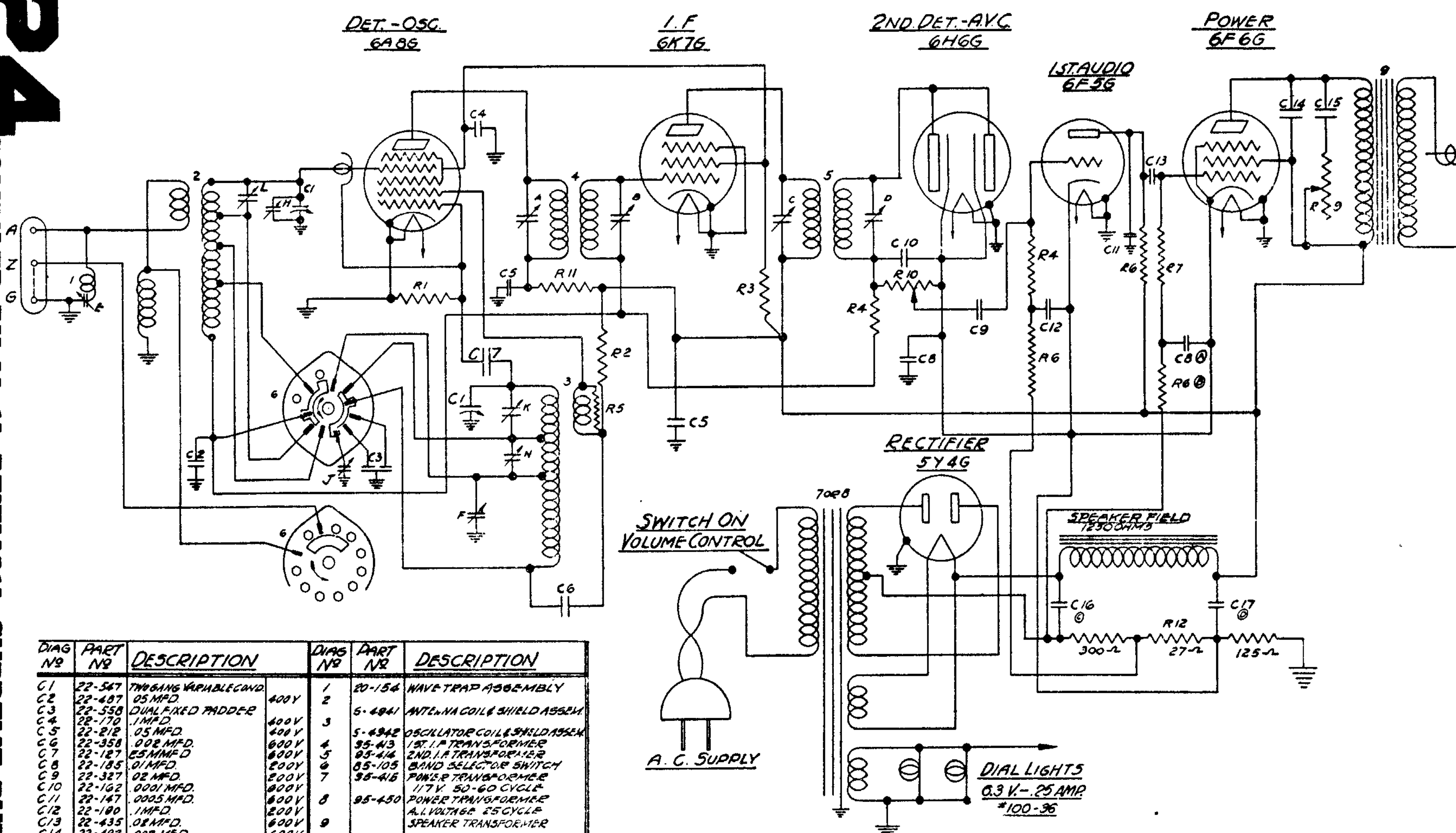
NOTE: — #22-519 16 MFD. DRY ELEC. REPLACE #22-294 WET ELEC. IN MODEL 6S-147 END TABLE

SPEAKERS	MODELS
49-117-8"	6S-128
	6S-137
49-118-10"	6S-147
	6S-152
	6S-157

I.F. FREQUENCY 456 K.C.
6 TUBE SUPERHETERODYNE - 3 BAND
CHASSIS NO 5634

ZENITH RADIO CORPORATION
CHICAGO, ILLINOIS

Models 6-S-203, 6-S-222, 6-S-223, 6-S-229, 6-S-239, 6-S-241 (5638 Chassis)



I.F. FREQUENCY 456 K.C.
6 TUBE SUPERHETERODYNE - 3 BANDS
CHASSIS № 5638

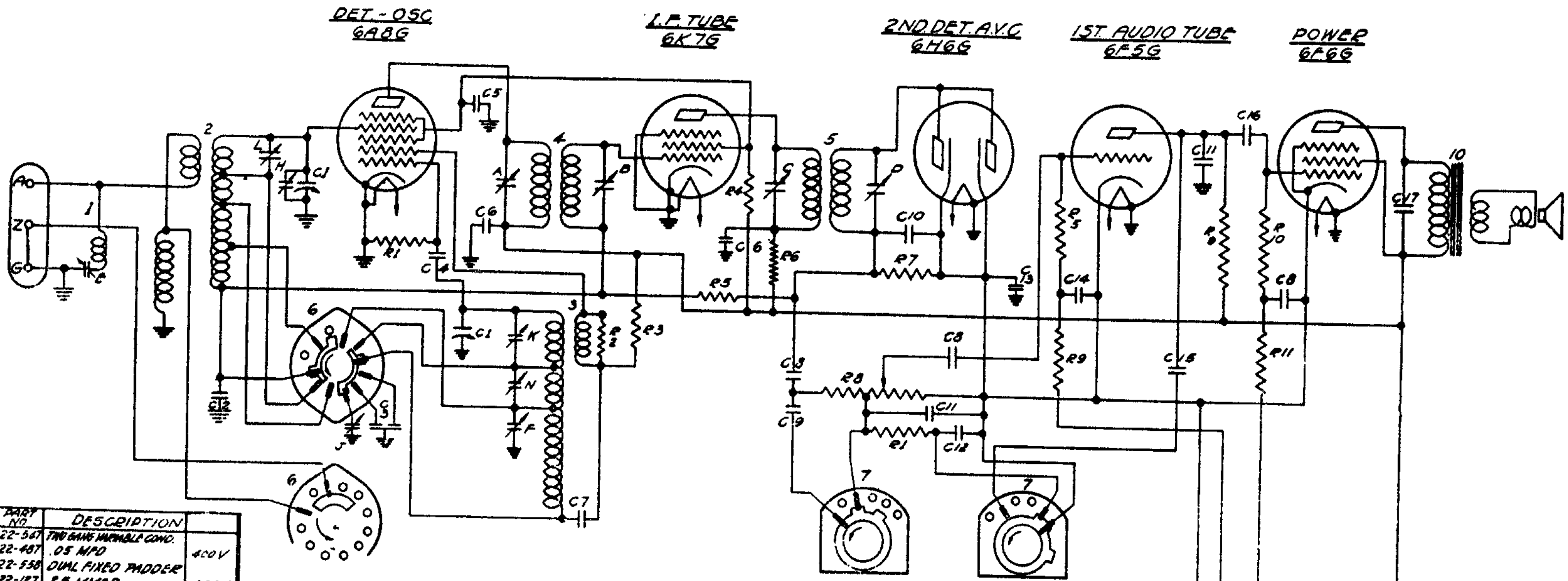
ZENITH RADIO CORPORATION

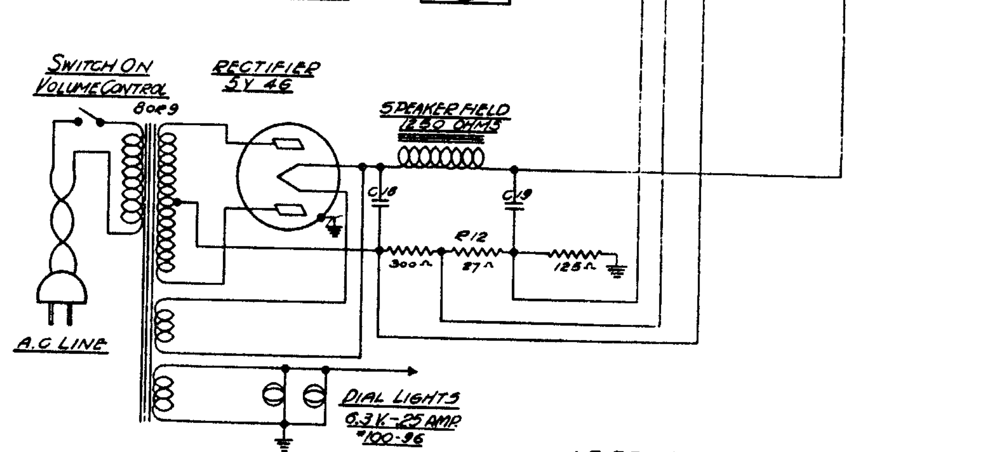
DIAG №	PART №	DESCRIPTION	
C1	22-547	TWO GANG VARIABLE COND.	
C2	22-487	.05 MFD.	400V
C3	22-558	DUAL FIXED PADDER	
C4	22-170	.1 MFD.	400V
C5	22-212	.05 MFD.	400V
C6	22-358	.002 MFD.	600V
C7	22-127	25 MMFD	600V
C8	22-185	.01 MFD.	200V
C9	22-327	.02 MFD.	200V
C10	22-162	.0001 MFD.	600V
C11	22-147	.0005 MFD.	600V
C12	22-180	.1 MFD.	200V
C13	22-435	.02 MFD.	600V
C14	22-492	.002 MFD.	600V
C15	22-171	.05 MFD	600V
C16	22-596	8 MFD DRY ELECTROLYTIC	450V
C17	22-596	16 MFD DRY ELECTROLYTIC	450V
R-1	63-593	47M OHMS	¼W ± 20
R-2	63-680	10M OHMS	1W ± 20
R-3	63-677	33M OHMS	1W ± 10
R-4	63-271	1 MEGOHMS	¼W ± 20
R-5	63-587	4700 OHMS	¼W ± 20
R-6	63-296	220M OHMS	¼W ± 20
R-7	63-597	470M OHMS	¼W ± 20
R-9	63-521	50M OHMS TONE CONTR.	
R-10	63-520	400M OHMS VOLUME CONT.	
R-11	63-605	1000 OHMS	¼W ± 20
R-12	63-613	3 SECTION CANDOHM	

DIAG №	PART №	DESCRIPTION
1	20-154	WAVE TRAP ASSEMBLY
2	S-4941	ANTENNA COIL & SHIELD ASSEM.
3	S-4942	OSCILLATOR COIL & SHIELD ASSEM.
4	95-413	1ST. I.F. TRANSFORMER
5	95-414	2ND. I.F. TRANSFORMER
6	85-105	BAND SELECTOR SWITCH
7	95-416	POWER TRANSFORMER 117V. 50-60 CYCLE
8	95-450	POWER TRANSFORMER A.L. VOLTAGE 25 CYCLE
9		SPEAKER TRANSFORMER
		VARIABLE TRIMMERS
A		1ST. I.F. TRANSF. PRIMARY
B		1ST I.F. TRANSF. SECONDARY
C		2ND. I.F. TRANSF. PRIMARY
D		2ND I.F. TRANSF. SECONDARY
E		WAVE TRAP
F		BROADCAST OSCILLATOR (SEE NOTE)
H		ANT. BROADCAST - ON GANG
J	22-519	BROADCAST PADDER
K		SHORT WAVE OSCILLAT. (SEE NOTE)
L	22-305	SHORT WAVE DETECTOR
N		POLICE BAND OSCILLATOR (SEE NOTE)

 COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Models 6-S-254, 6-S-256 (5644 Chassis)





DIAG NO	PART NO	DESCRIPTION	
C1	22-567	TWO GANG VARIABLE COND.	
C2	22-487	.05 MFD	400V
C3	22-558	DUAL FIXED PADDER	
C4	22-127	25 MMFD	600V
C5	22-170	1 MFD	400V
C6	22-212	.05 MFD	400V
C7	22-358	002 MFD	600V
C8	22-327	02 MFD	200V
C9	22-182	00025 MFD	600V
C10	22-162	0001 MFD	600V
C11	22-147	0005 MFD	600V
C12	22-326	003 MFD	400V
C13	22-185	01 MFD	200V
C14	22-190	1 MFD	200V
C15	22-448	004 MFD	600V
C16	22-435	02 MFD	600V
C17	22-492	.002 MFD	600V
C18	22-551	16 MFD ELECTROL COND	400V
C19	22-552	20 MFD ELECTROL COND.	300V
R-1	63-593	47 M OHM	1/4W ±20
R-2	63-587	4700 OHM	1/4W ±20
R-3	63-680	10 M OHM	1W ±20
R-4	63-677	33 M OHM	1W ±10
R-5	63-271	1 MEGOHM	1/4W ±20
R-6	63-605	1000 OHM	1/2W ±20
R-7	63-658	390 M OHM	1/4W ±10
R-8	63-799	2 MEGOHM VOLUME CONTROL	
R-9	63-296	220 M OHM	1/4W ±20
R-10	63-597	470 M OHM	1/4W ±20
R-11	63-325	150 M OHM	1/4W ±20
R-12	63-613	3 SECTION CANDOHM	
1	20-154	WAVE TRAP ASSEMBLY	
2	S-5073	ANT COIL & SHIELD ASSEM	
3	S-5074	OSCIL COIL & SHIELD ASSEM.	
4	95-416	1ST. I.F. TRANSFORMER	
5	95-417	2ND I.F. TRANSFORMER	
6	85-113	BAND SELECTOR SWITCH	
7	85-108	TONE CONTROL SWITCH	
8	95-438	POWER TRANSF 117V 50-60 CYCLE	
9	95-456	POWER TRANSF ALLVOLT 25 CYCLE	
10		SPEAKER TRANSFORMER	

