Most - Often - Needed

1941

RADIO DIAGRAMS

and Servicing Information

Compiled by

By M. N. BEITMAN

B.S. in Mathematics, Illinois Institute of Technology
Instructor, Chicago High Schools
Formerly, Engineer, U. S. Signal Corps
Associate, Institute of Radio Engineers
Holder of Radiotelephone First Class License
Author of Many Radio Books and Articles

SUPREME PUBLICATIONS

CHICAGO

INDEX

Admiral
see Continental

Air King Prod.
4012 7
4016 7
4112 7
4136 7

Airline
see Montgomery

Allied Radio
B-10596 8
B-10598 8
B-10600 8
B-10606 8
B-17103 8
B-17104 8
B-17107 8
B-17108 8
B-17113 8
B-17114 8
B-17165 9
B-17180 9
B-17187 9

Arvin
see Noblitt-Sp.

Belmont Radio
518 10
533 11
536 12
681 13
1100 14

Chevrolet
985694 15
985695 16
985697 17

Continental
G-5 18
M5-PH 18
XM5-PH 18

Crosley Corp.
CA-12 28
22 19
22-AS 19
CR-26 20
27 20
28 21
Chassis 28 33
29 22
30 23
J30-BC 23
33, 33-BG 25
34, 34-BH 26
C-35-AK 24
TK-52 31-32
60 28
TA-62 29-30
63 29-30
64 31-32
CB-82-R 33-34

Delco
see United Mot.

Detrola Radio
295 35
295-1 35
297 35
304 36
305 36
310 36
320 37
360 37
392 37
2741 37
2742 37
3041 36
3051 36
3101 36
3201 37
3202 37
3601 37
3602 37

Emerson Radio
DB-296 38
DB-301 38
DB-315 38
DB-327 38
DL-330 38
DW-330A 38
DW-330B 38
FG-330 44
DY-337 43
DY1-337 43
DR-343 39
DR1-343 39
DR-348 39
DR1-348 39
DY-349 43
DY1-349 43
DR-350 39
DY-351 43
DY1-351 43
DR-352 39
DW-358 38
DS-365 40-41
DS-372 40-41
DU-379 42
DU-380 42
FC-400 44
FP-421 45
FP-422 45

Fada Radio
148 47
153 48
194 46

F.M. data 182

Galvin Mfg. Co.
see Motorola

Garod Radio
BP-36A 49

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

General Electric
J-51 50
J-53 50
J-54 50
J-71 51
J-105 52
JB-410 53
LB-530 55
J-602 54
J-603 54

Hallicrafters
S-27 56-57

Howard Radio
14ACB 58
702 58
765 59-60
780 60-61

Lafayette Radio
E-114 62
E-191 63

Majestic Radio
T101-L-A 65
TP221-A 65
TP231-A 65
TR-321-A 64
TR-331-A 64
403 64

Magnovox
CR-154 66
CR-156 67

Midwest Radio
51 68
181 69

Montgomery-Ward
04BR-511A 70
04BR-512A 70
04BR-513A 71
04BR-514A 71
04BR-729A 72
04BR-730A 72
04BR-1105A 73

Montgomery-Ward
04WG-464 74
04WG-569B 75
04WG-610 76
04WG-611 76
04WG-731A 78
04WG-803 77
14WG-672 79

Motorola
40 new 81
50W 81
56X1 81
58-F1 82
58-FRC 82
65-BP1,2,3,4 82
251 85
301 80
401 83-84

Noblitt-Sparks
RE-76 87
RE-78 88
RE-82 86
RE-84 89
RE-86 89
520 89
522 87
622 88
720 89
822 86

Packard Bell
65-A 90
67-R 90
67-RPA 90

Philco Radio
PT-2 92
PT-6 92
PT-12 92
PT-30 91
PT-42 91
PT-44 91
PT-49 91
41-90 97
41-95 97
41-100 97

Philco Radio
41-105 97
41-110 93
41-220 94
41-221 95
41-225 94
41-226 95
41-230 96
41-231 98
41-235 96
41-250 99
41-255 99
41-256 100
41-258 101
41-260 102
41-265 102
41-280 103-104
41-285 103
41-287 103
41-290 103
41-295 105
41-300 105
41-316 106-107
41-601 108
41-602 108
41-603 109
41-604 109
41-605 109
41-607 109
41-608 110
41-609 110
41-610 111
41-611 111
41-620 112
41-623 113
41-624 113
41-625 113
41-705 114
41-842 116
41-843 116
41-844 116
41-851 115

Pilot Radio
B-1 117
T-1 117
T-186 117

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

RCA Mfg. Co.
1X 118
1X2 118
BP-10 119
10X 120
12X 121
12X2 121
14X 122
15-BP 123
15X 124
16K 125-126
16T3 125-126
16X-1 124
16X-2 124
16X-3 124
16X-4 127
16X-11 128
16X-13 128
17K 129
19K 131
45X-3 130
45X-4 130
45X-16 130
45X-17 130
45X-18 132
V-100 133
V-101 133
V-102 134
110-K 135-136
111-K 137

Radio Wire Tel.
see Lafayette

Sears, Roebuck
R-101 139
R-111 139
3351 138
3361 140
3451 138
3461 140
3551 138
3561 140
3621 140
R-5561 141
5601A 142
5732 141

Sears, Roebuck
6449 142
101.614 139
101.615 139
101.617 141
101.628 142
109.356 140
109.371 141
132.802 138

Sentinel Radio
248 143

Silvertone
see Sears,

Sonora Radio
3 way port. 144
4 tube TRF 144

Sparton
511 145
651 147
601-S 146
761 148
1091 149

Stewart-Warner
11-5V 150
11-5W 151
11-6T 153
11-6T-S 153
11-8D 154
11-8D-Z 154
15-5Y 152

Stromberg-Carlson
515 155
520 156
530 157
535 157

Talk-A-Phone
MS-10 158
LP-65 158
LP-70 158

Truetone
see Western Auto

United Motors
R-1171 160
R-1172 160
R-1173 160
R-1176 159
R-1181 159
R-1186 161-162
R-1188 161

Wells-Gardner
6B18 163

Western Auto
D-1175 164
D-1190 165
D-1191 166

Westinghouse
WR-12X7 169
WR-173-L 167
WR-175 167
WR-184 168
WR-186 169
WR-388 170
WR-682 168
WR-682A 168

Wilcox-Gay Corp.
A-89 171
A-91 171-172
A-92 171
A-93 171
A-94 171
A-101 171
A-102 171

Zenith Radio
4B-01 184
4K-600 184
5A-03 173
5A-10 174
5B-01 185
5D-610 185
5D-625 185
5G-504 173
5G-510 174
5G-534 174
6A-05R 189

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

Zenith Radio		Zenith Radio		Zenith Radio	
6A-05R	189	6G-533	188	10H-551	179
6A-16	175	6G-560	188	10H-571	179
6A-19	176	6S-532	189	10H-571R	191
6A-20	177	6S-596	177	10H-573	191-192
6A-24	187	6S-597	177	12A-1	180
6A-25	188	7A-11	190	12S-550Z	180
6A-26	186	7S-598	190	12S-568E	180
6D-512	175	8A-04	178	12S-568Z	180
6D-516	187	8S-593	178	12S-569E	180
6D-520	186	8S-594	178	12S-569Z	180
6D-538	186	10A-2R	192	12S-595Z	180
6D-539	175	10A-3	179	S8500Z	181
6G-501	176	10A-3R	191-192	S9000	181

SUPREME PUBLICATIONS

9 South Kedzie Avenue • Chicago, Illinois

Most-Often-Needed

RADIO DIAGRAMS

and Servicing Information

☐ **1942 VOLUME 5** You need this newest Supreme manual of servicing data on all popular 1942 sets. Repair radios quickly and properly—follow factory instructions given in these manuals. 208 fact-packed pages. Large size, 8½x11 inches. Manual style binding **$2.00**

☐ **1940 VOLUME 3** Let this important manual give you over 80% of 1940 circuits you will ever need, acquaint you with new developments, train you to service quickly and efficiently millions of sets. Data on F.M., portables, recording, etc. 417 models of 43 manufacturers. 208 pages, 8½x11 inches.....Net Price **$2.00**

☐ **1939 VOLUME 2** Another condensed manual of most-popular diagrams you need. Circuit data, hints, and information are time-savers and money-makers for you. Let these diagram manuals guide you to easier service work. 192 pages, 8½x11 inches. Diagrams of 39 manufacturers..... **$2.00**

☐ **1926-1938 VOLUME 1** The most popular manual of the series. Will pay for itself with time saved the first day of use. 427 diagrams of most-serviced radios, with parts list and alignment information. 244 pages, 8½x11 inches..... **$2.50**

☐ **PRACTICAL RADIO for War Training**

This new, 1943 manual will clarify the important radio facts, explain the principles which may have puzzled you, and point the way to faster radio repairing. You will find hundreds of practical hints for mounting parts, testing components, trouble-shooting, using instruments. Needed useful theory in each chapter is followed with practical applications. This is the book that will help you repair radios faster, or obtain a good radio War-job, or get ahead in the Armed Forces. Use this book as your ready reference for finding the right answer to every radio problem. Written by M. N. Beitman. 336 large pages, 6x9 inches. Printed on thick, enamel paper. Almost 300 illustrations and diagrams to help you. Seal leatherette cover. Attractive manual-binding. Sold with a money-back guarantee. Price only..... **$2.95**

☐ **Simplified Radio Servicing by COMPARISON Method**

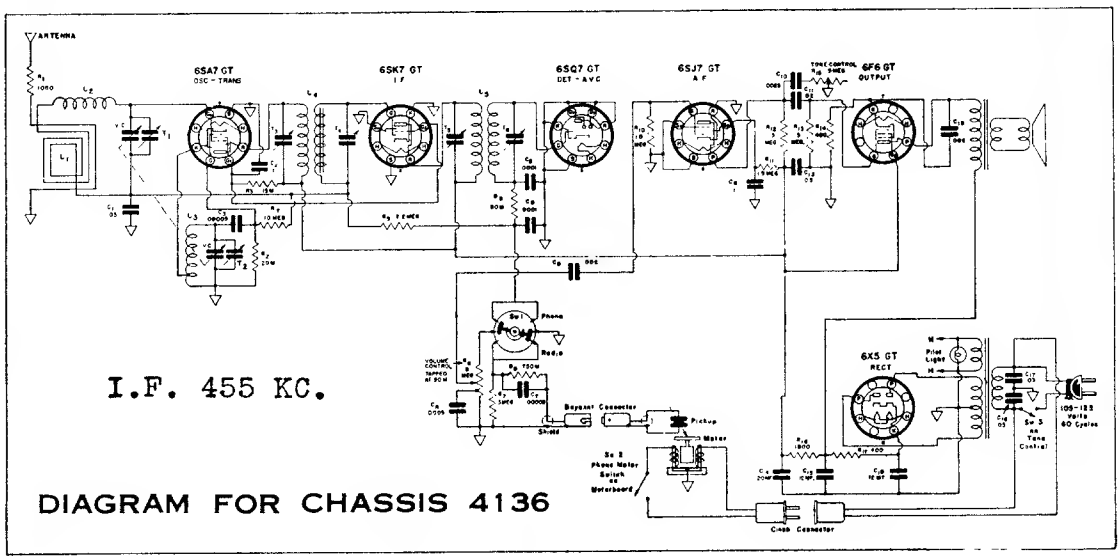
Repair radios in minutes instead of hours. Revolutionary different COMPARISON technique permits you to do expert work on all radio sets. Most repairs can be made without test equipment or with only a voltohmmeter. Many simple, point-to-point, cross-reference, circuit suggestions locate the faults instantly. Plan copyrighted. Covers every radio set—new and old models. This new servicing technique presented in handy manual form, size 8x11 inches, 112 pages. Over 1,000 practical service hints. 16 large, trouble-shooting blueprints. Charts for circuit analysis. 114 tests using a 5c resistor. Developed by M. N. Beitman.....Net Price **$1.50**

☐ **How to MODERNIZE RADIOS for Profit**

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 inch manual is priced at only..... **$1.00**

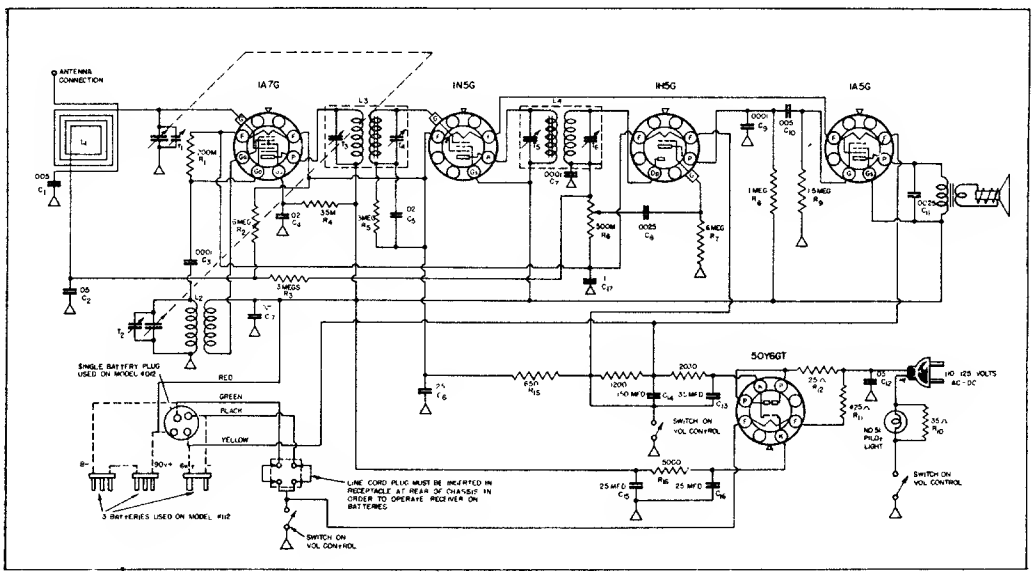
AIR-KING PRODUCTS CO., Inc.

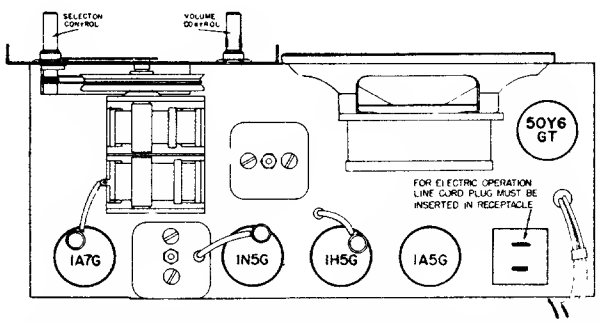
1523-29 63rd STREET BROOKLYN, N. Y., U. S. A.



I.F. 455 KC.

DIAGRAM FOR CHASSIS 4136

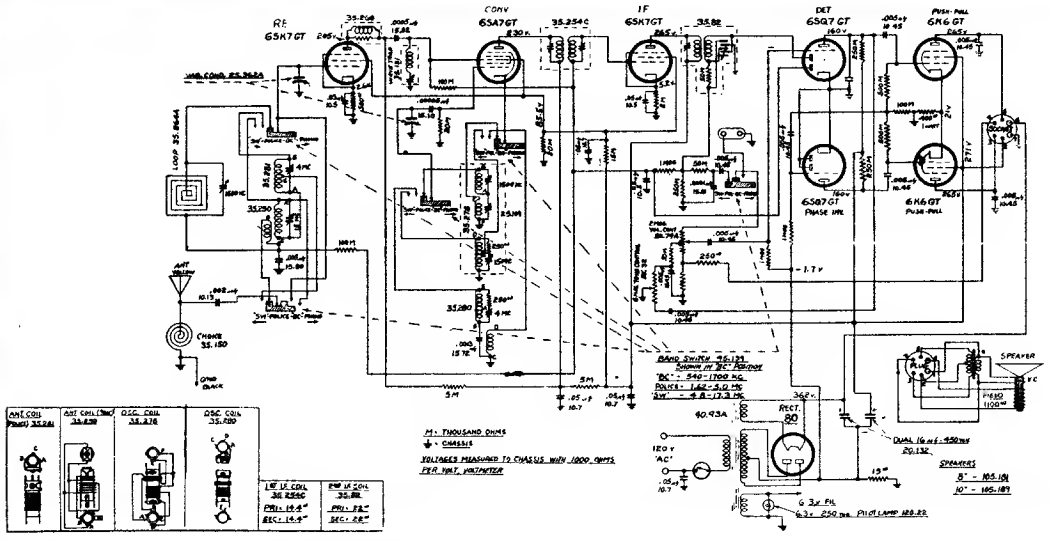




Air-King Products Co.

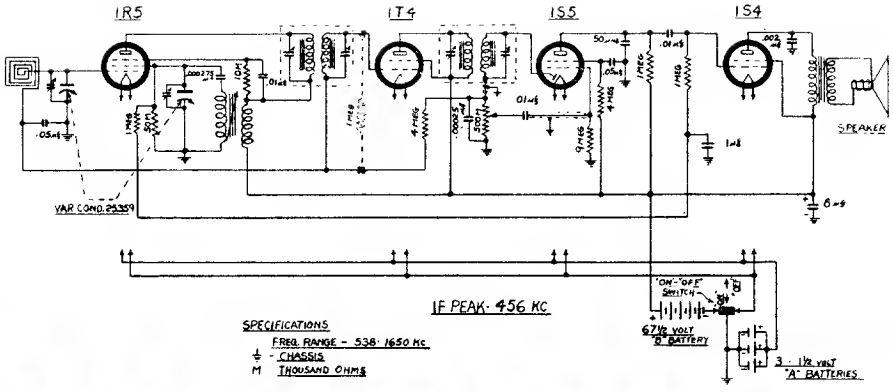
Models 4012, 4016, 4112

I.F. 455 KC.

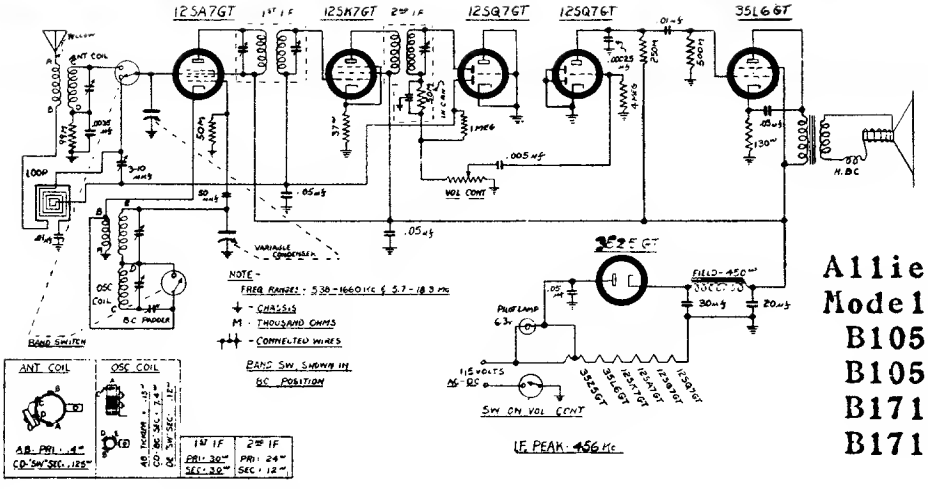


I.F. 456 KC.

SCHEMATIC DIAGRAM MODELS B-17113—B-17114



Models B10600, B10606, B17107-08



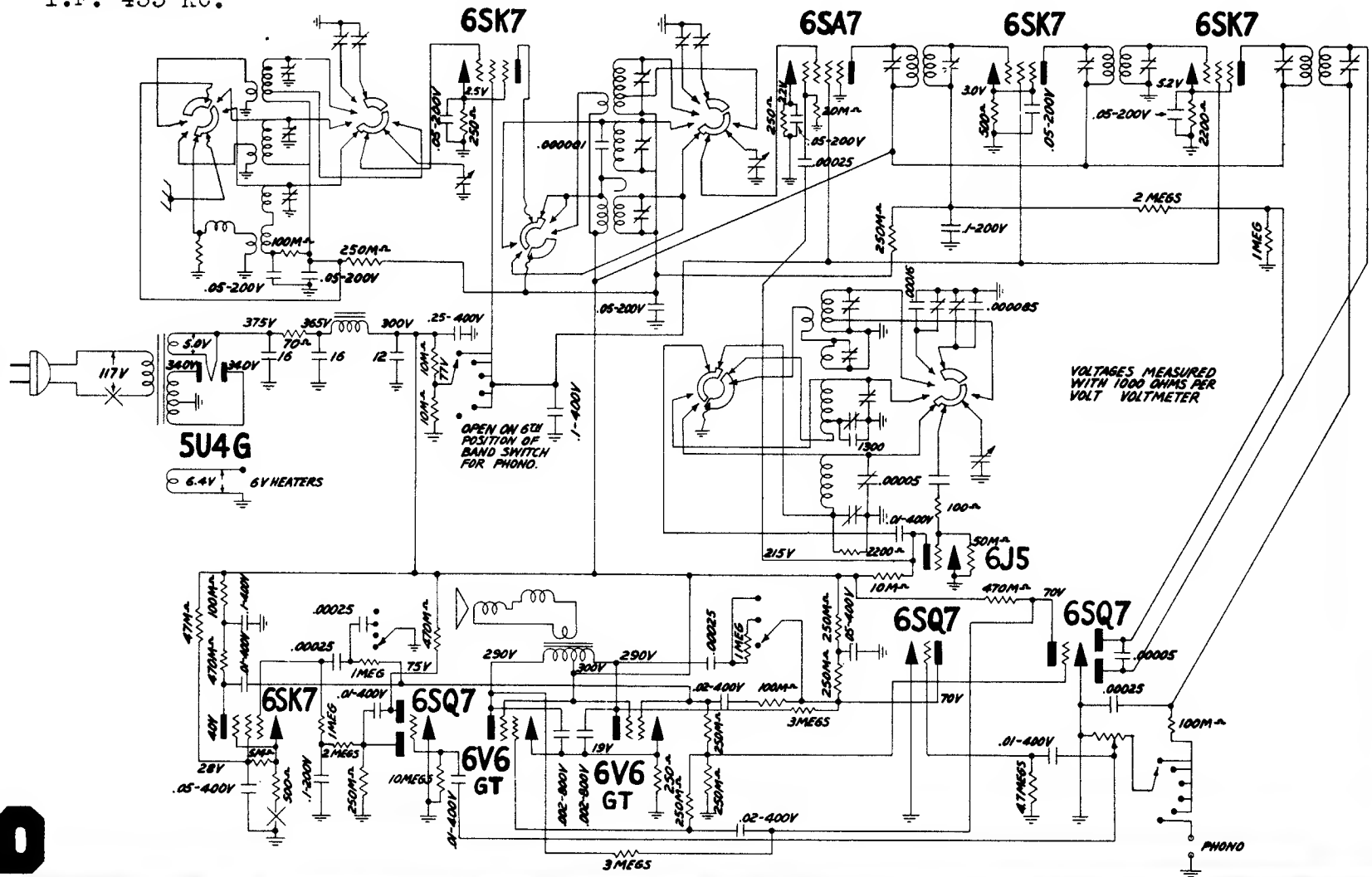
Allied Radio Models:
B10596
B10598
B17103
B17104

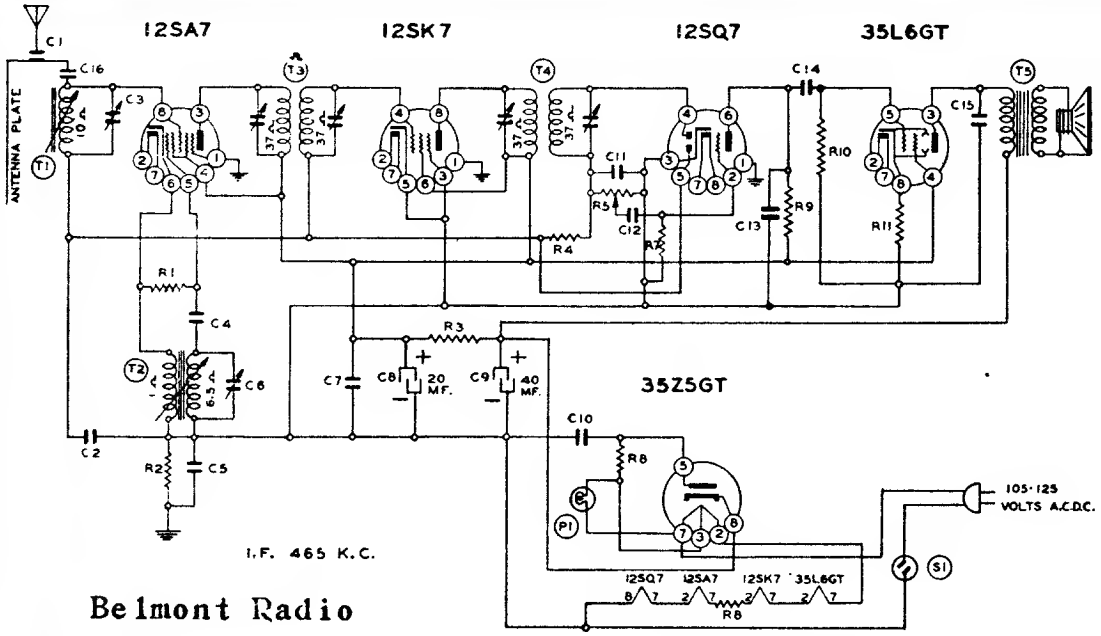
ALLIED RADIO CORPORATION
CHICAGO

Knight 12 Tube Radio and Automatic Phonograph

B17165, B17180, B17187.

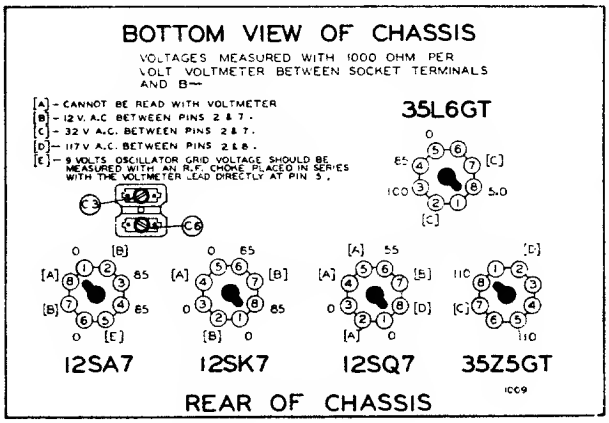
I.F. 455 KC.

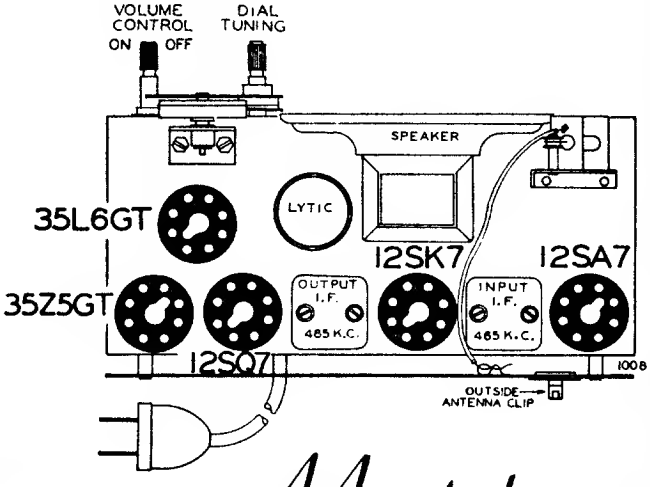




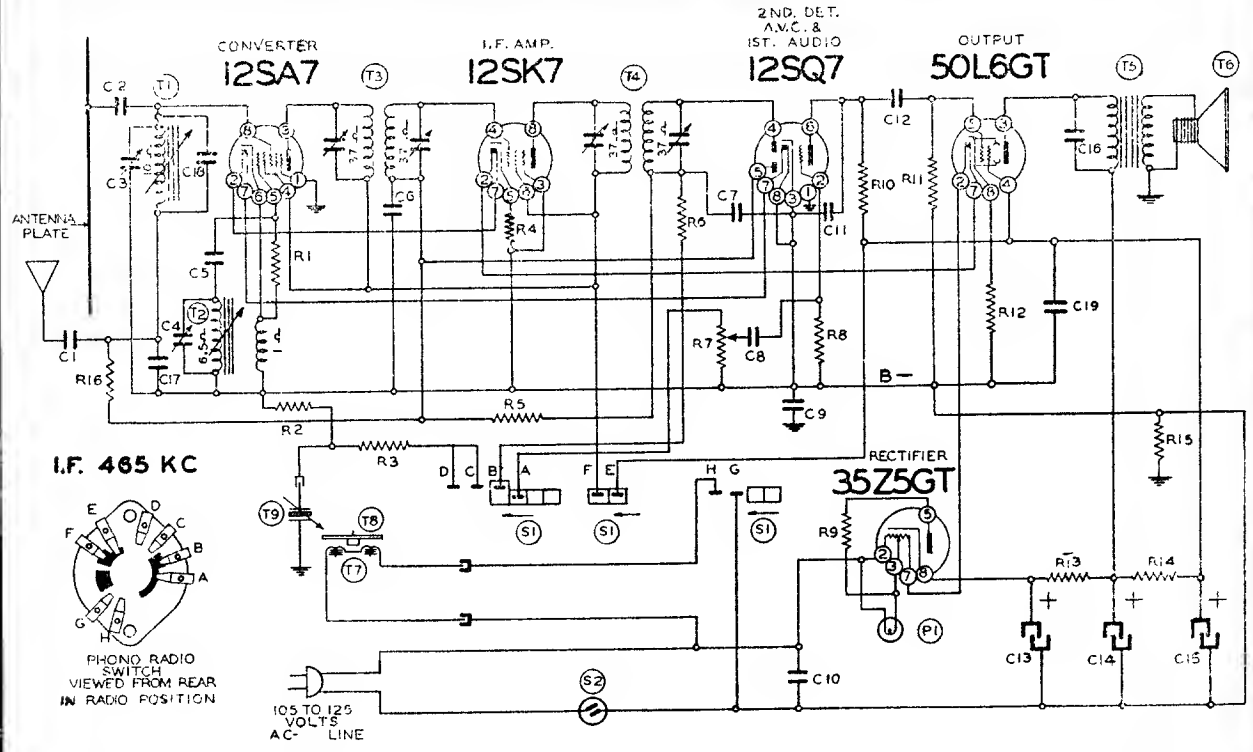
Belmont Radio

Circuit Diagram Ref.	Part No.	Description
		RESISTORS
R1	130176	20M ohm—½ w.
R2	130100	150M ohm—½ w.
R3	130279	1M ohm—1 watt
R4	1304	3 megohm—½ w.
R5	101196	500M ohm volume control
R6	130293	30 ohm—1 watt
R7	130257	5 megohm—½ w.
R8	130288	50 ohm—1.5 watt
R9	1302	75M ohm—½ w.
R10	13011	250M ohm—½ w.
R11	130166	150 ohm—½ w.
		CONDENSERS
C1	131262	.00001 washer condenser (on Antenna plate)
C2	10022	.05 x 200 v.
C3	124100	Antenna Trimmer
C4	12930	.00005 Mica
C5	10091	.15 x 400 v.
C6	124100	Oscillator Trimmer
C7	10022	.05 x 200 v.
C8	11992	20 mfd. x 150 v. lytic
C9	11992	40 mfd. x 150 v. lytic
C10	10013	.05 x 400 v.
C11	12912	.00025 mica
C12	10025	.002 x 600 v.
C13	1292	.0005 mica
C14	10011	.01 x 400 v.
C15	10011	.01 x 400 v.
		C3 and C6 in one unit
		C8 and C9 in one unit
		PARTS
T1	111136B	Antenna Coil Complete
T2	110126B	Oscillator Coil
T3	108157C	Input I. F. Coil—465 kc.
T4	108157C	Output I. F. Coil—465 kc.
T5	114170	4" P. M. Speaker and Transformer
S1	101196	Off-on switch on volume control
P1	107249	6-8 v. pilot light T-47





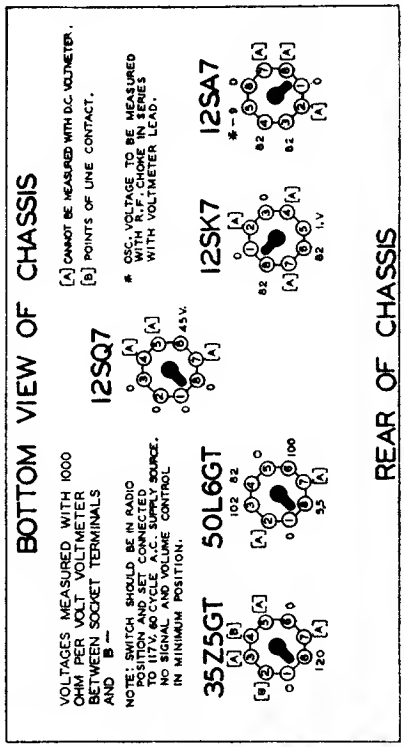
Model 518

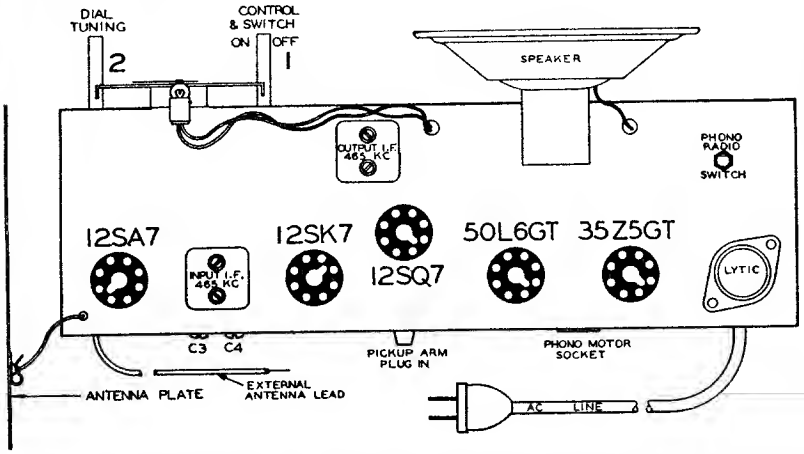


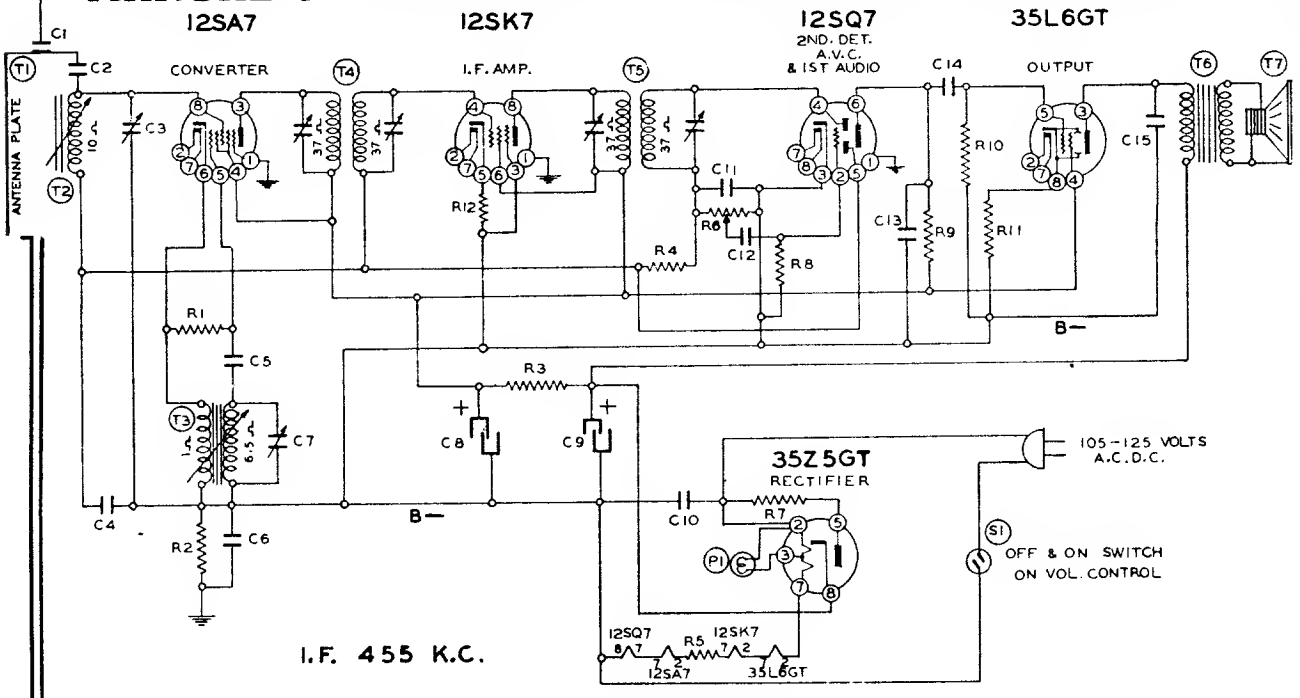
Circuit Diagram Ref. No.	Part No.	Description
		RESISTORS
R1	130176	20M ohm—½ w.
R2	130118	600M ohm—½ w.
R3	130118	600M ohm—½ w.
R4	13056	100 ohm—½ w.
R5	130170	3 megohm—½ w.
R6	13012	50M ohm—½ w.
R7	101217	½ megohm—volume control
R8	130257	5 megohm—½ w.
R9	130215	25 ohm—½ w.
R10	1309	200M ohm—½ w.
R11	13037	750M ohm—½ w.
R12	130166	150 ohm—½ w.
R13	13097	200 ohm—½ w.
R14	130287	1200 ohm—1 watt
R15	1309	200M ohm—½ w.
R16	1309	200M—½ w.
		CONDENSERS
C1	1295	.0001 Mica Condenser
C2	129114	.0003 mfd. mica
C3	124136	Antenna Trimmer
C4	124136	Oscillator Trimmer
C5	1295	.0001 mica
C6	1009	.05 x 200 v.
C7	1295	.0001 mica
C8	10025	.002 x 600 v.
C9	100119	.1 x 400 v.
C10	1001	.1 x 400 v.
C11	12912	.00025 mica
C12	10019	.006 x 600 v.
C13	11994	40 mfd. lytic—150 w. v.
C14	11994	20 mfd. lytic—150 w. v.
C15	11994	20 mfd. lytic—150 w. v.
C16	10011	.01 x 400 v.
C17	129162	.0008 Mica Condenser
C18	129163	.000025 Ceramicon Condenser
C19	10013	.05 x 400 v. Cond.
		C3 and C4 in same unit
		C13, C14 and C15 are in same unit
		PARTS
T1	112866	Antenna Coil—Permeability tuning assembly complete
T2	112866	Oscillator Coil
T3	108140F	Input I. F. Coil—465 kc.
T4	108145D	Output I. F. Coil—465 kc.
T5	105108	Output Transformer
T6	14198	5" P.M. Speaker
T7	104206	Phono Motor
T8	12228	Turntable
T9	114194	Phono pick up arm
S1	125113	Phono Switch
S2		Switch on volume control
P1	107249	Pilot light T47
		T1 snd T2 in ssme unit

Belmont Radio

MODEL 533—SERIES C







Model 536 Radio

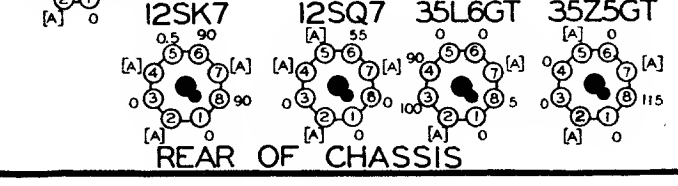
Schematic Ref. No.	Part No.	Description
		RESISTORS
R1	130176	20M ohm—½ w.
R2	130100	150M ohm—½ w.
R3	130279	1M ohm—1 w.
R4	1304	3 megohm—½ w.
R5	130288	50 ohm—1.5 w.
R6	101238	500M ohm volume control and switch
R7	130240	30 ohm—½ w.
R8	130257	5 megohm—½ w.
R9	100100	150M ohm—½ w.
R10	13011	250M ohm—½ w.
R11	130166	150 ohm—½ w.
R12	130233	60 ohm—½ w.
		CONDENSERS
C1	131262	.00001 washer condenser (Antenna clip on back plate)
C2	129114	.0003 mica
C3	124151	Trimmer on antenna coil
C4	1009	.05 x 200 v.
C5	12939	.00005 mica
C6	10091	.15 x 400 v.
C7	124151	Trimmer on oscillator coil
C8	11992	20 mfd. lytic x 150 w. v.
C9	11992	40 mfd. lytic x 150 w. v.
C10	10013	.05 x 400 v.
C11	12912	.00025 mica
C12	10025	.002 x 600 v.
C13	1292	.0005 mica
C14	10011	.01 x 400 v.
C15	10011	.01 x 400 v.
		C3 and C7 are in same unit
		C8 and C9 are in same unit
		PARTS
T1	128586B	Back plate (walnut)
	128586	Back plate (ivory)
T2	112877	Antenna coil—Permeability tuning assembly complete
T3	112877	Oscillator coil—Permeability tuning assembly complete
T4	108157L	Input I. F. coil—455 Kc.
T5	108157N	Output I. F. coil—455 Kc.
T6	10595C	Output transformer
T7	114225	5" P. M. speaker
S1		Switch on volume control
P1	107249	Pilot light T47

BOTTOM VIEW OF CHASSIS

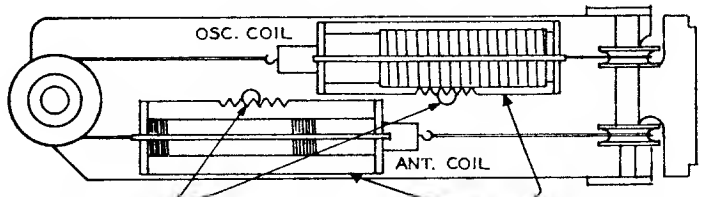
VOLTAGES MEASURED WITH A HIGH RESISTANCE VOLTMETER BETWEEN SOCKET TERMINALS AND B—

[A] CANNOT BE MEASURED WITH VOLTMETER.

* OSCILLATOR VOLTAGE TO BE MEASURED WITH R.F. CHOKE IN SERIES WITH VOLTMETER LEAD.

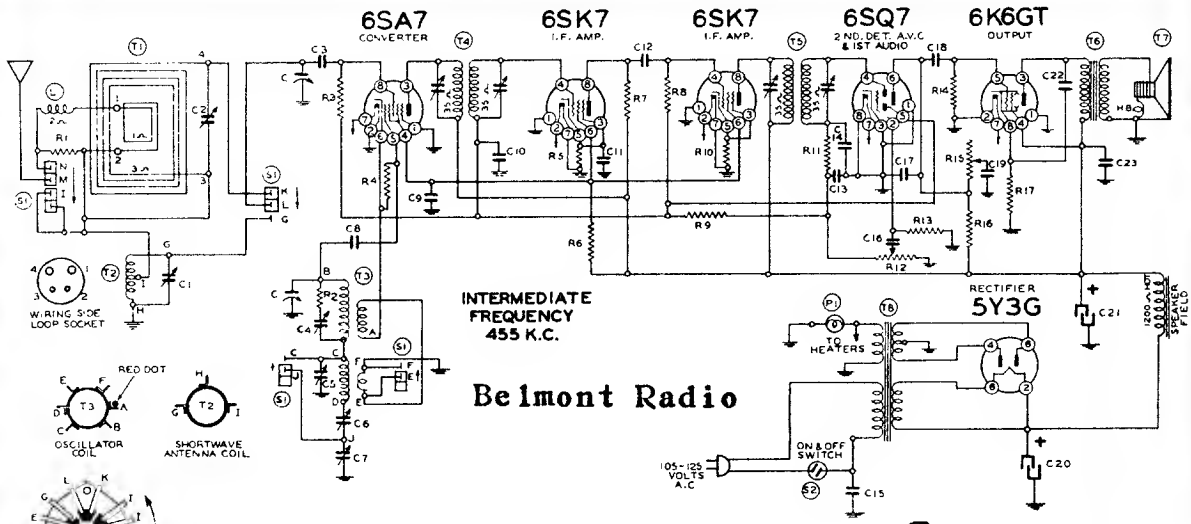


VIEW LOOKING AT BOTTOM OF CHASSIS

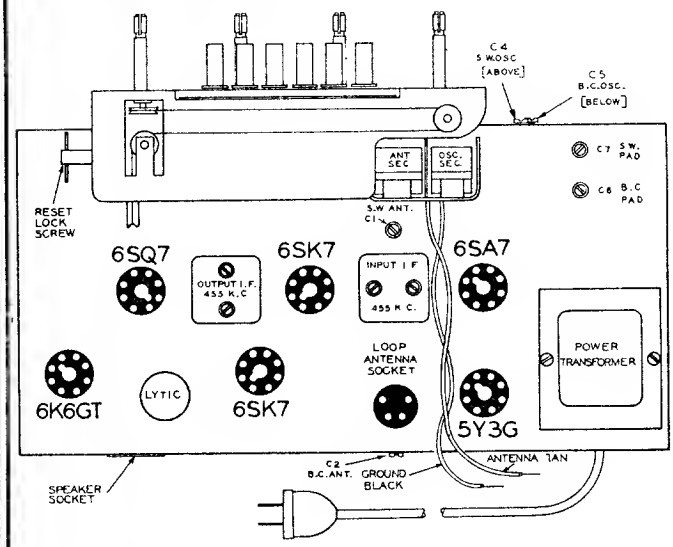


NOTE "A" THE ANTENNA COIL ASSEMBLY IS MADE SO THAT IT IS MOVABLE LEFT OR RIGHT. WHEN MAKING THE ADJUSTMENT AS GIVEN IN THE ALIGNMENT PROCEDURE MOVE THE COIL ASSEMBLY VERY SLOWLY. IT CAN BE MOVED BY HAND OR BY PIVOTING ONE EDGE OF THE BLADE OF A SCREWDRIVER IN THE HOLE AND ENGAGING THE BLADE IN THE GEAR TEETH OF THE COIL FORM.

TO AOJUST COIL ASSEMBLY MOVE LEFT OR RIGHT



Model 681 Radio



Setting the Pushbuttons

Make a list of your 6 favorite stations. Push out the call letters of these stations from the call letter sheets supplied. Insert a call letter in the front of each pushbutton.

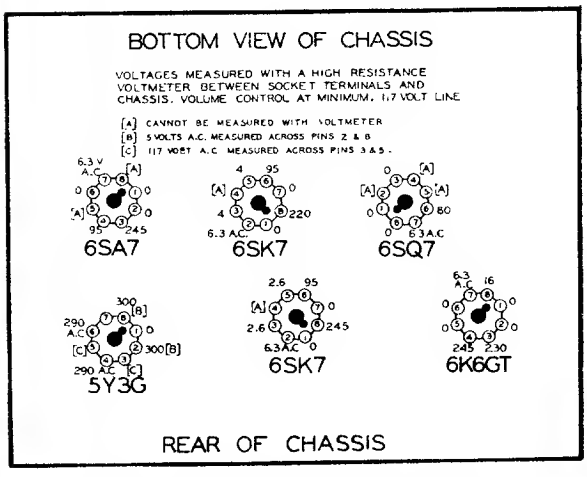
Next push one of the pushbuttons all the way in as far as it will go and hold it there. Now tune in the station you want with the tuning knob—Tune back and forth until the station is clear and distinct, then release the button. Continue setting each pushbutton in the same way. Now rotate the tuning knob to the right (clockwise) as far as it will turn.

Looking at the back of the cabinet note the **reset lock screw** on the left hand side of the chassis, (see chassis view).

Rotate the **reset lock screw** to the **right** (clockwise) by means of the pin thru the shaft.

It is **very important** that this locking screw is **turned** until it is **absolutely tight.**

This screw will lock in place all the stations you have selected on the automatic tuner pushbuttons. Pressing the proper button will now tune the station you want.



CONDENSERS

C	2 gang variable condenser
C1	S.W. antenna trimmer
C2	B.C. antenna trimmer
C3	.0005 mica
C4	S.W. oscillator trimmer
C5	B.C. oscillator trimmer
C6	B.C. padding condenser
C7	S.W. padding condenser
C8	150 mfd. mica
C9	.05 x 400 v.
C10	.05 x 200 v.
C11	.05 x 200 v.
C12	.0005 mica
C13	.0001 mica
C14	.0001 mica
C15	.02 x. 600 v.
C16	.002 x 600 v.
C17	.00025 mica
C18	.02 x 400 v.
C19	.004 x 600 v.
C20	16 mfd. x 400 w.v. lytic
C21	16 mfd. x 400 w.v. lytic
C22	.006 x 600 v.
C23	.1 x 400 v.

C4 and C5 are in same unit
C13 and C14 are in same unit
C6 and C7 are in same unit
C20 and C21 are in same unit

RESISTORS

R1	4M ohm—½ w.
R2	20 ohm—½ w.
R3	1 megohm—½ w.
R4	30M ohm—½ w.
R5	750 ohm—½ w.
R6	19M ohm—1½ w.
R7	5M ohm—½ w.
R8	100M ohm—½ w.
R9	3 megohm—½ w.
R10	350 ohm—½ w.
R11	50M ohm—½ w.
R12	1 megohm volume control
R13	10 megohm—½ w.
R14	500M ohm—½ w.
R15	1 megohm tone control
R16	250M ohm—½ w.
R17	500 ohm—1 w.

Belmont Radio
Model 1100

TRIMMER VIEW

PARTS

T1	111207	Loop Antenna Assembly
T2	111195	B.C. Antenna Coil
T3	111190	9 mc. Antenna Coil
T4	111189	6 mc. Antenna Coil
T5	111191	12 mc. Antenna Coil
T6	111192	15 mc. Antenna Coil
T7	10959	9 mc. R.F. Coil
T8	10958	6 mc. R.F. Coil
T9	10960	12 mc. R.F. Coil
T10	10961	15 mc. R.F. Coil
T11	10962	B.C. R.F. Coil
T12	110161	B.C. Oscillator Coil
T13	110157	9 mc. Oscillator Coil
T14	110156	6 mc. Oscillator Coil
T15	110158	12 mc. Oscillator Coil
T16	110159	15 mc. Oscillator Coil

C3 and C4 in same unit
C15, C17 and C21 in same unit
C29 and C30 in same unit

C23	10065	.015 x 600 v.
C24	10065	.015 x 600 v.
C25	1001	.1 x 400 v.
C26	10022	.05 x 200 v.
C27	10013	.05 x 400 v.
C28	1009	.05 x 200 v.
C29	129161	.0001 mica
C30	129161	.0001 mica
C31	10020	.1 x 200 v.
C32	1292	.0005 mica
C33	12912	.00025 mica
C34	1001	.1 x 400 v.
C35	10013	.05 x 400 v.
C36	100118	.008 x 600 v.
C37	12936	.0003 mica
C38	129166	.000125 mica
C39	10037	.003 x 600 v.
C40	12912	.00025 mica

IF 455 KC.

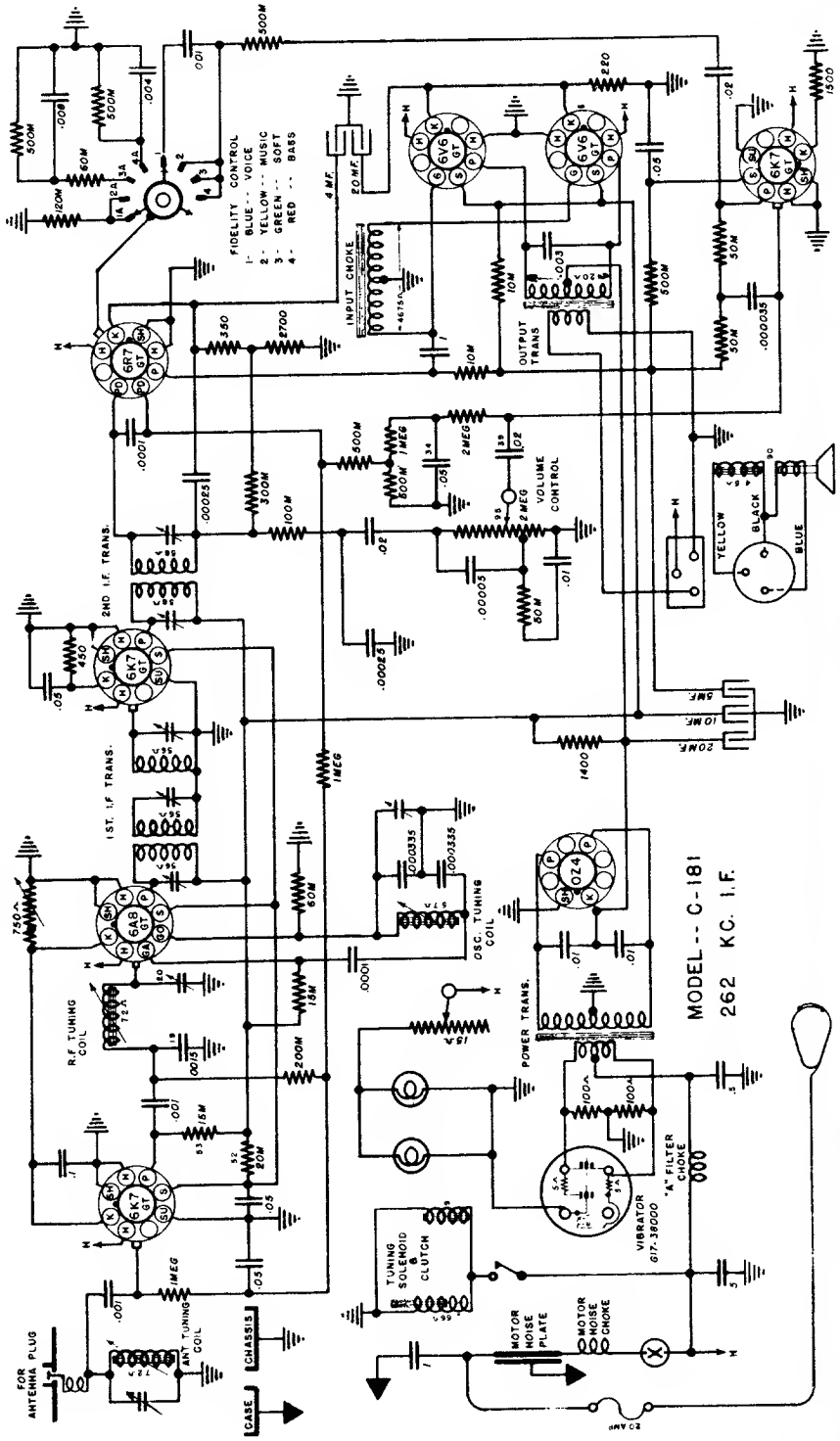
RESISTORS

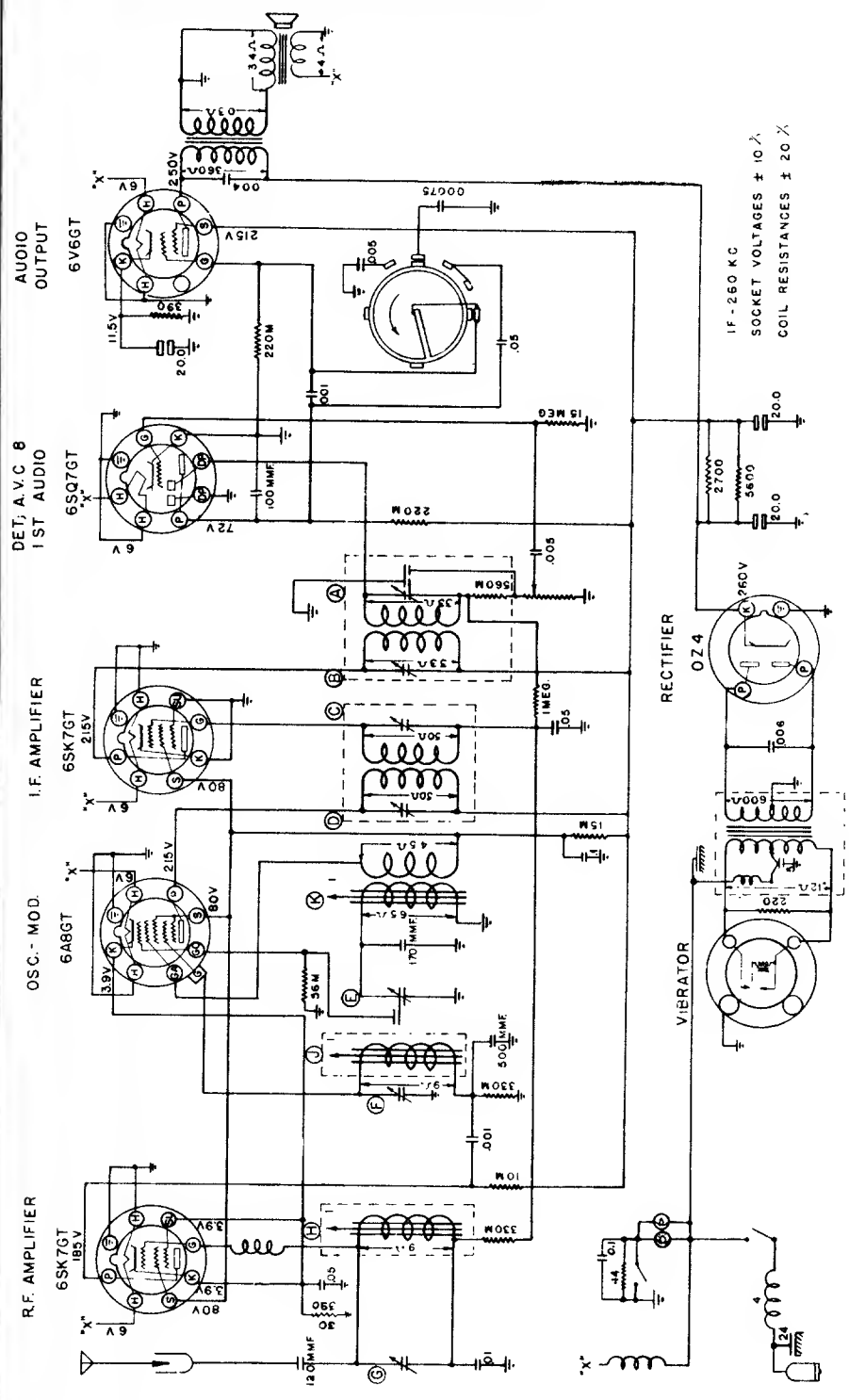
R1	130232	25M ohm—½ w.	
R2	130232	25M ohm—½ w.	
R3	13019	1 megohm—½ w.	
R4	130239	250 ohm—½ w.	
R5	130218	5M ohm—½ w.	
R6	13019	1 megohm—½ w.	
R7	130232	25M ohm—½ w.	
R8	130318	6M ohm—2 watt	
R9	130319	10M—2 watt	
R10		1 megohm in tuning indicator	
R11	130200	700 ohm—½ w.	
R12	13082	10M ohm—½ w.	
R13	130235	1500 ohm—½ w.	
R14	130235	1500 ohm—½ w.	
R15	130192	2M ohm—½ w.	
R16	13019	1 megohm—½ w.	
R17	13020	100M ohm—½ w.	
R18	1303	500M ohm—½ w.	
R19	130317	250 ohm—2 watt	
R20	1303	500M ohm—½ w.	
R21	13020	100M ohm—½ w.	
R22	130238	400M ohm—½ w.	
R23	101234	500M ohm volume control and line switch (S4)	
R24	13073	15M ohm—½ w.	
R25	13094	50M ohm—½ w.	
R26	130218	5M ohm—½ w.	
R27	13094	50M ohm—½ w.	
R28	1303	500M ohm—½ w.	
R29	130172	250M ohm—½ w.	
R30	1303	500M ohm—½ w.	
R31	130172	250M ohm—½ w.	
R32	1307	40M ohm—½ w.	
R33	13080	150M ohm—½ w.	
R34	130309	350M ohm—½ w.	
R35	130172	250M ohm—½ w.	
R36	130174	50 ohm—½ w.	
R37	13080	150M ohm—½ w.	

CONDENSERS

C1	1292	.0005 mica
C2	10047	.002 x 600 v.
C3	124143	B.C. Antenna Trimmer
C4	124143	9 mc. Antenna Trimmer
C5	1292	.0005 mica
C6	10020	.1 x 200 v. Tubular
C7	129168	.00001 mica
C8	124138	9 mc. R.F. Trimmer
C9	124139	B.C. R.F. Trimmer
C10	10074	.1 x 400 v.
C11	10074	.1 x 400 v.
C12	10061	.02 x 600 v.
C13	1292	.0005 mica
C14	10061	.02 x 600 v.
C15	119112	30.0 mfd. lytic
C16	124144	B.C. Oscillator Trimmer
C17	119112	30.0 mfd. lytic x 450 w.v.
C18	129167	.0002 silver mica
C19	12938	.00005 mica
C20	124145	9 mc. Oscillator Trimmer
C21	119112	10.0 mfd. lytic
C22	11969	16 mfd. x 350 w.v.

Chevrolet Auto Radio, Model 985694



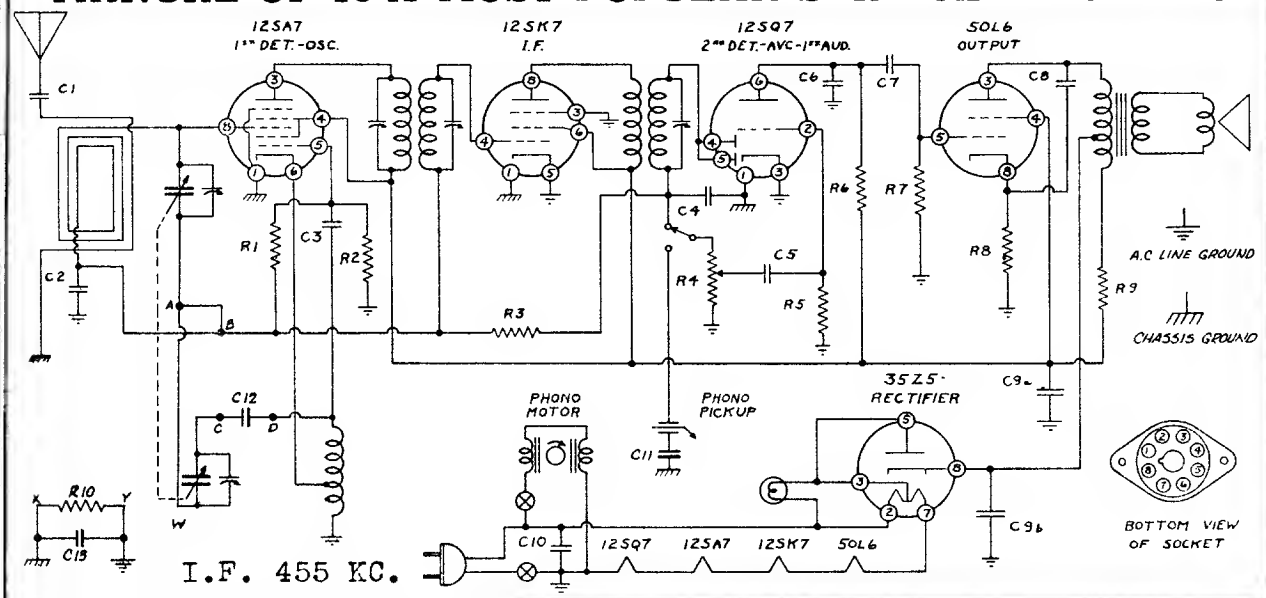


ANTENNA CIRCUIT: The antenna circuit is directly coupled to the antenna. The antenna coil is tuned by means of an iron core and the circuit is adjusted for slight variations in antenna capacity by means of an antenna trimmer located on the bottom of the receiver case.

Chevrolet Auto Radio, Model 985695

Chevrolet Auto Radio
Model 985697

This auto radio is a nine-tube self contained receiver, built expressly for installation in 1941 Chevrolet automobiles. Special features incorporated in this receiver are: Electric tuning on five stations; push-button tone control; elliptical speaker; permeability tuning; sensitivity control; noise limiter circuit; OZ4 cold cathode rectifier, and a primary type vibrator.



In model M5-PH only, connect points w, x, and y together. R10 and C13 are not used. Also C12 is not used, and point C connects to D. Disconnect points A and B.

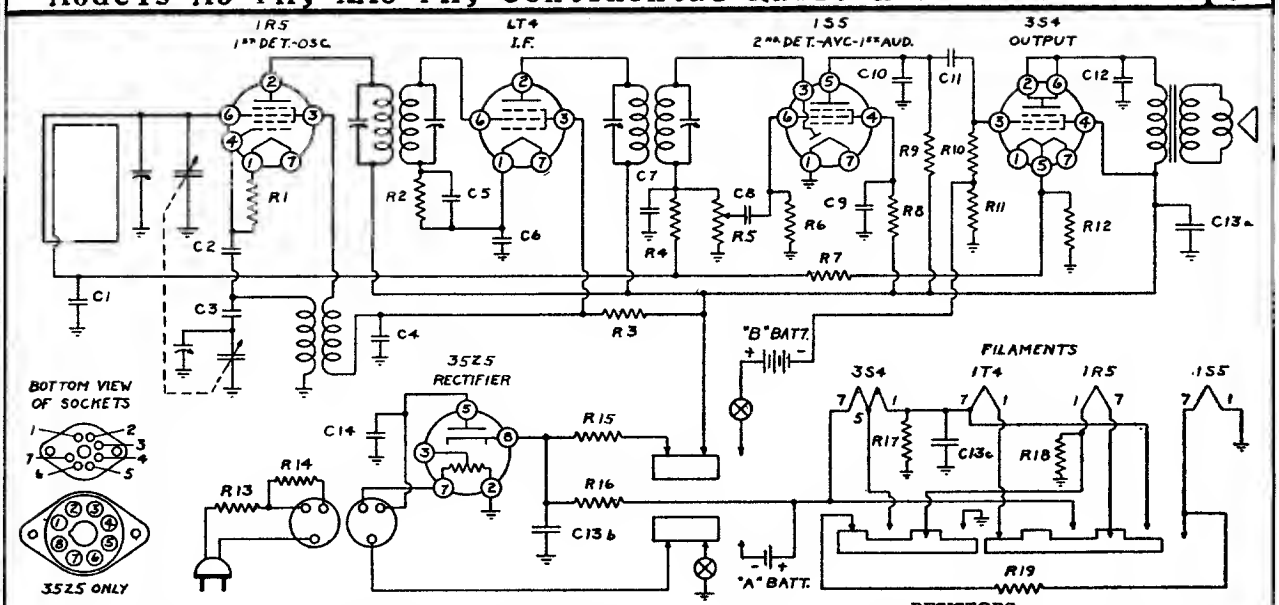
RESISTORS

No.	Ohms	Watts	No.	Ohms	Watts
R1	10,000,000	1/4	R6	250,000	1/4
R2	25,000	1/4	R7	500,000	1/4
R3	2,000,000	1/4	R8	150-10%	1/4
R4	500,000	V.C.	R9	1,000	1/2
R5	5,000,000	1/4	R10	150,000	1/2

CONDENSERS

No.	Capacity (Mfd.)	Volts	No.	Capacity (Mfd.)		Volts
C1	.001	600	C8	.02		400
C2	.05	200	C9a	50.	Elect.	150
C3	.00005	Mica	C9b	30.	Elect.	150
C4	.00025	Mica	C10	.05		400
C5	.005	600	C11	.2		400
C6	.0005	Mica	C12	.02		400
C7	.01	400	C13	.16		200

Models M5-PH, XM5-PH, Continental Radio & Television Corp.



CONDENSERS

No.	Capacity (Mfd.)	Volts	No.	Capacity (Mfd.)	Volts
C1	.05	200	C9	.05	200
C2	.0001	Mica	C10	.00005	Mica
C3	.000485-2%	Mica	C11	.005	200
C4	.01	120	C12	.01	200
C5	.01	120	C13a	20.	150
C6	.1	120	C13b	30.	150
C7	.00025	Mica	C13c	100.	12
C8	.01	200	C14	.05	400

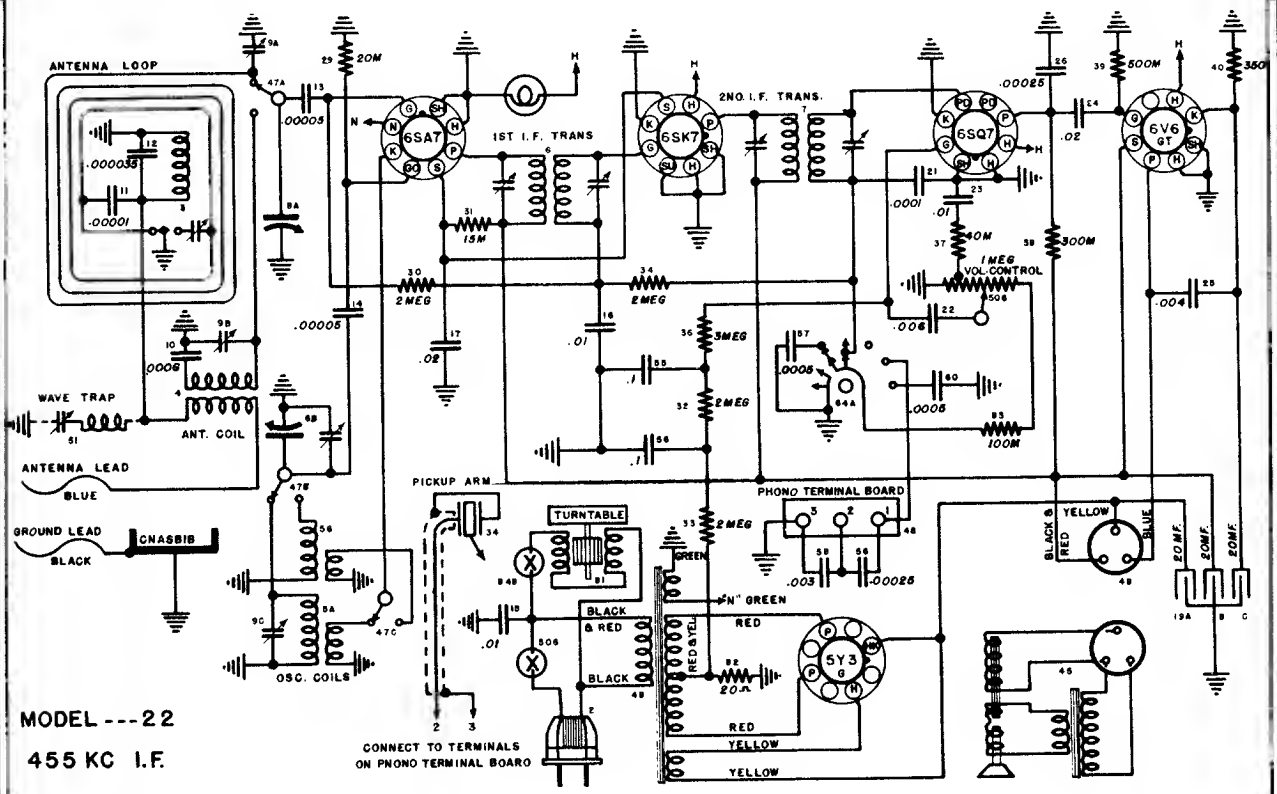
RESISTORS

No.	Ohms	Watts	No.	Ohms	Watts
R1	100,000	1/4	R11	750—10%	1/4
R2	5,000,000	1/4	R12	3,000—10%	1/4
R3	5,000—10%	1/4	R13	80 } part of	
R4	2,000,000—10%	1/4	R14	350 } line cord	
R5	1,000,000	V.C.	R15	2,000—10%	1/2
R6	10,000,000	1/4	R16	1,750—10%	4
R7	3,000,000—10%	1/4	R17	1,700—10%	1/4
R8	4,000,000	1/4	R18	1,000—10%	1/4
R9	1,000,000	1/4	R19	55—10% (wire wound)	1/2
R10	2,000,000	1/4			

G5

I.F. 455 KC.

INSTALLATION, OPERATION AND SERVICE INSTRUCTIONS FOR CROSLEY MODEL 22AS



Alignment Sequence	Dummy Antenna	Frequency Setting	Input to Receiver	Band Switch	Tuning Cond. Setting	Trimmers Adjusted	Remarks
1.	.02MF.	455 Kc.	Ant. Lead (Blue)	B. C.	Fully Open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum output. Adjust for Maximum output.
2.	400 ohm (carbon)	15.3 Mc.	Ant. Lead (Blue)	S. W.	Fully Open	S. W. "OSC" (on gang)	Adjust for Peak. See foot note.
3.	400 ohm (carbon)	15.0 Mc.	Ant. Lead (Blue)	S. W.	Approx. 15 on dial	S. W. "ANT" center trimmer on right end	Adjust for Maximum while rocking gang back and forth.
4.	.0002 MF.	1650 Kc.	Ant. Lead (Blue)	B. C.	Fully Open	B. C. "OSC" front trimmer on right end	Adjust for peak. Make sure the switch on loop is in B. C. position.
5.	.0002 MF.	1400 Kc.	Ant. Lead (Blue)	B. C.	Approx. 140 on dial	B. C. "ANT" rear trimmer on right end	Adjust for Maximum output.
6.	.0002 MF.	2.5 Mc.	Ant. Lead (Blue)	B. C. and switch on loop to Pol.	Approx. 2.5 on dial lower right corner	Pol. Ant on loop	Adjust for Maximum output.

VOLTAGE. CHART

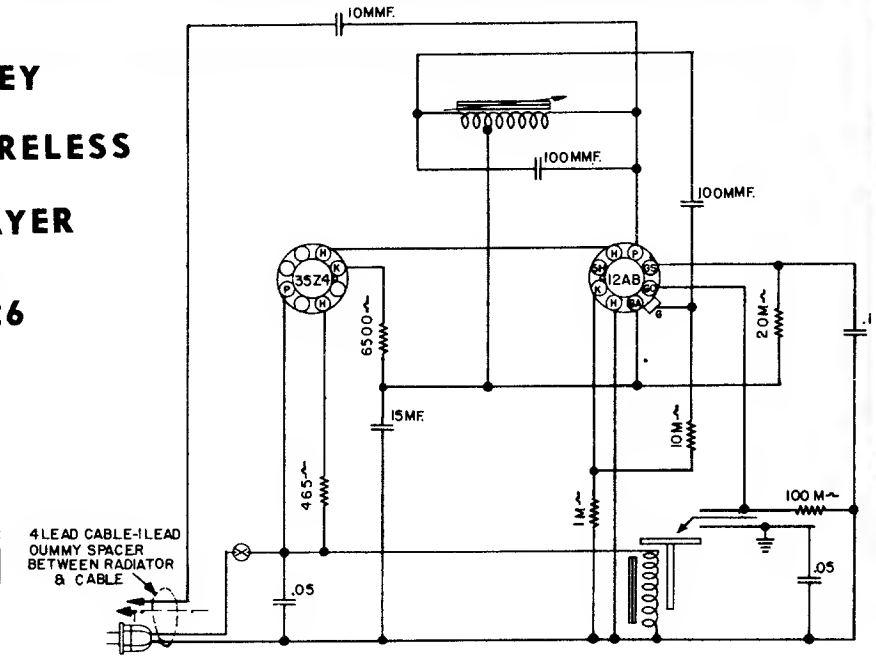
ALL VOLTAGES MEASURED FROM SOCKET PIN TO CHASSIS @ 117.5 VOLT LINE

	SOCKET PIN NUMBER							
TUBE SECTION	1	2	3	4	5	6	7	8
6SA7—Osc.-Mod.	0	0	225	74	0	0	6.3 A.C.	0
6SK7—I. F. Amp.	0	0	0	0	0	74	6.3 A.C.	225
6SQ7—Det. A.V.C.—1st A.F.	0	0	0	0	0	100	6.3 A.C.	0
6V6GT—Output	0	0	209	225	0	0	6.3 A.C.	10.5
5Y3G—Rectifier	0	5.0 A.C.	0	316 A.C.	0	316 A.C.	0	283

All voltages measured with 1000 OHM/Volt Voltmeter except heaters. Voltages may vary 10% of values given.

DROP ACROSS SPEAKER FIELD..... 58 Volts
MAXIMUM POWER OUTPUT @ 130 V. LINE..... 6.5 Watts

THE CROSLEY AUTOMATIC WIRELESS RECORD PLAYER MODEL CR26



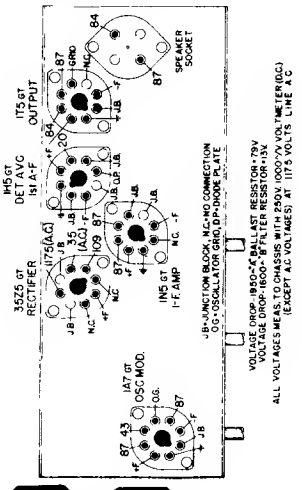
MODEL 27 CHASSIS

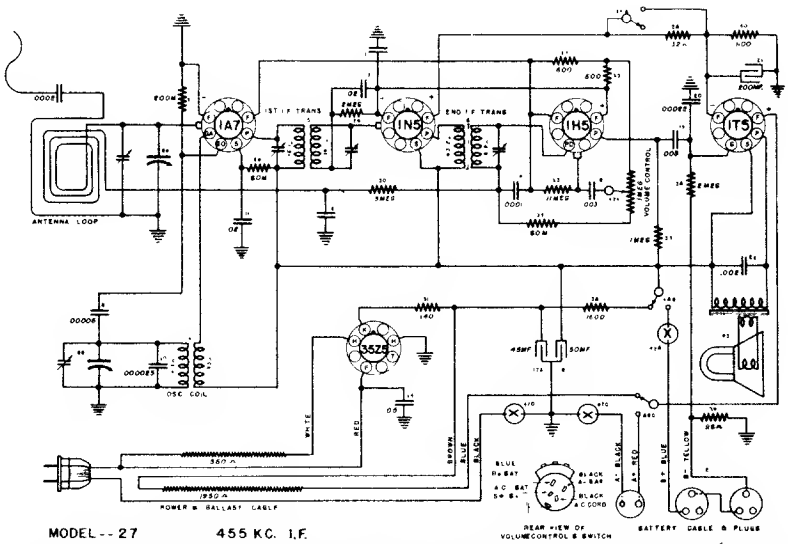
ALIGNMENT PROCEDURE Volume Control on full Output meter connected to Plate and Screen of 1T5GT

SIGNAL GENERATOR FREQUENCY SETTING	SIGNAL GENERATOR CONNECTION TO RADIO	DUMMY ANTENNA	TUNING COND. SETTING	TRIMMERS TO ADJUST	REMARKS
455 Kc	Grid 1A7GT	.02 MF	Fully open	2nd 1-F (1) located on front	Adjust for maximum signal.
455 Kc	Grid 1A7GT	.02 MF	Fully open	chassis flange 1st 1-F (2)	Adjust for maximum signal. Located top of 1st 1-F ass'y.
1650	Ant. Lead	.0001 MF	Approx. 140	"OSC" Shunt on gang	Adjust for maximum output. Gang does not have to tune through signal.
1400	Ant. Lead	.0001 MF	on dial	"ANT" shunt on loop ant. through hole in right side of cabinet	Adjust for maximum output.

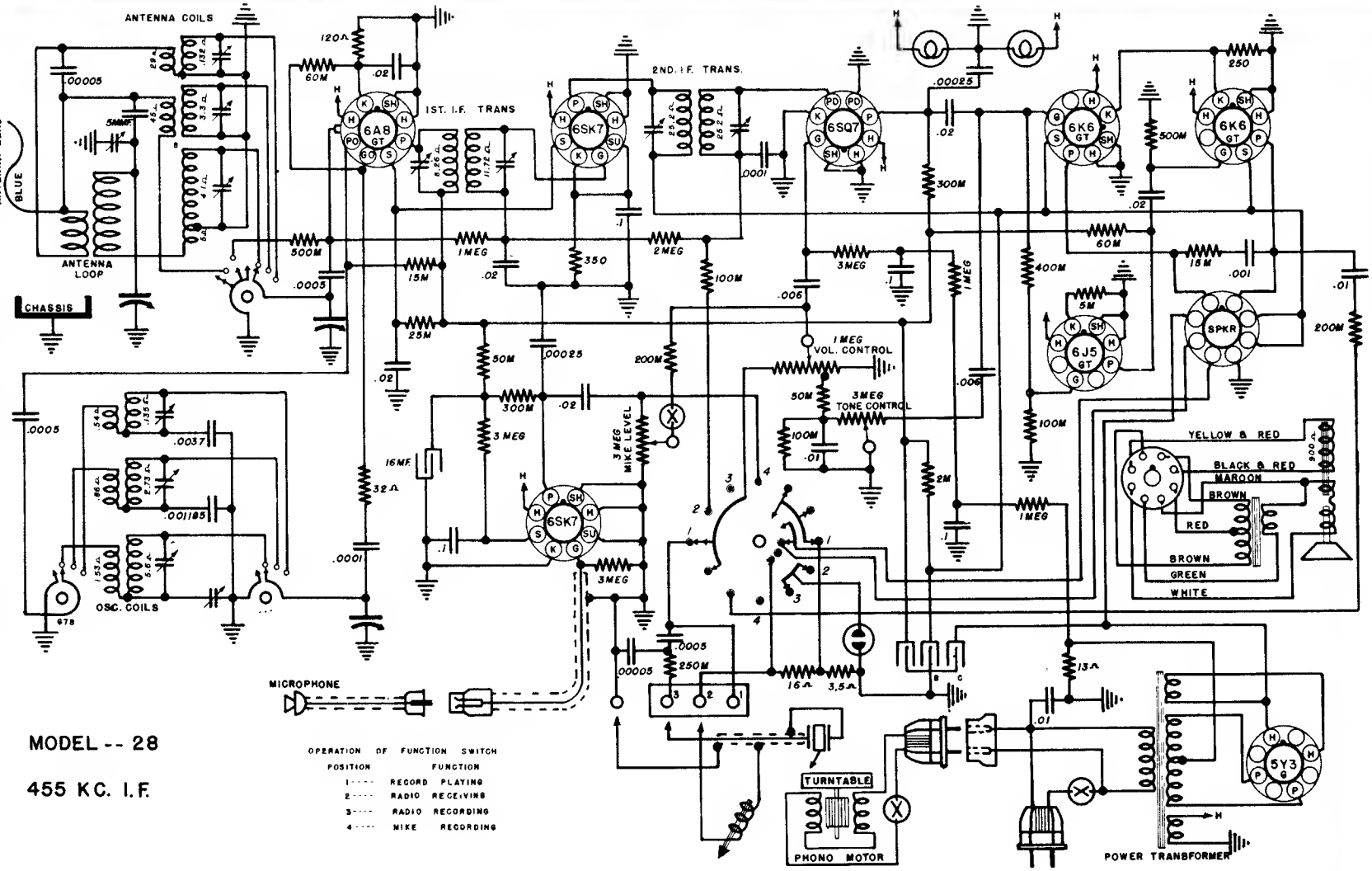
Repeat above for more accurate adjustments
Maximum power output @ 75 V. "B" — approx. 200 M. W.
Maximum power output @ 90 V. "B" — approx. 340 M. W.
Maximum power output @ 90 V. "B" — approx. 200 M. W. undistorted

A Battery drain @ 6 volts .05 Amp.; "B" Battery drain @ 75 V., 9 M. A.; @ 90 V., 12 M. A.
Power consumption @ 117.5 volts line—30 Watts





MODEL--27 455 KC. I.F.



MODEL -- 28

455 KC. I.F.

OPERATION OF FUNCTION SWITCH

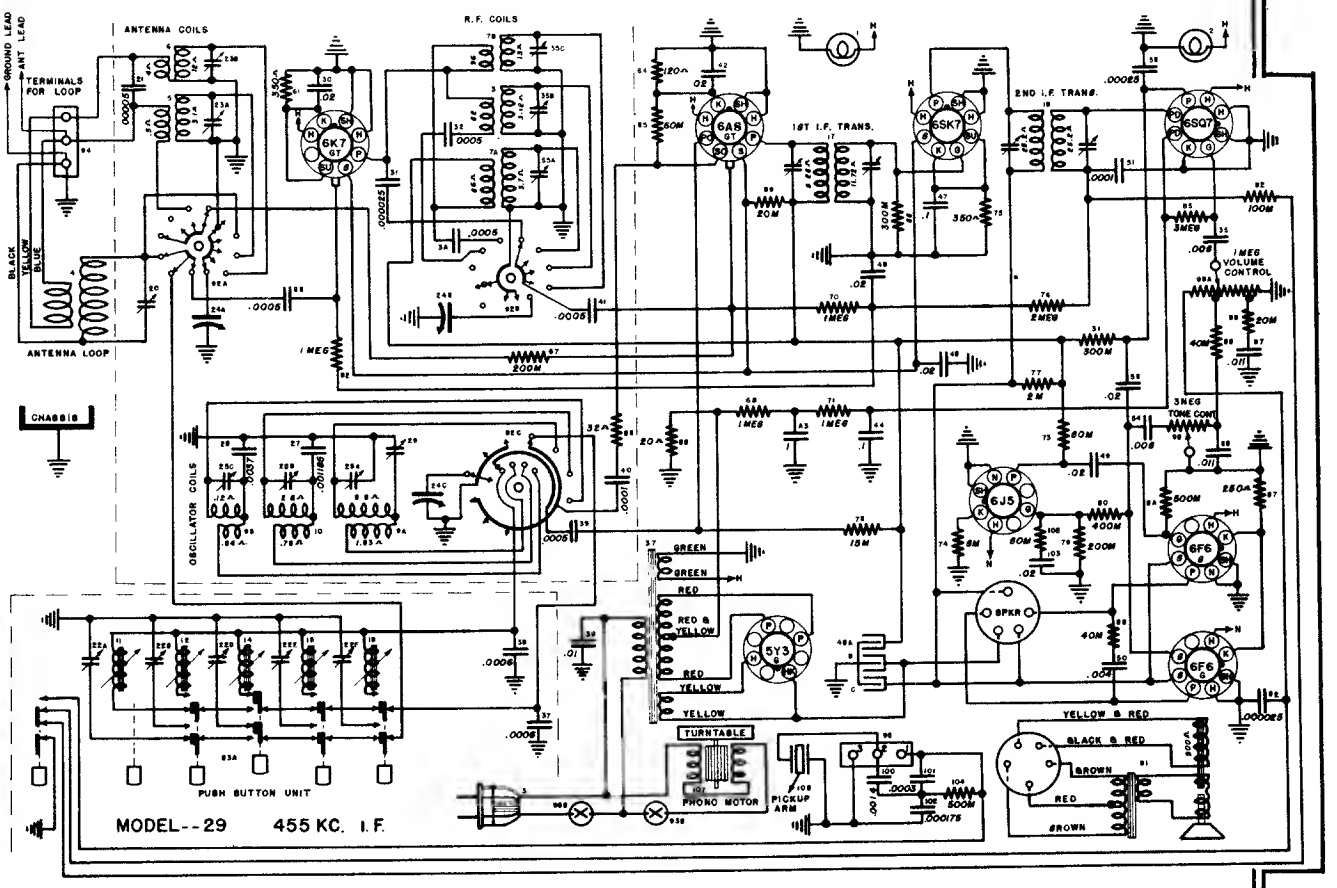
POSITION	FUNCTION
1	RECORD PLAYING
2	RADIO RECEIVING
3	RADIO RECORDING
4	MIKE RECORDING

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

The Crosley Corporation
Cincinnati, Ohio

Model 28

CROSLEY MODEL 29 CHASSIS



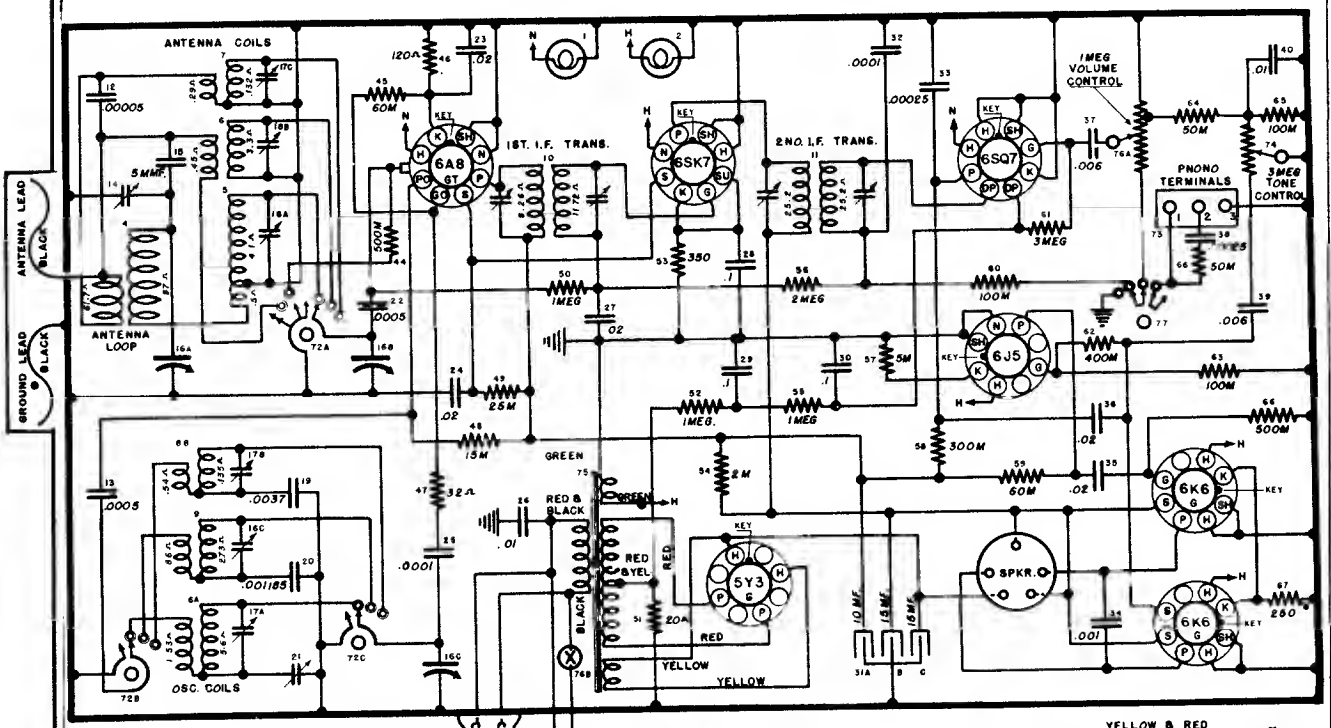
ALIGNMENT PROCEDURE CHART

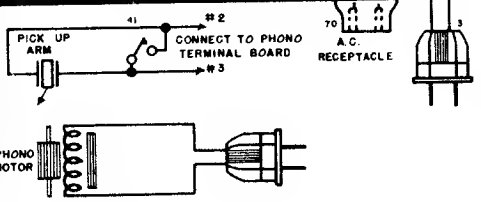
Alignment Sequence	Dummy Antenna	Signal Generator Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Grid of 6A8GT	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1650 Kc.	Ant. Lead (Blue)	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal.
3.	.0002 MF.	600 Kc.	Ant. Lead (Blue)	B. C.	Approx. 60 on dial	B. C. "OSC" Series Trimmer	Adjust for maximum output while rocking gang thru signal.
4.	Repeat Step No. 2 to check possible shift due to series adjustment						
5.	.0002 MF.	1400 Kc.	Ant. Lead (Blue)	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. R-F Trimmer	Adjust for maximum output to not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Lead (Blue)	Police	Fully open	Pol "OSC"	Adjust for peak gang; does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Lead (Blue)	Police	Approx. 5.0	Pol "ANT" and R-F Trimmers	Adjust for maximum output while rocking gang thru signal.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Lead (Blue)	S. W.	Fully open	S. W. "OSC"	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Lead (Blue)	S. W.	Approx. 18	S. W. "ANT" and R-F Trimmers	Adjust for maximum output while rocking gang thru signal.

THE CROSLEY CORPORATION • CINCINNATI, OHIO, U. S. A.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

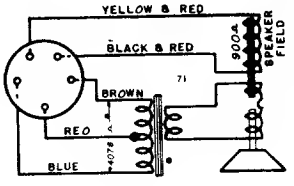
CROSLEY MODEL J30BC



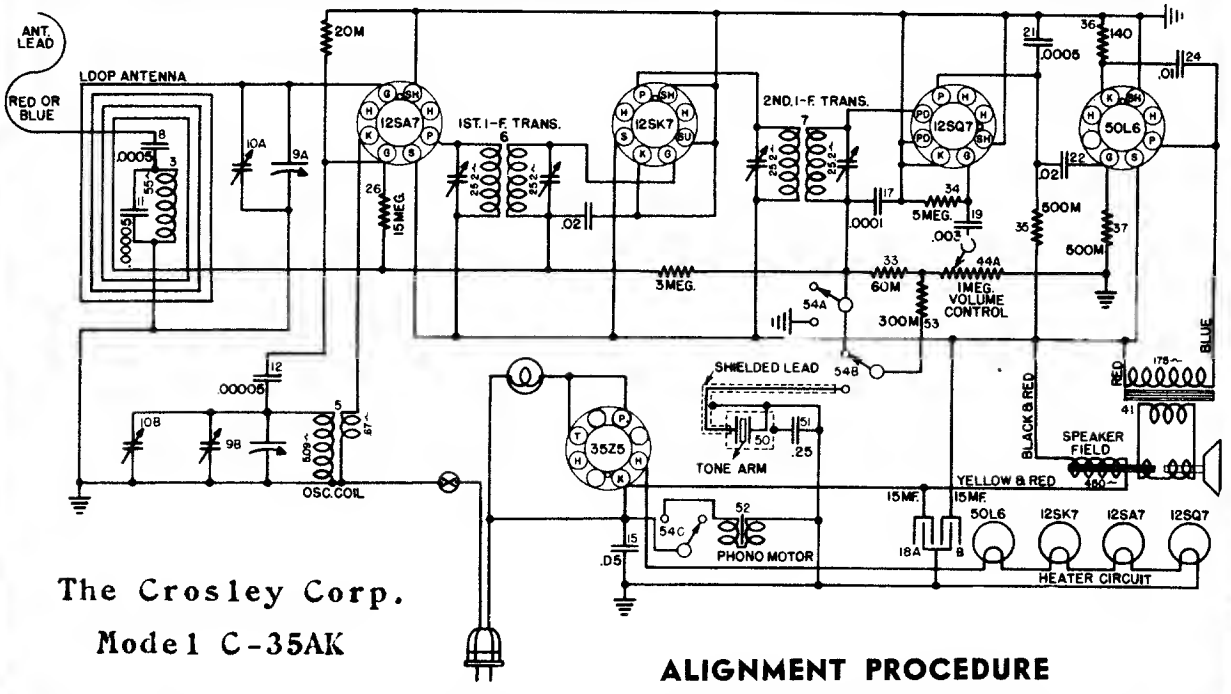


MODEL -- 30
455 K.C. I.F.

FOR TELELEVISION SOUND OR F.M SOUND USE TERMINALS NO 1 & 3 OF PHONO TERMINAL BOARD, WITH PHONO-RADIO SWITCH IN PHONO POSITION



Alignment Sequenee	Dummy Antenna	Frequency Setting	Input Conneetion to Reeeiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Grid of 6A8GT	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1650 Kc.	Ant. Lead (Blue)	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal.
3.	.0002 MF.	600 Kc.	Ant. Lead (Blue)	B. C.	Approx. 60 on dial	B. C. "OSC" Series Trimmer	Adjust for maximum output while rocking gang thru signal.
4.	Repeat Step No. 2 to check possible shift due to series adjustment						
5.	.0002 MF.	1400 Kc.	Ant. Lead (Blue)	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "PRE" Trimmer	Adjust for maximum output: do not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Lead (Blue)	Police	Fully open	Pol "OSC"	Adjust for peak; gang does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Lead (Blue)	Police	Approx. 5.0	Pol "ANT"	Adjust for maximum output while rocking gang thru signal.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Lead (Blue)	S. W.	Fully open	S. W. "OSC"	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Lead (Blue)	S. W.	Approx. 18	S. W. "ANT"	Adjust for maximum output while rocking gang thru signal.



The Crosley Corp.

Model C-35AK

ALIGNMENT PROCEDURE

The chassis of this receiver is connected to one side of the power supply and for this reason all test equipment should be thoroughly insulated in order that the power supply will not become short circuited while aligning the receiver.

CONNECTING OUTPUT METER

Connect one terminal of the output meter to the plate and the other terminal to the screen of the 50L6GT output tube. Be certain that the meter is protected from D.C. by connecting a condenser (.1 mfd. or larger—not electrolytic) in series with one of the leads.

TUNING I-F AMPLIFIER TO 455 KILOCYCLES

(a) Connect the output of the signal generator through a 100 mmf. condenser to the antenna connection (Blue or Red lead extending from rear of loop) on the receiver. Do not use a ground return from the signal generator unless it is found to be absolutely necessary. If it is found to be necessary, a small condenser (approximately .001 mfd.) should be connected in series with the ground terminal of the signal generator and the receiver chassis.

(b) Set the station selector so that the plates of the condenser gang are completely out of mesh and turn the volume control to the right (ON).

(c) Set the signal generator to 455 kilocycles.

(d) Adjust the 2nd I-F trimmer condensers located on top 2nd I-F Assm. item 7, for maximum reading on the output meter.

(e) Adjust the 1st I-F trimmer condensers, located on top of 1st I-F assy., item 6, for maximum output.

(f) Repeat operations (d) and (e) for more accurate adjustments.

ALWAYS USE THE LOWEST SIGNAL GENERATOR OUTPUT THAT WILL GIVE A REASONABLE READING ON THE OUTPUT METER.

ALIGNING THE R-F AMPLIFIER

(a) Set the signal generator to 1650 kilocycles.

(b) With the condenser gang turned to the minimum capacity position, adjust the trimmer condenser B. C. "OSC" so that the 1650 kilocycle signal is heard. It is not necessary that the receiver tunes through this signal.

(c) Set the signal generator to 1400 kilocycles.

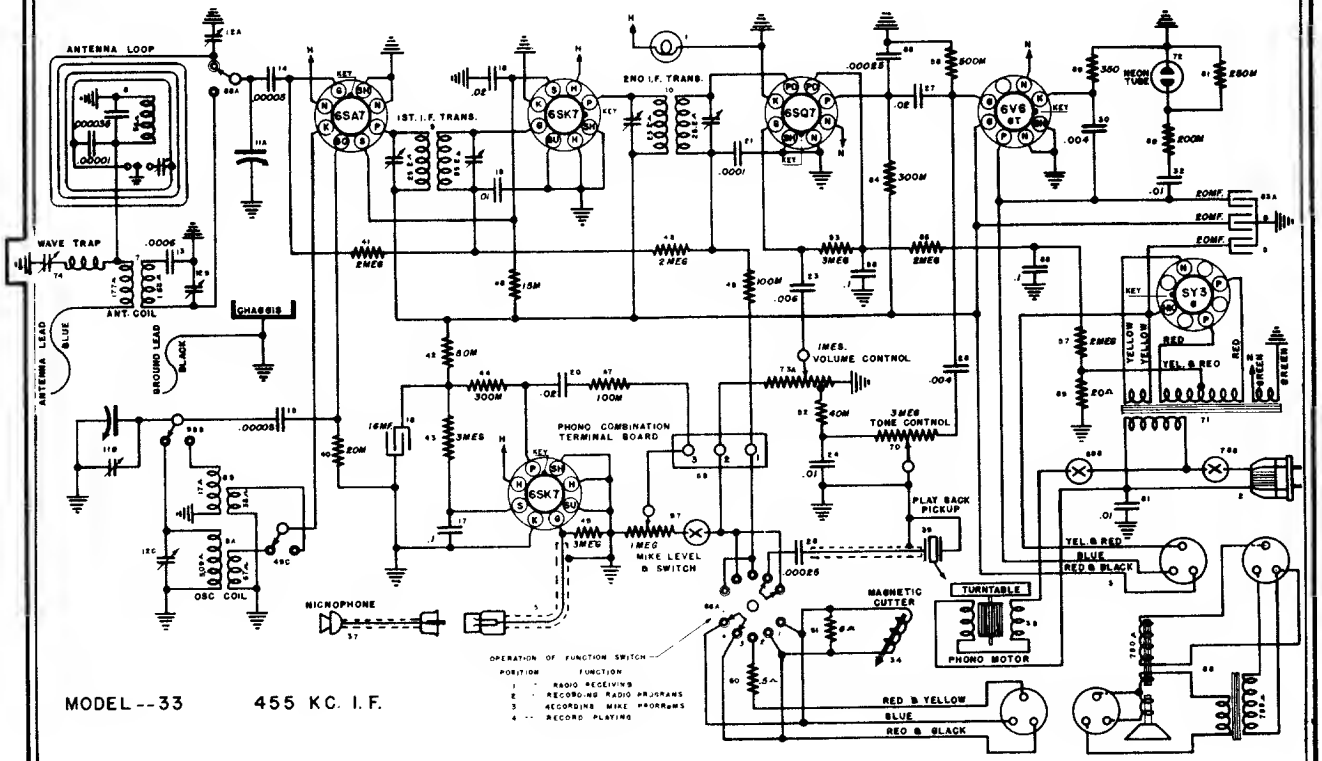
(d) Tune-in the 1400 kilocycle signal in the region of 140 on the dial for maximum output.

(e) Adjust the trimmer condensers B. C. "ANT" for maximum output.

NOTE: Do not readjust the "OSC" trimmer.

(f) Repeat operations (d) and (e) for more accurate adjustments.

INSTRUCTIONS FOR MODEL 33BG



MODEL--33 455 KC. I. F.

Alignment Sequence	Dummy Antenna	Frequency Setting	Input to Receiver	Band Switch	Tuning Cond. Setting	Trimmers Adjusted	Remarks
1.	.02MF.	455 Kc.	Ant. Lead (Blue)	B. C.	Fully Open	2nd I-F (2) 1st I-F (2)	Adjust for Maxlmum output. Adjust for Maximum output.
2.	400 ohm (carbon)	15.3 Mc.	Ant. Lead (Blue)	S. W.	Fully Open	S. W. "OSC" (on gang)	Adjust for Peak. See foot note.
3.	400 ohm (carbon)	15.0 Mc.	Ant. Lead (Blue)	S. W.	Approx. 15 on dial	S. W. "ANT" center trimmer on right end	Adjust for Maximum while rocking gang back and forth.
4.	.0002 MF.	1650 Kc.	Ant. Lead (Blue)	B. C.	Fully Open	B. C. "OSC" front trimmer on right end	Adjust for peak. Make sure the switch on loop is in B. C. position.
5	.0002 MF.	1400 Kc.	Ant. Lead (Blue)	B. C.	Approx. 140 on dial	B. C. "ANT" rear trimmer on right end	Adjust for Maximum output.
6	.0002 MF.	2.5 Mc.	Ant. Lead (Blue)	B. C. and switch on loopto-Pol	Approx. 2.5 on dial lower right corner	Pol. Ant on loop	Adjust for Maximum output.

VOLTAGE CHART

ALL VOLTAGES MEASURED FROM SOCKET PIN TO CHASSIS @ 117.5 VOLT LINE

	SOCKET PIN NUMBER							
TUBE SECTION	1	2	3	4	5	6	7	8
6SA7—Osc.-Mod.	0	0	225	74	0	0	6.3	0
6SK7—I. F. Amp.	0	0	0	0	0	74	6.3	225
6SQ7—Det. A.V.C.—1st A.F.	0	0	0	0	0	100	6.3	0
6V6GT—Output	0	0	209	225	0	0	6.3	10.5
6SK7—Mike Amp.	0	0	0	0	0	+	6.3	+
5Y3G—Rectifier	0	5.0	0	316 A.C.	0	316 A.C.	0	283

All voltages measured with 1000 OHM/Volt Voltmeter except heaters. Voltages may vary 10% of values given.

DROP ACROSS SPEAKER FIELD..... 58 Volts
MAXIMUM POWER OUTPUT @ 130 V. LINE..... 6.5 Watts
MAXIMUM POWER CONSUMPTION @ 130 V. LINE..... *60 Watts

*Phono Motor 40 Watts additional.

INSTRUCTIONS FOR MODEL 34BH

RADIO RECEIVER ALIGNMENT PROCEDURE

Preliminary

Output Meter Connections.....Plate to Plate of 6K6's
Generator Ground Connection.....To chassis or Ground Lead
Dummy Antenna to be in series with generator output.....See Chart Below
Position of Volume Control.....Fully On
Position of Tone Control.....Treble or Speech
Position of Function Switch.....Radio
Position of Mike Level Control.....All the Way to Left (Off)

Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Grid of 6A8GT	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1650 Kc.	Ant. Lead (Blue)	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal.
3.	.0002 MF.	600 Kc.	Ant. Lead (Blue)	B. C.	Approx. 60 on dial	B. C. "OSC" Series Trimmer	Adjust for maximum output while rocking gang thru signal.
4.	Repeat Step No. 2 to check possible shift due to series adjustment						
5.	.0002 MF.	1400 Kc.	Ant. Lead (Blue)	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "R-F" Trimmer	Adjust for maximum output. Do not touch B. C. Osc. Trimmer. Adjust for maximum output while rocking gang thru signal.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Lead (Blue)	Police	Fully open	Pol "OSC"	Adjust for peak; gang does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Lead (Blue)	Police	Approx. 5.0	Pol "ANT" and "R-F" Trimmers	Adjust for maximum output while rocking gang thru signal.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Lead (Blue)	S. W.	Fully open	S. W. "OSC"	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Lead (Blue)	S. W.	Approx. 18	S. W. "ANT" and "R-F" Trimmers	Adjust for maximum output while rocking gang thru signal.

When aligning the shortwave bands "OSC" trimmers care must be exercised to see that the circuits are aligned on the correct frequency and not on the image which is approximately 910 kilocycles less **as indicated on the dial.** To check, increase generator output, tune-in the generator frequency and then tune-in the image frequency which should be weaker than the fundamental and come in approximately 910 kilocycles **lower on the dial** than the fundamental. If image cannot be tuned-in, the "OSC" trimmer is adjusted to the wrong peak. (Correct peak is the second peak on trimmer from the closed position).

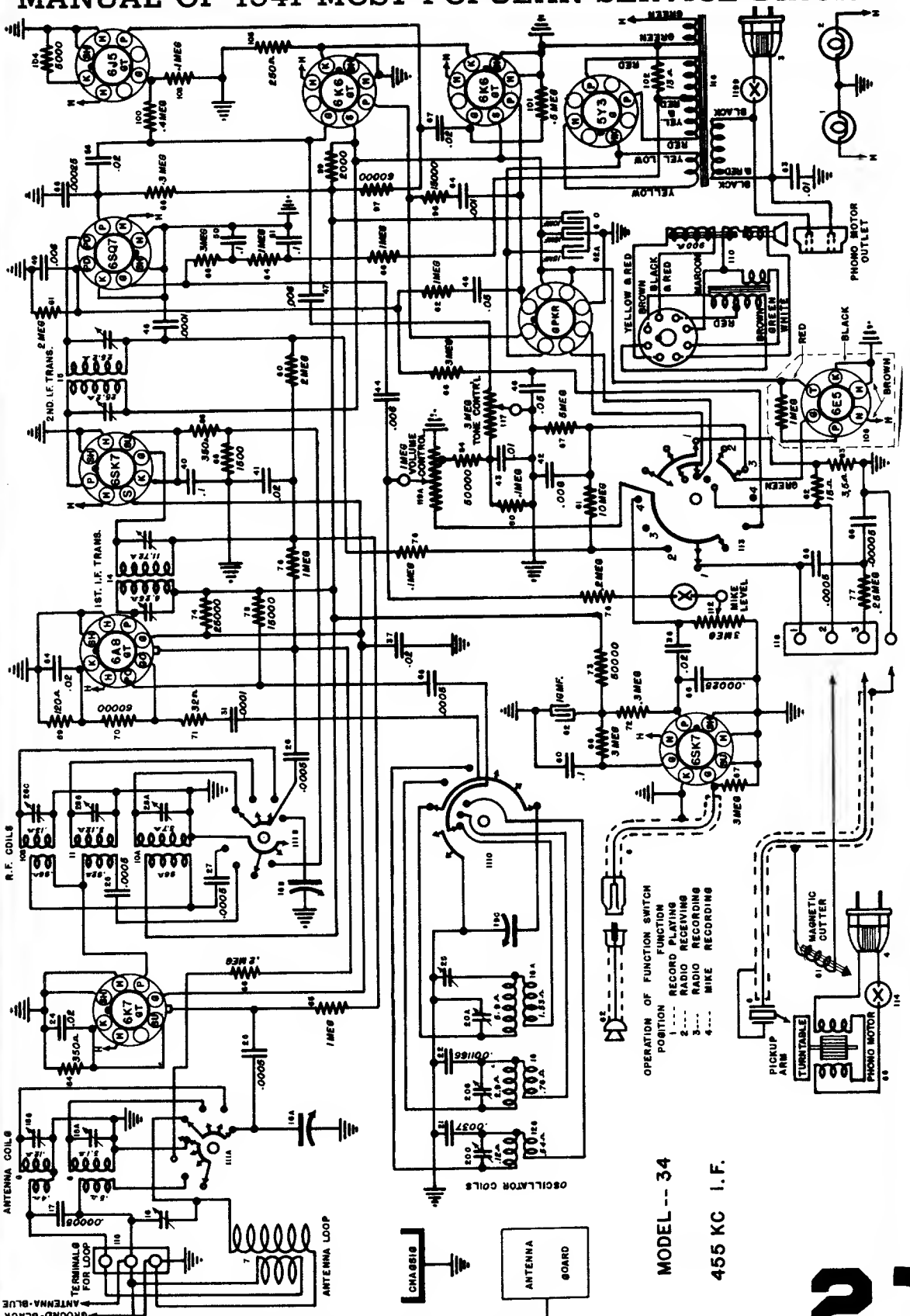
Repeat the original alignment procedure for more accurate adjustments. Always keep signal generator output as low as possible to prevent action of the A.V.C. circuit.

SOCKET VOLTAGES MEASURED @ 117.5 VOLTS LINE (BETWEEN SOCKET PIN AND CHASSIS) WITH 1000 OHM PER VOLT, 500 VOLT RANGE VOLTMETER (D. C.)

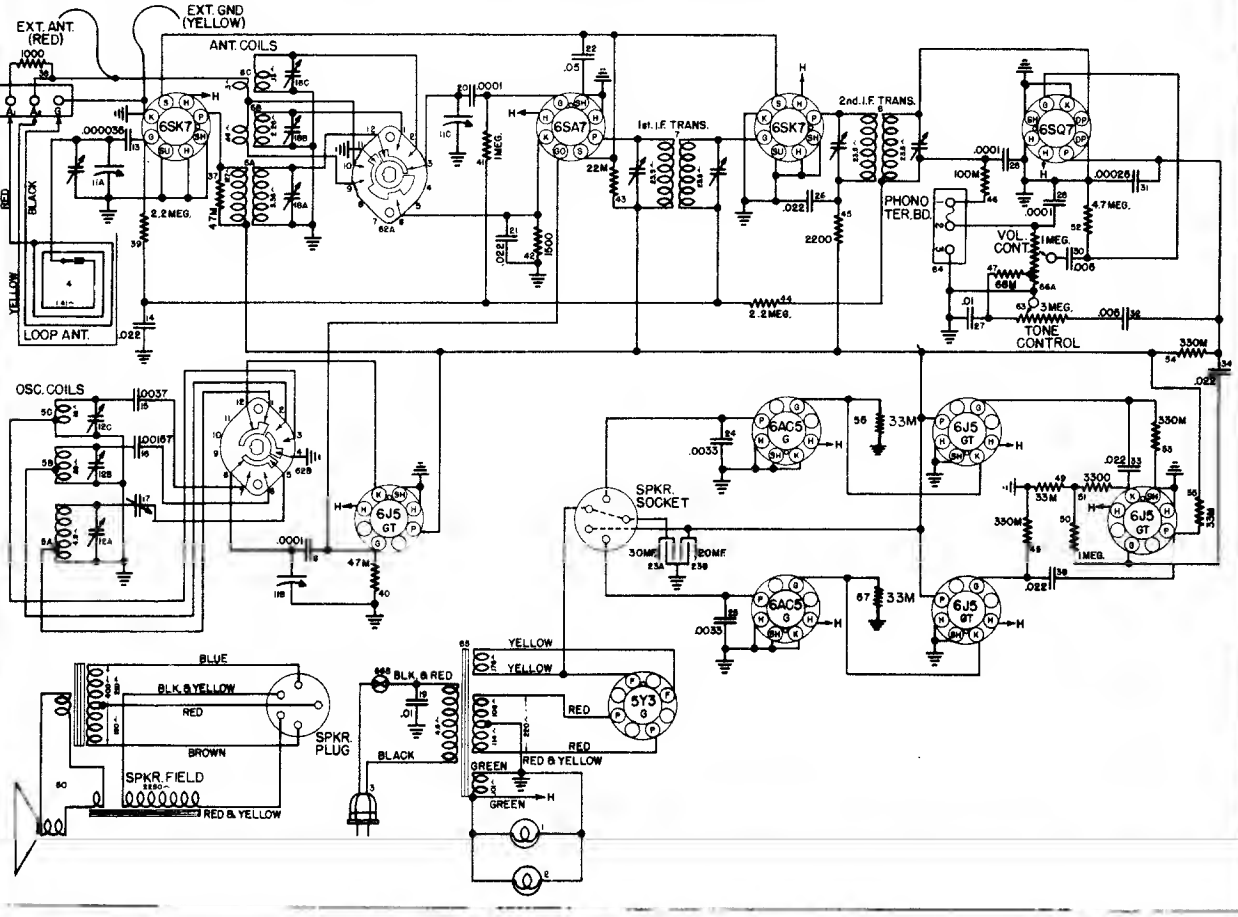
	SOCKET PIN NUMBER							
TUBE FUNCTION	1	2	3	4	5	6	7	8
6K7GT—R-F Amp.	.....	.....	195	78.6	.....	2.0	*6.3	2.0
6A8GT—Osc.-Mod.	.....	.....	195	78.6	.....	136	*6.3	1.0
6SK7—I-F Amp.	.....	.....	.....	.....	5.5 B.C. 2.6 S.W.	78.6	*6.3	234
6SQ7—Det. A.V.C. 1st A-F	.....	.....	.....	.....	.....	110	*6.3	.....
6J5GT—Phase Invert.	.....	.....	118	195	.....	110	*6.3	4.5
6K6GT—Output	.....	.....	220	228	.....	.....	*6.3	15.0
6K6GT—Output	.....	.....	220	228	.....	.....	*6.3	15.0
6SK7—Mike Amp.	.....	.....	.....	.....	.....	.....	*6.3	POS.
5Y3G—Rectifier	.....	305 D.C.	.....	*325	.....	*325	.....	305 D.C.
6E5—Indicator	.....	.....	.....	225	.....	*6.3		

*Measured with A.C. volt meter

VOLTAGE DROP ACROSS SPEAKER FIELD= 77 VOLTS
MAXIMUM POWER OUTPUT @ 130 V. Line=7.5 Watts
POWER CONSUMPTION @ 117.5 V. Line=Radio 80 Watts, Phono Motor 35 Watts—TOTAL=115 WATTS
Voltages may vary 10% of values given.

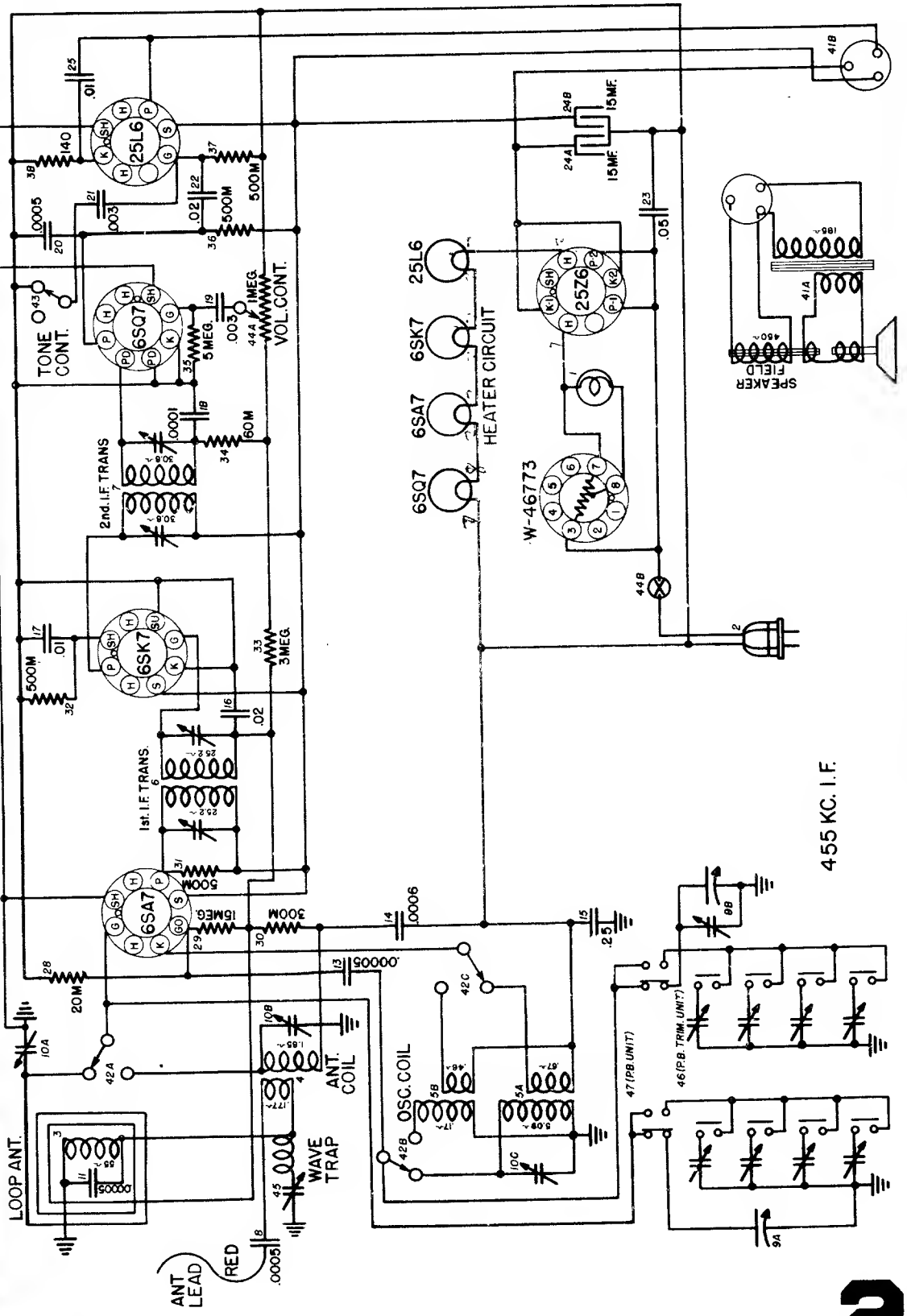

Model 34
The Crosley Corporation
MODEL -- 34
455 KC I.F.
OPERATION OF FUNCTION SWITCH
POSITION FUNCTION
1 --- RECORD PLAYING
2 --- RADIO RECEIVING
3 --- RADIO RECORDING
4 --- MIKE RECORDING
OSCILLATOR COILS
R.F. COILS
ANTENNA COILS
ANTENNA LOOP
TERMINALS FOR LOOP
ANTENNA-BLUE
GROUND-BLACK
CHASSIS
ANTENNA BOARD
2ND. I.F. TRANS.
1ST. I.F. TRANS.
VOLUME CONTROL
TONE CONTROL
MIKE LEVEL
PHONO MOTOR OUTLET
PICKUP ARM
TURNTABLE
PHONO MOTOR
MAGNETIC CUTTER
6J5 GT
6K6 GT
5Y3 G
6SQ7
6SK7
6A8 GT
6K7 GT
6F5
6PK7

WIRING DIAGRAM, MODEL CA12, CHASSIS MODEL 60



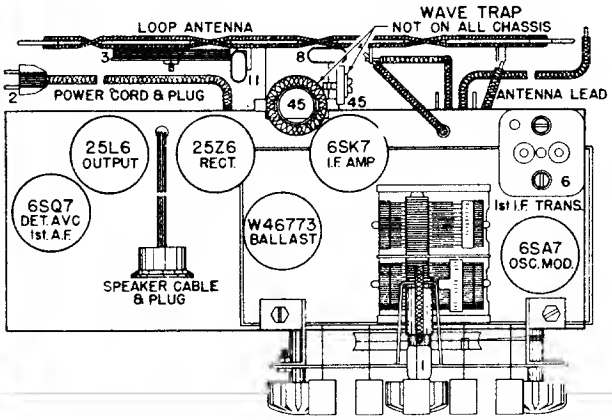
ALIGNMENT PROCEDURE CHART

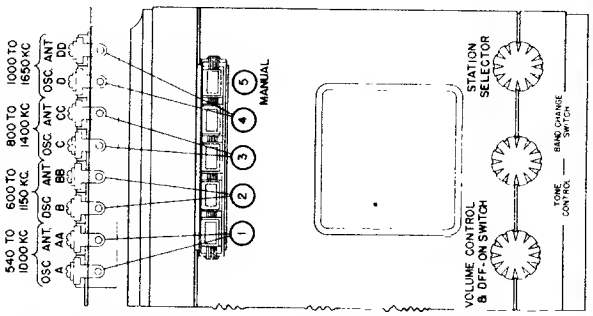
Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Stator lug Rear section of Gang Cond.	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1600 Kc.	Ant. Lead (Red)	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal. Loop must be connected.
3.	.0002 MF.	600 Kc.	Ant. Lead (Red)	B. C.	Approx. 60 on dial	B. C. "OSC" Series Trimmer	Adjust for maximum output while rocking gang thru signal.
4.	Repeat Step No. 2 to check possible shift due to series adjustment						
5.	.0002 MF.	1400 Kc.	Ant. Lead (Red)	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "R-F" Trimmer	Adjust for maximum output do not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Lead (Red)	Police	Fully open	Pol "OSC"	Adjust for peak; gang does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Lead (Red)	Police	Approx. 5.0	Pol "ANT" Trimmer	Adjust for maximum output while rocking gang thru signal.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Lead (Red)	S. W.	Fully open	S. W. "OSC"	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Lead (Red)	S. W.	Approx. 18	S. W. "ANT" Trimmer	Adjust for maximum output while rocking gang thru signal.
10.	Repeat the above alignment procedure for more accurate adjustments. Always keep signal generator output as low as possible to prevent action of the A.V.C. circuit.						

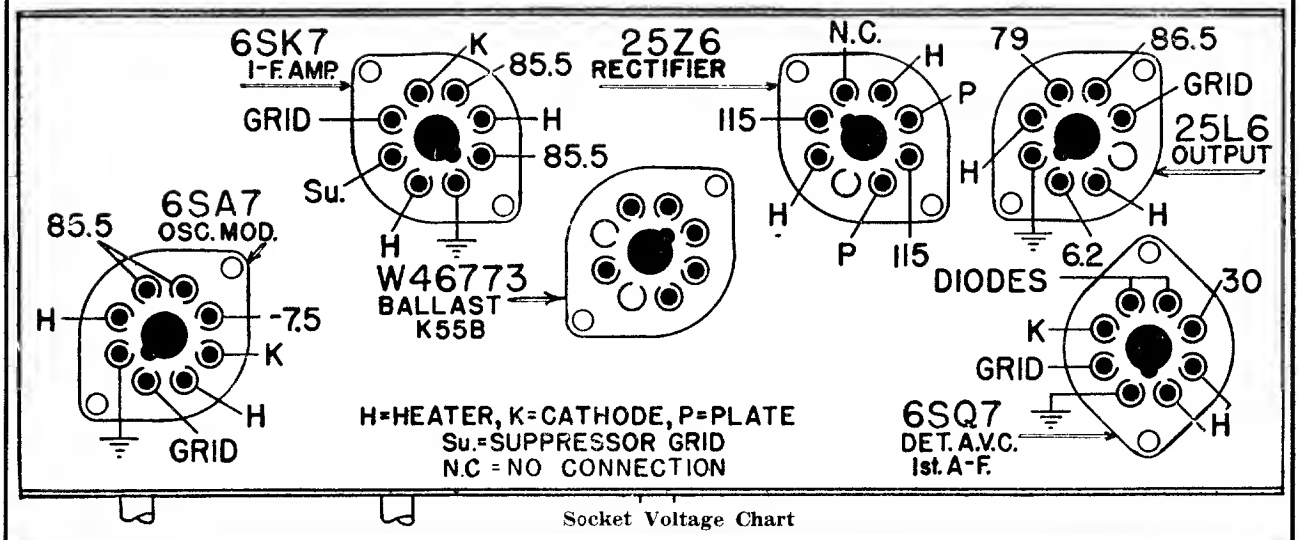


MODELS TA-62 — TA-62W — Chassis Model 63

INSTALLATION, OPERATING AND SERVICE INSTRUCTIONS FOR CROSLEY MODEL TA-62 — TA-62W — Chassis Model 63

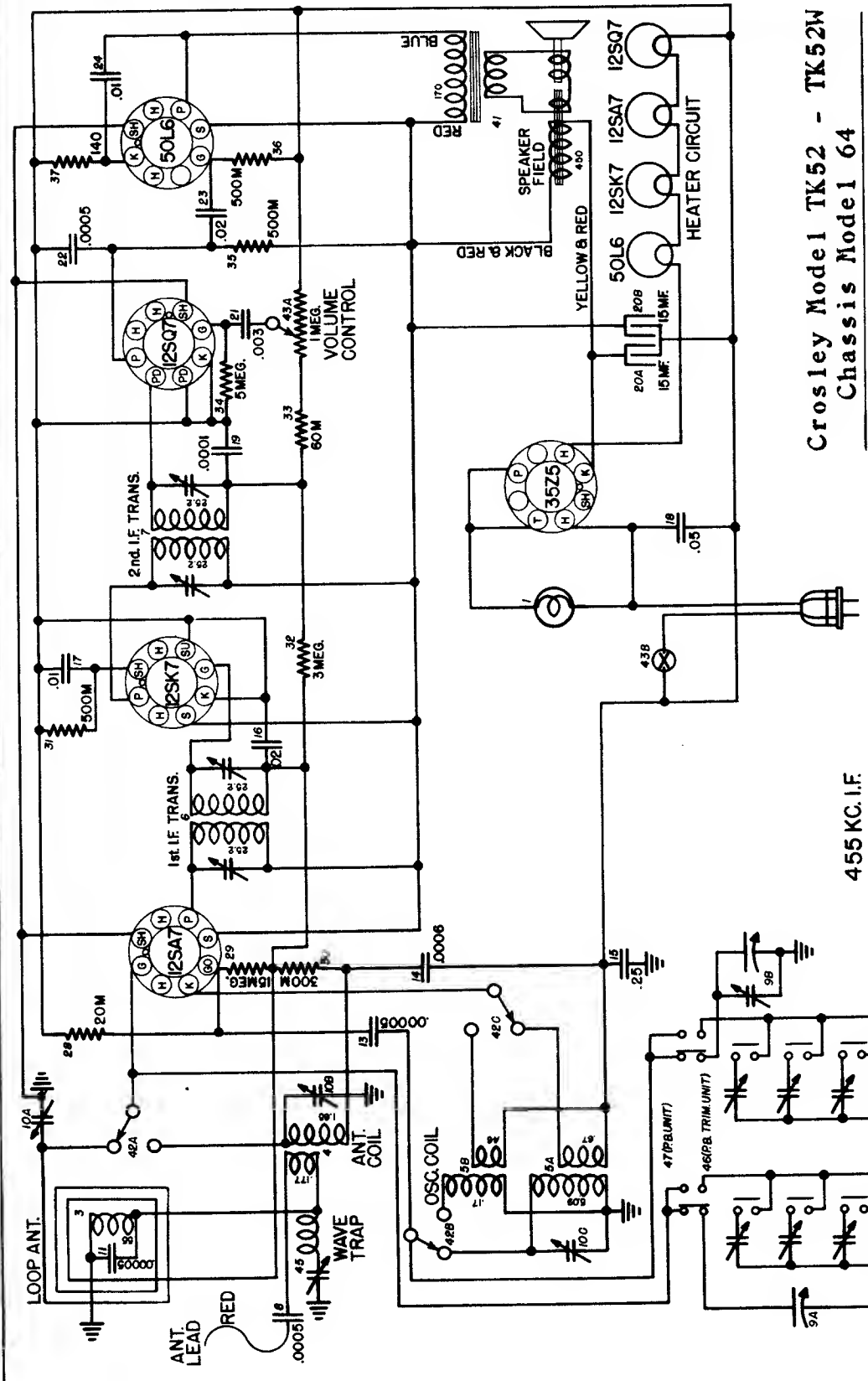






Socket Voltage Chart

Sequence	Dummy Antenna	Frequency Setting	Input Connection for Radio	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1	.05 Mf.	456 Kc.	Antenna	S. B.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for maximum output. Adjust for maximum output.
2	400 ohm carbon	15.4 Mc.	Antenna	S. W.	Fully open	S. W. "OSC" (rear section of tuning condenser	Adjust for maximum output.
3	400 ohm carbon	15.0 Mc.	Antenna	S. W.	Approx. 15 on dial	S. W. "Ant." (center trimmer right end of chassis)	Adjust for maximum output while rocking gang thru signal.
4	.0002 Mf.	1600 Kc.	Antenna	S. B.	Fully open	B. C. "OSC" (front trimmer right end of chassis)	Adjust for maximum output. Gang does not have to tune thru signal.
5	.002 Mf.	1400 Kc.	Antenna	S. B.	Approx. 1400 on dial	B. C. "ANT" (rear trimmer right end of chassis)	Adjust for maximum output.


Crosley Model TK52 - TK52W
Chassis Model 64
THE CROSLEY CORPORATION
CINCINNATI, OHIO, U.S.A.
455 KC. I.F.
50L6
12SQ7
12SA7
12SK7
3525
HEATER CIRCUIT
SPEAKER FIELD
BLUE
RED
YELLOW & RED
BLACK & RED
VOLUME CONTROL
1 MEG.
5 MEG.
60 M
3 MEG.
300M
15 MEG.
20 M
500M
2nd. I.F. TRANS.
1st. I.F. TRANS.
OSC. COIL
ANT. COIL
WAVE TRAP
LOOP ANT.
ANT. LEAD
15 MF.

CROSLEY MODEL TK52 — TK52W — Chassis Model 64

Sequence	Dummy Antenna	Frequency Setting	Input Connection To Radio	Band Switch	Tuning Cond. Setting	Trimmer Cond. Adjusted	Remarks
1.	.05 Mf.	456 Kc.	Antenna	S. B.	Fully on	2nd I-F (2) 1st I-F (2)	Adjust for maximum output. Adjust for maximum output.
2.	400 Ohm carbon	15.4 Mc.	Antenna	S. W.	Fully open	S. W. "OSC" (Rear section tuning cond.)	Adjust for maximum output.
3.	400 Ohm carbon	15.0 Mc.	Antenna	S. W.	Approx. 15 on dial	S. W. "ANT" (Center trimmer right end of chassis)	Adjust for maximum output while rocking gang thru signal.
4.	.0002 Mf.	1600 Kc.	Antenna	S. B.	Fully on	B. C. "OSC" (Front trimmer right end of Chassis)	Adjust for maximum output. Gang does not have to tune thru signal.
5.	.0002 Mf.	1400 Kc.	Antenna	S. B.	Approx. 140 on dial	B. C. "ANT" (Rear trimmer right end of chassis)	Adjust for maximum output.

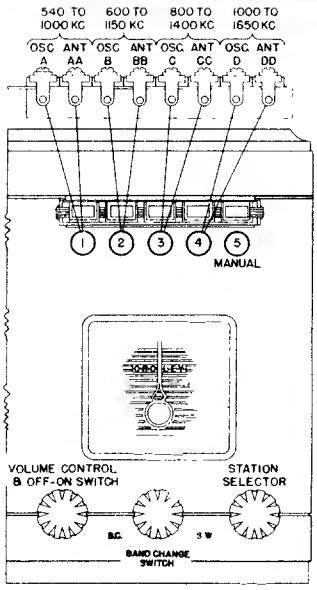
1. Turn the set on and leave operate for about ten or twenty minutes before attempting to set the push buttons.

2. Due to the wide range to which each button will tune it is essential that the stations selected are well within each buttons tuning range.

3. Push in the "Manual" button (extreme right) and using the station selector knob, tune in the station to which the No. 1 button is to be set.

4. Push in the No. 1 button and using a long, thin screw driver adjust the "OSC"/A padder screw, turning slowly (extreme right looking at rear of cabinet) until the station you tuned in (MANUALLY) is heard again. The padder condensers are accessible through the long horizontal opening in the upper left side of cabinet back. Be sure to adjust for maximum volume in speaker.

5. Adjust the No. 1 push button "ANT"/AA padder condenser for maximum volume in speaker.



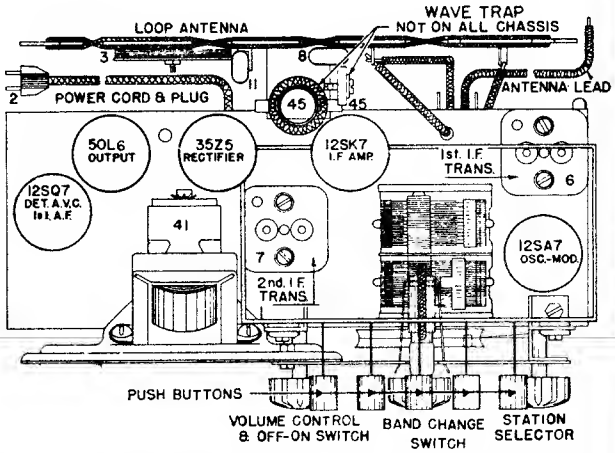
6. Push in "Manual" push button and re-check station to make sure button is correctly set. There should be no change in volume when switched from push button to manual.

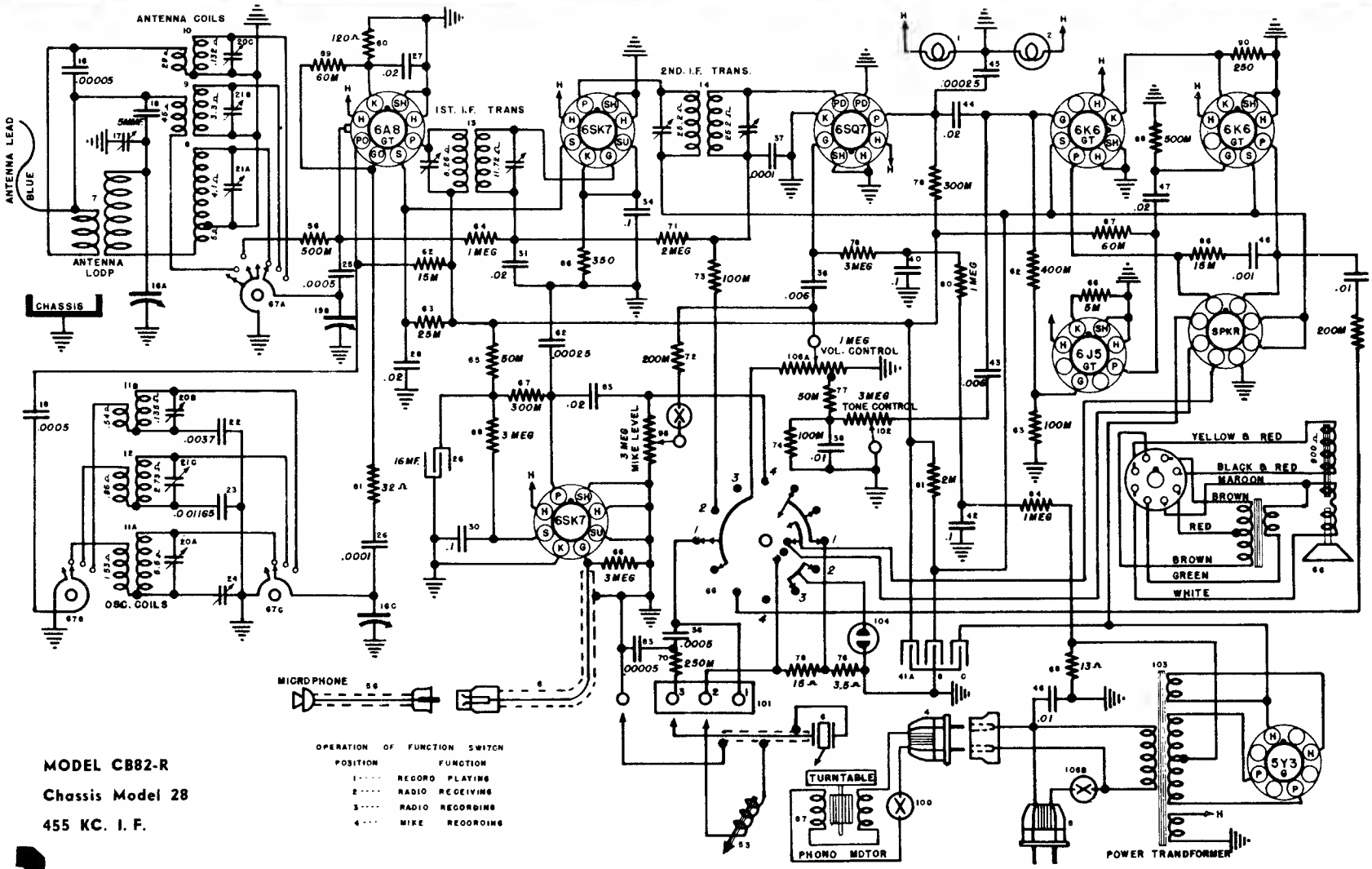
7. The set up for No. 1 button is then complete. Set up remaining buttons, using same procedure; adjust the "OSC" padder first, then the "ANT" padder, etc.

Tubes Used	Functions
12SA7	Oscillator—Modulator
12SK7	Intermediate Frequency Amplifier
12SQ7	Detector, A.V.C. 1st Audio Amplifier
50L6	Beam Power Output
35Z5	Rectifier

Standard Broadcast Band—1600-550 Kilocycles or 187.5-545 meters.

Short Wave Band—5.8-15.0 Megacycles or 62.5-20 meters.





OPERATION OF FUNCTION SWITCH

POSITION	FUNCTION
1	RECORD PLAYING
2	RADIO RECEIVING
3	RADIO RECORDING
4	MIKE RECORDING

MODEL CB82-R

Chassis Model 28

455 KC. I. F.

33

The Crosley Corporation
Cincinnati, Ohio

Model CB82-R
Chassis 28

CHASSIS MODEL 28

INSTRUCTIONS FOR MODEL CB82-R

RADIO RECEIVER ALIGNMENT PROCEDURE

PRELIMINARY

Output Meter Connections ..... Plate to Plate of 6K6G's
Generator Ground Connection ..... To chassis or Ground Lead
Dummy Antenna to be in series with generator output ..... See Chart Below
Position of Volume Control ..... Fully On
Position of Tone Control ..... Treble or Speech
Position of Function Switch ..... Radio
Position of Mike Level Control ..... All the Way to Left (Off)

Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Grid of 6A8GT	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1650 Kc.	Ant. Lead (Blue)	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal.
3.	.0002 MF.	600 Kc.	Ant. Lead (Blue)	B. C.	Approx. 60 on dial	B. C. "OSC" Series Trimmer	Adjust for maximum output while rocking gang thru signal.
4.	Repeat Step No. 2 to check possible shift due to series adjustment						
5.	.0002 MF.	1400 Kc.	Ant. Lead (Blue)	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "PRE" Trimmer	Adjust for maximum output to not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Lead (Blue)	Police	Fully open	Pol "OSC"	Adjust for peak gang; does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Lead (Blue)	Police	Approx. 5.0	Pol "ANT"	Adjust for maximum output while rocking gang thru signal.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Lead (Blue)	S. W.	Fully open	S. W. "OSC"	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Lead (Blue)	S. W.	Approx. 18	S. W. "ANT"	Adjust for maximum output while rocking gang thru signal.

When aligning the shortwave bands "OSC" trimmers care must be exercised to see that the circuits are aligned on the correct frequency and not on the image which is approximately 910 kilocycles less **as indicated on the dial.** To check, increase generator output, tune-in the generator frequency and then tune-in the image frequency which should be weaker than the fundamental and come in approximately 910 kilocycles **lower on the dial** than the fundamental. If image cannot be tuned-in, the "OSC" trimmer is adjusted to the wrong peak. (Correct peak is the second peak on trimmer from the closed position).

Repeat the original alignment procedure for more accurate adjustments. Always keep signal generator output as low as possible to prevent action of the A.V.C. circuit.

SOCKET VOLTAGES MEASURED @ 117.5 VOLTS LINE (BETWEEN SOCKET PIN AND CHASSIS) WITH 1000 OHM PER VOLT, 500 VOLT RANGE VOLTMETER (D. C.)

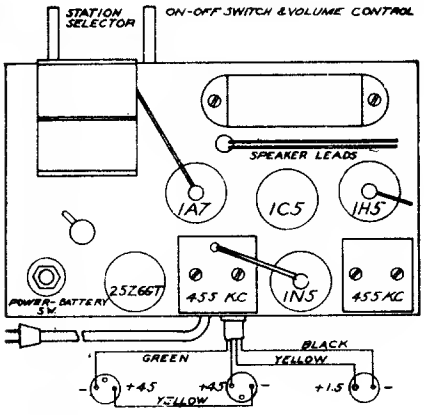
TUBE FUNCTION	PIN NUMBER 1	2	3	4	5	6	7	8
6SK7—Pre-Amp.	0	0	.....	....	0	J. B.	*6.3	52
6A8GT—Osc.-Mod.	0	0	198	76.5	0	132	*6.3	1
6SK7—I. F. Amp.	0	0	2.4	0	2.3	76.5	*6.3	226
6SQ7—Det. A. V.C.-A. F.	0	0	0	0	0	98	*6.3	0
6J5GT—Phase Invert.	0	0	118.5	0	0	J. B.	*6.3	6.0
6K6G—Output	0	0	226	236	0	J. B.	*6.3	15.5
6K6G—Output	0	0	226	236	0	J. B.	*6.3	15.5
5Y3G—Rectifier	NC	310	J. B.	*300	J. B.	*300	J. B.	310

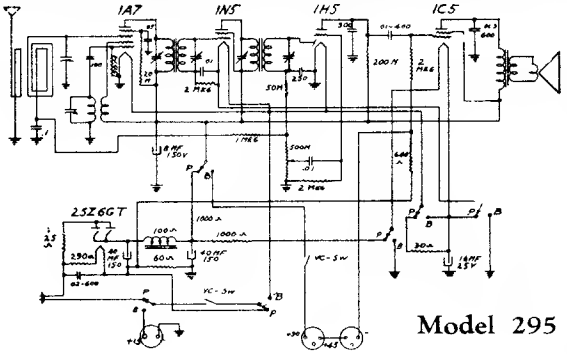
*Measure with A. C. Voltmeter.

MAX. POWER OUTPUT @ 117.5 V. LINE ..... 5.0 Watts
POWER CONSUMPTION @ 117.5 V. LINE ..... 66 Watts (Radio Only)
TOTAL POWER CONSUMPTION @ 117.5 V. LINE ..... 110 Watts (Including Phono Motor)
DROP ACROSS SPEAKER FIELD ..... 74 Volts

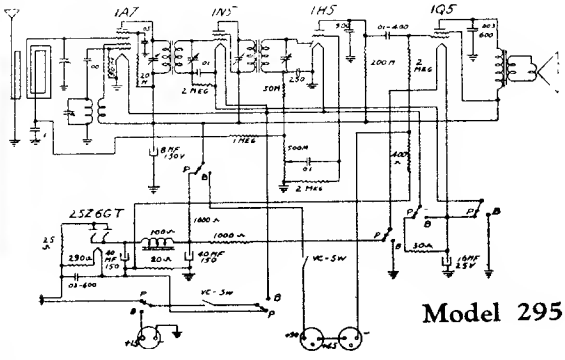
Voltages may vary 10% of values given.

J. B.—JUNCTION BLOCK N. C.—NO CONNECTION





Model 295



Model 295-1

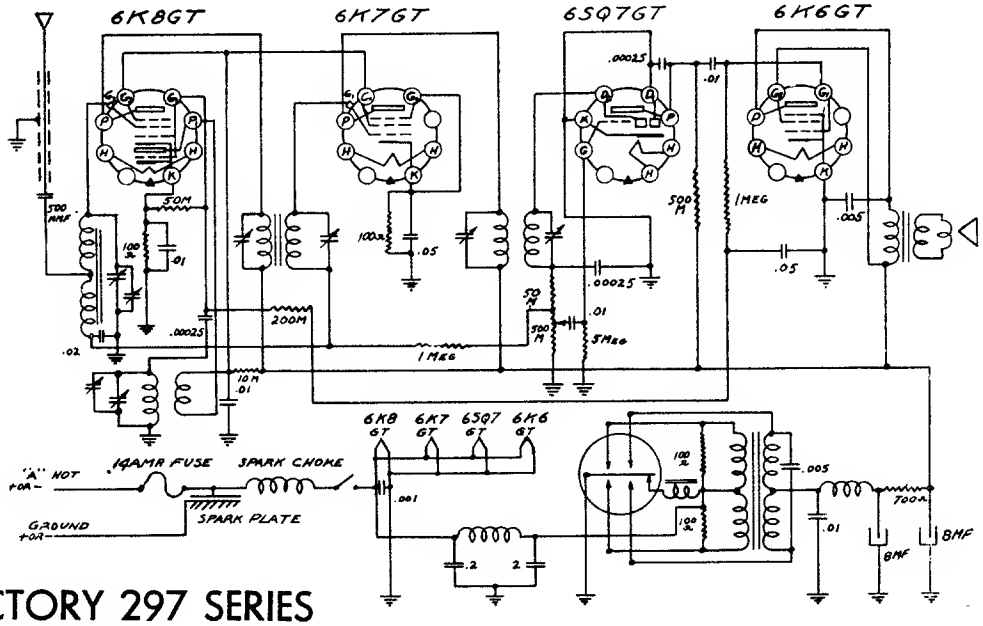
Detrola Corporation
Detroit, Michigan

ALIGNMENT PROCEDURE

I.F. Frequency 455 KC. Set Range 540-1580 KC.

Connect the test oscillator, or signal generator, to the set as follows: Connect the "hot" side of the signal generator to the grid of the 1A7 tube, and the ground side to the terminal on the back of the chassis. An output meter should be connected across the voice coil leads of the speaker to indicate resonance. Align the I.F. trimmers at 455 KC for maximum meter reading.

Adjust the trimmer on the back of the variable condenser at or near 1400 KC at full volume on a weak broadcast signal. When aligning the set do not set the receiver on or near a metal work bench or other large metal object, as it will affect the tracking of the receiver.

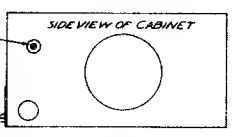


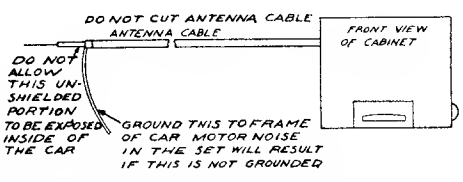
FACTORY 297 SERIES

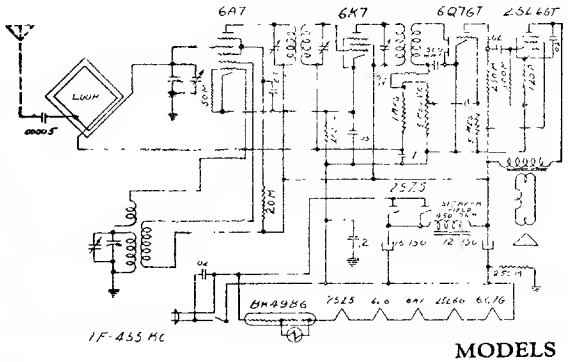
I.F. 455 KC.

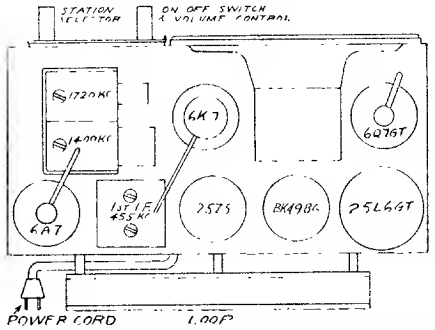
ANTENNA ADJUSTOR

TUNE IN A WEAK STATION ON OR NEAR 1400 KC TURN VOLUME ON FULL AND ADJUST THIS SCREW FOR MAXIMUM VOLUME.



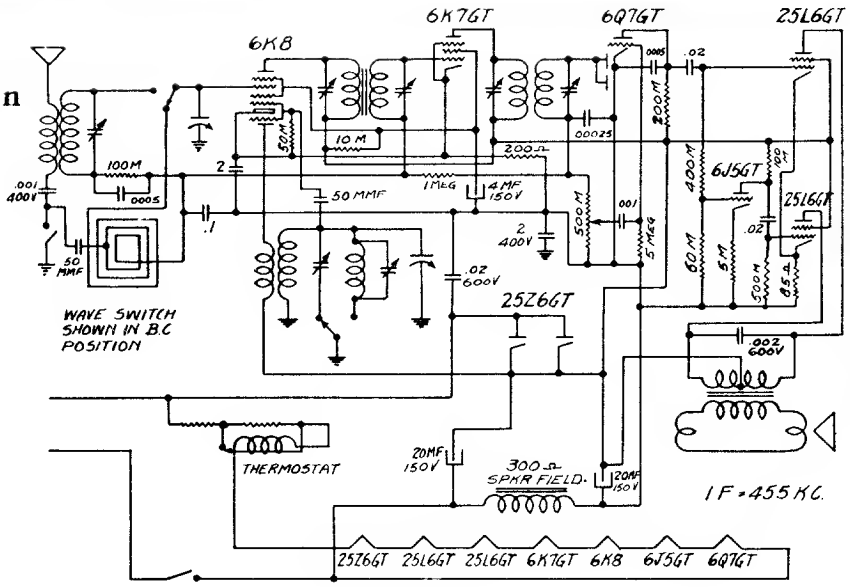




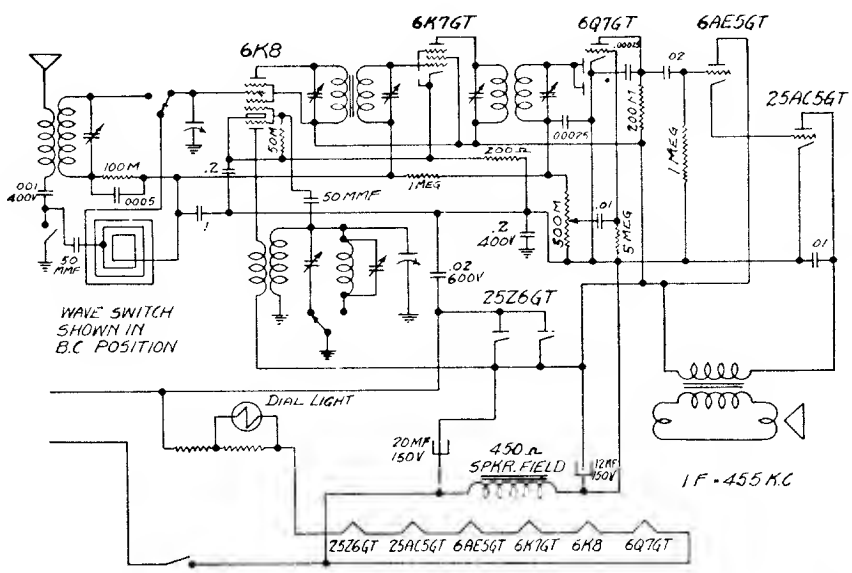


MODELS 304 and 3041

Detrola Corporation
Detroit, Michigan



FACTORY 305 SERIES
FACTORY 3051 SERIES

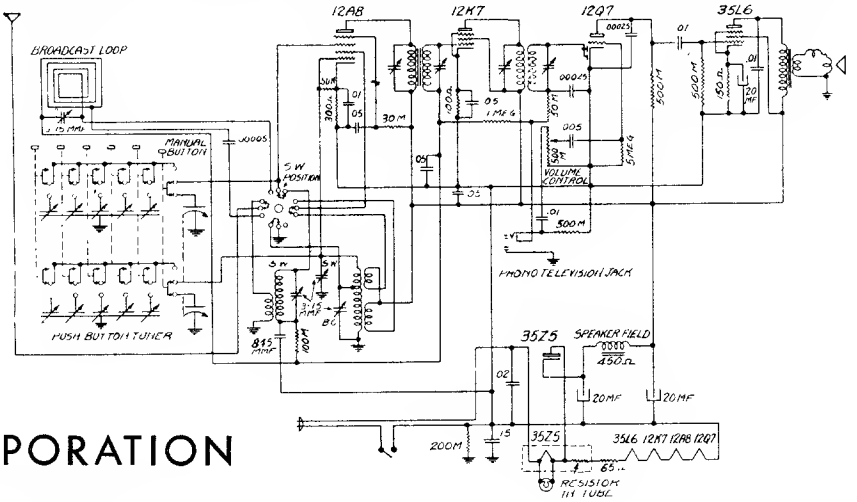


FACTORY 310 SERIES
FACTORY 3101 SERIES

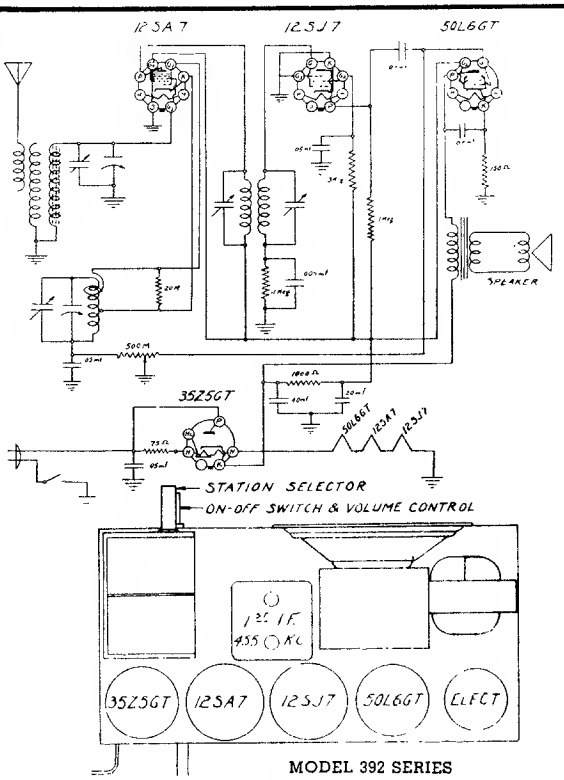
MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

FACTORY 320 SERIES
FACTORY 3201 SERIES
FACTORY 3202 SERIES

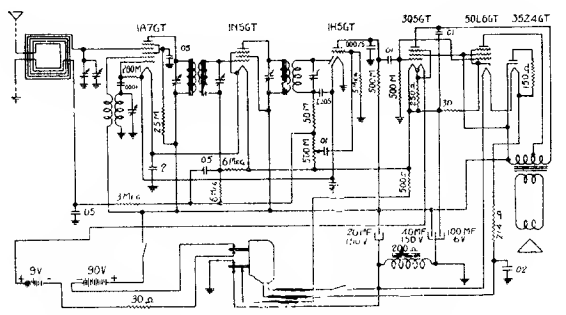
I.F. 455 KC.
For all Detrola Sets on this page.



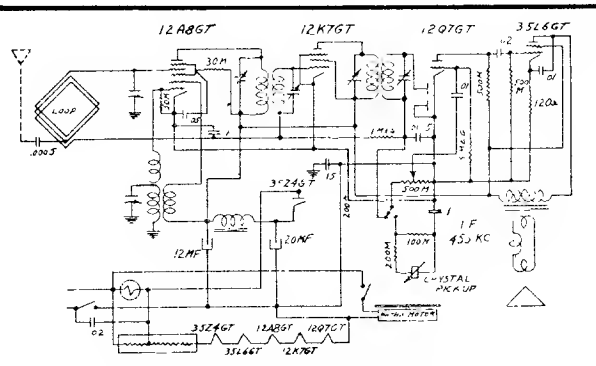
DETROLA CORPORATION



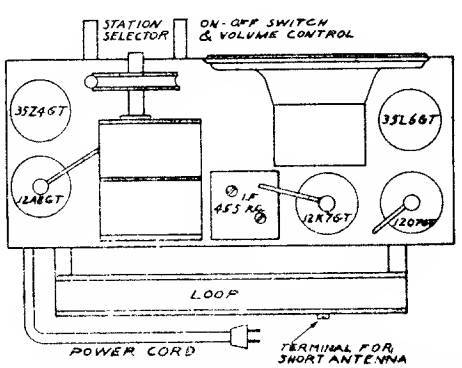
MODEL 392 SERIES

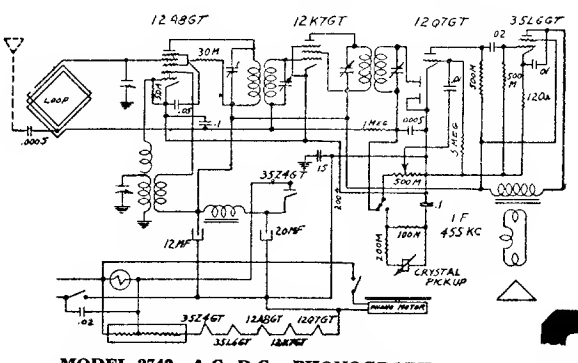


MODELS 360 - 3601 - 3602



Detrola Model 2741





MODEL 2742—A.C.-D.C.—PHONOGRAPH

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MODELS

DB-296, DB-301, DB-315 and DB-327

CHASSIS MODEL: DB

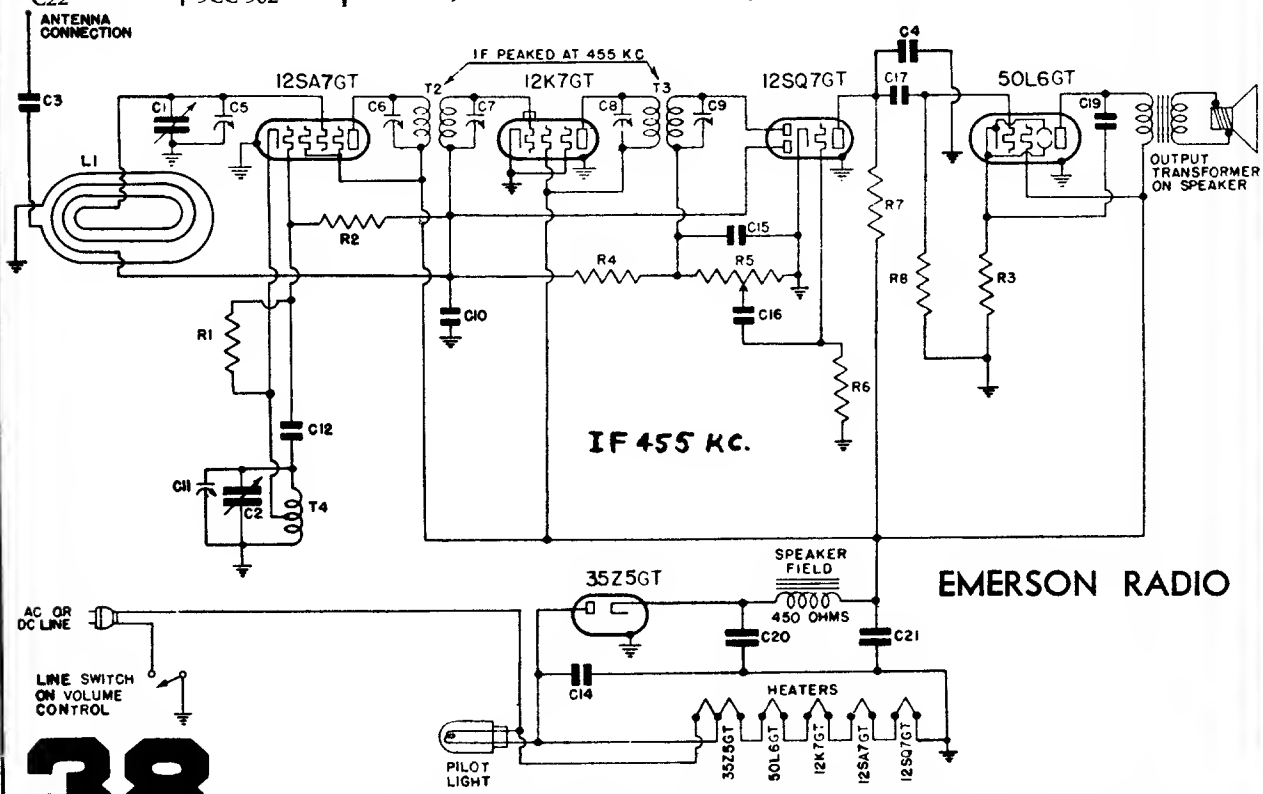
DL-330

CHASSIS MODEL: DL

DW-330A, DW-330B and DW-358

CHASSIS MODEL: DW

*Item	Part No.	DESCRIPTION
L1	7BW-179	Loop antenna assembly
T4	7BT-486A	Oscillator coil (DB1 and DL1)
T4	7BT-486	Oscillator coil (DB, DL and DW)
T2	7BT-545	Double-tuned 455 kc first i-f transformer (DB, DB1, DW)
T2	7BT-488	Double-tuned 455 kc first i-f transformer (DL, DL1)
T3	7BT-550B	Double-tuned 455 kc second i-f transformer (see production change No. 1)
R1	LR-60	20,000 ohm ¼ watt carbon resistor
R3	3FR-293	140 ohm ½ watt wire-wound resistor
R4	NNR-220	3 megohm ¼ watt carbon resistor
R5	7LR-378	Volume control .5 megohm with line switch (DL, DL1)
R5	7BR-363	Volume control .5 megohm with line switch (DB, DL1)
R5	7WR-389	Volume control .5 megohm with line switch (DW)
R6, R2	4XR-327	15 megohm ¼ watt carbon resistor
R7, R8	KR-56	500,000 ohm ¼ watt carbon resistor
R9	LR-61	200,000 ohm ¼ watt carbon resistor (DB1 and DL1)
C1, C2	7BC-445	Two-gang variable condenser (DB, DB1 and DW)
	7BC-445A	Two-gang variable condenser (DL and DL1)
C5, C11		Trimmers, part of variable condenser.
C6, C7, C8, C9		Trimmers, part of i-f transformers.
C10, C23	BC-12	0.05 mf, 200 volt tubular condenser (C23 used in DB1 and DL1)
C14	LC-64	0.05 mf, 400 volt tubular condenser
C12, C15, C4	4XC-394A	0.00022 mf mica condenser
C16, C3	3HC-274	0.002 mf, 600 volt tubular condenser
C17, C19	6JC-425	0.024 mf, 400 volt tubular condenser
C20, C21	6JC-426C	Dual 20 mf, 150 volt dry electrolytic condenser
C22	3CC-302	0.15 mf, 200 volt tubular condenser (DB1 and DL1)



EMERSON RADIO

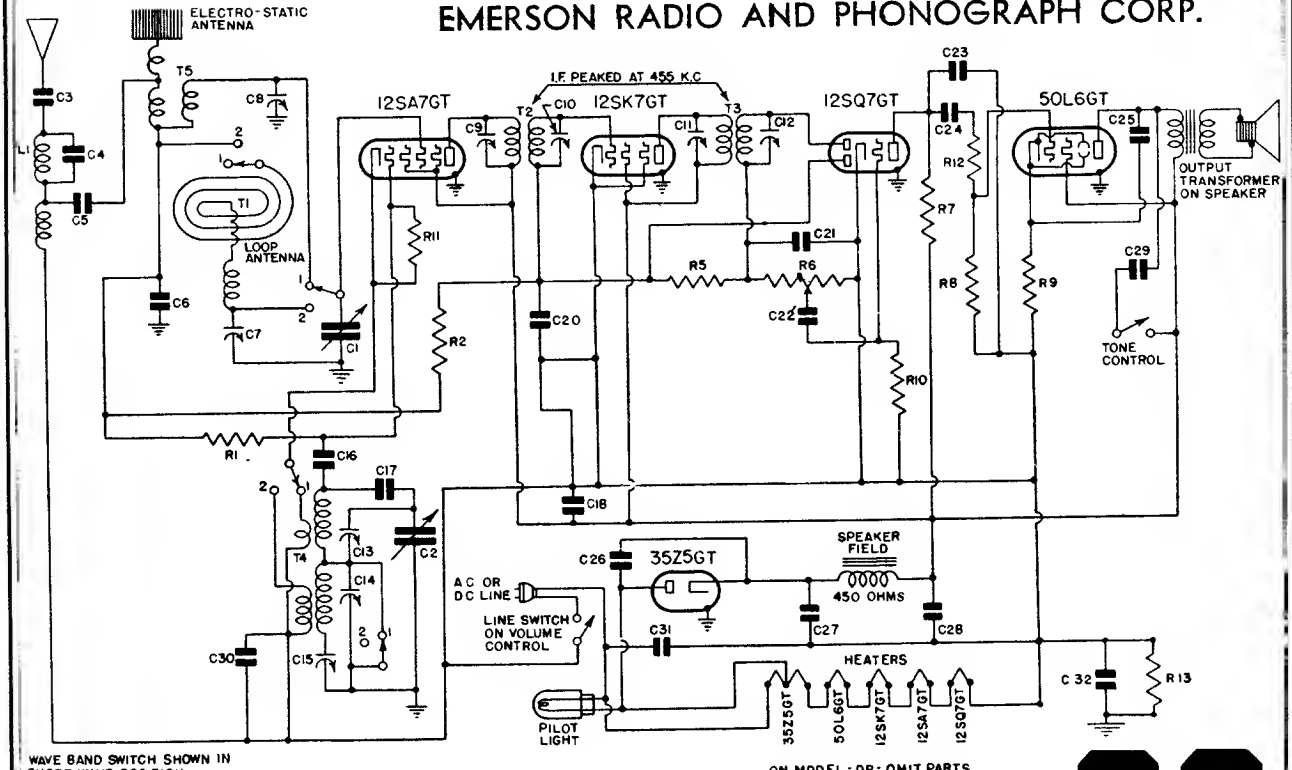
MODELS: DR-343, DR-348, DR-350 and DR-352

MODELS: DR1-343, DR1-348 and DR1-352

CHASSIS MODEL: DR

*Item	Part No.	DESCRIPTION	
L1	7RT-531A	Antenna choke and 455 kc wave-trap	$ .85
T1	7RW-232	Loop antenna assembly	1.60
T2	7QT-548A	Double-tuned 455 kc first i-f transformer	1.00
T3	7QT-544	Double-tuned 455 kc second i-f transformer	.95
T4	7RT-529A	Two-band oscillator coil	.65
T5	7RT-530	Short-wave antenna coil	.45
R1, R10	4XR-327	15 megohm ½ watt carbon resistor	.16
R2, R13	LR-61U	200,000 ohm ½ watt carbon resistor	.16
R7, R8	KR-56	500,000 ohm ½ watt carbon resistor	.16
R5	NNR-220U	3 megohm ½ watt carbon resistor	.16
R6	7BR-363C	Volume control .5 megohm. with line switch	.85
R9	3FR-293	140 ohm, ½ watt wire-wound resistor	.16
R11	LR-60	20,000 ohm ½ watt carbon resistor	.16
R12	KR-53	50,000 ohm ½ watt carbon resistor	.16
C1, C2	7RC-464	Two-gang variable condenser	2.40
C3	HC-34	0.006 mf, 600 volt tubular condenser	.20
C4		0.001 mf, part of L1, wave-trap assembly	.20
C5, C18	PC-29	0.02 mf, 200 volt tubular condenser (see production change no. 1)	.20
C6	2ZC-253	0.0025 mf mica condenser	.20
C7, C8	7RC-465	Dual trimmer assembly	.30
†C9,C10, C11, C12		Trimmers, part of i-f transformers.	
C13, C14	7RC-466	Dual trimmer assembly	.30
C15	2NC-231D	Single adjustable padding condenser	.30
C16	5LC-410A	0.00011 mf mica condenser	.20
C17	7RC-479	0.0016 mf mica condenser	.20
C20, C29	BC-12	0.05 mf, 200 volt tubular condenser	.20
C21, C23	5AC-384	0.0002 mf, 600 volt tubular or mica condenser	.20
C22	3HC-274	0.002 mf, 600 volt tubular condenser	.20
C24	LC-65	0.02 mf, 400 volt tubular condenser	.20
C25	EC-23	0.03 mf, 400 volt tubular condenser	.20
C26	TTC-177	0.01 mf, 600 volt tubular condenser	.20
C27, C28	6QC-437A	Multiple dry electrolytic condenser, 150 volt. C27—20 mf; C28—40 mf.	.95
C30	KC-58	0.01 mf, 400 volt tubular condenser	.20
C31	LC-64	0.05 mf, 400 volt tubular condenser	.20
C32	2CC-208	0.2 mf, 200 volt tubular condenser	.20

EMERSON RADIO AND PHONOGRAPH CORP.

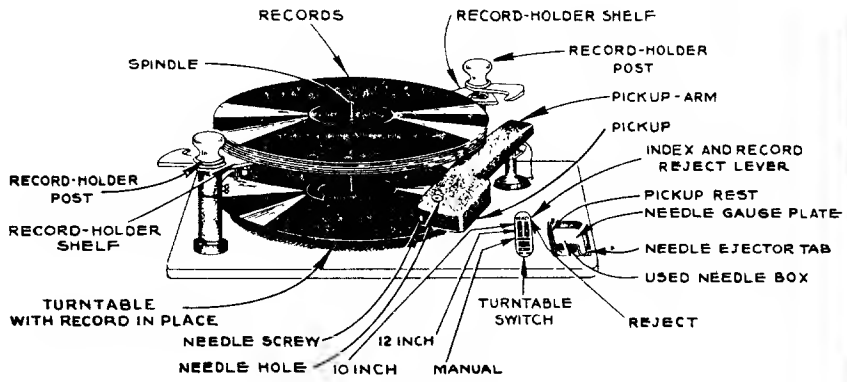


EMERSON RADIO AND PHONOGRAPH CORP.

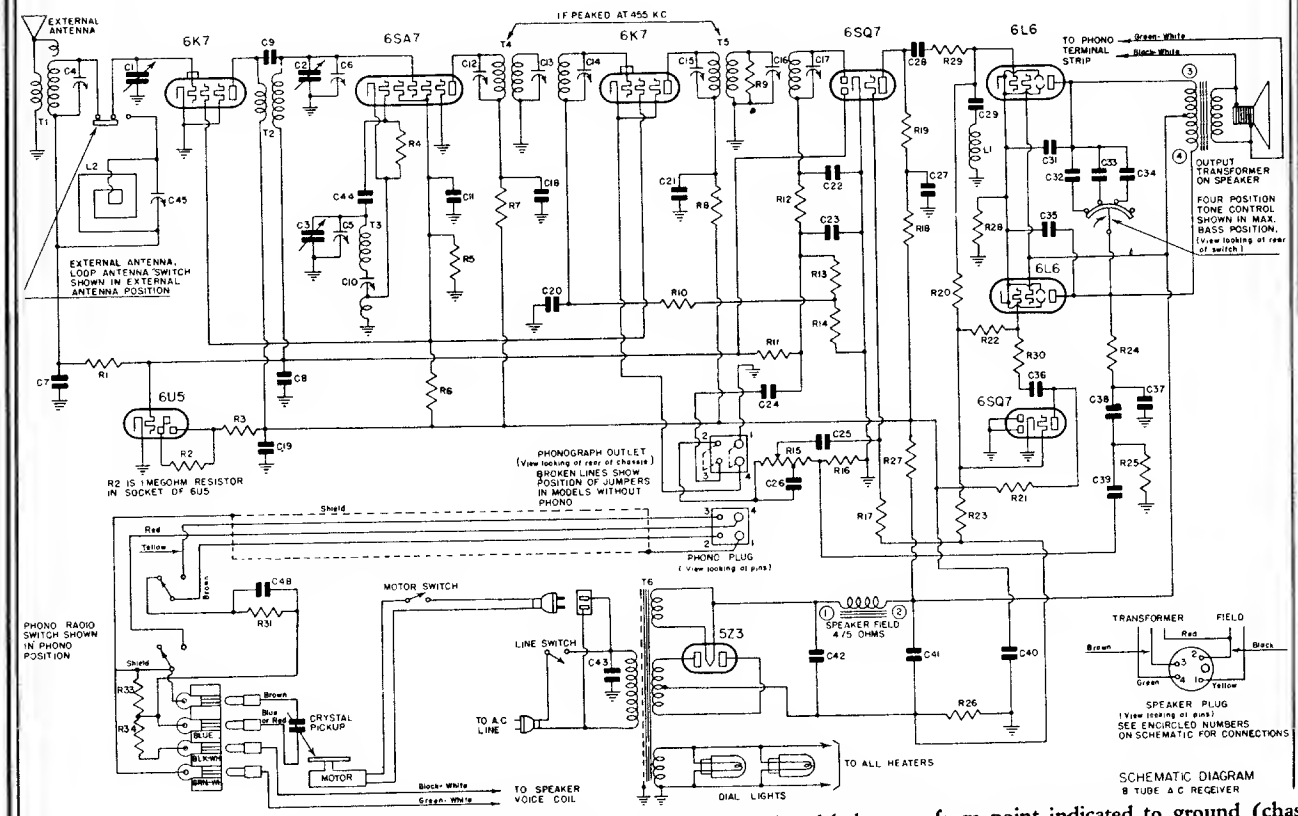
Models

DS-365

DS-372



Top View of Automatic Record Changer



Readings should be taken with a 1000 ohms-per-volt meter. Voltages listed below are from point indicated to ground (chassis) with the volume control turned on full and no signal. Line voltage for these readings was 117 volts, 60 cycles, a.c. All readings except B plus at rectifier, heaters, and cathode voltages were taken on 300 volt scale.

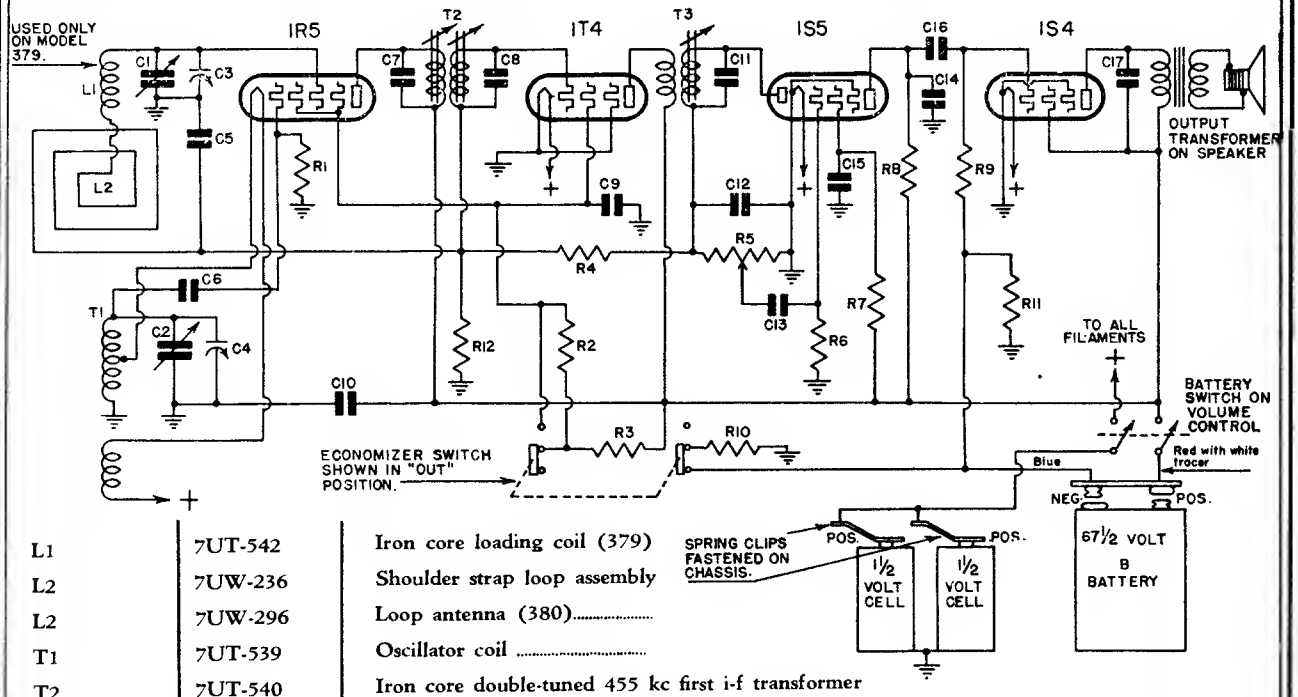
Tube	Plate	Screen	Cathode	Heaters
6K7GT	245	70	0	6.3
6SA7GT	245	70	0	6.3
6K7GT	235	70	0	6.3
6SQ7GT (det.)	125	—	0	6.3
6SQ7GT (P.I.)	150	—	0	6.3
6L6 (2)	275	285	18.5	6.3

Emerson Radio and Phonograph Corp.

Models DS-365, DS-372

REPLACEMENT PARTS

*Item	Part No.	DESCRIPTION	PRICE
L1	7ST-538	10 K.C. filter choke	$1.40
L2	7SW-238	Loop antenna (365 cabinet)	1.05
L2	7SW-298	Loop antenna (372 cabinet)	1.75
T1	7ST-533	Antenna coil	.40
T2	7ST-534	Interstage coil	.50
T3	7ST-535	Oscillator coil	.25
T4	7ST-536	Triple-tuned 455 kc first i-f transformer	1.45
T5	7ST-537	Triple-tuned 455 kc second i-f transformer	1.60
T6	7ST-549	Power transformer	8.90
R1, R12, R29, R30	KR-53	50,000 ohm ¼ watt carbon resistor	.16
R2	KR-57	1 megohm ¼ watt resistor in 6U5 tube socket	.16
R3	GR-31	20,000 ohm 1 watt carbon resistor	.16
R4	LR-60	20,000 ohm ¼ watt carbon resistor	.16
R5	3BR-247	40,000 ohm ½ watt carbon resistor	.16
R6	7SR-411	15,000 ohm 2 watt carbon resistor	.25
R7, R8	PR-79	1000 ohm ¼ watt carbon resistor	.16
R9		190,000 ohm resistor, part of T6.	
R10, R11	NNR-220	3 megohm ¼ watt carbon resistor	.16
R13	LR-61	200,000 ohm ¼ watt carbon resistor	.16
R14, R18, R19, R21	KR-54	100,000 ohm ¼ watt carbon resistor	.16
R15	7SR-379	Volume control, 1.2 megohm, double tapped	.70
R16	3ER-262	75 ohm ½ watt wire-wound resistor	.16
R17	HR-42	2 megohm ¼ watt carbon resistor	.16
R20, R22, R23	KR-55	250,000 ohm ¼ watt carbon resistor	.16
R24	3BR-246	10,000 ohm 2 watt carbon resistor	.25
R25	7SR-404	3,500 ohm ½ watt carbon resistor	.16
R26	7SR-402	11 ohm ½ watt wire-wound resistor	.16
R27	3XR-283	1500 ohm 2 watt carbon resistor	.25
R28	7SR-403	180 ohm 3 watt carbon resistor	.30
C1, C2, C3	7SC-496	Three-gang variable condenser	5.05
C4		Trimmer, part of T1.	
C5, C6		Trimmers, part of variable condenser.	
C7, C8, C20	BC-12	0.05 mf, 200 volt tubular condenser	.20
C9	7SC-498A	0.000008 mf, mica condenser	.20
C10	2NC-231A	Single adjustable padding condenser; range 300 to 600 mmf	.30
C11	EEC-132	0.1 mf, 400 volt tubular condenser	.20
C12, C13, C14, C15, C16, C17		Trimmers, part of i-f transformers.	
C18, C21, C36	LC-64	0.05 mf, 400 volt tubular condenser	.20
C19, C27, C28	EEC-132	0.1 mf, 400 volt tubular condenser	.20
C22, C26, C48	5LC-410A	0.00011 mf, mica condenser	.20
C23	4XC-393A	0.00006 mf, mica condenser	.20
C24, C25	KC-58	0.01 mf, 400 volt tubular condenser	.20
C29		0.0014 mf, mica condenser; part of L1.	
C31, C35	3VC-324	0.003 mf, 600 volt tubular condenser	.20
C32	3XC-374	0.1 mf, 600 volt tubular condenser	.20
C33	7EC-473	0.05 mf, 600 volt tubular condenser	.20
C34	QQC-173	0.015 mf, 600 volt tubular condenser (see production change number 1)	.20
C37	7SC-497	0.08 mf, 600 volt tubular condenser	.20
C38	4DC-349	0.04 mf, 400 volt tubular condenser	.20
C39	EC-19	0.5 mf, 200 volt tubular condenser	.35
C40, C41	7AC-444A	16 mf, 400 volt dry electrolytic condenser	.85
C42	3XC-329 or 7SC-501	30 mf, 450 volt wet electrolytic condenser	1.35
		30 mf, 450 volt fabricated plate electrolytic condenser	1.00
C43, C44	3LC-297A	0.01 mf, 400 volt tubular condenser	.20
C45		Trimmer, part of L2.	



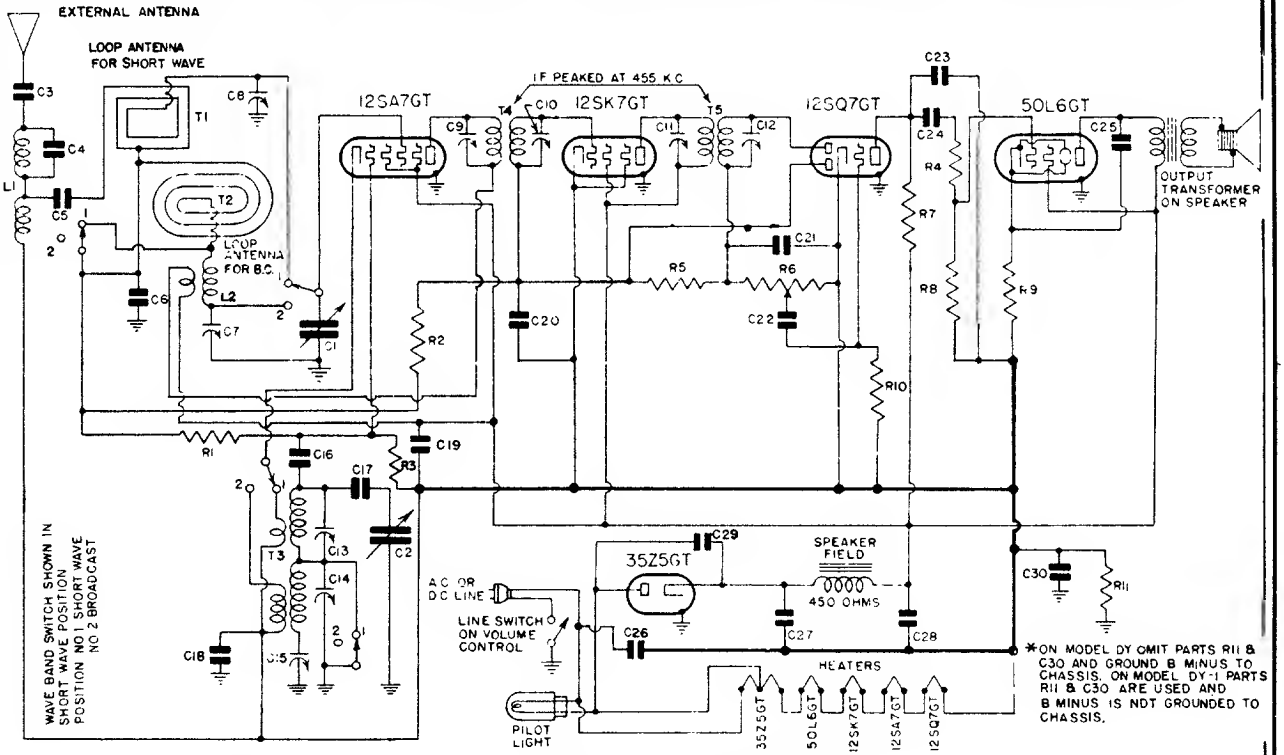
L1	7UT-542	Iron core loading coil (379)
L2	7UW-236	Shoulder strap loop assembly
L2	7UW-296	Loop antenna (380)
T1	7UT-539	Oscillator coil
T2	7UT-540	Iron core double-tuned 455 kc first i-f transformer
T3	7UT-541	Iron core single-tuned 455 kc second i-f transformer
R1	KR-54	100,000 ohm ¼ watt carbon resistor
R2	LR-64	5,000 ohm ¼ watt carbon resistor
R3	LR-65	10,000 ohm ¼ watt carbon resistor
R4, R12	3RR-274	5 megohm ¼ watt carbon resistor
R5	7UR-380	Volume control 1.5 megohm with double pole battery switch
R6	3RR-274	10 megohm ¼ watt carbon resistor
R7, R9	NNR-220	3 megohm ¼ watt carbon resistor
R8	KR-57	1 megohm ¼ watt carbon resistor
R10	7UR-394	2200 ohm ¼ watt carbon resistor
R11	7UR-392	1800 ohm ¼ watt carbon resistor
C1, C2	7UC-469	Two-gang variable condenser
†C3, C4		Trimmers, part of variable condenser.
C5, C9, C15	FC-29	0.02 mf, 200 volt tubular condenser
C6, C12, C14	5LC-410A	0.00011 mf mica condenser
†C7, C8, C11		Fixed trimming condensers, contained inside i-f cans.
C10	7UC-476	10 mf, 100 volt dry electrolytic condenser
C13	3HC-274	0.002 mf, 600 volt tubular condenser
C16, C17	NNC-199	0.001 mf, 600 volt tubular condenser

Emerson Radio

Models DU-379 DU-380

Readings should be taken with a 1000 ohms-per-volt meter. Voltages listed are from point indicated to chassis with volume control turned on full and no signal. The battery voltages for these readings were: "A" 1.5 volts, "B" 67.5 volts. All readings except filaments were taken on the 250 volt scale, with battery saver "out."

Tube	Plate	Screen	Osc. Plate	Fil.
1R5	57	60	57	1.5
1T4	57	60	—	1.5
1S5	*5	*3	—	1.5
1S4	55	60	—	1.5



L1	7RT-531	Antenna choke and 455 kc wave-trap (DY1)
L1	7RT-531A	Antenna choke and 455 kc wave-trap (DY)
L2	7YT-552A	Broadcast loop antenna loading coil
T1, T2	7YW-249A	Two-band loop antenna assembly
T3	7YT-551A	Two-band oscillator coil
T4	7QT-548C	Double-tuned 455 kc first i-f transformer
T5	7QT-544	Double-tuned 455 kc second i-f transformer
R1, R10	4XR-327	15 megohm ¼ watt carbon resistor
R2, R11	LR-61U	200,000 ohm ¼ watt carbon resistor
R3	LR-60	20,000 ohm ¼ watt carbon resistor
R4	KR-53	50,000 ohm ¼ watt carbon resistor
R5	HR-42	2 megohm ¼ watt carbon resistor
R6	7BR-363C	Volume control .5 megohm with line switch
R7, R8	KR-56	500,000 ohm ¼ watt carbon resistor
R9	3FR-293	140 ohm, ½ watt wire-wound resistor
C1, C2	7RC-464	Two-gang variable condenser
C3	HC-34	0.006 mf, 600 volt tubular condenser
C4		0.001 mf, part of L1, wave-trap assembly
C5, C19	FC-29	0.02 mf, 200 volt tubular condenser
C6	2ZC-253	0.0025 mf mica condenser
C7, C8		Trimmers, part of loop antenna assembly.
†C9, C10, C11, C12		Trimmers, part of i-f transformers.
C13, C14	7RC-466	Dual trimmer assembly
C15	2NC-231D	Single adjustable padding condenser
C16	4XC-394A	0.00022 mf mica condenser
C17	7YC-483	0.00114 mf mica condenser (coded 0.0011 mf)
C18	KC-58	0.01 mf, 400 volt tubular condenser
C20	AC-6	0.1 mf, 200 volt tubular condenser
C21, C23	5AC-384	0.0002 mf, 600 volt tubular or mica condenser
C22	3HC-274	0.002 mf, 600 volt tubular condenser
C24	LC-65	0.02 mf, 400 volt tubular condenser
C25	EC-23	0.03 mf, 400 volt tubular condenser
C26	LC-64	0.05 mf, 400 volt tubular condenser
C27, C28	6JC-426H	Dual 20 mf, 150 volt dry electrolytic condenser
C29	TTC-177	0.01 mf, 600 volt tubular condenser
C30	2CC-208	0.2 mf, 200 volt tubular condenser

Voltage at 35Z5 cathode—120 volts.
Voltage across speaker field—32 volts.
Voltage across pilot light—4.5 volts.

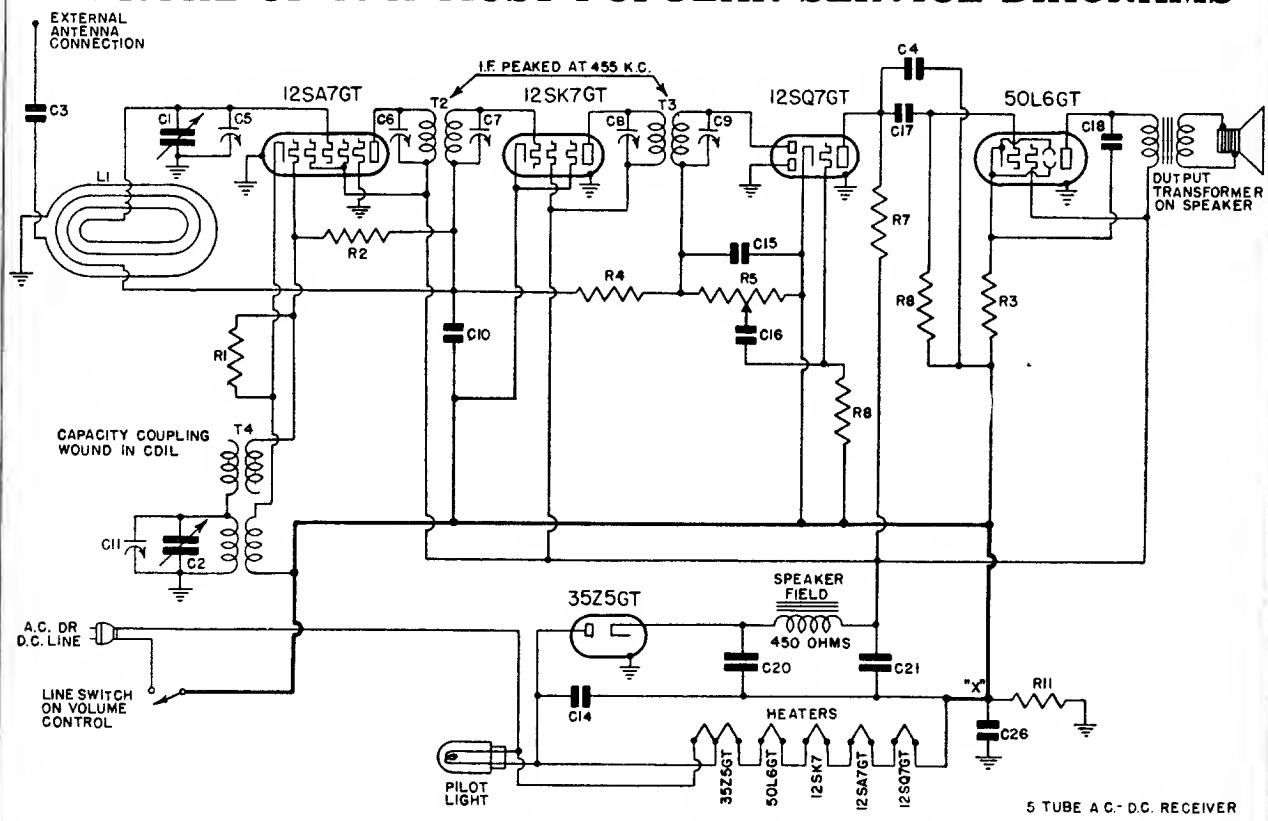
Tube	Plate	Screen	Cathode	Fil.
12SA7GT	88	88	0	12
12SK7GT	88	88	0	12
12SQ7GT	30	—	0	12
50L6GT	82	88	5.6	50

DY-337
DY1-337
DY-349
DY1-349
DY-351
DY1-351

Emerson

43

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



NOTE: R11 and C26 are used on Underwriters' approved chassis only; on other chassis point X is grounded to the chassis.

L1	7BW-179	Loop antenna assembly (FC)
L1	8CW-334	Loop antenna assembly (FG)
T4	7QT-547A	Oscillator coil
T2	8CT-566	Double-tuned 455 kc first i-f transformer
T3	7BT-550E	Double-tuned 455 kc second i-f transformer
R1	LR-60U	20,000 ohm ¼ watt carbon resistor
R3	3FR-293	140 ohm ½ watt wire-wound resistor
R4	NNR-220	3 megohm ¼ watt carbon resistor
R5	7BR-363D	Volume control .5 megohm with line switch (FC)
R5	7LR-378	Volume control .5 megohm with line switch (FG)
R6, R2	4XR-327	15 megohm ¼ watt carbon resistor
R7, R8	KR-56U	500,000 ohm ¼ watt carbon resistor
R11	LR-61	200,000 ohm ¼ watt carbon resistor
C1, C2	7BC-445D	Two-gang variable condenser (FC)
C1, C2	7BC-445A	Two-gang variable condenser (FG)
C3, C16	3HC-274	0.002 mf, 600 volt tubular condenser
C4, C15	5AC-384	0.002 mf, 600 volt tubular condenser
C5, C11		Trimmers, part of variable condenser
C6, C7, C8, C9		Trimmers, part of variable condenser
C10, C27	BC-12	0.05 mf, 200 volt tubular condenser
C14	LC-64	0.05 mf, 400 volt tubular
C17, C18	LC-65	0.02 mf, 400 volt tubular condenser
C20, C21	6JC-426E	Dual 20 mf, 150 volt dry electrolytic condenser (FC)
C20, C21	6JC-426M	Dual 20 mf, 150 volt dry electrolytic condenser (FG)
C24	AC-6	0.1 mf, 200 volt tubular condenser
C26	2CC-208	0.2 mf, 200 volt tubular condenser

Emerson Radio

MODEL: FC-400

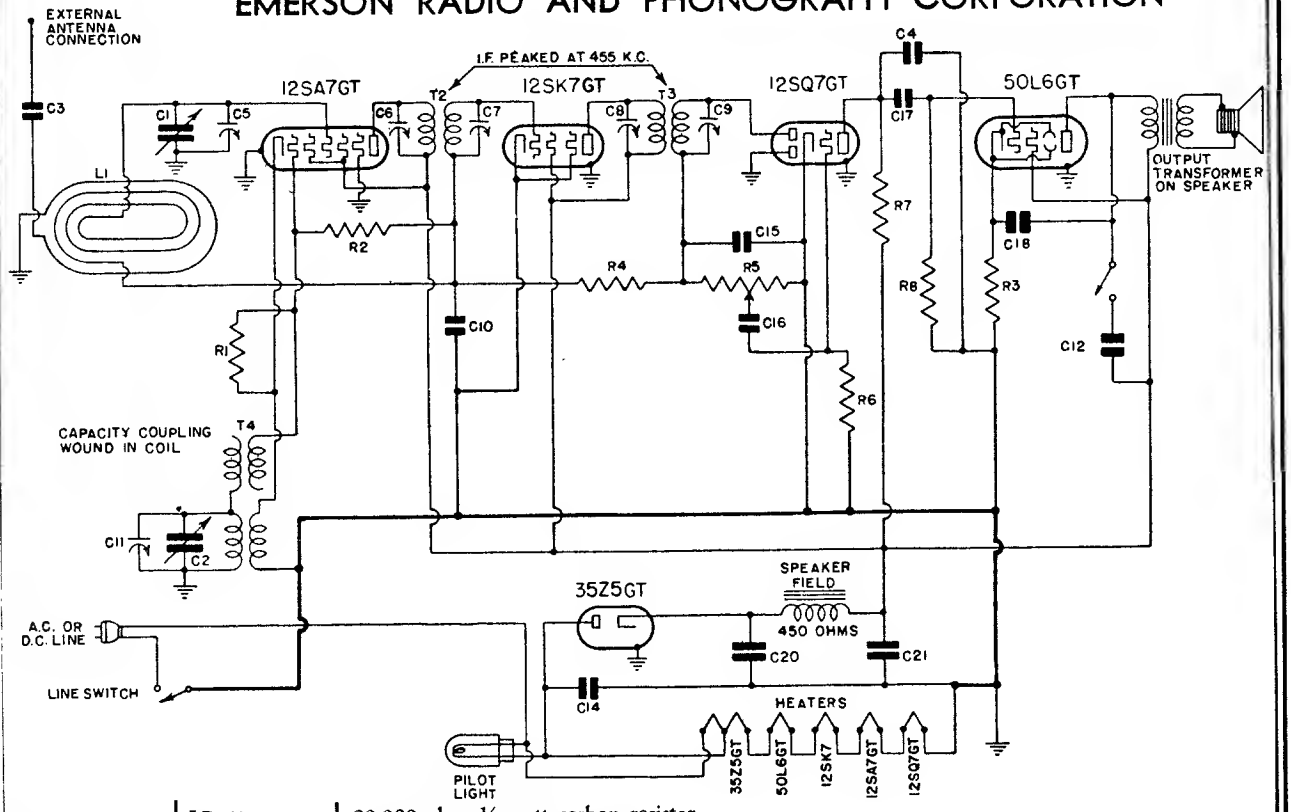
CHASSIS MODEL: FC

MODEL: FG-330

CHASSIS MODEL: FG

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

EMERSON RADIO AND PHONOGRAPH CORPORATION



R1	LR-60	20,000 ohm ¼ watt carbon resistor
R2, R6	4XR-327	15 megohm ¼ watt carbon resistor
R3	3FR-293	140 ohm ½ watt wire-wound resistor
R4	NNR-220	3 megohm ¼ watt carbon resistor
R5	9PR-447	Volume control .5 megohm
R7, R8	KR-56	500,000 ohm ¼ watt carbon resistor
C1, C2	9PC-533	Two-gang variable condenser
C3, C16	3HC-274	0.002 mf, 600 volt tubular condenser.
C4	5AC-384	0.0002 mf, 600 volt tubular condenser
C5, C11		Trimmers, part of variable condenser.
C6, C7, C8, C9		Trimmers, part of i-f transformers.
C10	AC-6	0.1 mf, 200 volt tubular condenser
C12	9PC-544	0.04 mf, 200 volt tubular condenser

Emerson Radio

Models FP-421 FP-422

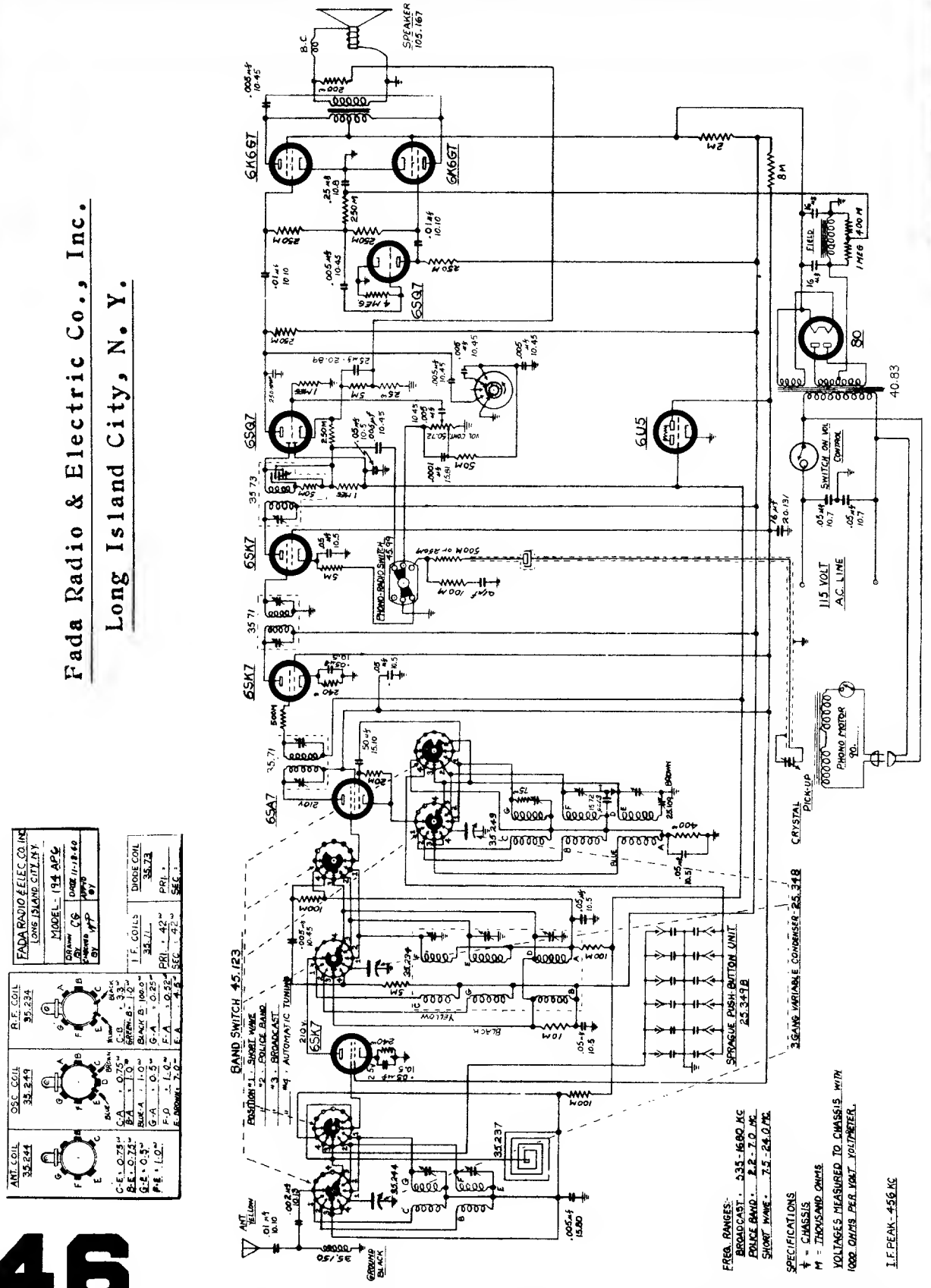
VOLTAGE ANALYSIS

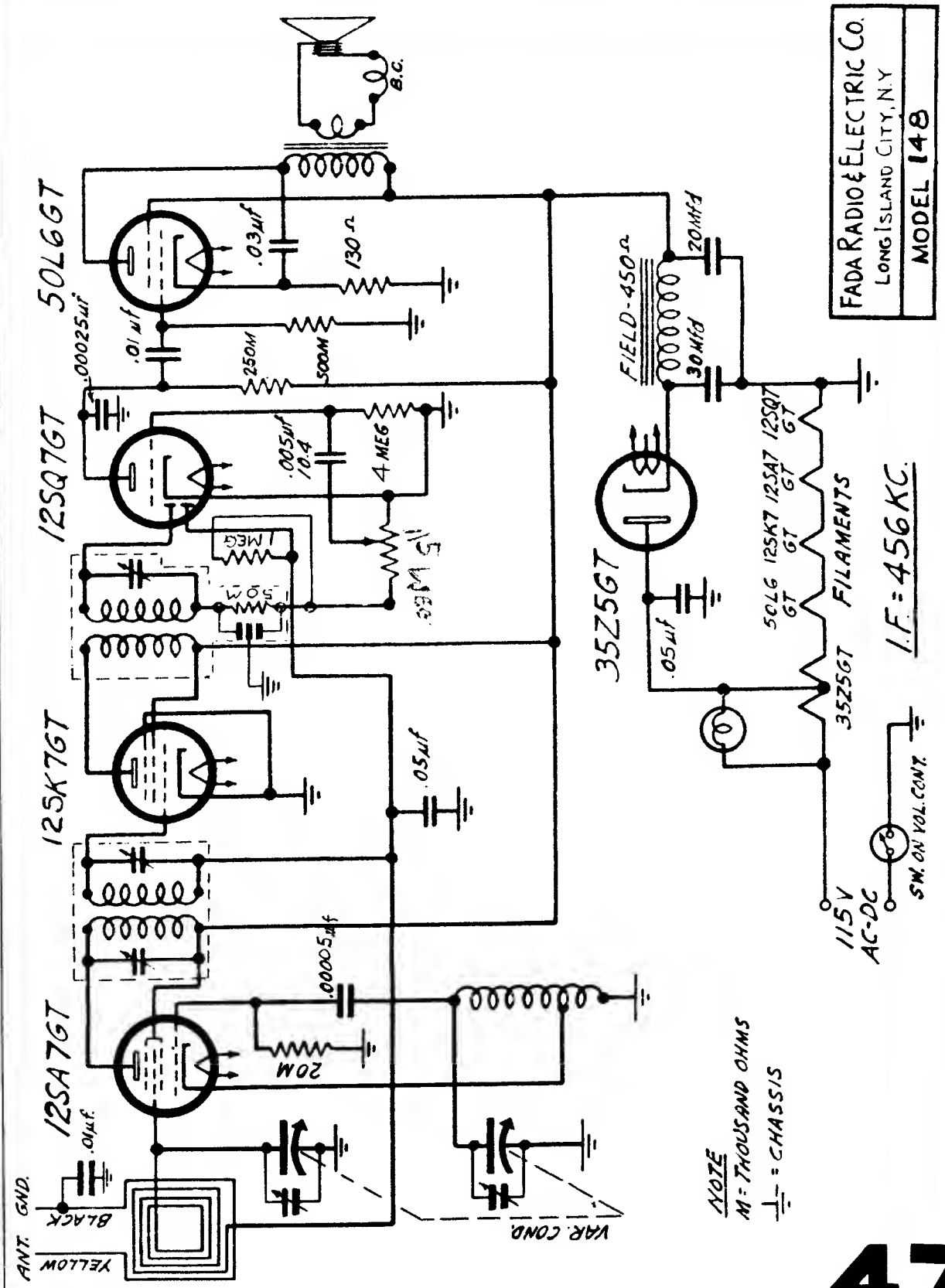
Voltage at 35Z5 cathode—120 volts.
Voltage across speaker field—32 volts.
Voltage across pilot light—4.5 volts.

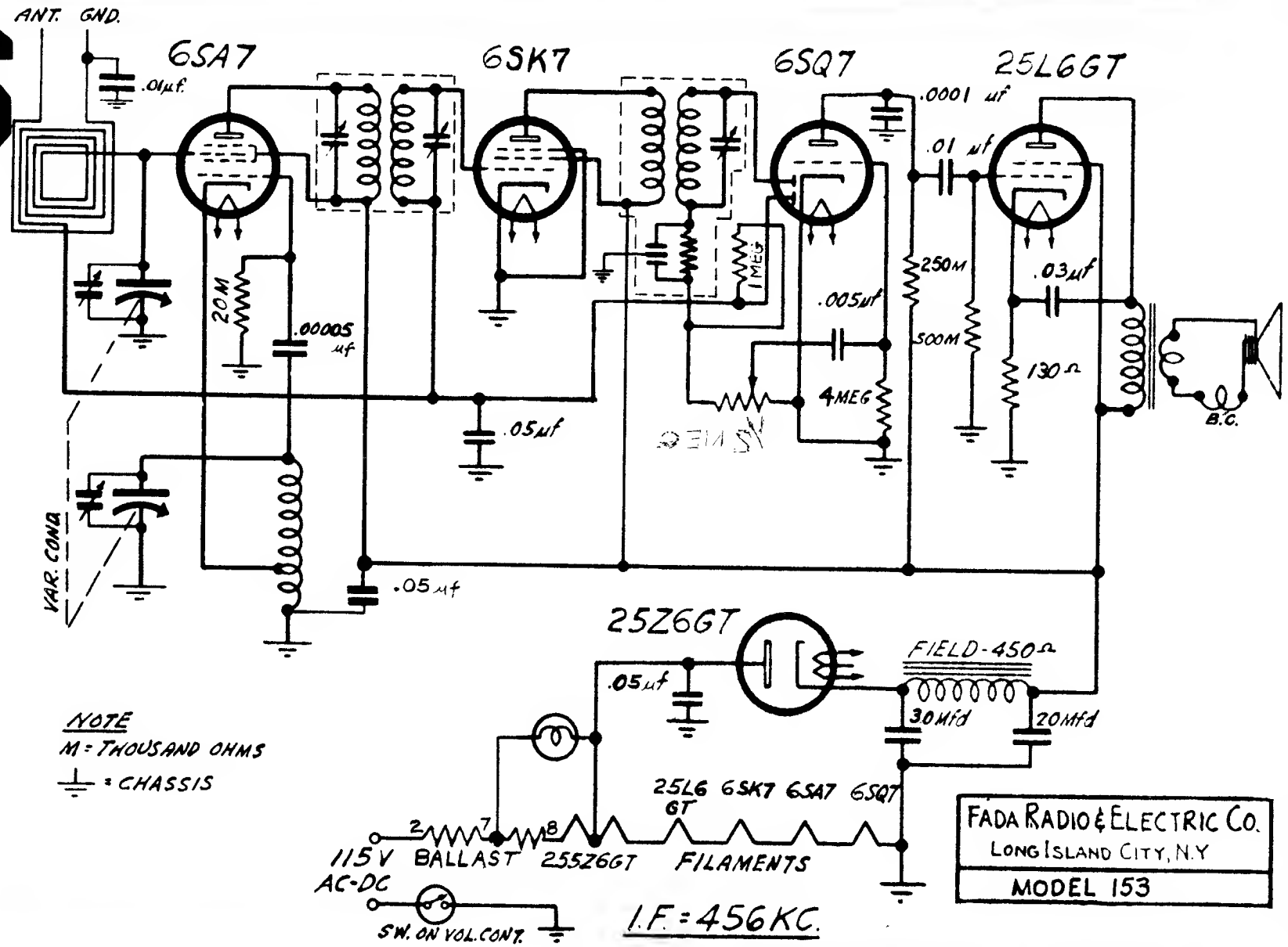
Tube	Plate	Screen	Cathode	Fil.
12SA7GT	88	88	0	12
12SK7GT	88	88	0	12
12SQ7GT	30	—	0	12
50L6GT	82	88	5.6	50

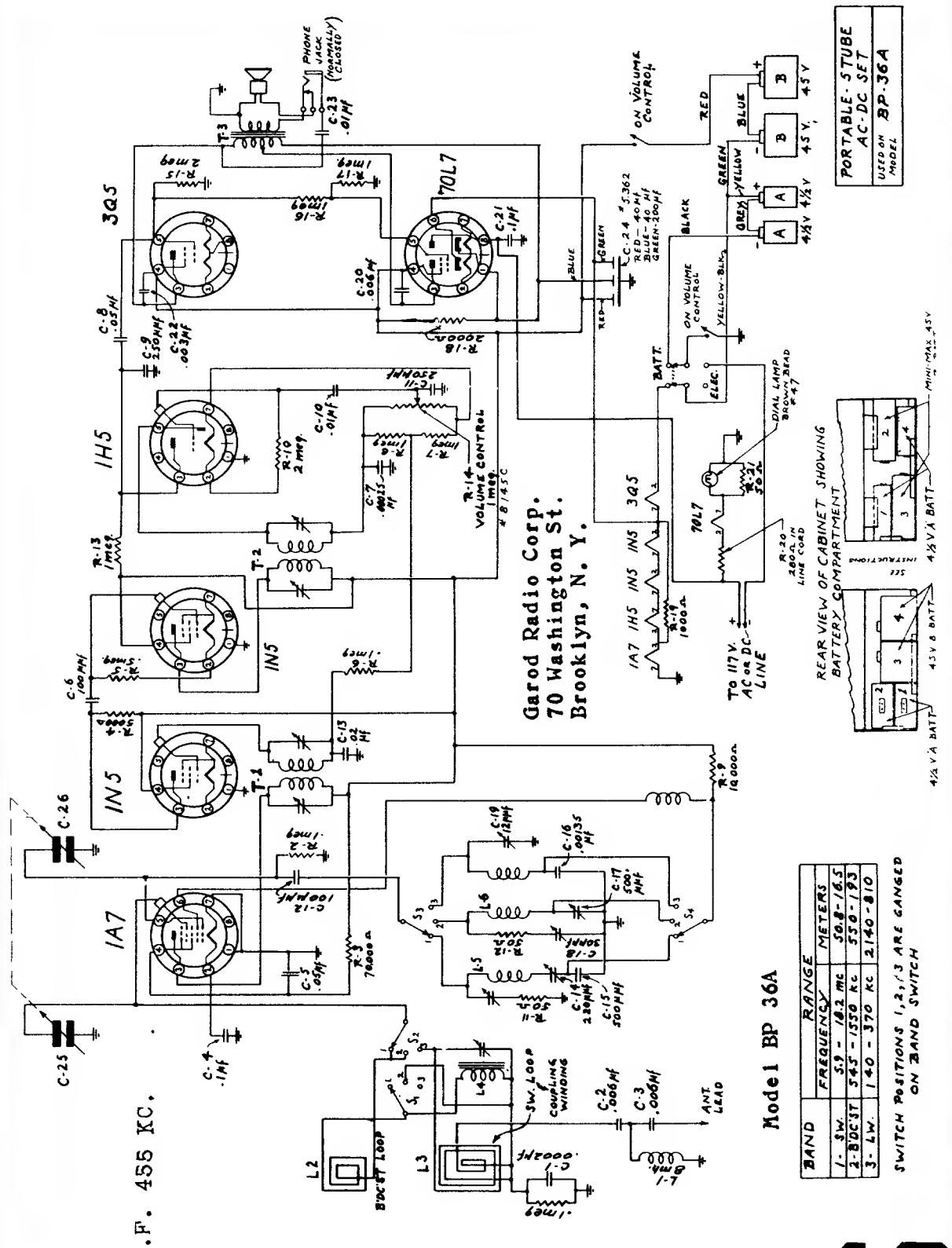
Fada Radio & Electric Co., Inc.

Long Island City, N. Y.



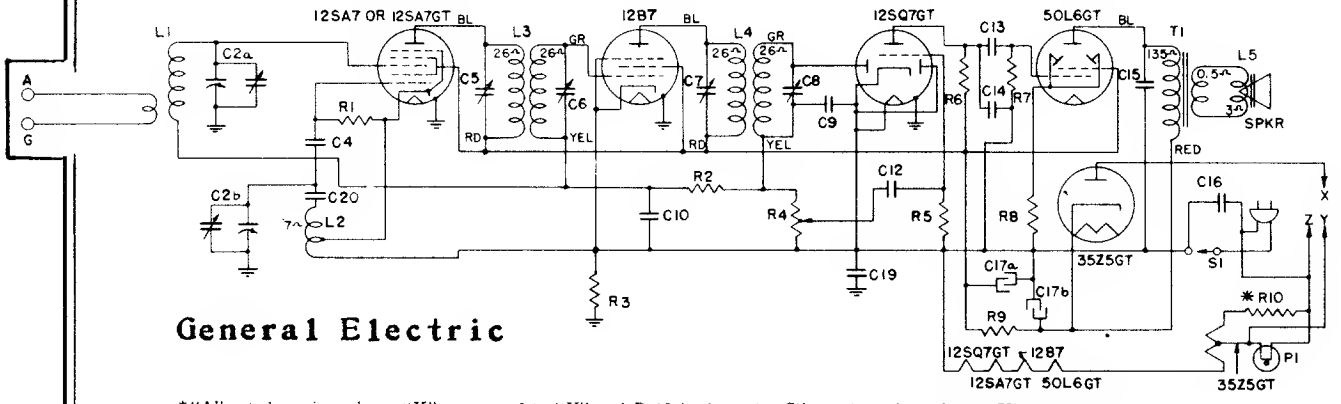

FADA RADIO & ELECTRIC CO.
LONG ISLAND CITY, N.Y.
MODEL 148
50L6GT
12SQ7GT
12SK7GT
12SA7GT
35Z5GT
B.C.
.03μf
130Ω
.01μf
.00025μf
250M
500M
.005μf
10.4
4 MEG
1 MEG
50M
.05μf
.00005μf
20M
.01μf.
ANT.
GND.
BLACK
YELLOW
VAR. COND.
FIELD-450Ω
20MFD
30MFD
.05μf
50L6 12SK7 12SA7 12SQ7
GT GT GT GT
FILAMENTS
35Z5GT
I.F. = 456 KC.
115 V
AC-DC
SW. ON VOL. CONT.
NOTE
M = THOUSAND OHMS
⏚ = CHASSIS


ANT.
GND.
.01µf.
6SA7
6SK7
6SQ7
25L6GT
.0001 µf
.01 µf
20M
.00005 µf
1MEG
.005µf
250M
500M
.03µf
130Ω
4MEG
.05µf
B.C.
VAR. CONA
.05µf
25Z6GT
FIELD-450Ω
.05µf
30Mfd
20Mfd
NOTE
M = THOUSAND OHMS
= CHASSIS
25L6 6SK7 6SA7 6SQ7
GT
2
7
8
115V BALLAST 25Z6GT FILAMENTS
AC-DC
SW. ON VOL. CONT.
I.F. = 456KC.
FADA RADIO & ELECTRIC CO.
LONG ISLAND CITY, N.Y.
MODEL 153


Garod Radio Corp.
70 Washington St.
Brooklyn, N. Y.
PORTABLE-5 TUBE AC-DC SET
USED ON MODEL BP-36A
Model BP 36A
I.F. 455 KC.
SWITCH POSITIONS 1,2,3 ARE GANGED ON BAND SWITCH
REAR VIEW OF CABINET SHOWING BATTERY COMPARTMENT
3Q5
1H5
1N5
1A7
70L7
1A7 1H5 1N5 1N5 3Q5 70L7
TO 117 V. AC or DC LINE
4½ V BATT
45 V BATT
MINI-MAX 45V
ON VOLUME CONTROL
DIAL LAMP BROWN BEAD #47
PHONE JACK (NORMALLY CLOSED)
BOOST LOOP
SW. LOOP COUPLING WINDING
ANT. LEAD
BATT.
ELEC.
BLACK
RED
BLUE
GREEN
YELLOW
GRAY
YELLOW-BLK.
BROWN
BAND | RANGE | FREQUENCY | METERS
1 - SW. | 5.9 - 18.2 mc | 50.8 - 16.5
2 - BC ST | 545 - 1550 kc | 550 - 193
3 - LW. | 140 - 370 kc. | 2140 - 810

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

Models J-51, J-53, J-54, and J-54W

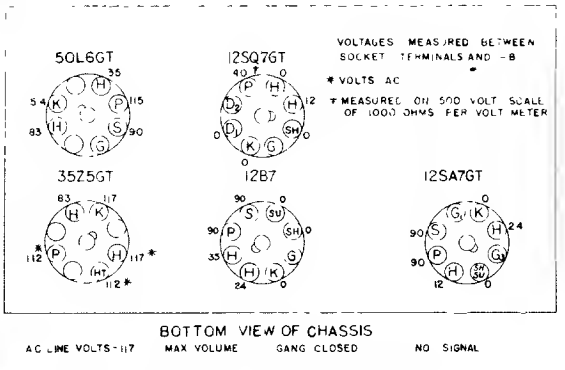


General Electric

*"A" rated receivers have "X" connected to "Y" and R-10 is shorted. "C" rated receivers have "X" connected to "Z."

PARTS DESCRIPTION LIST

Symbol	Description	Symbol	Description	Symbol	Description
C2a	Antenna section of tuning condenser	C17b	40 mfd. 150 V. dry electrolytic	R4	0.5 megohms volume control
C2b	Oscillator section of tuning condenser	C19	0.2 mfd. paper capacitor	R5	4.7 megohms carbon resistor
C4	47 mmf. mica capacitor	C20	.01 mfd. paper capacitor	R6	470,000 ohms carbon resistor
C9	470 mmf. mica capacitor	L1	Beam-a-Scope	R7	470,000 ohms carbon resistor
C10	.05 mfd. paper capacitor	L2	Oscillator Coil	R8	150 ohms carbon resistor
C12	.005 mfd. paper capacitor	L3	1st. I.F. transformer	R9	1200 ohms 1 W. carbon resistor
C13	.005 mfd. paper capacitor	L4	2nd I.F. transformer	R10	13 ohms carbon resistor
C14	330 mmf. mica capacitor	P1	Dial lamp, MAZDA No. 47	S1	Power switch
C15	.01 mfd. paper capacitor	R1	33,000 ohms carbon resistor	T1	Output transformer
C16	.05 mfd. paper capacitor	R2	2.2 megohms carbon resistor		
C17a	30 mfd. 150 V. dry electrolytic	R3	470,000 ohms carbon resistor		



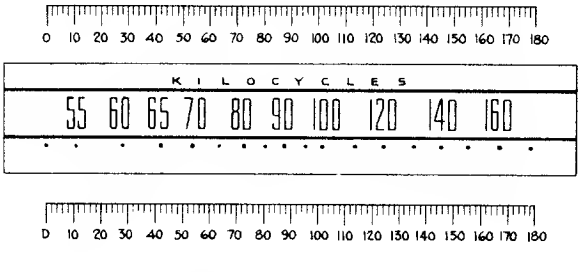
BOTTOM VIEW OF CHASSIS

AC LINE VOLTS-117 MAX VOLUME GANG CLOSED NO SIGNAL

ALIGNMENT PROCEDURE

Alignment Frequencies

I.F. . . . . 455 KC



Frequency-degree Reference Chart

GENERAL INFORMATION

Models J-51, J-53, J-54 and J-54W are compact, five-tube superheterodyne receivers which can be operated from either an AC or DC source of power. Model J-51 and J-53 cabinets are in matched walnut veneers. Model J-54 and J-54W cabinets are plastic in oak and gray-white respectively. All models incorporate the following design features: Built-in Beam-a-Scope, 5-inch dynapower speaker, increased dial length, automatic volume control, and beam power output.

The glass tubes used in the converter and detector stages are interchangeable with metal tubes if the receiver is realigned following the change.

Precaution

If the signal generator is AC operated use an isolating transformer between the power supply and the radio receiver power input. The use of an isolating capacitor is not recommended as AC current through the capacitor will introduce hum modulation and/or create the possibility of a burned-out signal generator attenuator.

Special Service Information

The following information will be very useful in servicing receivers if a vacuum tube voltmeter or similar voltage measuring instrument is available.

(1) Stage Gains — Gain*

Antenna Post to Converter Grid. . . . 4.0 at 1000 KC

R.F. on Converter Grid to I.F. on I.F. Amplifier Grid. . . . . 40 at 1000 KC

I.F. on Converter Grid to I.F. on I.F. Amplifier Grid. . . . . 50 at 455 KC

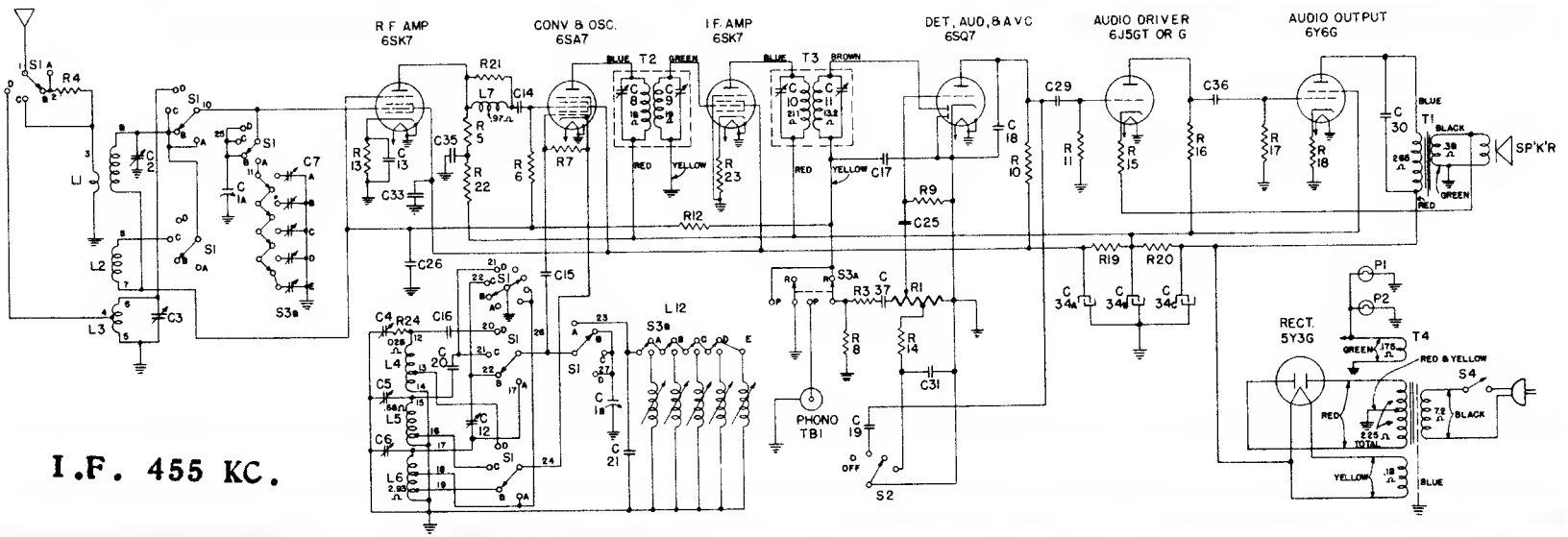
I.F. Amplifier Grid to Detector Plate. . 50 at 455 KC

(2) 0.15-volt, 400-cycle signal across the volume control will give ½-watt speaker output.* (Volume control turned to maximum.)

(3) Average DC voltage developed across oscillator grid resistor (R-1). . . . . 15 volts

* Variations of ± 20% permissible. All readings obtained with enough signal input to give ½-watt speaker output.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
C1A	Antenna section of tuning condenser	C25	.02 mfd. paper capacitor	L7	R.F. interstage coil	R16	100,000 ohms carbon resistor
C1B	Oscillator section of tuning condenser	C26	.05 mfd. paper capacitor	L12	Station selector oscillator coils	R17	330,000 ohms carbon resistor
C2	"BC" band antenna trimmer	C29	.005 mfd. paper capacitor	P1	Dial lamp, Mazda No. 44	R18	270 ohms 1 W. carbon resistor
C3	"SW2" band antenna trimmer	C30	.01 mfd. paper capacitor	P2	Dial lamp, Mazda No. 44	R19	3300 ohms 1 W. carbon resistor
C4	"SW2" band oscillator trimmer	C31	.005 mfd. paper capacitor	R1	2 megohm volume control	R20	1800 ohms 2 W. carbon resistor
C5	"SW1" band oscillator trimmer	C33	.01 mfd. paper capacitor	R3	47,000 ohms carbon resistor	R21	10,000 ohms carbon resistor
C6	"BC" band oscillator trimmer	C34A	10 mfd. 250 V. dry electrolytic	R4	1000 ohms carbon resistor	R22	1000 ohms carbon resistor
C7	Station selector antenna trimmer strip	C34B	15 mfd. 250 V. dry electrolytic	R5	3300 ohms carbon resistor	R23	150 ohms carbon resistor
C12	"BC" band padding trimmer	C34C	30 mfd. 250 V. dry electrolytic	R6	47,000 ohms carbon resistor	R24	27 ohms carbon resistor
C13	.01 mfd. paper capacitor	C35	.01 mfd. paper capacitor	R7	22,000 ohms carbon resistor	S1	Band switch
C14	100 mmf. mica capacitor	C36	.01 mfd. paper capacitor	R8	470,000 ohms carbon resistor	S2	Tone control switch
C15	47 mmf. mica capacitor	C37	.005 mfd. paper capacitor	R9	4.7 megohms carbon resistor	S3A	Phono switch
C16	.008 mfd. paper capacitor	L1	"BC" Band Beam-a-Scope	R10	330,000 ohms carbon resistor	S3B	Station selector switch
C17	220 mmf. mica capacitor	L2	"SW1" band antenna coil	R11	470,000 ohms carbon resistor	S4	Power switch
C18	150 mmf. mica capacitor	L3	"SW2" band Beam-a-Scope	R12	2.2 megohms carbon resistor	T1	Output transformer
C19	.002 mfd. paper capacitor	L4	"SW2" band oscillator coil	R13	47 ohms carbon resistor	T2	1st I.F. transformer
C20	2400 mmf. ±5% mica capacitor	L5	"SW1" band oscillator coil	R14	100,000 ohms carbon resistor	T3	2nd I.F. transformer
C21	750 mmf. silvered mica capacitor	L6	"BC" band oscillator coil	R15	3300 ohms carbon resistor	T4	Power transformer

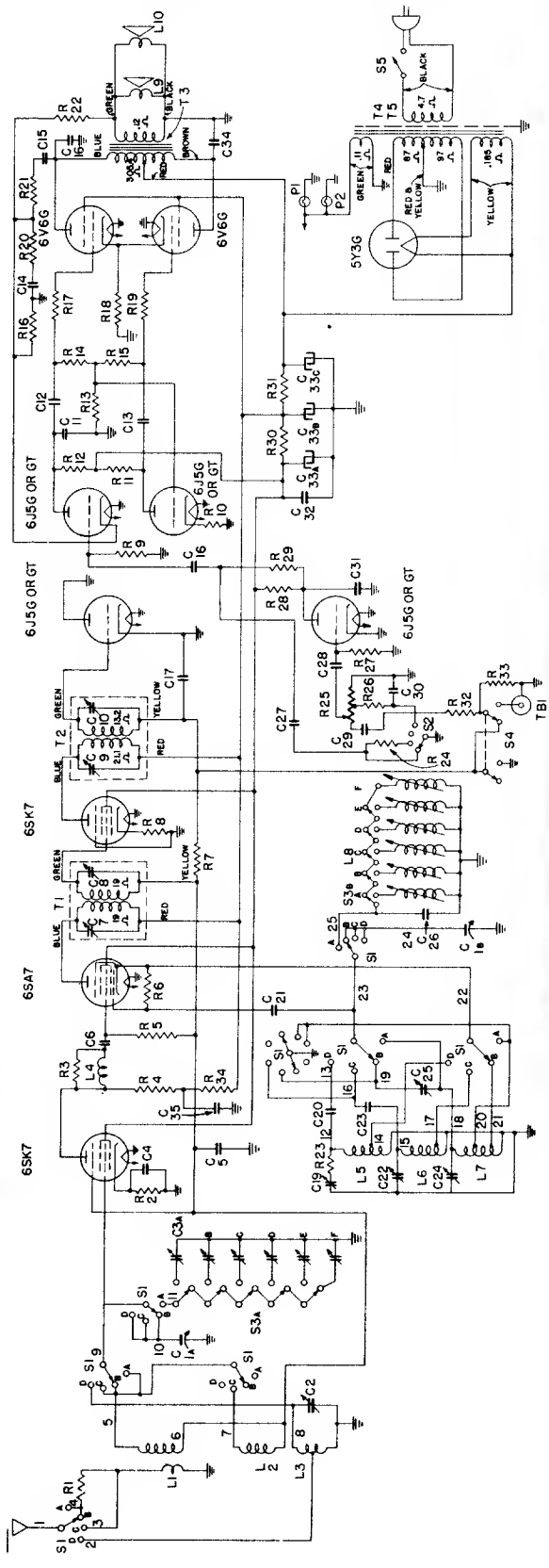
Chassis or Beam-a-Scope Removal

Note: Care must be exercised in removing the chassis to avoid changing the shape of either the short-wave or broadcast loops. These loops are factory formed to give a certain inductance and any alterations in the loops in the field will throw the chassis out of alignment.

When disconnecting the short-wave loop leads from the loop, be sure to support the loop while pulling off the connections. Failure to support the loop may cause the staples to loosen and result in the loop rattling in the cabinet.

GENERAL ELECTRIC
SEVEN-TUBE
GOLDEN TONE RADIO
MODEL J-71

Symbol	Description
C1A	Antenna section of tuning condenser
C1B	Oscillator section of tuning condenser
C2	"SW2" band antenna trimmer
C3	Touch tuning trimmer strip
C4	.01 mfd. paper capacitor
C5	0.1 mfd. paper capacitor
C6	100 mmf. mica capacitor
C11	.001 mfd. paper capacitor
C12	.03 mfd. paper capacitor
C13	.03 mfd. paper capacitor
C14	.02 mfd. paper capacitor
C15	100 mmf. 1000 V. mica capacitor
C16	.002 mfd. 1000 V. paper capacitor
C17	220 mmf. mica capacitor
C18	.01 mfd. paper capacitor
C19	"SW2" band oscillator trimmer
C20	.008 mfd. paper capacitor
C21	47 mmf. mica capacitor
C22	"SW1" band oscillator trimmer
C23	2400 mmf. ±5% mica capacitor
C24	"BC" band oscillator trimmer
C25	"BC" band oscillator padder
C26	750 mmf. silvered mica capacitor
C27	.005 mfd. paper capacitor
C28	.05 mfd. paper capacitor
C29	.005 mfd. paper capacitor
C30	.004 mfd. paper capacitor
C31	150 mmf. mica capacitor
C32	.01 mfd. paper capacitor
C33A	10 mfd. 350 V. dry electrolytic
C33B	15 mfd. 400 V. dry electrolytic
C33C	30 mfd. 400 V. dry electrolytic
C34	.002 mfd. 1000 V. paper capacitor
C35	.01 mfd. paper capacitor
L1	"BC" and "SW1" band Beam-a-Scope
L2	"SW1" band antenna coil
L3	"SW2" band Beam-a-Scope
L4	R.F. interstage coil
L5	"SW2" band oscillator coil
L6	"SW1" band oscillator coil
L7	"BC" band oscillator coil
L8	Touch tuning coil strip
P1	Dial lamp, Mazda No. 44
P2	Dial lamp, Mazda No. 44
R1	1000 ohms carbon resistor
R2	47 ohms carbon resistor
R3	10,000 ohms carbon resistor
R4	3300 ohms 1 W. carbon resistor
R5	47,000 ohms carbon resistor
R6	22,000 ohms carbon resistor
R7	2.2 megohms carbon resistor
R8	150 ohms carbon resistor
R9	470,000 ohms carbon resistor
R10	3300 ohms carbon resistor
R11	100,000 ohms carbon resistor
R12	220,000 ohms carbon resistor
R13	220,000 ohms carbon resistor
R14	150,000 ohms carbon resistor
R15	270,000 ohms carbon resistor
R16	4700 ohms carbon resistor
R17	1000 ohms carbon resistor
R18	180 ohms 2 W. carbon resistor
R19	1000 ohms carbon resistor
R20	1800 ohms carbon resistor
R21	47,000 ohms carbon resistor
R22	6800 ohms carbon resistor
R23	27 ohms carbon resistor
R24	47,000 ohms carbon resistor
R25	2 megohms volume control (½ megohm tap)
R26	56,000 ohms carbon resistor
R27	5.6 megohms carbon resistor
R28	220,000 ohms carbon resistor
R29	33,000 ohms carbon resistor
R30	10,000 ohms 3 W. carbon resistor
R31	1600 ohms 4 W. candohm resistor
R32	47,000 ohms carbon resistor
R33	470,000 ohms carbon resistor
R34	1000 ohms carbon resistor
S1	Band switch
S2	Tone control switch
S3	Touch tuning switch
S4	Phono key
S5	Power key
T1	1st I.F. transformer
T2	2nd I.F. transformer
T3	Output transformer
T4	50-60-cycle power transformer
T5	25-cycle power transformer



Tuning Frequency Range

Broadcast Band..... 540–1700 KC
Short-wave Band No. 1.....2400–7000 KC
Short-wave Band No. 2.....7000–22,000 KC

Intermediate Frequency.....455 KC

GENERAL ELECTRIC

MODEL J-105

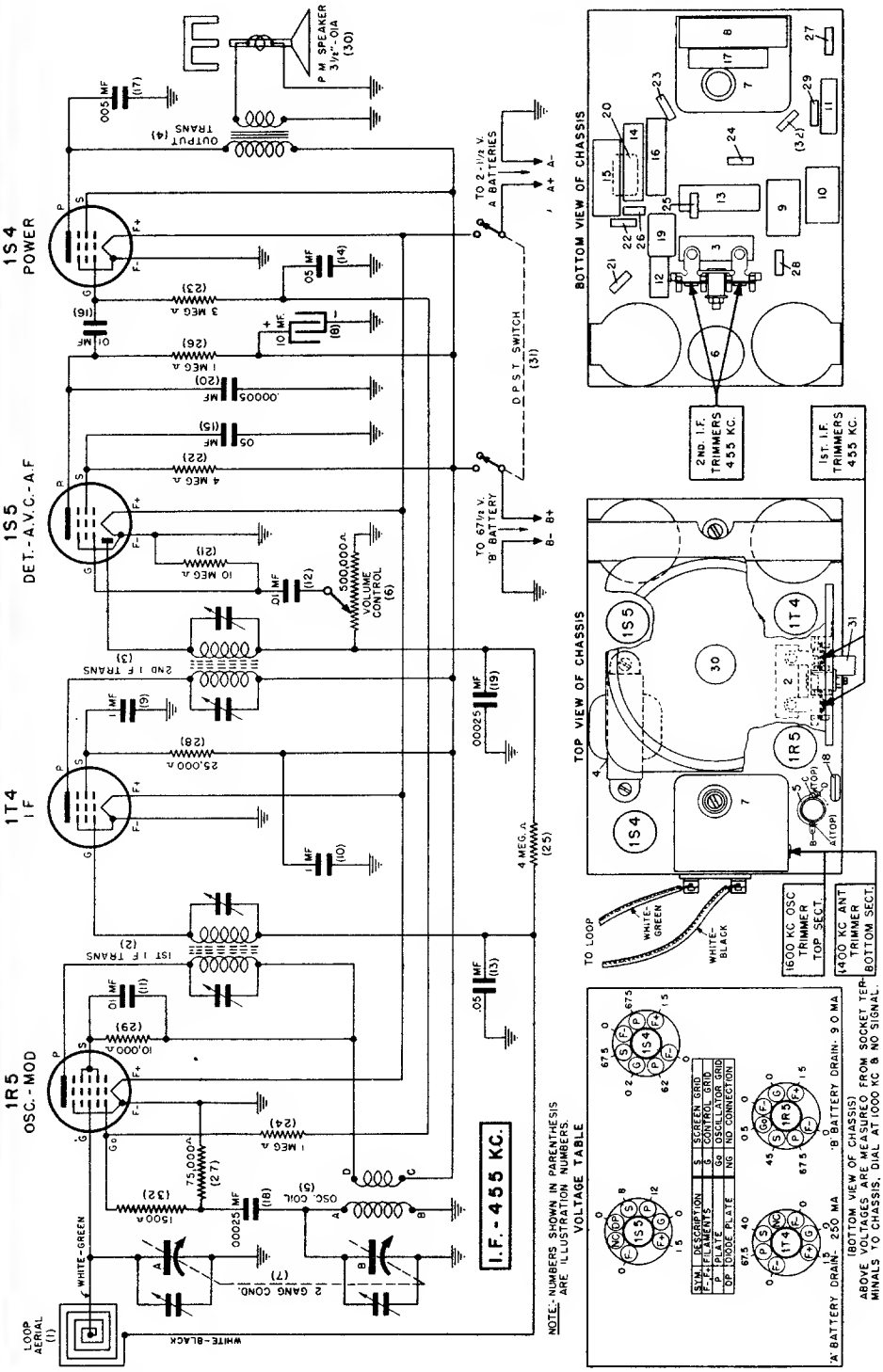
52

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

INSTRUCTIONS

GENERAL ELECTRIC

Model JB-410



Alignment Frequencies

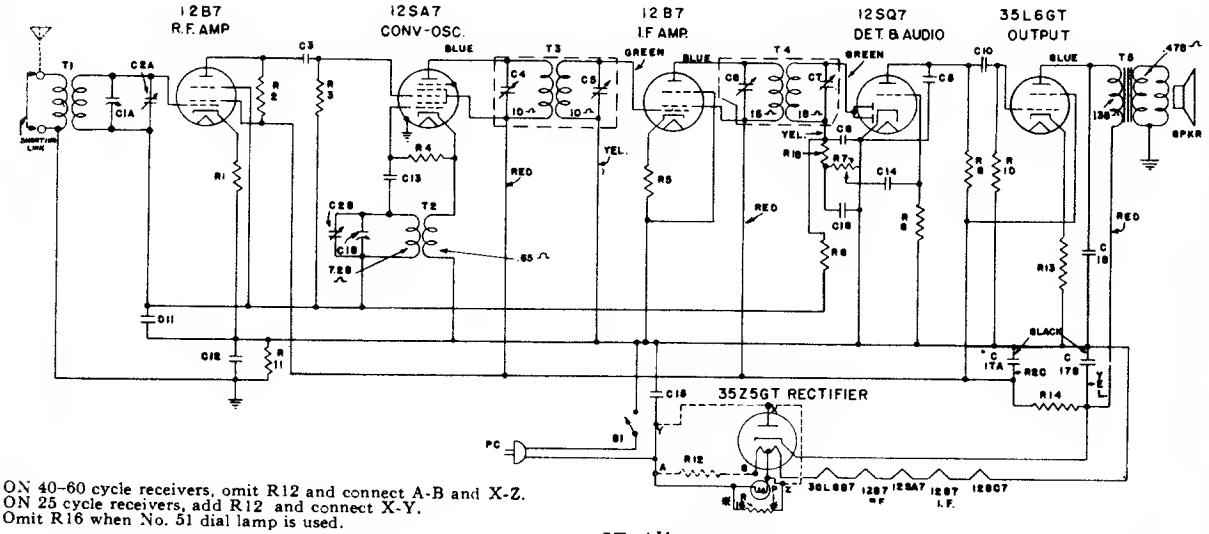
I.F. .....455 K.C.
R.F. .....1600 & 1400 K.C.

I.F. Alignment

Connect an output meter across the voice coil. Rotate the volume to maximum. Set test oscillator to 455 K.C. and apply signal to lug on stator of gang condenser to which loop is connected through a .05 Mfd. capacitor. Align the second I.F. transformer trimmers, next adjust the first I.F. transformer trimmers. Keep test oscillator output as low as a readable meter reading will permit.

R.F. Alignment

Couple test oscillator output to loop in case cover. Adjust test oscillator and receiver dial to exactly 1600 K.C. Peak 1600 K.C. oscillator trimmer for maximum output. Change test oscillator signal and receiver dial to approximately 1400 K.C. Then while rocking gang condenser trim 1400 K.C. antenna trimmer for maximum output.



ON 40-60 cycle receivers, omit R12 and connect A-B and X-Z.
ON 25 cycle receivers, add R12 and connect X-Y.
Omit R16 when No. 51 dial lamp is used.

General Electric

Models J-602, J-603

Tuning Frequency Range.....540-1720 KC

Intermediate Frequency.....455 KC

Electrical Power Output (117 line volts)
Undistorted.....1.0 watts
Maximum.....1.5 watts

Loudspeaker—PM Dynamic
Outside Cone Diameter.....5 inches
Voice Coil Impedance (400 cycles).3.5 ohms

Tubes
RF Amplifier.....GE-12B7
Converter—Oscillator.....GE-12SA7
IF Amplifier.....GE-12B7
Detector, Audio, and AVC.....GE-12SQ7
Power Output.....GE-35L6GT
Rectifier.....GE-35Z5GT
Dial Lamp (see paragraph below)..MAZDA #47 or #51

GENERAL INFORMATION

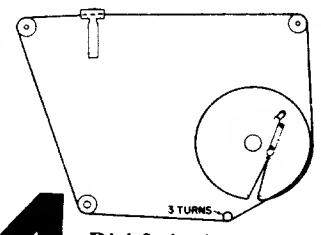
Models J602 and J603 are six-tube AC-DC superheterodyne receivers with Underwriters' Approval listing. The Model J602 is housed in a mahogany plastic cabinet, while the Model J603 has an ivory plastic cabinet.

Both the MAZDA No. 47 and No. 51 dial lamps were used during production. When lamp No. 51 is used, the resistor R16 should be omitted.

Either the metal or glass type 12B7 tube may be used in the RF or IF stage. However when the glass tube is used in the IF stage, a tube shield must be used to prevent oscillation at the low frequency end of the broadcast band.

ALIGNMENT PROCEDURE

Alignment Frequencies
RF.....1500 KC
IF.....455 KC



Dial Stringing Diagram

IF Alignment

Connect an output meter across the voice coil. Turn the volume control to maximum. Set test oscillator to 455 KC and keep the oscillator output as low as a readable meter reading will permit.

Apply signal to the 12SA7 converter grid through a .05 mfd. capacitor and align progressively the trimmers in the 2nd and 1st IF transformers.

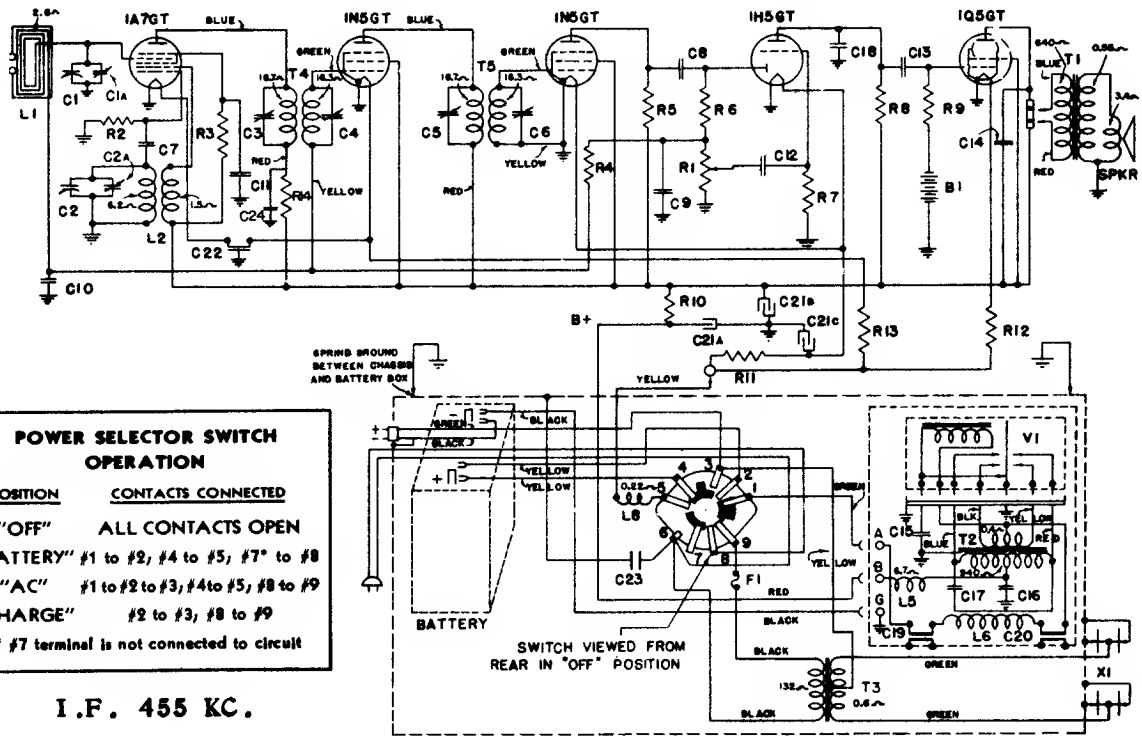
RF Alignment

When making the following alignment the loop antenna must be bolted to the chassis by the screw and spacer mounting. The RF signal should be capacity coupled to the receiver loop by placing a two-foot piece of wire for an antenna on the test oscillator output post (high side). Keeping this antenna two feet or more from the receiver loop will generally insure freedom from too much coupling. Metal objects such as meters, tools, etc., should not be placed in close proximity to the loop when making this alignment.

With the gang condenser plates completely closed, the pointer should line up with the first mark on the left of the scale. Set the signal generator to 1500 KC. Align (C-1b) to the signal while the pointer is on the 1500 KC mark. Peak (C-1a) for maximum output.