DIAG NO	PART NO	DESCRIPTION
		VARIABLE TRIMMERS
A		1ST I.F. TRANSF PRIMARY
B		1ST I.F. TRANSF SECONDARY
C		2ND I.F. TRANSF PRIMARY
D		2ND I.F. TRANSF SECONDARY
E		WAVE TRAP
F		BROADCAST OSCIL. (SEE NOTE)
H		ANTENNA BROADCAST (ON GANG)
J	22-519	BROADCAST PADDER
K		SHORT WAVE OSCIL (SEE NOTE)
L	22-305	SHORT WAVE DETECTOR
N		POLICE BAND OSCIL. (SEE NOTE)

NOTE:
TRIMMERS F-K & N
MOUNTED ON BAKELITE
STRIP PART NO 22-324

SPEAKERS	MODELS
49-208-10"	6-S-254
49-181-10"	6-S-256

I.F. FREQUENCY 456 K.C.
6 TUBE SUPERHETERODYNE - 3 BAND
CHASSIS No 5644

ZENITH RADIO CORPORATION

ZENITH

226

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

3 BAND { 550 KC. - 1780 KC. / 2100 KC. - 6800 KC. / 7000 KC. - 23000 KC. }

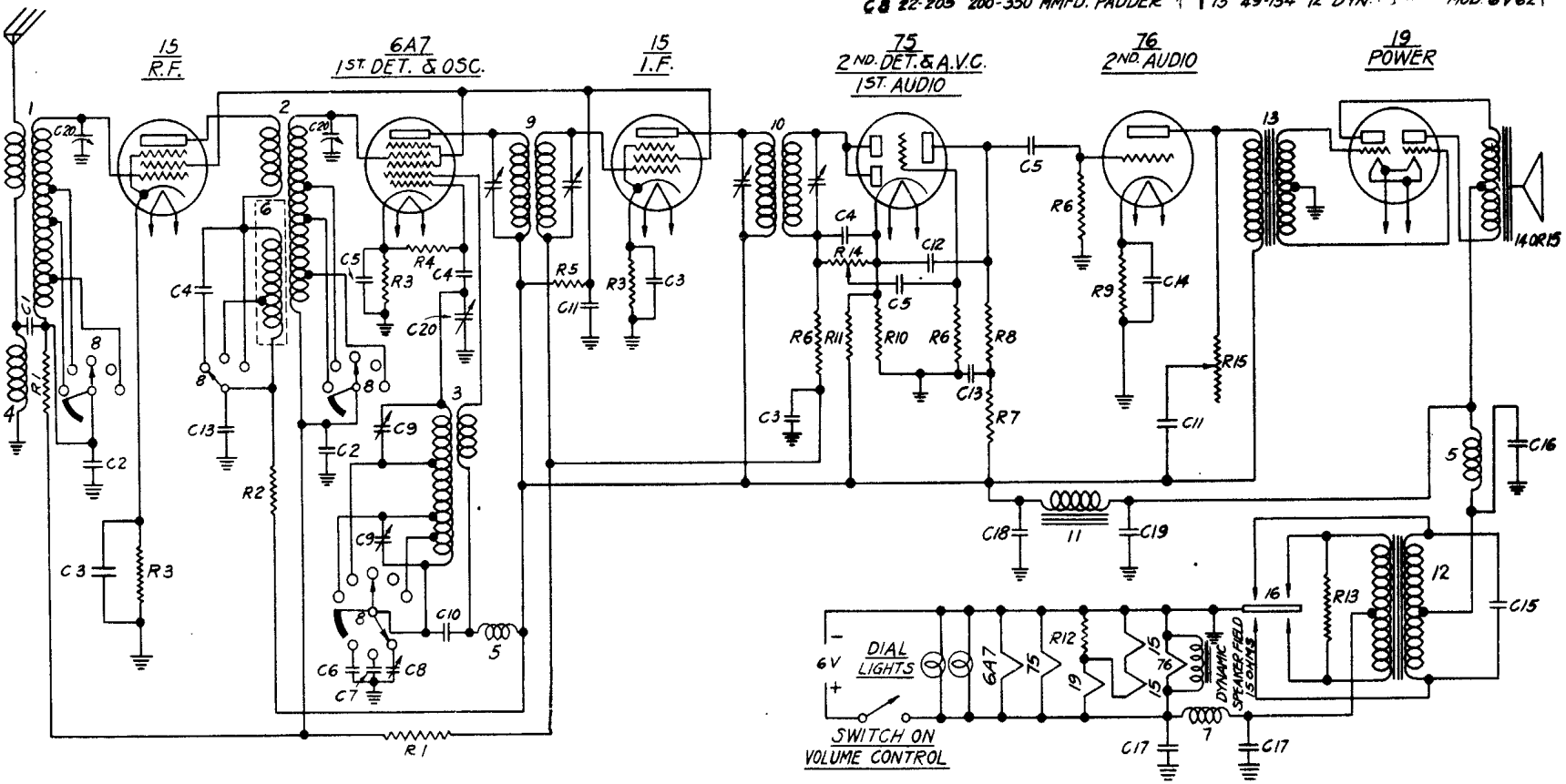
I.F. FREQUENCY 456 KC.
6 TUBE BATTERY SUPERHETERODYNE
CHASSIS Nº 5621

MODELS - 6V27, 6V62

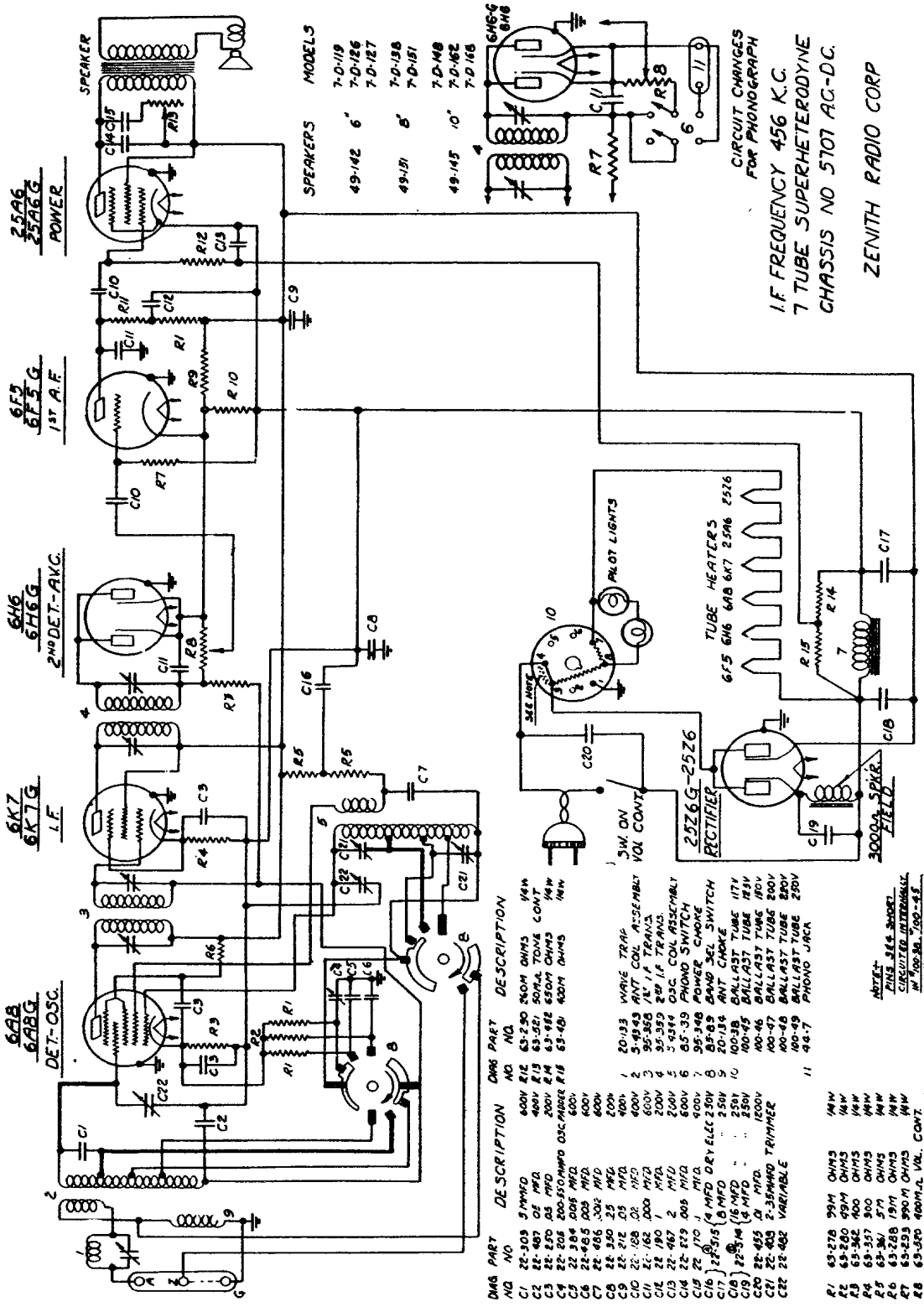
ZENITH RADIO CORP.

DIAG. NO.	PART NUMBER	DESCRIPTION		
R1	63-278	99 M	OHMS	1/4 W.
R2	63-361	5 M	"	1/4 W.
R3	63-362	400	"	1/4 W.
R4	63-280	49 M	"	1/4 W.
R5	63-353	19 M	"	1/2 W.
R6	63-293	990 M	"	1/4 W.
R7	63-290	260 M	"	1/4 W.
R8	63-258	490 M	"	1/4 W.
R9	63-272	4 M	"	1/4 W.
R10	63-238	1 M	"	1/4 W.
R11	63-260	100 M	"	1/4 W.
R12	63-477	100	FLEXIBLE WIRE WOUND	
R13	63-394	200	OHMS	1/2 W.
R14	63-456	200 M	VOL. CONTROL & SWITCH	
R15	63-458	50 M	TONE CONTROL	
C1	22-243	.01	MFD.	400 V.
C2	22-410	.003	"	600 V.
C3	22-250	.05	"	200 V.
C4	22-289	50	MMFD.	600 V.
C5	22-188	.02	MFD.	400 V.
C6	22-411	.0023	"	600 V.
C7	22-345	.0011	"	600 V.
C8	22-203	200-350	MMFD. PADDER	

DIAG. NO.	PART NUMBER	DESCRIPTION		
C9	22-408	2-35	MMFD. PADDER	
C10	22-82	.001	MFD.	600 V.
C11	22-212	.05	"	400 V.
C12	22-182	.00025	"	600 V.
C13	22-224	.1	"	300 V.
C14	22-225	.5	"	25 V.
C15	22-437	.01	"	1400 V.
C16	22-228	.5	"	300 V.
C17	22-251	.5	"	200 V.
C18, C19	22-432	8 / 2	"	250 V
C20	22-409	456	MMF. VAR. COND.	
1	5-3697	ANT. COIL ASSEM.		
2	5-3698	DET. COIL ASSEM.		
3	5-3699	OSC. COIL ASSEM.		
4	20-82	ANT. CHOKE		
5	20-88	R.F. CHOKE		
6	20-119	R.F. PLATE CHOKE		
7	5-2778	R.F. CHOKE		
8	85-78	BAND SELECTOR SWITCH		
9	95-291	1ST. I.F. TRANS.		
10	95-292	2ND. I.F. TRANS.		
11	95-298	POWER CHOKE		
12	95-305	RECTIFIER TRANS.		
13	95-311	AUDIO TRANS.		
14	49-132	8" MAG. SPEAKER	MOD. 6V27	
15	49-134	12" DYN. "	MOD. 6V62	

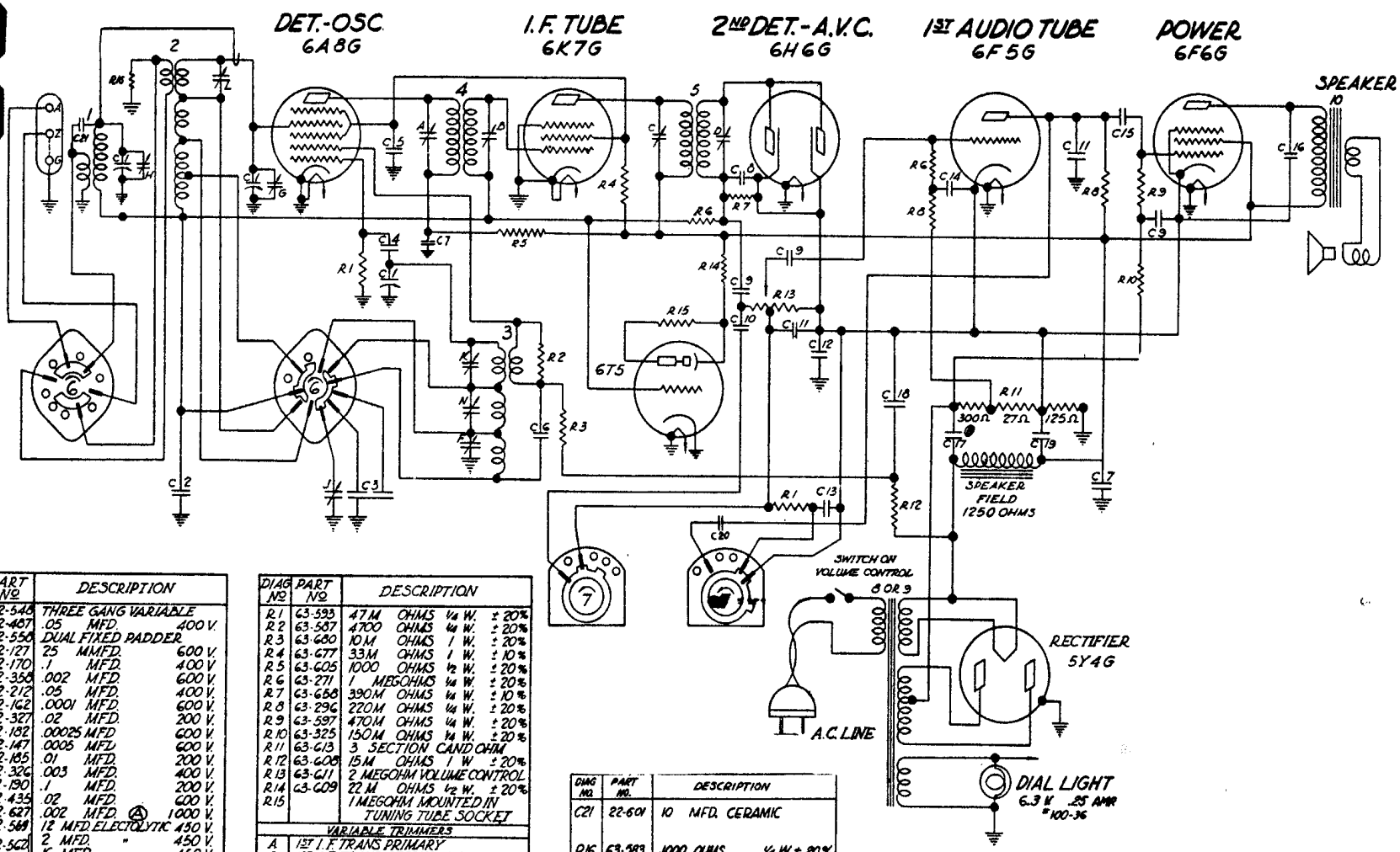


CIRCUIT DIAGRAM—Models 7-D-119, 7-D-126, 7-D-127, 7-D-138, 7-D-151, 7-D-148, 7-D-162, 7-D-168. (Chassis No. 5707)