Stock No.	Symbol	Description
RC-7049	C-1a, 1b, 2a, 2b	CONDENSER—Tuning condenser.....
*RC-235	C-3	CAPACITOR—100 Mmf., mica.....
*RC-242	C-8	CAPACITOR—150 Mmf., mica.....
*RC-274	C-9	CAPACITOR—330 Mmf., mica.....
*RC-039	C-10	CAPACITOR—.01 Mfd., 600 V. paper.....
*RC-072	C-11	CAPACITOR—.05 Mfd., 200 V. paper.....
*RC-104	C-12	CAPACITOR—0.1 Mfd., 600 V. paper.....
*RC-216	C-13	CAPACITOR—47 Mmf., mica.....
*RC-023	C-14	CAPACITOR—.005 Mfd., 600 V. paper.....
*RC-039	C-15	CAPACITOR—.01 Mfd., 600 V. paper.....
*RC-092	C-16	CAPACITOR—.05 Mfd., 600 V. paper.....
RC-5183	C-17a, 17b	CAPACITOR—50 Mfd., 60 Mfd., electrolytic
*RC-235	C-18	CAPACITOR—100 Mmf., mica.....
*RQ-1227	R-1	RESISTOR—47 ohm, ½ W. carbon.....
*RQ-1275	R-2	RESISTOR—4700 ohm, ½ W. carbon.....
*RQ-1299	R-3	RESISTOR—47,000 ohm, ½ W. carbon.....
*RQ-1295	R-4	RESISTOR—33,000 ohm, ½ W. carbon.....
*RQ-1235	R-5	RESISTOR—100 ohm, ½ W. carbon.....
*RQ-1339	R-6	RESISTOR—2.2 megohm, ½ W. carbon.....
RV-120	R-7, S-1	VOLUME CONTROL—0.5 megohm, combined with power switch.....
*RQ-1349	R-8	RESISTOR—5.6 megohm, ½ W. carbon.....
*RQ-1323	R-9, 10, 11	RESISTOR—470,000 ohm, ½ W. carbon.....
*RQ-1213	R-12	RESISTOR—12 ohm, ½ W. carbon.....
*RQ-1239	R-13	RESISTOR—150 ohm, ½ W. carbon.....
RQ-651	R-14	RESISTOR—1000 ohm, 2 W. carbon.....
*RQ-1299	R-15	RESISTOR—47,000 ohm, ½ W. carbon.....
*RQ-1255	R-16	RESISTOR—680 ohm, ½ W. carbon.....

*Used in previous receivers.



POWER SELECTOR SWITCH OPERATION

POSITION	CONTACTS CONNECTED
"OFF"	ALL CONTACTS OPEN
"BATTERY"	#1 to #2; #4 to #5; #7* to #8
"AC"	#1 to #2 to #3; #4 to #5; #8 to #9
"CHARGE"	#2 to #3; #8 to #9

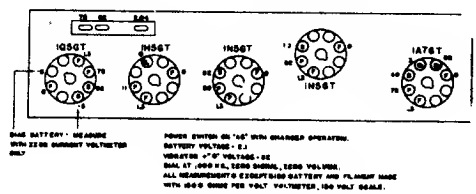
* #7 terminal is not connected to circuit

I.F. 455 KC.

Stock No.	Symbol	Description	List Price
RC-7054	C-1, 2	CONDENSER—Tuning condenser and trimmers	$1.35
*RC-216	C-7	CAPACITOR—47 mmf, mica	.25
*RC-235	C-8, 9	CAPACITOR—100 mmf., mica	.25
*RC-072	C-10	CAPACITOR—.05 Mfd., 200 V. paper	.25
*RC-096	C-11	CAPACITOR—0.1 Mfd., 200 V. paper	.30
*RC-023	C-12, 13	CAPACITOR—.005 Mfd., 600 V. paper	.25
*RC-039	C-14	CAPACITOR—.01 Mfd., 600 V. paper	.25
*RC-096	C-15	CAPACITOR—0.1 Mfd., 200 V. paper	.30
*RC-072	C-16	CAPACITOR—.05 Mfd., 200 V. paper	.25
*RC-027	C-17	CAPACITOR—.006 Mfd., 100 V. paper	.30
*RC-235	C-18	CAPACITOR—100 mmf., mica	.25
*RC-156A	C-19, 20	CAPACITOR—0.5 Mfd., 120 V.	.45
RC-5189	C-21A, 21B	CAPACITOR—15 Mfd., 150 V. dry electrolytic	.75
	C-21C	CAPACITOR—1200 Mfd., 2 V. dry electrolytic	
*RC-156A	C-22	CAPACITOR—0.5 Mfd., 120 V. paper	.45
*RC-092	C-23	CAPACITOR—.05 Mfd., 600 V. paper	.30
RV-125	R-1	VOLUME CONTROL—0.5 megohm volume control	.95
*RQ-1315	R-2	RESISTOR—220,000 ohm, ½ W. carbon	.70—5
*RQ-1299	R-3	RESISTOR—47,000 ohm, ½ W. carbon	.70—5
*RQ-1339	R-4	RESISTOR—2.2 megohm, ½ W. carbon	.70—5
*RQ-1293	R-5	RESISTOR—27,000 ohm, ½ W. carbon	.70—5
*RQ-1299	R-6	RESISTOR—47,000 ohm, ½ W. carbon	.70—5
*RQ-1347	R-7	RESISTOR—4.7 megohm, ½ W. carbon	.70—5
*RQ-1331	R-8	RESISTOR—1.0 megohm, ½ W. carbon	$0.70—5
*RQ-1339	R-9	RESISTOR—2.2 megohm, ½ W. carbon	.70—5
*RQ-1259	R-10	RESISTOR—1,000 ohm, ½ W. carbon	.70—5
RQ-1208	R-11, 12, 13	RESISTOR—8.2 ohm, ½ W. carbon	.70—5
RC-2036	B-1	CELL—3.0 V. bias cell assembly	.55
RL-588	L-1	BEAM-A-SCOPE—Loop antenna assembly (inside cover)	.90
RL-2055	L-2	COIL—Oscillator coil	.30
RL-367	L-5	CHOKE—B choke	.20
RL-366	L-6	CHOKE—Vibrator choke	.55
RL-567	L-7	BEAM-A-SCOPE—External loop antenna	.45
RL-365	L-8	CHOKE—Filament supply choke	.20
RS-3115	SW1	SWITCH—Power selector switch	.70
RT-4010	T-1	TRANSFORMER—Output transformer	.90
RT-0525	T-2	VIBRATOR—Vibrator power transformer	1.80
RT-0524	T-3	TRANSFORMER—50-60 cycle rectifier step-down transformer	1.20
RT-0327	T-3	TRANSFORMER—25 cycle rectifier step-down transformer	
RT-393	T-4	TRANSFORMER—1st I.F. transformer	.90
RT-392	T-5	TRANSFORMER—2nd I.F. transformer	.90
RV-204	V-1	VIBRATOR—Power supply synchronous vibrator	3.60
RR-802	X-1	RECTIFIER—Copper oxide rectifier	.45
RS-1066	Spkr	SPEAKER—12 M speaker	4.60

All power necessary for the operation of the receiver is supplied by the 2-volt built-in rechargeable battery. The tube filaments are heated directly by the two volts from the battery while the necessary high voltage for the screen and plates of the tubes is furnished by a synchronous vibrator used in conjunction with a step-up power transformer and its associated filter circuit. The synchronous vibrator operates on the two volts from the battery.

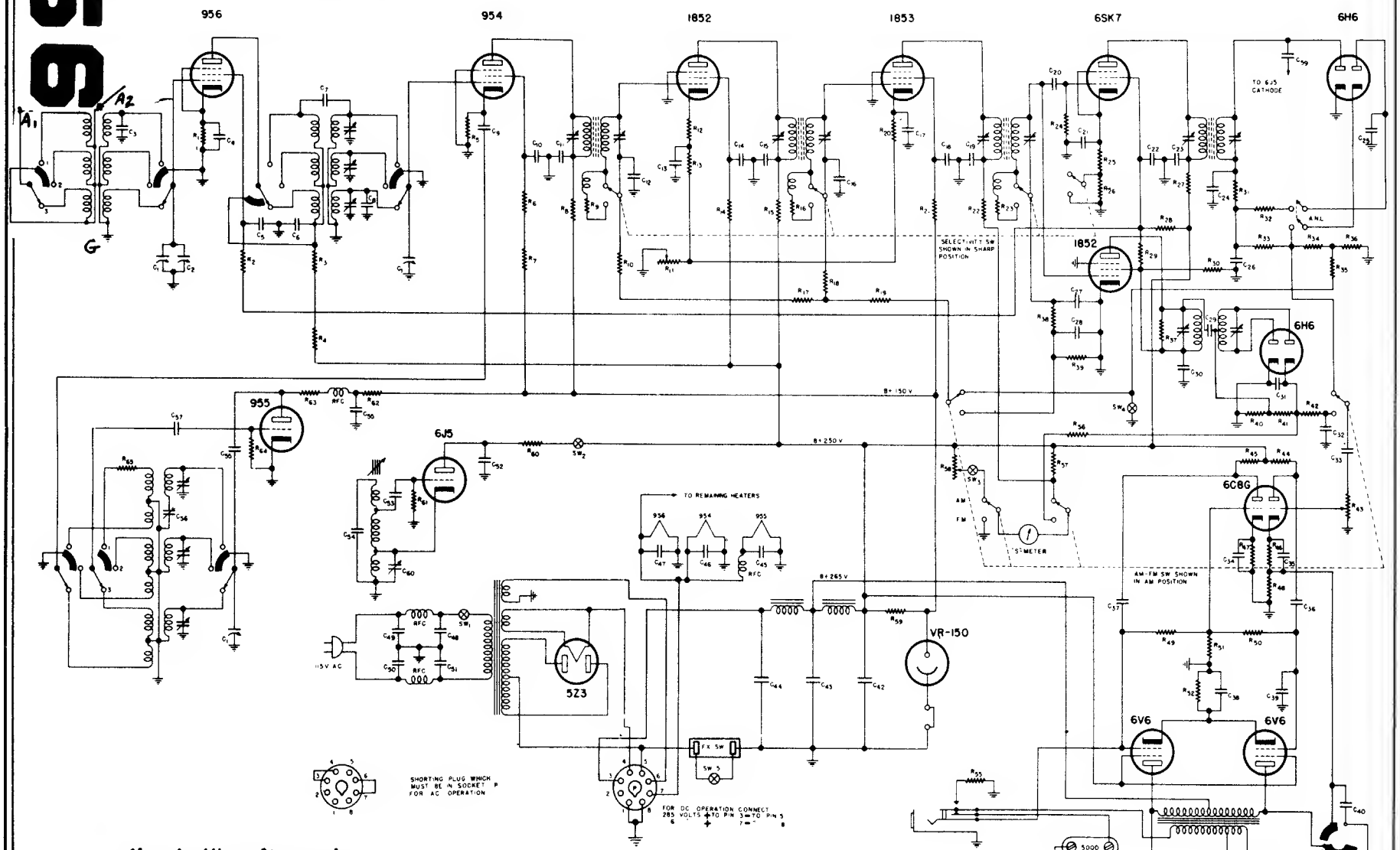
Provision has been made to charge the battery directly from the house current without removing the battery from the receiver circuit. Two charging positions are provided on the four-position power selector switch. The "Charge" position of this switch allows the battery to be charged at the rate of approximately 1.35 amperes from the house current during the period that the receiver is not being operated. The "AC" position of the switch allows the receiver to be operated at the same time that the battery is being charged. Under this condition, however, it takes a considerably longer period for a partially discharged battery to be fully restored due to the fact that current is taken from the battery to operate the receiver.



GENERAL ELECTRIC

MODEL LB-530

SCHEMATIC DIAGRAM - ULTRA HIGH FREQUENCY FM-AM RECEIVER - MODEL S-27



the hallicrafters *inc.*
CHICAGO U.S.A.

The Hallicrafters

S-27

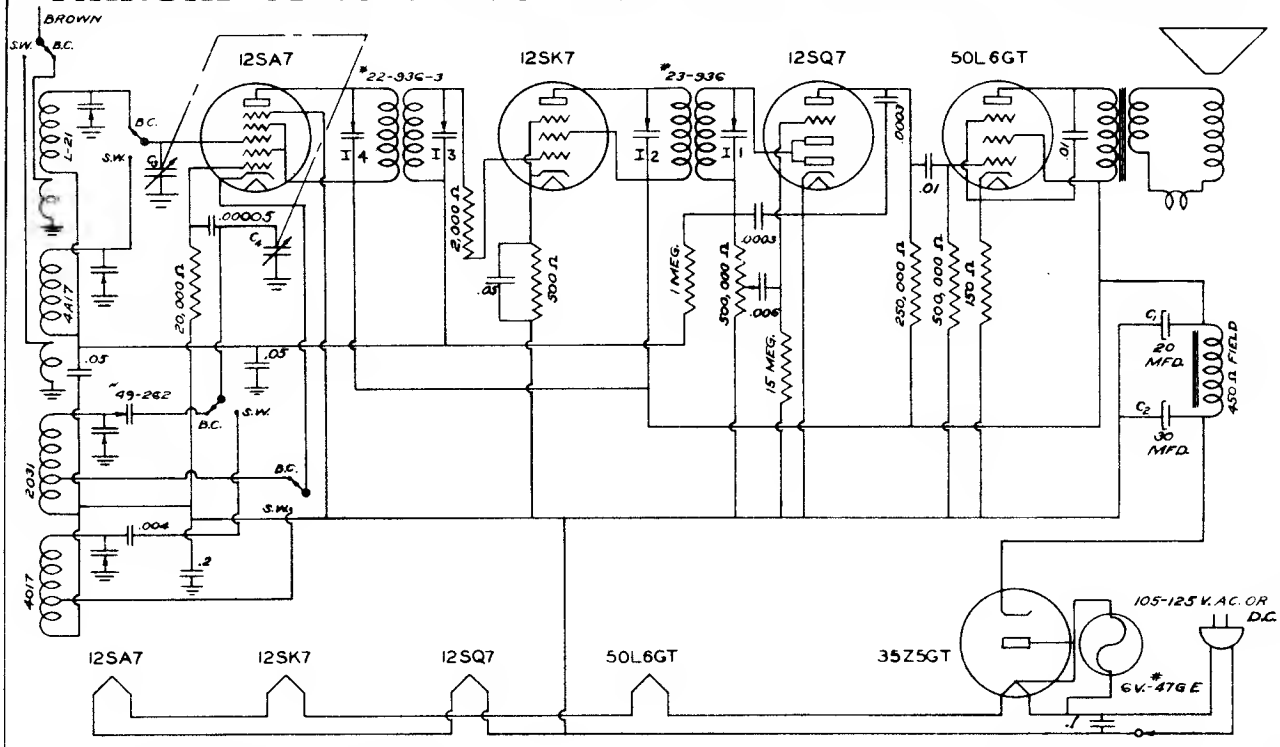
RESISTORS

NO.	OHMS	WATTAGE
1	250	1/3
2	1,000	1/3
3	1,000	1/3
4	10,000	1-1/2
5	2,000	1/3
6	1,000	1/3
7	100,000	1/3
8	1,000	1/3
9	8	1/3
10	100,000	1/3
11	10,000	R.F. Gain Control
12	35	1/3
13	120	1/3
14	40,000	1/3
15	300	1/3
16	8	1/3
17	100,000	1/3
18	100,000	1/3
19	100,000	1/3
20	200	1/3
21	1,000	1/3
22	300	1/3
23	8	1/3
24	500,000	1/3
25	300	1/3
26	5,000	1/3
27	1,000	1/3
28	7,500	10 Wire Wound
29	2,000	1/3
30	20,000	1-1/2
31	50,000	1/3
32	1,000,000	1/3
33	100,000	1/3
34	250,000	1/3
35	500,000	1/3
36	250,000	1/3
37	15,000	1/3
38	50,000	1/3
39	250,000	1/3
40	100,000	1/3
41	100,000	1/3
42	200,000	1/3
43	500,000	Audio Gain Control
44	250,000	1/3
45	250,000	1/3
46	5,000	1/3
47	5,000	1/3
48	120	1/3
49	250,000	1/3
50	250,000	1/3
51	100,000	1/3
52	250	1-1/2
53	10,000	1/3
54	4,000	1-1/2
55	5,000	1-1/2
56	600,000	1/3
57	17	1/3 Wire Wound
58	1,500	S. Meter Zero Adj. Wire Wound
59	3,200	10
60	25,000	1-1/2
61	50,000	1/3
62	300	1/3
63	5,000	1/3
64	20,000	1/3
65	35	1/3

CONDENSERS

NO.	CAPACITY	VOLTAGE	TYPE
1	60 mmf	Per Section	Air
2	15 mmf	Ant.Trimmer	Air
3	5 mmf		3 Ceramicon
4	.002 mfd		Mica
5	300 mmf		Mica
6	.002 mfd		Mica
7	10. mmf		Ceramicon
8	10. mmf		Ceramicon
9	300 mmf		Mica
10	300 mmf		Mica
11	.01 mfd	600	Paper
12	.001 mfd		Mica
13	.02 mfd	400	Paper
14	.02 mfd	400	Paper
15	01 mfd	600	Paper
16	.001 mfd		Mica
17	.02 mfd	400	Paper
18	.02 mfd	400	Paper
19	.01 mfd	600	Paper
20	50 mmf		Mica
21	.02 mfd	400	Paper
22	.02 mfd	400	Paper
23	.01 mfd	600	Paper
24	50 mmf		Mica
25	.05 mfd	400	Paper
26	50 mmf		Mica
27	100 mmf		Mica
28	500 mmf		Mica
29	25 mmf		Mica
30	.002 mfd		Mica
31	50 mmf		Mica
32	500 mmf		Mica
33	.05 mfd	400	Paper
34	30 mfd	25	Electrolytic
35	30 mfd	25	Electrolytic
36	.05 mfd	400	Paper
37	.05 mfd	400	Paper
38	20 mfd		Electrolytic
39	.002 mfd		Mica
40	.05 mfd	400	Paper
41	.05 mfd	400	Paper
42	10. mfd	350	Electrolytic
43	30 mfd	350	Electrolytic
44	10 mfd	400	Electrolytic
45	300 mmf		Mica
46	300 mmf		Mica
47	300 mmf		Mica
48	.01 mfd	600	Paper
49	.01 mfd	600	Paper
50	.01 mfd	600	Paper
51	.01 mfd	600	Paper
52	.002 mfd		Mica
53	100 mmf		Mica
54	200 mmf		Ceramicon
55	300 mmf		Mica
56	50 mmf		Ceramicon
57	.001 mfd		Mica
58	450 mmf		Pad
59	2 mmf		Twisted Pair
60	25 mmf		B.O. Pitch Control Air

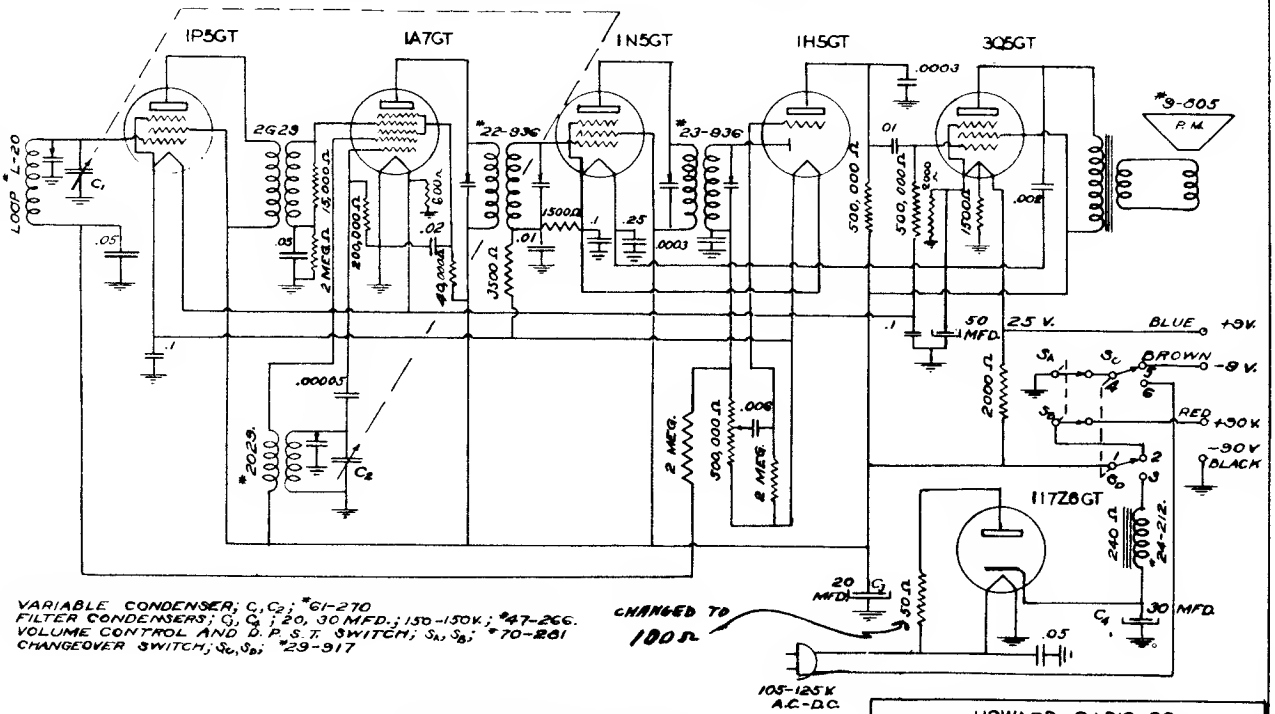
I.F. 5.25 MC.



C1, C2-20, 30 MFD.-150, 150 V.-NO. 47-266.
C3, C4-VARIABLE CONDENSER-NO. 63-270.
VOLUME CONTROL AND SWITCH-NO. 69-281

I. F.-465 K. C.

HOWARD RADIO CO.
MODEL 702



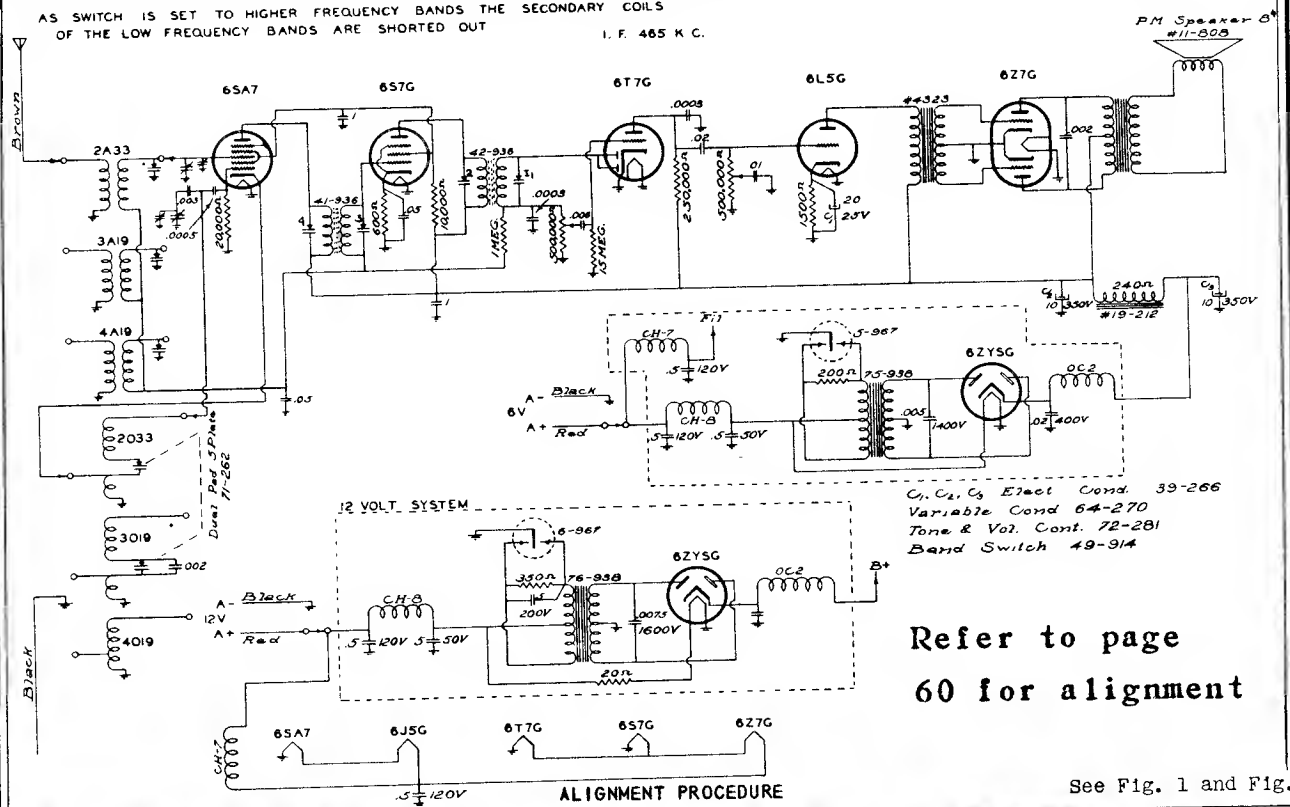
VARIABLE CONDENSER; C1, C2; *61-270
FILTER CONDENSERS; C3, C4; 20, 30 MFD.; 150-150 V.; *47-266.
VOLUME CONTROL AND D. P. S. T. SWITCH; SA, SB; *70-281
CHANGEOVER SWITCH; SC, SD; *29-917

CHANGED TO 100 Ω.

SWITCH SHOWN IN POSITION FOR BATTERY OPERATION. FOR A. C. OR D. C. OPERATION, SWITCH CONNECTS TERMINAL 4 TO 6 AND 1 TO 3.

HOWARD RADIO CO.
MODEL 14ACB

I. F. 465 K. C.



Refer to page 60 for alignment

ALIGNMENT PROCEDURE

See Fig. 1 and Fig. 2.

Wave-Band Switch Position	Position of Dial Pointer	Generator Frequency	Generator Connection	See Note	Trimmers Adjusted (In order shown)	Trimmer Function
Broadcast	Max. Cap.	465 KC	Converter Grid	A,D	I_1, I_2, I_3, I_4	IF
7-22 MC	21	21 MC	Ant. (Brown)	B	O_5, A_6	Osc., Ant.
2.2-7 MC	6	6 MC	" "		O_7, A_8	Osc., Ant.
2.2-7 MC	2.2	2.2 MC	" "		P_9	Osc. Pad.
Broadcast	1400	1400 KC	" "		O_{10}, A_{11}	Osc., Ant.
Broadcast	600	600 KC	" "	C	P12	Osc. Pad.

A--Each step of the alignment should be repeated in the original order for greater accuracy. Keep output from Signal Generator low. The I.F. trimmers are reached through the two holes on the top of each I.F. can.

B--When aligning the short wave bands, do not adjust to the IMAGE frequency. For example, if the adjustment is correctly made at 21 MC, then a weaker image will be heard at 21,000 KC less 930 KC, or about 20,070 KC on the dial.

C--When adjusting this pad, move the tuning hand back and forth and adjust padder until the peak of greatest intensity is obtained.

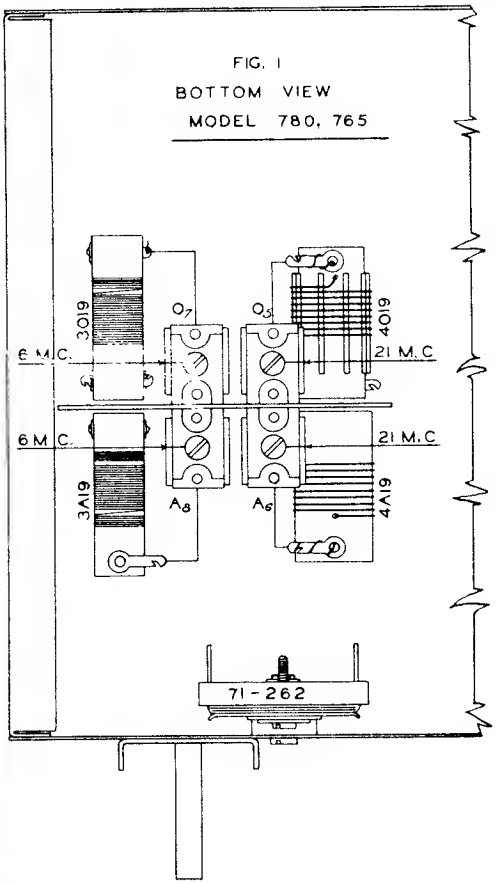
D--See that the tuning hand is set exactly on the last line above 540 when the condenser is at maximum capacity.

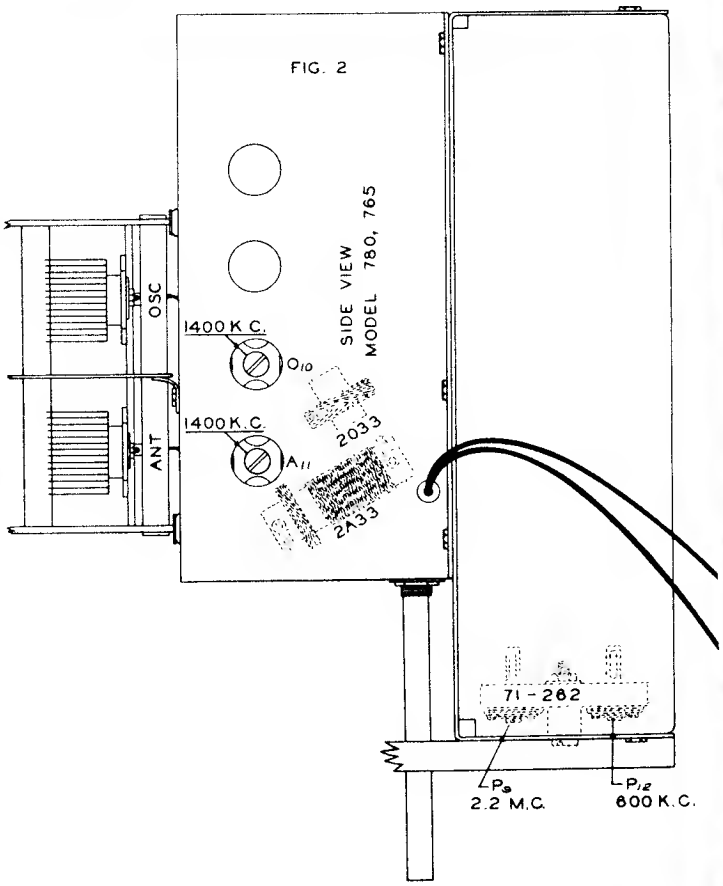
SOCKET VOLTAGES
MODEL 765, 6 Volt

TUBE	FUNCTION	CATH-ODE	SCR. GRID	PLATE
6SA7	Mixer	3	70	145
6S7G	IF	3	70	145
6T7G	Det.	x	x	50
6L5G	Audio	6 V. Bias	x	145
6Z7G	PP Output	x	x	140

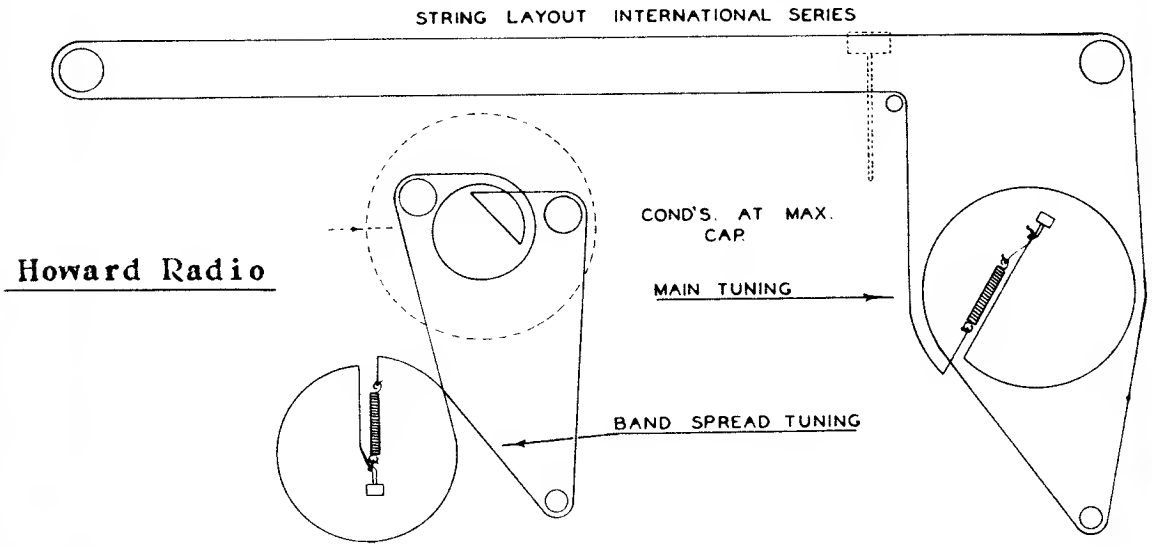
Howard Radio

MODEL 765		
DWG. NO. C83-715		9-5-40
DWN. BY.	CHCKD. BY.	APPVD. BY.
L. A. G.		J F R



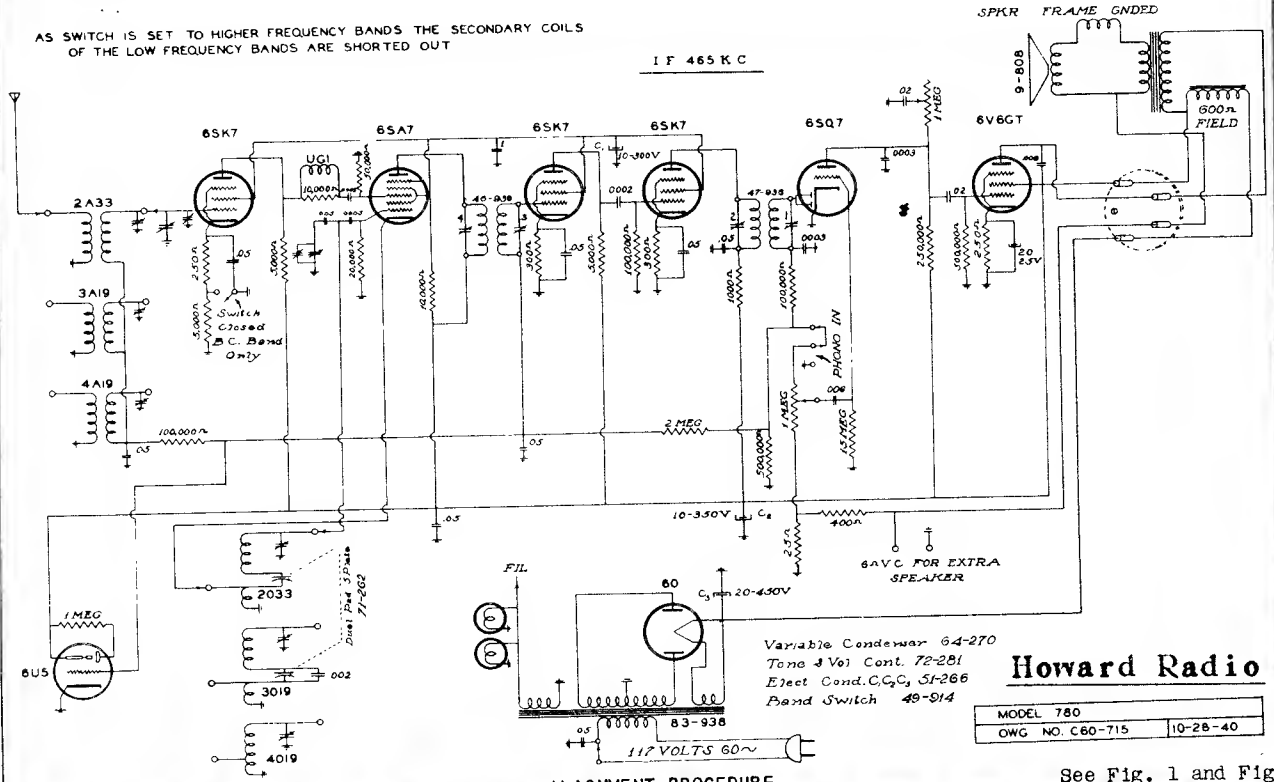


The below layout shows the order of the drive cord for the tuning and Band Spread mechanisms should any servicing or replacement be necessary.



Howard Radio

Trimmer Location for Models 765 and 780



ALIGNMENT PROCEDURE

See Fig. 1 and Fig. 2.

Wave-Band Switch Position	Position of Dial Pointer	Generator Frequency	Generator Connection	See Note	Trimmers Adjusted (In order shown)	Trimmer Function
Broadcast	Max. Cap.	465 KC	Converter Grid	A,D	I_1, I_2, I_3, I_4	IF
7-22 MC	21	21 MC	Ant. (Brown)	B	O_5, A_6	Osc., Ant.
2.2-7 MC	6	6 MC	" "		O_7, A_8	Osc., Ant.
2.2-7 MC	2.2	2.2 MC	" "		P_9	Osc. Pad.
Broadcast	1400	1400 KC	" "		O_{10}, A_{11}	Osc., Ant.
Broadcast	600	600 KC	" "	C	P_{12}	Osc. Pad.

A--Each step of the alignment should be repeated in the original order for greater accuracy. Keep output from Signal Generator low. The I.F. trimmers are reached through the two holes on the top of each I.F. can.

B--When aligning the short wave bands, do not adjust to the IMAGE frequency. For example, if the adjustment is correctly made at 21 MC, then a weaker image will be heard at 21,000 KC less 930 KC, or about 20,070 KC on the dial.

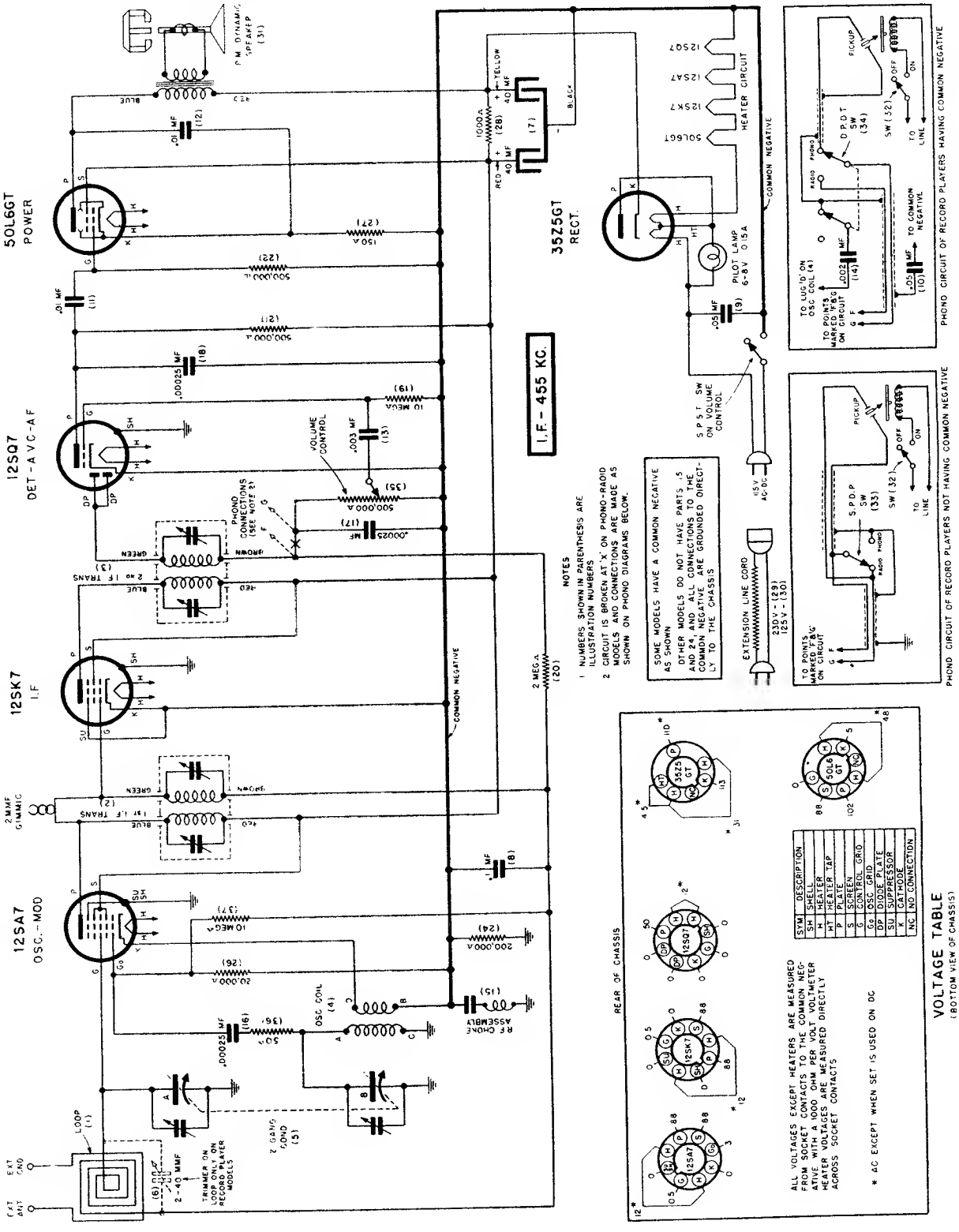
C--When adjusting this pad, move the tuning hand back and forth and adjust padder until the peak of greatest intensity is obtained.

D--See that the tuning hand is set exactly on the last line above 540 when the condenser is at maximum capacity.

TUBE	FUNCTION	CATH-ODE	SCR. GRID	PLATE	OSC. PLATE
6SK7	R.F. BC SW	8.5 2.5	110 98	260 210	
6SA7	Mixer		110	265	110
6SK7	I.F. Amp.	2	110	230	
6SK7	I.F. Amp.	4	110	250	

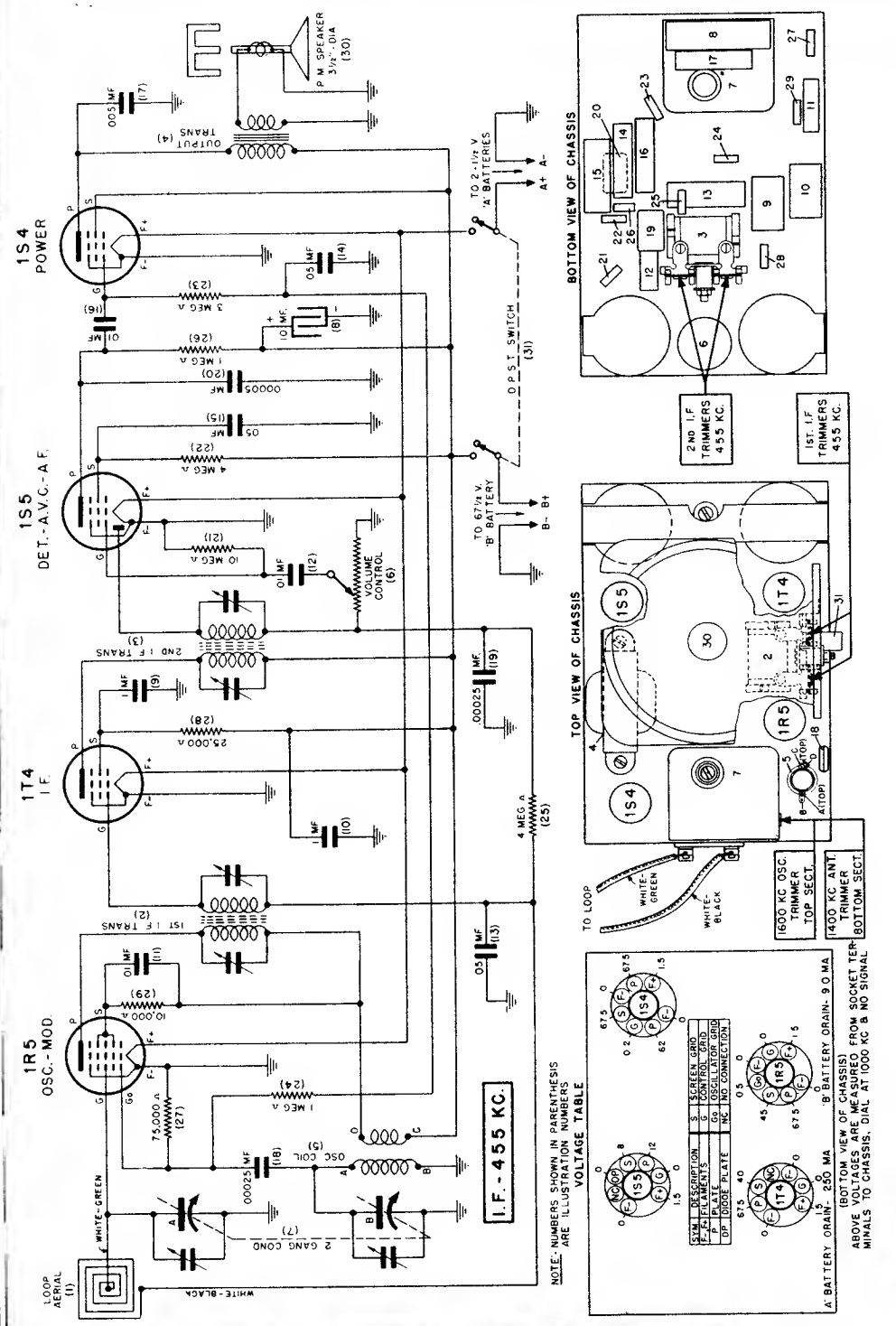
TUBE	FUNCTION	CATH-ODE	SCR. GRID	PLATE	OSC. PLATE
6SQ7	Diode-AVC			50	
6V6GT	Output	12.5	265	250	
80	Rect.				
6U5	Tuning Eye	265			

Voltage taken from ground with line voltage at - 120 V.
High voltage reading off rectifier - 325 V.
Drop across speaker field - 58 V.
Voltage taken with 1,000 Ohm per volt meter.
Band Switch in BC position except R.F. Stage measurements.



Lafayette Radio Model E-114

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



TEST OSCILLATOR

Refer to parts layout diagram for location of trimmers mentioned below:

Set receiver dial to:	Adjust test oscillator frequency to:	Use dummy antenna in series with output of test oscillator consisting of:	Attach output of test oscillator to:	
Any point where no interfering signal is received	Exactly 455 K.C.	0.2 Mfd. condenser	High side to lug on stator of gang condenser to which loop lead is connected.	Adjust each of the second I.F. transformer trimmers for maximum output, then adjust each of the first I.F. transformer trimmers for maximum output.
1 Exactly 1600 K.C.	Exactly 1600 K.C.	None	Use Small Loop to couple test oscillator to receiver loop.	Adjust 1600 K. C. oscillator trimmer for maximum output.
2 Approx. 1400 K.C.	Approx. 1400 K.C.	None	Use Small Loop to couple test oscillator to receiver loop.	While rocking gang condenser adjust 1400 K. C. loop trimmer for maximum output.

BATTERY EQUIPMENT

The receiver is designed to use:

Two—1½ volt "A" batteries, such as Eveready No. 950 or equivalent flashlight size cylindrical battery.

One—67½ volt "B" battery, such as Eveready No. 467 or equivalent.

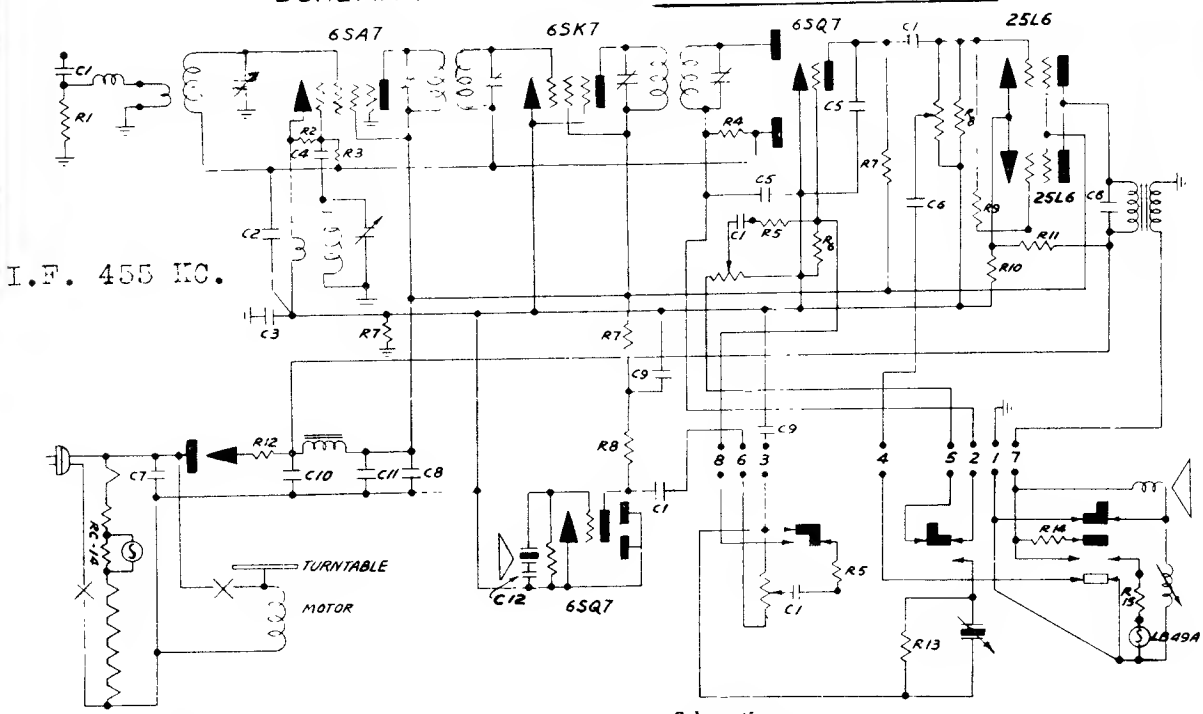
IMPORTANT: THE BATTERIES USED MUST BE OF THE CORRECT VOLTAGE AND SIZE.

Lafayette Radio

Model E-191.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM MODEL TR321-A TR331-A



Schematic Location	Part No.	Description
R1	R-15570	2K ohm ¼ Watt Resistor 20%
R2	R-15510	20K ohm ¼ Watt Resistor 20%
R3	R-79	15 Megohm ¼ Watt Resistor 20%
R4	R.15500	2 Megohm ¼ Watt Resistor 20%
R5	R-15504	150K ohm ¼ Watt Resistor 20%
R6	R-149	4.7Megohm ¼ Watt Resistor 20%
R7	R-153	270K ohm ¼ Watt Resistor 20%
R8	R-154	470K ohm ¼ Watt Resistor 20%

Schematic Location	Part No.	Description
R9	R.15601	100 ohm ¼ Watt Resistor 20%
R10	R-155	68 ohm 1 Watt Resistor 20%
R11	R-147	4K ohm 3 Watt Resistor 20%
R12	R-85	35 ohm 1 Watt Resistor 20%
R13	R-100	300K ohm ¼ Watt Resistor 20%
R14	R-152	4 ohm 1 Watt Resistor 20%
R15	R-151	7.5 ohm 1 Watt Resistor 20%
RC-14	RC-14	Candohm
C1	C-15754	.01 mfd. 400 Volt Condenser
C2	C-15752	.05 mfd. 200 Volt Condenser
C3	C-15770	.2 mfd. 200 Volt Condenser
C4	CM-29	50 mmfd Mica Condenser
C5	CM-30	250 mmfd. Mica Condenser
C6	C-25	.006 mfd. 400 Volt Condenser
C7	C-15756	.05 mfd. 400 Volt Condenser
C8	C-15751	.25 mfd. 200 Volt Condenser
C9,C12	C-15761	.10 mfd. 200 Volt Condenser
C10	CE-66-2	100 mfd Electrolytic
C11	CE-66-2	40 mfd. Electrolytic

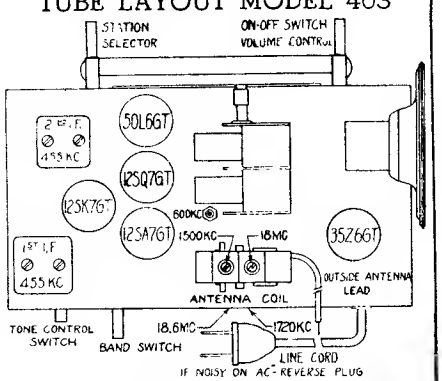
Model TR321-A operates on 105-125 volts 60 cycles AC only.

Model TR331-A operates on 105-125 volts 50 cycles AC only.

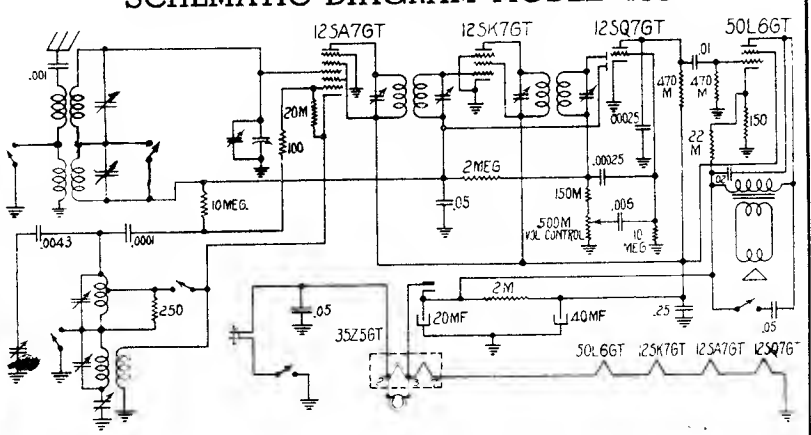
Majestic Radio & Television Corporation

2600 West 50th Street Chicago, Illinois, U. S. A.

TUBE LAYOUT MODEL 403

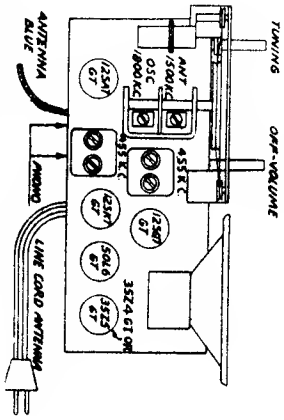


SCHEMATIC DIAGRAM MODEL 403



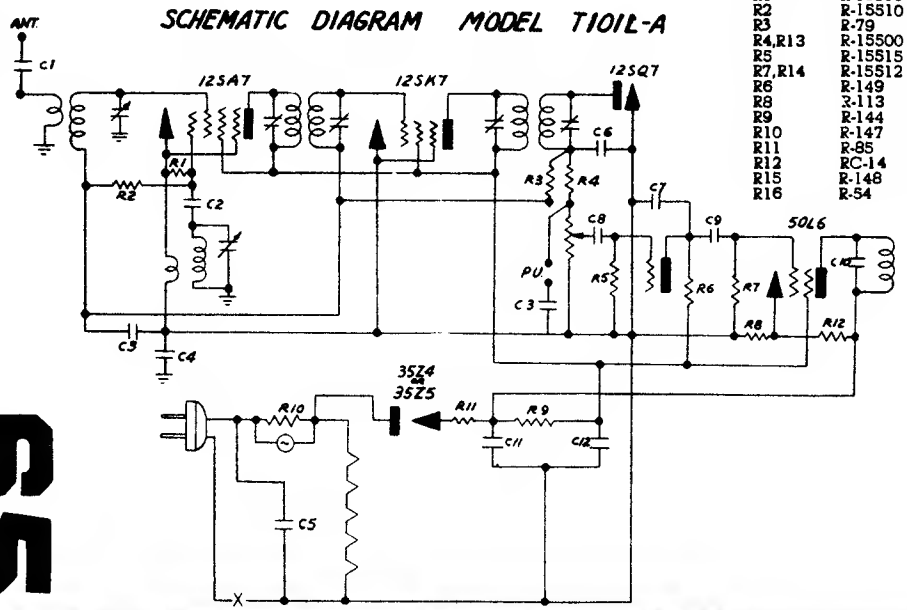
I.F. 455 KC.

Schematic Location	Part No.	Description
R1	R-15510	20K ohm ¼ Watt Resistor 20%
R2,R5	R-63	10 Megohm ¼ Watt Resistor 20%
R3	R-15500	2 Megohm ¼ Watt Resistor 20%
R4	R-15504	150K ohm ¼ Watt Resistor 20%
R6,R7	R-15520	500K ohm ¼ Watt Resistor 20%
R8	R-59	110 ohm ½ Watt Resistor 10%
R9	R-138	1000 ohm 1 Watt Resistor 20%
R10	R-150	15 ohm 1 Watt Resistor 20%
R11	R-85	35 ohm 1 Watt Resistor 20%
R12	R-145	9K ohm 2 Watt Resistor 10%
R13	R-15512	250K ohm ¼ Watt Resistor 20%
C1	C-15754	.01 mfd. 400 Volt Condenser
C2	CM-29	50 mmfd. Mica Condenser
C3	C-15752	.05 mfd. 200 Volt Condenser
C4	C-15770	.2 mfd. 200 Volt Condenser
C5	C-15756	.05 mfd. 400 Volt Condenser
C6	CM-30	250 mmfd. Mica Condenser
C7	CM-37	500 mmfd. Mica Condenser
C8	C-15774	.002 mfd. 400 Volt Condenser
C9	C-47	.004 mfd. 400 Volt Condenser
C10	C-25	.006 mfd. 400 Volt Condenser
C11,C12	Y-CE-66-1	40 mfd. & 75 mfd. Electr. Cond.

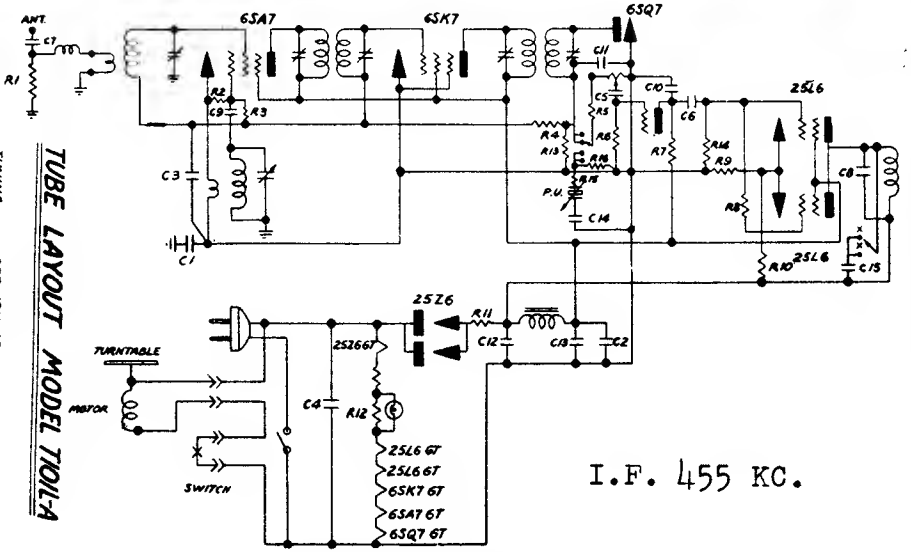


Majestic

SCHEMATIC DIAGRAM MODEL T101L-A



SCHEMATIC DIAGRAM MODEL TP221-A TP231-A

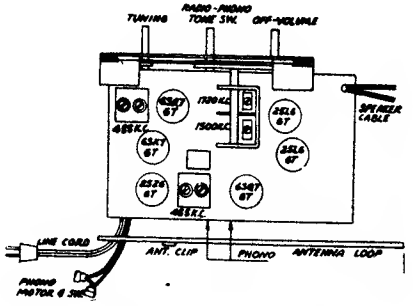


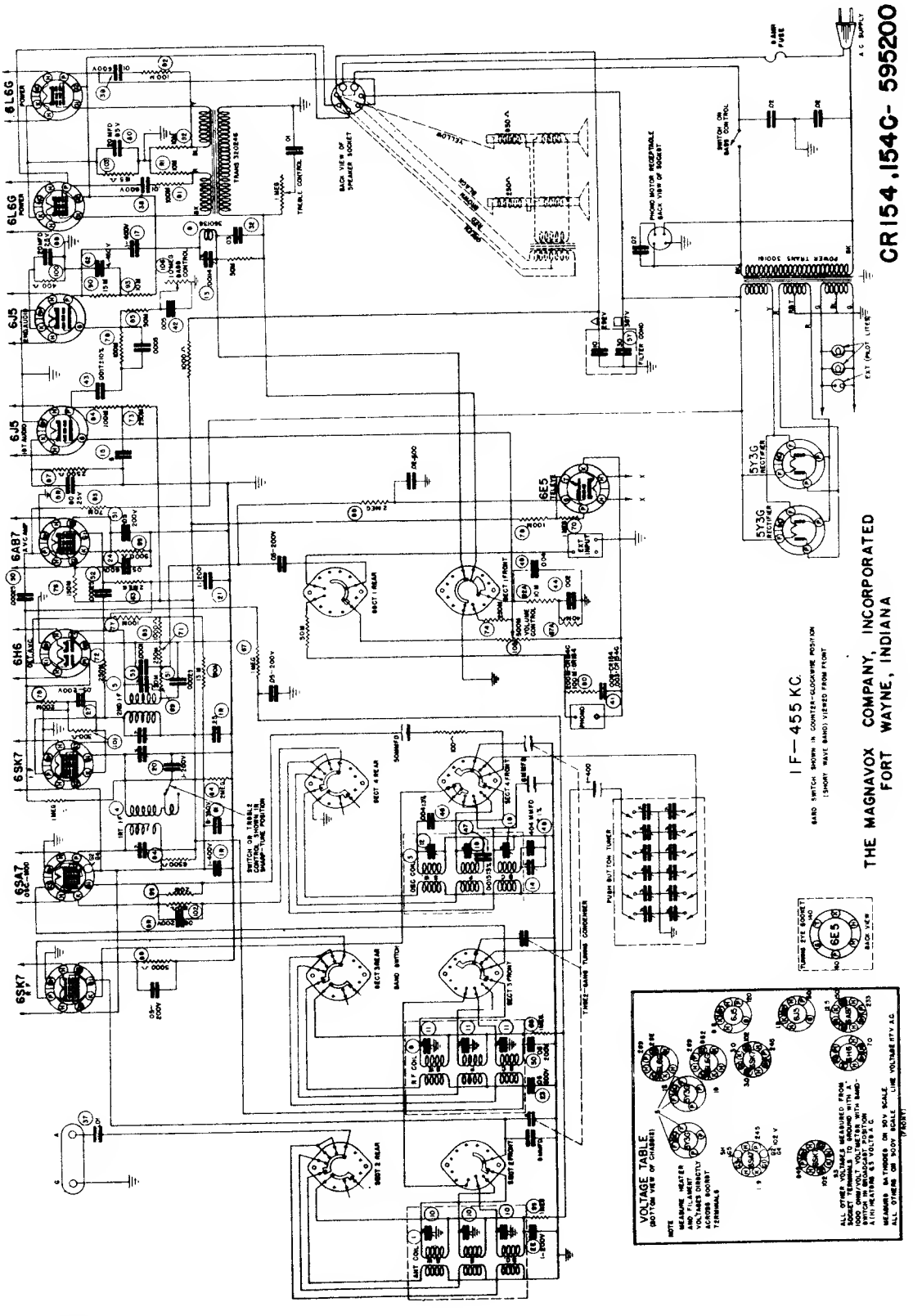
TUBE LAYOUT MODEL T101L-A

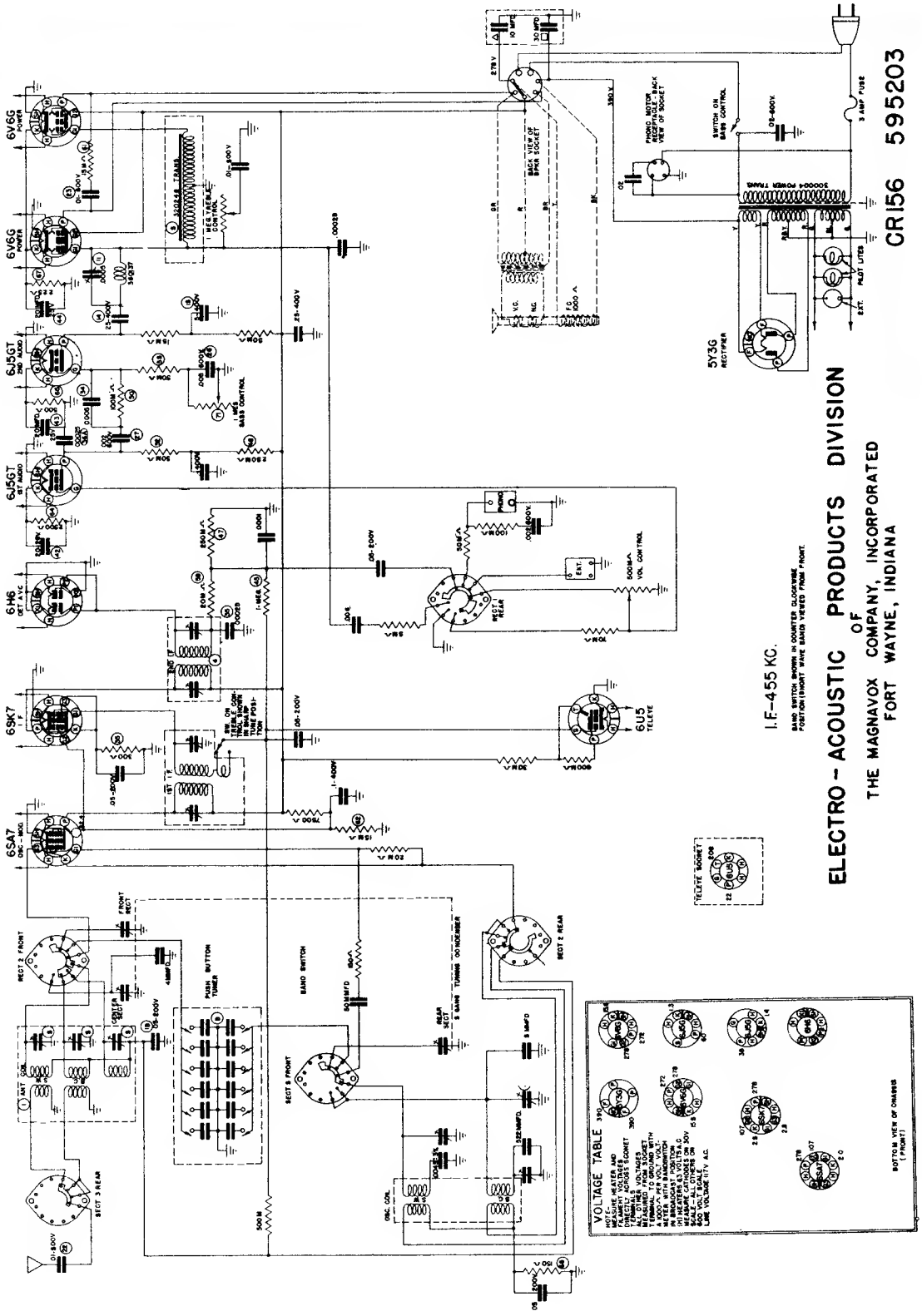
I.F. 455 KC.

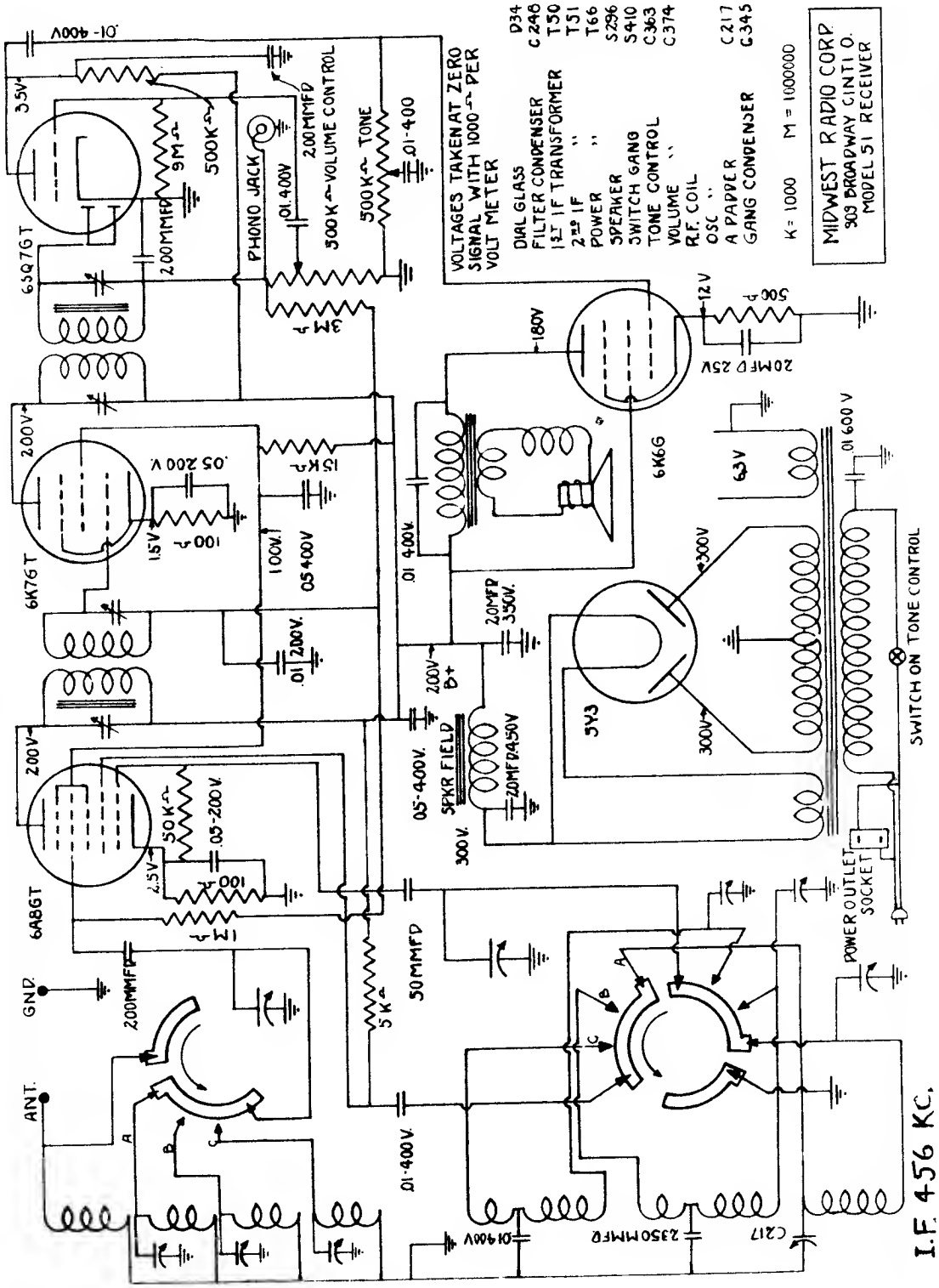
Schematic Location	Part No.	Description
R1	R-15570	2000 ohm ¼ Watt Resistor
R2	R-15510	20K ohm ¼ Watt Resistor
R3	R-79	15 Megohm ¼ Watt Resistor
R4,R13	R-15500	2 Megohm ¼ Watt Resistor
R5	R-15515	100K ohm ¼ Watt Resistor
R7,R14	R-15512	250K ohm ¼ Watt Resistor
R6	R-149	4.7 Megohm ¼ Watt Resistor
R8	R-113	100 ohm ¼ Watt Resistor
R9	R-144	70 ohm ¼ Watt Resistor
R10	R-147	4K ohm 3 Watt Resistor
R11	R-85	35 ohm 1 Watt Resistor
R12	RC-14	Candohm
R15	R-148	300K ohm ¼ Watt Resistor
R16	R-54	50K ohm ¼ Watt Resistor

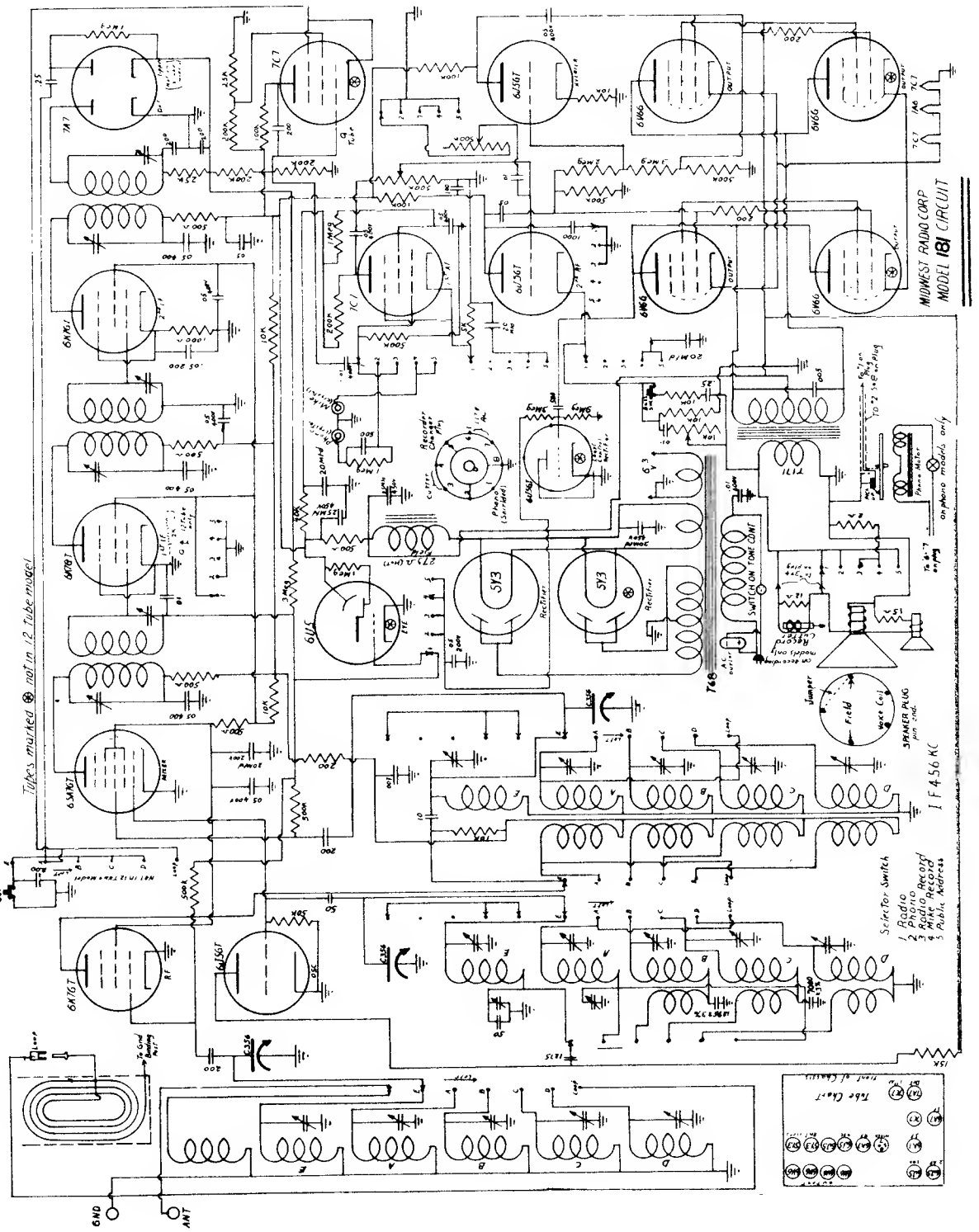
Schematic Location	Part No.	Description
C1	C-15770	.20 mfd. 200 Volt Condenser
C2	C-15751	.25 mfd. 200 Volt Condenser
C3,C14	C-15752	.05 mfd. 200 Volt Condenser
C4,C15	C-15766	.05 mfd. 400 Volt Condenser
C5,C6,C7	C-15754	.01 mfd. 400 Volt Condenser
C8	C-25	.006 mfd. 400 Volt Condenser
C9	CM-29	50 mmfd. Mica Condenser
C10,C11	CM-30	250 mmfd. Mica Condenser
C12	CE-66	75 mfd 150 Volt E ectrolytic
C13	CE-66	40 mfd. 150 Volt Electrolytic




CR154,154C-595200
THE MAGNAVOX COMPANY, INCORPORATED
FORT WAYNE, INDIANA
IF—455 KC.
BAND SWITCH SHOWN IN COUNTER-CLOCKWISE POSITION (SHORT WAVE BAND) VIEWED FROM FRONT
VOLTAGE TABLE
(BOTTOM VIEW OF CHASSIS)
6L6G
6J5
6A87
6H6
6SK7
6Q7
6E5
5Y3G
THREE-GANG TUNING CONDENSER
PUSH BUTTON TUNER
POWER TRANS 3001M


CR156 595203
ELECTRO - ACOUSTIC PRODUCTS DIVISION
OF
THE MAGNAVOX COMPANY, INCORPORATED
FORT WAYNE, INDIANA
I.F.-455 KC.
VOLTAGE TABLE
BOTTOM VIEW OF CHASSIS
6V6G
6J5GT
6H6
6SK7
6SA7
6U5
5Y3G


MIDWEST RADIO CORP
903 BROADWAY CINTI O.
MODEL 51 RECEIVER
VOLTAGES TAKEN AT ZERO SIGNAL WITH 1000~ PER VOLT METER
DIAL GLASS D34
FILTER CONDENSER C246
1ST IF TRANSFORMER T50
2ND IF " T51
POWER " T66
SPEAKER S296
SWITCH GANG S410
TONE CONTROL C363
VOLUME " C374
R.F. COIL
OSC. "
A PADDER C217
GANG CONDENSER C345
K = 1000 M = 1000000
6SQ7GT
6K7GT
6ABGT
6K6G
5Y3
PHONO JACK
500K~ VOLUME CONTROL
500K~ TONE
SPKR FIELD
SWITCH ON TONE CONTROL
POWER OUTLET SOCKET
ANT.
GND.
I.F. 456 KC.


MIDWEST RADIO CORP
MODEL 181 CIRCUIT
Types marked ⊗ not in 12 Tube model
SY3
SY3
6V6
6V6
6V6
6V6
6U7
6X8T
6K8GT
6K8GT
6K7GT
6A7
6A8
6A8
6X8T
6U5/6G5
IF 456 KC
Selector Switch
1 Radio
2 Phono
3 Radio Record
4 Aux.
5 Public Address
GND
ANT

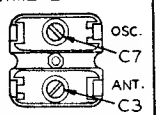
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

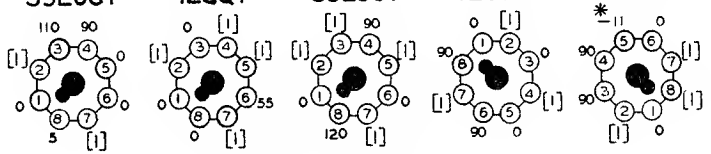
BOTTOM VIEW OF CHASSIS

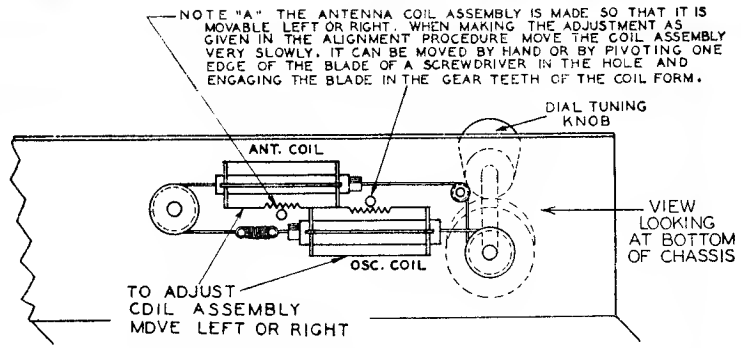
VOLTAGES MEASURED WITH 1000 OHM PER VOLT VOLTMETER BETWEEN SOCKET TERMINALS & B—

[ ] CANNOT BE MEASURED WITH D.C. VOLTMETER.

* OSCILLATOR VOLTAGE TO BE MEASURED WITH R.F. CHOKE IN SERIES WITH VOLTMETER LEAD.

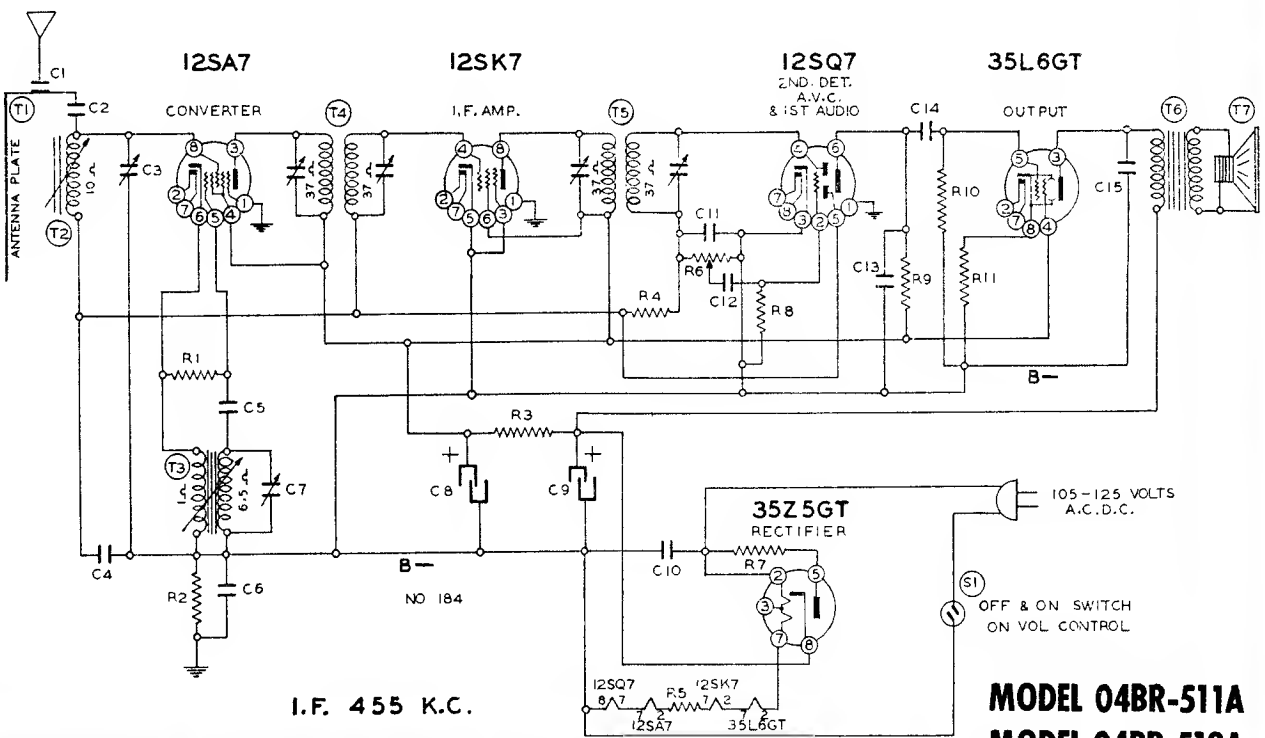






COIL ASSEMBLY VIEW

Schematic Ref. No.	Part No.	Description
		RESISTORS
R1	BE130176	20M ohm—⅓ w.
R2	BE130100	150M ohm—⅓ w.
R3	BE130279	1M ohm—1 watt
R4	BE1304	3 megohm—⅓ w.
R5	BE130288	50 ohm—1.5 watt
R6	BE101220	500M ohm volume control and Switch
R7	BE130240	30 ohm—⅓ w.
R8	BE130257	5 megohm—⅓ w.
R9	BE130100	150M ohm—⅓ w.
R10	BE13011	250M ohm—⅓ w.
R11	BE130166	150 ohm—⅓ w.
		CONDENSERS
C1	BE131262	.00001 washer condenser (antenna clip on back plate
C2	BE129114	.0003 mica
C3	BE124137	Trimmer on antenna coil
C4	BE1009	.05 x 200 v.
C5	BE12939	.00005 mica
C6	BE10091	.15 x 400 v.
C7	BE124137	Trimmer on Oscillator coil
C8	BE11992	20 mfd. lytic x 150 w. v.
C9	BE11992	40 mfd. lytic x 150 w. v.
C10	BE10013	.05 x 400 v.
C11	BE12912	.00025 mica
C12	BE10025	.002 x 600 v.
C13	BE1292	.0005 mica
C14	BE10011	.01 x 400 v.
C15	BE10011	.01 x 400 v.
		C3 and C7 in same unit
		C8 and C9 in same unit
		PARTS
T1	BE115597-18	Antenna plate—walnut or
	BE115597-9	Antenna plate—ivory
T2	BE111181	Antenna permeability coil
T3	BE110153	Oscillator permeability coil
T4	BE108157-H	Input I.F. Coil—455 kc.
T5	BE108157-I	Output I.F. Coil—455 kc.
T6	BE105110	Output Transformer



I.F. 455 K.C.

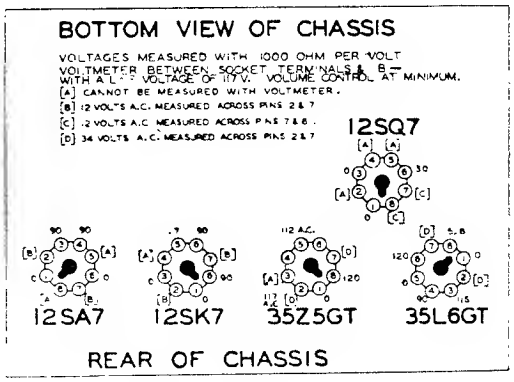
MONTGOMERY WARD

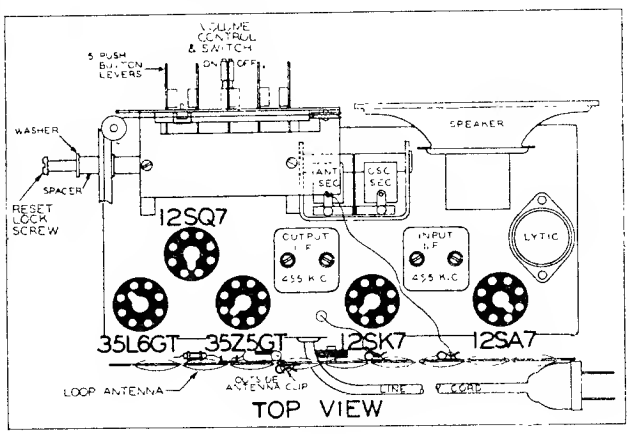
MODEL 04BR-511A

MODEL 04BR-512A

Model No. 04BR-513A and 04BR-514A

MONTGOMERY WARD
CHICAGO, U. S. A.





Schematic Diagram Ref. No.	Part No.	Description

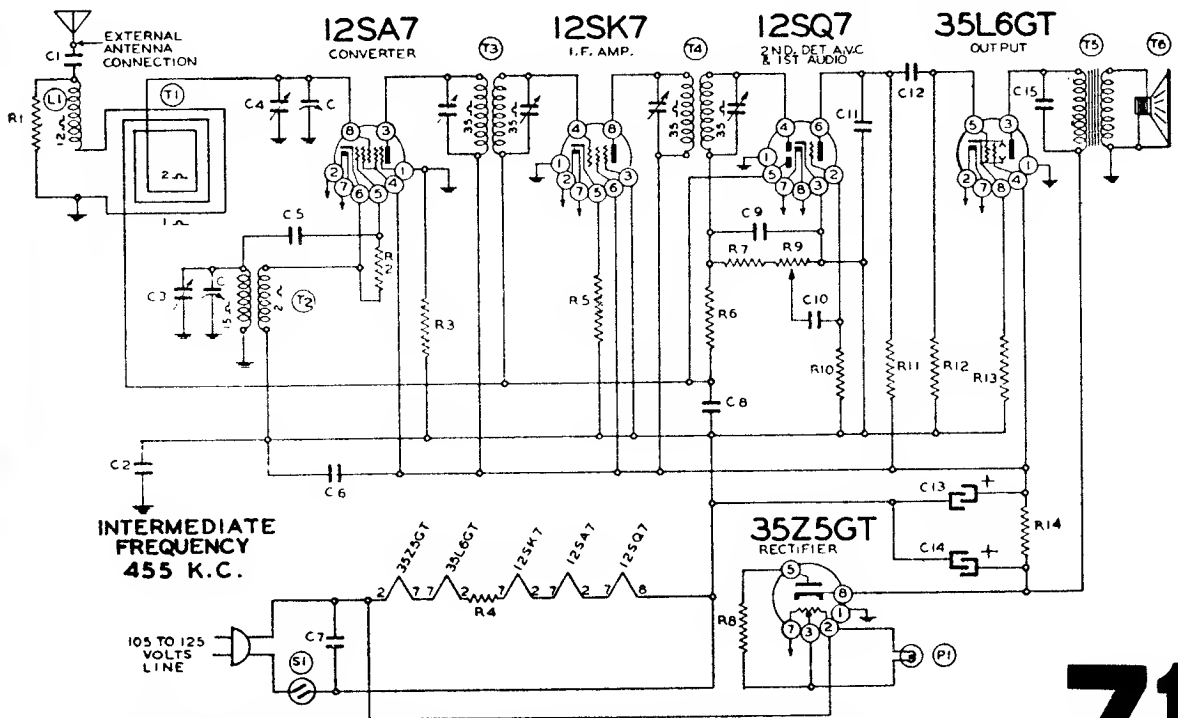
RESISTORS

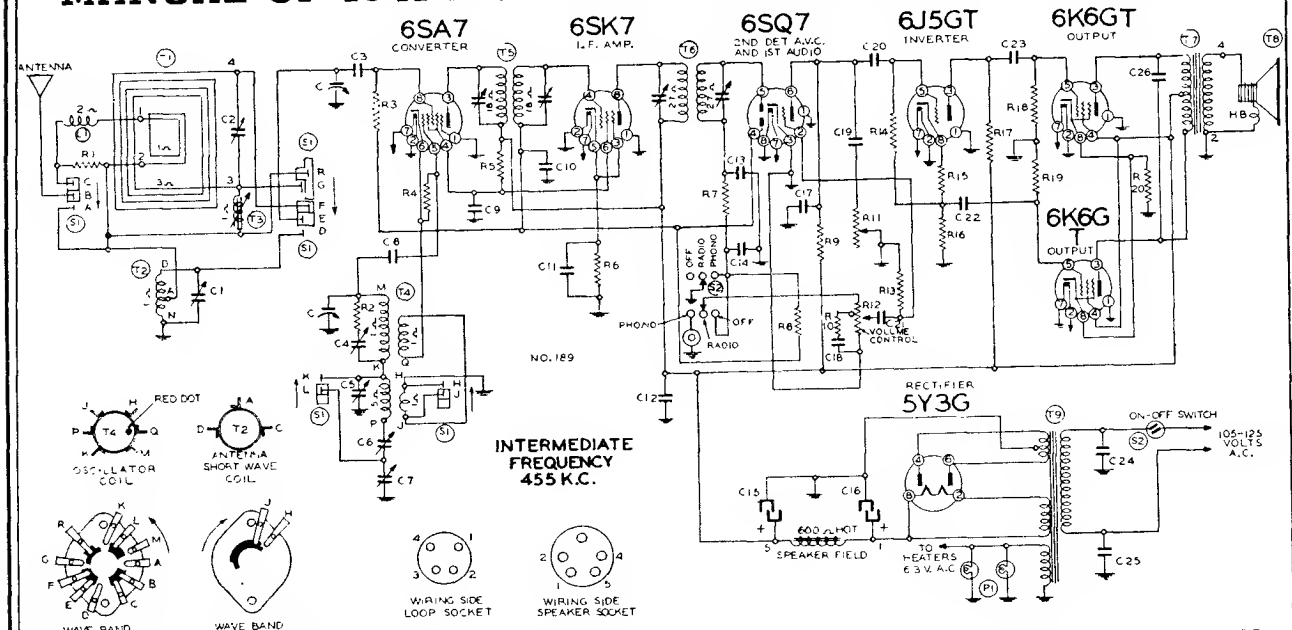
R1	BE130314	2200 ohm—⅓ w.
R2	BE13094	50M ohm—⅓ w.
R3	BE1309	200M ohm—⅓ w.
R4	BE130315	75 ohm—1½ w.
R5	BE130203	40 ohm—⅓ w.
R6	BE1304	3 megohm—⅓ w.
R7	BE1301	25M ohm—⅓ w.
R8	BE130215	25 ohm—⅓ w.
R9	BE101198	1 megohm volume control
R10	BE130257	5 megohm—⅓ w.
R11	BE1303	500M ohm—⅓ w.
R12	BE1303	500M ohm—⅓ w.
R13	BE130166	150 ohm—⅓ w.
R14	BE130287	1200 ohm—1 w.

CONDENSERS

C	BE102132	2 gang variable condenser
C1	BE10011	.01 x 400 v.
C2	BE10091	.15 x 400 v.
C3		Oscillator trimmer on gang
C4		Antenna trimmer on gang
C5	BE12921	.0002 mfd. mica
C6	BE1009	.05 x 200 v.
C7	BE1001	.1 x 400 v.
C8	BE1009	.05 x 200 v.
C9	BE1295	.0001 mfd. mica
C10	BE10025	.002 x 600 v.
C11	BE12912	.00025 mfd. mica
C12	BE100106	.004 x 600 v.
C13	BE11992	20 mfd. lytic x 150 w. v.
C14	BE11992	40 mfd. lytic x 150 w. v.
C15	BE10026	.02 x 400 v.

C13 and C14 are in same unit





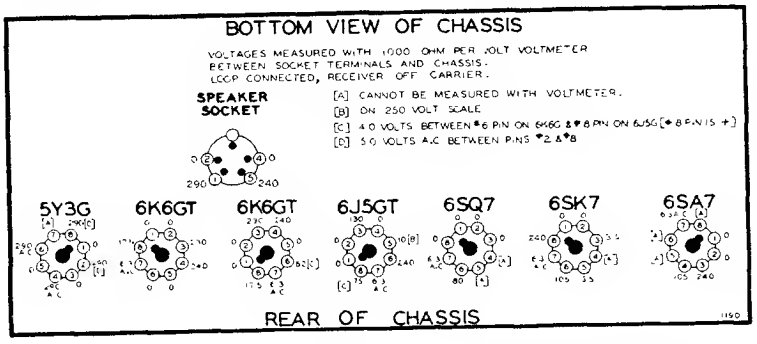
RESISTORS

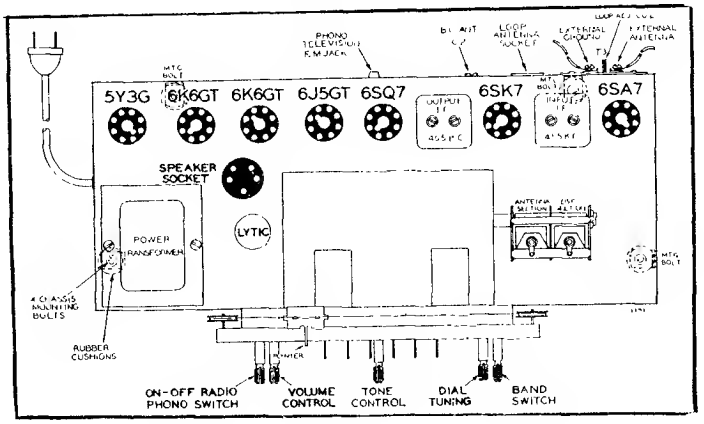
R1	BE13064	3500 ohm—⅓ w.
R2	BE130276	10 ohm—⅓ w.
R3	BE1304	3 megohm—⅓ w.
R4	BE130236	30M ohm—⅓ w.
R5	BE130307	15M ohm—1 w.
R6	BE13083	300 ohm—⅓ w.
R7	BE13012	50M ohm—⅓ w.
R8	BE13038	2 megohm—⅓ w.
R9	BE13011	250M ohm—⅓ w.
R10	BE130149	15M ohm—⅓ w.
R11	BE101223	Tone Control—1 megohm
R12	BE101224	Volume control—½ megohm
R13	BE130257	5 megohm—⅓ w.
R14	BE1303	500M ohm—⅓ w.
R15	BE130218	5M ohm—⅓ w.
R16	BE130103	100M ohm—⅓ w.
R17	BE130103	100M ohm—⅓ w.
R18	BE1303	500M ohm—⅓ w.
R19	BE1303	500M ohm—⅓ w.
R20	BE130320	320 ohm—1 w.

CONDENSERS

C	BE102133	2 gang variable condenser
C1	BE124116	Short wave antenna trimmer
C2	BE124141	B.C. Antenna Trimmer
C3	BE1292	.0005 mica
C4	BE124142	Dual Adj. Trimmer—S.W. Osc. Trimmer
C5	BE124142	Dual Adj. Trim.—B.C. Osc. Trimmer
C6	BE124140	Dual Adj. Cond.—B.C. Pad
C7	BE124140	Dual Adj. Cond.—S.W. Pad
C8	BE12960	.00015 mica
C9	BE10013	.05 x 400 v.
C10	BE1009	.05 x 200 v.
C11	BE1009	.05 x 200 v.
C12	BE1001	.1 x 400 v.
C13	BE129161	Dual—.0001 Mica
C14	BE129161	Dual—.0001 Mica
C15	BE119108	16 mfd. x 450 w.v. lytic cond.
C16	BE119108	16 mfd. x 450 w.v. lytic cond.
C17	BE1295	.0001 mica
C18	BE100120	.035 x 200 v.
C19	BE10019	.006 x 600 v.
C20	BE10026	.02 x 400 v.
C21	BE10019	.006 x 600 v.
C22	BE10013	.05 x 400 v.
C23	BE10013	.05 x 400 v.
C24	BE10061	.02 x 600 v.
C25	BE10061	.02 x 600 v.
C26	BE10019	.006 x 600 v.

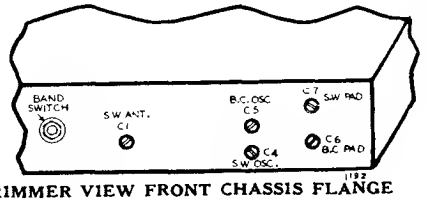
C4 and C5, C6 and C7, and C13 and C14 are in same unit.





MODEL 04BR-729A

MODEL 04BR-730A

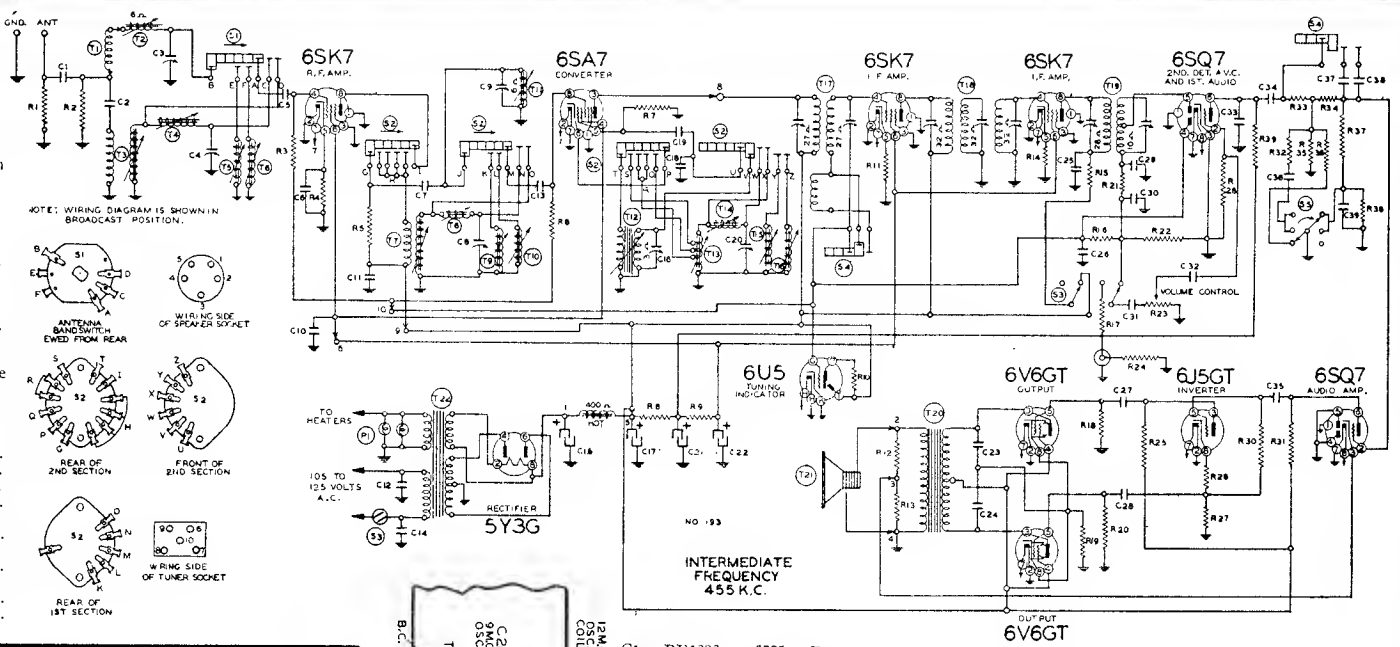


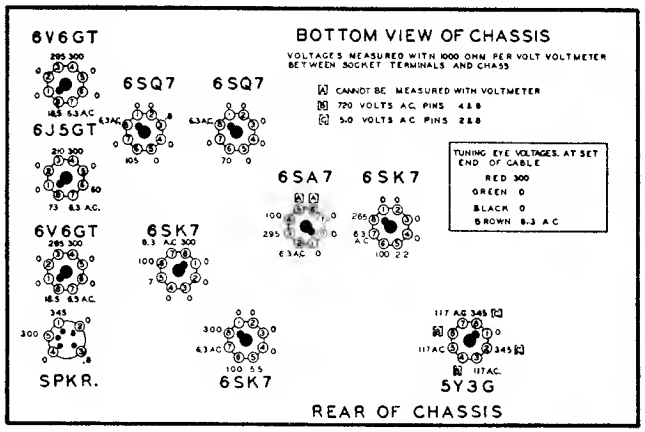
TRIMMER VIEW FRONT CHASSIS FLANGE

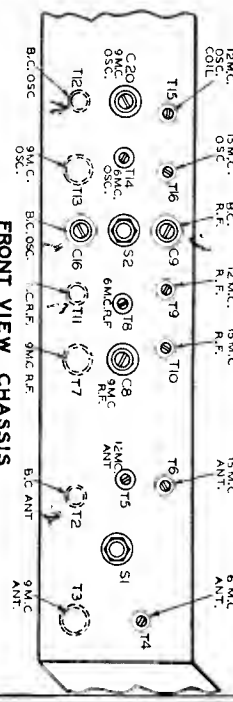
MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

R1	BE130232	25M ohm—½ w.
R2	BE130232	25M ohm—½ w.
R3	BE13019	1 megohm—½ w.
R4	BE130239	250 ohm—½ w.
R5	BE130218	5M ohm—½ w.
R6	BE13019	1 megohm—½ w.
R7	BE130232	25M ohm—½ w.
R8	BE130318	6M ohm—2 watt
R9	BE130319	10M ohm—2 watt
R10		1 megohm in tun
R11	BE13013	1100 ohm—½ w.
R12	BE13082	10M ohm—½ w.
R13	BE130235	1500 ohm—½ w.
R14	BE130192	2M ohm—½ w.
R15	BE130192	2M ohm—½ w.
R16	BE13019	1 megohm—½ w.
R17	BE1303	500M ohm—½ w.
R18	BE1303	500M ohm—½ w.
R19	BE130317	250 ohm—2 watt
R20	BE1303	500M ohm—½ w.
R21	BE13094	50M ohm—½ w.
R22	BE130316	120M ohm—½ w.
R23	BE101229	500M ohm volume
R24	BE1303	500M ohm—½ w.
R25	BE13094	50M ohm—½ w.
R26	BE130218	5M ohm—½ w.
R27	BE13094	50M ohm—½ w.
R28	BE130257	5 megohm—½ w.
R29	BE130172	250M ohm—½ w.
R30	BE1303	500M ohm—½ w.
R31	BE130172	250M ohm—½ w.
R32	BE130232	25M ohm—½ w.
R33	BE13080	150M ohm—½ w.
R34	BE130309	350M ohm—½ w.
R35	BE130172	250M ohm—½ w.
R36	BE13066	75M ohm—½ w.
R37	BE13080	150M ohm—½ w.
R38	BE130146	2 megohm—½ w.







C1	BE1292	.0005 mica
C2	BE10047	.002 x 600 v.
C3	BE124143	B.C. Antenna Trimmer
C4	BE124143	9 mc. Antenna Trimmer
C5	BE1292	.0005 mica
C6	BE10020	.1 x 200 v. tubular
C7	BE129168	.00001 mica
C8	BE124138	9 mc. R.F. Trimmer
C9	BE124139	B.C. R.F. Trimmer
C10	BE10074	.1 x 400 v.
C11	BE10074	.1 x 400 v.
C12	BE10061	.02 x 600 v.
C13	BE1292	.0005 mica
C14	BE10061	.02 x 600 v.
C15	BE119112	30.0 mfd. lytic
C16	BE124144	B.C. Oscillator Trimmer
C17	BE119112	30.0 mfd. lytic x 450 w.v.
C18	BE129167	.0002 silver mica
C19	BE129165	.00005 mica
C20	BE124145	9 mc. oscillator trimmer
C21	BE119112	10.0 mfd. lytic
C22	BE11969	16 mfd. x 350 w v.
C23	BE10065	.015 x 600 v.
C24	BE10065	.015 x 600 v.
C25	BE1001	.1 x 400 v.
C26	BE10020	.1 x 200 v.
C27	BE10013	.05 x 400 v.
C28	BE1009	.05 x 200 v.
C29	BE1295	.0001 mica
C30	BE1295	.0001 mica
C31	BE10020	.1 x 200 v.
C32	BE10019	.006 x 600 v.
C33	BE12912	.00025 mica
C34	BE1001	.1 x 400 v.
C35	BE10013	.05 x 400 v.
C36	BE100118	.008 x 600 v.
C37	BE12938	.00005 mica
C38	BE129166	.000125 mica
C39	BE10037	.003 x 600 v.

C3, C4 in same unit
C15, C17 and C21 are in same unit

PARTS

T1	BE111200	Loop Antenna Assembly
T2	BE111195	B.C. Antenna Coil
T3	BE111190	9 mc. Antenna Coil
T4	BE111189	6 mc. Antenna Coil
T5	BE111191	12 mc. Antenna Coil
T6	BE111192	15 mc. Antenna Coil
T7	BE10959	9 mc. R.F. Coil
T8	BE10958	6 mc. R.F. Coil
T9	BE10960	12 mc. R.F. Coil
T10	BE10961	15 mc. R.F. Coil
T11	BE10962	B.C. R.F. Coil
T12	BE110161	B.C. Oscillator Coil
T13	BE110157	9 mc. Oscillator Coil
T14	BE110156	6 mc. Oscillator Coil
T15	BE110158	12 mc. Oscillator Coil
T16	BE110159	15 mc. Oscillator Coil
T17	BE108181	Input I.F. Coil—455 kc.
T18	BE108155B	Interstage I.F. Coil
T19	BE108182	Output I.F. Coil—455 kc.
T20	BE105115	Output Transformer
T21	BE114207	12 in. Dynamic Speaker
T22	BE104217	Power Transformer—50-60 cycles
	BE104218	Power Transformer—25 cycle
S1	BE125121	Antenna Bandswitch
S2	BE125122	R.F. Oscillator Bandswitch
S3	BE125125	On-off Radio Phono Switch
S4	BE125124	Treble Switch
S5	BE125123	Bass Switch
P1	BE10794	2 6-8 volts pilot light T44

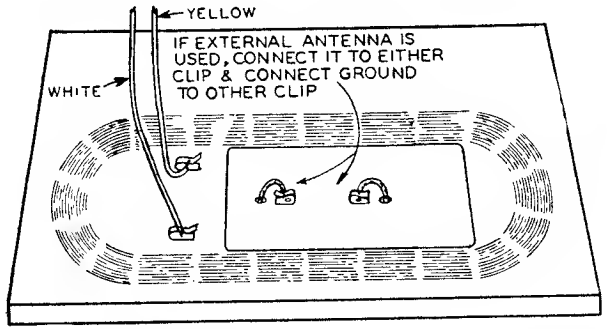
73 WARDS AIRLINE

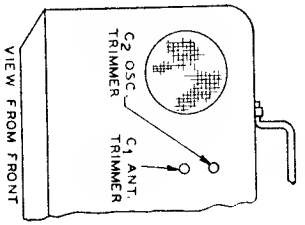
MODEL 04BR-1105A

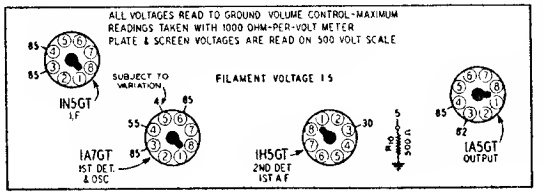
WARDS AIRLINE RADIO

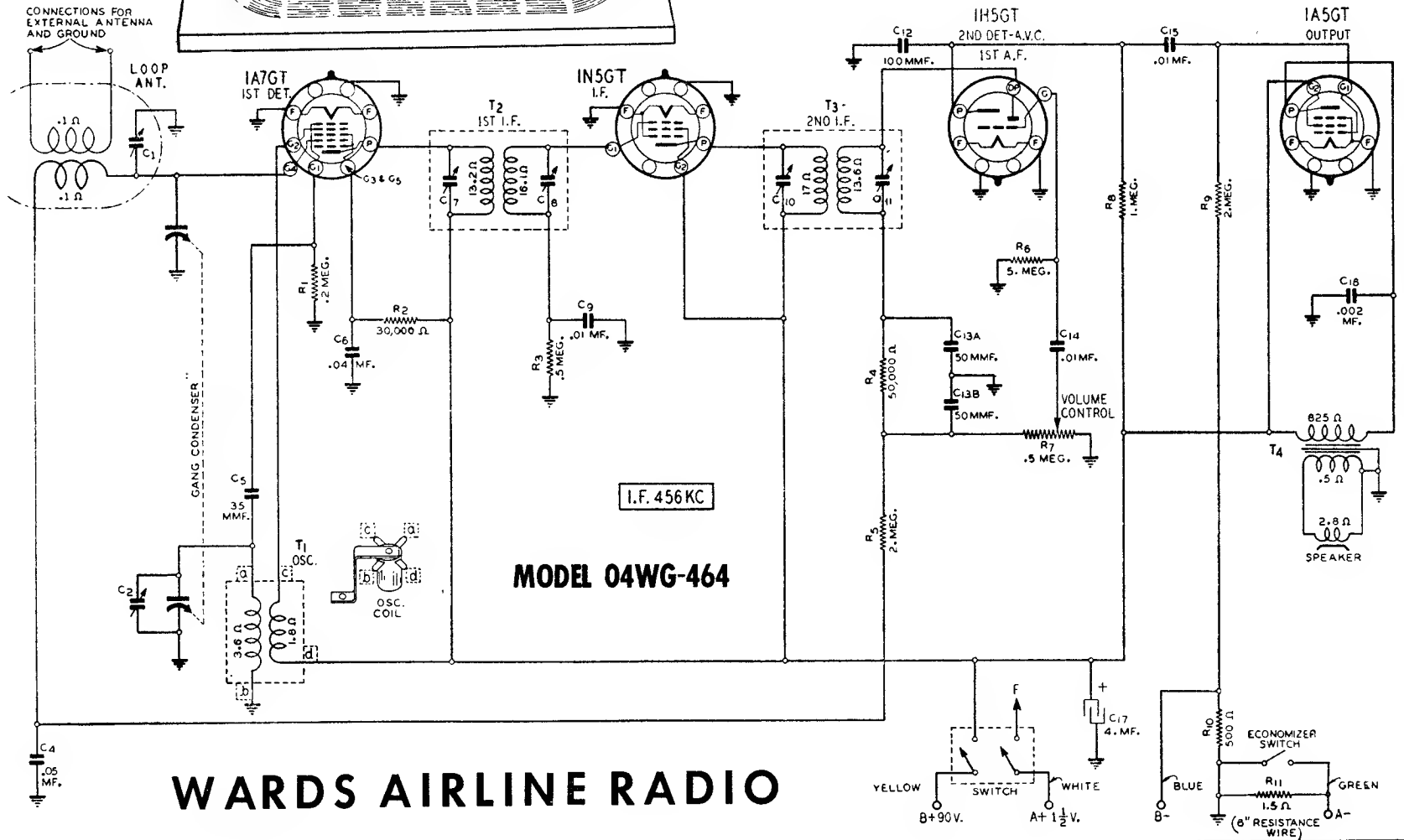
MODEL 04WG-464

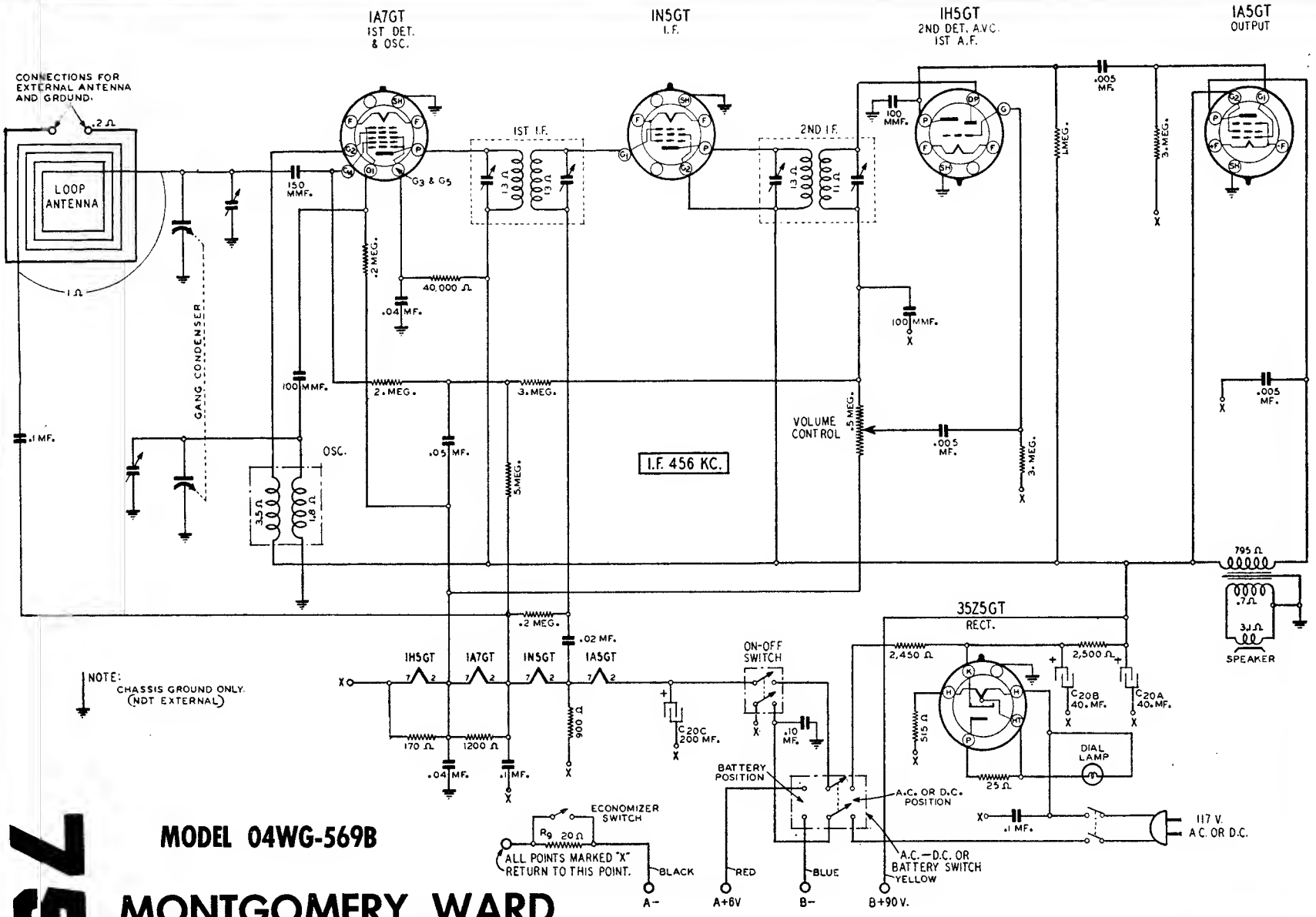
I.F. 456 KC











57

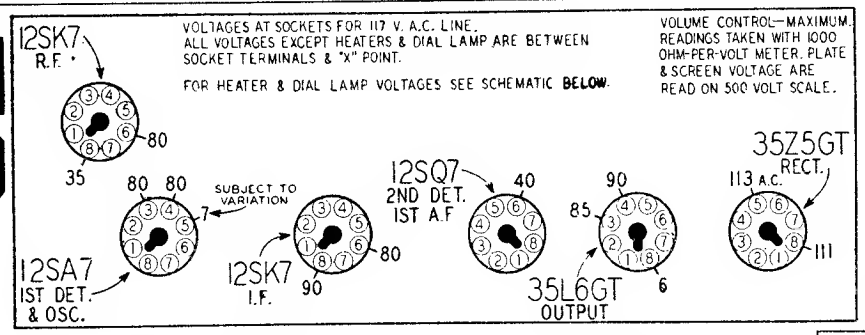
MODEL 04WG-569B

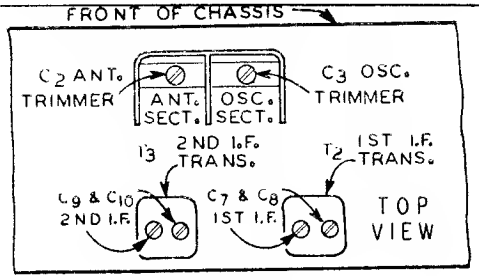
MONTGOMERY WARD

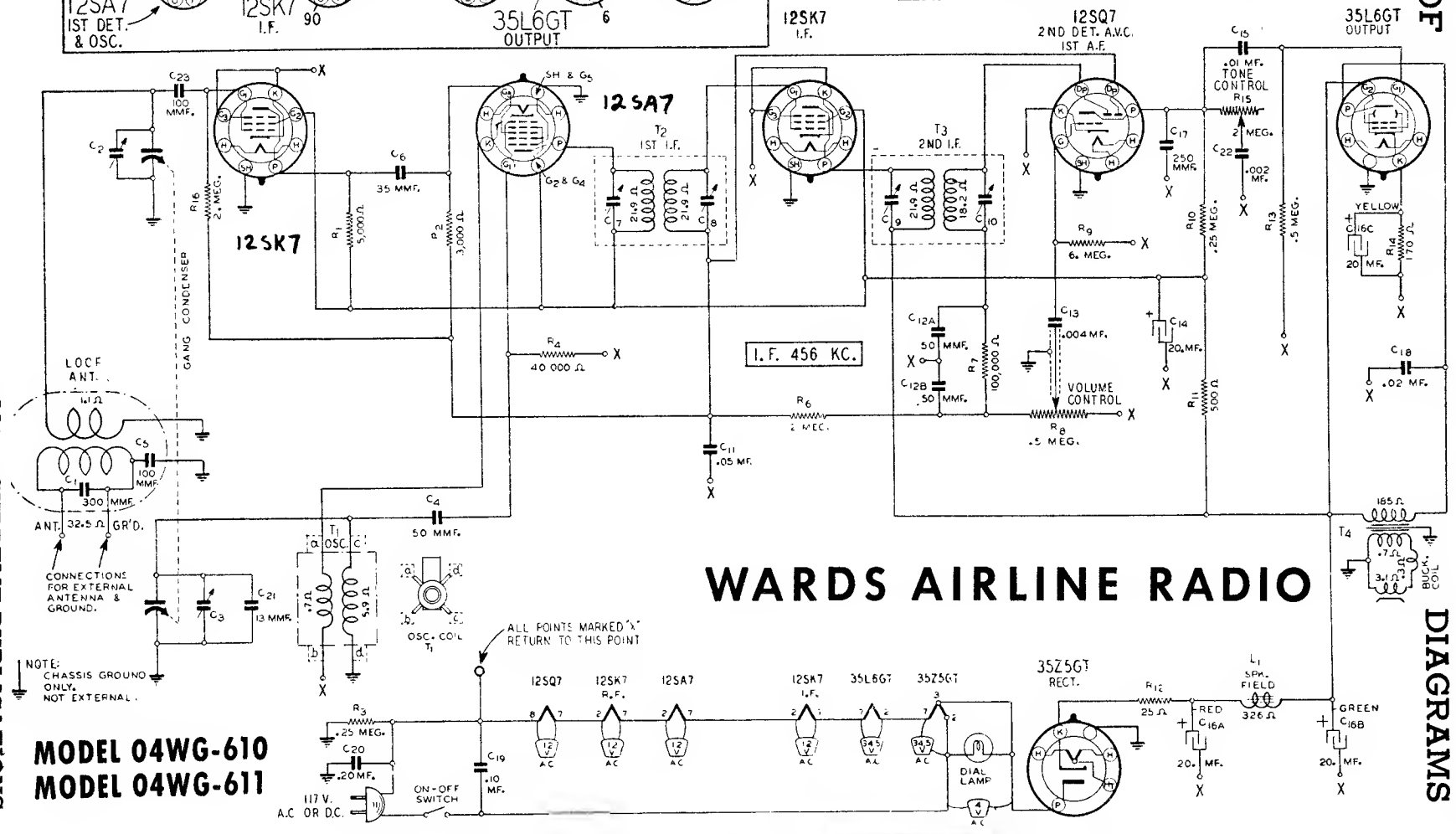
CHICAGO, U. S. A.

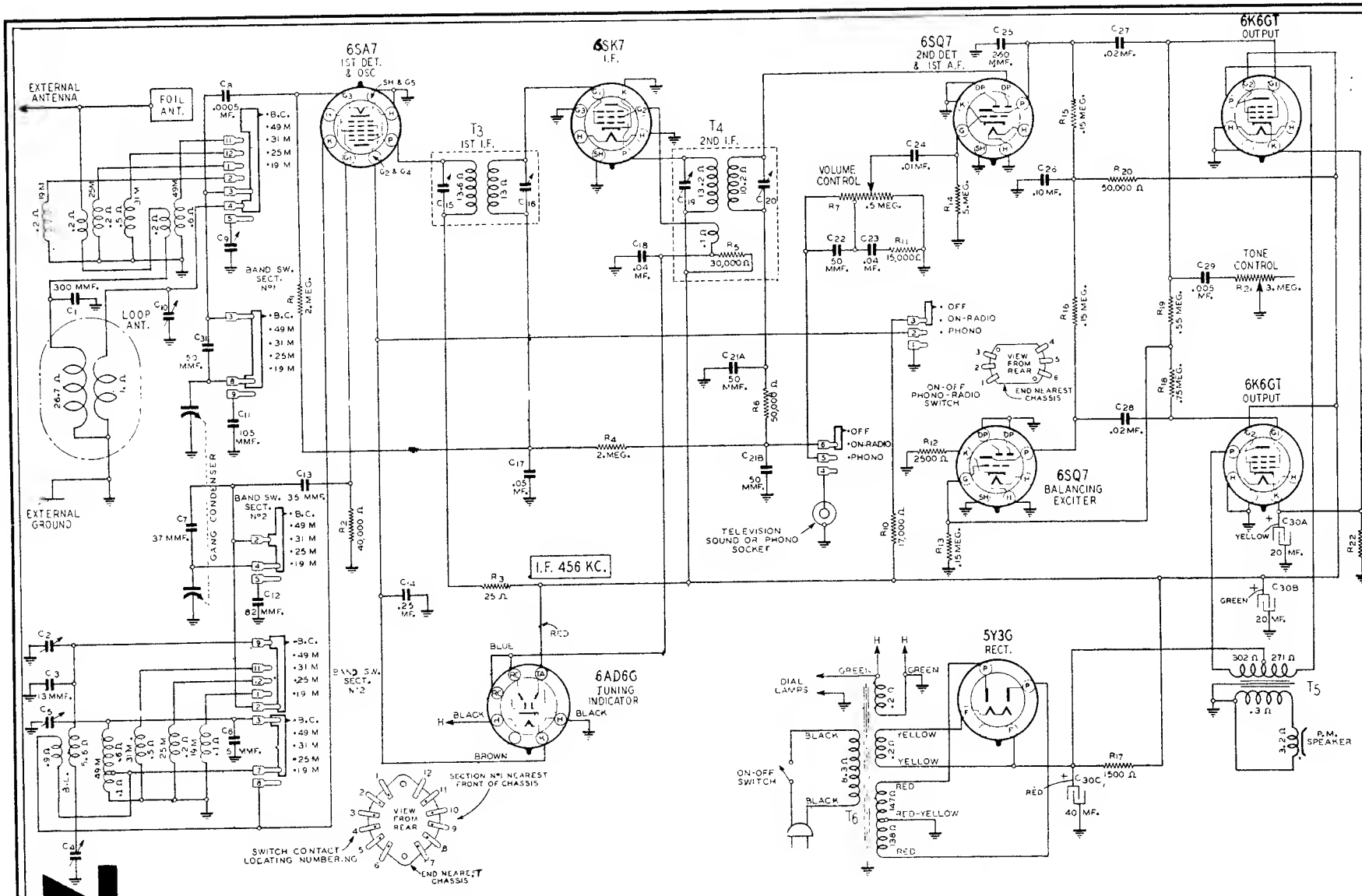
WARDS AIRLINE RADIO

MODEL 04WG-610
MODEL 04WG-611









WARDS AIRLINE RADIO

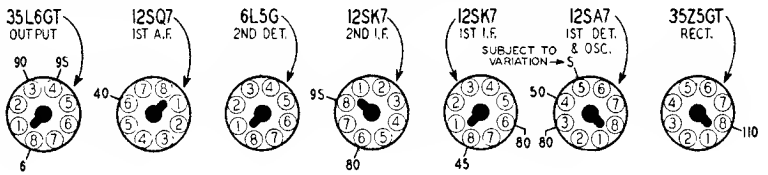
BROADCAST AND SPREAD-BAND SHORT WAVE RADIO

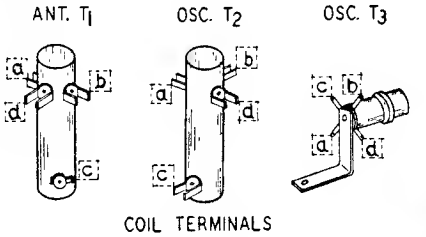
MODEL 04WG-803

77

VOLUME CONTROL-MAXIMUM READINGS TAKEN WITH 1000 OHM-PER-VOLT METER PLATE & SCREEN VOLTAGES ARE READ ON 500 VOLT SCALE.

VOLTAGES AT SOCKETS FOR 117 V A.C. LINE. ALL VOLTAGES EXCEPT HEATERS & DIAL LAMP ARE BETWEEN SOCKET TERMINALS & "X" POINT FOR HEATER & DIAL LAMP VOLTAGES SEE SCHEMATIC



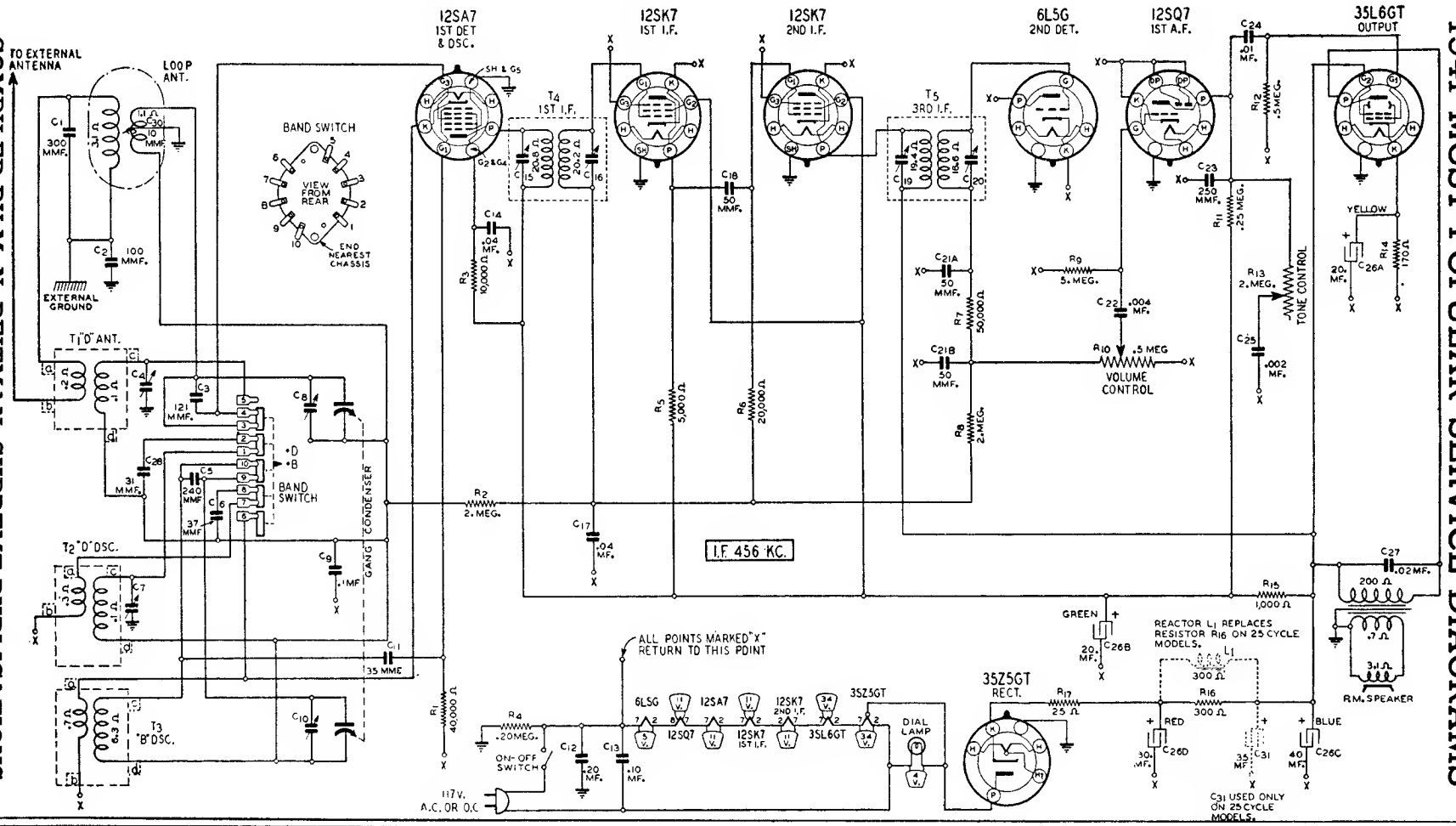


WARDS

MODEL 04WG-731A

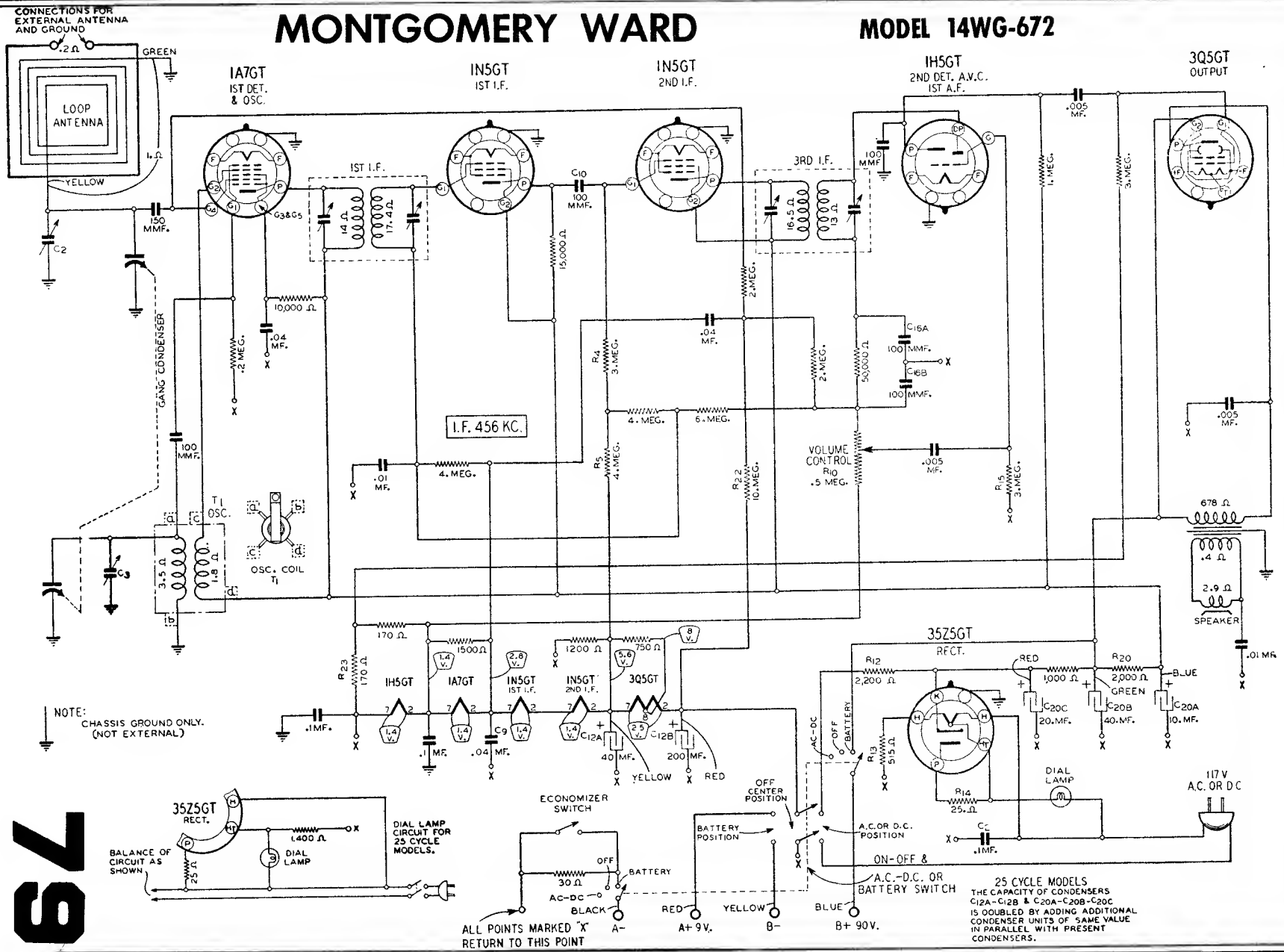
MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

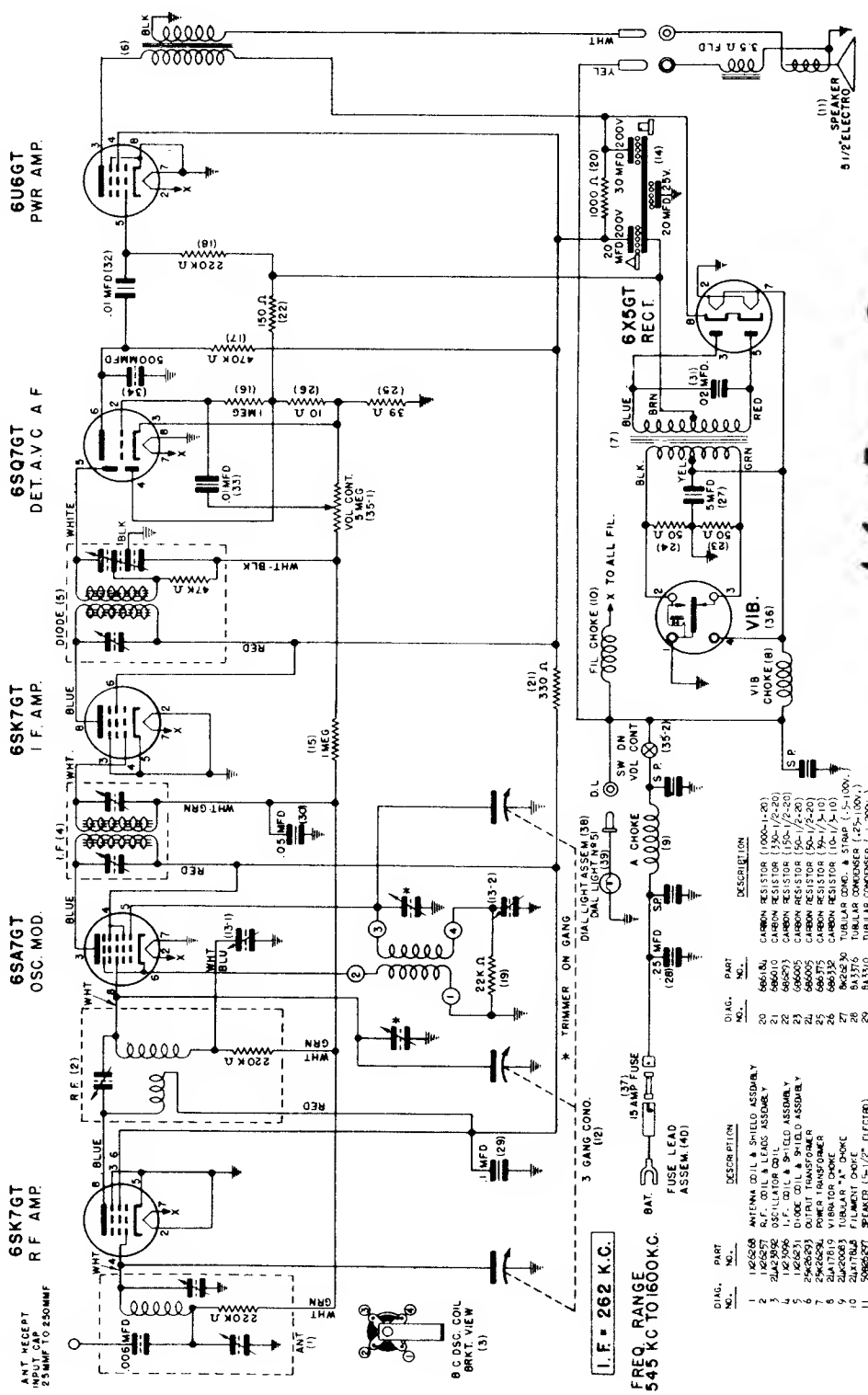
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



MONTGOMERY WARD

MODEL 14WG-672

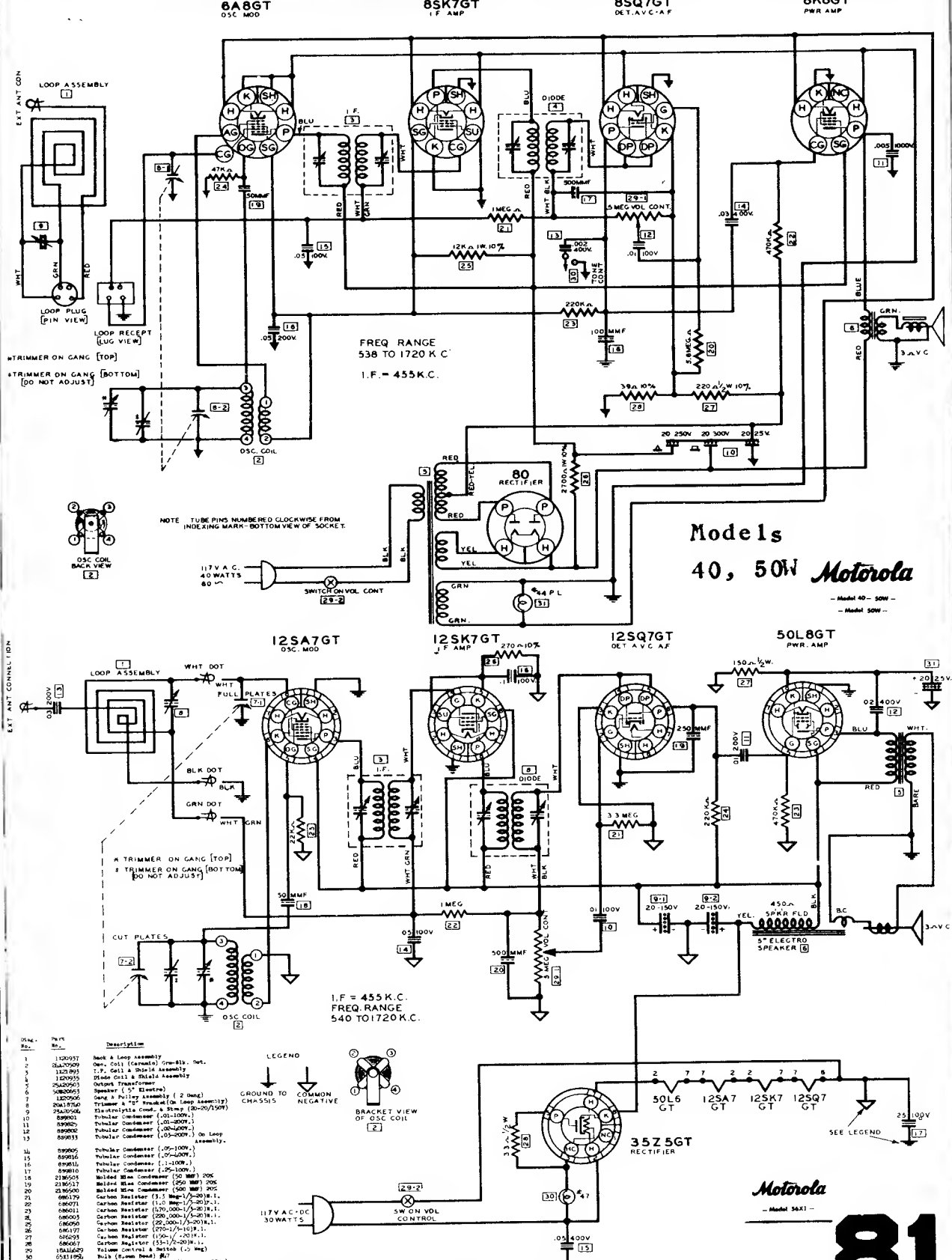




DIAG. NO.	PART NO.	DESCRIPTION
1	1A26518	ANTENNA COIL & SHIELD ASSEMBLY
2	1A26577	R.F. COIL & LEAD ASSEMBLY
3	2AA23982	OSCILLATOR COIL ASSEMBLY
4	1A21906	I.F. COIL & SHIELD ASSEMBLY
5	1A26231	DIODE COIL & SHIELD ASSEMBLY
6	25K26699	OUTPUT TRANSFORMER
7	25K26696	POWER TRANSFORMER
8	2AA17819	VIBRATOR CHOKE
9	2AA17883	FILAMENT CHOKE
10	58B25297	SPEAKER (5½" ELECTRO)
11	19K26341	VARIABLE CONDENSER (3 GANG)
12	20A25860	DUAL PADDER (R.F.-.900 MFD. NOM.) (OSC.-.825 MFD. NOM.)
13	2AA27758	ELECTROLYTIC COND. (30-20/200v.-20/25v
14	686159	CARBON RESISTOR (1.0 MEG-1/2-20)
15	686159	CARBON RESISTOR (1.0 MEG-1/2-20)
16	686159	CARBON RESISTOR (10,000-1/2-20)
17	686204	CARBON RESISTOR (220,000-1/2-20)
18	686204	CARBON RESISTOR (220,000-1/2-20)
19	686212	CARBON RESISTOR (22,000-1/2-20)

DIAG. NO.	PART NO.	DESCRIPTION
20	686184	CARBON RESISTOR (1000-1-20)
21	686010	CARBON RESISTOR (330-1/2-20)
22	686297	CARBON RESISTOR (150-1/2-20)
23	686005	CARBON RESISTOR (50-1/2-20)
24	686005	CARBON RESISTOR (50-1/2-20)
25	686175	CARBON RESISTOR (10-1/2-10)
26	686152	CARBON RESISTOR (10-1/2-10)
27	8K26230	TUBULAR COND. & STRAP (.5-100v.)
28	84A3376	TUBULAR CONDENSER (.25-100v.)
29	84A3376	TUBULAR CONDENSER (.1-200v.)
30	84A3514	TUBULAR CONDENSER (.02-600v.)
31	84A27760	TUBULAR CONDENSER (.02-600v.)
32	84A3053	TUBULAR CONDENSER (.01-200v.)
33	84A1400	TUBULAR CONDENSER (.01-100v.)
34	2186500	MOLDED MICA COND. (500 MMFD.) 20%
35	1BA17707	VOL. CONT. & SWITCH (1.5 MEG.)
36	2AA15087	VIBRATOR
37	57A2165	FUSE (1.5 AMP.) 3AG
38	57A2165	DUAL LIGHT ASSEMBLY
39	6584151	BULB (WHITE BEAD) #51

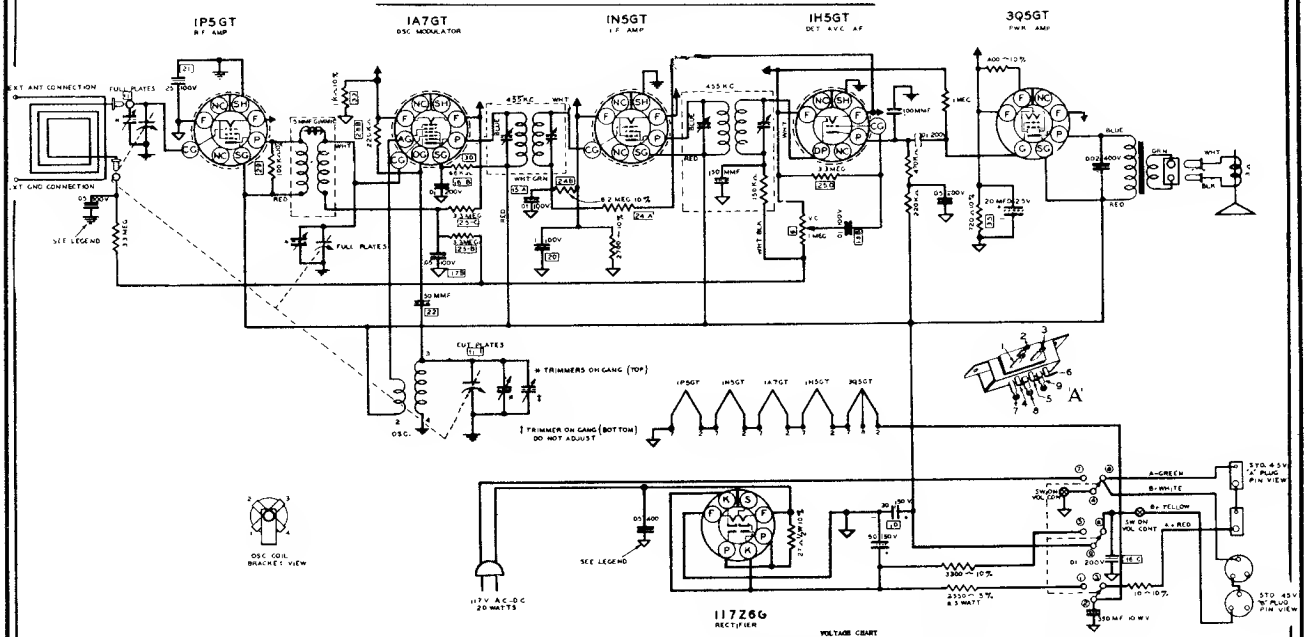
MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



Diag. No.	Part No.	Description
1	1320937	Book A Loop Assembly
2	3A29509	Osc. Coil (Ceramic) Gra-Blk. Ant.
3	1321893	I.F. Coil & Shield Assembly
4	1320935	Diode Coil & Shield Assembly
5	2A20961	Output Transformer
6	50820963	Speaker (5" Electro)
7	1320906	Gang & Pulley Assembly (2 Gang)
8	20A1750	Trimmer & "T" Bracket (On Loop Assembly)
9	25A3050L	Electrolytic Cond. & Strap (20-20/150V)
10	899901	Tubular Condenser (.01-100V.)
11	899825	Tubular Condenser (.02-400V.)
12	899802	Tubular Condenser (.04-400V.)
13	899833	Tubular Condenser (.05-200V.) On Loop Assembly.
14	899805	Tubular Condenser (.05-100V.)
15	899816	Tubular Condenser (.07-400V.)
16	899811	Tubular Condenser (.1-100V.)
17	899810	Tubular Condenser (.25-100V.)
18	2186505	Molded Mica Condenser (50 MMF) 20%
19	2186517	Molded Mica Condenser (250 MMF) 20%
20	2186500	Molded Mica Condenser (500 MMF) 20%
21	686179	Carbon Resistor (3.3 Meg-1/2-20%)I.R.
22	686071	Carbon Resistor (1.0 Meg-1/2-20%)I.
23	686011	Carbon Resistor (470,000-1/2-20%)I.
24	686003	Carbon Resistor (220,000-1/2-20%)I.
25	686050	Carbon Resistor (22,000-1/2-20%)I.
26	686197	Carbon Resistor (270-1/2-10%)I.
27	686293	Carbon Resistor (150-1/2-20%)I.
28	686067	Carbon Resistor (33-1/2-20%)I.
29	1A416629	Volume Control & Switch (.5 Meg)
30	05A1192L	Bulb (8-mm Bead) #47
31	21A2993	Electrolytic Condenser (20 mfds.-25V.)

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

CIRCUIT DIAGRAM MODELS 65BP1-2-3-4



VOLTAGE CHART

POSITION	PLATE	SCREEN	BIAS
R.F.	80	80	1.1
Osc.-Mod.	80	40	3.7
I.F.	80	80	4.8
Det.-AVC-AF	30	-	2.3
Power	80	80	7.8
Rect.	-	120	-

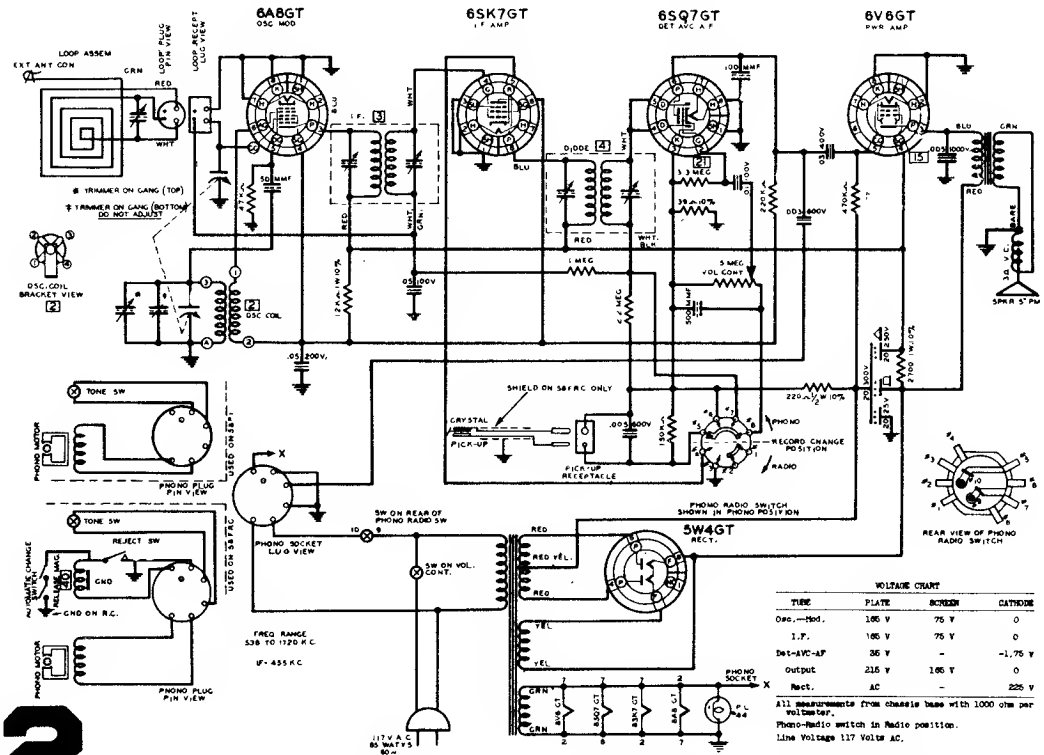
All voltages measured from socket terminal to common negative using 1000 Ohms per volt meter

LEGEND
CHASSIS
COMMON (NEGATIVE)

ALL RESISTORS 20% ½ WATT UNLESS OTHERWISE SPECIFIED

Motorola

Motorola Models 58-F1, 58-FRC

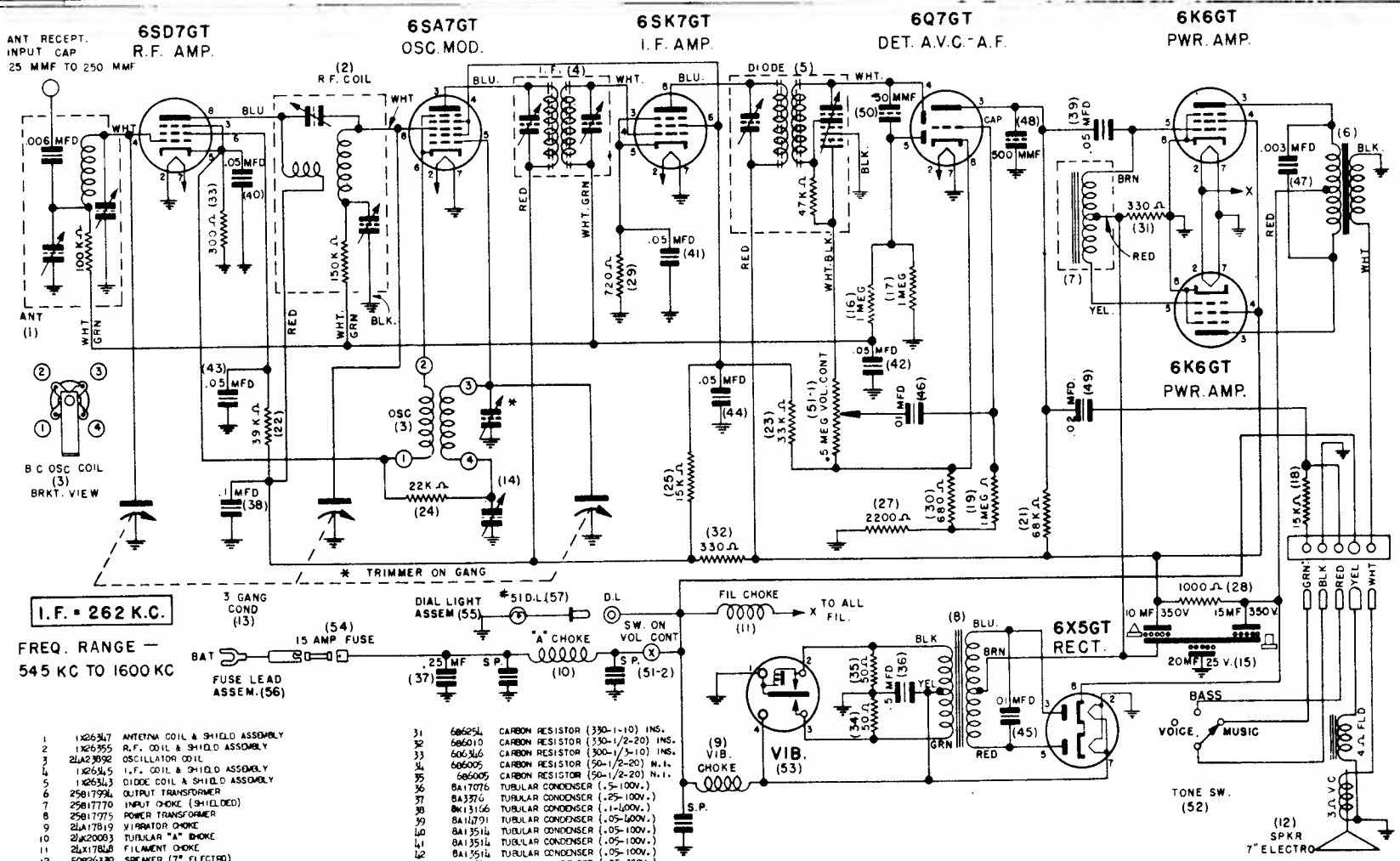


VOLTAGE CHART

TUBE	PLATE	SCREEN	CATHODE
Osc.-Mod.	185 V	75 V	0
I.F.	185 V	75 V	0
Det-AVC-AF	35 V	-	-1.75 V
Output	215 V	185 V	0
Rect.	AC	-	225 V

All measurements from chassis base with 1000 ohm per voltmeter.
Phono-Radio switch in Radio position.
Line Voltage 117 Volts AC.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



1	1X26347	ANTENNA COIL & SHIELD ASSEMBLY
2	1X26355	R.F. COIL & SHIELD ASSEMBLY
3	2LA23892	OSCILLATOR COIL
4	1X26345	I.F. COIL & SHIELD ASSEMBLY
5	1X26343	DIODE COIL & SHIELD ASSEMBLY
6	25817994	OUTPUT TRANSFORMER
7	25817770	INPUT CHOKE (SHIELDED)
8	25817975	POWER TRANSFORMER
9	2LA17819	VIBRATOR CHOKE
10	2LK20083	TUBULAR "A" CHOKE
11	2LX17848	FILAMENT CHOKE
12	50B26399	SPEAKER (7" ELECTRO)
13	19K26342	VARIABLE CONDENSER (3 GANG)
14	20K26352	OSCILLATOR PADDER (325 MMFD. NOM.)
15	23A17738	ELECTROLYTIC COND. (15-10/350V.-20/25V.)
16	606159	CARBON RESISTOR (1.0 MEG-1/3-20) INS.
17	606159	CARBON RESISTOR (1.0 MEG-1/3-20) INS.
18	606284	CARBON RESISTOR (15,000 -1/3-20) INS.
19	686159	CARBON RESISTOR (1.0 MEG-1/3-20) INS.
20		
21	606256	CARBON RESISTOR (68,000-1/3-20) INS.
22	686355	CARBON RESISTOR (39,000-1/3-20) INS.
23	686012	CARBON RESISTOR (33,000-1/2-20) INS.
24	686212	CARBON RESISTOR (22,000-1/3-20) INS.
25	606271	CARBON RESISTOR (15,000-1-20) INS.
26		
27	686353	CARBON RESISTOR (2200-1/3-10) INS.
28	686184	CARBON RESISTOR (1000-1-20) N.I.
29	686217	CARBON RESISTOR (720-1/3-10) INS.
30	686386	CARBON RESISTOR (680-1/3-10) INS.
31	686254	CARBON RESISTOR (330-1-10) INS.
32	686010	CARBON RESISTOR (330-1/2-20) INS.
33	606346	CARBON RESISTOR (300-1/3-10) INS.
34	606005	CARBON RESISTOR (50-1/2-20) N.I.
35	686005	CARBON RESISTOR (50-1/2-20) N.I.
36	8A17076	TUBULAR CONDENSER (.5-100V.)
37	8A3376	TUBULAR CONDENSER (.25-100V.)
38	BK13166	TUBULAR CONDENSER (.1-400V.)
39	8A11791	TUBULAR CONDENSER (.05-400V.)
40	8A13514	TUBULAR CONDENSER (.05-100V.)
41	8A13514	TUBULAR CONDENSER (.05-100V.)
42	8A13514	TUBULAR CONDENSER (.05-100V.)
43	8A12841	TUBULAR CONDENSER (.05-300V.)
44	8A12841	TUBULAR CONDENSER (.05-300V.)
45	8A10432	TUBULAR CONDENSER (.01-1600V.)
46	8A11400	TUBULAR CONDENSER (.01-100V.)
47	BK13165	TUBULAR CONDENSER (.003-1000V.)
48	2186500	MOLDED MICA COND. (500 MMFD.) 20%
49	8A12699	TUBULAR CONDENSER (.02-400 V.)
50	21A12843	CERAMIC CONDENSER (50 MMFD)
51	18A17767	VOL. CONT. & SWITCH (.5 MEG.)
52	60A26887	TONE CONTHOL SWITCH (3 POS.)
53	18A5067 **	
	18A5333	VIBRATOR
54	65X4165	FUSE (15 AMP.) 3AG
55	1X4181	DIAL LIGHT ASSEMBLY
56	1X17868	FUSE LEAD ASSEMBLY
57	65X4151	BULB (WHITE BEAD) #51

Motorola

Model 401

SENSITIVITY AND STAGE GAIN MEASUREMENTS

Average Microvolt Input *	Generator Set At	Generator Feeder Connected To	Dummy Antenna Capacity	Leak Resistance	Output Meter Reading **
2,800	262 K.C.	I.F. Grid	.1 Mfg.	.5 Meg.	1.74
420	262 K.C.	Mod. Grid	.1 Mfg.	.5 Meg.	1.74
510	600 K.C.	Mod. Grid	.1 Mfd.	.5 Meg.	1.74
8	600 K.C.	R.F. Grid	.1 Mfd.	.5 Meg.	1.74
2	600 K.C.	Ant. Lead	***	None	1.74

Volume Control Set At Maximum
* 1 Watt = 1.74 Volts

Tone Control Set At Voice
** Output meter connected across voice coil.
*** Use Special Dummy Part No. 1X26767 or Booster Coil Part No. 24A26751 in series with a 35 Mmf. Condenser.

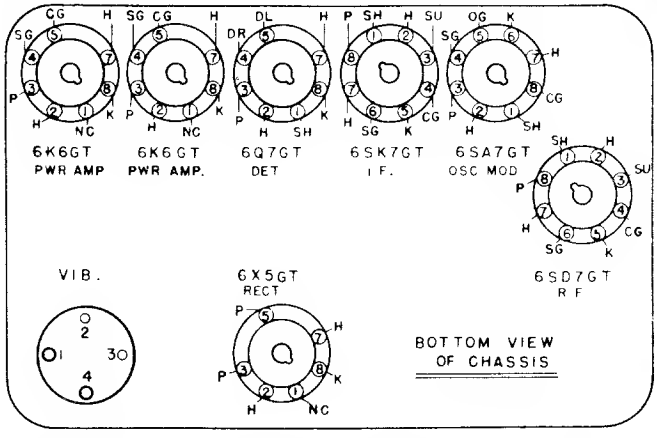
ALIGNMENT CHART

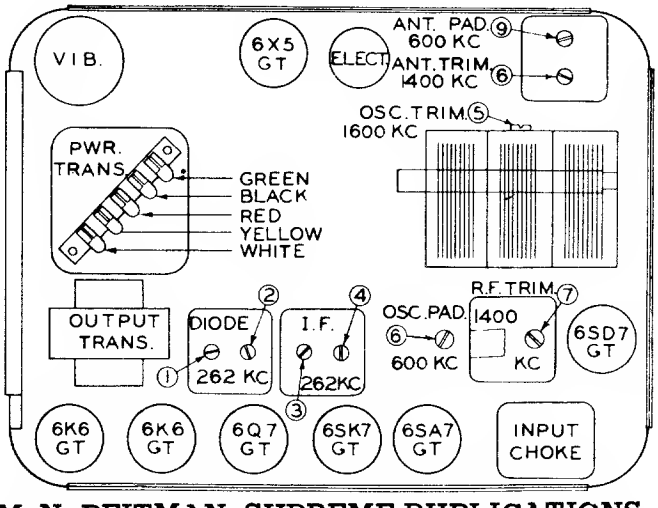
Operations In Order	Gang Condenser Set At	Dummy Antenna	Generator Connected To	Adjust Trimmers No.	Generator Set At
1	Minimum	.1 Mfd.	Osc.-Mod. Grid	1-2-3-4	262 K.C.
2	1600 K.C.	.1 Mfd.	Osc.-Mod. Grid	5	1600 K.C.
3	600 K.C.	.1 Mfd.	Osc.-Mod. Grid	6	600 K.C.
4	1400 K.C.	*	To Special Dummy	7	1400 K.C.
5	1400 K.C.	*	To Special Dummy	8	1400 K.C.
6	600 K.C.	*	To Special Dummy	9	600 K.C.

* Use Special Dummy Part No. 1X26767 or Booster Coil Part No. 24A26751 in series with a 35 Mmf. Condenser.

VOLTAGE CHART				
TUBE		PLATE TO GND	SCREEN TO GND	CATH. TO GND
6SD7GT	R.F. AMP	190 V.	125 V.	3 V.
6SA7GT	OSC. MOD	190 V.	60 V.	3 V.
6SK7GT	I.F. AMP	195 V.	60 V.	2.75 V.
6Q7GT	DET. A.V.C.-A.F.	130 V	—	6.5 V.
6K6GT	PWR. AMP	220 V	195 V.	0
6K6GT	PWR. AMP	220 V.	195 V.	0
6X5GT	RECT.	A.C.	—	225 V.

ALL VOLTAGES MEASURED WITH 1000 OHM PER VOLT VOLTMETER

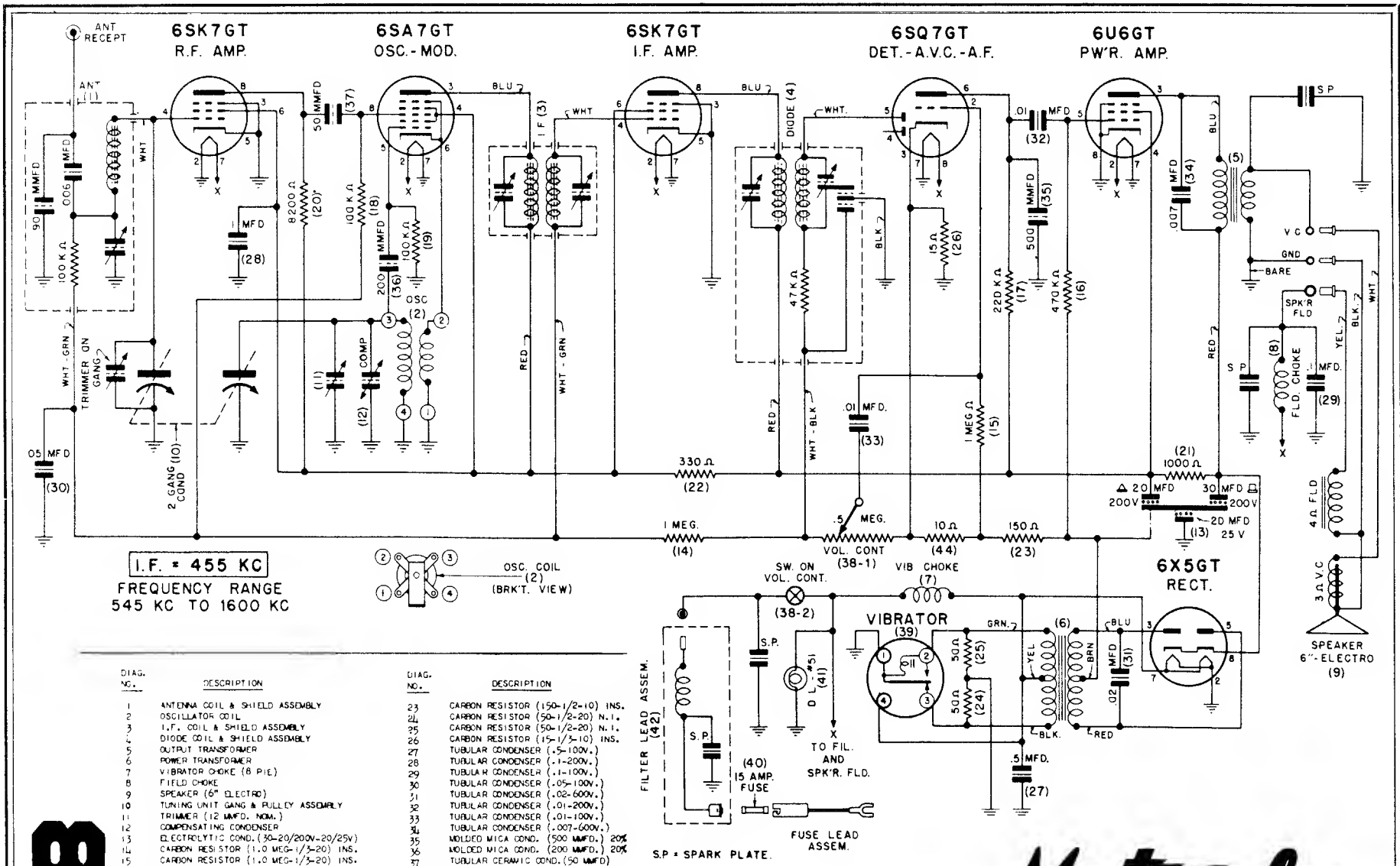




Galvin Mfg. Corp.
4545 Augusta Blvd.
Chicago, Illinois

MOTOROLA

Model 401

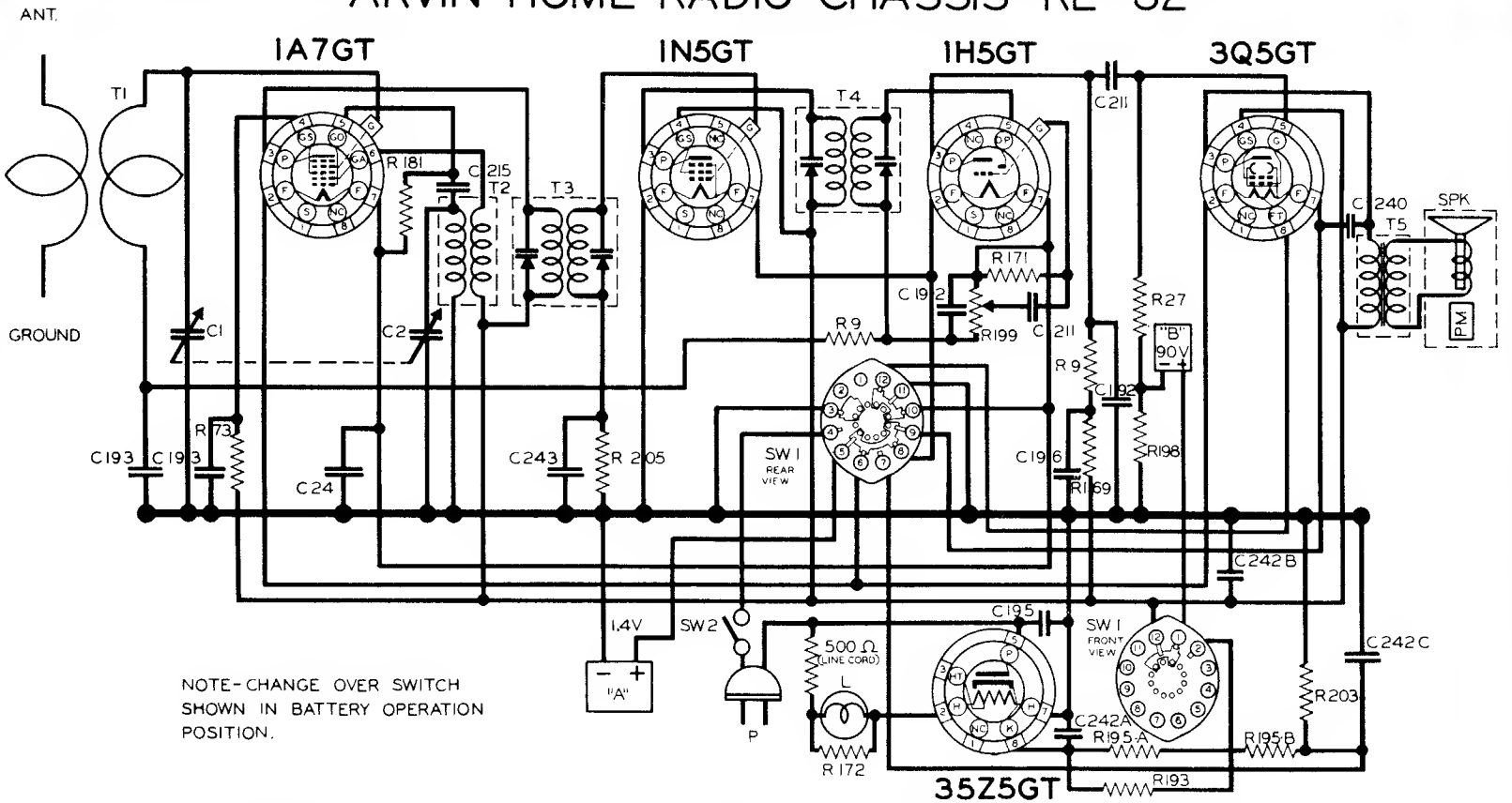


DIAG. NO.	DESCRIPTION
1	ANTENNA COIL & SHIELD ASSEMBLY
2	OSCILLATOR COIL
3	I.F. COIL & SHIELD ASSEMBLY
4	DIODE COIL & SHIELD ASSEMBLY
5	OUTPUT TRANSFORMER
6	POWER TRANSFORMER
7	VIBRATOR CHOKE (8 PIE)
8	FIELD CHOKE
9	SPEAKER (6" ELECTRO)
10	TUNING UNIT GANG & PULLEY ASSEMBLY
11	TRIMMER (12 MMFD. NOM.)
12	COMPENSATING CONDENSER
13	ELECTROLYTIC COND. (30-20/200V-20/25V)
14	CARBON RESISTOR (1.0 MEG-1/2-20) INS.
15	CARBON RESISTOR (1.0 MEG-1/2-20) INS.
16	CARBON RESISTOR (470,000-1/2-20) INS.
17	CARBON RESISTOR (220,000-1/2-20) INS.
18	CARBON RESISTOR (100,000-1/2-20) INS.
19	CARBON RESISTOR (100,000-1/2-20) INS.
20	CARBON RESISTOR (8200-1/2-20) INS.
21	CARBON RESISTOR (1000-1-20) N.I.
22	CARBON RESISTOR (330-1/2-20) INS.

DIAG. NO.	DESCRIPTION
23	CARBON RESISTOR (150-1/2-10) INS.
24	CARBON RESISTOR (50-1/2-20) N.I.
25	CARBON RESISTOR (50-1/2-20) N.I.
26	CARBON RESISTOR (15-1/2-10) INS.
27	TUBULAR CONDENSER (.5-100V.)
28	TUBULAR CONDENSER (.1-200V.)
29	TUBULAR CONDENSER (.1-100V.)
30	TUBULAR CONDENSER (.05-100V.)
31	TUBULAR CONDENSER (.02-600V.)
32	TUBULAR CONDENSER (.01-200V.)
33	TUBULAR CONDENSER (.01-100V.)
34	TUBULAR CONDENSER (.007-600V.)
35	MOLDED MICA COND. (500 MMFD.) 20%
36	MOLDED MICA COND. (200 MMFD.) 20%
37	TUBULAR CERAMIC COND. (50 MMFD)
38	VOL. CONT. & SWITCH (.5 MEG.)
39	VIBRATOR (SHORT)
40	FUSE (15 AMP.) 3AG
41	BULB (WHITE BEAD) #51
42	FILTER LEAD ASSEMBLY
43	FUSE LEAD ASSEMBLY
44	CARBON RESISTOR (10-1/2-10) INS.

58

ARVIN HOME RADIO CHASSIS RE-82



NOTE-CHANGE OVER SWITCH SHOWN IN BATTERY OPERATION POSITION.

RESISTORS			
R	OHM	W	PART NO.
9	1M	1/4	17-2080
27	2M	1/4	17-4786
73	30K	1/4	17-4276
169	150K	1/4	17-14282
171	1.5M	1/4	17-14288
172	100	1/4	17-14289
181	100K	1/4	17-14303
195A	460	2 3/4	17-14351
195B	1500	5 1/4	
198	400	1/4	17-14343
199	1M	V.C.	17-14350
203	450	1/4	17-14354
193	2K	1/4	17-14337
205	3M	1/4	17-14356

CONDENSERS				
C	CAPACITY	VOLT	PART NO.	
1	TWO-GANG		17-16549	
2	VARIABLE			
192	.00025	600	17-14273	
193	.05	200	17-14274	
195	.05	400	17-14276	
196	.1	200	17-14277	
211	.01	200	17-14306	
215	.0001	600	17-14310	
24	.5	200	17-14040A	
240	.003	400	17-14348	
242A	40	150	17-14353	
242B	20	150		
242C	100	25		
243	002	200	17-14357	

TRANSFORMERS		
T	TYPE	PART NO.
1	ANTENNA LOOP	00-16973
2	OSCILLATOR COIL	00-16404
3	FIRST I.F	00-16578
4	SECOND I.F COIL	00-16579
5	OUTPUT TRANS	00-16566

MISCELLANEOUS UNITS		
SYMBOL	DESCRIPTION	PART NO
A	1.5 VOLT "A" BATTERY	17-16563
B	TWO 45 VOLT B BATTERIES	17-16562
L	DIAL LIGHT BULB MAZDA 47	17-16378
P	LINE CORD & PLUG ASSEMBLY	17-16492
SPK	SPEAKER ASSEMBLY - 5 PERMANENT MAGNET	17-16613
SW1	AC DC - BATTERY SWITCH	17-16564
SW2	VOLUME CONTROL & LINE SWITCH	17-14350

I F PEAK 455 K.C.
BALANCE 1400 K.C. - CHECK AT 600 K.C.

NOBLITT-SPARKS INDUSTRIES, INC.,
COLUMBUS, INDIANA.

ARVIN MODEL 822 RADIO RECEIVER

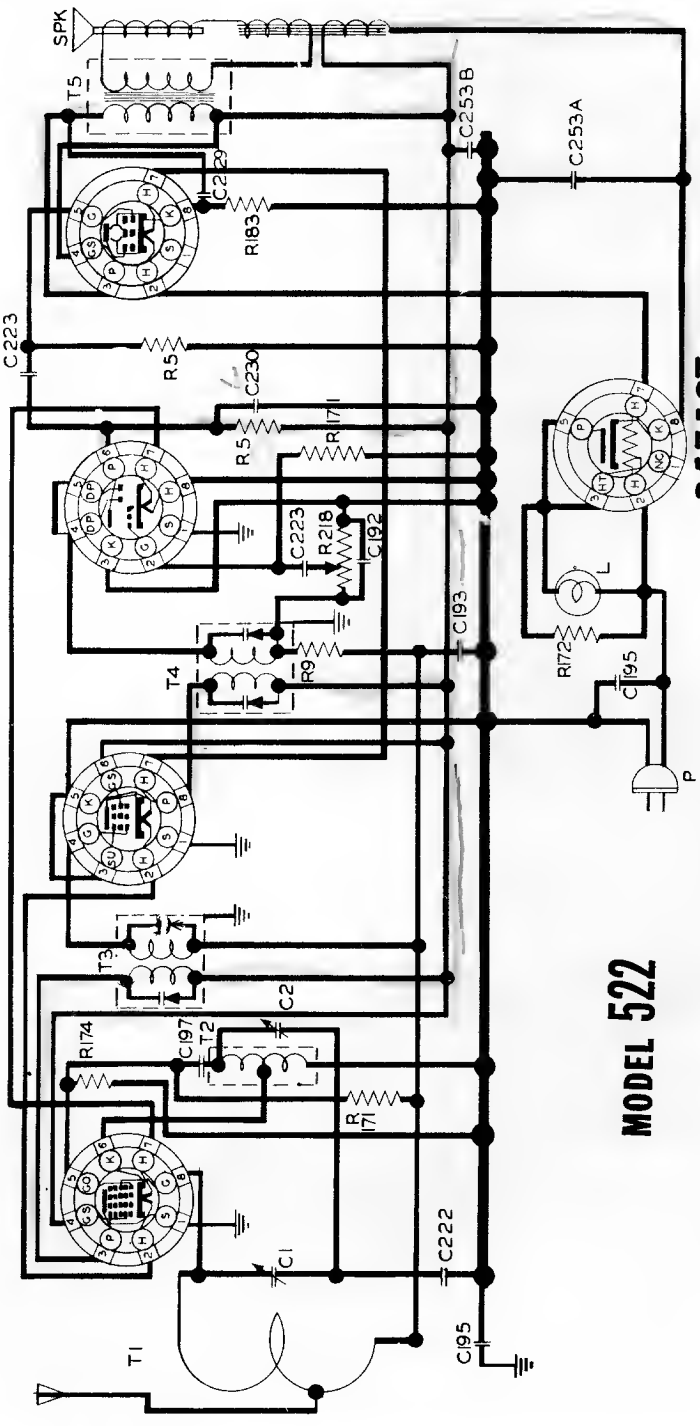
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

NOBLITT-SPARKS INDUSTRIES, INC.
Columbus, Indiana

ARVIN HOME RADIO CHASSIS RE-76

12SA7 12SK7 12SQ7 50L6GT 35Z5GT

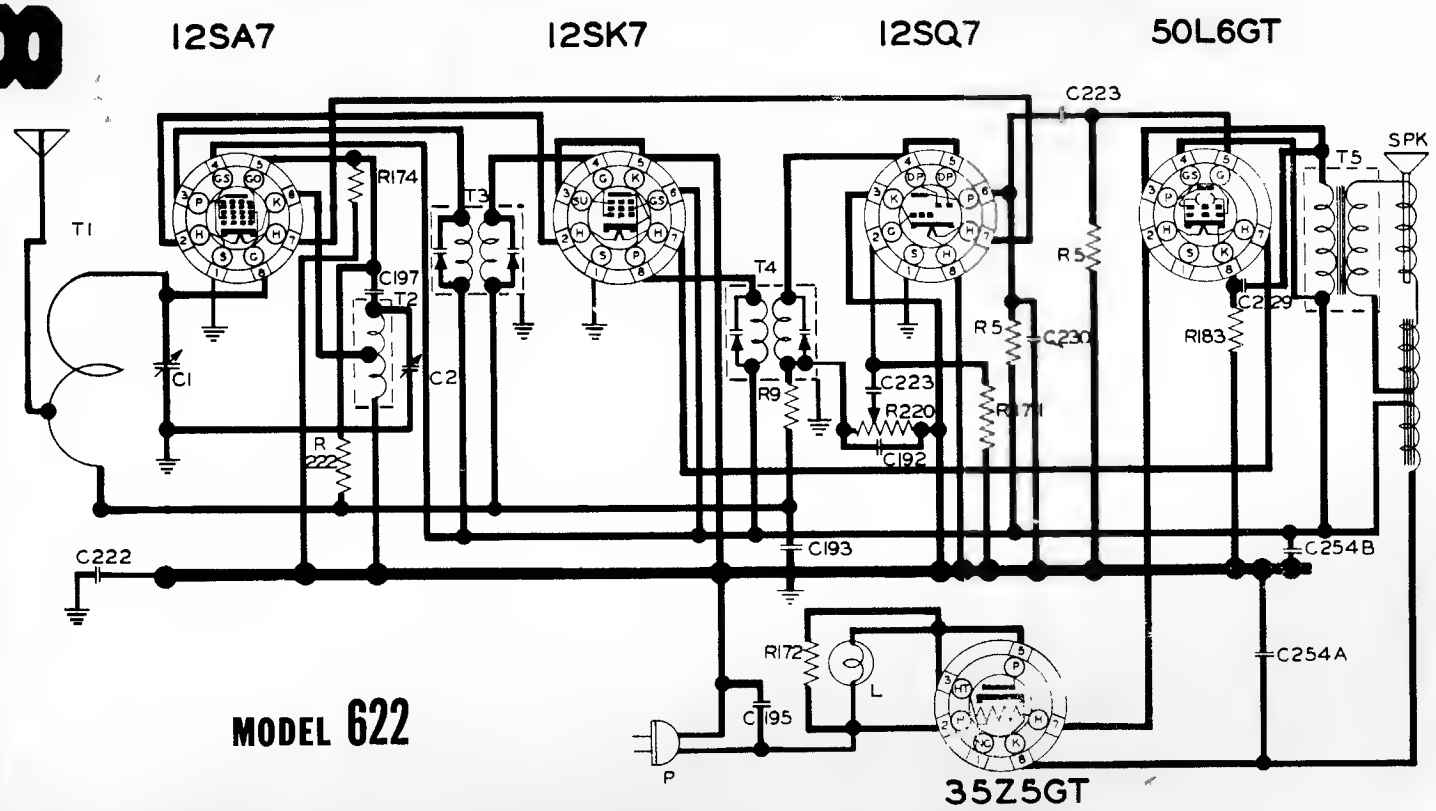
MODEL 522



RESISTORS			CONDENSERS			TRANSFORMERS			MISCELLANEOUS UNITS		
R	OHMS	W	PART NO	C	CAPACITY	VOLT	PART NO	T	TYPE	PART NO	SYMBOL	DESCRIPTION	PART NO
28	1 M	V.C.	17-6857	1	TWO GANG		17-6841	1	ANTENNA LOOP	00-6851	L	DIAL LIGHT BULB MAZDA #47	17-6378
5	500K	1/4	17-2070	2	VARIABLE			2	OSCILLATOR COIL	00-6852	P	LINE CORD & PLUG ASSY	17-6844
183	150	1/4	17-4316	253A	20 MFD	150	17-4375	3	FIRST IF COIL	29-6853	SPK	SPEAKER ASSY	17-6843
174	20 K	1/4	17-4291	253B	10 MFD	150		4	SECOND IF COIL	29-6854			
172	100	1/4	17-4289	192	.00025	600	17-4273	5	OUTPUT TRANSF	00-6869			
171	1.5 M	1/4	17-4288	195	.05	400	17-4276						
9	1 M	1/4	17-2080	222	.2	400	17-4317						
				229	.02	400	17-4327						
				223	.002	400	17-4316						
				193	.05	200	17-4274						
				197	.0001	600	17-4278						
				230	.0005	400	17-4328						

I.F. PEAK 455 K.C.
BALANCE 1400 K.C. - CHECK AT 600 K.C.
NOBLITT-SPARKS INDUSTRIES, INC.
COLUMBUS, INDIANA

ARVIN HOME RADIO - CHASSIS RE-78



MODEL 622

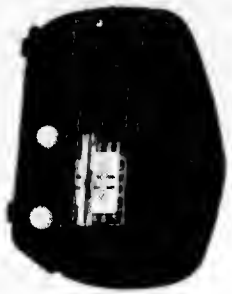
RESISTORS			
R	OHM	W	PART NO
220	1 M	V-C	17-18878
5	500K	1/4	17-2070
183	150	1/4	17-14316
174	20 K	1/4	17-14291
172	100	1/4	17-14289
222	10 M	1/4	17-14377
9	1M	1/4	17-2080

CONDENSERS				
C	CAPACITY	VOLT	PART NO	
1	TWO GANG		17-16841	
2	VARIABLE			
254A	20 MFD.	150	17-14376	
254B	10 MFD.	150		
192	.00025	600	17-14273	
195	.05	400	17-14278	
222	2	400	17-14317	
229	.02	400	17-14327	
223	.002	400	17-14318	
193	.05	200	17-14274	
197	.0001	600	17-14278	
230	.0005	400	17-14328	

TRANSFORMERS		
T	TYPE	PART NO
1	ANTENNA LOOP	00-16882
2	OSCILLATOR COIL	00-16891
3	FIRST I.F. COIL	00-16885
4	SECOND I.F. COIL	00-16886
5	OUTPUT TRANSF.	00-16883

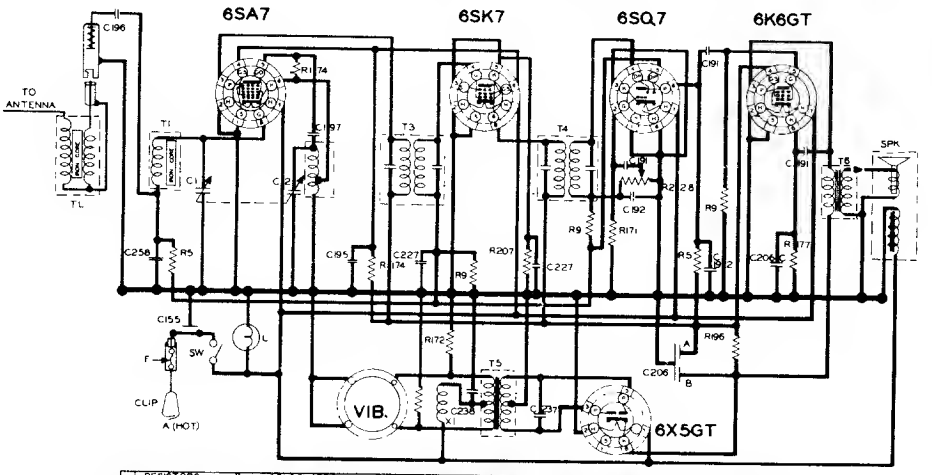
MISCELLANEOUS UNITS		
SYMBOL	DESCRIPTION	PART NO
L	DIAL LIGHT BULB MAZDA #47	17-16378
P	LINE CORD & PLUG ASSY	17-16874
SPK	SPEAKER ASSY.	17-16867

I.F PEAK 455 K.C.
BALANCE 1400 K.C. - CHECK AT 600 K.C.
NOBLITT-SPARKS INDUSTRIES, INC.
COLUMBUS, INDIANA



MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS
NOBLITT-SPARKS INDUSTRIES, INC.
Columbus, Indiana
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

ARVIN CAR RADIO CHASSIS RE-84

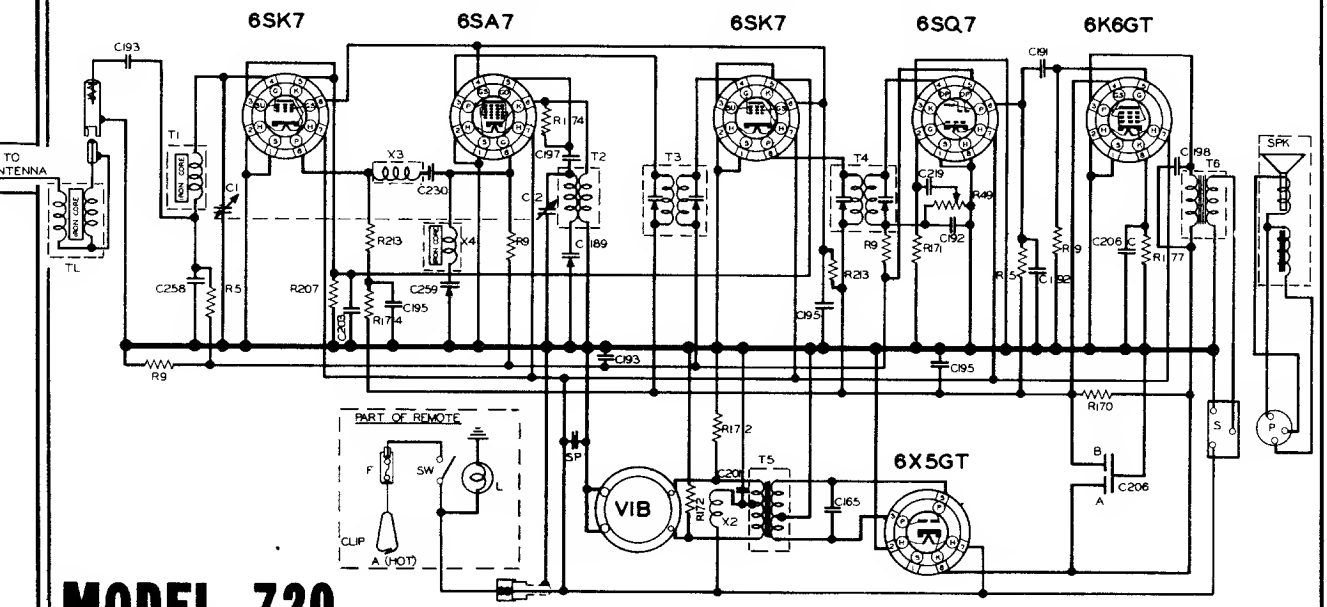


RESISTORS				CONDENSERS				CHOKES & TRANSFORMERS			MISCELLANEOUS UNITS		
R	OHMS	W	PART NO	C	CAPACITY	VOLT	PART NO	T-X	TYPE	PART NO	SYMBOL	DESCRIPTION	PART NO
5	500 K	1/4	17-2070	1	TWO-GANG			1	ANTENNA COIL	00-16219	F	FUSE - 20 AMPS.	17-2228
9	1 M	1/4	17-2080	2	VARIABLE			2	OSCILLATOR	00-17000	L	DIAL LIGHT BULB MAZDA NO. 51	17-13904
49	300 K	1/2	17-14536	183	.005	1200	17-14230	3	FIRST I.F. COIL	00-17007	P	SPEAKER PLUG	17-4780
170	800	1	17-14287	189	ADJ-MOUNTED	PAD	17-14268	4	SECOND I.F. COIL	00-17008	S	SPEAKER SOCKET	17-5834
171	1.5 M	1/4	17-14288	191	.01	400	17-14272	5	POWER TRANSFORMER	00-16285	SPK	SPEAKER ASSEMBLY	17-16517
172	100	1/4	17-14289	192	.00025	600	17-14273	8	OUTPUT TRANSFORMER	00-16288	SW	POWER SWITCH	—
174	20 K	1/4	17-14291	193	.05	200	17-14274				TL	TRANSMISSION LINE	00-16589
177	8.50	1/4	17-14298	195	.03	400	17-14275				SP	SPEAKER PLATE	
213	10 K	1/4	17-14369	219	.003	200	17-14312	X	CHOKES		VIB	VIBRATOR	17-14747
207	500	1/4	17-14351	205	.2	200	17-16242	2	SUPPRESSION CHOKE	29-0459			
				208A	10 MFD.	300		3	TRAP CHOKE	00-16982			
				208B	10 MFD.	300	17-14297	4	TRAP CHOKE	00-16982			
				208C	20 MFD.	15							
				230	.0005	400	17-14328						
				238	.004	600	17-14381						
				201	.1	150	17-14285						
				239	4-40 MMFD	PAD	17-14383						
				197	.0001	600	17-14278						
				198	.005	400	17-14279						

I.F. PEAK 455 K.C.
FREQUENCY RANGE 1575 TO 540 K.C.
NOBLITT-SPARKS INDUSTRIES, INC.
COLUMBUS, INDIANA

MODEL 520

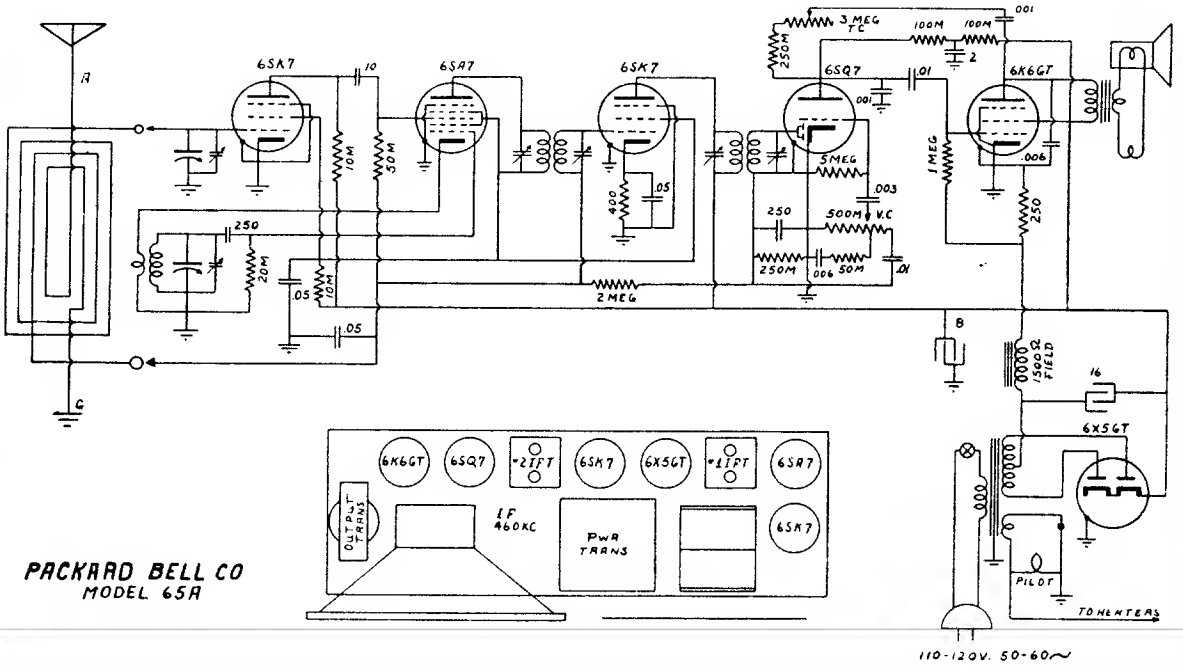
ARVIN CAR RADIO — CHASSIS RE-86



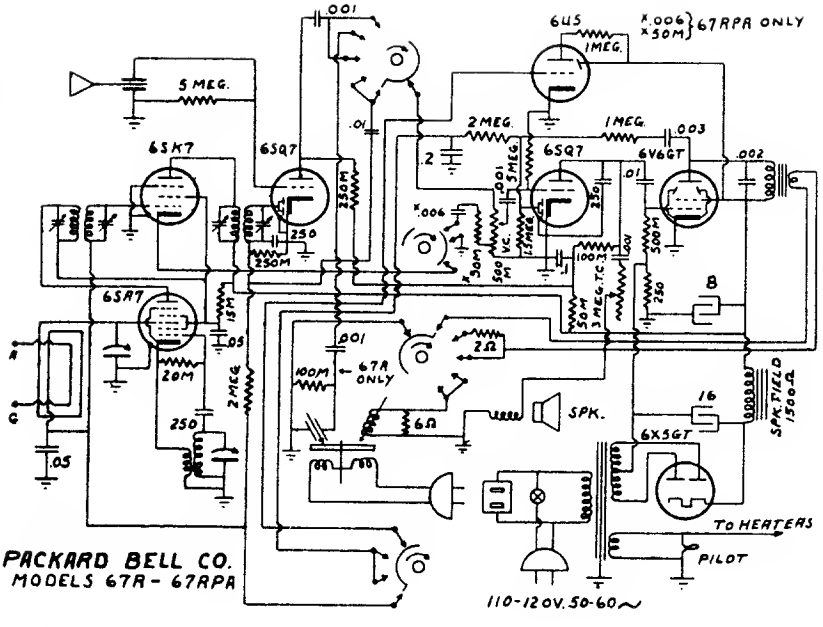
MODEL 720

RESISTORS				CONDENSERS				CHOKES & TRANSFORMERS			MISCELLANEOUS UNITS		
R	OHMS	W	PART NO	C	CAPACITY	VOLT	PART NO	T-X	TYPE	PART NO	SYMBOL	DESCRIPTION	PART NO
5	500 K	1/4	17-2070	1	TWO-GANG		17-16254	1	ANTENNA COIL	00-16219	F	FUSE - 20 AMPS.	17-2228
9	1 M	1/4	17-2080	2	VARIABLE			2	OSCILLATOR	00-17000	L	DIAL LIGHT BULB MAZDA NO. 51	17-13904
49	300 K	1/2	17-14536	183	.005	1200	17-14230	3	FIRST I.F. COIL	00-17007	P	SPEAKER PLUG	17-4780
170	800	1	17-14287	189	ADJ-MOUNTED	PAD	17-14268	4	SECOND I.F. COIL	00-17008	S	SPEAKER SOCKET	17-5834
171	1.5 M	1/4	17-14288	191	.01	400	17-14272	5	POWER TRANSFORMER	00-16285	SPK	SPEAKER ASSEMBLY	17-16517
172	100	1/4	17-14289	192	.00025	600	17-14273	8	OUTPUT TRANSFORMER	00-16288	SW	POWER SWITCH	—
174	20 K	1/4	17-14291	193	.05	200	17-14274				TL	TRANSMISSION LINE	00-16589
177	8.50	1/4	17-14298	195	.03	400	17-14275				SP	SPEAKER PLATE	
213	10 K	1/4	17-14369	219	.003	200	17-14312	X	CHOKES		VIB	VIBRATOR	17-14747
207	500	1/4	17-14351	205	.2	200	17-16242	2	SUPPRESSION CHOKE	29-0459			
				208A	10 MFD.	300		3	TRAP CHOKE	00-16982			
				208B	10 MFD.	300	17-14297	4	TRAP CHOKE	00-16982			
				208C	20 MFD.	15							
				230	.0005	400	17-14328						
				238	.004	600	17-14381						
				201	.1	150	17-14285						
				239	4-40 MMFD	PAD	17-14383						
				197	.0001	600	17-14278						
				198	.005	400	17-14279						

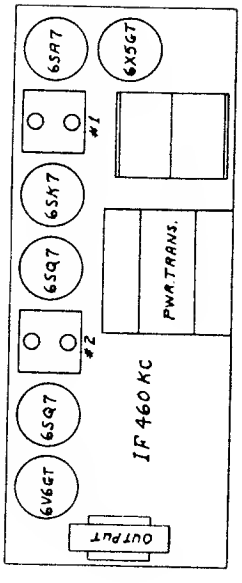
I.F. PEAK 455 K.C.
FREQUENCY RANGE 1575 TO 540 K.C.
NOBLITT-SPARKS INDUSTRIES, INC.
COLUMBUS, INDIANA

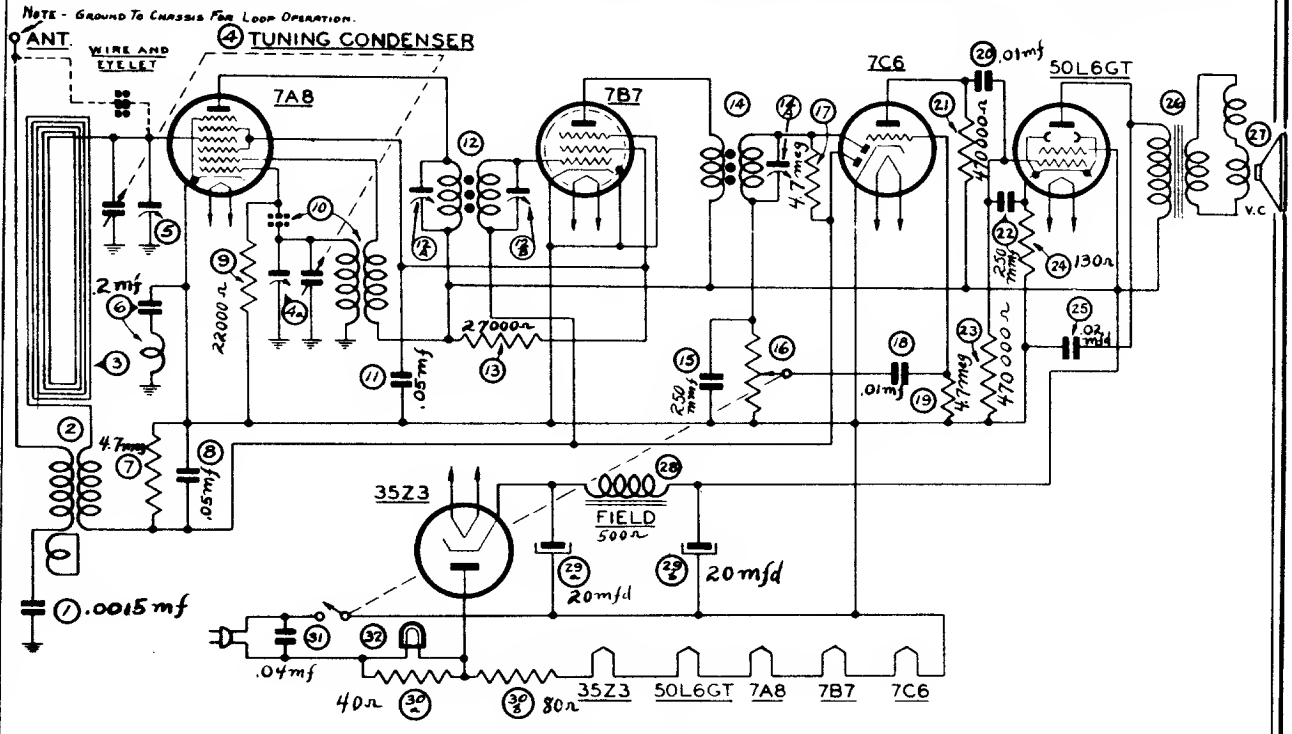


PACKARD BELL CO
MODEL 65A

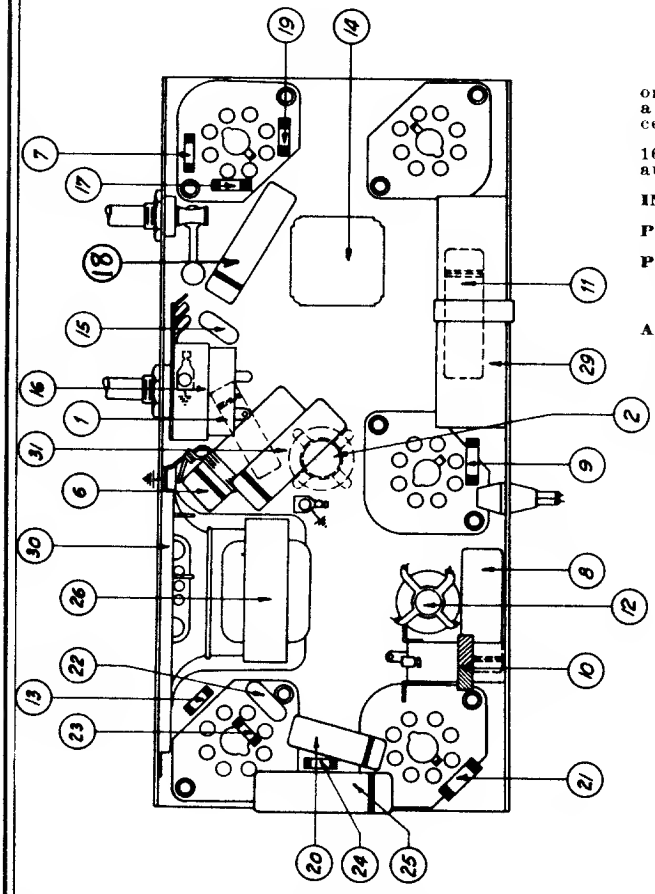


PACKARD BELL CO.
MODELS 67A - 67APA





SCHEMATIC DIAGRAM — PT-42, PT-44



Models PT-30, PT-42, PT-44, PT-49

Models PT-30, PT-42, PT-44, and PT-49 are five (5) tube A. C. or D. C. operated Super-heterodyne compact radios employing a built-in loop aerial. These Models are similar with the exception of the cabinets, chassis and speaker size.

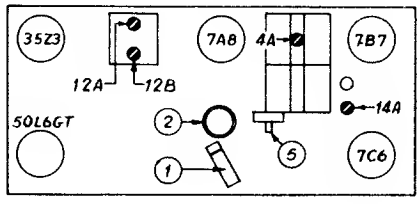
In addition each Model includes a tuning band from 540 to 1600 K. C., Automatic Volume Control; beam power pentode audio output stage and Philco Loktal tubes.

INTERMEDIATE FREQUENCY: 455 K. C.

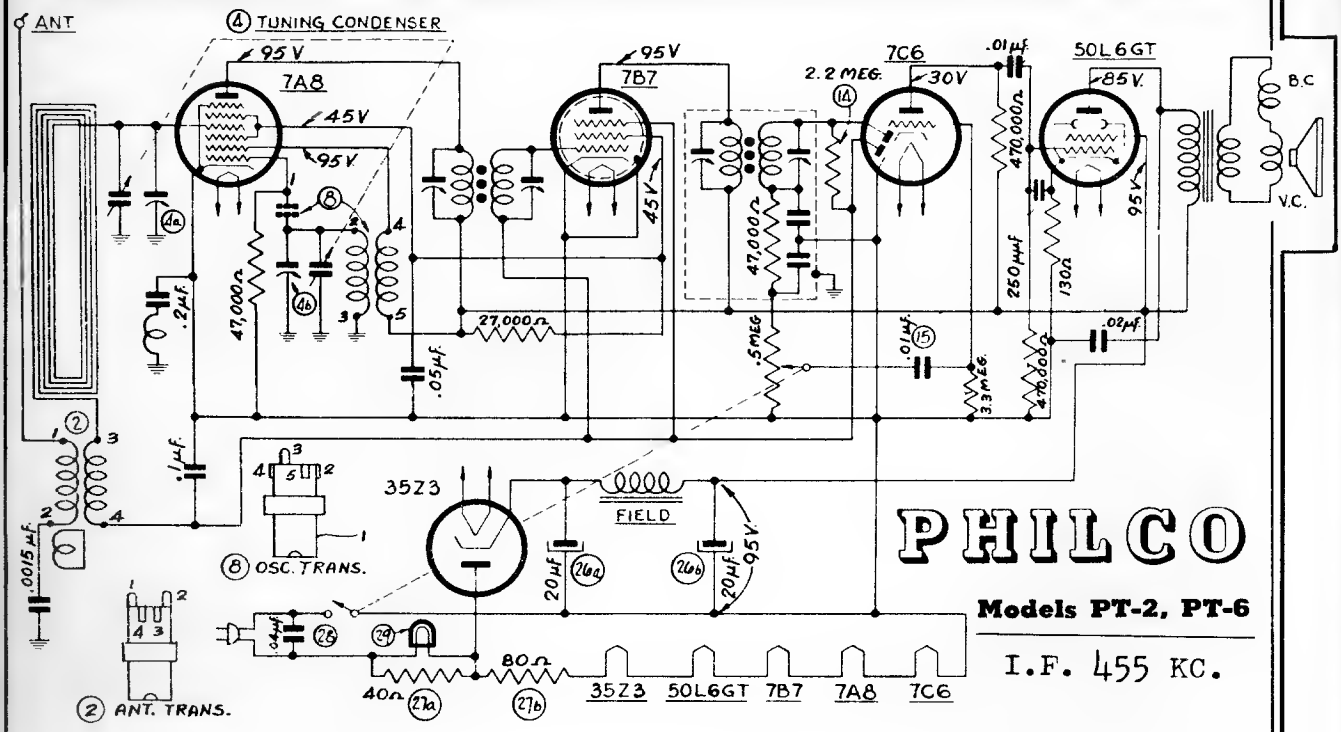
POWER SUPPLY: 115 Volts, A. C. or D. C.

PHILCO TUBES: 7A8, converter; 7B7, I. F. Amplifier; 7C6, 2nd detector, A. V. C., 1st audio; 50L6GT, beam power audio output and a 35Z3, rectifier.

AERIAL AND GROUND: Under ordinary operating conditions an outside aerial or ground is not required. In some locations, however, such as steel reinforced buildings and other shielded areas, an outside aerial should be used for maximum performance. For this purpose an outside aerial connection is located on the rear lower left corner of the chassis. Simply remove the lug from under the screw and attach the aerial lead to the lug.



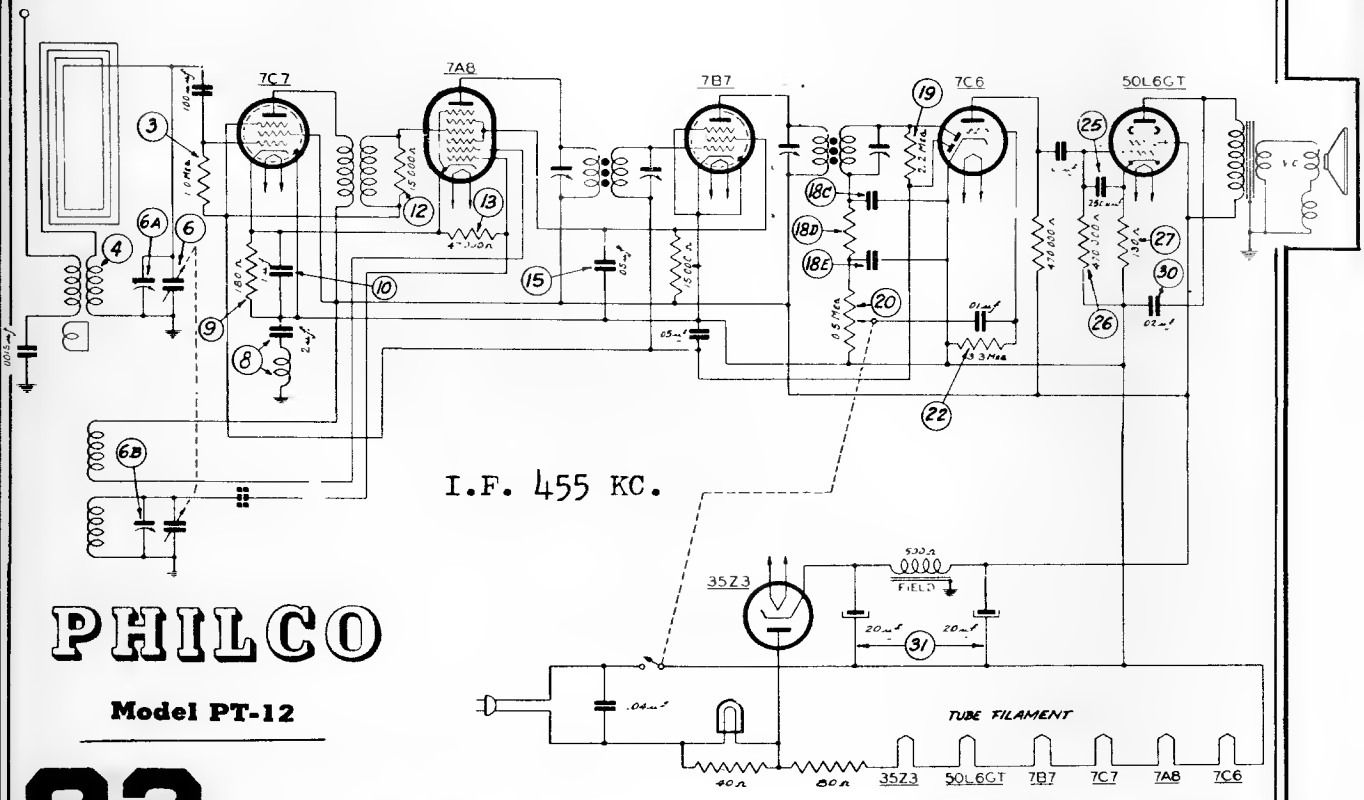
PHILCO



PHILCO

Models PT-2, PT-6

I.F. 455 KC.

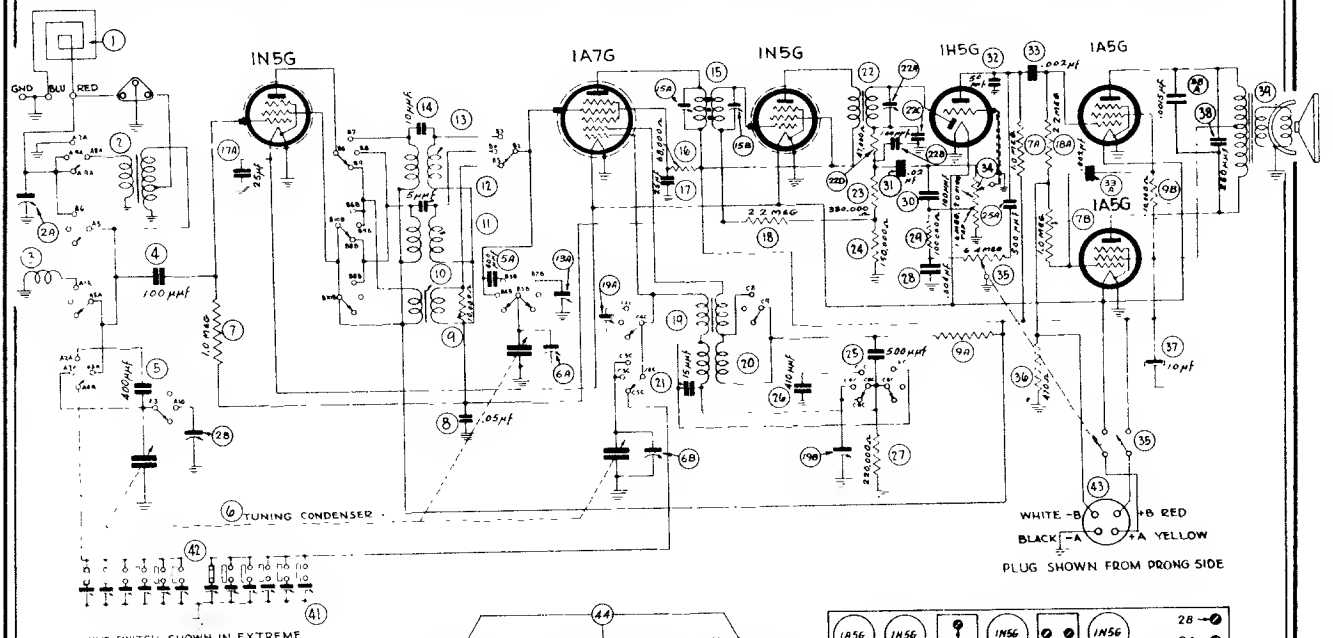


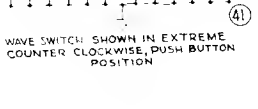
PHILCO

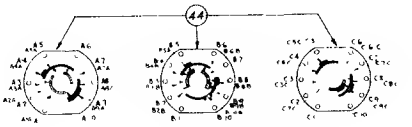
Model PT-12

92

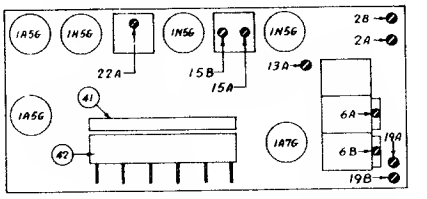
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS





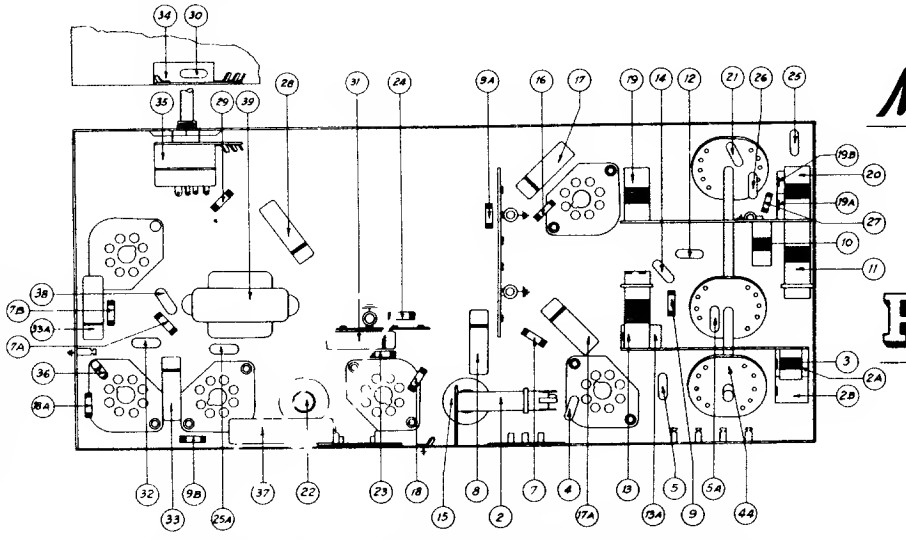


SWITCHES SHOWN FROM REAR OF CHASSIS BOTTOM VIEW IN POSITION NO. 1 (PUSH BUTTON) LETTERS INDICATE POSITION OF SWITCH WAFERS FROM REAR OF CHASSIS BOTTOM VIEW. SHADED RING IS AT FRONT OF SWITCH WAFER. SOLID RING IS AT REAR OF SWITCH WAFER.



I.F. = 455 KC.

Operations in Order	SIGNAL GENERATOR			RECEIVER		
	Output Connections	Dummy Aerial	Dial Setting	Dial Setting	Control Settings	Adjust Compensators
1	1A7G (Grid)	.1 mmfd.	455 K. C.	540 K. C.	Vol. Max. Range Switch Brdcst.	15A, 15B 22A
2	Aerial Connection Receiver	225 mmfd.	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Brdcst.	Osc., R. F., aerial 6B, 6A, 2B
3	Aerial Connection Receiver	225 mmfd.	580 K. C.	580 K. C.	Vol. Max. Range Switch Brdcst.	19B
4	Aerial Connection Receiver	Recheck Operation No. 2				
5	Aerial Connection Receiver	400 Ohms	12 M. C.	12 M. C.	Range Switch S. W.	Osc., R. F., Ant. 19A, 13A, 2A

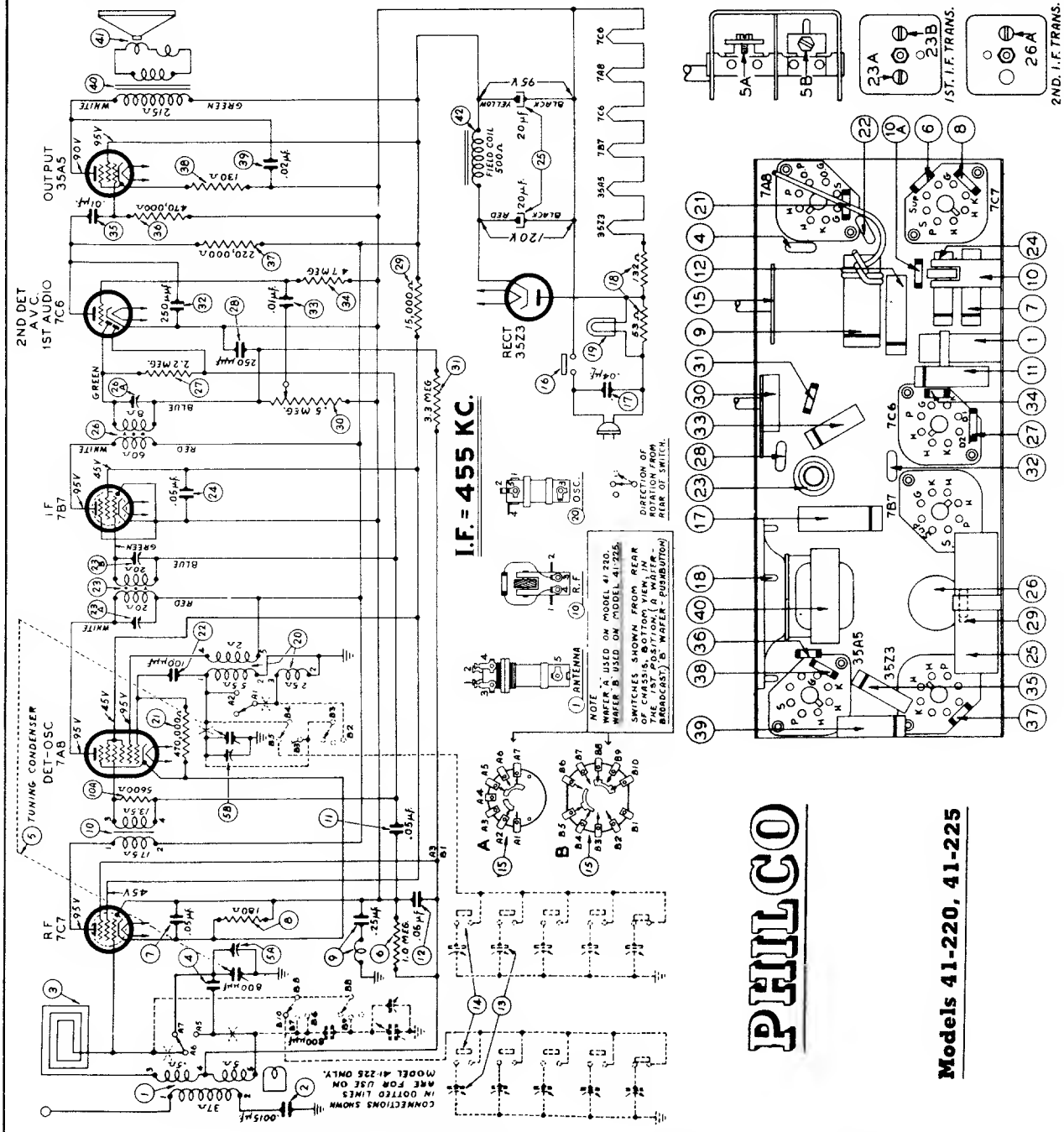


PART LOCATIONS, UNDERSIDE OF CHASSIS

Model 41-110

PHILCO

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order
1	Ant. Section of Tuning Cond.	455 K. C.	540 K. C. Tuning Cond. Closed	Vol. Max. Range Switch "Brdcst"	26A, 23B, 23A
2	Loop—See above Instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch "Brdcst"	5B Tuning Condenser
3	Loop—See above Instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcst"	5A Tuning Condenser

Philco Radio, Models 41-221, 41-226

CONNECTING ALIGNING INSTRUMENTS

Audio Output Meter: If this type of aligning meter is used, connect it to the voice coil terminals of the speaker or from the plate of the 35A5 tube to the chassis. Adjust the meter for the 0 to 10 volt scale.

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator, make the following connections: Attach the negative (—) terminal of the voltmeter to any point in the circuit where the A. V. C. voltage can be obtained. Connect the positive (+) terminal of the vacuum tube voltmeter to the chassis.

Signal Generator: When adjusting the I. F. padders, the high side of the signal generator is connected through a .1 mfd. condenser to the antenna section of the tuning condenser. Connect the ground or low side of the generator to the chassis.

When aligning the R. F. padders a loop is made from a few turns of wire and connected to the signal generator output terminals; the signal generator is then placed close to the loop of the radio.

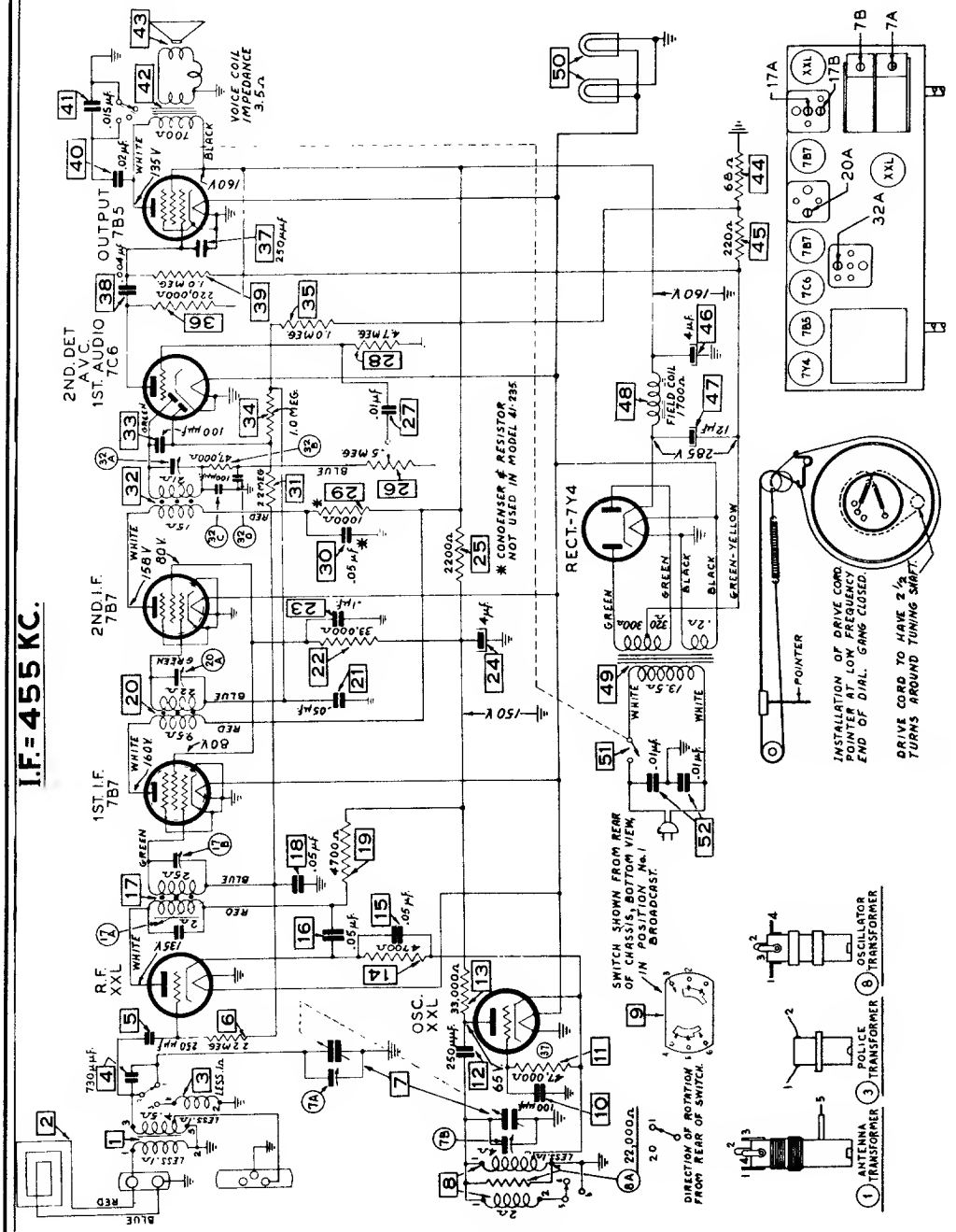
The receiver can be adjusted in the cabinet or removed from the cabinet.

When adjusting the radio outside the cabinet the loop aerial should be placed in approximately the same position around or near the chassis as when assembled.

After connecting the aligning instruments adjust the compensators as shown in the tabulation below. Locations of the compensators are shown in the schematic diagram.

If the indicating meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

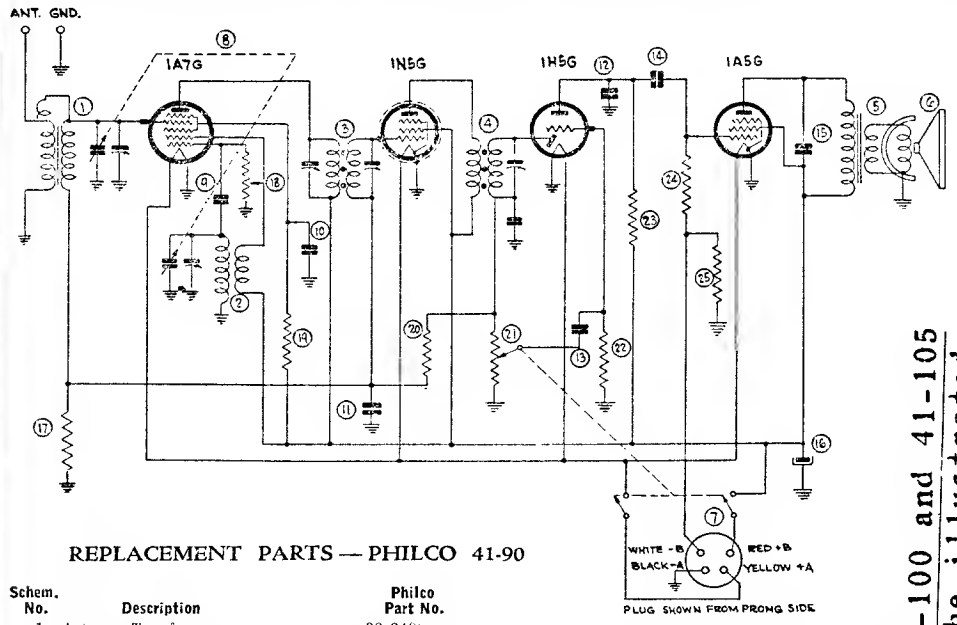
Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order
1	Ant. Section of tuning	455 K. C.	540 K. C. Tuning Cond. Closed	Vol Max. Range Switch Brdcst.	37A, 31A, 31B, 25A, 25B
2	Loop see above instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch Brdcst.	15
3	Loop see above instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Brdcst.	6
4	Loop see above instructions	12 M. C.	12 M. C.	Range Switch "S. W."	15A, 8



PHILCO Philadelphia, Pa.

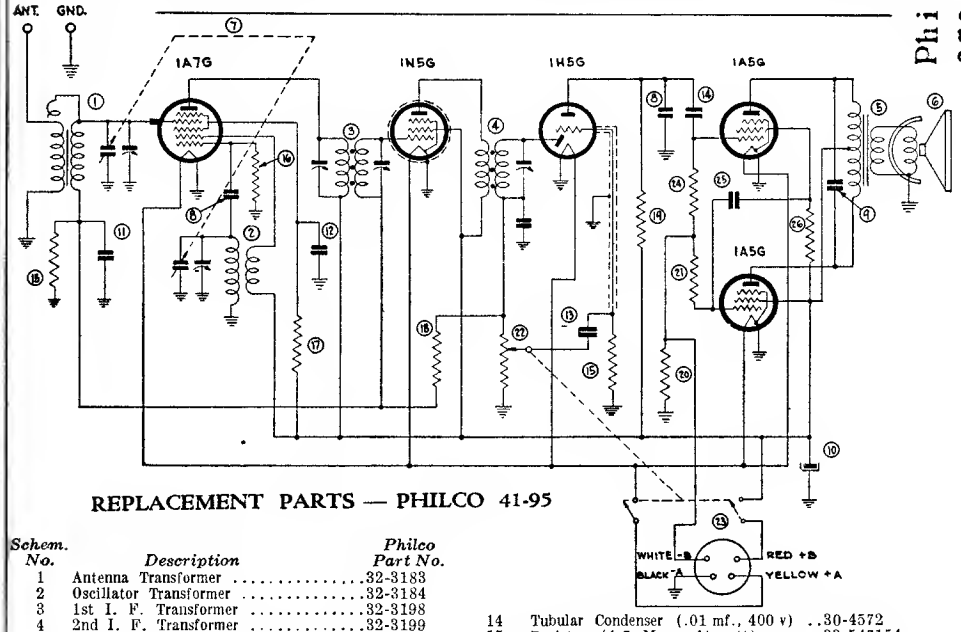
Models 41-230; 41-235, Code 121

Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order
1	Ant. Section of Tuning Cond.	455 K. C.	540 K. C. Tuning Cond. Closed	Vol. Max. Range Switch "Brdcst"	32A, 20A 17B, 17A
2	Loop—See above Instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch "Brdcst"	7B
3	Loop—See above Instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcst"	7A



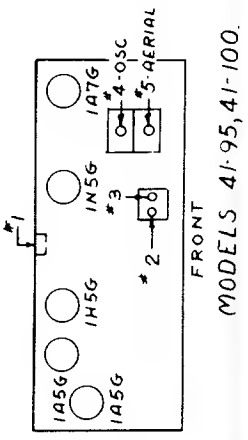
REPLACEMENT PARTS — PHILCO 41-90

Schem. No.	Description	Philco Part No.
1	Antenna Transformer	32-3490
2	Oscillator Transformer	32-3491
3	First I.F. Transformer	32-3492
4	Second I.F. Transformer	32-3199
5	Output Transformer	32-8100
6	Speaker	36-1507
7	Battery Cable	41-3505
8	Tuning Condenser	31-2485
9	Moulded Mica Condenser (100 mmf.)	60-110157
10	Tubular Condenser (.05 mf. 200 V)	30-4519
11	Tubular Condenser (.05 mf. 200 V)	30-4519
12	Moulded Mica Condenser (100 mmf.)	60-110157
13	Tubular Condenser (.004 mf. 400 V)	30-4578
14	Tubular Condenser (.01 mf. 400 V)	30-4572
15	Moulded Mica Condenser (500 mmf.)	60-150157
16	Electrolytic Condenser (10 mf. 150 V)	30-2396
17	Resistor (4.7 meg. ¼ watt)	33-547154
18	Resistor (220,000 ohms ¼ watt)	33-422154
19	Resistor (68,000 ohms ¼ watt)	33-368154
20	Resistor (10 meg. ¼ watt)	33-610154
21	Volume Control and "On-Off" Switch	33-5407
22	Resistor (4.7 meg. ¼ watt)	33-547154
23	Resistor (1.0 meg. ¼ watt)	33-510154
24	Resistor (2.2 meg. ¼ watt)	33-522154
25	Resistor (1000 ohms ½ watt)	33-210336



REPLACEMENT PARTS — PHILCO 41-95

Schem. No.	*Description*	*Philco Part No.*
1	Antenna Transformer	32-3183
2	Oscillator Transformer	32-3184
3	1st I. F. Transformer	32-3198
4	2nd I. F. Transformer	32-3199
5	Output Transformer	32-8107
6	5″ Speaker for Compact	36-1507
6A	8″ Speaker for Console	36-1477
7	Tuning Condenser	31-2457
8	Moulded Mica Condenser (100 mmf.)	60-110157
9	Moulded Mica Condenser (250 mmf.)	60-125157
10	Electrolytic Condenser (10 mf., 150 v)	30-2396
11	Tubular Condenser (.05 mf., 200 v)	30-4519
12	Tubular Condenser (.05 mf., 200 v)	30-4444
13	Tubular Condenser (.004 mf., 400 v)	30-4578
14	Tubular Condenser (.01 mf., 400 v)	30-4572
15	Resistor (4.7 Meg., ¼ watt)	33-547154
16	Resistor (220,000 ohms, ¼ watt)	33-422154
17	Resistor (68,000 ohms, ¼ watt)	33-368154
18	Resistor (10 Meg., ¼ watt)	33-610154
19	Resistor (1 Meg., ¼ watt)	33-510154
20	Resistor (680 ohms, ½ watt)	33-168326
21	Resistor (2.2 Meg., ¼ watt)	33-522154
24	Resistor (2.2 Meg., ¼ watt)	33-522154
25	Tubular Condenser (.01 mf., 400 v)	30-4572
26	Resistor (10,000 ohms, ¼ watt)	33-310154

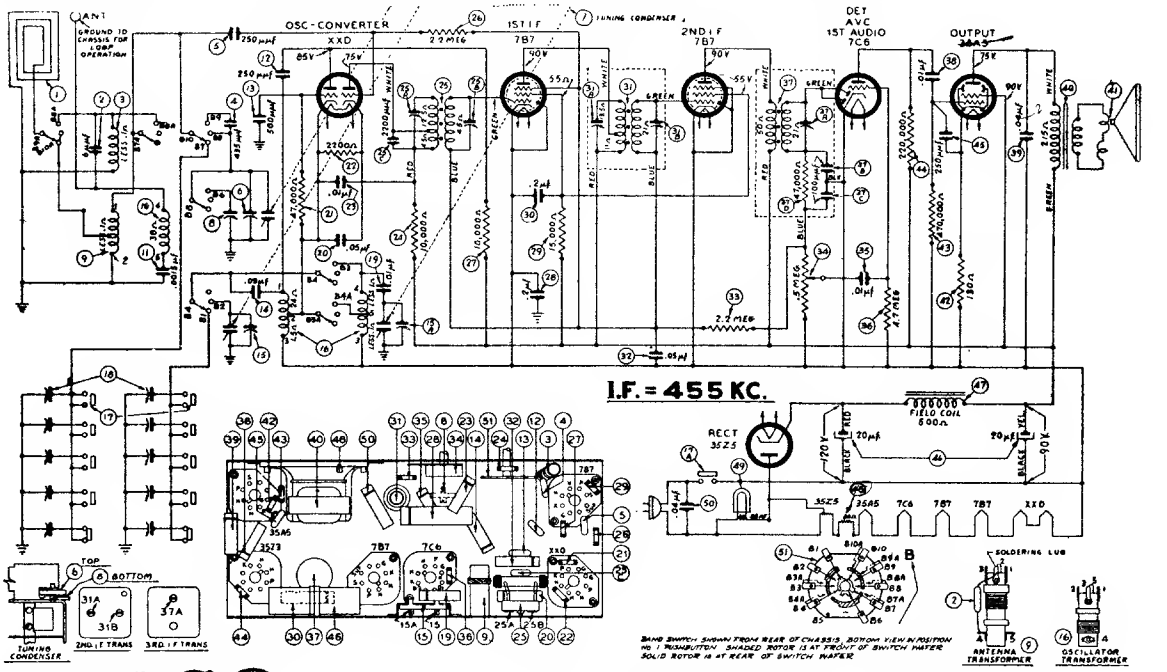


MODELS 41-95, 41-100

Philco Models 41-100 and 41-105 are similar to the illustrated circuits.

Models 41-90, 41-95, 41-100

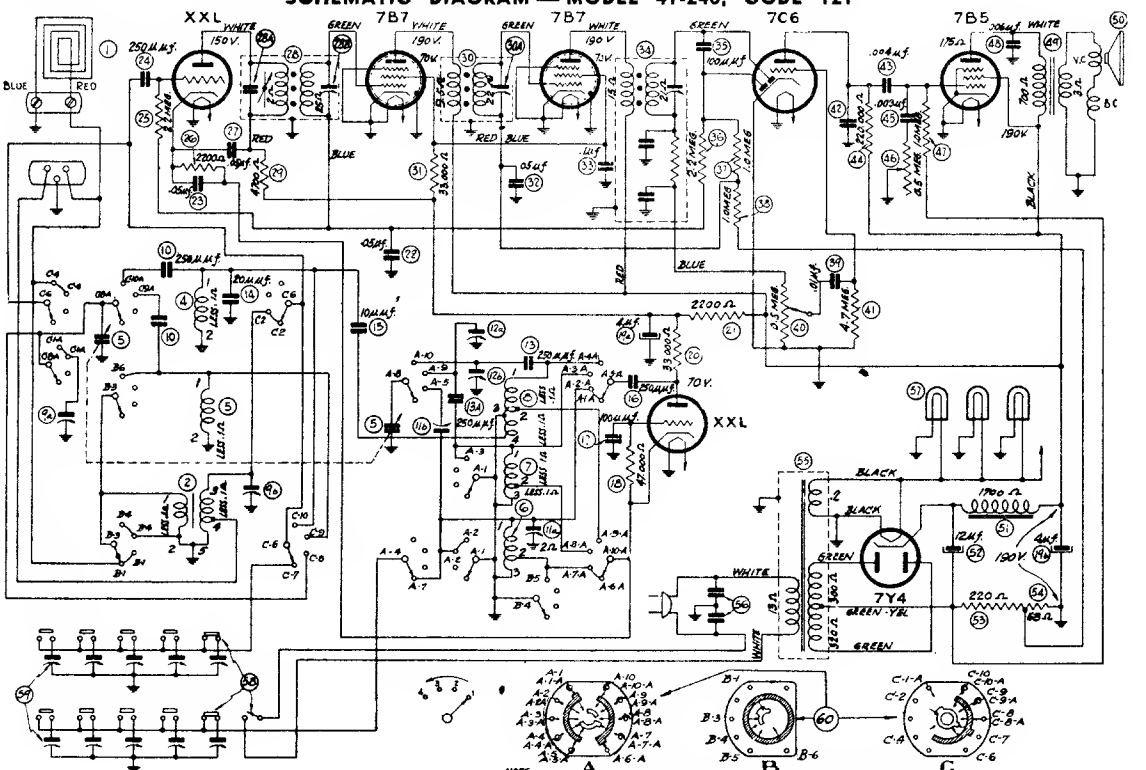
Operations in Order	SIGNAL GENERATOR Output Connections	SIGNAL GENERATOR Dummy Antenna Note A	SIGNAL GENERATOR Dial Setting	RECEIVER Dial Setting	RECEIVER Controls	RECEIVER Adjust Compensators
1	1A7G (Grid)	.1 mfd.	455 K. C.	540 K. C.	Vol. Max.	1, 2, 3
2	Aerial Connection	225 mmfd.	1500 K. C.	1500 K. C.	Vol. Max.	4 Osc., 5 aerial



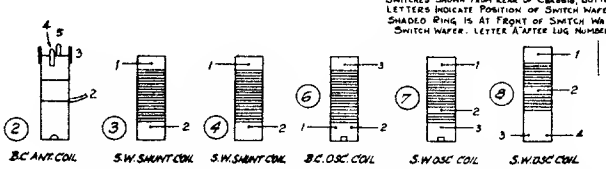
PHILCO

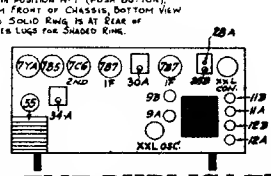
Models 41-231, Code 121

SCHEMATIC DIAGRAM — MODEL 41-246, CODE 121



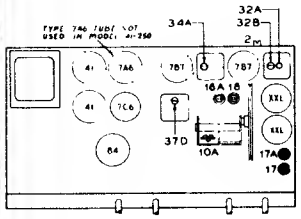
NOTE — Switches Shown From Rear of Chassis, Bottom View, in Position No. 1 (Push Button). Letters Indicate Position of Switch Wafers From Front of Chassis, Bottom View. Shaded Ring is at Front of Switch Wafer, and Solid Ring is at Rear of Switch Wafer. Letter A after Lug Number Indicates Lugs for Shaded Ring.

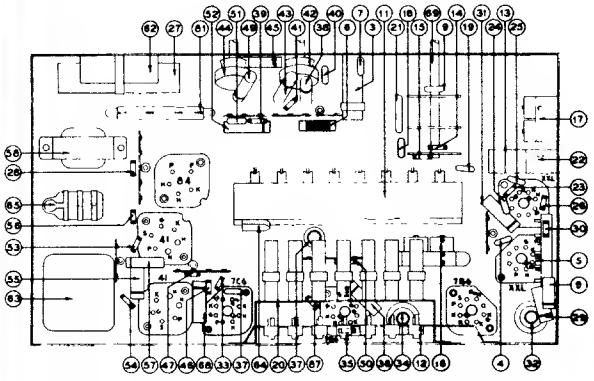




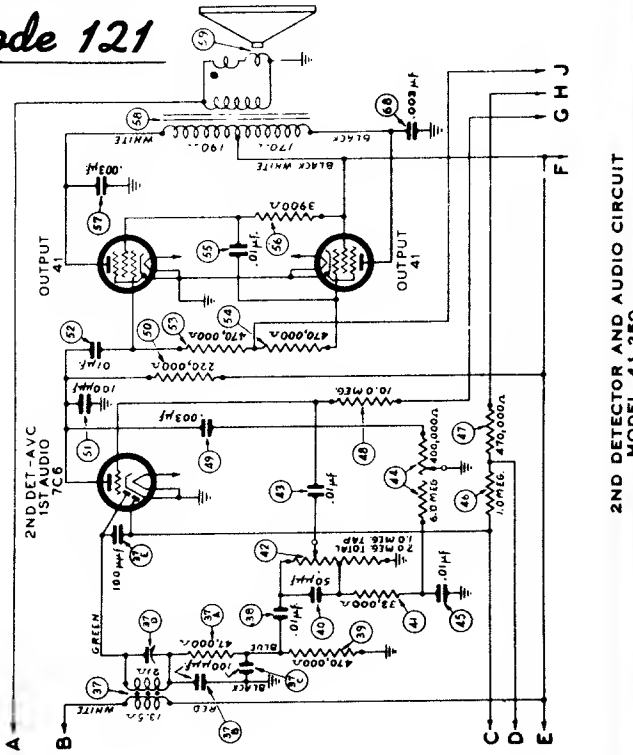
Models 41-250, 41-255; Code 121

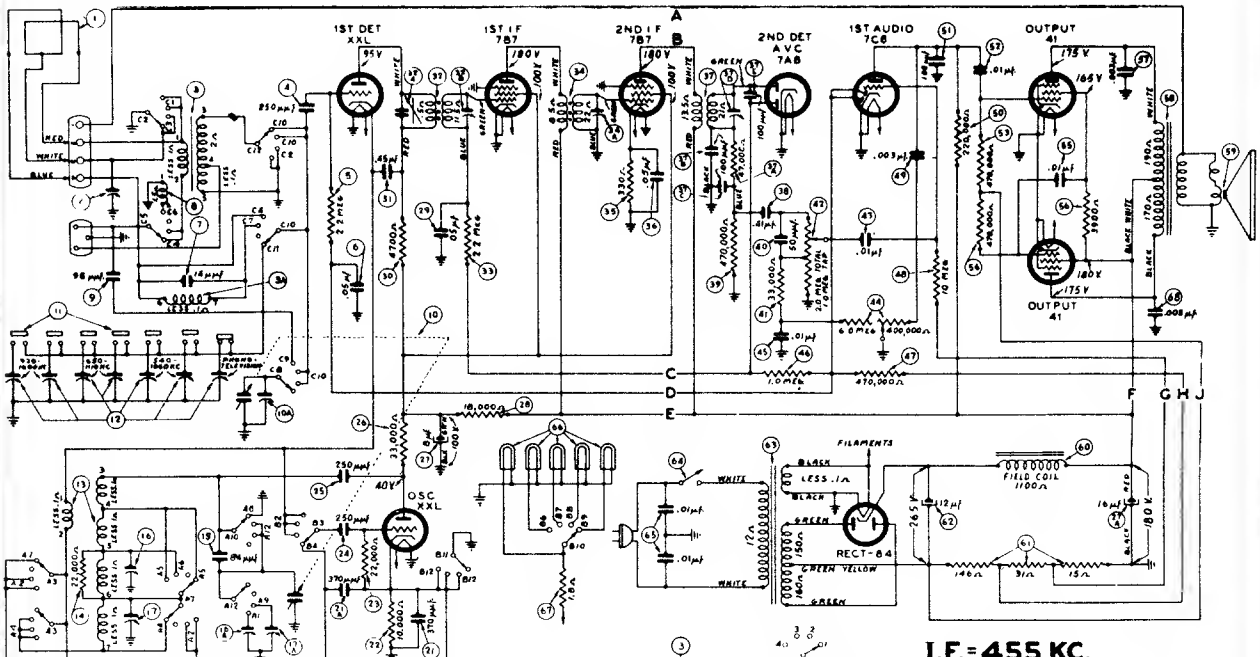
PHILCO



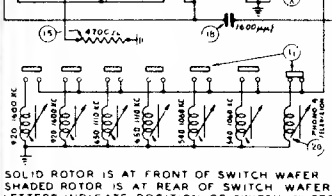


LOCATIONS OF PARTS AND TUBES
UNDERSIDE OF CHASSIS — MODEL 41-250

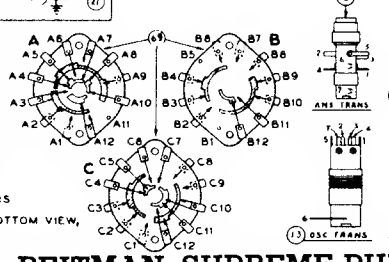




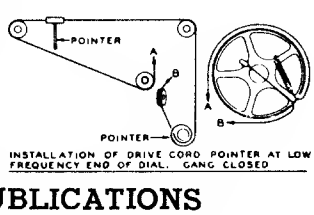
I.F. = 455 KC.