DWG NO	PART NO	DESCRIPTION	DWG NO	PART NO	DESCRIPTION
C1	22-309	.5 MMFD 400V	R12	63-290	750M OHMS 1/4W
C2	22-487	.05 MFD 400V	R13	63-321	50M Ω TONE CONT.
C3	22-150	.05 MFD 200V	R14	63-482	650M OHMS 1/4W
C4	22-208	200-350 MMFD OSC. PADDER	R15	63-481	400M OHMS 1/4W
C5	22-384	.006 MFD 600V			
C6	22-485	.009 MFD 600V			
C7	22-486	.002 MFD 600V			
C8	22-330	.25 MFD 200V	1	20-133	WAVE TRAP
C9	22-212	.03 MFD 400V	2	5-49-43	ANT COIL ASSEMBLY
C10	22-188	.02 MFD 400V	3	95-368	1ST I.F. TRANS.
C11	22-162	.000 MFD 600V	4	95-369	2ND I.F. TRANS.
C12	22-190	.1 MFD 200V	5	5-49-14	OSC. COIL ASSEMBLY
C13	22-467	.2 MFD 200V	6	85-39	PHONO SWITCH
C14	22-229	.005 MFD 600V	7	95-348	POWER CHOKE
C15	22-170	.1 MFD 400V	8	85-89	BAND SEL. SWITCH
C16	22-515	.4 MFD DRY ELEC 250V	9	20-134	ANT CHOKE
C17	22-514	.8 MFD " " 250V	10	100-38	BALLAST TUBE 117V
C18	22-514	.8 MFD " " 250V		100-45	BALLAST TUBE 115V
C19	22-455	.1 MFD " " 1200V		100-46	BALLAST TUBE 105V
C20	22-455	.1 MFD " " 1200V		100-47	BALLAST TUBE 200V
C21	22-408	2-35 MMFD TRIMMER		100-48	BALLAST TUBE 230V
C22	22-482	VARIABLE	11	44-7	PHONO JACK
R1	63-278	99M OHMS 1/4W			
R2	63-280	499M OHMS 1/4W			
R3	63-342	400 OHMS 1/4W			
R4	63-337	900 OHMS 1/4W			
R5	63-341	571 OHMS 1/4W			
R6	63-288	1971 OHMS 1/4W			
R7	63-293	990 M OHMS 1/4W			
R8	63-320	400M Ω VOL. CONT. 1/4W			
R9	63-442	50M OHMS 1/4W			
R10	63-318	530 OHMS 1/4W			
R11	63-376	180M OHMS 1/4W			

Models 7-S-204, 7-S-232, 7-S-240, 7-S-242, 7-S-258, 7-S-260, 7-S-261 (5709 Chassis)



DIAG Nº	PART Nº	DESCRIPTION
C1	22-548	THREE GANG VARIABLE
C2	22-487	.05 MFD. 400 V.
C3	22-556	DUAL FIXED PADDER
C4	22-127	25 MMFD. 600 V.
C5	22-170	.1 MFD. 400 V
C6	22-358	.002 MFD. 600 V.
C7	22-212	.05 MFD. 400 V.
C8	22-162	.0001 MFD. 600 V.
C9	22-327	.02 MFD. 200 V.
C10	22-182	.00025 MFD. 600 V.
C11	22-147	.0005 MFD. 600 V.
C12	22-185	.01 MFD. 200 V.
C13	22-326	.003 MFD. 400 V.
C14	22-190	.1 MFD. 200 V.
C15	22-435	.02 MFD. 600 V.
C16	22-627	.002 MFD. Ⓐ 1000 V.
C17	22-569	12 MFD ELECTROLYTIC 450 V.
C18	22-562	2 MFD. " 450 V.
C19		16 MFD. " 450 V.
C20	22-448	.004 MFD. 600 V.
1	3-4780	ANTENNA COIL ASSEMBLY
2		
3	3-5054	DETECTOR COIL & SHIELD ASSEM.
4	3-4969	OSCILLATOR COIL & SHIELD ASSEM.
5	95-416	1ST I.F. TRANS.
6	95-417	2ND I.F. TRANS.
7	85-110	BAND SELECTOR SWITCH
8	85-108	TONE CONTROL SWITCH
9	95-418	POWER TRANS - 117 V. 50-60 CYCLE
10	95-451	POWER TRANS - ALL VOLTAGE 50 CYCLE
		SPEAKER TRANSFORMER

DIAG Nº	PART Nº	DESCRIPTION
R1	63-593	47 M OHMS 1/2 W. ± 20%
R2	63-587	4700 OHMS 1/2 W. ± 20%
R3	63-680	10 M OHMS 1 W. ± 20%
R4	63-677	33 M OHMS 1 W. ± 10%
R5	63-605	1000 OHMS 1/2 W. ± 20%
R6	63-271	1 MEGOHMS 1/2 W. ± 20%
R7	63-688	390 M OHMS 1/2 W. ± 10%
R8	63-296	220 M OHMS 1/2 W. ± 20%
R9	63-597	470 M OHMS 1/2 W. ± 20%
R10	63-325	150 M OHMS 1/2 W. ± 20%
R11	63-613	3 SECTION CAND OHM
R12	63-605	15 M OHMS 1 W ± 20%
R13	63-611	2 MEGOHM VOLUME CONTROL
R14	63-609	22 M OHMS 1/2 W. ± 20%
R15		1 MEGOHM MOUNTED IN TUBE SOCKET

VARIABLE TRIMMERS

A	1ST I.F. TRANS PRIMARY
B	1ST I.F. TRANS SECONDARY
C	2ND I.F. TRANS PRIMARY
D	2ND I.F. TRANS SECONDARY
F	BROADCAST OSCILLATOR (SEE NOTE)
G	DETECTOR BROADCAST (ON GANG)
H	ANTENNA BROADCAST (ON GANG)
J	*22-519 BROADCAST PADDER
K	SHORT WAVE OSCILLATOR (SEE NOTE)
L	SHORT WAVE DETECTOR (SEE NOTE)
N	POLICE BAND OSCILLATOR (SEE NOTE)

NOTE:- TRIMMERS F, K, L, & N MOUNTED ON BAKELITE STRIP *22-549

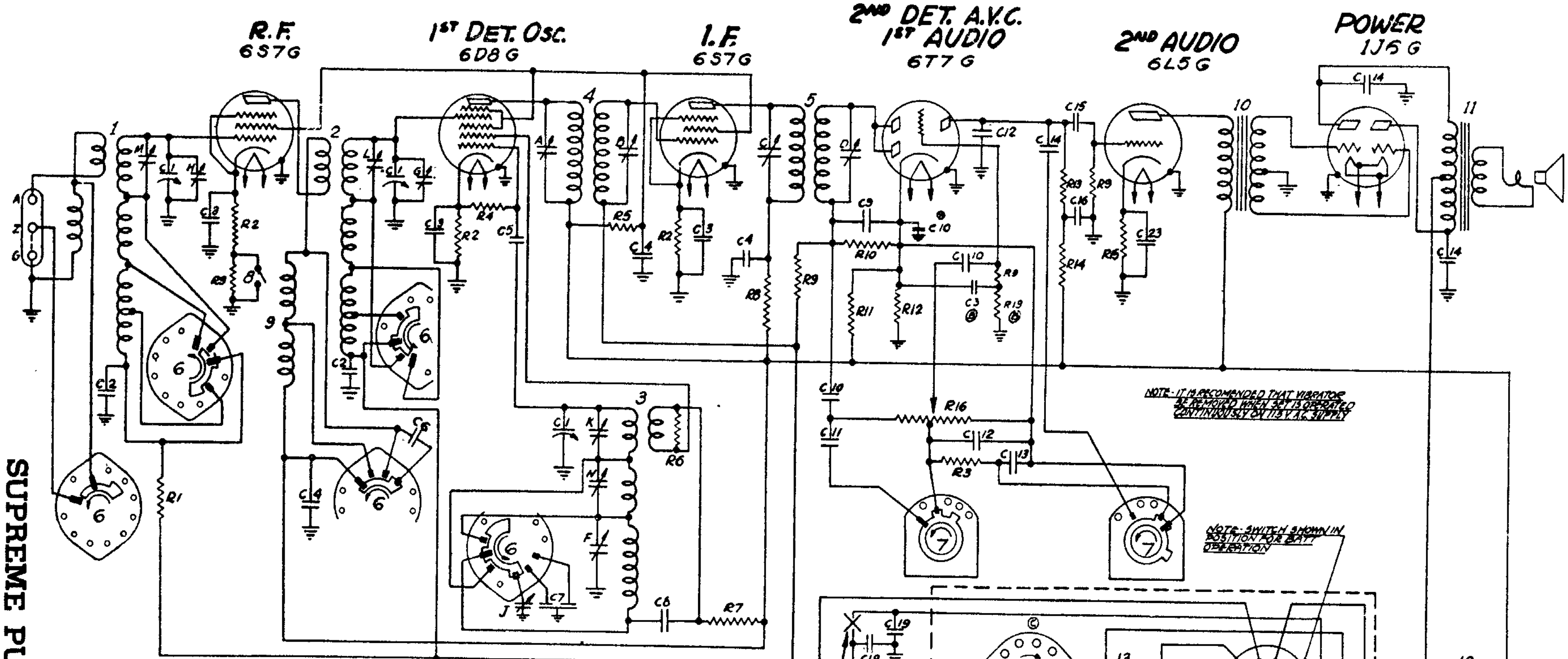
DIAG NO.	PART NO.	DESCRIPTION
C21	22-601	10 MFD. CERAMIC
R16	63-583	3000 OHMS 1/4 W ± 20%

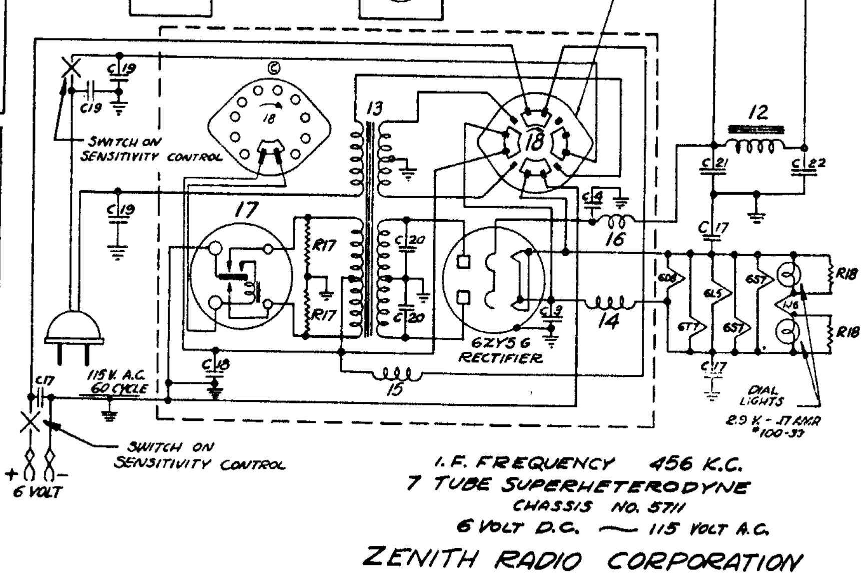
SPEAKERS		MODELS
49-203	8"	7-S-232
49-206	8"	7-S-240
49-206	8"	7-S-242
49-181	10"	7-S-258
49-195	12"	7-S-260
49-195	12"	7-S-261

I.F. - FREQUENCY 456 K.C.
7 TUBE SUPERHETERODYNE
3 BAND
CHASSIS Nº 5709

ZENITH RADIO CORP.