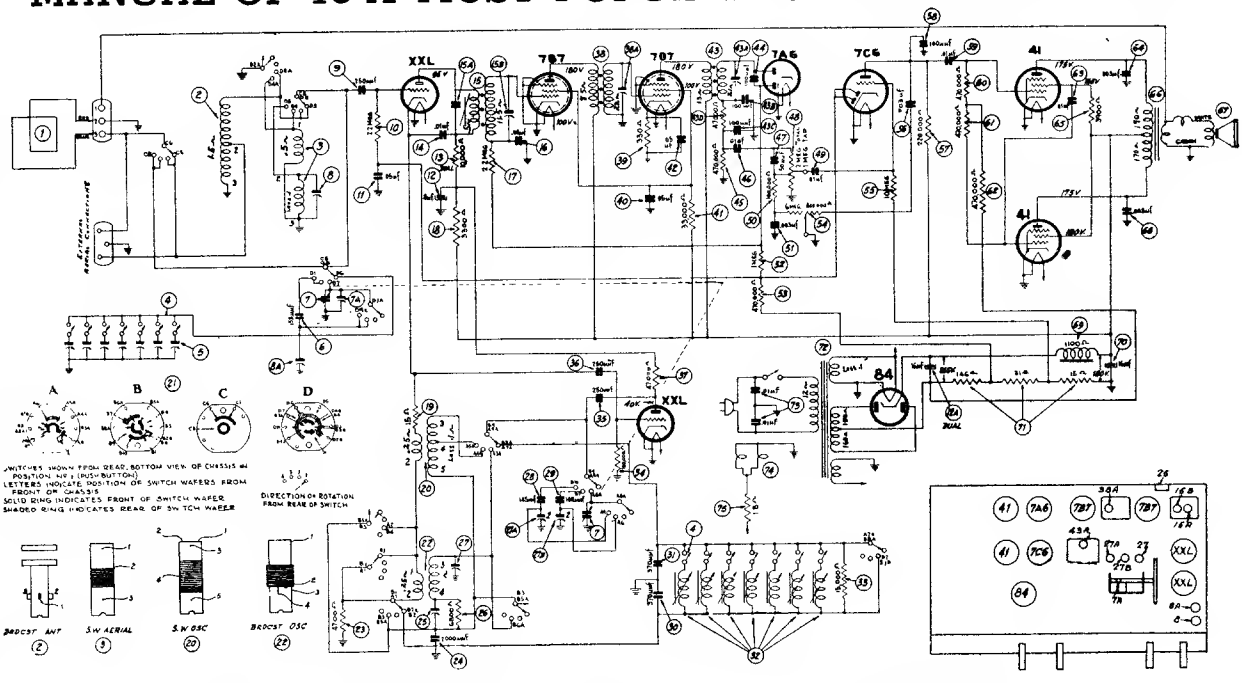
SOLID ROTOR IS AT FRONT OF SWITCH WAFER
SHADED ROTOR IS AT REAR OF SWITCH WAFER
LETTERS INDICATE POSITION OF SWITCH WAFERS FROM REAR OF CHASSIS
SWITCHES SHOWN FROM REAR OF CHASSIS, BOTTOM VIEW, IN POSITION No1, PUSHBUTTON



DIRECTION OF ROTATION FROM REAR OF WAVE SWITCH



INSTALLATION OF DRIVE CORD POINTER AT LOW FREQUENCY END OF DIAL. GANG CLOSED



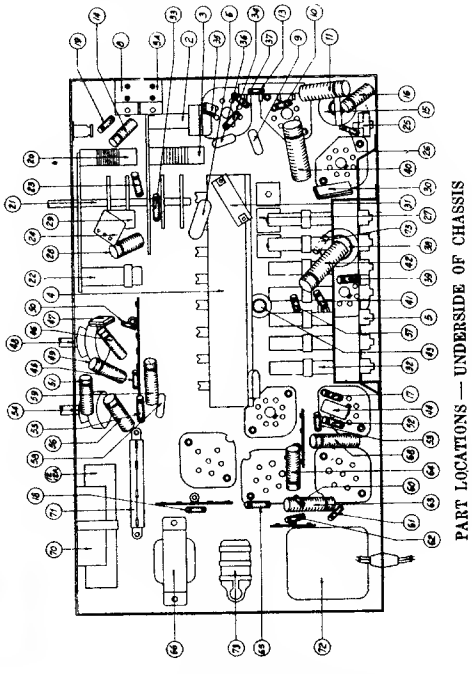
Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Settings	Adjust Compensators In Order
1	High side to No. 3 terminal loop panel	455 K. C.	580 K. C.	Vol. Max. Range Switch "S. W." Positions	15A, 15B 38A, 43A
2	Use loop on generator	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Broadcast	27, 7A
3	Use loop on generator	580 K. C.	580 K. C.	Vol. Max. Range Switch Broadcast	25
4	Use loop on generator	Perform operation No. 2 again			
5	Use loop on generator	12 M. C.	12 M. C.	Range Switch "SW-1"	27B, 8A
6	Use loop on generator	18 M. C.	18 M. C.	Range Switch "SW-2"	27A, 8

ELECTRIC PUSH-BUTTON TUNING: The automatic tuning mechanism of each model is identical and consists of eight (8) electric tuning push-buttons, seven (7) of the push-buttons are used for selecting broadcast stations, and one as the power control (On-Off switch).

When aligning the R. F. padders a loop is made from a few turns of wire and connected to the signal generator output terminals; the loop is then placed two or three feet from the loop in the cabinet. Do not remove the receiving loop from the cabinet. It is necessary when adjusting the padders, that the receiver be left in the cabinet.

After connecting the aligning indicator, adjust the compensators in the order shown in the tabulation below. Locations of the compensators are shown on the schematic diagram. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

NOTE A—DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the extreme left index line at the low frequency end of the broadcast scale. The arrangement of the drive cable in this position is shown in the schematic.



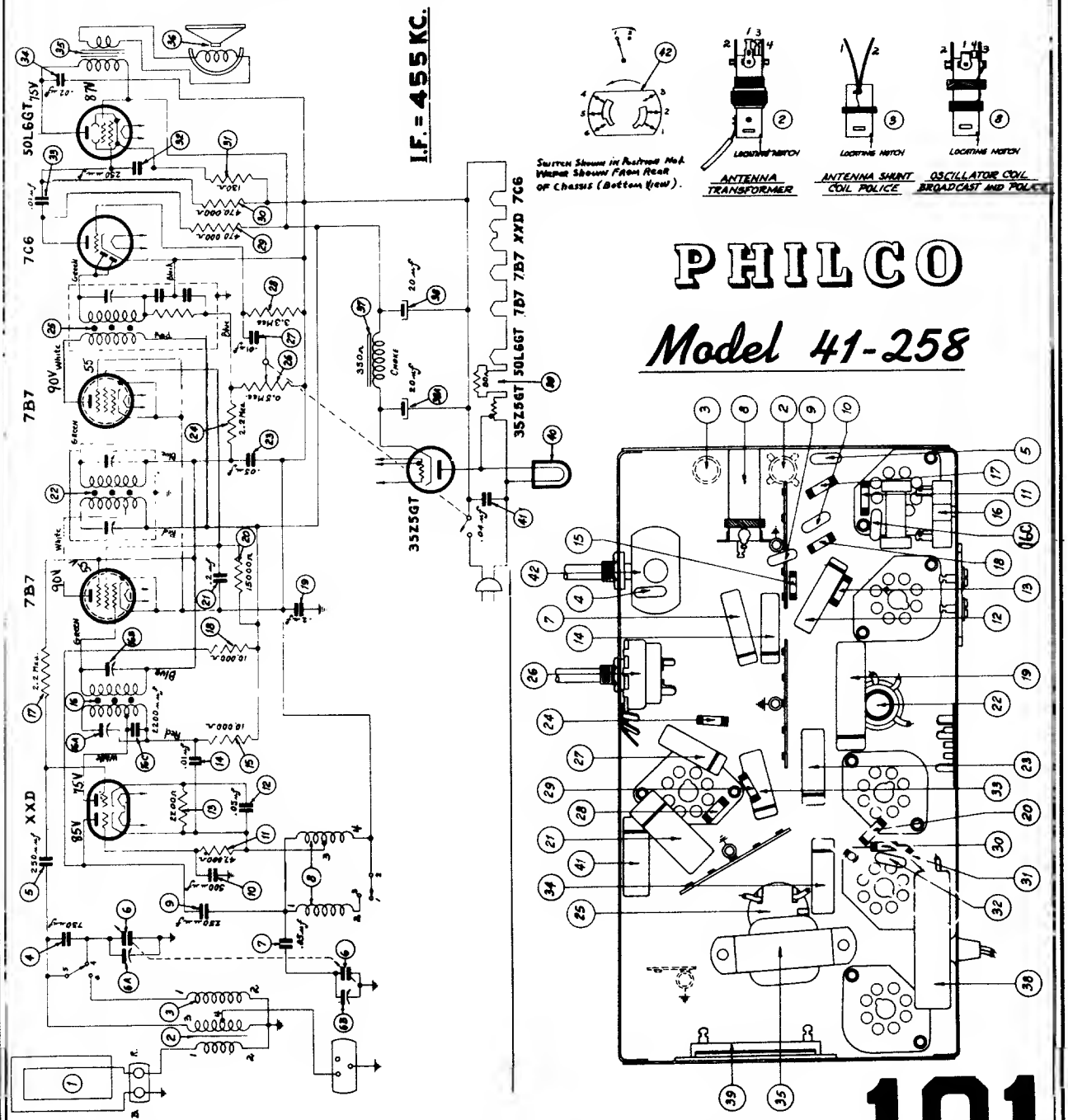
PART LOCATIONS — UNDERSIDE OF CHASSIS

Model 41-256, Code 121

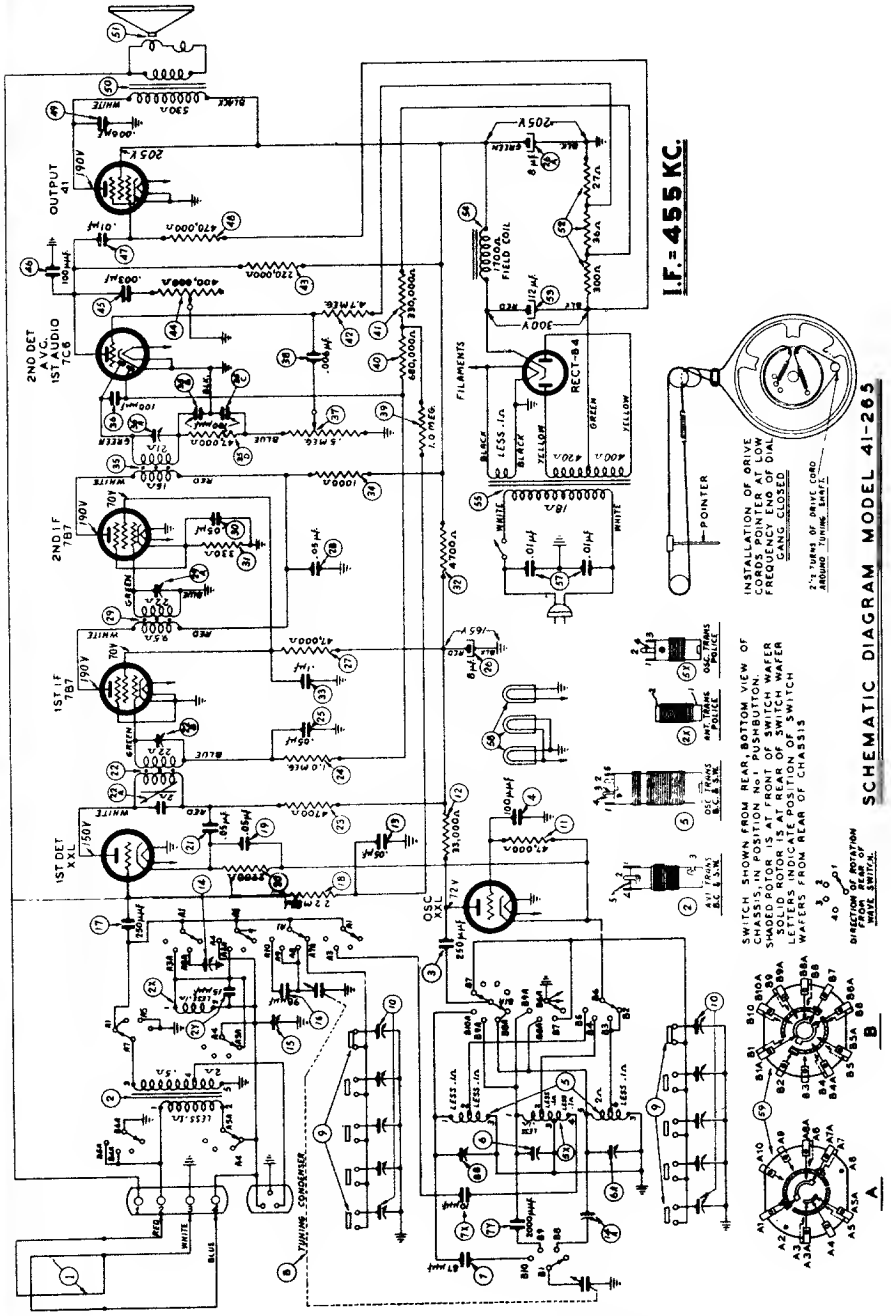
100

PHILCO

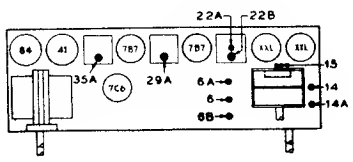
Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in order
1	Ant. Section of Tuning Cond.	455 K. C.	540 K. C. Tuning Cond. Closed	Vol Max. Range Switch Brdcst.	16A, 16B, 22A, 22B, 25A
2	Loop see above instructions	1600 K. C.	1600 K. C.	Vol Max. Range Switch Brdcst.	6B Tuning Condenser
3	Loop see above instructions	1500 K. C.	1500 K. C.	Vol Max. Range Switch Brdcst.	6A Tuning Condenser



PHILCO *Models 41-260; 41-265*

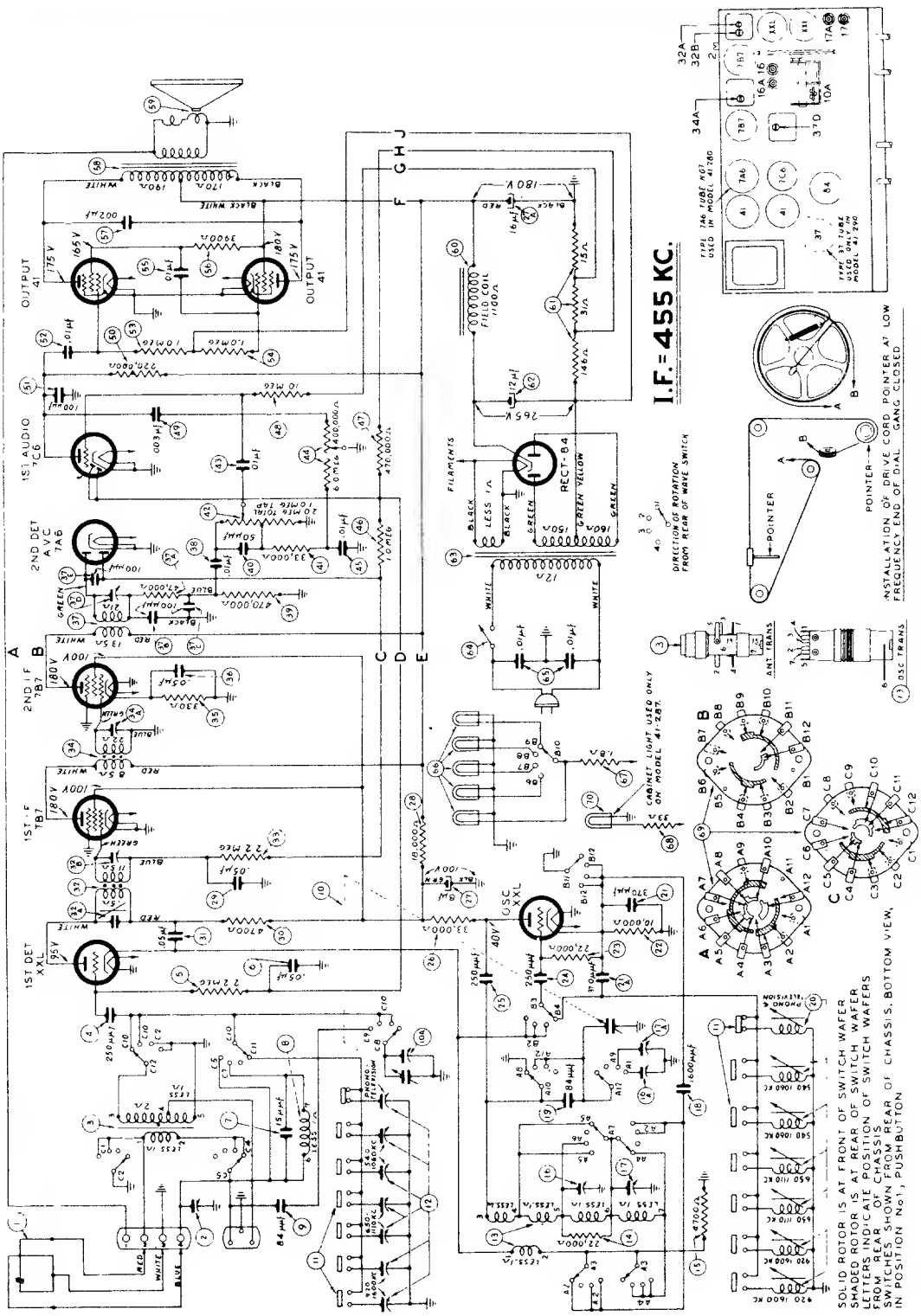


	Ant. Section of Tuning Cond.	455 K. C.	Tuning Cond. Closed	Vol. Max. Range Switch "Brdcst"	35A, 29A, 22A, 22B
2	Loop to Radio Loop See Sig. Gen. Above	1720 K. C.	1720 K. C.	Vol. Max. Range Switch "Brdcst"	6A
3	Loop to Radio Loop See Sig. Gen. Above	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcst"	14
4	Loop to Radio Loop See Sig. Gen. Above	580 K. C.	580 K. C.	Vol. Max. Range Switch "Brdcst"	14A
5	Loop to Radin Loop See Sig. Gen. Above	6 M. C.	6 M. C.	Range Switch Police	6
6	Lnop to Radio Loop See Sig. Gen. Abnve	12 M. C.	12 M. C.	Range Switch S. W.	6B, 15



Models 41-260 and 41-265 are seven (7) tube alternating current (A. C.) operated superheterodyne radios incorporating electric push button in addition to manual tuning — and the new Philco built-in American and overseas loop aerial system. These models are also designed to receive the sound of a television program tuned in by special type Philco Television Radios.

In general, these models are similar with the exception of the tuning ranges and cabinet design. Model 41-260 has two (2) tuning ranges covering 540 to 1720 K. C. and 9.0 to 12.0 M. C. Model 41-265 consists of three (3) tuning ranges covering 540 to 1720 K. C., 2.0 to 7.0 M. C. and 9.0 to 12 M. C.



SCHEMATIC DIAGRAM — MODELS 41-280, 41-285, 41-287, 41-290

The above diagram is the complete electrical circuit for the Models 41-285, 41-287. The same general circuit is also used in Models 41-280 and 41-290, with the exception of the 2nd detector, 1st audio A. V. C. wiring, Model 41-280 and the audio circuit, Model 41-290.

Operations in Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in order	
1	High side to No. 4 terminal loop panel.	455 K. C.	580 K. C.	Vol. Max., Range Switch "S. W." Positions	32A, 32B 34A, 37D	
2	Use loop on generator	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Broadcast	16, 10	Note A
3	Use loop on generator	580 K. C.	580 K. C.	Vol. Max. Range Switch Broadcast	17	Roll Tuning Condensers Note B
4	Use loop on generator	Perform operation No. 2 again				
5	Use loop on generator	6 M. C.	6 M. C.	Range Switch "Police"	16A	
6	Use loop on generator	12 M. C.	12 M. C.	Range Switch "S. W."	17A, 2	Note C

NOTE A — DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the extreme left index line at the low frequency end of the broadcast scale. The arrangement of the drive cable in this position is shown in the schematic.

NOTE B — When adjusting the low frequency compensator of Range One (Broadcast) or the aerial padders of the high frequency tuning range; the receiver Tuning Condenser must be adjusted (rolled) as follows: First tune the compensator for maximum output, then vary the tuning condenser of the receiver for maximum output. Now turn the compensator slightly to the right or left and again vary the receiver tuning condenser for maximum output. This procedure of first setting the compensator and then varying the tuning condenser is continued until maximum output reading is obtained.

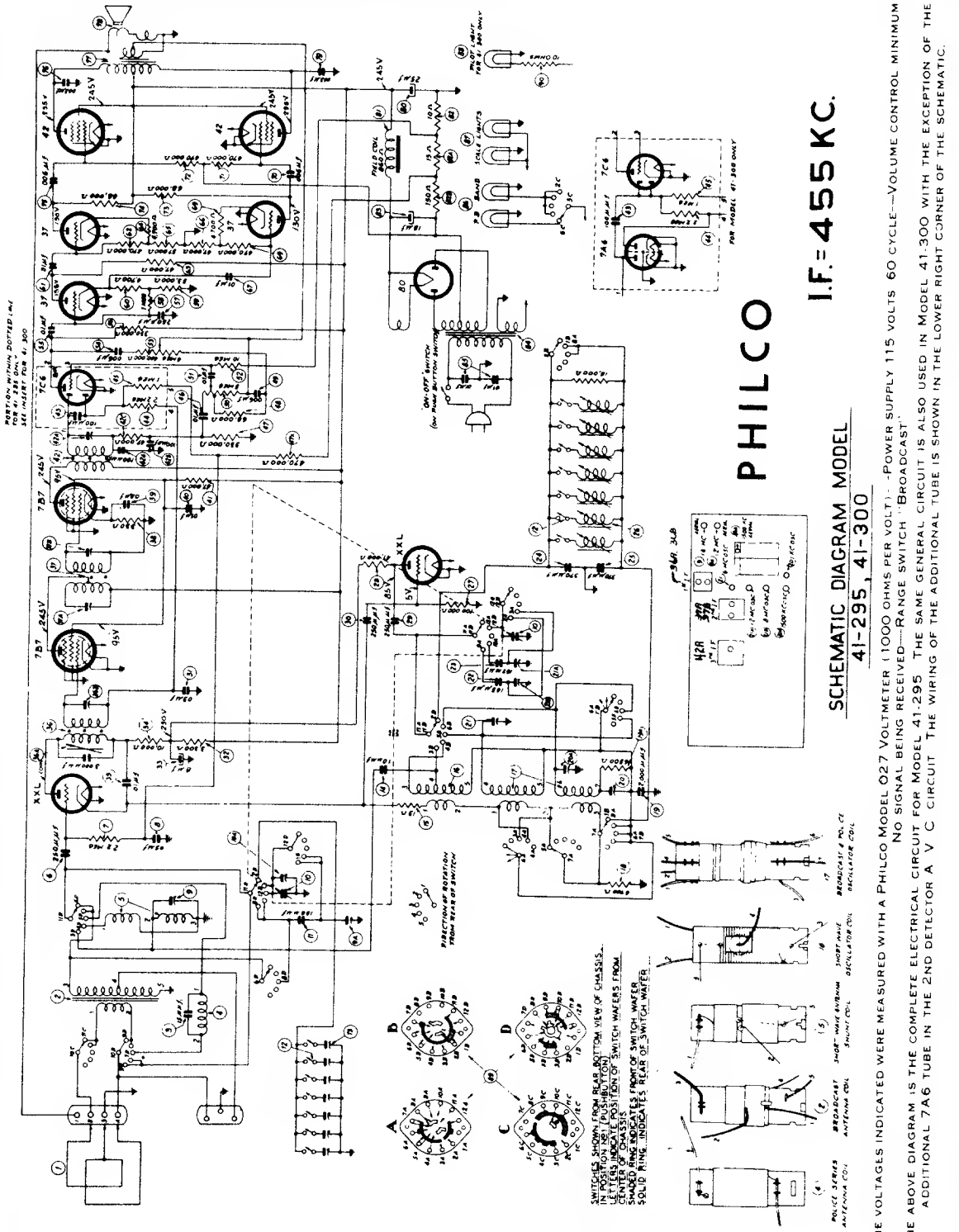
NOTE C — To accurately adjust the high frequency oscillator compensator to the fundamental instead of the image signal, turn the oscillator compensator (17A) to the maximum capacity position (clockwise). From this position slowly turn the compensator counter-clockwise until a first peak is obtained on the output meter. Adjust the compensator for maximum output at this first peak.

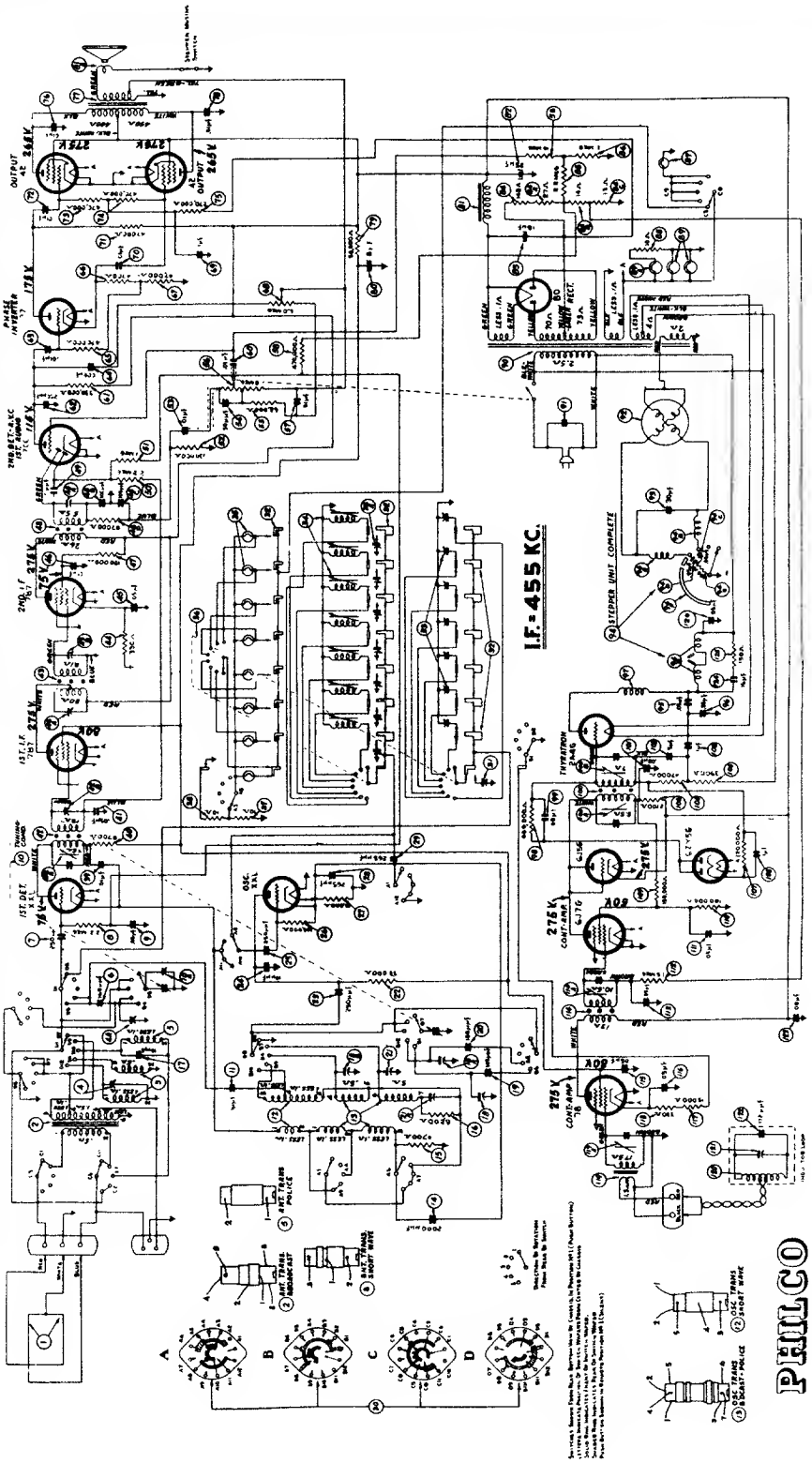
If the above procedure is correctly performed, the image signal will be found (much weaker) by turning the receiver dial 910 K. C. above the frequency being used on any high frequency range.

The aerial padder (2) must be adjusted to maximum by rolling the tuning condenser. If two signal peaks occur when turning the padder, adjust to maximum output on the second signal peak from the tight position (screw all the way down) of the padder.

Models 41-280, 41-285, 41-287, 41-290; Code 121

PHILCO


PHILCO
I.F. = 455 KC.
SCHEMATIC DIAGRAM MODEL
41-295, 41-300
THE VOLTAGES INDICATED WERE MEASURED WITH A PHILCO MODEL 027 VOLTMETER (1000 OHMS PER VOLT) - POWER SUPPLY 115 VOLTS 60 CYCLE—VOLUME CONTROL MINIMUM
NO SIGNAL BEING RECEIVED—RANGE SWITCH "BROADCAST"
THE ABOVE DIAGRAM IS THE COMPLETE ELECTRICAL CIRCUIT FOR MODEL 41-295. THE SAME GENERAL CIRCUIT IS ALSO USED IN MODEL 41-300 WITH THE EXCEPTION OF THE ADDITIONAL 7A6 TUBE IN THE 2ND DETECTOR A V C CIRCUIT. THE WIRING OF THE ADDITIONAL TUBE IS SHOWN IN THE LOWER RIGHT CORNER OF THE SCHEMATIC.



SCHEMATIC DIAGRAM — MODEL 41-316. CODE 121

THE VOLTAGES INDICATED AT THE TUBE ELEMENTS ABOVE WERE MEASURED WITH A 1000 OHMS PER VOLT VOLTMETER. PHILCO MODEL 027. LINE VOLTAGE 118 VOLTS, A. C. BAND SWITCH (BROADCAST). NO STATION BEING RECEIVED.

Operations in Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in Order	
1	High side to No. 3 terminal loop Panel.	455 K. C.	580 K. C.	Vol. Max. Range Switch "S. W." Position	48D, 43A, 43B, 42A, 42B	
2	Use Loop on Generator	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Broadcast	21, 10A	Note A
3	Use Loop on Generator	580 K. C.	580 K. C.	Vol. Max. Range Switch Broadcast	21A	Roll Tuning Con Note B
4	Use Loop on Generator	Repeat operation No. 2 again				
5	Use Loop on Generator	6 M. C.	6 M. C.	Range Switch "Police"	18B	Note C
6	Use Loop on Generator	12 M. C.	12 M. C.	Range Switch "S. W." 1	18A, 4A	Note D
7	Use Loop on Generator	18 M. C.	18 M. C.	Range Switch "S. W." 2	18, 4	Note E

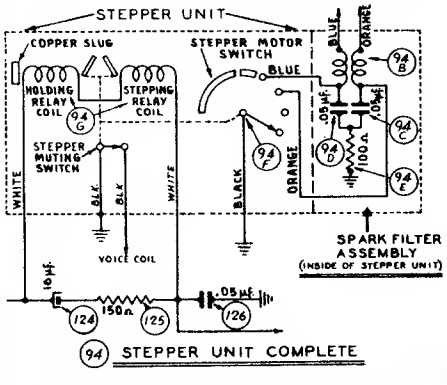
Note A — DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the extreme left index line at the low frequency end of the broadcast scale. The arrangement of the drive cable in this position is shown in Fig. 6.

NOTE B — When adjusting the compensator, the receiver Tuning Condenser must be adjusted (rolled) as follows: First tune the compensator for maximum output, then vary the tuning condenser of the receiver for maximum output. Now turn the compensator slightly to the right or left and again vary the receiver tuning condenser for maximum output. This procedure of first setting the compensator and then varying the tuning condenser is continued until maximum output reading is obtained.

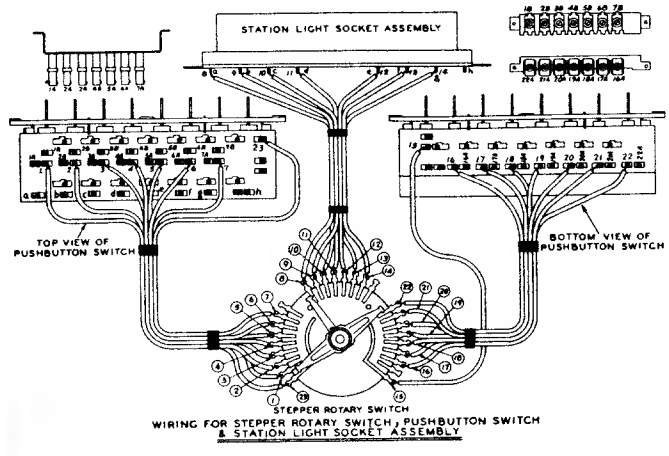
NOTE C — Adjust compensator (18B) to the SECOND signal peak from the tight (closed) position.

NOTE D — Adjust compensator (18A) to the FIRST signal peak from the tight (closed) position. If the compensator is correctly adjusted the image signal will be weakly heard by leaving the receiver dial at 12 M. C. and turn the signal generator to 11.090 M. C.

NOTE E — Adjust compensator (18) to the SECOND signal peak from the tight (closed) position. If the compensator is correctly adjusted the image signal will be weakly heard by leaving the receiver at 18 M. C. and turning the signal generator to 18.910 M. C. When adjusting compensator (4) roll the tuning condenser, See Note "B" on how to roll the condenser.

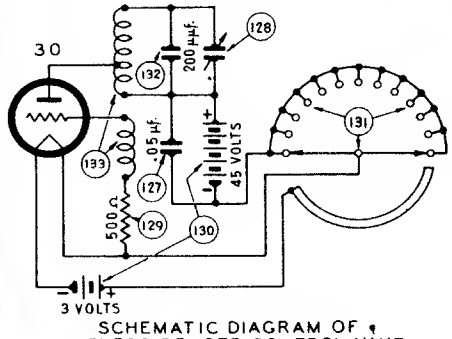


INTERNAL WIRING OF STEPPER UNIT
NUMBERS CORRESPOND TO SCHEMATIC



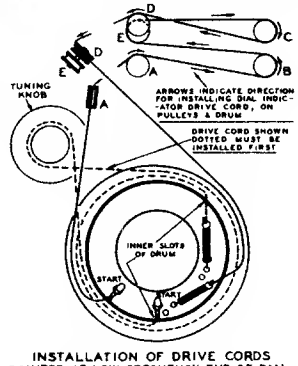
WIRING FOR STEPPER ROTARY SWITCH, PUSHBUTTON SWITCH & STATION LIGHT SOCKET ASSEMBLY

CABLE WIRING FROM STEPPER ROTARY SWITCH TO PUSH-BUTTON SWITCH AND STATION LIGHTS



SCHEMATIC DIAGRAM OF WIRELESS REMOTE CONTROL UNIT

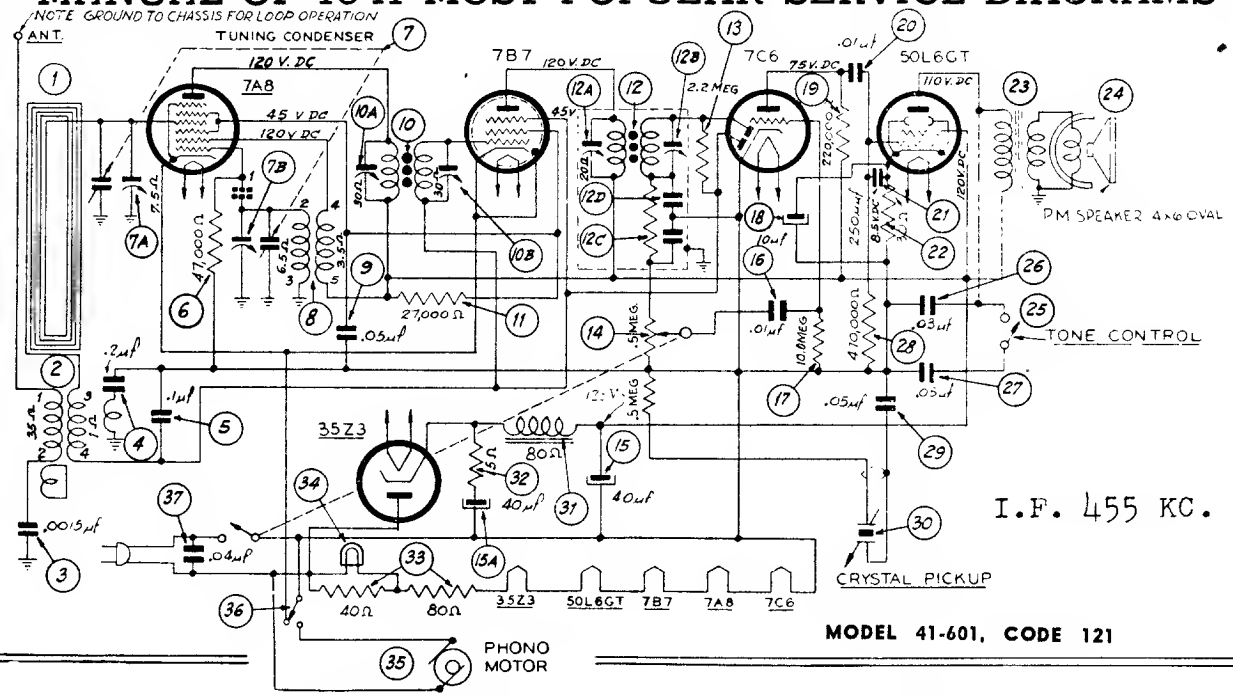
WIRELESS REMOTE CONTROL UNIT WIRING

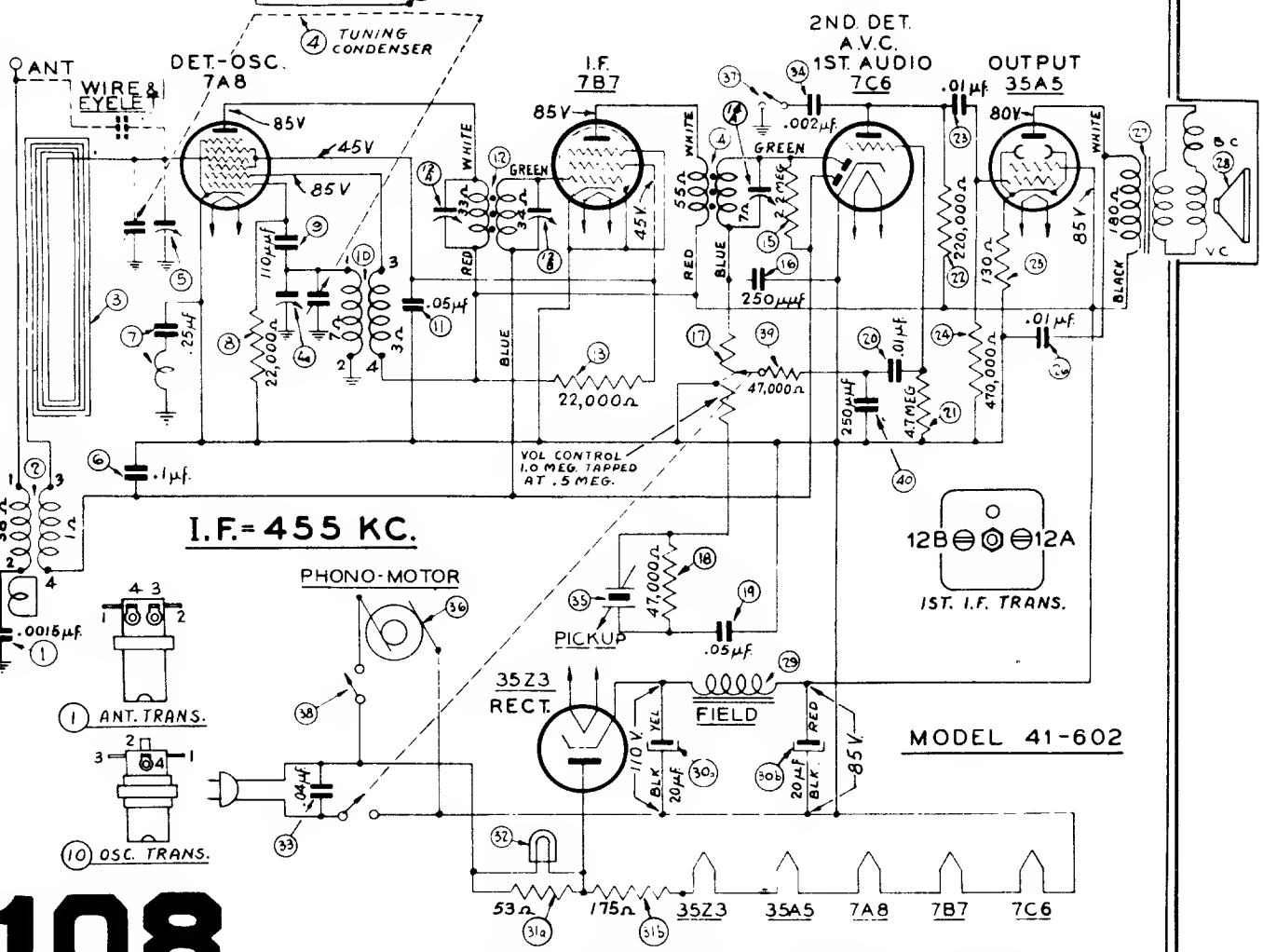


INSTALLATION OF DRIVE CORDS POINTER AT LOW FREQUENCY END OF DIAL GANG CLOSED.

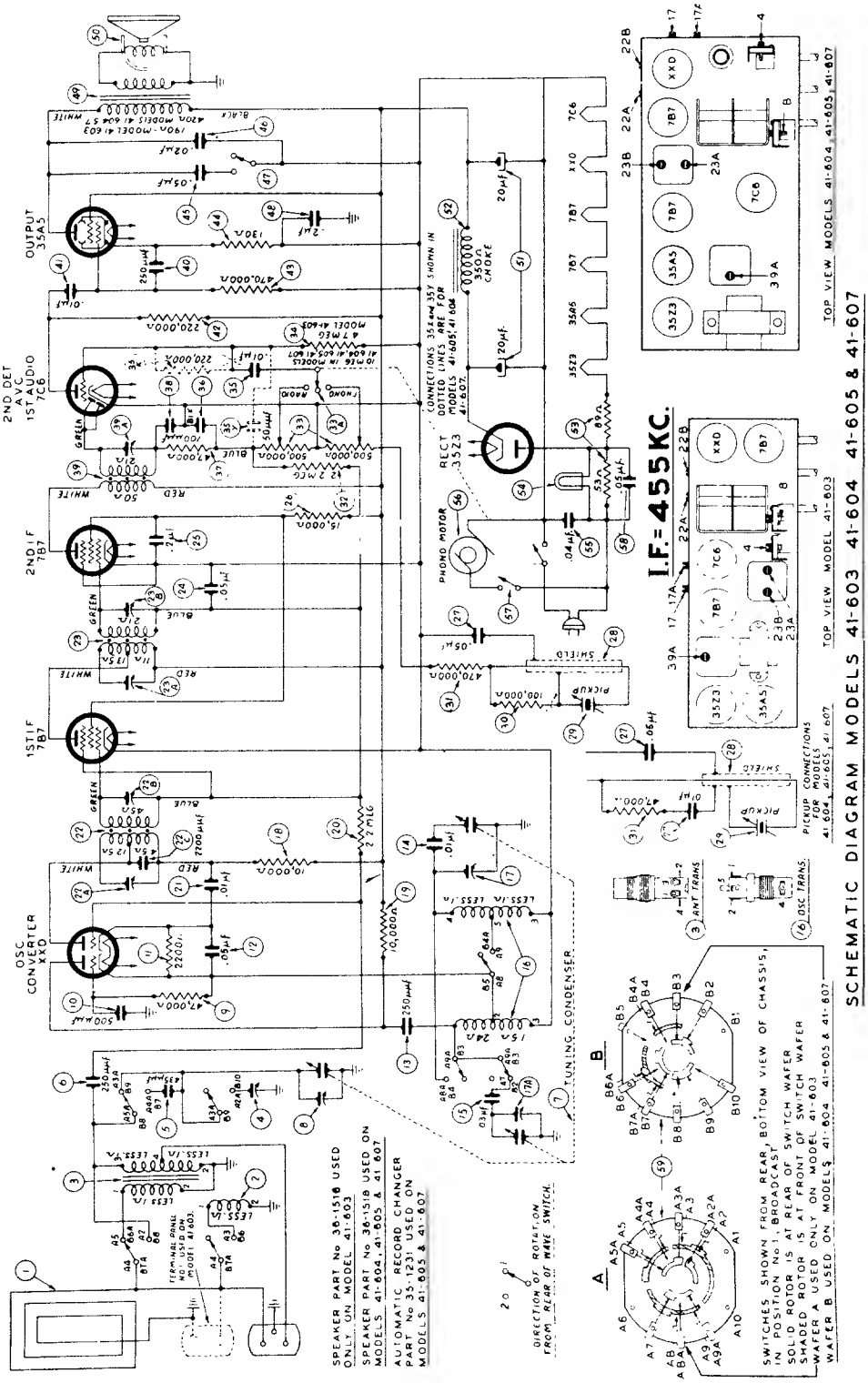
PHILCO

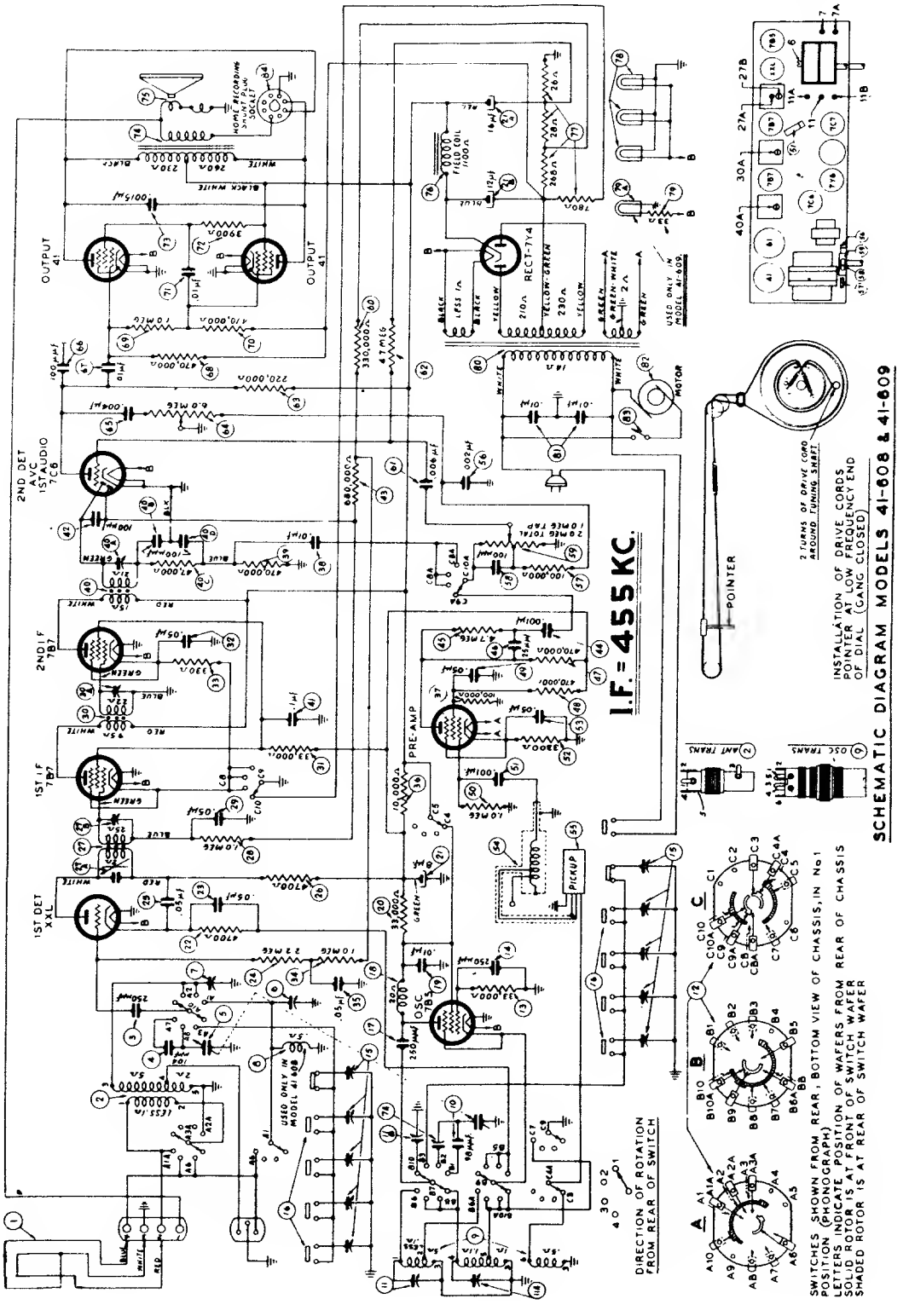
Model 41-316

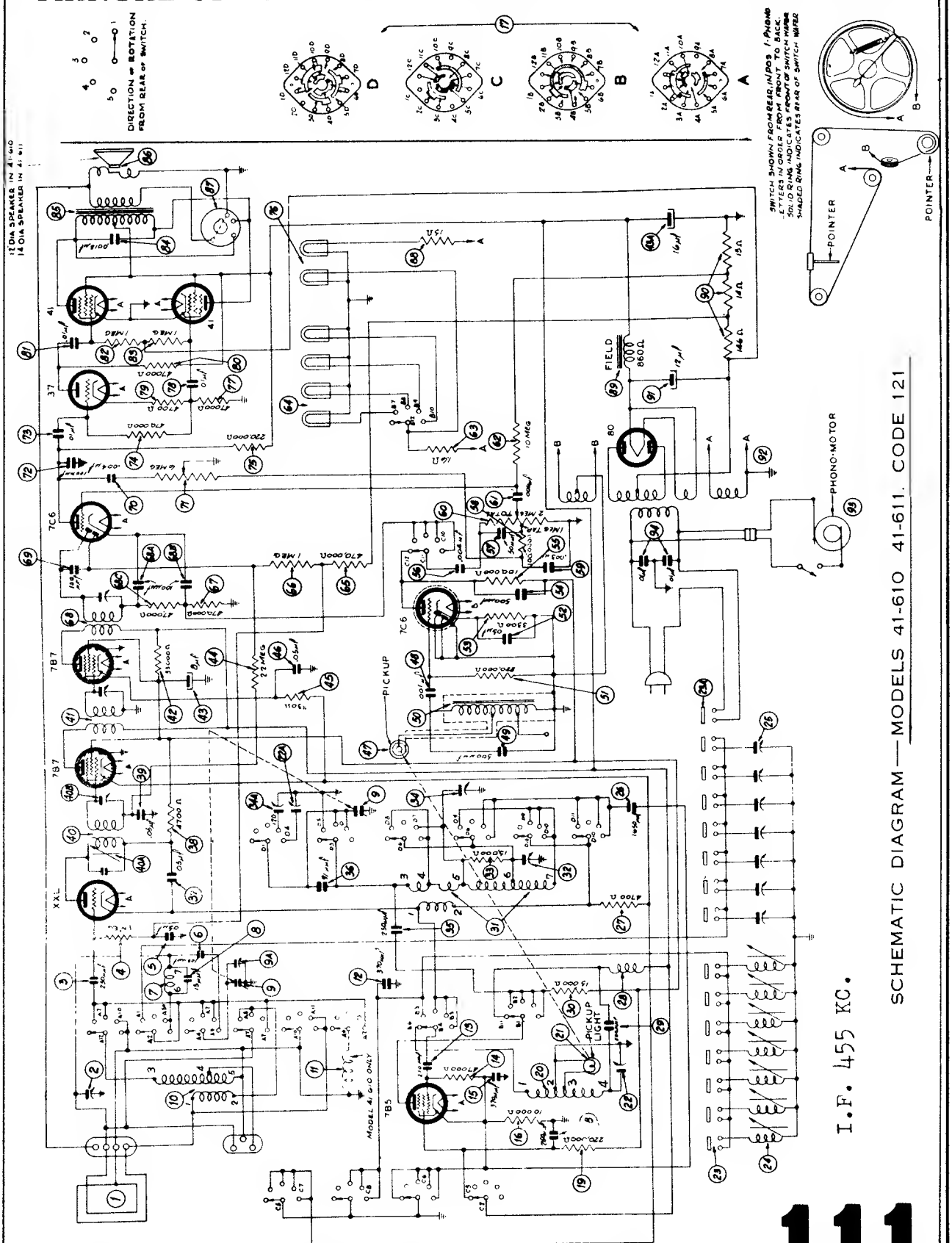




COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS


I.F. = 455 KC.
SCHEMATIC DIAGRAM MODELS 41-603 41-604 41-605 & 41-607
TOP VIEW MODELS 41-604, 41-605, 41-607
TOP VIEW MODEL 41-603
PICKUP CONNECTIONS FOR MODELS 41-604, 41-605, 41-607
SPEAKER PART No 38-1518 USED ONLY ON MODEL 41-603
SPEAKER PART No 36-1518 USED ON MODELS 41-604, 41-605 & 41-607
AUTOMATIC RECORD CHANGER PART No 35-1231 USED ON MODELS 41-605 & 41-607
DIRECTION OF ROTATION FROM REAR OF WAVE SWITCH
SWITCHES SHOWN FROM REAR, BOTTOM VIEW OF CHASSIS, IN POSITION No 1, BROADCAST
SOLID ROTOR IS AT REAR OF SWITCH WAFER
SHADED ROTOR IS AT FRONT OF SWITCH WAFER
WAFER A USED ONLY ON MODEL 41-603
WAFER B USED ON MODELS 41-604, 41-605 & 41-607
TUNING CONDENSER
OUTPUT 35A5
2ND DET AVC 1ST AUDIO 7C6
2ND I.F. 7B7
1ST I.F. 7B7
OSC CONVERTER XXO
RECT 3523
PHONO MOTOR
SHIELD
PICKUP
ANT TRANS.
OSC TRANS.


I.F. = 455 KC.
SCHEMATIC DIAGRAM MODELS 41-608 & 41-609
INSTALLATION OF DRIVE CORDS POINTER AT LOW FREQUENCY END OF DIAL (GANG CLOSED)
2 TURNS OF DRIVE CORD AROUND TUNING SHAFT
POINTER
OUTPUT 41
2ND DET AVC 1ST AUDIO 7C6
2ND I F 7B7
1ST I F 7B7
1ST DET XXL
PRE-AMP
OSC
RECT-7Y4
MOTOR
PICKUP
ANT TRANS
OSC TRANS
USED ONLY IN MODEL 41-608
DIRECTION OF ROTATION FROM REAR OF SWITCH
SWITCHES SHOWN FROM REAR, BOTTOM VIEW OF CHASSIS, IN No 1 POSITION (PHONOGRAPH)
LETTERS INDICATE POSITION OF WAFERS FROM REAR OF CHASSIS
SOLID ROTOR IS AT FRONT OF SWITCH WAFER
SHADED ROTOR IS AT REAR OF SWITCH WAFER


SCHEMATIC DIAGRAM — MODELS 41-610 41-611. CODE 121
I.F. 455 KC.
POINTER
PHONO-MOTOR
PICKUP
FIELD
PICKUP LIGHT
MODEL 41-610 ONLY
DIRECTION OF ROTATION FROM REAR OF SWITCH.
SWITCH SHOWN FROM REAR. INPOS 1-PHONO
LETTERS IN ORDER FROM FRONT TO BACK.
SOLID RING INDICATES FRONT OF SWITCH WAFER
SHADED RING INDICATES REAR OF SWITCH WAFER

PHILCO Phonograph Model 41-620

To reproduce the sound from a record, the light beam of the reproducer must be carefully positioned on the light sensitive cell. If the light beam is not carefully set, the sound reproduction will be distorted, weak or, if the light beam is completely on or off the cell, the phonograph will be silent.

If any of these conditions exist, the following adjustment procedure should be made: —

NOTE — These adjustments should be made with the power line voltage at 118 volts A. C.

A.—ADJUSTING WIDTH OF LIGHT-BEAM

To make this adjustment push the lamp socket assembly into its holder until a clear image of the lamp filament appears on the light cell. The socket should then be slightly pushed in beyond this point until the rectangular spot of light is 5/32" in width. The socket assembly is now rotated so that the spot light is vertical.

B.—POSITIONING THE LIGHT-BEAM

To position the light-beam on the light cell, turn the adjusting screw at the lower left side of the reproducer until the spot is half on the cell and half on the metal frame surrounding the cell.

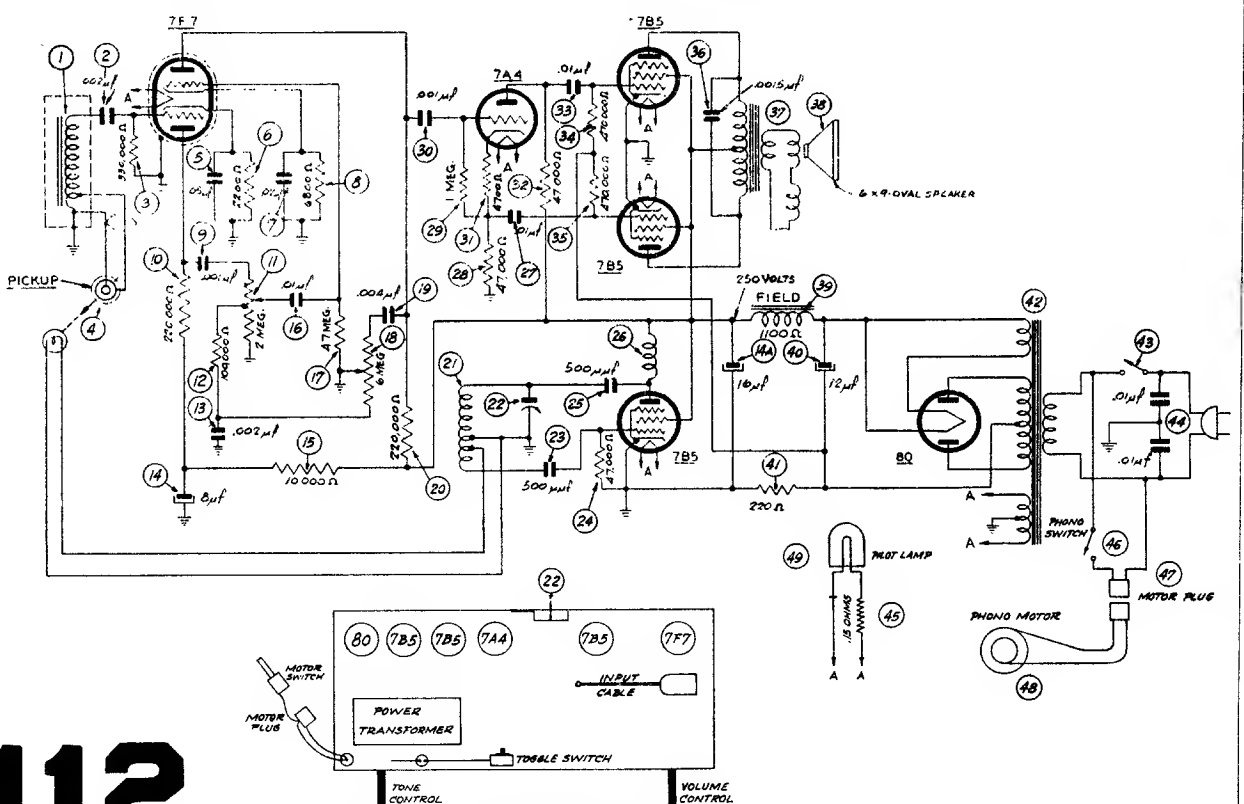
C.—ADJUSTING INTENSITY OF LAMP

When shipped from the factory, the lamp of the reproducer is adjusted for best operating efficiency. The intensity of the light from the lamp is adjusted by compensator (22) located on the radio chassis. Under ordinary circumstances, an adjustment will not be necessary. When replacing the reproducer or lamp, however, there may be a tendency towards microphonic feedback. In this case the compensator is adjusted as follows:

1. Turn volume control on full and play a record.
2. While the record is playing, turn compensator in the direction necessary to eliminate microphonic feedback. By turning the compensator the strength of the pick-up output is increased or decreased.

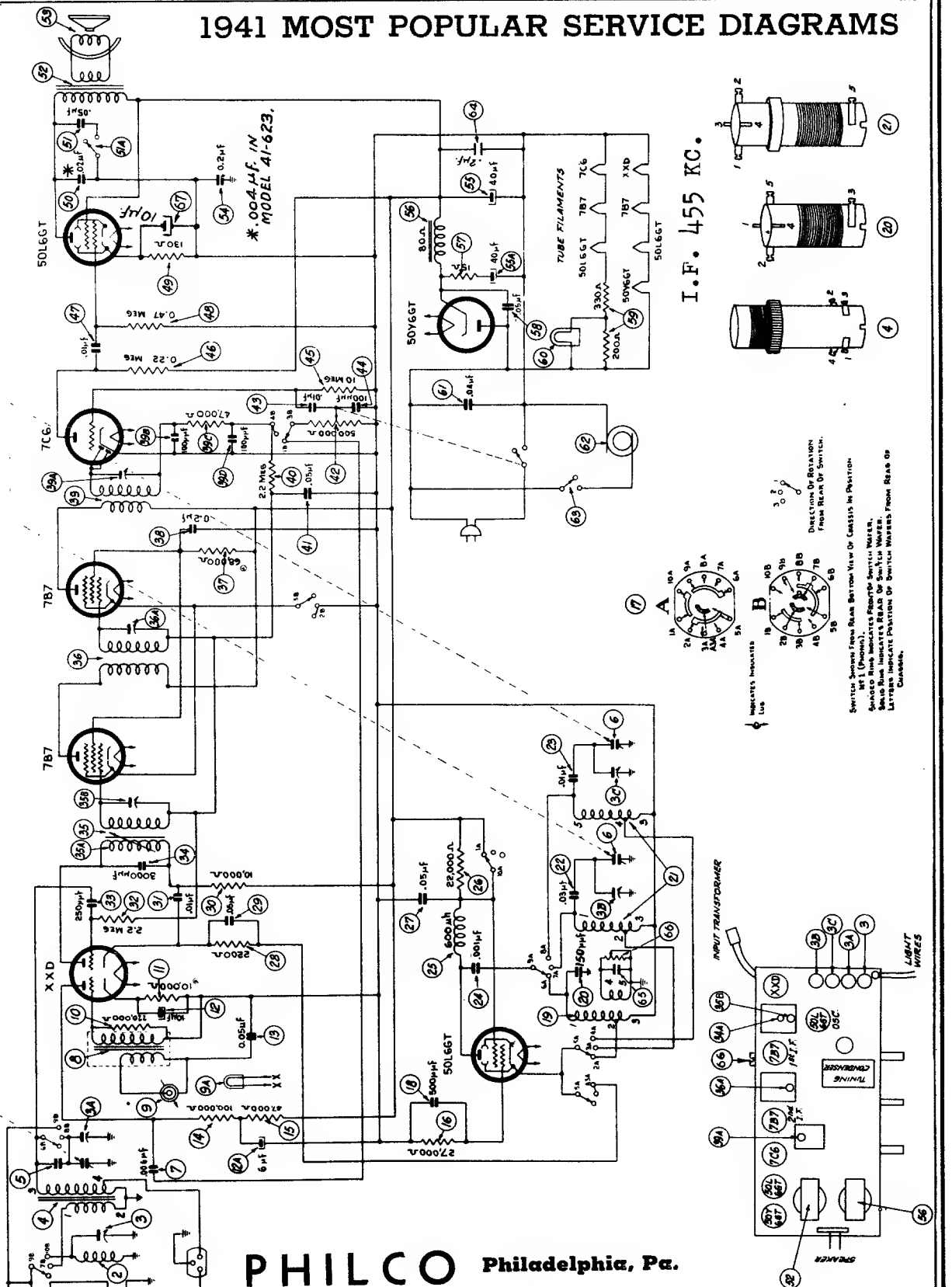
D.—INSTALLING NEW LAMP

When installing a new lamp in the socket, there are two positions in which the lamp can be inserted. Ordinarily, either of these positions can be used. In some cases, however, due to the lamp filament being off center, the lamp must be inserted in the position that gives the best centering of the spot of light on the vibrating mirror.



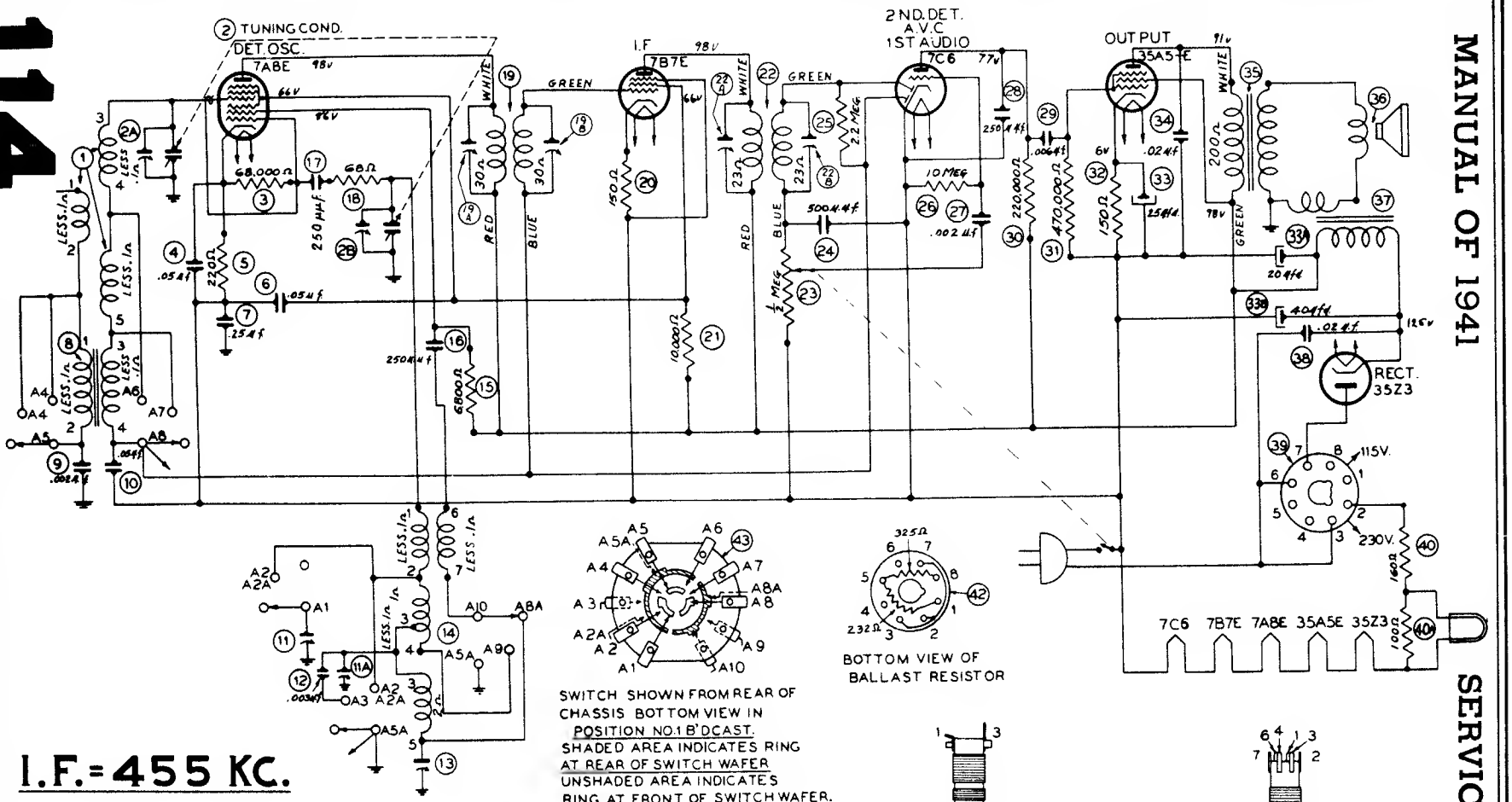
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM — MODELS 41-623, 41-624, 41-625



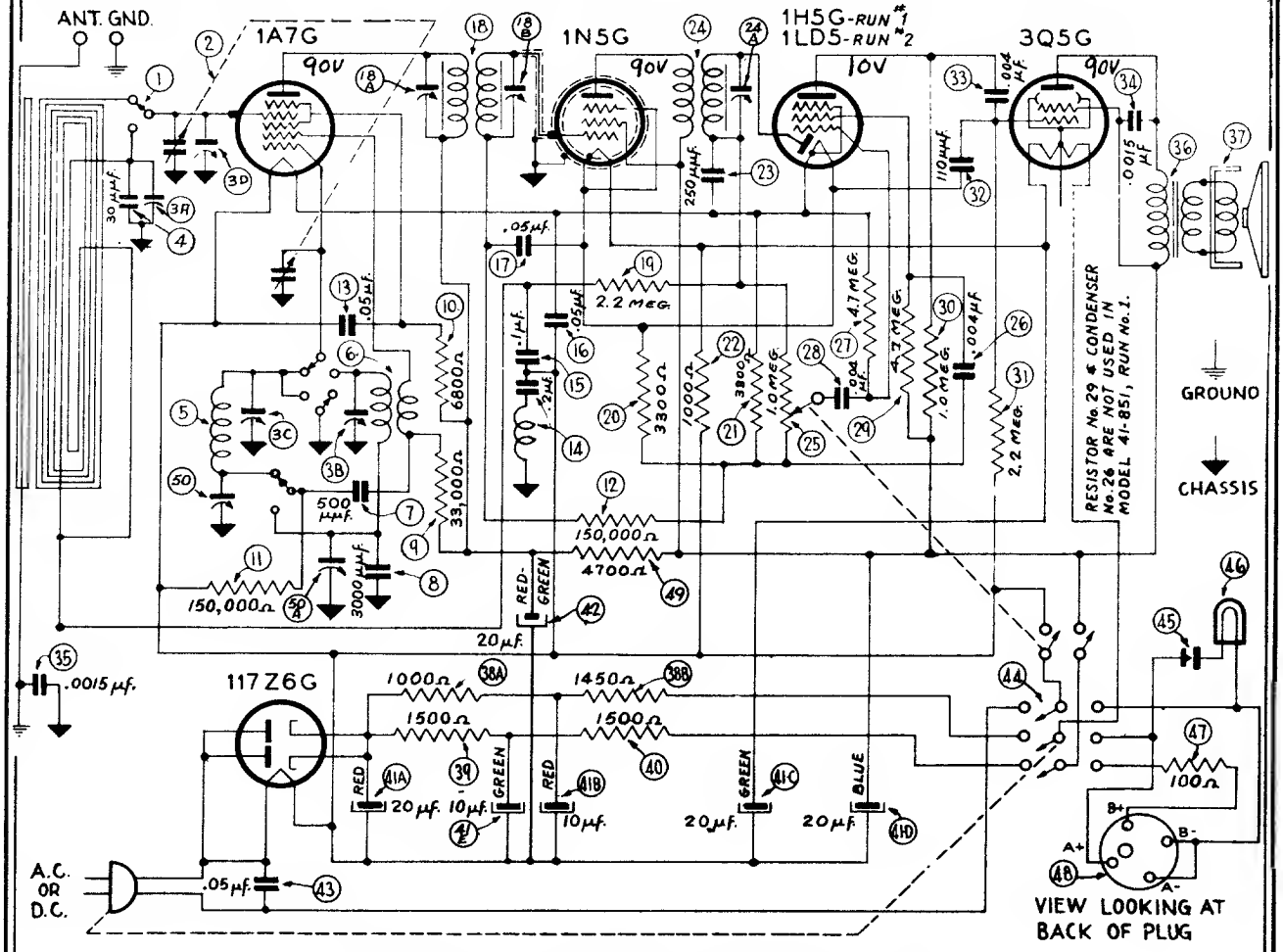
PHILCO Philadelphia, Pa.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



PHILCO

SCHEMATIC DIAGRAM MODEL 41-705



SCHEMATIC DIAGRAM MODEL 41-851, RUNS 1 AND 2

1	Stator Plate Lug Loop Tuning Condenser	455 K. C.	540 K. C.	Vol. Max.	18A, 18B, 24A
2	Loop on Generator	1500 K. C.	1500 K. C.	Range Switch "Brdcst" Vol. Max.	3C, 3D
3	Loop on Generator	580 K. C.	580 K. C.	Range Switch "Brdcst" Vol. Max.	50
4	Recheck operation No. "2"				
5	Loop on Generator	6 M. C.	6 M. C.	Range Switch "S. W."	50A
6	Loop on Generator	15 M. C.	15 M. C.	Range Switch "S. W."	3B, 3A

Model 41-851, Code 121, Runs 1 and 2

Model 41-851, Code 121, Runs 1 and 2 is a five (5) tube portable A. C.-D. C. or battery operated superheterodyne radio with two tuning ranges, 540 to 1600 K. C. and 6 to 15 M. C. In addition this model includes: a Built-in Loop Aerial; Beam Power Pentode Audio Output Stage; Highly Sensitive Permanent Magnet Speaker; PHILCO Super-efficient Loktal Tubes and an ON-OFF Indicator.

Production Runs 1 and 2 of this model are identical with the exception of the 2nd Detector, 1st Audio tube. The early production (Run 1) radios used a 1H5G tube and the later production radios (Run 2) contained a 1L5D tube.

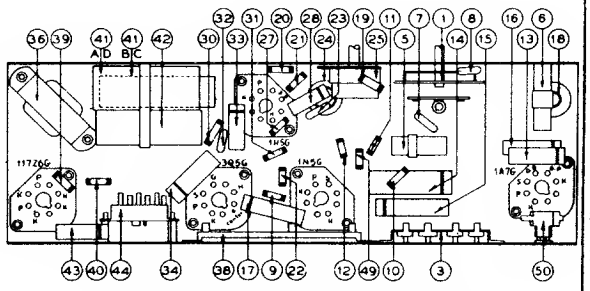
PHILCO TUBES USED: 1A7G, Oscillator Converter; 1N5G, I. F. Amplifier; *1H5G, (Run No. 1) 2nd Detector, 1st Audio A. V. C.; 35Q5G, Audio Output; 117Z6G, Rectifier; *1L5D, (Run No. 2).

INTERMEDIATE FREQUENCY: 455 K. C.

POWER SUPPLY: 115 volts, A. C.-D. C. and a Philco Combination "A. B." battery type P-841.

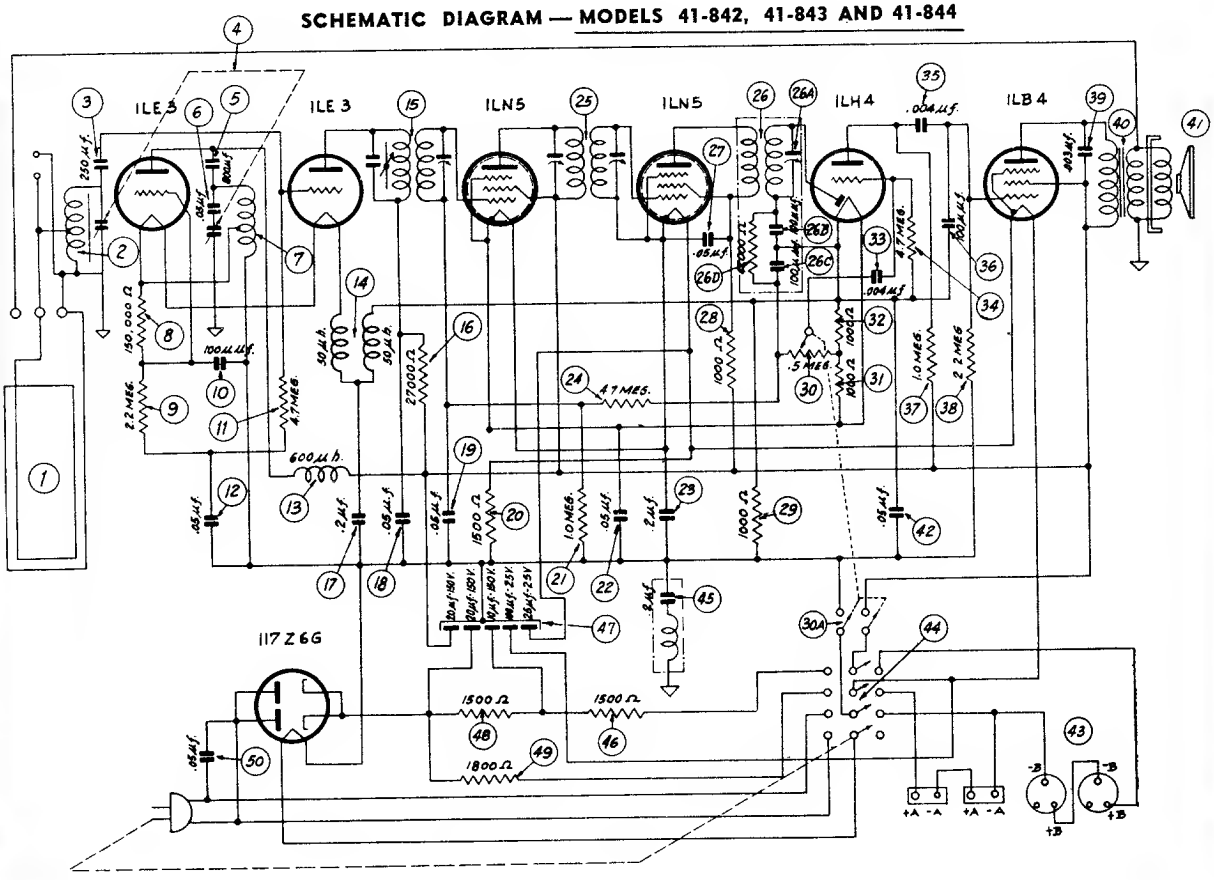
For portable battery operation wrap the power line cord around its holder clamp on the back of the cabinet back and insert the plug end into the slots provided on the chassis.

To operate on 115 volts A. C.-D. C. remove the power line cord plug from the slots on the chassis and insert into a power receptacle.



PART LOCATIONS — UNDERSIDE OF CHASSIS MODEL 41-851, RUN 1

SCHEMATIC DIAGRAM — MODELS 41-842, 41-843 AND 41-844



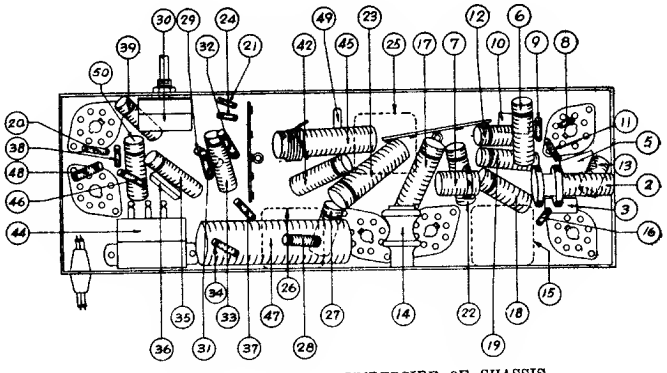
MODELS 41-842, 41-843, 41-844

These models may be adjusted when operated by battery or 115 volts A.C.-D.C. power.

Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators
1	See Paragraph on Signal Generator above	455 K.C.	540 K.C.	Vol. Max.	26A, 25A, 25B, 15A, 15B
2	Use Loop on Generator as above	1500 K.C.	1500 K.C.	Vol. Max.	4B, 4A

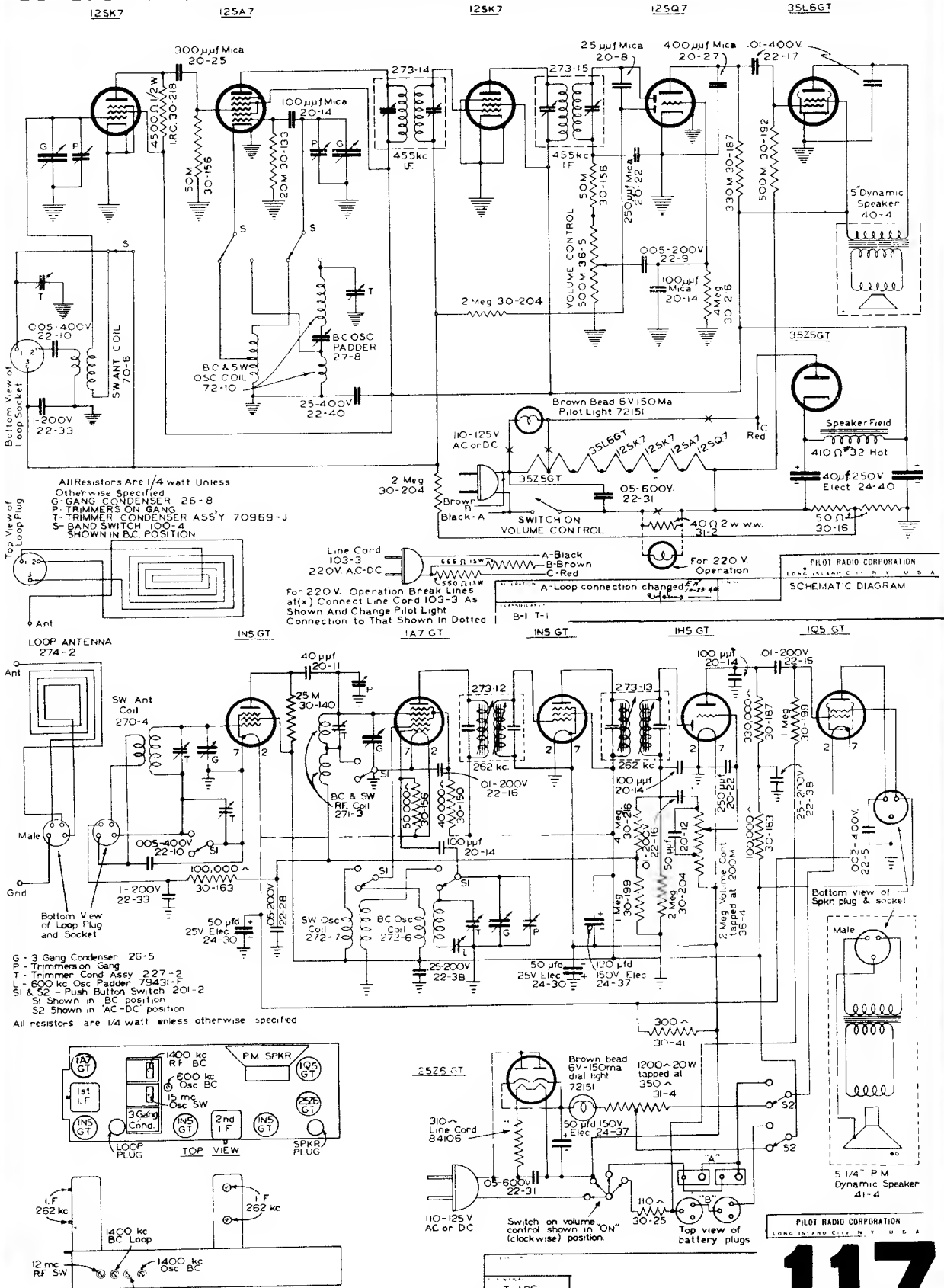
PHILCO

Models 41-842, 41-843, 41-844



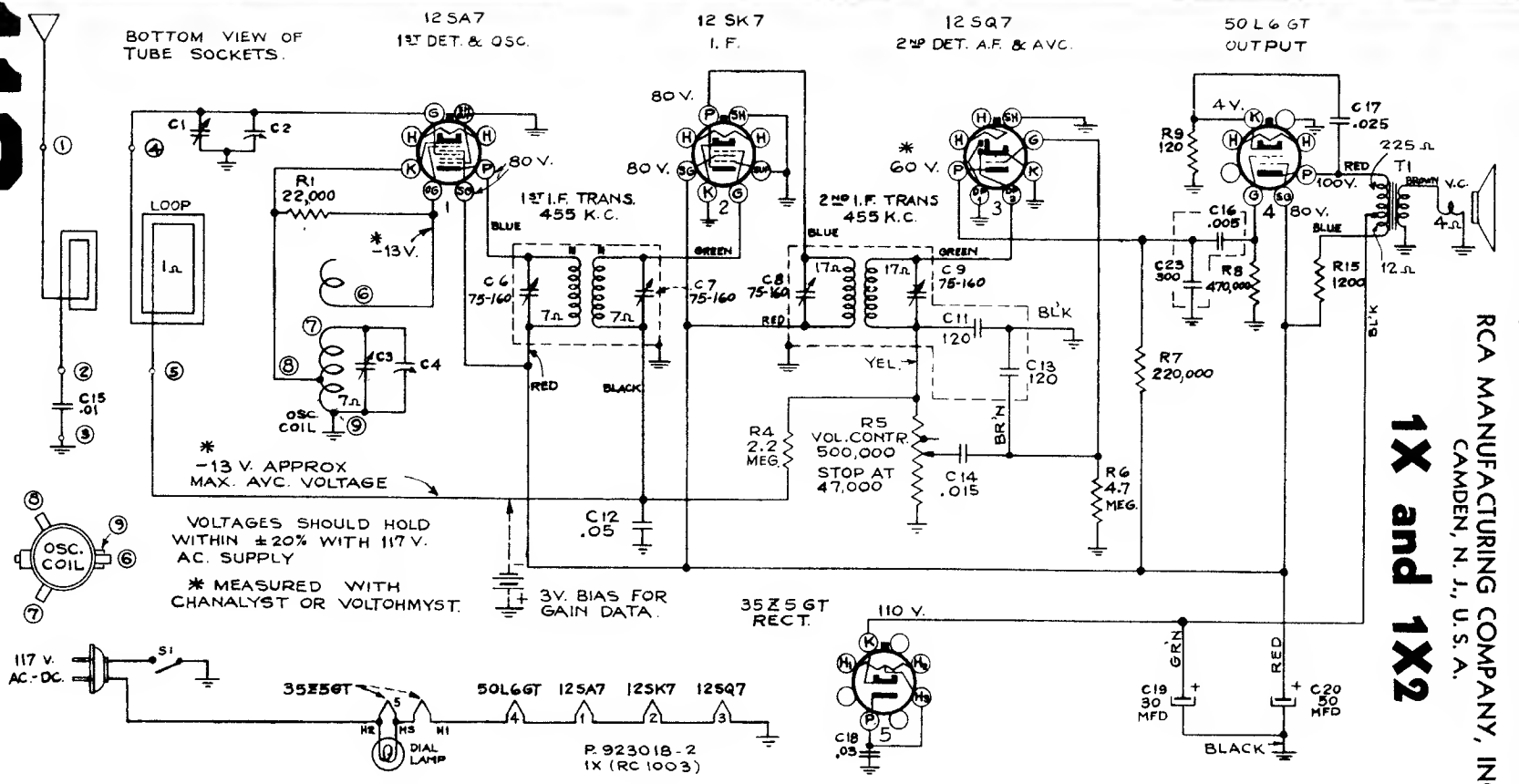
LOCATION OF PARTS — UNDERSIDE OF CHASSIS

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS


12SK7
12SA7
12SK7
12SQ7
35L6GT
300 µµf Mica 20-25
4500Ω 1/2 W IRC 30-218
50M 30-156
100 µµf Mica 20-14
20M 30-133
273-14
455kc I.F.
273-15
25 µµf Mica 20-8
400 µµf Mica 20-27
.01-400V 22-17
250 µµf Mica 20-22
330M 30-187
500M 30-192
5" Dynamic Speaker 40-4
VOLUME CONTROL 500M 36-5
.005-200V 22-9
100 µµf Mica 20-14
4 Meg 30-216
2 Meg 30-204
BC OSC PADDER 27-8
BC & SW OSC COIL 72-10
SW ANT COIL 70-6
.005-400V 22-10
1-200V 22-33
25-400V 22-40
Bottom View of Loop Socket
35Z5GT
Brown Bead 6V 150Ma Pilot Light 7215I
110-125V AC or DC
Red
Speaker Field
410Ω 32 Hot
40 µf 250V Elect 24-40
50Ω 30-16
2 Meg 30-204
Brown
Black-A
B
SWITCH ON VOLUME CONTROL
.05-600V. 22-31
40Ω 2w w.w. 31-2
All Resistors Are 1/4 watt Unless Otherwise Specified
G-GANG CONDENSER 26-8
P-TRIMMERS ON GANG
T-TRIMMER CONDENSER ASS'Y 70969-J
S-BAND SWITCH 100-4 SHOWN IN B.C. POSITION
Top View of Loop Plug
Ant
Line Cord 103-3 220V. AC-DC
666Ω 15W
550Ω 13W
A-Black
B-Brown
C-Red
For 220 V. Operation
For 220 V. Operation Break Lines at(x) Connect Line Cord 103-3 As Shown And Change Pilot Light Connection to That Shown In Dotted
A-Loop connection changed
B-1 T-1
PILOT RADIO CORPORATION
LONG ISLAND CITY N Y U S A
SCHEMATIC DIAGRAM
LOOP ANTENNA 274-2
Ant
Gnd
Male
Bottom View of Loop Plug and Socket
SW Ant Coil 270-4
1N5GT
1A7GT
1N5GT
1H5GT
1Q5GT
40 µµf 20-11
25 M 30-140
273-12
262 kc.
273-13
BC & SW RF Coil 271-3
50,000Ω 30-156
40,000Ω 30-150
.01-200V 22-16
100 µµf 20-14
100,000Ω 30-163
330,000Ω 30-167
1 Meg 30-199
.01-200V 22-16
.005-400V 22-10
1-200V 22-33
.05-200V 22-28
50 µfd 25V Elec 24-30
SW Osc Coil 272-7
BC Osc Coil 272-6
.25-200V 22-38
50 µfd 25V Elec 24-30
120 µfd 150V Elec 24-37
.25-200V 22-38
.002-400V 22-5
100 µµf 20-14
.01-200V 22-16
50 µµf 20-12
2 Meg 30-204
4 Meg 30-216
250 µµf 20-22
25-200V 22-38
2 Meg Volume Cont tapped at 200M 36-4
Bottom view of Spkr plug & socket
Male
5 1/4" P M Dynamic Speaker 41-4
G - 3 Gang Condenser 26-5
P - Trimmers on Gang
T - Trimmer Cond Assy 227-2
L - 600 kc Osc Padder 79431-F
S1 & S2 - Push Button Switch 201-2
S1 Shown in BC position
S2 Shown in AC-DC position
All resistors are 1/4 watt unless otherwise specified
300Ω 30-41
1A7GT
1N5GT
1st I.F.
1400 kc RF BC
600 kc Osc BC
15 mc Osc SW
3 Gang Cond.
2nd I.F.
1N5GT
1Q5GT
2526 GT
P M SPKR
LOOP PLUG
TOP VIEW
SPKR PLUG
25Z5 GT
Brown bead 6V-150ma dial light 7215I
1200Ω 20W tapped at 350Ω 31-4
310Ω Line Cord 84106
50 µfd 150V Elec 24-37
S2
S2
.05-600V 22-31
110-125 V AC or DC
Switch on volume control shown in "ON" (clockwise) position.
110Ω 30-25
"A"
"B"
Top view of battery plugs
PILOT RADIO CORPORATION
LONG ISLAND CITY N Y U S A
I.F. 262 kc
I.F. 262 kc
1400 kc BC Loop
1400 kc Osc BC
12 mc RF SW
12 mc.
T-1186

RCA MANUFACTURING COMPANY, INC.
CAMDEN, N. J., U.S.A.

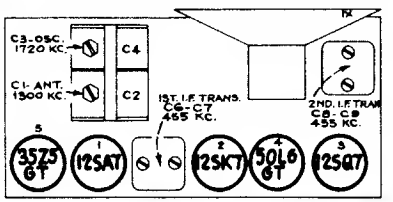
1X and 1X2

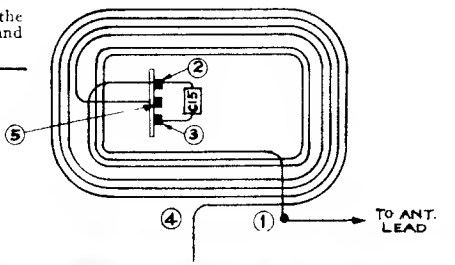


Output Meter Alignment.—Connect the meter across the voice coil and turn the receiver volume control to maximum.

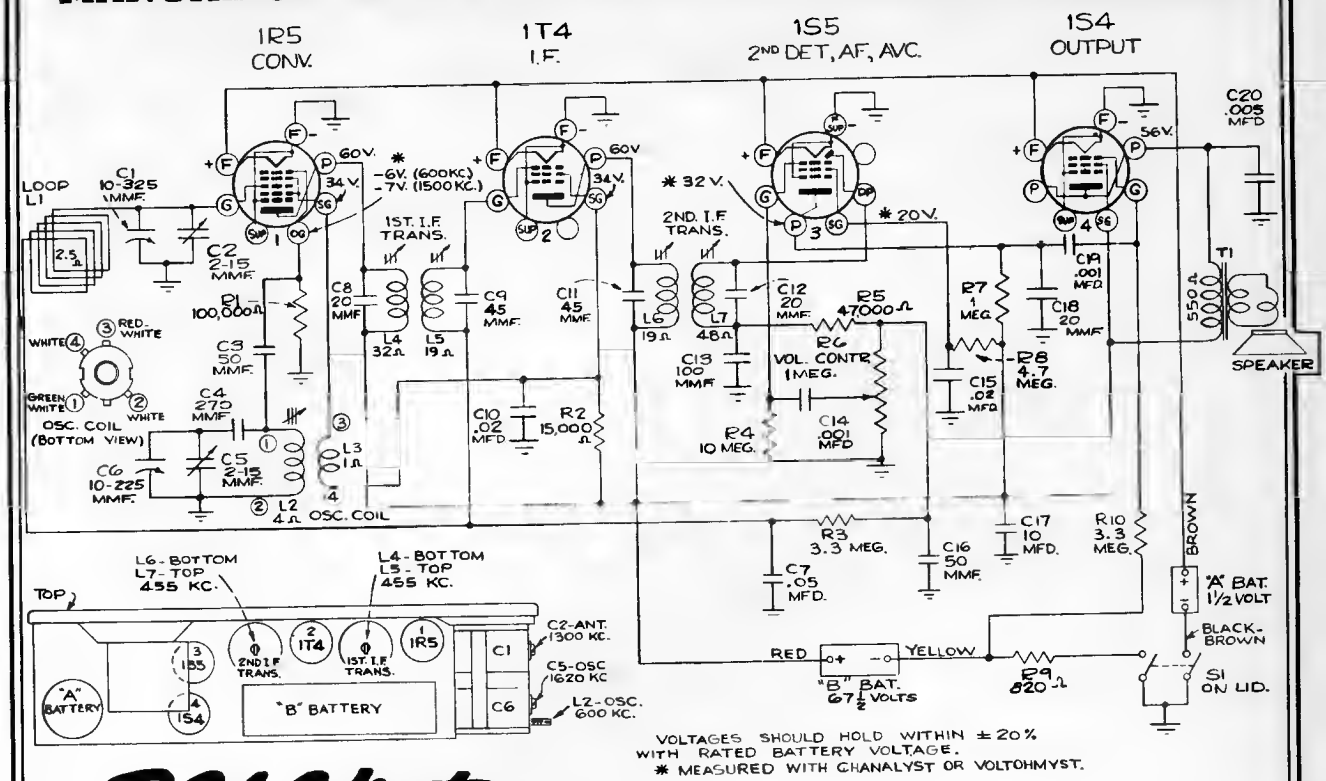
Electronic Voltmeter.—The electronic voltmeter in the Chanalyst or VoltOhmyst provides an unexcelled output indicator. It should be connected to the AVC bus.

Test-Oscillator.—For I-F alignment, connect the low side of the test-oscillator to the receiver chassis through a .01 mfd. capacitor, and keep the output as low as possible.





Steps	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	I-F grid, in series with .01 mfd.	455 kc	Quiet point 1,600 kc end of dial	C8, C9 2nd I-F Transformer
2	1st Det. grid in series with .01 mfd.			C6, C7 1st I-F Transformer
3	Ant. terminal in series with 100 mmfd.	1,720 kc	Gang at minimum	C3 (osc.)
4	Radiated signal 1300 kc		Signal Frequency	C1 (ant.)
5	Repeat steps 3 and 4.			



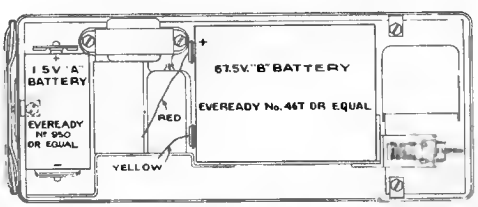
RCA Victor

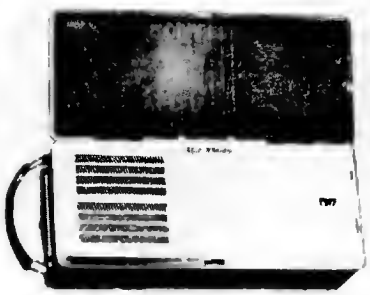
MODEL BP-10 PERSONAL RADIO

Alignment Procedure

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, keep the output as low as possible to avoid a-v-c action.





Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output—
1	Tuning condenser stator (ant.) in series with .01 mfd.	455 kc	Quiet point at 1,600 kc end of dial	L7, L6, L5, L4 (2nd and 1st I-F transformers)
2	Radiated signal 1,620 kc	1,620 kc	Full clockwise (out of mesh)	C5 (oscillator)
3	Radiated signal 1,300 kc	1,300 kc	1,300 kc	C2 (antenna)
4	Radiated signal 600 kc	600 kc	600 kc	L2 (osc.)
5	Repeat steps 2, 3 and 4.			

POWER SUPPLY

Type Battery	Current Consumption	Approximate Life (Intermittent Duty)
"A"—1.5 volt Eveready No. 950	0.25 amperes	3-5 hours
"B"—67.5 volts Eveready No. 467	8.5 milliamperes	25-40 hours

POWER OUTPUT

Undistorted	0.05 watts
Maximum	0.12 watts

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

RCA Victor 10X Chassis No. RC-1001

ANT. TO GRID 2X (600 KC.) | CONVERSION GAIN 60X (600-455 KC.) -3V. FIXED BIAS | 0.5X (455 KC.) | 100X (455 KC.) -3V. FIXED BIAS | 0.5X (455 KC.) | 40X (400 ~) | 10X (400 ~)

APPROX. GAIN DATA USING RCA RIDER CHANALYST

BOTTOM VIEW OF TUBE SOCKETS.

1ST DET & OSC. 12SA7 | I.F. AMPL 12SK7 | 2ND DET, A.F. & A.V.C. 12SQ7 | OUTPUT 50L6GT

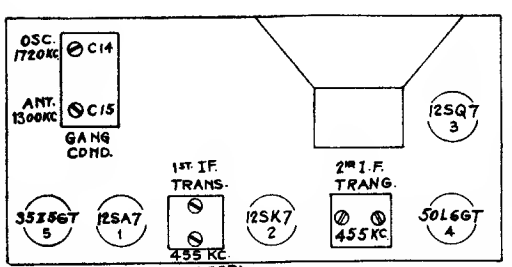
ANT. | LOOP | L1 | L2 | L2 PRI 8Ω | R7 3300Ω | C15 3-25 MMF. | C20 422.2 MMF. | 1ST I.F. TRANS. | C7 75-160 MMF. | C8 75-160 MMF. | 9Ω | 8Ω | BLUE | GREEN | RED | BLACK | 83V. | 48V. | 4.5V. | 77V. | 170Ω | BLUE | RED | C5 .025 MF | T1 | C4 .005 MFD. | C13 300 MMF. | R6 120Ω | R4 220,000Ω | R5 470,000Ω | 2ND. I.F. TRANS. | C9 75-160 MMF. | C10 75-160 MMF. | 15Ω | 17Ω | C11 120 MMF. | C12 120 MMF. | BLK | YEL. | BROWN | V1 500,000Ω STOP AT 50,000Ω | R1 22,000Ω | -8V. (600 KC.) -8V. (1500 KC.) | L5 | L4 | L4 TAP | OSC. COILS | L3 | C14 3-25 MMF. | C19 0-146.6 MMF. | R2 3.3 MEG. | C3 .005 MFD. | C18 .01 MFD. | R3 4.7 MEG. | PHONO JACK | C2 0.1 MFD. | C1 .035 MFD. | -13V. APPROX. MAX. AVC. VOLTAGE | 3V. BIAS FOR GAIN DATA

35Z5GT - RECT.

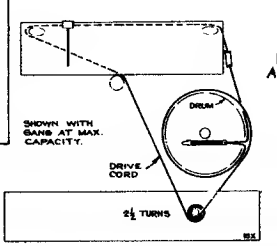
C6 .05 MFD. | SPEAKER FIELD | 450Ω | C16 20 MFD | C17 30 MFD. | BLUE | RED | BLACK | S1 | 117 V. AC-DC | 35Z5GT | 50L6GT | 12SA7 | 12SK7 | 12SQ7 | DIAL LAMP

VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117 V. AC. SUPPLY.

* MEASURED WITH CHANALYST OR VOLTOHMYST.



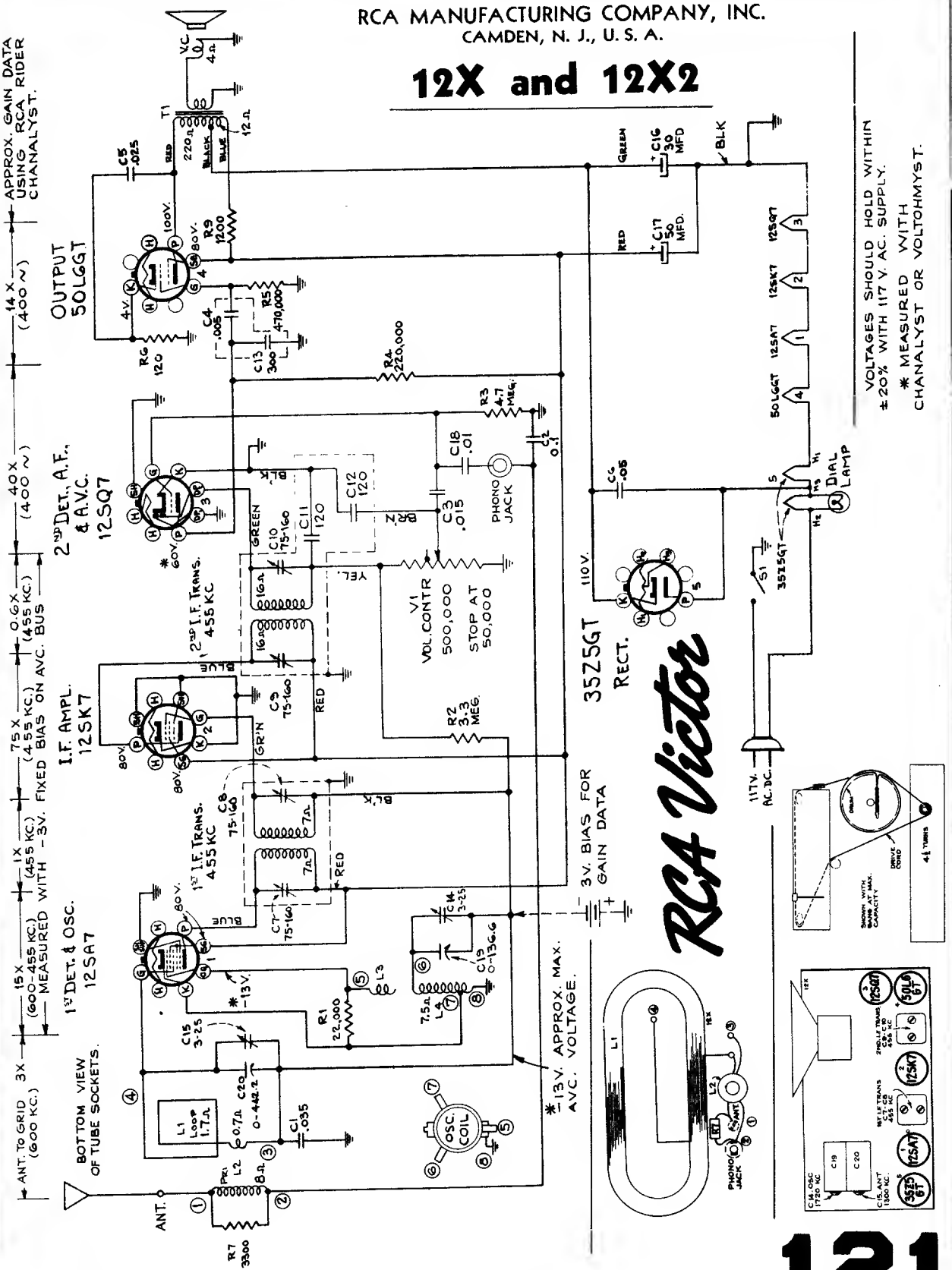
TUBE & TRIMMER LOCATIONS



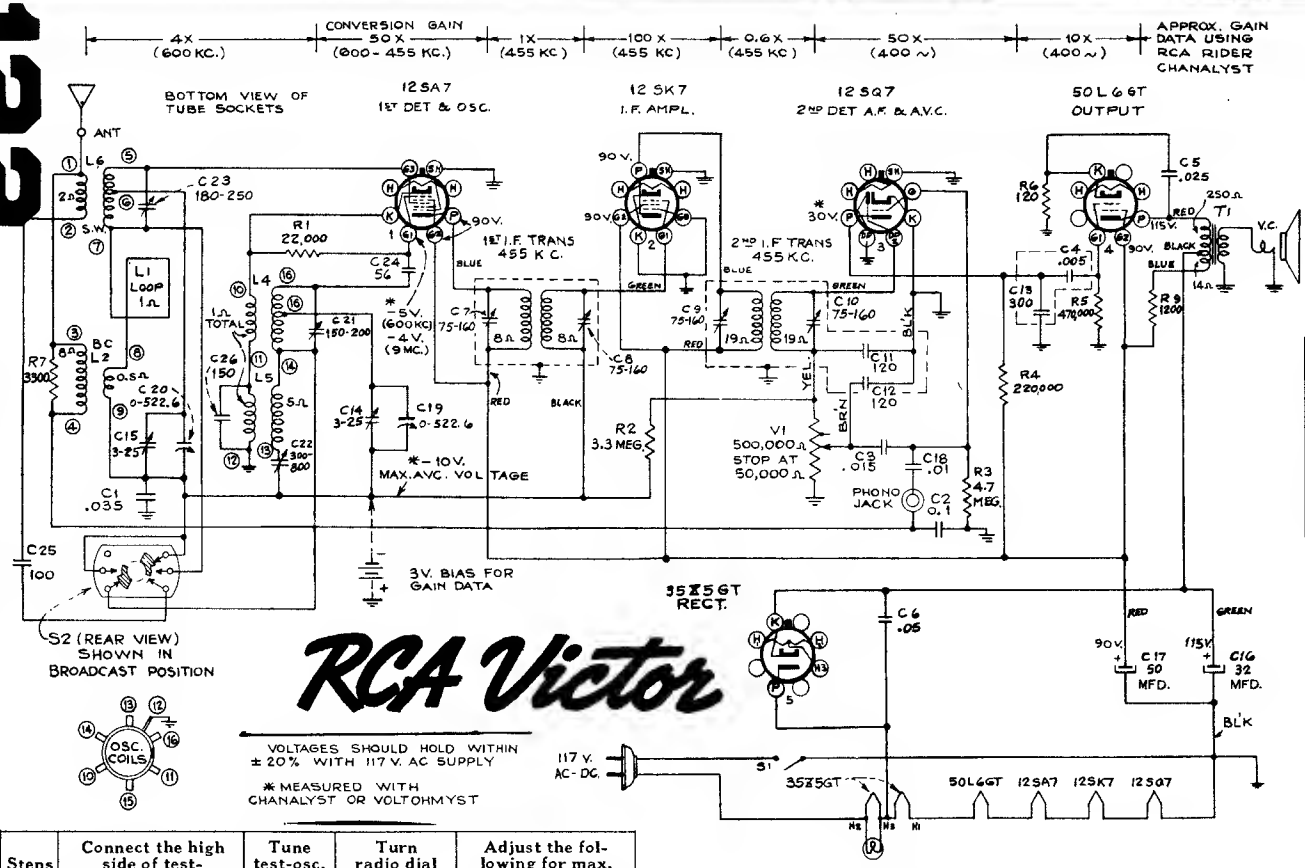
T-923501-1 10X (RC 1001)

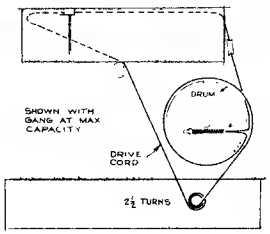
RCA MANUFACTURING COMPANY, INC.
CAMDEN, N. J., U. S. A.

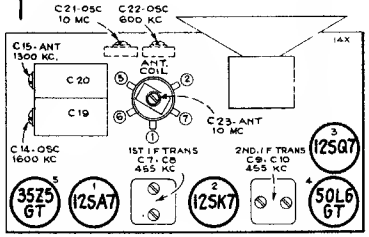
12X and 12X2

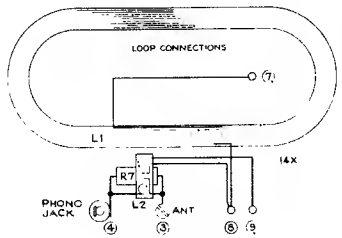


COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS









RCA Victor

MODEL 14X

Chassis No. RC-1001-D

Steps	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output—
1	12SK7 grid in series with 0.1 mfd.	455 kc	Quiet Point at 1,600 kc end of dial	C10, C9 2nd I-F Transformer
2	12SA7 grid in series with 0.1 mfd.			C8, C7 1st I-F Transformer
3	Antenna term. in series with 47 mmf.	10 mc*	10 mc	C21 (osc.)** C23 (ant.)
4	Antenna term. in series with 200 mmfd.	1,600 kc	1,600 kc	C14 (osc.)
5	Radiation Loop	1,300 kc	Resonance on Signal	C15 (ant.)
6	Radiation Loop	600 kc	600 kc	C22 Osc. Rock in

Alignment Procedure

Output Meter Alignment.—If this method is used connect the meter across the voice coil and turn the receiver volume control to maximum.

Electronic Voltmeter.—The electronic voltmeter in the Chanalyst or VoltOhmyst provides an unexcelled output indicator. It should be connected to the AVC bus.

Test Oscillator.—Connect the low side of the test oscillator to the receiver chassis through a .01 mfd. capacitor. When the electronic voltmeter is used as an alignment indicator the output of the test oscillator should be adjusted to produce several volts of AVC. With the output meter alignment method the test oscillator output should be kept as low as possible.

Calibration Scale.—The glass tuning dial may be easily removed from the cabinet and temporarily attached to the dial backing plate for quick reference during alignment.

* It is recommended that this step be repeated using a received station of known frequency.

** Use minimum capacity if two peaks can be obtained.

RCA MODEL 15BP

Alignment Procedure

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-oscillator.—For all alignment operations, keep the output as low as possible to avoid a-v-c action.

Steps	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output—
1	1N5GT I-F grid cap, in series with .01 mfd.	455 kc	Quiet point at 1,600 kc end of dial	L8, L7 (2nd transformer)
2	1A7GT 1st-Det. grid cap, in series with .01 mfd.			L4, L3 (1st I-F transformer)
3	radiated signal 1,720 kc		signal frequency	C22 (Osc. Trimmer)
4	radiated signal 1,400 kc			C20 (Ant. Trimmer)
5	radiated signal near 600 kc			L6 (Rock in)
6	Repeat steps 3, 4 and 5 until aligned.			

Frequency Range ..... 540-1,720 kc
Intermediate Frequency ..... 455 kc

RCA Tube Complement

(1) RCA-1A7-GT ..... 1st.-Det.—Osc.
(2) RCA-1N5-GT ..... I-F Amplifier
(3) RCA-1H5-GT ..... 2nd-Det., A-F, and A.V.C.
(4) RCA-3Q5-GT ..... Output
(5) RCA-35Z5-GT ..... Rectifier

Line Current Supply

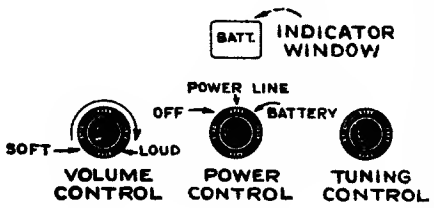
110 to 125 volts, AC 50 or 60 cycles, or DC

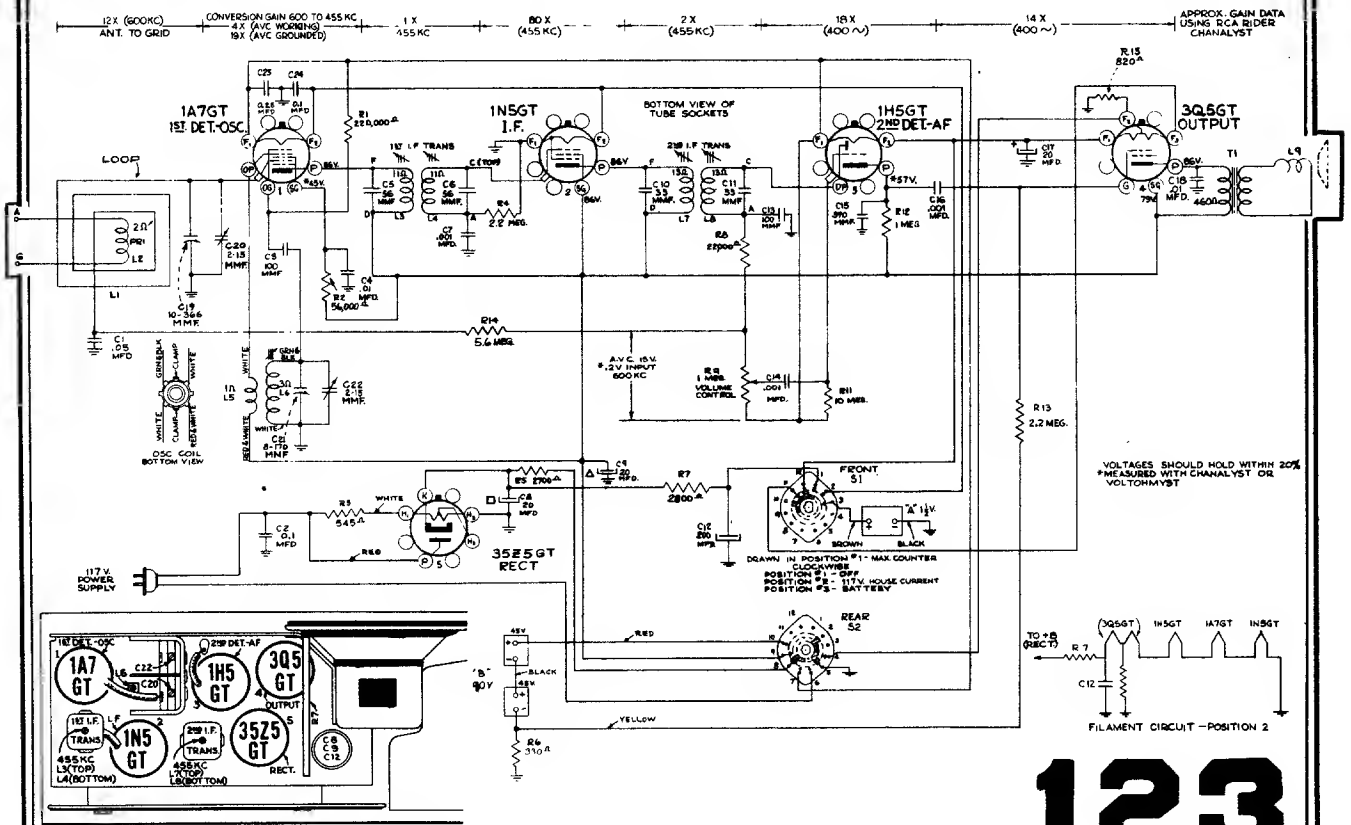
Batteries Required

"A" one 1.5 volt dry plug-in type "A," (Eveready No. 743 or equivalent)
"B" two 45 volt dry plug-in type "B," (Eveready No. 482 or equivalent)

Current Consumption

"A" 0.25 amperes
"B" 11.5 milliamperes ..... Battery Operation

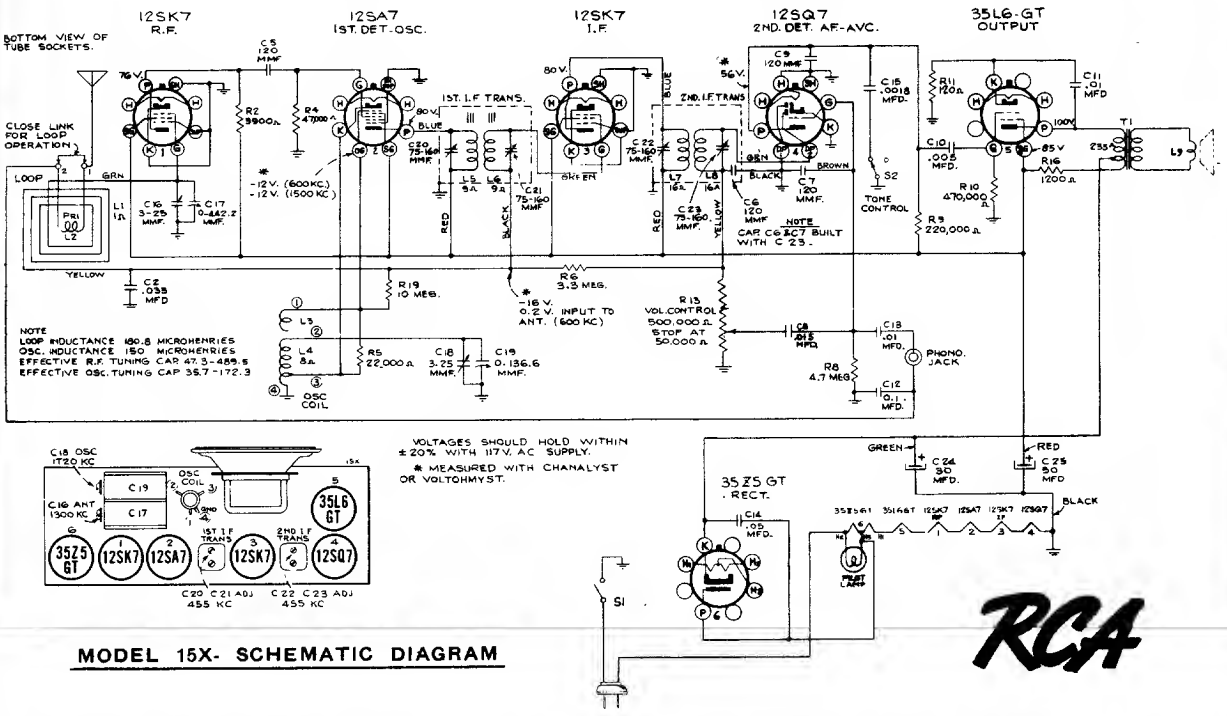




MODELS 15X, 16X-1, 16X-2 and 16X-3

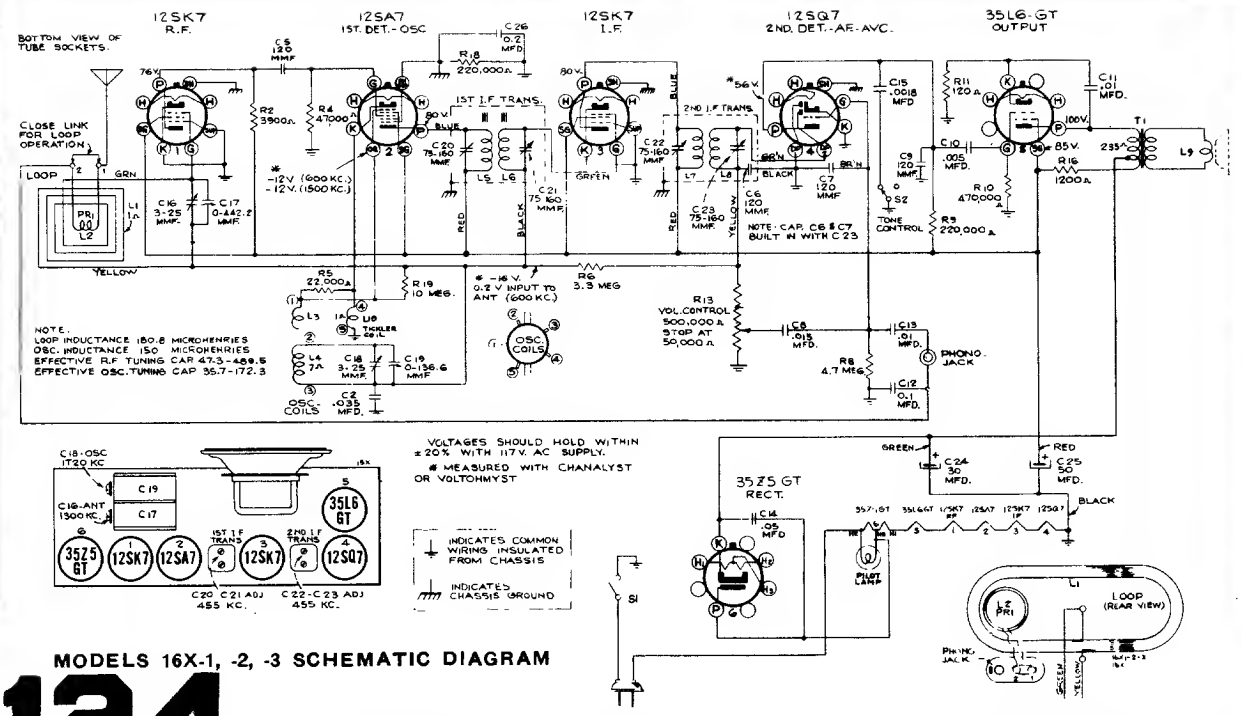
Chassis Nos. RC-462, RC-462A and RC-462B

Six-Tube, Single-Band, AC-DC, Superheterodyne Receivers



MODEL 15X- SCHEMATIC DIAGRAM

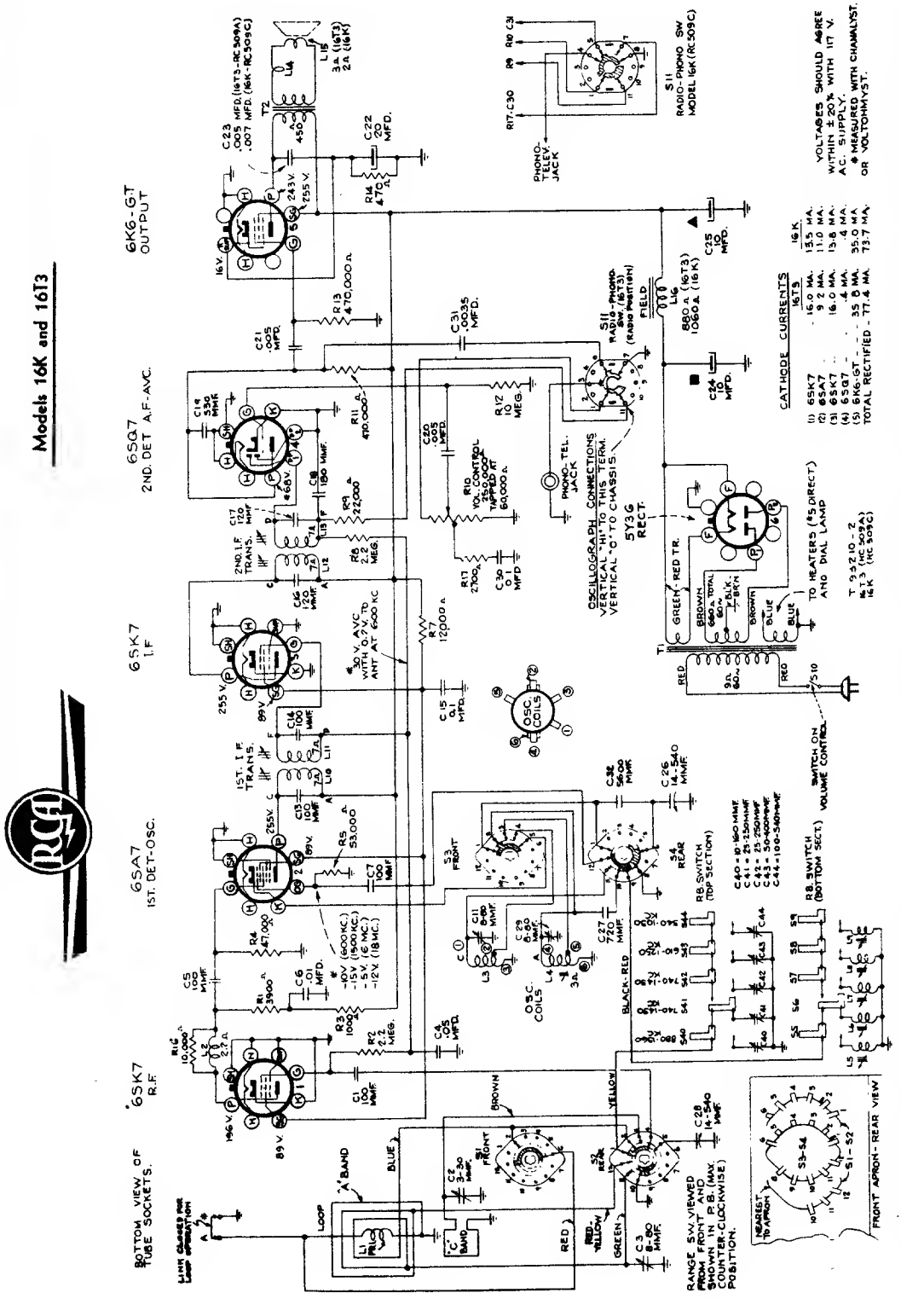
RCA



MODELS 16X-1, -2, -3 SCHEMATIC DIAGRAM

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Models 16K and 16T3



Alignment Procedure

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the schematic diagrams.