Models 7-J-232, 7-J-259 (5711 Chassis)



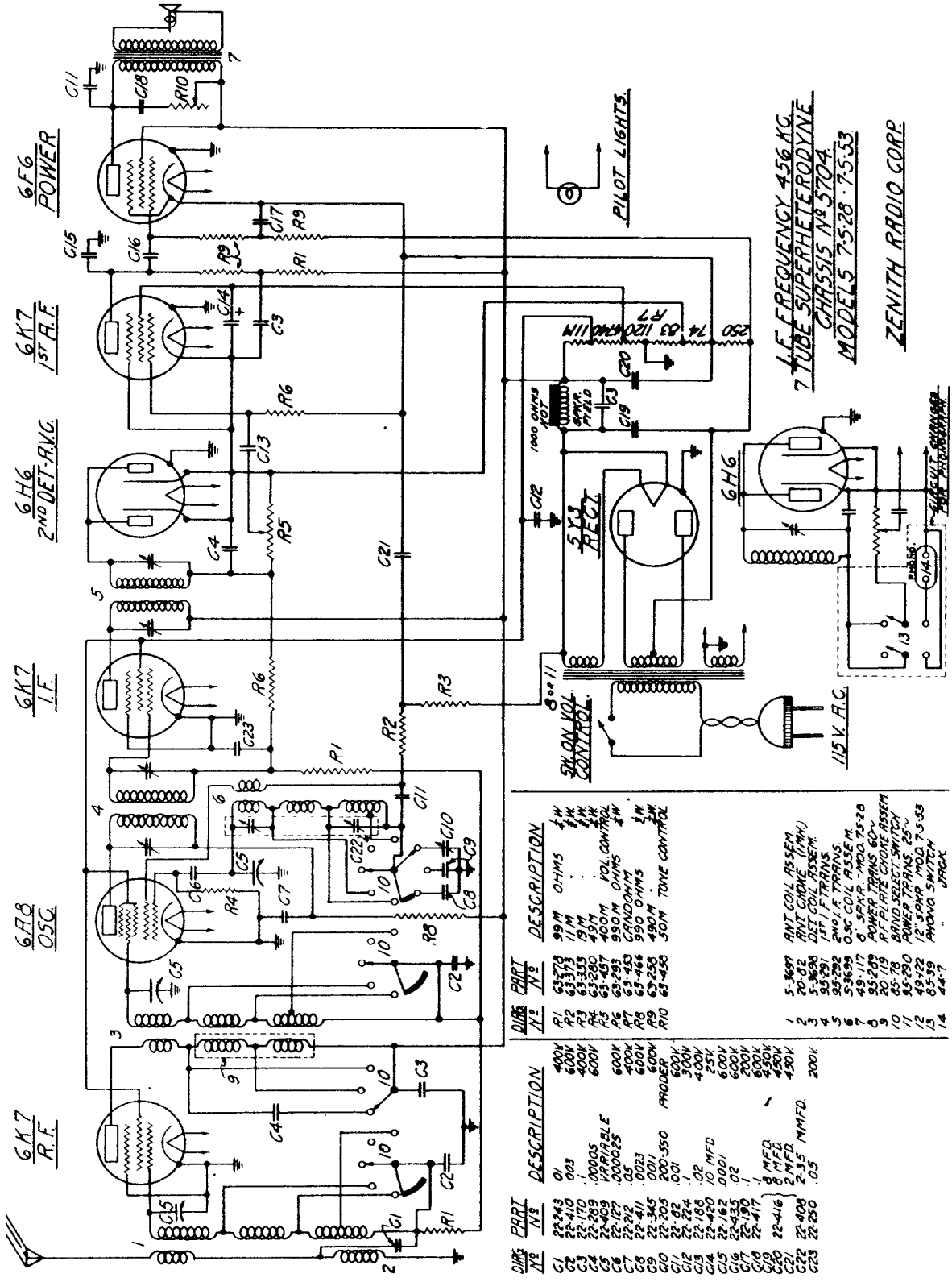


I.F. FREQUENCY 456 K.C.
7 TUBE SUPERHETERODYNE
CHASSIS NO. 5711
6 VOLT D.C. — 115 VOLT A.C.
ZENITH RADIO CORPORATION

DIAG. NO.	PART NO.	DESCRIPTION
11		SPEAKER TRANS. (ON SPEAKER)
12	95-298	POWER CHOKE
13	95-425	POWER TRANSFORMER
14	S-2778	R.F. CHOKE ASSEMBLY
15	S-5043	R.F. CHOKE ASSEMBLY
16	20-82	R.F. CHOKE
17	190-11	VIBRATOR
18	85-125	POWER SWITCH

DIAG. NO.	PART NO.	DESCRIPTION	
C1	22 548	THREE GANG VARIABLE	
C2	22 487	.05 MFD.	400 V.
C3	22 250	.05 MFD.	200 V.
C4	22 212	.05 MFD.	400 V.
C5	22 289	50 MMFD.	600 V.
C6	22 127	25 MMFD.	600 V.
C7	22 558	DUAL FIXED PADDER	
C8	22 358	.002 MFD.	600 V.
C9	22 162	.0001 MFD.	600 V.
C10	22 327	.02 MFD.	200 V.
C11	22 182	.00025 MFD.	600 V.
C12	22 147	.0005 MFD.	600 V.
C13	22 229	.005 MFD.	600 V.
C14	22 492	.002 MFD.	600 V.
C15	22 188	.02 MFD.	400 V.
C16	22 170	.1 MFD.	400 V.
C17	22 350	.25 MFD.	200 V.
C18	22 199	.5 MFD.	200 V.
C19	22 435	.02 MFD.	600 V.
C20	22 574	.02 MFD.	600 V.
C21	22 577	8 MFD. ELECTROLYTIC	250
C22		8 MFD. "	250 V.
C23		10 MFD. "	25 V.
R1	63 595	100 M OHM	1/4 W ± 20
R2	63 632	560 OHM	1/4 W ± 10
R3	63 593	47 M OHM	1/4 W ± 20

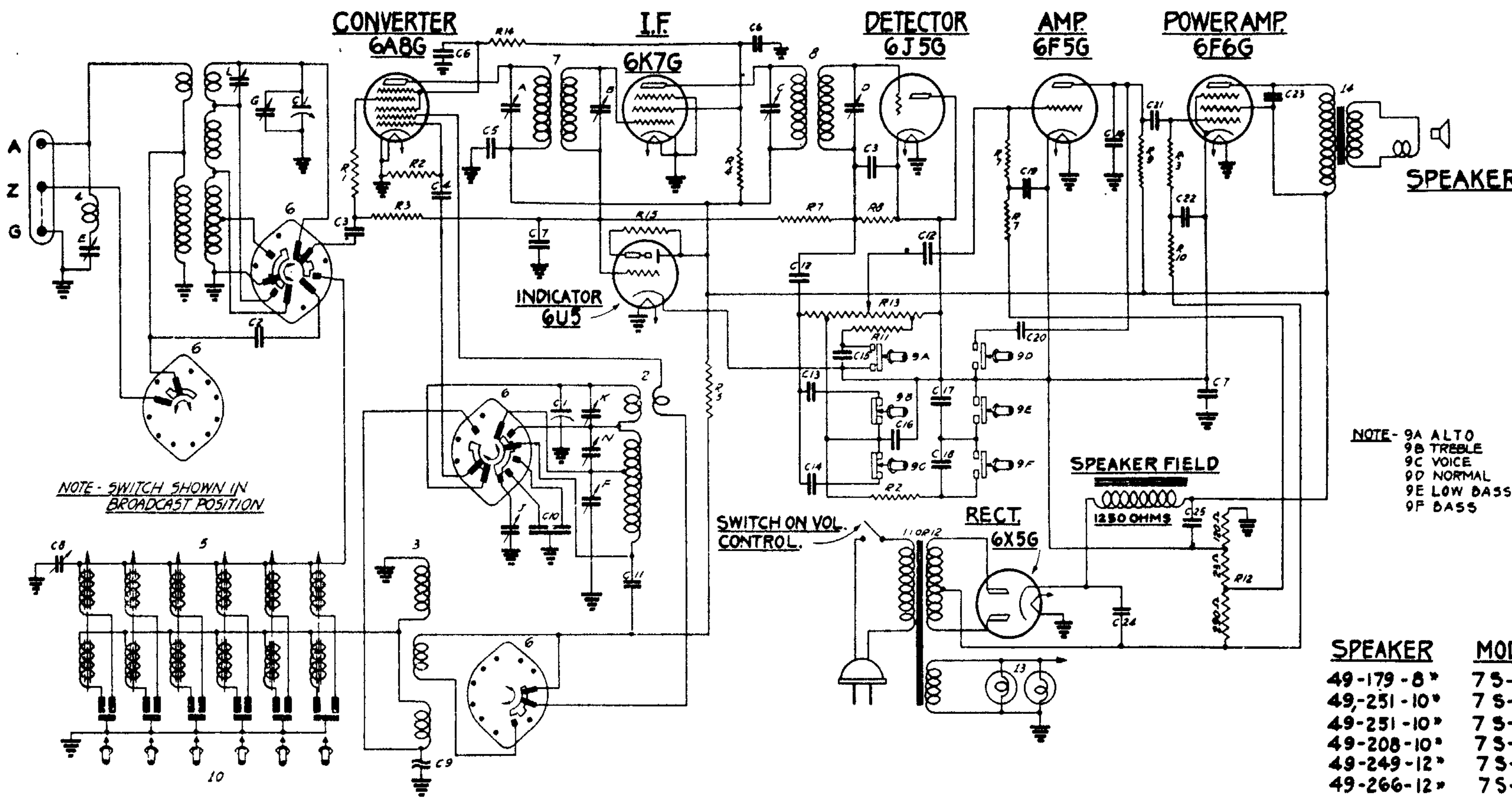
DIAG. NO.	PART NO.	DESCRIPTION	
R4	63-648	47 M OHM	1/4 W ± 10
R5	63-678	47 M OHM	1/2 W ± 10
R6	63-589	10 M OHM	1/4 W ± 20
R7	63-796	10 M OHM	1/2 W ± 10
R8	63-605	1000 OHM	1/2 W ± 20
R9	63-271	1 MEGOHM	1/4 W ± 20
R10	63-658	390 M OHM	1/4 W ± 10
R11	63-160	100 M OHM	1/2 W ± 10
R12	63-634	820 OHM	1/4 W ± 10
R13	63-597	470 M OHM	1/4 W ± 20
R14	63-656	270 M OHM	1/4 W ± 10
R15	63 797	2200 OHM	1/2 W ± 10
R16	63 568	2 MEGOHM VOLUME CONTROL	
R17	63 577	100 OHM	1/4 W ± 20
R18	63 801	21 OHM (WIREWOUND)	1/2 W ± 5
R19	63 596	330 M OHM	1/4 W ± 20
1	S-5017	ANT. COIL & SHIELD ASSEM.	
2	S-5018	DET. COIL & SHIELD ASSEM.	
3	S-5163	OSC. COIL & SHIELD ASSEM.	
4	95-416	1ST. I.F. TRANSFORMER	
5	95-417	2ND I.F. TRANSFORMER	
6	85-103	BAND SELECTOR SWITCH	
7	85-108	TONE CONTROL SWITCH	
8	85-117	SENSITIVITY SWITCH	
9	20-135	R.F. CHOKE	
10	95-446	AUDIO TRANSFORMER	



DWG Nº	PART Nº	DESCRIPTION	
C1	22-243	.01	400V
C2	22-410	.003	600V
C3	22-170	.1	400V
C4	22-269	.00005 VARIABLE	600V
C5	22-409	.000025	600V
C6	22-127	.05	400V
C7	22-212	.0023	600V
C8	22-411	.0011	600V
C9	22-345	200-350 PADDER	600V
C10	22-205	.001	600V
C11	22-62	.1	400V
C12	22-124	.02	25V
C13	22-188	.02 .10 MFD	400V
C14	22-420	.0001	600V
C15	22-162	.02	600V
C16	22-435	.1	600V
C17	22-417	.1	600V
C18	22-416	8 MFD.	450V
C19		2 MFD.	450V
C20		2-15 MMFD.	150V
C21	22-409	.05	200V
C22	22-250		
C23			

DWG Nº	PART Nº	DESCRIPTION	
R1	63-373	99 M	OHMS 1W
R2	63-373	11 M	1W
R3	63-335	19 M	1W
R4	63-280	49 M	1W
R5	63-457	400 M	VOL. CONTROL
R6	63-293	990 M	OHMS 1W
R7	63-443	CANDOHM	1W
R8	63-466	990 OHMS	1W
R9	63-256	490 M	1W
R10	63-435	50M	TONE CONTROL

1	5-3697	ANT. COIL ASSEM.
2	20-43	ANT. CHOKE (1 MH.)
3	5-3698	OSC. COIL ASSEM.
4	50-291	1ST I.F. TRANS.
5	50-292	2ND I.F. TRANS.
6	5-3699	OSC. COIL ASSEM.
7	49-117	8" SPKR. MOD. 7S-28
8	93-269	POWER TRANS 60~
9	20-119	P.P. PLATE CHOKE ASSEM
10	85-78	BAND SELECT SWITCH
11	93-290	POWER TRANS 25~
12	49-122	12" SPKR. MOD. 7S-53
13	85-39	PHONO SWITCH
14	44-9	JACK



SPEAKER	MODEL
49-179-8"	7S-323
49-251-10"	7S-342
49-251-10"	7S-343
49-208-10"	7S-363
49-249-12"	7S-366
49-266-12"	7S-364

Chassis No. 5714

DIAG No	PART No	DESCRIPTION	
C-1	22-717	TWO GANG VAR. COND.	
C-2	22-289	50 MMFD	600V
C-3	22-162	.0001 MFD	600V
C-4	22-127	25 MMFD	600V
C-5	22-170	.1 MFD	400V
C-6	22-212	.05 MFD	400V
C-7	22-250	.05 MFD	200V
C-8	22-519	TRIMMER COND.	
C-9	22-740	COMPENSATING COND.	
C-10	22-708	DUAL FIXED PADDER	
C-11	22-358	.002 MFD	600V
C-12	22-327	.02 MFD.	200V
C-13	22-182	.00025 MFD	600V
C-14	22-470	.00015 MFD	600V
C-15	22-185	.01 MFD	200V
C-16	22-147	.0005 MFD	600V
C-17	22-458	.006 MFD	600V
C-18	22-326	.003 MFD	400V
C-19	22-190	.1 MFD	200V
C-20	22-444	.004 MFD.	600V