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

Electronic Voltmeter.—The electronic voltmeter in the Chanalyst or Volt Ohmyst provides an unexcelled output indicator. It should be connected to the AVC bus, and the test-oscillator output adjusted to produce several volts of AVC.

Calibration Scale.—The glass tuning dial may be easily removed from the cabinet and temporarily attached to the chassis for quick reference during alignment. In the event that only the chassis is returned for service, and the cabinet with its tuning dial is left in the customer's home, the calibration scale printed in this service note can be used in conjunction with an ordinary 12-inch ruler as an accurate and convenient substitute for the regular dial.

Each method is described below.

Using Tuning Dial.—

1. Slide out the flat spring clamp at each end of the dial, and remove the glass dial from the cabinet.

2. With gang in full mesh, move the dial pointer to the reference mark at the left-hand end of the dial backing plate.

3. Place the glass dial under the pointer so that the extreme left scale graduations coincide with the pointer. Use scotch tape to hold the glass dial in this position.

4. After completion of alignment, replace the glass dial in cabinet, taking care that the fibre light shields are in correct position at ends of dial.

Using Calibration Scale.—

1. With gang in full mesh, move the dial pointer to the reference mark at the left-hand end of the dial backing plate.

2. Place a flat 12-inch ruler on the dial backing plate so the left-end of ruler is at the reference mark at left-end of backing plate. Temporarily fasten the ruler with scotch tape to the backing plate.

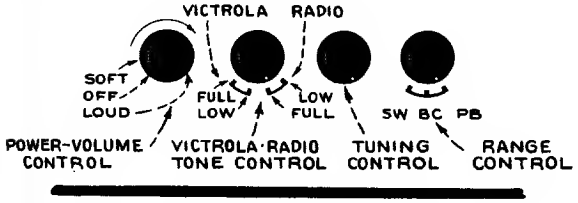
3. Refer to calibration scale printed in this service note. This is a reduced reproduction of the dial with an inch-scale drawn at top and bottom. To find the correct pointer position in inches for any desired frequency, draw a vertical line through this frequency on the calibration scale. For example, 1,500 kc is approximately 4 inches from the reference mark.

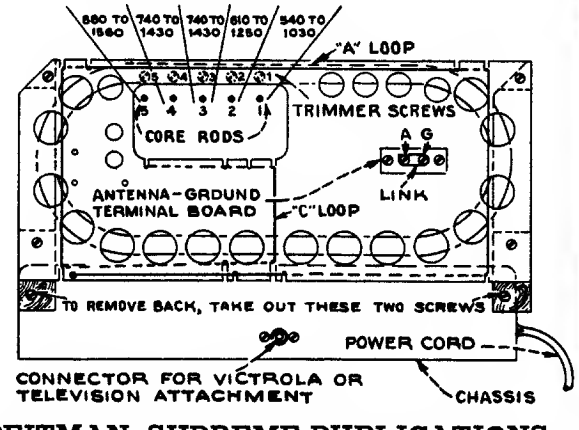
Dial-Pointer Adjustment.—After the chassis is replaced in cabinet, move the dial pointer (if necessary) so that it is at the left-hand graduation on the dial with the gang in full mesh.

Steps	Connect the high side of the test-osc. to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for maximum peak output—
1	I-F grid, in series with .01 mfd.	455 kc	"A" band, Quiet Point at 1,500 kc end of dial	L7 and L8 (2nd I.F. Trans.)
2	1st det. grid, in series with .01 mfd.			L5 and L6 (1st I.F. Trans.)
3	Antenna terminal, in series with 300 ohms (link open)	15.2 mc	15.2 mc "C" band	C11 (osc.)* C2 (ant.)
4	Antenna terminal, in series with 200 mmfd. (link open)	1,500 kc	1,500 kc "A" band	C29 (osc.) C3 (ant.)
5		600 kc	600 kc "A" band	L3 (in 16T2) L4 (in 16K and 16T2) Rock in
6	Repeat steps 4 and 5.			

In case of instability during R-F alignment, connect a 27,000 ohm ¼ watt resistor across "D" and "F" of 2nd I-F transformer.

* Use **minimum** capacity peak if two peaks can be obtained. Check to determine that the correct peak has been used, by tuning receiver to 14.29 mc, where a weaker signal should be received.





RCA Manufacturing Co.
Camden, N. J.

Models 16K and 16T3

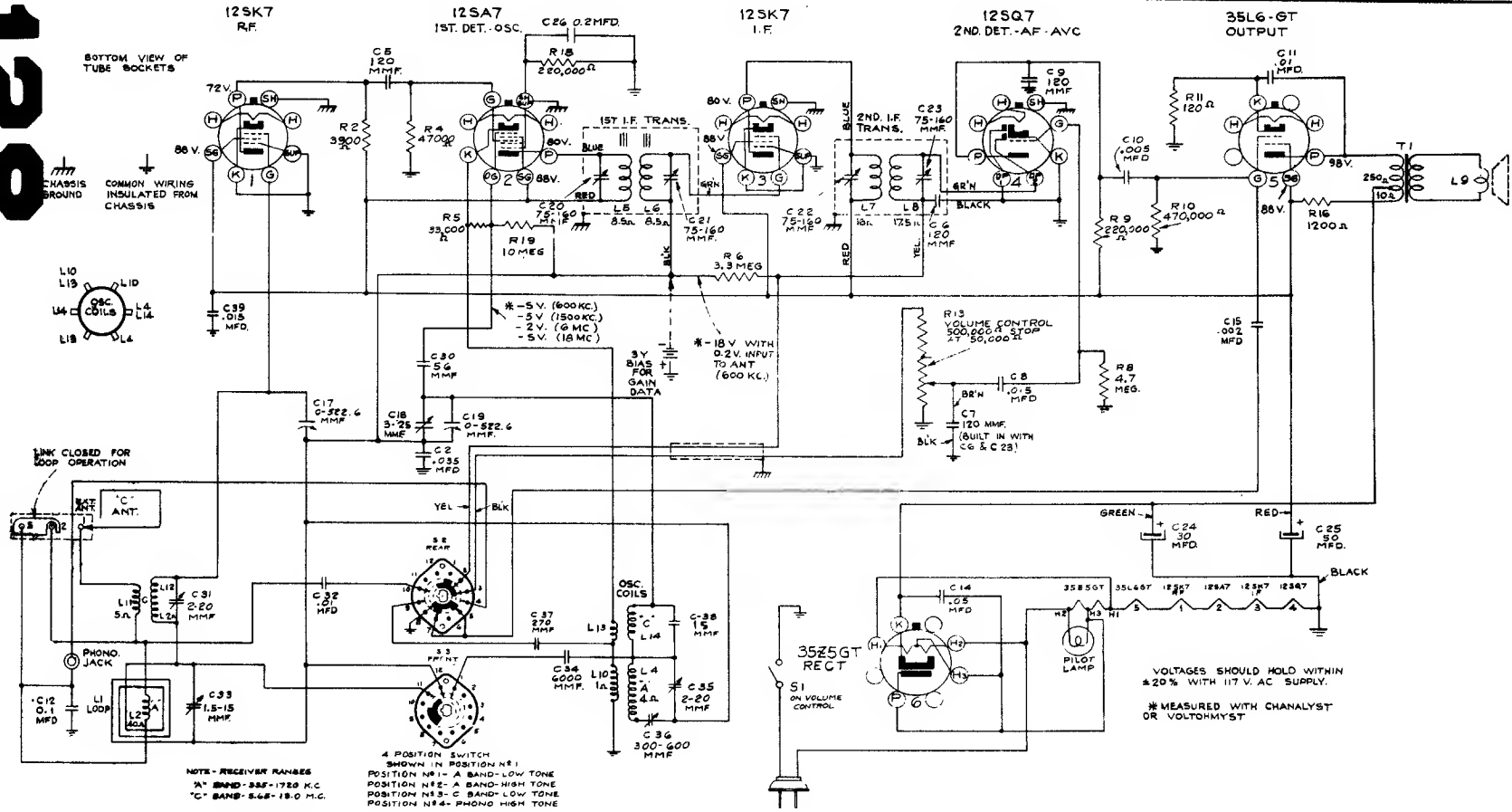
RCA Victor

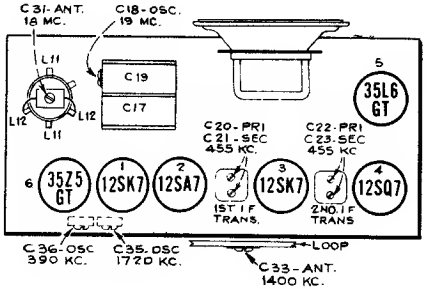
16X-4

Chassis No. RC-462-C

Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Turn radio to—	Adjust the following for maximum peak output
1	12SK7 I-F grid, in series with 0.1 mfd.	455 kc	Quiet Point at 1,700 kc end of dial	C23, C22 2nd I-F transformer
2	12SA7 1st det. grid, in series with 0.1 mfd.			C21, C20 1st I-F transformer
3	12SK7 R-F grid, in series with 0.1 mfd.	1,720 kc	1,720 kc	C18 (osc.)
4	Radiated signal 1,300 kc		Resonance on signal	C16 (ant.)
5	Repeat steps 3 and 4			

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

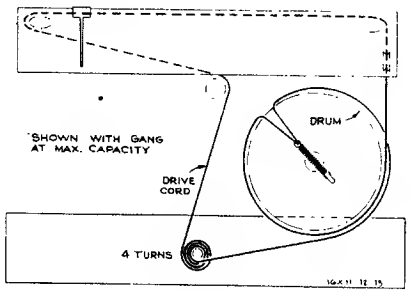


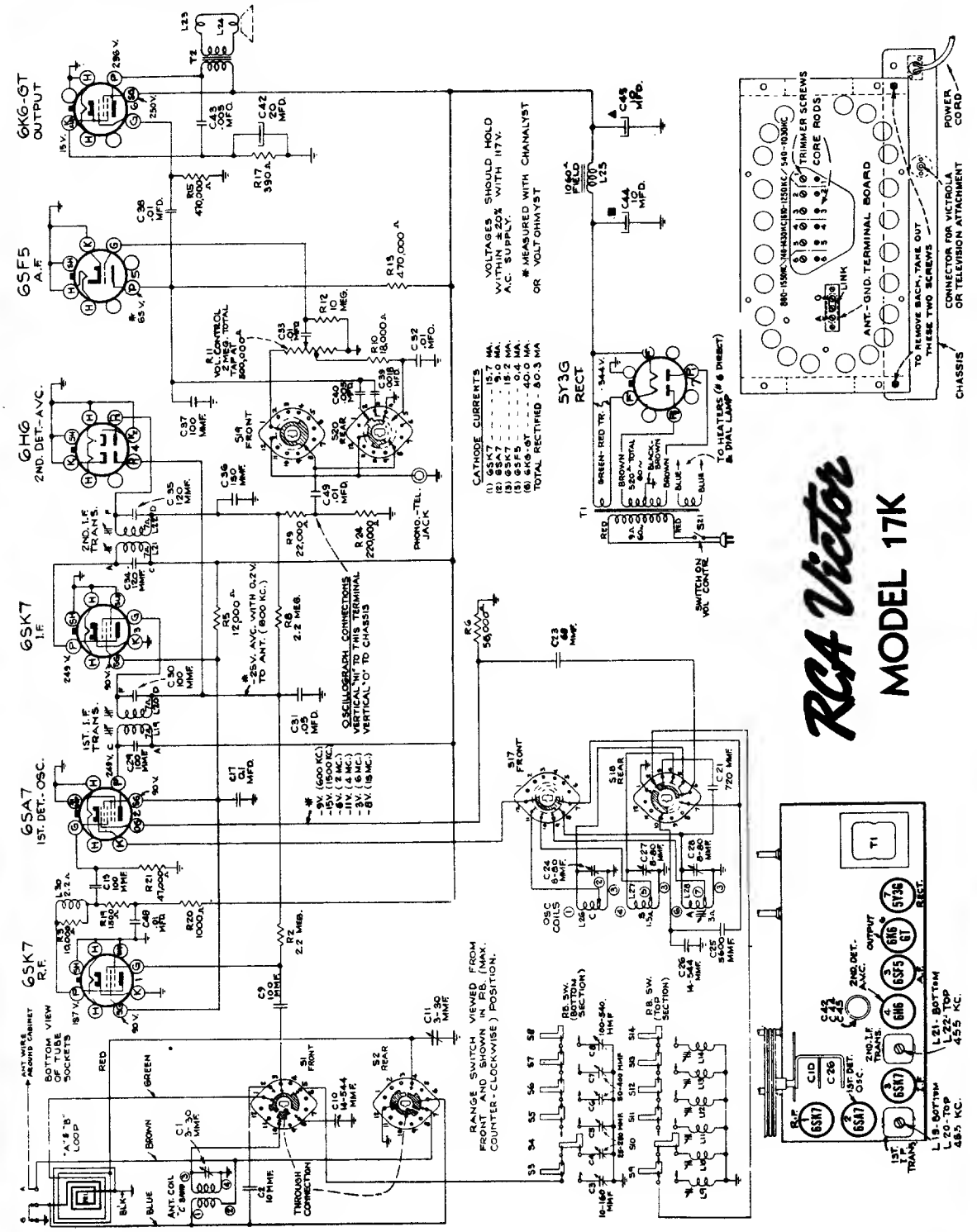


RCA Victor

16X-11 and 16X-13

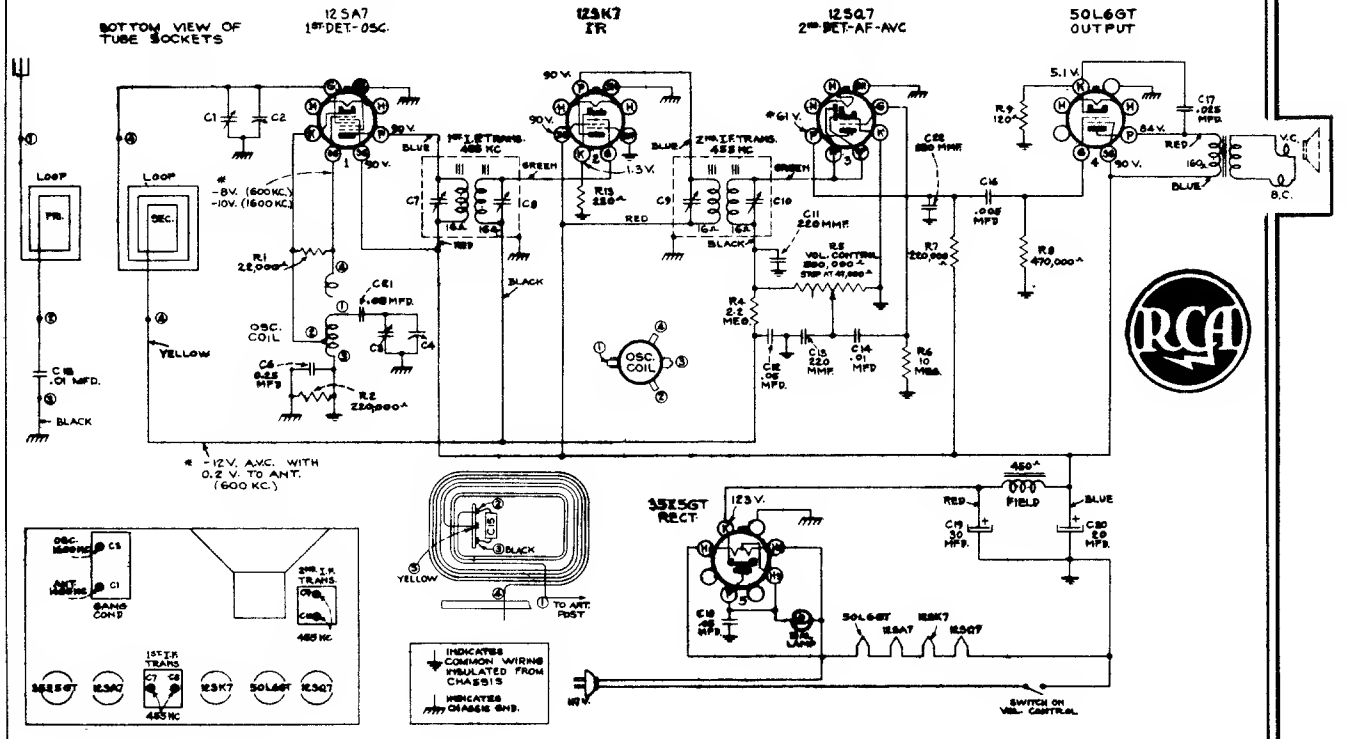
Chassis Nos. RC-1000 and RC-1000A



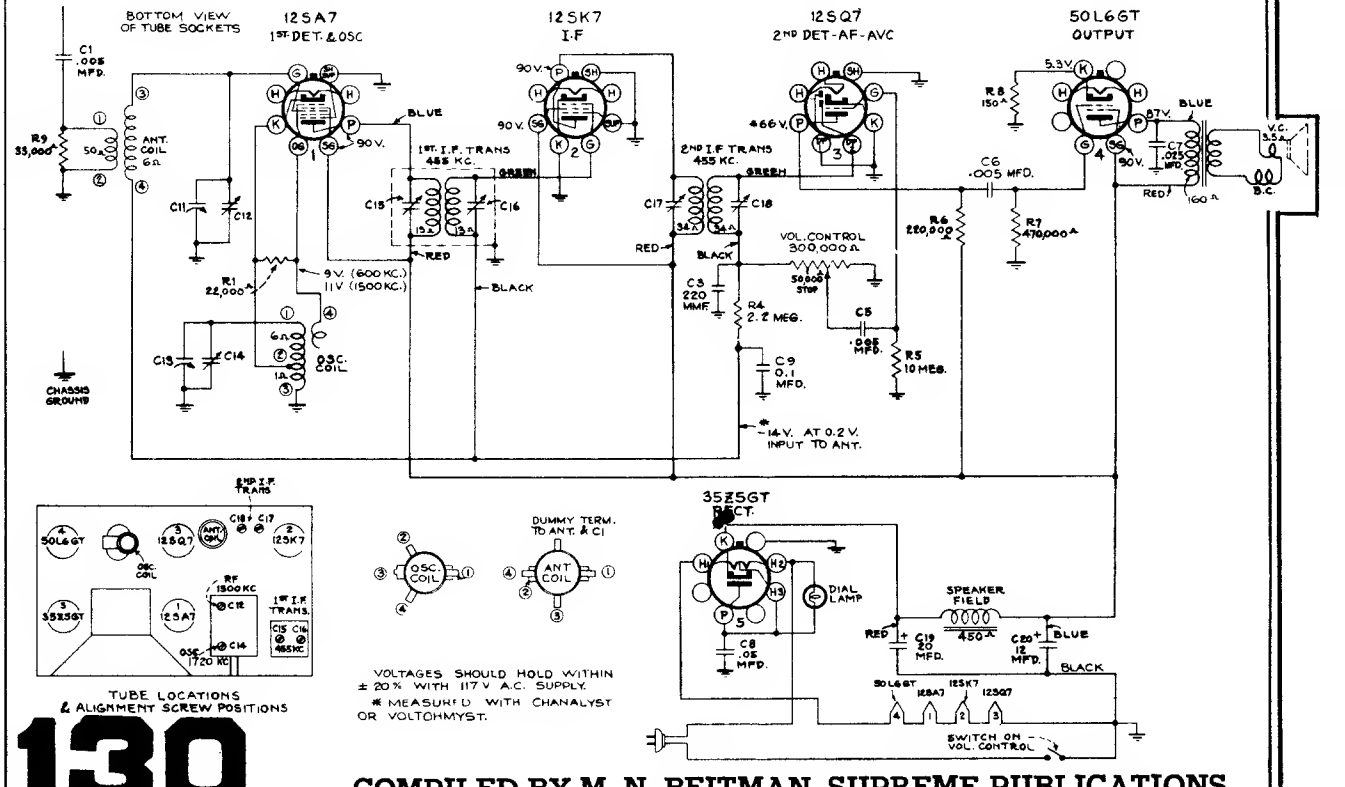

RCA Victor
MODEL 17K
6K6-GT OUTPUT
6SF5 A.F.
6H6 2ND. DET.-AVC.
6SK7 I.F.
6SA7 1ST. DET.-OSC.
6SK7 R.F.
5Y3G RECT.
VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117V. A.C. SUPPLY.
* MEASURED WITH CHANALYST OR VOLTOHMYST
CATHODE CURRENTS
(1) 6SK7 - - - - - 15.7 MA.
(2) 6SA7 - - - - - 9.0 MA.
(3) 6SK7 - - - - - 18.2 MA.
(5) 6SF5 - - - - - 0.4 MA.
(6) 6K6-GT - - - 40.0 MA.
TOTAL RECTIFIED - 80.3 MA
TO HEATERS (# & DIAL LAMP)
SWITCH ON VOL. CONTR.
TRIMMER SCREWS
CORE RODS
ANT.-GND. TERMINAL BOARD
LINK
TO REMOVE BACK, TAKE OUT THESE TWO SCREWS
CHASSIS
CONNECTOR FOR VICTROLA OR TELEVISION ATTACHMENT
POWER CORD
BOTTOM VIEW OF TUBE SOCKETS
RANGE SWITCH VIEWED FROM FRONT AND SHOWN IN PB. (MAX. COUNTER-CLOCKWISE) POSITION.
THROUGH CONNECTION
OSC COILS
L21- BOTTOM
L22- TOP
455 KC.
L19- BOTTOM
L20- TOP
485 KC.

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

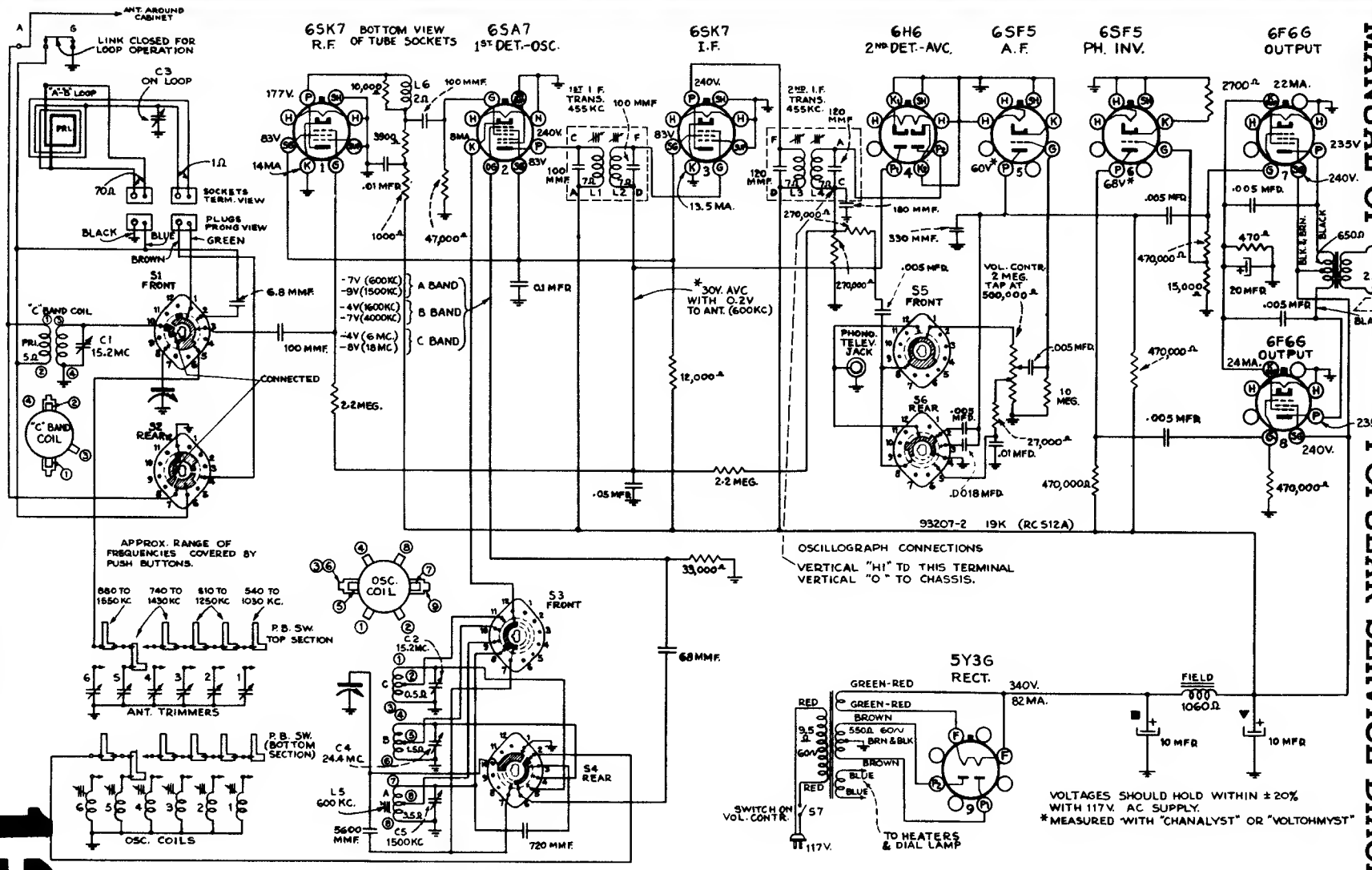
Models 45X-16, 45X-17



Models 45X3, 45X4 (Chassis No. RC-457E)



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



131

RCA Victor

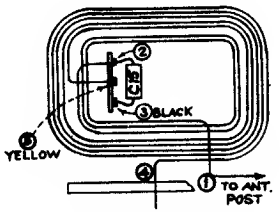
MODEL 19K (Chassis No. RC-512A)

Nine-Tube, Three-Band, A-C, Loop, Superheterodyne

RCA Victor

45X18

Chassis No. RC-541-C



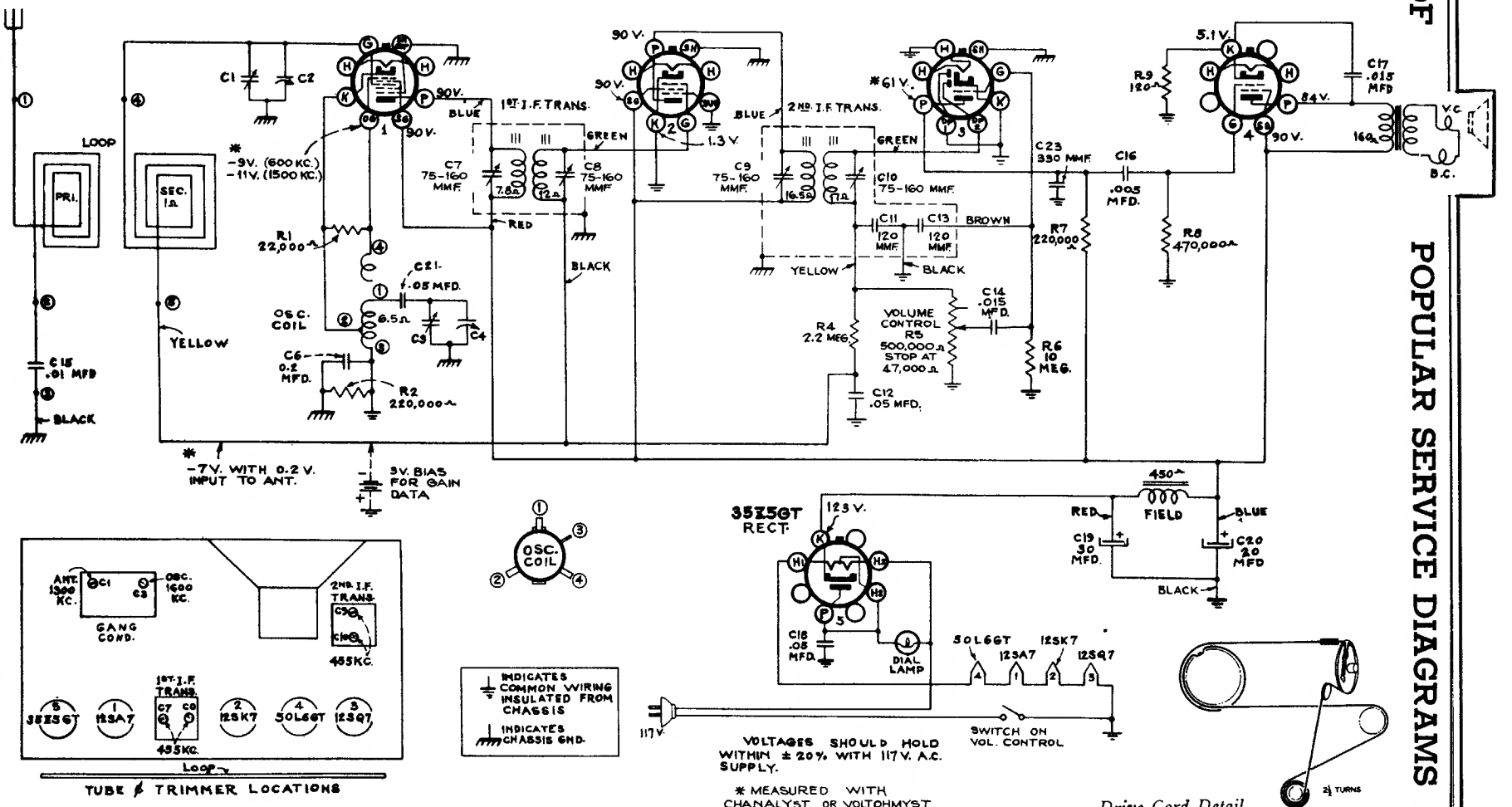
BOTTOM VIEW OF TUBE SOCKETS

CONVERSION GAIN 35X (600 - 455 KC.) -3V. FIXED BIAS — 12SA7 1ST DET.-OSC.

0.4X (455 KC.) — 12SK7 I.F.

150X (455 KC.) -3V. FIXED BIAS — 12SQ7 2ND DET.-AF.-AVC.

0.8X (455 KC.) — 30X (400 ~) — 10X (400 ~) — 50L6GT OUTPUT



TUBE & TRIMMER LOCATIONS

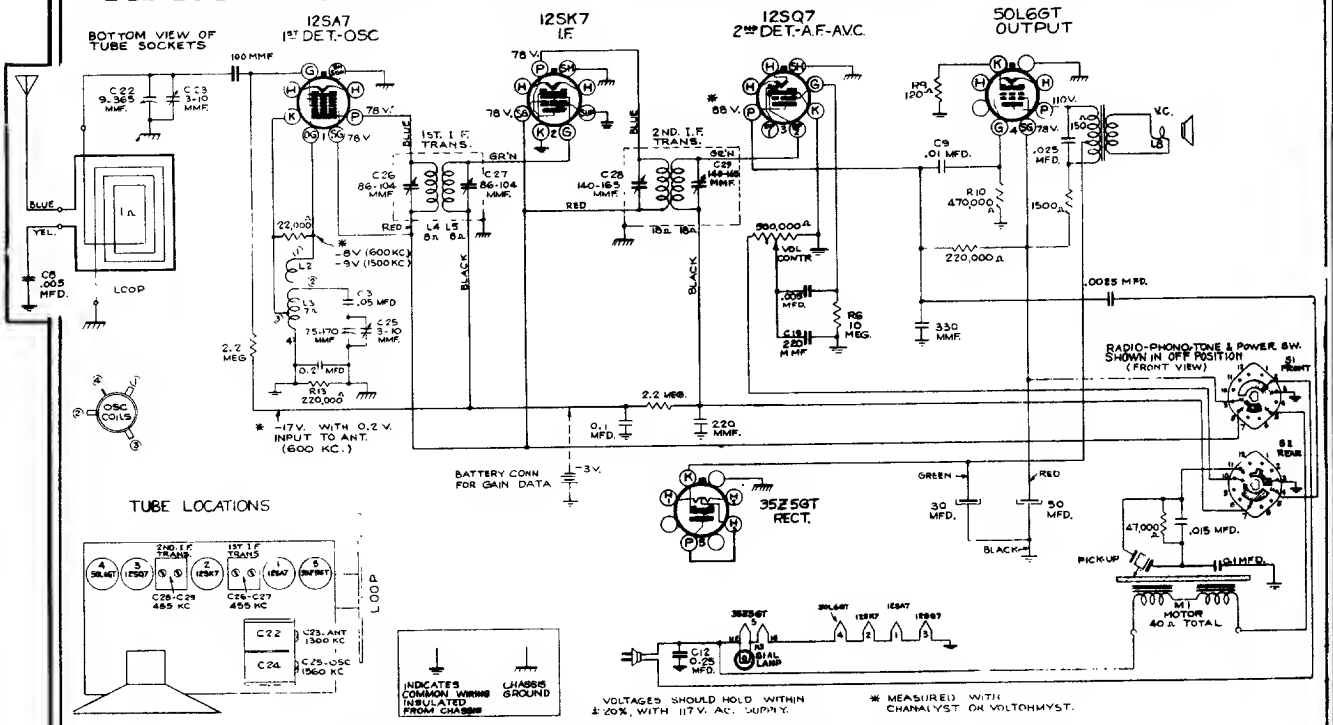
INDICATES COMMON WIRING INSULATED FROM CHASSIS

INDICATES CHASSIS GND.

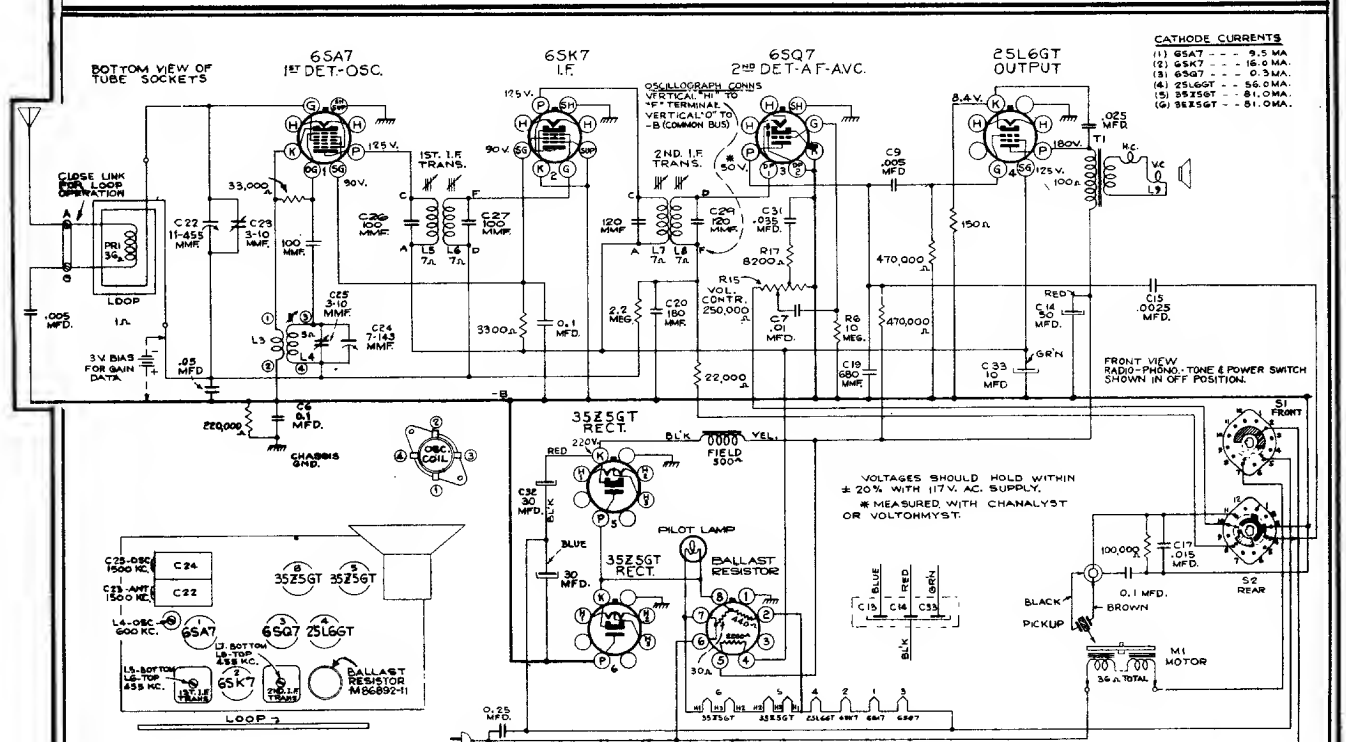
VOLTAGES SHOULD HOLD WITHIN ± 20% WITH 117 V. A.C. SUPPLY.

* MEASURED WITH CHANALYST OR VOLTOHMYST.

Drive Cord Detail

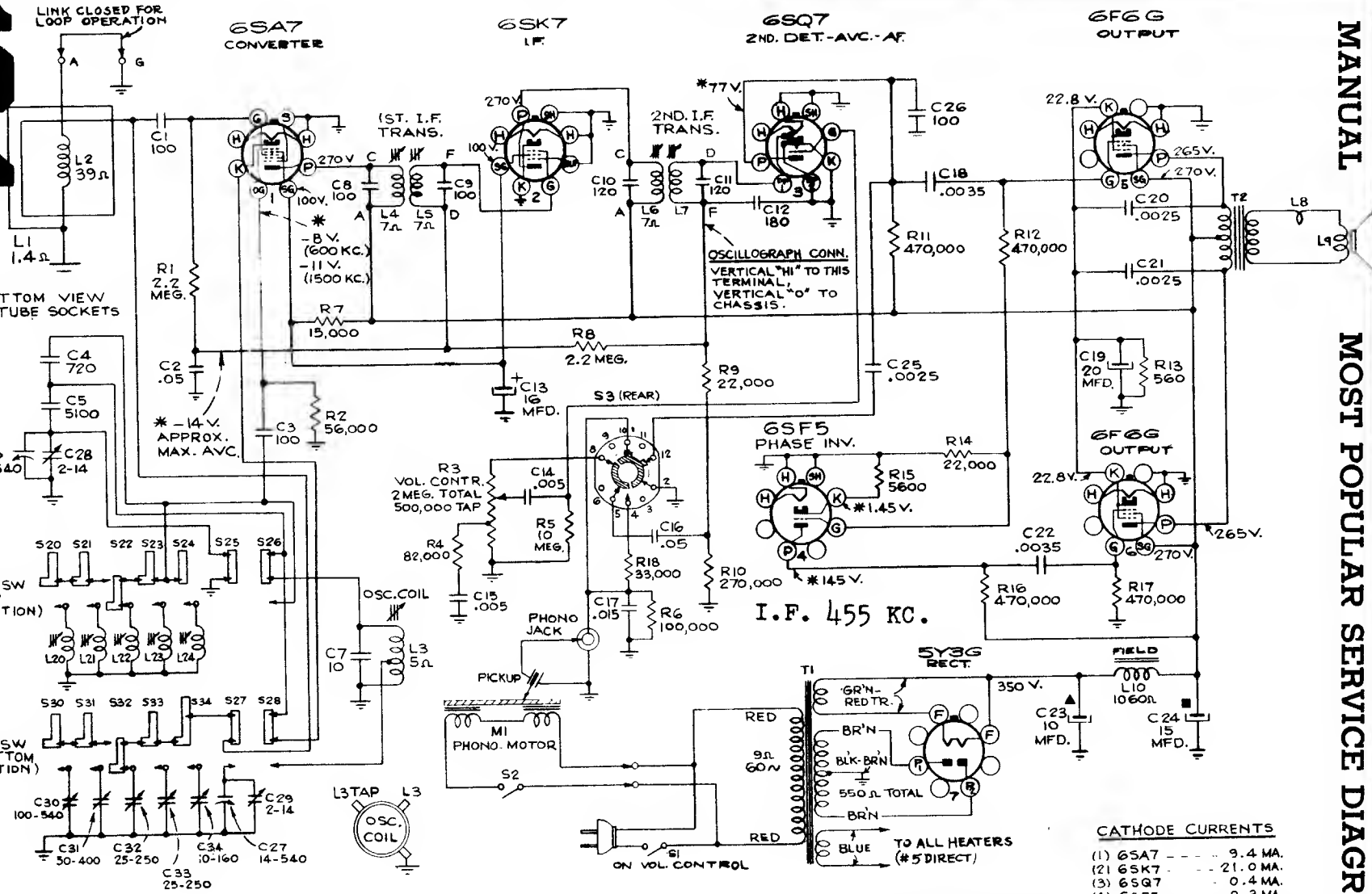


RCA VICTROLA MODEL V-100



RCA VICTROLA MODEL V-101

Chassis No. RC-540



VICTROLA MODEL V-102

Chassis No. RC-524

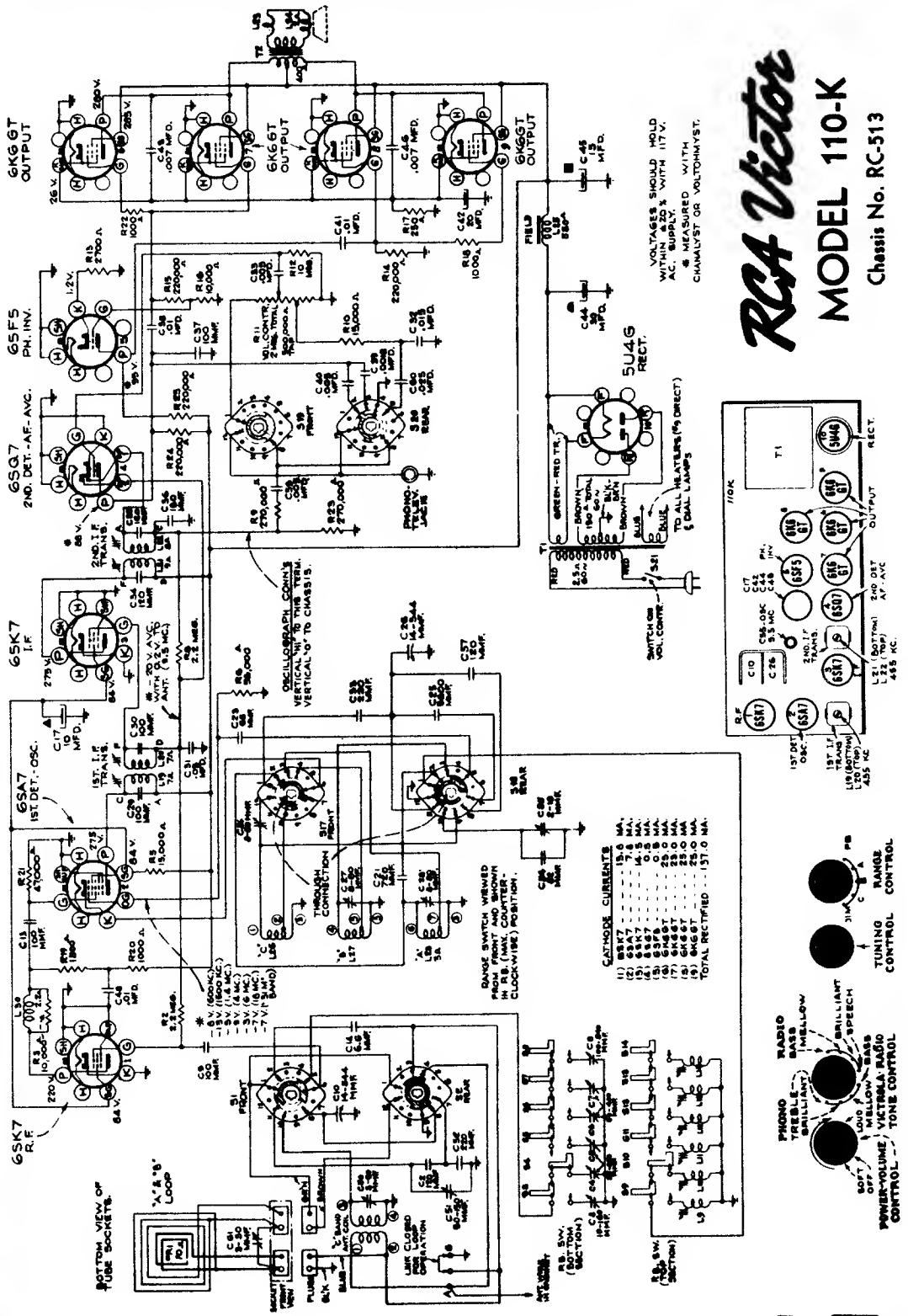
RCA

VOLTAGES SHOULD HOLD WITHIN ± 20% WITH 117 V. AC. SUPPLY.

* MEASURED WITH CHANALYST OR VOLTOHMYST.

CATHODE CURRENTS

(1)	6SA7	9.4 MA.
(2)	6SK7	21.0 MA.
(3)	6SQ7	0.4 MA.
(4)	6SF5	0.3 MA.
(5)	6F6G	21.0 MA.
(6)	6F6G	21.0 MA.
(7)	TOTAL RECT.	72.0 MA.

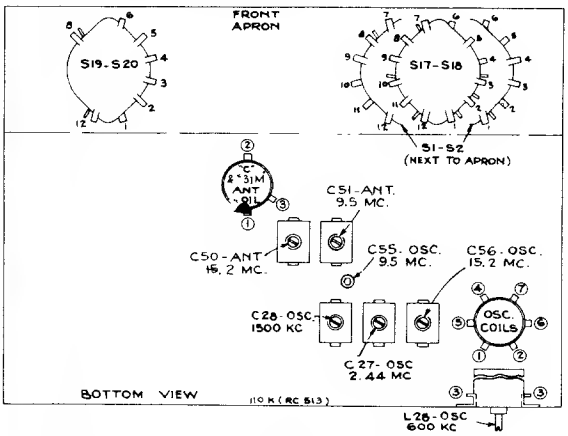

RCA Victor
MODEL 110-K
Chassis No. RC-513
6K6 GT OUTPUT
6K6 GT OUTPUT
6K6GT OUTPUT
6SF5 PH. INV.
6SQ7 2ND. DET.-AF.-AVC.
6SK7 I.F.
6SA7 1ST. DET.-OSC.
6SK7 R.F.
5U4G RECT.
VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117 V. A.C. SUPPLY.
* MEASURED WITH CHANALYST OR VOLTOHMYST.
OSCILLOGRAPH CONN'S VERTICAL "H" TO THIS TERM. VERTICAL "G" TO CHASSIS.
SWITCH ON VOL. CONTR.
TO ALL HEATERS (& DIAL LAMPS)
CATHODE CURRENTS
TOTAL RECTIFIED ... 137.0 MA.
RANGE SWITCH VIEWED FROM FRONT AND SHOWN IN R.B. (MAX. COUNTER-CLOCKWISE) POSITION.
BOTTOM VIEW OF TUBE SOCKETS.
"A" & "B" LOOP
TUNING CONTROL
RANGE CONTROL
POWER-VOLUME CONTROL
TONE CONTROL
PHONO
RADIO
BRILLIANT
MELLOW
BASS
SPEECH

Push Button Adjustment

The station push buttons connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an insulated screwdriver or alignment tool such as RCA Stock No. 31031. Allow at least five minutes warm-up period before making adjustments.

In the event that the receiver is to be used with an external antenna use one or two feet of wire (as an antenna) to ensure sharp peaking during the final adjustment procedure. For loop operation, the link should be strapped across terminals on back of set. In either case the procedure is as follows:

1. Make a list of the desired stations, arranged in order from low to high frequencies.
2. Turn the range selector to "A" band, and manually tune in the first station on the list.
3. Turn range selector to "PB" position, push in station button No. 1 (extreme left). Then adjust the No. 1 oscillator core (L-14) to receive the station.



Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the schematic diagram.

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

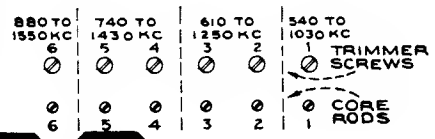
Electronic Voltmeter.—The electronic voltmeter in the Chanalyst or Volt Ohmyst provides an unexcelled output indicator. It should be connected to the AVC bus, and the test-oscillator output adjusted to produce several volts of AVC.

Calibration for Alignment.—The dial calibration for alignment purposes can be set up in two ways:

1. The dial may be removed from the cabinet by sliding out the two spring pieces which clamp it in its mounting position. The condenser plates should then be turned into full mesh, the pointer adjusted to the scratch at the left end of the dial backing plate, and the dial placed on the frame so that its extreme left calibration mark coincides with the pointer. The dial may be held in place with scotch tape. In this manner the actual receiver dial is used for alignment. When alignment is finished, the scale should be replaced including the fibre light shields which are folded under the ends of the glass scale.
2. A calibration scale is attached to the tuning drum. The correct setting of the gang, in degrees, for each alignment frequency is given in the alignment table. Check the position of the drum, making sure that the 0 degree scale mark is horizontal with the gang in full mesh.

Pointer for Calibration Scale.—If method (2) is used, improvise a pointer for the calibration scale by fastening a piece of wire to the chassis, and bend the wire so that it points to the 0 degree mark on the calibration scale when the plates are fully meshed.

Spread-Band Alignment.—Make final adjustment of C56 and C50 during actual reception of a station of known frequency near 9.5 megacycles.



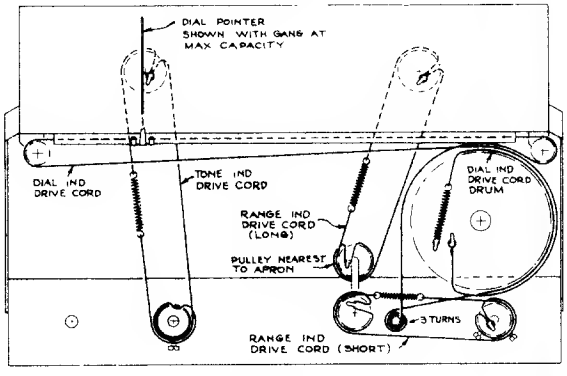
4. After oscillator core is set correctly, adjust C-8 for maximum output.
   Clockwise adjustment of cores and trimmers tunes the circuits to lower frequencies.
5. Adjust for each of the remaining stations in the same manner.
6. Make a final careful adjustment of the oscillator cores and antenna trimmers.

Owing to the relatively high r-f gain, it may be found that a given station can be tuned in at several different settings of the magnetite-core oscillator push-button coils. In such cases, it is advisable to unscrew the loop push-button trimmers to minimum capacity before adjusting the magnetite cores.

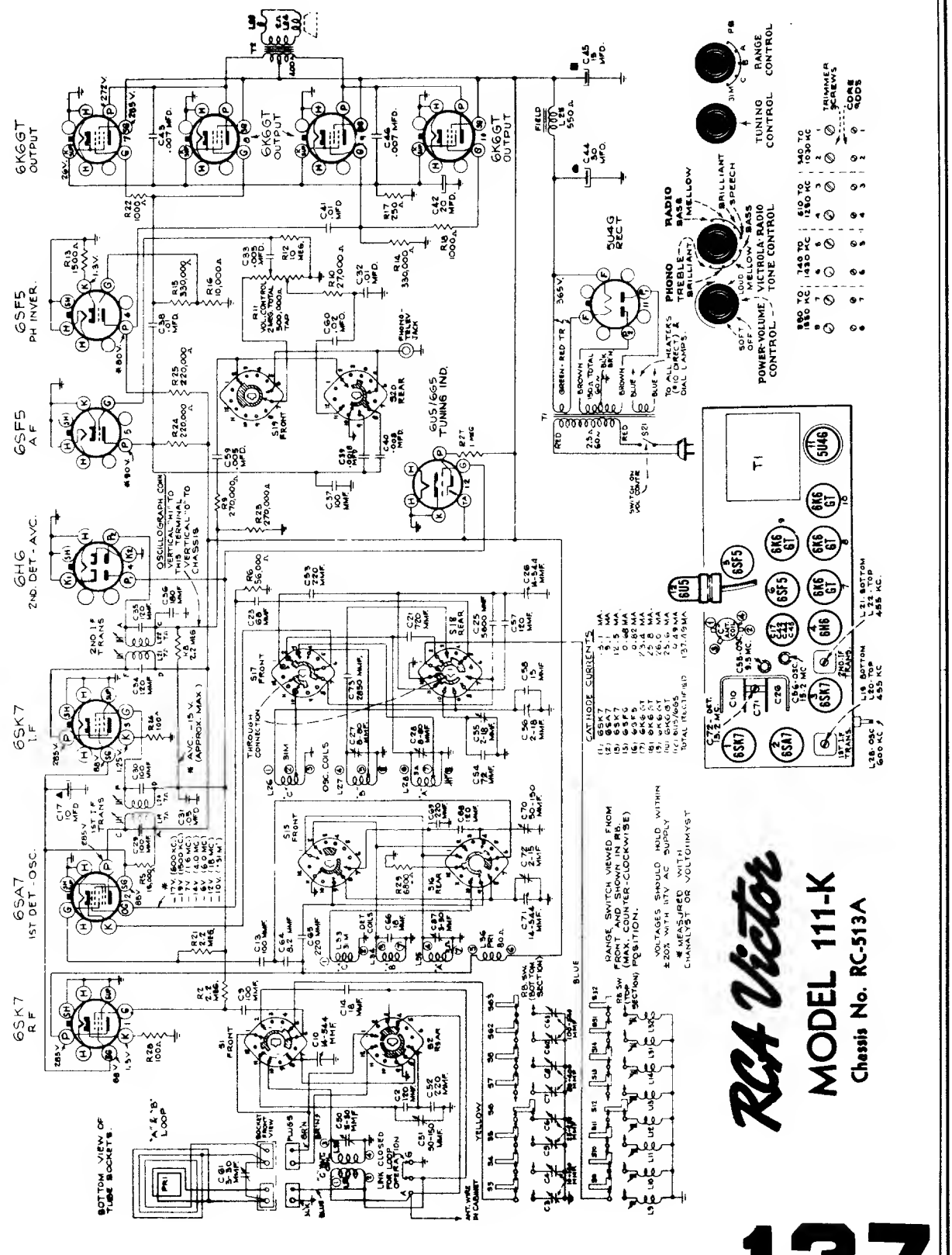
On the 880 to 1,550 kc push-button, the higher frequency stations may be received with L-9 either in or out (oscillator frequency either 455 kc below or 455 kc above the station frequency). The adjustment with this core in its out position (oscillator frequency 455 kc above the station frequency) is the correct one.

Steps	Connect the high side of the test-osc. to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for maximum peak output—
1	I-F grid in series with .01 mfd.	455 kc	"C" Band Quiet Point at 18 mc end of dial	L21 and L22 (2nd I.F. Trans.)
2	1st-det. grid in series with .01 mfd.			L19 and L20 (1st I.F. Trans.)
3	Antenna terminal (A), in series with 47 mmfd. (link closed)	15.2 mc	15.2 mc (149°) "C" band	C56 (osc.)* C50 (ant.)** Rock in
4		9.5 mc	9.5 mc (65.5°) "31M" band	C55 (osc.)* C51 (ant.)** Rock in
5	Stator of antenna section of gang, in series with 300 ohms	2.44 mc	2.44 mc (97°) "B" band	C27 (osc.)
6		600 kc	600 kc (30.5°) "A" band	L28 (osc.)
7		1,500 kc	1,500 kc (158°) "A" band	C28 (osc.)
8	Repeat steps 6 and 7.			
9	Fasten chassis in cabinet, see that link is closed on antenna terminal board, indicator at left end of dial scales with gang at maximum capacity.			
10	Radiation loop consisting of two turns of wire 18 inches in diameter located 4 to 6 feet from receiver	1,500 kc	1,500 kc "A" band	C61 (ant.) (mounted on loop)
11		600 kc	600 kc "A" band	L28 (osc.) Rock in
12		Repeat steps 10 and 11		

* Use minimum capacity peak if two peaks can be obtained.
** Use maximum capacity peak if two peaks can be obtained.
NOTE: Oscillator tracks 455 kc above signal on all bands.



MODEL 110-K

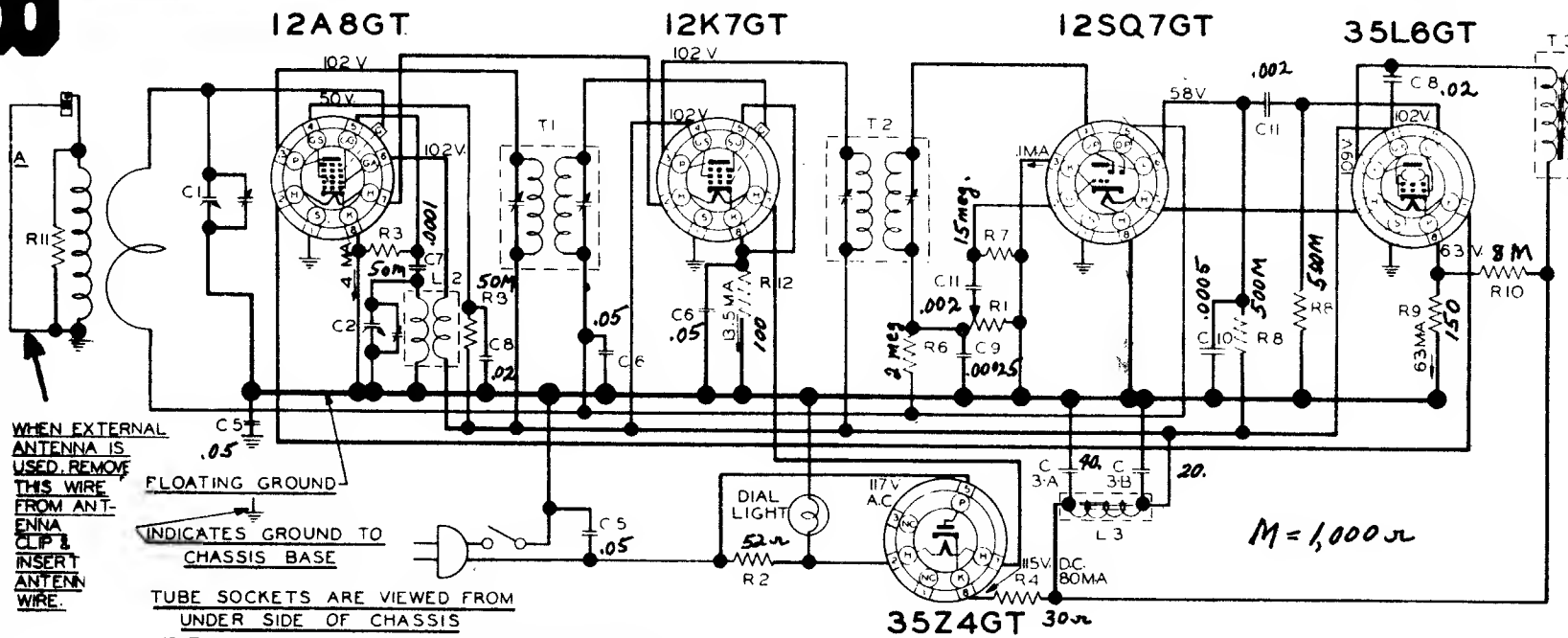

RCA Victor
MODEL 111-K
Chassis No. RC-513A
6K6GT OUTPUT
6SF5 PH INVER.
6SF5 AF
6H6 2ND. DET. - AVC.
6SK7 I.F.
6SA7 1ST DET. - OSC.
6SK7 R.F.
6U5/6G5 TUNING IND.
5U4G RECT.
TUNING CONTROL
RANGE CONTROL
POWER-VOLUME CONTROL
TONE CONTROL
VICTROLA RADIO
PHONO
TREBLE
BASS
BRILLIANT
MELLOW
SOFT
LOUD
OFF
TRIMMER SCREWS
CORE RODS
BOTTOM VIEW OF TUBE SOCKETS
"A" & "B" LOOP
ANT. WIRE IN CABINET
LINK CLOSED FOR LOOP OPERATION
RANGE SWITCH VIEWED FROM FRONT AND SHOWN IN RB. (MAX. COUNTER-CLOCKWISE) POSITION.
VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117V AC SUPPLY
* MEASURED WITH VOLTOHMYST
CATHODE CURRENTS
TOTAL RECTIFIED
OSCILLOGRAPH CONN. THIS TERMINAL TO "VERTICAL" TO CHASSIS
AVC -15 V. (APPROX. MAX.)
THROUGH CONNECTION
OSC. COILS
1ST I.F. TRANS.
2ND I.F. TRANS.
L26-OSC. 600 KC
L28-OSC. 1500 KC
L19 BOTTOM L20 TOP 455 KC
L21 BOTTOM L22 TOP 455 KC.
FIELD L28 550 Ω
GREEN - RED TR
BROWN
BLUE
RED
SWITCH ON VOL. CONTR.
TO ALL HEATERS (R.F. DIRECT) & DIAL LAMPS.
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
T14
T15
T16
T17
T18
T19
T20
T21
T22
T23
T24
T25
T26
T27
T28
T29
T30
T31
T32
T33
T34
T35
T36
T37
T38
T39
T40
T41
T42
T43
T44
T45
T46
T47
T48
T49
T50
T51
T52
T53
T54
T55
T56
T57
T58
T59
T60
T61
T62
T63
T64
T65
T66
T67
T68
T69
T70
T71
T72
T73
T74
T75
T76
T77
T78
T79
T80
T81
T82
T83
T84
T85
T86
T87
T88
T89
T90
T91
T92
T93
T94
T95
T96
T97
T98
T99
T100

138

Sears, Roebuck & Co.

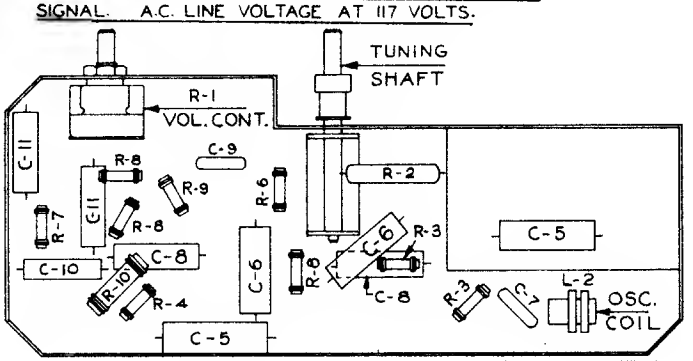
Models 3351, 3451, 3551, 132.802

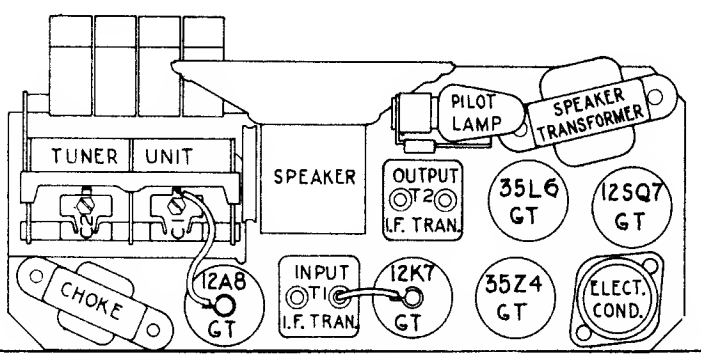
POSITION OF VARIABLE	FREQUENCY GENERATOR	DUMMY ANTENNA	GENERATOR CONNECTION (High)	GENERATOR CONNECTION (Low)	TRIMMERS ADJUSTED (In order shown)	TRIMMER FUNCTION
Closed	455 kc	.1 mfd.	12A8GT Grid	Var. Cond. Frame	T2, T1	IF
1400 kc	1400 kc	.00005 mfd.	Ant. clip	Chassis Base	C2, C1	Translator
600 kc	600 kc	.00005 mfd.	Ant. clip	Chassis Base	Check Point	- - - -



TUBE SOCKETS ARE VIEWED FROM UNDER SIDE OF CHASSIS

VOLTAGE READINGS SHOWN AT SOCKET PRONGS ARE TO FLOATING GROUND AND ARE TAKEN WITH NO SIGNAL. A.C. LINE VOLTAGE AT 117 VOLTS.

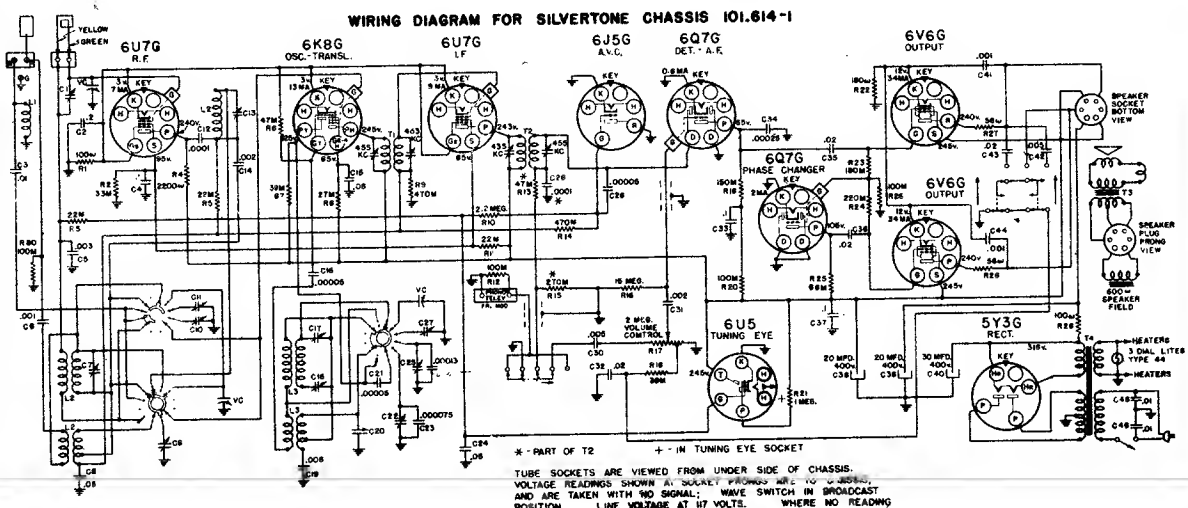




COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MOST POPULAR SERVICE DIAGRAMS

WIRING DIAGRAM FOR SILVERTONE CHASSIS 101.614-1

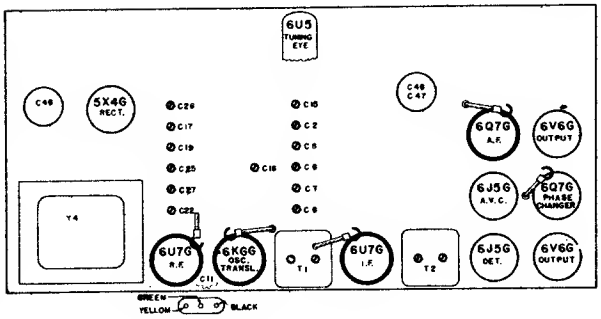


TUBE SOCKETS ARE VIEWED FROM UNDER SIDE OF CHASSIS. VOLTAGE READINGS SHOWN AT SOCKET PRONGS ARE TO CHASSIS, AND ARE TAKEN WITH NO SIGNAL; WAVE SWITCH IN BROADCAST POSITION. LINE VOLTAGE AT 117 VOLTS. WHERE NO READING IS GIVEN, THE VOLTAGE IS ZERO OR TOO LOW TO READ.

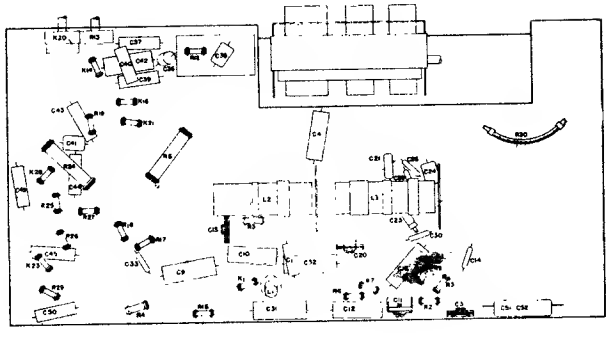
Model R-101

Sears, Roebuck & Co. Chicago.

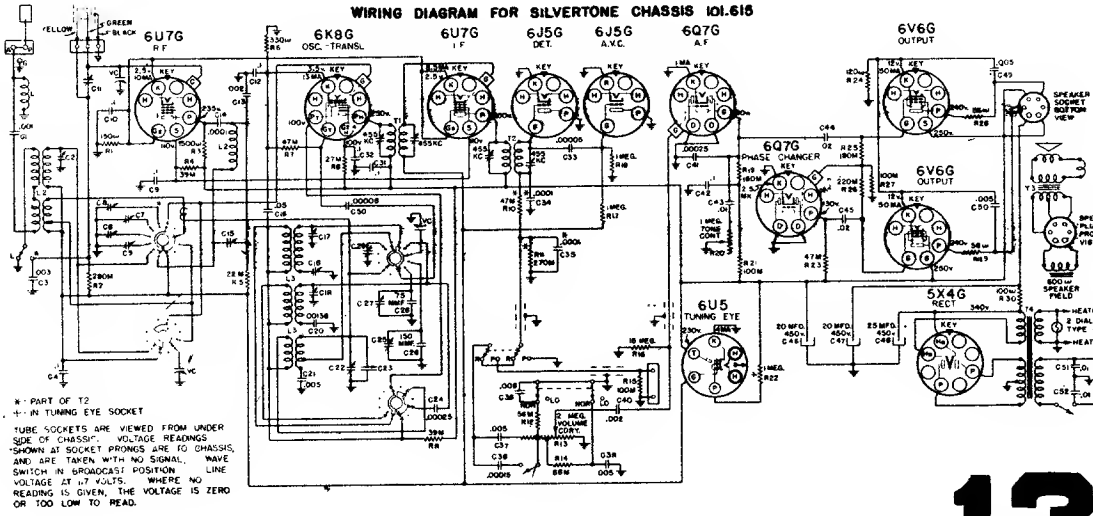
Model R-111



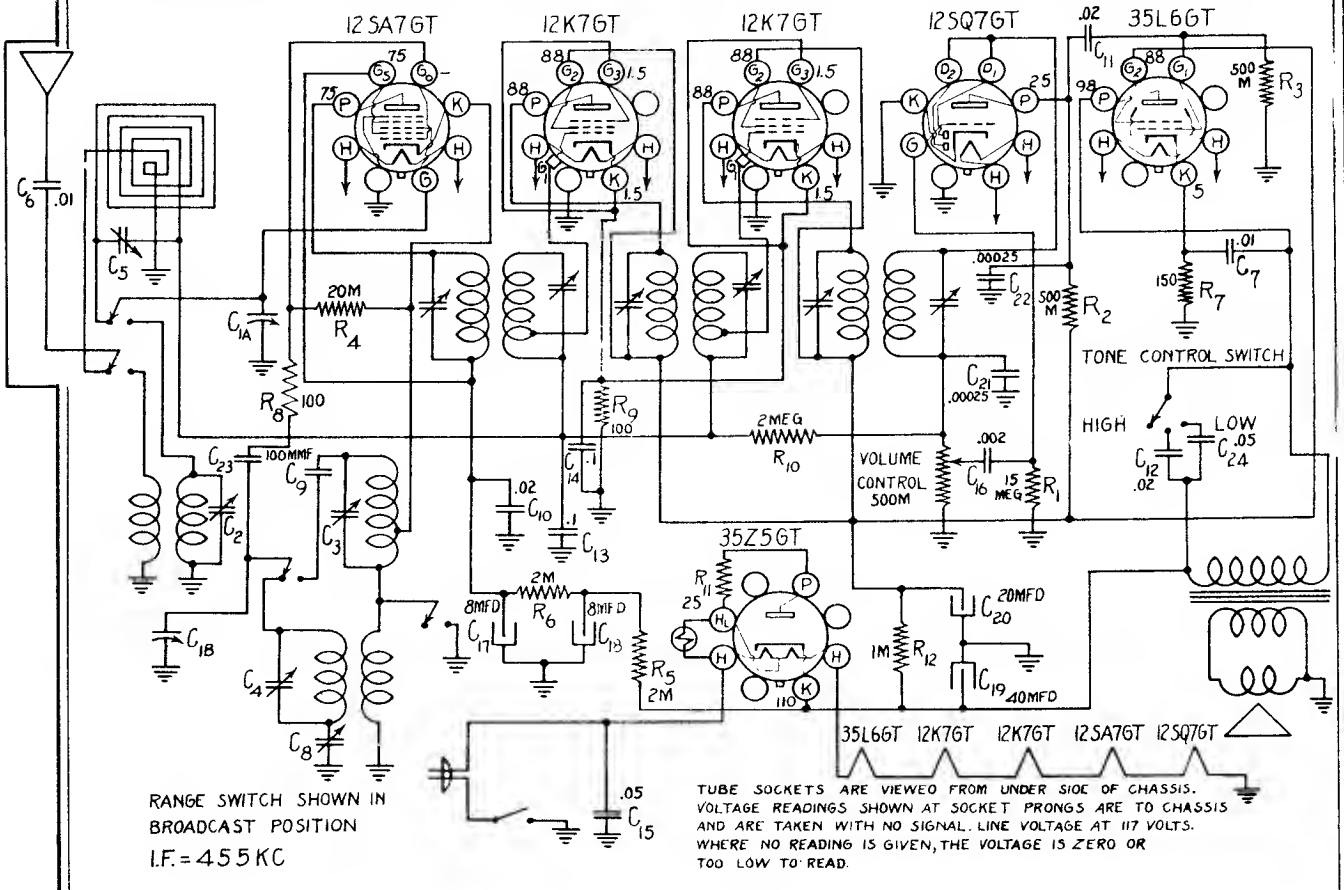
LOCATIONS OF PARTS ON TOP OF CHASSIS - 101.615

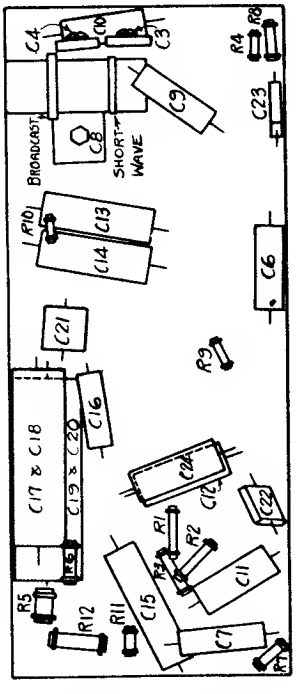


WIRING DIAGRAM FOR SILVERTONE CHASSIS 101.615



TUBE SOCKETS ARE VIEWED FROM UNDER SIDE OF CHASSIS. VOLTAGE READINGS SHOWN AT SOCKET PRONGS ARE TO CHASSIS, AND ARE TAKEN WITH NO SIGNAL. WAVE SWITCH IN BROADCAST POSITION. LINE VOLTAGE AT 117 VOLTS. WHERE NO READING IS GIVEN, THE VOLTAGE IS ZERO OR TOO LOW TO READ.



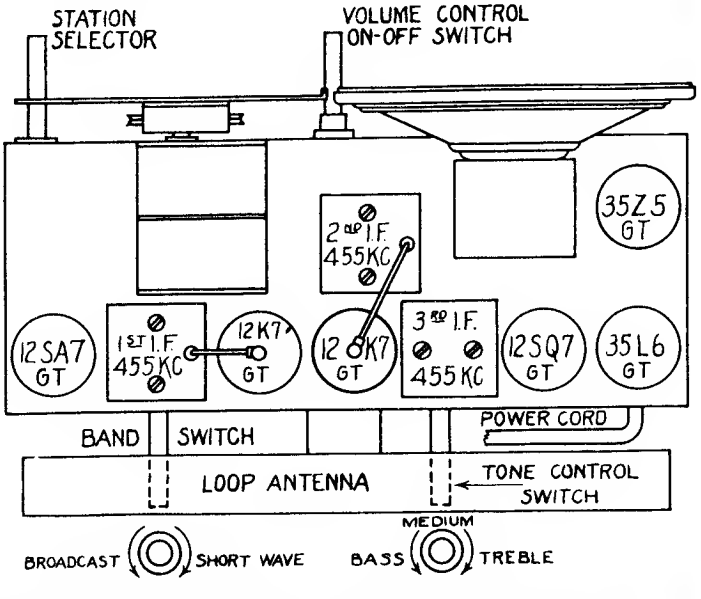


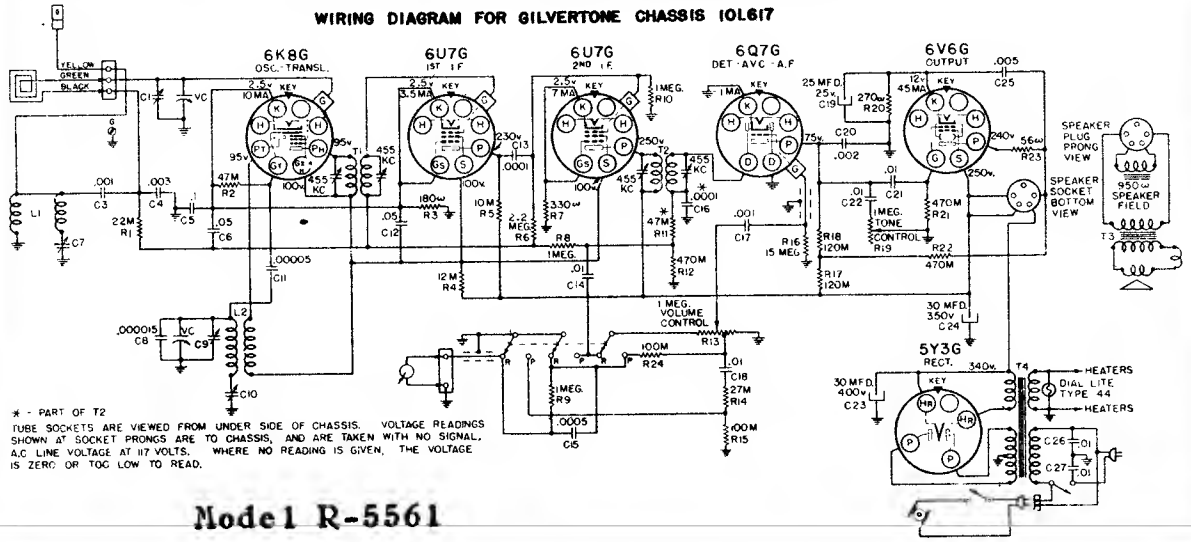
LOUD SPEAKER:
Type . . . Permanent Magnet Dynamic
Size . . . . . 6 inch
Field . . . . . Permanent Magnet

Sears, Roebuck & Co. Chicago.

Models 3361, 3461, 3561, 3621.

Factory No. 109.356

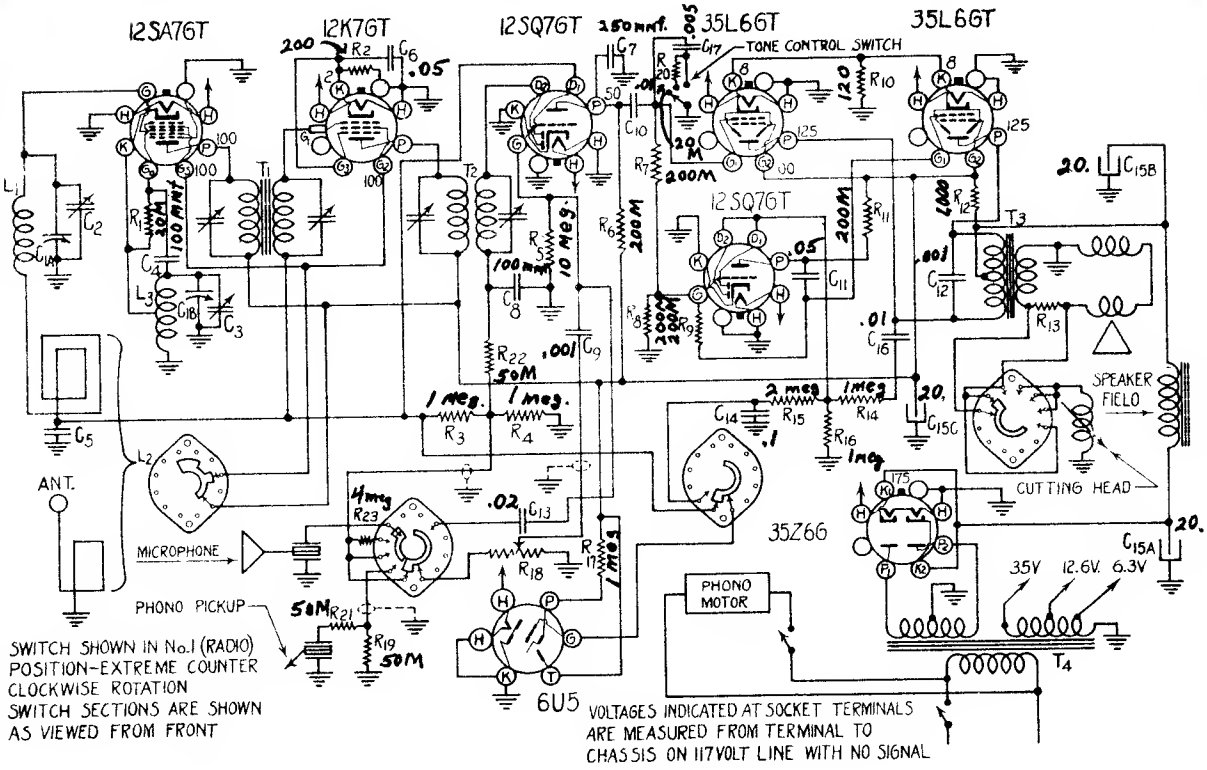




Model R-5561

Sears, Roebuck & Co. Models 5732 and 5732-B
Factory Nos. 109.371 and 109.371-1

These receivers are alike except that the early model C13 is .001 mfd. and C9 is .002 mfd. Also the connection from C13 was connected to the volume control side of C9.



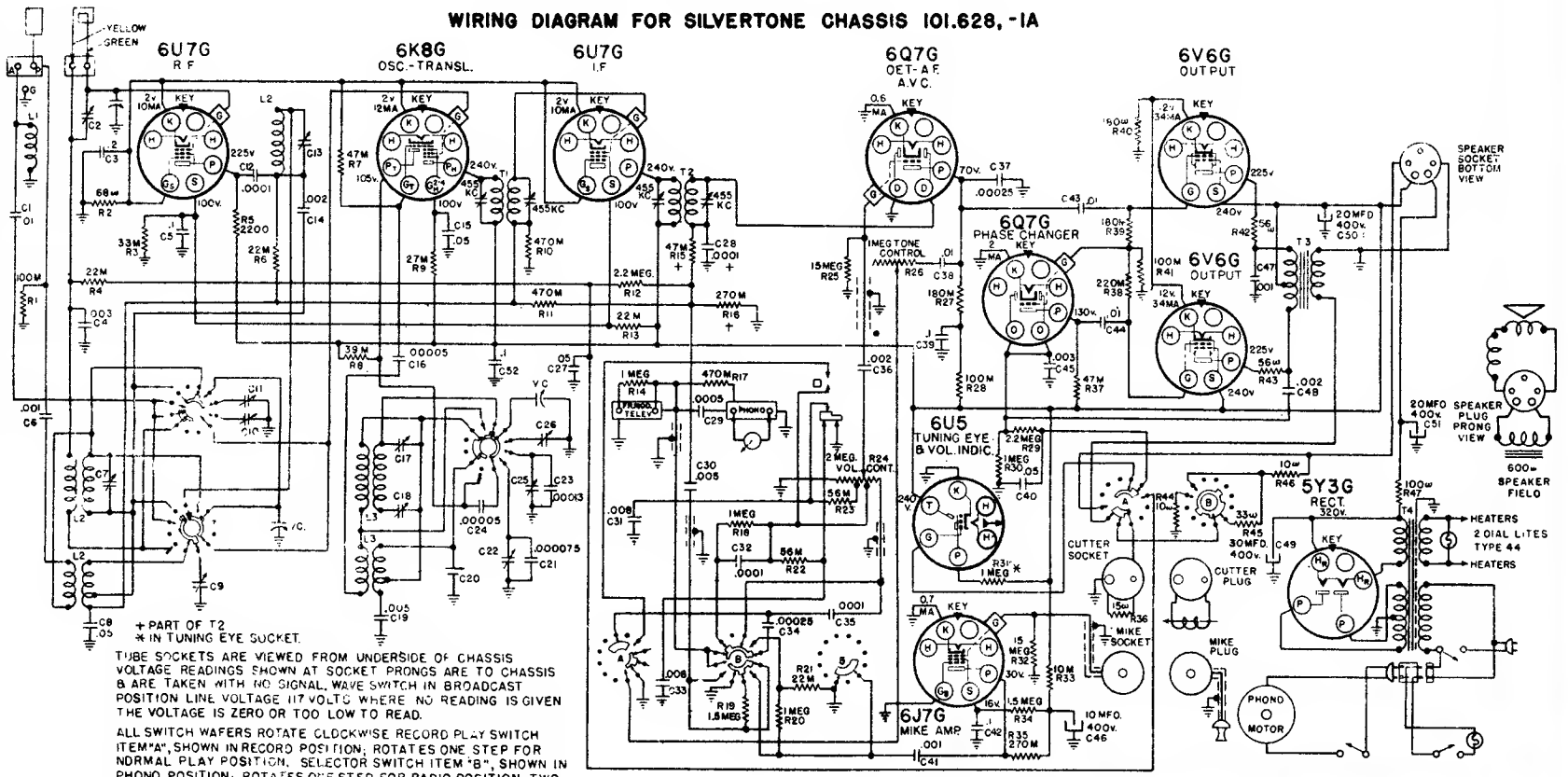
Sears, Roebuck & Co. Models 5601A and 6449

Factory Number 101.628

Intermediate Frequency: 455 KC.

FREQUENCY RANGES:		ALIGNMENT FREQUENCIES: Oscillator Trimmer	Antenna-Transl. Trimmer	Padder
Band "A"	538-1650 kc	1650 kc	1500 kc	600 kc
Band "B"	1.45-2.56 mc	2.4 mc	2.4 mc	Fixed
Band "C"	5.82-18.3 mc	18.3 mc	15 mc	Fixed
Band "D"	9.35-9.86 mc	9.55 mc	9.55 mc	Fixed
Band "E"	10.89-12.02 mc	11.71 mc	11.71 mc	Fixed

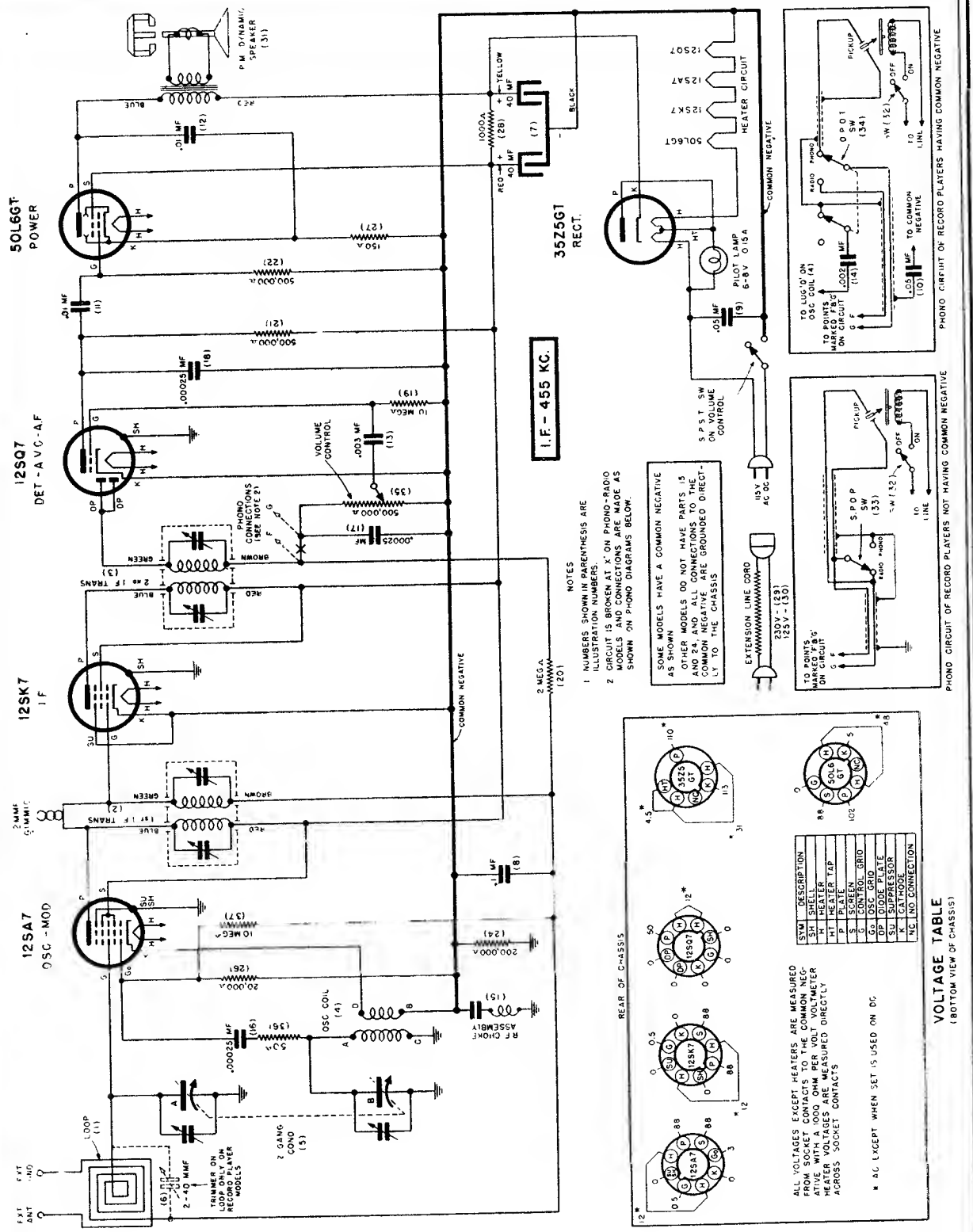
WIRING DIAGRAM FOR SILVERTONE CHASSIS 101.628, -1A



TUBE SOCKETS ARE VIEWED FROM UNDERSIDE OF CHASSIS VOLTAGE READINGS SHOWN AT SOCKET PRONGS ARE TO CHASSIS & ARE TAKEN WITH NO SIGNAL, WAVE SWITCH IN BROADCAST POSITION LINE VOLTAGE 117 VOLTS WHERE NO READING IS GIVEN THE VOLTAGE IS ZERO OR TOO LOW TO READ.

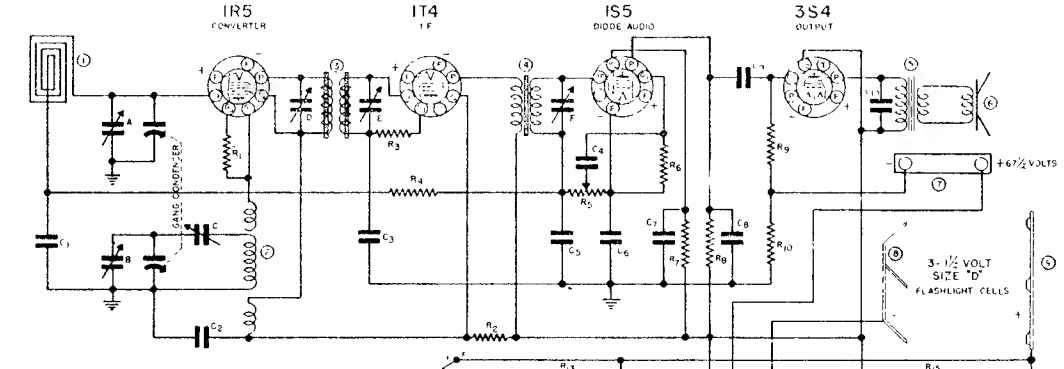
ALL SWITCH WAFERS ROTATE CLOCKWISE RECORD PLAY SWITCH ITEM "A", SHOWN IN RECORD POSITION; ROTATES ONE STEP FOR NORMAL PLAY POSITION. SELECTOR SWITCH ITEM "B", SHOWN IN PHONO POSITION; ROTATES ONE STEP FOR RADIO POSITION; TWO STEPS FOR MICROPHONE POSITION; THREE STEPS FOR RADIO & MICROPHONE POSITION.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



Sentinel Radio Corporation
Model 248

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



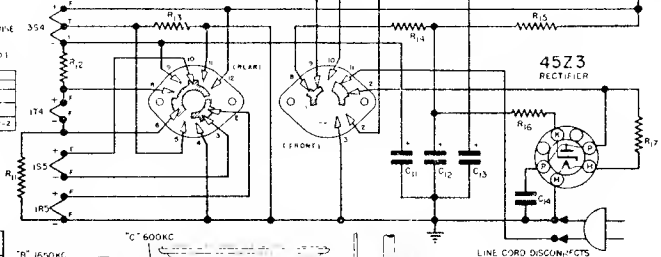
DIAG NO	PART NO	DESCRIPTION
R_1	N-1778	100,000 OHM 5W 20%
R_2	N-4278	4,700 OHM 5W 10%
R_3	N-1263	10 MEGOHM 5W 20%
R_4	N-4277	2.2 MEGOHM 5W 20%
R_5	N-4213	1 MEGOHM VOLUME CONTROL
R_6	N-4028	6.8 MEGOHM 5W 20%
R_7	N-4062	3.3 MEGOHM 5W 20%
R_8	N-1262	1 MEGOHM 5W 20%
R_9	N-4277	2.2 MEGOHM 5W 20%
R_{10}	N-4279	820 OHM 5W 10%
R_{11}	N-4228	680 OHM 5W 10%
R_{12}	N-4280	56 OHM 5W 10%
R_{13}	N-4281	1800 OHM .5W 10%
R_{14}	N-4065	2200 OHM 5W 10%
R_{15}	N-4252	1870 OHM 4.8W 5%
R_{16}		82 OHM 1.3W 10%
R_{17}		1000 OHM 5.6W 10%
	N-4185	2 GANG CONDENSER
1	N-4296	LOOP ANTENNA (WOOD)
	N-4251	LOOP ANTENNA (PLASTIC)
2	N-4257	OSCILLATOR COIL
3	N-4470	1ST I.F. TRANSFORMER
4	N-4251	2ND I.F. TRANSFORMER
5	N-4256	OUTPUT TRANSFORMER
6	N-4255	3½" P.M. SPEAKER
7	N-4274	8 BATTERY CONNECTOR
8	N-4220	A BATTERY SPRING CONTACT (NEGATIVE)
9	N-4222	A BATTERY CONTACT STRIP (POSITIVE)
	N-4215	CHANGEOVER SWITCH

SWITCH SHOWN IN COUNTER CLOCKWISE (AC-DC) POSITION

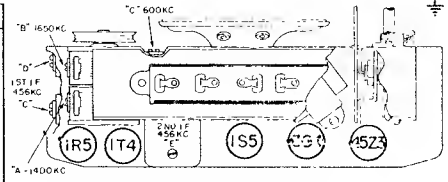
(BOTH VIEWS AS SEEN FROM SHAFT END)

POS.	CONTACTS MADE FRONT	CONTACTS MADE REAR
AC DC	8-9, 11-12	2-3, 6-10
OFF	NONE	2-3, 4-8, 10-11
BATTERY	2-3, 9-10	3-4-5-6, 8-9-10-12-2

I.F. 456 KC



DIAG NO	PART NO	DESCRIPTION
C_1	N-1345	.05 MFD 200 V
C_2	N-1345	.05 MFD 200 V
C_3	N-1344	.01 MFD 400 V
C_4	N-2712	.004 MFD 400 V
C_5		.0001 MFD (IN 2ND I.F. CAN)
C_6	N-1351	1 MFD 200 V
C_7	N-1344	.01 MFD 400 V
C_8	N-1342	50 MMFD MICA
C_9	N-1344	.01 MFD 400 V
C_{10}	N-2712	.004 MFD 400 V
C_{11}		100 MFD 12V
C_{12}	N-4206	30 MFD 150V. ELECTROLYTIC
C_{13}		30 MFD 150V
C_{14}	N-1346	.05 MFD 400 V

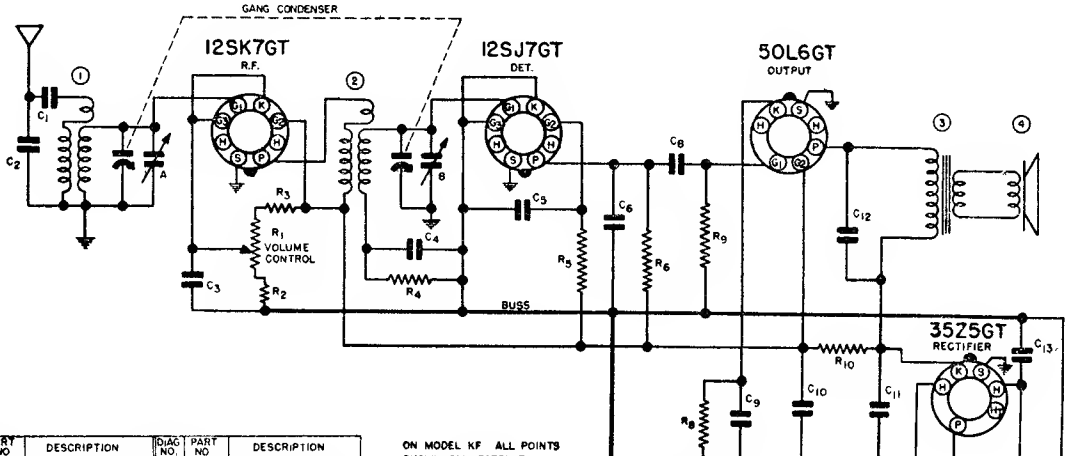


TUBE AND TRIMMER LOCATIONS

5 TUBE - 3 WAY PORTABLE
BATTERY, 110-120 VOLTS AC OR DC
SUPERHETERODYNE
SINGLE BAND

DRWN RC APP D.W.E.

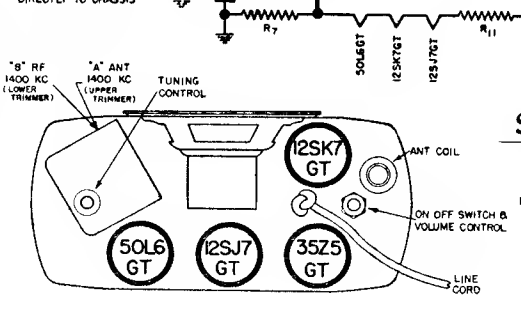
MAY 1941



DIAG NO	PART NO	DESCRIPTION
C_1	N-1344	.01 MFD. 400 V
C_2	——	20 MMFD. BUILT IN
C_3	N-1345	.05 MFD 200 V
C_4	N-1345	.05 MFD 200. V
C_5	N-1344	.01 MFD 400 V
C_6	N-1374	100 MMFD MICA
C_7	N-2642	.09 MFD 200 V 20% USED ON MODEL KFU ONLY
C_8	N-1344	.01 MFD 400 V
C_9	N-3734	20 MFD 25V (ELECTROLYTIC)
C_{10}		15 MFD 150 V (ELECTROLYTIC)
C_{11}		40 MFD 150 V (ELECTROLYTIC)
C_{12}	N-1344	.01 MFD. 400 V
C_{13}	N-1346	.05 MFD. 400 V
	N-3731	GANG CONDENSER

DIAG NO.	PART NO	DESCRIPTION
R_1	N-3728	25,000 OHM VOL. CONT
R_2		110 OHM 20% .5W IN VOLUME CONTROL
R_3	N-1684	75,000 OHM 20% 5W
R_4	N-1418	33 MEG 20% 5W
R_5	N-1835	6 MEG. 20% .5W
R_6	N-1262	1 MEG 20% 5W
R_7	N-1378	2 MEG. 20% 5W. USED ON MODEL KFU ONLY
R_8	N-1787	250. OHM 10% 5W
R_9	N-1264	5 MEG 20% 5W
R_{10}	N-1417	3000 OHM 20% 5W
R_{11}	N-1618	80. OHM 10% 2W
R_{12}	N-1742	25 OHM 20% 5W
1	N-3722	ANTENNA COIL
2	N-3733	R.F. COIL
3	N-3729	OUTPUT TRANS.
4	N-3730	SPEAKER

ON MODEL KF ALL POINTS SHOWN CONNECTED TO BUSS ARE CONNECTED DIRECTLY TO CHASSIS



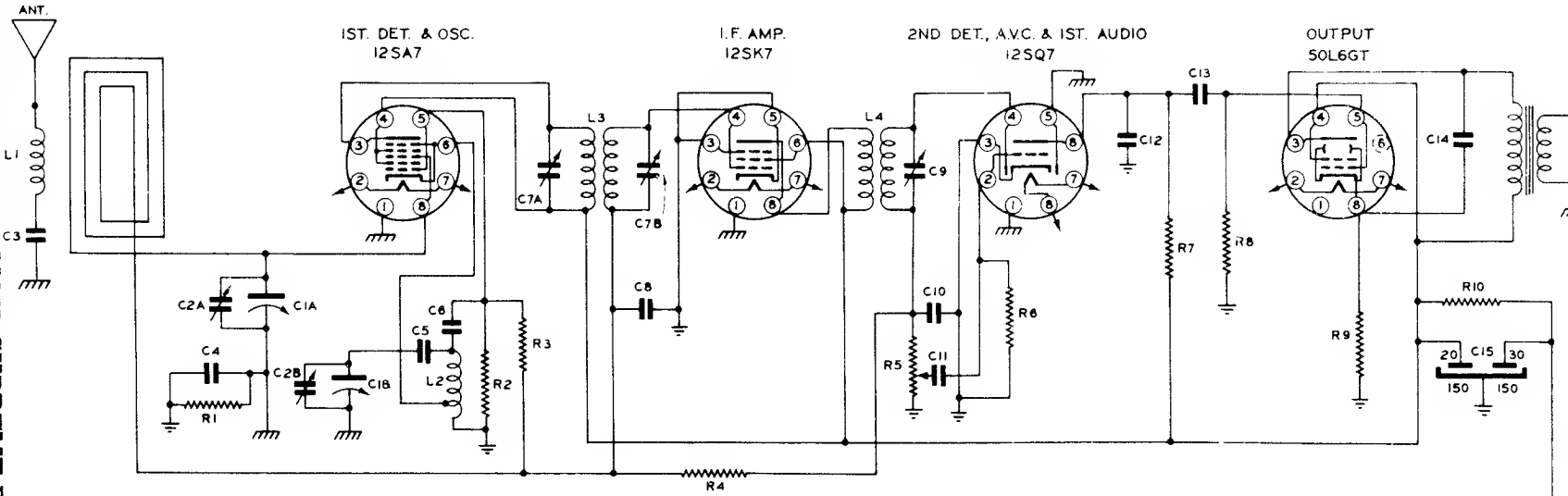
Sonora

4 TUBE T.R.F.

DRWN RC APP L.D.K. B.M.

9-10-40

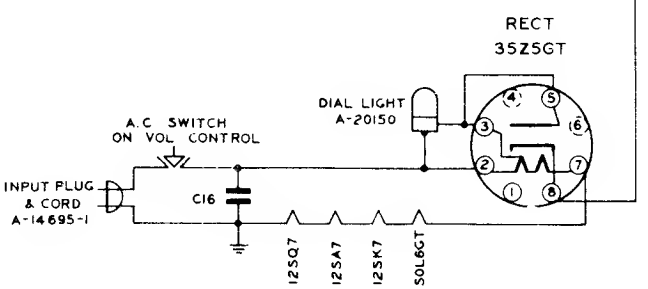
SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODEL 511U & 511 (SEE NOTE)
INTERMEDIATE FREQUENCY 456 K.C.
BOTTOM VIEWS OF ALL SOCKET CONNECTIONS



CHASSIS GROUND

COMMON GROUND

NOTE:
FOR MODEL 511 MAKE THE FOLLOWING CHANGES:
OMIT C4, C5 & R1
CONNECT ALL COMMON GROUNDS TO CHASSIS GROUND.
L2 B.C OSC COIL A-20138



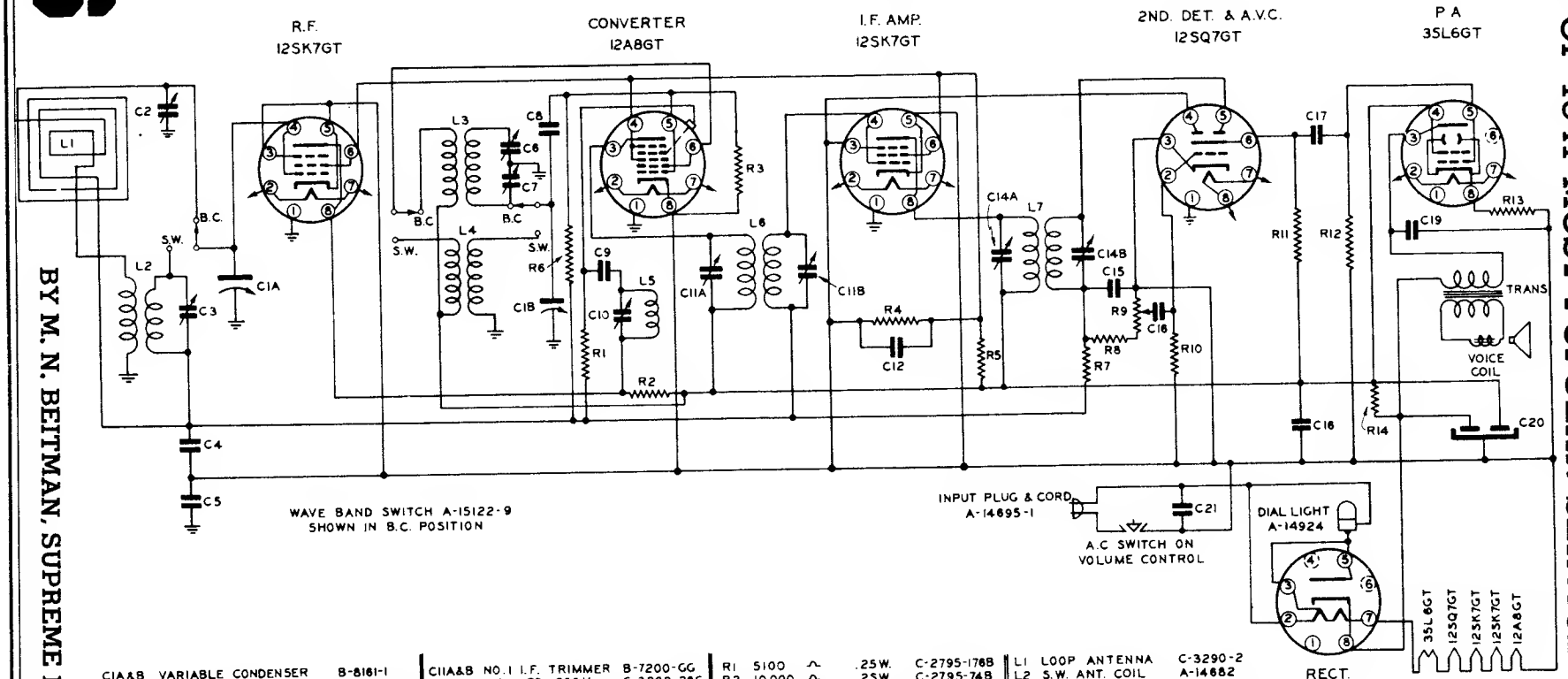
C1A&B	VARIABLE CONDENSER	A-20158
C2A&B	TRIMMERS ON VARIABLE	
C3	.001 MFD. 600 V.	C-3206-58C
C4	.2 MFD. 200V.	C-3202-96C
C5	.02 MFD. 200V.	C-3202-78C
C6	50 MMF. MICA	C-720-315
C7A&B	NO. 1 I.F. TRIMMERS	
C8	.05 MFD. 200V.	C-3202-84C

C9	NO 2 I.F. TRIMMER	
C10	250 MMF. MICA	C-720-324
C11	.01 MFD 400 V.	C-3204-78C
C12	500 MMF. MICA	C-720-316
C13	.002 MFD. 600V	C-3206-60C
C14	.01 MFD. 400V.	C-3204-78C
C15	20-30 MFD. ELECT.	A-20135
C16	.05 MFD. 400V.	C-3204-84C

R1	150,000 Ω	.5W.	C-2796-26C
R2	20,000 Ω	.5W.	C-2796-190C
R3	15 MEGOHM	.5W.	A-20136
R4	2 MEGOHM	.5W.	C-2796-236C
R5	500,000 Ω V.C & SW.		A-20137
R6	5 MEGOHM	.5W.	C-2796-248C
R7	250,000 Ω	.5W.	C-2796-216C
R8	500,000 Ω	.5W.	C-2796-94C
R9	150 Ω	.5W	C-2796-52C
R10	1000 Ω	1W.	C-2797-138

L1	LOOP ANTENNA	A-20159
L2	B.C OSC COIL	A-20138-U
L3	NO. 1 I.F. COIL	A-20139
L4	NO 2 I.F. COIL	A-20140

SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODEL 601-S
INTERMEDIATE FREQUENCY 456 K.C.
BOTTOM VIEWS OF ALL SOCKET CONNECTIONS



C1A&B	VARIABLE CONDENSER	B-8161-1
C2	B.C. ANT TRIMMER	A-14088-8
C3	S.W. ANT. TRIMMER	A-14086-1
C4	.05 MFD. 200V.	C-3202-84C
C5	.15 MFD. 400V.	C-3204-95C
C6	B.C. OSC. TRIMMER	A-15741
C7	B.C. OSC. PADDER	
C8	50 MMF. MICA	C-720-372
C9	100 MMF. MICA	C-720-339
C10	I.F. REJECT. TRIMMER	A-14086-2

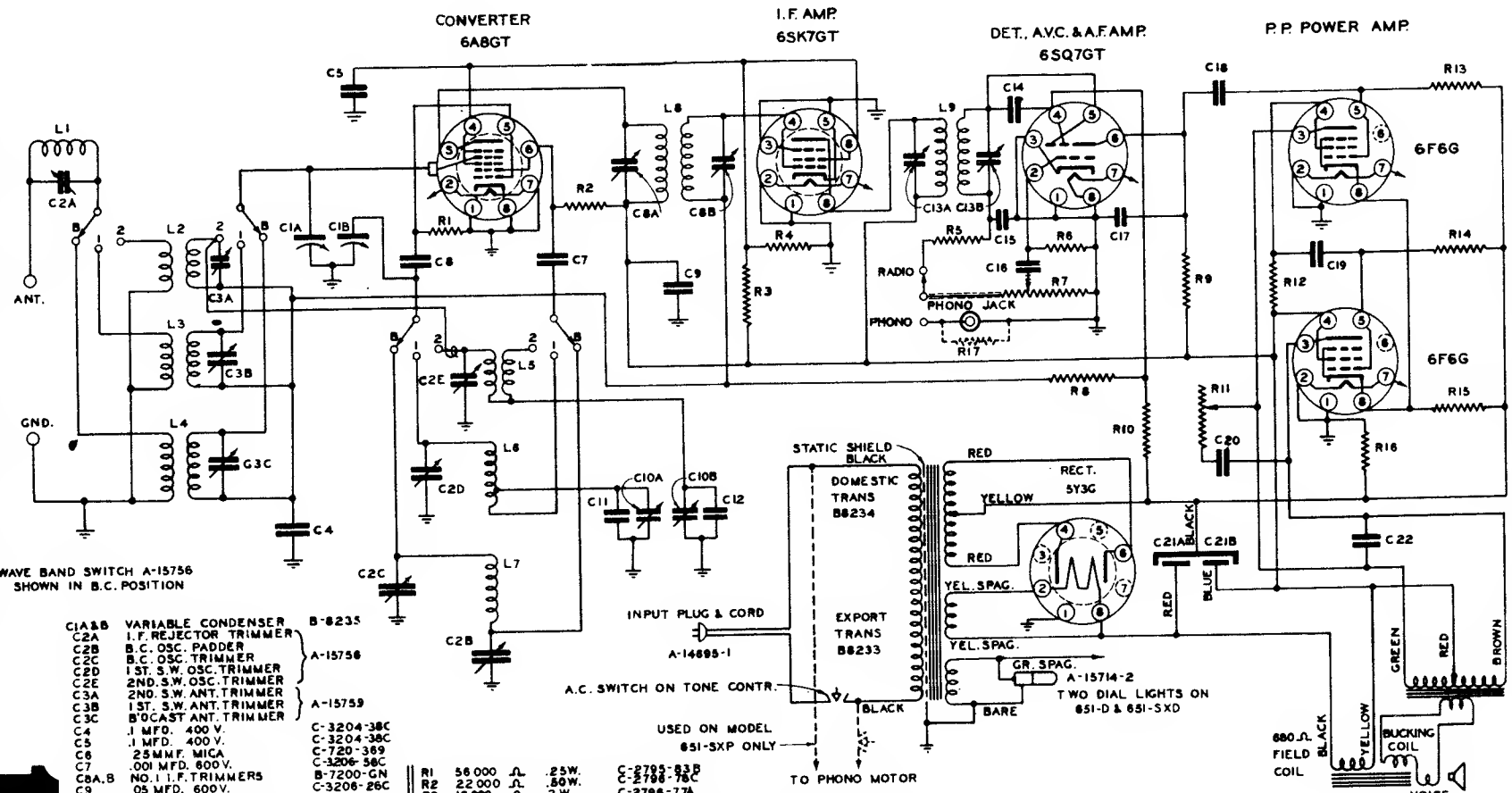
C11A&B	NO.1 I.F. TRIMMER	B-7200-GG
C12	.05 MFD 200 V.	C-3202-28C
C14A&B	NO.2 I.F. TRIMMER	B-7200-GN
C15	500 MMF. MICA	C-720-316
C16	.01 MFD. 200V	C-3202-20C
C17	.01 MFD. 200V.	C-3202-20C
C18	.1 MFD. 200V.	C-3202-38C
C19	.03 MFD. 400V.	C-3204-80C
C20	25-25 MFD. ELECT.	A-15571
C21	.05 MFD. 400V	C-3204-28C

R1	5100 Ω	.25W.	C-2795-176B
R2	10,000 Ω	.25W.	C-2795-74B
R3	56,000 Ω	.25W	C-2795-201B
R4	22,000 Ω	.25W.	C-2795-76B
R5	5600 Ω	.5W.	C-2796-177C
R6	8.2 MEGOHM	.25W.	C-2795-109B
R7	1 MEGOHM	.25W.	C-2795-98B
R8	56,000 Ω	.25W.	C-2795-201B
R9	VOL. CONT. & SW.		A-15129-8
R10	10 MEGOHM	.25W.	C-2795-110B
R11	270,000 Ω	.25W.	C-2795-91B
R12	680,000 Ω	.25W.	C-2795-96B
R13	180 Ω	.5W.	C-2796-53C
R14	1800 Ω	1W.	C-2797-65B

L1	LOOP ANTENNA	C-3290-2
L2	S.W. ANT. COIL	A-14682
L3	B.C. OSC. COIL	A-15232
L4	S.W. OSC. COIL	A-15233
L5	I.F. REJECT. COIL	A-14718-1
L6	NO.1 I.F. COIL	A-12064-32
L7	NO.2 I.F. COIL	A-12064-17

BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODELS 651, 651-D, 651-SX, 651-SXD, 651-SXP
INTERMEDIATE FREQUENCY 456 K.C.
BOTTOM VIEWS OF ALL SOCKET CONNECTIONS



C1A&B	VARIABLE CONDENSER	B-8235
C2A	I.F. REJECTOR TRIMMER	A-15756
C2B	B.C. OSC. PADDER	
C2C	B.C. OSC. TRIMMER	
C2D	1 ST. S.W. OSC. TRIMMER	
C2E	2ND. S.W. OSC. TRIMMER	
C3A	2ND. S.W. ANT. TRIMMER	A-15759
C3B	1 ST. S.W. ANT. TRIMMER	
C3C	B'CAST ANT. TRIMMER	
C4	.1 MFD. 400 V.	C-3204-38C
C5	.1 MFD. 400 V.	C-3204-38C
C6	.25 MMF. MICA	C-720-389
C7	.001 MFD. 600 V.	C-3206-56C
C8A,B	NO. 1 I.F. TRIMMERS	B-7200-GN
C9	.05 MFD. 600 V.	C-3206-26C
C10A	1 ST. S.W. OSC. PADDER	B-8244-PY
C10B	2ND. S.W. OSC. PADDER	
C11	1300 MMF. MICA	C-720-385
C12	3400 MMF. MICA	C-720-386
C13A,B	NO. 2 I.F. TRIMMERS	B-7200-GN
C14	100 MMF. MICA	C-720-339
C15	250 MMF. MICA	C-720-319
C16	.01 MFD. 400 V.	C-3204-132C
C17	100 MMF. MICA	C-720-339
C18	.03 MFD. 600 V.	C-3206-136C
C19	.03 MFD. 600 V.	C-3206-136C
C20	.03 MFD. 600 V.	C-3206-136C
C21A	15 MFD. 450 V. ELECT.	A-15755
C21B	30 MFD. 300 V. ELECT.	
C22	.003 MFD. 600 V.	C-3206-118C

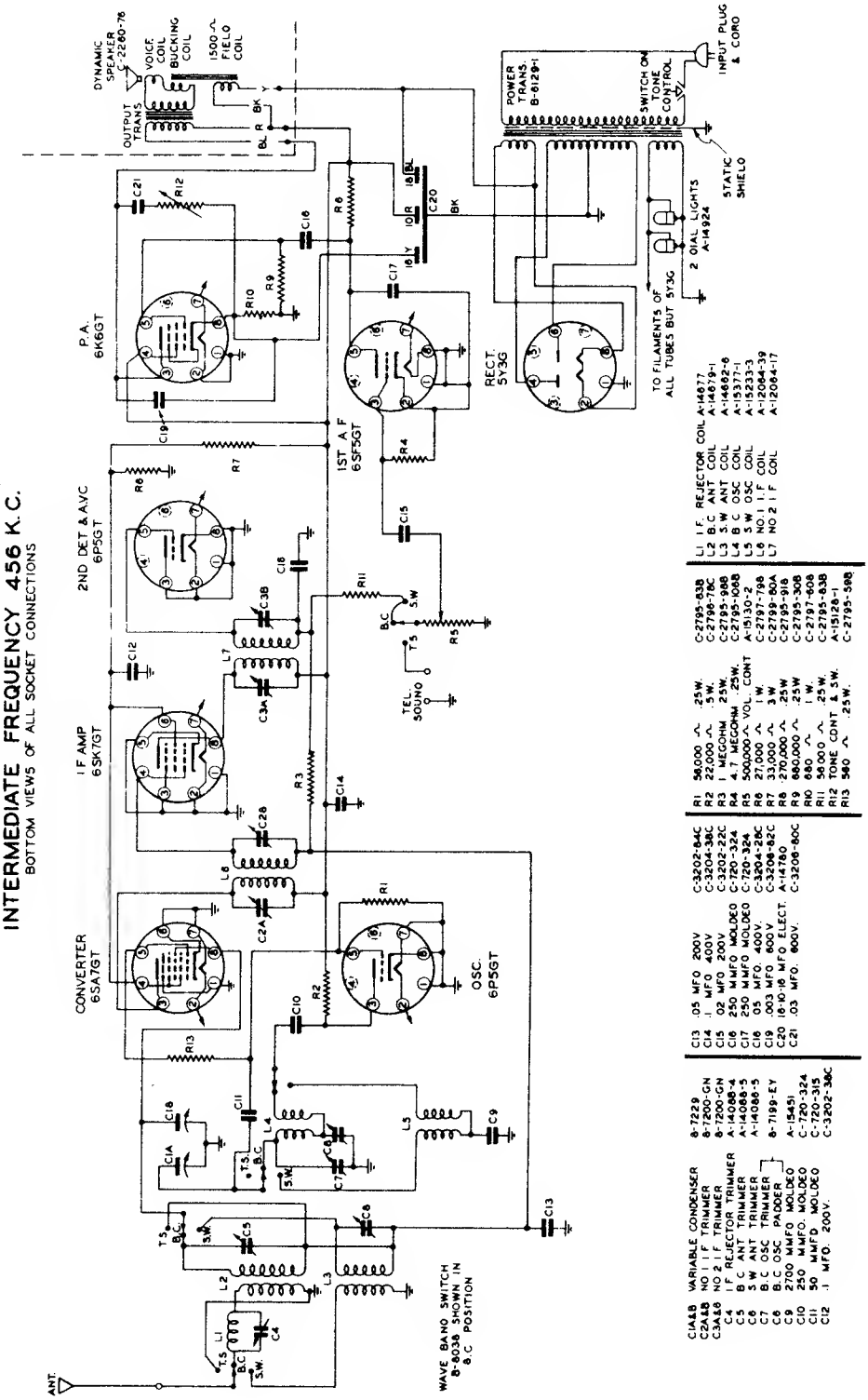
R1	56 000 Ω	.25 W.	C-2795-83B
R2	22 000 Ω	.50 W.	C-2796-76C
R3	18 000 Ω	2 W.	C-2796-77A
R4	33 000 Ω	1 W.	C-2797-80B
R5	56 000 Ω	.25 W.	C-2795-83B
R6	10 MEG.	.25 W.	C-2795-110B
R7	.5 MEG. VOL. CONTROL		A-15130-4
R8	1 MEG.	.25 W.	C-2795-98B
R9	270 000 Ω	.25 W.	C-2795-91B
R10	1 MEG.	.25 W.	C-2795-98B
R11	1 MEG. T.C. & SWITCH		A-15131-1
R12	2700 Ω	.25 W.	C-2795-169B
R13	470000 Ω	.25 W.	C-2795-223B
R14	470000 Ω	.25 W.	C-2795-223B
R15	330 Ω	1 W.	C-2797-147B
R16	680 Ω	1 W.	C-2797-155B ON 25 ~ RECEIVERS ONLY
R17	100 Ω	.25 W.	C-2795-135B
	10 000 Ω	.25 W.	C-2795-74B ON MODEL 651-SXP ONLY

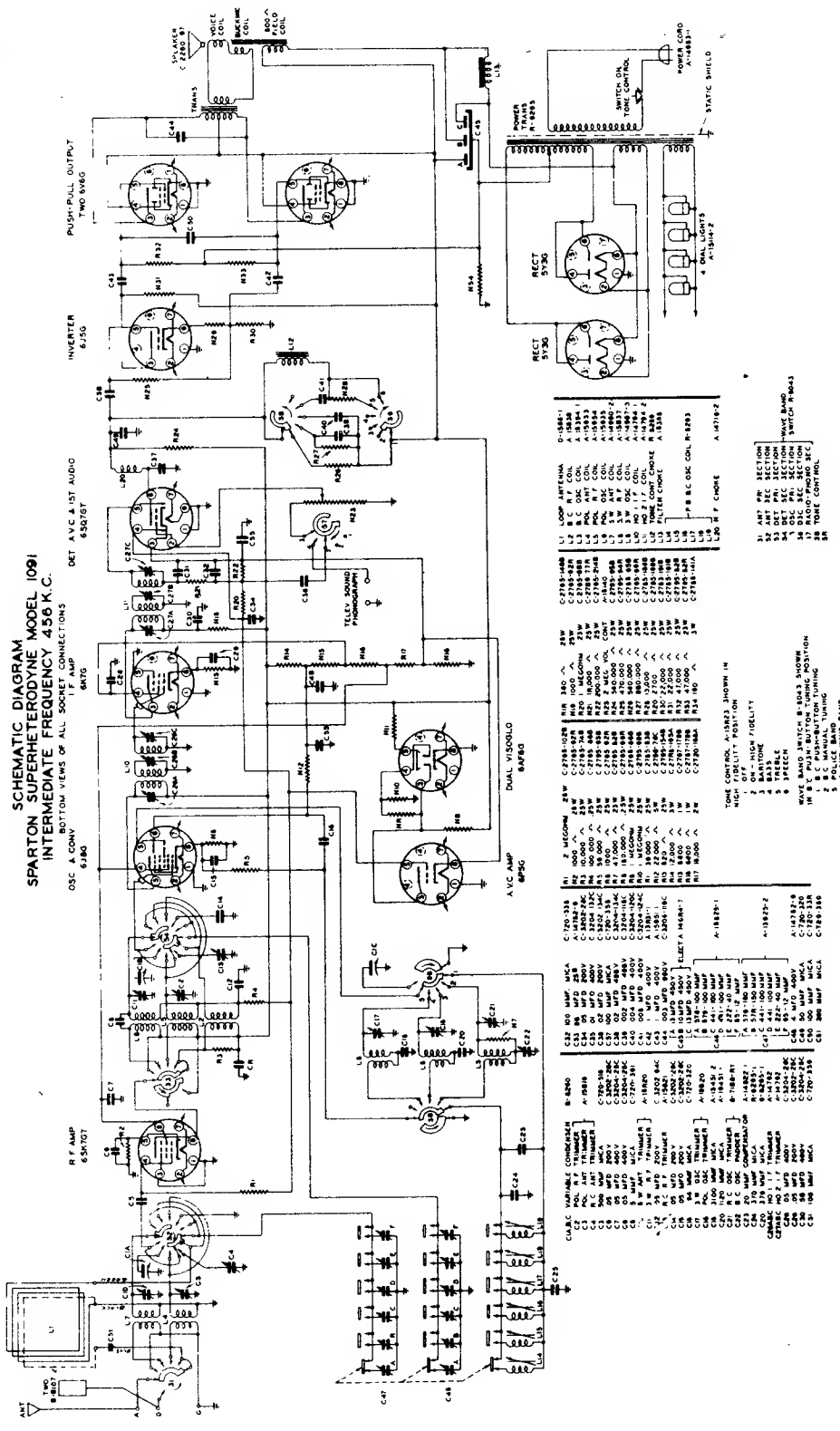
L1	I.F. REJECTOR COIL	A-15772
L2	2ND S.W. ANT. COIL	A-15778
L3	1 ST S.W. ANT. COIL	A-15774
L4	B.C. ANT. COIL	A-14664-1
L5	2ND S.W. OSC. COIL	A-15233-14
L6	1 ST S.W. OSC. COIL	A-15773
L7	B.C. OSC. COIL	A-15771
L8	NO. 1 I.F. COIL	A-12064-39
L9	NO. 2 I.F. COIL	A-12064-17

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODEL 761
INTERMEDIATE FREQUENCY 456 K.C.

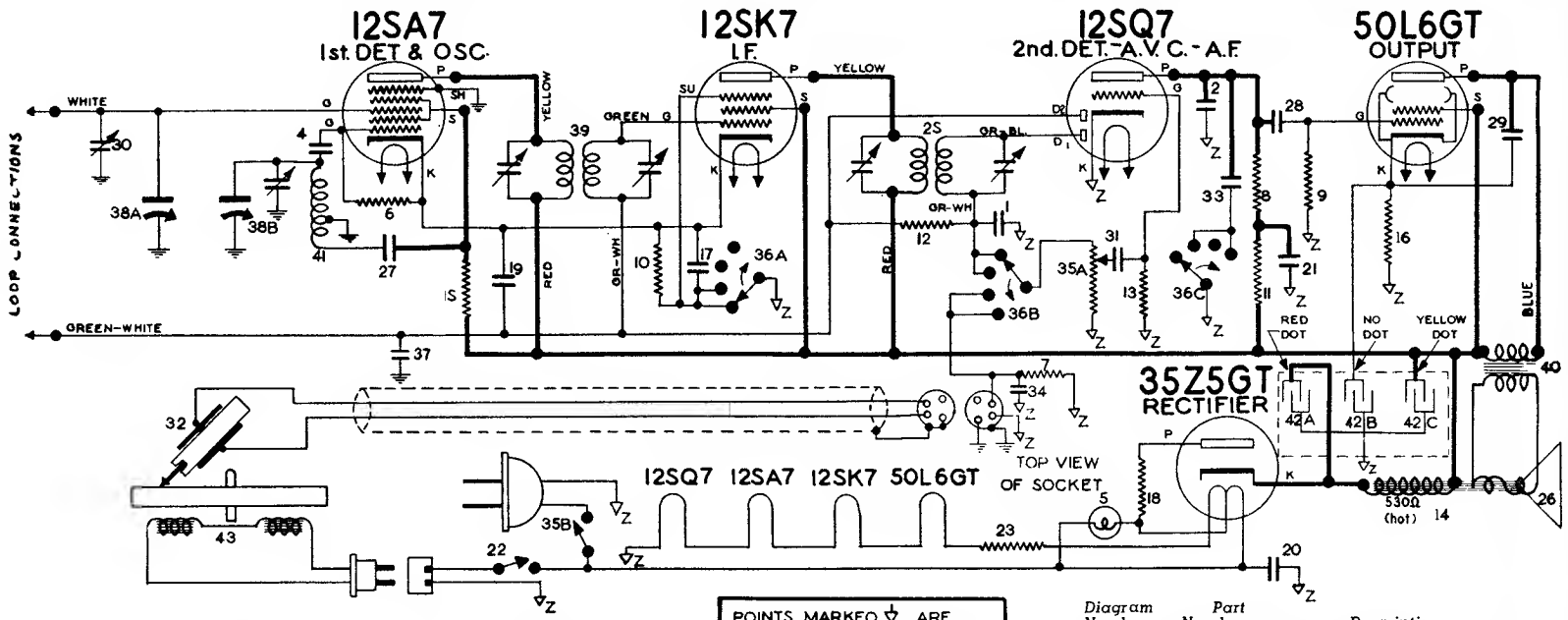
BOTTOM VIEWS OF ALL SOCKET CONNECTIONS

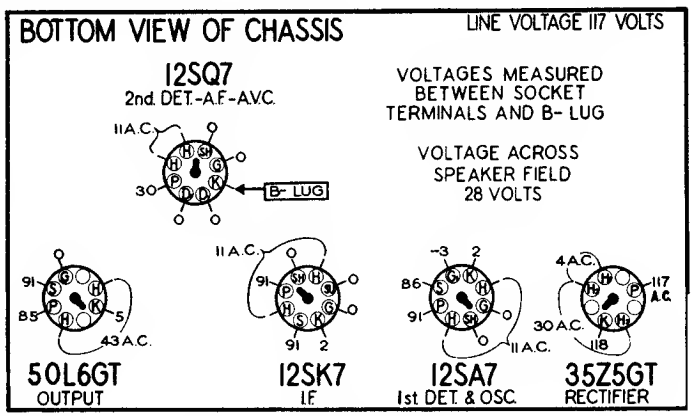



SCHEMATIC DIAGRAM
SPARTON SUPERHETERODYNE MODEL 1091
INTERMEDIATE FREQUENCY 456 K.C.
OSC. & CONV. 6J8G
BOTTOM VIEWS OF ALL SOCKET CONNECTIONS
I.F. AMP. 6K7G
DET. A.V.C. & 1ST AUDIO 6SQ7GT
INVERTER 6J5G
PUSH-PULL OUTPUT TWO 6V6G
R.F. AMP 6SK7GT
A.V.C. AMP 6P5G
DUAL VISOGLO 6AF8G
RECT 5Y3G
RECT 5Y3G
POWER TRANS. A-9295
SWITCH-TONE CONTROL
POWER CORD A-14883-1
STATIC SHIELD
4 DIAL LIGHTS A-15514-2
SPEAKER C-2260-B1
VOICE COIL
INDUCTANCE COIL
400 Ω FIELD COIL
TRANS 5
TELEV. SOUND PHONOGRAPH
TONE CONTROL A-15923 SHOWN IN HIGH FIDELITY POSITION
1 OFF
2 ON - HIGH FIDELITY
3 BARITONE
5 TREBLE
6 SPEECH
WAVE BAND SWITCH B-10423 SHOWN IN B.C. PUSH-BUTTON POSITION
1 B.C. PUSH-BUTTON TUNING
2 B.C. MANUAL TUNING
3 LONG WAVE BAND
4 SHORT-WAVE BAND
5 PHONO & TELEVISION SOUND
ANT
G
TWO 8BG07 J1

STEWART-WARNER 11-5V CHASSIS (MODEL 11-5V9)

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS





REAR OF CHASSIS

Use a Voltmeter of 1000 ohms per volt.

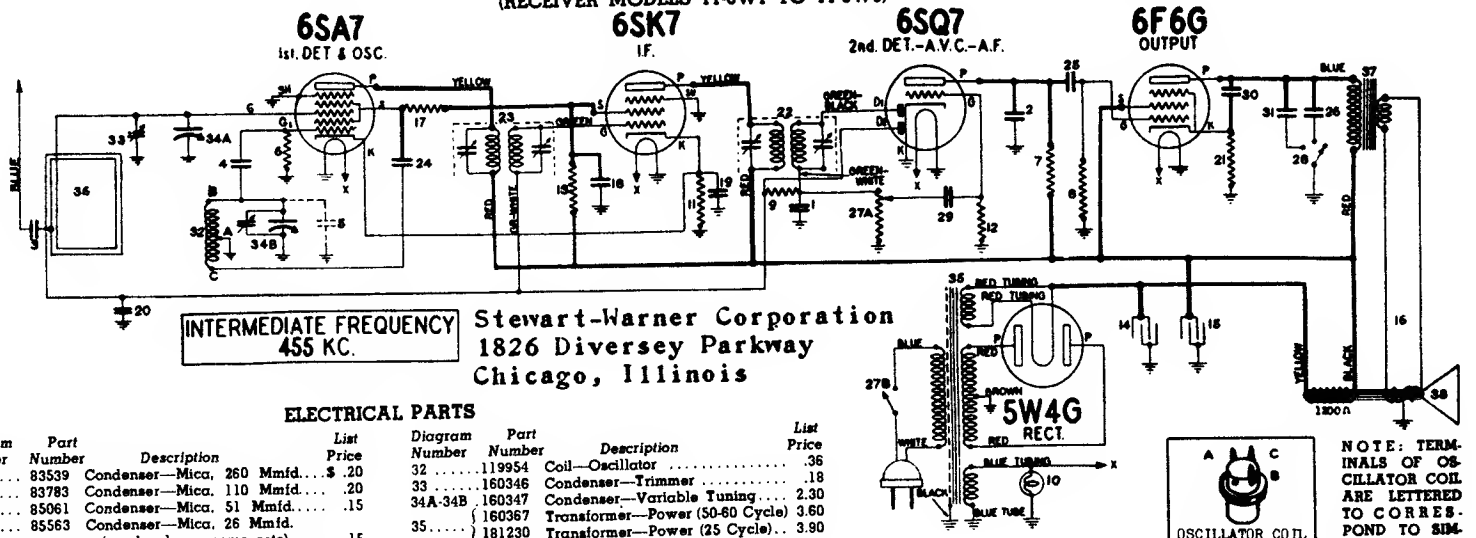
POINTS MARKED ∇_Z ARE CONNECTED TOGETHER TO FORM THE B- CIRCUIT. THE .07MFD. CONDENSER DIAG. NO. 24 CONNECTS FROM THIS CIRCUIT TO CHASSIS.

ELECTRICAL PARTS

Number	Part Number	Description
1-2	83539	Condenser mica 260 mmfd.
3	83783	Condenser mica 110 mmfd.
4	85061	Condenser mica 51 mmfd.
5	85296	Lamp--dial 6 to 8 volt (Mazda 51).
6	.110552	Resistor - carbon 47,000 ohms ¼ w
7	.110553	Resistor--carbon 220,000 ohms ¼ w
8 9	.110559	Resistor carbon 470,000 ohms ¼ w
10	.110560	Resistor carbon 100 ohms ¼ watt
11	.110564	Resistor carbon 100,000 ohms ¼ w
12	.110570	Resistor carbon 2.2 meg. ¼ watt.
13	.112975	Resistor carbon 10 meg. ¼ watt.
14	R-115102	Speaker -dynamic (5")
15	118803	Resistor- 680 ohms ¼ watt
16	116092	Resistor -140 ohms 1 watt W.W.
17	116706	Condenser - .2 mfd. 600 volt
18	116752	Resistor - 33 ohms 1 watt wire wound
19 to 21	116819	Condenser - .05 mfd. 600 volt
22	116964	Switch--"on-off" for phono motor
23	117395	Resistor - 20 ohms 1 watt
24	118487	Condenser -.07 mfd. 600 volts
25	118903	Transformer- 2nd I.F.
26	118999	Cone & Voice Coil for R-115102 speaker
27 to 29	119193	Condenser--.01 mfd. 600 volt
30	119345	Condenser- trimmer
31	119817	Condenser - .004 mfd. 600 volt
32	119864	Crystal cartridge with leads and needle screw
33-34	119875	Condenser .002 mfd. 600 volt
35A-35B	119912	Volume control 1 meg. (with switch)
36A-36B-36C	119921	Switch tone & phonograph (See table for switch positions)
37	119193	Condenser .01 mfd. 600 volt
38A-38B	119928	Condenser variable tuning
39	119935	Transformer—1st I.F.
40	R-119944	Transformer—output for R-115102 Speaker
41	119954	Coil oscillator
42A-42B-42C	160012	Condenser--electrolytic, A—40 mfd.—200 volt; B—20 mfd. - 25 volt; C—20 mfd. 200 volt

STEWART-WARNER 11-5W CHASSIS

(RECEIVER MODELS 11-5W1 TO 11-5W9)



Stewart-Warner Corporation
1826 Diversey Parkway
Chicago, Illinois

ELECTRICAL PARTS

Diagram Number	Part Number	Description	List Price
1-2	83539	Condenser—Mica, 260 Mmfd.	$ .20
3	83783	Condenser—Mica, 110 Mmfd.	.20
4	85061	Condenser—Mica, 51 Mmfd.	.15
5	85563	Condenser—Mica, 26 Mmfd. (used only on some sets)	.15
6	110552	Resistor—Carbon, 47,000 Ohms, ¼ Watt	.12
7-8	110553	Resistor—Carbon, 220,000 Ohms, ¼ Watt	.12
9	110580	Resistor—Carbon 3.3 meg. ¼ W.	.12
10	110629	Dial Light—6.3 Volt (Mazda No. 44)	.15
11	112874	Resistor—Carbon—220 Ohms. ¼ Watt	.15
12	112975	Resistor—Carbon—10 Meg. ¼ W.	.12
13	112997	Resistor—Carbon—22,000 Ohms. 1 Watt	.15
14-15	114258	Condensar—Electrolytic—8 mfd., 450 Volt	.98
16	U-115114	Speaker—Dynamic (5")	4.50
17	116068	Resistor—680 Ohms. ¼ Watt	.12
18-19	116625	Condensar—.1 Mfd., 600 Volt	.25
20	116819	Condenser—.05 Mfd., 600 Volt	.20
21	116978	Resistor — 420 Ohm — ½ Watt Wire Wound	.15
22	119024	Transformer—2nd I. F.	1.15
23	119042	Transformer—1st I.F.	1.10
24-25-26	118193	Condensar—.01 Mfd., 600 Volt	.15
27A-27B	119629	Vol. Control—(1 meg.) & Switch.	1.30
28	119630	Tone Switch	.65
29-30	119817	Condenser—.004 Mfd., 600 Volt	.15
31	119880	Condenser—.04 Mfd., 600 Volt	.20
32	119954	Coil—Oscillator	.36
33	160346	Condenser—Trimmer	.18
34A-34B	160347	Condenser—Variable Tuning	2.30
35	160367 / 181230	Transformer—Power (50-60 Cycle) / Transformer—Power (25 Cycle)	3.60 / 3.90
36	160368	Loop Antenna (Complete)	.80
37	U-160458	Transformer—Output for U-115114 Speaker	1.50
38	U-160459	Cone & Voice Coil for U-115114 Speaker	1.50

MISCELLANEOUS PARTS

Part Number	Description	List Price
160452	Cabinet Back	$ .17
114955	Clamp—Dial Cord	.01
112745	Clip—Coil Mounting	.01
113019	Clip—Dial Scale Retaining	.01
116948	Cord—Dial Drive	.18
160349	Dial Scale	.30
119591	Dial Window	.24
160356	Knob—Push On	.10
160354	Pilot Lamp Socket	.10
160355	Pointer	.14
81145	Retaining Ring for Drive Shaft	.50
83624	Screw—Self Tapping 8x¼	.01
116690	Socket—Octal Base	.12
117078	Socket—Octal with Special Gndg. Lug	.12
111090	Spacer—Steel	.02
114968	Spring—Dial Cord Tension	.03
119615	Tuning Shaft	.07
111456	Washer—For Tuning Shaft	.50

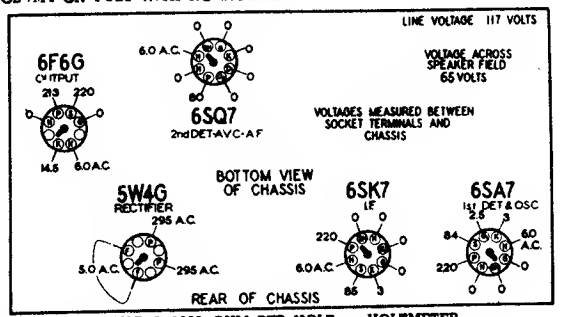
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

OSCILLATOR COIL
PART NO. 119954
DIAGRAM NO. 32

NOTE: TERMINALS OF OSCILLATOR COIL ARE LETTERED TO CORRESPOND TO SIMILARLY LETTERED TERMINALS ON THE CIRCUIT DIAGRAM.

SOCKET VOLTAGES

VOLTAGE ON FULL WITH NO SIGNAL — DIAL TUNED TO 540 KC

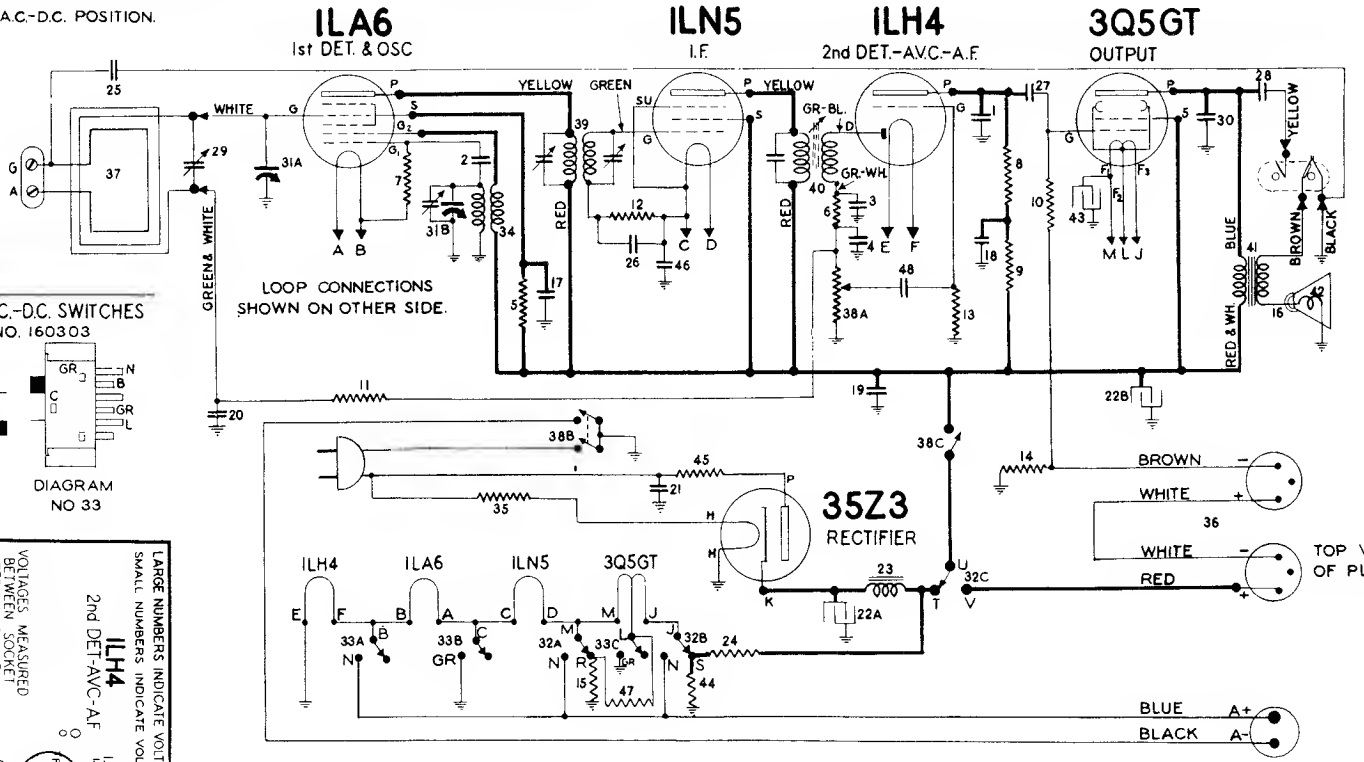


USE A 1000 OHM PER VOLT — VOLTMETER

STEWART-WARNER 15-5Y CHASSIS

(RECEIVER MODELS 15-5Y1 TO 15-5Y9)

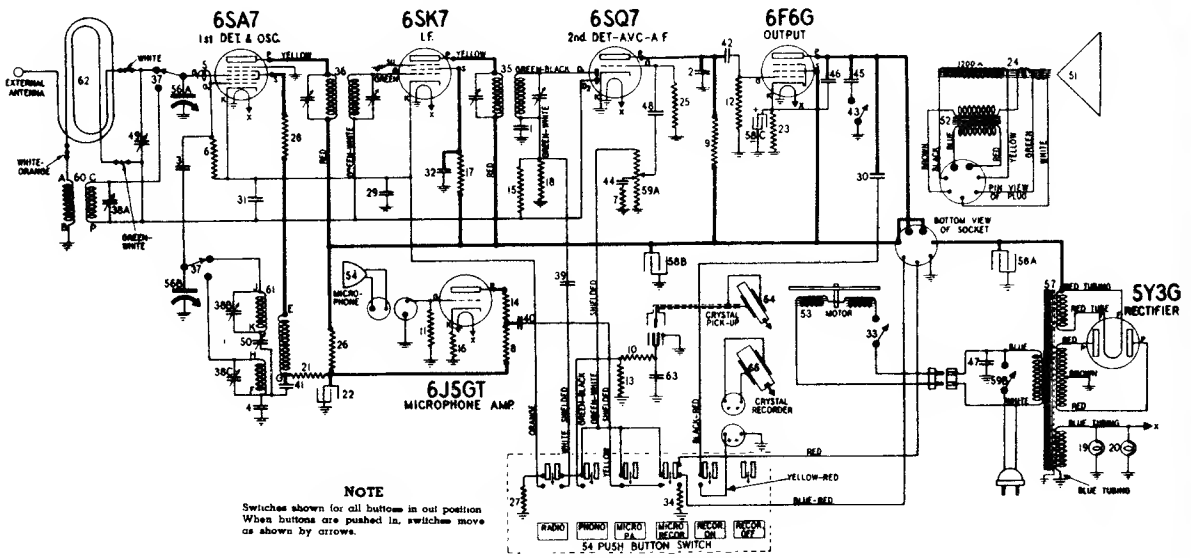
SWITCHES 32 & 33 ARE SHOWN IN A.C.-D.C. POSITION.



1	81158	Condenser—mica, 100 mmfd.	$ .25	30	119875	Condenser—.002 mfd. 600 volt	$ .15
2-3-4	85061	Condenser—mica, '51 mmfd.	.15	31A-31B	160298	Condenser—variable tuning with drum	2.80
5-6	110552	Resistor—carbon 47,000 ohms ¼ watt	.12	32-33	160303	Battery & A.C. switches	.68
7	110553	Resistor—carbon 220,000 ohms ¼ watt	.12	34	160475	Coil—oscillator	.44
8	110554	Resistor—carbon 1 megohm ¼ watt	.12	35	160492	Power cord (resistor type)	.95
9	110559	Resistor—carbon 470,000 ohms ¼ watt	.12	36	160493	Battery cable	.54
10	110570	Resistor—carbon 2.2 meg. ¼ watt	.15	37	160570	Loop antenna—complete	1.50
11-12-13	110580	Resistor—carbon 3.3 meg. ¼ watt	.12	38A to 38C	161227	Volume control—(1 meg.) & switch	1.30
14-15	112977	Resistor—insulated 470 ohm ¼ watt	.15	39	161247	Transformer—1st I.F.	1.20
16	U-115120	Speaker—P.M. (5")	5.50	40	161248	Transformer—2nd I.F. (iron core)	1.35
17-18-19	116625	Condenser—.1 mfd. 600 volt	.25	41	U-161255	Transformer—output for U-115120 spkr.	1.50
20-21	116819	Condenser—.05 mfd. 600 volt	.20	42	U-161256	Cone & Voice coil for U-115120 speaker	1.40
22A-22B	117559	Condenser—electrolytic 30-30 mfd. 150 volt	1.20	43	161273	Condenser—electrolytic 50 mfd. 25 volt	.50
23	117888	Filter choke	.85	44	116082	Resistor—insulated 1500 ohms ¼ watt	.15
24	118842	Resistor—1680 ohms 5 watts W. W.	.15	45	116275	Resistor—50 ohms, ½ watt W. W.	.15
25 to 28	119193	Condenser—.01 mfd. 600 volt	.15	46	118290	Condenser—.5 mfd. 150 volt	.50
29	119845	Condenser—trimmer (on loop)	.16	47	118827	Resistor—carbon, 270 ohms, ¼ watt	.10
				48	119817	Condenser—.004 mfd., 600 volt	.15

STEWART-WARNER 11-6T and 11-6T-S CHASSIS

(Receiver Models 11-6T1 to 11-6T9 and 11-6T1-S to 11-6T9-S)



NOTE

Switches shown for all buttons in out position When buttons are pushed in, switches move as shown by arrows.

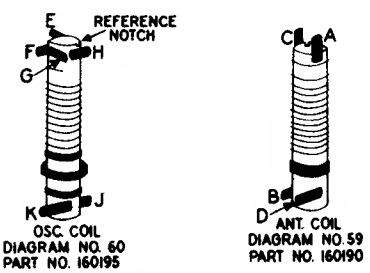
ELECTRICAL PARTS

Diagram Number	Part Number	Description	List Price
1-2	83539	Condenser—mica 260 mmfd.	$0.20
3	88173	Condenser—mica 50 mmfd.	.20
4	88587	Condenser—mica .0042 mfd.	.35
5	110510	Condenser—wire 3 mmfd.	.12
6-7-8	110552	Resistor—carbon 47,000 ohms ½ watt	.12
9-10	110553	Resistor—carbon 220,000 ohms ½ watt	.12
11	110554	Resistor—carbon 1 megohm ½ watt	.12
12	110559	Resistor—carbon 470,000 ohms ½ watt	.12
13	110564	Resistor—carbon 100,000 ohms ½ watt	.12
14	110565	Resistor—carbon 22,000 ohms ½ watt	.12
15	110570	Resistor—carbon 2.2 meg. ½ watt	.15
16	110573	Resistor—carbon 2,200 ohms ½ watt	.12
17	110578	Resistor—carbon 68,000 ohms ½ watt	.12
18	110584	Resistor—carbon 330,000 ohms ½ watt	.12
19 20	110829	Dial light—6.3 volt	.15
21	112952	Resistor—carbon 3,300 ohms ½ watt	.10
22	114009	Condenser—electrolytic 4 mfd. 350 volt	.72
23	114335	Resistor—wire wound 430 ohms 2 watts	.20
24	U 115107	Speaker—dynamic 6"	6.10
25	116050	Resistor—insulated 10 meg ½ watt	.12
26	116055	Resistor—carbon 22,000 ohms ½ watt	.12
27-28	116062	Resistor—150 ohms ½ watt	.12
29-30	116825	Condenser—1 mfd. 600 volt	.25
31-32	116819	Condenser—.05 mfd. 600 volt	.20
33	116964	Switch—on-off for phono motor with secutcheon	.32
34	118819	Resistor—5 ohms 1 watt wire wound	.14
35	119024	Transformer—2nd I.F.	1.15
36	119042	Transformer—1st I.F.	1.10
37	118005	Range switch	.50
38A to 38C	119174	Condenser—trimmer—3 section	.45
39-40-41-42	119183	Condenser—.01 mfd. 600 volt.	.15
43	119214	Switch—tone control	.48
44-45	119414	Condenser—.02 mfd 600 volt.	.15
46	119416	Condenser—.008 mfd. 600 volt.	.15
47	119757	Condenser—(metal clad) .01 mfd. 600 volt	.20
48	119817	Condenser—.004 mfd. 600 volt	.15
48	119845	Condenser—trimmer (on loop)	.18
50	119934	Condenser—padder	.36
51	U-160028	Cone & voice coil for U-115107 speaker	1.60
52	U 160029	Transformer—output (for U-115107 speaker	1.55
53	160036	Motor (less turntable)	8.00
54	160038	Microphone	12.50
55	160111	Push button switch	2.30
56A 56B	160170	Condenser—variable tuning	2.40
57	160172	Transformer—power (50-60 cycles)	4.20
58A to 58C	160174	Condenser—electrolytic Section A—20 mfd. 400 volt / Section B—15 mfd. 400 volt / Section C—10 mfd 25 volt	1.30
59A 59B	160175	Volume control—1 meg. (with switch)	1.40
60	160190	Coil—antenna (S.W.)	.44
61	160195	Coil—oscillator	.75
62	160279	Loop antenna & cabinet back (complete) (Model 11-6T9)	1.40
	160783	Loop antenna & cabinet back (with trimmer) (Model 11-6T9)	1.40
63	160430	Condenser—.001 mfd. 600 volt	.15
64	161298	Crystal Pickup Cartridge	5.00
65	161298	Crystal Recorder Cartridge	9.50

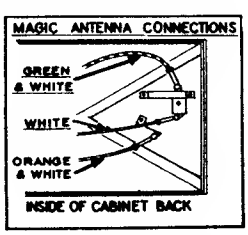
PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

DIAL AND MISCELLANEOUS PARTS

Part Number	Description	List Price
117117	Cable—motor	$0.36
114955	Clamp—for dial cord	.01
113019	Clip—dial scale retaining	.01
117057	Cord—drive (supplied in 3 ft. lengths)	.15
160200	Dial scale	.28
119208	Escutcheon—dial	.80
119167	Knob	.10
119166	Knob—push button	.08
117769	Name Plate (S.W.) (Model 11-6T8)	.07
117779	Name Plate (Off-Vol.) (Model 11-6T8)	.05
117780	Name Plate (Tuning) (Model 11-6T8)	.05
161206	Name Plate (Tone) (Model 11-6T8)	.08
161207	Name Plate (F.B) (Model 11-6T8)	.06
160033	Needle cup	.88
160127	Phonograph needles Envelope of 10	.10
116883	Pointer	.16
81145	Retaining ring for drive shaft. Per C	.50
119218	Screw—escutcheon mounting	.02
119204	Shaft—tuning	.10
111008	Socket—dial lamp	.12
160037	Socket—2 prong	.10
160171	Socket—4 prong	.12
160158	Socket—7 prong for speaker.	.14
119791	Socket—8 prong	.12
114876	Socket—octal	.15
160039	Socket for pick up	.08
113177	Spring—dial cord tension	.88
161245	Tube & windows for recorder push buttons	.10
111456	Washer—spring washer Per C	.50

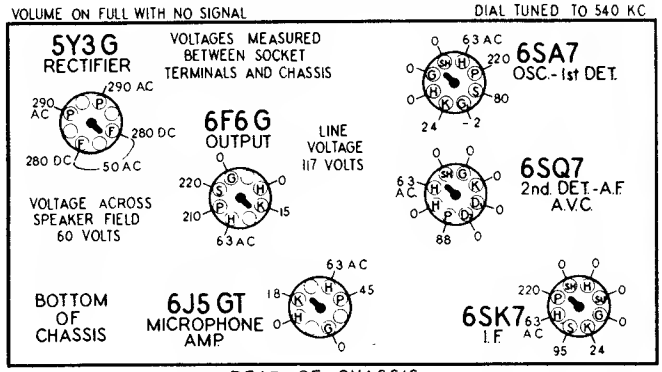


The terminals of the coils illustrated above are lettered to correspond to similarly lettered terminals on the circuit diagram.



SOCKET VOLTAGES

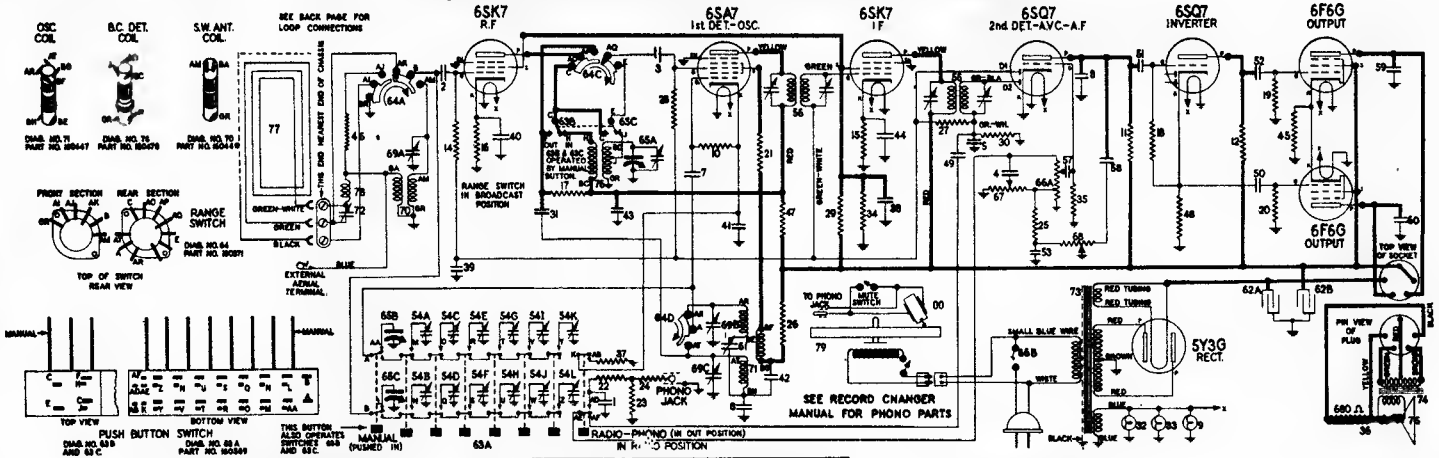
VOLUME ON FULL WITH NO SIGNAL — DIAL TUNED TO 540 KC



Use a high resistance voltmeter of 1000 oms per volt.

STEWART-WARNER 11-8D and 11-8D-Z CHASSIS

RECEIVER MODELS 11-8D1 TO 11-8D9 & 11-8D1-Z TO 11-8D9-Z



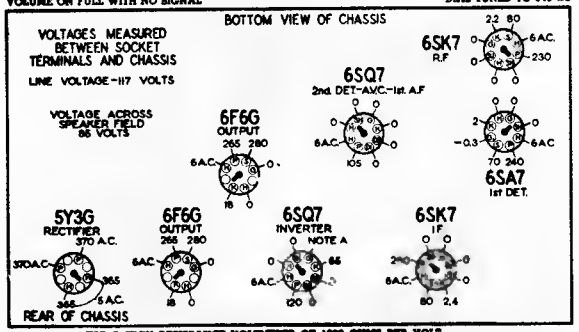
PUSH BUTTON TRIMMER RANGES

TRIMMER CONDENSERS	11-8D RANGE	11-8D-Z RANGE
54K & 54L	540 KC. to 1000 KC.	540 KC. to 1000 KC.
54I & 54J	540 KC. to 1000 KC.	540 KC. to 1000 KC.
54G & 54H	540 KC. to 1000 KC.	750 KC to 1375 KC.
54E & 54F	750 KC to 1375 KC.	750 KC to 1375 KC.
54C & 54D	750 KC to 1375 KC.	880 KC. to 1550 KC.
54A & 54B	880 KC. to 1550 KC.	880 KC. to 1550 KC.

SOCKET VOLTAGES

RANGE SWITCH IN BROADCAST POSITION
VOLUME ON FULL WITH NO SIGNAL

MANUAL BUTTON PUSHED IN
DIAL TUNED TO 540 KC



USE A HIGH RESISTANCE VOLTMETER OF 1000 OHMS PER VOLT

NOTE A: The voltage between chassis and the grid of the 6SQ7 Phase Inverter is 65 volts. This voltage cannot be measured with a meter of 1000 ohms per volt because of the high resistance of resistor No. 18.

SERVICE DATA FOR THE RECORD CHANGER IS IN SEPARATE BOOKLET FORM J-22200.

ELECTRICAL PARTS

Diagram Number	Part Number	Description	List Price
1	81155	Condenser—500 mmfd. mica	$ .25
2 to 4	83539	Condenser—mica, 280 mmfd.	.20
5-6	83783	Condenser—mica, 110 mmfd.	.20
7	85563	Condenser—mica 28 mmfd.	.15
8	88587	Condenser—mica .0042 mfd.	.35
9	85296	Lamp—Turntable light, 6 to 8 volt (Mazda 51)	.18
10	110552	Resistor—carbon 47,000 ohms ¼ watt	.12
11 to 13	110553	Resistor—carbon 220,000 ohms ¼ watt	.12
14	110554	Resistor—carbon 1 megohm ¼ watt	.12
15-16	110556	Resistor—carbon 330 ohms ¼ watt	.12
17	110557	Resistor—carbon 4700 ohms ¼ watt	.12
18 to 20	110559	Resistor—carbon 470,000 ohms ¼ watt	.12
21	110560	Resistor—carbon 100 ohms ¼ watt	.12
22 to 24	110564	Resistor—carbon 100,000 ohms ¼ watt	.12
25	110566	Resistor—carbon 33,000 ohms ¼ watt	.12
26	110567	Resistor—carbon 15,000 ohms ¼ watt	.15
27	118570	Resistor—carbon 2.2 meg. ¼ watt	.15
28	110578	Resistor—carbon 88,000 ohms ¼ watt	.12
29	110581	Resistor—carbon 18,000 ohms 2 watt	.30
30	110584	Resistor—carbon 330,000 ohms ¼ watt	.12
31	161315	Condenser—5 mmfd. (twisted wire)	.16
32-33	112636	Lamp—dial (frosted) 6-8 volt	.25
34	112954	Resistor—carbon 10,000 ohms 1 watt	.16
35	112975	Resistor—carbon 10 meg. ¼ watt	.12
36	M-115110	Speaker—12 inch	12.00
37	116077	Resistor—carbon 150 ohms ¼ watt	.12
38	118825	Condenser—.1 mfd. 600 volt	.25
39 to 44	118616	Condenser—.05 mfd. 600 volt	.28
45	117570	Resistor—wire wound 260 ohms 2 watt	.24
46	118904	Resistor—carbon 400 ohms ¼ watt	.10
47	118824	Resistor—carbon 1500 ohms ½ watt	.12

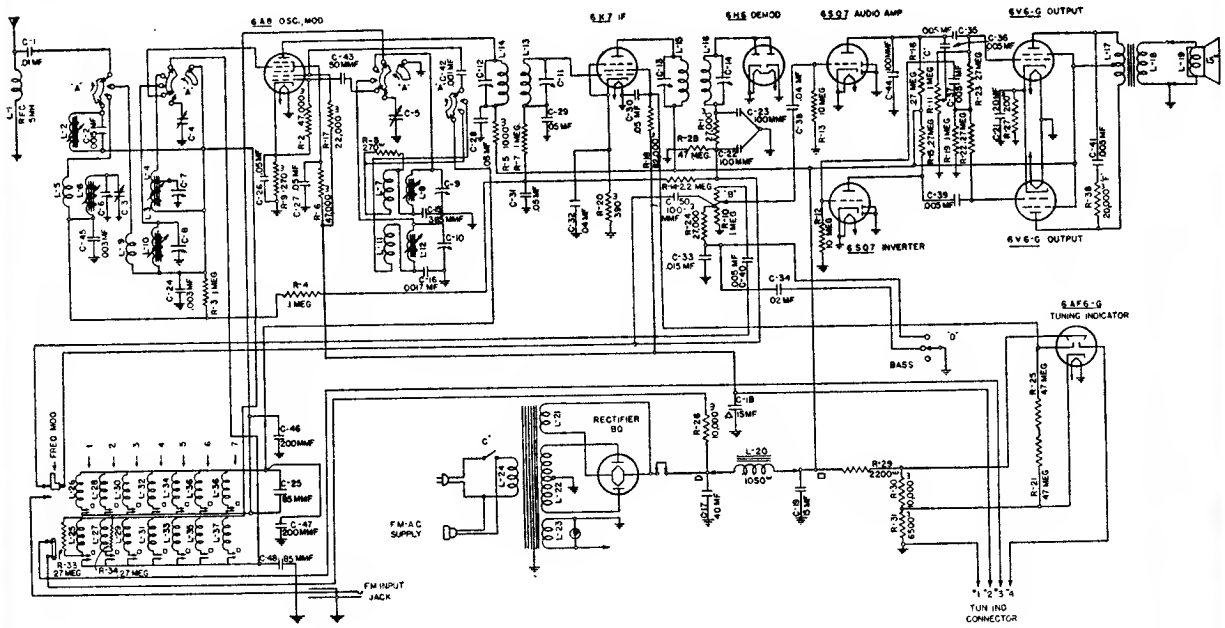
Diagram Number	Part Number	Description	List Price
48	118825	Resistor—carbon 180,000 ohms ¼ watt	.12
49 to 52	119189	Condenser—.01 mfd. 600 volt	.15
53	117571	Condenser—.008 mfd. 600 volt	.15
54A to 54L	119662	Condenser—P. B. Trimmer (low freq.)	.24
	119663	Condenser—P. B. Trimmer (med. freq.)	.24
	119664	Condenser—P. B. Trimmer (high freq.)	.24
55	119024	Transformer—2nd I. F.	1.15
56	119042	Transformer—1st I. F.	1.10
57-58	118817	Condenser—.004 mfd. 600 volt	.15
59-60	119875	Condenser—.002 mfd. 600 volt	.15
61	119934	Condenser—padder	.36
62A-62B	160008	Condenser—electrolytic (A-30 mfd. 450 volts / B-15 mfd. 450 volts)	1.50
63A to 63C	160368	Push button switch	3.00
64A to 64D	180371	Range switch	1.00
65A to 85C	160373	Condenser—variable tuning	3.20
66A-66B	160412	Volume control—2 meg. (with switch)	1.40
67	160413	Tone control (5 meg.) treble	.85
68	160414	Tone control (1 meg.) bass	.85
69A to 69C	160415	Condenser—trimmer 3 section	.48
70	160444	Coil—short wave antenna	.54
71	160447	Coil—oscillator	.90
72	160449	Condenser—trimmer for loop	.18
73	160450	Transformer—power (50-60 cycle)	6.35
74	M-160464	Transformer—output for M-115110 speaker	1.80
75	M-160485	Cone & voice coil for M 115110 speaker	1.80
76	160478	R. F. coil (interstage B.C.)	.80
77	160572	Loop antenna complete	3.80
78	161228	Coil—loop compensating	.25
79	180096	Motor (60 cycle)	6.95
88	181289	Crystal cartridge	5.00

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

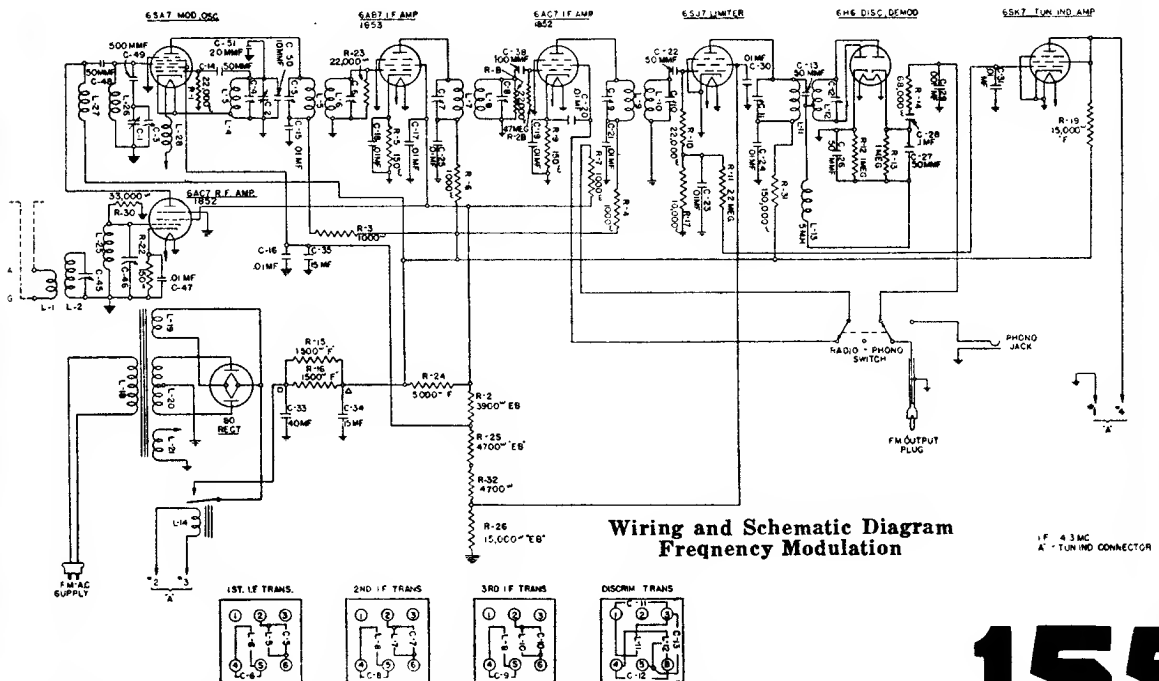
STROMBERG-CARLSON NO. 515 RADIO RECEIVERS

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY
ROCHESTER, NEW YORK

Input Power Rating ---------- 140 Watts
Intermediate Frequency ---------- { 455 Kilocycles (Amplitude Modulation) / 4.3 Megacycles (Frequency Modulation)

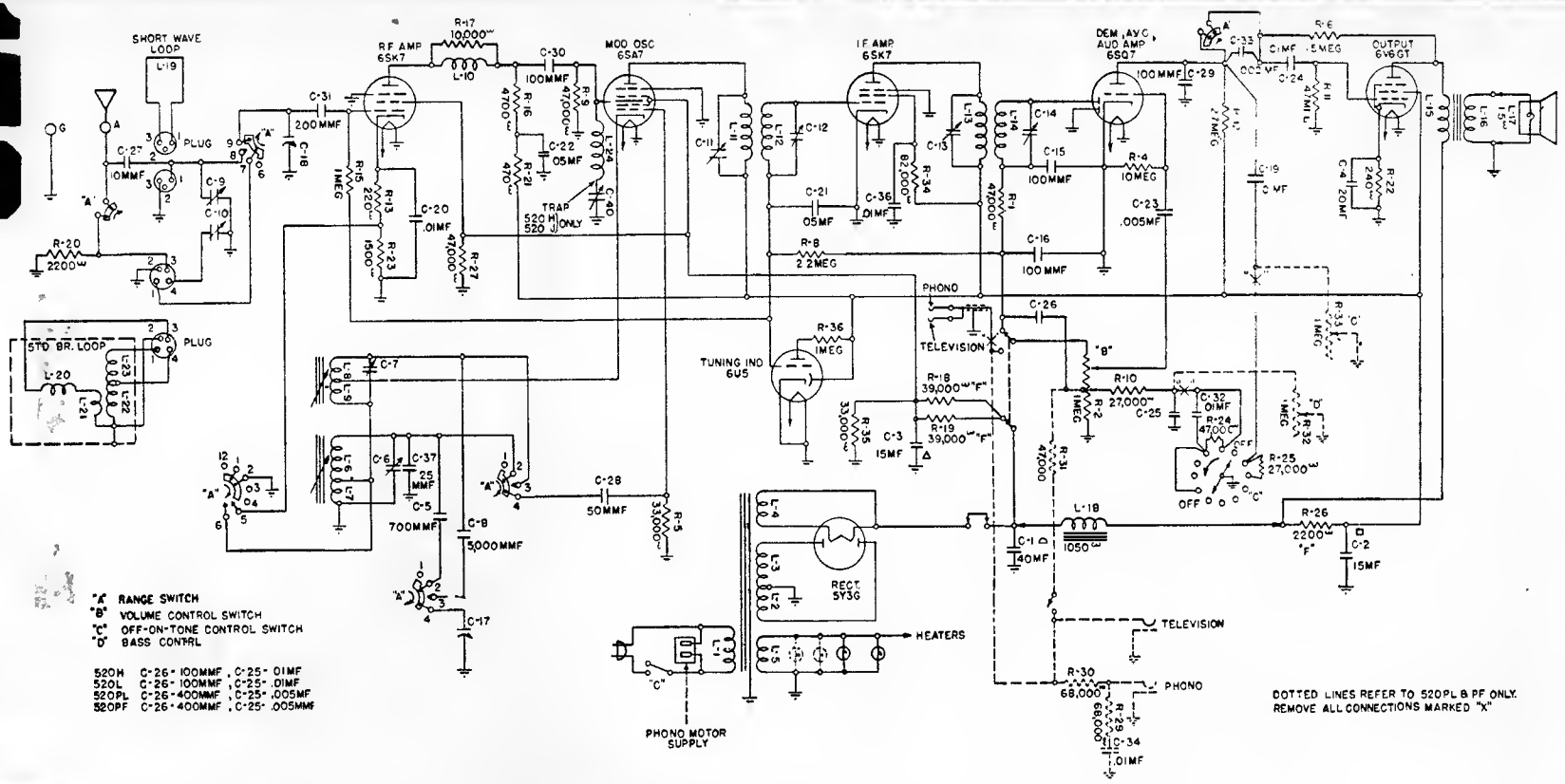


Wiring and Schematic Diagram
Amplitude Modulation



Wiring and Schematic Diagram
Frequency Modulation

I.F. - 4.3 MC
'A' - TUN IND CONNECTOR



		TERMINALS OF SOCKETS							
Tube	*Circuit*	1	2	3	4	5	6	7	8
6SK7	R. F. Amplifier	0	0	0	0	+3*	+115	*6.3*	+200
6SA7	Modulator and Oscillator	0	0	+250	+115	0	0	*6.3*	0
6SK7	I. F. Amplifier	0	0	0	0	+2	+100	*6.3*	+250
6SQ7	Demodulator, A. V. C., Audio	0	0	0	0	0	+95	*6.3*	0
6V6GT	Output	0	0	+300	+250	0	0	*6.3*	+12*
6U5	Tuning Indicator	*6.3*	+90	0	+250	0	0	—	—
5Y3G	Rectifier	0	+400	0	*385*	0	*385*	0	+400
Speaker Socket	—	+310	0	0	+400	+400	0	+400	—

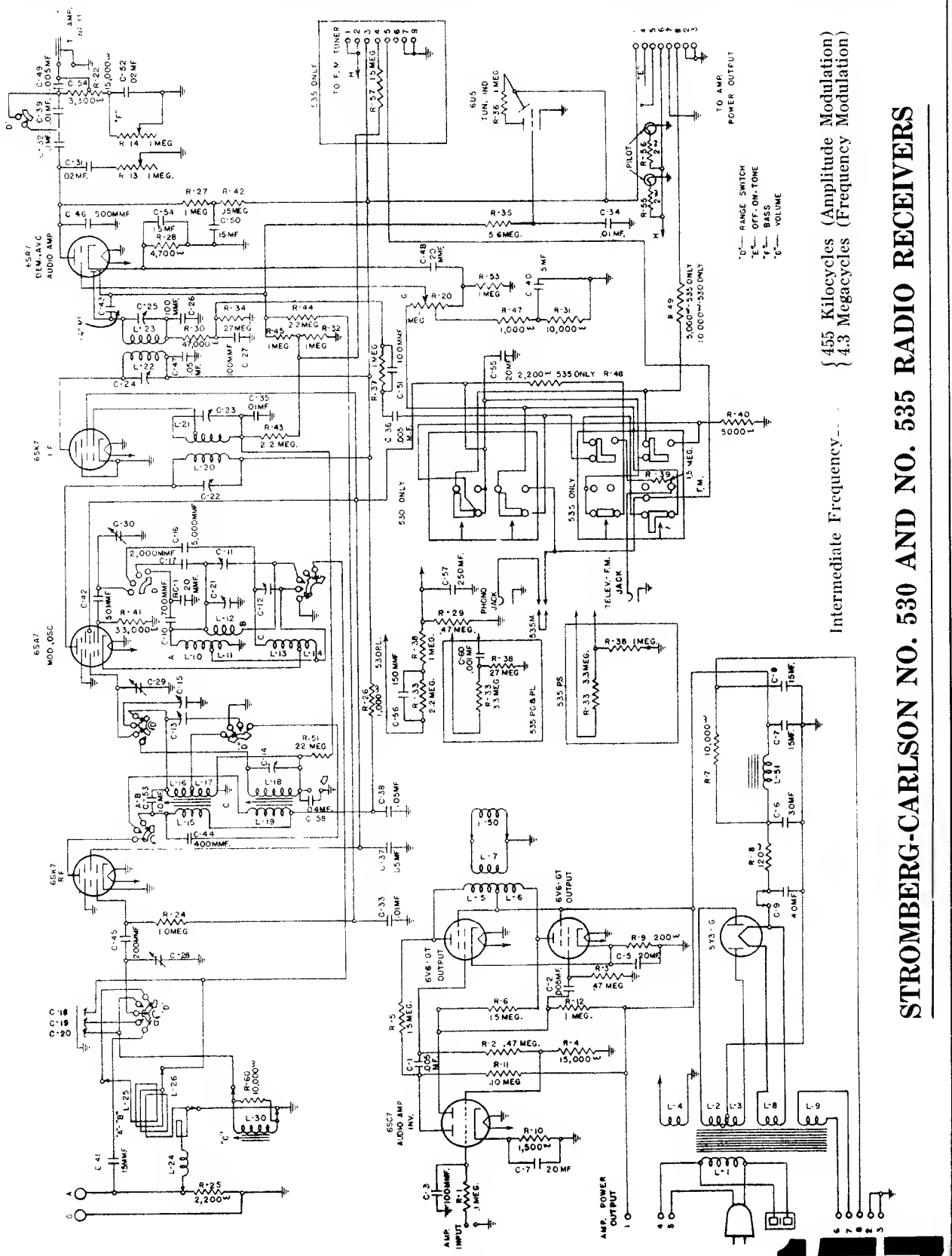
Stromberg-Carlson

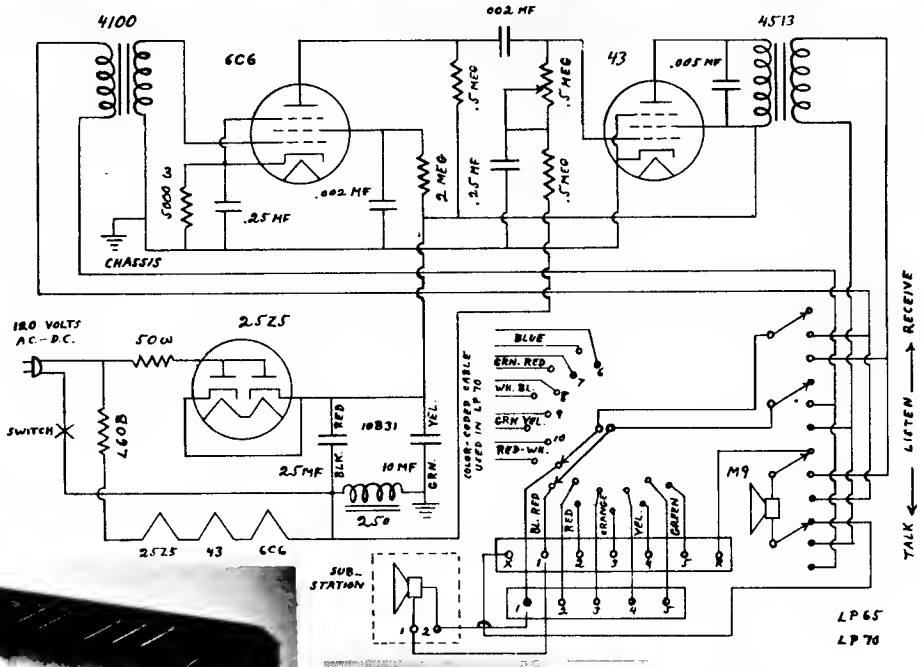
Model 520

I.F. 455 KC.

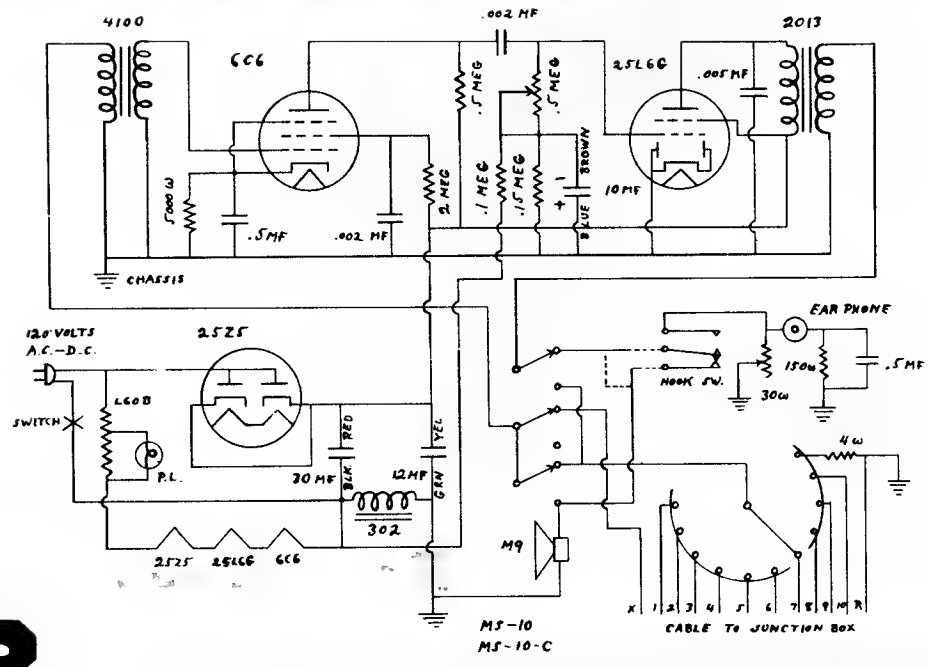
STROMBERG-CARLSON NO. 530 AND NO. 535 RADIO RECEIVERS

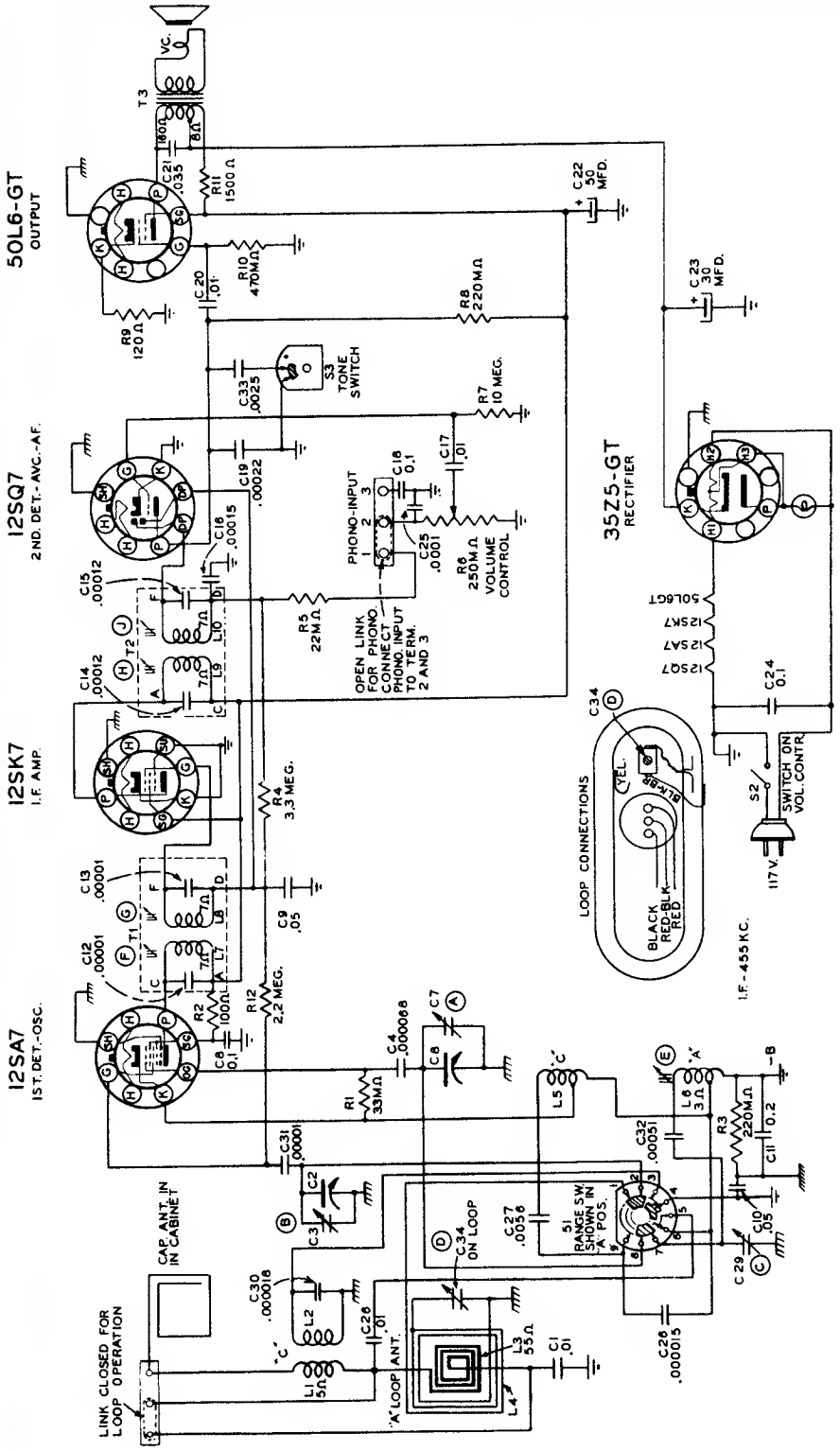
Intermediate Frequency... { 455 Kilocycles (Amplitude Modulation) / 4.3 Megacycles (Frequency Modulation)





Talk-A-Phone Mfg. Co.





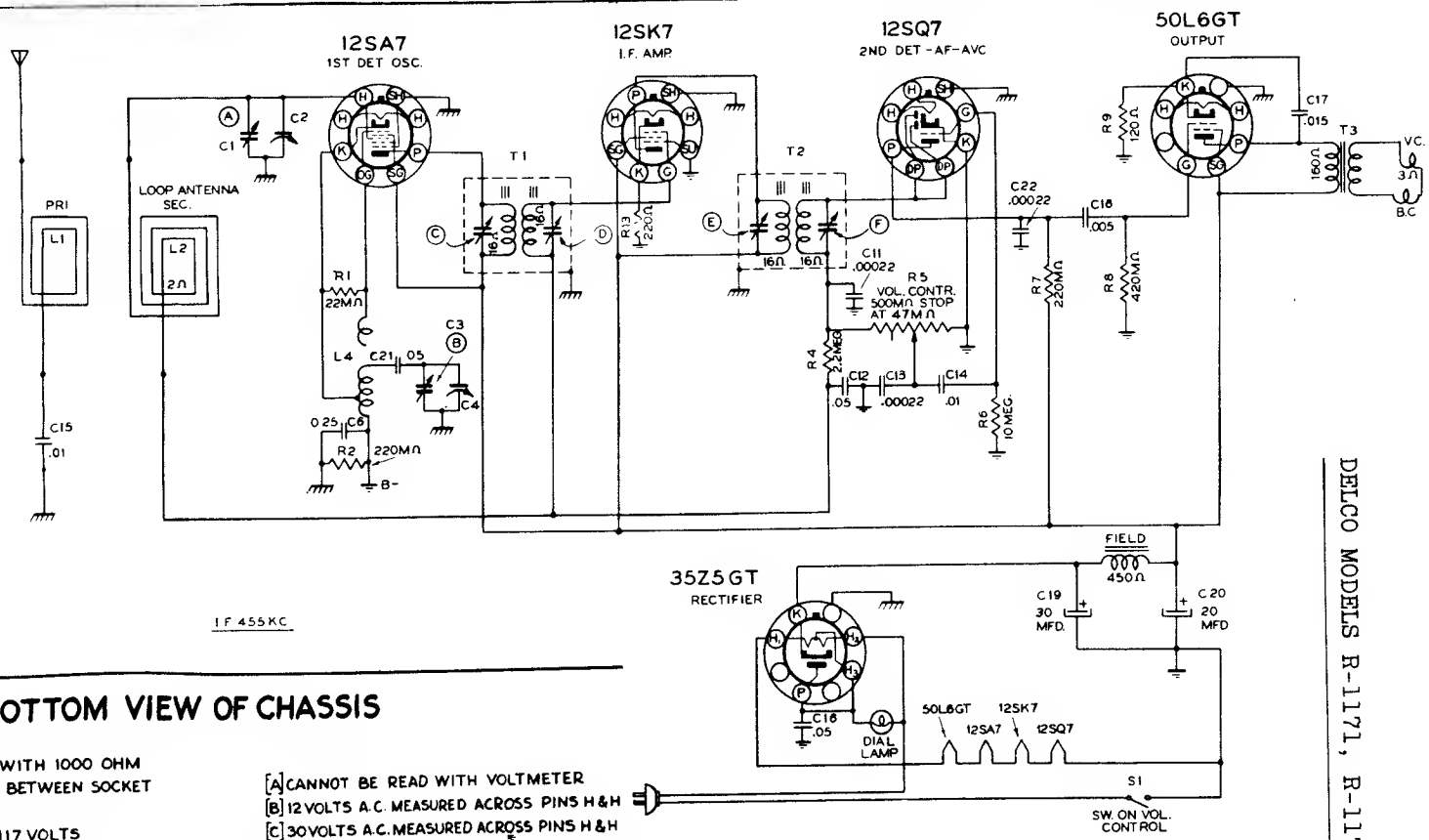
DELCO MODELS R-1176 AND R-1181 CIRCUIT DIAGRAM

160

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

DELCO MODELS R-1171, R-1172, R-1173



IF 455 KC

BOTTOM VIEW OF CHASSIS

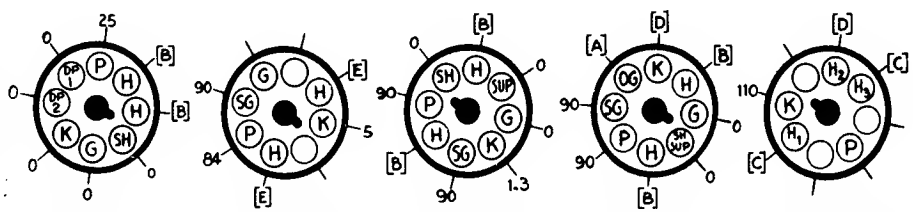
VOLTAGES MEASURED WITH 1000 OHM PER VOLT VOLTMETER BETWEEN SOCKET TERMINALS AND B-

A.C LINE VOLTAGE 117 VOLTS

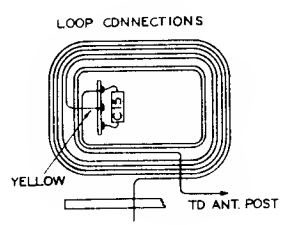
POWER CONSUMPTION 30 WATTS

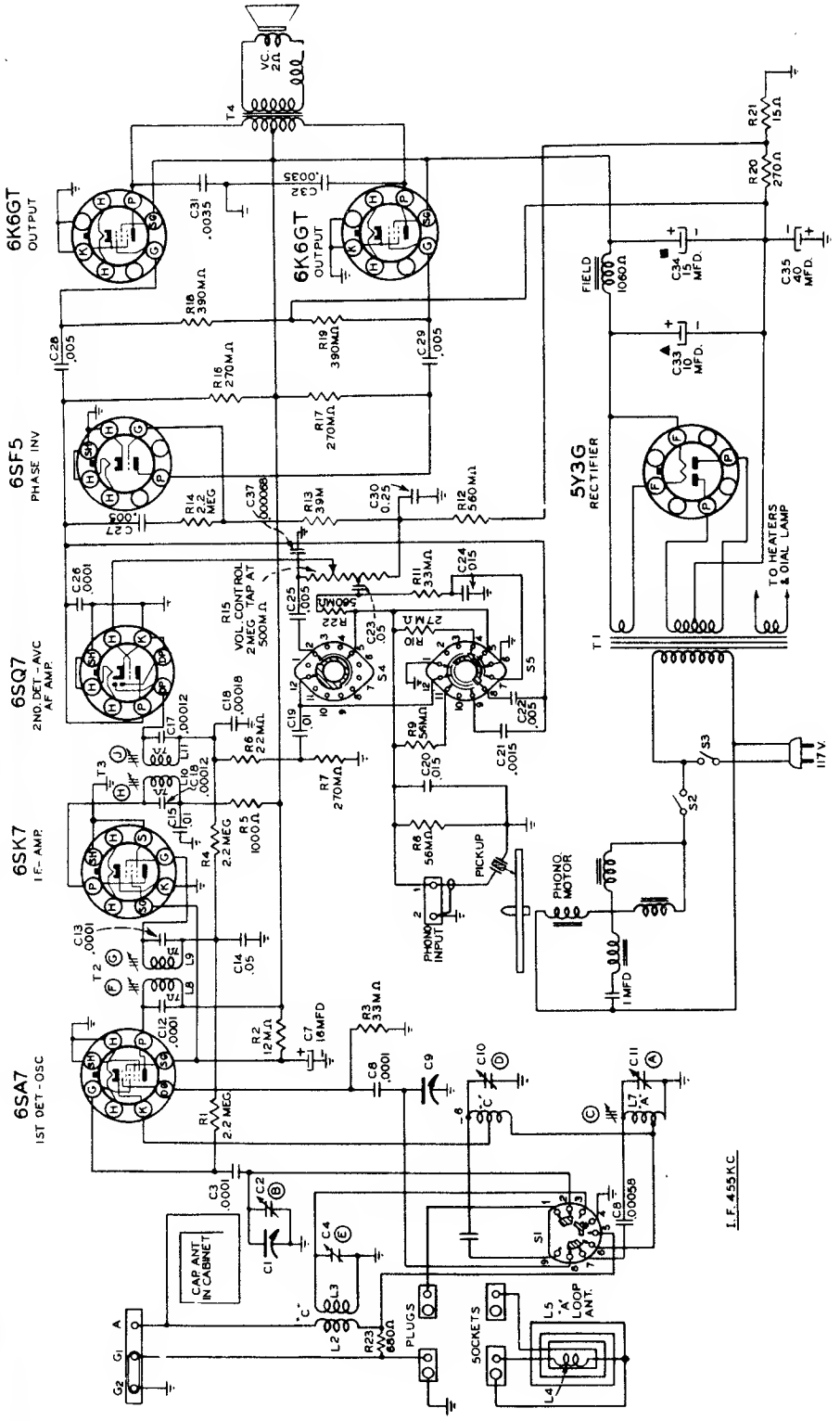
VOLUME CONTROL AT MINIMUM VOLUME.

[A] CANNOT BE READ WITH VOLTMETER
[B] 12 VOLTS A.C. MEASURED ACROSS PINS H & H
[C] 30 VOLTS A.C. MEASURED ACROSS PINS H & H
[D] 117 VOLTS A.C. MEASURED ACROSS PINS D & D
[E] 45 VOLTS A.C. MEASURED ACROSS PINS H & H



REAR OF CHASSIS





DELCO MODELS R-1186 AND R-1188 CIRCUIT DIAGRAM

UNITED MOTORS SERVICE
INCORPORATED
GENERAL OFFICES—DETROIT

SERVICE INSTRUCTIONS--DELCO MODEL R-1186 AND R-1188 COMBINATION RADIO AND PHONOGRAPH

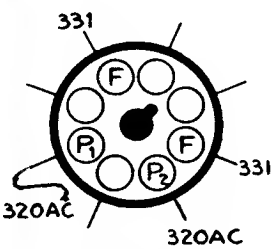
ADJUSTMENTS FOR PUSH-BUTTON TUNING: The push buttons should be adjusted after the receiver has been operating for a brief warm-up period. Each button may be set up to any standard broadcast station. The preferable arrangement is to adjust for stations in the order of frequency, from low to high. Proceed as follows:

1. Press down on the first push button and hold it down. The screw in back of the push button is now accessible and should be loosened one or two turns with a screwdriver.

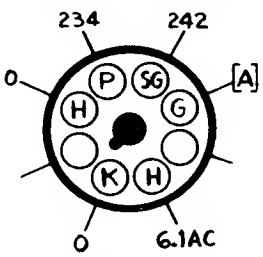
2. While still holding down the push button, tune in the first station with the tuning knob, by Dial Tuning. When the station is heard at its best, tighten up the screw in back of the push button. Now let go of the push button, turn the tuning knob in order to detune and again press down the button and let go. To check repeat action.

3. Proceed to set up the other five push buttons in a similar manner.

BOTTOM VIEW OF CHASSIS



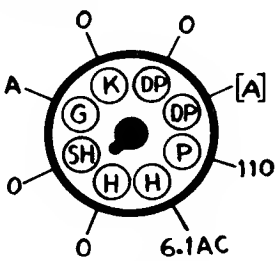
5Y3G



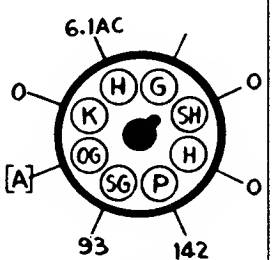
6K6GT

VOLTAGE MEASURED WITH 1000 OHM PER VOLT VOLTMETER BETWEEN SOCKET TERMINALS AND CHASSIS

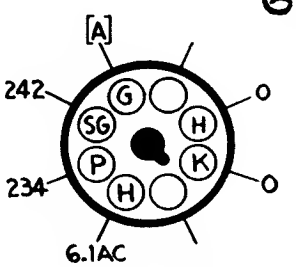
A.C. LINE VOLTAGE 117 VOLTS
POWER CONSUMPTION 110 WATTS
[A] CANNOT BE MEASURED WITH VOLTMETER



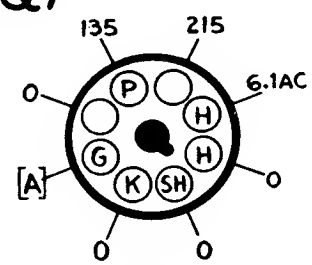
6SQ7



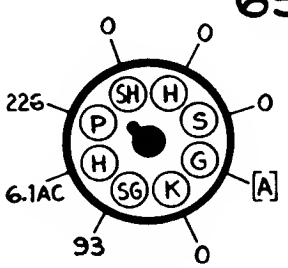
6SA7



6K6GT



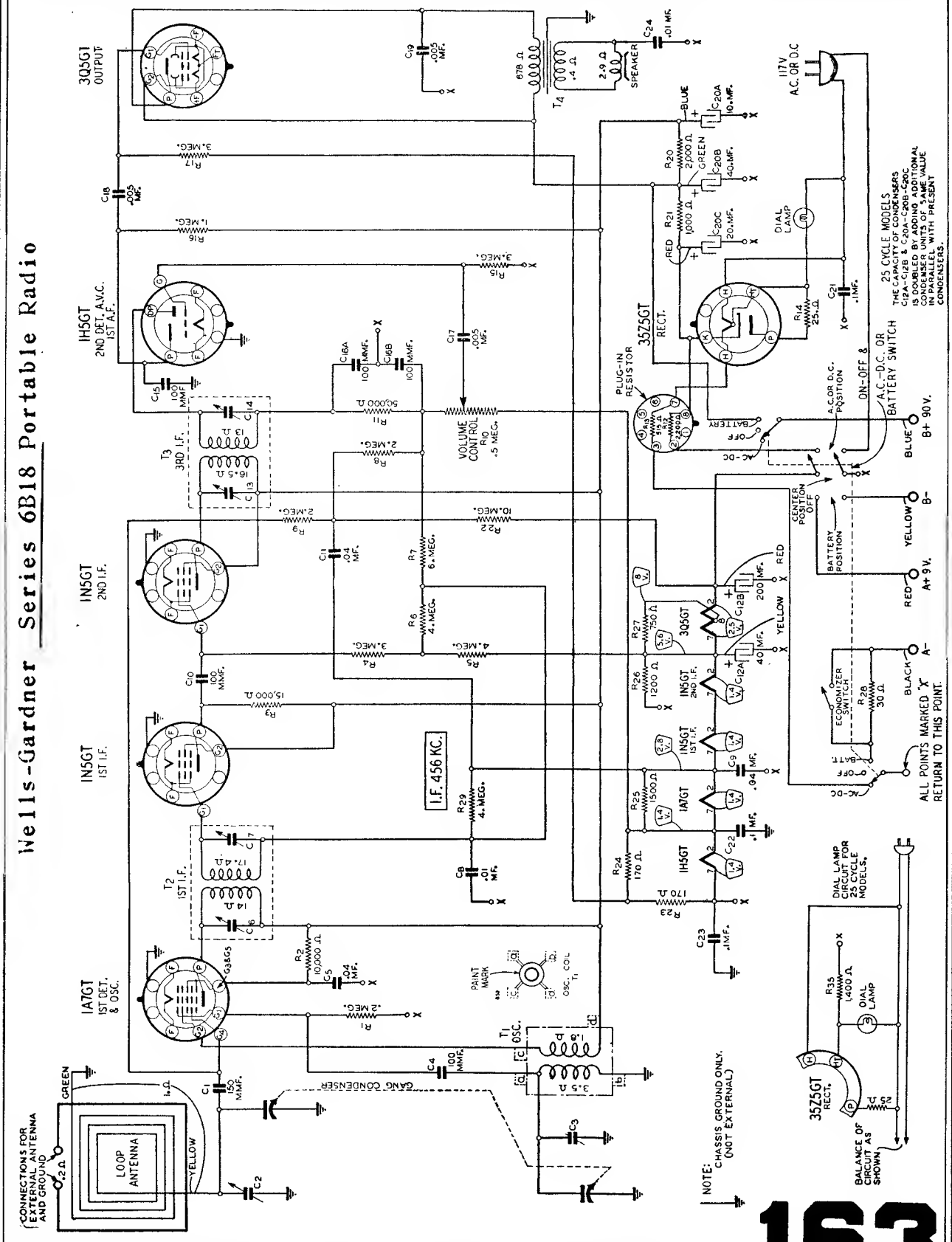
6SF5



6SK7

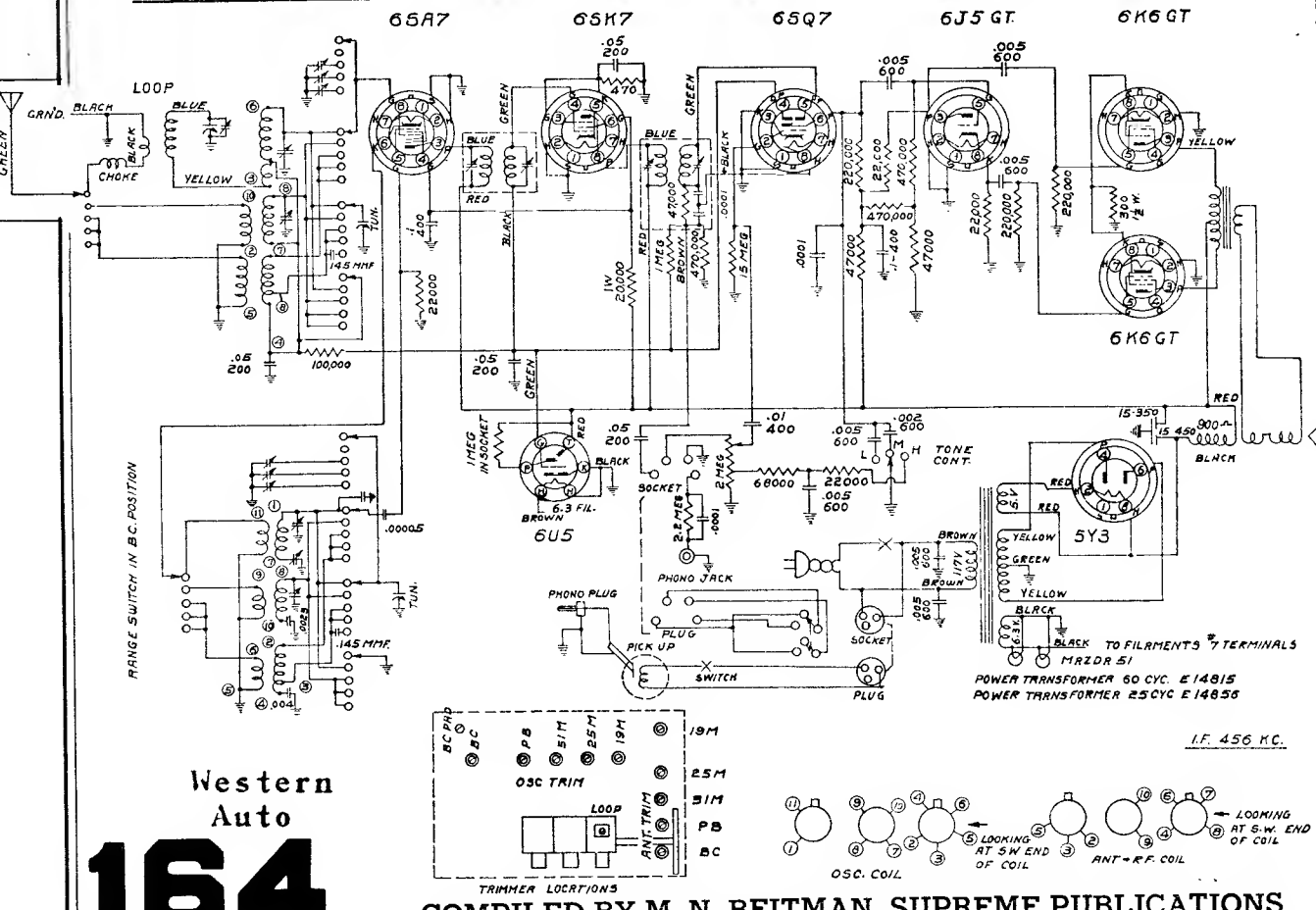
REAR OF CHASSIS

Wells-Gardner Series 6B18 Portable Radio



Truetone MODEL D-1175

Generator	Connection at Radio	Dummy Antenna	Range Switch	Dial	Trimmers to Tune	Sensitivity
I. F. 456 K. C.	Center Stator of Variable	.1 MFD.	A	H. F. End	I. F. Transformers	65—70 MV.
B. C. 1725 K. C.	Antenna	200 MMF.	A	H. F. Limit of Travel	B. C. Oscillator	
1400 K. C.	Antenna	200 MMF.	A	1400	B. C. Antenna and Loop	5-10 MV.
600 K. C.	Antenna	200 MMF.	A	Rock Rotor	Padder	10-15 MV.
P. B. 6.0 M. C.	Antenna	400 Ohm	B	6.0 M. C.	P. B. Osc. P. B. Ant.	25 MV.
2.2 M. C.	Antenna	400 Ohm	B	2.2 M. C.	Check	40 MV.
31M. 9.6 M. C.	Antenna	400 Ohm	C	9.6 M. C.	31M. Ant. 31M. Osc.	25 MV.
25M. 11.6 M. C.	Antenna	400 Ohm	D	11.6 M. C.	25M. Ant. 25M. Osc.	30 MV.
19M. 15.2 M. C.	Antenna	400 Ohm	E	15.2 M. C.	19M Ant. 19M. Osc.	40 MV.

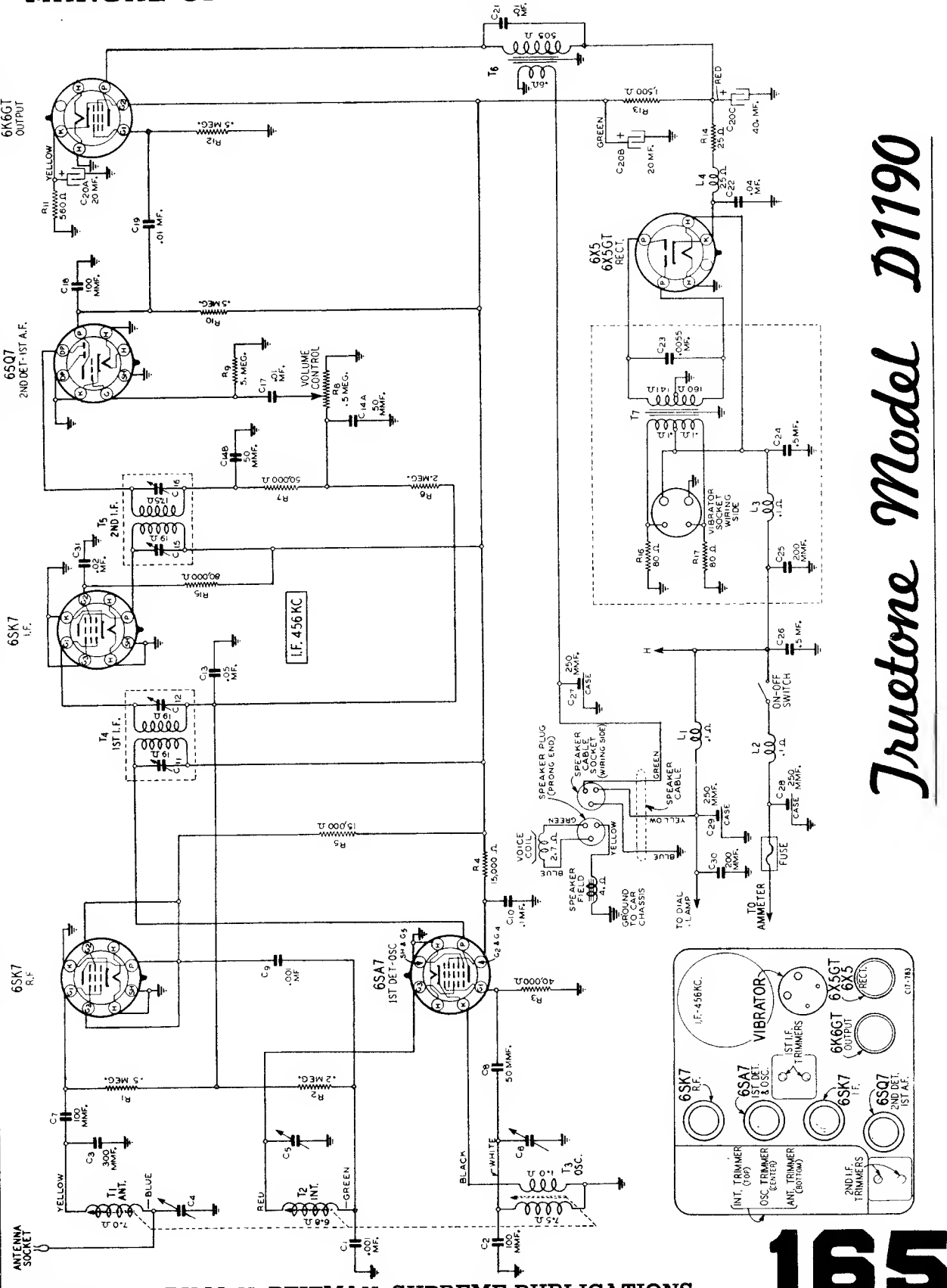


Western Auto

164

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Truetone Model D1190



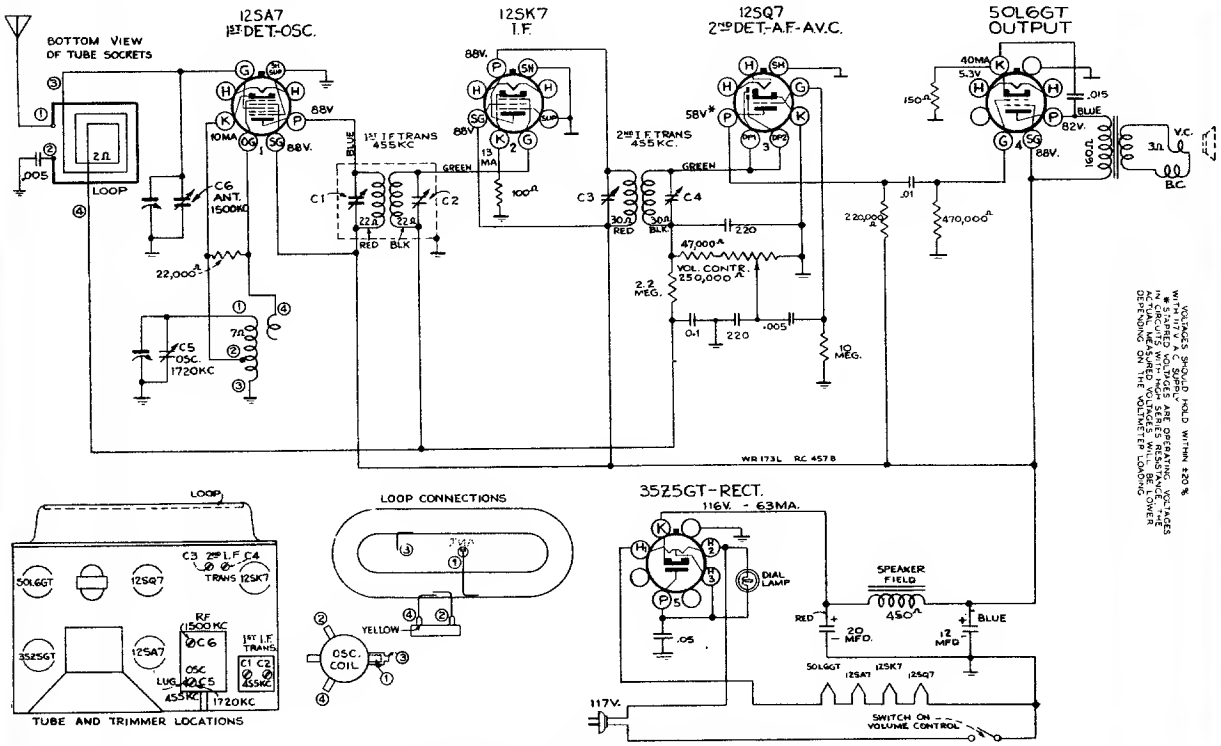
Selectivity - - - 38 KC Broad at 1000 Times Signal
Tuning Frequency Range - - - - - - 540 to 1600 KC
Intermediate Frequency - - - - - - - - - 456 KC
Speaker - - - - - - - - - - - - 6" Electro-Dynamic

Power Consumption - 8.2 Amperes at 6.6 Volts
Power Output (6.6 Volts) - - 8.0 Watts Undistorted
10.0 Watts Maximum
Sensitivity - - - - - 1 Microvolt at .5 Watt Output

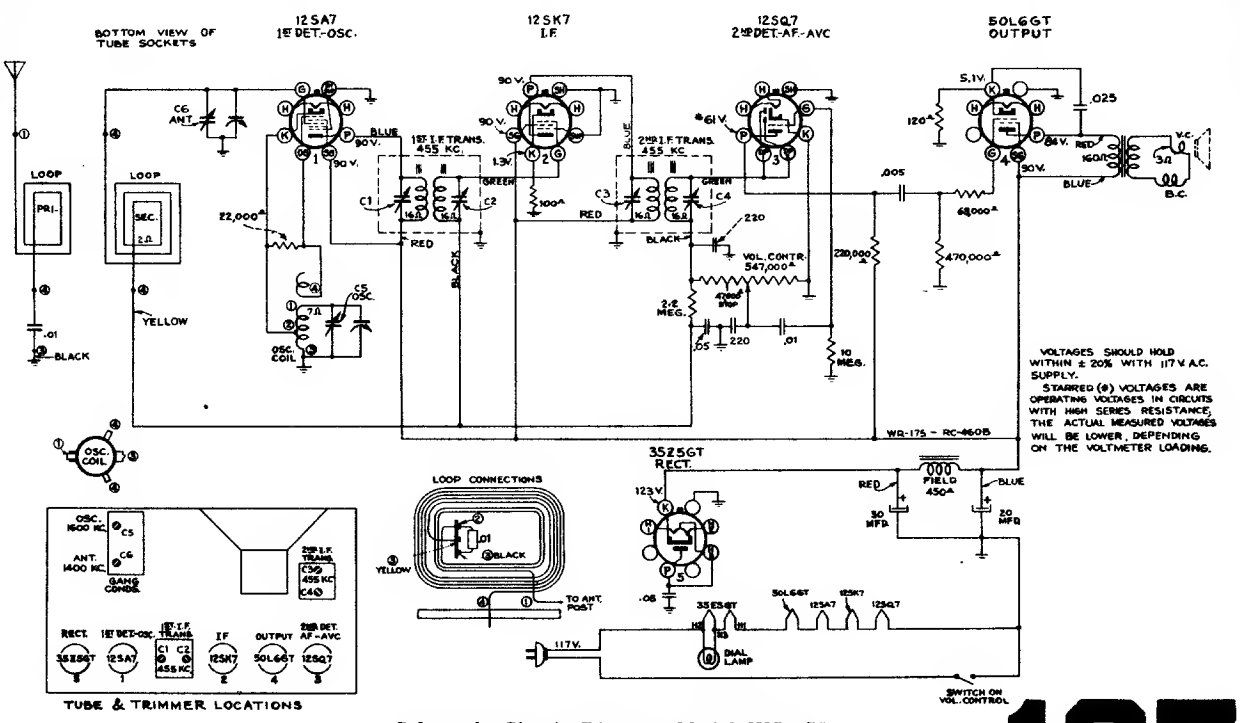
Truetone Model D1191

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

Westinghouse Radio



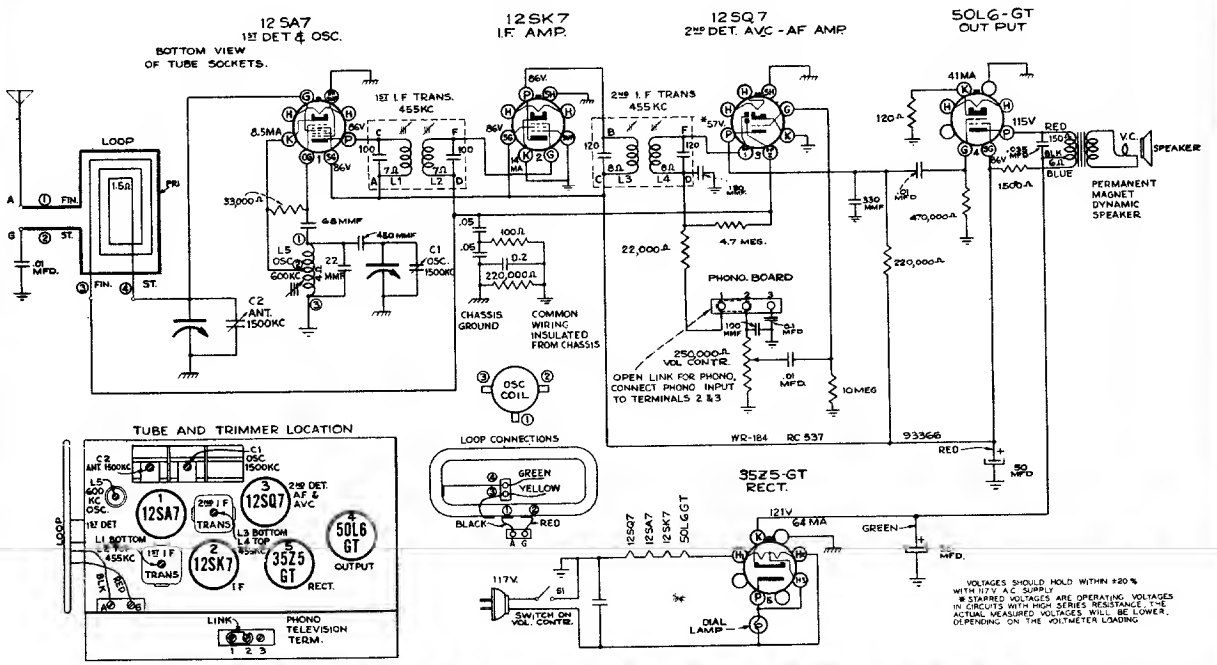
Schematic Circuit Diagram Model WR-173L



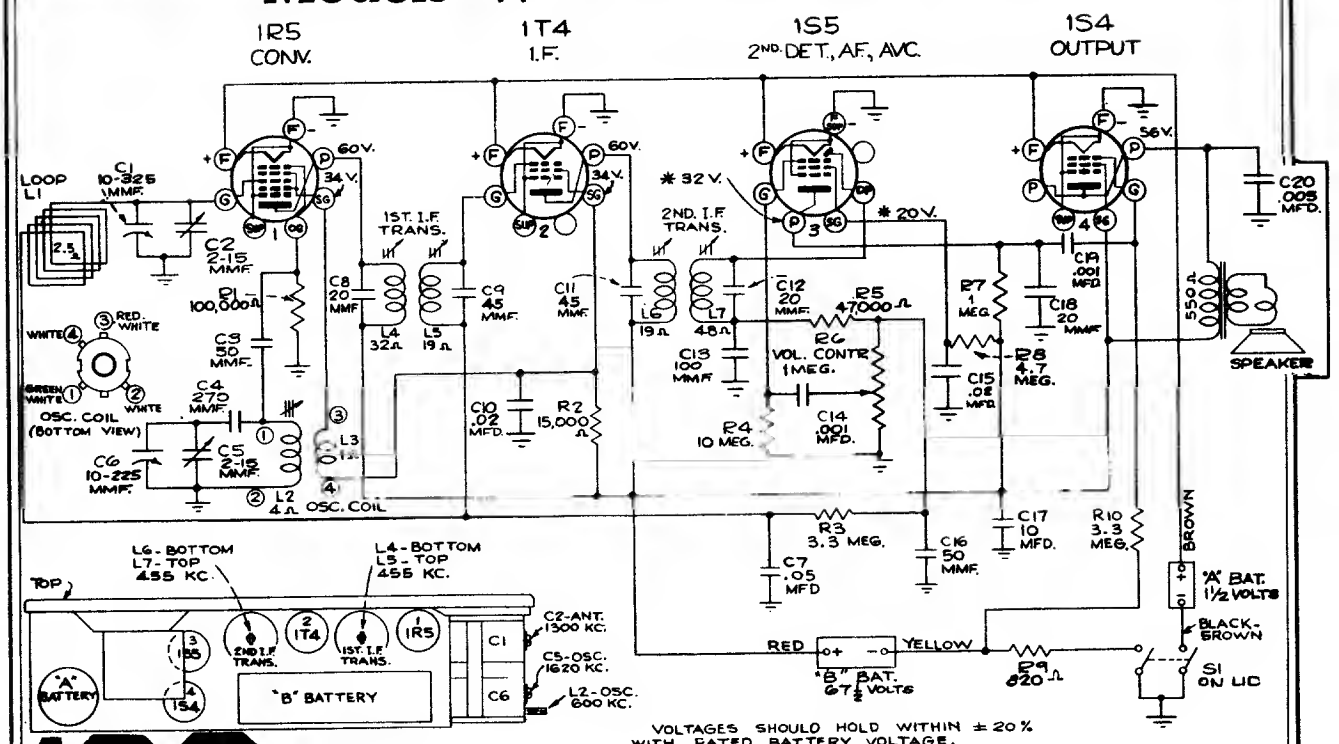
Schematic Circuit Diagram Model WR-175

Westinghouse Radio

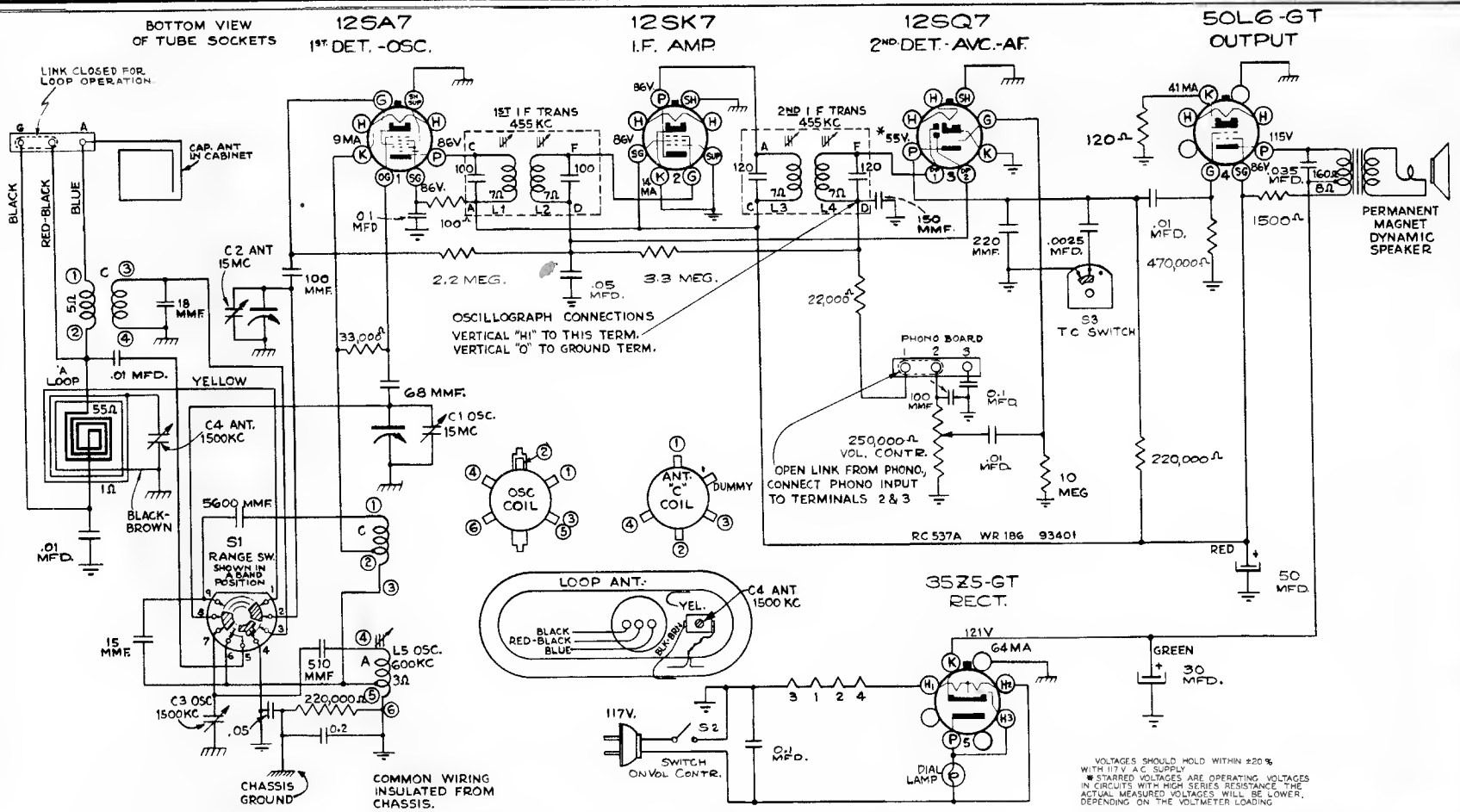
Model WR-184



Models WR-682 & WR-682A



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



Adjustments for Push Button Tuning

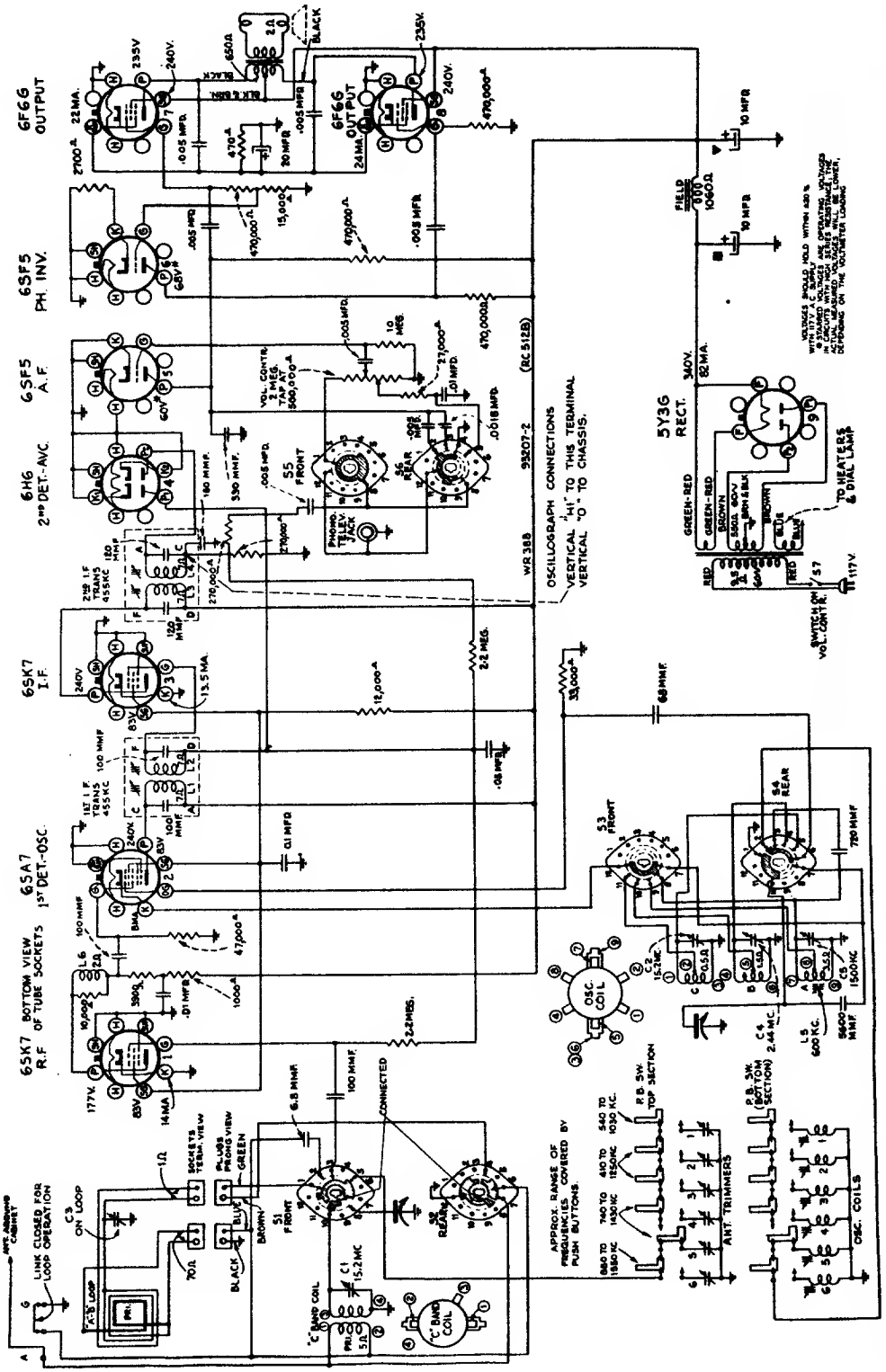
1. Cut out the tabs for your six favorite stations and arrange them in order of frequency in the recesses on the push buttons.
2. Press down on the first push button and hold it down. The screw in back of the push button is now accessible and should be loosened one or two turns with a screwdriver.
3. While still holding down the push button, tune in the first station represented by the station tab with the tuning knob, by Dial Tuning. When the station is heard at its best, tighten up the screw in back of the push button. Now let go of the push button, turn the tuning knob in order to detune and again press down the button and let go. The station should be heard again. If not, repeat the above adjustment process until reception is satisfactory.
4. Proceed to set up the other five push buttons in a similar manner.

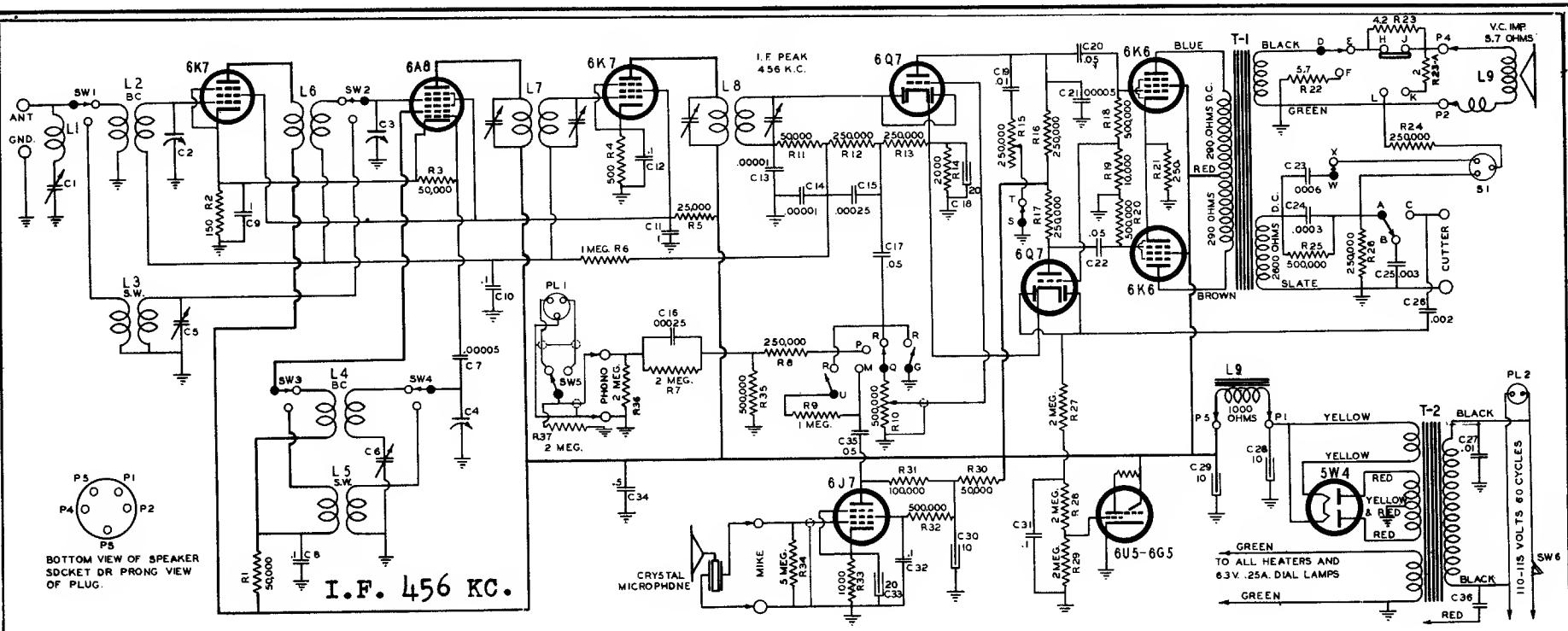
169

Westinghouse Radio

Models WR-186, WR-12X7

Westinghouse Radio
Model WR-388

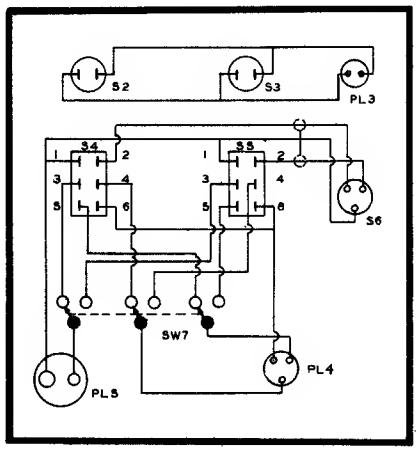




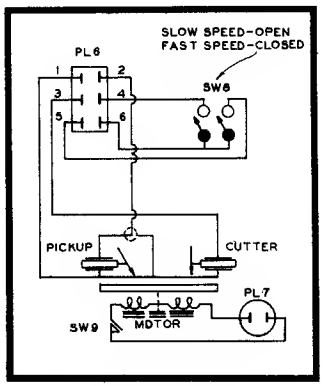
Wilcox-Gay Corporation

Models A-89, A-91, A-92, A-93, A-94, A-101, A-102.

See next page for details



PANEL WIRING - MASTER UNIT
A-101



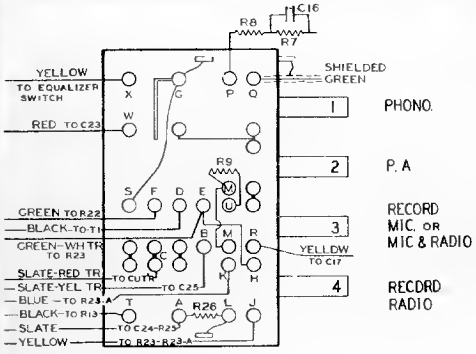
TURNTABLE UNIT
A-102

PLUG CONNECTIONS

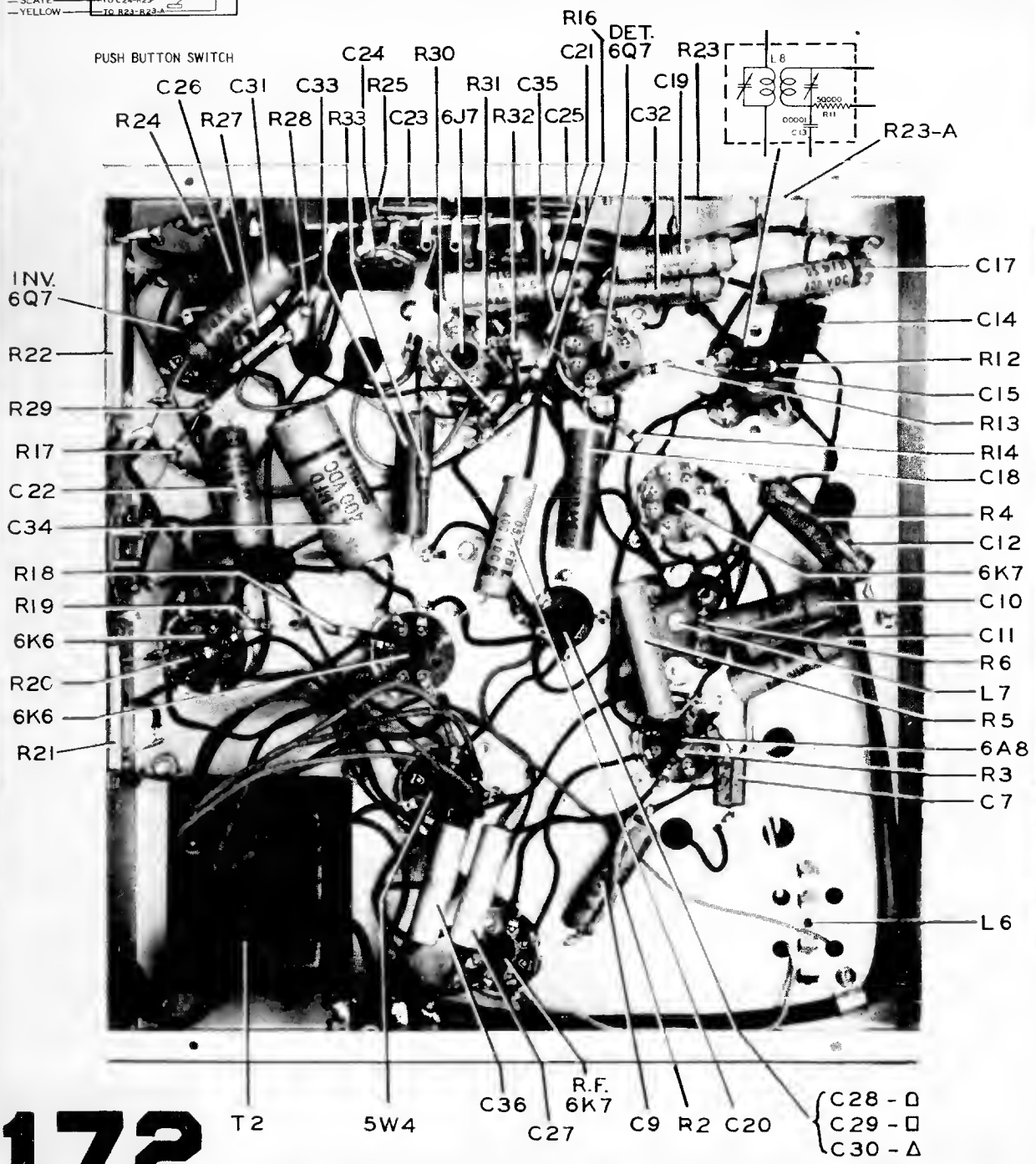
PL1 (A-101 CHASSIS) TO S6 (A-101 PANEL)
PL2 (A-101 CHASSIS) TO PL3 (A-101 PANEL)
PL6 (A-102) TO S4 OR S5 (A-101 PANEL)
PL7 (A-102) TO S2 OR S3 (A-101 PANEL)
PL4 (A-101 PANEL) TO S1 (A-101 CHASSIS)
PL5 (A-101 PANEL) TO "CUTTER" SOCKET (A-101 CHASSIS)

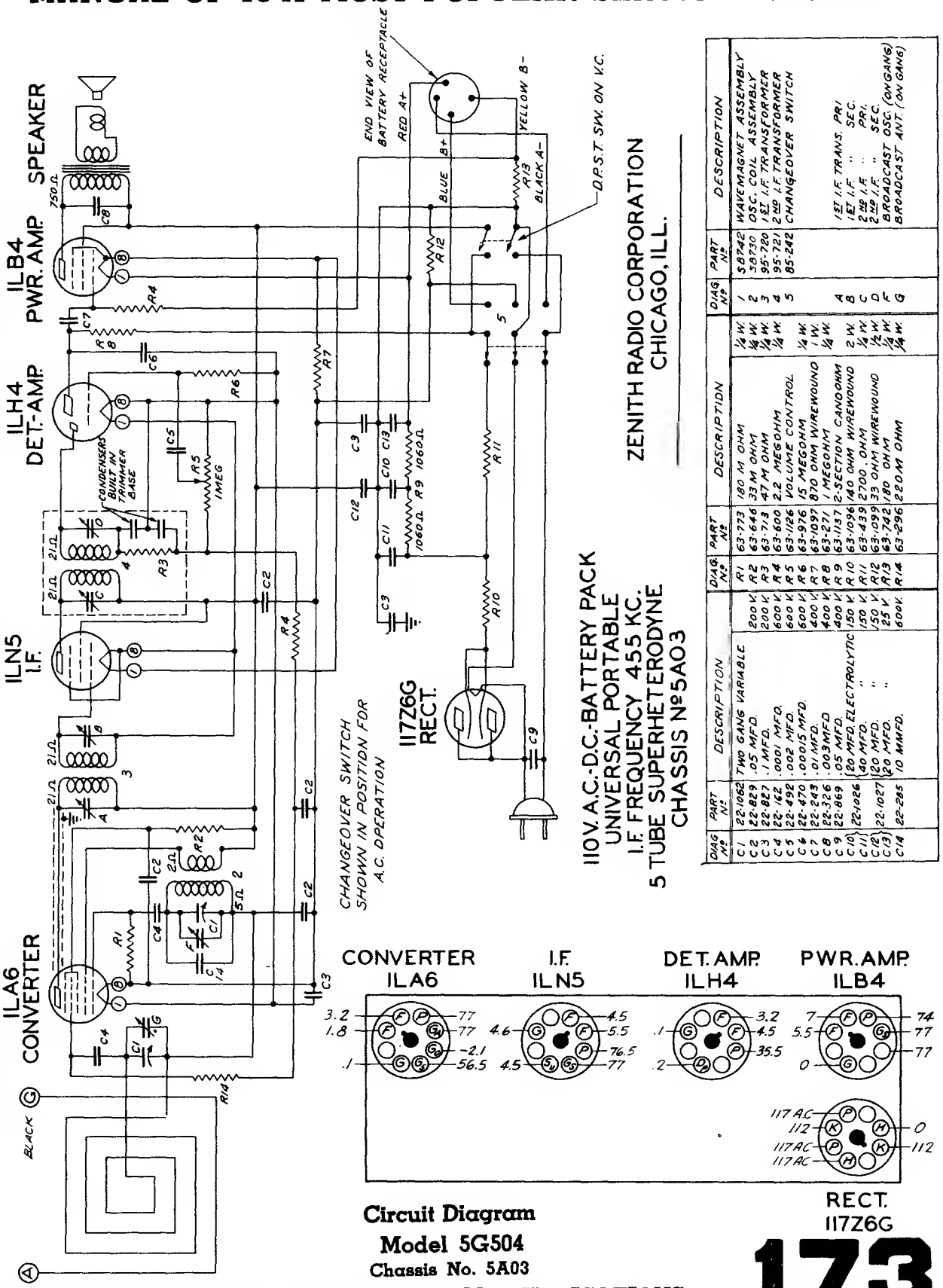
PUSH BUTTON CIRCUIT FUNCTIONS NORMAL "UP" POSITION OF PUSH BUTTON SWITCHES INDICATED IN SCHEMATIC DIAGRAM	
1	OPENS Q-R, W-X, CLOSES Q-P, R-G
2	OPENS Q-R, CLOSES Q-M
3	FIRST POS. OPENS A-B, T-S, CLOSES U-R SECOND POS. OPENS Q-R, A-B, D-E, T-S CLOSES Q-M, A-C, D-F
4	FIRST POS. OPENS A-B, T-S, CLOSES A-C SECOND POS. OPENS A-B, T-S, H-J CLOSES A-C, K-L
NOTE - ALL OTHER CONTACT POSITIONS INDICATED IN DIAGRAM	

SERVICE DIAGRAMS



MODELS	CIRCUIT	PHONO-PLAYER
A-89	ILLUSTRATED	MANUAL
A-91	"	"
A-92	"	"
A-93	"	AUTOMATIC
A-94	"	"
A-101	SEE WIRING & NOTE A-101	USED WITH A-102
A-102	SEE NOTE A-102	DUAL TURNTABLE ONLY





ZENITH RADIO CORPORATION
CHICAGO, ILL.

110 V. A.C.-D.C.-BATTERY PACK
UNIVERSAL PORTABLE
I.F. FREQUENCY 455 KC.
5 TUBE SUPERHETERODYNE
CHASSIS Nº 5A03

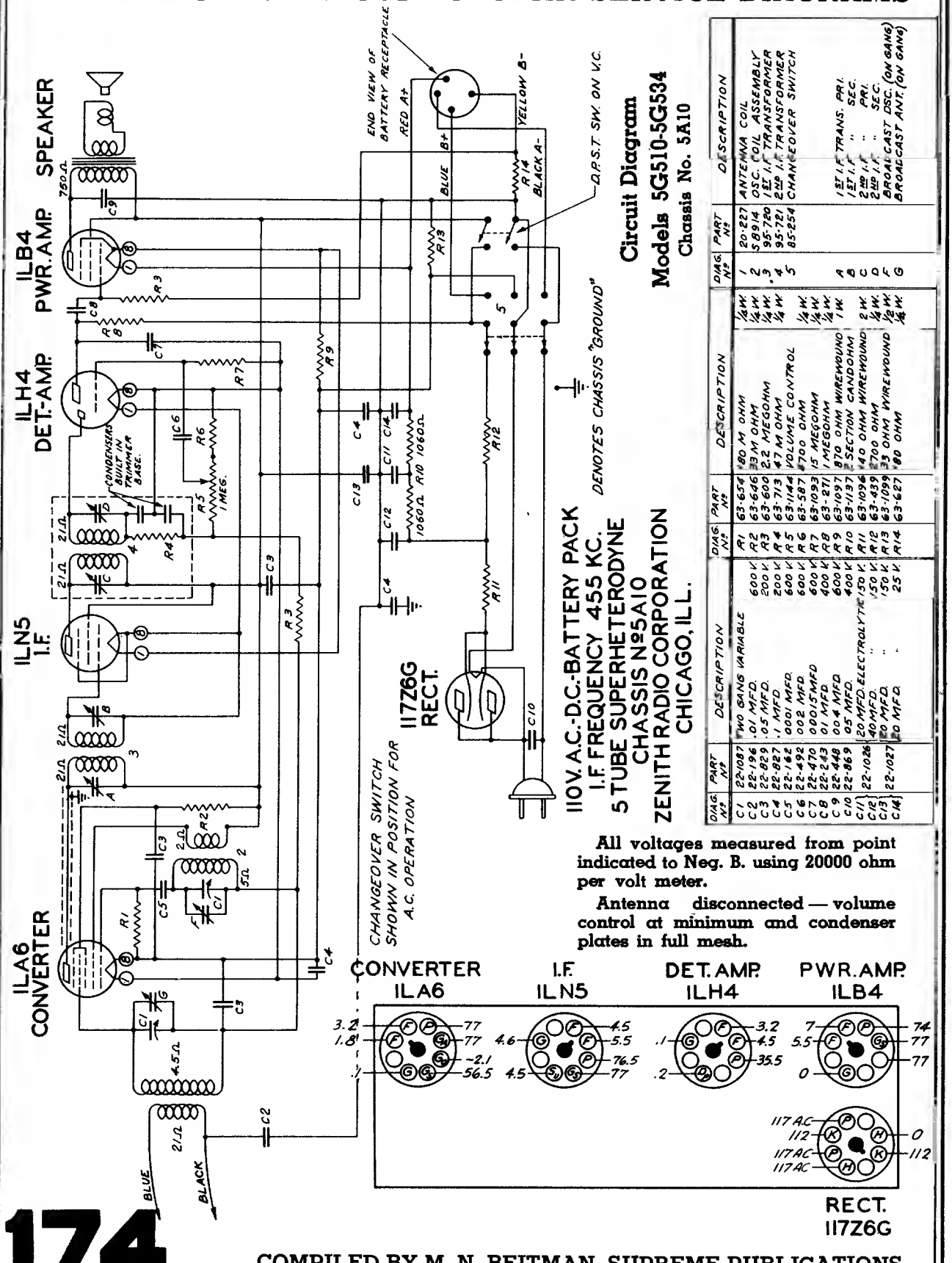
DIAG Nº	PART Nº	DESCRIPTION
C1	22-1062	TWO GANG VARIABLE
C2	22-829	.05 MFD.
C3	22-827	.1 MFD.
C4	22-142	.0001 MFD.
C5	22-492	.002 MFD.
C6	22-470	.00015 MFD.
C7	22-243	.01 MFD.
C8	22-326	.003 MFD.
C9	22-869	.05 MFD.
C10	22-1026	20 MFD. ELECTROLYTIC
C11		40 MFD. "
C12	22-1027	20 MFD. "
C13		20 MFD. "
C14	22-285	.10 MMFD.