DIAG No	PART No	DESCRIPTION	
C-[illegible]	22-455	.02 MFD	600V
C-22	22-219	.03 MFD	200V
C-23	22-402	.002 MFD	600V
C-24	22-718	12 MFD ELECTROLYTIC	450V
C-25	22-719	16 MFD ELECTROLYTIC	350V
R-1	63-621	39 OHM	1/4 W
R-2	63-592	33 M OHM	1/4 W
R-3	63-597	470 M OHM	1/4 W
R-4	63-961	47 M OHM	1 W
R-5	63-680	10 M OHM	1 W
R-7	63-271	1 MEGOHM	1/4 W
R-8	63-655	220 M OHM	1/4 W
R-9	61-296	220 M OHM	1/4 W
R-10	63-505	100 M OHM	1/4 W
R-11	63-591	22 M OHM	1/4 W
R-12	63-984	3 SECTION CANDOHM	

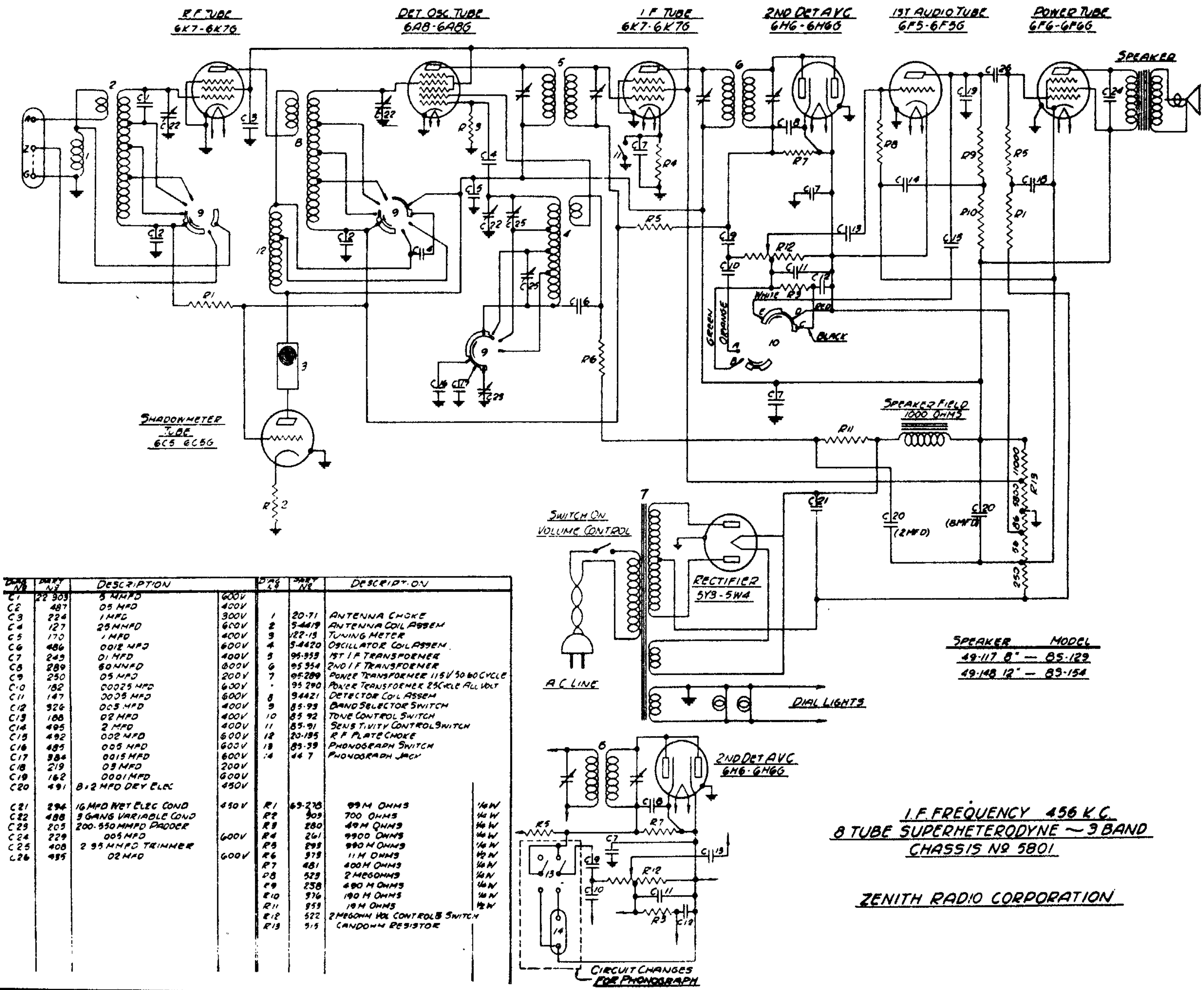
DIAG No	PART No	DESCRIPTION	
R-13	63-985	VOLUME CONTROL	
R-14	63-663	18 M OHM	1/4 W
R-15		1 MEGOHM MOUNTED IN TUNING TUBE BASE	
1	S-6204	ANTENNA COIL & SHIELD ASSEM.	
2	S-6295	OSC. COIL & SHIELD ASSEM.	
3	20-196	COMPENSATING COIL	
4	20-154	WAVE TRAP	
5			
6	85-151	BAND SELECTOR SWITCH	
7	95-536	1ST I.F. TRANSFORMER	
8	95-537	2ND I.F. TRANSFORMER	
9	S-6224	TONE CONTROL SW. ASSEM.	
10	85-152	AUTOMATIC TUNING SWITCH	
11	95-526	POWER TRANS-117V-50-60 ~	
12	95-535	POWER TRANS ALL VOLTAGE 25 ~	
13	100-16	PILOT LIGHT .25A - 6.3V	
14		SPEAKER TRANS.	

DIAG No	PART No	DESCRIPTION
A		1ST I.F. TRANS PRI
B		1ST I.F. TRANS SEC
C		2ND I.F. TRANS PRI
D		2ND I.F. TRANS SEC
E		WAVE TRAP
F		BROADCAST OSC (SEE NOTE)
G		ANTENNA BROADCAST (ON GANG)
J	22-463	BROADCAST PADDER
K		SHORT WAVE OSC (SEE NOTE)
L	22-305	SHORT WAVE DETECTOR
N		POLICE BAND OSC (SEE NOTE)

NOTE - TRIMMERS "F-K & N" MOUNTED ON BAKELITE STRIP - PART No 22-324

I.F. FREQUENCY 455 K.C.
7 TUBE SUPERHETERODYNE
CHASSIS No 5714-A.C. 3-BAND
ZENITH RADIO CORPORATION

Models 8-S-129, 8-S-15-. (Chassis No. 5801)



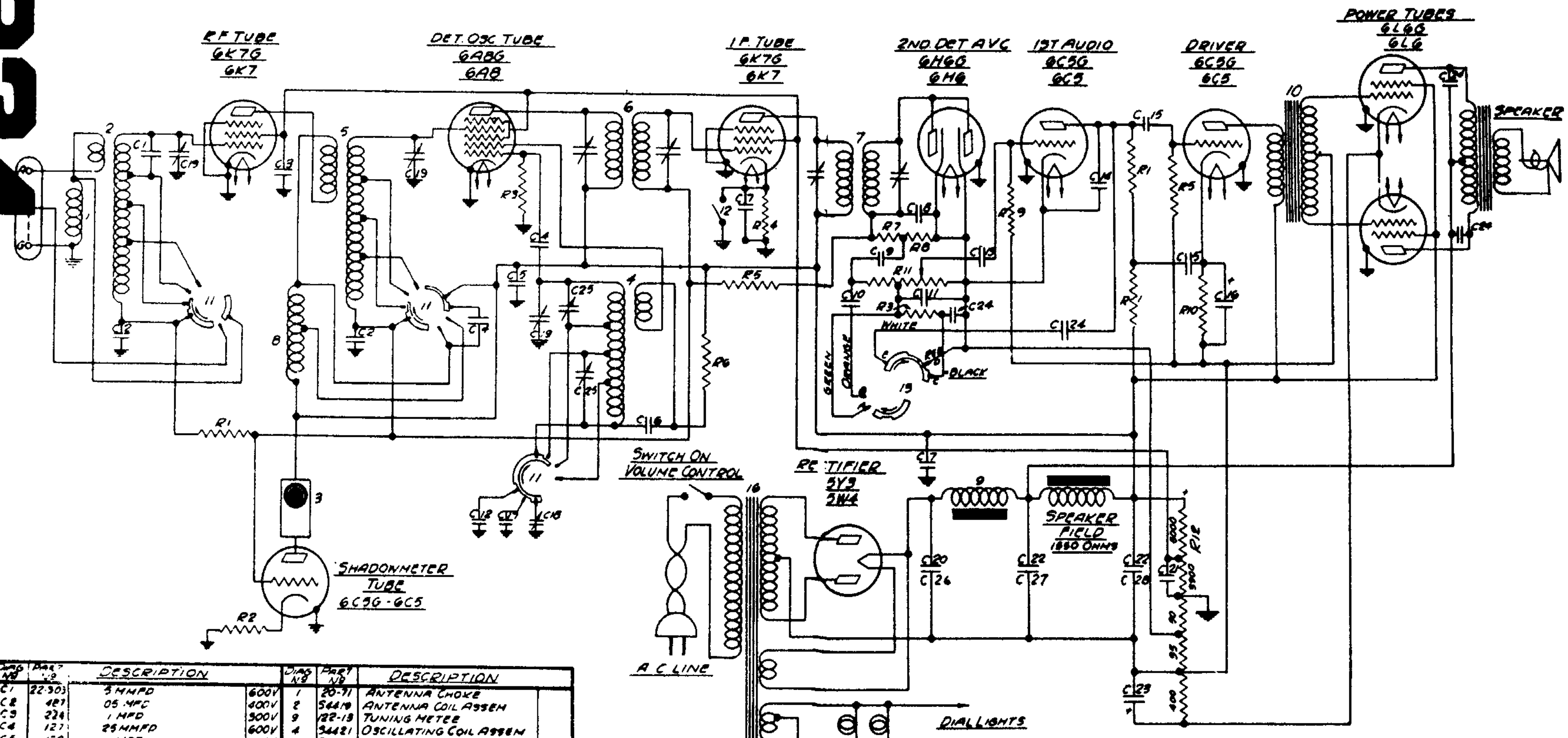
Diag. No.	Part No.	Description		Diag. No.	Part No.	Description	
C1	22 303	5 MMFD	600V				
C2	487	05 MFD	400V				
C3	224	1 MFD	300V	1	20-71	ANTENNA CHOKE	
C4	127	25 MMFD	600V	2	S-4419	ANTENNA COIL ASSEM	
C5	170	1 MFD	400V	3	122-15	TUNING METER	
C6	486	0012 MFD	600V	4	S-4420	OSCILLATOR COIL ASSEM	
C7	243	01 MFD	400V	5	95-353	1ST I F TRANSFORMER	
C8	289	60 MMFD	600V	6	95 354	2ND I F TRANSFORMER	
C9	250	05 MFD	200V	7	95-289	POWER TRANSFORMER 115V 50-60 CYCLE	
C10	182	00025 MFD	600V	·	95 290	POWER TRANSFORMER 25 CYCLE ALL VOLT	
C11	147	0005 MFD	600V	8	94421	DETECTOR COIL ASSEM	
C12	326	005 MFD	400V	9	85-93	BAND SELECTOR SWITCH	
C13	188	02 MFD	400V	10	85 92	TONE CONTROL SWITCH	
C14	495	2 MFD	400V	11	85-91	SENSITIVITY CONTROL SWITCH	
C15	492	002 MFD	600V	12	20-195	R F PLATE CHOKE	
C16	485	005 MFD	600V	13	85-39	PHONOGRAPH SWITCH	
C17	384	0015 MFD	600V	14	44 7	PHONOGRAPH JACK	
C18	219	03 MFD	200V				
C19	162	0001 MFD	600V				
C20	491	8+2 MFD DRY ELEC	450V				
C21	294	16 MFD WET ELEC COND	450V	R1	63-278	99 M OHMS	1/4 W
C22	488	3 GANG VARIABLE COND		R2	303	700 OHMS	1/4 W
C23	205	200-550 MMFD PADDER		R3	280	49 M OHMS	1/4 W
C24	229	005 MFD	600V	R4	261	9900 OHMS	1/4 W
C25	408	2 35 MMFD TRIMMER		R5	293	990 M OHMS	1/4 W
C26	485	02 MFD	600V	R6	373	11 M OHMS	1/2 W
				R7	481	400 M OHMS	1/4 W
				R8	523	2 MEGOHMS	1/4 W
				R9	258	490 M OHMS	1/4 W
				R10	376	190 M OHMS	1/4 W
				R11	353	19 M OHMS	1/2 W
				R12	522	2 MEGOHM VOL CONTROL & SWITCH	
				R13	515	CANDOHM RESISTOR	

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

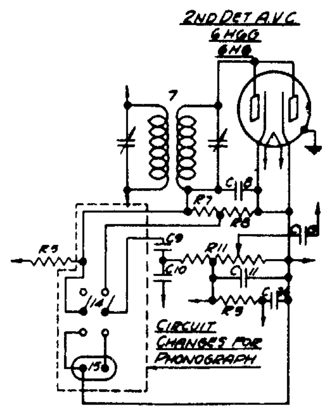
DIAG. SYM.	PART NO.	DESCRIPTION	
1	5-5017	ANTENNA COIL & SHIELD ASSEMBLY	
2			
3	5-5018	DETECTOR COIL & SHIELD ASSEMBLY	
4	5-5019	OSCILLATOR COIL & SHIELD ASSEMBLY	
5	95-416	1ST I.F. TRANSFORMER	
6	95-417	2ND I.F. TRANSFORMER	
7	45-108	BAND SELECTOR SWITCH	
8	45-109	TONE CONTROL SWITCH	
9	45-116	SENSITIVITY CONTROL SWITCH	
10	MI-511	MOTOR CONTROL SWITCH	
11	95-418	POWER TRANSFORMER 117V 50-60 CYCLE	
12	95-451	POWER TRANSFORMER - ALL VOLTAGE CYCLE	
13		SPEAKER TRANSFORMER	
14	20-135	R.F. CHOKE	

DIAG. SYM.	PART NO.	DESCRIPTION	
C1	22-548	THREE GANG VARIABLE CONDENSER	200 V
C2	22-250	.05 MFD.	400 V
C3	22-170	.1 MFD.	400 V
C4	22-127	.25 MFD.	400 V
C5	22-556	.02 MFD.	600 V
C6	22-212	DUAL TYPE PADDER	600 V
C7	22-213	.0025 MFD.	600 V
C8	22-327	.01 MFD.	600 V
C9	22-142	.0001 MFD.	600 V
C10	22-147	.0005 MFD.	600 V
C11	22-326	.003 MFD.	400 V
C12	22-177	.1 MFD.	400 V
C13	22-446	.004 MFD.	400 V
C14	22-435	.02 MFD.	600 V
C15	22-427	.001 MFD.	600 V
C16	22-369	12 MFD DRY ELECTROLYTIC	450 V
C17		2 MFD. " "	450 V
C18	22-571	6 MFD. " "	200 V
C19		8 MFD. " "	450 V
R1	63-609	22 M OHMS	½ W ± 20
R2	63-593	47 M OHMS	½ W ± 20
R3	63-595	100 M OHMS	½ W ± 20
R4	63-581	470 OHMS	½ W ± 20
R5	63-645	27 M OHMS	½ W ± 10
R6	63-562	3300 OHMS	½ W ± 20
R7	63-638	1 MEGOHMS	½ W ± 20
R8	63-630	390 M OHMS	½ W ± 10
R9	63-608	2 MEGOHM VOLUME CONTROL	
R10	63-608	15 M OHMS	1 W ± 20
R11	63-596	220 M OHMS	½ W ± 20
R12	63-634	150 M OHMS	½ W ± 10
R13	63-597	470 M OHMS	½ W ± 20
R14	63-605	1000 OHMS	½ W ± 20
R15	63-680	10 M OHMS	½ W ± 20
R16	63-570	5 SECTION CARDOHM 1 MEGOHM MOUNTED IN TUNING TUBE SOCKET	1 W ± 20
R17			

Models 9-S-203, 9-S-232, 9-S-242, 9-S-244, 9-S-262, 9-S-263, 9-S-264 (5905 Chassis)



DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION
C1	22-303	3 MMFD	600V	1	20-71	ANTENNA CHOKE
C2	427	.05 MFD	400V	2	S4419	ANTENNA COIL ASSEM
C3	224	.1 MFD	300V	3	22-13	TUNING METER
C4	127	25 MMFD	600V	4	S4421	OSCILLATING COIL ASSEM
C5	170	.1 MFD	400V	5	S4420	DETECTOR COIL ASSEM
C6	456	.0012 MFD	600V	6	95-353	1ST I.F. TRANSFORMER
C7	243	.01 MFD	400V	7	95-354	2ND I.F. TRANSFORMER
C8	289	50 MMFD	600V	8	20-135	R.F. PLATE CHOKE
C9	250	.05 MFD	200V	9	95-356	POWER CHOKE
C10	182	.00025 MFD	600V	10	95-360	AUDIO TRANSFORMER
C11	147	.0005 MFD	600V	11	85-93	BAND SELECTOR SWITCH
C12	485	.005 MFD	600V	12	85-91	SENSITIVITY CONT. SWITCH
C13	188	.02 MFD	400V	13	85-92	TONE CONTROL SWITCH
C14	162	.0001 MFD	600V	14	85-39	PHONOGRAPH SWITCH
C15	435	.02 MFD	600V	15	44-7	PHONOGRAPH JACK
C16	507	10 MFD DRY ELEC COND	25V	16	95-355	POWER TRANS 115V 50-60 CYCLE
C17	384	.0015 MFD	600V		95-363	POWER TRANS 25 CYCLE - ALL VOLTAGE
C18	205	200-550 MMFD OSC PADDER				
C19	488	3 GANG VARIABLE COND				
C20	504	8 MFD WET ELEC. COND 60 CYCLE	450V			
C21	506	16 MFD WET ELEC COND	250V			
C22	493	8x8 MFD DRY ELEC COND 60~	450V			
C23	405	10 MFD DRY ELEC COND	50V			
C24	229	.005 MFD	600V			
C25	408	2-35 MMFD TRIMMER				
R1	63-278	99 M OHMS	1/4 W			NOTE — #22-510 8x8x8 MFD DRY ELECTROLYTIC REPLACES #22-493 & #22-506. #22-512 - 8 MFD DRY ELECTROLYTIC REPLACES #22-504 8 MFD WET ELECTROLYTIC IN MODEL #10S-147 END TABLE.
R2	303	700 OHMS	1/4 W			
R3	280	49 M OHMS	1/4 W			
R4	261	9900 OHMS	1/4 W			
R5	293	990 M OHMS	1/4 W			
R6	373	11 M OHMS	1/2 W			
R7	280	100 M OHMS	1/4 W			
R8	385	300 M OHMS	1/4 W			
R9	523	2 MEGOHMS	1/4 W			
R10	300	990 OHMS	1/4 W			
R11	522	2 MEGOHM VOLUME CONT & SW				
R12	516	CANDOHM RESISTOR				
				C26	22-294	16 MFD WET ELEC COND 25 CYCLE 450V
				C27	22-502	16 MFD DRY ELEC COND 25 CYCLE 450V
				C28		8 MFD DRY ELEC COND 25 CYCLE 450V



(Chassis No. 1004)

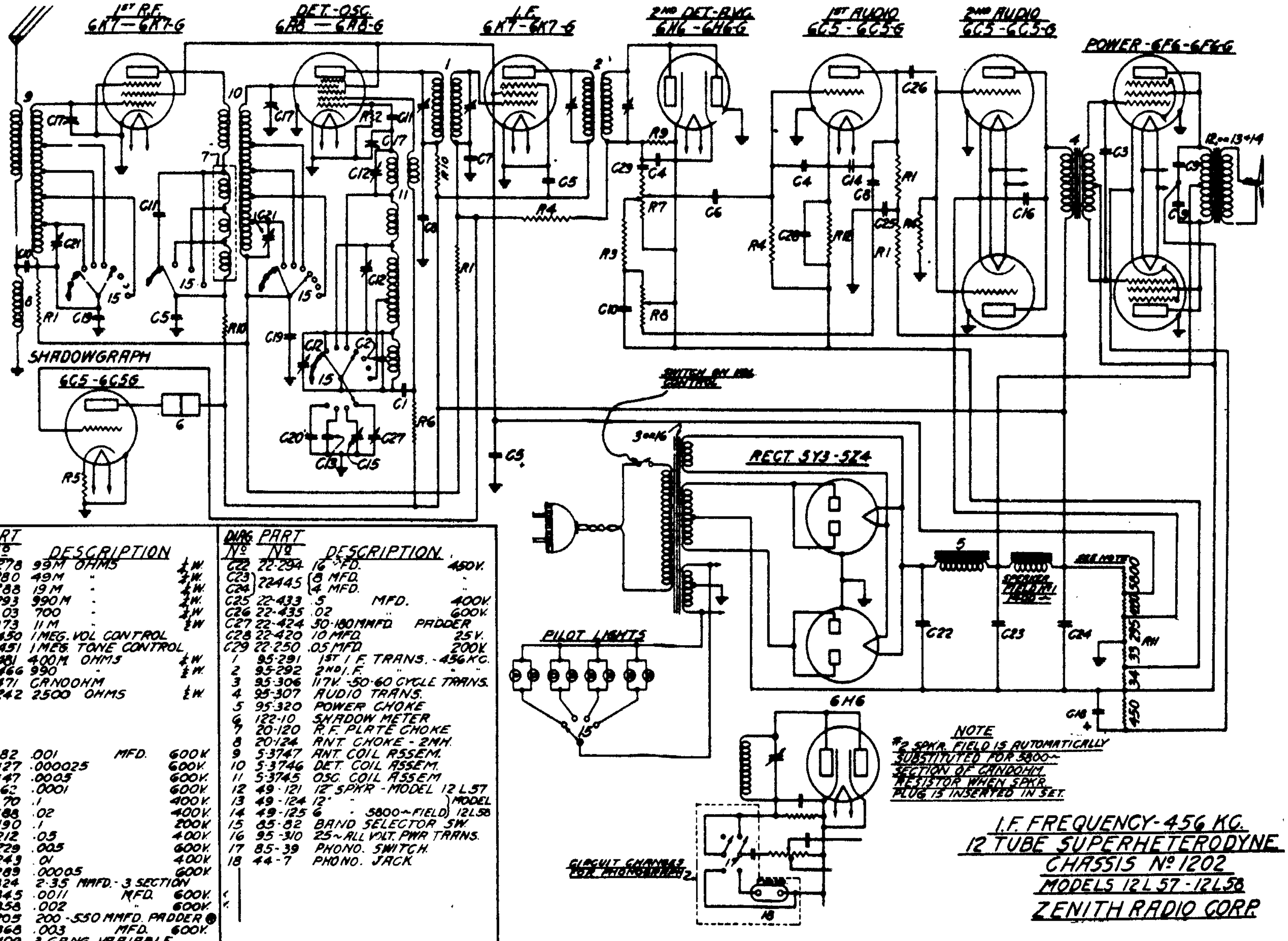
SPEAKER		MODEL
49-146	8"	10S130
49-147	12"	10S155
		10S156
		10S160
49-156	12"	10S147
		10S153
		10S157

I.F. FREQUENCY 456 KC.
10 TUBE SUPERHETERODYNE — 3 BAND
CHASSIS Nº 1004

ZENITH RADIO CORPORATION

Models 10-S-30, 10-S-155, 10-S-156, 10-S-160, 10-S-147, 10-S-153, 10-S-157.

 COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

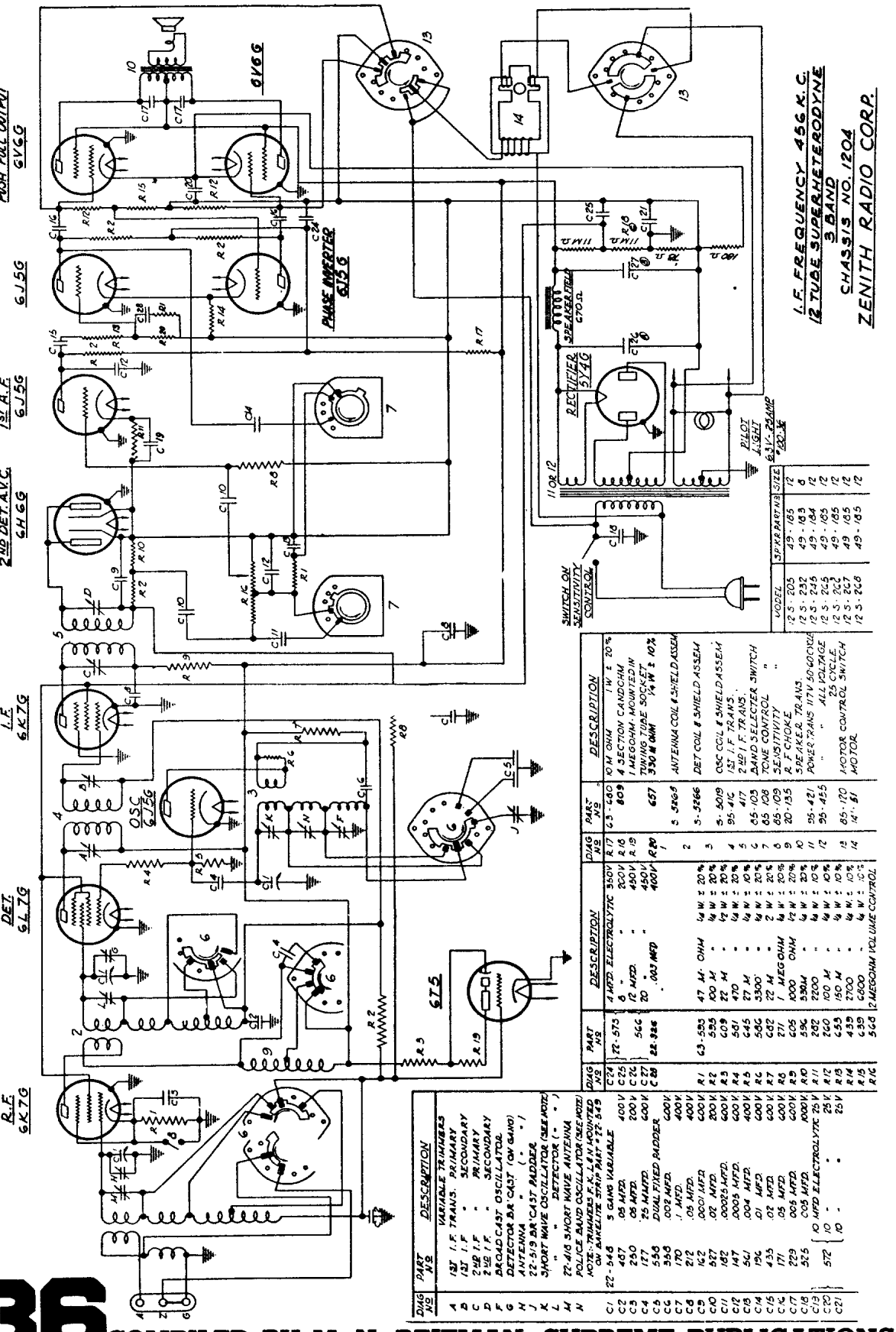


DIAG. No.	PART No.	DESCRIPTION		
R1	63-278	99M OHMS		¼W.
R2	63-280	49M "		¼W.
R3	63-288	19M "		¼W.
R4	63-293	990M "		¼W.
R5	63-303	700 "		¼W
R6	63-373	11M "		½W
R7	63-450	1MEG. VOL CONTROL		
R8	63-451	1MEG. TONE CONTROL		
R9	63-481	400M OHMS		¼W.
R10	63-466	990 "		½W.
R11	63-471	CANDOHM		
R12	63-242	2500 OHMS		½W.
C1	22-82	.001	MFD.	600V.
C2	22-127	.000025		600V.
C3	22-147	.0005		600V.
C4	22-162	.0001		600V.
C5	22-170	.1		400V.
C6	22-188	.02		400V.
C7	22-190	.1		200V.
C8	22-212	.05		400V.
C9	22-229	.005		600V.
C10	22-243	.01		400V.
C11	22-289	.00005		600V.
C12	22-324	2-35 MMFD.-3 SECTION		
C13	22-345	.0011	MFD.	600V.
C14	22-358	.002	"	600V.
C15	22-205	200-550 MMFD. PADDER		
C16	22-368	.003	MFD.	600V.
C17	22-409	3 GANG VARIABLE		
C18	22-405	10 MFD.		50V.
C19	22-410	.003	MFD.	600V.
C20	22-411	.0023	"	600V.
C21	22-418	2-35 MMFD.		

DIAG. No.	PART No.	DESCRIPTION		
C22	22-294	16 MFD.		450V.
C23	22445	8 MFD.		"
C24	22445	4 MFD.		"
C25	22-433	.5	MFD.	400V.
C26	22-435	.02	"	600V.
C27	22-424	50-180 MMFD.	PADDER	
C28	22-420	10 MFD.		25V.
C29	22-250	.05 MFD.		200V.
1	95-291	1ST I.F. TRANS.-456KC.		
2	95-292	2ND I.F. " " "		
3	95-306	117V.-50-60 CYCLE TRANS.		
4	95-307	AUDIO TRANS.		
5	95-320	POWER CHOKE		
6	122-10	SHADOW METER		
7	20-120	R.F. PLATE CHOKE		
8	20-124	ANT. CHOKE - 2MH.		
9	5-3747	ANT. COIL ASSEM.		
10	5-3746	DET. COIL ASSEM.		
11	5-3745	OSC. COIL ASSEM.		
12	49-121	12" SPKR.-MODEL 12L57		
13	49-124	12" " } MODEL 12L58		
14	49-125	6" " 5800~FIELD } MODEL 12L58		
15	85-82	BAND SELECTOR SW.		
16	95-310	25~ALL VOLT. PWR TRANS.		
17	85-39	PHONO. SWITCH.		
18	44-7	PHONO. JACK		

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

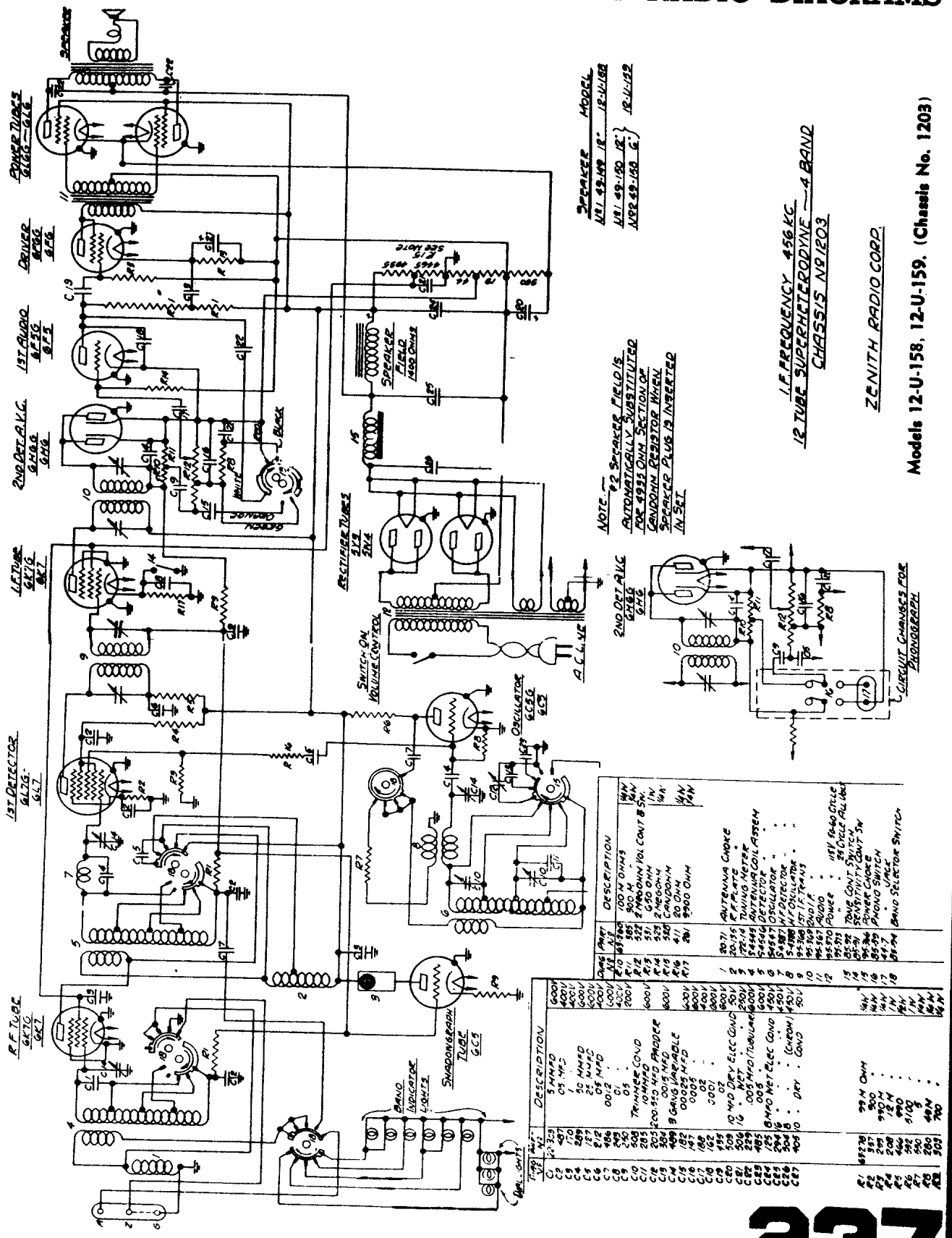
Models 12-S-205, 12-S-232, 12-S-245, 12-S- 265, 12-S-266, 12-S-267, 12-S-268 (1204 Chassis)



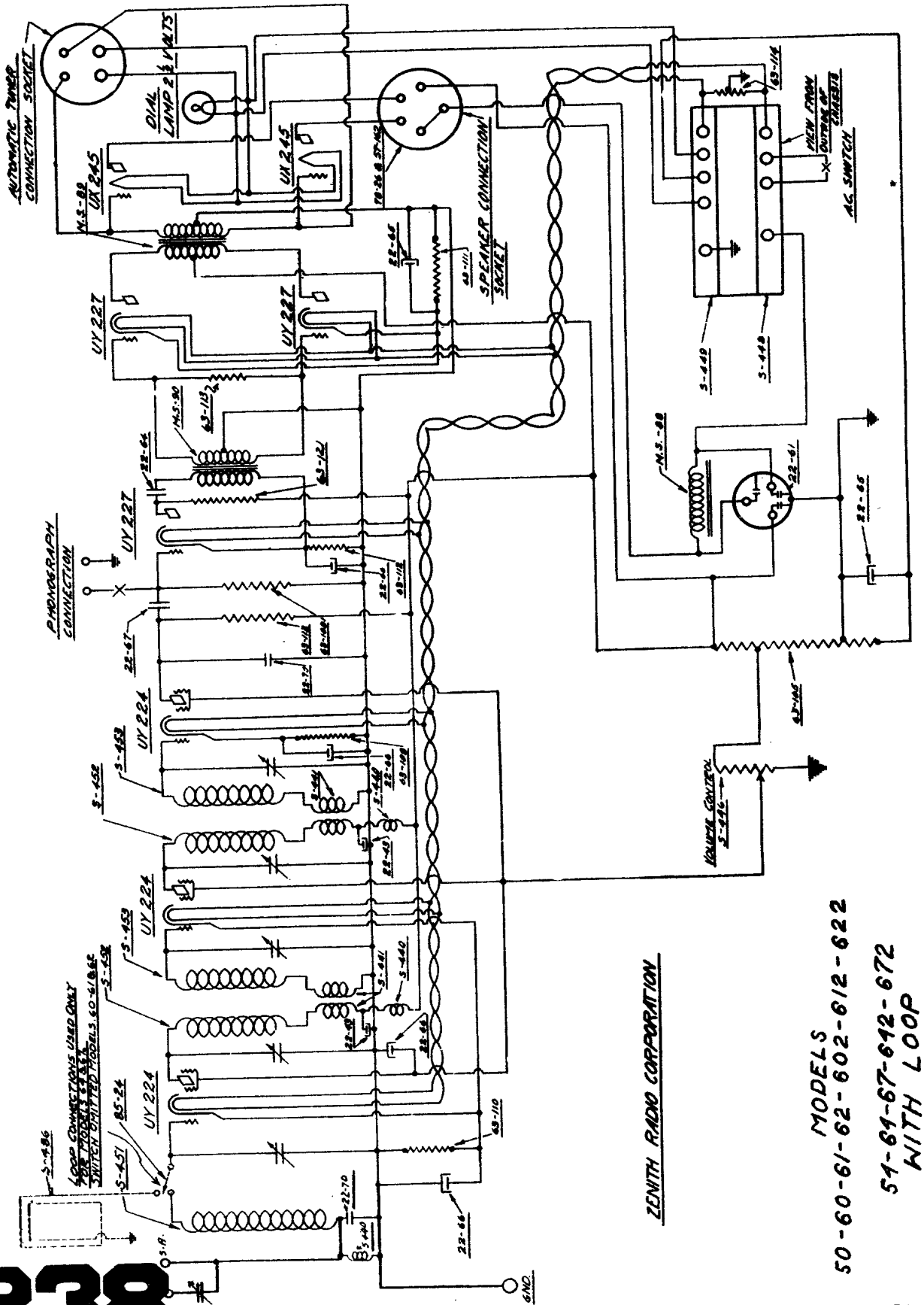
DIAG NO	PART NO	DESCRIPTION
A		1ST I.F. TRANS. PRIMARY
B		1ST I.F. " SECONDARY
C		2ND I.F. " PRIMARY
D		2ND I.F. " SECONDARY
E		BROADCAST OSCILLATOR
F		DETECTOR & B'CAST (SW GANG)
G		ANTENNA " (")
H	22-519	B'CAST RADDER
J		SHORT WAVE OSCILLATOR (SEE NOTE)
K		" " DETECTOR (")
L		22-416 SHORT WAVE ANTENNA
M		POLICE BAND OSCILLATOR (SEE NOTE)
N		NOTE: TRIMMERS F.K.L & N MOUNTED ON BAKELITE STRIP PART #22-519
C1	22-548	5 GANG VARIABLE
C2	467	.05 MFD. 400 V
C3	250	.05 MFD. 200 V
C4	127	.25 MFD. 600 V
C5	556	DUAL FIXED PADDER 600V
C6	350	.002 MFD. 400V
C7	170	.1 MFD. 400V
C8	212	.05 MFD. 400 V
C9	162	.0001 MFD. 600 V
C10	527	.02 MFD. 200 V
C11	182	.00025 MFD. 600 V
C12	147	.0005 MFD. 600 V
C13	561	.004 MFD. 400 V
C14	196	.01 MFD. 600 V
C15	435	.02 MFD. 600 V
C16	171	.05 MFD. 600 V
C17	229	.005 MFD. 600 V
C18	525	.005 MFD. 1000V
C19	572	10 MFD ELECTROLYTIC 25 V
C20		10 " " 25 V
C21		10 " " 25 V

DIAG NO	PART NO	DESCRIPTION		DIAG NO	PART NO	DESCRIPTION
C24	22-575	4 MFD ELECTROLYTIC	350V	R.17	63-660	10 M OHM 1 W ± 20%
C25		8 " "	200V	R.18	809	4 SECTION CANDOHM
C26	566	12 MFD. "	450V	R.19		1 MEGOHM MOUNTED IN
C27		20 " "	450V	R20	657	TUNING TUBE SOCKET 330 M OHM ¼ W ± 10%
C28	22-526	.003 MFD	400V	1	5-3565	ANTENNA COIL & SHIELD ASSEM
R1	63-583	47 M. OHM	½ W ± 20%	2	5-3666	DET COIL & SHIELD ASSEM
R2	585	100 M "	½ W ± 20%	3	5-3019	OSC COIL & SHIELD ASSEM
R3	609	22 M "	½ W ± 20%	4	95-416	1ST I.F. TRANS.
R4	581	470 "	½ W ± 10%	5	417	2ND I.F. TRANS.
R5	645	27 M "	½ W ± 10%	6	65-103	BAND SELECTOR SWITCH
R6	586	3300 "	½ W ± 20%	7	65-108	TONE CONTROL "
R7	682	22 M "	2 W ± 20%	8	65-109	SENSITIVITY "
R8	271	1 MEGOHM	½ W ± 10%	9	20-135	R.F. CHOKE
R9	605	1000 OHM	½ W ± 20%	10	95-421	SPEAKER TRANS.
R10	596	330M "	½ W ± 20%	11	95-455	POWER TRANS 117 V 50/60 CYCLE
R11	282	2200 "	½ W ± 10%	12		" " ALL VOLTAGE 25 CYCLE
R12	260	100 M "	½ W ± 10%	13	85-170	MOTOR CONTROL SWITCH
R13	453	150 M "	½ W ± 10%	14	14-81	MOTOR
R14	439	2700 "	½ W ± 10%			
R15	439	6800 "	½ W ± 10%			
R16	566	2 MEGOHM VOLUME CONTROL				

MODEL	SPKR PART #	SIZE
12-S-205	49-185	8
12-S-232	49-183	8
12-S-245	49-184	12
12-S-265	49-185	12
12-S-267	49-185	12
12-S-268	49-185	12



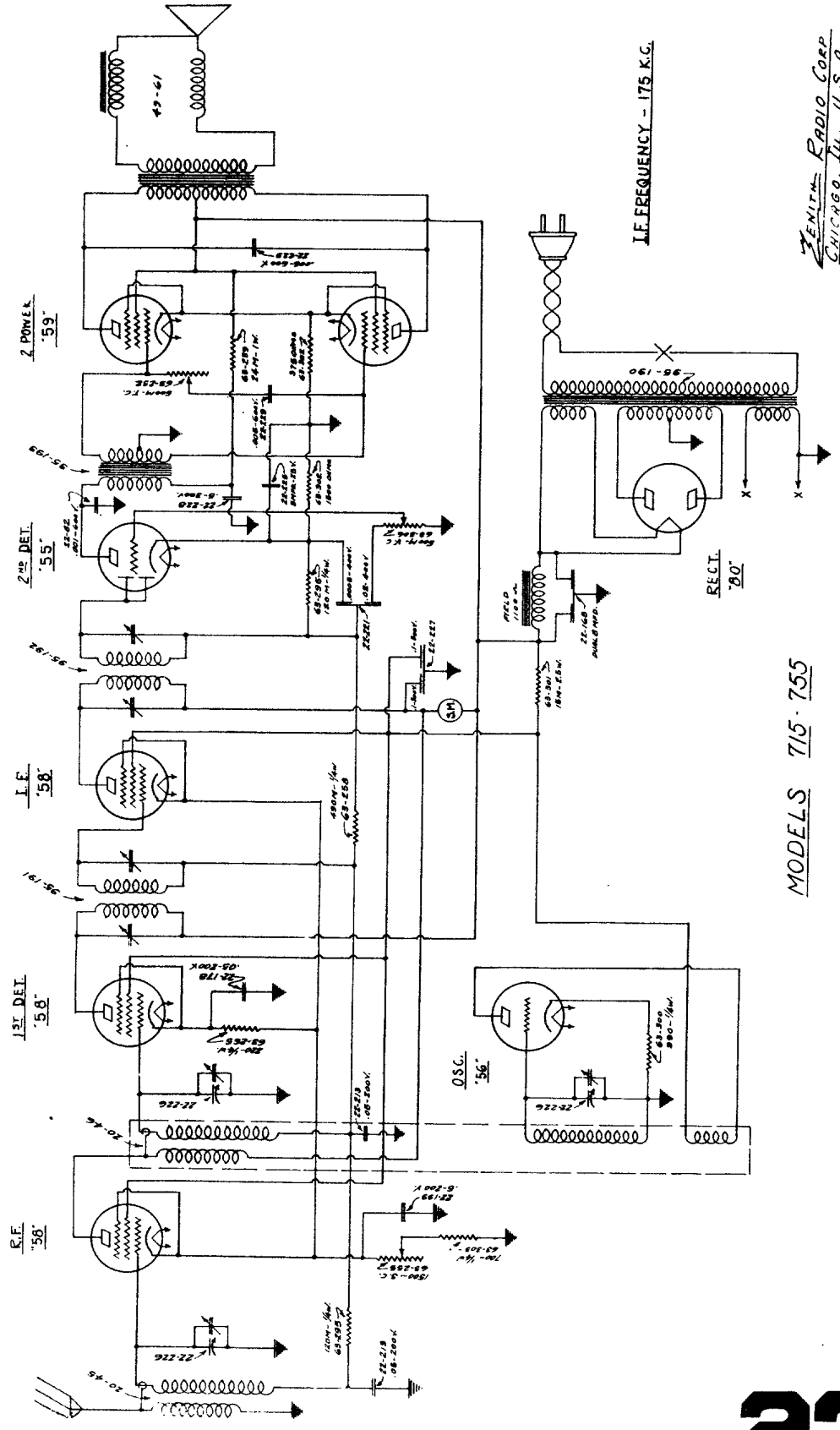
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS **237**

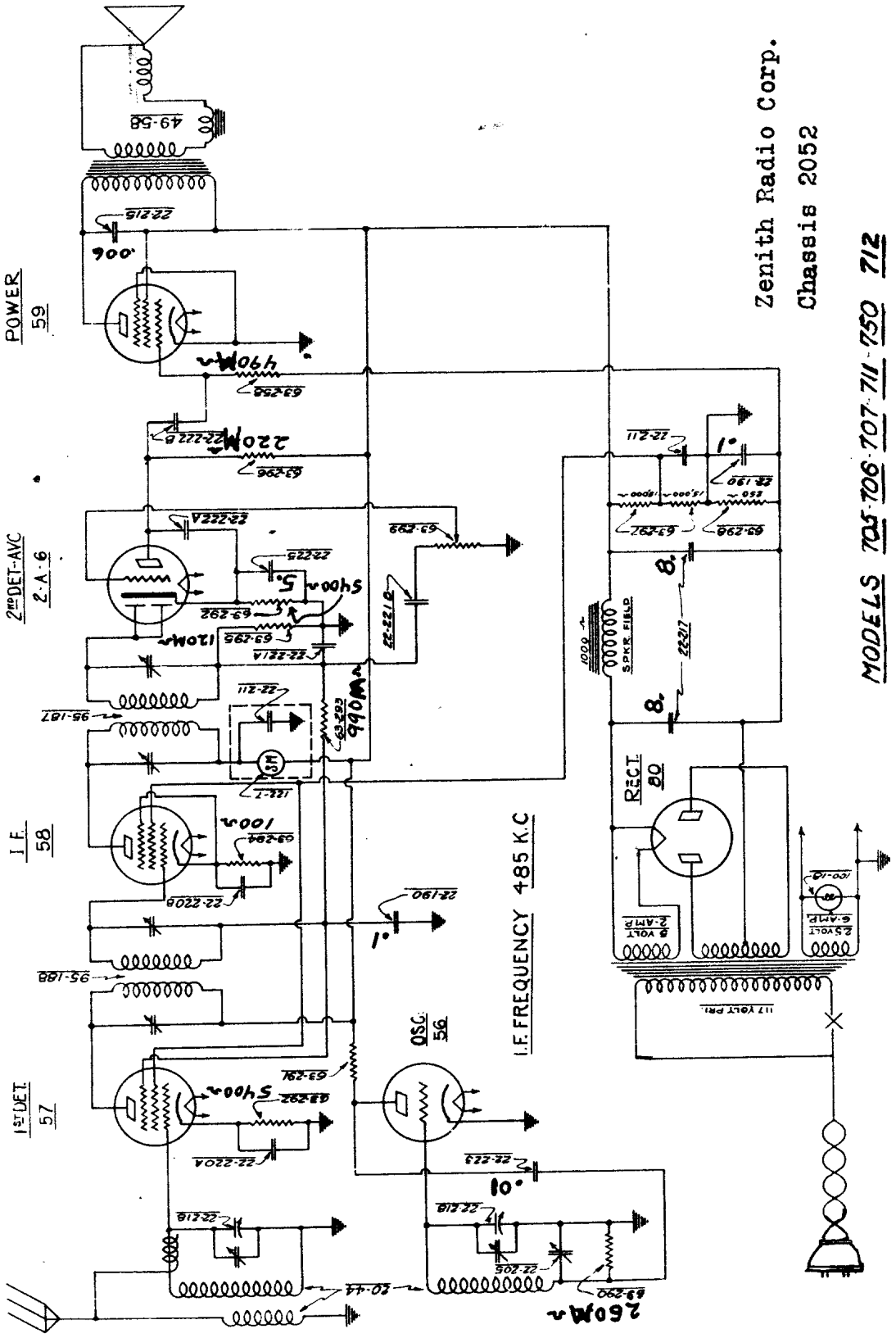


ZENITH RADIO CORPORATION

MODELS
50-60-61-62-602-612-622
51-61-67-612-672
WITH LOOP

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS





NEW TECHNICAL RADIO BOOKS

SEE THESE HELPFUL MANUALS AT YOUR RADIO JOBBER OR ORDER FOR EXAMINATION

Most-Often-Needed RADIO DIAGRAMS *and Servicing Information*

4 OUT OF 5 CIRCUITS YOU NEED

In these easy-to-use complete manuals you have all the diagrams you really need. Over 80% of the sets you service every day are included. Use these important, hint-giving, trouble-shooting circuits to make your service work faster and easier.

The manuals are large, 8½ x 11 inches, clearly printed on good quality paper. In most cases include fully detailed schematic diagram, parts list, alignment data, and service hints. Every popular diagram is included.

1942, Volume 5, 204 pages....
1941, Volume 4, 192 pages....
1940, Volume 3, 208 pages....
1939, Volume 2, 192 pages....
$2.00 EACH

1926-38, Volume 1, 244 pages, alignment, hints, parts lists.. **$2.50**

GENERAL ELECTRIC MANUAL

This 64-page complete manual of the most-popular GE sets is something you must have. The entire manual of these "often-needed" important circuits is yours for less than the cost of a single diagram. Size 5½ x 8½ inches. Net Only **50c**

STEWART-WARNER MANUAL

This handy diagram manual contains diagrams, service notes, alignment data, for popular Stewart-Warner radios of all periods. Get this inexpensive book and be ready to service your next set of this important make. Size: 5½ x 11 inches. Price postpaid..... **50c**

ARVIN MANUAL

The most-often-needed diagrams of Noblitt-Sparks (Arvin) radios are included in this manual. Service these popular sets with confidence and skill, using this low priced radio publication. Size: 5½ by 11 in..... **50c**

MOTOROLA SERVICE MANUAL

This up-to-the-minute manual will tell you how to repair MOTOROLA auto radios. Includes detail schematics, service notes, alignment data, and parts lists for all of the 72 models made to 1941. Prepared with the help of Galvin Mfg. Co. engineers. This large 8½ x 11 inch, 96 page manual is priced postpaid at only..... **$1.50**

Simplified Radio Servicing by COMPARISON Method

A NEW DEVELOPMENT

You will be able to repair radios in minutes instead of hours. Revolutionary different **Comparison** technique permits you to do expert work on all radio sets. Most repairs can be made without test equipment or with only a volt-ohm-meter. Many simple point-to-point, cross-reference circuit suggestions locate the faults instantly. Plan protected by copyright.

FOR BEGINNERS AND EXPERTS

This new, simplified servicing technique is presented in handy manual form 8½ x 11 inches, 112 pages. Covers every radio set type—new and old models. Over 1,000 practical service hints. 16 large, trouble-shooting blueprints. Charts for circuit test analysis. 114 simplified tests using only a 5c resistor. Developed by M. N. Beitman. Price Postpaid, only..... **$1.50**

Practical Radio Mathematics

Introduces and explains the use of arithmetic and elementary algebra in connection with units, color code, meter scales, Ohm's Law, alternating currents, ohmmeter testing, wattage rating, series and parallel connections, capacity, inductance, mixed circuits, vacuum tubes, curves, the decibel, etc., etc., and has numerous examples. Plainly written and easy to understand **25c**

TELEVISION FACTS

This book defines and explains every term and part used in television transmitting and receiving equipment. The more important terms are described in greater detail. You will find the TELEVISION CYCLOPEDIA Section an excellent introduction to television and a great aid in understanding more technical articles and books. Included are many photographs and charts to assist you. Every radio serviceman, amateur, and technician must have this book to understand television. 64 fact-packed pages, well illustrated. Price only **40c**

HOW TO REPAIR REFRIGERATORS

This new practical book will tell you how to repair and adjust all domestic refrigerators. The old refrigerators in use must be repaired during the war. Get into this profitable field. Complete manual **40c**

HOW TO MODERNIZE RADIOS

You can learn quickly to modernize all sets. Cash in by improving audio circuits, modernizing cabinets, adding features usually found on late model sets. Practical job-sheets with schematics and photographs make the work easy. You are told how to obtain modernization work, what to charge, and how to complete the job quickly and efficiently. Large size, 8½x11 in. manual is priced at only..... **$1.00**

SERVICE NOTES *on* RECORD PLAYERS AUTOMATIC CHANGERS WIRELESS UNITS AND HOME RECORDERS

Just what you need to repair quickly and correctly thousands of automatic record changers, manual units, pickups, wireless oscillators, recorders, and combinations. Hundreds of mechanical and electrical diagrams. Instructions for adjustments and repairs. The most popular units of all makes included. 132 large pages, 8½ x 11 inches. Net Price **$1.50**

LEARN RADIO

Home-Study Radio Course

ONLY $2.50 COMPLETE

AMAZING BARGAIN OFFER

Here is your chance to get your radio training almost free. These simplified, well illustrated, interesting lessons cover every phase of radio work. You will find the training remarkably easy to grasp and use.

TRAIN AT HOME FOR A RADIO JOB

This home-study manual has helped others like you to secure high pay jobs in radio factories, service shops, War Industries, Navy and Army. These money-saving lessons will give you all the essential training needed. Includes extra information on recent radio developments. You may examine the complete course-manual, containing all the lessons and review questions, in your own home without any risk.

FOR BRUSH-UP AND REVIEW

Learn new speed-tricks of radio fault finding, case histories of common troubles, servicing short-cuts, extra profit ideas. Many large lessons on the use of regular test equipment, explanation of signal tracing, television to the minute, recording dope. With this information you will save enough time on a single radio job to pay the special $2.50 price for the complete course of the money-making lessons. Many active servicemen used this reduced-price radio training for brush-up and study of new servicing methods.

NEW EDITION REPRINTED 1943

Reprinted in 1943 with information on signal-tracing, television, visual alignment, P.A., photocells, etc. All about AVC, how to use an oscilloscope, what is feedback, resonance action, and every other fact you must know to be more expert in your work. Order the course on a trial basis. Net price, only..... **$2.50**

HOW TO ORDER BOOKS

Mark in the coupon the manuals you want. Then take the coupon to your radio jobber, or send the coupon to the publisher and receive the manuals selected, by prepaid parcel post.

SEE YOUR JOBBER OR SEND COUPON

SUPREME PUBLICATIONS
328 S. Jefferson St., Chicago, Ill.

I want the manuals listed below. I must be satisfied or you will refund my money.

_____

_____

_____

☐ I am enclosing $_____ send posptaid. ☐ Send C.O.D.

NAME: _____

ADDRESS: _____

(You may send a letter instead of coupon.)

Supreme Publications

PUBLISHERS OF RADIO BOOKS, MANUALS, AND DIAGRAMS

328 South Jefferson Street — Chicago, Illinois