DIAG Nº	PART Nº	DESCRIPTION		
R1	63-773	180 M OHM	½ W.	
R2	63-646	33 M OHM	½ W.	
R3	63-713	47 M OHM	½ W.	
R4	63-600	2.2 MEGOHM	¼ W.	
R5	63-1126	VOLUME CONTROL		
R6	63-976	15 MEGOHM	¼ W.	
R7	63-1097	870 OHM WIREWOUND	1 W.	
R8	63-271	1 MEGOHM	½ W.	
R9	63-1137	2-SECTION CANODHM		
R10	63-1096	140 OHM WIREWOUND	2 W.	
R11	63-439	2700 OHM	¼ W.	
R12	63-1099	33 OHM WIREWOUND	¼ W.	
R13	63-742	180 OHM	¼ W.	
R14	63-296	220 M OHM	¼ W.	

DIAG Nº	PART Nº	DESCRIPTION
1	58742	WAVEMAGNET ASSEMBLY
2	59730	OSC. COIL ASSEMBLY
3	95-720	1ST I.F. TRANSFORMER
4	95-721	2ND I.F. TRANSFORMER
5	85-242	CHANGEOVER SWITCH
A		1ST I.F. TRANS. PRI
B		1ST I.F. " SEC.
C		2ND I.F. " PRI.
D		2ND I.F. " SEC.
F		BROADCAST OSC. (ON GANG)
G		BROADCAST ANT. (ON GANG)

Circuit Diagram
Model 5G504
Chassis No. 5A03

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



Circuit Diagram
Models 5G510-5G534
Chassis No. 5A10

110V. A.C.-D.C.-BATTERY PACK
I.F. FREQUENCY 455 KC.
5 TUBE SUPERHETERODYNE
CHASSIS Nº5A10
ZENITH RADIO CORPORATION
CHICAGO, ILL.

DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1087	TWO GANG VARIABLE
C2	22-196	.01 MFD.
C3	22-829	.05 MFD.
C4	22-827	.1 MFD.
C5	22-162	0001 MFD.
C6	22-492	002 MFD.
C7	22-470	00015MFD
C8	22-243	01 MFD.
C9	22-448	004 MFD.
C10	22-869	05 MFD.
C11	22-1026	20 MFD. ELECTROLYTIC
C12		40 MFD. "
C13	22-1027	20 MFD. "
C14		20 MFD. "

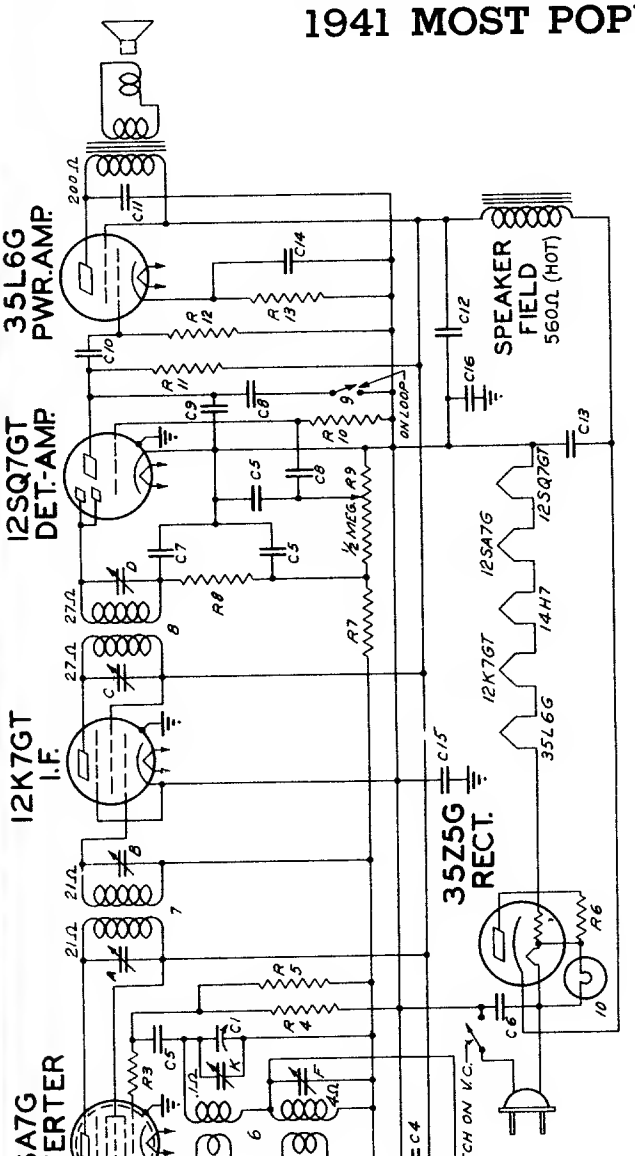
DIAG. Nº	PART Nº	DESCRIPTION		
R1	63-654	80 M OHM	600 V.	1/4 W.
R2	63-646	33M OHM	600 V.	1/4 W.
R3	63-600	2.2 MEGOHM	200 V.	1/4 W.
R4	63-713	47 M OHM	200 V.	1/4 W.
R5	63-1144	VOLUME CONTROL	600 V.	1/4 W.
R6	63-587	4700 OHM	600 V.	1/4 W.
R7	63-1093	.15 MEGOHM	600 V.	1/4 W.
R8	63-871	1 MEGOHM	400 V.	1/4 W.
R9	63-1097	870 OHM WIREWOUND	600 V.	1 W.
R10	63-1137	2 SECTION CANDOHM	400 V.	
R11	63-1096	140 OHM WIREWOUND	150 V.	2 W.
R12	63-439	4700 OHM	150 V.	1/4 W.
R13	63-1099	33 OHM WIREWOUND	150 V.	1/2 W.
R14	63-627	80 OHM	25 V.	1/4 W.

DIAG. Nº	PART Nº	DESCRIPTION
1	20-227	ANTENNA COIL
2	5-8914	OSC. COIL ASSEMBLY
3	95-720	1ST I.F. TRANSFORMER
4	95-721	2ND I.F. TRANSFORMER
5	85-254	CHANGEOVER SWITCH
A		1ST I.F. TRANS. PRI.
B		1ST I.F. " SEC.
C		2ND I.F. " PRI.
D		2ND I.F. " SEC.
F		BROADCAST DSC. (ON GANG)
G		BROADCAST ANT. (ON GANG)

All voltages measured from point indicated to Neg. B. using 20000 ohm per volt meter.

Antenna disconnected — volume control at minimum and condenser plates in full mesh.

I.F. FREQUENCY 455 KC.
6 TUBE SUPERHETERODYNE
CHASSIS Nº 6A16 AC-DC 2 BAND
ZENITH RADIO CORPORATION
CHICAGO, ILL.



DENOTES CHASSIS "GROUND"

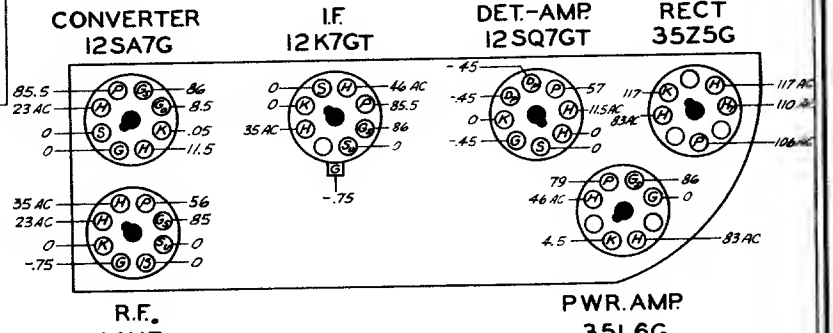
8-22-40 C16 ADDED # 22-1157 WAS 22-467
8-16-40 C15 ADDED
8-14-40 C5 AT V.C. ADDED

DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1071	TWO-GANG VARIABLE
C2	22-289	50 MMFD.
C3	22-1098	.00083 MFD.
C4	22-829	.05 MFD.
C5	22-162	.0001 MFD.
C6	22-1017	.05 MFD.
C7	22-182	.00025 MFD.
C8	22-492	.002 MFD.
C9	22-716	.0005 MFD.
C10	22-243	.01 MFD.
C11	22-1100	.06 MFD.
C12	22-1073	15 MFD. ELECTROLYTIC
C13		30 MFD. ELECTROLYTIC
C14		20 MFD. ELECTROLYTIC
C15	22-1157	.03 MFD.
C16	22-1158	.05 MFD.
R1	63-587	4700 OHM

DIAG. Nº	PART Nº	DESCRIPTION
R2	63-576	68 OHM
R4	63-591	22M OHM
R5	63-1093	1.5 MEGOHM
R6	63-1023	220 OHM WIREWOUND
R7	63-599	1.5 MEGOHM
R8	63-593	47 M OHM
R9	63-1130	VOLUME CONTROL
R10	63-976	1.5 MEGOHM
R11	63-296	220 M OHM
R12	63-597	470 M OHM
R13	63-686	150 OHM WIREWOUND
1	S 8885	WAVEMAGNET ASSEM.
2	S 8812	ANTENNA COIL ASSEM.
3	85-848	BAND SELECTOR SW.
4	S 8859	CHOKE & RES. ASSEM.
5	S 8326	WAVETRAP ASSEMBLY

DIAG. Nº	PART Nº	DESCRIPTION
6	S 8881	OSCILLATOR COIL ASSEM.
7	95-760	1ST I.F. TRANSFORMER
8	(95-601) (95-759)	2ND I.F. TRANS. (FILTER EXTERNAL) (FILTER IN CAN)
9	85-257	TONE CONTROL SWITCH
10	100-67	PILOT LIGHT 6.3 V. .15A.
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 (SEE NOTE)
F		BROADCAST OSC. (SEE NOTE)
G		BROADCAST ANT. (SEE NOTE)
K		SHORT WAVE OSC. (ON BAND)
M		SHORT WAVE ANT. (SEE NOTE)

NOTE: TRIMMERS E, F, G & M ARE MOUNTED ON STRIP # 22-1072

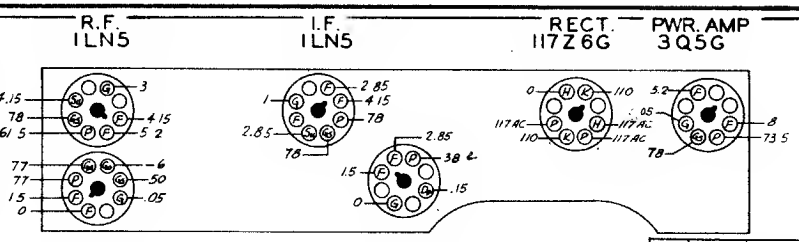


Models 6D512-6D512W-6D539

Chassis No. 6A16

COMPILED BY SUPREME PUBLICATIONS

110V. A.C.-D.C.-BATTERY PACK
UNIVERSAL PORTABLE
I.F. FREQUENCY 455 KC.
6 TUBE SUPERHETERODYNE
CHASSIS Nº 6A19
ZENITH RADIO CORPORATION
CHICAGO, ILL.



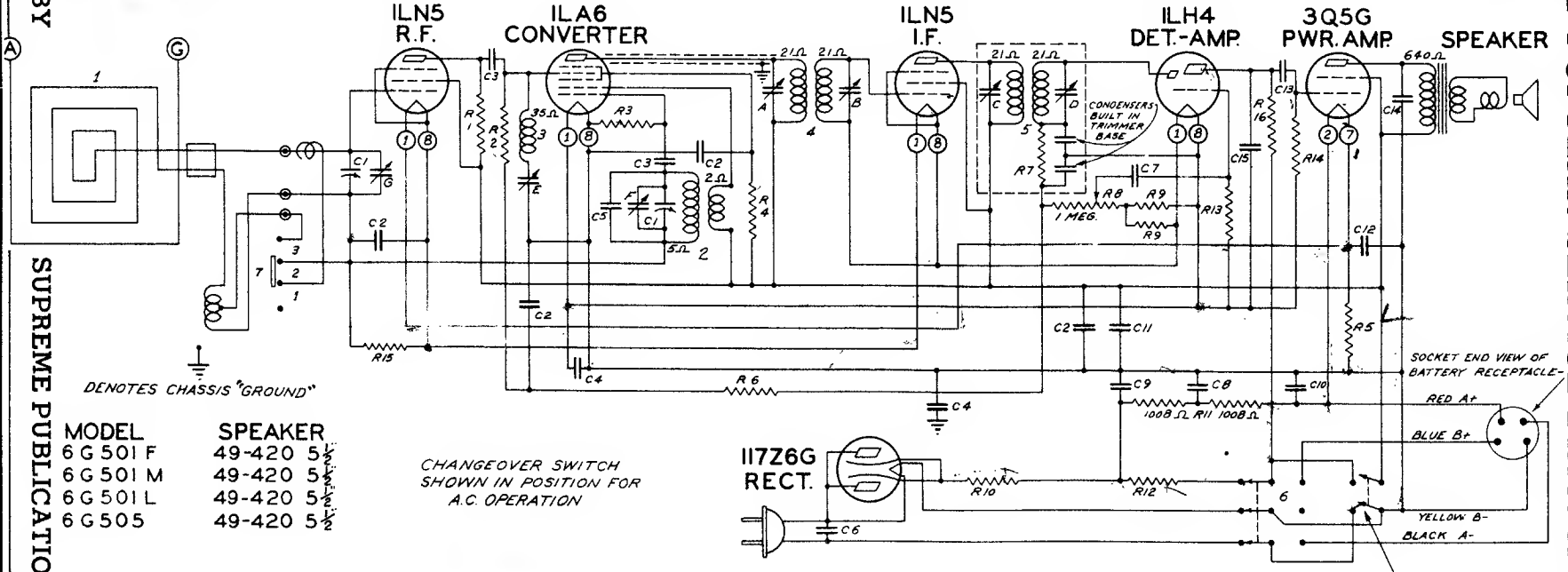
All voltages measured with a 20000 ohm per volt meter from Neg. B to socket contact indicated.

All voltages are positive D.C. unless marked otherwise.

Volume control on full.

Line voltage 117 v. A.C.

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1024	TWO GANG VARIABLE		R2	63-595	100 M OHM	½ W.	2	58374	OSCILLATOR ASSEMBLY
C2	22-829	.05 MFD.	200 V.	R3	63-773	180 M OHM	½ W.	3	58326	WAVE TRAP ASSEMBLY
C3	22-162	.0001 MFD.	600 V.	R4	63-592	33 M OHM	½ W.	4	95-739	1ST I.F. TRANSFORMER
C4	22-827	.1 MFD.	200 V.	R5	63-1097	870 OHM WIREWOUND	1 W.	5	95-740	2ND I.F. TRANSFORMER
C5	22-988	20 MMFD.	600 V.	R6	63-600	2.2 MEGOHM	½ W.	6	85-224	CHANGEOVER SWITCH
C6	22-869	.05 MFD.	400 V.	R7	63-713	47 M OHM	½ W.	7	85-225	WAVEMAGNET SWITCH
C7	22-492	.002 MFD	600 V.	R8	63-1121	VOLUME CONTROL				
C8	22-1026	20 MFD. ELECTROLYTIC	150 V.	R9	63-587	4700 OHM	½ W.			
C9		40 MFD. ELECTROLYTIC	150 V.	R10	63-1096	140 OHM WIREWOUND	2 W.			
C10		20 MFD. ELECTROLYTIC	25 V.	R11	63-1132	2-SECTION CANDOHM		A		1ST I.F. TRANS. PRI.
C11	22-1159	40 MFD. ELECTROLYTIC	150 V.	R12	63-1156	1800 OHM	½ W.	B		1ST I.F. TRANS SEC.
C12		40 MFD. ELECTROLYTIC	25 V.	R13	63-1093	15 MEGOHM	½ W.	C		2ND I.F. TRANS PRI.
C13	22-196	.01 MFD.	600 V.	R14	63-722	2.2 MEGOHM	½ W.	D		2ND I.F. TRANS. SEC.
C14	22-448	.004 MFD.	600 V.	R15	63-325	150 M OHM	½ W.	E	22-1086	WAVE TRAP
C15	22-470	.0005 MFD.	600 V.	R16	63-271	1 MEGOHM	¼ W.	F		BROADCAST OSC. (ON GANG)
								G		BROADCAST ANT. (ON GANG)
R1	63-590	15M OHM	½ W.	1	58984	WAVEMAGNET ASSEM.				

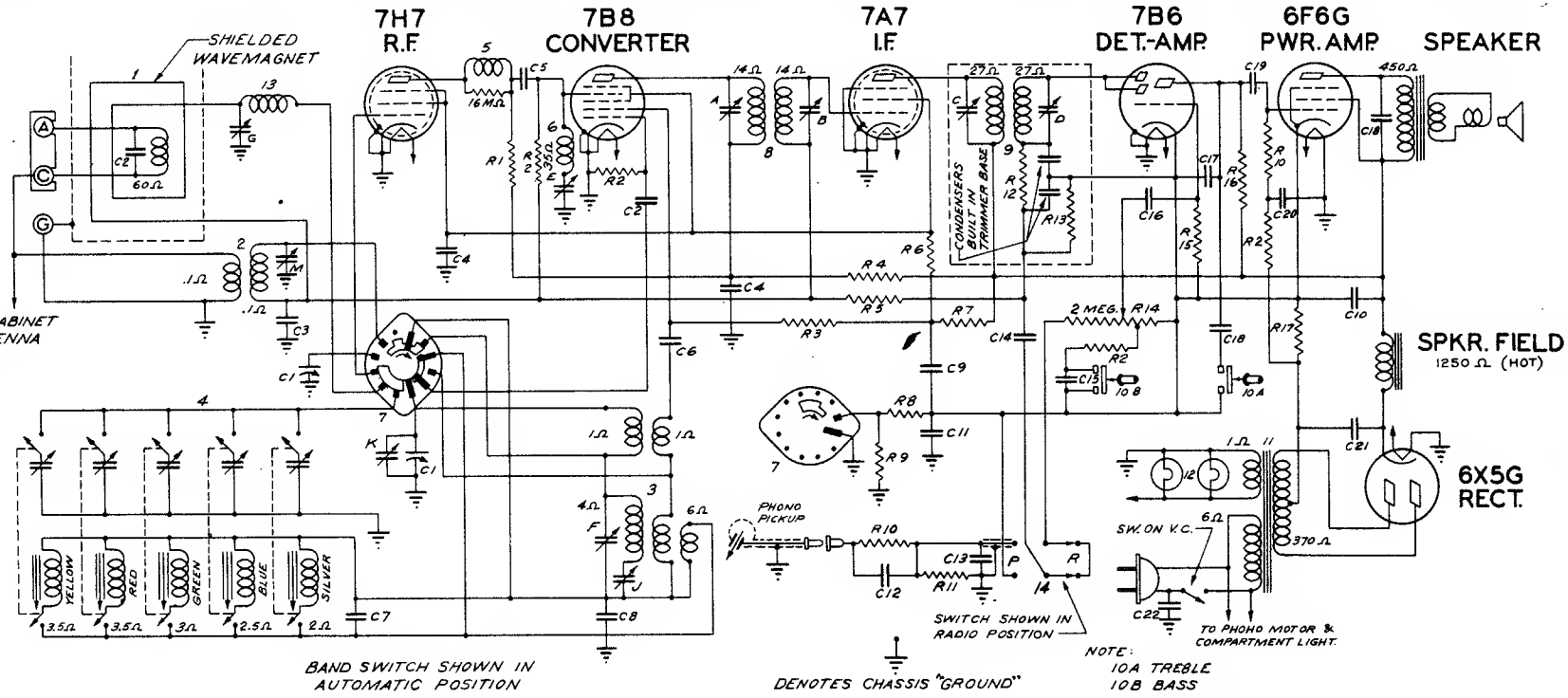


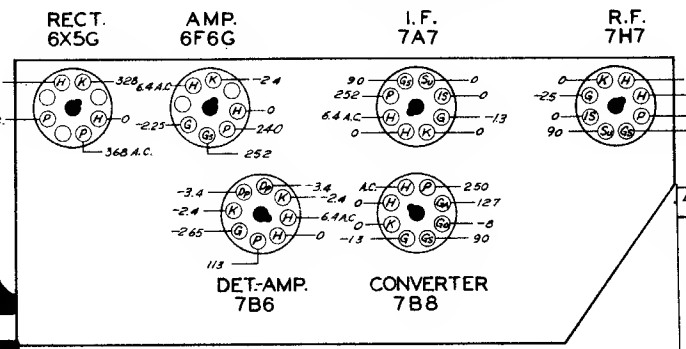
MODEL	SPEAKER
6G501F	49-420 5½
6G501M	49-420 5½
6G501L	49-420 5½
6G505	49-420 5½

8-13-40	F/L CKT. REVISED
8-15-40	MODEL Nºs. CHANGED
8-20-40	22-1156 WAS 22-1069
8-29-40	22-1159 INCLUDES 22-1081 & 22-1156
	DIAG. C15 WAS C18.
9-11-40	22-196 WAS 22-843

Models 6G501F-6G501L-6G501M

Chassis No. 6A19





MODEL	SPEAKER
6 S 596	49-396 10"
6 S 597	49-380 10"

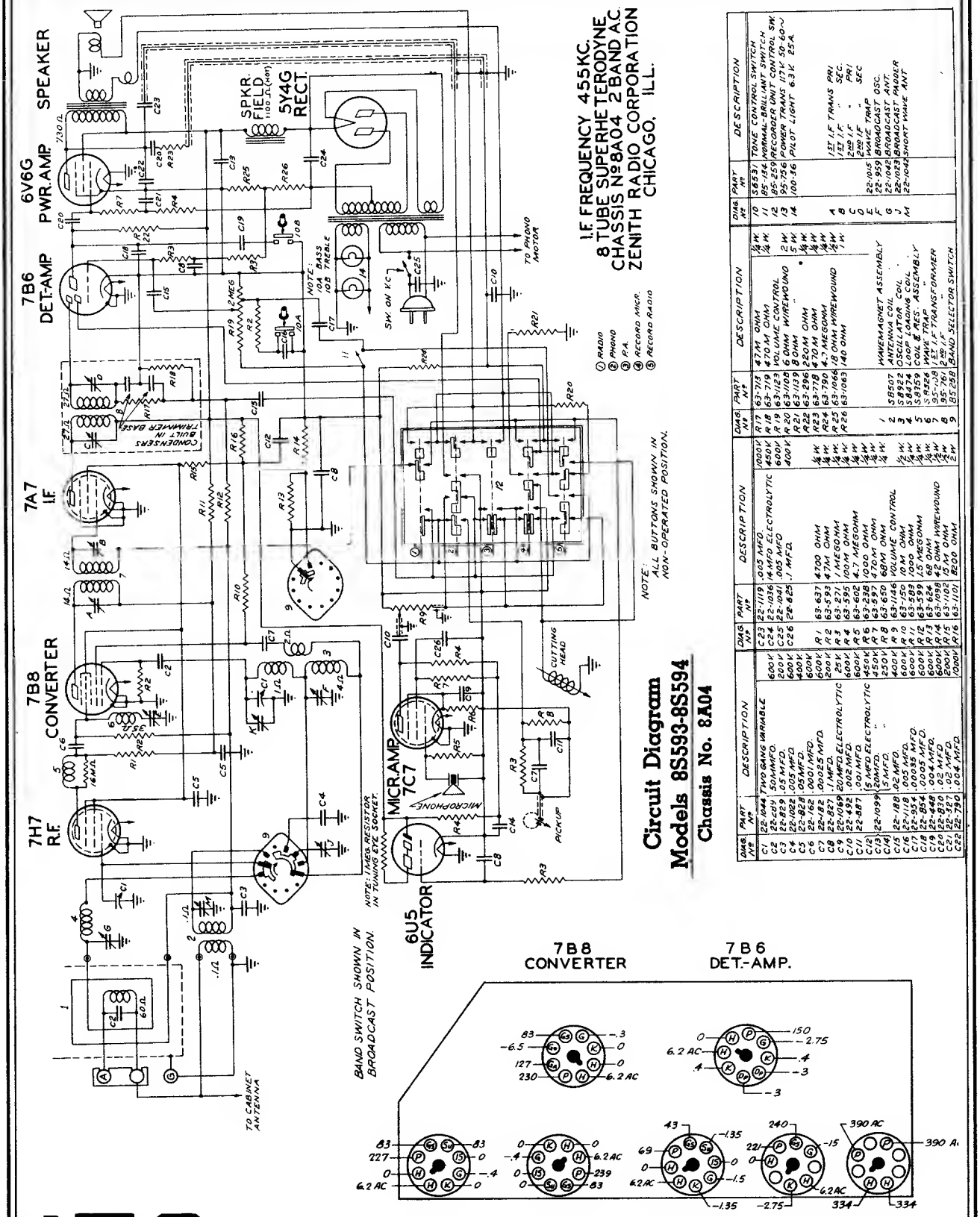
Circuit Diagram

Models 6S596-6S597

Chassis No. 6A20

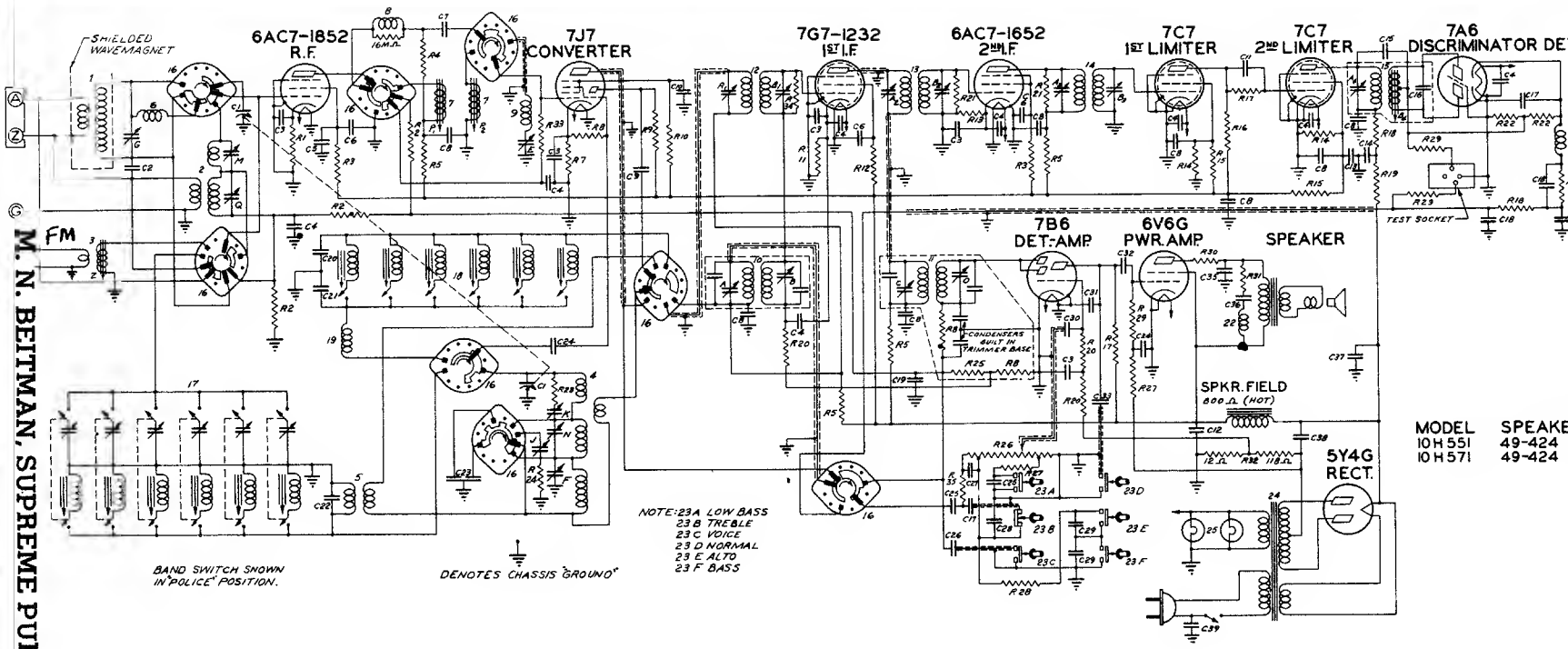
I.F. FREQUENCY 455 KC.
6 TUBE SUPERHETERODYNE
CHASSIS Nº 6A20 2 BAND A.C. PHONO
ZENITH RADIO CORPORATION
CHICAGO, ILL.

DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION	
C 1	22-1044	TWO GANG VARIABLE		C 20	22-219	.03 MFD.	200 V.	R 14	63-1123	VOLUME CONTROL	¼ W.
C 2	22-289	.50 MMFD.	600 V.	C 21	22-1036	.14 MFD. ELECTROLYTIC	450 V.	R 15	63-976	.15 MEGOHM	½ W.
C 3	22-829	.05 MFD.	200 V.	C 22	22-1041	.005 MFD.	600 V.	R 16	63-296	220 M OHM	¼ W.
C 4	22-828	.05 MFD	400 V.					R 17	63-1056	280 OHM WIREWOUND	1½ W.
C 5	22-162	.0001 MFD.	600 V.								
C 6	22-182	.00025 MFD.	600 V.								
C 7	22-868	COMPENSATING COND		R 1	63-637	4700 OHM	¼ W.				
C 8	22-1022	.005 MFD.	600 V.	R 2	63-593	47 M OHM	¼ W.	1		WAVEMAGNET ASSEMBLY	
C 9	22-1034	8 MFD. ELECTROLYTIC	450 V.	R 3	63-150	10 M OHM	½ W.	2	S8507	ANTENNA COIL ASSEMBLY	
C 10		15 MFD. "	350 V.	R 4	63-583	1000 OHM	¼ W.	3	S8508	OSCILLATOR COIL ASSEMBLY	
C 11	22-827	.1 MFD.	200 V.	R 5	63-599	1.5 MEGOHM	¼ W.	4	S8457	AUTOMATIC TUNING UNIT	
C 12	22-470	.00015 MFD.	600 V.	R 6	63-1102	15 M OHM	½ W.	5	S8359	R.F. CHOKE & RES. ASSEMBLY	
C 13	22-147	.0005 MFD.	600 V.	R 7	63-1101	8200 OHM	2 W.	6	S8326	WAVE TRAP ASSEMBLY	
C 14	22-188	.02 MFD.	400 V.	R 8	63-1098	42 OHM WIREWOUND	½ W.	7	85-255	BAND SELECTOR SWITCH	
C 15	22-229	.005 MFD.	600 V.	R 9	63-624	68 OHM	¼ W.	8	95-708	1ST I.F. TRANSFORMER	
C 16	22-492	.002 MFD.	600 V.	R 10	63-597	470 M OHM	¼ W.	9	95-709	2ND I.F. TRANSFORMER	
C 17	22-854	.0005 MFD.	600 V.	R 11	63-596	330 M OHM	¼ W.	10	S8531	TONE CONTROL SWITCH	
C 18	22-448	.004 MFD.	600 V.	R 12	63-713	47 M OHM	½ W.	11	95-705	POWER TRANS. 50-60 ~ 117 V.	
C 19	22-830	.02 MFD.	600 V.	R 13	63-719	470 M OHM	½ W.	12	100-36	PILOT LIGHT 6.3 V. .25 A.	



DIAG. N°	PART N°	DESCRIPTION		DIAG. N°	PART N°	DESCRIPTION		DIAG. N°	PART N°	DESCRIPTION
C1	22-1044	TWO GANG VARIABLE	600V	C23	22-1119	.005 MFD.	1000V	R17	63-713	47M OHM
C2	22-229	.50 MMFD.	600V	C24	22-1036	14 MFD ELECTROLYTIC	450V	R18	63-719	470 OHM
C3	22-829	.05 MFD.	200V	C25	22-1041	.005 MFD.	600V	R19	63-1078	2 MEG. CONTROL
C4	22-1022	.005 MFD.	600V	C26	22-825	.1 MFD.	400V	R20	63-1028	6 OHM WIREWOUND
C5	22-828	.05 MFD.	600V					R21	63-1139	8 OHM "
C6	22-162	.0001 MFD.	600V	R1	63-637	4700 OHM	½ W.	R22	63-296	220M OHM
C7	22-82	.00025 MFD.	600V	R2	63-593	47M OHM	½ W.	R23	63-718	470M OHM
C8	22-827	.1 MFD.	25V	R3	63-271	.1 MEGOHM	½ W.	R24	63-790	4.7 MEGOHM
C9	22-1091	25 MFD. ELECTROLYTIC	600V	R4	63-595	100M OHM	½ W.	R25	63-1066	18 OHM WIREWOUND
C10	22-1092	.002 MFD.	600V	R5	63-602	4.7 MEGOHM	½ W.	R26	63-1063	140 OHM "
C11	22-867	.001 MFD.	450V	R6	63-238	1000 OHM	½ W.			
C12	22-1099	15 MFD ELECTROLYTIC	450V	R7	63-597	470M OHM	½ W.			
C13		20 MFD. "	250V	R8	63-650	68M OHM	½ W.	1	S8507	WAVEMAGNET ASSEMBLY
C14		5 MFD. "	400V	R9	63-1146	VOLUME CONTROL	½ W.	2	S8922	ANTENNA COIL
C15	22-188	.02 MFD.	600V	R10	63-589	1000 OHM	½ W.	3	S8474	OSCILLATOR COIL
C16	22-118	.005 MFD.	600V	R11	63-1159	10000 OHM	½ W.	4	S8359	LOOP LOADING COIL
C17	22-824	.0005 MFD.	600V	R12	63-599	.15 MEGOHM	½ W.	5	S8474	COIL & RES. ASSEMBLY
C18	22-844	.0005 MFD.	600V	R13	63-624	68 OHM	½ W.	6	S8326	WAVE TRAP
C19	22-848	.004 MFD.	600V	R14	63-1098	42 OHM WIREWOUND	½ W.	7	95-108	1ST I.F. TRANSFORMER
C20	22-830	.02 MFD.	600V	R15	63-1102	15M OHM	½ W.	8	95-109	2ND I.F. "
C21	22-827	.02 MFD.	200V	R16	63-1101	8200 OHM	2 W.	9	85-258	BAND SELECTOR SWITCH
C22	22-790	.004 MFD.	1000V							

DIAG. N°	PART N°	DESCRIPTION
10	S8631	TONE CONTROL SWITCH
11	85-154	NORMAL-BRILLIANT SWITCH
12	85-259	RECORDER UNIT CONTROL SW.
13	95-756	POWER TRANS 117V 50-60~
14	100-56	PILOT LIGHT 6.3V .25A.
A		1ST I.F. TRANS PRI.
B		1ST I.F. " SEC.
C		2ND I.F. " PRI.
D		2ND I.F. " SEC.
E	22-1015	WAVE TRAP
F	22-959	BROADCAST OSC.
G	22-1042	BROADCAST ANT.
J	22-1023	BROADCAST PADDER
M1	22-1043	SHORT WAVE ANT



AMP. MOD. I.F FREQUENCY 455KC.
FREQ. MOD. I.F FREQUENCY 4.3 MC.
10 TUBE SUPERHETERODYNE
CHASSIS Nº 10A3-A.C.-4 BAND
ZENITH RADIO CORPORATION
CHICAGO, ILL.

Circuit Diagram

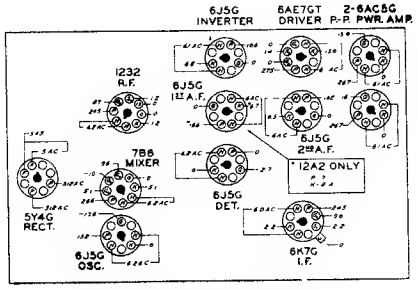
Models 10H551-10H571

Chassis No. 10A3

DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION
C1	22-1121	TWO GANG VARIABLE		C30	22-188	.02 MFD.	400V	R17	63-296	220 M OHM	½W	11	95-766	2ND I.F. TRANSFORMER (A.M.)		A4		455 I.F. TRANS. PRI. (F.M.)
C2	22-319	.005 MFD	200V	C31	22-1136	.00025 MFD	600V	R18	63-589	100 Ω OHM	½W	12	95-767	1ST I.F. " (F.M.)		B4		455 I.F. " SEC (F.M.)
C3	22-827	.1 MFD.	200V	C32	22-830	.02 MFD	600V	R19	63-679	82 M. OHM	1W	13	95-768	2ND I.F. " (F.M.)		E	22-1015	WAVETRAP
C4	22-829	.05 MFD	200V	C33	22-448	.004 MFD	600V	R20	63-271	1 MEG OHM	½W	14	95-769	3RD I.F. " (F.M.)		F		BROADCAST OSC. NOTE 1
C5	22-1123	.5 MFD. ELECTROLYTIC	300V	C34	22-219	.03 MFD.	200V	R21	63-652	820 M OHM	½W	15	95-772	4TH I.F. " (F.M.)		G	22-1042	BROADCAST ANTENNA
C6	22-243	.01 MFD	400V	C35	22-1134	.002 MFD	1000V	R22	63-160	100 M OHM	½W	16	85-234	BAND SELECTOR SWITCH		J	22-688	BROADCAST PADDER
C7	22-162	.0001 MFD	600V	C36	22-1128	.02 MFD	600V	R23	63-576	68 OHM	½W	17		AUTOMATIC TUNING UNIT (BC)		K		SHORTWAVE OSC. NOTE 1
C8	22-825	.1 MFD.	400V	C37	22-1129	.0005 MFD	1000V	R24	63-578	15 OHM	½W	18		AUTOMATIC TUNING UNIT (FM)		M		SHORTWAVE ANT NOTE 2
C9	22-358	.002 MFD.	600V	C38	22-1124	30 MFD. ELECTROLYTIC	450V	R25	63-773	150 M OHM	½W	19	S9350	PEAKING COIL		N		POLICE BAND OSC. NOTE 1
C10	22-828	.05 MFD.	400V	C39	22-1041	.002 MFD	600V	R26	63-1074	VOLUME CONTROL		20	S8998	F.M. I.F. WAVETRAP		P		ULTRA HIGH FREQ. DET. (PLATE)
C11	22-127	25 MMFD	600V					A27	63-593	47M OHM	½W					Q		ULTRA HIGH FREQ DET (GRID)
C12		15 MFD. ELECTROLYTIC	450V					A28	63-594	68M OHM	½W	22	20-230	SPEAKER COMP. FILTER		R		POLICE BAND ANT NOTE 2
C13	22-1125	5 MFD ELECTROLYTIC	300V					A29	63-597	470 M OHM	½W	23	S8490	TONE CONTROL SW. ASSEM		Z		ULTRA HIGH FREQ. ANTENNA
C14		15 MFD ELECTROLYTIC	250V	R1	63-741	150 OHM	½W	A30	63-1158	100 OHM	½W	24	95-771	POWER TRANS. (50-60 ~ / 25 ~)				
C15	22-956	.0005 MFD	600V	R2	63-600	2.2 MEGOHM	½W	R31	63-156	10 M OHM	1W		95-773					
C16	22-143	25 MMFD	600V	R3	63-1159	330 M OHM	1W	R32	63-1162	2 SECTION CANDOHM		25	100-36	PILOT LIGHT 6.3V .25A				NOTE:
C17	22-289	50 M MFD.	600V	R4	63-1163	2200 OHM	½W	R33	63-715	100M OHM	½W							(1) TRIMMERS F, K & N ARE MOUNTED ON STRIP Nº 22-850
C18	22-1138	.0005 MFD	600V	R5	63-605	1000 OHM	½W	R34	63-589	10M OHM	½W							
C19	22-348	.001 MFD	600V	R6	63-595	100 M OHM	½W	R35	63-701	470 OHM	½W							(2) TRIMMERS M & R ARE MOUNTED ON STRIP Nº 22-1045
C20	22-1146	50 MMFD. COMP.	600V	R7	63-1164	300 OHM	½W			WAVEMAGNET ASSEMBLY		A		1ST I.F. TRANS PRI. (A.M.)				
C21	22-1139	50 MMFD. COMP.	600V	R8	63-713	47M OHM	½W	2	S9075	ANTENNA COIL " (S.W.)		B		1ST I.F. " SEC. (A.M.)				
C22	22-868	COMPENSATING COND.		R9	63-608	15M OHM	1W	3	S9065	ANTENNA COIL " (F.M.)		C		2ND I.F. " PRI. (A.M.)				
C23	22-1039	DUAL PADDER		R10	63-1160	56M OHM	1W	4	S9074	OSCILLATOR COIL "		D		2ND I.F. " SEC. (A.M.)				
C24	22-1140	50 MMFD.	600V	R11	63-1161	270 OHM	½W	5	S8446	OSCILLATOR COUPLING COIL		A_1		1ST I.F. " PRI. (F.M.)				
C25	22-1127	.02 MFD.	400V	R12	63-1109	75M OHM	1W	6	S9044	LOOP LOADING COIL		B_1		1ST I.F. " SEC. (F.M.)				
C26	22-1135	.005 MFD.	600V	R13	63-246	150 OHM	½W	7	S9066	DETECTOR COIL ASSEM. (F.M.)		A_2		2ND I.F. " PRI. (F.M.)				
C27	22-1130	15 MMFD.	600V	R14	63-607	15M OHM	½W	8	S8359	COIL & REC. ASSEMBLY		B_2		2ND I.F. " SEC. (F.M.)				
C28	22-1137	.0005 MFD	600V	R15	63-1162	33M OHM	1W	9	S8326	WAVETRAP "		A_3		3RD I.F. " PRI. (F.M.)				
C29	22-1126	.01 MFD.	400V	R16	63-961	47M OHM	1W	10	95-765	1ST I.F. TRANSFORMER (A.M.)		B_3		3RD I.F. " SEC. (F.M.)				

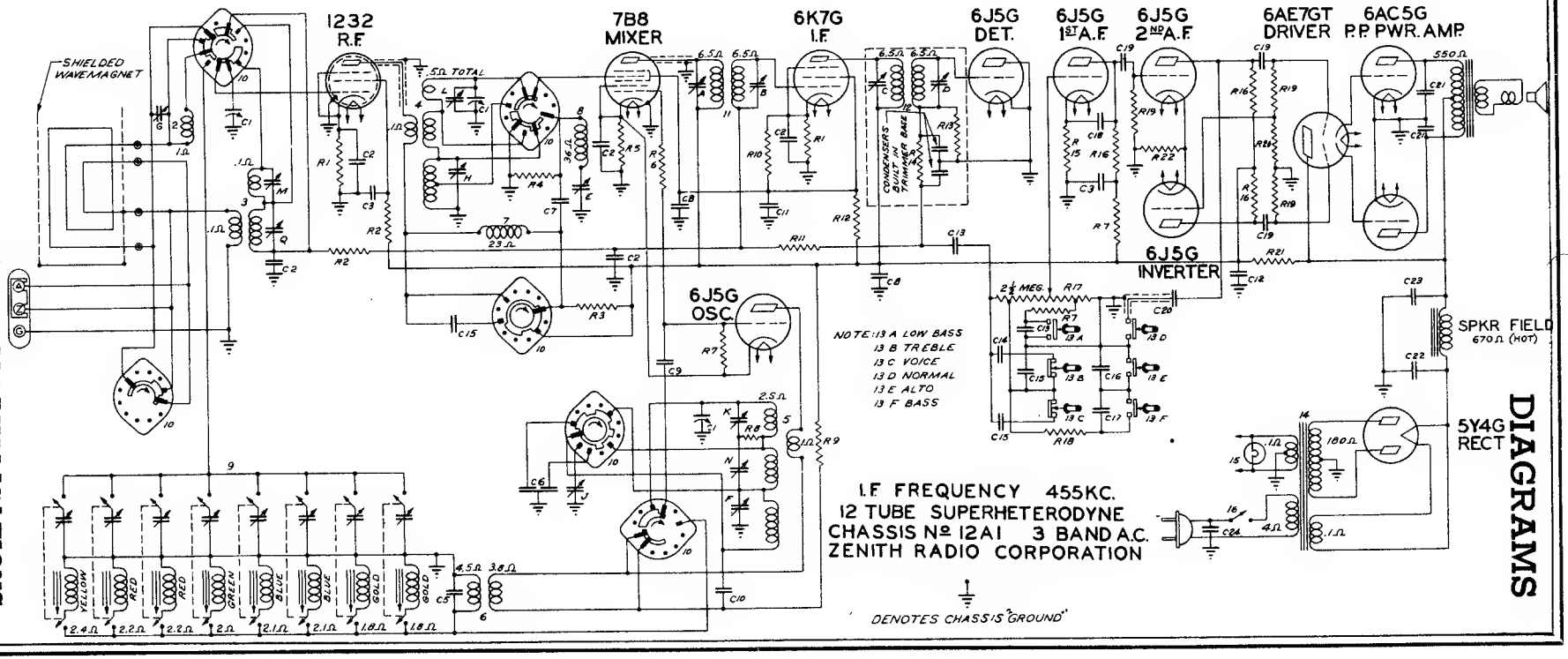
Models 12S550Z-12S568E-12S568Z-12S569E-12S569Z-12S595Z

Chassis No. 12A1



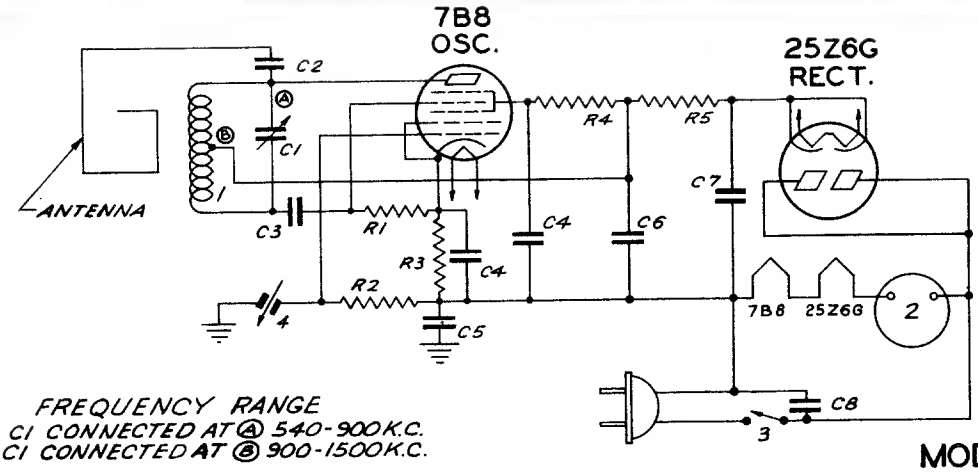
SOCKET VOLTAGES

DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION		DIAG Nº	PART Nº	DESCRIPTION	DIAG Nº	PART Nº	DESCRIPTION
C 1	22-951	THREE GANG VARIABLE						R22	63-584	1500 OHM ½ W.	B		1ST I.F. TRANS. SEC
C 2	22-889	.05 MFD.	200V.								C		2ND I.F. TRANS. PRI.
C 3	22-825	.1 MFD.	400V.								D		2ND I.F. TRANS. SEC
				R 1	63-627	180 OHM	½ W.	1		WAVEMAGNET ASSEMBLY	E	22-1015	WAVE TRAP
C 5	22-868	COMPENSATING CONDENSER		R 2	63-595	100M OHM	½ W.	2	SB132	LOOP LOADING COIL ASSEMBLY	F		BROADCAST OSC (NOTE 1)
C 6	22-853	DUAL OSCILLATOR PADDER		R 3	63-587	4700 OHM	½ W.	3	SB749	ANTENNA COIL ASSEMBLY	G	22-1042	BROADCAST ANTENNA
C 7	22-716	.0005 MFD.	600V.	R 4	63-701	22M OHM	½ W.	4	SB751	DETECTOR COIL ASSEMBLY	H		BROADCAST DET. (NOTE 1)
C 8	22-828	.05 MFD.	400V.	R 5	63-580	330 OHM	½ W.	5	SB750	OSCILLATOR COIL ASSEMBLY	J	22-688	BROADCAST PADDER
C 9	22-127	25 MMFD.	600V.	R 6	63-701	470 OHM	½ W.	6	SB466	OSCILLATOR CPLG. COIL ASSEM.	K		SHORTWAVE OSC (NOTE 1)
C10	22-358	.002 MFD	600V.	R 7	63-593	47M OHM	½ W	7	SB389	R.F. COIL ASSEMBLY	L		SHORTWAVE DET (ON GANG)
C11	22-1053	.16MFD. ELECTROLYTIC	200V.	R 8	63-621	39 OHM	½ W	8	SB326	WAVE TRAP COIL ASSEMBLY	M		SHORT WAVE ANT (NOTE 2)
C12		.16MFD. ELECTROLYTIC	450V.	R 9	63-1055	22 M OHM	1 W	9		AUTOMATIC TUNING UNIT	N		POLICE OSC (NOTE 1)
C13	22-229	.005 MFD.	600V.	R10	63-676	27M OHM	1 W	10	85-235	BAND SELECTOR SWITCH	Q		POLICE ANT. (NOTE 2)
C14	22-954	.00035 MFD.	600V.	R11	63-671	1 MEGOHM	½ W.	11	95-687	1ST I.F. TRANSFORMER			
C15	22-470	.0015 MFD.	600V.	R12	63-1056	22M OHM	2 W.	12	95-715	2ND I.F. TRANSFORMER			NOTE:
C16	22-448	.004 MFD	600V.	R13	63-717	220M OHM	½ W	13	SB593	TONE CONTROL SW. ASSEMBLY			(1) TRIMMERS F, H, K & N ARE MOUNTED ON STRIP № 22-1052
C17	22-492	.002 MFD.	600V.	R14	63-711	22 M OHM	½ W	14	95-714	PWR. TRANS. 60 ~ 117 V.			
C18	22-854	.0005 MFD	600V.	R15	63-439	2700 OHM	½ W	15	100-36	PILOT LIGHT 6.3 V. .25 A.			
C19	22-830	.02 MFD	600V.	R16	63-592	33M OHM	½ W	16	85-148	A.C. SWITCH			(2) TRIMMERS M & Q ARE MOUNTED ON STRIP № 22-982.
C20	22-196	.01 MFD	600V.	R17	63-1078	VOLUME CONTROL							
C21	22-1016	.005 MFD.	1000V.	R18	63-594	68 M OHM	½ W.						
C22	22-1108	20MFD. ELECTROLYTIC	450V.	R19	63-657	330 M OHM	½ W						
C23		20MFD. ELECTROLYTIC	450V.	R 20	63-645	27M OHM	½ W.						
C24	22-992	.02 MFD	600V.	R21	63-1105	1000 OHM	2 W.	A		1ST I.F. TRANS. PRI.			



ZENITH RADIO CORPORATION

CHICAGO • ILLINOIS

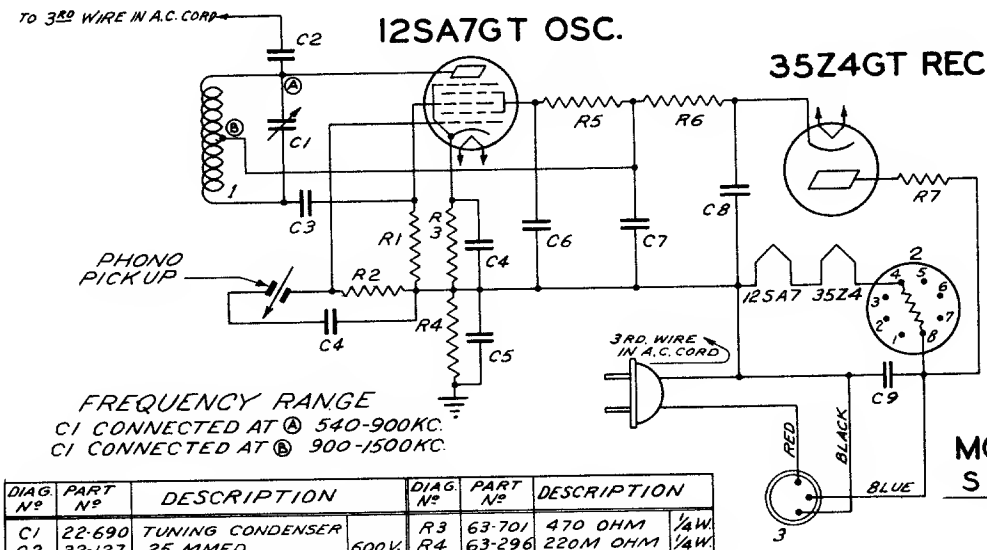


FREQUENCY RANGE
C1 CONNECTED AT Ⓐ 540-900K.C.
C1 CONNECTED AT Ⓑ 900-1500K.C.

MODELS
S8500Z

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION	
C1	22-690	TUNING CONDENSER		R2	63-464	1 MEGOHM	½ W.
C2	22-127	25 MMFD.	600 V.	R3	63-581	470 OHM	¼ W.
C3	22-182	.00025 MFD.	600 V.	R4	63-964	4700 OHM	½ W.
C4	22-829	.05 MFD.	200 V.	R5	63-707	4700 OHM	¼ W.
C5	22-827	.1 MFD.	200 V.				
C6	22-1061	8 MFD. ELECTROLYTIC	150 V.				
C7		16 MFD. "	150 V.	1	S8611	OSC. COIL ASSEM.	
C8	22-869	.05 MFD.	400 V.	2	141-85	MOTOR (60~)	
				3	85-191	A.C. SWITCH	
				4	142-30	PICKUP	
R1	63-593	47 M OHM	¼ W.				

PHONOGRAPH OSCILLATOR
ZENITH RADIO CORPORATION
CHICAGO ILL.



FREQUENCY RANGE
C1 CONNECTED AT Ⓐ 540-900KC.
C1 CONNECTED AT Ⓑ 900-1500KC.

MODEL
S9000

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION	
C1	22-690	TUNING CONDENSER		R3	63-701	470 OHM	¼ W.
C2	22-127	25 MMFD.	600 V.	R4	63-296	220M OHM	¼ W.
C3	22-182	.00025 MFD.	600 V.	R5	63-964	4700 OHM	½ W.
C4	22-829	.05 MFD.	200 V.	R6	63-803	2200 OHM	½ W.
C5	22-827	.1 MFD.	200 V.	R7	63-575	47 OHM	¼ W.
C6	22-243	.01 MFD.	400 V.				
C7	22-876	8 MFD. ELECTROLYTIC	150 V.				
C8		40 MFD. "	150 V.	1	S8611	OSC. COIL ASSEM.	
C9	22-828	.05 MFD.	400 V.	2	100-76	BALLAST TUBE	
				3	52-208	3 PRONG RECEPTACLE	
R1	63-591	22 M OHM	¼ W.				
R2	63-271	1 MEGOHM	¼ W.				

FREQUENCY MODULATION

Broadcasting by the Frequency Modulation method has already proved to be the most satisfactory means of "Local" radio transmission with reduced noise and high fidelity. It is not generally understood that these two features of FM are due in a great measure to the wide frequency band which this method of modulation employs. The FM receiver must be accurately aligned because much of the FM system's noise reducing ability is lost if the FM IF and discriminator circuits are misaligned.

The alignment of FM receivers differs from the familiar AM receiver alignment procedure where a modulated signal from the generator is used and the output is measured with an A.C. voltmeter across the voice coil.

The signal generator for FM alignment must be capable of supplying an unmodulated signal of at least .5 volt at the IF frequencies (4 to 9 Mc.) and a moderate unmodulated signal at the FM RF frequencies (41.5 to 50.5 Mc.) A 50-0-50 microammeter, such as Triplett #321 or #521, makes an excellent output meter when used with our #S9614 four prong plug and cable assembly and a S.P.D.T. switch. (see fig. 1)

The output meter is connected across HALF the diode load resistor for gain alignment and is connected across the FULL diode load resistor for frequency settings. A polarized socket is provided (near the 7A6 tube) which accommodates the output meter plug to facilitate switching the meter across either FULL or HALF the diode load resistor.

IMPORTANT—The FM IF and discriminator alignment must be followed in a stage-by-stage sequence, beginning at the discriminator and working forward to the converter stage. This differs from the conventional AM IF alignment procedure where the signal is applied to the converter grid and all the IFs are aligned simultaneously.

The signal from the generator must be kept just below the point where the limiter action of the receiver begins. To explain further we should consider the purpose of the limiter. It does what its name implies; it limits the amount of signal applied to the discriminator circuit. When the input signal is strong the limiter cuts off, allowing only a portion of the signal to pass, while at low signal levels the limiter acts as an IF amplifier. Therefore, it is easy to understand why the signal input to the receiver and IFs must be held below the limiter operating range during alignment. The most practical way of determining the proper amount of input signal is to watch the output meter (connected across HALF the diode load) while the signal from the generator is increased. The meter will indicate the increase in signal until limiting action begins, from which point on no appreciable increase can be noted on the meter even though the generator signal has been increased considerably. The desired signal input level (from the generator) is just below the limiting point which may be determined by increasing the generator output while watching the output meter, then reducing the generator output slightly when the limiting point is reached.

IF AND DISCRIMINATOR ALIGNMENT

Holes have been placed at the top of all the FM IF transformer shields so that a signal generator may be connected across the transformer secondaries to facilitate alignment. (see fig. 2) A vey high input signal will be necessary to get an output indication for the discriminator alignment. Should the generator be unable to supply sufficient signal, the Discriminator input stage may be aligned first in order that its gain may be utilized to raise the input signal to the discriminator.

1. Connect the output meter across the FULL discriminator load. (fig. 1)
2. Feed an unmodulated signal, at the IF frequency, through the dummy antenna (fig. 2) to the 3rd IF transformer secondary. (The IF frequency is stamped on the IF transformer shields.) Adjust the slug B4 for resonance. Rotating the slug B4 through the resonance point will cause the output meter to swing through zero from positive to negative or vice versa. A zero reading on the meter indicates the desired resonance point.
3. Switch the output meter to HALF discriminator load (fig. 1). Adjust trimmer A4 for maximum output, keeping the signal input below the point of limiting action.
4. (Meter at HALF load) Connect the generator to the 2nd IF transformer secondary and adjust the 3rd IF trimmers A3 and B3 for maximum output.
5. (Meter at HALF load) Connect the generator across the 1st IF transformer secondary and adjust the 2nd IF transformer trimmers A2 B2 for maximum output.
6. (Meter at HALF load) Connect the generator to the converter grid. A small socket is provided near the converter tube which will accommodate the side pin of the #S9615 Dummy Antenna assembly (Fig. 2) to facilitate this generator connection. Adjust the 1st IF transformer trimmers A1 B1 for maximum output.

FM OSCILLATOR AND RF ALIGNMENT

7a. (Meter at FULL load) Connect the generator, through a 100 ohm dummy antenna, to the FM antenna terminals. Set the generator at 50 Mc. and tune in the signal on the receiver. As the pointer passes the 50 Mc. calibration the output meter will swing from negative through zero to a positive reading or vice versa. The resonance point is again at the zero setting. Should the pointer be off calibration more than plus or minus .5 Mc., which is tolerable, the oscillator may be set by adjusting the two flexible green leads between the manual tuning oscillator coil and the band switch. If the pointer is below 50 Mc. it can be raised by bringing the two green leads together and in the same manner the pointer can be lowered by separating the leads.

7b. (Meter still at FULL load) Set the generator at 46 Mc. and check the dial calibration (zero on meter). 46 Mc. should be on scale unless the cam on the condenser shaft has been loosened. If the cam has to be adjusted to scale the oscillator at 46 Mc., the 50 Mc. oscillator adjustment must be repeated. The converter stage is aligned after the receiver has been adjusted to scale within the .5 Mc. limits.

8a. (Meter at FULL load) With generator connected to the FM antenna terminals through 100 ohm dummy, set the generator at 49 Mc. and tune in signal on receiver to get a zero output meter reading. Switch the meter to HALF load and adjust the generator to give an output just below the limiter action point. Adjust slug P1 for maximum output.

8b. (Meter at FULL load) Set generator at 46 Mc. and tune in on receiver. Switch meter to HALF load and adjust "Z" for maximum output.

8c. (Meter at FULL load) Set generator at 42.5 Mc. and tune in on receiver. Switch meter to HALF load and adjust P2 for maximum output.

There are no RF adjustments for the FM push buttons when the push buttons are used on automatic. Button #1 is checked at 50 Mc., buttons #2 and #3 checked at 49 Mc., buttons #5 and #6 checked at 42.5 Mc., and button #4 is the manual switch.

In conclusion we again wish to emphasize the importance of keeping the signal from the generator below the point where limiter action begins, that the output meter is connected across the FULL diode load resistor for frequency and calibration operations, and that the output meter is connected across HALF the diode load resistor for gain checks.

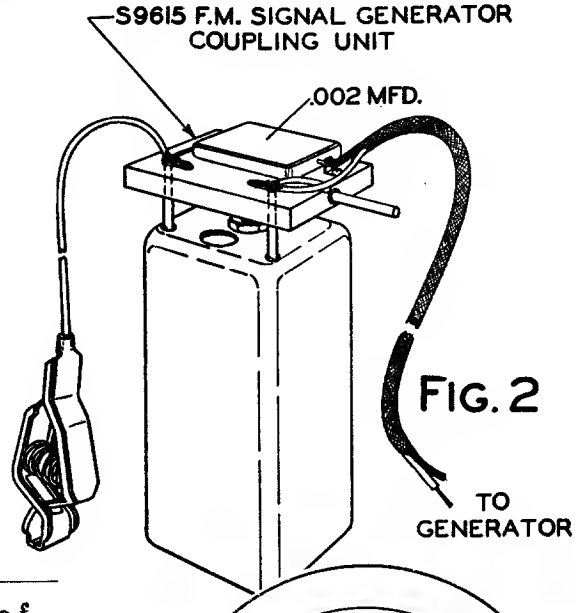


FIG. 2

This information on alignment of Frequency Modulation circuits is presented with the permission of Zenith Radio Corp. of Chicago.

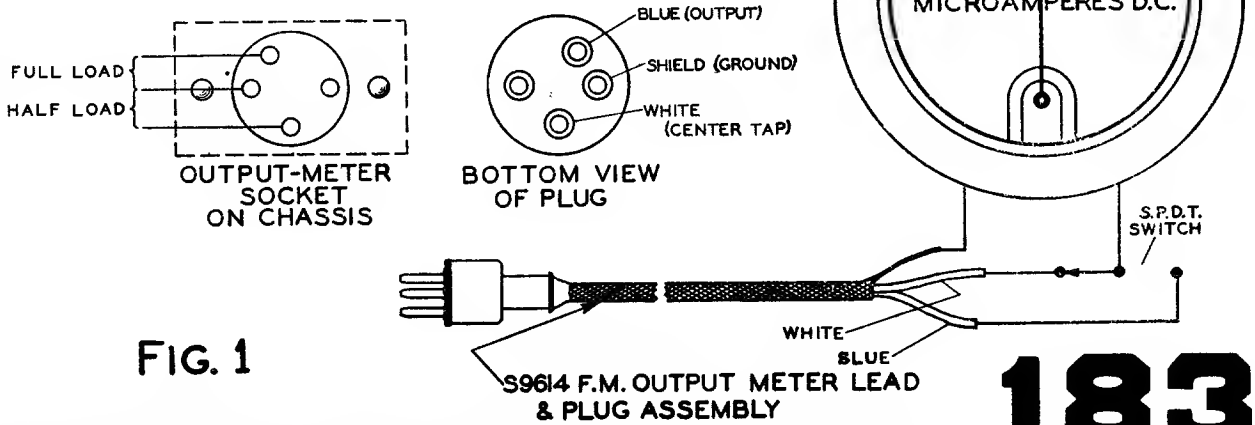


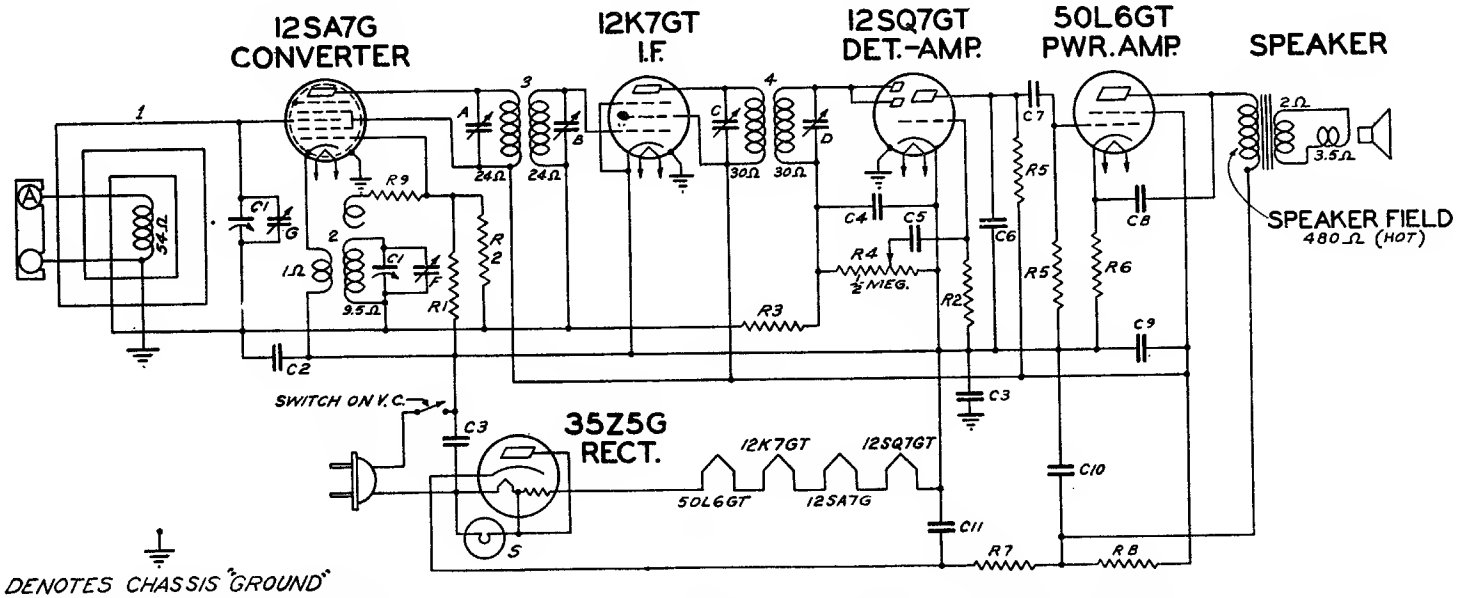
FIG. 1

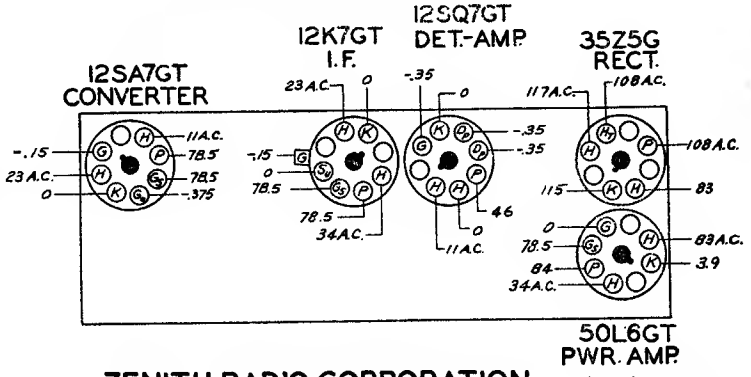
ALIGNMENT PROCEDURE

Operation	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.1 mfd.	455 Kc.	—	1600 Kc.	A, B, C, D	Align I. F.
2	1 Turn Loop Made from Generator Leads. Diameter Approx. 10"	—	1600 Kc.	—	1600 Kc.	F	Set Oscillator to Scale
3		—	600 Kc.	—	600 Kc.	J	Rock Gang and Adjust for Max.
4		—	1400 Kc.	—	1400 Kc.	G	Align Antenna

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
				4	95-781	2ND I.F. TRANS.
				5	95-779	SPKR. TRANS.
				6	85-267	PWR. SWITCH
R1	63-724	4.7 MEGOHM	½W.			
R2	63-713	47M OHM	½W.			
R3	63-1176	VOLUME CONTROL	¼W.			
R4	63-1093	15 MEGOHM	½W.			1ST I.F.T. PRI.
R5	63-464	1 MEGOHM	½W.	A		1ST I.F.T. SEC.
R6	63-723	3.3 MEGOHM	½W.	B		2ND I.F.T. PRI.
R7	63-749	680 OHM	½W.	C		2ND I.F.T. SEC.
R8	63-1234	680 OHM	½W.	D		BDCAST OSCILLATOR
R9				F		BDCAST ANTENNA
R10				G	22-1166	BDCAST PADDER
1	S9385	WAVEMAGNET ASSEMBLY		J		
2	S9354	OSC. COIL ASSEMBLY				
3	95-790	1ST I.F. TRANS.				

1-29-41	R10 ADDED			
DIAG. Nº	PART Nº	DESCRIPTION		
C1	22-1167	TWO GANG VARIABLE		
C2	22-1174	.01 MFD.	125V.	
C3	22-1169	.001 MFD.	600V.	
C4	22-162	.0001 MFD.	600V.	
C5	22-1176	.5 MFD. ELECTROLYTIC	600V.	
C6	22-1175	.005 MFD.	600V.	
C7	22-1188	.05 MFD.	200V.	
R1	63-715	100M OHM	½W.	
R2	63-765	33M OHM	¼W.	





ALIGNMENT PROCEDURE

Operation	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At
1	Converter Grid	.1 mfd.	455 Kc.	—	600 Kc.
2	1 Turn Loop Made from Generator Leads.	—	1500 Kc.	—	1500 Kc.
3			1500 Kc.	—	1500 Kc.

ZENITH RADIO CORPORATION
CHICAGO, ILL.

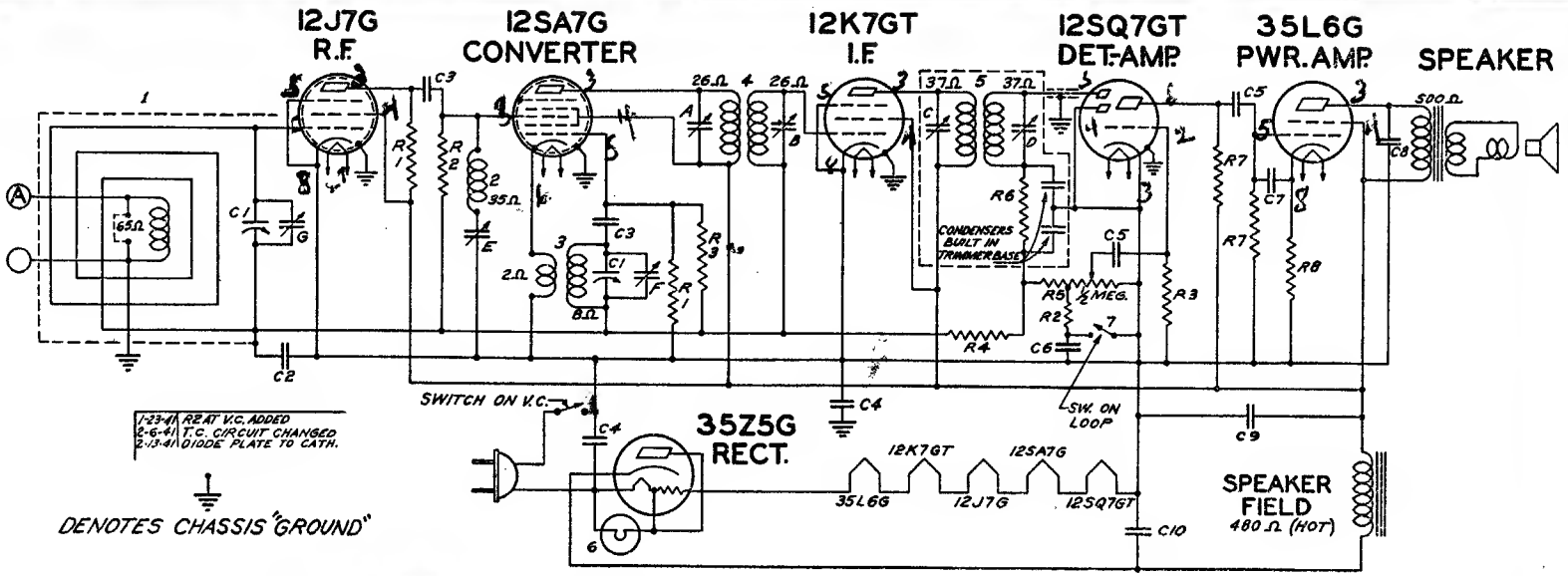
Circuit Diagram

Models 5D610, 5D610W, 5D625

Chassis No. 5B01

1-8-41 R9 ADDED

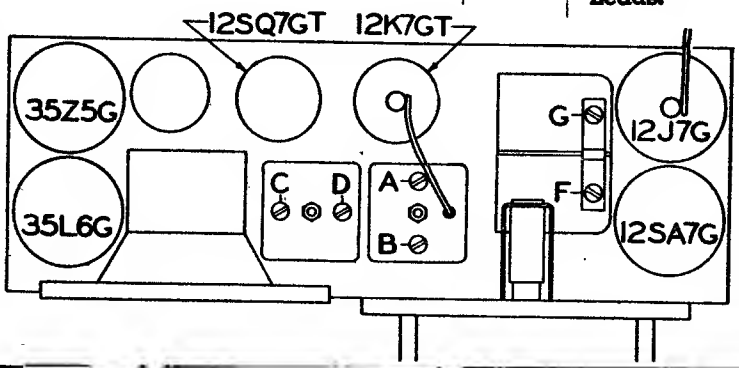
DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1185	TWO-GANG VARIABLE		R1	63-589	10 M OHM	½ W.	2	59450	OSC. COIL ASSEMBLY
C2	22-829	.05 MFD.	200 V.	R2	63-976	15 MEGOHM	½ W.	3	95-696	1ST I.F. TRANS.
C3	22-1017	.05 MFD.	200 V.	R3	63-600	2.2 MEGOHM	¼ W.	4	95-794	2ND I.F. TRANS.
C4	22-953	.0002 MFD.	600 V.	R4	63-1112	VOLUME CONTROL		5	100-67	PILOT LIGHT 6.3V. .15A.
C5	22-492	.002 MFD.	600 V.	R5	63-597	470M OHM	½ W.			
C6	22-854	.0005 MFD.	600 V.	R6	63-1171	75 OHM WIREWOUND	½ W.	A		1ST I.F. TRANS. PRI.
C7	22-243	.01 MFD.	400 V.	R7	63-1172	100 OHM WIREWOUND	½ W.	B		1ST I.F. TRANS. SEC.
C8	22-1182	.01 MFD.	400 V.	R8	63-1173	1500 OHM	1 W.	C		2ND I.F. TRANS. PRI.
C9		20 MFD. ELECTROLYTIC	150 V.	R9	63-579	220 OHM	¼ W.	D		2ND I.F. TRANS. SEC.
C10	22-1186	20 MFD. ELECTROLYTIC	150 V.					F		BROADCAST OSC. (ON GANG)
C11		30 MFD. ELECTROLYTIC	150 V.		59452	WAVEMAGNET ASSEMBLY		G		BROADCAST ANT. (ON GANG)



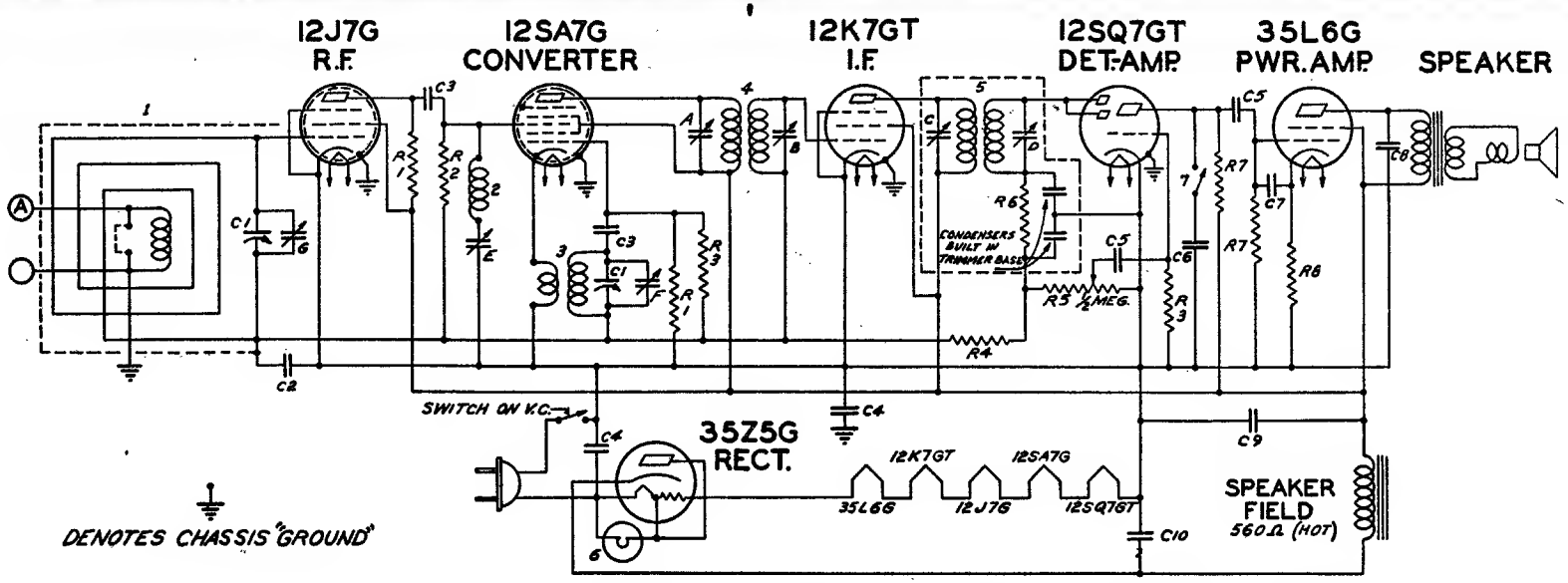
I.F. FREQUENCY 455 KC.

Circuit Diagram
Models 6D520, 6D520W, 6D538
Chassis No. 6A26

Operation	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.5 mfd.	455 Kc.	BC	600 Kc.	A, B, C, D	Align I. F.
2	R. F. Grid	.5 mfd.	455 Kc.	BC	600 Kc.	E	Adj. Wave Trap for Minimum
3	1 Turn Loop Made from Generator Leads.	——	1600 Kc.	BC	1600 Kc.	F	Set Oscillator to Scale
4		——	1400 Kc.	BC	1400 Kc.	G	Align Antenna



DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	DESCRIPTION
C1	22-1006	TWO-GANG VARIABLE		R2	63-591	22 M OHM	½ W.	4	1ST I.F. TRANS.
C2	22-829	.05 MFD.	200 V.	R3	63-1093	15 MEGOHM	½ W.	5	2ND I.F. TRANS.
C3	22-162	.0001 MFD.	600 V.	R4	63-600	2.2 MEGOHM	½ W.	6	PILOT LIGHT 6.3 V. .15 A.
C4	22-1017	.05 MFD.	200 V.	R5	63-1149	VOLUME CONTROL		7	TONE CONTROL SWITCH
C5	22-243	.01 MFD.	400 V.	R6	63-713	47 M OHM	½ W.		
C6	22-826	.01 MFD.	200 V.	R7	63-597	470 M OHM	½ W.		
C7	22-854	.0005 MFD.	600 V.	R8	63-686	150 OHM WIREWOUND	½ W.	A	1ST I.F. TRANS. PRI.
C8	22-1102	.01 MFD.	400 V.					B	1ST I.F. TRANS. SEC.
C9	22-1014	20 MFD. ELECTROLYTIC	150 V.					C	2ND I.F. TRANS. PRI.
C10		20 MFD. ELECTROLYTIC	150 V.					D	2ND I.F. TRANS. SEC.
				1	S8356	WAVEMAGNET ASSEMBLY		E	WAVE TRAP
				2	S8326	WAVE TRAP COIL ASSEMBLY		F	BROADCAST OSC. (ON GANG)
R1	63-589	10 M OHM	½ W.	3	S8336	OSC. COIL ASSEMBLY		G	BROADCAST ANT. (ON GANG)



All voltages measured with a 20,000 ohm per volt meter from chassis to socket contact indicated.

All voltages are positive D.C. unless marked otherwise.

Volume control full on.

Line voltage 117 A.C.

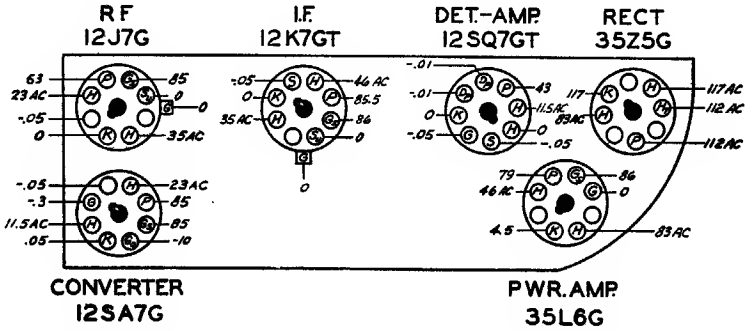
Power consumption 25.5 watts.

Power output 1. watt.

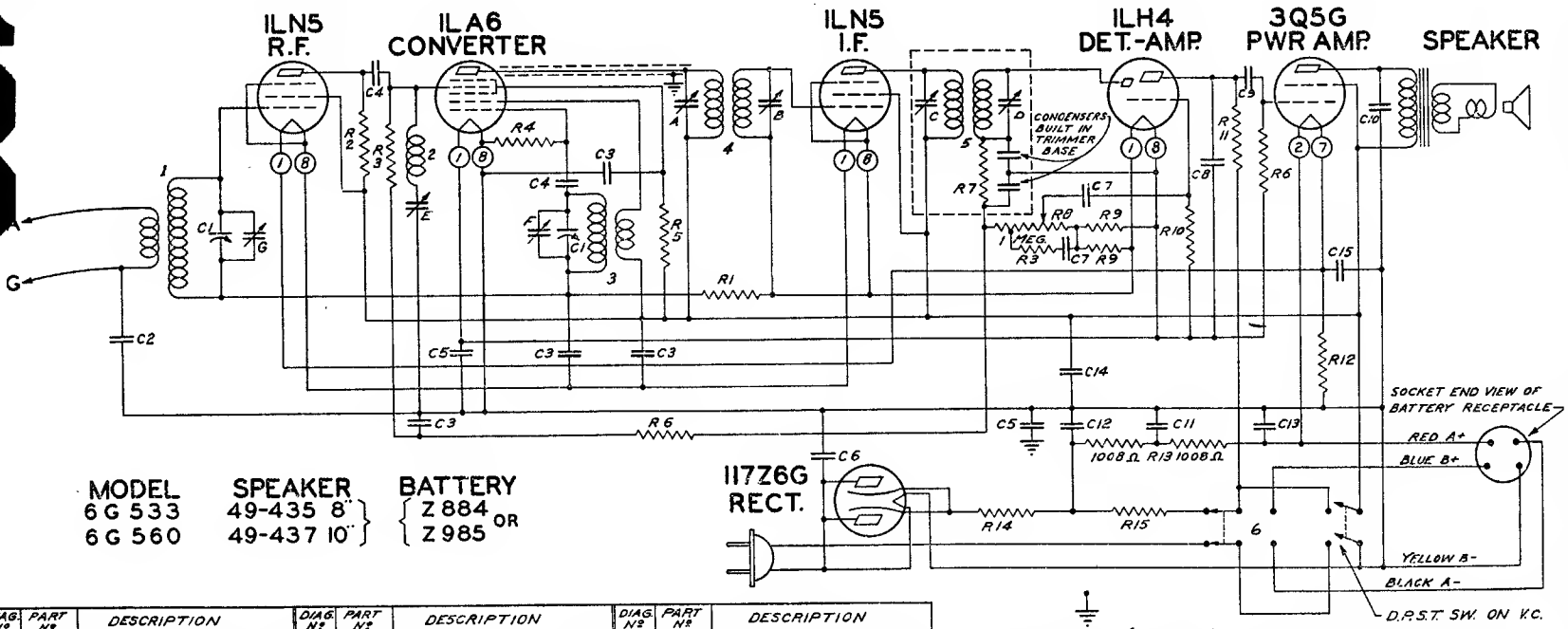
Tuning Ranges 540 Kc. to 1600 Kc.

I.F. FREQUENCY 455 KC.
6 TUBE SUPERHETERODYNE
CHASSIS Nº 6A24 A.C.-D.C.
ZENITH RADIO CORPORATION
CHICAGO, ILL.

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1184	TWO-GANG VARIABLE		R2	63-591	22 M OHM	½ W.	4	95-760	1ST I.F. TRANS.
C2	22-829	.05 MFD.	200 V.	R3	63-976	15 MEGOHM	½ W.	5	95-790	2ND I.F. TRANS.
C3	22-162	.0001 MFD.	600 V.	R4	63-600	2.2 MEGOHM	½ W.	6	100-67	PILOT LIGHT 6.3 V. .15 A.
C4	22-1017	.05 MFD.	200 V.	R5	63-1130	VOLUME CONTROL		7	85-270	TONE CONTROL SWITCH
C5	22-243	.01 MFD.	400 V.	R6	63-713	47 M OHM	½ W.			
C6	22-492	.002 MFD.	600 V.	R7	63-597	470 M OHM	½ W.			
C7	22-854	.0005 MFD.	600 V.	R8	63-686	1600 OHM WIREWOUND	½ W.	A		1ST I.F. TRANS. PRI.
C9	22-1049	.03 MFD.	400 V.					B		1ST I.F. TRANS. SEC.
C9	22-1014	20 MFD. ELECTROLYTIC	150 V.					C		2ND I.F. TRANS. PRI.
C10		20 MFD. ELECTROLYTIC	150 V.					D		2ND I.F. TRANS. SEC.
				1	59465	WAVEMAGNET ASSEMBLY		E	22-1015	WAVE TRAP
				2	58326	WAVE TRAP COIL ASSEMBLY		F		BROADCAST OSC. (ON GANG)
R1	63-589	10M OHM	½ W.	3	59437	OSC. COIL ASSEMBLY		G		BROADCAST ANT. (ON GANG)



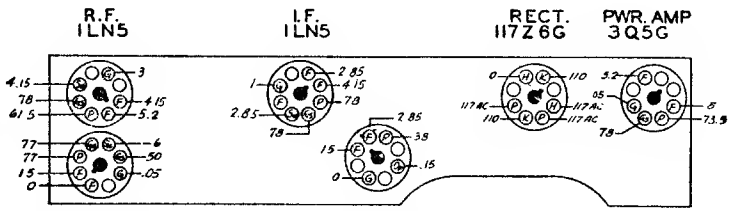
Circuit Diagram
Model 6D516
Chassis No. 6A24



MODEL	SPEAKER	BATTERY
6G533	49-435 8"	Z884 OR
6G560	49-437 10"	Z985

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1181	TWO GANG VARIABLE		R1	63-325	150 M OHM	½ W.	1	20-227	ANTENNA COIL
C2	22-1183	.01 MFD.	400 V.	R2	63-590	15 M OHM	½ W.	2	S 8326	WAVE TRAP COIL ASSEMBLY
C3	22-829	.05 MFD.	200 V.	R3	63-595	100 M OHM	½ W.	3	S 9446	OSCILLATOR COIL ASSEMBLY
C4	22-162	100 MMFD.	600 V.	R4	63-654	180 M OHM	½ W.	4	95-792	1ST I.F. TRANSFORMER
C5	22-827	.1 MFD.	200 V.	R5	63-592	33 M OHM	½ W.	5	95-793	2ND I.F. TRANSFORMER
C6	22-1017	.05 MFD.	200 V.	R6	63-600	2.2 MEGOHM	½ W.	6	85-171	CHANGEOVER SWITCH
C7	22-492	.002 MFD.	600 V.	R7	63-713	47 M OHM	½ W.			
C8	22-470	.00015 MFD.	600 V.	R8	63-1178	VOLUME CONTROL				
C9	22-196	.01 MFD.	600 V.	R9	63-555	2200 OHM	½ W.			
C10	22-448	.004 MFD.	600 V.	R10	63-976	15 MEGOHM	½ W.	A		1ST I.F. TRANS. PRI.
C11	22-1026	20 MFD. ELECTROLYTIC	150 V.	R11	63-271	1 MEGOHM	½ W.	B		1ST I.F. TRANS. SEC.
C12		40 MFD. ELECTROLYTIC	150 V.	R12	63-1097	870 OHM WIREWOUND	1 W.	C		2ND I.F. TRANS. PRI.
C13		20 MFD. ELECTROLYTIC	25 V.	R13	63-1132	2-SECTION CANO OHM		D		2ND I.F. TRANS. SEC.
C14	22-1159	40 MFD. ELECTROLYTIC	150 V.	R14	63-1096	140 OHM WIREWOUND	2 W.	E	22-1015	WAVE TRAP
C15		40 MFD. ELECTROLYTIC	25 V.	R15	63-1156	1800 OHM	½ W.	F		BROADCAST OSC. (ON GANG)
								G		BROADCAST ANT. (ON GANG)

I.F. FREQUENCY 455 KC.
6 TUBE SUPERHETERODYNE
CHASSIS Nº 6A25
110 VOLT A.C.-D.C.-BATTERY PACK
ZENITH RADIO CORPORATION
CHICAGO, ILL.



Model 6G533 - 6G560

Chassis No. 6A25

All voltages measured with a 20,000 ohm per volt meter from chassis to socket contact indicated.

All voltages are positive D.C. unless marked otherwise.

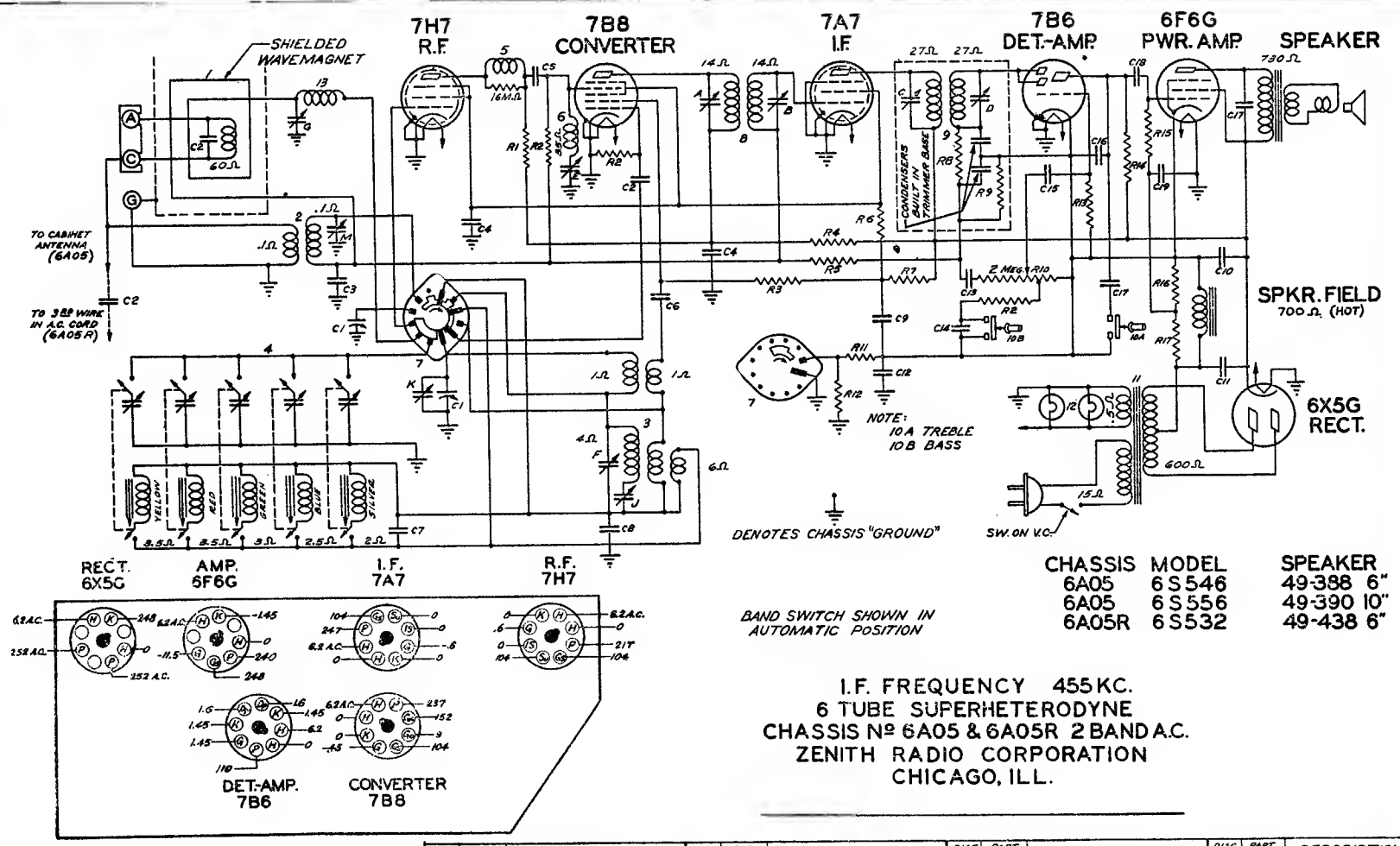
Volume control full on.

Line voltage 117 A.C.

Power consumption 20 watts.

Power output .360 watts.

Tuning Ranges 540 Kc. to 1620 Kc.



BAND SWITCH SHOWN IN AUTOMATIC POSITION

CHASSIS	MODEL	SPEAKER
6A05	6S546	49-388 6"
6A05	6S556	49-390 10"
6A05R	6S532	49-438 6"

I.F. FREQUENCY 455 KC.
6 TUBE SUPERHETERODYNE
CHASSIS Nº 6A05 & 6A05R 2 BAND A.C.
ZENITH RADIO CORPORATION
CHICAGO, ILL.

Circuit Diagram

Model 6S532

Chassis No. 6A05R

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1044	TWO GANG VARIABLE		C19	22-138	.2 MFD. 6A05	200 V.	R15	63-597	470 M OHM	½ W.	13	584-7A	LOOP LOADING COIL
C2	22-289	50 MMFD.	600 V.		22-827	.1 MFD. 6A05R	200 V.	R16	63-654	180 M OHM	¼ W.			
C3	22-829	.05 MFD.	200 V.					R17	63-656	270 M OHM	¼ W.	A		1ST I.F. TRANS. PRI.
C4	22-828	.05 MFD.	400 V.									B		1ST I.F. - SEC.
C5	22-162	.0001 MFD.	600 V.	R1	63-637	4700 OHM	½ W.					C		2ND I.F. - PRI.
C6	22-182	.00025 MFD.	600 V.	R2	63-593	47 M OHM	½ W.					D		2ND I.F. - SEC.
C7	22-868	COMPENSATING COND.		R3	63-150	10 M OHM	½ W.	1		WAVEMAGNET ASSEMBLY		E	22-1015	WAVE TRAP
C8	22-1022	.005 MFD.	600 V.	R4	63-583	1000 OHM	¼ W.	2	S8507	ANTENNA COIL ASSEMBLY		F	22-1042	BROADCAST OSCILLATOR
C9	22-1034	5 MFD. ELECTROLYTIC	450 V.	R5	63-599	1.5 MEGOHM	½ W.	3	S8508	OSCILLATOR COIL ASSEMBLY		G	22-1042	BROADCAST ANTENNA
C10		15 MFD. "	350 V.	R6	63-1102	15 M OHM	½ W.	4		AUTOMATIC TUNING UNIT		J	22-1023	BROADCAST PADDER
C11	22-1036	16 MFD. "	450 V.	R7	63-1101	8200 OHM	2 W.	5	S8359	R.F. CHOKE & RES. ASSEMBLY		K		SHORT WAVE OSC. (ON GANG)
C12	22-827	.1 MFD.	200 V.	R8	63-713	47 M OHM	¼ W.	6	S8326	WAVE TRAP ASSEMBLY		M	22-1042	SHORT WAVE ANTENNA
C13	22-188	.02 MFD.	400 V.	R9	63-719	470 M OHM	¼ W.	7	85-733	BAND SELECTOR SWITCH				
C14	22-289	.005 MFD.	600 V.	R10	63-1123	VOLUME CONTROL		8	95-708	1ST I.F. TRANSFORMER				
C15	22-492	.002 MFD.	600 V.	R11	63-1098	42 OHM WIREWOUND	½ W.	9	95-709	2ND I.F. TRANSFORMER				
C16	22-854	.0005 MFD.	600 V.	R12	63-624	68 OHM	½ W.	10	S8531	TONE CONTROL SWITCH				
C17	22-448	.004 MFD.	600 V.	R13	63-976	15 MEGOHM	¼ W.	11	95-710	POWER TRANS. 50-60 ~ 117 V.				
C18	22-830	.02 MFD.	600 V.	R14	63-296	220 M OHM	½ W.	12	100-36	PILOT LIGHT 6.3 V. .25 A.				

190

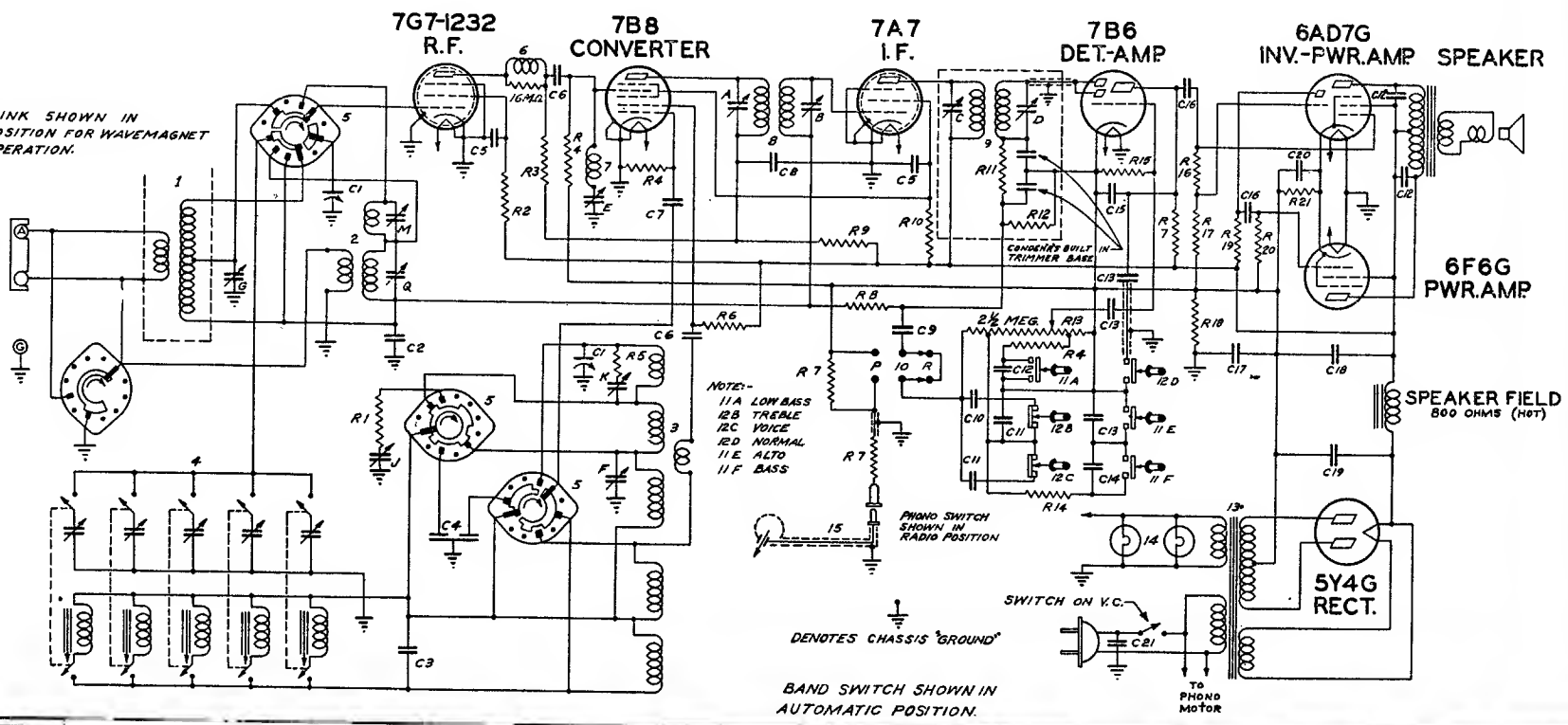
Circuit Diagram
Model 7S598
Chassis No. 7A11

I.F. FREQUENCY 455 KC.
7 TUBE SUPERHETERODYNE
CHASSIS Nº 7A11-3 BAND A.C.-PHONO
ZENITH RADIO CORPORATION
CHICAGO, ILL.

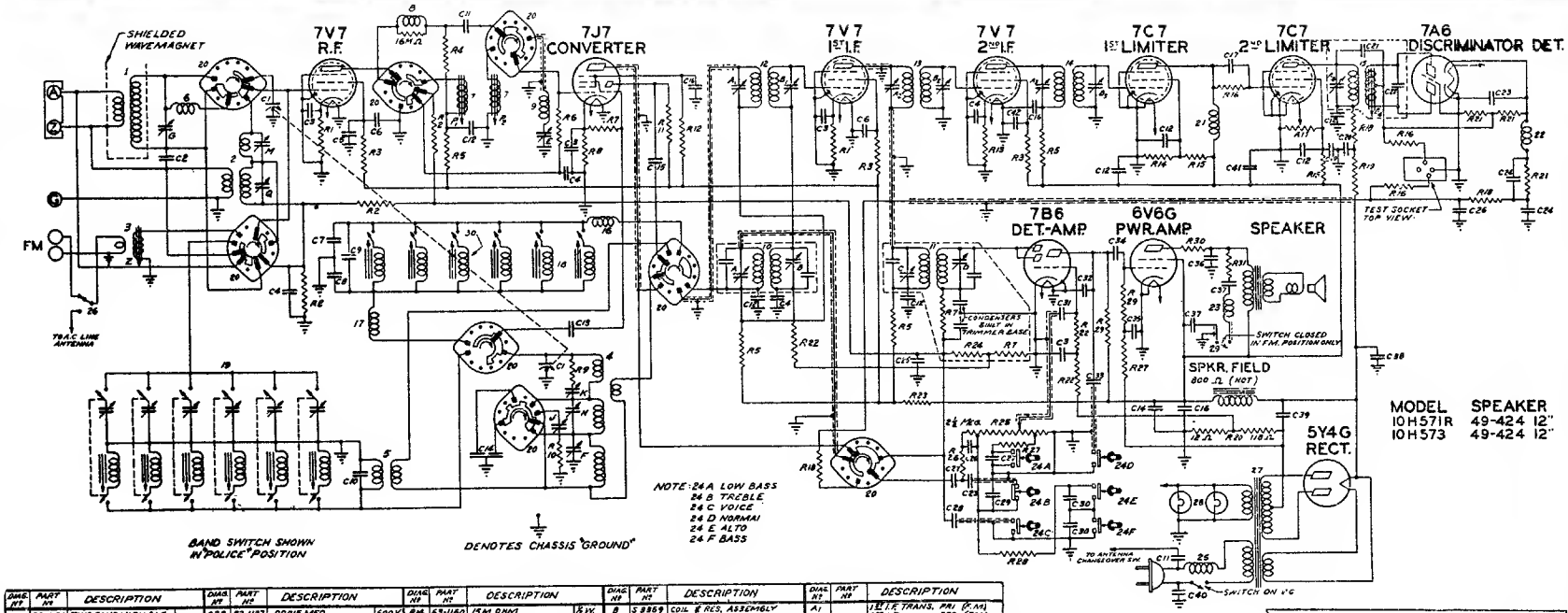
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION		DIAG. Nº	PART Nº	DESCRIPTION
C1	22-1030	TWO GANG VARIABLE										A		1ST I.F. TRANS. PRI.
C2	22-829	.05 MFD.	200V.									B		1ST I.F. TRANS. SEC.
C3	22-868	COMPENSATING COND.		R1	63-694	33 OHM	½W.					C		2ND I.F. TRANS. PRI.
C4	22-1097	DUAL PADDER		R2	63-260	100M OHM	½W.					D		2ND I.F. TRANS. SEC.
C5	22-828	.05 M.F.D.	400V.	R3	63-587	4700 OHM	½W.	1		WAVEMAGNET ASSEMBLY		E	22-1015	WAVETRAP
C6	22-182	.00025 MFD.	600V.	R4	63-593	47M OHM	½W.	2	58404	ANTENNA COIL ASSEMBLY		F		BROADCAST OSC.(NOTE 1)
C7	22-289	50 MMFD.	600V.	R5	63-621	39 OHM	½W.	3	58403	OSCILLATOR COIL ASSEM.		G		BROADCAST ANT. (NOTE 2)
C8	22-825	.1 MFD.	400V.	R6	63-589	10M OHM	½W.	4		AUTOMATIC TUNING ASSEM.		J		BROADCAST PADDER (NOTE 2)
C9	22-327	.02 MFD.	200V.	R7	63-296	220M OHM	½W.	5	85-247	BAND SELECTOR SWITCH		K		SHORT WAVE OSC. (NOTE 1)
C10	22-954	.00035 MFD.	600V.	R8	63-599	1.5 MEGOHM	½W.	6	58359	R.F. CHOKE & RES. ASSEM.		M		SHORT WAVE ANT. (NOTE 2)
C11	22-470	.00015 MFD.	600V.	R9	63-605	1000 OHM	½W.	7	58326	WAVE TRAP COIL ASSEM.		Q		POLICE BAND ANT. (NOTE 2)
C12	22-229	.005 MFD.	600V.	R10	63-960	68M OHM	½W.	8	95-703	1ST I.F. TRANSFORMER				
C13	22-448	.004 MFD.	600V.	R11	63-713	47M OHM	½W.	9	95-761	2ND I.F. TRANSFORMER				NOTES:
C14	22-492	.002 MFD.	600V.	R12	63-719	470 M OHM	½W.	10	85-171	PHONO-RADIO SWITCH				(1) TRIMMERS F & K ARE MOUNTED ON STRIP *22-1033.
C15	22-854	.0005 MFD.	600V.	R13	63-1122	VOLUME CONTROL		11	58449	TONE CONTROL ASSEM. (LEFT)				(2) TRIMMERS G, J, M & Q ARE MOUNTED ON STRIP *22-1031.
C16	22-196	.01 MFD.	600V.	R14	63-594	68 M OHM	½W.	12	58449	TONE CONTROL ASSEM (RIGHT)				
C17	22-827	.1 MFD.	200V.	R15	63-976	15 MEGOHM	½W.	13	95-756	PWR. TRANS. 50-60~ 117 V.				
C18		(20 MFD. ELECTROLYTIC	450 V.	R16	63-657	330 M OHM	½W.	14	100-36	PILOT LIGHT 6.3 V. .25 A.				
C19	22-1187	20 MFD. ELECTROLYTIC	450 V.	R17	63-652	120 M OHM	½W.	15		PICK-UP				
C20		40 MFD. ELECTROLYTIC	35 V.	R18	63-975	82 OHM WIREWOUND	½W.							
C21	22-1041	.005 MFD.	600 V.	R19	63-772	150 M OHM	½W.							
				R20	63-659	470 M OHM	½W.							
				R21	63-1174	420 OHM WIREWOUND	1½W.							

2-7-41 | C20 WAS 20MFD. - C22 OMITTED



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



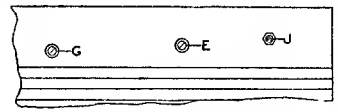
MODEL	SPEAKER
10H571R	49-424 12"
10H573	49-424 12"

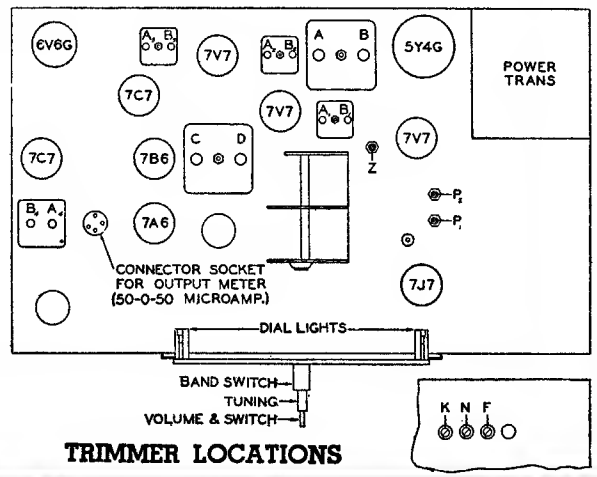
DIAG. NO.	PART NO.	DESCRIPTION	
C1	22-1121	TWO GANG VARIABLE	
C2	22-319	.005 MFD.	200 V.
C3	22-822	.1 MFD.	200 V.
C4	22-829	.05 MFD.	200 V.
C5	22-1123	S.M.FD. ELECTROLYTIC	350 V.
C6	22-263	.01 MFD.	400 V.
C7	22-1146	30 MMFD. COMP.	
C8	22-1139	50 MMFD. COMP.	
C9	22-1138	15 MMFD. CERAMIC	
C10	62-868	COMPENSATING COND.	
C11	22-166	.0001 MFD.	600 V.
C12	22-826	.1 MFD.	400 V.
C13	22-1140	30 MMFD.	600 V.
C14	22-1039	DUAL PADDER	
C15	22-268	.008 MFD.	500 V.
C16	22-828	.05 MFD.	400 V.
C17	22-167	.25 MMFD.	400 V.
C18		20 MFD. ELECTROLYTIC	450 V.
C19	22-1178	.5 MFD.	200 V.
C20		.5 MFD.	250 V.
C21	22-1196	.0025 MFD.	600 V.
C22	22-1143	25 MMFD.	600 V.
C23	22-289	50 MMFD.	600 V.
C24	22-1138	.0008 MFD.	500 V.
C25	22-946	.001 MFD.	600 V.
C26	62-1130	15 MMFD.	500 V.
C27	22-1127	.02 MFD.	400 V.
C28	22-1185	.005 MFD.	600 V.
C29	22-1187	.00015 MFD.	600 V.
C30	22-1136	.01 MFD.	400 V.
C31	22-168	.02 MFD.	400 V.
C32	22-1136	.00025 MFD.	600 V.
C33	22-448	.004 MFD.	600 V.
C34	22-830	.02 MFD.	600 V.
C35	22-1892	.04 MFD.	200 V.
C36	22-1194	.002 MFD.	1000 V.
C37	22-966	.04 MFD.	600 V.
C38	22-1129	.0005 MFD.	1000 V.
C39	22-1194	30 MFD. ELECTROLYTIC	450 V.
C40	22-1041	.005 MFD.	600 V.
C41	22-269	.065 MFD.	600 V.
C42	22-452	.068 MFD.	600 V.
R1	68-741	150 OHM	½ W.
R2	63-620	6.8 MEGOHM	½ W.
R3	63-1159	33M OHM	1 W.
R4	63-1163	2200 OHM	½ W.
R5	63-695	1MΩ OHM	½ W.
R6	63-715	100M OHM	½ W.
R7	63-718	47M OHM	½ W.
R8	63-1164	300 OHM	½ W.
R9	63-576	68 OHM	½ W.
R10	63-575	47 OHM	½ W.
R11	63-690	4700 OHM	1 W.
R12	63-1160	56M OHM	½ W.
R16	63-246	150 OHM	½ W.
R16	63-1160	56M OHM	½ W.
R17	63-687	15M OHM	½ W.
R18	63-583	1000 OHM	½ W.
R19	63-679	82M OHM	1 W.
R20	63-1150	2 SECTION CANDOHM	
R21	63-1160	56M OHM	½ W.
R22	63-271	1 MEGOHM	½ W.
R23	63-1179	1000 OHM	1 W.
R24	63-773	18M OHM	½ W.
R25	63-1074	VOLUME CONTROL	
R26	63-701	470 OHM	½ W.
R27	63-693	47M OHM	½ W.
R28	63-594	68M OHM	½ W.
R29	63-696	220M OHM	½ W.
R30	63-1168	100 OHM	2 W.
R31	63-156	10M OHM	1 W.
		WAVEMAGNET ASSEMBLY	
A1	63-1160	ANTENNA COIL - (S.W.)	
A2	63-1160	ANTENNA COIL - (F.M.)	
A3	63-576	OSCILLATOR COIL -	
A4	63-575	OSCILLATOR COIL -	
A5	63-1160	OSCILLATOR COUPLING COIL	
A6	63-1160	LOOP LOADING COIL	
A7	63-246	DETECTOR COIL ASSEM. (F.M.)	
A8	63-1160	15M OHM	½ W.
A9	63-1160	33M OHM	½ W.
A10	63-1160	470M OHM	½ W.
A11	63-1160	82M OHM	½ W.
A12	63-1150	2 SECTION CANDOHM	
A13	63-271	1 MEGOHM	½ W.
A14	63-1179	1000 OHM	1 W.
A15	63-1160	56M OHM	½ W.
A16	63-597	470M OHM	½ W.
A17	63-687	15 M OHM	½ W.
A18	63-583	1000 OHM	½ W.
A19	63-679	82M OHM	1 W.
A20	63-1150	2 SECTION CANDOHM	
A21	63-1160	56M OHM	½ W.
A22	63-271	1 MEGOHM	½ W.
A23	63-1179	1000 OHM	1 W.
A24	63-773	18M OHM	½ W.
A25	63-1074	VOLUME CONTROL	
A26	63-701	470 OHM	½ W.
A27	63-693	47M OHM	½ W.
A28	63-594	68M OHM	½ W.
A29	63-696	220M OHM	½ W.
A30	63-1168	100 OHM	2 W.
A31	63-156	10M OHM	1 W.

DIAG. NO.	PART NO.	DESCRIPTION
1	3 9369	COIL & RES. ASSEMBLY
2	3 8826	WAVETRAP -
3	95-765	1ST I.F. TRANSFORMER (A.M.)
4	95-766	2ND I.F. - (A.M.)
5	95-765	1ST I.F. - (F.M.)
6	95-786	2ND I.F. - (F.M.)
7	95-787	3RD I.F. - (F.M.)
8	95-789	DISCRIMINATOR I.F. TRANS. (F.M.)
9	39535	PLATE PEAKING COIL
10	3 9360	GRID -
11		AUTOMATIC TUNING UNIT (F.M.)
12		AUTOMATIC TUNING UNIT (B.C.)
13	85-284	BAND SELECTOR SWITCH
14	3 3463	PLATE CHOKE
15	3 9503	FM. I.F. WAVETRAP
16	30-290	3 SECTION COMB. FILTER
17	3 8490	TONE CONTROL SW. ASSEM.
18	3 9506	LINE CHOKE
19	85-283	ANTENNA CHANGEOVER SW.
20	(95-771) (95-772)	POWER TRANS. { 50-60~ / 25~
21		PILOT LIGHT 6.3V. .3 A.
22	85-275	AUDIO FILTER SWITCH
23	3 8562	MANUAL RAD. OSC. COIL
A		1ST I.F. TRANS. PRI. (A.M.)
B		1ST I.F. - SEC. (A.M.)
C		2ND I.F. - PRI. (A.M.)
D		2ND I.F. - SEC. (A.M.)

DIAG. NO.	PART NO.	DESCRIPTION
A1		1ST I.F. TRANS. PRI. (F.M.)
B1		1ST I.F. - SEC. (F.M.)
A2		2ND I.F. - PRI. (F.M.)
B2		2ND I.F. - SEC. (F.M.)
A3		3RD I.F. - PRI. (F.M.)
B3		3RD I.F. - SEC. (F.M.)
A4		DISCRIMINATOR I.F. TRANS. PRI.
B4		DISCRIMINATOR I.F. - SEC.
E	22-1015	WAVETRAP
F		BROADCAST OSC. NOTE 1
G	22-1042	BROADCAST ANTENNA
J	22-668	BROADCAST PADDER
K		SHORT WAVE OSC. NOTE 1
M		SHORT WAVE ANT. NOTE 2
N		POLICE BAND OSC. NOTE 1
P		ULTRA HIGH FREQ. DET. (PLATE)
P1		ULTRA HIGH FREQ. DET. (GRID)
Q		POLICE BAND ANT. NOTE 2
Z		ULTRA HIGH FREQ. ANTENNA

NOTE:
(1) TRIMMERS F, K & N ARE MOUNTED ON STRIP 226-850
(2) TRIMMERS M & Q ARE MOUNTED ON STRIP 226-1045



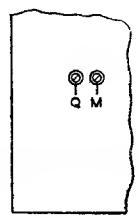


TRIMMER LOCATIONS

Models 10H571R, 10H573

Chassis No. 10A3R

Note: Adjust FM I.F. frequency to value designated on I.F. transformer.



Note!

#S-9434 "Radex" loop may be substituted for 1 turn loop during alignment.

1941

AMP. MOD. I.F. FREQUENCY 455 KC.
FREQ. MOD. I.F. FREQUENCY 8.6 MC.
10 TUBE SUPERHETERODYNE
CHASSIS Nº 10A3R-A.C.-4 BAND
ZENITH RADIO CORPORATION
CHICAGO, ILL.

Models 10H571R, 10H573

Chassis No. 10A3R

All voltages measured with a 20,000 ohm per volt meter from chassis to socket contact indicated.

All voltages are positive D.C. unless marked otherwise.

Volume control full on.

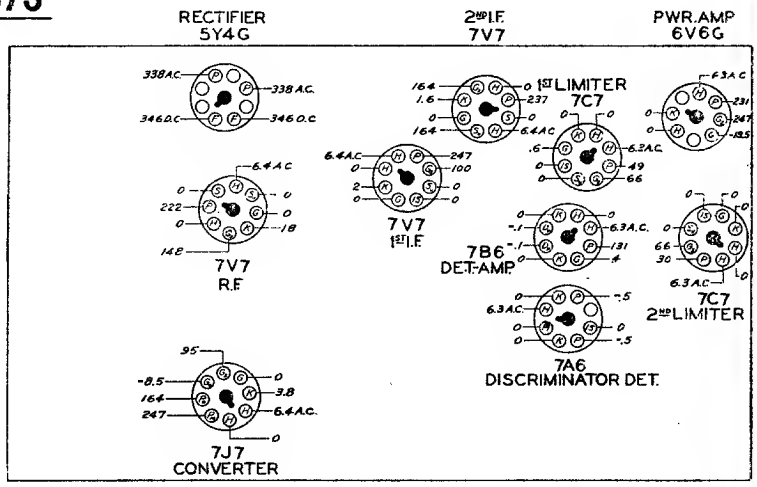
Line voltage 117 A.C.

Power consumption 90 watts.

Power output 6.5 watts.

Tuning Ranges

540 Kc. to 1600 Kc.
1.5 Mc. to 5.2 Mc.
5.7 Mc. to 18.5 Mc.
41.5 Mc. to 50.5 Mc.

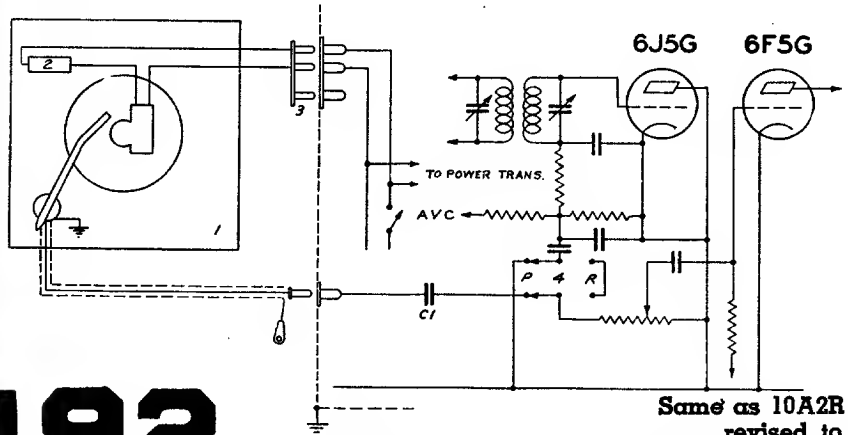


ALIGNMENT PROCEDURE

Opr.	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.5 mfd.	455 Kc.	BC	600 Kc.	A, B, C, D,	Align I. F.
2	R. F. Grid	"	455 Kc.	BC	600 Kc.	E	Adj. Wave Trap for Minimum
3	Antenna Z and G	400 ohms	18 Mc.	SW	18 Mc.	K	Set Oscillator to Scale
4	"	"	18 Mc.	SW	16 Mc.	M	Align Antenna
5	"	"	5.0 Mc.	Med.	5.0 Mc.	N	Set Oscillator to Scale
6	"	"	4.5 Mc.	Med.	4.5 Mc.	Q	Align Antenna
7	1 Turn Loop Made with Generator Leads to 10" dia. See Note!	——	1400 Kc.	BC	1400 Kc.	F	Set Oscillator to Scale
8		——	1400 Kc.	BC	1400 Kc.	G	Align Antenna
9		——	600 Kc.	BC	600 Kc.	J	Rock Gang to Track BC Padder

F. M. ALIGNMENT — See Pages 126-127
X = FM output meter across full discriminator load. Y = FM output meter across half discriminator load.

10	7V7 2nd I.F. Grid	.5 mfd.	8.6 Mc.	Manual FM	8.6 Mc.	A 4	Align for Maximum deflection—Y
11	"	"	8.6 Mc.	"	8.6 Mc.	B 4	Align for Zero deflection—X
12	"	"	8.6 Mc.	"	8.6 Mc.	A 3 - B 3	Align for Maximum deflection—Y
13	7V7 1st I. F. Grid	"	8.8 Mc.	"	8.6 Mc.	A 2 - B 2	" — Y
14	Converter Grid	"	8.6 Mc.	"	8.6 Mc.	A 1 - B 1	" — Y
15	FM Ant. Terminals	100 ohms	48. Mc.	"	46. Mc.	Adj. Cam on Gang Shaft to Scale Osc.	Align for Zero deflection—X
16	"	"	42.5 Mc.	"	42.5 Mc.	P1	Align for Maximum deflection—Y
17	"	"	49. Mc.	"	49. Mc.	P 2	" — Y
18	"	"	46. Mc.	"	46. Mc.	Z	" — Y



DIAG. Nº	PART Nº	DESCRIPTION	
C1	22-1189	.00075 MFD.	600 V.
1	169-63	WEBSTER AUTOMATIC RECORD PLAYER	60 ~ 50 ~
2	85-191	A.C. SWITCH	
3	58-85	A.C. PLUG	
4	85-228	PHONO-RADIO SW.	

PHONO CIRCUIT DATA
MODEL SPEAKER
10S599 49-442-14"
CHASSIS Nº10A2R

Same as 10A2R with audio compensation revised to match new pickup.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS