

*Most - Often - Needed*

1941

RADIO  
DIAGRAMS  
*and Servicing Information*

*Compiled by*

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SUPREME PUBLICATIONS

CHICAGO

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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## RADIO DIAGRAMS and Servicing Information

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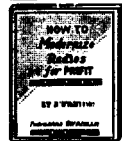
This new, 1943 manual will clarify the important radio facts, explain the principles which may have puzzled you, and point the way to faster radio repairing. You will find hundreds of practical hints for mounting parts, testing components, trouble-shooting, using instruments. Needed useful theory in 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 **\$295** money-back guarantee. Price only.....



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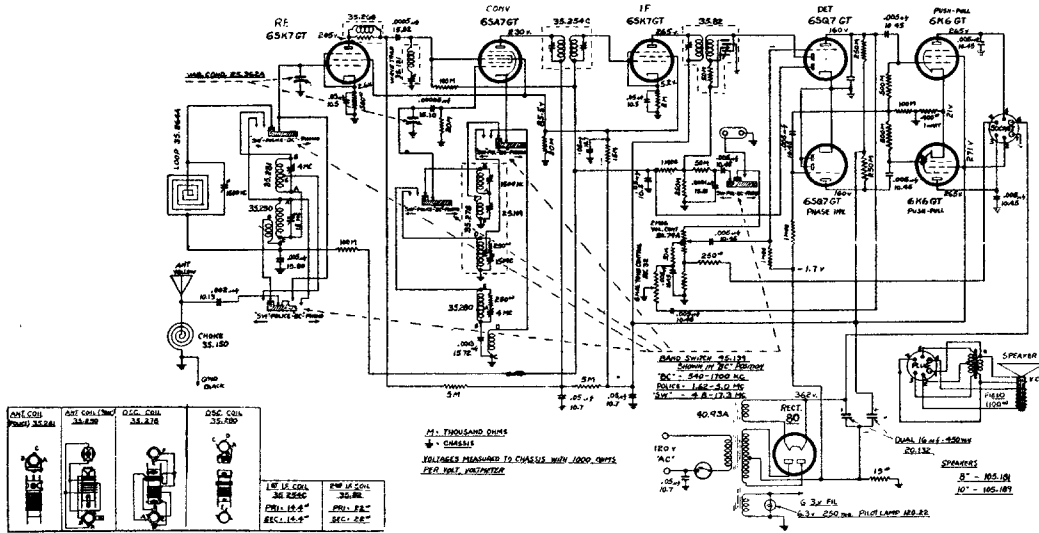


Cash in by improving audio circuits, modernizing cabinets, adding features usually found on late model sets. Practical job-sheets with schematics and photographs make the work easy. You are told how to obtain modernization work, what to charge, and how to complete the job quickly and efficiently. Large size, 8½x11 inch manual is **\$100** priced at only.....

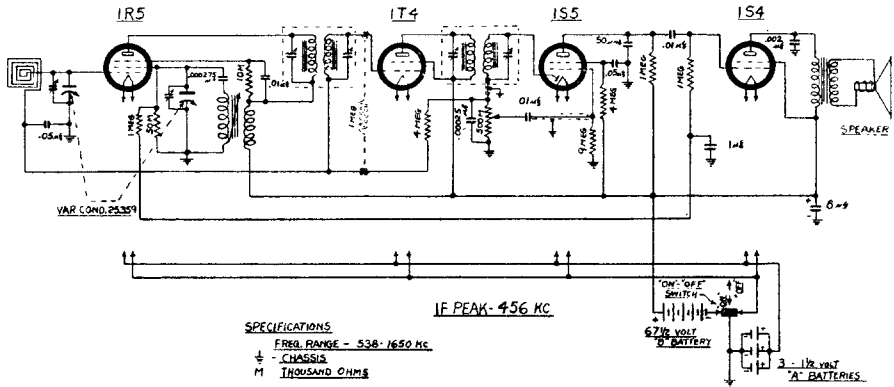
**6**



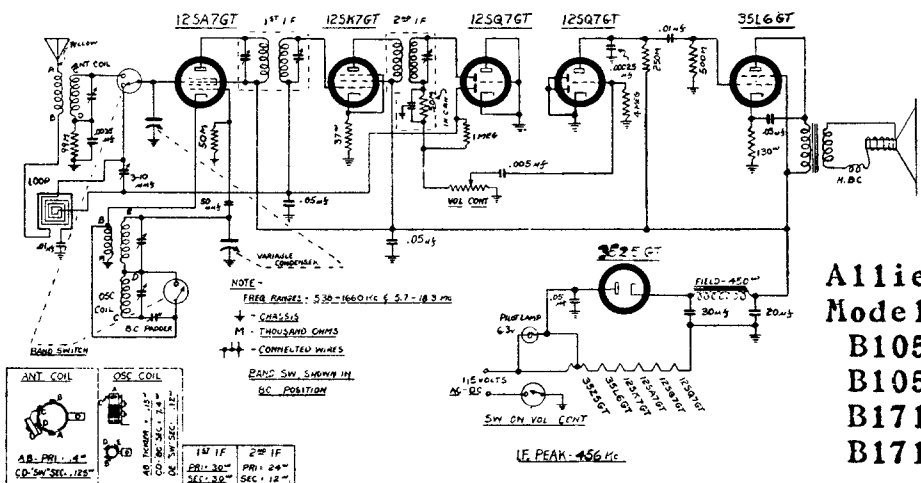
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



I.F. 456 KC. SCHEMATIC DIAGRAM MODELS B-17113—B-17114



Models B10600, B10606, B17107-08



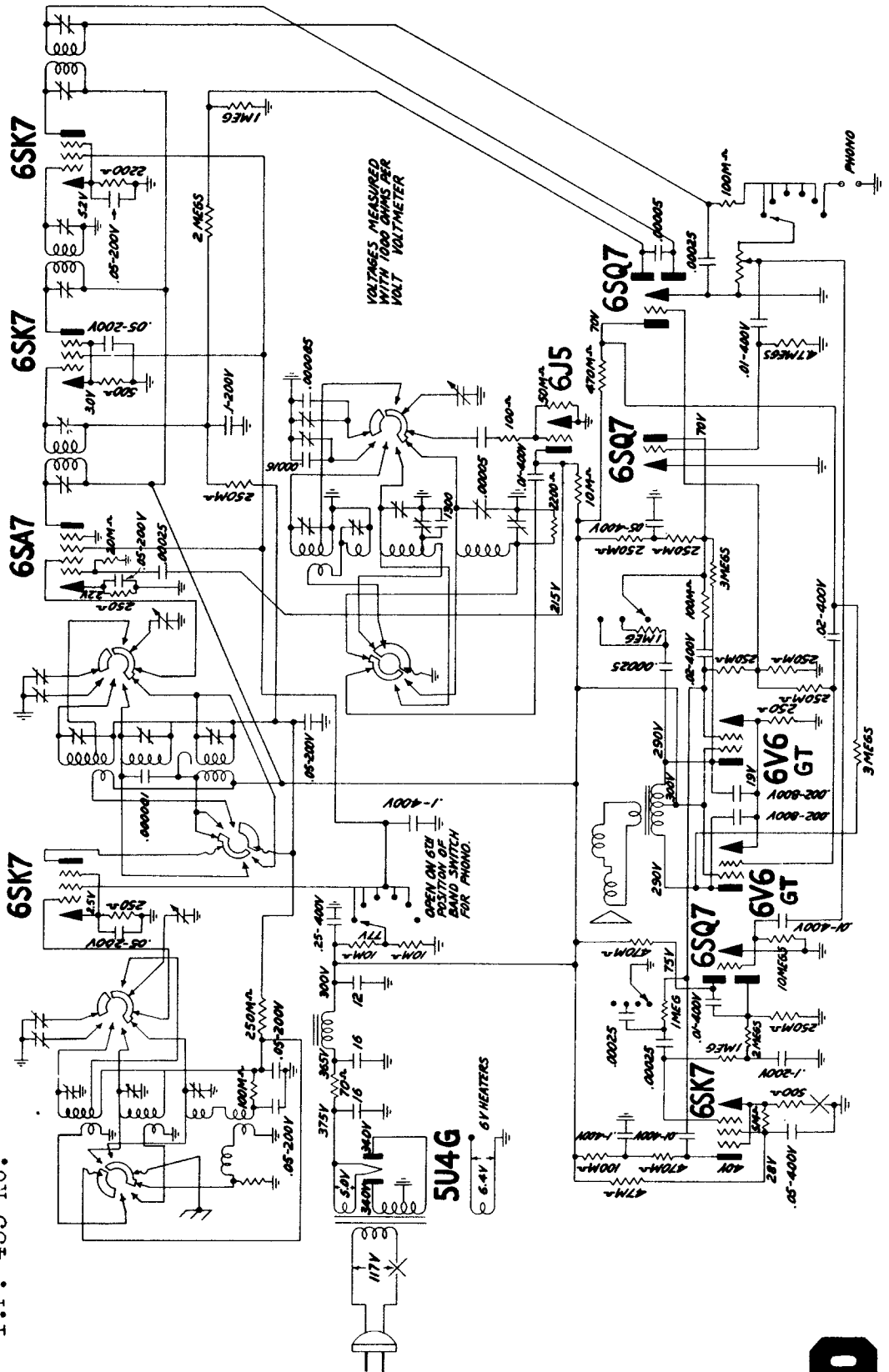
Allied Radio  
 Models:  
 B10596  
 B10598  
 B17103  
 B17104

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

Knight 12 Tube Radio and Automatic Phonograph  
B17165, B17180, B17187.

**ALLIED RADIO CORPORATION**  
**CHICAGO**

I.F. 455 KC.

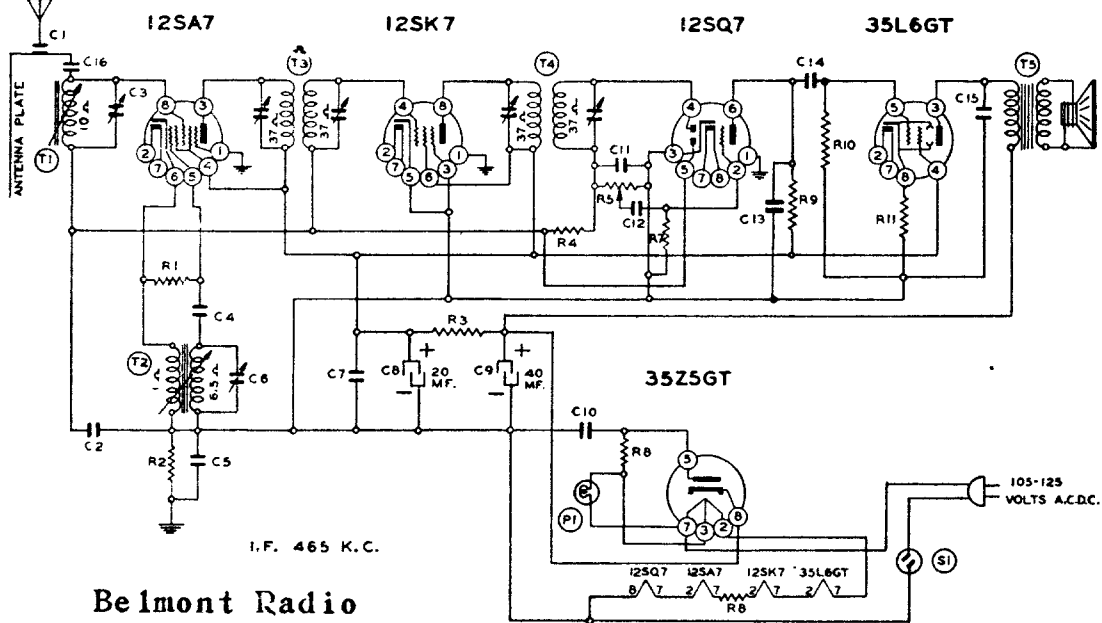


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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



## Belmont Radio

### Circuit Diagram

Ref. Part No.

Description

#### RESISTORS

R1	130176	20M ohm— $\frac{1}{2}$ w.
R2	130100	150M ohm— $\frac{1}{2}$ w.
R3	130279	1M ohm—1 watt
R4	1304	3 megohm— $\frac{1}{2}$ w.
R5	101196	500M ohm volume control
R6	130293	30 ohm—1 watt
R7	130257	5 megohm— $\frac{1}{2}$ w.
R8	130288	50 ohm—1.5 watt
R9	1302	75M ohm— $\frac{1}{2}$ w.
R10	13011	250M ohm— $\frac{1}{2}$ w.
R11	130166	150 ohm— $\frac{1}{2}$ 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

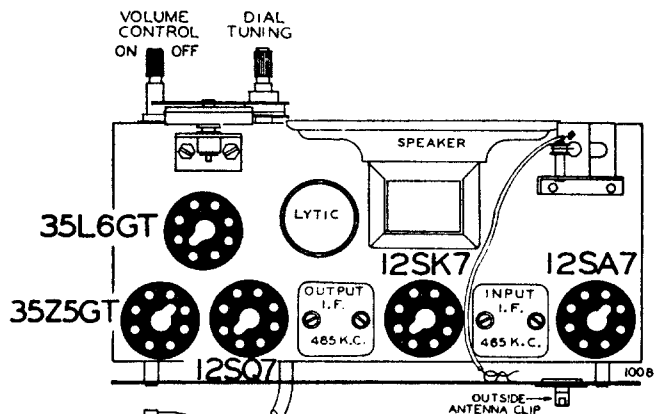
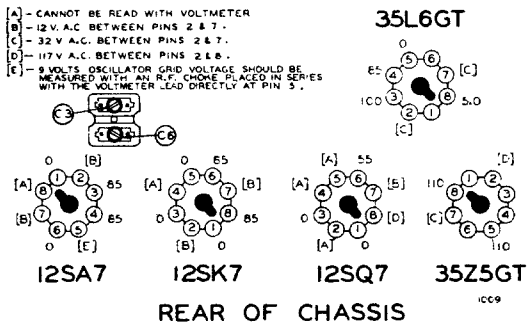
#### PARTS

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

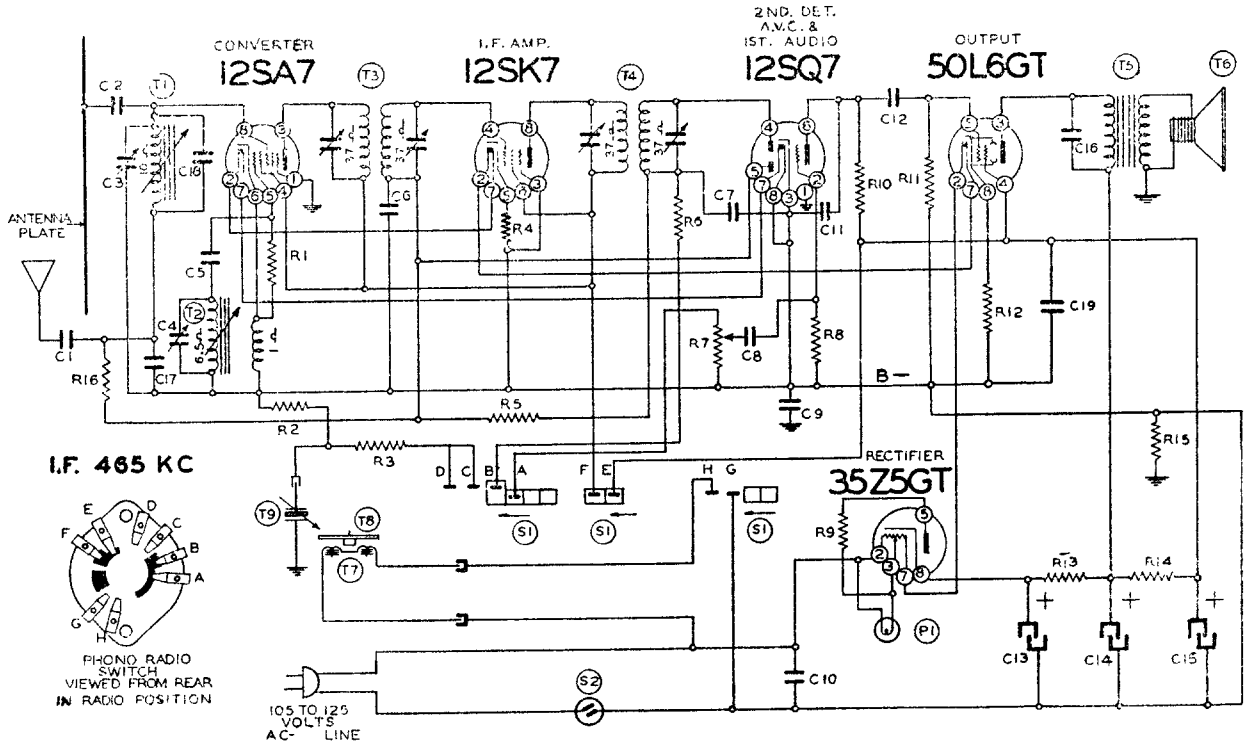
### BOTTOM VIEW OF CHASSIS

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

- [A] - CANNOT BE READ WITH VOLTMETER
- [B] - 12 V. A.C. BETWEEN PINS 2 & 7.
- [C] - 32 V. A.C. BETWEEN PINS 2 & 7.
- [D] - 117 V. A.C. BETWEEN PINS 2 & 8.
- [E] - 9 VOLTS OSCILLATOR GRID VOLTAGE SHOULD BE MEASURED WITH AN R.F. COIL PLACED IN SERIES WITH THE VOLTMETER LEAD DIRECTLY AT PIN 5.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**Circuit Diagram Ref. No. Part No. Description**

**RESISTORS**

R1	130176	20M ohm—1/2 w.
R2	130118	600M ohm—1/2 w.
R3	130118	600M ohm—1/2 w.
R4	13056	100 ohm—1/2 w.
R5	130170	3 megohm—1/2 w.
R6	13012	50M ohm—1/2 w.
R7	101217	1/2 megohm—volume control
R8	130257	5 megohm—1/2 w.
R9	130215	25 ohm—1/2 w.
R10	1309	200M ohm—1/2 w.
R11	13037	750M ohm—1/2 w.
R12	130166	150 ohm—1/2 w.
R13	13097	200 ohm—1/2 w.
R14	130287	1200 ohm—1 watt
R15	1309	200M ohm—1/2 w.
R16	1309	200M—1/2 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.

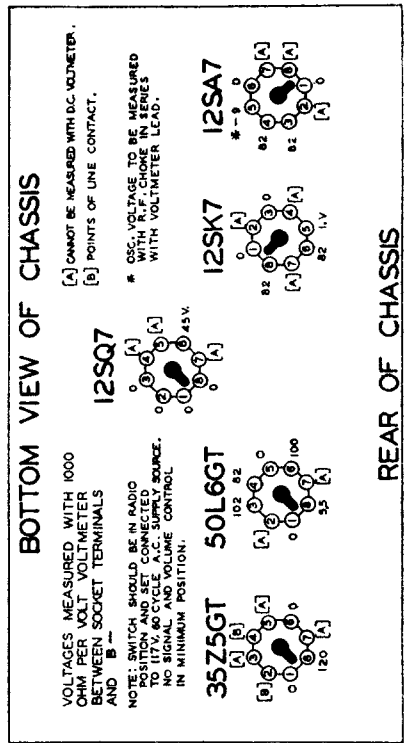
C3 and C4 in same unit  
 C13, C14 and C15 are in same unit

**PARTS**

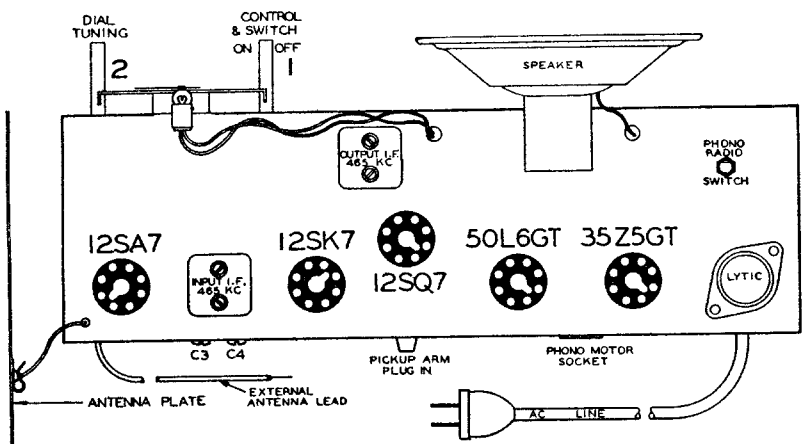
T1	112866	Antenna Coil—Permeability tuning assembly complete
T2	112866	Oscillator Coil
T3	108140F	Input I. F. Coil—465 kc.
T4	108145D	Output I. F. Coil—465 kc.
T5	105108	Output Transformer
T6	14198	5" P.M. Speaker
T7	104206	Phono Motor
T8	12228	Turntable
T9	114194	Phono pick up arm
S1	125113	Phono Switch
S2		Switch on volume control
P1	107249	Pilot light T47

T1 and T2 in same unit

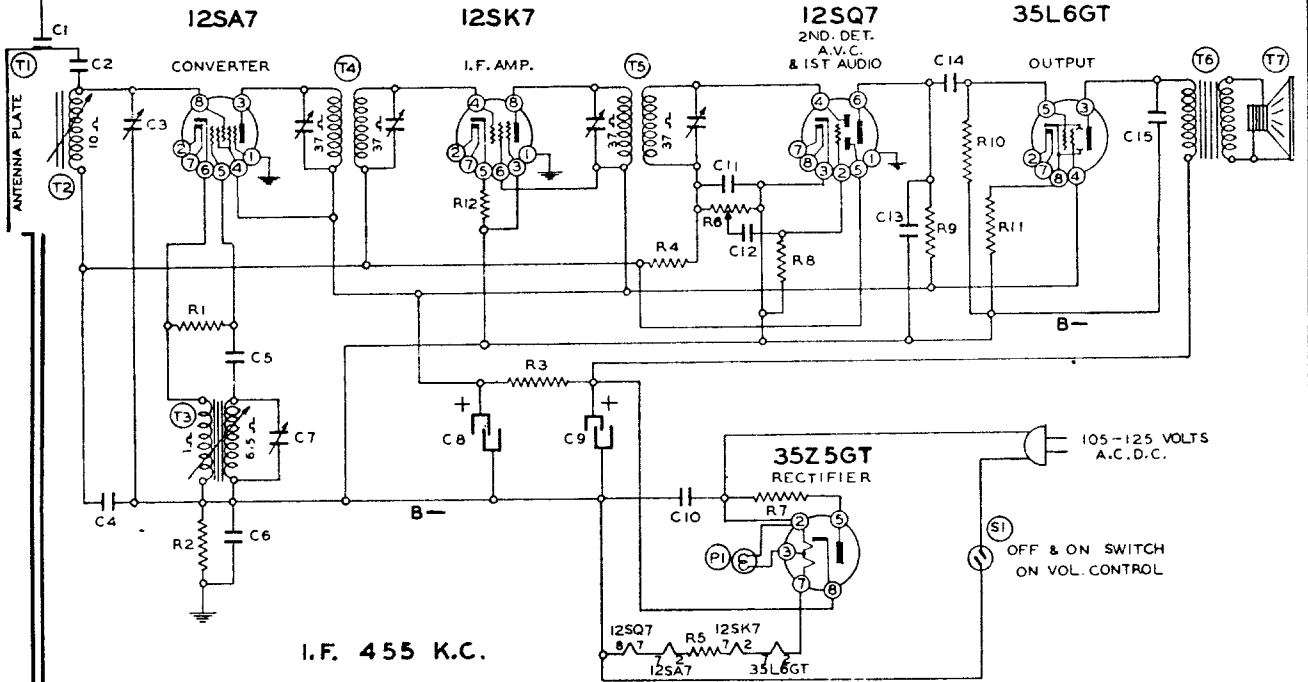
**Belmont Radio**  
**MODEL 533—SERIES C**



**REAR OF CHASSIS**



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



I.F. 455 K.C.

Schematic Part  
Ref. No. No.

Description

## RESISTORS

R1	130176	20M ohm— $\frac{1}{2}$ w.
R2	130100	150M ohm— $\frac{1}{2}$ w.
R3	130279	1M ohm—1 w.
R4	1304	3 megohm— $\frac{1}{2}$ w.
R5	130288	50 ohm—1.5 w.
R6	101238	500M ohm volume control and switch
R7	130240	30 ohm— $\frac{1}{2}$ w.
R8	130257	5 megohm— $\frac{1}{2}$ w.
R9	100100	150M ohm— $\frac{1}{2}$ w.
R10	13011	250M ohm— $\frac{1}{2}$ w.
R11	130166	150 ohm— $\frac{1}{2}$ w.
R12	130233	60 ohm— $\frac{1}{2}$ w.

## CONDENSERS

C1	131262	.0001 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 v. v.
C9	11992	40 mfd. lytic x 150 v. 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

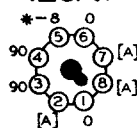
T1	128586B	Back plate (walnut)
	128586	Back plate (ivory)
T2	112877	Antenna coil—Permeability tuning assembly complete
T3	112877	Oscillator coil—Permeability tuning assembly complete
T4	108157L	Input I. F. coil—455 Kc.
T5	108157N	Output I. F. coil—455 Kc.
T6	10595C	Output transformer
T7	114225	5" P. M. speaker
S1		Switch on volume control
P1	107249	Pilot light T47

# Model 536 Radio

## BOTTOM VIEW OF CHASSIS

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

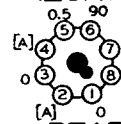
12SA7



[A] CANNOT BE MEASURED WITH VOLTMETER.

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

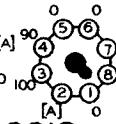
12SK7



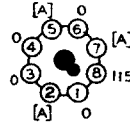
12SQ7



35L6GT

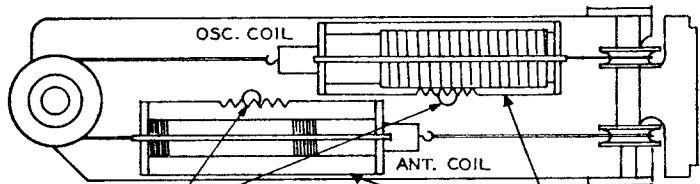


35Z5GT



## REAR OF CHASSIS

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.

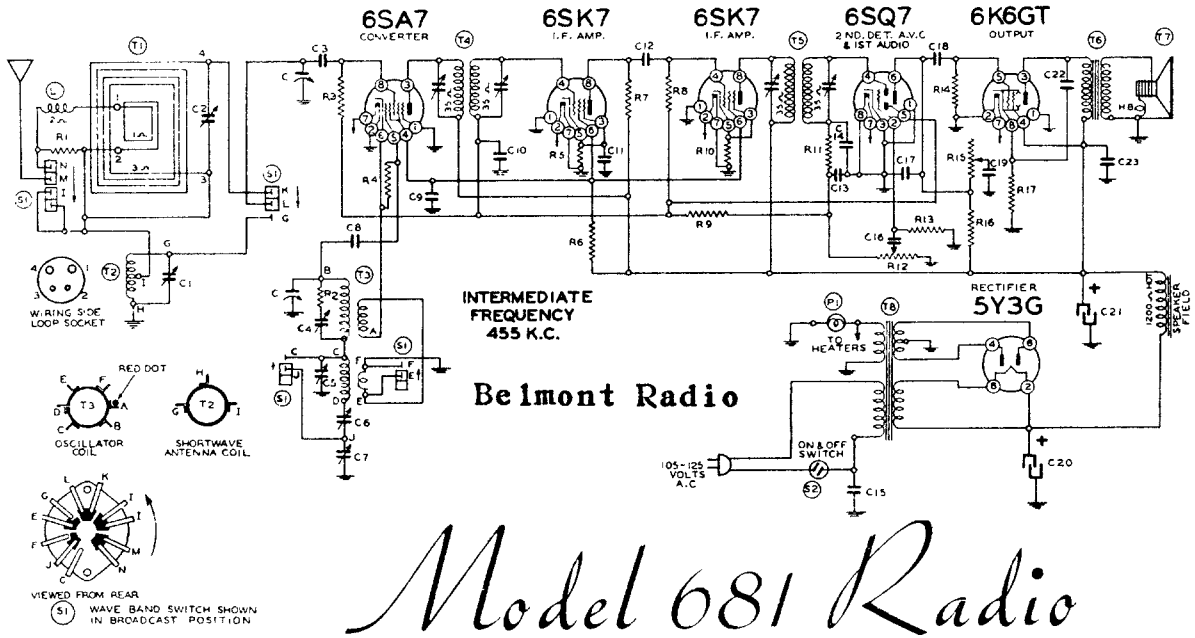
TO ADJUST COIL ASSEMBLY MOVE LEFT OR RIGHT

Belmont Radio

# 12

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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.

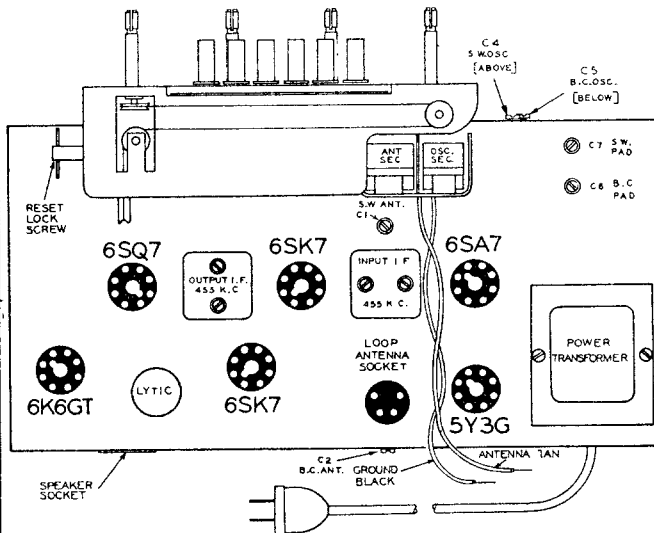
This screw will lock in place all the stations you have selected on the automatic tuner pushbuttons. Pressing the proper button will now tune the station you want.

### 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

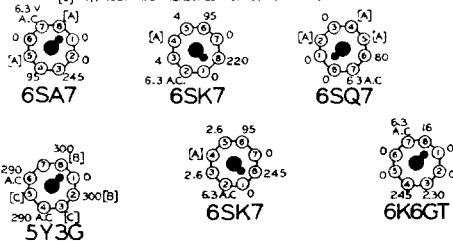
- R1 4M ohm— $\frac{1}{2}$  w.
- R2 20 ohm— $\frac{1}{2}$  w.
- R3 1 megohm— $\frac{1}{2}$  w.
- R4 30M ohm— $\frac{1}{2}$  w.
- R5 750 ohm— $\frac{1}{2}$  w.
- R6 19M ohm— $\frac{1}{2}$  w.
- R7 5M ohm— $\frac{1}{2}$  w.
- R8 100M ohm— $\frac{1}{2}$  w.
- R9 3 megohm— $\frac{1}{2}$  w.
- R10 350 ohm— $\frac{1}{2}$  w.
- R11 50M ohm— $\frac{1}{2}$  w.
- R12 1 megohm volume control
- R13 10 megohm— $\frac{1}{2}$  w.
- R14 500M ohm— $\frac{1}{2}$  w.
- R15 1 megohm tone control
- R16 250M ohm— $\frac{1}{2}$  w.
- R17 500 ohm—1 w.



### BOTTOM VIEW OF CHASSIS

VOLTAGES MEASURED WITH A HIGH RESISTANCE VOLTMETER BETWEEN SOCKET TERMINALS AND CHASSIS: VOLUME CONTROL AT MINIMUM, 1.7 VOLT LINE.

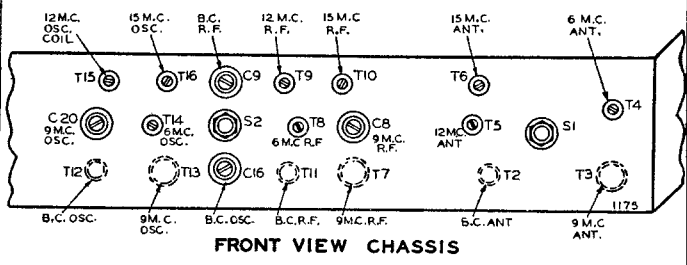
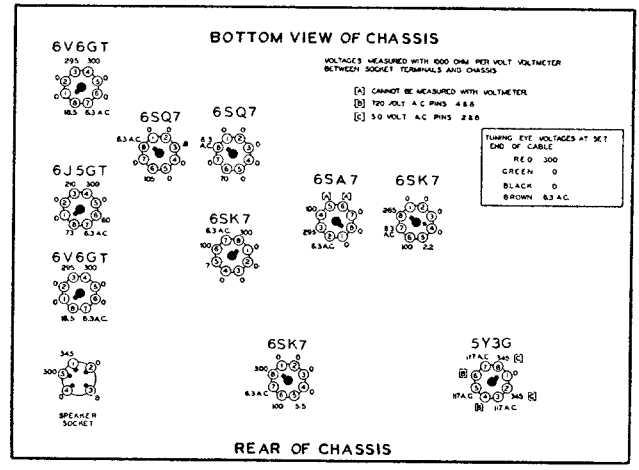
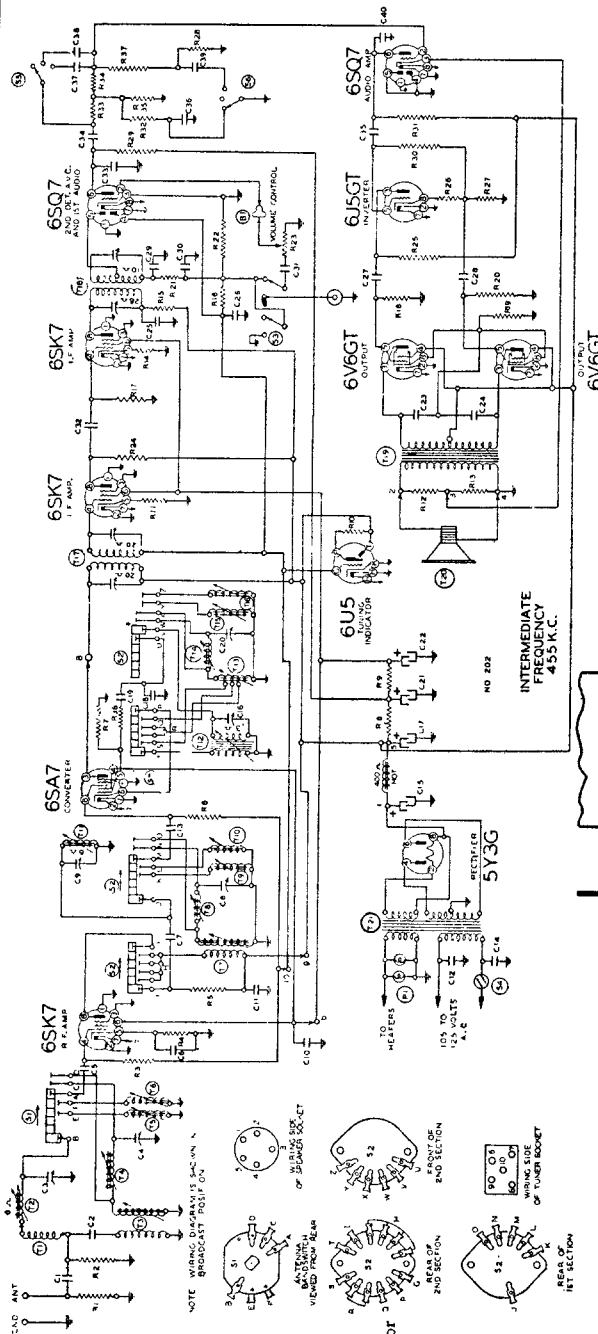
- (A) CANNOT BE MEASURED WITH VOLTMETER
- (B) 5 VOLTS A.C. MEASURED ACROSS PINS 2 & 8
- (C) 117 VOLT A.C. MEASURED ACROSS PINS 3 & 5.



REAR OF CHASSIS

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## Belmont Radio Model 1100



### TRIMMER VIEW

**IF 455 KC.**

**RESISTORS**

25M ohm— $\frac{1}{2}$  w.  
 25M ohm— $\frac{1}{4}$  w.  
 1 megohm— $\frac{1}{2}$  w.  
 250 ohm— $\frac{1}{2}$  w.  
 5M ohm— $\frac{1}{2}$  w.  
 1 megohm— $\frac{1}{4}$  w.  
 25M ohm— $\frac{1}{4}$  w.  
 6M ohm—2 watt  
 10M—2 watt  
 1 megohm in tuning indicator  
 700 ohm— $\frac{1}{2}$  w.  
 100 ohm— $\frac{1}{2}$  w.  
 1500 ohm— $\frac{1}{2}$  w.  
 1300 ohm— $\frac{1}{2}$  w.  
 1300 ohm— $\frac{1}{2}$  w.  
 2M ohm— $\frac{1}{2}$  w.  
 1 megohm— $\frac{1}{2}$  w.  
 100M ohm— $\frac{1}{2}$  w.  
 500M ohm— $\frac{1}{2}$  w.  
 250 ohm— $\frac{1}{2}$  w.  
 500M ohm— $\frac{1}{2}$  w.  
 100M ohm— $\frac{1}{2}$  w.  
 100M ohm— $\frac{1}{2}$  w.  
 500M ohm— $\frac{1}{2}$  w.  
 500M ohm volume control  
 and line switch (S4)  
 15M ohm— $\frac{1}{2}$  w.  
 50M ohm— $\frac{1}{2}$  w.  
 5M ohm— $\frac{1}{2}$  w.  
 56M ohm— $\frac{1}{2}$  w.  
 56M ohm— $\frac{1}{2}$  w.  
 500M ohm— $\frac{1}{2}$  w.  
 250M ohm— $\frac{1}{2}$  w.  
 500M ohm— $\frac{1}{2}$  w.  
 250M ohm— $\frac{1}{2}$  w.  
 40M ohm— $\frac{1}{2}$  w.  
 150M ohm— $\frac{1}{2}$  w.  
 350M ohm— $\frac{1}{2}$  w.  
 250M ohm— $\frac{1}{2}$  w.  
 50M ohm— $\frac{1}{2}$  w.  
 150M ohm— $\frac{1}{2}$  w.

R1	130232	25M ohm— $\frac{1}{2}$ w.
R2	130232	25M ohm— $\frac{1}{2}$ w.
R3	13019	1 megohm— $\frac{1}{2}$ w.
R4	130239	250 ohm— $\frac{1}{2}$ w.
R5	130218	5M ohm— $\frac{1}{2}$ w.
R6	13019	1 megohm— $\frac{1}{2}$ w.
R7	130232	25M ohm— $\frac{1}{4}$ w.
R8	130318	6M ohm—2 watt
R9	130319	10M—2 watt
R10		1 megohm in tuning indicator
R11	130200	700 ohm— $\frac{1}{2}$ w.
R12	130232	25M ohm— $\frac{1}{2}$ w.
R13	130235	1500 ohm— $\frac{1}{2}$ w.
R14	130235	1500 ohm— $\frac{1}{2}$ w.
R15	130192	2M ohm— $\frac{1}{2}$ w.
R16	13019	1 megohm— $\frac{1}{2}$ w.
R17	13020	100M ohm— $\frac{1}{2}$ w.
R18	1303	500M ohm— $\frac{1}{2}$ w.
R19	130317	250 ohm— $\frac{1}{2}$ w.
R20	1303	500M ohm— $\frac{1}{2}$ w.
R21	13020	100M ohm— $\frac{1}{2}$ w.
R22	130238	100M ohm— $\frac{1}{2}$ w.
R23	101234	500M ohm volume control and line switch (S4)
R24	13073	15M ohm— $\frac{1}{2}$ w.
R25	13094	50M ohm— $\frac{1}{2}$ w.
R26	130218	5M ohm— $\frac{1}{2}$ w.
R27	13074	56M ohm— $\frac{1}{2}$ w.
R28	1303	56M ohm— $\frac{1}{2}$ w.
R29	130172	250M ohm— $\frac{1}{2}$ w.
R30	1303	500M ohm— $\frac{1}{2}$ w.
R31	130172	250M ohm— $\frac{1}{2}$ w.
R32	1307	40M ohm— $\frac{1}{2}$ w.
R33	13080	150M ohm— $\frac{1}{2}$ w.
R34	130309	350M ohm— $\frac{1}{2}$ w.
R35	130172	250M ohm— $\frac{1}{2}$ w.
R36	130174	50M ohm— $\frac{1}{2}$ w.
R37	13080	150M ohm— $\frac{1}{2}$ w.

C23	100055	.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 200 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	10018	.05 x 600 v.
C36	12936	.0003 mica
C37	12936	.0003 mica
C38	129166	.000125 mica
C39	10037	.003 x 600 v.
C40	12912	.00025 mica

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

### PARTS

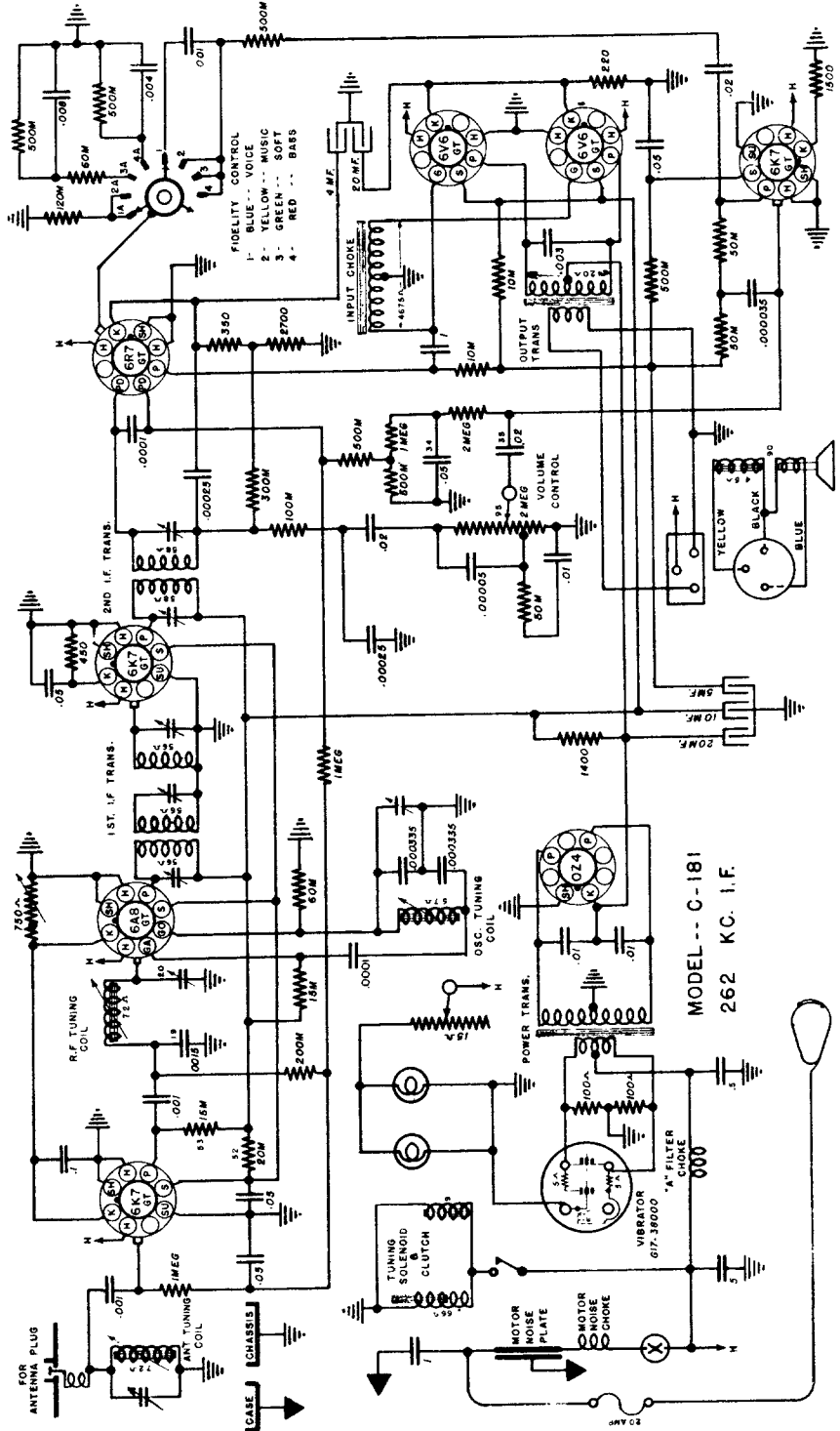
T1	111207	Loop Antenna Assembly
T2	111190	B.C. Antenna Coil
T3	111190	9 mc. Antenna Coil
T4	111189	6 mc. Antenna Coil
T5	111191	12 mc. Antenna Coil
T6	111192	15 mc. Antenna Coil
T7	10959	9 mc. R.F. Coil
T8	10958	6 mc. R.F. Coil
T9	10960	12 mc. R.F. Coil
T10	10961	15 mc. R.F. Coil
T11	10962	30.0 mid. lyric x 450 w.v.
T12	110161	B.C. R.F. 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

### CONDENSERS

C2	1292	.0005 mica
C3	10047	.002 x 600 v.
C4	124143	B.C. Antenna Trimmer
C5	124143	9 mc. Antenna Trimmer
C6	1292	.0005 mica
C7	10020	.1 x 200 v. Tubular
C8	129168	.00001 mica
C9	124138	9 mc. R.F. Trimmer
C10	124139	B.C. R.F. Trimmer
C11	10074	.1 x 400 v.
C12	10074	.1 x 400 v.
C13	10061	.02 x 600 v.
C14	1292	.0005 mica
C15	10061	.02 x 600 v.
C16	119112	30.0 mid. lyric
C17	119112	30.0 mid. lyric x 450 w.v.
C18	124144	B.C. Oscillator Trimmer
C19	129167	.0002 silver mica
C20	124145	9 mc. Oscillator Trimmer
C21	119112	10.0 mid. lyric
C22	119169	15 mid. x 350 w.v.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## Chevrolet Auto Radio, Model 985694

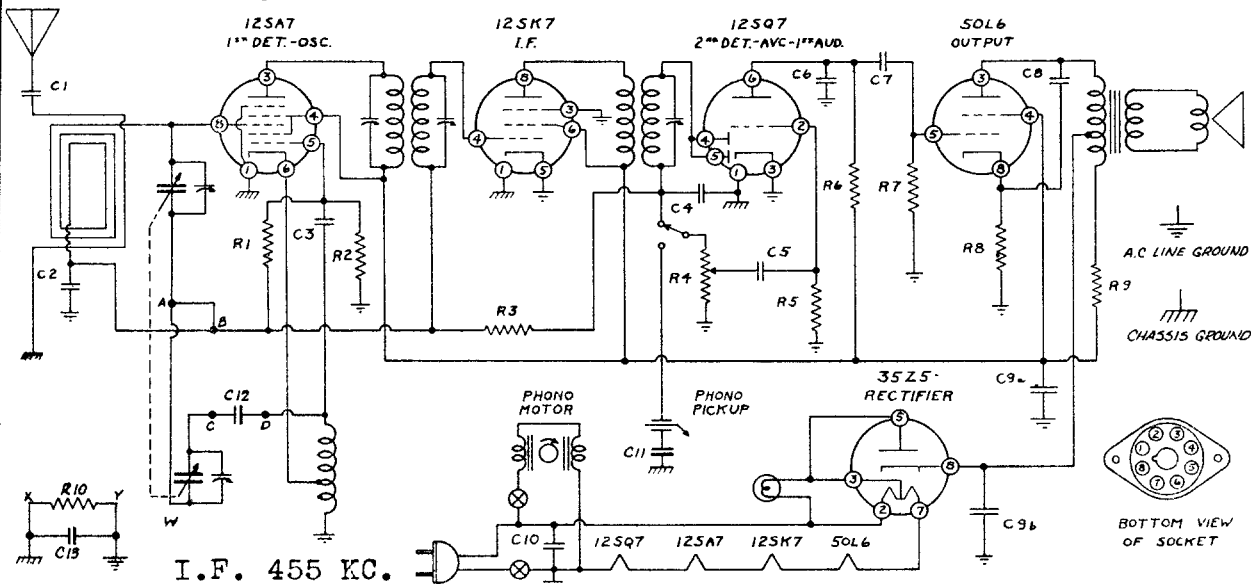








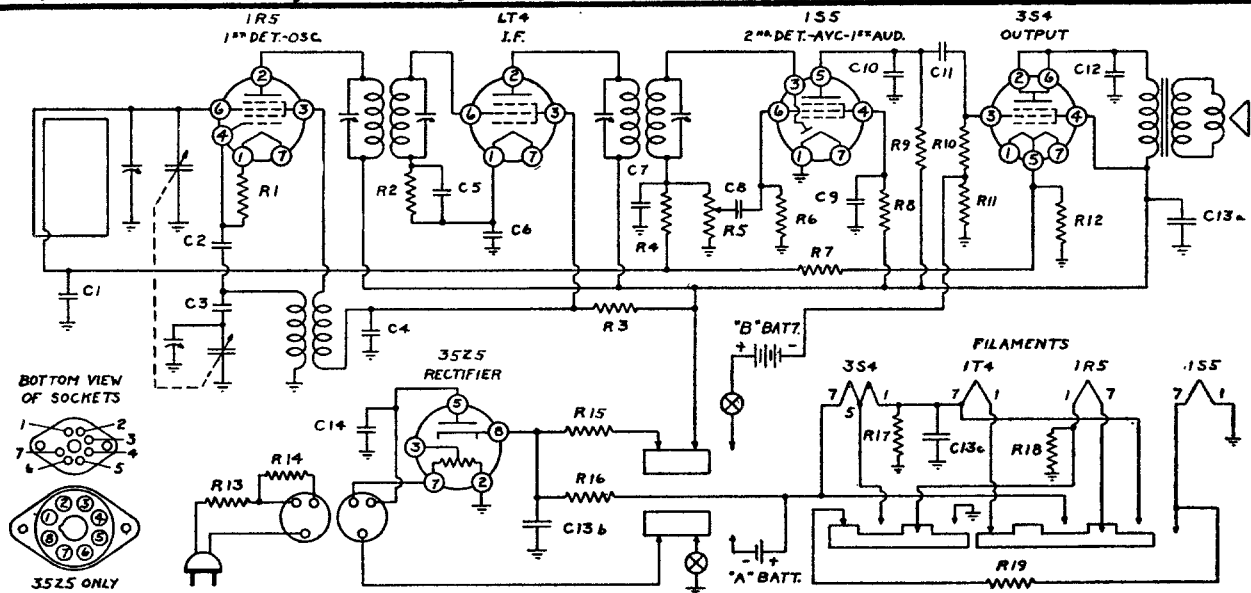
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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					CONDENSERS						
No.	Ohms	Watts	No.	Ohms	Watts	No.	Capacity (Mfd.)	Volts	No.	Capacity (Mfd.)	Volts
R1	10,000,000	1/4	R6	250,000	1/4	C1	.001	600	C8	.02	400
R2	25,000	1/4	R7	500,000	1/4	C2	.05	200	C9a	50.	Elect. 150
R3	2,000,000	1/4	R8	150-10%	1/4	C3	.00005	Mica	C9b	30.	Elect. 150
R4	500,000	V.C.	R9	1,000	1/2	C4	.00025	Mica	C10	.05	400
R5	5,000,000	1/4	R10	150,000	1/2	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					RESISTORS						
No.	Capacity (Mfd.)	Volts	No.	Capacity (Mfd.)	Volts	No.	Ohms	Watts	No.	Ohms	Watts
C1	.05	200	C9	.05	200	R1	100,000	1/4	E11	750-10%	1/4
C2	.0001	Mica	C10	.00005	Mica	R2	5,000,000	1/4	E12	3,000-10%	1/4
C3	.000485-2%	Mica	C11	.005	200	R3	5,000-10%	1/4	R13	80	part of
C4	.01	120	C12	.01	200	R4	2,000,000-10%	1/4	R14	350	line cord
C5	.01	120	C13a	20.	150	R5	1,000,000	1/4	R15	2,000-10%	1/4
C6	.1	120	C13b	30.	150	R6	10,000,000	1/4	R16	1,750-10%	1/4
C7	.00025	Mica	C13c	100.	12	R7	3,000,000-10%	1/4	R17	1,700-10%	1/4
C8	.01	200				R8	4,000,000	1/4	R18	1,000-10%	1/4
						R9	1,000,000	1/4	R19	55-10%	1/2
						R10	2,000,000	1/4			(wire wound)

# 18

## G5

I.F. 455 KC.

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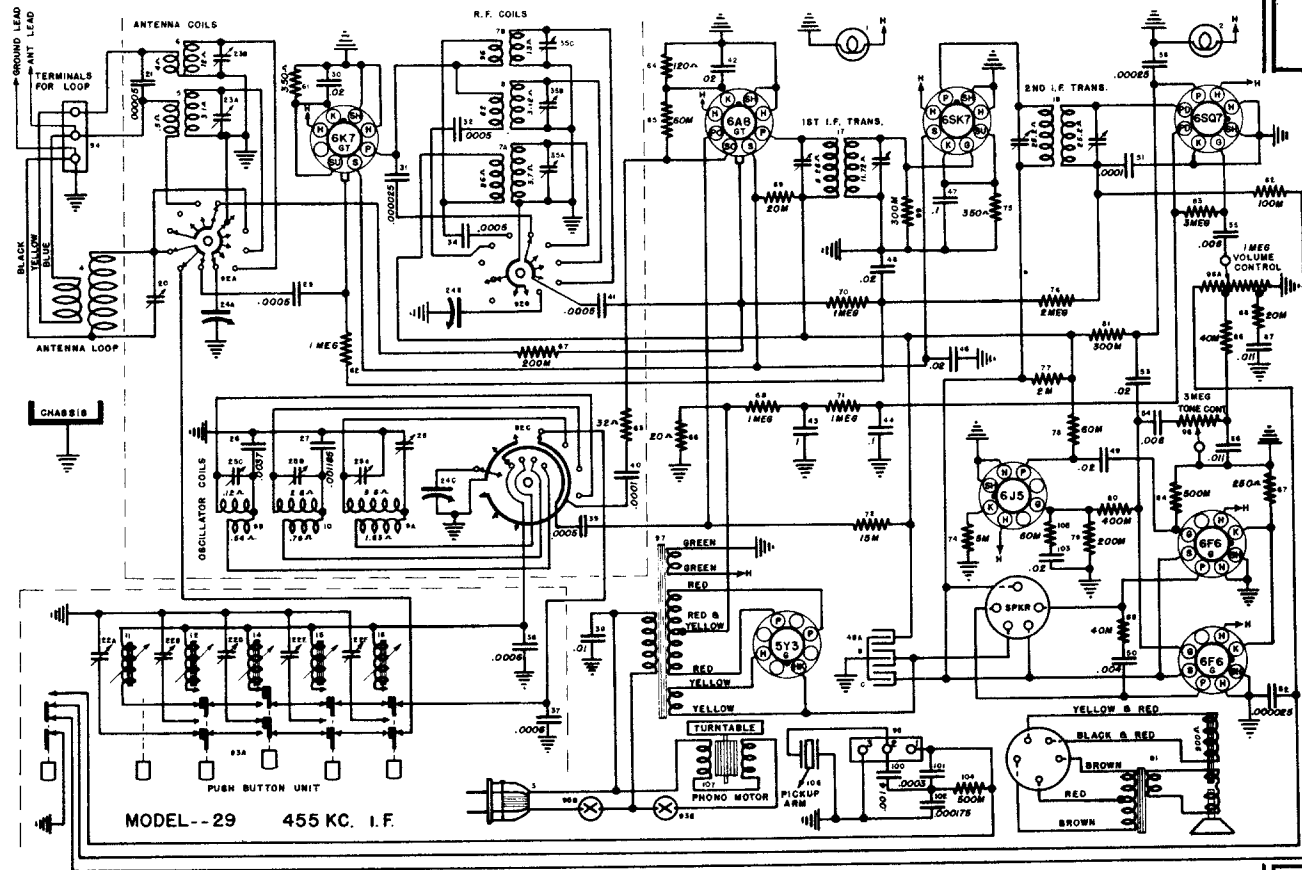






# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## CROSLY MODEL 29 CHASSIS

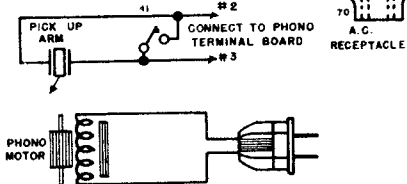
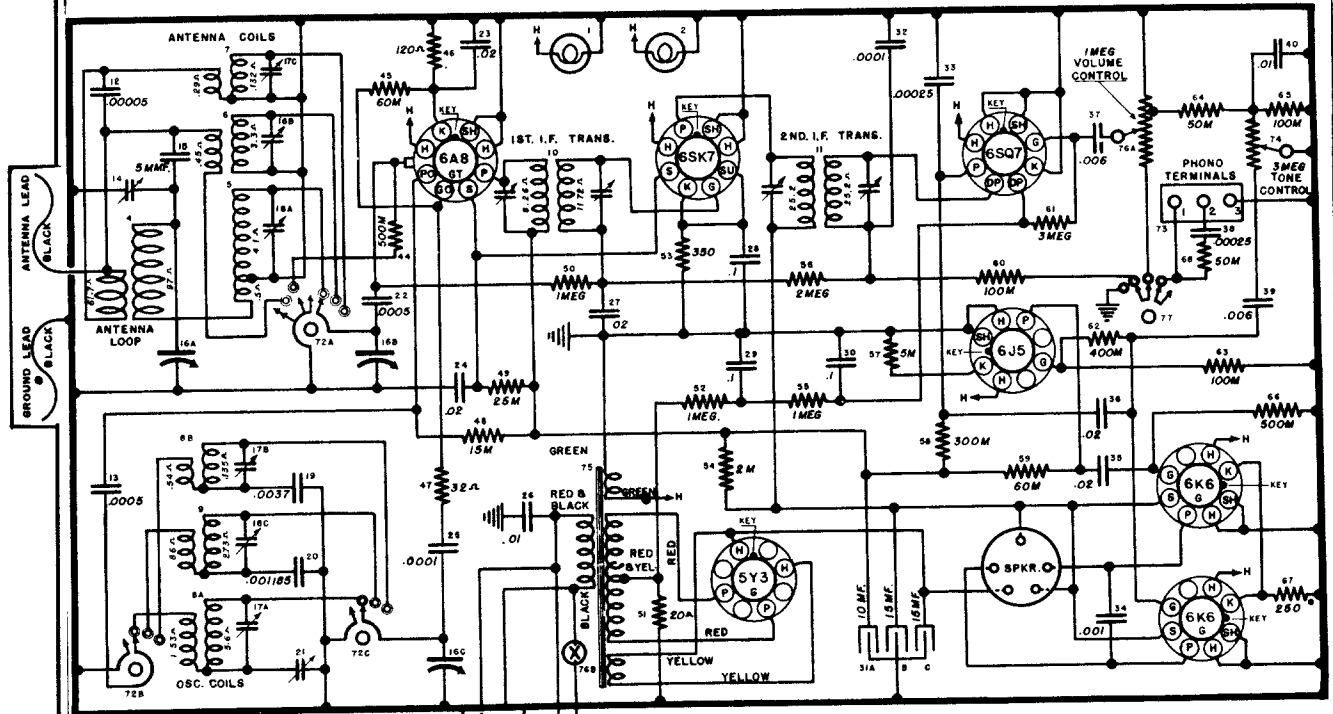


### ALIGNMENT PROCEDURE CHART

Alignment Sequence	Signal Generator 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 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.

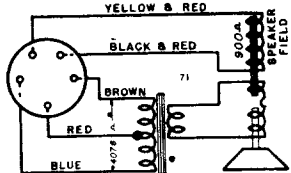
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## CROSELY MODEL J30BC



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

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



Align- ment 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; 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.

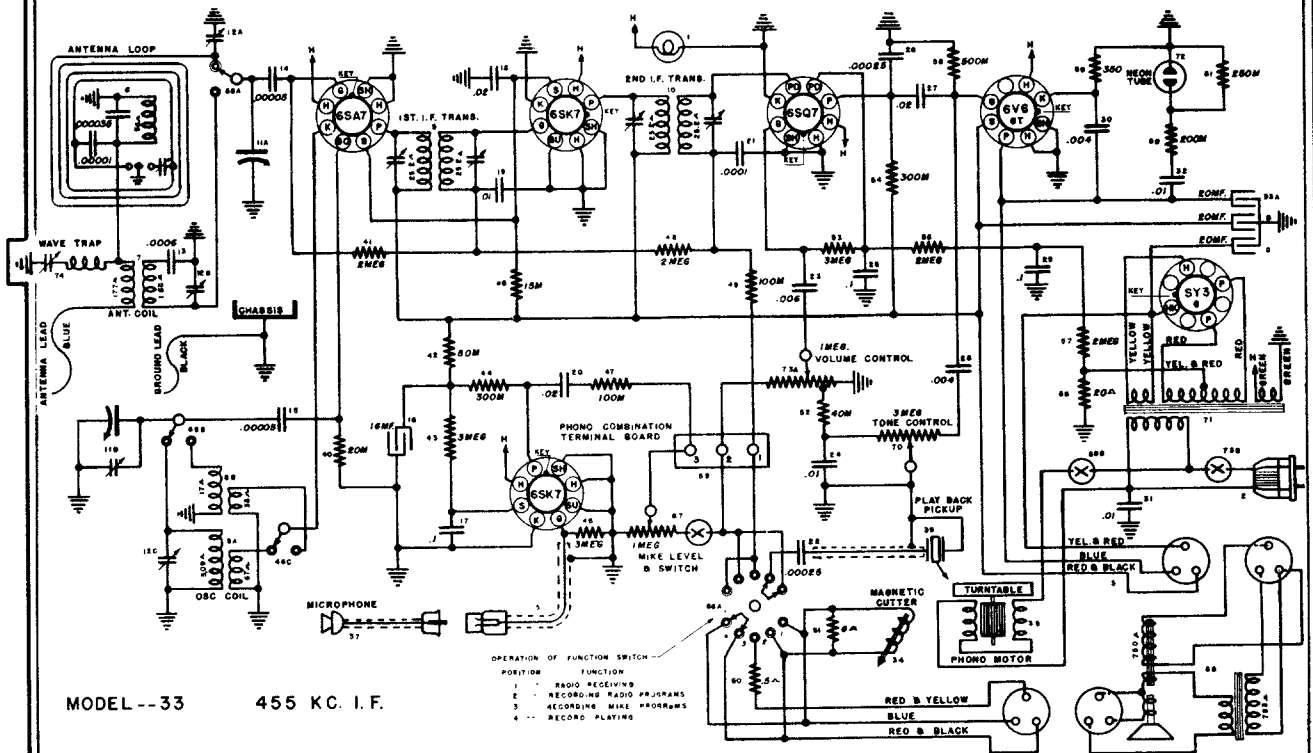
**THE CROSELY CORPORATION • CINCINNATI, OHIO, U. S. A.**

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## INSTRUCTIONS FOR MODEL 33BG



MODEL--33      455 KC. I.F.

OPERATION OF FUNCTION SWITCH  
 POSITION      FUNCTION  
 1      RADIO RECEIVING  
 2      RECORDING RADIO PROGRAMS  
 3      RECORDING MIKE PROGRAMS  
 4      RECORD PLAYING

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 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

TUBE SECTION	SOCKET PIN NUMBER							
	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.

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## INSTRUCTIONS FOR MODEL 34 BH

### 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.)

TUBE	FUNCTION	SOCKET PIN NUMBER							
		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

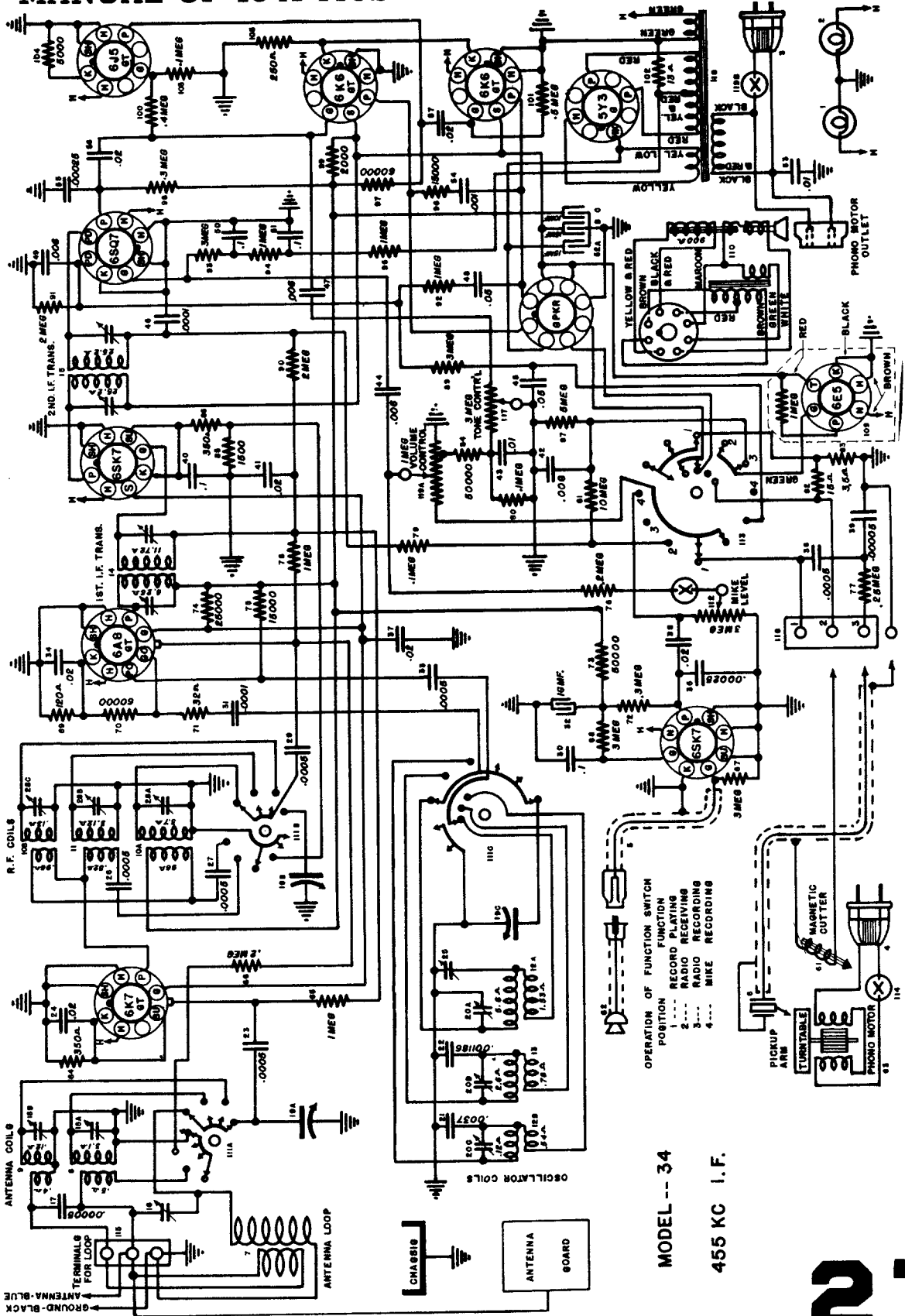
POWER CONSUMPTION @ 117.5 V. Line=Radio 80 Watts, Phono Motor 35 Watts—TOTAL=115 WATTS

Voltages may vary 10% of values given.

# 26

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



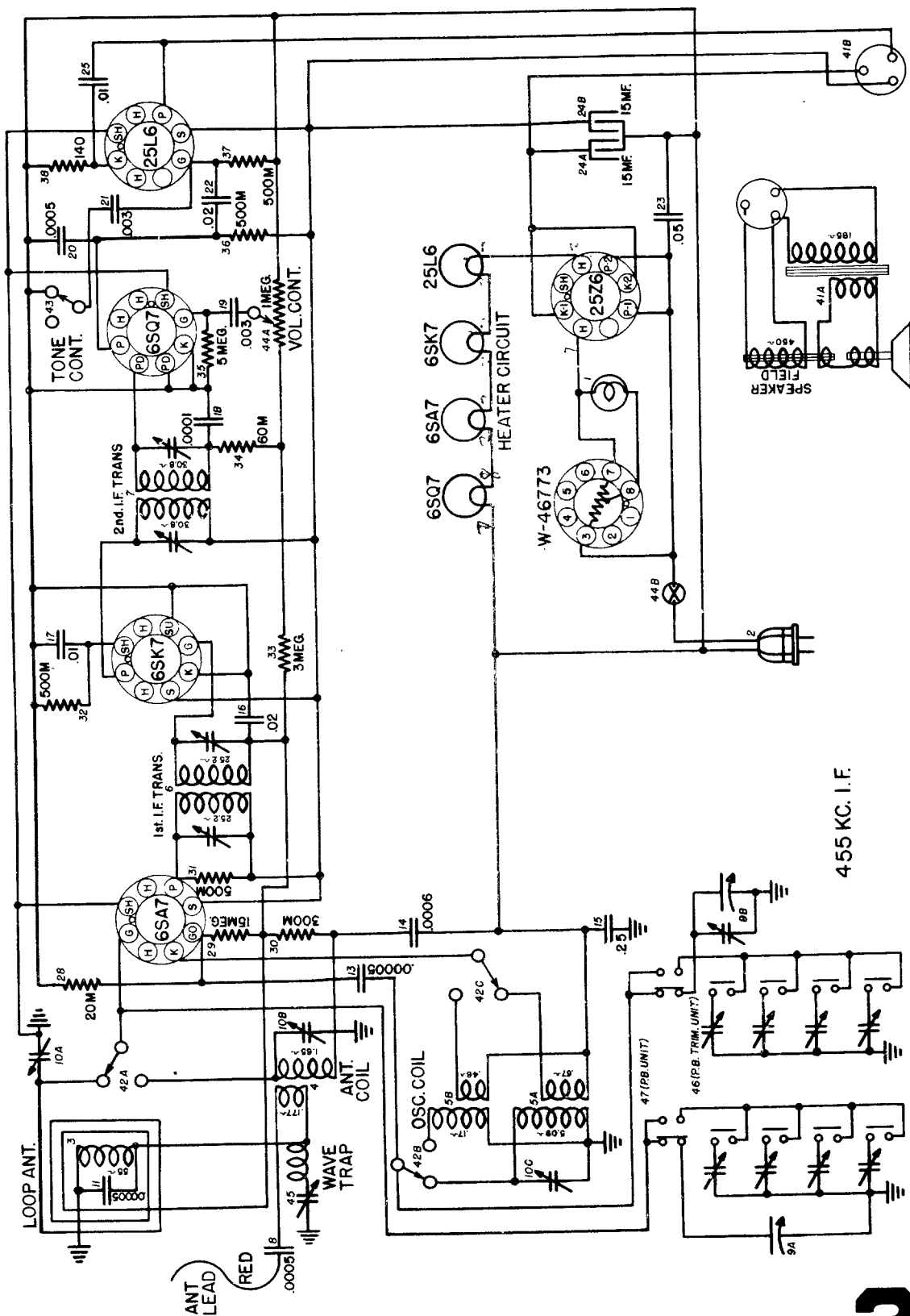
MODEL -- 34  
455 KC I.F.

Model 34

The Crosley Corporation



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

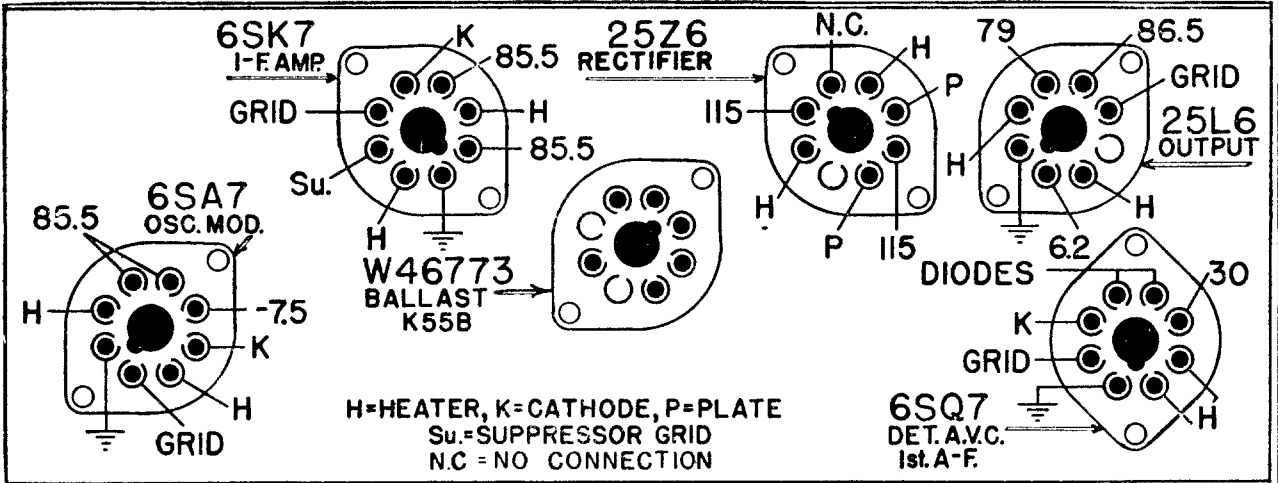
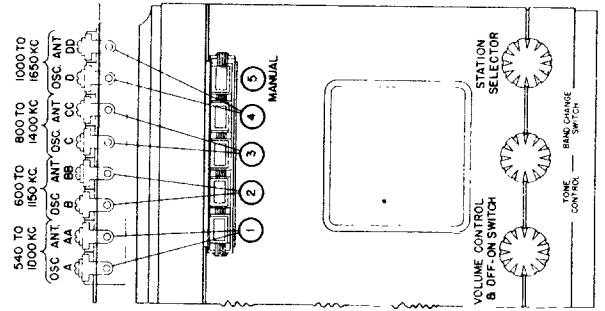
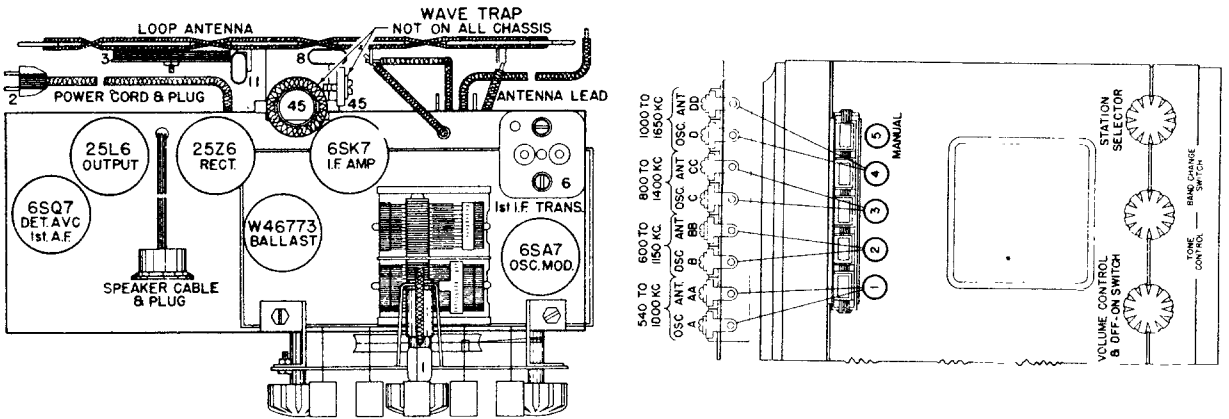


455 KC. I.F.

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

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

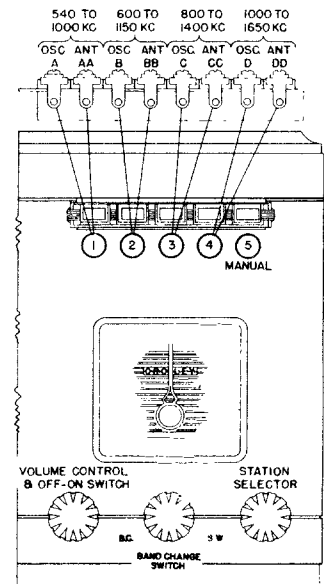


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

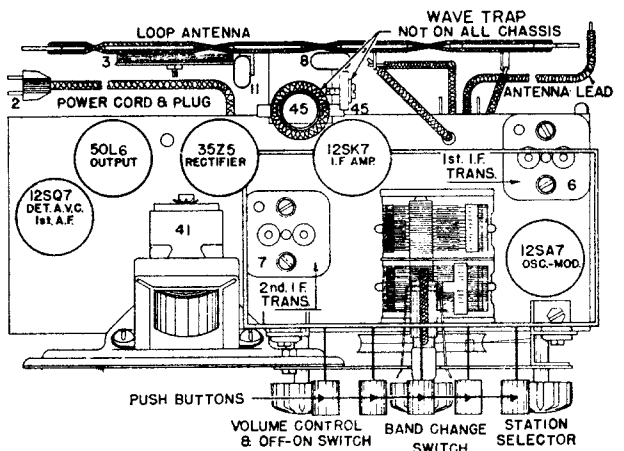
1. Turn the set on and leave operate for about ten or twenty minutes before attempting to set the push buttons.
2. Due to the wide range to which each button will tune it is essential that the stations selected are well within each buttons tuning range.
3. Push in the "Manual" button (extreme right) 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

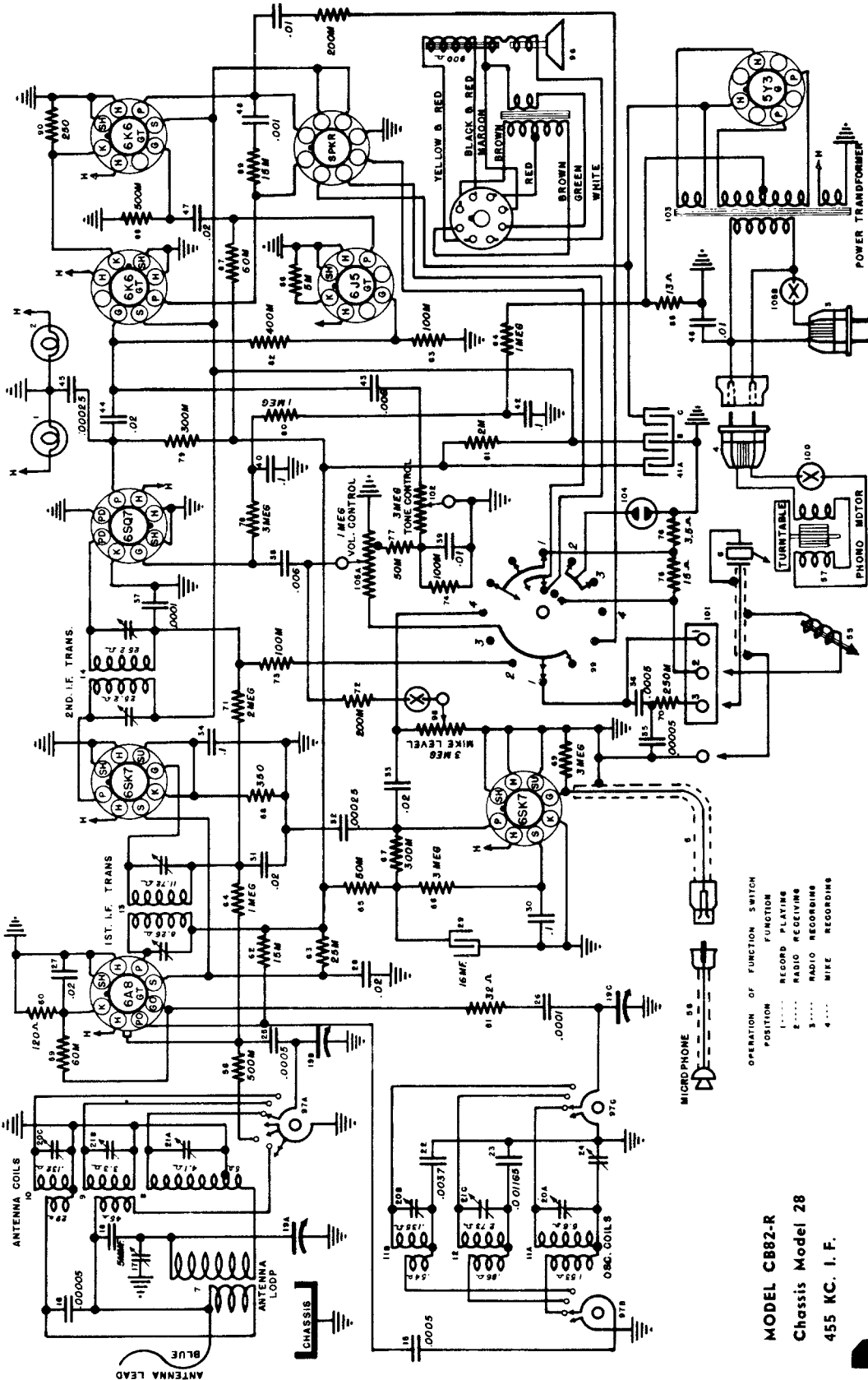
### Functions

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 Kilo-cycles or 187.5-545 meters.	
Short Wave Band—5.8-15.0 Megacycles or 62.5-20 meters.	



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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



Model CB82-R  
Chassis 28

The Crosley Corporation  
Cincinnati, Ohio

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.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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)

Align- ment 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

Voltagcs may vary 10% of values given.

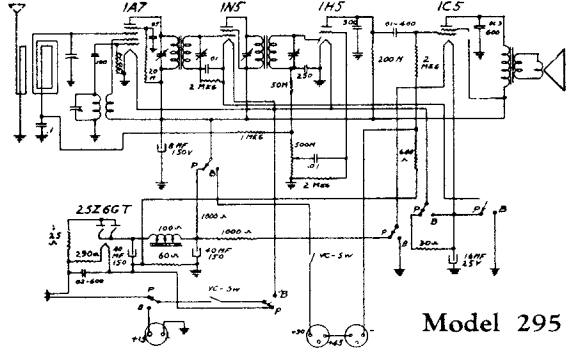
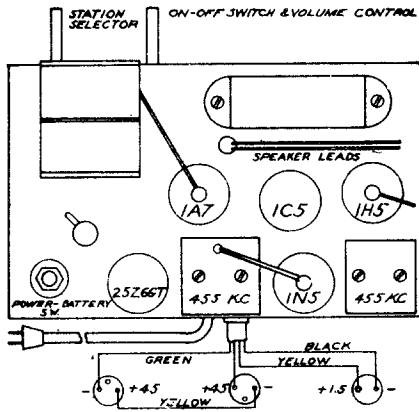
J. B.—JUNCTION BLOCK

N. C.—NO CONNECTION

# 34

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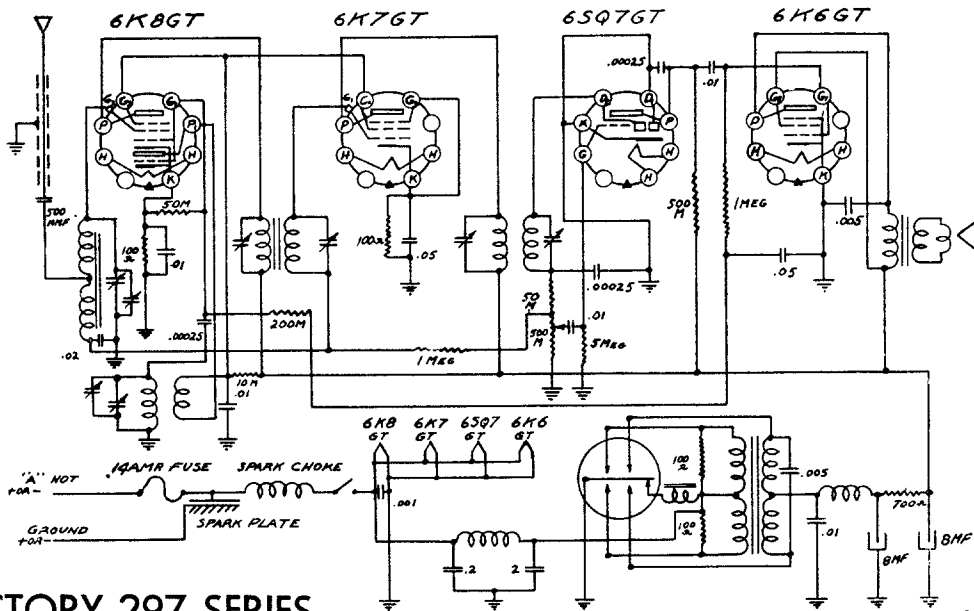
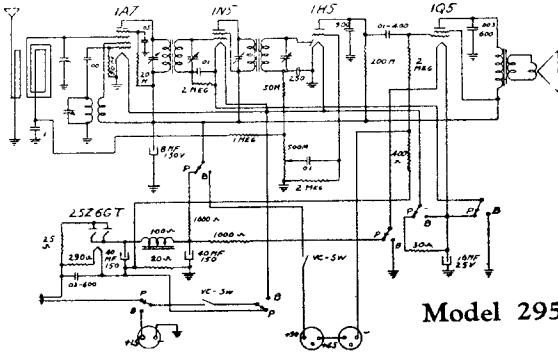
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**Detrola Corporation**  
**Detroit, Michigan**

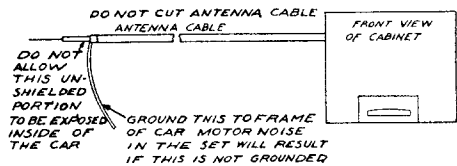
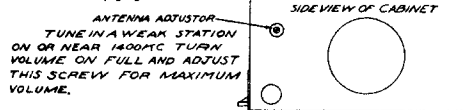
## ALIGNMENT PROCEDURE

**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.

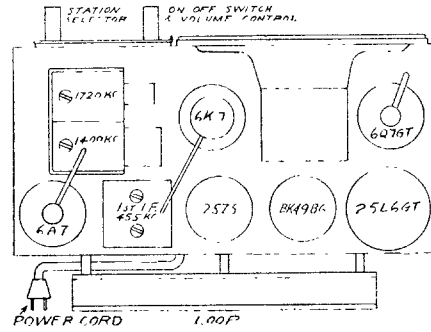
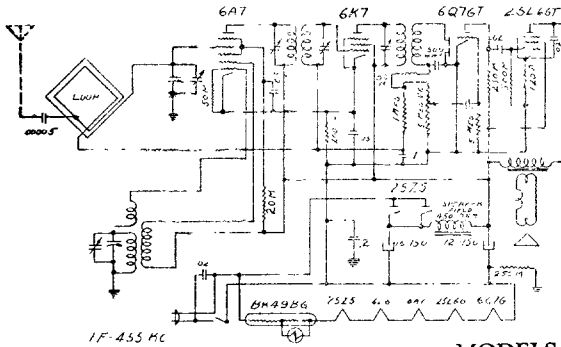


## FACTORY 297 SERIES

I.F. 455 KC.

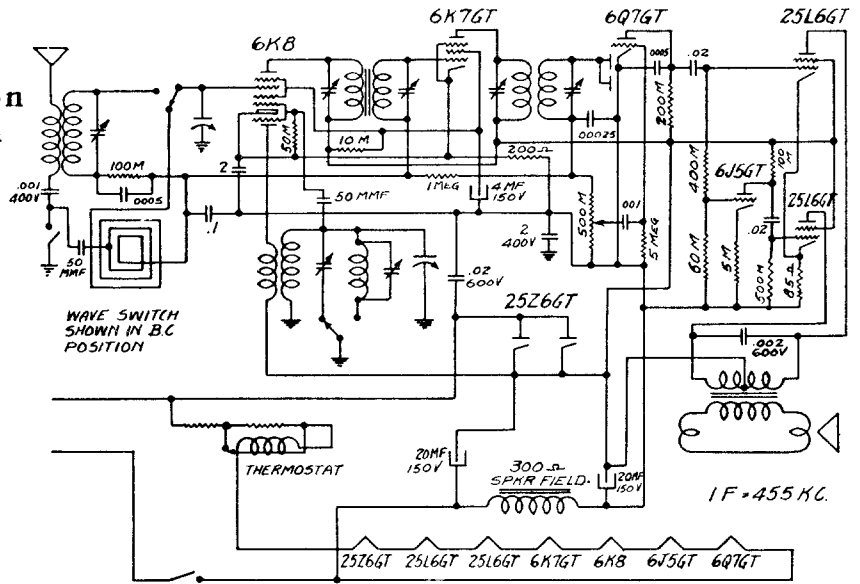


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



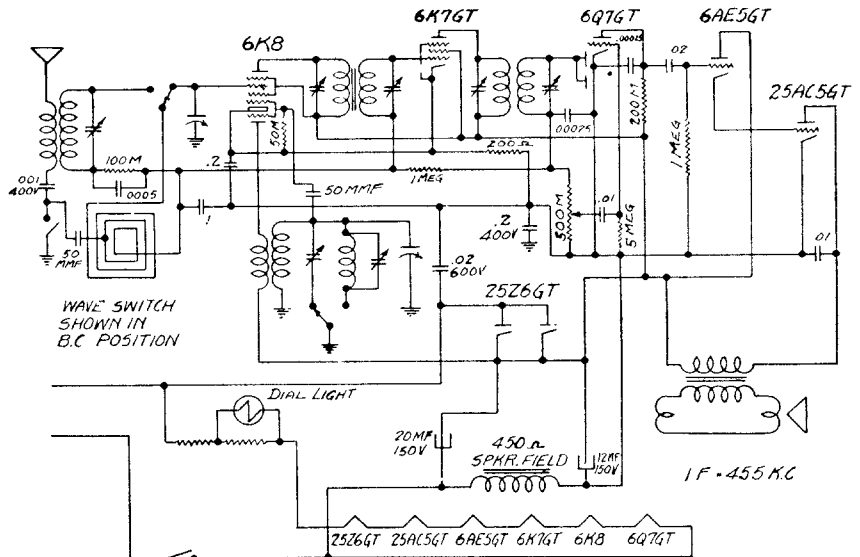
MODELS 304 and 3041

**Detrola Corporation**  
**Detroit, Michigan**



FACTORY 305 SERIES  
 FACTORY 3051 SERIES

FACTORY 310 SERIES  
 FACTORY 3101 SERIES

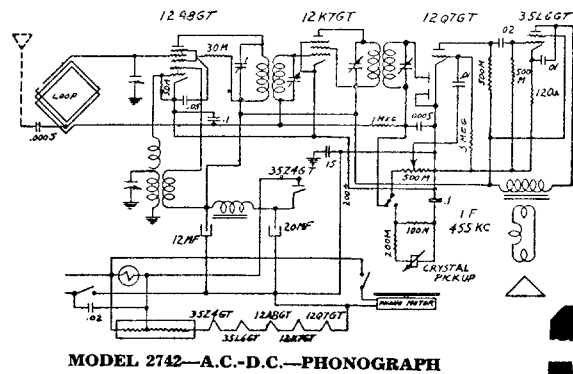
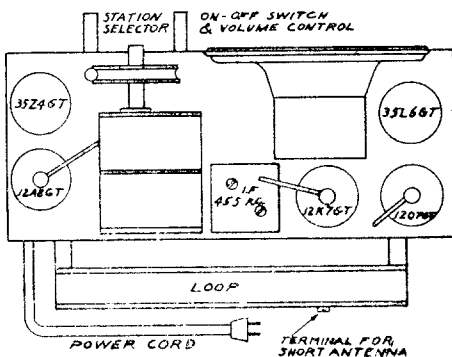
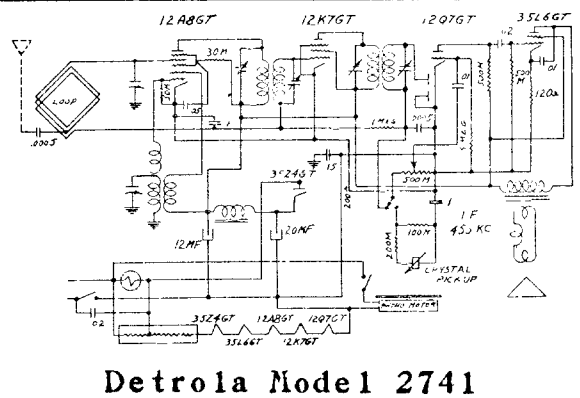
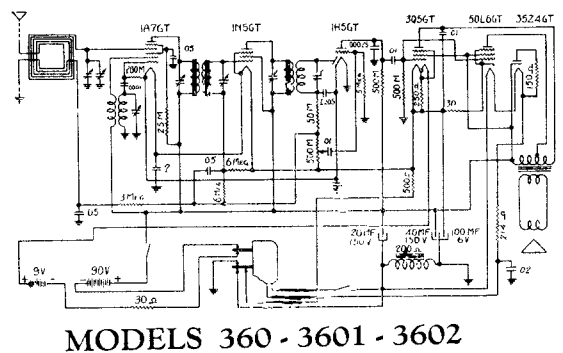
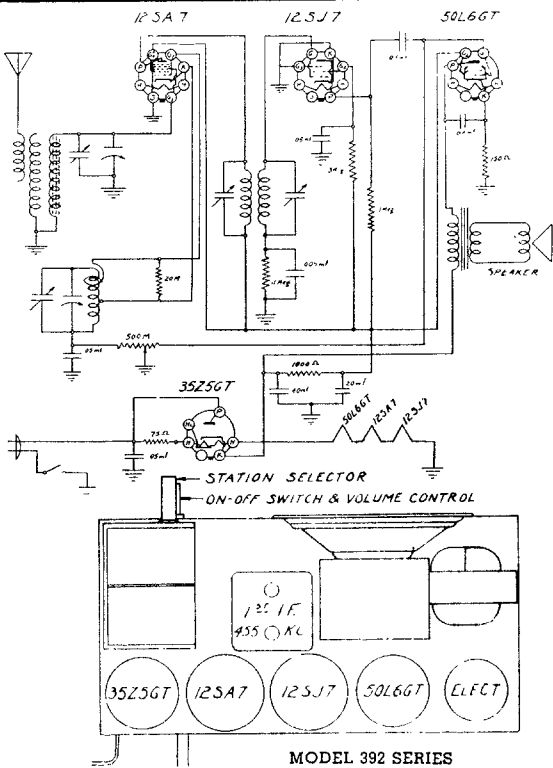
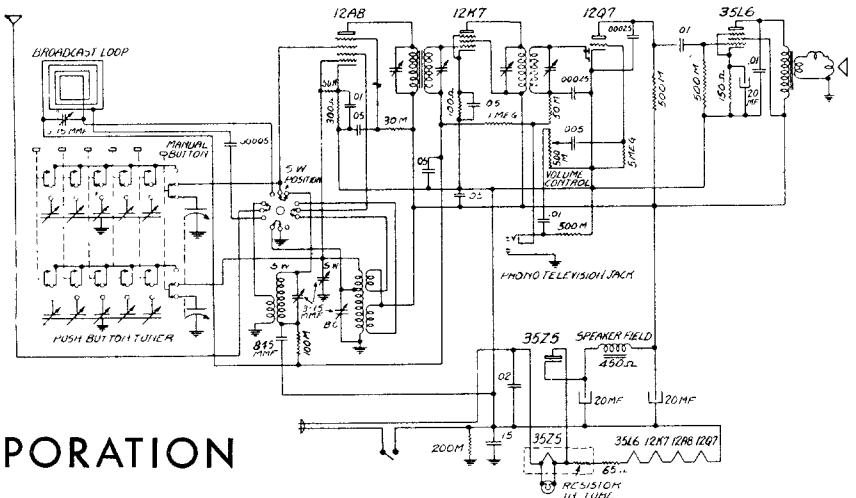


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

FACTORY 320 SERIES  
FACTORY 3201 SERIES  
FACTORY 3202 SERIES

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

## DETROLA CORPORATION



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS MODELS

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

CHASSIS MODEL: DB

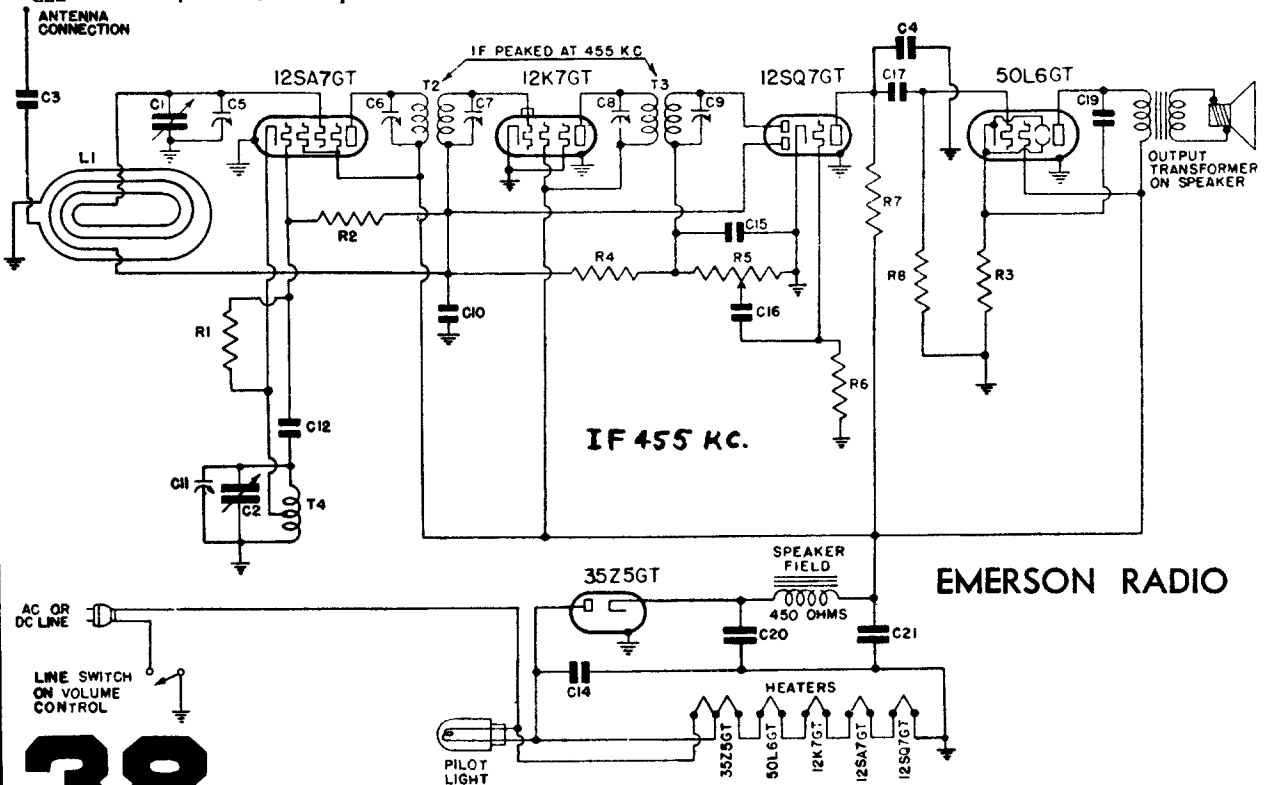
**DL-330**

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 1/4 watt carbon resistor.....
R3	3FR-293	140 ohm 1/2 watt wire-wound resistor.....
R4	NNR-220	3 megohm 1/4 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 1/4 watt carbon resistor.....
R7, R8	KR-56	500,000 ohm 1/4 watt carbon resistor.....
R9	LR-61	200,000 ohm 1/4 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

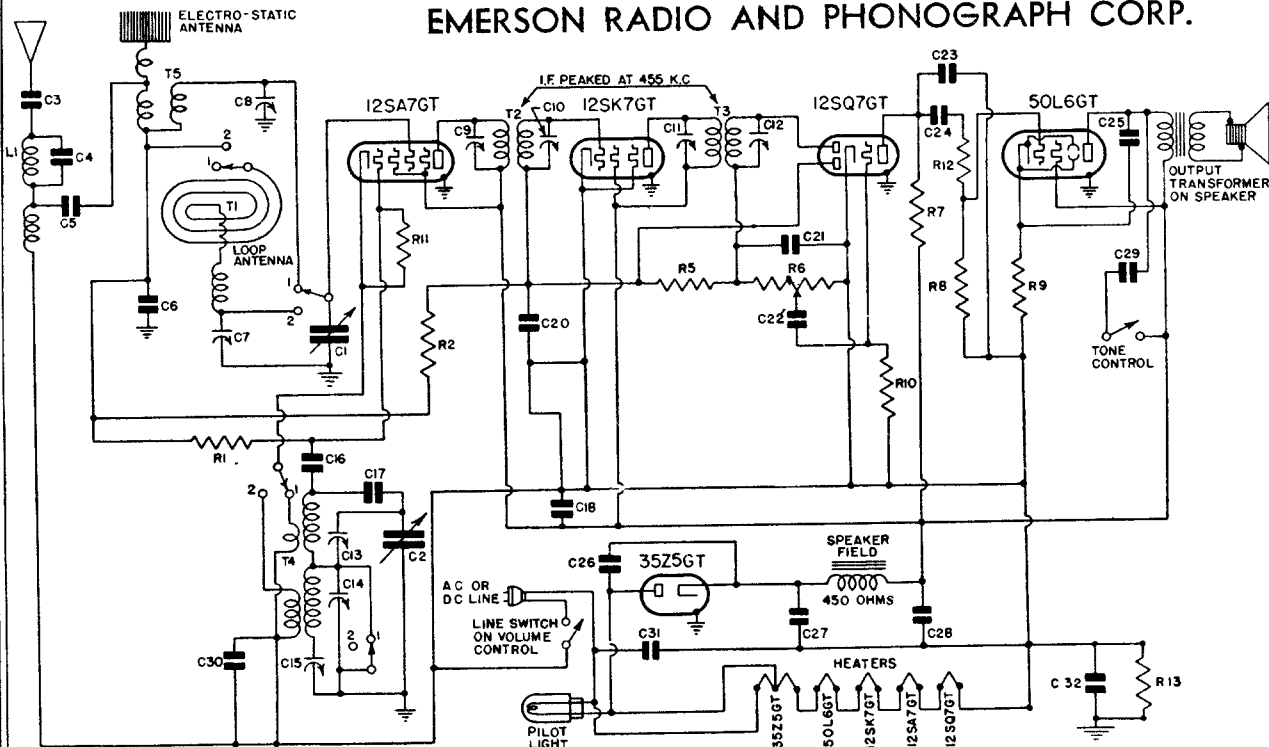
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

**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	7RT-252	Loop antenna assembly	1.60
T2	7QT-549A	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 1/4 watt carbon resistor	.16
R2, R13	1R-61U	200,000 ohm 1/4 watt carbon resistor	.16
R7, R8	KR-56	500,000 ohm 1/4 watt carbon resistor	.16
R5	NNR-220U	3 megohm 1/4 watt carbon resistor	.16
R6	7BR-363C	Volume control .5 megohm with line switch	.85
R9	3FR-293	140 ohm 1/4 watt wire-wound resistor	.16
R11	LR-60	20,000 ohm 1/4 watt carbon resistor	.16
R12	KR-53	50,000 ohm 1/4 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.



WAVE BAND SWITCH SHOWN IN SHORT WAVE POSITION.  
POSITION NO. 1 SHORT WAVE  
NO. 2 BROADCAST

ON MODEL DR - OMIT PARTS R13 AND C32 AND GROUND B- TO CHASSIS.

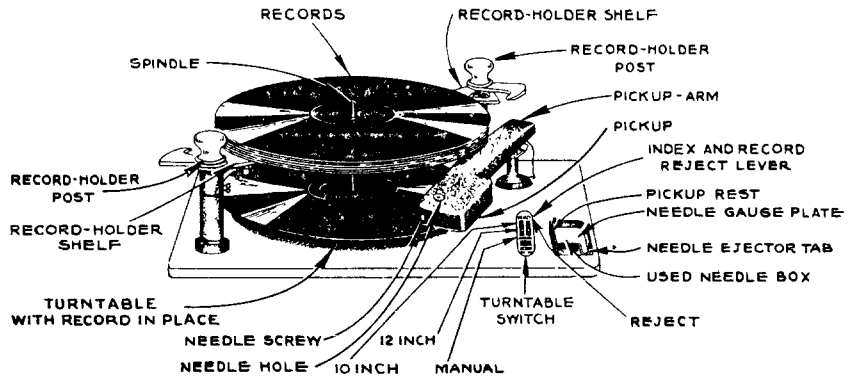
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# 39

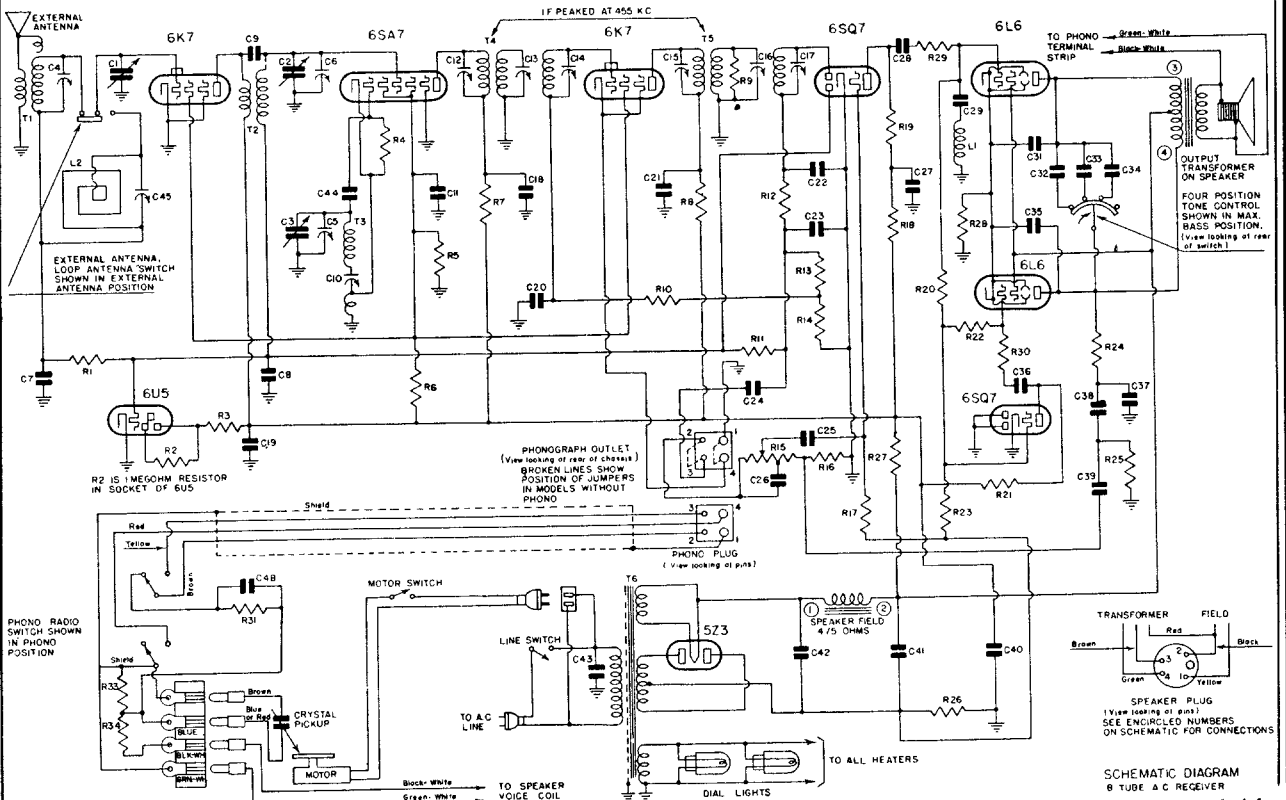
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.L.)	150	—	0	6.3
6L6 (2)	275	285	18.5	6.3

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

Emerson Radio and Phonograph Corp.

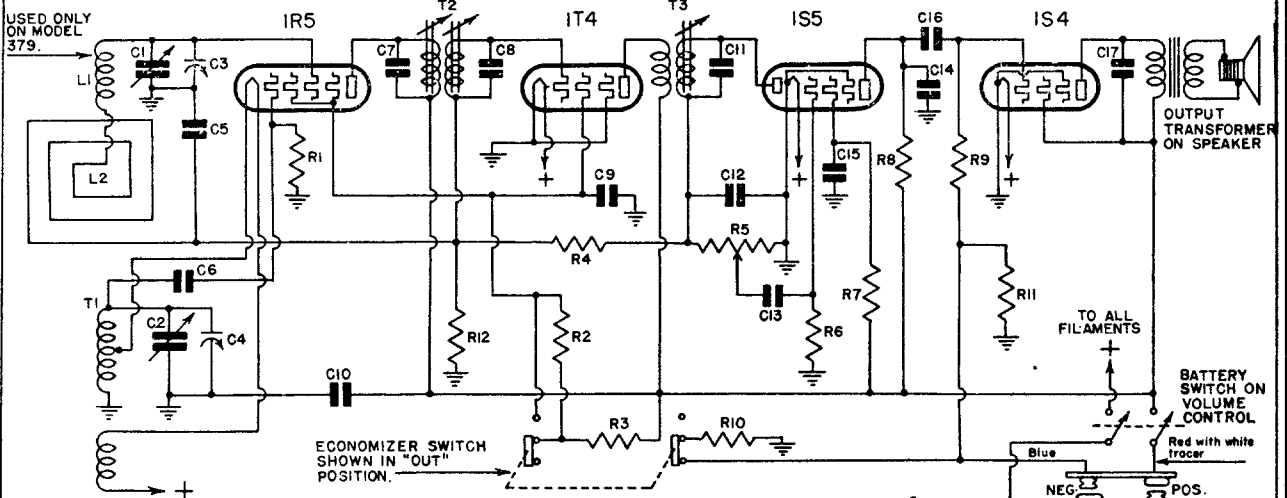
Models DS-365, DS-372

## 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 $\frac{1}{4}$ watt carbon resistor.....	.16
R2	KR-57	1 megohm $\frac{1}{4}$ watt resistor in 6U5 tube socket.....	.16
R3	GR-31	20,000 ohm 1 watt carbon resistor.....	.16
R4	LR-60	20,000 ohm $\frac{1}{4}$ watt carbon resistor.....	.16
R5	3BR-247	40,000 ohm $\frac{1}{2}$ watt carbon resistor.....	.16
R6	7SR-411	15,000 ohm 2 watt carbon resistor.....	.25
R7, R8	PR-79	1000 ohm $\frac{1}{4}$ watt carbon resistor.....	.16
R9		190,000 ohm resistor, part of T6.	
R10, R11	NNR-220	3 megohm $\frac{1}{4}$ watt carbon resistor.....	.16
R13	LR-61	200,000 ohm $\frac{1}{4}$ watt carbon resistor.....	.16
R14, R18 } R19, R21 }	KR-54	100,000 ohm $\frac{1}{4}$ watt carbon resistor.....	.16
R15	7SR-379	Volume control, 1.2 megohm, double tapped.....	.70
R16	3ER-262	75 ohm $\frac{1}{2}$ watt wire-wound resistor.....	.16
R17	HR-42	2 megohm $\frac{1}{4}$ watt carbon resistor.....	.16
R20, R22, R23	KR-55	250,000 ohm $\frac{1}{4}$ watt carbon resistor.....	.16
R24	3BR-246	10,000 ohm 2 watt carbon resistor.....	.25
R25	7SR-404	3,500 ohm $\frac{1}{2}$ watt carbon resistor.....	.16
R26	7SR-402	11 ohm $\frac{1}{2}$ 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	QOC-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
C43, C44	3LC-297A	30 mf, 450 volt fabricated plate electrolytic condenser.....	1.00
C45		0.01 mf, 400 volt tubular condenser.....	.20
		Trimmer, part of L2.	



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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 1/4 watt carbon resistor
R2	LR-64	5,000 ohm 1/4 watt carbon resistor
R3	LR-65	10,000 ohm 1/4 watt carbon resistor
R4, R12	3RR-274	5 megohm 1/4 watt carbon resistor
R5	7UR-380	Volume control 1.5 megohm with double pole battery switch
R6	3RR-274	10 megohm 1/4 watt carbon resistor
R7, R9	NNR-220	3 megohm 1/4 watt carbon resistor
R8	KR-57	1 megohm 1/4 watt carbon resistor
R10	7UR-394	2200 ohm 1/4 watt carbon resistor
R11	7UR-392	1800 ohm 1/4 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**

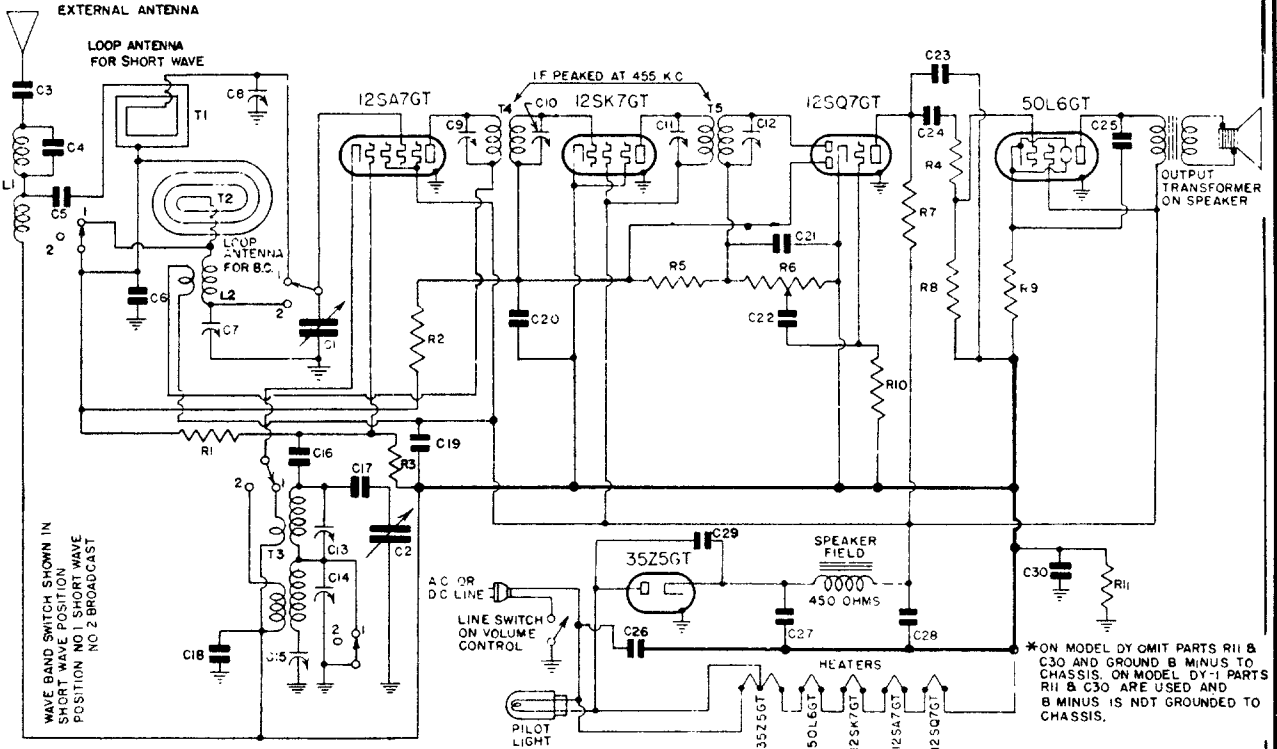
Readings should be taken with a 1000 ohms-per-volt meter. Voltages listed are from point indicated to chassis with volume control turned on full and no signal. The battery voltages for these readings were: "A" 1.5 volts, "B" 67.5 volts. All readings except filaments were taken on the 250 volt scale,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

Tube	Plate	Screen	Osc. Plate	Fil.
IR5	57	60	57	1.5
1T4	57	60	—	1.5
1S5	*5	*3	—	1.5
1S4	55	60	—	1.5

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



- L1
- L1
- L2
- T1, T2
- T3
- T4
- T5
- R1, R10
- R2, R11
- R3
- R4
- R5
- R6
- R7, R8
- R9
- C1, C2
- C3
- C4
- C5, C19
- C6
- C7, C8
- †C9, C10, C11, C12
- C13, C14
- C15
- C16
- C17
- C18
- C20
- C21, C23
- C22
- C24
- C25
- C26
- C27, C28
- C29
- C30

- 7RT-531
- 7RT-531A
- 7YT-552A
- 7YW-249A
- 7YT-551A
- 7QT-548C
- 7QT-544
- 4XR-327
- LR-61U
- LR-60
- KR-53
- HR-42
- 7BR-363C
- KR-56
- 3FR-293
- 7RC-464
- HC-34
- FC-29
- 2ZC-253
- 7RC-466
- 2NC-231D
- 4XC-394A
- 7YC-483
- KC-58
- AC-6
- 5AC-384
- 3HC-274
- LC-65
- EC-23
- LC-64
- 6JC-426H
- TTC-177
- 2CC-208

- Antenna choke and 455 kc wave-trap (DY1).....
- Antenna choke and 455 kc wave-trap (DY).....
- Broadcast loop antenna loading coil.....
- Two-band loop antenna assembly.....
- Two-band oscillator coil.....
- Double-tuned 455 kc first i-f transformer.....
- Double-tuned 455 kc second i-f transformer.....
- 15 megohm ¼ watt carbon resistor.....
- 200,000 ohm ¼ watt carbon resistor.....
- 20,000 ohm ¼ watt carbon resistor.....
- 50,000 ohm ¼ watt carbon resistor.....
- 2 megohm ¼ watt carbon resistor.....
- Volume control .5 megohm with line switch.....
- 500,000 ohm ¼ watt carbon resistor.....
- 140 ohm, ½ watt wire-wound resistor.....
- Two-gang variable condenser.....
- 0.006 mf, 600 volt tubular condenser.....
- 0.001 mf, part of L1, wave-trap assembly.....
- 0.02 mf, 200 volt tubular condenser.....
- 0.0025 mf mica condenser.....
- Trimmers, part of loop antenna assembly.....
- Trimmers, part of i-f transformers.....
- Dual trimmer assembly.....
- Single adjustable padding condenser.....
- 0.00022 mf mica condenser.....
- 0.00114 mf mica condenser (coded 0.0011 mf).....
- 0.01 mf, 400 volt tubular condenser.....
- 0.1 mf, 200 volt tubular condenser.....
- 0.0002 mf, 600 volt tubular or mica condenser.....
- 0.002 mf, 600 volt tubular condenser.....
- 0.02 mf, 400 volt tubular condenser.....
- 0.03 mf, 400 volt tubular condenser.....
- 0.05 mf, 400 volt tubular condenser.....
- Dual 20 mf, 150 volt dry electrolytic condenser.....
- 0.01 mf, 600 volt tubular condenser.....
- 0.2 mf, 200 volt tubular condenser.....

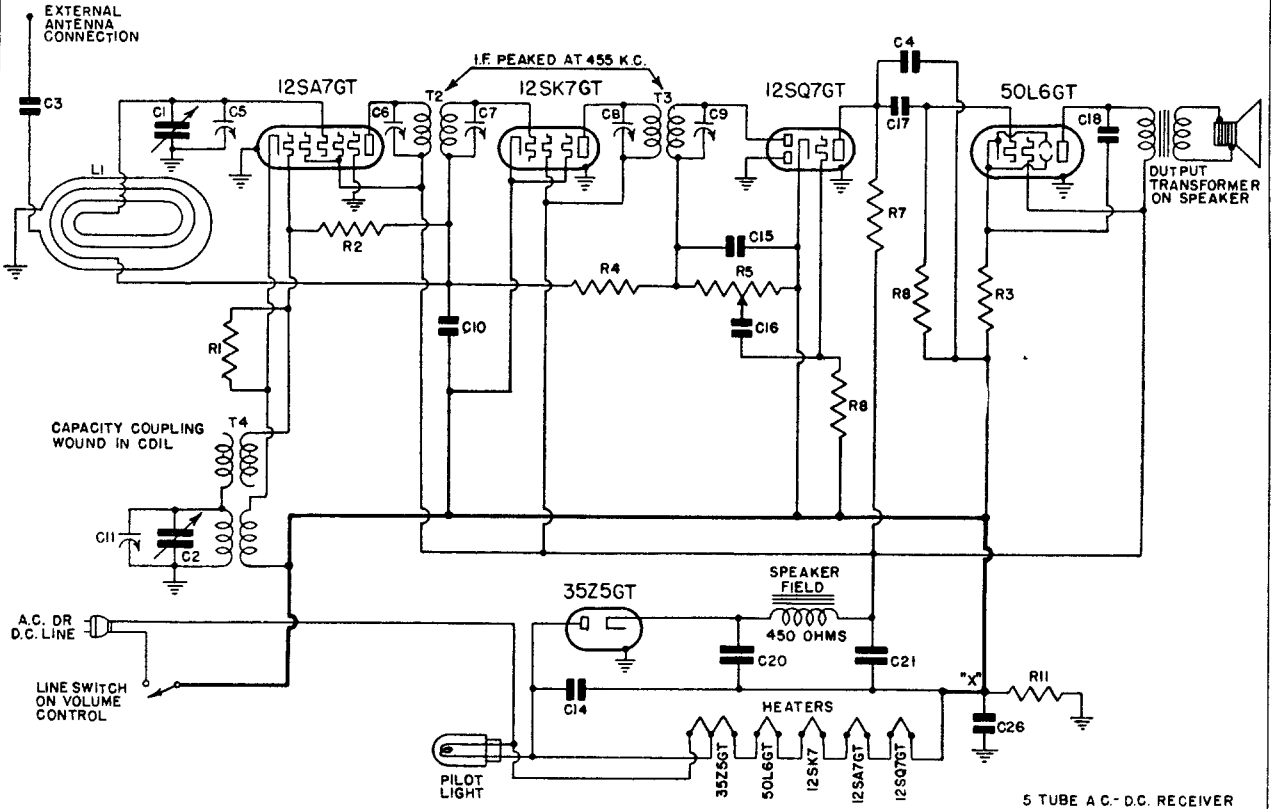
Voltage at 35Z5 cathode—120 volts.  
 Voltage across speaker field—32 volts.  
 Voltage across pilot light—4.5 volts.

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

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

**Emerson**  
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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 1/4 watt carbon resistor.....
R3	3FR-293	140 ohm 1/2 watt wire-wound resistor.....
R4	NNR-220	3 megohm 1/4 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 1/4 watt carbon resistor.....
R7, R8	KR-56U	500,000 ohm 1/4 watt carbon resistor.....
R11	LR-61	200,000 ohm 1/4 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		Trimners, part of variable condenser
C6, C7, C8, C9		Trimners, 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**

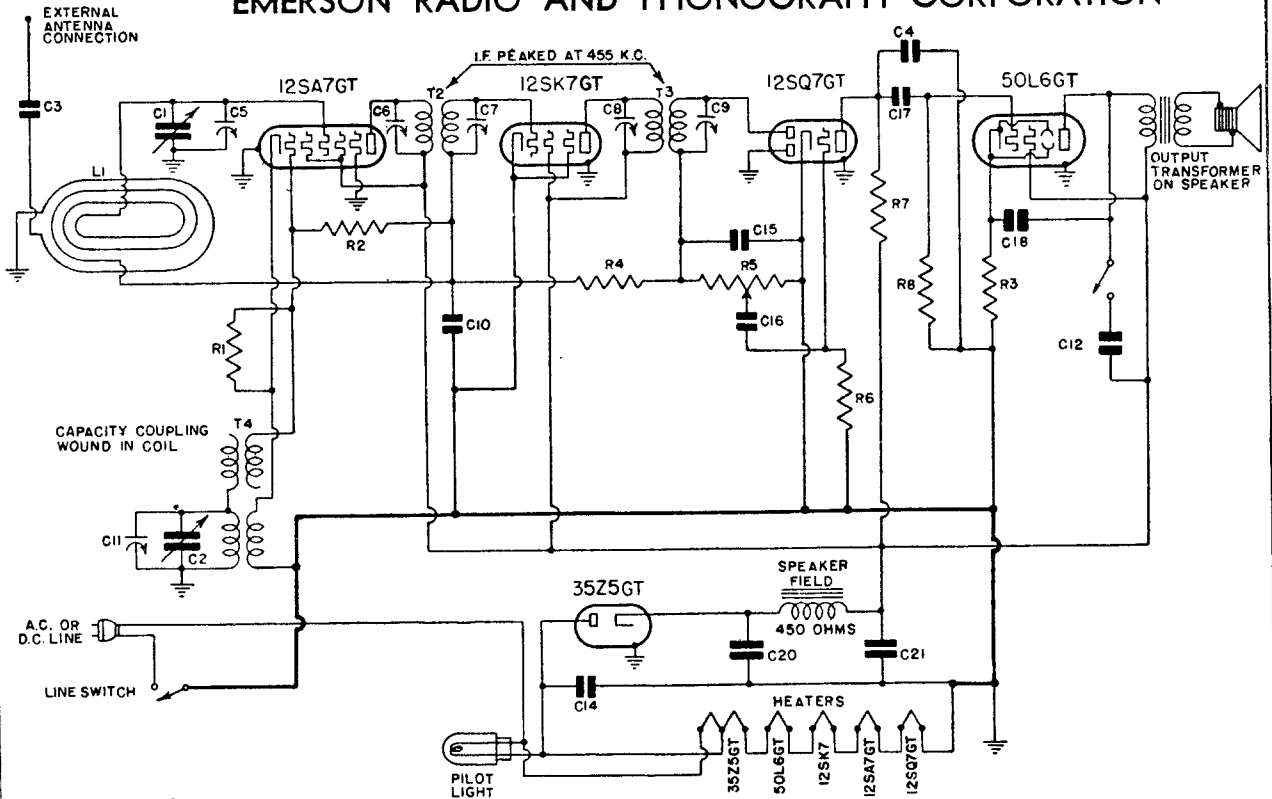
CHASSIS MODEL: FC

**MODEL: FG-330**

CHASSIS MODEL: FG

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

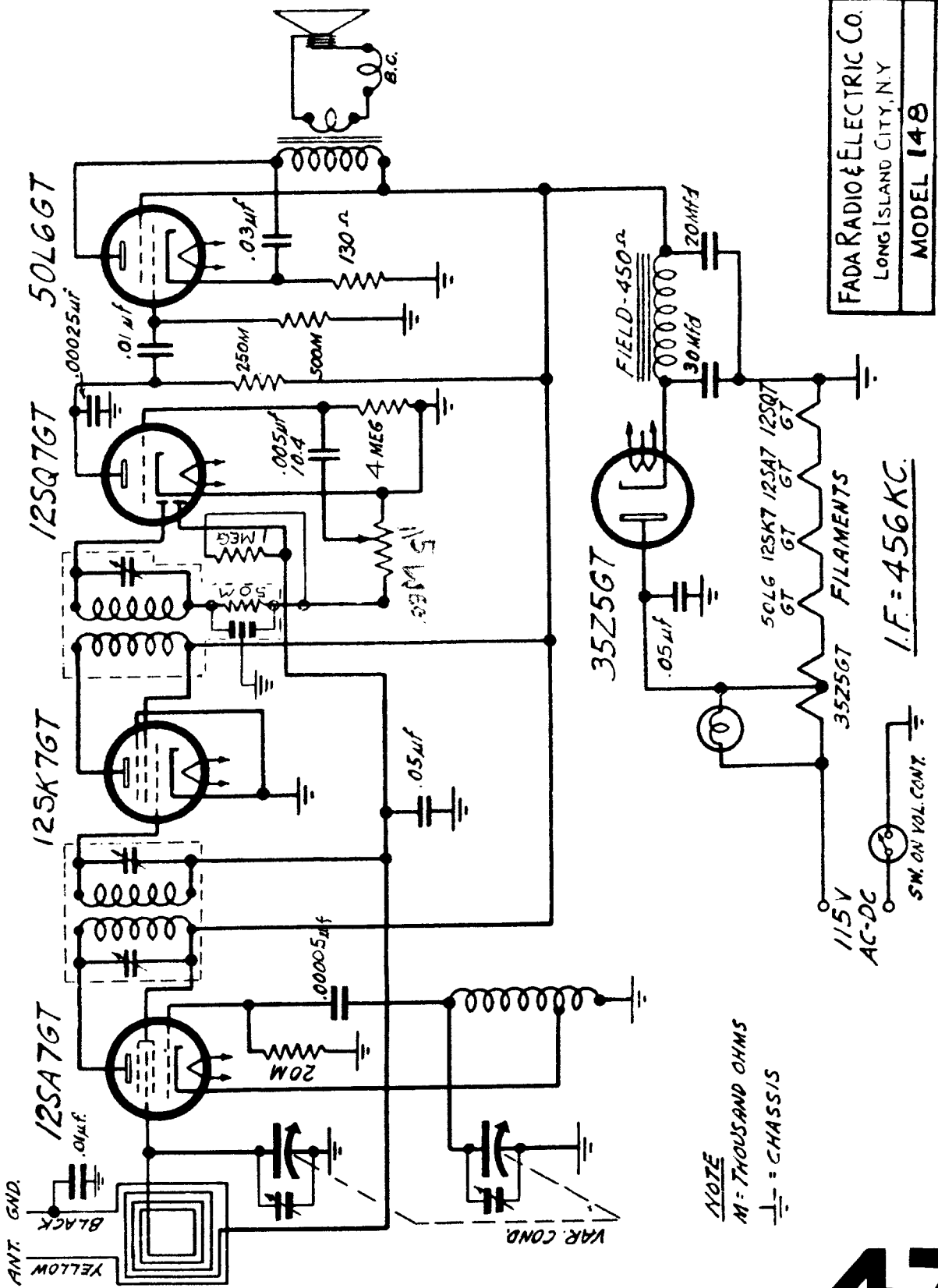
Tube	Plate	Screen	Cathode	Fil.
12SA7GT	88	88	0	12
12SK7GT	88	88	0	12
12SQ7GT	30	—	0	12
50L6GT	82	88	5.6	50

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

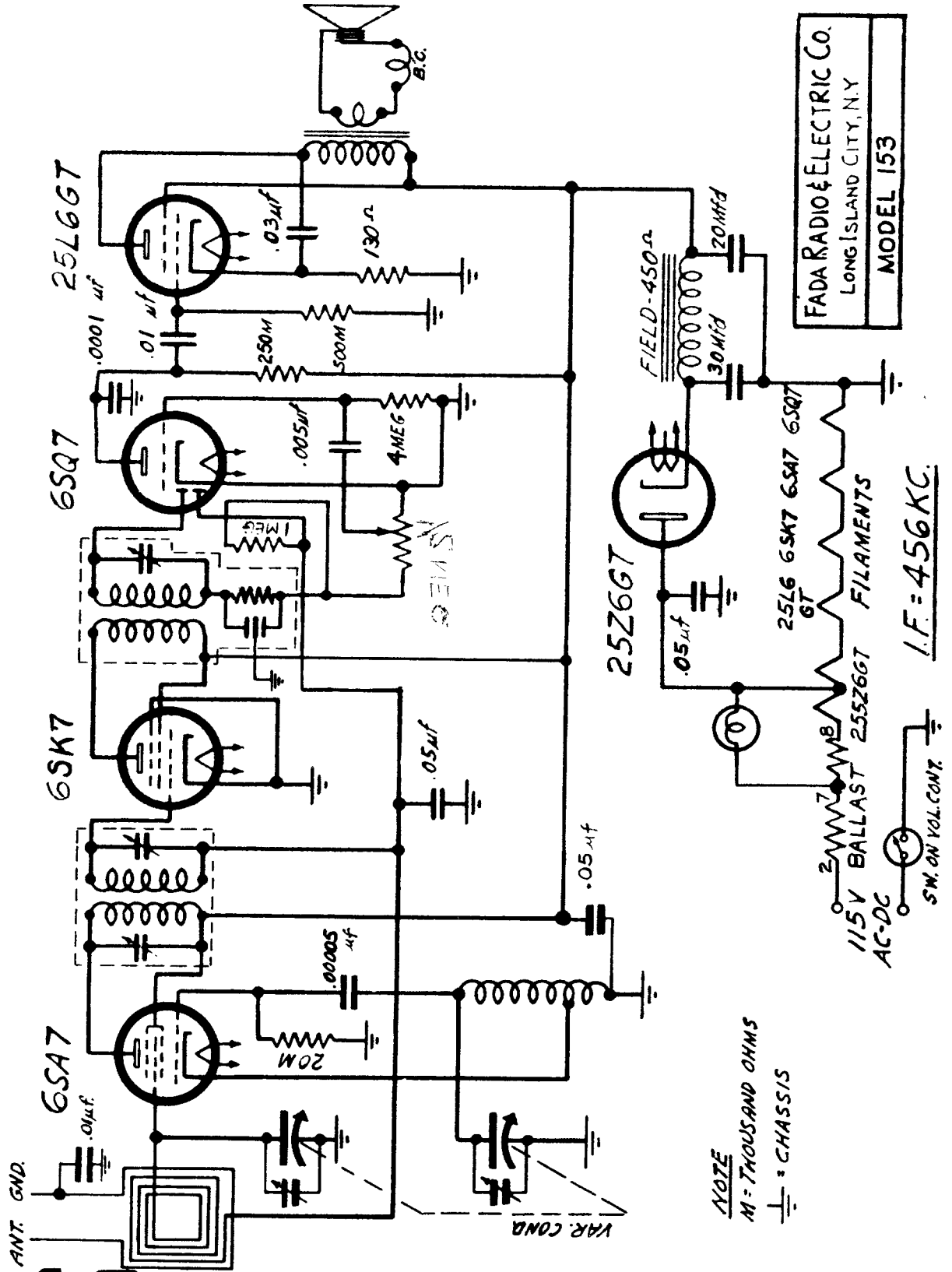


FADA RADIO & ELECTRIC CO.  
 LONG ISLAND CITY, N.Y.  
**MODEL 148**

**NOTE**  
 M = THOUSAND OHMS  
 ⊥ = CHASSIS

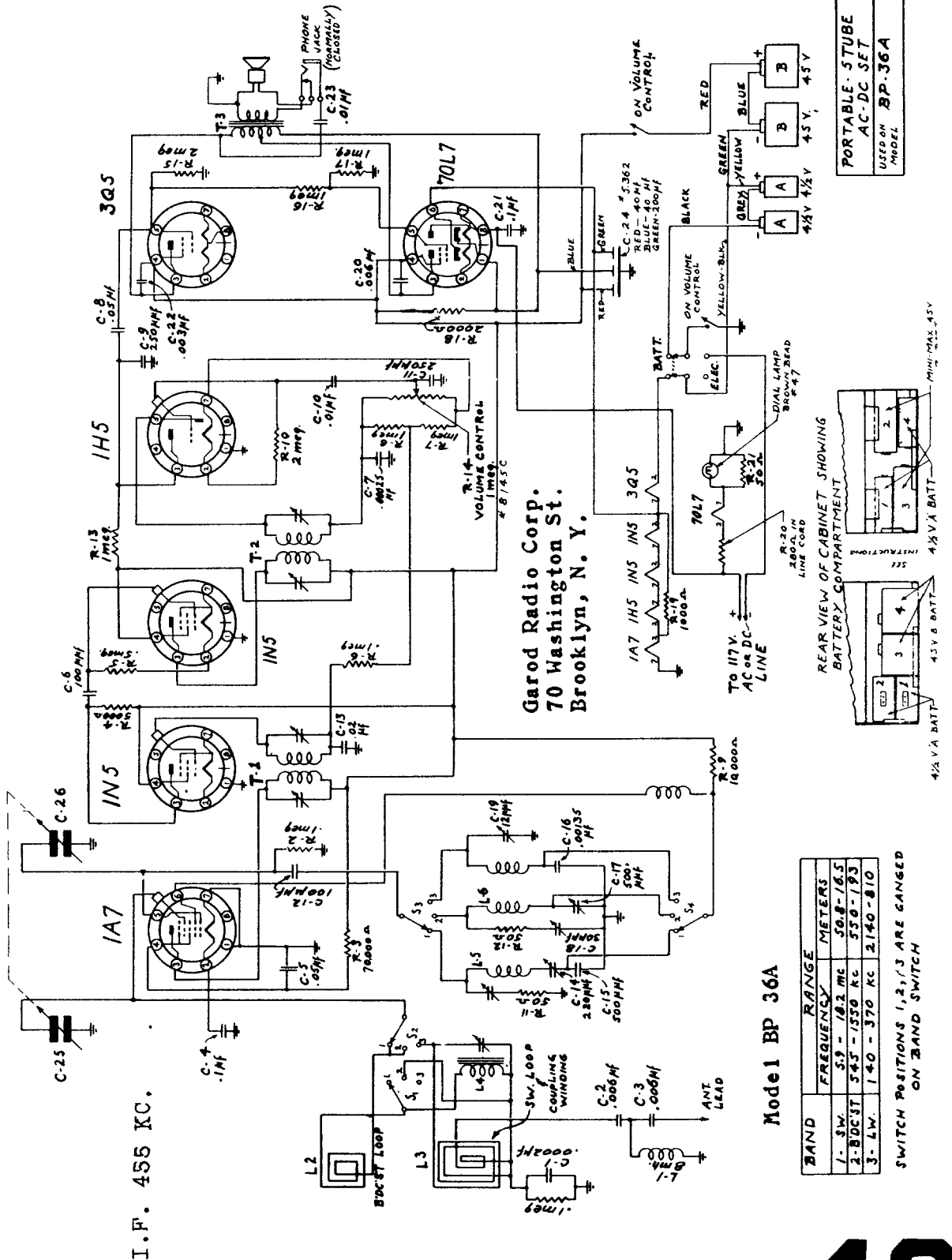
115V AC-DC  
 SW. ON VOL. CONTY.  
 35Z5GT FILAMENT  
 50L6 12SK7 12SQ7  
 I.F. = 456 KC.

MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



FADA RADIO & ELECTRIC CO.  
LONG ISLAND CITY, N.Y.  
MODEL 153

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



I.F. 455 KC.

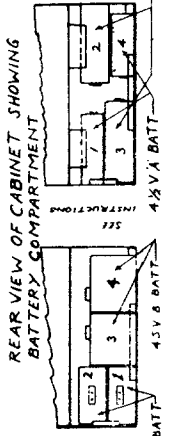
Garod Radio Corp.  
70 Washington St.  
Brooklyn, N. Y.

Model 1 BP 36A

BAND	RANGE	METERS
1. 3W.	5.9 - 18.2 MC	50.8-16.5
2. 8DCST	5.45 - 1550 KC	550-193
3. LW.	1.40 - 370 KC	2140-810

SWITCH POSITIONS 1, 2, 3 ARE GANGED ON BAND SWITCH

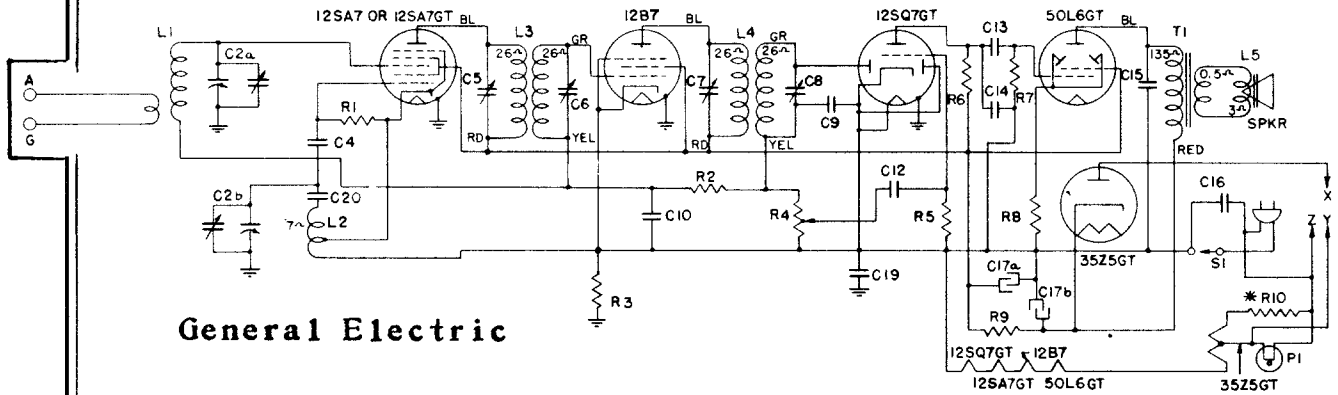
PORTABLE-STUBE  
AC-DC SET  
USED IN  
MODEL  
BP-36A





# 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	15 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		

### 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

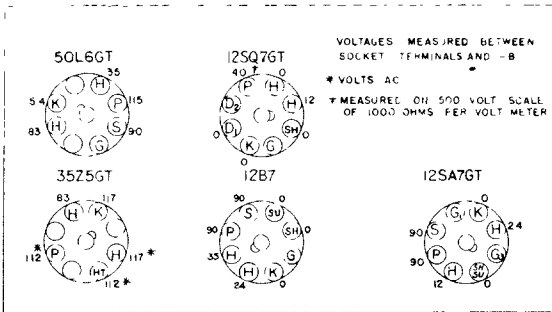
If the signal generator is AC operated use an isolating transformer between the power supply and the radio receiver power input. The use of an isolating capacitor is not recommended as AC current through the capacitor will introduce hum modulation and/or create the possibility of a burned-out signal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

- 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
- 0.15-volt, 400-cycle signal across the volume control will give 1/2-watt speaker output.\* (Volume control turned to maximum.)
- 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 1/2-watt speaker output.

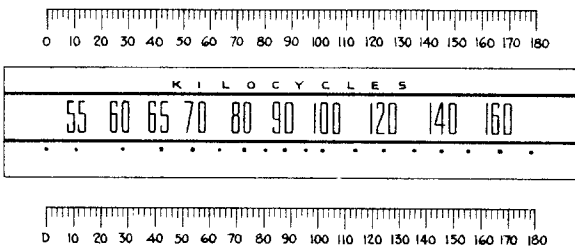


BOTTOM VIEW OF CHASSIS  
 AC LINE VOLTS-117 MAX VOLUME GANG CLOSED NO SIGNAL

### ALIGNMENT PROCEDURE

#### Alignment Frequencies

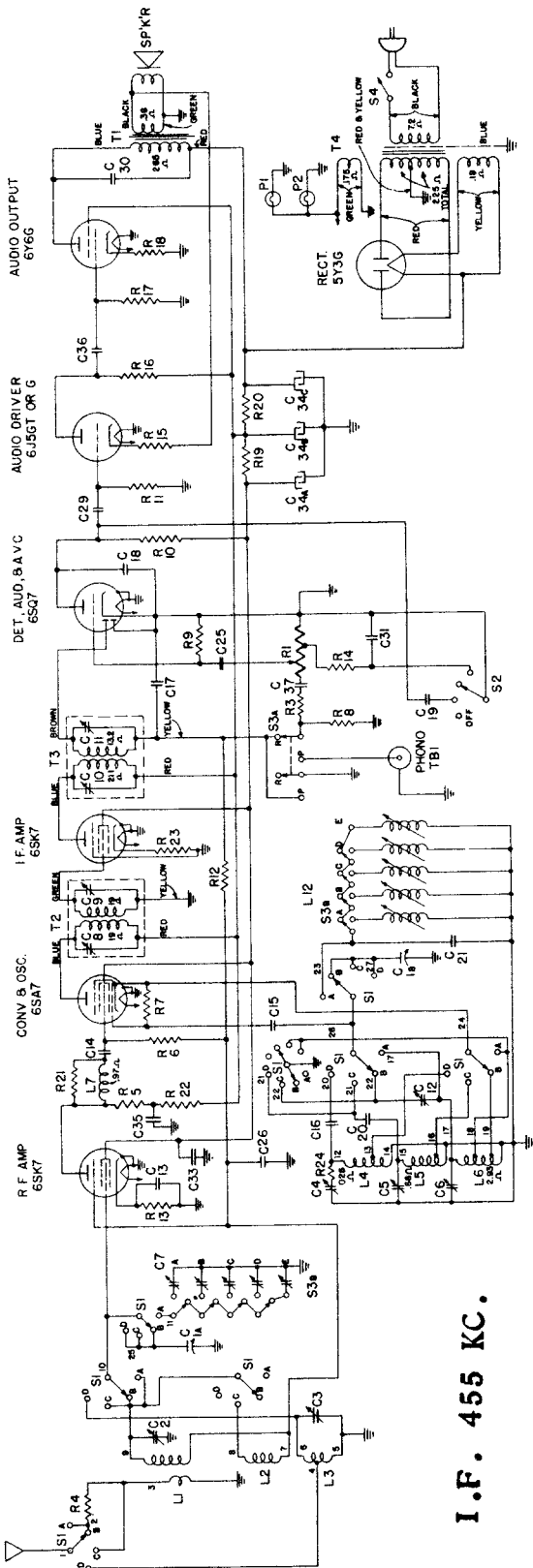
I.F. . . . . 455 KC



Frequency-degree Reference Chart

# 50

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



I.F. 455 KC.

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 1/2 W. carbon resistor
C3	"SW2" band antenna trimmer	C30	.01 mfd. paper capacitor	P2	Dial lamp, Mazda No. 44	R19	3300 ohms 1/2 W. carbon resistor
C4	"SW1" band oscillator trimmer	C31	.005 mfd. paper capacitor	R1	270,000 ohms carbon resistor	R20	1800 ohms carbon resistor
C5	"SW1" band oscillator trimmer	C32	.01 mfd. paper capacitor	R3	47,000 ohms carbon resistor	R21	10,000 ohms carbon resistor
C6	"BC" band oscillator trimmer	C33A	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	.01 mfd. mica capacitor	C36	.01 mfd. paper capacitor	R8	470,000 ohms carbon resistor	S2	Tone control switch
C15	.01 mfd. mica capacitor	C37	.005 mfd. paper capacitor	R9	470,000 ohms carbon resistor	S3A	Photo switch
C16	100 mfd. mica capacitor	L1	"BC" Band Beam-a-Scope	R10	330,000 ohms carbon resistor	S3B	Station selector switch
C17	100 mfd. mica capacitor	L2	"SW1" band antenna coil	R11	470,000 ohms carbon resistor	S4	Power switch
C18	220 mfd. mica capacitor	L3	"SW2" band Beam-a-Scope	T1	2.2 megohms carbon resistor	T1	Output transformer
C19	150 mfd. mica capacitor	L4	"SW2" band oscillator coil	T2	47 ohms carbon resistor	T2	1st I.F. transformer
C18	100 mfd. paper capacitor	L5	"SW1" band oscillator coil	T3	100,000 ohms carbon resistor	T3	2nd I.F. transformer
C20	2400 mfd. ±5% mica capacitor	L6	"BC" band oscillator coil	T4	3300 ohms carbon resistor	T4	Power transformer
C21	750 mfd. silvered mica capacitor						

## 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 RADIO GOLDEN TONE RADIO MODEL J-71

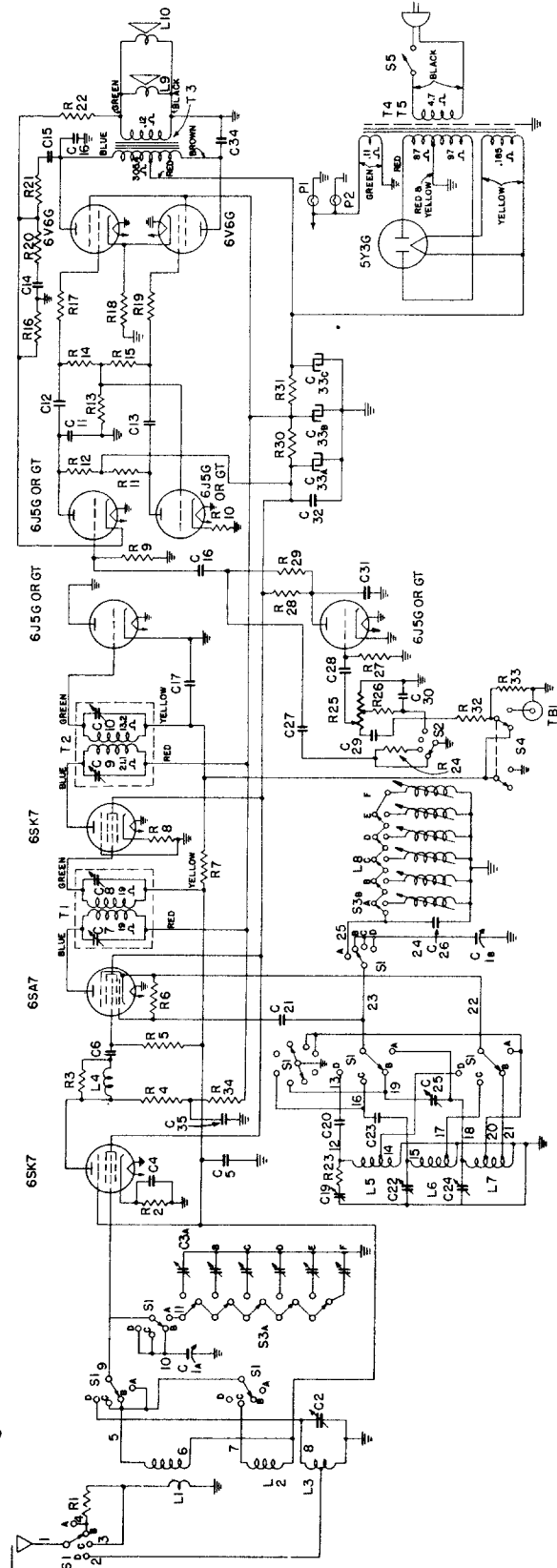
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

Symbol	Description	Symbol	Description	Symbol	Description
C1A	Antenna section of tuning condenser	C33B	15 mfd. 400 V. dry electrolytic	R17	1000 ohms esbion resistor
C1B	Oscillator section of tuning condenser	C33C	30 mfd. 400 V. dry electrolytic	R18	180 ohms 2 W. carbon resistor
C2	SW2 band antenna trimmer	C34	.002 mfd. 1000 V. paper capacitor	R19	100 ohms 2 W. carbon resistor
C3	Touch tuning trimmer strip	C35	.002 mfd. paper capacitor	R20	1800 ohms carbon resistor
C4	.01 mfd. paper capacitor	L1	"R.C." and "SW1" band Beam-a-Scope antenna coil	R21	47,000 ohms carbon resistor
C5	100 mfd. mica capacitor	L2	"SW2" band antenna coil	R22	6800 ohms carbon resistor
C6	100 mfd. mica capacitor	L3	R.F. interstage coil	R23	27 ohms carbon resistor
C7	.03 mfd. paper capacitor	L4	"SW1" band oscillator coil	R24	47,000 ohms carbon resistor
C8	.03 mfd. paper capacitor	L5	"SW2" band oscillator coil	R25	2 megohms volume control (1/2 megohm tap)
C9	.02 mfd. paper capacitor	L6	"B.C." band oscillator coil	R26	56,000 ohms carbon resistor
C10	.02 mfd. paper capacitor	L7	Touch tuning coil strip	R27	5.6 megohms carbon resistor
C11	100 mfd. 1000 V. mica capacitor	L8	Dial lamp, Mazda No. 44	R28	220,000 ohms carbon resistor
C12	.002 mfd. 1000 V. paper capacitor	L9	Dial lamp, Mazda No. 44	R29	33,000 ohms carbon resistor
C13	.02 mfd. paper capacitor	P1	1000 ohms carbon resistor	R30	10,000 ohms 3 W. carbon resistor
C14	.02 mfd. paper capacitor	R1	1000 ohms carbon resistor	R31	1800 ohms 4 W. candohm resistor
C15	100 mfd. 1000 V. mica capacitor	R2	47 ohms carbon resistor	R32	47,000 ohms carbon resistor
C16	.002 mfd. 1000 V. paper capacitor	R3	10,000 ohms carbon resistor	R33	470,000 ohms carbon resistor
C17	220 mfd. mica capacitor	R4	3300 ohms 1 W. carbon resistor	R34	1000 ohms carbon resistor
C18	.01 mfd. paper capacitor	R5	47,000 ohms carbon resistor	S1	Band control switch
C19	.008 mfd. paper capacitor	R6	22,000 ohms carbon resistor	S2	Tone control switch
C20	47 mfd. mica capacitor	R7	150 ohms carbon resistor	S3	Touch tuning switch
C21	2400 mfd. .5% mica capacitor	R8	150 ohms carbon resistor	S4	Power key
C22	.005 mfd. paper capacitor	R9	470,000 ohms carbon resistor	S5	Power key
C23	.005 mfd. paper capacitor	R10	100,000 ohms carbon resistor	T1	1st I.F. transformer
C24	.005 mfd. paper capacitor	R11	100,000 ohms carbon resistor	T2	2nd I.F. transformer
C25	750 mfd. silvered mica capacitor	R12	220,000 ohms carbon resistor	T3	Output transformer
C26	.005 mfd. paper capacitor	R13	220,000 ohms carbon resistor	T4	50-60-cycle power transformer
C27	.004 mfd. paper capacitor	R14	150,000 ohms carbon resistor	T5	25-60-cycle power transformer
C28	.004 mfd. paper capacitor	R15	270,000 ohms carbon resistor		
C29	.004 mfd. paper capacitor	R16	4700 ohms carbon resistor		
C30	.004 mfd. paper capacitor				
C31	150 mfd. mica capacitor				
C32	.01 mfd. paper capacitor				
C33A	10 mfd. 350 V. dry electrolytic				

## 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

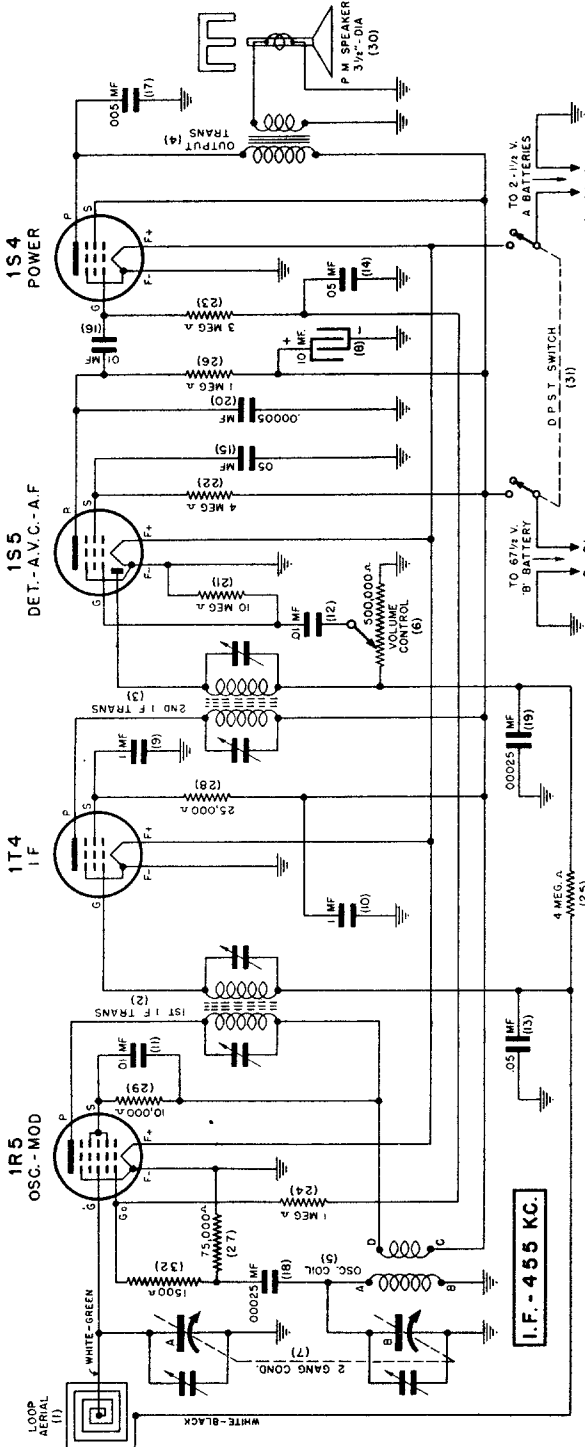
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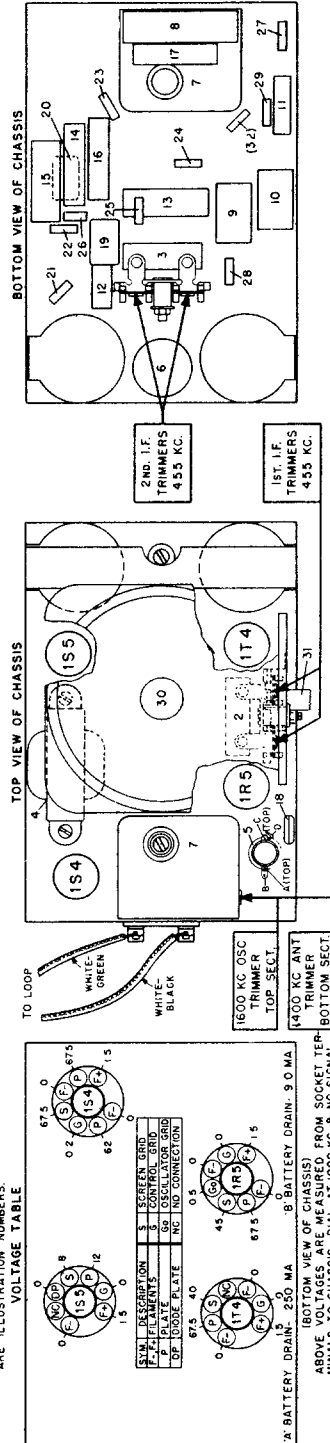
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS INSTRUCTIONS

## GENERAL ELECTRIC

### Model 1 JB-410



NOTE: NUMBERS SHOWN IN PARENTHESES ARE ILLUSTRATION NUMBERS.



the first I.F. transformer trimmers. Keep test oscillator output as low as a readable meter reading will permit.

#### R.F. Alignment

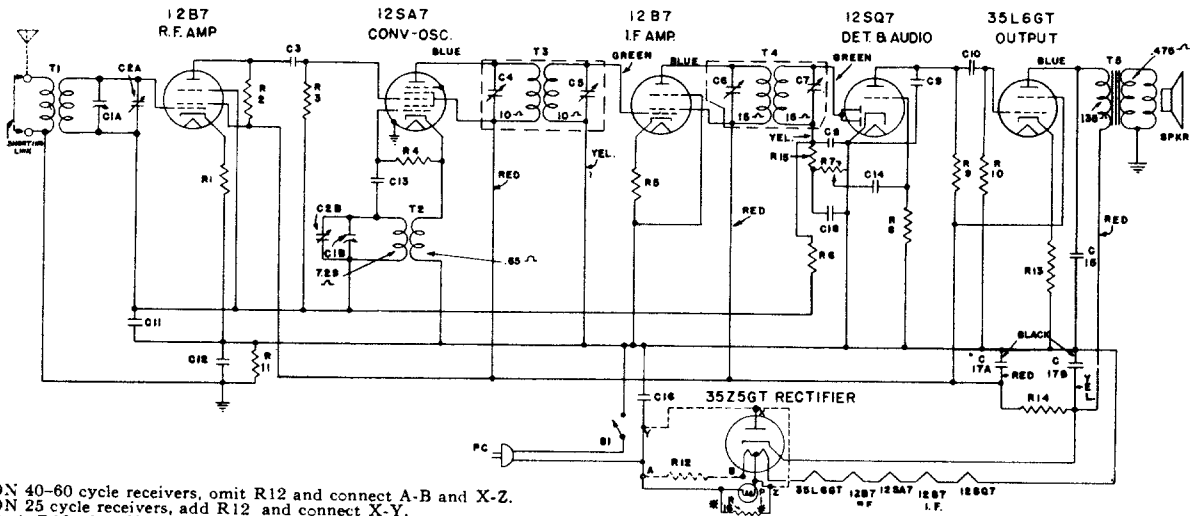
Couple test oscillator to loop in case cover. Adjust test oscillator and receiver dial to exactly 1600 K.C. Peak 1600 K.C. oscillator trimmer for maximum output. Change test oscillator signal and receiver dial to approximately 1400 K.C. Then while rocking gang condenser trim 1400 K.C. antenna trimmer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

I.F. Alignment  
 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

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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.

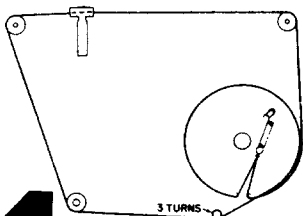
Both the MAZDA No. 47 and No. 51 dial lamps were used during production. When lamp No. 51 is used, the resistor R16 should be omitted.

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.....1600 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 155 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.

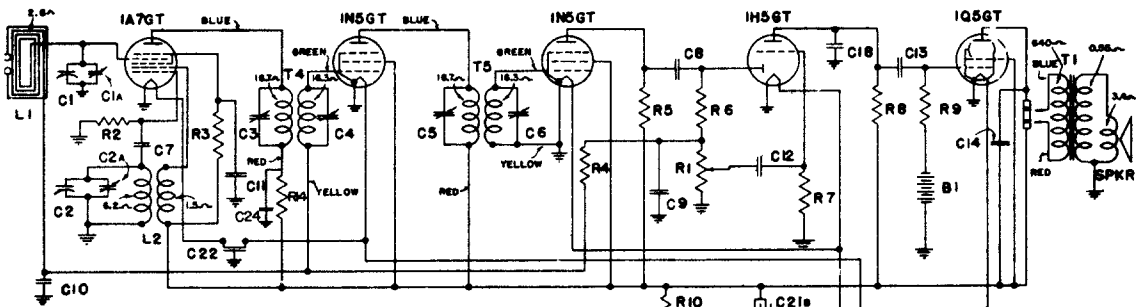
With the gang condenser plates completely closed, the pointer should line up with the first mark on the left of the scale. Set the signal generator to 1500 KC. Align (C-1b) to the signal while the pointer is on the 1500 KC mark. Peak (C-1a) for maximum output.

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—.01 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.....
*RO-1227	R-1	RESISTOR—47 ohm, 1/2 W. carbon.....
*RO-1275	R-2	RESISTOR—4700 ohm, 1/2 W. carbon.....
*RO-1299	R-3	RESISTOR—47,000 ohm, 1/2 W. carbon.....
*RO-1295	R-4	RESISTOR—33,000 ohm, 1/2 W. carbon.....
*RO-1235	R-5	RESISTOR—100 ohm, 1/2 W. carbon.....
*RO-1339	R-6	RESISTOR—2.2 megohm, 1/2 W. carbon.....
RV-120	R-7, S-1	VOLUME CONTROL—.05 megohm, combined with power switch.....
*RO-1349	R-8	RESISTOR—5.6 megohm, 1/2 W. carbon.....
*RO-1323	R-9, 10, 11	RESISTOR—470,000 ohm, 1/2 W. carbon.....
*RO-1213	R-12	RESISTOR—12 ohm, 1/2 W. carbon.....
*RO-1239	R-13	RESISTOR—150 ohm, 1/2 W. carbon.....
RO-651	R-14	RESISTOR—1000 ohm, 2 W. carbon.....
*RO-1299	R-15	RESISTOR—47,000 ohm, 1/2 W. carbon.....
*RO-1255	R-16	RESISTOR—680 ohm, 1/2 W. carbon.....

\*Used in previous receivers.

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

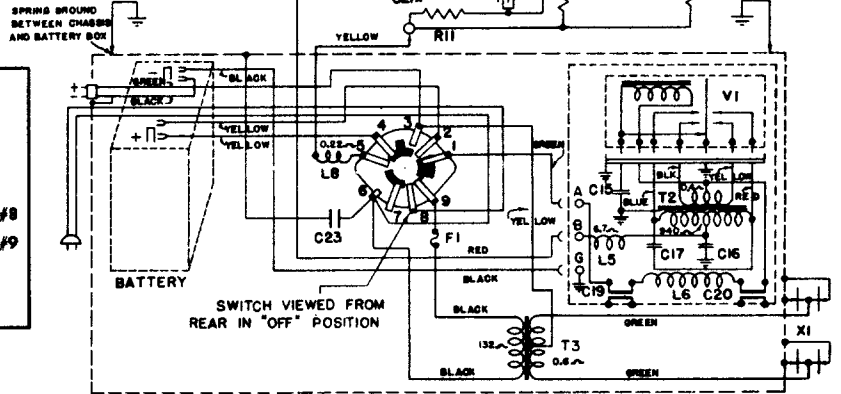


## POWER SELECTOR SWITCH OPERATION

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

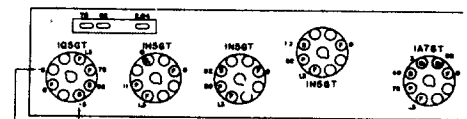
I. F. 455 KC.



Stock No.	Symbol	Description	List Price	Stock No.	Symbol	Description	List Price
RC-7054	C-1, 2	CONDENSER—Tuning condenser and trimmers	\$1.55	*RO-1331	R-8	RESISTOR—1.0 megohm, 1/4 W. carbon	\$0.70-5
*RC-216	C-7	CAPACITOR—47 mmf, mica	.25	*RO-1339	R-9	RESISTOR—2.2 megohm, 1/4 W. carbon	.70-5
*RC-235	C-8, 9	CAPACITOR—100 mmf, mica	.25	*RO-1259	R-10	RESISTOR—1,000 ohm, 1/4 W. carbon	.70-5
*RC-072	C-10	CAPACITOR—.05 Mfd., 200 V. paper	.25	RO-1208	R-11, 12, 13	RESISTOR—8.2 ohm, 1/4 W. carbon	.70-5
*RC-098	C-11	CAPACITOR—.01 Mfd., 200 V. paper	.30	RC-2036	B-1	CELL—3.0 V. bias cell assembly	.55
*RC-023	C-12, 13	CAPACITOR—.005 Mfd., 600 V. paper	.25	RL-368	L-1	BEAM-A-SCOPE—Loop antenna assembly (inside cover)	.90
*RC-039	C-14	CAPACITOR—.01 Mfd., 600 V. paper	.25	RL-2055	L-2	COIL—Oscillator coil	.30
*RC-096	C-15	CAPACITOR—.01 Mfd., 200 V. paper	.30	RL-367	L-5	CHOKE—B choke	.20
*RC-072	C-16	CAPACITOR—.05 Mfd., 200 V. paper	.25	RL-366	L-8	CHOKE—Vibrator choke	.53
*RC-027	C-17	CAPACITOR—.006 Mfd., 100 V. paper	.30	RL-387	L-7	BEAM-A-SCOPE—External loop antenna	.43
*RC-235	C-18	CAPACITOR—100 mmf, mica	.25	RL-365	L-8	CHOKE—Filament supply choke	.20
*RC-156A	C-19, 20	CAPACITOR—.5 Mfd., 120 V. electrolytic	.45	RS-3115	SW1	SWITCH—Power selector switch	.70
	C-21A, 21B	CAPACITOR—15 Mfd., 150 V. dry electrolytic	.75	RT-4010	T-1	TRANSFORMER—Output transformer	.90
RC-5189	C-21C	CAPACITOR—1200 Mfd., 2 V. dry electrolytic	.75	RT-0525	T-2	VIBRATOR—Vibrator power transformer	1.80
*RC-156A	C-22	CAPACITOR—.5 Mfd., 120 V. paper	.45	RT-0524	T-3	TRANSFORMER—30-60 cycle rectifier step-down transformer	1.20
*RC-092	C-23	CAPACITOR—.05 Mfd., 600 V. paper	.30	RT-0327	T-3	TRANSFORMER—25 cycle rectifier step-down transformer	.90
RV-125	R-1	VOLUME CONTROL—.5 megohm volume control	.95	RT-393	T-4	TRANSFORMER—1st I.F. transformer	.90
*RO-1315	R-2	RESISTOR—220,000 ohm, 1/4 W. carbon	.70-5	RT-392	T-5	TRANSFORMER—2nd I.F. transformer	.90
*RO-1299	R-3	RESISTOR—47,000 ohm, 1/4 W. carbon	.70-5	RV-204	V-1	VIBRATOR—Power supply synchronous vibrator	3.60
*RO-1293	R-4	RESISTOR—2.2 megohm, 1/4 W. carbon	.70-5	RR-802	X-1	RECTIFIER—Copper oxide rectifier	.4
*RO-1299	R-5	RESISTOR—27,000 ohm, 1/4 W. carbon	.70-5	RS-1066	Spkr	SPEAKER—1 1/2" M speaker	4.6
*RO-1347	R-6	RESISTOR—47,000 ohm, 1/4 W. carbon	.70-5				
	R-7	RESISTOR—4.7 megohm, 1/4 W. carbon	.70-5				

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.

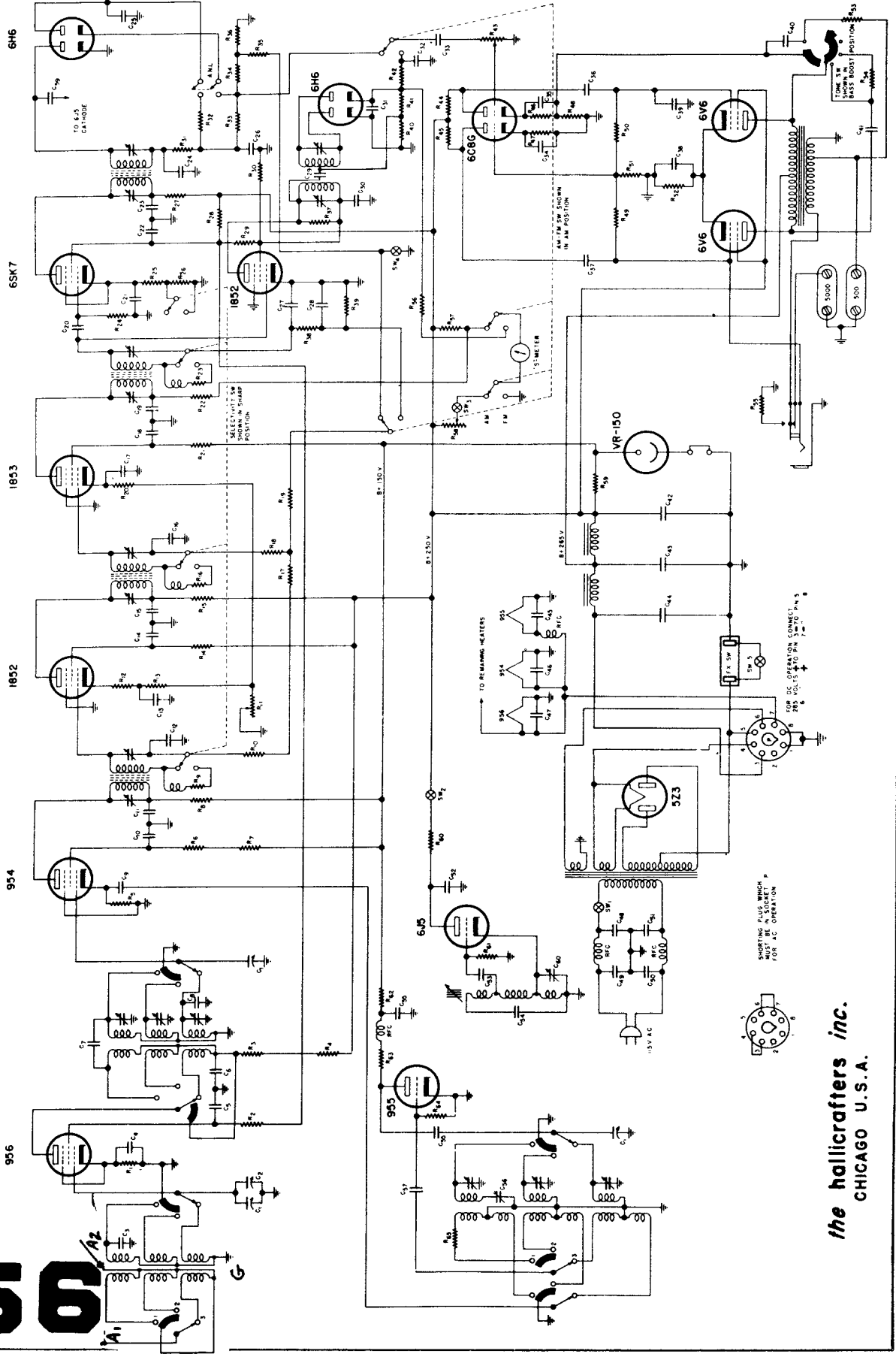


USE BATTERY—RECHARGE BATTERY VOLTAGE—2.0 WITH ZERO CURRENT VOLTAGE—1.85  
POWER SWITCH ON "AC" WITH CHARGING OPERATING.  
BATTERY VOLTAGE—2.0  
VOLTAGE "V" VOLTAGE—60  
DIAL LT. 1000 H. 1000 OHMS, 1000 VOLTAGE.  
ALL COMPONENTS EXCEPT BATTERY AND PLUGGING MADE WITH 500 OHMS PER VOLT VOLTAGE, 100 VOLT SCALE.

**GENERAL ELECTRIC**  
**MODEL LB-530**

**55**

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



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

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## The Hallicrafters

S-27

### RESISTORS

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

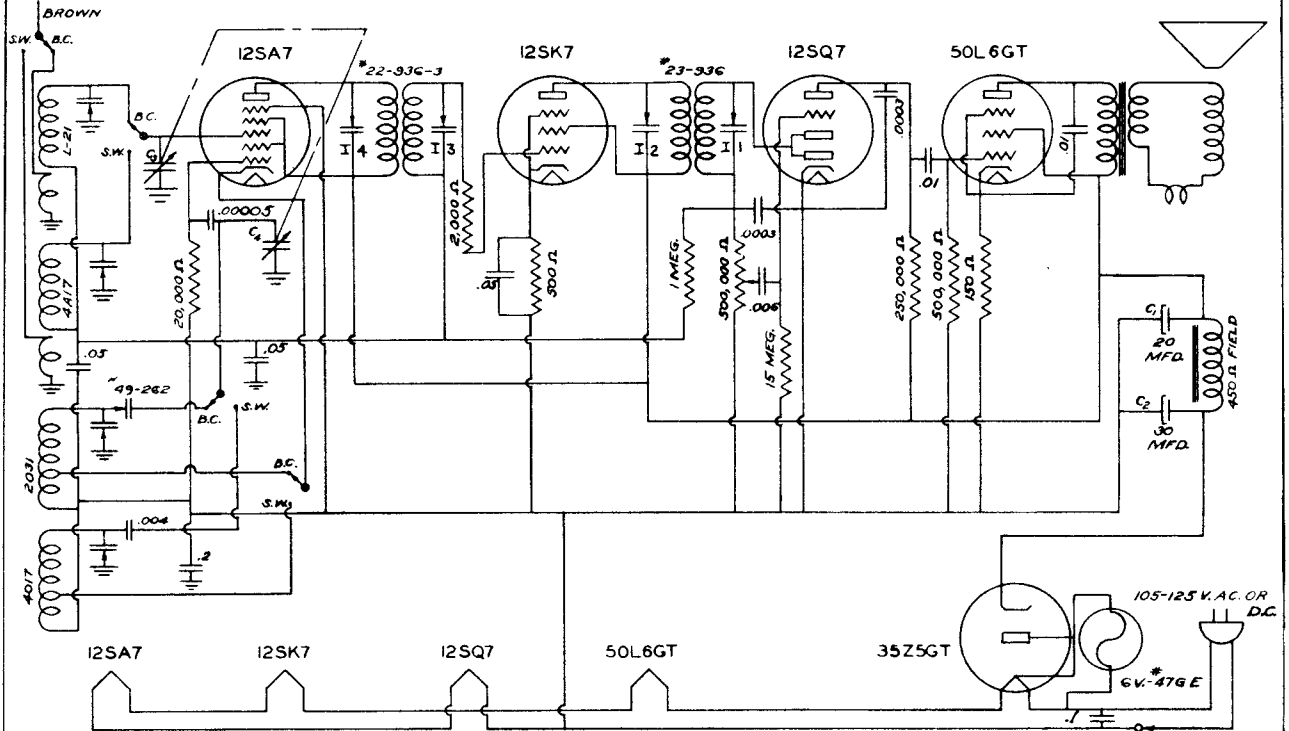
### CONDENSERS

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

I.F. 5.25 MC.



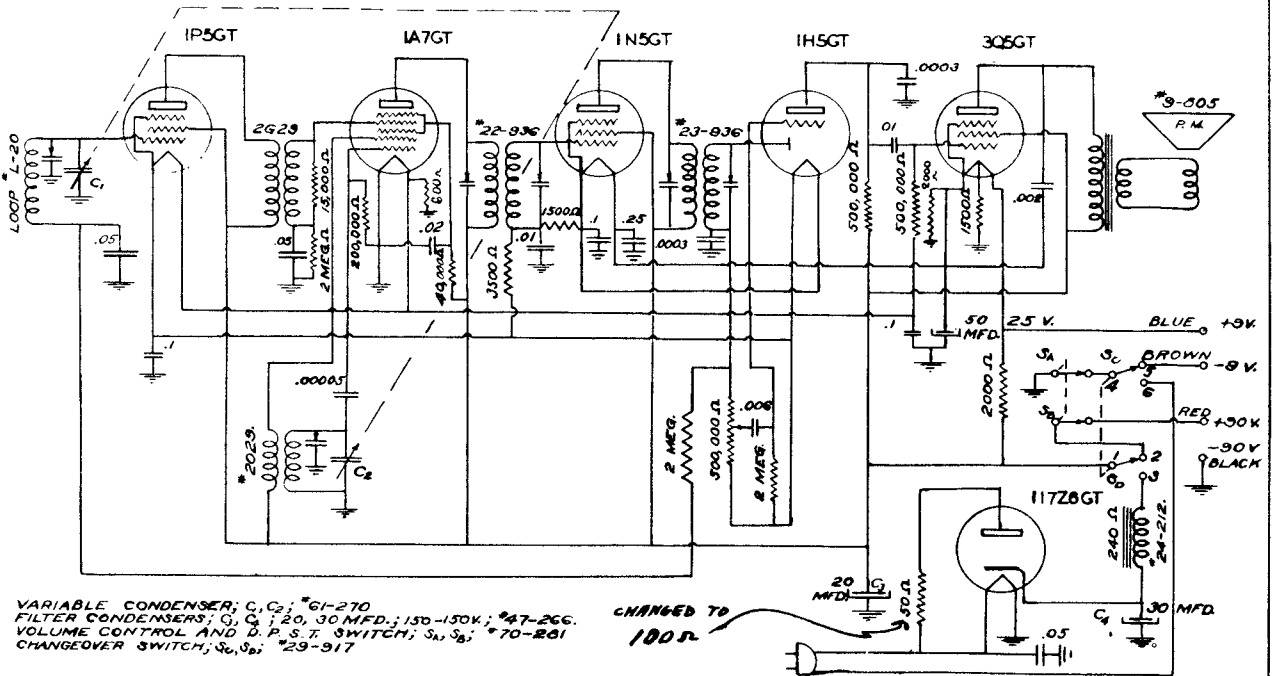
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



C<sub>1</sub>, C<sub>2</sub>-20, 30 MFD.-150, 150 V.-NO. 47-266.  
 C<sub>3</sub>, C<sub>4</sub>-VARIABLE CONDENSER-NO. 63-270.  
 VOLUME CONTROL AND SWITCH-NO. 69-281

I. F.-465 K. C.

HOWARD RADIO CO.  
 MODEL 702



VARIABLE CONDENSER; C<sub>1</sub>, C<sub>2</sub>; \*61-270  
 FILTER CAPACITORS; C<sub>3</sub>, C<sub>4</sub>; 20, 30 MFD.; 150-150V.; \*47-266.  
 VOLUME CONTROL AND D. P. S. T. SWITCH; S<sub>1</sub>, S<sub>2</sub>; \*70-281  
 CHANGEOVER SWITCH; S<sub>3</sub>, S<sub>4</sub>; \*29-917

CHANGED TO  
 100Ω

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

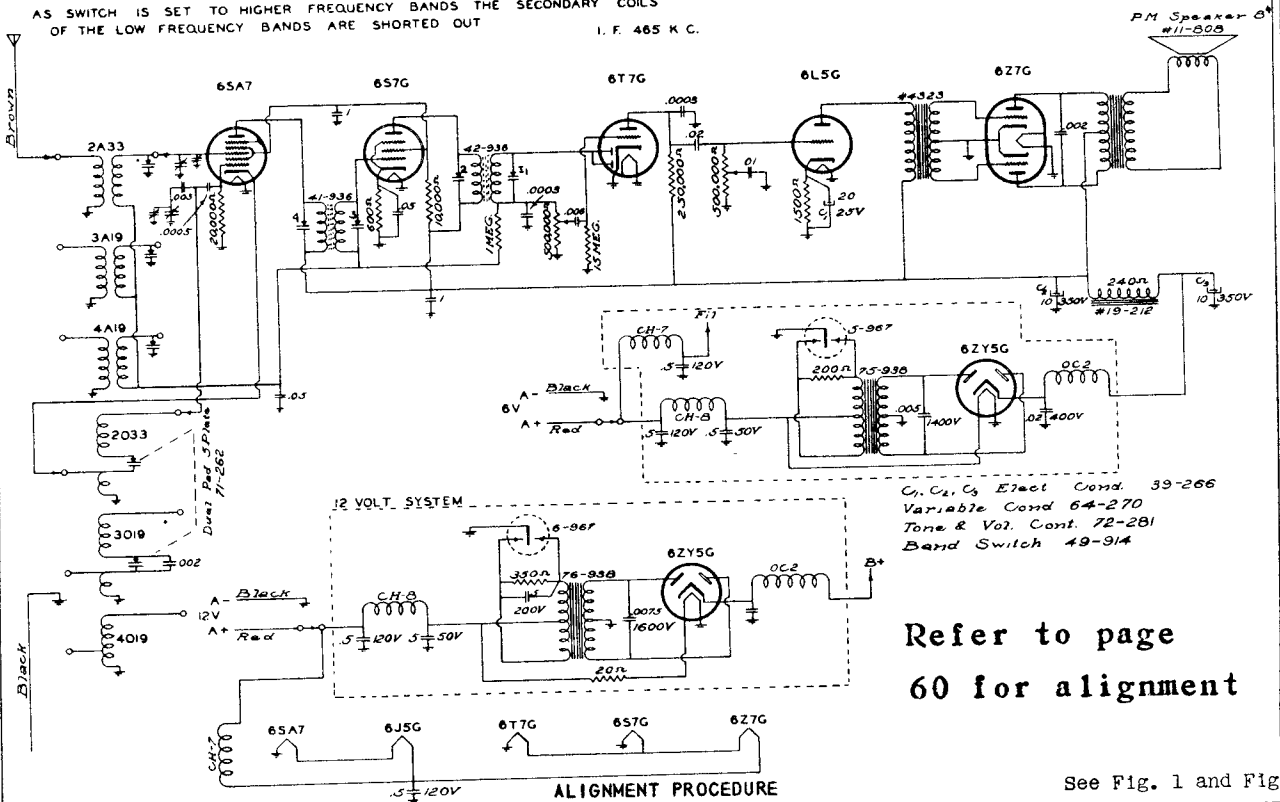
HOWARD RADIO CO.  
 MODEL 14ACB

I. F. 465 K. C.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

AS SWITCH IS SET TO HIGHER FREQUENCY BANDS THE SECONDARY COILS OF THE LOW FREQUENCY BANDS ARE SHORTED OUT

I. F. 465 K C.



Refer to page  
60 for alignment

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 <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>4</sub>	IF
7-22 MC	21	21 MC	Ant. (Brown)	B	O <sub>5</sub> , A <sub>6</sub>	Osc., Ant.
2.2-7 MC	6	6 MC	" "	"	O <sub>7</sub> , A <sub>8</sub>	Osc., Ant.
2.2-7 MC	2.2	2.2 MC	" "	"	P <sub>9</sub>	Osc. Pad.
Broadcast	1400	1400 KC	" "	"	O <sub>10</sub> , A <sub>11</sub>	Osc., Ant.
Broadcast	600	600 KC	" "	C	P <sub>12</sub>	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

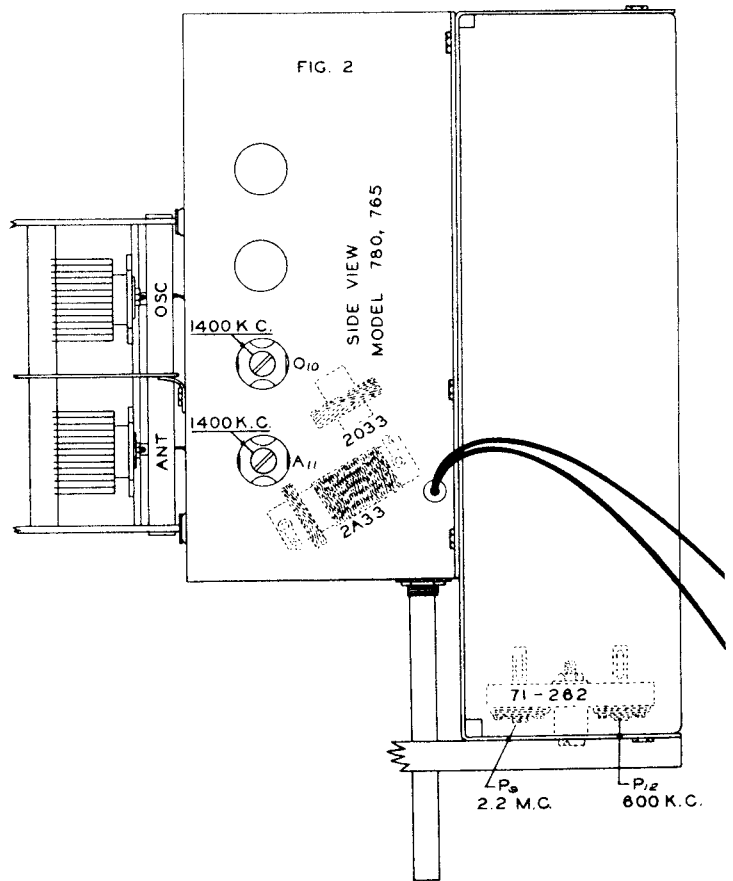
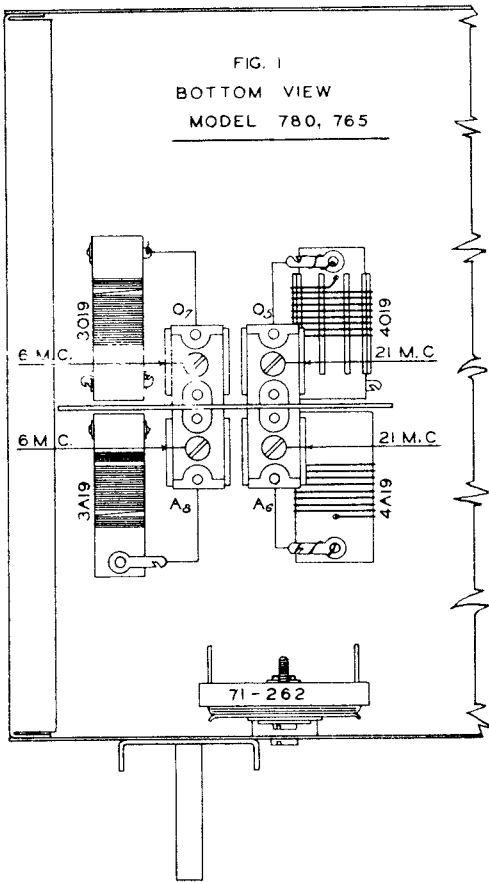
Howard Radio

MODEL 765		
DWG. NO. C83-715	9-5-40	
OWN. BY.	CHKD. BY.	APPVD. BY.
L. A. G.	JFR	JFR

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

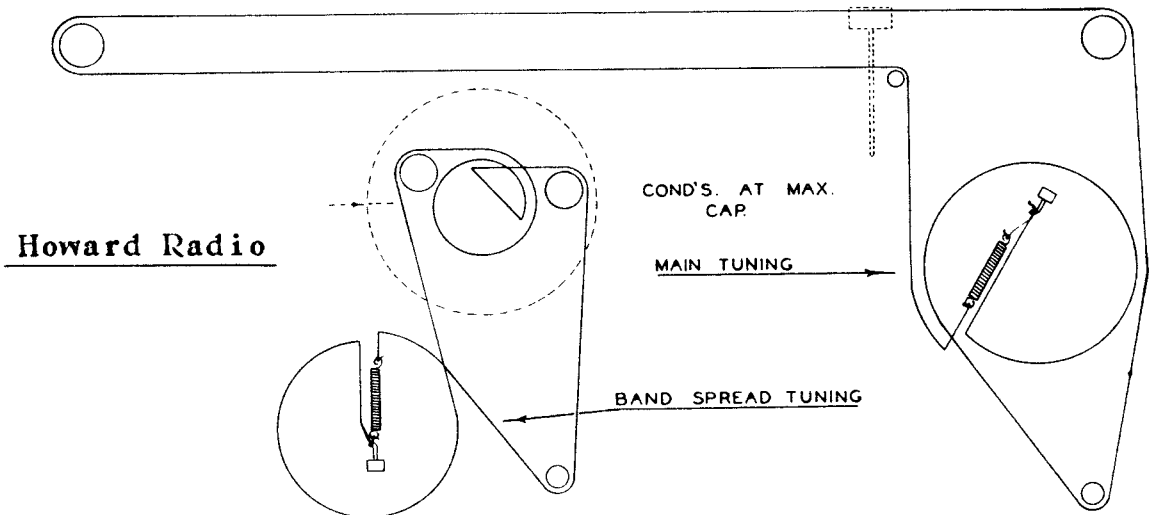
# 59

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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

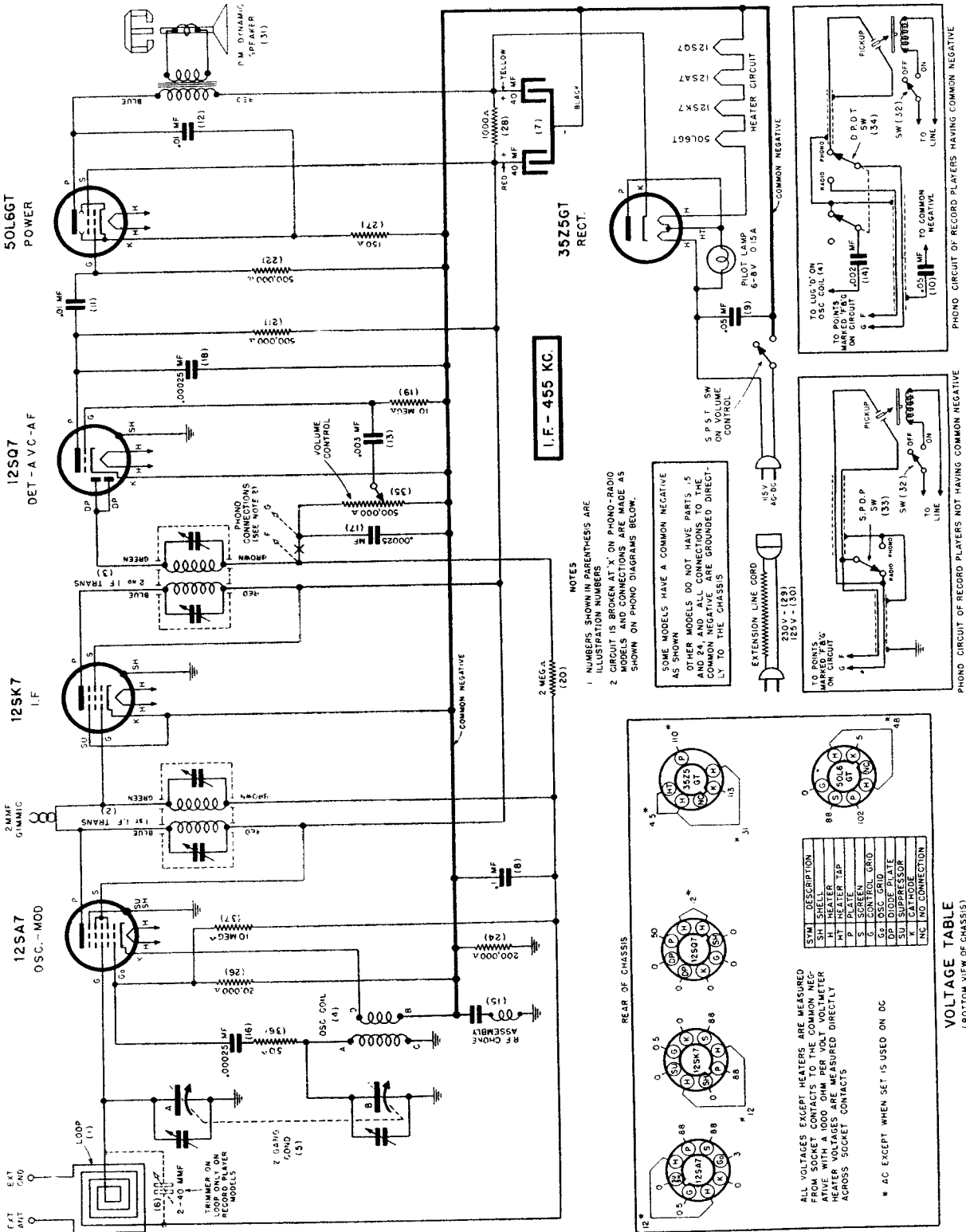
## STRING LAYOUT INTERNATIONAL SERIES



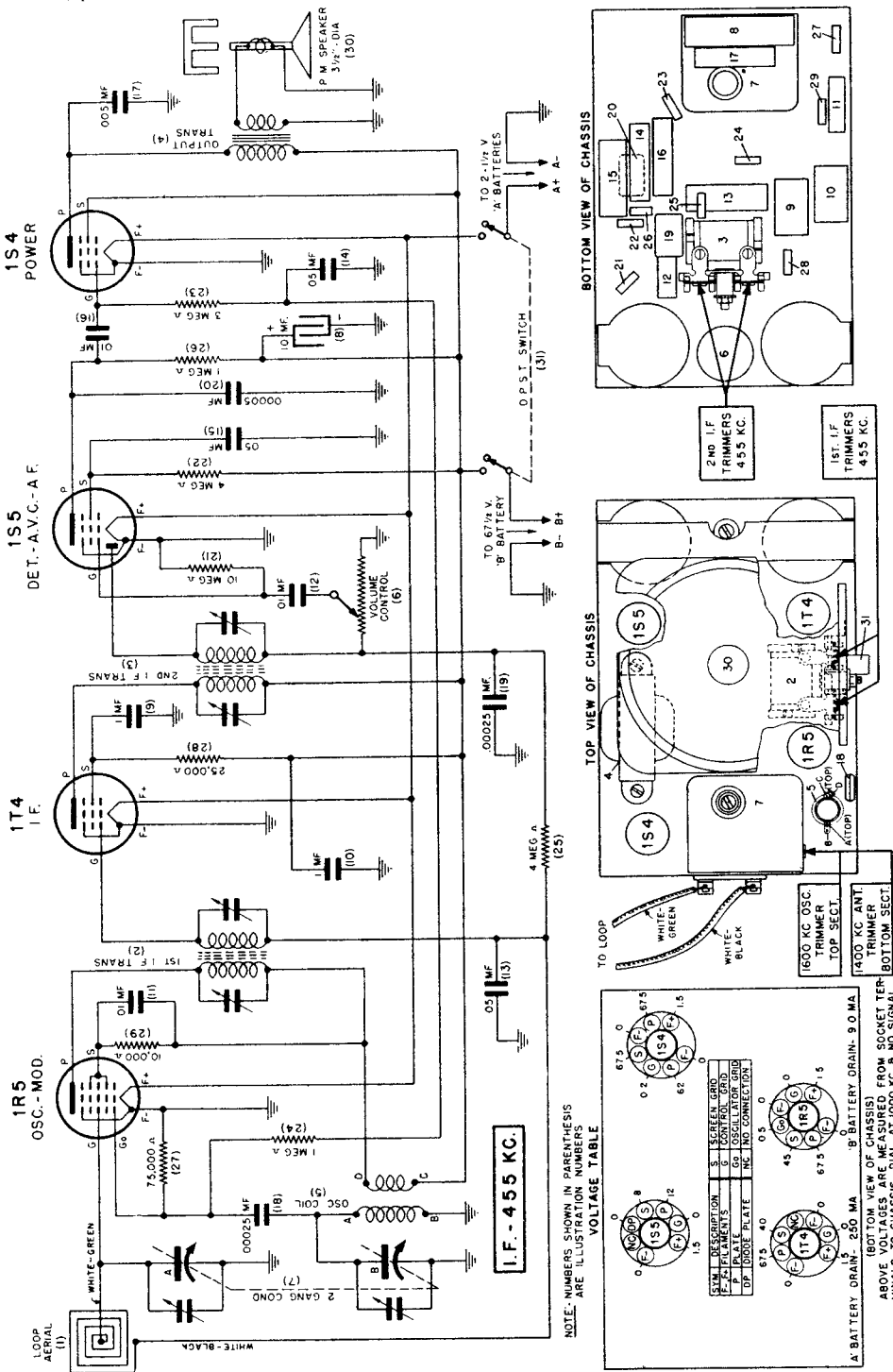
Trimmer Location for Models 765 and 780



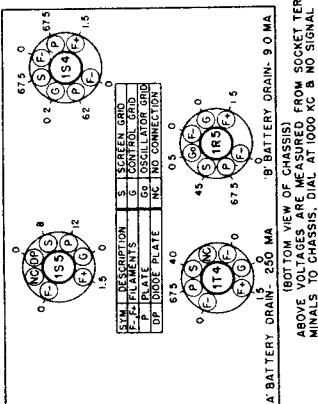
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



NOTE: NUMBERS SHOWN IN PARENTHESIS ARE ILLUSTRATION PART NUMBERS.



Set receiver dial to.	TEST OSCILLATOR		Refer to parts layout diagram for location of trimmers mentioned below:
	Adjust test oscillator frequency to:	Use dummy antenna in series with output of test oscillator consisting of:	
Any point where no interfering signal is received	Exactly 455 K.C.	0.2 Mfd. condenser	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	Adjust 1600 K. C. oscillator trimmer for maximum output.
2 Approx. 1400 K.C.	Approx. 1400 K.C.	None	While rocking gang condenser adjust 1400 K. C. loop trimmer for maximum output.

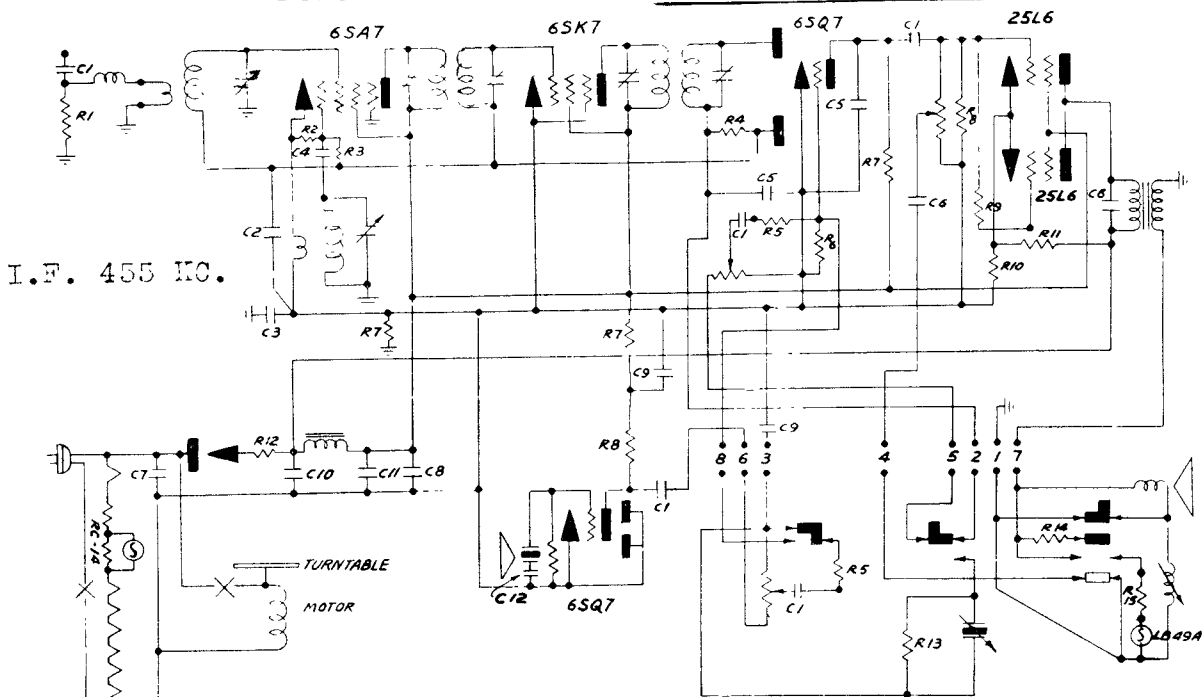
## BATTERY EQUIPMENT

The receiver is designed to use:  
**Two—1 1/2 volt "A" batteries**, such as Eveready No. 950 or equivalent flashlight size cylindrical battery.  
**One—67 1/2 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.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## SCHMATIC DIAGRAM MODEL TR321-A TR331-A



I.F. 455 KC.

Schematic Location	Part No.	Description
R1	R-15570	2K ohm 1/4 Watt Resistor 20%
R2	R-15510	20K ohm 1/4 Watt Resistor 20%
R3	R-79	15 Megohm 1/4 Watt Resistor 20%
R4	R-15500	2 Megohm 1/4 Watt Resistor 20%
R5	R-15504	150K ohm 1/4 Watt Resistor 20%
R6	R-149	4.7 Megohm 1/4 Watt Resistor 20%
R7	R-153	270K ohm 1/4 Watt Resistor 20%
R8	R-154	470K ohm 1/4 Watt Resistor 20%

Schematic Location	Part No.	Description
R9	R-15601	100 ohm 1/4 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 1/4 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 mmd. Mica Condenser
C5	CM-30	250 mmd. 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.

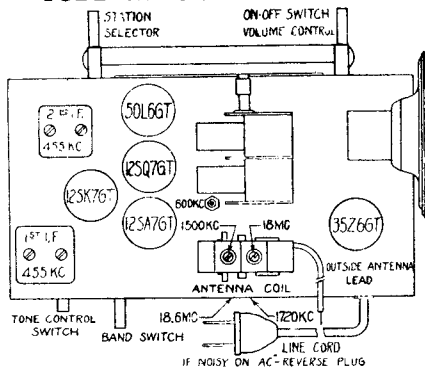
Model TR331-A operates on 105-125 volts 50 cycles AC only.

## Majestic Radio & Television Corporation

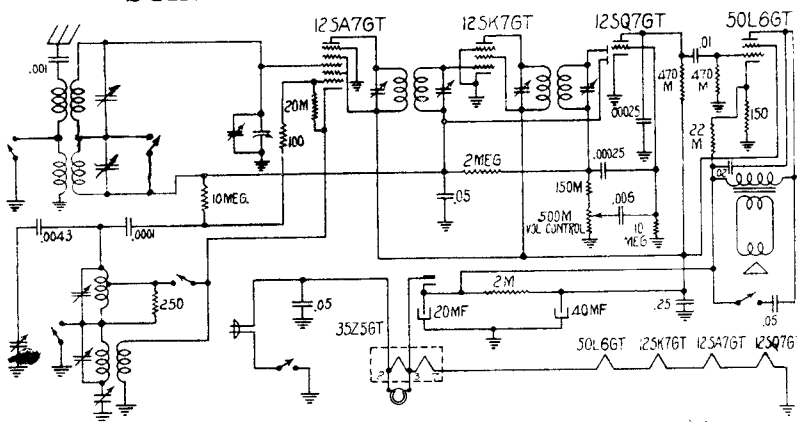
2600 West 50th Street

Chicago, Illinois, U. S. A.

### TUBE LAYOUT MODEL 403



### SCHMATIC DIAGRAM MODEL 403



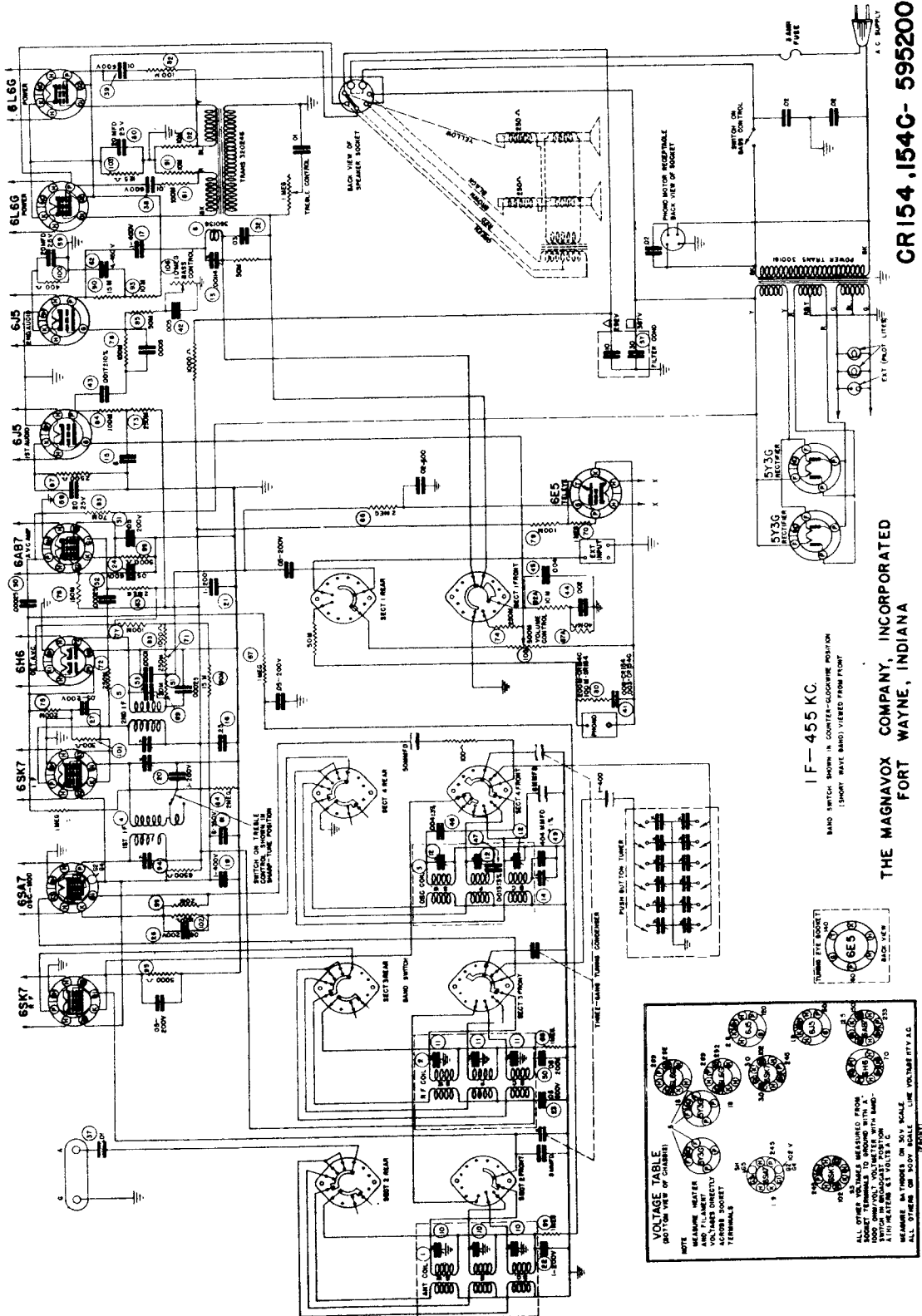
**64** I.F. 455 KC.

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

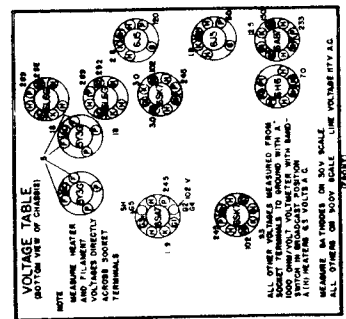


CR154.154C-595200

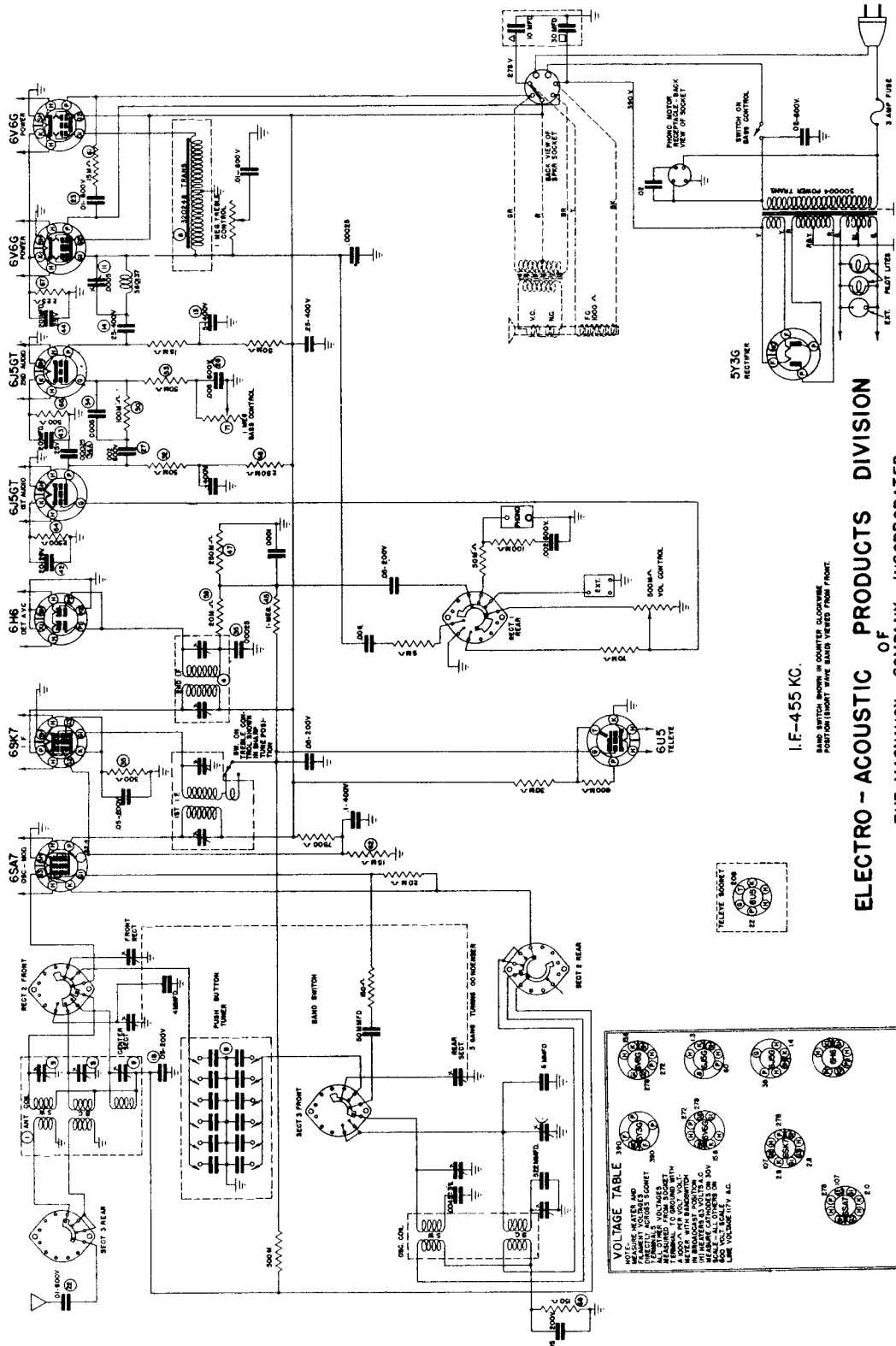
THE MAGNAVOX COMPANY, INCORPORATED  
FORT WAYNE, INDIANA

IF-455 KC.

BAND SWITCH SHOWS IN COUNTER-CLOCKWISE POSITION  
(SHORT WAVE BAND VIEWED FROM FRONT)



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



I.F.-455 KC.

RAID SWITCH SHOWN IN COUNTER CLOCKWISE POSITION (WAVE SWITCH FEELS FROM FRONT)

**VOLTAGE TABLE**

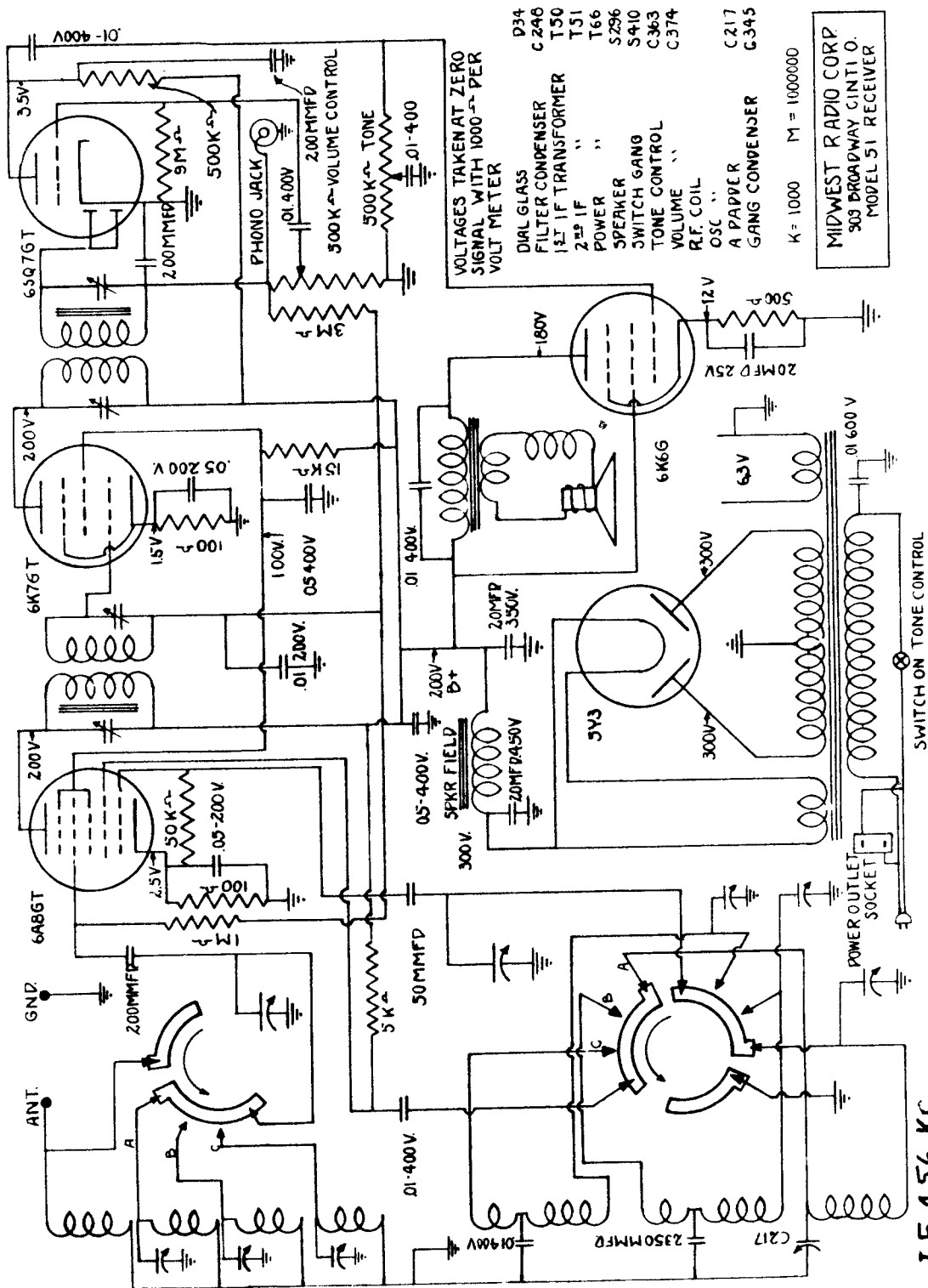
MEASURE WATER AND DIRECTLY ACROSS SOCKET AND OTHER VOLTAGES AS SHOWN WITH TERMINALS TO GROUND WITH WATER WITH BANDWIDTH 100 HERTZ AND VOLTA. 20V SCALE - ALL OTHERS ON LOW VOLTAGE T.V. AC.

300V	270V	250V	225V	200V
180V	150V	120V	90V	60V
30V	20V	15V	10V	5V

BOTTOM VIEW OF CHASSIS (FRONT)

**ELECTRO - ACOUSTIC PRODUCTS DIVISION**  
 OF  
**THE MAGNAVOX COMPANY, INCORPORATED**  
 FORT WAYNE, INDIANA  
**CR156 595203**

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



VOLTAGES TAKEN AT ZERO SIGNAL WITH 1000  $\mu$  PER VOLT METER

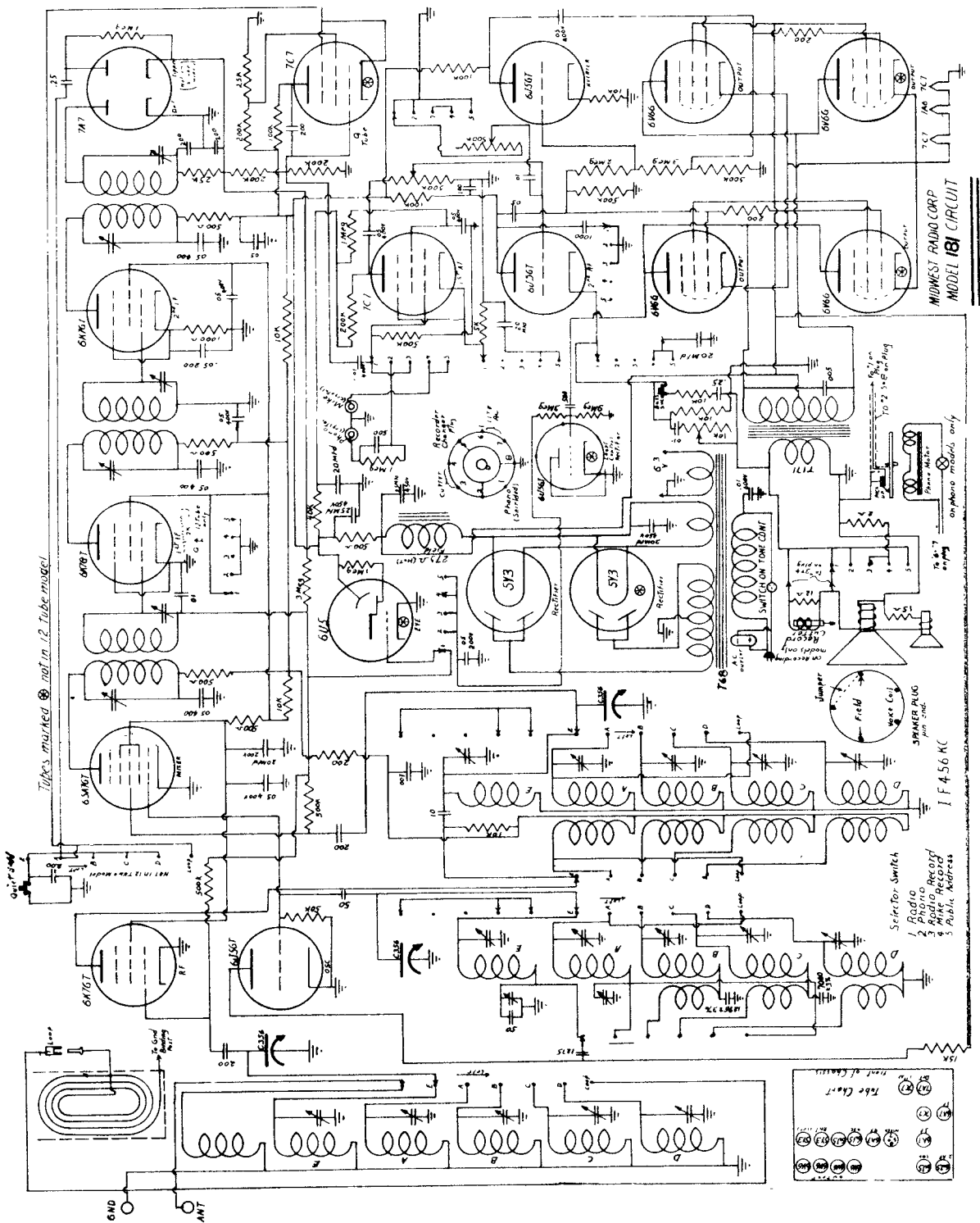
- D34
- C 246
- T 51
- T 51
- T 66
- S 296
- S 410
- C 363
- C 374
- C 217
- C 345

DIAL GLASS  
 FILTER CONDENSER  
 12-IF TRANSFORMER  
 2<sup>ND</sup> IF  
 POWER  
 SPEAKER  
 SWITCH GANG  
 TONE CONTROL  
 VOLUME  
 R.F. COIL  
 OSC  
 A PAPER  
 GANG CONDENSER

K = 1000 M = 1000000

MIDWEST RADIO CORP.  
 505 BROADWAY CINT. O.  
 MODEL 51 RECEIVER

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

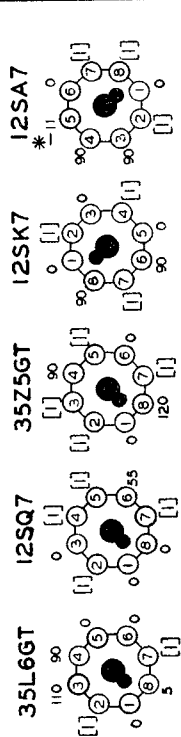
# 70

## BOTTOM VIEW OF CHASSIS

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

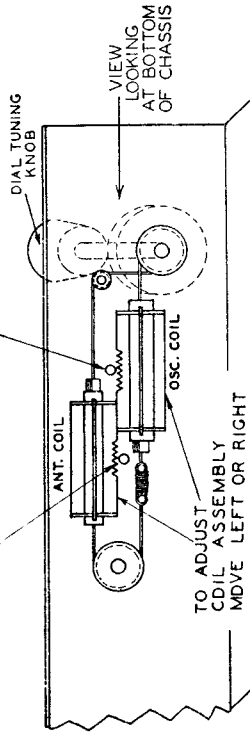
[ ] CANNOT BE MEASURED WITH D.C. VOLTMETER.

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



## REAR 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, BLADE BY BLADE, IN THE HOLE AND ENGAGING THE BLADE IN THE GEAR TEETH OF THE COIL FORM.



## COIL ASSEMBLY VIEW

Schematic Ref. No.	Part No.	Description
--------------------	----------	-------------

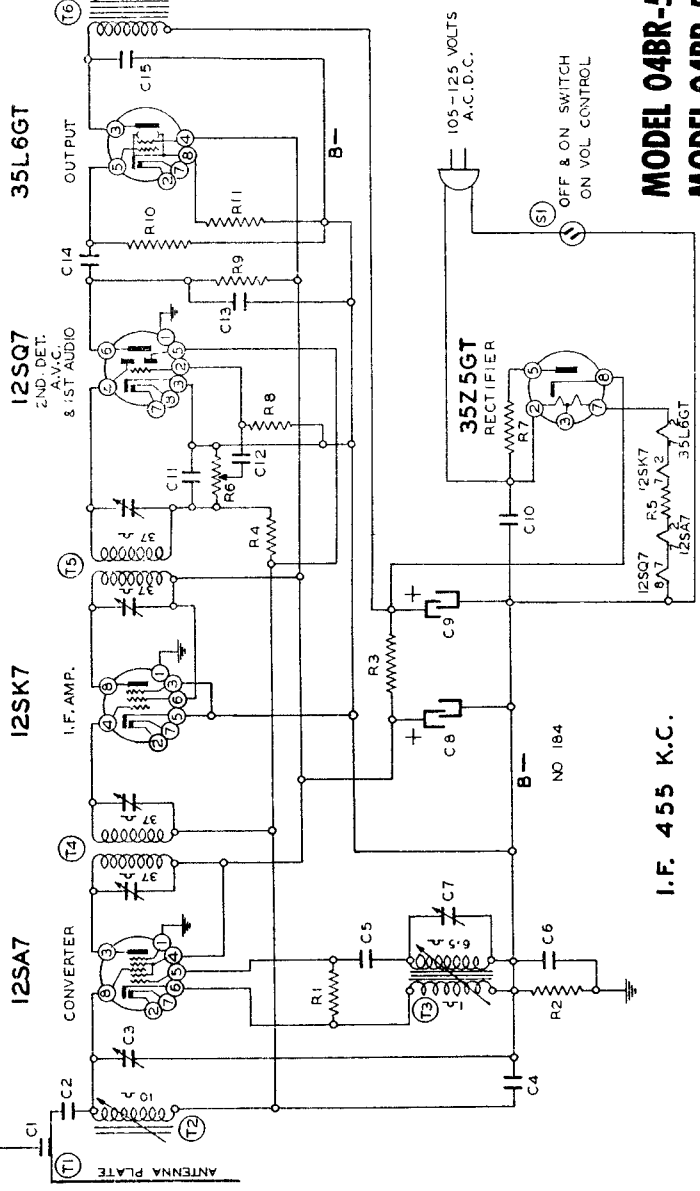
R1	BE130076	20M ohm— $\frac{1}{2}$ w.
R2	BE130100	150M ohm— $\frac{1}{2}$ w.
R3	BE130279	1M ohm—1 watt
R4	BE1304	3 megohm— $\frac{1}{2}$ w.
R5	BE130288	50 ohm—1.5 watt
R6	BE101220	500M ohm volume control and Switch
R7	BE130240	30 ohm— $\frac{1}{2}$ w.
R8	BE130257	5 megohm— $\frac{1}{2}$ w.
R9	BE130100	150M ohm— $\frac{1}{2}$ w.
R10	BE13011	250M ohm— $\frac{1}{2}$ w.
R11	BE130166	150 ohm— $\frac{1}{2}$ w.

## CONDENSERS

C1	BE131262	.0001 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	.0005 mica
C6	BE10091	.15 x 400 v.
C7	BE124137	Trimmer on Oscillator coil
C8	BE11992	20 mid. lyric x 150 w. v.
C9	BE11992	40 mid. lyric x 150 w. v.
C10	BE10013	.05 x 400 v.
C11	BE12912	.0025 mica
C12	BE10025	.002 x 600 v.
C13	BE1292	.0005 mica
C14	BE10011	.01 x 400 v.
C15	BE10011	.01 x 400 v.

## PARTS

T1	BE115597-18	Antenna plate—walnut or
T2	BE115597-9	Antenna plate—ivory coil
T3	BE110181	Antenna permeability coil
T4	BE110153	Oscillator permeability coil
T5	BE108157-F	Input I.F. Coil—455 kc.
T6	BE108157-I	Output I.F. Coil—455 kc.
T7	BE105110	Output Transformer



I.F. 455 K.C.

MODEL 04BR-511A  
MODEL 04BR-512A

MONTGOMERY WARD

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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

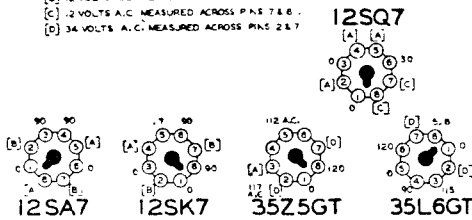
# MONTGOMERY WARD

# CHICAGO, U. S. A.

### BOTTOM VIEW OF CHASSIS

VOLTAGES MEASURED WITH 1000 OHM PER VOLT  
VOLTMETER BETWEEN SOCKET TERMINALS A & B  
WITH A L.I.F. VOLTAGE OF 117 V. VOLUME CONTROL AT MINIMUM.

[A] CANNOT BE MEASURED WITH VOLTMETER.  
[B] 12 VOLTS A.C. MEASURED ACROSS PINS 2 & 7.  
[C] 12 VOLTS A.C. MEASURED ACROSS PINS 7 & 8.  
[D] 34 VOLTS A.C. MEASURED ACROSS PINS 2 & 7.



REAR OF CHASSIS

Schematic  
Diagram Part  
Ref. No. No.

Description

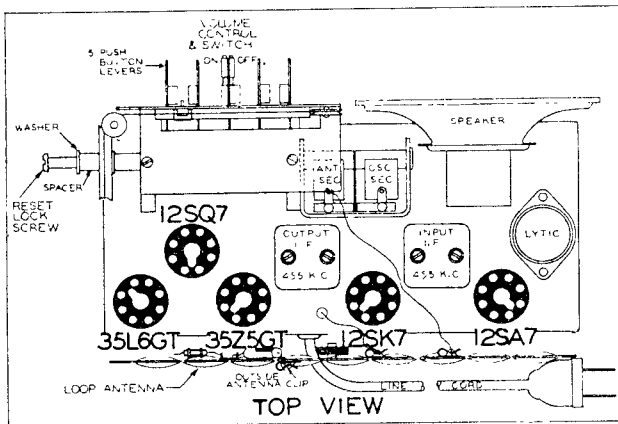
### RESISTORS

R1	BE130314	2200 ohm— $\frac{1}{2}$ w.
R2	BE13094	50M ohm— $\frac{1}{2}$ w.
R3	BE1309	200M ohm— $\frac{1}{2}$ w.
R4	BE130315	75 ohm— $\frac{1}{2}$ w.
R5	BE130203	40 ohm— $\frac{1}{2}$ w.
R6	BE1304	3 megohm— $\frac{1}{2}$ w.
R7	BE1301	25M ohm— $\frac{1}{2}$ w.
R8	BE130215	25 ohm— $\frac{1}{2}$ w.
R9	BE101198	1 megohm volume control
R10	BE130257	5 megohm— $\frac{1}{2}$ w.
R11	BE1303	500M ohm— $\frac{1}{2}$ w.
R12	BE1303	500M ohm— $\frac{1}{2}$ w.
R13	BE130166	150 ohm— $\frac{1}{2}$ w.
R14	BE130287	1200 ohm—1 w.

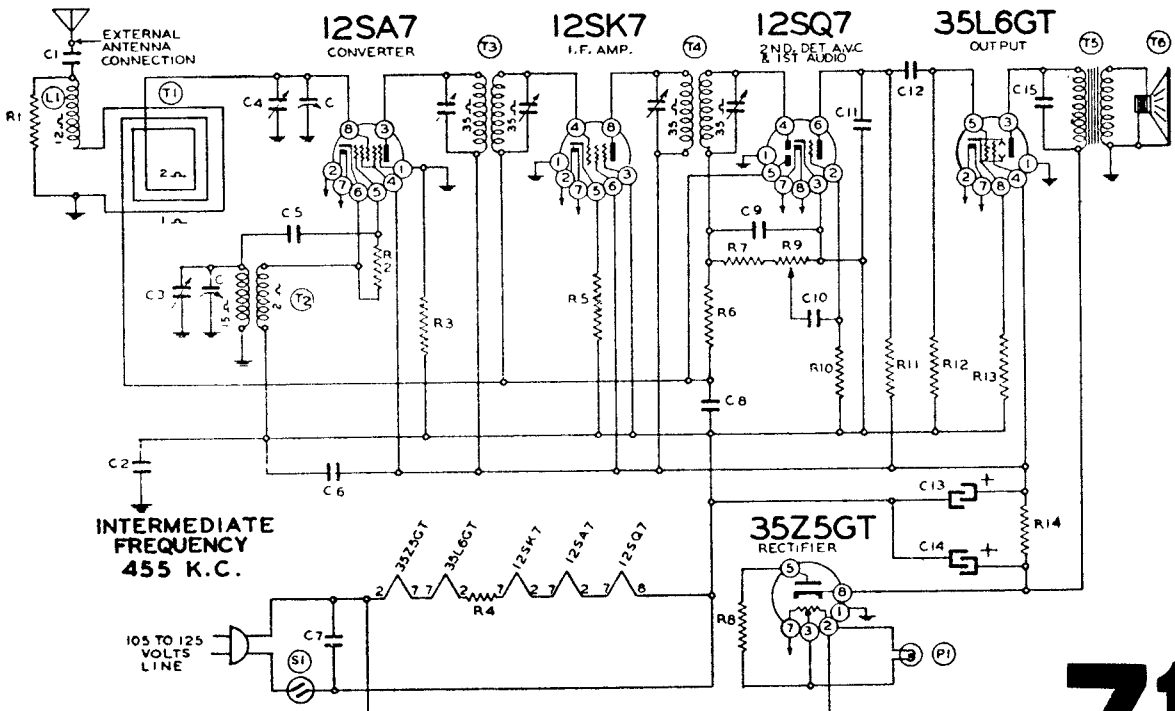
### CONDENSERS

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.

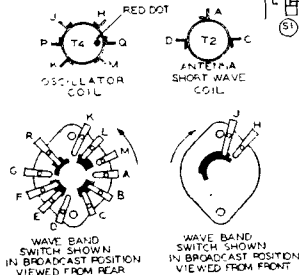
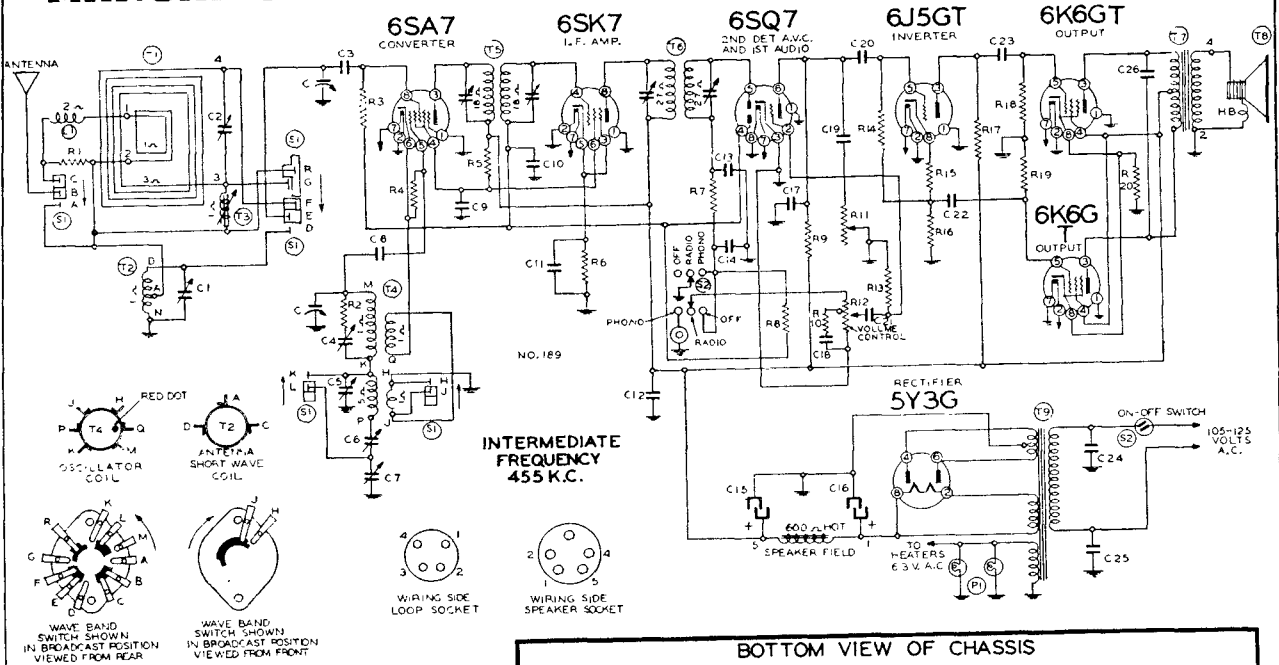
C13 and C14 are in same unit



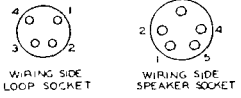
TOP VIEW



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



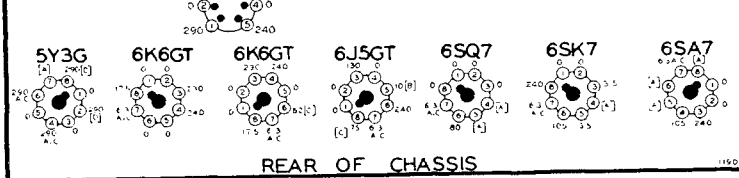
INTERMEDIATE  
FREQUENCY  
455 K.C.



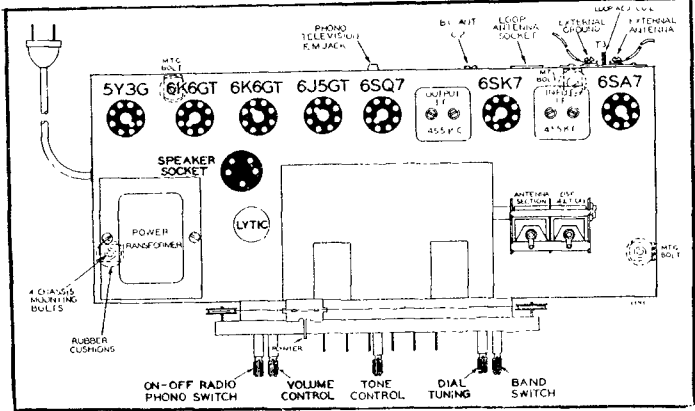
## BOTTOM VIEW OF CHASSIS

VOLTAGES MEASURED WITH 1000 OHM PER VOLT VOLTME-  
TER BETWEEN SOCKET TERMINALS AND CHASSIS.  
LOOP CONNECTED, RECEIVER OFF CARRIER.

[A] CANNOT BE MEASURED WITH VOLTME-  
TER.  
[B] ON 250 VOLT SCALE.  
[C] 4.0 VOLTS BETWEEN #6 PIN ON 6K6G & #8 PIN ON 6J5G (\*B.P.N.I.S. +)  
[D] 5.0 VOLTS A.C. BETWEEN PINS #2 & #8



## REAR OF CHASSIS



## RESISTORS

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

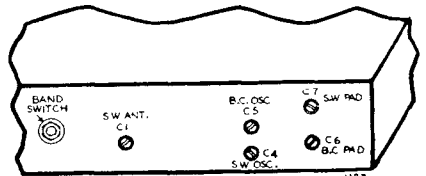
## CONDENSERS

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. Trm.—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



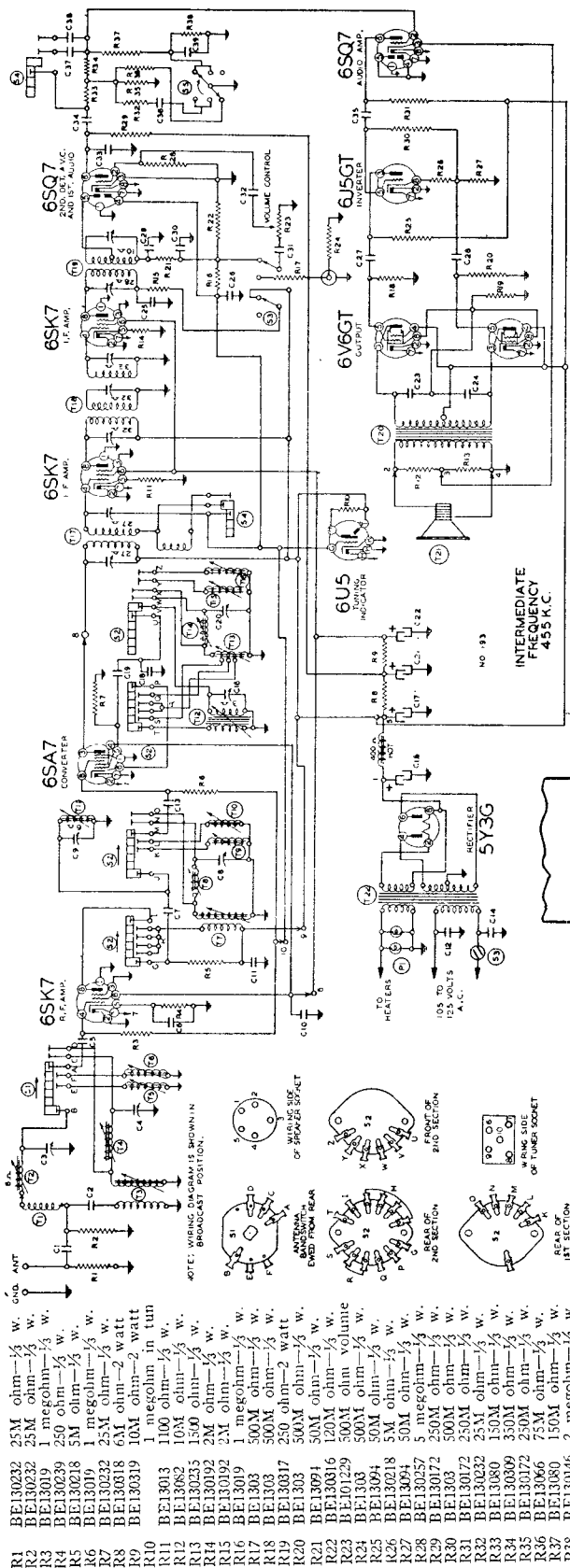
TRIMMER VIEW FRONT CHASSIS FLANGE

# 72

## MONTGOMERY WARD

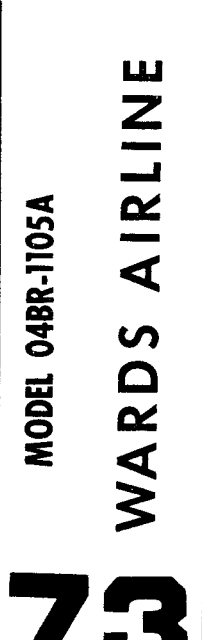
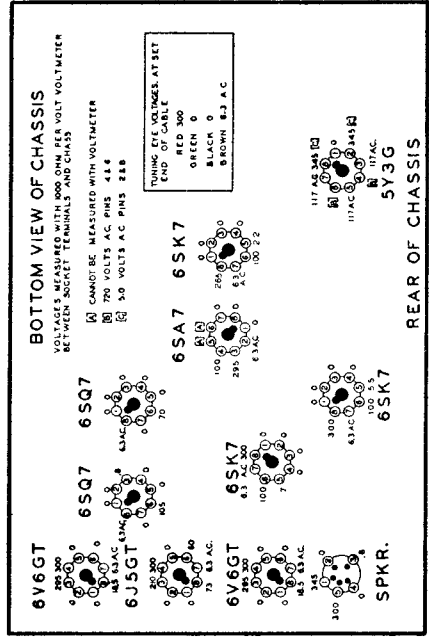
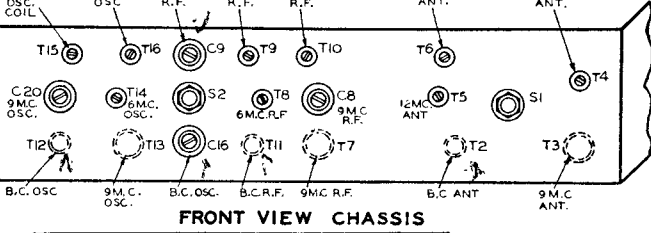
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



- |     |          |          |            |      |
|-----|----------|----------|------------|------|
| R1  | BE130232 | 25M      | ohm-1/2    | W.   |
| R2  | BE130232 | 25M      | ohm-1/2    | W.   |
| R3  | BE13019  | 1 megohm | -1/4       | W.   |
| R4  | BE130239 | 250      | ohm-1/4    | W.   |
| R5  | BE130218 | 5M       | ohm-1/4    | W.   |
| R6  | BE13019  | 1 megohm | -1/4       | W.   |
| R7  | BE130232 | 25M      | ohm-1/2    | watt |
| R8  | BE130618 | 6M       | ohm-2      | watt |
| R9  | BE130319 | 10M      | ohm-2      | watt |
| R10 | BE13031  | 1 megohm | in tun     |      |
| R11 | BE13013  | 100      | ohm-1/2    | W.   |
| R12 | BE13062  | 10M      | ohm-1/2    | W.   |
| R13 | BE130235 | 1500     | ohm-1/2    | W.   |
| R14 | BE130192 | 2M       | ohm-1/2    | W.   |
| R15 | BE130192 | 2M       | ohm-1/2    | W.   |
| R16 | BE13019  | 1 megohm | -1/4       | W.   |
| R17 | BE1303   | 300M     | ohm-1/4    | W.   |
| R18 | BE1303   | 300M     | ohm-1/4    | W.   |
| R19 | BE130317 | 250      | ohm-2      | watt |
| R20 | BE1303   | 300M     | ohm-1/4    | W.   |
| R21 | BE13091  | 30M      | ohm-1/2    | W.   |
| R22 | BE130316 | 120M     | ohm-1/4    | W.   |
| R23 | BE10129  | 300M     | ohm volume |      |
| R24 | BE1303   | 500M     | ohm-1/4    | W.   |
| R25 | BE13094  | 35M      | ohm-1/4    | W.   |
| R26 | BE130218 | 5M       | ohm-1/4    | W.   |
| R27 | BE13094  | 50M      | ohm-1/4    | W.   |
| R28 | BE130257 | 5 megohm | -1/4       | W.   |
| R29 | BE130172 | 250M     | ohm-1/4    | W.   |
| R30 | BE1303   | 500M     | ohm-1/4    | W.   |
| R31 | BE130172 | 250M     | ohm-1/4    | W.   |
| R32 | BE130232 | 25M      | ohm-1/2    | W.   |
| R33 | BE13080  | 150M     | ohm-1/4    | W.   |
| R34 | BE130309 | 350M     | ohm-1/4    | W.   |
| R35 | BE130172 | 250M     | ohm-1/4    | W.   |
| R36 | BE13066  | 75M      | ohm-1/4    | W.   |
| R37 | BE13080  | 150M     | ohm-1/4    | W.   |
| R38 | BE130146 | 150M     | ohm-1/4    | W.   |

- PARTS**
- BE11200 Loop Antenna Assembly
  - BE11195 B.C. Antenna Coil
  - BE11190 9 mc. Antenna Coil
  - BE11189 6 mc. Antenna Coil
  - BE11191 12 mc. Antenna Coil
  - BE11192 15 mc. Antenna Coil
  - BE10959 9 mc. R.F. Coil
  - BE10958 6 mc. R.F. Coil
  - BE10960 12 mc. R.F. Coil
  - BE10961 15 mc. R.F. Coil
  - BE10962 B.C. R.F. Coil
  - BE10161 B.C. Oscillator Coil
  - BE110157 9 mc. Oscillator Coil
  - BE110156 6 mc. Oscillator Coil
  - BE110158 12 mc. Oscillator Coil
  - BE110159 15 mc. Oscillator Coil
  - BE108181 Input I.F. Coil
  - BE108155 B Interstage I.F. Coil
  - BE108182 Output I.F. Coil
  - BE108153 455 kc. Output Transformer
  - BE105115 12 in. Dynamic Speaker
  - BE114307 Power Transformer—50-60 cycles
  - BE104217 Antenna Bandswitch
  - BE104218 R.F. Oscillator Bandswitch
  - BE125121 Antenna Bandswitch
  - BE125122 R.F. Oscillator Bandswitch
  - BE125125 Or. Red. Photo Switch
  - BE125124 Treble Switch
  - BE125123 Base Switch
  - BE10794 2 e-8 volts pilot light T4

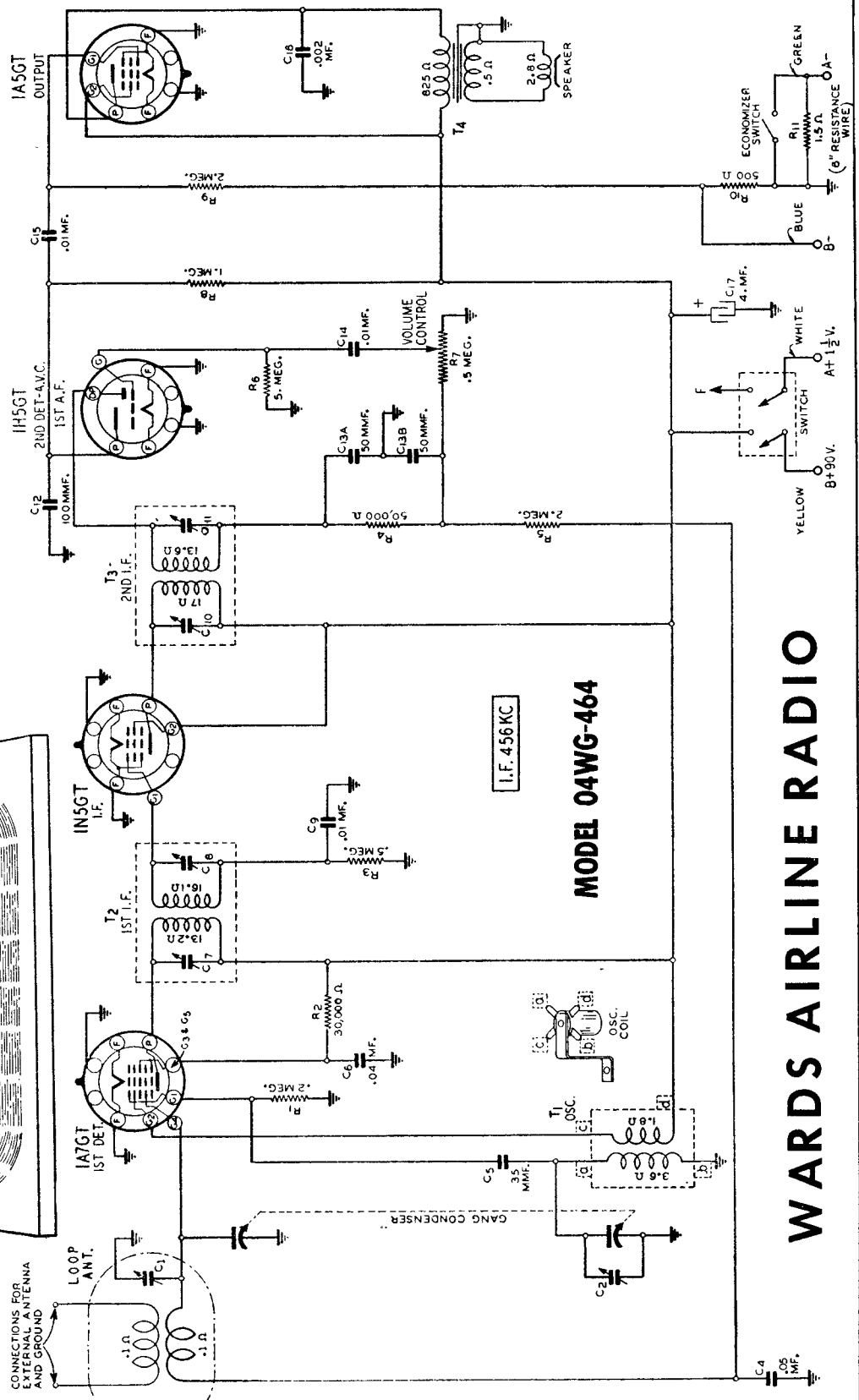
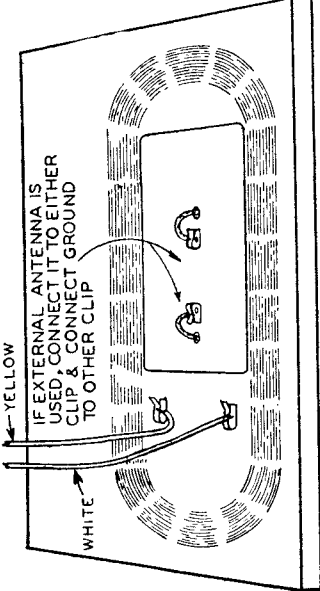
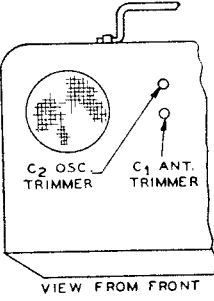
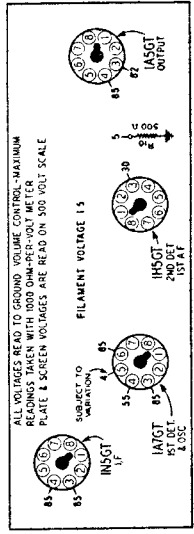


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MODEL 04BR-1105A  
**73** WARD'S AIRLINE

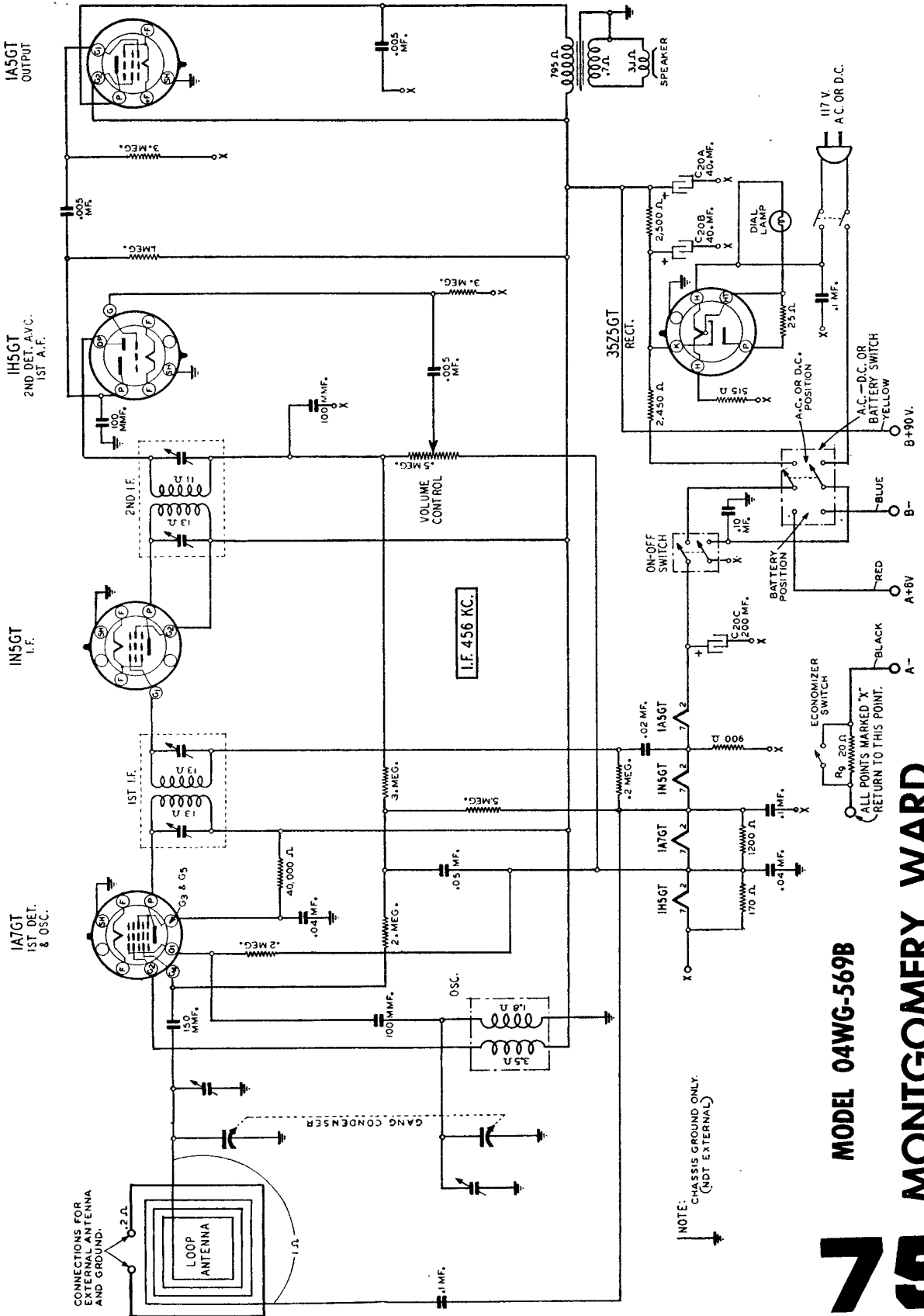


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



## WARDS AIRLINE RADIO

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



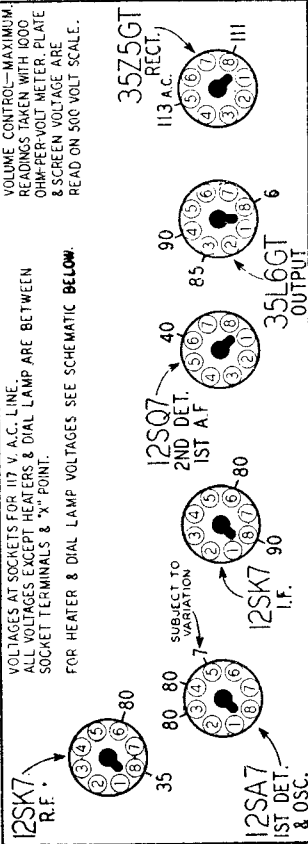
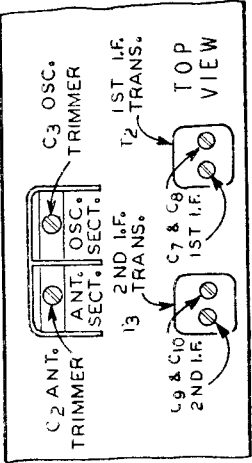
**MODEL 04WG-569B**

**MONTGOMERY WARD**

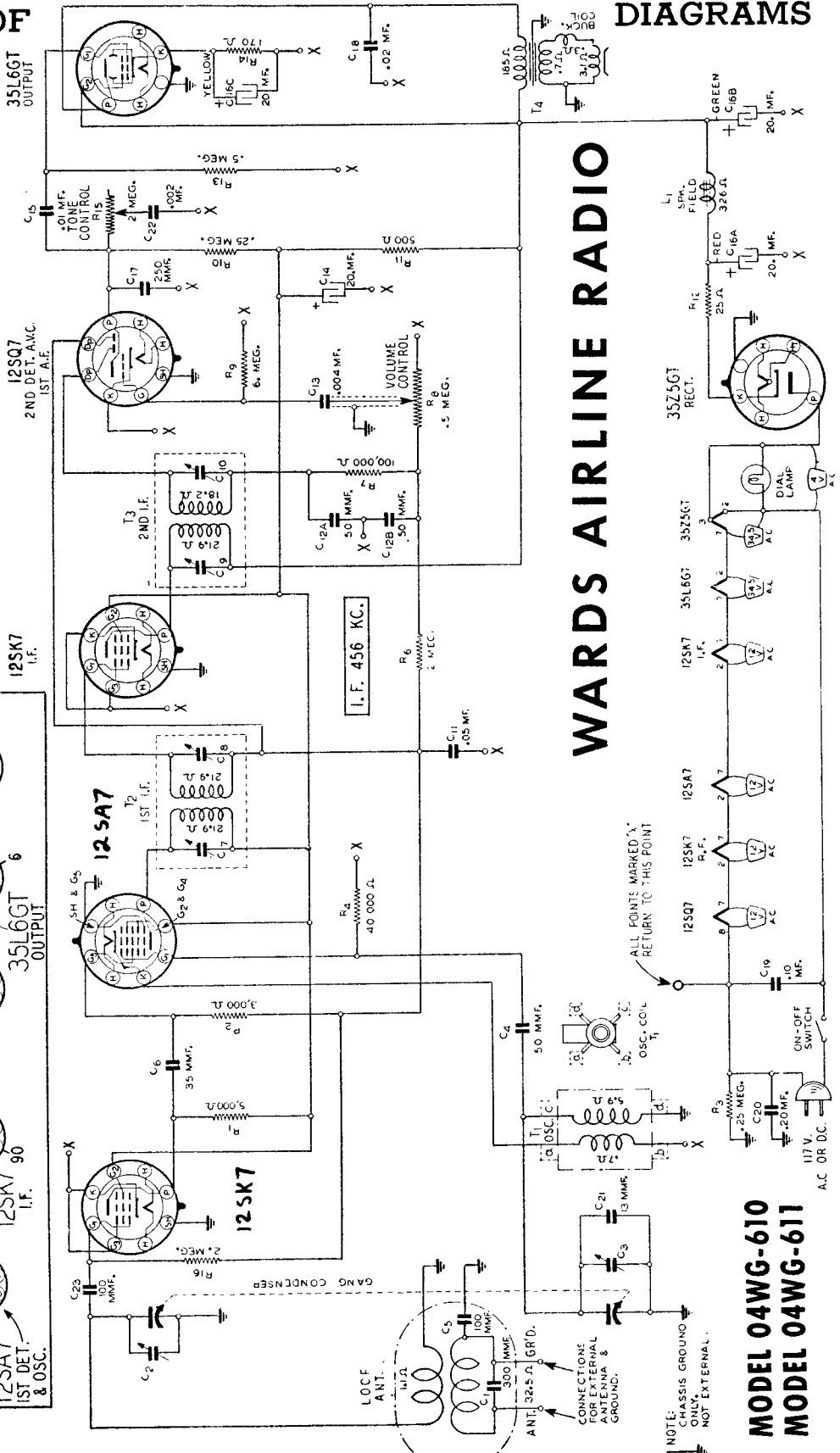
**CHICAGO, U. S. A.**

**75**

FRONT OF CHASSIS



# 76

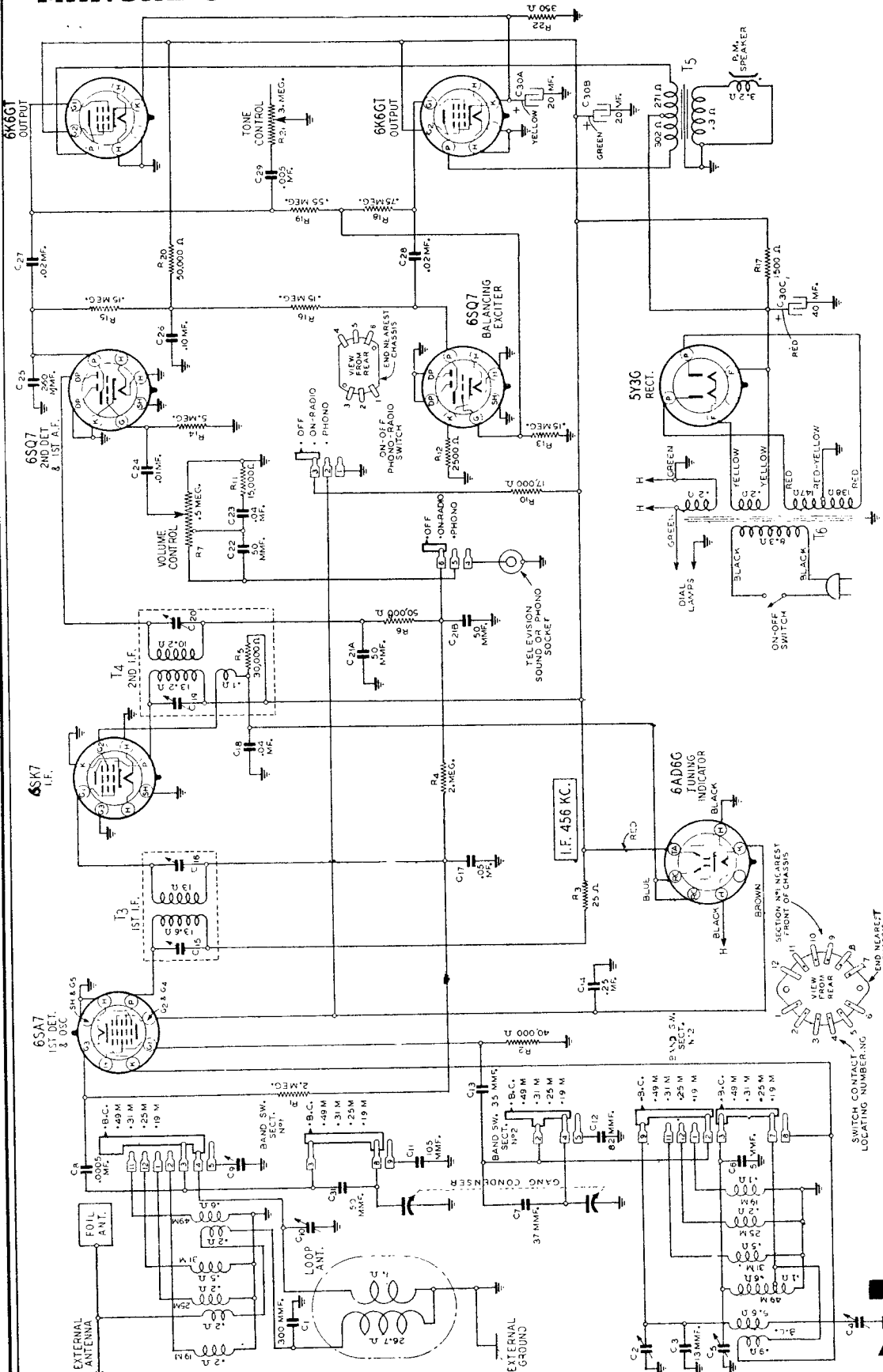


## WARDS AIRLINE RADIO

NOTE: CHASSIS GROUND ONLY, NOT EXTERNAL.

**MODEL 04WG-610**  
**MODEL 04WG-611**

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



## WARDS AIRLINE RADIO BROADCAST AND SPREAD-BAND SHORT WAVE RADIO

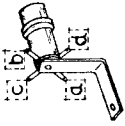
MODEL 04WG-803

77

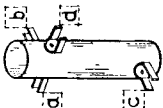
WARDS

MODEL 04WG-731A

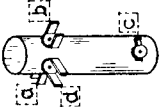
OSC. T3



OSC. T2

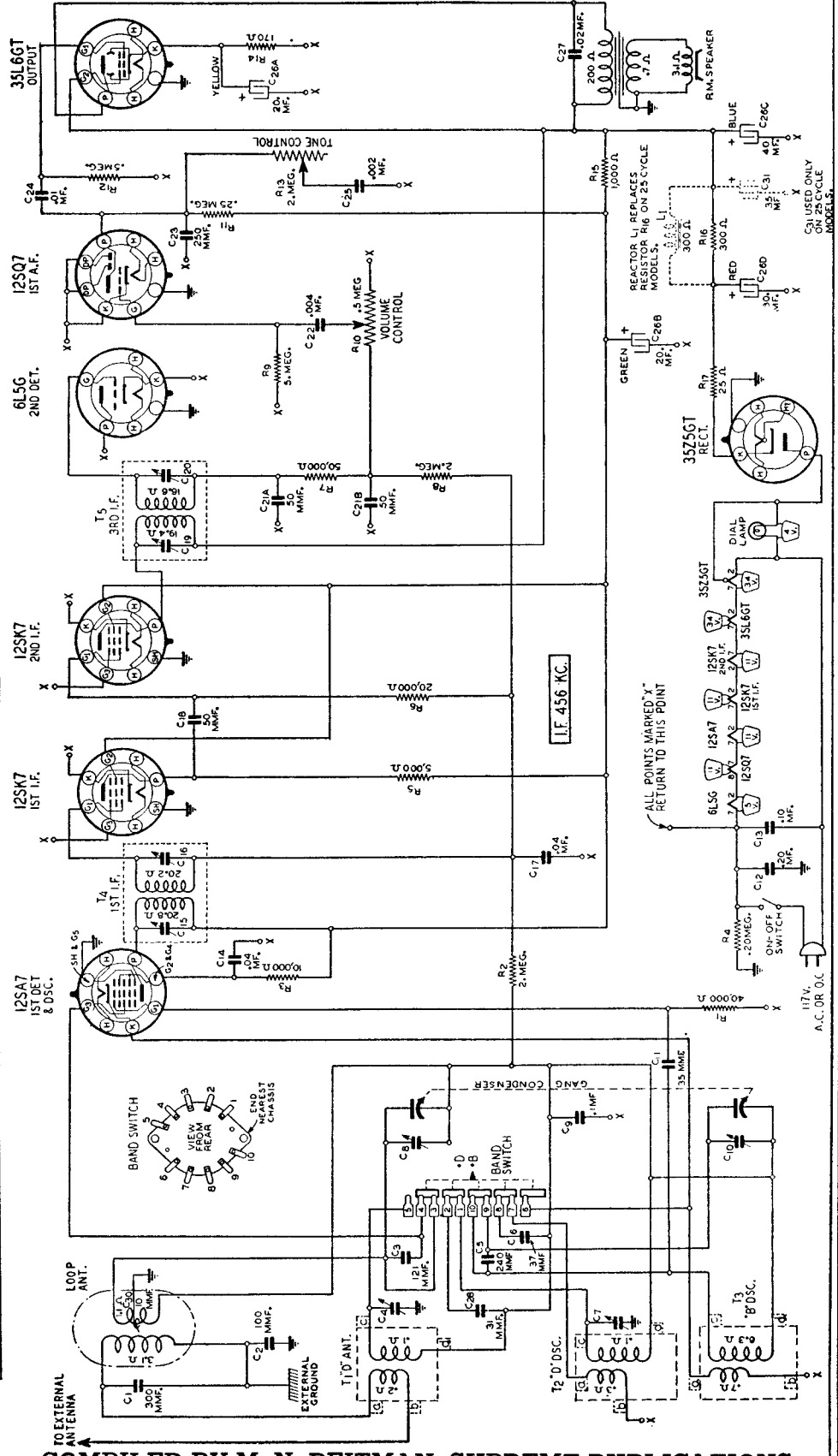
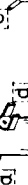
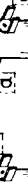
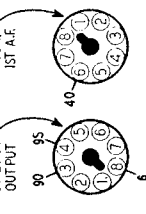
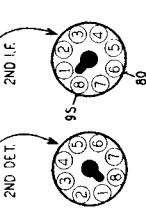
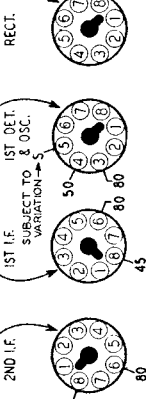
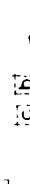
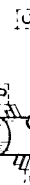
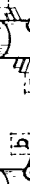
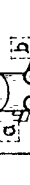
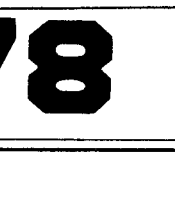
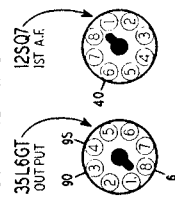
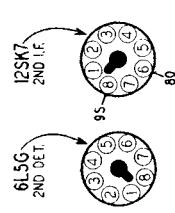
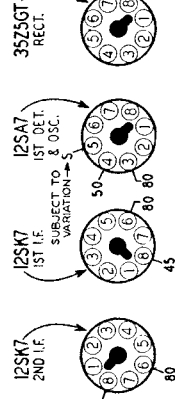


ANT. T1



COIL TERMINALS

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

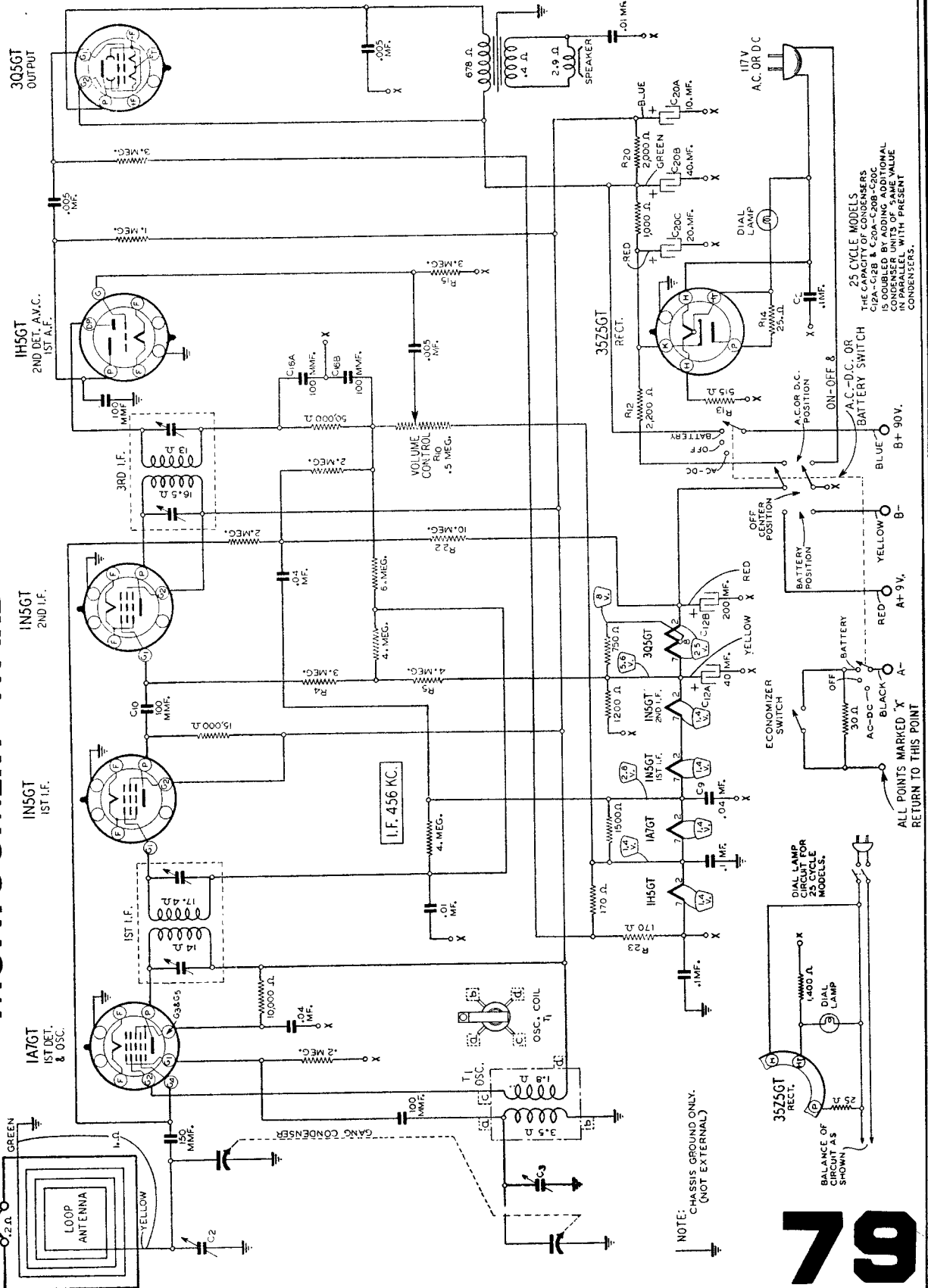


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

MODEL 14WG-672

MONTGOMERY WARD

CONNECTIONS FOR  
EXTERNAL ANTENNA  
AND GROUND



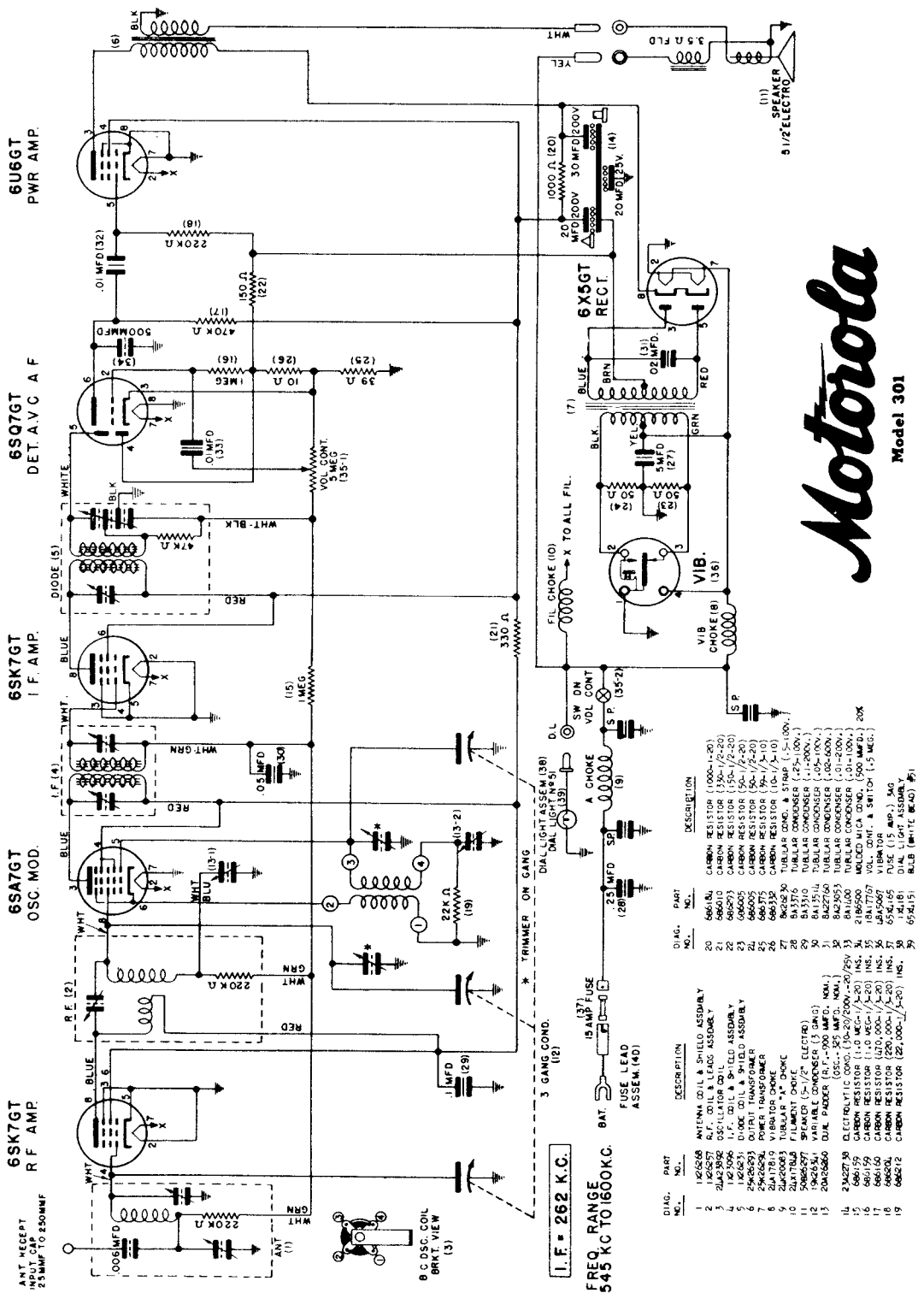
25 CYCLE MODELS  
THE CAPACITANCE OF CONDENSERS  
ON THE 25-CYCLE A.C. CIRCUIT  
IS DOUBLED BY ADDING ADDITIONAL  
CONDENSER UNITS OF SAME VALUE  
IN PARALLEL WITH PRESENT  
CONDENSERS.

ALL POINTS MARKED 'X'  
RETURN TO THIS POINT

NOTE:  
CHASSIS GROUND ONLY.  
(NOT EXTERNAL)

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**Motorola**  
Model 301

DIAG. NO.	PART NO.	DESCRIPTION	DIAG. PART NO.	DESCRIPTION
1	1105258	ANTENNA COIL & SHIELD ASSEMBLY	20	6A610
2	21A2392	OSCILLATOR COIL	21	6A610
3	1105296	I.F. COIL & SHIELD ASSEMBLY	22	6A610
4	2105251	D.I.C. COIL & SHIELD ASSEMBLY	23	6A610
5	2105251	D.I.C. COIL & SHIELD ASSEMBLY	24	6A610
6	2105251	D.I.C. COIL & SHIELD ASSEMBLY	25	6A610
7	2105251	D.I.C. COIL & SHIELD ASSEMBLY	26	6A610
8	2105251	D.I.C. COIL & SHIELD ASSEMBLY	27	6A610
9	2105251	D.I.C. COIL & SHIELD ASSEMBLY	28	6A610
10	2105251	D.I.C. COIL & SHIELD ASSEMBLY	29	6A610
11	2105251	D.I.C. COIL & SHIELD ASSEMBLY	30	6A610
12	2105251	D.I.C. COIL & SHIELD ASSEMBLY	31	6A610
13	2105251	D.I.C. COIL & SHIELD ASSEMBLY	32	6A610
14	2105251	D.I.C. COIL & SHIELD ASSEMBLY	33	6A610
15	2105251	D.I.C. COIL & SHIELD ASSEMBLY	34	6A610
16	2105251	D.I.C. COIL & SHIELD ASSEMBLY	35	6A610
17	2105251	D.I.C. COIL & SHIELD ASSEMBLY	36	6A610
18	2105251	D.I.C. COIL & SHIELD ASSEMBLY	37	6A610
19	2105251	D.I.C. COIL & SHIELD ASSEMBLY	38	6A610

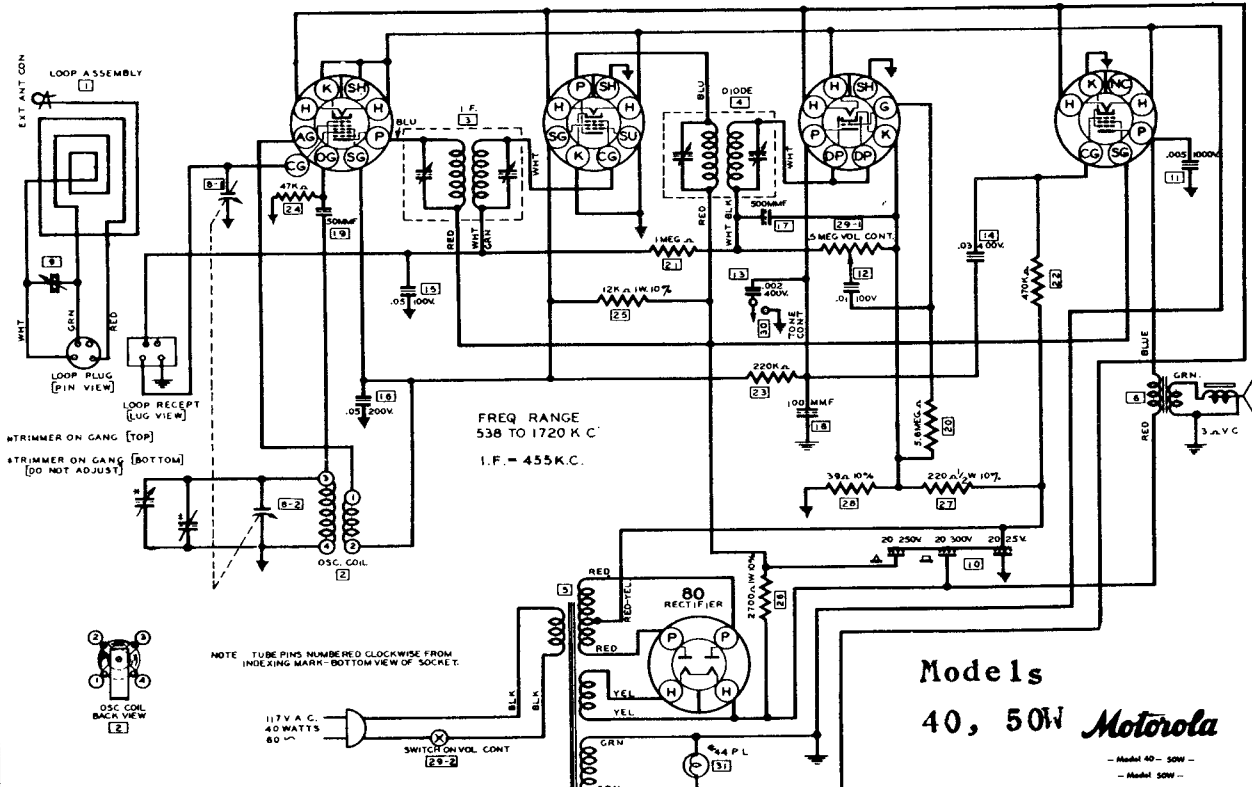
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

6A8GT  
OSC MOD

85K7GT  
I.F. AMP

85Q7GT  
DET. AVC-AF

8K8GT  
PWR AMP



Models  
40, 50W *Motorola*

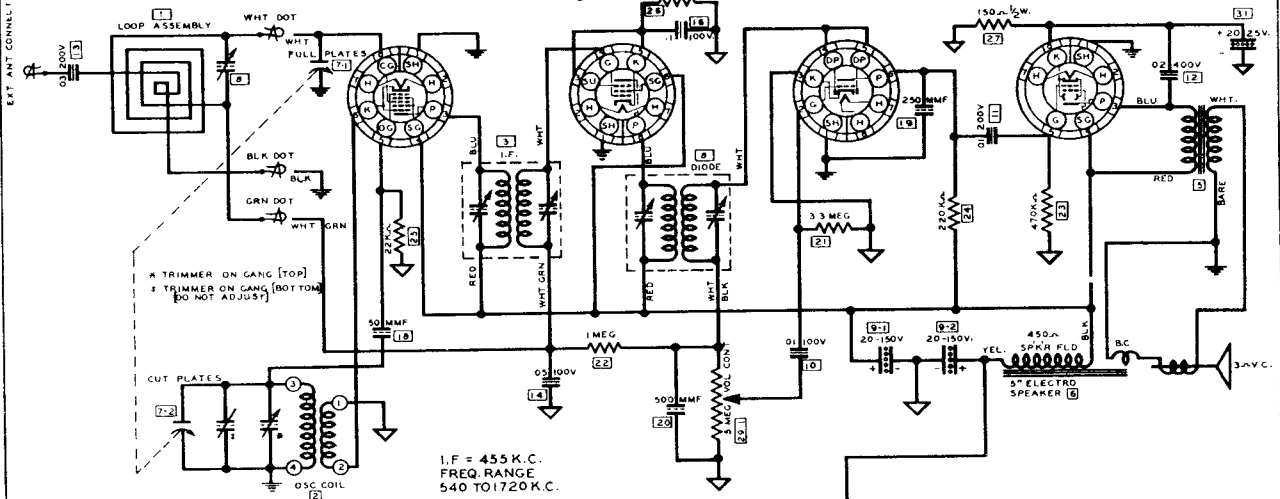
— Model 40 — 50W —  
— Model 50W —

12SA7GT  
OSC. MOD

12SK7GT  
I.F. AMP

12SQ7GT  
DET. AVC. AF

50L8GT  
PWR. AMP

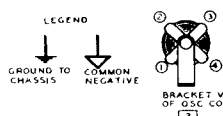


*Motorola*

— Model 34X1 —

# 81

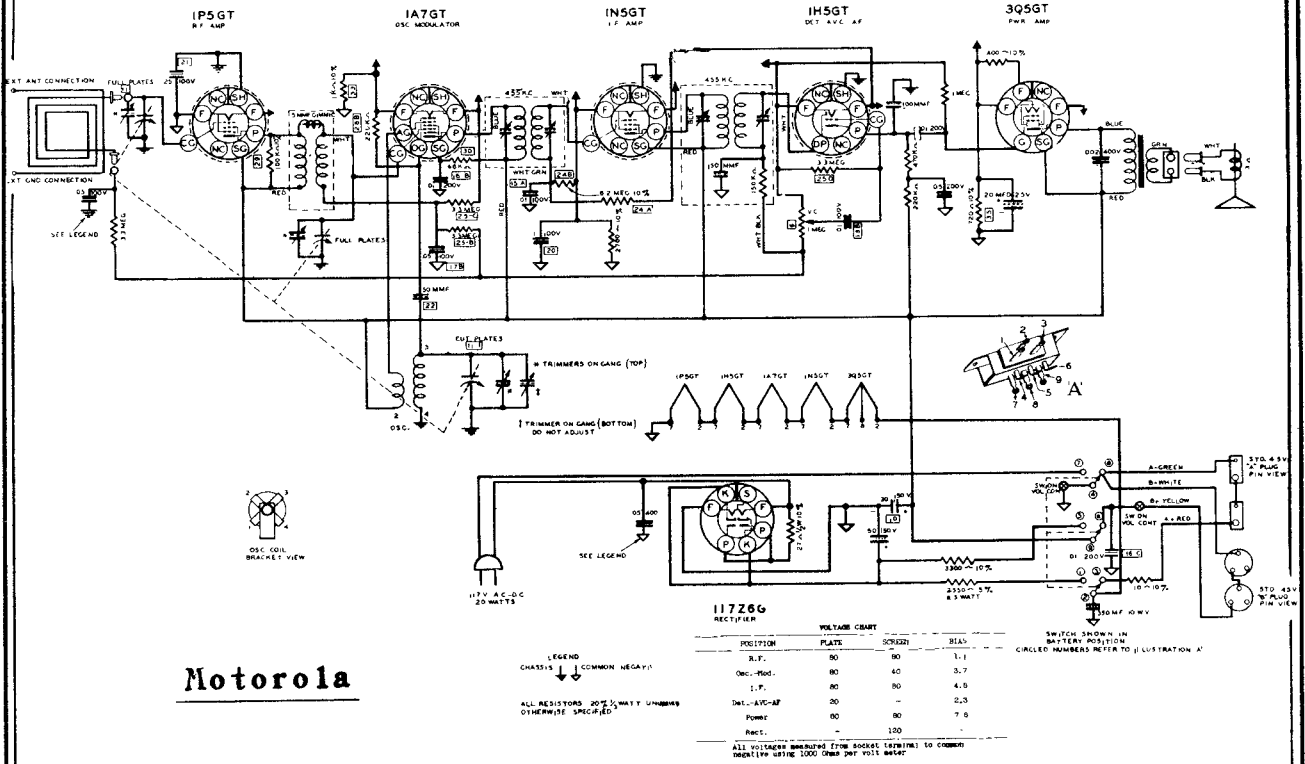
Part No.	Description	
1	120937	Back & Loop assembly
2	242709	Osc. Coil (Ceramic) (Cm-Blk. net.)
3	120935	I.F. Coil & Diode Assembly
4	120935	Diode Coil & Shield Assembly
5	254095	Output Transformer
6	508205	Speaker (1 1/2" Electro)
7	120936	Gang & Pinion assembly (2 Deck)
8	2041850	Electrolytic Cond. & Relay (20-20/100)
9	254095	Trimmer A 72 (On Loop Assembly)
10	89803	Tubular Condenser (.05-100P.)
11	89802	Tubular Condenser (.01-100P.)
12	89800	Tubular Condenser (.005-100P.)
13	89813	Tubular Condenser (.05-200P.) On Loop Assembly.
14	89800	Tubular Condenser (.05-100P.)
15	89815	Tubular Condenser (.05-100P.)
16	89811	Tubular Condenser (.1-100P.)
17	89810	Tubular Condenser (.25-100P.)
18	218625	Meloid Bias Condenser (50 MUF) 20K
19	218652	Meloid Bias Condenser (50 MUF) 20K
20	218650	Meloid Bias Condenser (50 MUF) 20K
21	680179	Carbon Resistor (1/2 W) 100K ±1.
22	680171	Carbon Resistor (1/2 W) 500K ±1.
23	680011	Carbon Resistor (1/2 W) 100K ±1.
24	680015	Carbon Resistor (1/2 W) 500K ±1.
25	680050	Carbon Resistor (25,000/1/2-20) ±1.
26	680177	Carbon Resistor (1/2 W) 100K ±1.
27	680023	Carbon Resistor (1/2 W) 100K ±1.
28	680027	Carbon Resistor (1/2 W) 100K ±1.
29	1041620	Volume Control & Switch (1.5 Meg)
30	651195	Wt. (Common Name) #7
31	294295	Electrolytic Condenser (20 W. - 25V.)





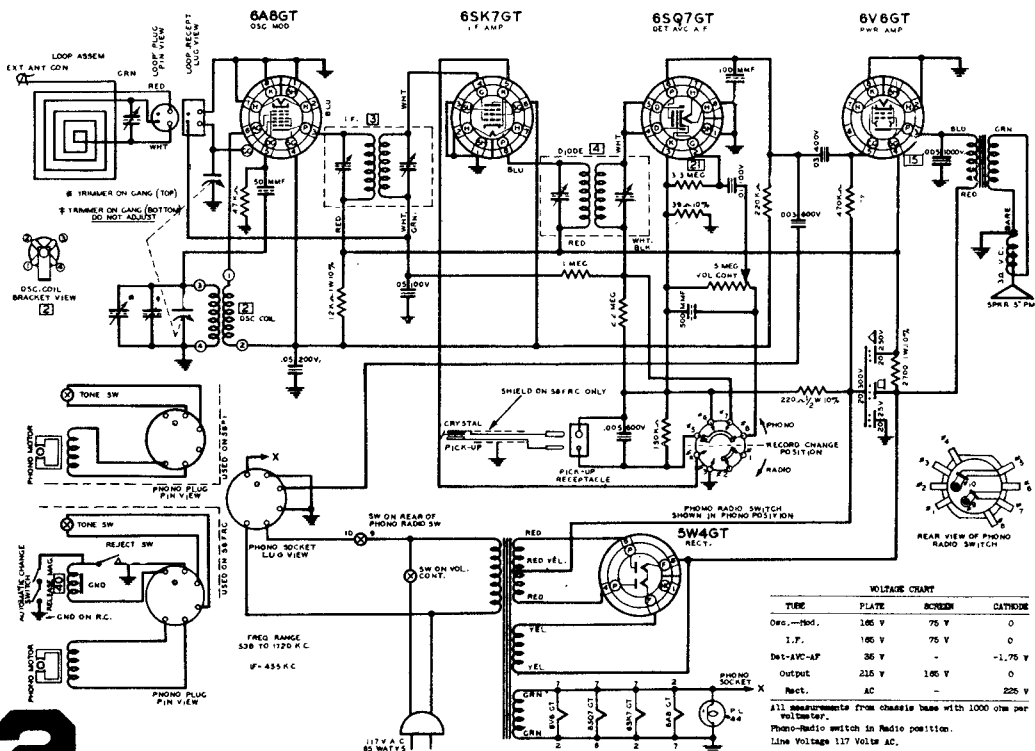
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## CIRCUIT DIAGRAM MODELS 65BP1-2-3-4

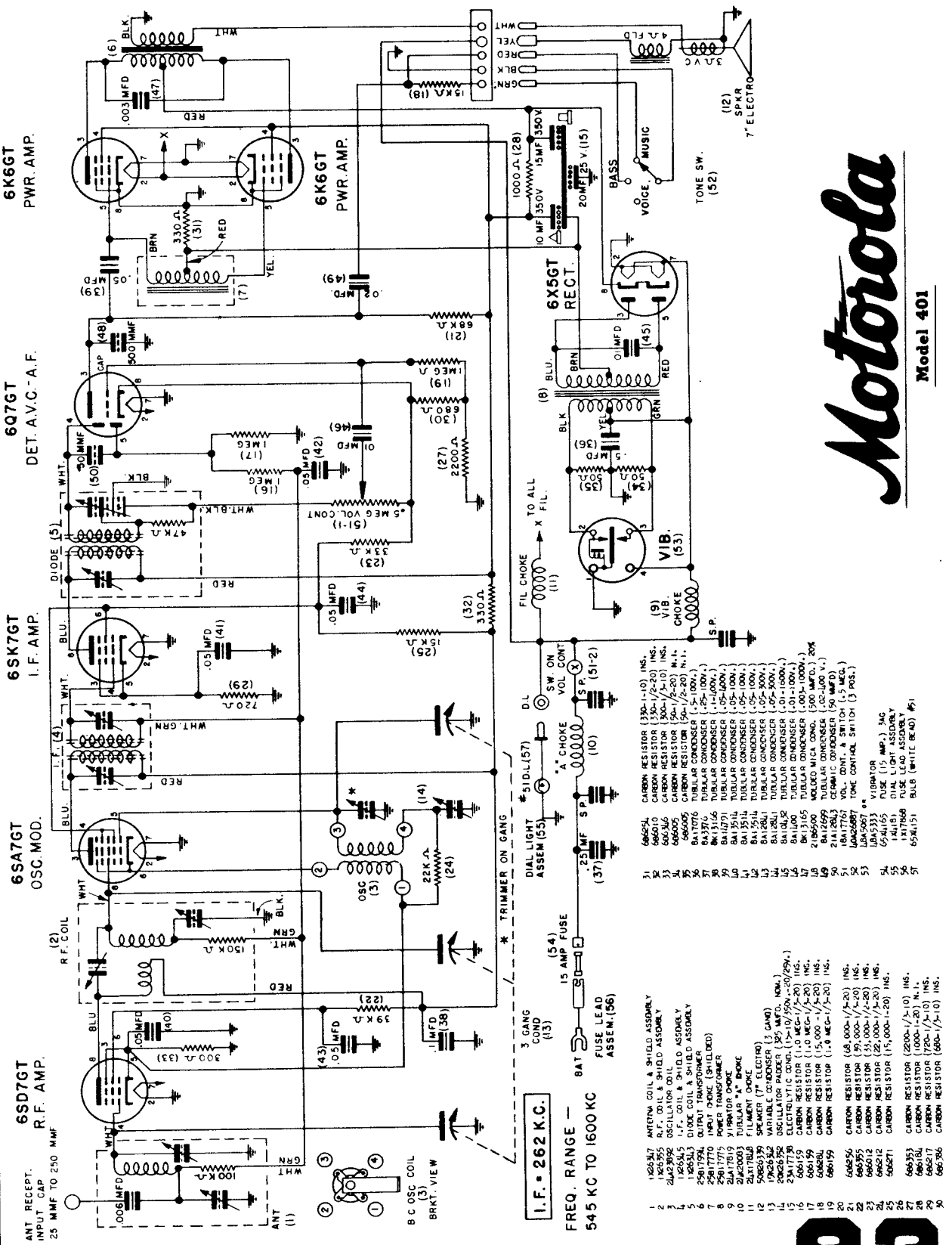


**Motorola**

## Motorola Models 58-F1, 58-FRC



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



# Motorola

Model 401

- |    |           |   |
|----|-----------|---|
| 1  | 1K5847    | ANTENNA COIL & SHIELD ASSEMBLY          |
| 2  | 1K2655    | R.F. COIL & SHIELD ASSEMBLY             |
| 3  | 2M42302   | OSCILLATOR COIL                         |
| 4  | 1K2654    | I.F. COIL & SHIELD ASSEMBLY             |
| 5  | 1K2653    | DIODE COIL & SHIELD ASSEMBLY            |
| 6  | 2501759L  | OUTPUT TRANSFORMER (200)                |
| 7  | 2501757   | POWER TRANSFORMER                       |
| 8  | 2M41701   | POWER TRANSFORMER                       |
| 9  | 2M41701/2 | VIBRATOR CHOKES                         |
| 10 | 2M42003   | TUBULAR "A" CHOKES                      |
| 11 | 2M42703   | FILAMENT CHOKES                         |
| 12 | 5082037   | SPEAKER (3" DIAM.)                      |
| 13 | 2028236   | OSCILLATOR PADDER (150 MFD. NOM.)       |
| 14 | 23M1773R  | ELECTROLYTIC COND. (15-10/50V.-20/25V.) |
| 15 | 665159    | CARBON RESISTOR (1.0 MEG.-1/2-20) INS.  |
| 16 | 665159    | CARBON RESISTOR (1.0 MEG.-1/2-20) INS.  |
| 17 | 665159    | CARBON RESISTOR (1.0 MEG.-1/2-20) INS.  |
| 18 | 665159    | CARBON RESISTOR (1.0 MEG.-1/2-20) INS.  |
| 19 | 665159    | CARBON RESISTOR (1.0 MEG.-1/2-20) INS.  |
| 20 | 665159    | CARBON RESISTOR (1.0 MEG.-1/2-20) INS.  |
| 21 | 665256    | CARBON RESISTOR (.68, 000-1/2-20) INS.  |
| 22 | 665256    | CARBON RESISTOR (.95, 000-1/2-20) INS.  |
| 23 | 665256    | CARBON RESISTOR (1.2, 000-1/2-20) INS.  |
| 24 | 665256    | CARBON RESISTOR (1.5, 000-1/2-20) INS.  |
| 25 | 665256    | CARBON RESISTOR (2.0, 000-1/2-20) INS.  |
| 26 | 508211    | CARBON RESISTOR (15, 000-1-20) INS.     |
| 27 | 665353    | CARBON RESISTOR (2200-1/2-10) INS.      |
| 28 | 665181    | CARBON RESISTOR (1000-1-20) N. L.       |
| 29 | 665181    | CARBON RESISTOR (1000-1-20) N. L.       |
| 30 | 665386    | CARBON RESISTOR (680-1/2-10) INS.       |
| 31 | 664524    | CARBON RESISTOR (350-1-10) INS.         |
| 32 | 664510    | CARBON RESISTOR (350-1/2-20) INS.       |
| 33 | 664510    | CARBON RESISTOR (500-1/2-20) INS.       |
| 34 | 664525    | CARBON RESISTOR (500-1/2-20) N. L.      |
| 35 | 6647076   | CARBON RESISTOR (500-1/2-20) N. L.      |
| 36 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 37 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 38 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 39 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 40 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 41 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 42 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 43 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 44 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 45 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 46 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 47 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 48 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 49 | 21A26590  | MOLDED MICA CONG. (300 MFD., 20V.)      |
| 50 | 21A26590  | MOLDED MICA CONG. (300 MFD., 20V.)      |
| 51 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 52 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 53 | 8A13716   | TUBULAR CONDENSER (.25-100V.)           |
| 54 | 664533    | VIBRATOR                                |
| 55 | 664165    | FUSE (15 AMP., 3AG)                     |
| 56 | 14A181    | DIAL LIGHT ASSEMBLY                     |
| 57 | 15H1068   | DIODE (50V., 1/2-10) INS.               |
| 58 | 664171    | DIODE (50V., 1/2-10) INS.               |

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

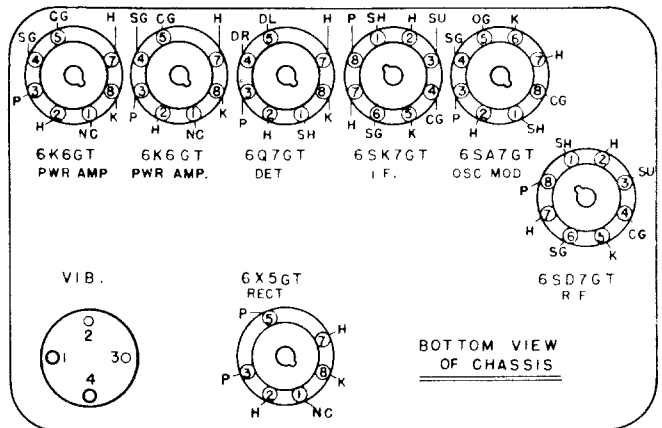
### ALIGNMENT CHART

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.

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.-AF	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.

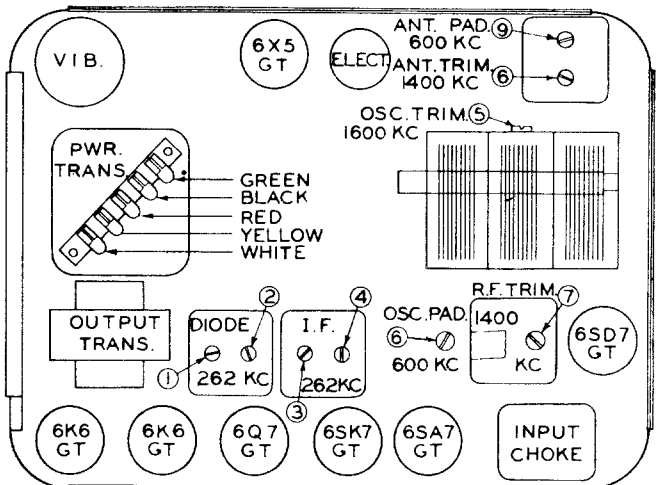
ALL VOLTAGES MEASURED WITH 1000 OHM PER VOLT VDLTMETER



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

**MOTOROLA**

**Model 401**



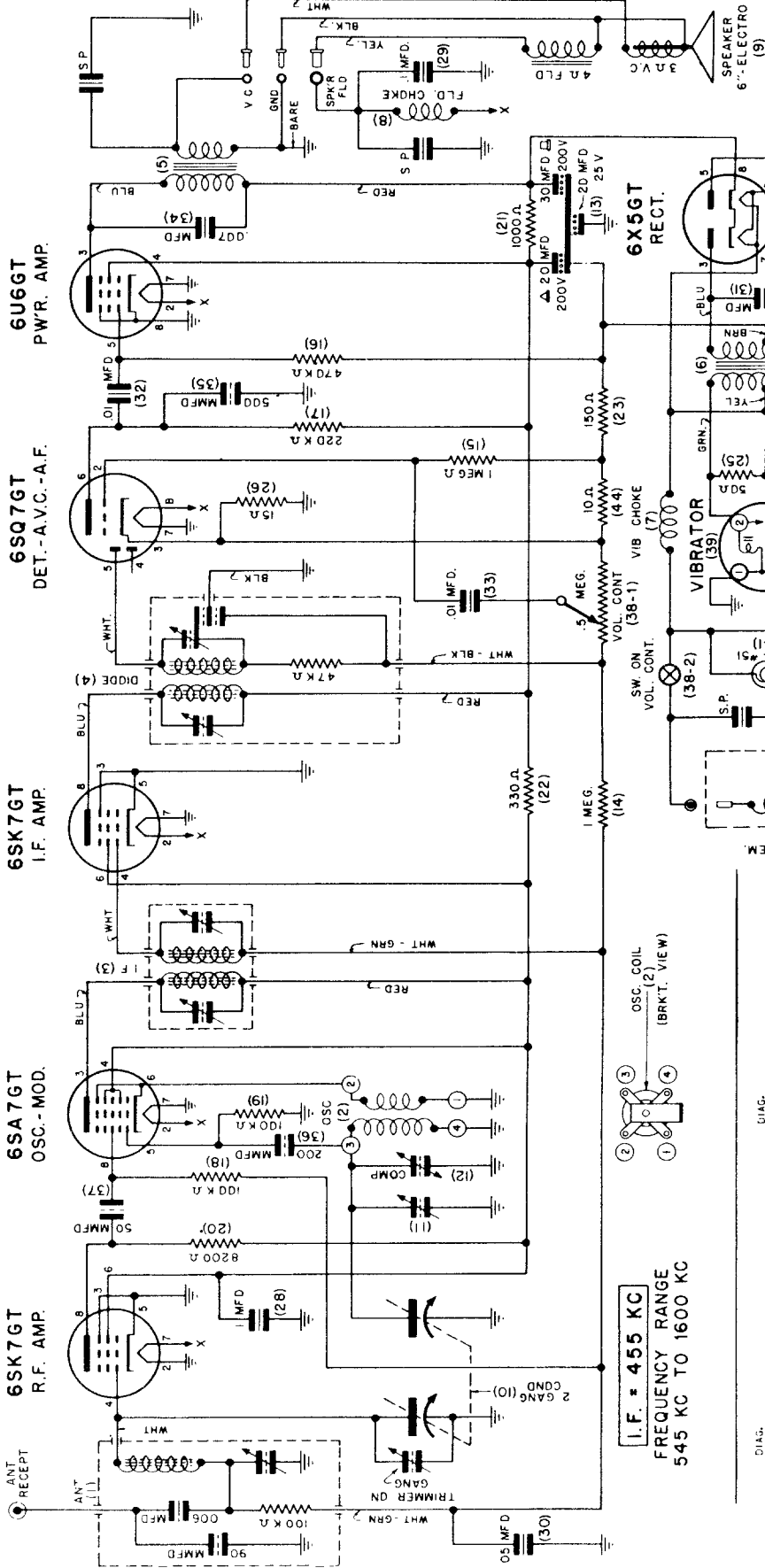
6SK7GT  
R.F. AMP.

6SA7GT  
OSC.-MOD.

6SK7GT  
I.F. AMP.

6SQ7GT  
DET.-A.V.C.-A.F.

6U6GT  
P.W.R. AMP.



I.F. = 455 KC  
FREQUENCY RANGE  
545 KC TO 1600 KC

DIAG. NO.	DESCRIPTION
1	ANTENNA COIL & SHIELD ASSEMBLY
2	OSCILLATOR COIL
3	L.F. COIL & SHIELD ASSEMBLY
4	DIODE COIL & SHIELD ASSEMBLY
5	OUTPUT TRANSFORMER
6	POWER TRANSFORMER
7	VIBRATOR CHOKE (8 PIPE)
8	FIELD CHOKES
9	SPEAKER (6" ELECTRO)
10	TUNING UNIT GANG & PULLEY ASSEMBLY
11	COMPENSATING CONDENSER
12	TRIMMER
13	ELECTROLYTIC COND. (50-20/200-20/25V)
14	CARBON RESISTOR (1.0 MEG.-1/2-20) INS.
15	CARBON RESISTOR (170,000-1/2-20) INS.
16	CARBON RESISTOR (100,000-1/2-20) 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 (5000-1/2-20) N. I.
21	CARBON RESISTOR (1000-1/2-20) N. I.
22	CARBON RESISTOR (150-1/2-20) INS.
23	CARBON RESISTOR (150-1/2-20) INS.
24	CARBON RESISTOR (50-1/2-20) N. I.
25	CARBON RESISTOR (15-1/2-10) INS.
26	TUBULAR CONDENSER (.5-100V.)
27	TUBULAR CONDENSER (.1-100V.)
28	TUBULAR CONDENSER (.1-100V.)
29	TUBULAR CONDENSER (.05-100V.)
30	TUBULAR CONDENSER (.02-600V.)
31	TUBULAR CONDENSER (.01-200V.)
32	TUBULAR CONDENSER (.01-100V.)
33	TUBULAR CONDENSER (.01-100V.)
34	TUBULAR CONDENSER (.01-100V.)
35	MILLED MICA COND. (500 MF/D.) 20K
36	TUBULAR CERAMIC COND. (50 MF/D.) 20K
37	VOL. CONT. & SWITCH (.5 MEG.)
38	VIBRATOR (8" MP)
39	FUSE (15 AMP.)
40	BULB (WHITE BEAD) #1
41	FILTER LEAD ASSEMBLY
42	FUSE LEAD ASSEMBLY
43	CARBON RESISTOR (10-1/2-10) INS.

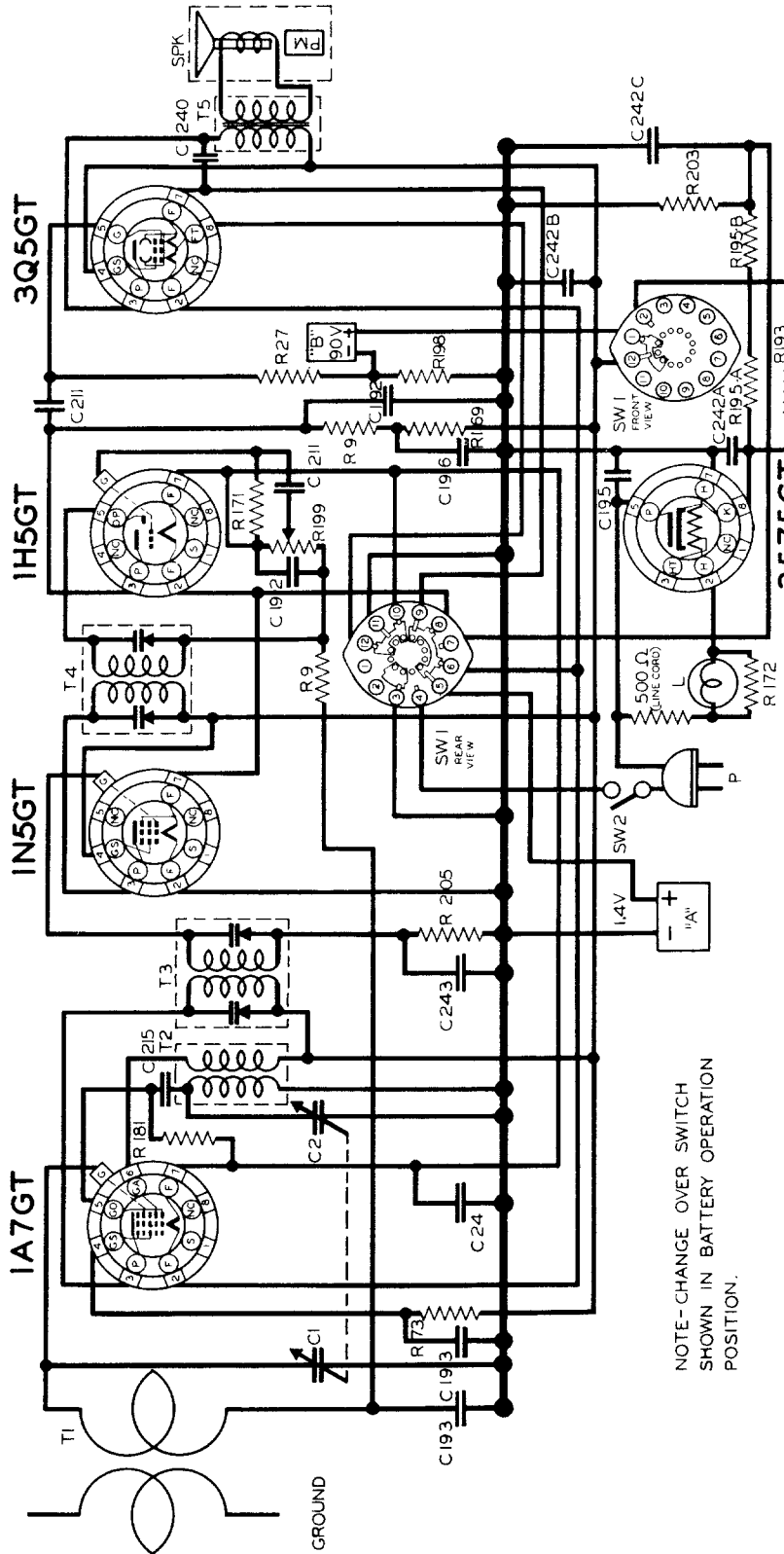
**Motorola**

Model 251

**85**

ARVIN HOME RADIO CHASSIS RE-82

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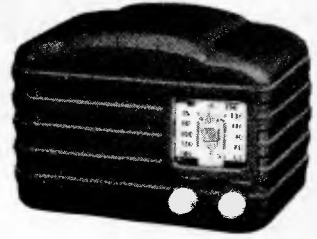
NOTE-CHANGE OVER SWITCH SHOWN IN BATTERY OPERATION POSITION.

RESISTORS			CONDENSERS			TRANSFORMERS			MISCELLANEOUS UNITS		
R	OHM	W	C	CAPACITY	VOLT	T	TYPE	PART NO.	SYMBOL	DESCRPTION	PART NO.
9	1M	1/4	1	TWO-GANG		1	ANTENNA COIL	00-16973	A	1.5 VOLT "K" BATTERY	17-0583
27	30K	1/4	2	VARIABLE		2	OSCILLATOR COIL	00-16404	B	TWO 45-VOLT B BATTERIES	17-16562
193	30K	1/4	193	.00025	600	3	FIRST I.F. COIL	00-16578	L	DIAL LIGHT BULB MAZDA 47	17-16376
199	150K	1/4	195	.05	200	4	SECOND I.F. COIL	00-16579	P	LINE CORD & P. J. PL. ASSY. B. 1	17-16492
171	15M	1/4	195	.05	400	5	OUTPUT TRANS	00-16586	SW1	SPEAKER ASSEMBLY - S. PERMANENT MAGNET	17-16603
172	100	1/4	196	.1	200			00-14277	SW1	AC DC-BATTERY SWITCH	17-16564
181	100K	1/4	211	.01	200			00-14306	SW2	COLUMB CONTROL & LINE SWITCH	17-16350
184	460	3/4	215	.0001	600			00-14310			
193B	1500	5/4	24	.5	200			00-14310A			
198	300	1/4	240	.003	400			00-14246			
199	1M	1/4	242A	.40	150			00-14354			
203	450	1/4	242B	.20	150			00-14353			
193	2K	1/4	242C	.100	2.5			00-14356			
205	3M	1/4	243	.002	200			00-14357			

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

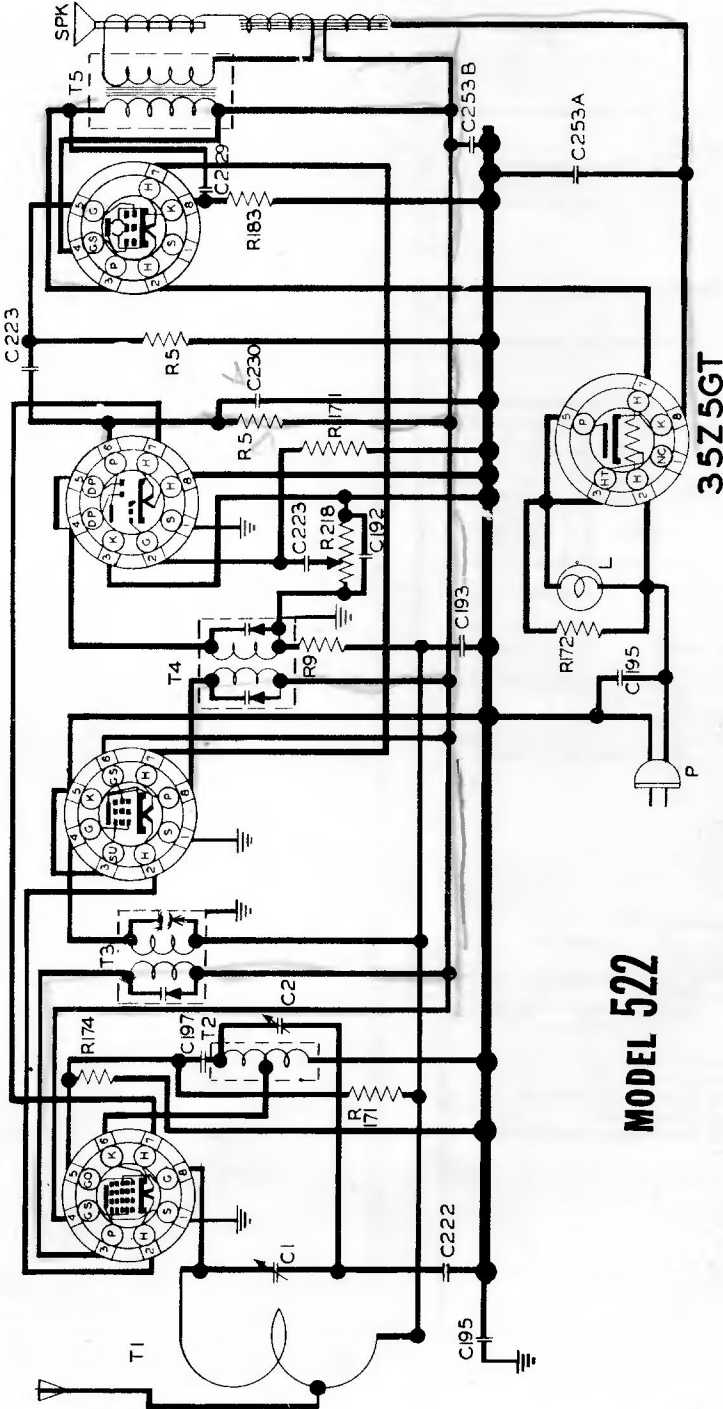
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

**NOBLITT-SPARKS INDUSTRIES, INC.**  
Columbus, Indiana



## ARVIN HOME RADIC CHASSIS RE-76

12SA7      12SK7      12SQ7      50L6GT



**MODEL 522**

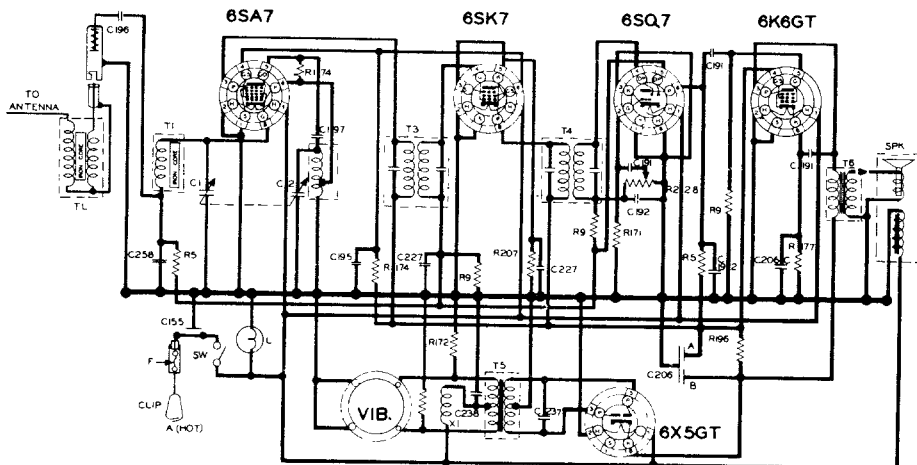
RESISTORS		CONDENSERS		TRANSFORMERS		MISCELLANEOUS UNITS	
R/O-M/W	PART NO	C	CAPACITY/VOLT	T	TYPE	SYMBOL	DESCRIPTION
281 M	17-6857	1	TWO GANG	1	ANTENNA LOOP	P	DIAL LIGHT BULB MAZDA *47
51500K	1417-2070	2	VARIABLE	2	OSCILLATOR COIL	P	LINE CORD & PLUG ASSY
193.150	1417-4316	253A	20 MFD	3	FIRST IF COIL	SPK	SPEAKER ASSY
174.20K	1417-4291	192	.00025	4	SECOND IF COIL		
172.100	1417-4289	195	.05	5	OUTPUT TRANSF		
171.5 M	1417-4288	222	.02				
9.1 M	1417-2080	223	.02				
		193	.05				
		197	0.01				
		230	00.05				

IF PEAK 455 KC.  
BALANCE 1400 KC - CHECK AT 600 KC.  
NOBLITT-SPARKS INDUSTRIES, INC.  
COLUMBUS, INDIANA



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## ARVIN CAR RADIO CHASSIS RE-84

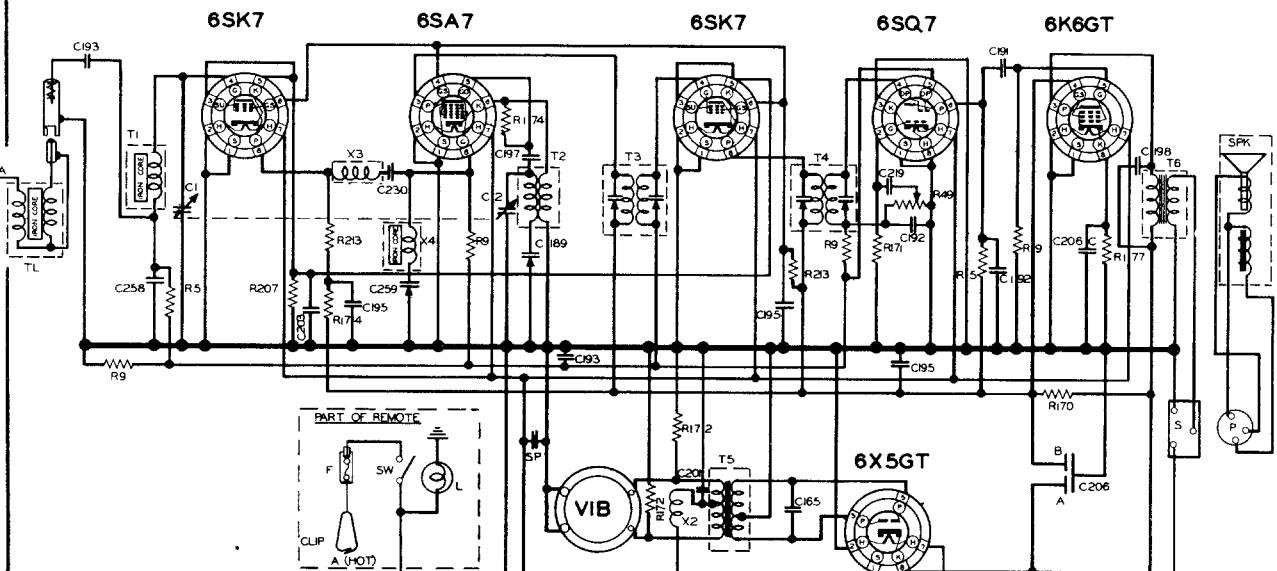


RESISTORS		CONDENSERS		CHOKES & TRANSFORMERS		MISCELLANEOUS UNITS	
#	OHMS W PART NO	C	CAPACITY VOLT PART NO	SYMBOL	TYPE	MA. NO	DESC. & PART NO
1	500K 1/4	1	TWO-WIND	1	ANTENNA COIL	00-4244	FUSE 20 AMP. 17-2278
2	1M	2	VARIABLE	2	OSCILLATION COIL	00-4889	ONE LIGHT BULB MAZDA NO. 51 17-1904
3	500K 1/4	33	0.001	3	FIRST IF COIL	00-1707	SPEAKER PLUG 17-1900
4	100K	33	0.001	4	SECOND IF COIL	00-1008	S SPEAKER SOCKET 17-2831
5	100K	33	0.001	5	POWER TRANSFORMER	00-1028	SFK SPEAKER ASSEMBLY 17-2837
6	20K	33	0.001	6	OUTPUT TRANSFORMER	00-2858	SW POWER SWITCH 17-2859
7	500	33	0.001	7	CHOKES		TL TRANSMISSION LINE 00-8949
8	500	33	0.001	8	SUPPRESSION CHOKES	29-0439	SP SPEAKER PLATE 17-1474
9	500	33	0.001	9	TRAP CHOKES	00-8982	VIB VIBRATOR
10	500	33	0.001	10	TRAP CHOKES	00-8982	

**MODEL 520**

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

## ARVIN CAR RADIO CHASSIS RE-86



**MODEL 720**

RESISTORS		CONDENSERS		CHOKES & TRANSFORMERS		MISCELLANEOUS UNITS	
#	OHMS W PART NO	C	CAPACITY VOLT PART NO	SYMBOL	TYPE	MA. NO	DESCRIPTION
1	500K 1/4	1	TWO-WIND	1	ANTENNA COIL	00-4244	FUSE 20 AMP. 17-2278
2	1M	2	VARIABLE	2	OSCILLATION COIL	00-1707	ONE LIGHT BULB MAZDA NO. 51 17-1904
3	500K 1/4	33	0.001	3	FIRST IF COIL	00-1007	SPEAKER PLUG 17-1900
4	100K	33	0.001	4	SECOND IF COIL	00-1008	S SPEAKER SOCKET 17-2831
5	100K	33	0.001	5	POWER TRANSFORMER	00-1028	SFK SPEAKER ASSEMBLY 17-2837
6	20K	33	0.001	6	OUTPUT TRANSFORMER	00-2858	SW POWER SWITCH 17-2859
7	500	33	0.001	7	CHOKES		TL TRANSMISSION LINE 00-8949
8	500	33	0.001	8	SUPPRESSION CHOKES	29-0439	SP SPEAKER PLATE 17-1474
9	500	33	0.001	9	TRAP CHOKES	00-8982	VIB VIBRATOR
10	500	33	0.001	10	TRAP CHOKES	00-8982	

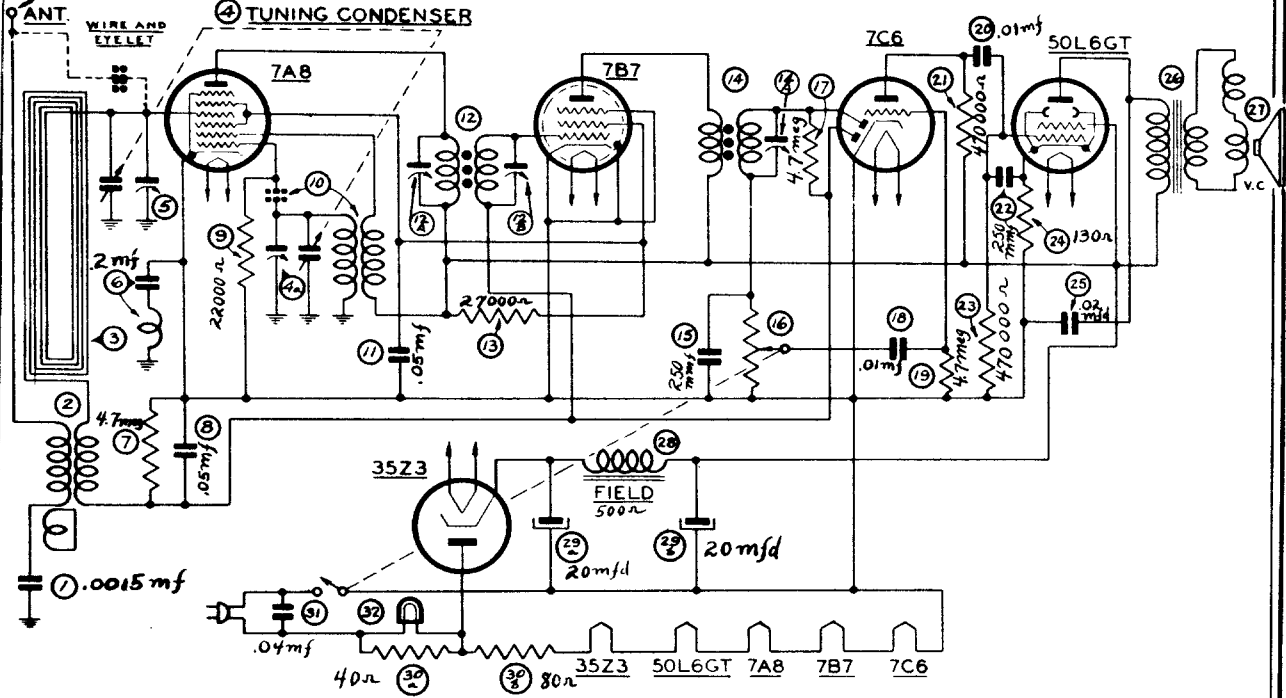
IF PEAK 455 K.C.  
FREQUENCY RANGE 1575 TO 540 K.C.  
NOBLITT-SPARKS INDUSTRIES, INC.  
COLUMBUS, INDIANA





# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

NOTE - GROUND TO CHASSIS FOR LOOP OPERATION.



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.

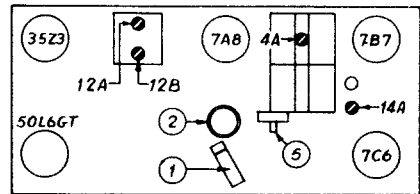
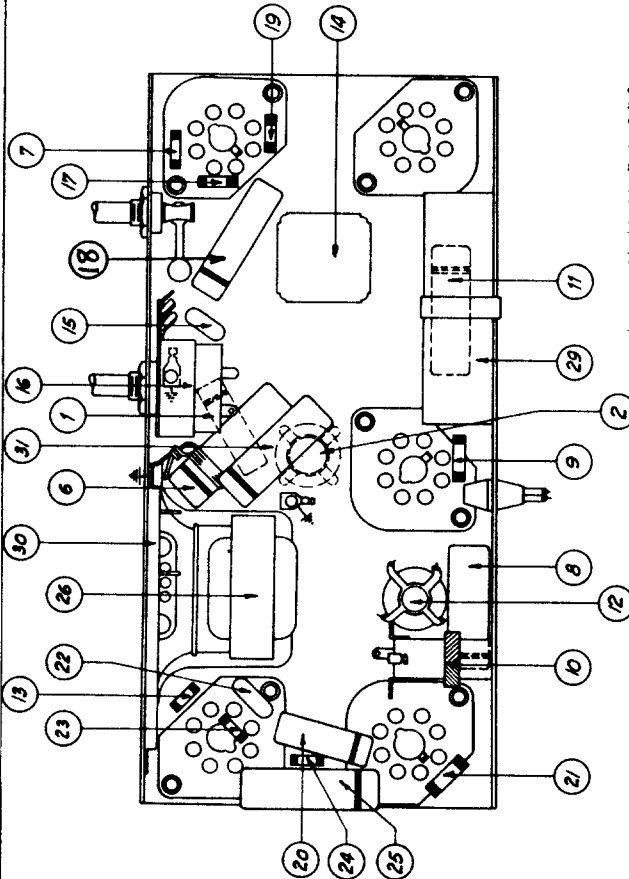
In addition each Model includes a tuning band from 540 to 1600 K. C., Automatic Volume Control; beam power pentode audio output stage and Philco Loktub tubes.

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.

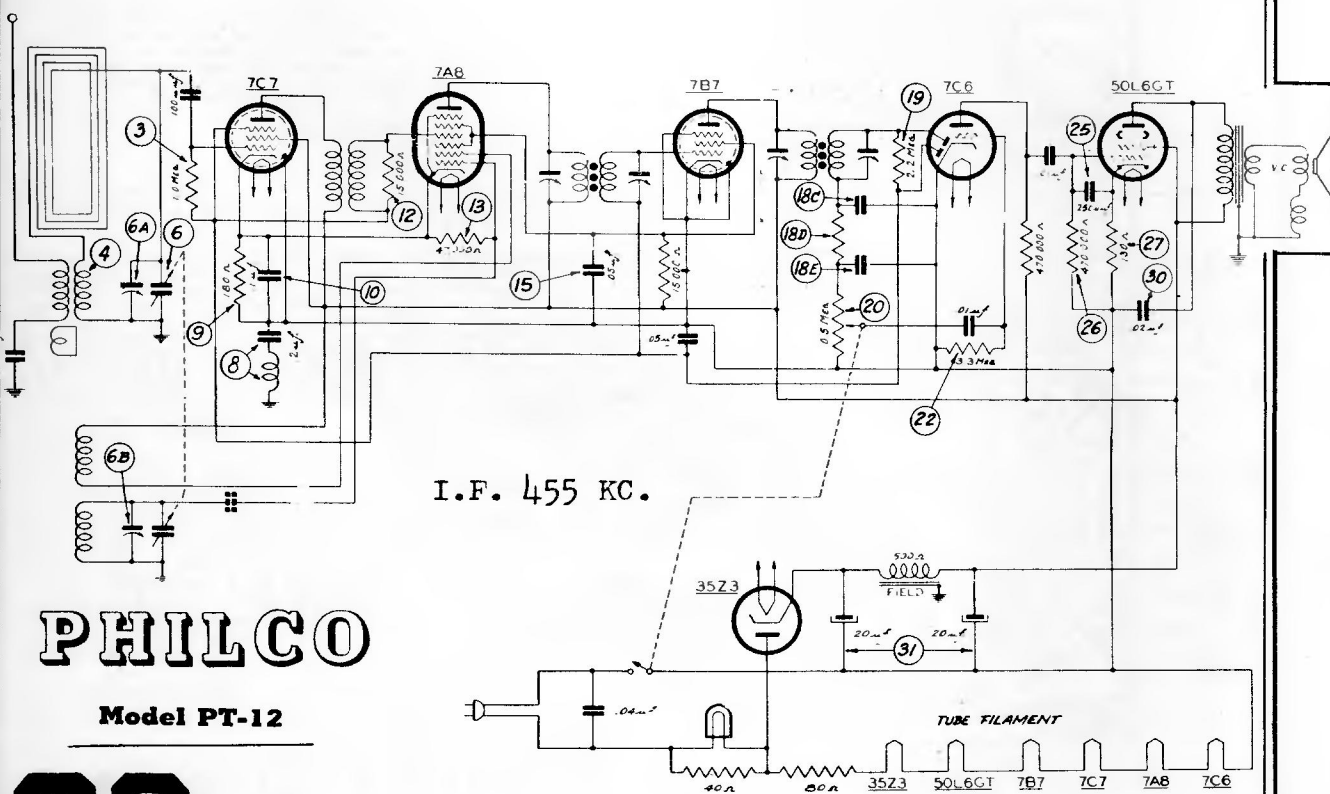
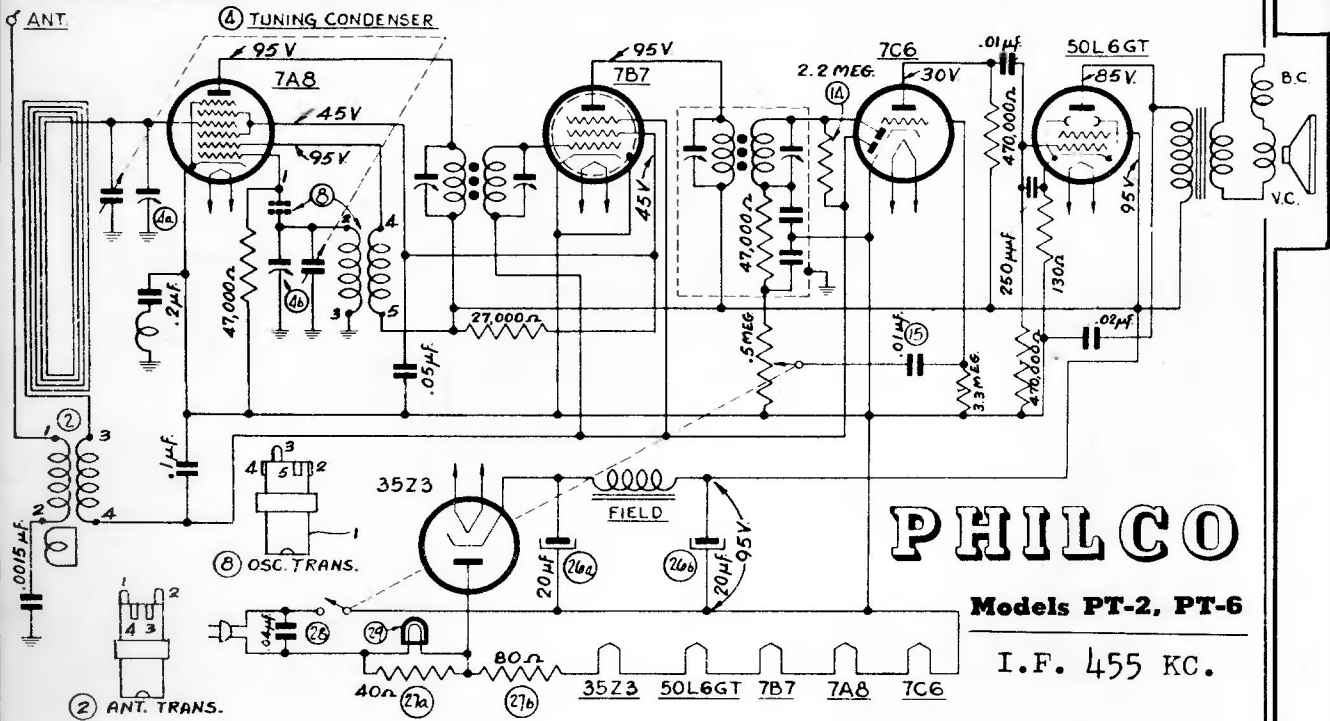
AERIAL AND GROUND: Under ordinary operating conditions an outside aerial or ground is not required. In some locations, however, such as steel reinforced buildings and other shielded areas, an outside aerial should be used for maximum performance. For this purpose an outside aerial connection is located 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.



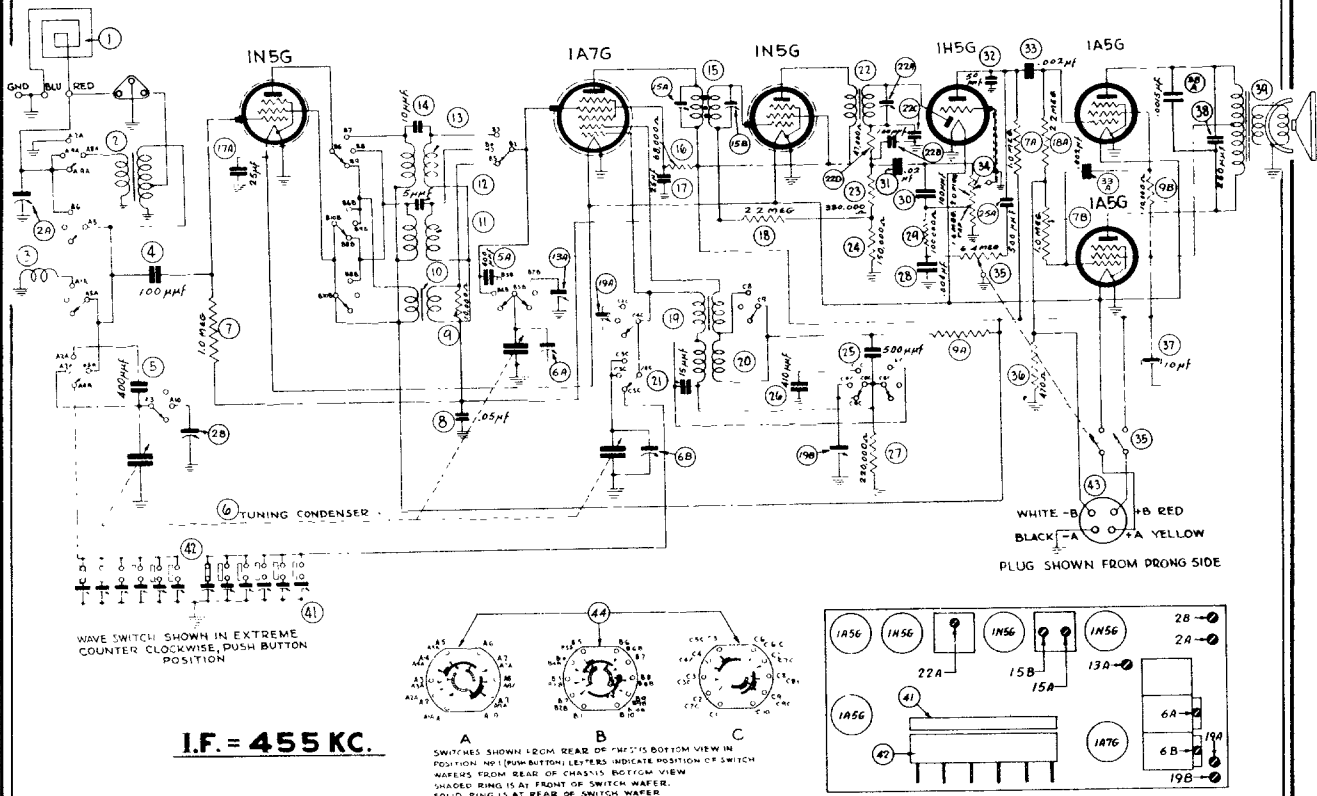
# PHILCO

# 91

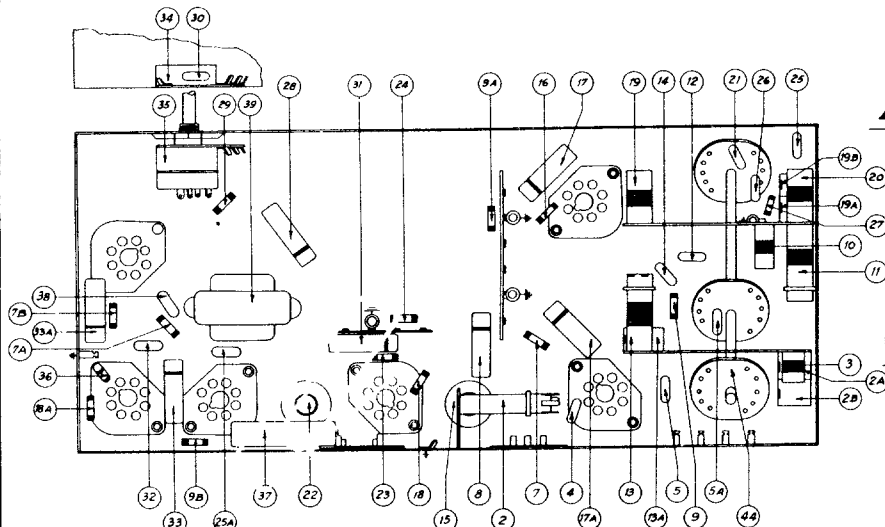
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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 Brdcast.	15A, 15B 22A	
2	Aerial Connection Receiver	225 mmfd.	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Brdcast.	Osc., R. F., aerial 6B, 6A, 2B	
3	Aerial Connection Receiver	225 mmfd.	580 K. C.	580 K. C.	Vol. Max. Range Switch Brdcast.	:9B	
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	



*Model 41-110*

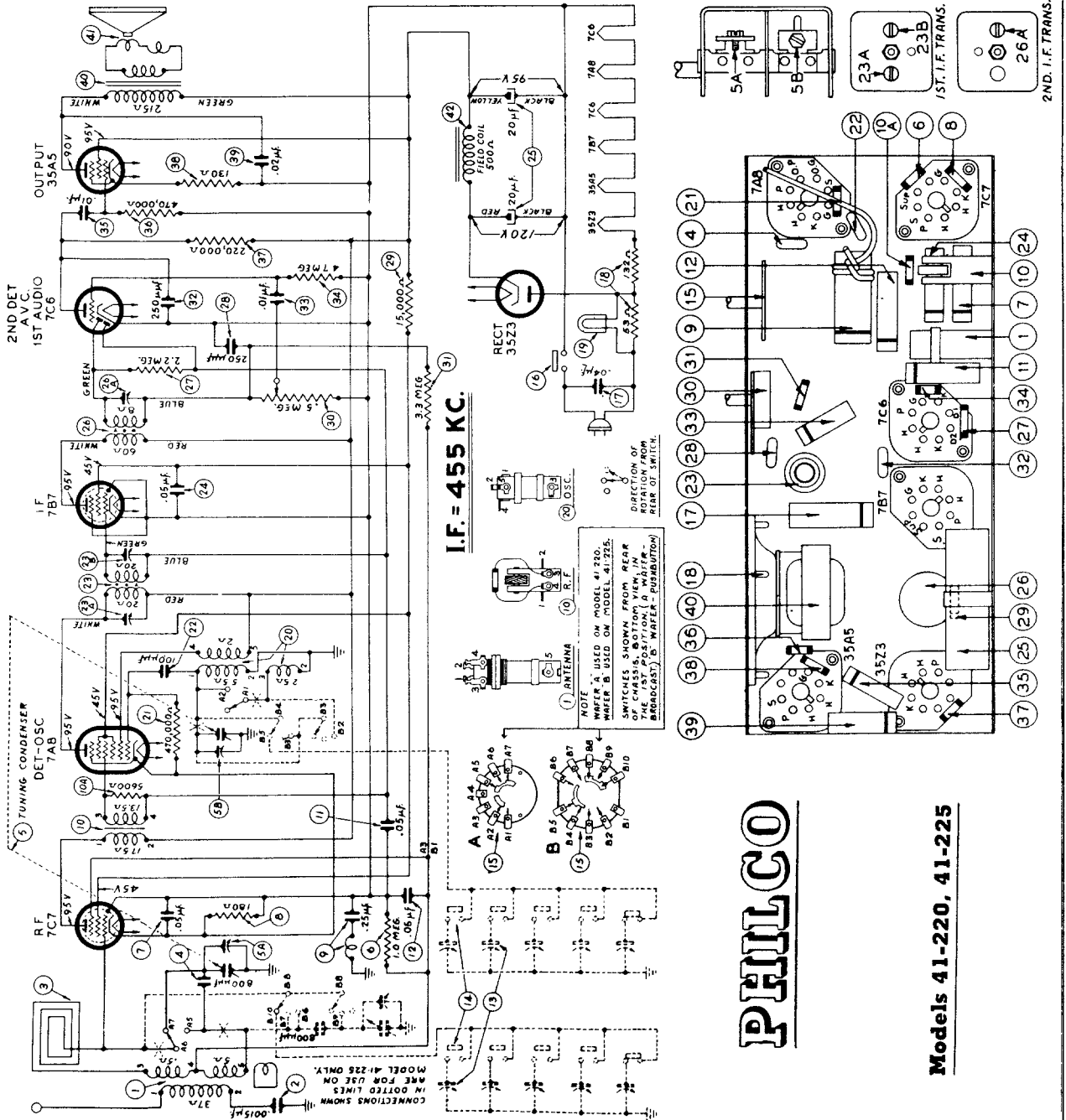
**PHILCO**

**93**

PART LOCATIONS, UNDERSIDE OF CHASSIS

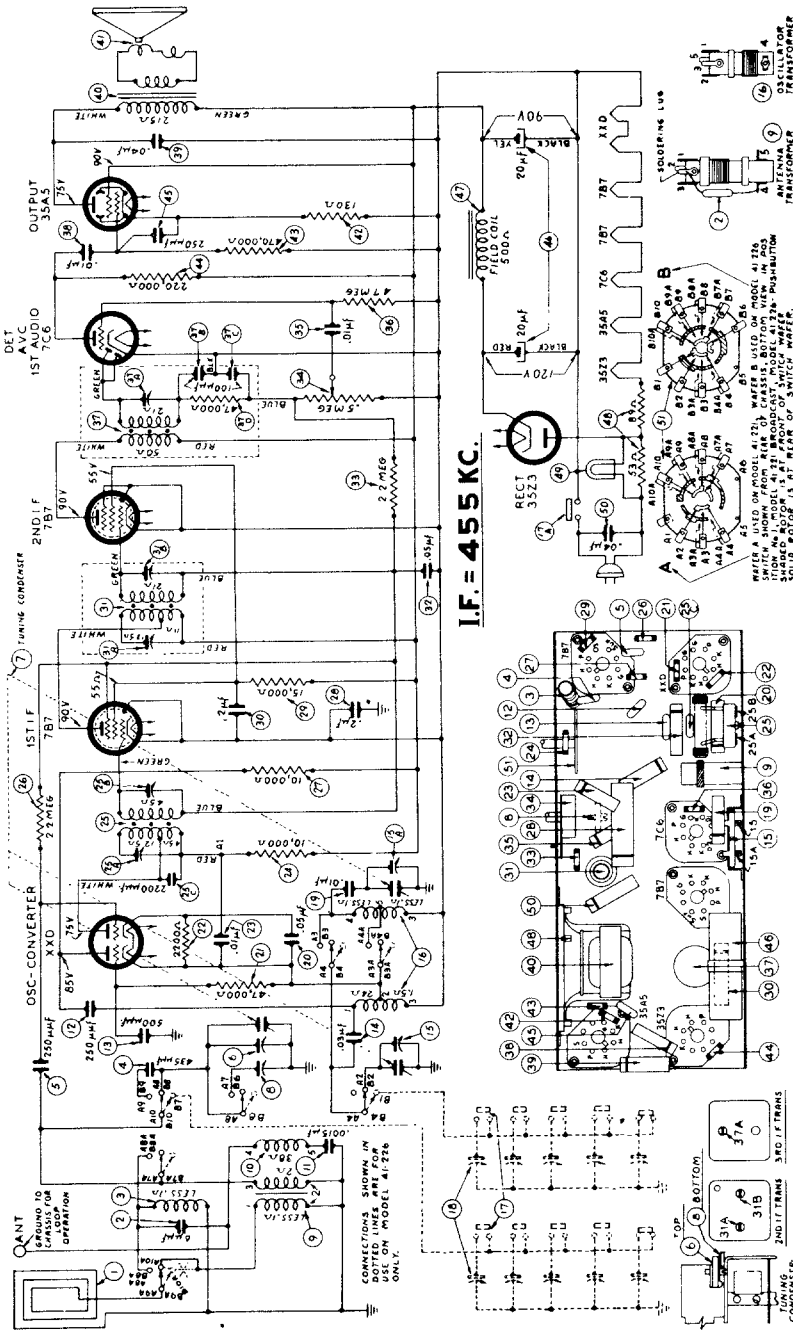
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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 "Brdcat"	26A, 23B, 23A
2	Loop—See above Instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch "Brdcat"	5B Tuning Condenser
3	Loop—See above Instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcat"	5A Tuning Condenser

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



## 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.

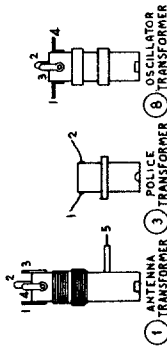
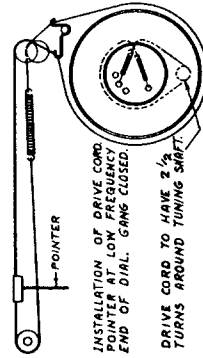
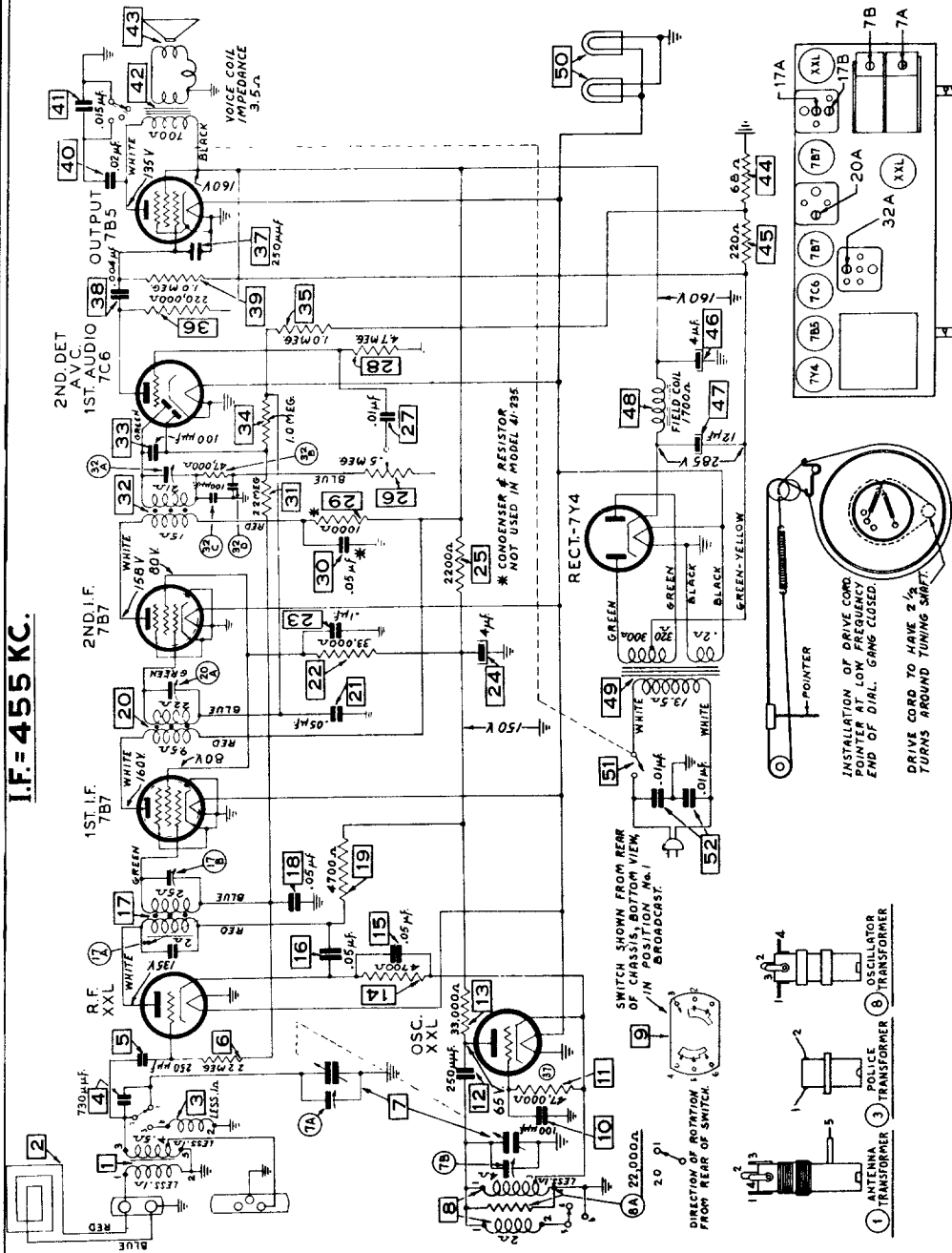
After connecting the aligning instruments adjust the compensators as shown in the tabulation below. Locations of the compensators are shown in the schematic diagram.

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 Brdcast.	37A, 31A, 31B, 25A, 25B
2	Loop see above instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch Brdcast.	15
3	Loop see above instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Brdcast.	6
4	Loop see above instructions	12 M. C.	12 M. C.	Range Switch "S. W."	15A, 8

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

I.F. = 455 KC.



**PHILCO** Philadelphia, Pa.

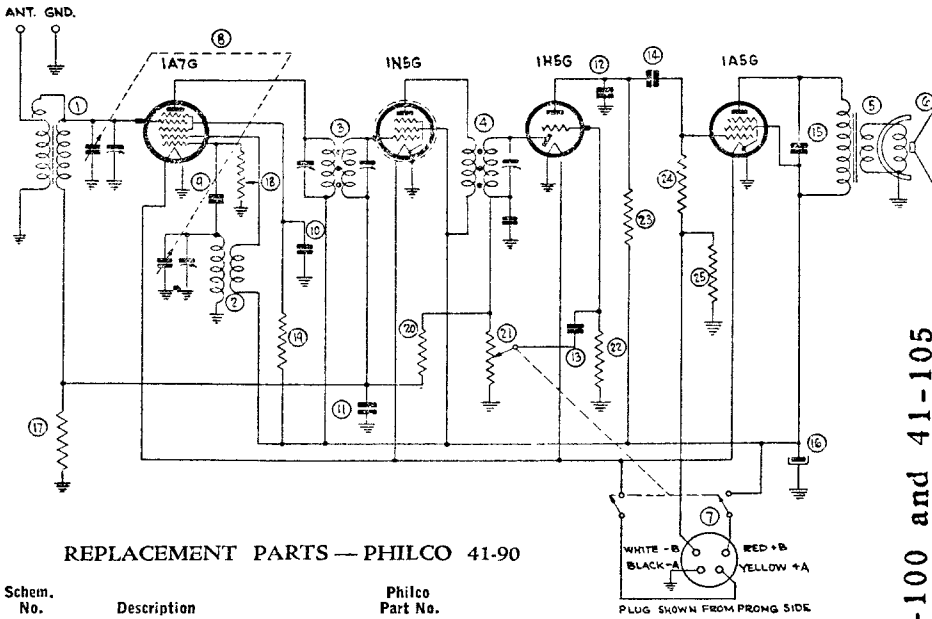
*Models 41-230; 41-235, Code 121*

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 "Brdcat"	32A, 20A 17B, 17A
2	Loop—See above Instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch "Brdcat"	7B
3	Loop—See above Instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcat"	7A

**96**

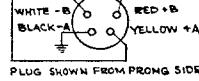
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



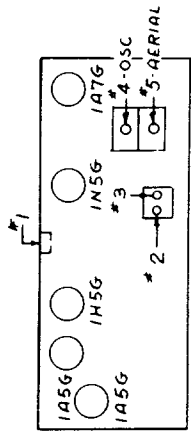
REPLACEMENT PARTS — PHILCO 41-90

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. 1/4 watt)	33-547154
18	Resistor (220,000 ohms 1/4 watt)	33-422154
19	Resistor (68,000 ohms 1/4 watt)	33-368154
20	Resistor (10 meg. 1/4 watt)	33-610154
21	Volume Control and "On-off" Switch	33-5407
22	Resistor (4.7 meg. 1/4 watt)	33-547154
23	Resistor (1.0 meg. 1/4 watt)	33-510154
24	Resistor (2.2 meg. 1/4 watt)	33-522154
25	Resistor (1000 ohms 1/4 watt)	33-210336

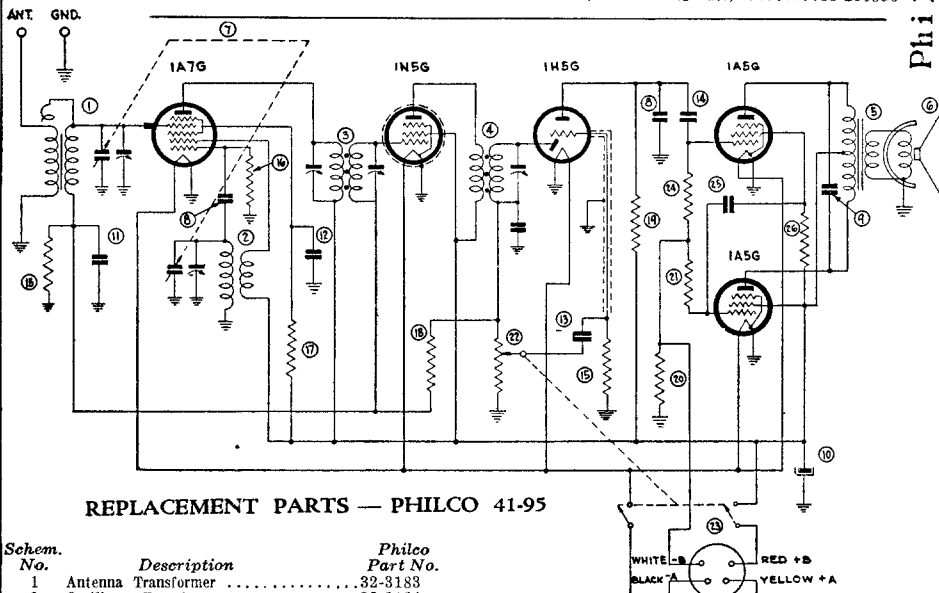


Philco Models 41-100 and 41-105 are similar to the illustrated circuits.

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



MODELS 41-95, 41-100.



REPLACEMENT PARTS — PHILCO 41-95

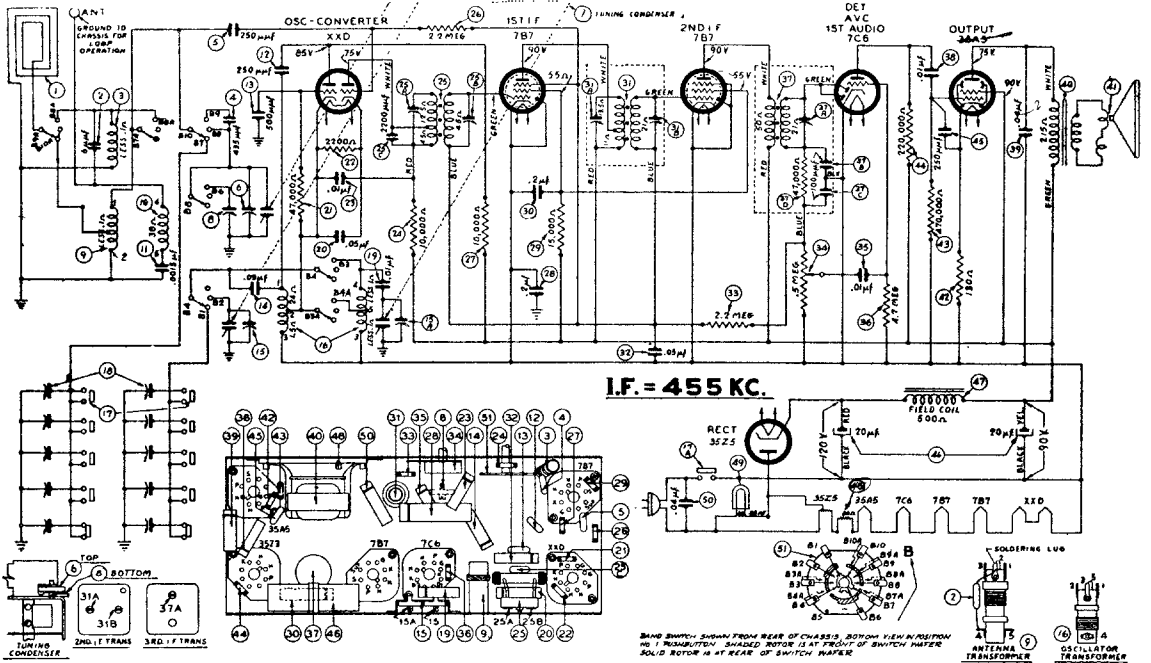
Schem. No.	Description	Philco Part No.
1	Antenna Transformer	32-3183
2	Oscillator Transformer	32-3184
3	1st I. F. Transformer	32-3188
4	2nd I. F. Transformer	32-3199
5	Output Transformer	32-8107
6	5" Speaker for Compact	36-1507
6A	8" Speaker for Console	36-1477
7	Tuning Condenser	31-2485
8	Moulded Mica 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., 1/4 watt)	33-547154
16	Resistor (220,000 ohms, 1/4 watt)	33-422154
17	Resistor (68,000 ohms, 1/4 watt)	33-368154
18	Resistor (10 Meg., 1/4 watt)	33-610154
19	Resistor (1 Meg., 1/4 watt)	33-510154
20	Resistor (680 ohms, 1/2 watt)	33-168326
21	Resistor (2.2 Meg., 1/4 watt)	33-522154
24	Resistor (2.2 Meg., 1/4 watt)	33-522154
25	Tubular Condenser (.01 mf., 400 v)	.30-4572
26	Resistor (10,000 ohms, 1/4 watt)	33-310154



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



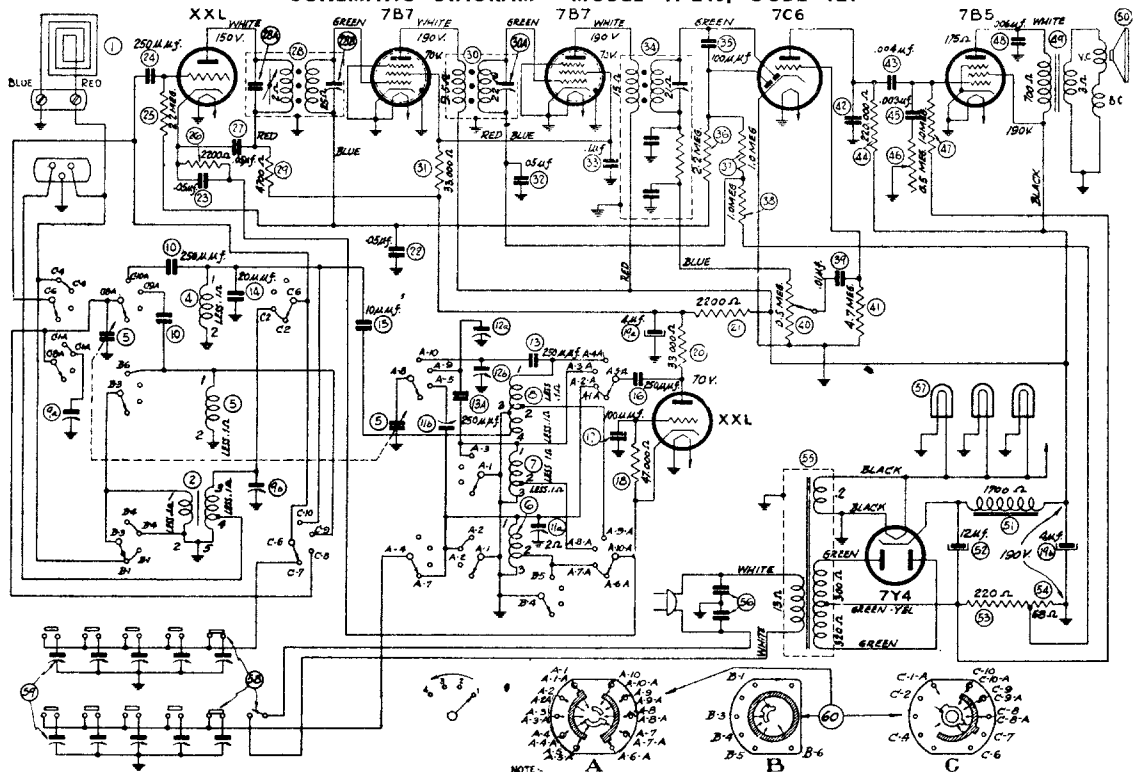
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



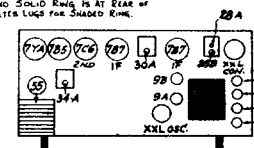
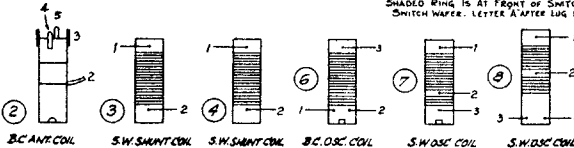
# PHILCO

## Models 41-231, Code 121

### SCHEMATIC DIAGRAM — MODEL 41-246, CODE 121



NOTE: SWITCHES SHOWN FROM REAR OF CHASSIS, BOTTOM VIEW, IN POSITION 10 (PUSH BOTTOM). 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 AFTER LOG NUMBER INDICATES LUGS FOR SHADED RING.



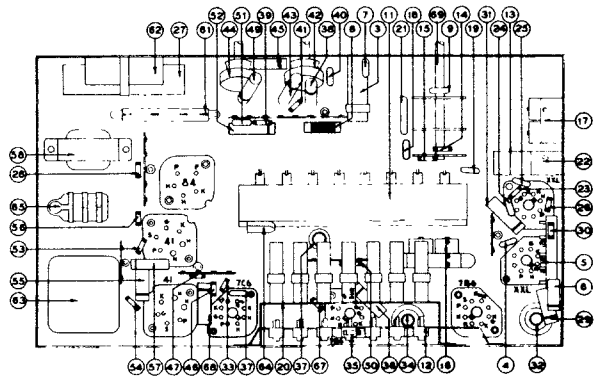
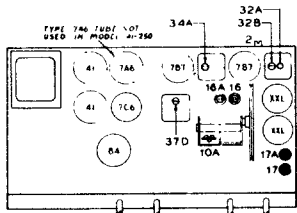
# 98

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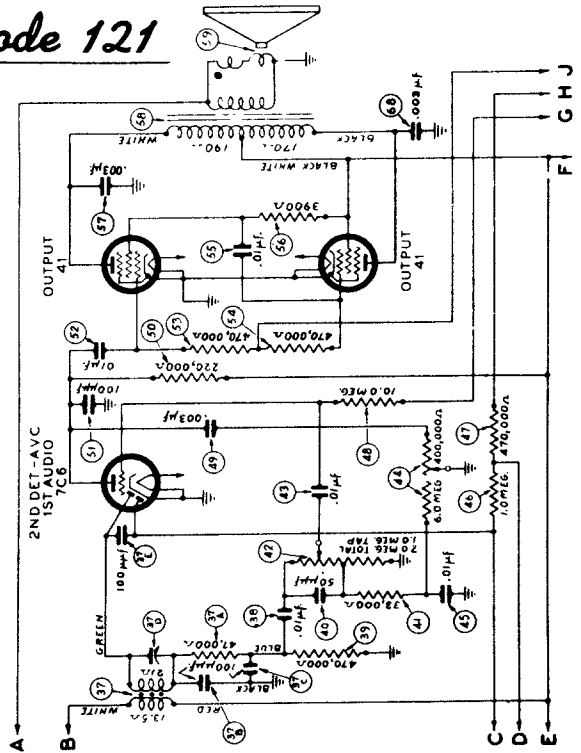
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## Models 41-250, 41-255; Code 121

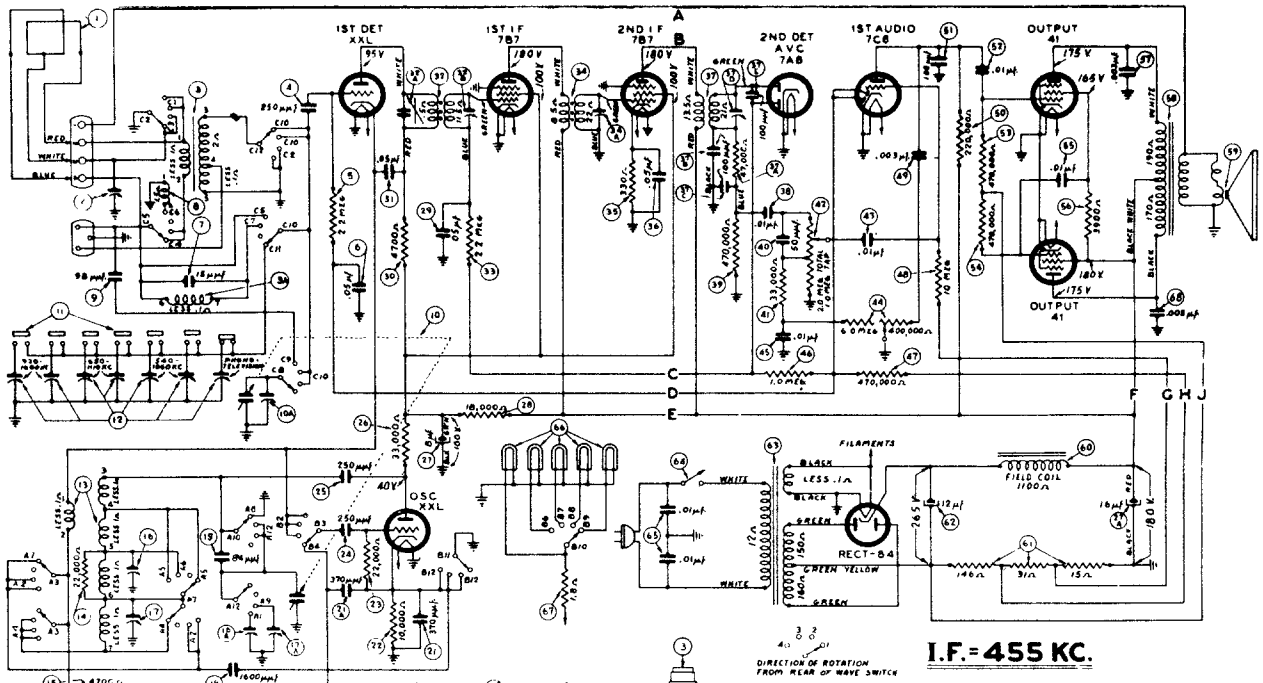
# PHILCO



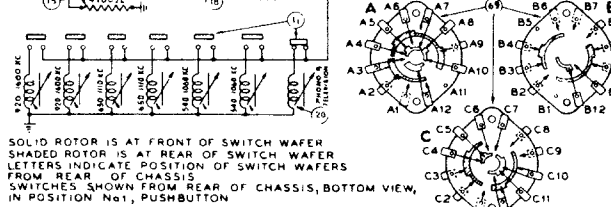
LOCATIONS OF PARTS AND TUBES  
UNDERSIDE OF CHASSIS — MODEL 41-250



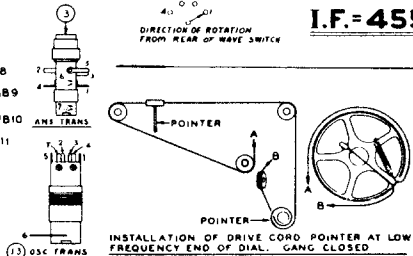
2ND DETECTOR AND AUDIO CIRCUIT  
MODEL 41-250



I.F. = 455 KC.



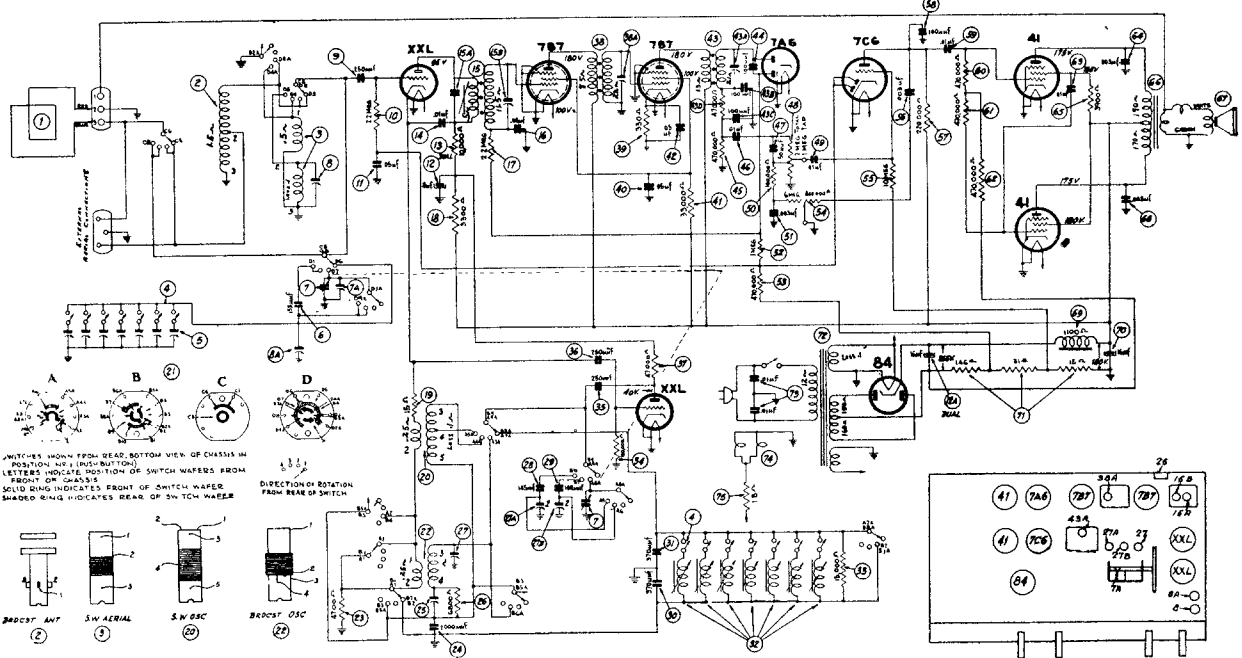
SOLID ROTOR IS AT FRONT OF SWITCH WAFER  
SHADED ROTOR IS AT REAR OF SWITCH WAFER  
LETTERS INDICATE POSITION OF SWITCH WAFERS  
FROM REAR OF CHASSIS  
SWITCHES SHOWN FROM REAR OF CHASSIS, BOTTOM VIEW,  
IN POSITION No.1, PUSHBUTTON



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

# 99

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



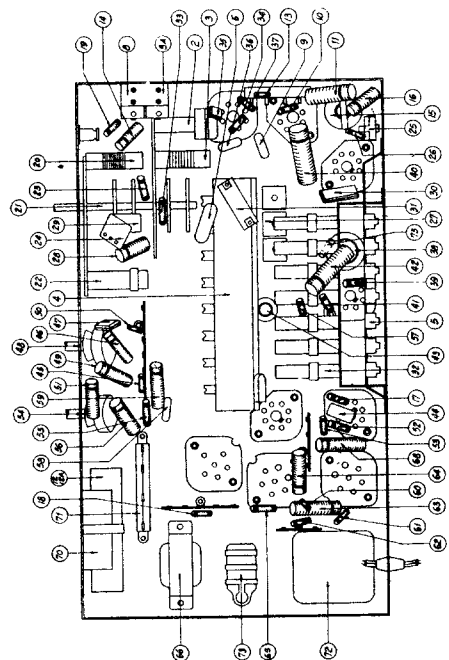
Operations in Order	SIGNAL GENERATOR		RECEIVER		
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in Order
1	High side to No. 3 terminal loop panel	455 K. C.	580 K. C.	Vol. Max. Range Switch "S. W." Positions	15A, 15B 38A, 43A
2	Use loop on generator	1500 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*

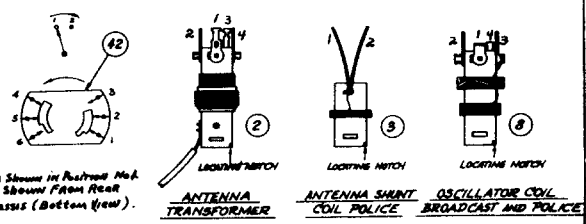
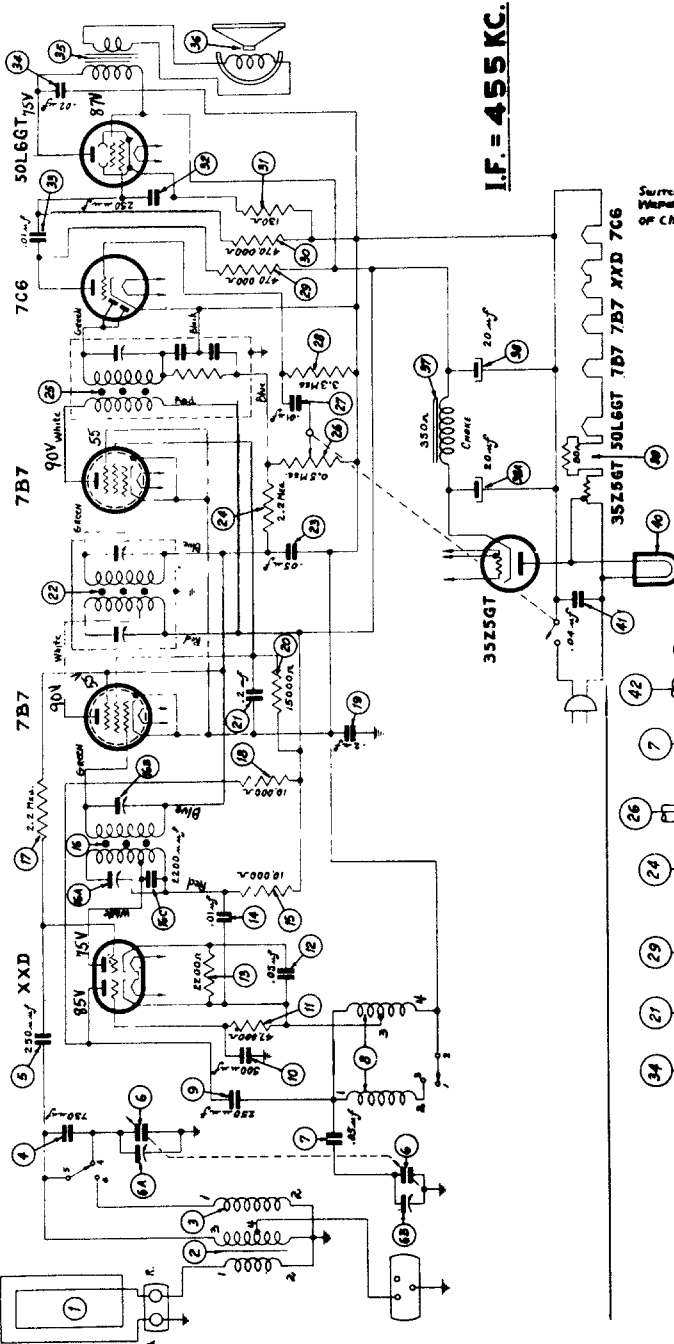
**100**

**PHILCO**

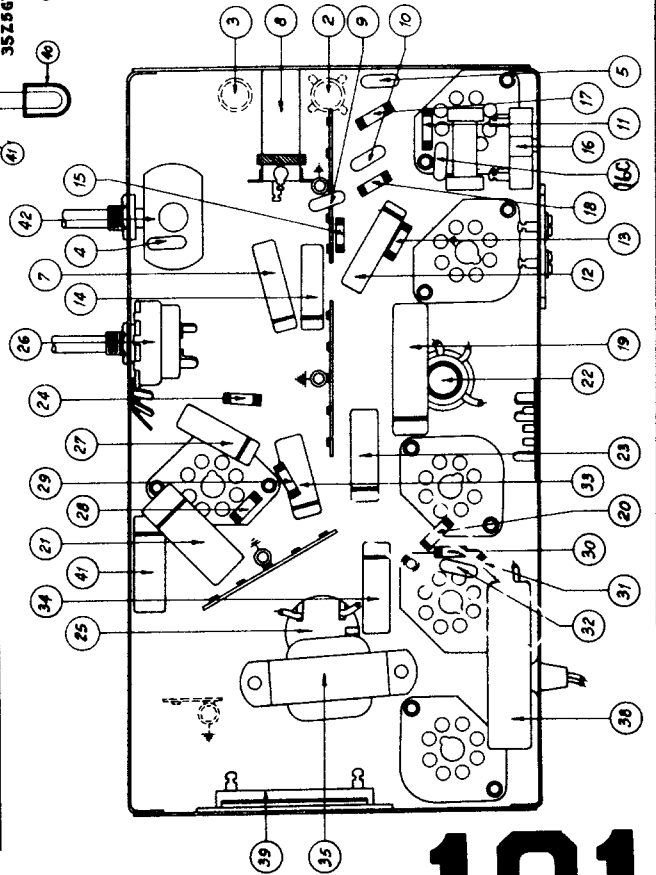
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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 Brdcast.	16A, 16B, 22A, 22B, 25A
2	Loop see above instructions	1600 K. C.	1600 K. C.	Vol Max. Range Switch Brdcast.	6B Tuning Condenser
3	Loop see above instructions	1500 K. C.	1500 K. C.	Vol Max. Range Switch Brdcast.	6A Tuning Condenser

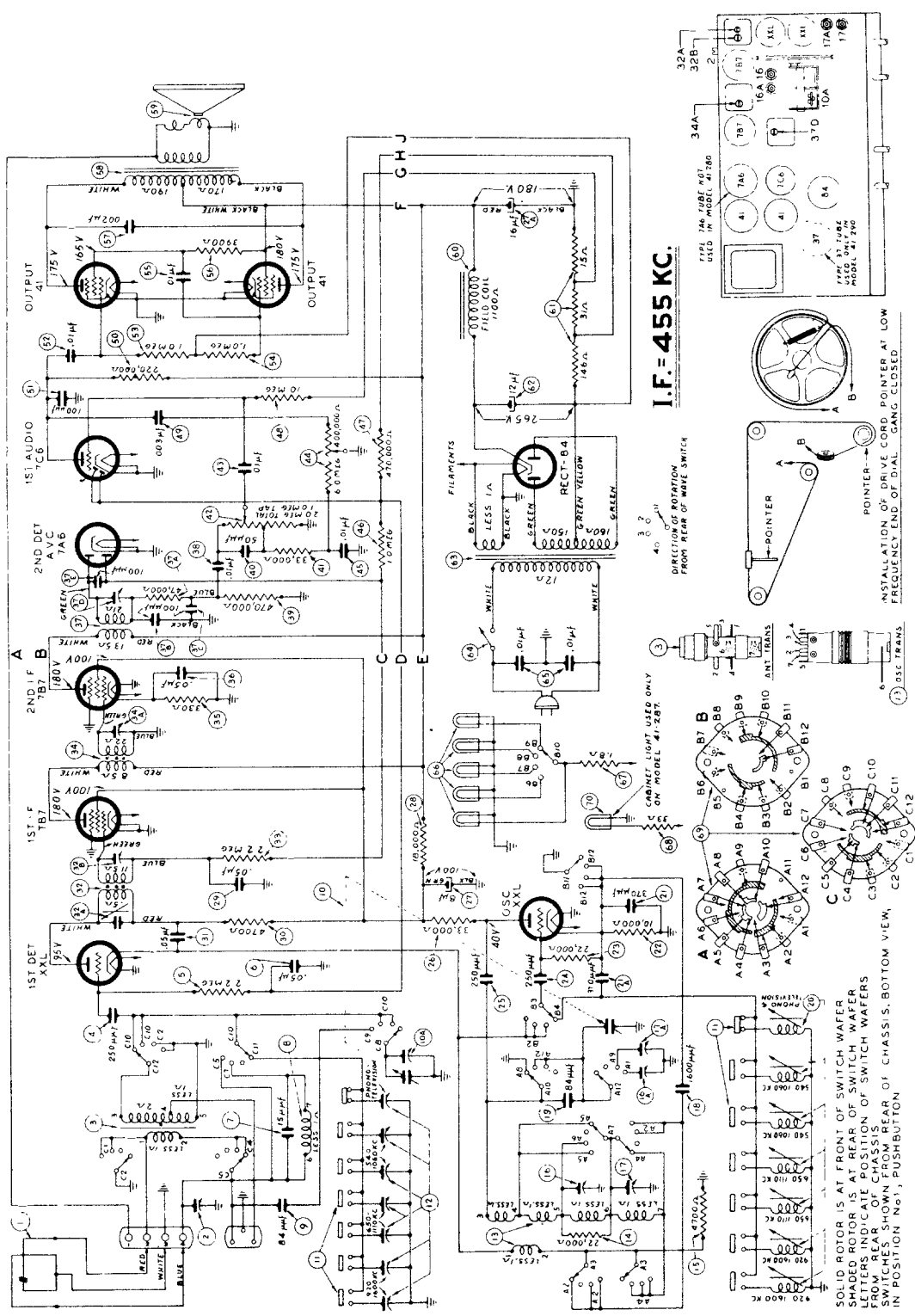


## PHILCO Model 41-258





# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

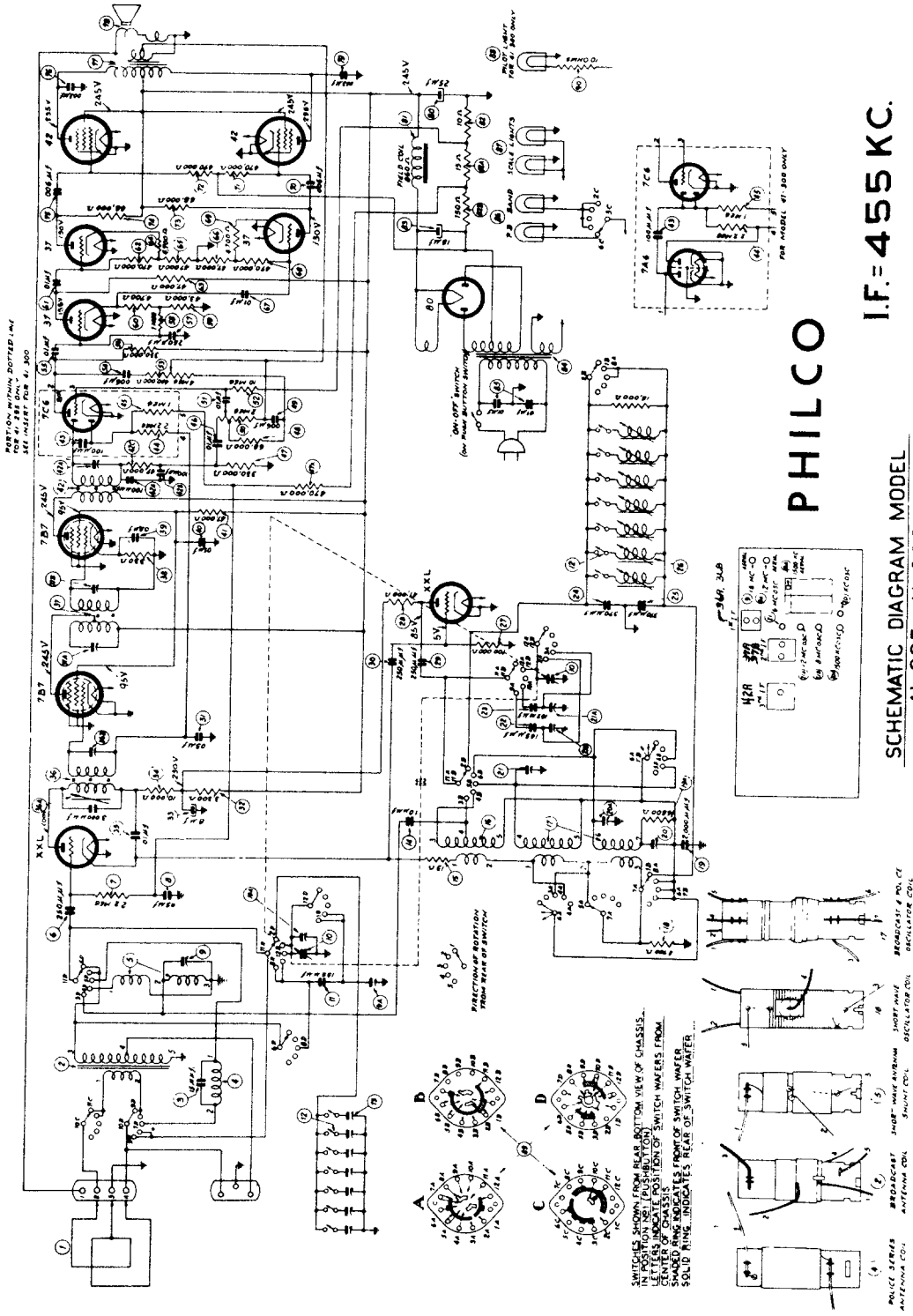


**SCHEMATIC DIAGRAM — MODELS 41-280, 41-285, 41-287, 41-290**

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.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**PHILCO**

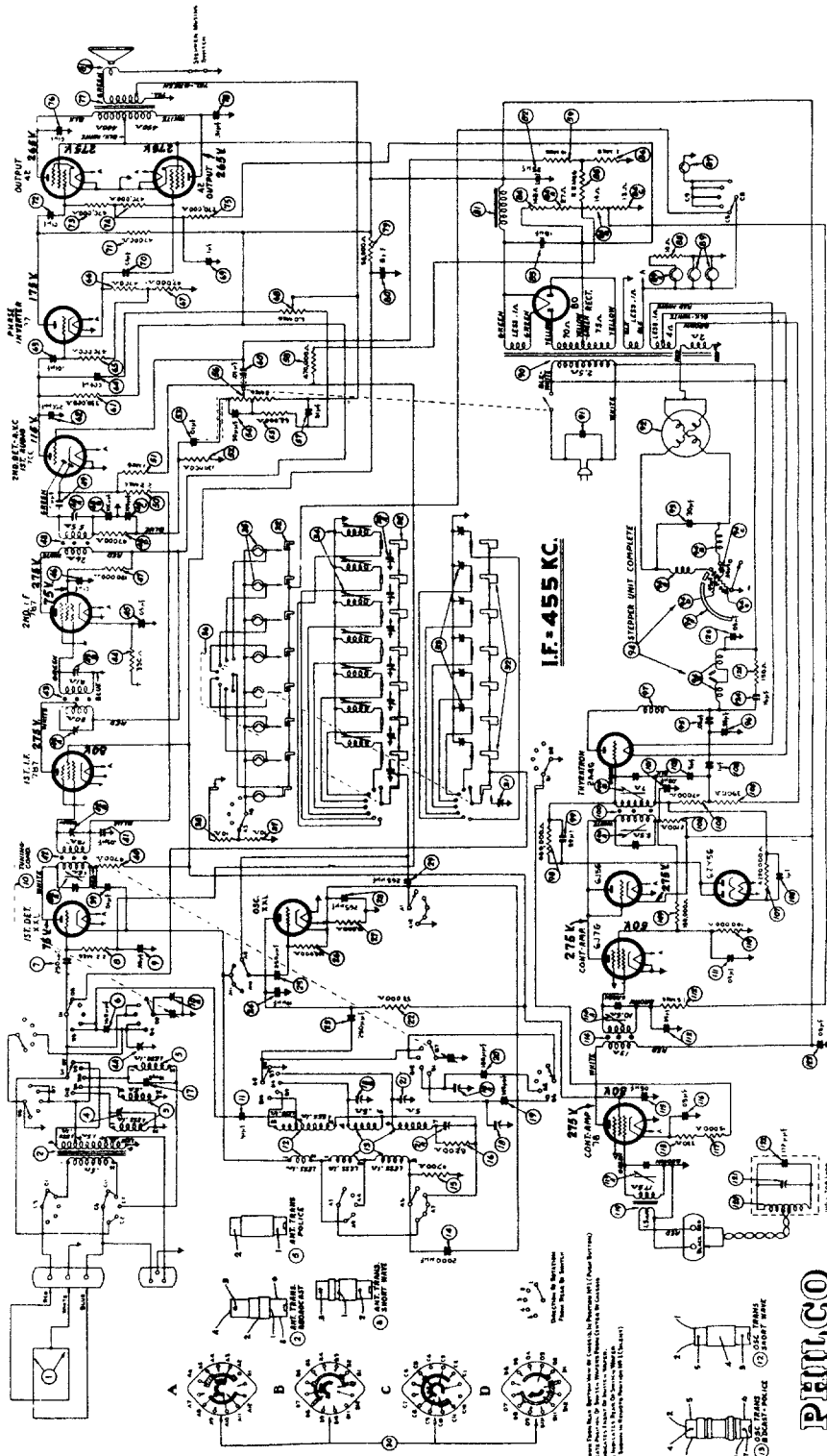
**SCHEMATIC DIAGRAM MODEL  
41-295, 41-300**

**I.F. = 455 KC.**

THE VOLTAGES INDICATED WERE MEASURED WITH A PHILCO MODEL 027 VOLT METER (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.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



SCHMATIC 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.

A  
 B  
 C  
 D

1. 275 V. 6X4  
 2. 275 V. 6X4  
 3. 275 V. 6X4  
 4. 275 V. 6X4  
 5. 275 V. 6X4  
 6. 275 V. 6X4  
 7. 275 V. 6X4  
 8. 275 V. 6X4  
 9. 275 V. 6X4  
 10. 275 V. 6X4  
 11. 275 V. 6X4  
 12. 275 V. 6X4  
 13. 275 V. 6X4  
 14. 275 V. 6X4  
 15. 275 V. 6X4  
 16. 275 V. 6X4  
 17. 275 V. 6X4  
 18. 275 V. 6X4  
 19. 275 V. 6X4  
 20. 275 V. 6X4  
 21. 275 V. 6X4  
 22. 275 V. 6X4  
 23. 275 V. 6X4  
 24. 275 V. 6X4  
 25. 275 V. 6X4  
 26. 275 V. 6X4  
 27. 275 V. 6X4

PHILCO

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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

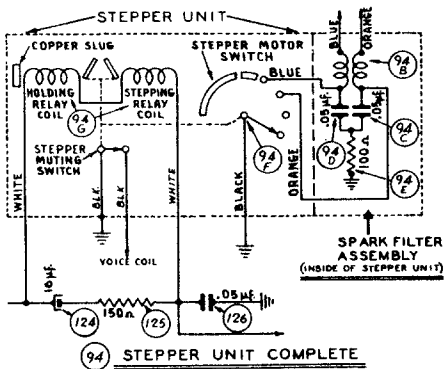
**Note A — DIAL CALIBRATION:** In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the extreme left index line at the low frequency 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.

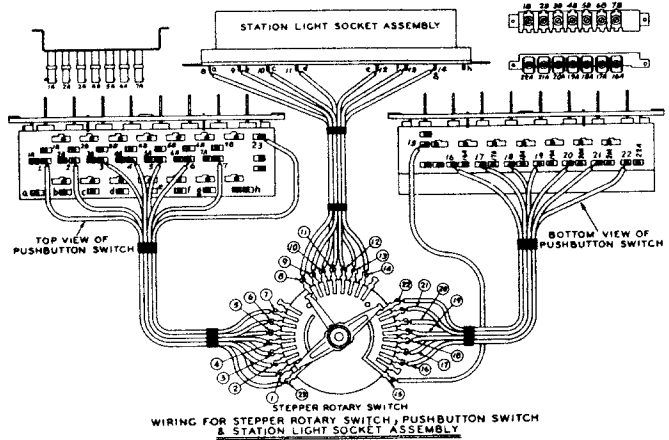
**NOTE C —** Adjust compensator (18B) to the **SECOND** signal peak from the tight (closed) position.

**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.

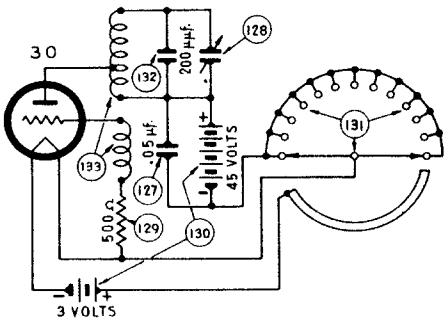
**NOTE E —** Adjust compensator (18) to the **SECOND** signal peak from the tight (closed) position. If the compensator is correctly adjusted the image signal will be weakly heard by leaving the receiver at 18 M. C. and turning the signal generator to 18.910 M. C. When adjusting compensator (4) roll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



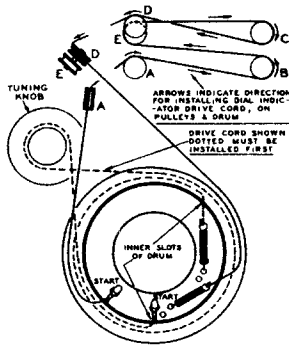
INTERNAL WIRING OF STEPPER UNIT  
NUMBERS CORRESPOND TO SCHEMATIC



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



WIRELESS REMOTE CONTROL  
UNIT WIRING

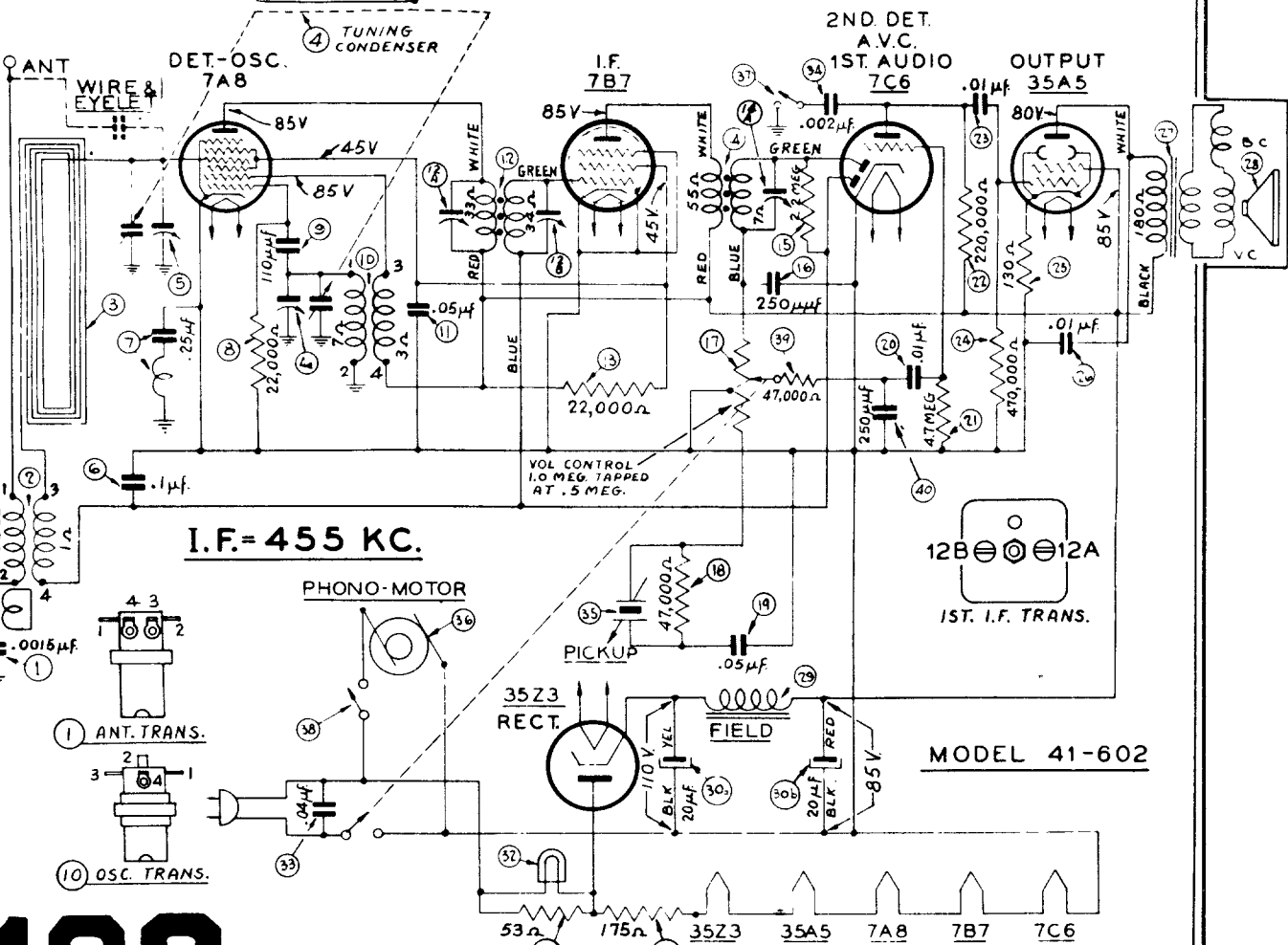
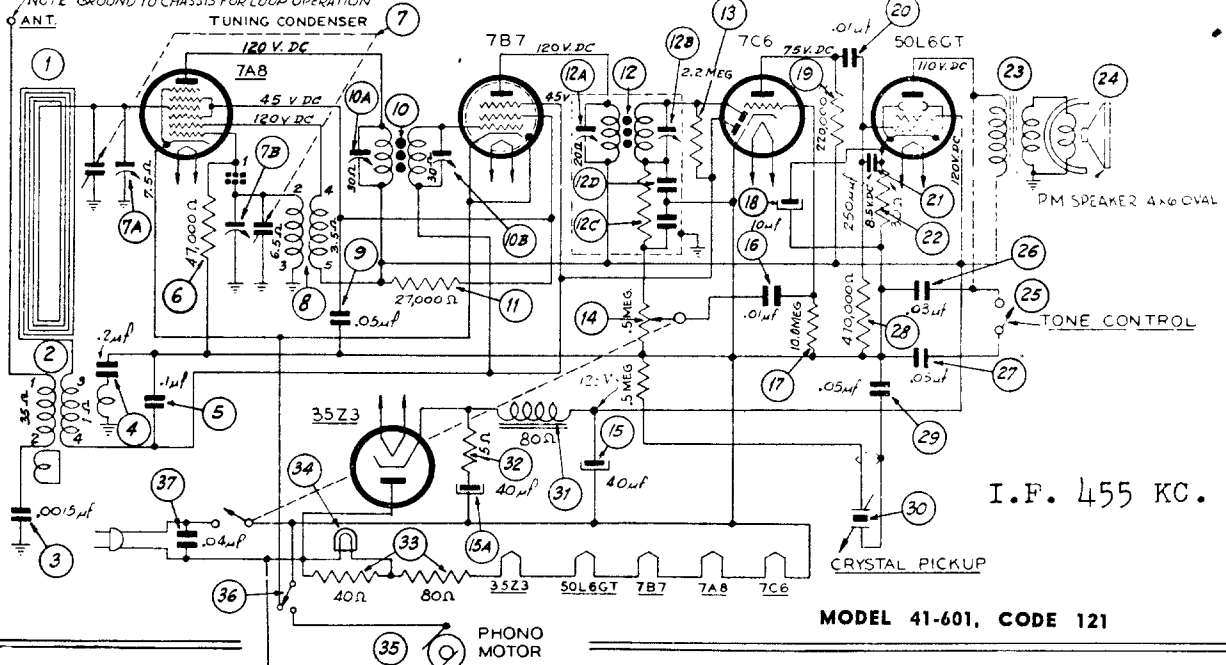


## PHILCO

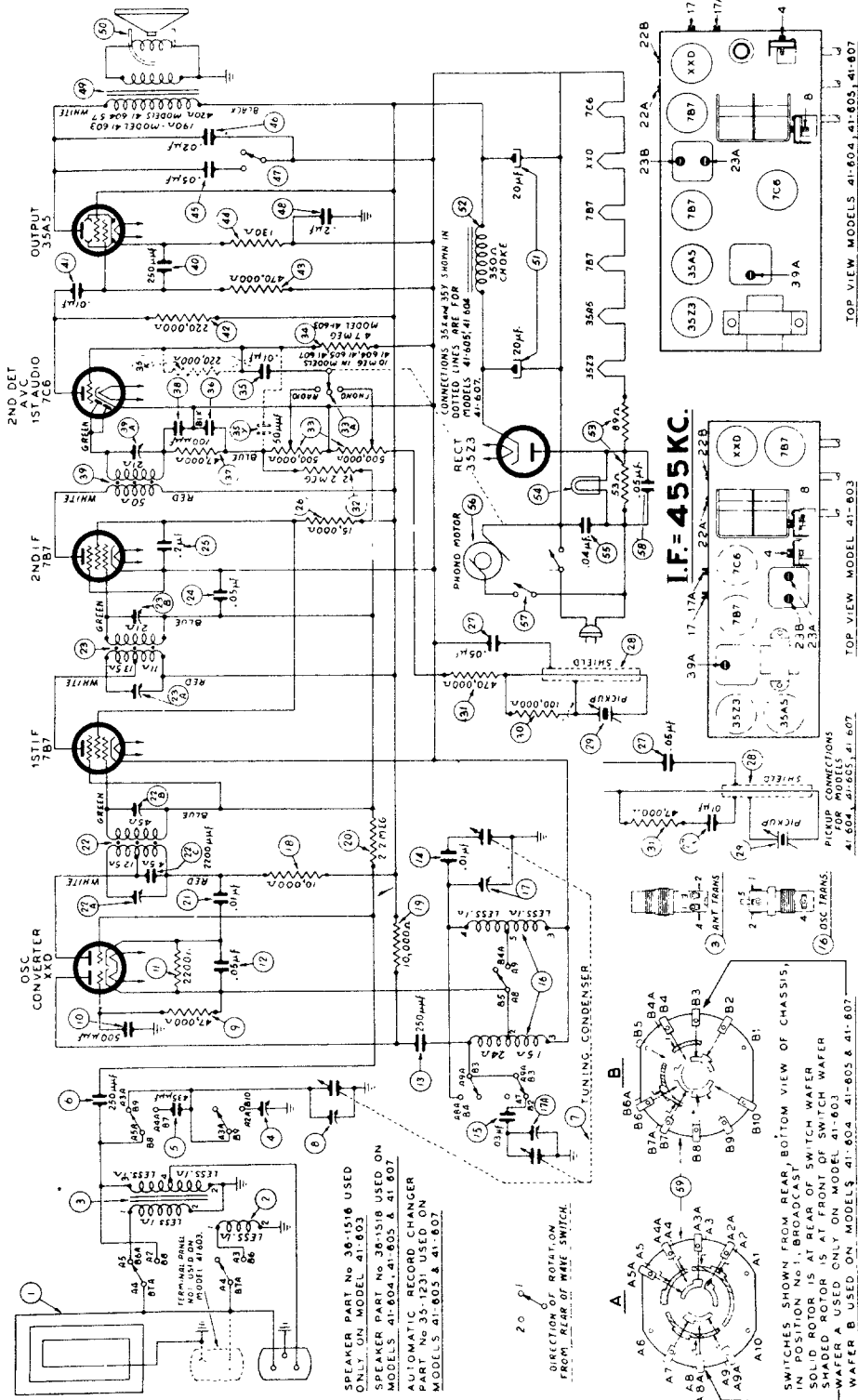
### Model 41-316

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

NOTE: GROUND TO CHASSIS FOR LOOP OPERATION

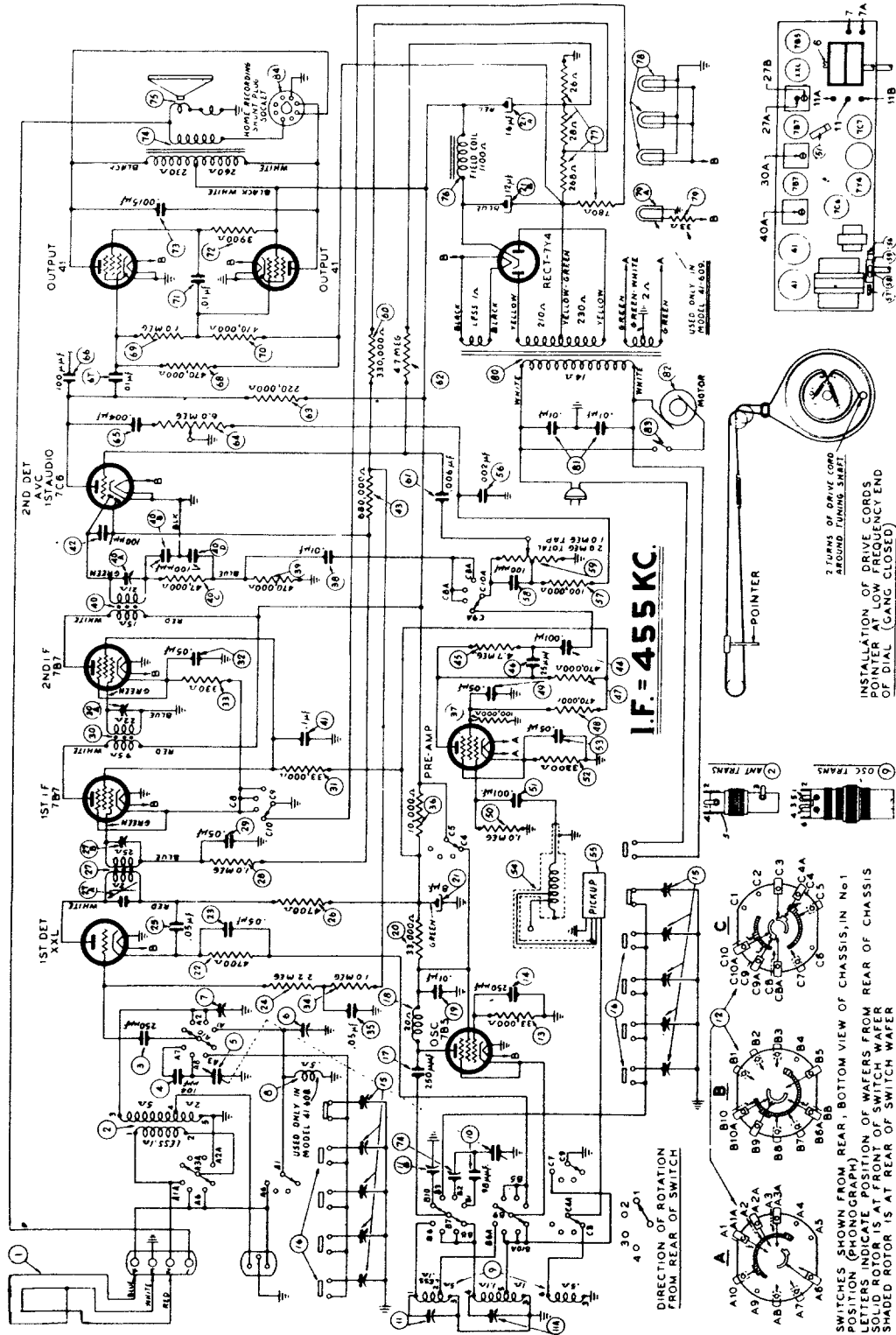


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



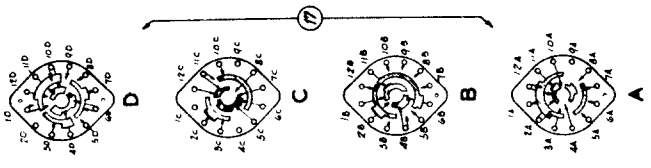
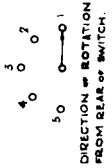
SCHEMATIC DIAGRAM MODELS 41-603 41-604 41-605 & 41-607

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

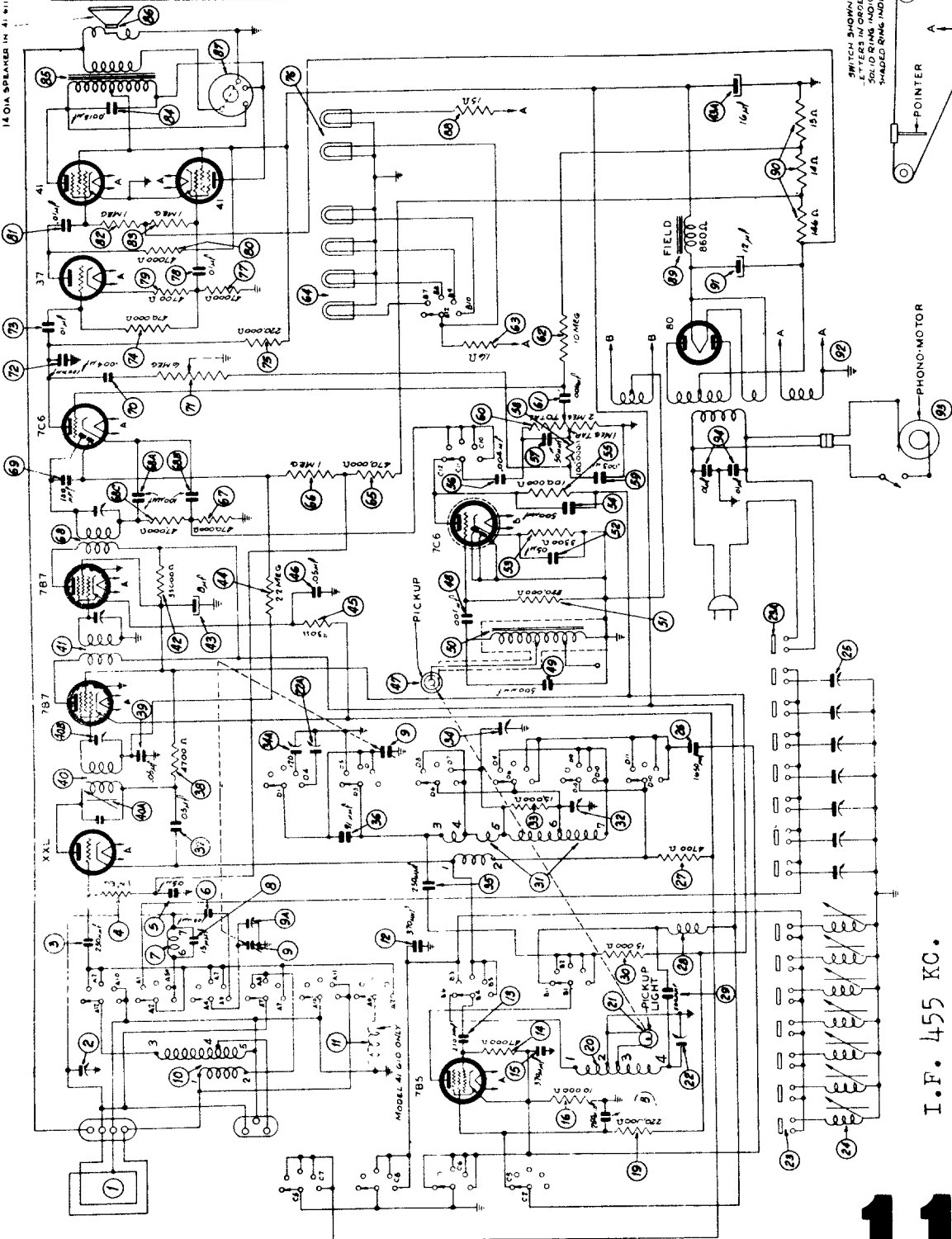
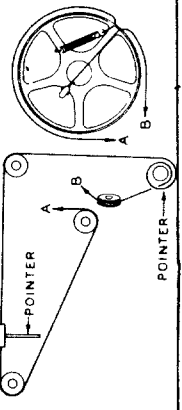


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

1 1/2 DIA SPEAKER IN 41-610  
1 1/4 DIA SPEAKER IN 41-611



SWITCH: PUSH-IN FROM REAR, IN POS. 1-Phone  
SWITCH IN POS. 2 FROM FRONT TO BACK.  
SOLID RING INDICATES FRONT OF SWITCH WIRE.  
SHADED RING INDICATES REAR OF SWITCH WIRE.



SCHMATIC DIAGRAM—MODELS 41-610 41-611. CODE 121

I.F. 455 KC.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

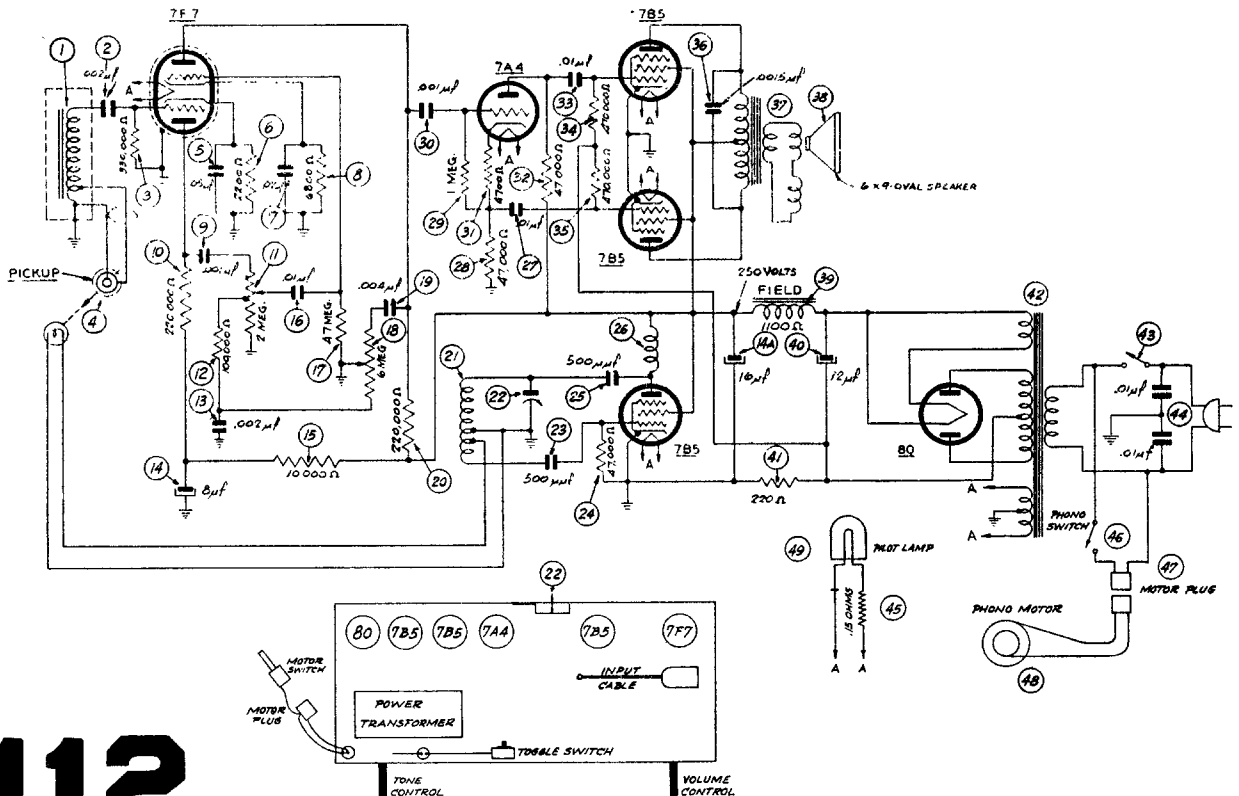
### C.—ADJUSTING INTENSITY OF LAMP

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.

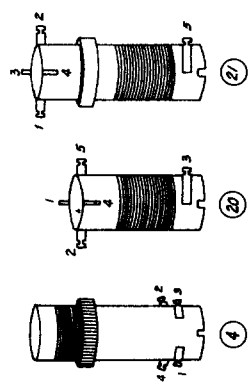
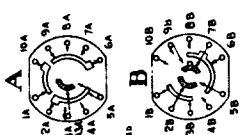
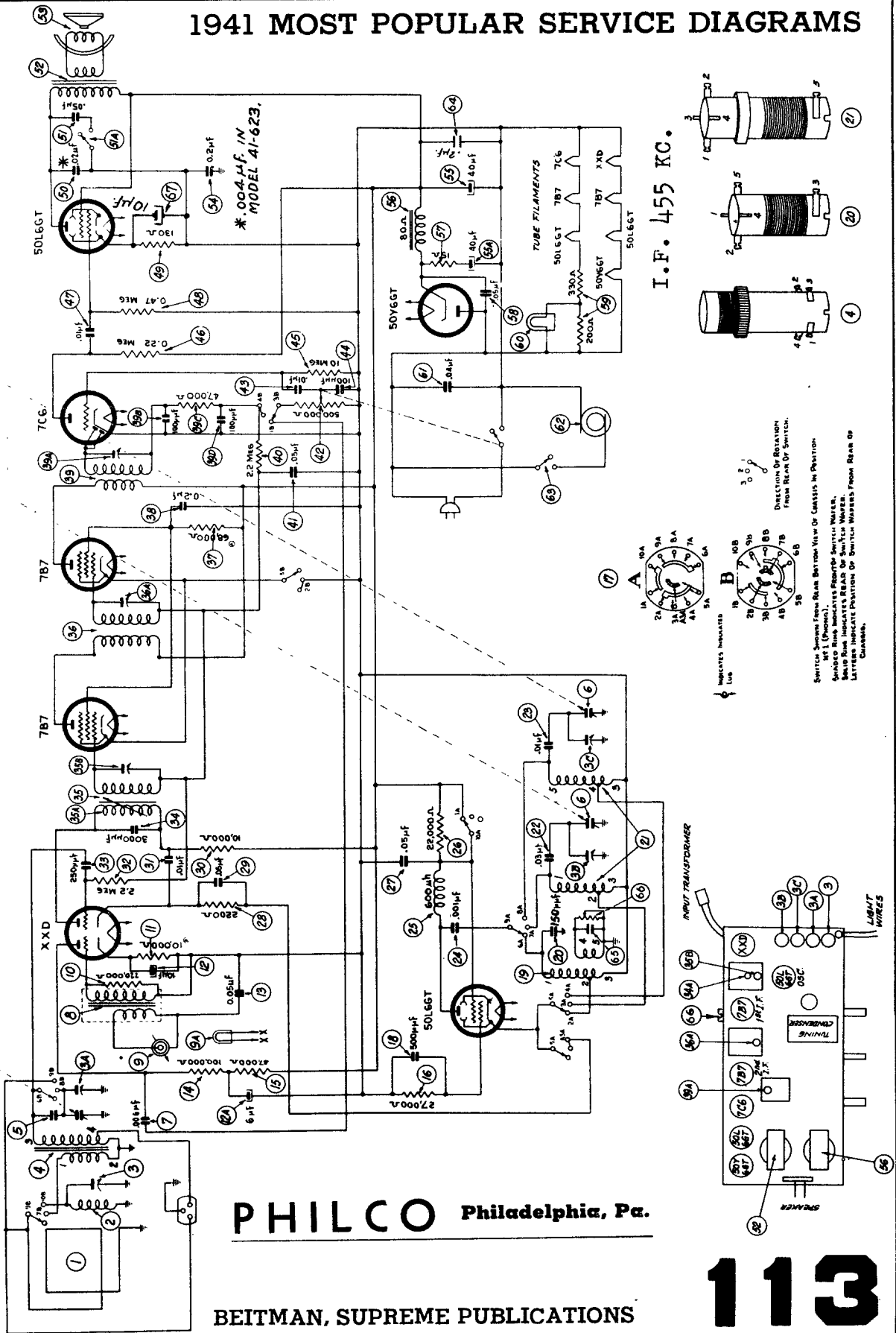
### D.—INSTALLING NEW LAMP

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.



# 1941 MOST POPULAR SERVICE DIAGRAMS

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



**PHILCO** Philadelphia, Pa.

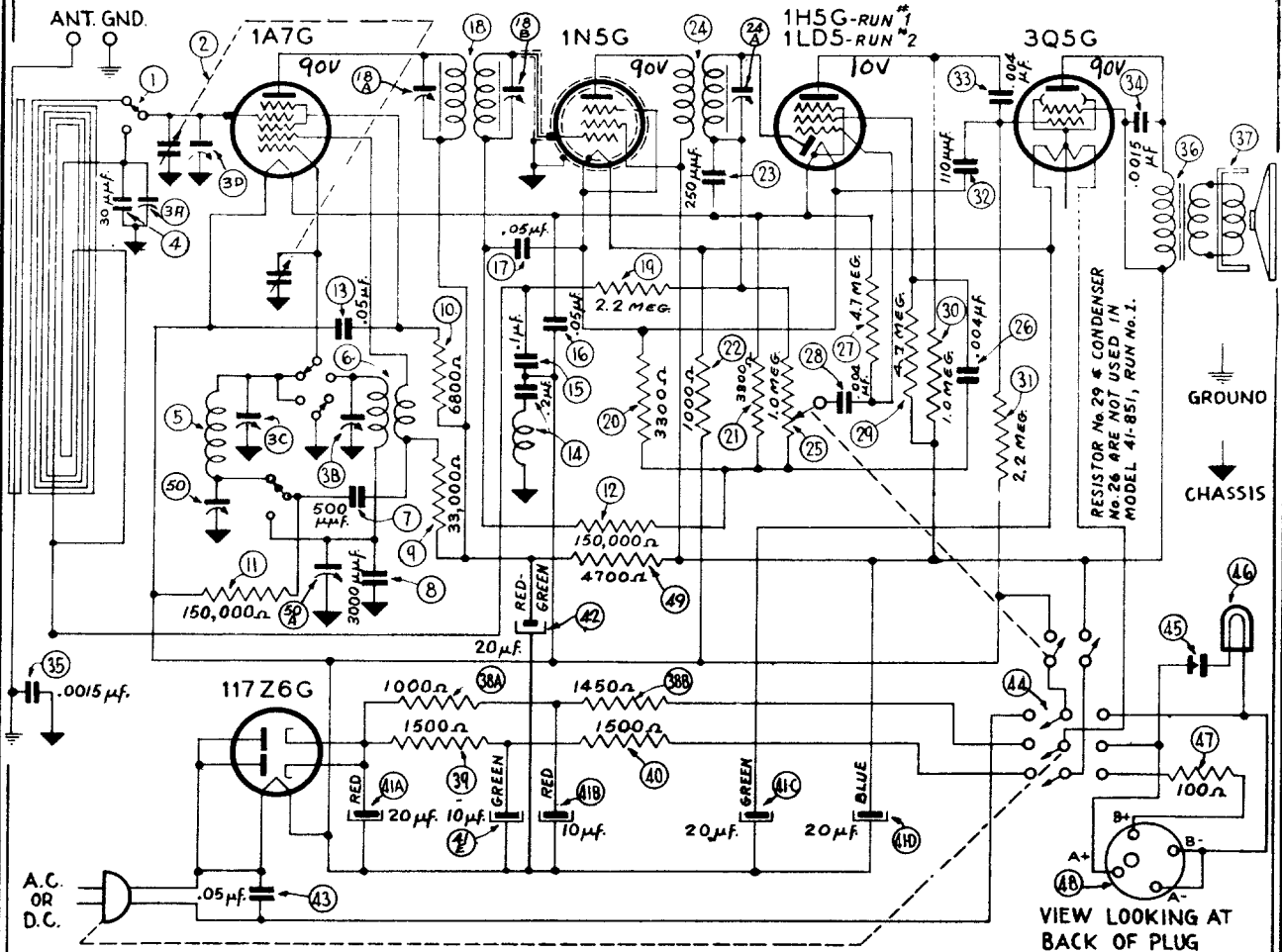
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



SCHMATIC 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 "Brdcat" Vol. Max.	3C, 3D
3	Loop on Generator	580 K. C.	580 K. C.	Range Switch "Brdcat" 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.

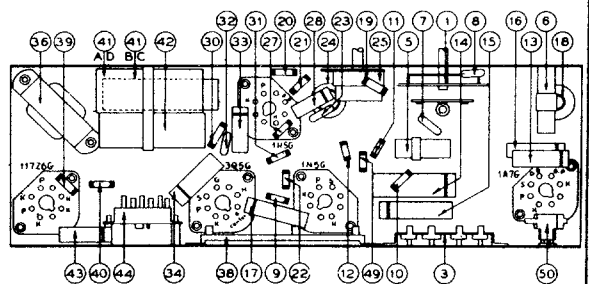
**PHILCO TUBES USED:** 1A7G, Oscillator Converter; 1N5G, I. F. Amplifier; \*1H5G, (Run No. 1) 2nd Detector, 1st Audio A. V. C.; 3Q5G, Audio Output; 117Z6G, Rectifier; \*1L5D, (Run No. 2).

**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.

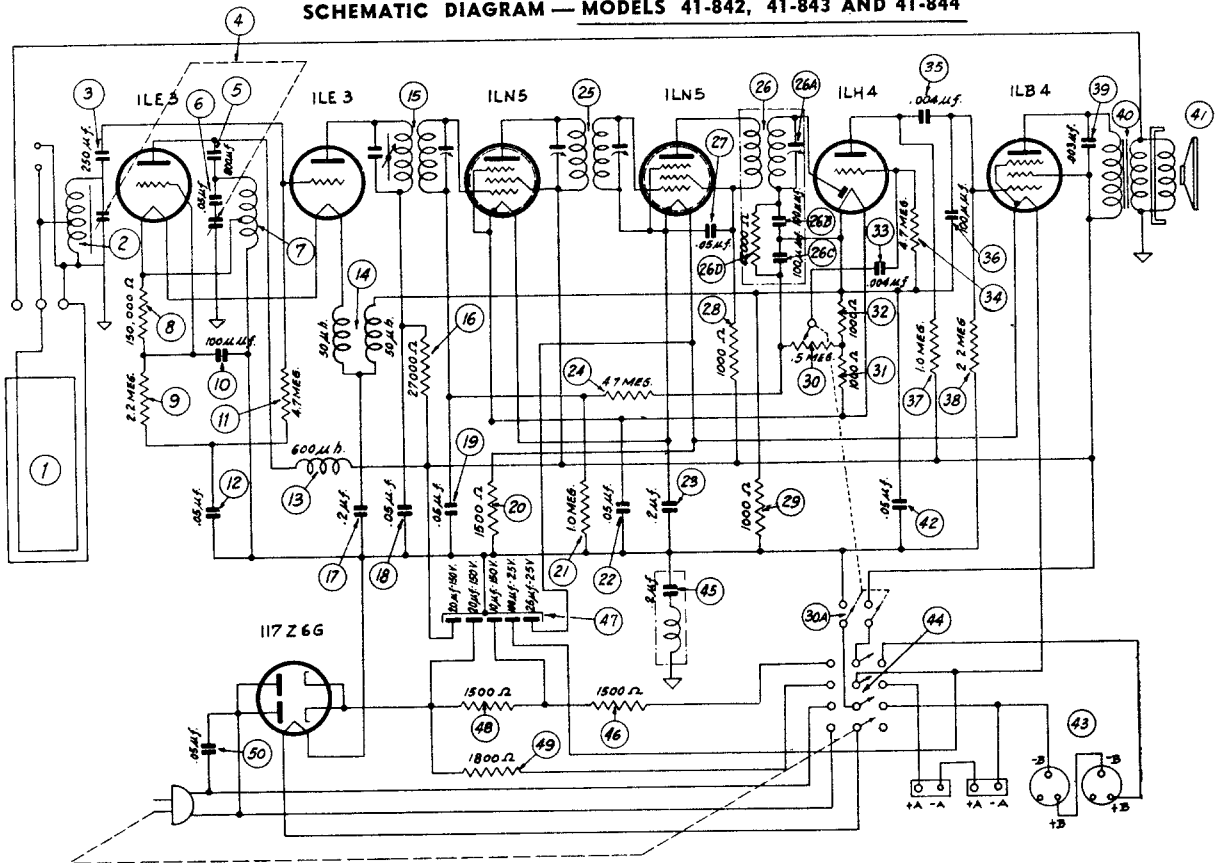
To operate on 115 volts A. C.-D. C. remove the power line cord plug from the slots on the chassis and insert into a power receptacle.



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

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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



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

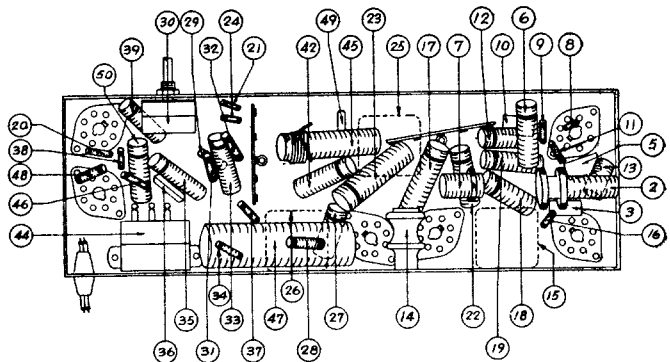
These models may be adjusted when operated by battery or 115 volts A.C.-D.C. power.

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

# 116

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

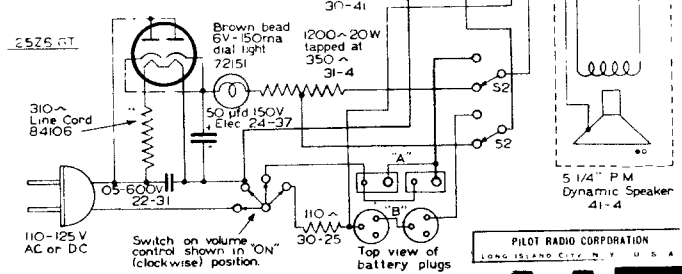
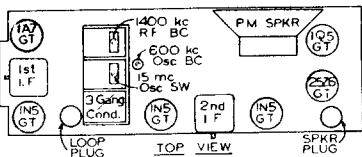
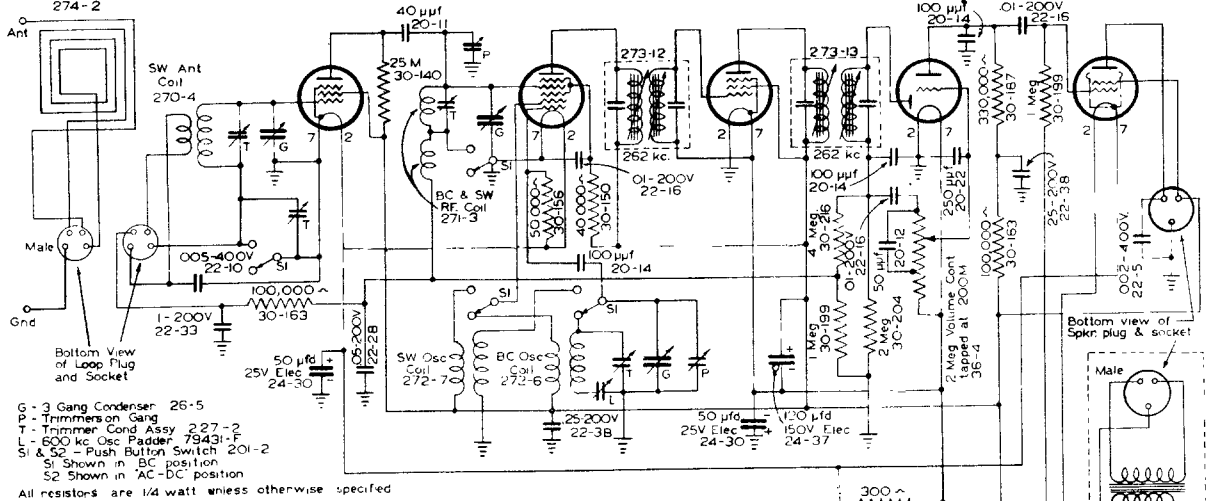
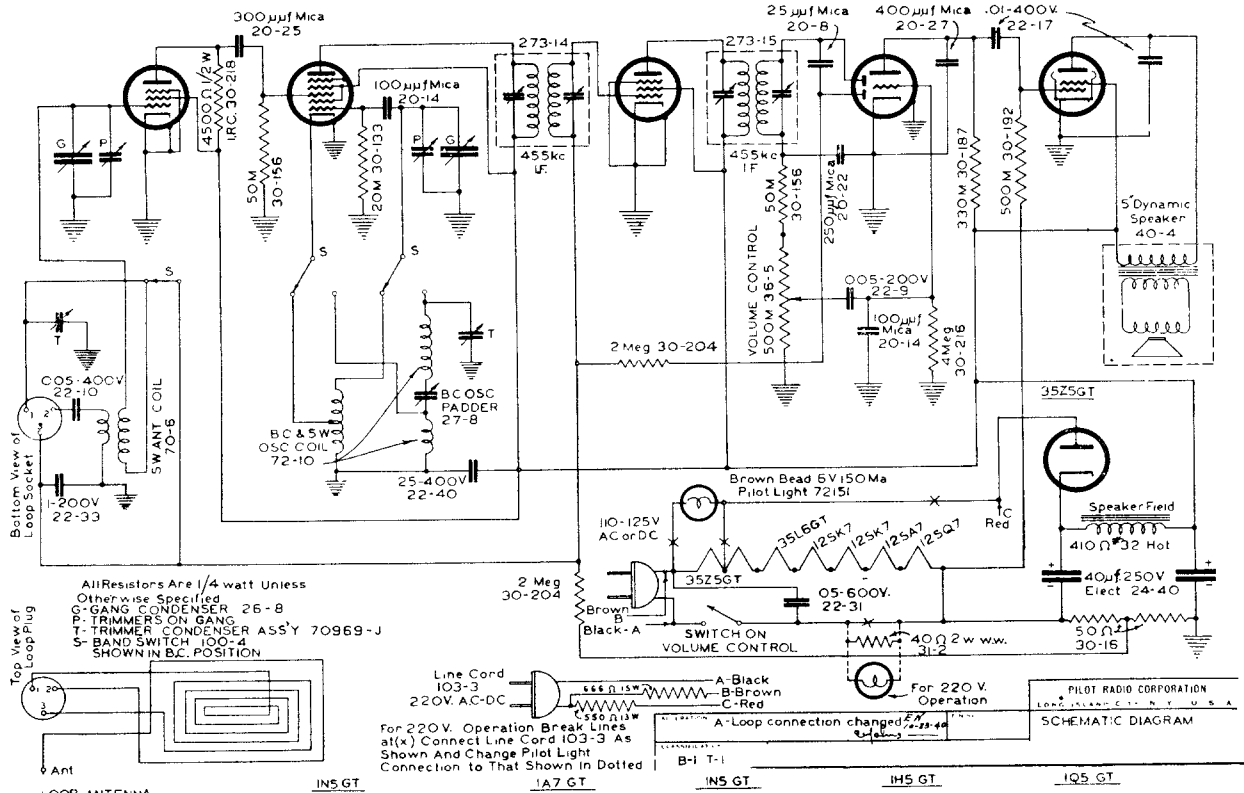
12SK7

12SA7

12SK7

12SQ7

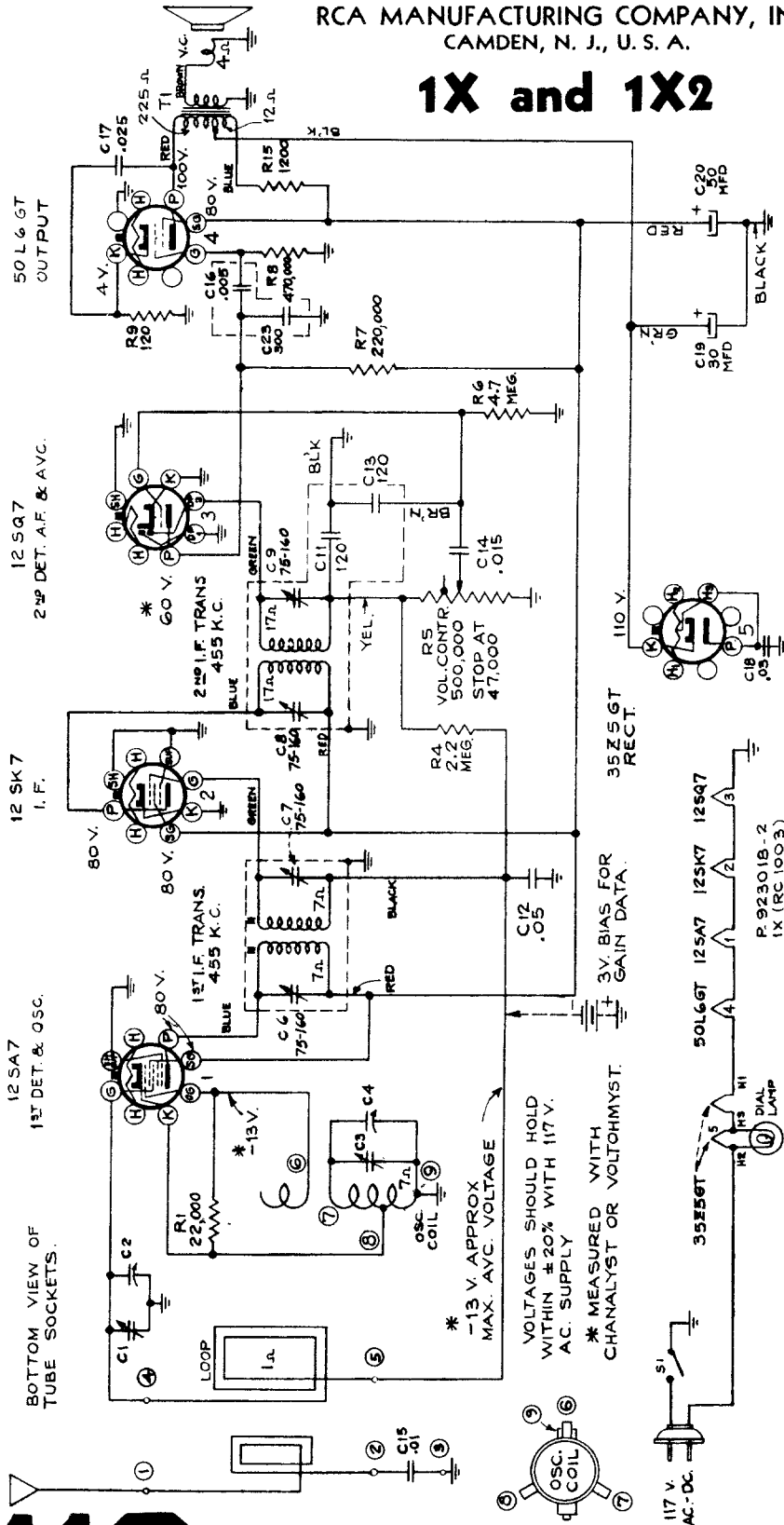
35L6GT



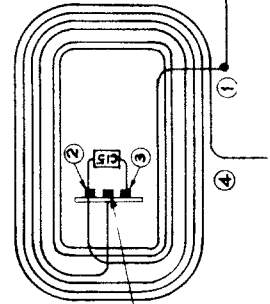
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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

## 1X and 1X2



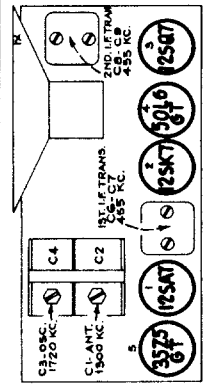
Steps	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	I-F grid, in series with .01 mfd.	455 kc	Quiet point 1,600 kc end of dial	C8, C9 2nd I-F Transformer
2	1st Det. grid in series with .01 mfd.	1,720 kc	Gang at minimum	C6, C7 1st I-F Transformer
3	Ant. terminal in series with 100 mmfd.	1,300 kc	Signal Frequency	C3 (osc.)
4	Radiated signal			C1 (ant.)
5	Repeat steps 3 and 4.			



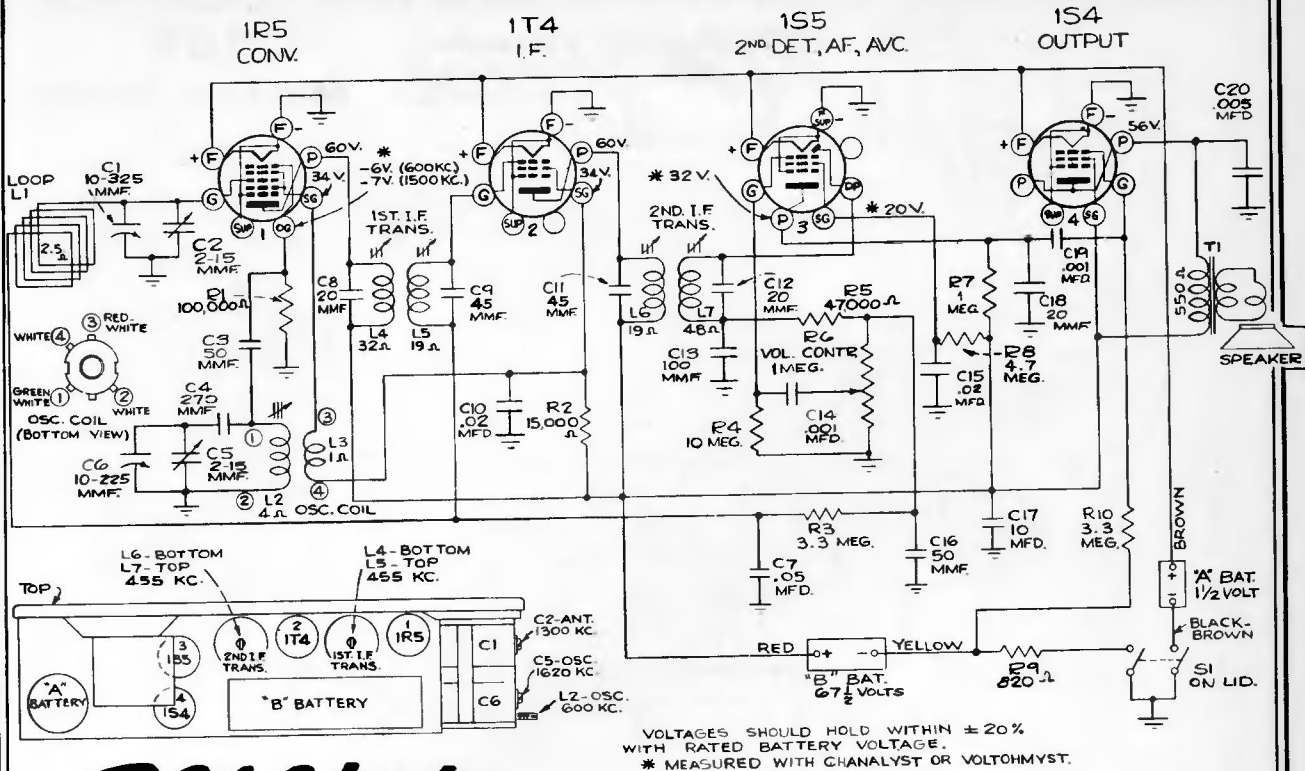
**Output Meter Alignment**—Connect the meter across the voice coil and turn the receiver volume control to maximum.

**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.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



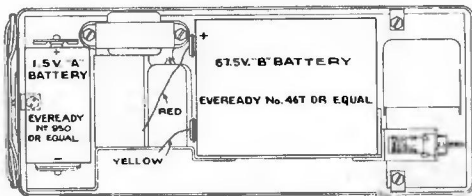
## RCA Victor

### MODEL BP-10 PERSONAL RADIO

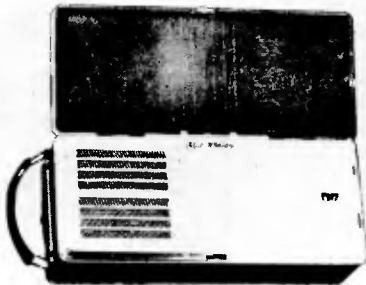
#### Alignment Procedure

**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

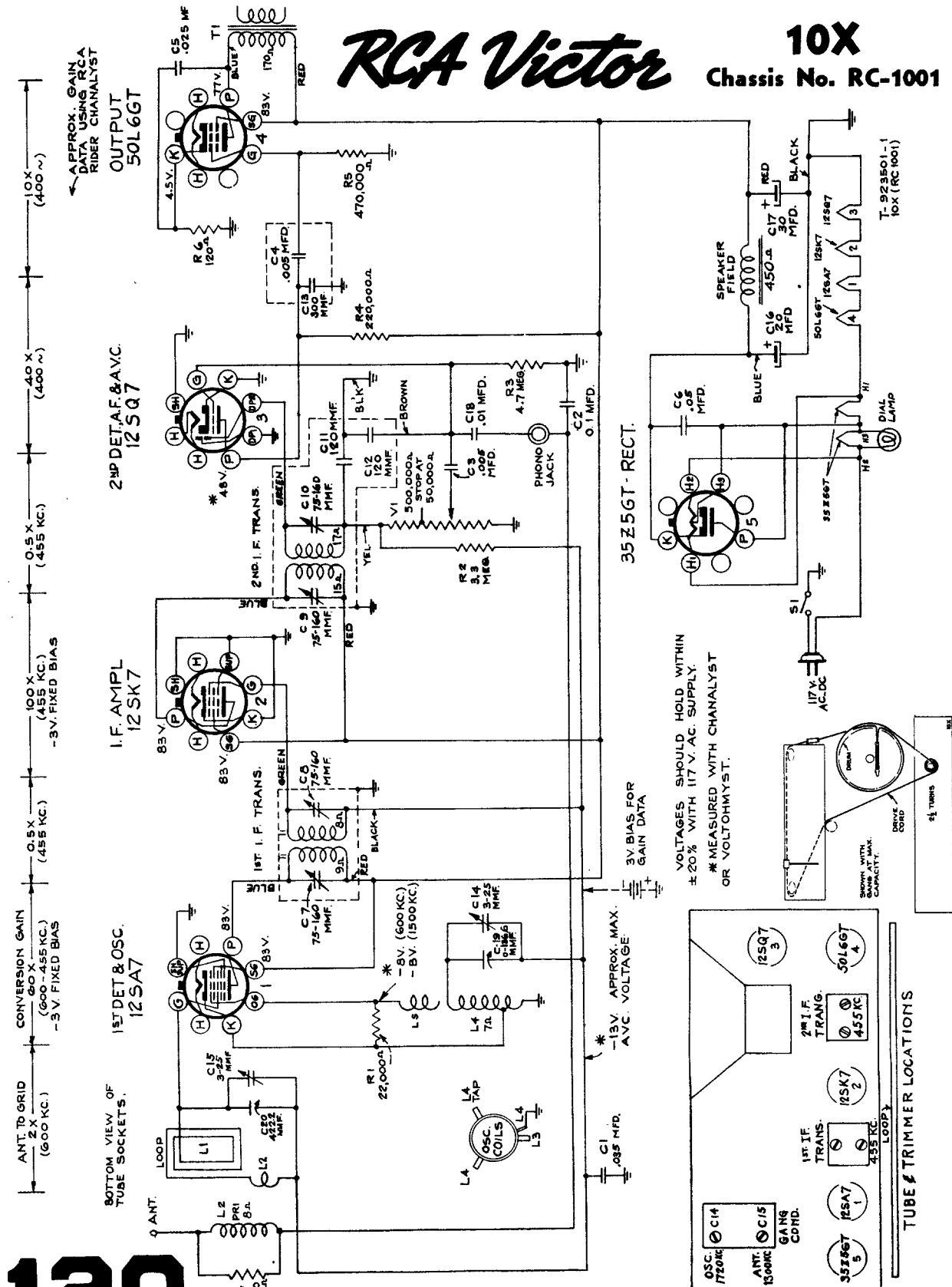
Type Battery	Current Consumption	Approximate Life (Intermittent Duty)
"A"—1.5 volt Eveready No. 950	0.25 amperes	3-5 hours
"B"—67.5 volts Eveready No. 467		
	8.5 milliamperes	25-40 hours

#### POWER OUTPUT

Undistorted	0.05 watts
Maximum	0.12 watts

*RCA Victor*

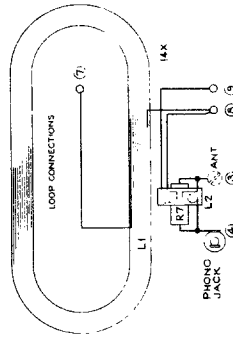
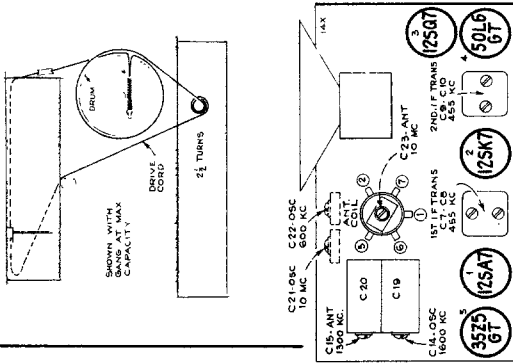
**10X**  
Chassis No. RC-1001



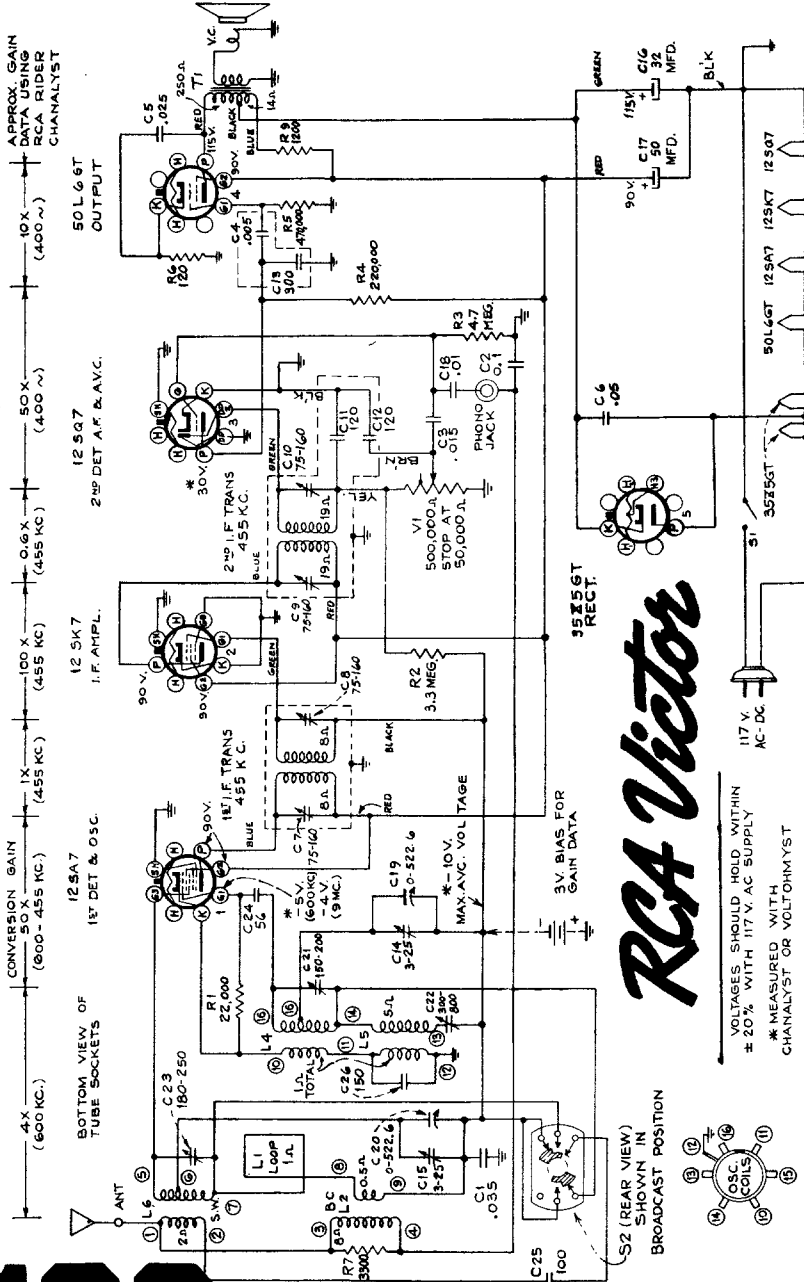
**120**







**MODEL 14X**  
Chassis No. RC-1001-D



**RCA Victor**

**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.

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.	10 mc*	10 mc	C8, C7 1st I-F Transformer
3	Antenna term. in series with 47 mmf.	1,600 kc	1,600 kc	C21 (osc.)** C23 (ant.)
4	Antenna term. in series with 200 mmfd.	1,300 kc	Resonance on Signal	C14 (osc.)
5	Radiation Loop	600 kc	600 kc	C15 (ant.)
6	Radiation Loop	600 kc	600 kc	C22 Osc. Rock in

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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 1,800 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

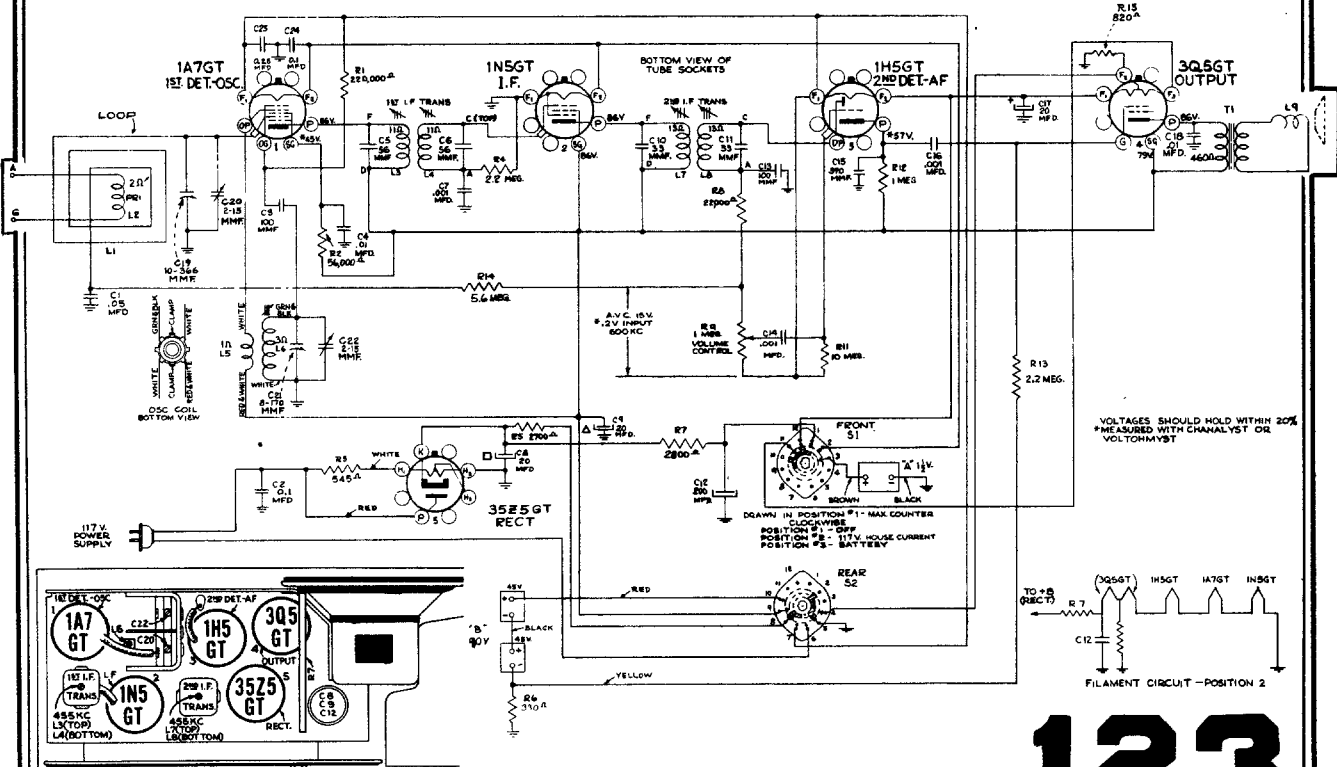
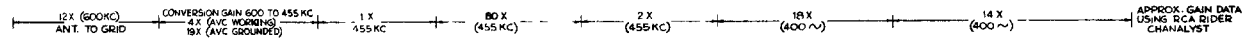
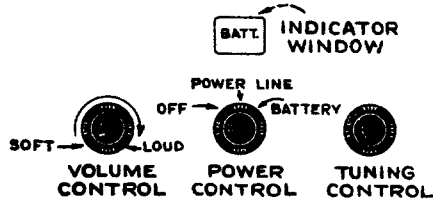
110 to 125 volts, AC 50 or 60 cycles, or DC

#### 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 } Battery Operation  
"B" 11.5 milliamperes }



# 123

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

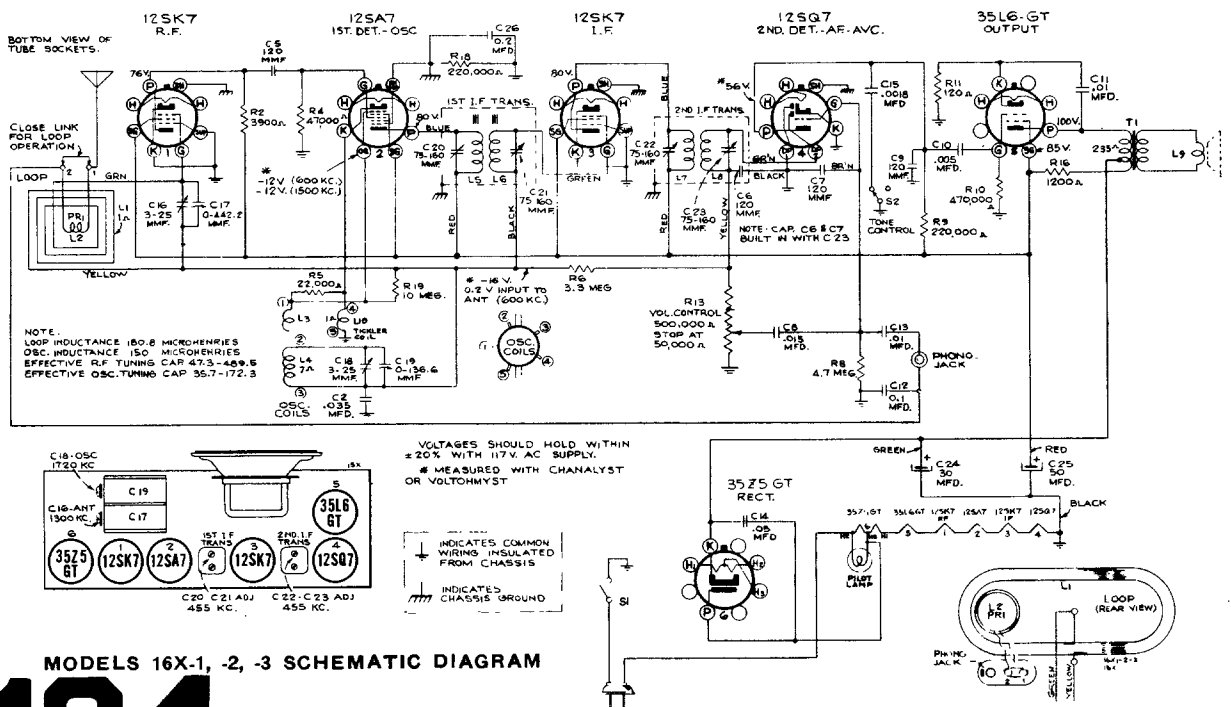
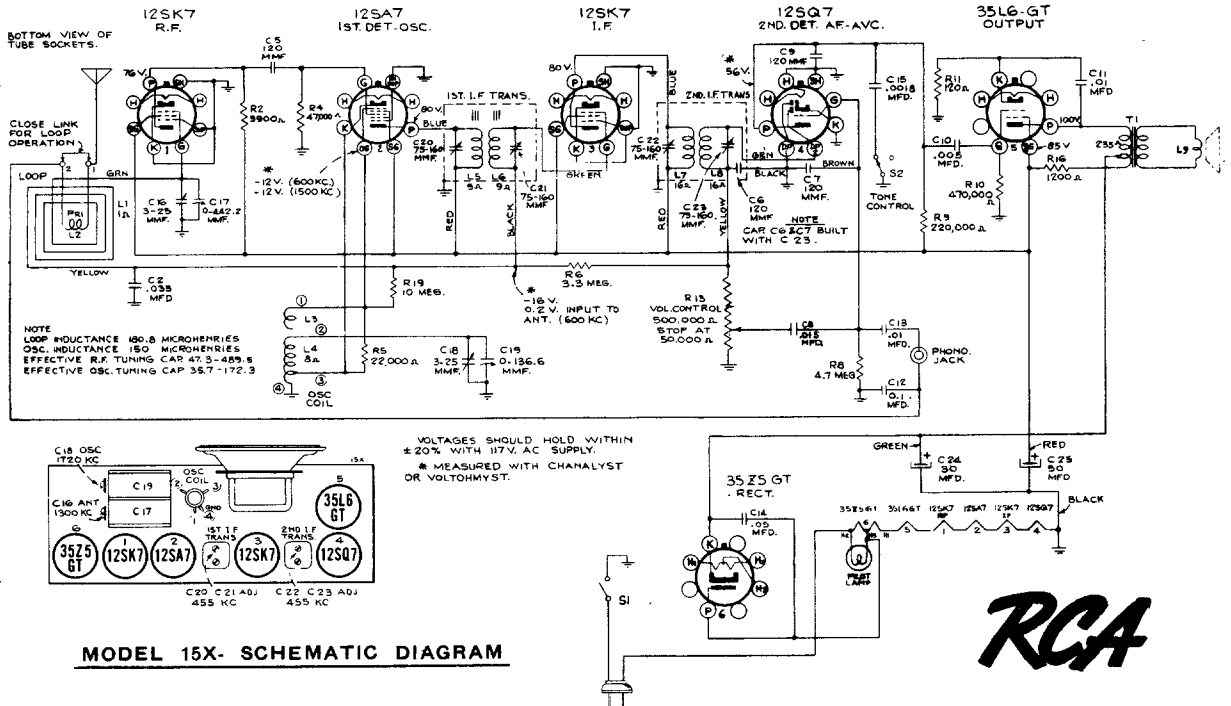
## MODELS 15X, 16X-1, 16X-2 and 16X-3

Chassis Nos. RC-462,

RC-462A

and RC-462B

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





# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

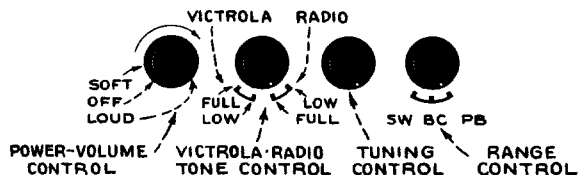
3. Refer to calibration scale printed in this service note. This is a reduced reproduction of the dial with an inch-scale drawn at top and bottom. To find the correct pointer position in inches for any desired frequency, draw a vertical line through this frequency on the calibration scale. For example,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

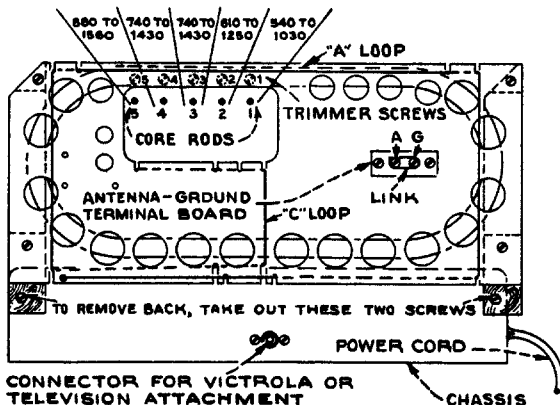


RCA Manufacturing Co.  
Camden, N. J.

Models 16K and 16T3

# 126

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RCA Victor

16X-4

Chassis No. RC-462-C

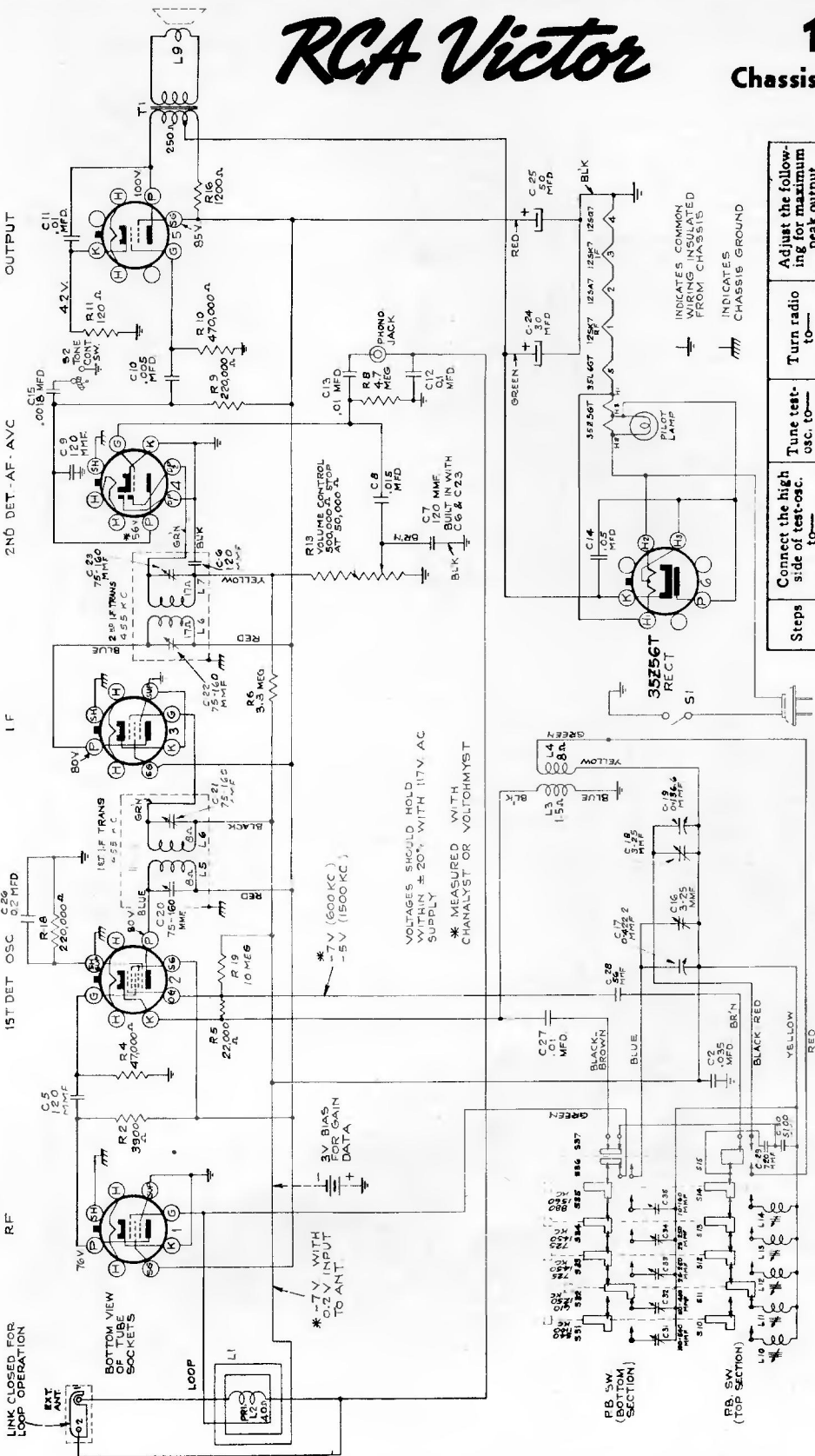
35L6-GT  
OUTPUT

12SQ7  
2ND DET.-AF.-AVC

12SK7  
I.F.

12SA7  
1ST DET. OSC.

12SK7  
RF



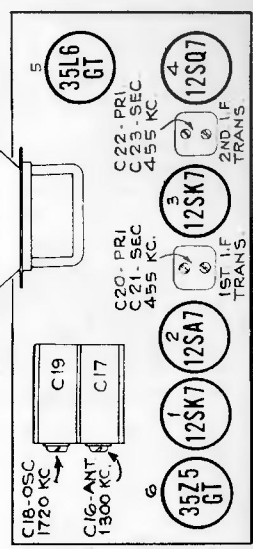
INDICATES COMMON  
WIRING INSULATED  
FROM CHASSIS  
INDICATES  
CHASSIS GROUND

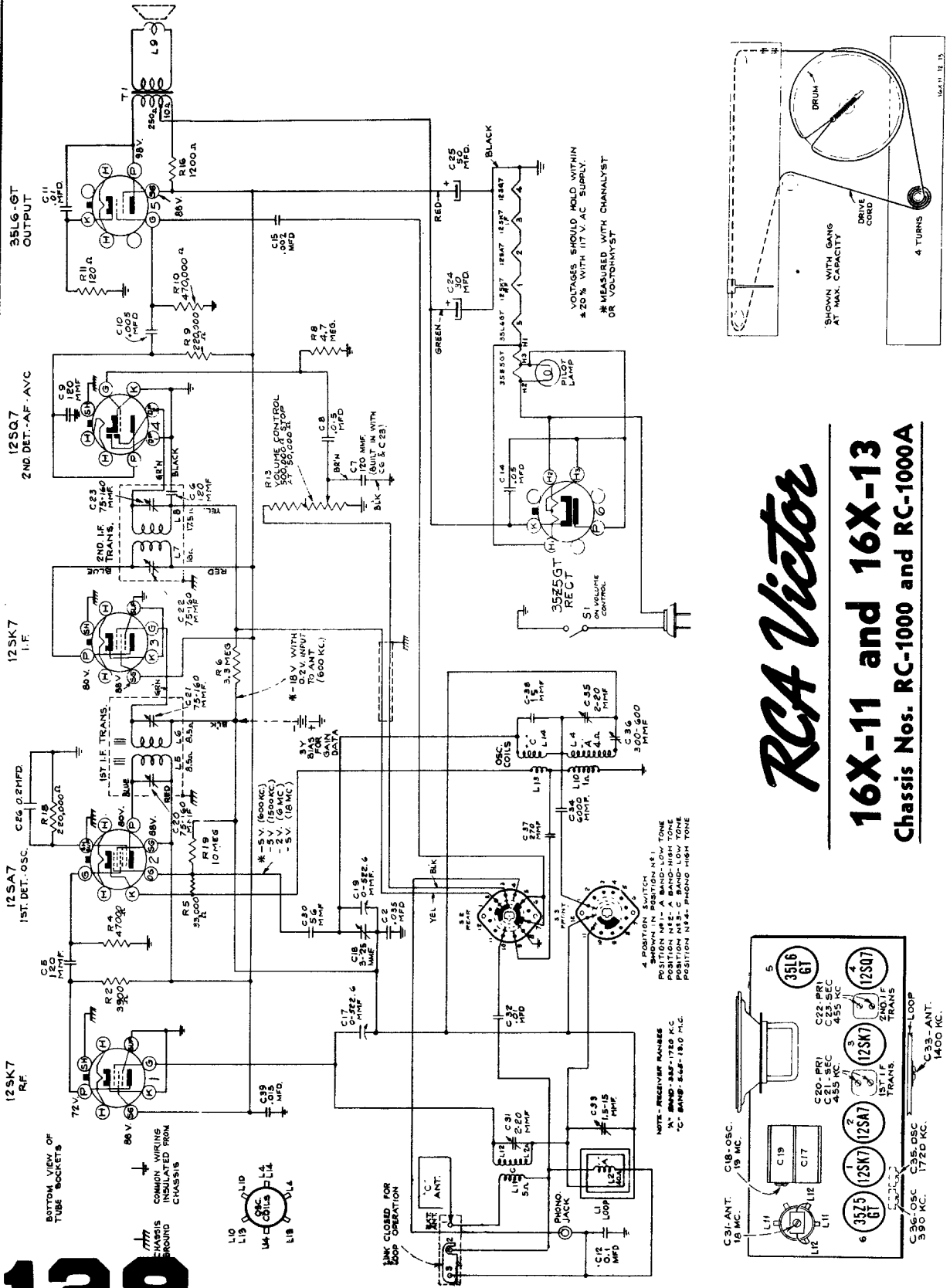
VOLTAGES SHOULD HOLD  
WITHIN ±20% WITH 117V. AC  
SUPPLY  
\* MEASURED WITH  
CHANNELYST OR VOLTOHMYST

3V BIAS  
FOR GAIN  
ON DATA

\*-7V WITH  
0.2V INPUT  
TO ANT.

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 of dial	C23, C92 2nd I-F transformer
2	12SA7 1st det. grid, in series with 0.1 mfd.	1,720 kc		C21, C90 1st I-F transformer
3	12SK7 R-F grid, in series with 0.1 mfd.	1,720 kc		C18 (osc.)
4	Radiated signal 1,300 kc		Resonance on signal	C16 (ant.)
5	Repeat steps 3 and 4			



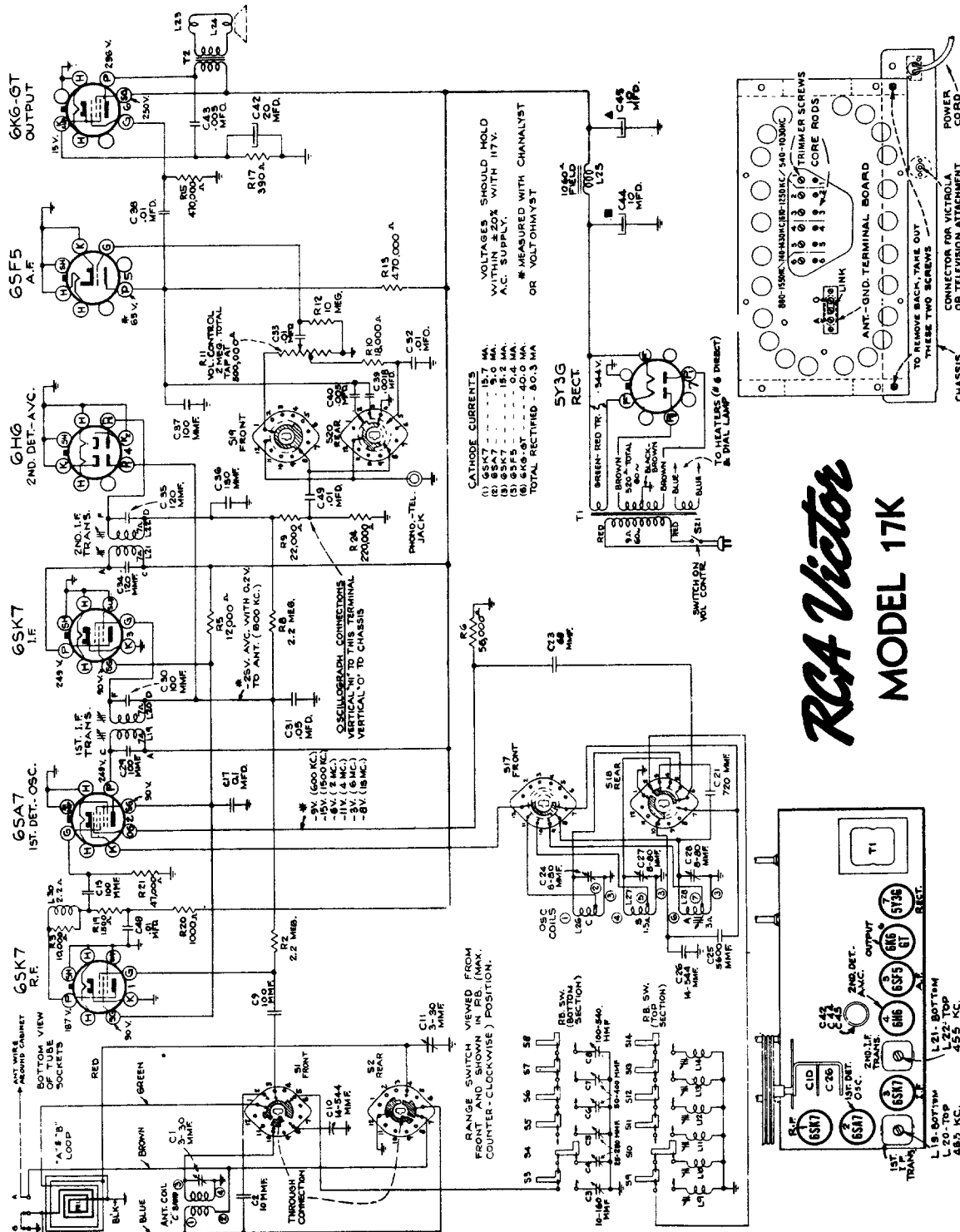


# RCA Victor

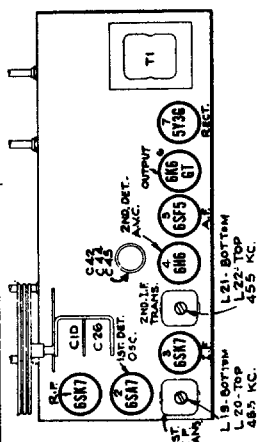
## 16X-11 and 16X-13

### Chassis Nos. RC-1000 and RC-1000A

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



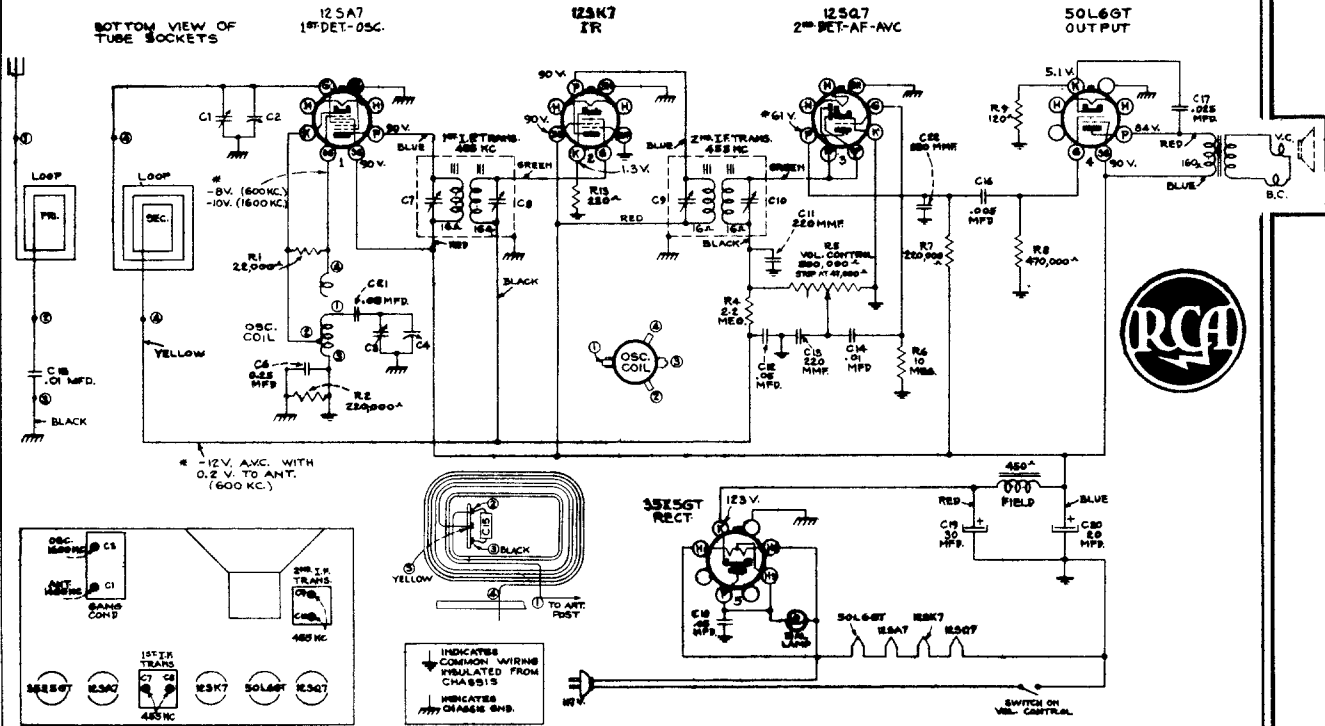
**RCA Victor**  
**MODEL 17K**



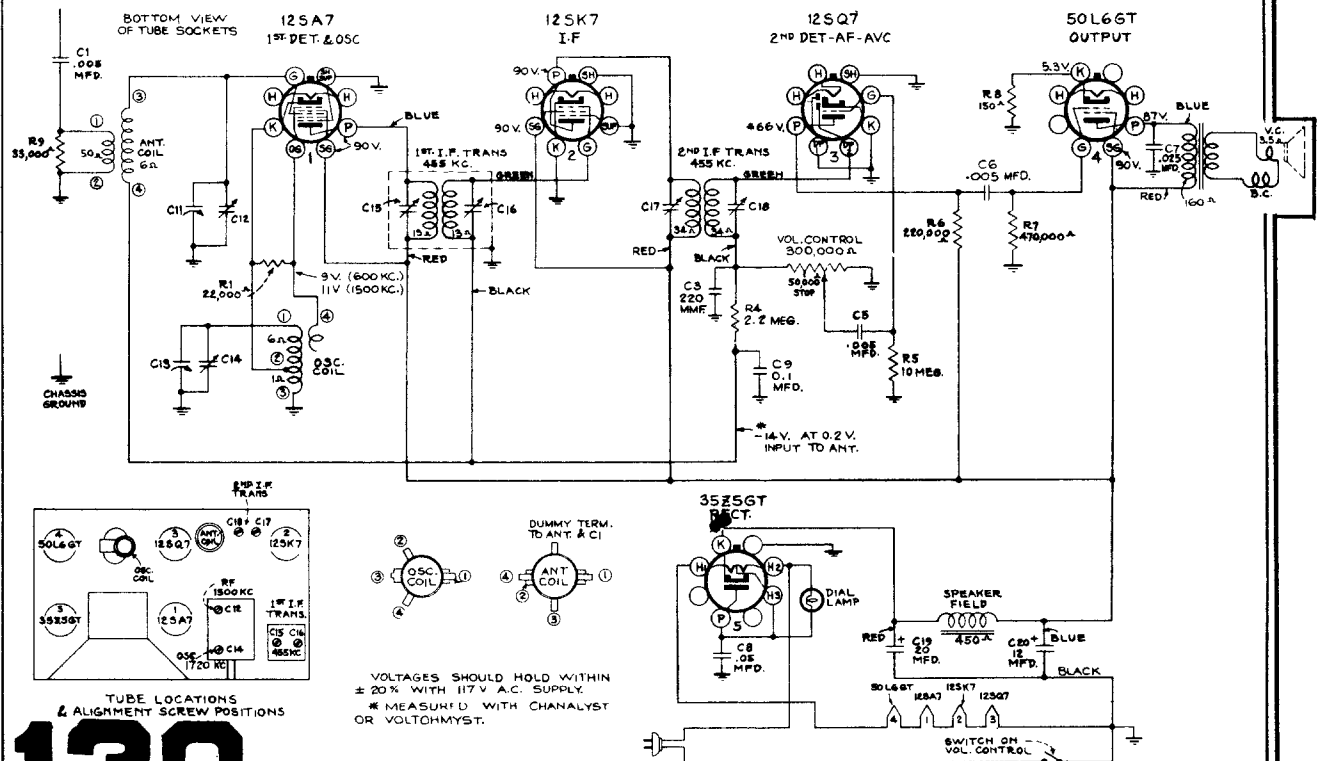


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

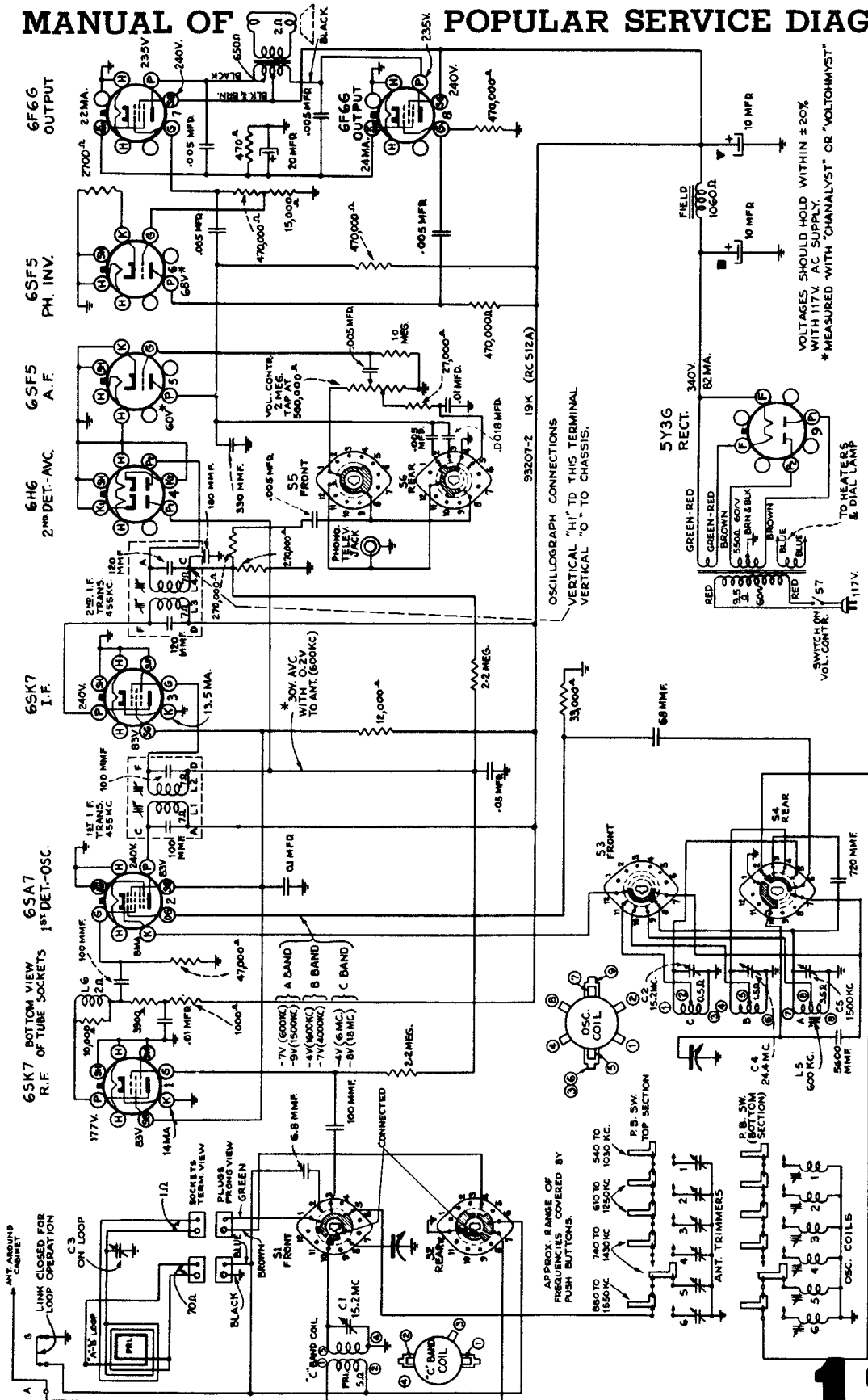
## Models 45X-16, 45X-17



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



# MANUAL OF POPULAR SERVICE DIAGRAMS



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

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

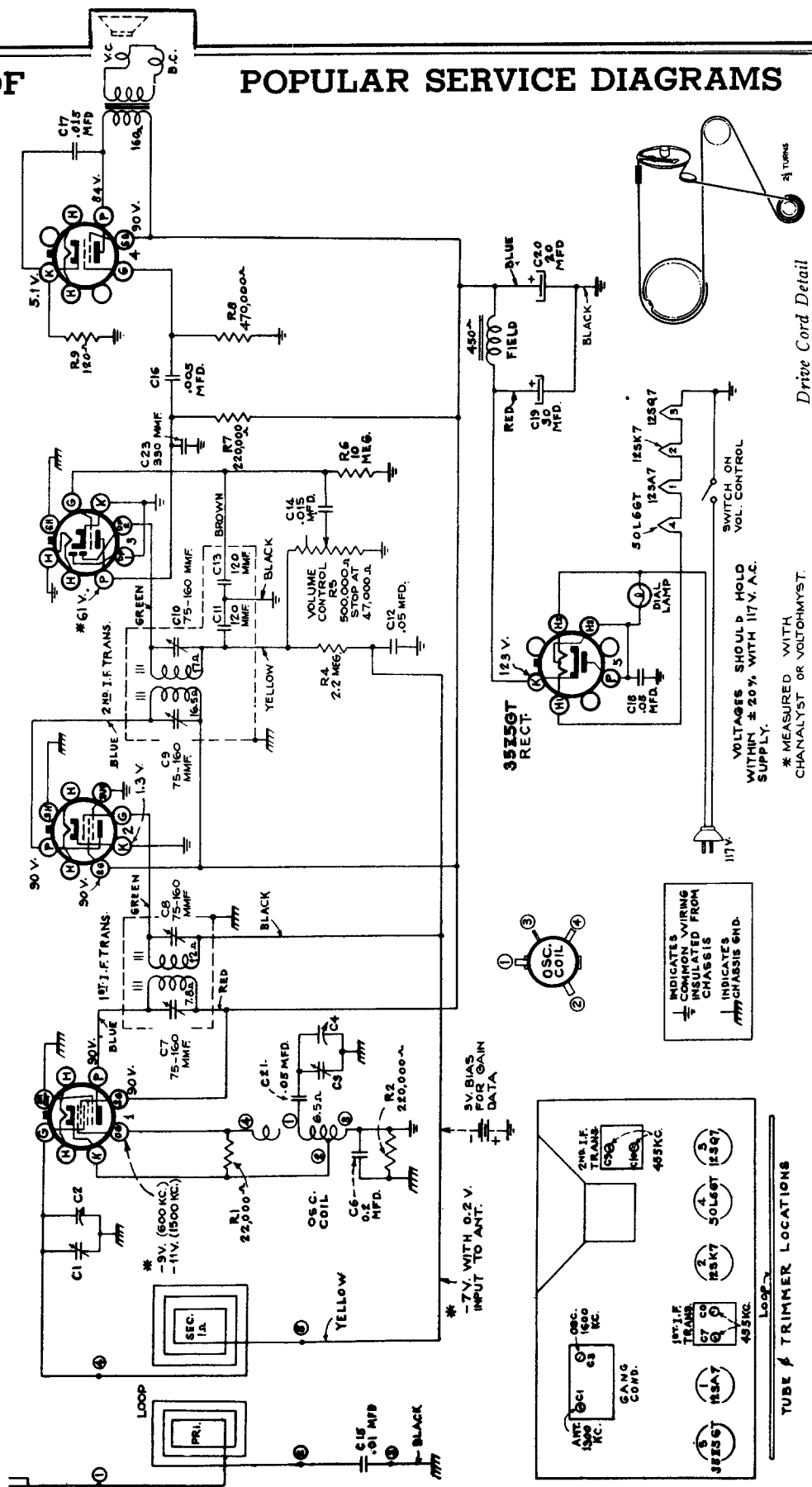
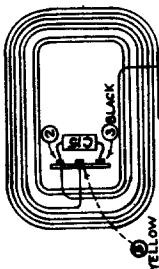
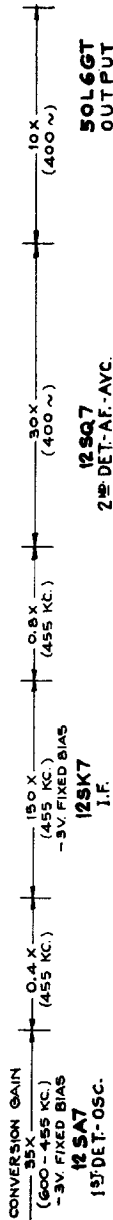
*RCA Victor*

**131**

**45X18**  
Chassis No. RC-541-C

**RCA Victor**

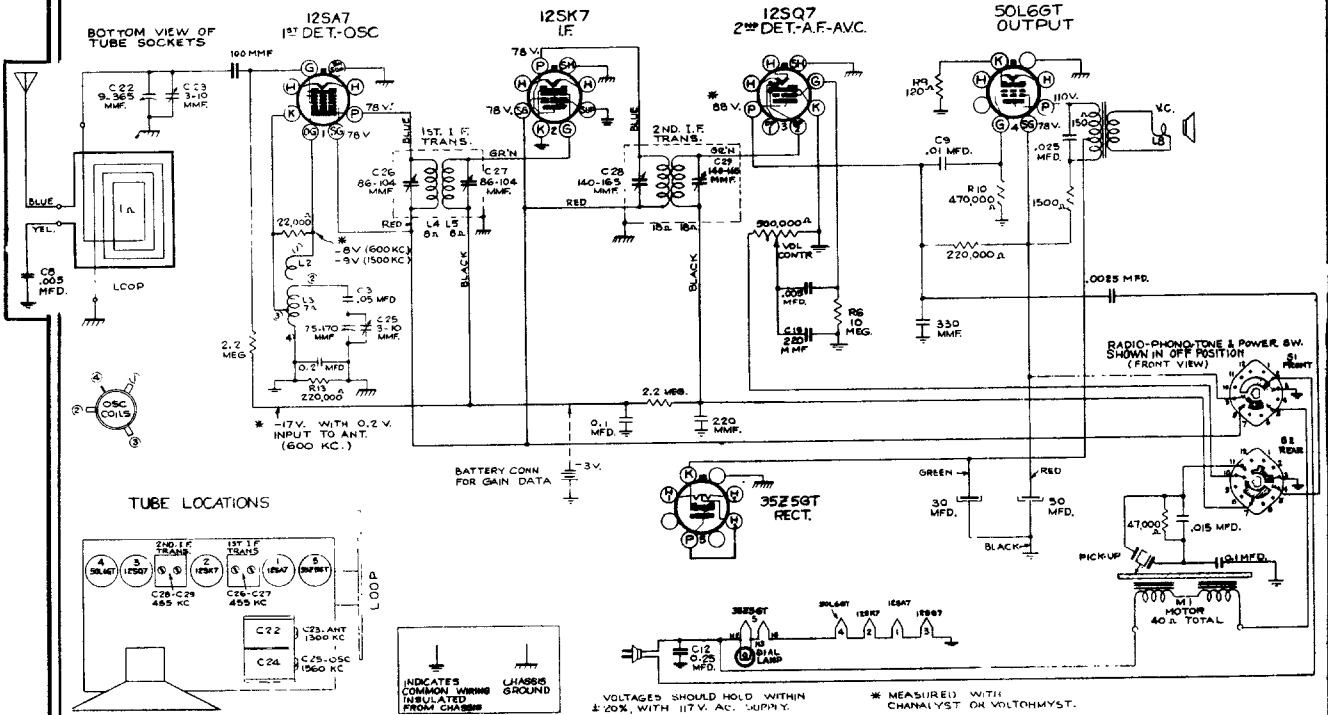
**132**



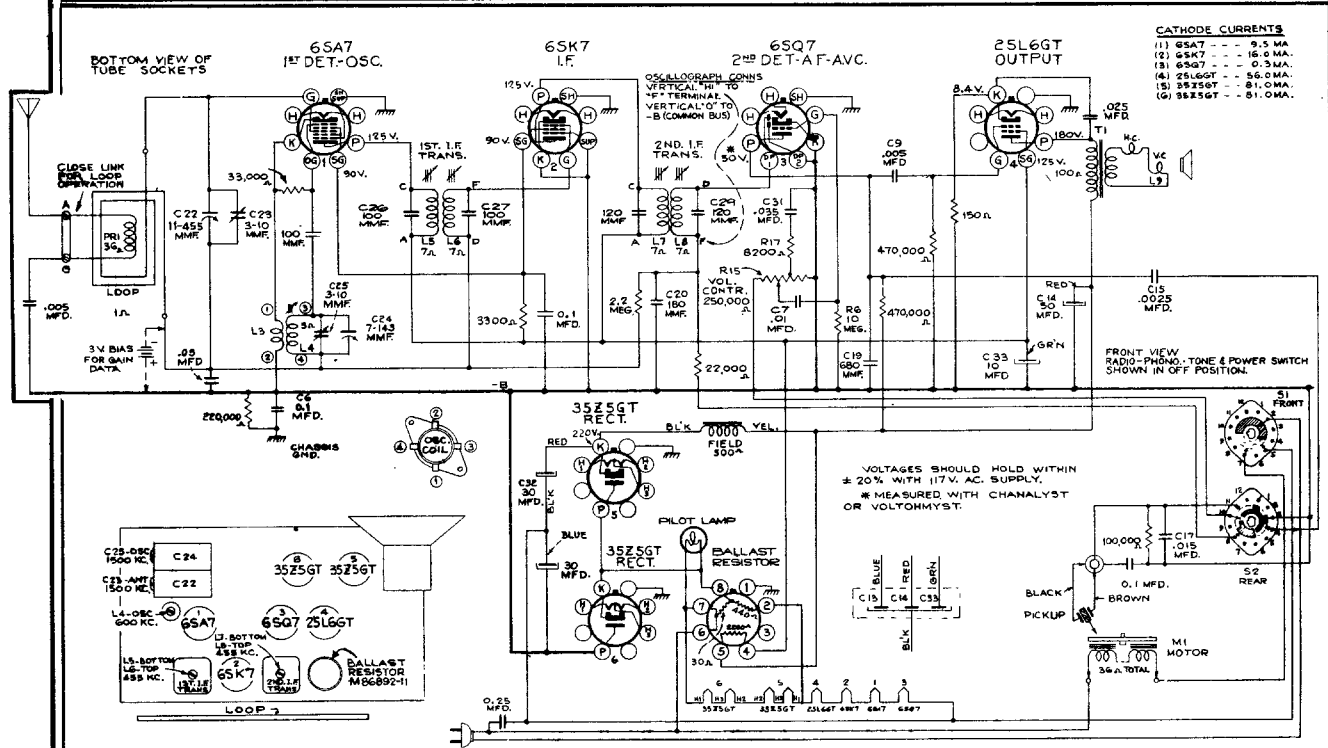
Drive Cord Detail

Loop

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



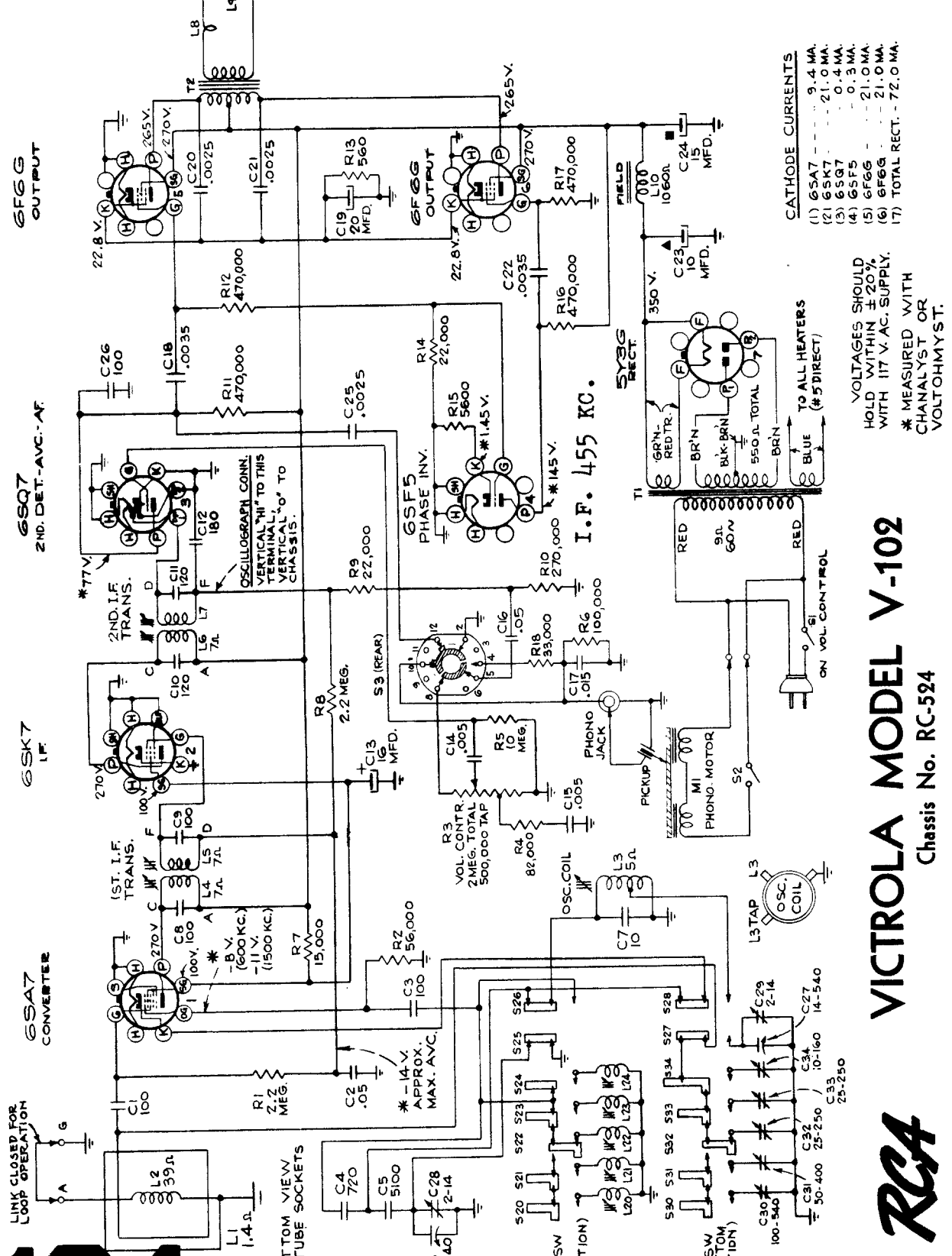
## RCA VICTROLA MODEL V-100



## RCA VICTROLA MODEL V-101

Chassis No. RC-540

# 133



**CATHODE CURRENTS**

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

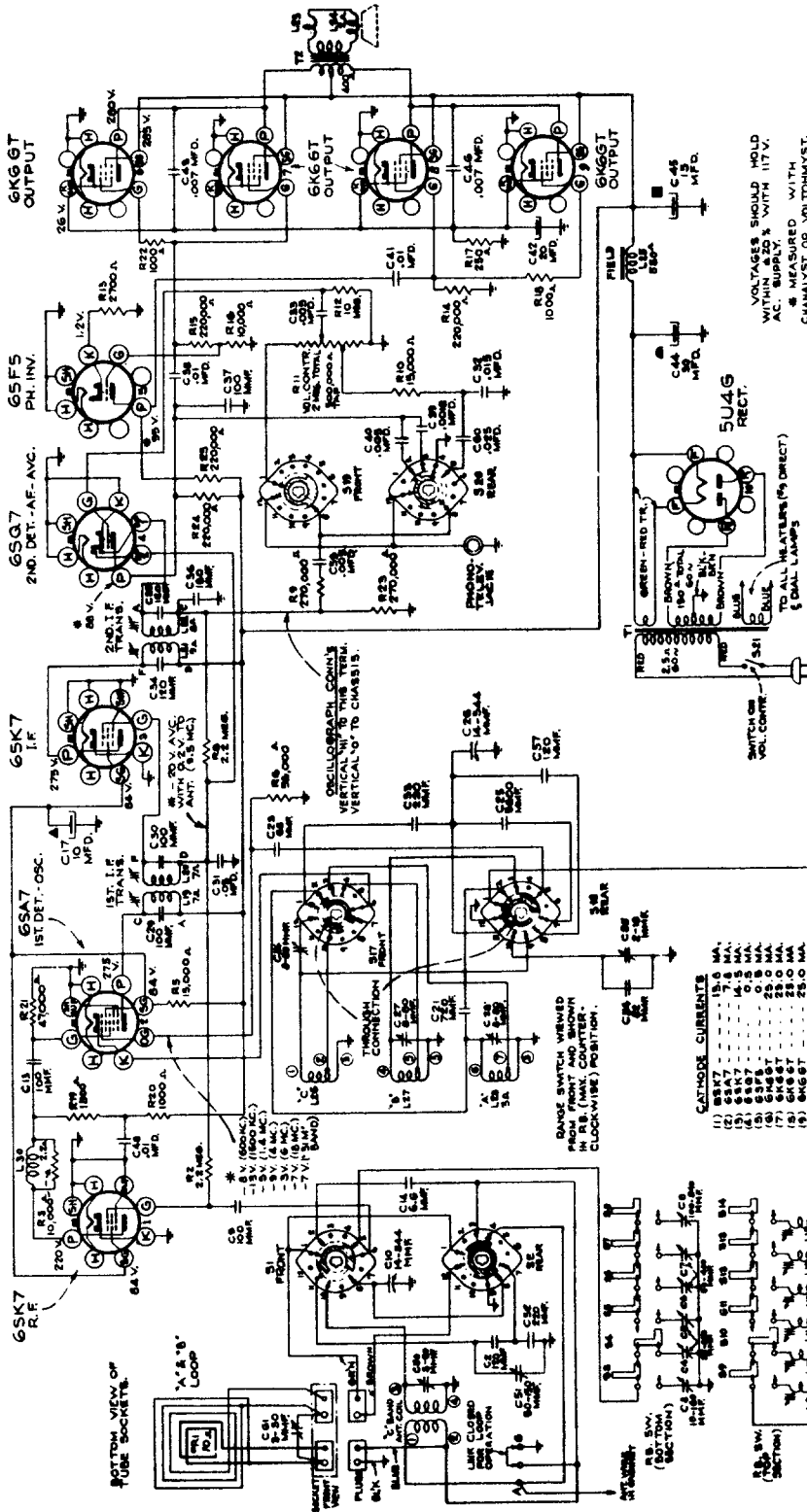
VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117 V. AC. SUPPLY.  
 \* MEASURED WITH CHANNELYST OR VOLTOHMYST.

# VICTROLA MODEL V-102

Chassis No. RC-524

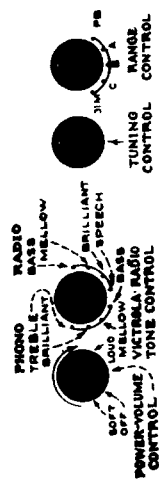
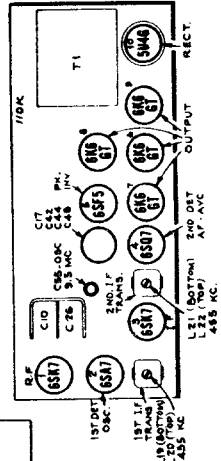


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**RCA Victor**  
**MODEL 110-K**  
 Chassis No. RC-513

VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117 V. AC. SUPPLY.  
 \* MEASURED WITH CHANALYST OR VOLTOHMIST.



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

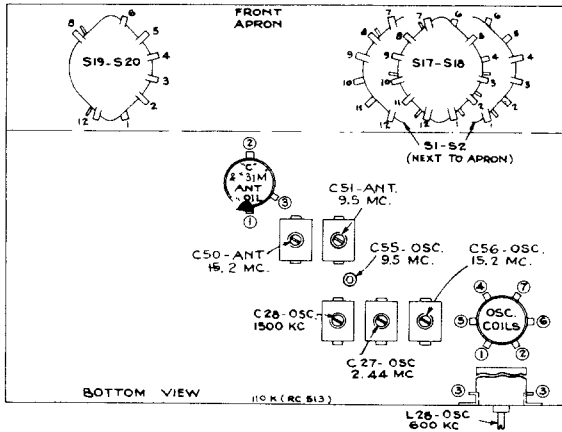
In the event that the receiver is to be used with an external antenna use one or two feet of wire (as an antenna) to ensure sharp peaking during the final adjustment procedure. For loop operation, the link should be strapped across terminals on back of set. In either case the procedure is as follows:

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.

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.

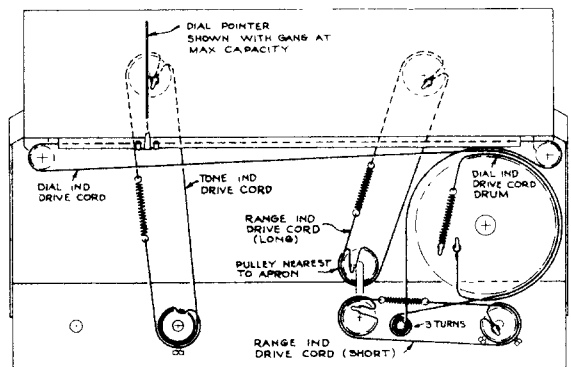
Owing to the relatively high r-f gain, it may be found that a given station can be tuned in at several different settings of the magnetite-core oscillator push-button coils. In such cases, it is advisable to unscrew the loop push-button trimmers to minimum capacity before adjusting the magnetite cores.

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.



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.

880 TO 1550 KC	740 TO 1430 KC	610 TO 1250 KC	540 TO 1030 KC
6	5	3	1
5	4	2	2
4	3	1	3
3	2	0	4
2	1	0	5
1	0	0	6
0	0	0	6

TRIMMER SCREWS  
CORE RODS

# 136

## MODEL 110-K

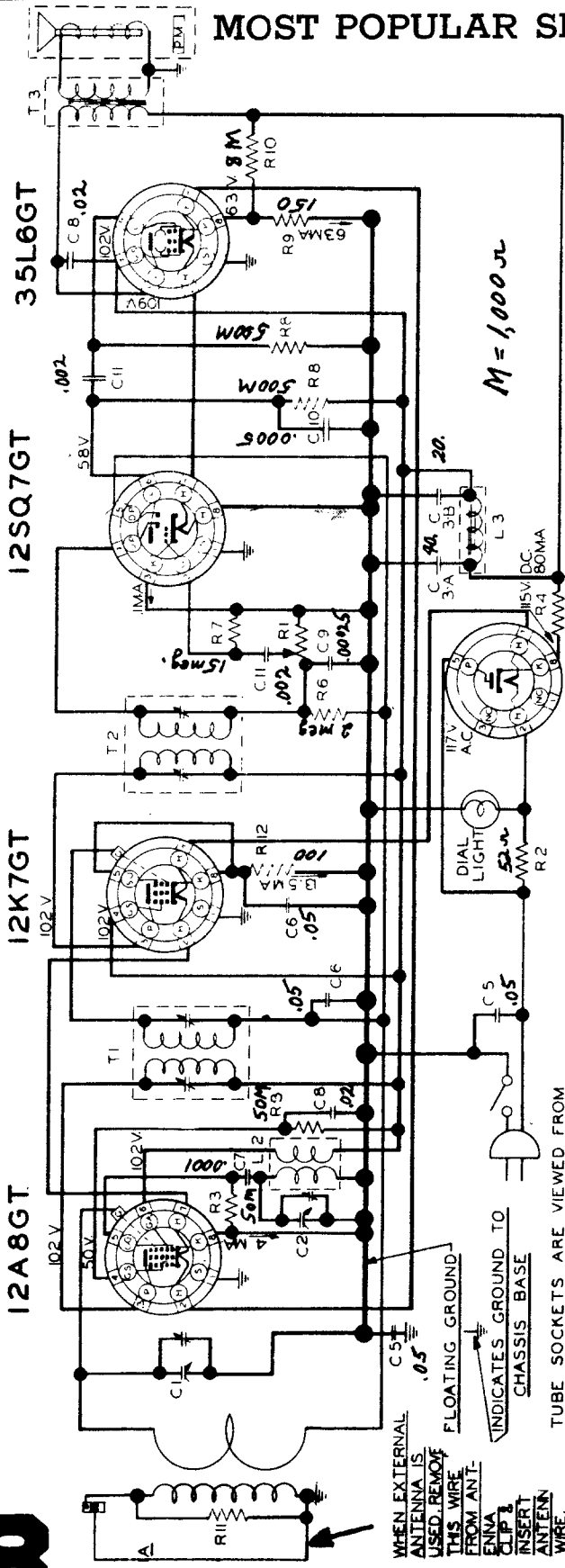
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



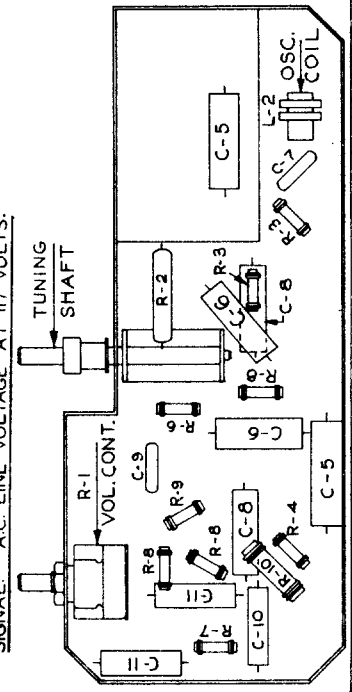
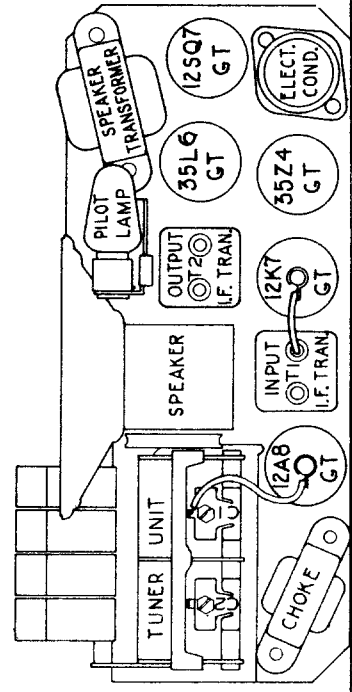


Sears, Roebuck & Co.  
 Models 3351, 3451,  
 3551, 132.802

POSITION OF VARIABLE	FREQUENCY GENERATOR	DUMMY ANTENNA	GENERATOR CONNECTION	GENERATOR CONNECTION	TRIMMERS ADJUSTED	TRIMMER FUNCTION
Closed	455 kc	.1 mfd.	12A8GT Grid	(High)	T2, T1	IP
1400 kc	1400 kc	.00005 mfd.	Ant. clip	(Low)	C2, C1	Translator
600 kc	600 kc	.00005 mfd.	Ant. clip	(Low)	Check Point	



35Z4GT 30 $\mu$



WHEN EXTERNAL ANTENNA IS USED, REMOVE THIS WIRE FROM ANTENNA CLIP & INSERT ANTENNA WIRE.

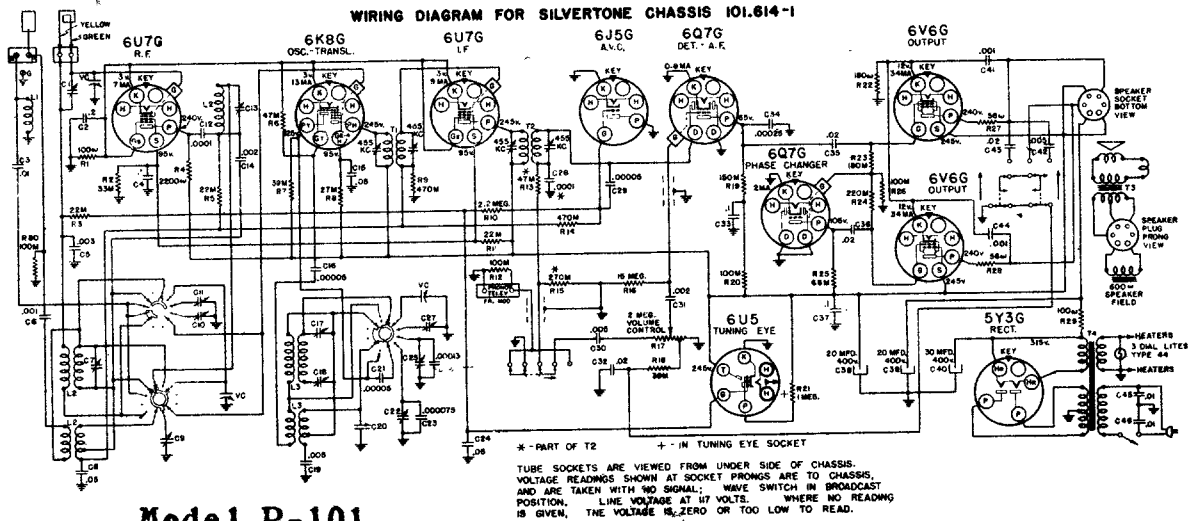
INDICATES GROUND TO CHASSIS BASE

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.

## MOST POPULAR SERVICE DIAGRAMS

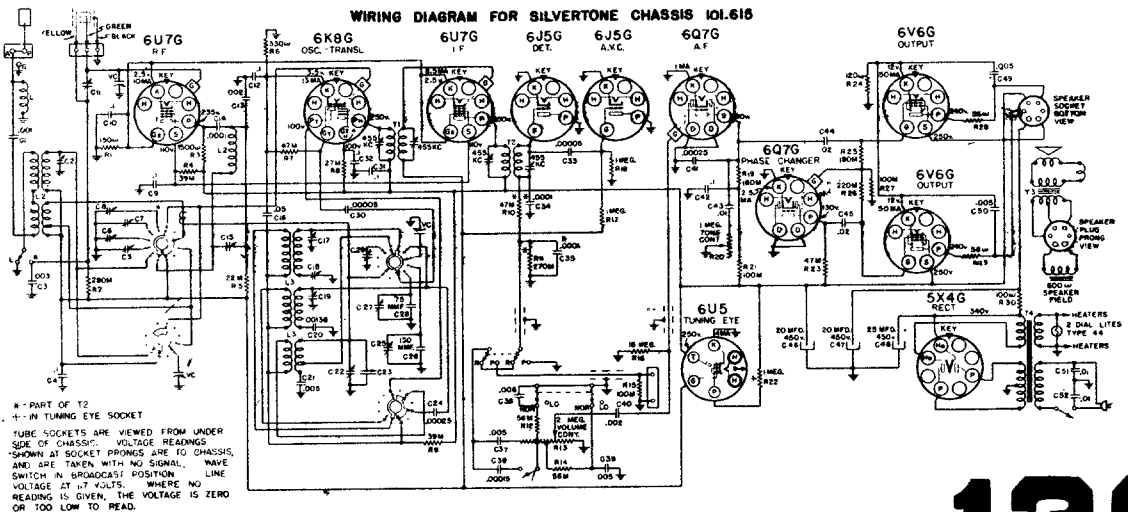
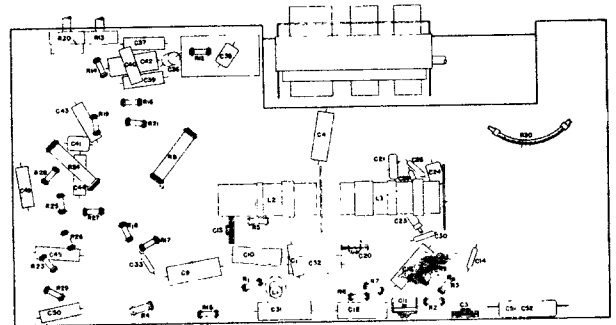
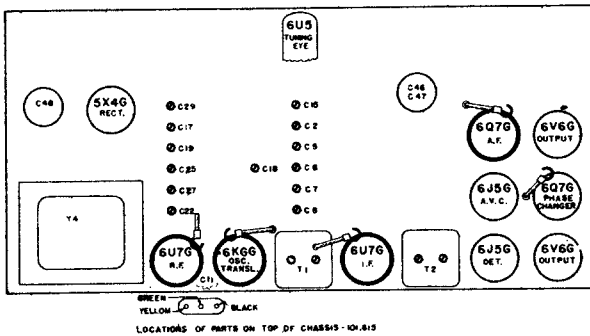
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



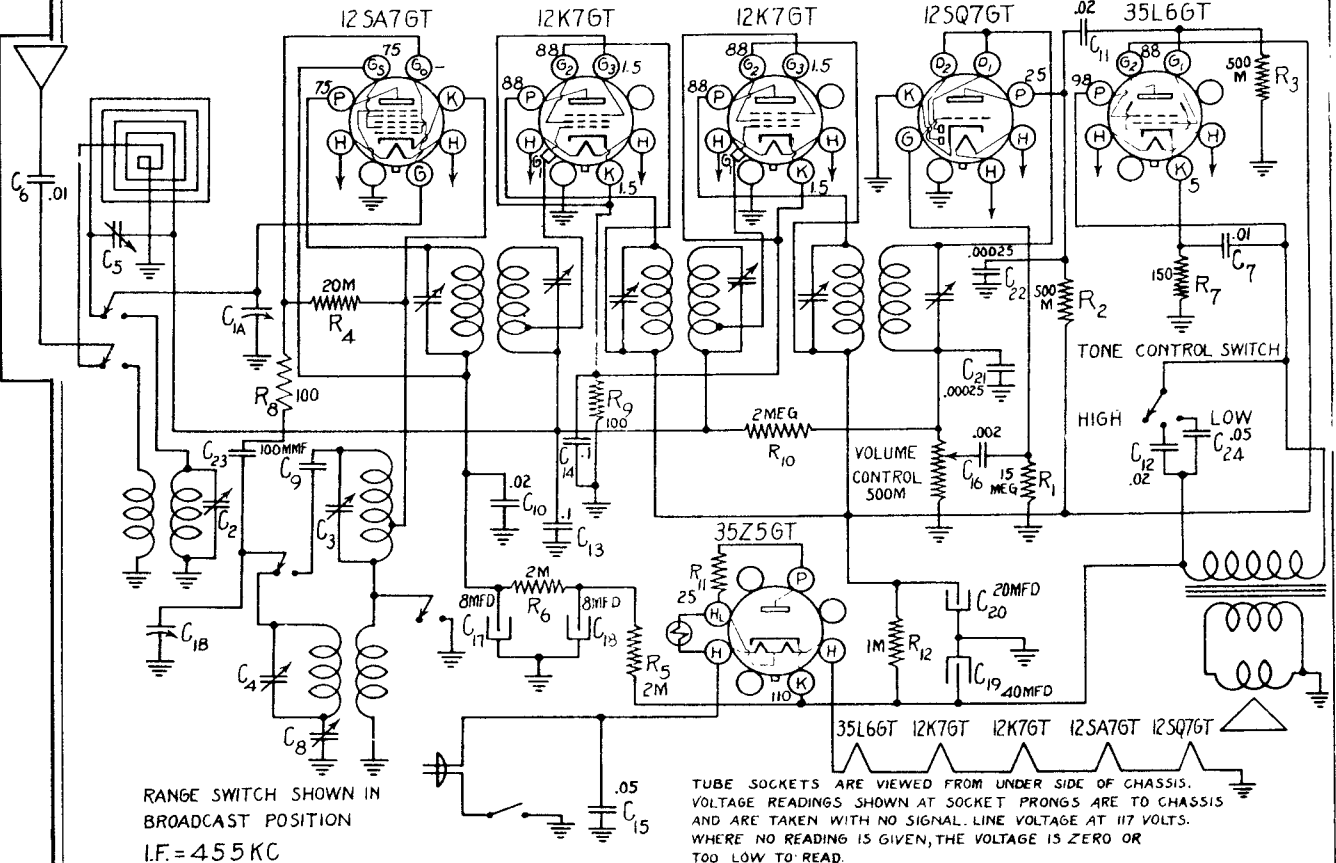
**Model R-101**

## Sears, Roebuck & Co. Chicago.

**Model R-111**



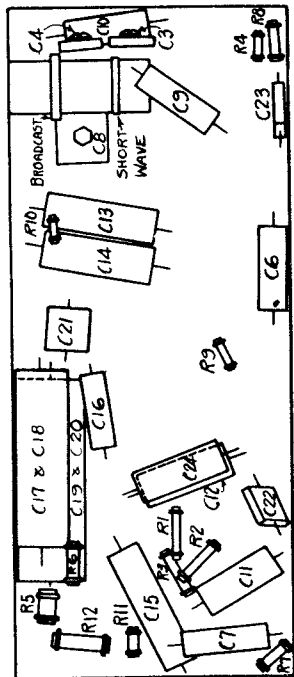
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



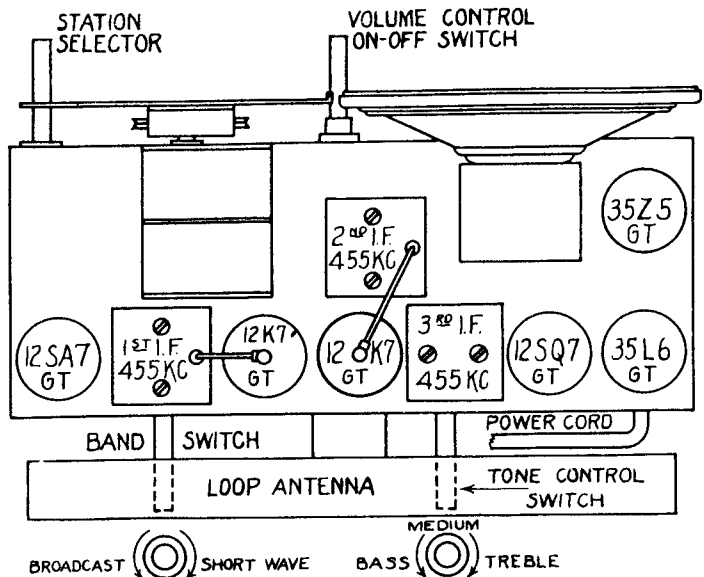
Sears, Roebuck & Co. Chicago.

Models 3361, 3461, 3561, 3621.

Factory No. 109.356

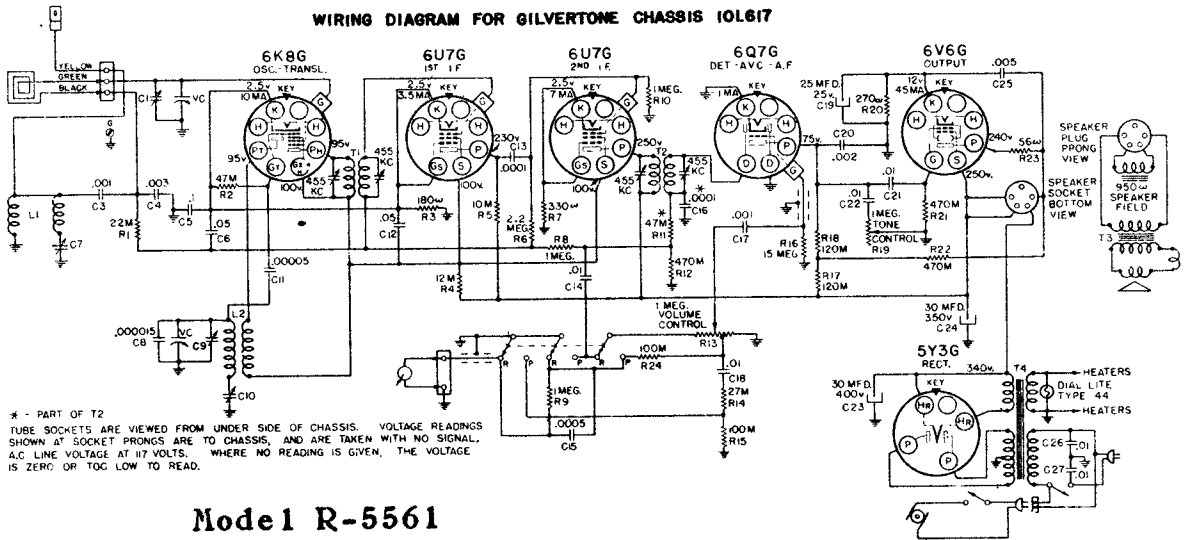


LOUD SPEAKER:  
Type . . . . . Permanent Magnet Dynamic  
Size . . . . . 6 inch  
Field . . . . . Permanent Magnet



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

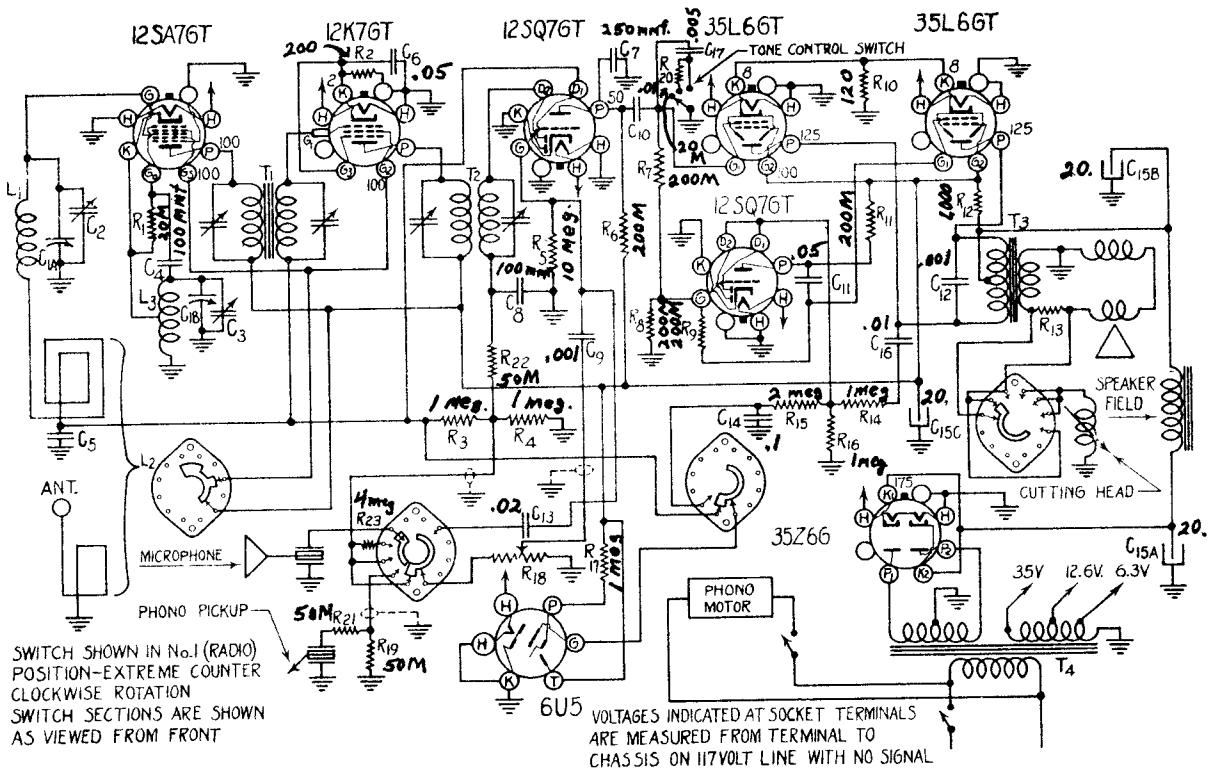
## WIRING DIAGRAM FOR GILVERTONE CHASSIS 10L617



**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.



$M = 1,000 \mu$

**Sears, Roebuck & Co. Models 5601A and 6449**  
**Factory Number 101.628**  
**Intermediate Frequency: 455 KC.**

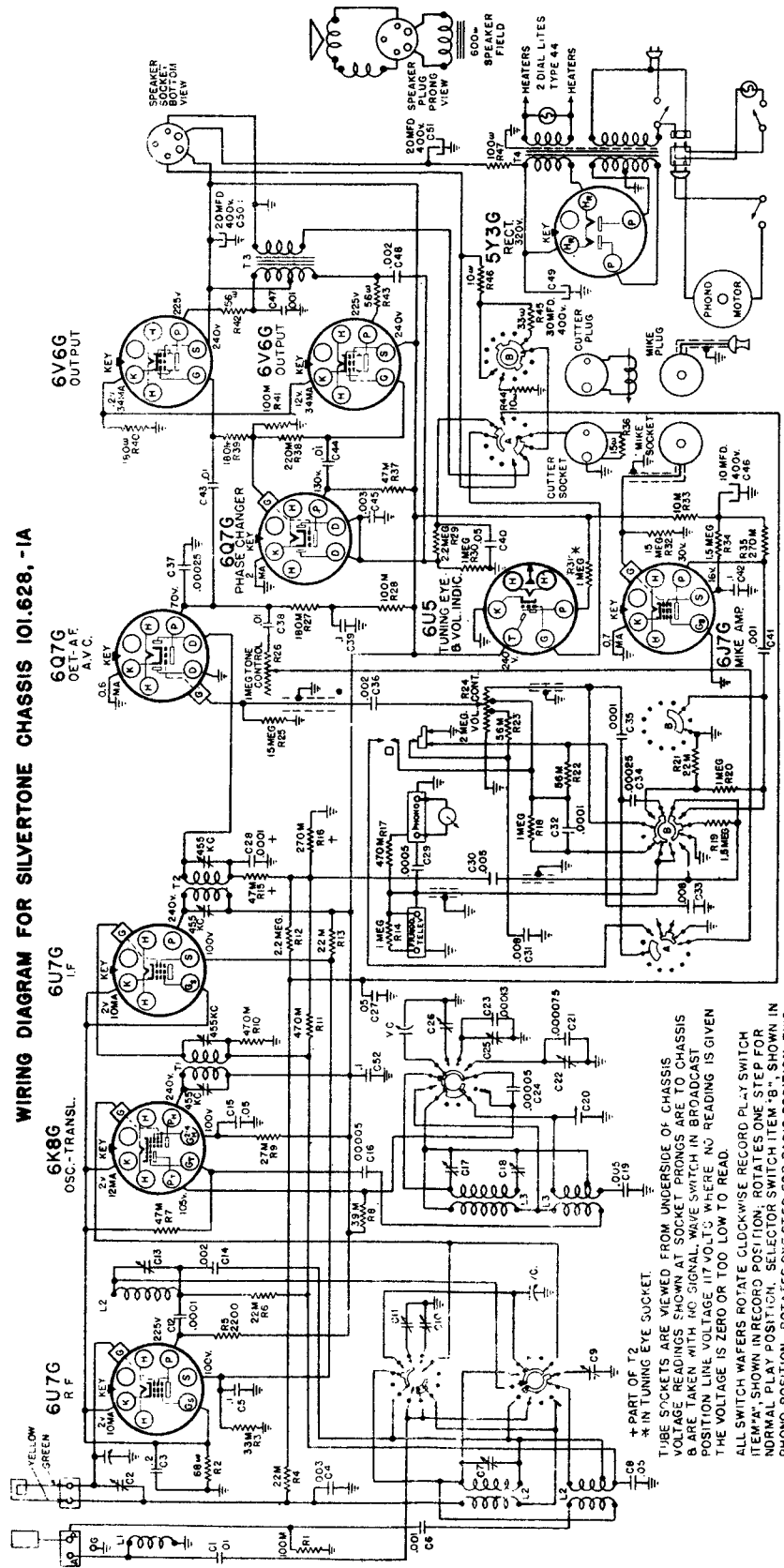
**FREQUENCY RANGES:**

Band "A"	538-1650 kc
Band "B"	1.45-2.56 mc
Band "C"	5.82-18.3 mc
Band "D"	9.35-9.86 mc
Band "E"	10.89-12.02 mc

**ALIGNMENT FREQUENCIES:**

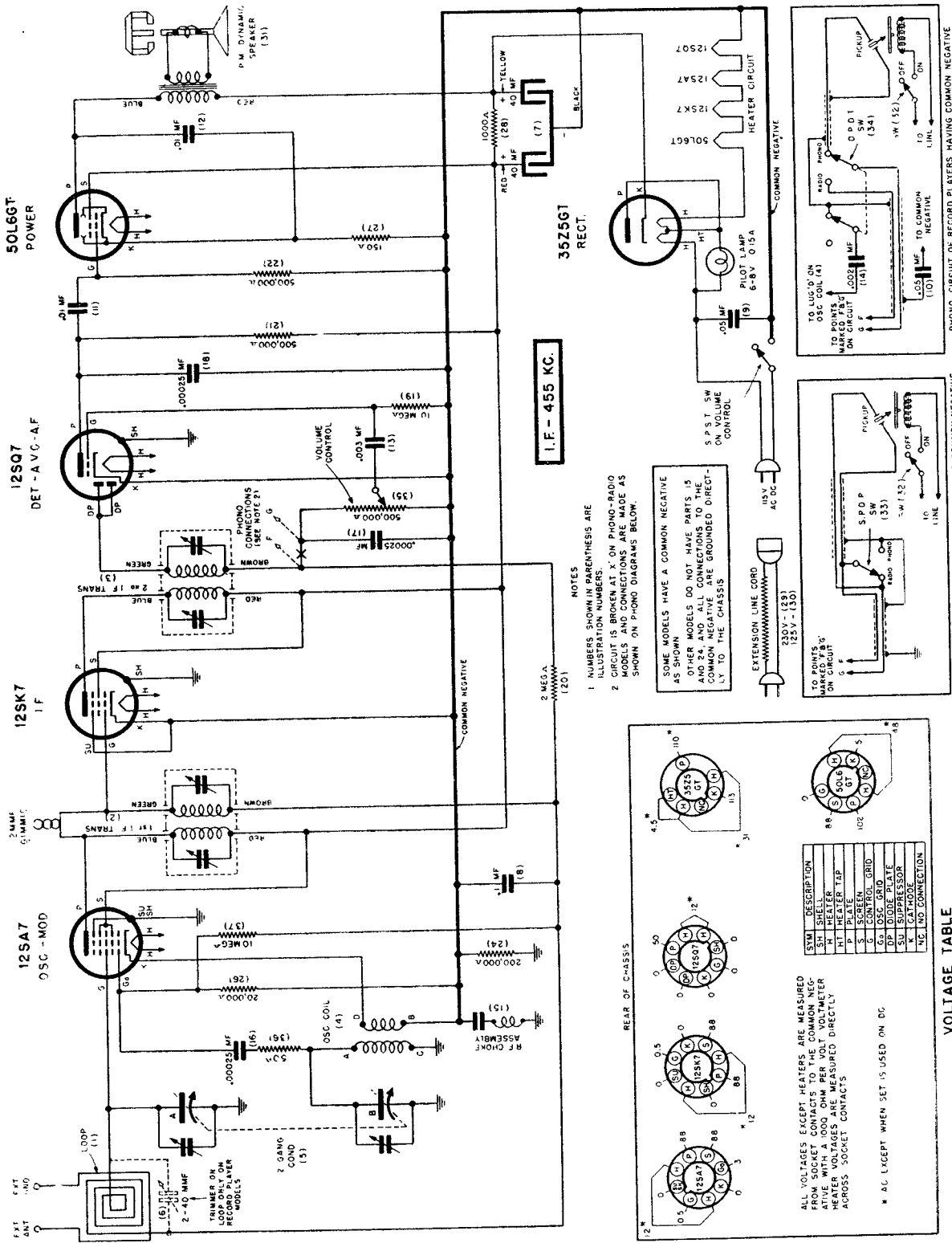
Oscillator	Antenna-Transl.
Trimmer	1500 kc
Trimmer	2.4 mc
Trimmer	15 mc
Trimmer	9.55 mc
Trimmer	11.71 mc

**WIRING DIAGRAM FOR SILVERTONE CHASSIS 101.628, -1A**



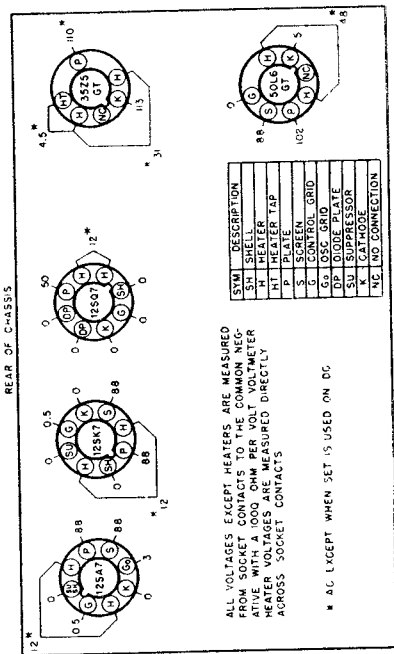
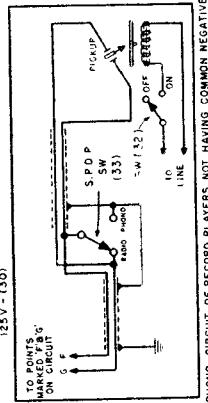
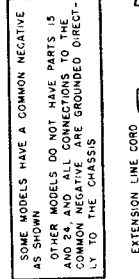
† PART OF T2  
 \* IN TUNING EYE SOCKET.  
 TUBE SOCKETS ARE VIEWED FROM UNDERSIDE OF CHASSIS.  
 VOLTAGE READINGS SHOWN AT SOCKET PRONGS ARE TO CHASSIS.  
 B ARE TAKEN WITH NO SIGNAL, WAVE SWITCH IN BROADCAST  
 POSITION LINE VOLTAGE 117 VOLTS WHERE NO READING IS GIVEN  
 THE VOLTAGE IS ZERO OR TOO LOW TO READ.  
 ALL SWITCH WAFERS ROTATE CLOCKWISE RECORD PLAY SWITCH  
 ITEM "A", SHOWN IN RECORD POSITION, ROTATES ONE STEP FOR  
 NORMAL PLAY POSITION, ROTATES TWO STEPS FOR BROADCAST  
 PHONO POSITION, ROTATES ONE STEP FOR RADIO POSITION, TWO  
 STEPS FOR MICROPHONE POSITION, THREE STEPS FOR RADIO, B  
 MICROPHONE POSITION.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



I.F. - 455 KC.

NOTES  
 1. NUMBERS SHOWN IN PARENTHESIS ARE ILLUSTRATION NUMBERS.  
 2. CIRCUIT IS BROKEN AT 'X' ON PHONO-RADIO MODELS AND CONNECTIONS ARE MADE AS SHOWN ON PHONO DIAGRAMS BELOW.

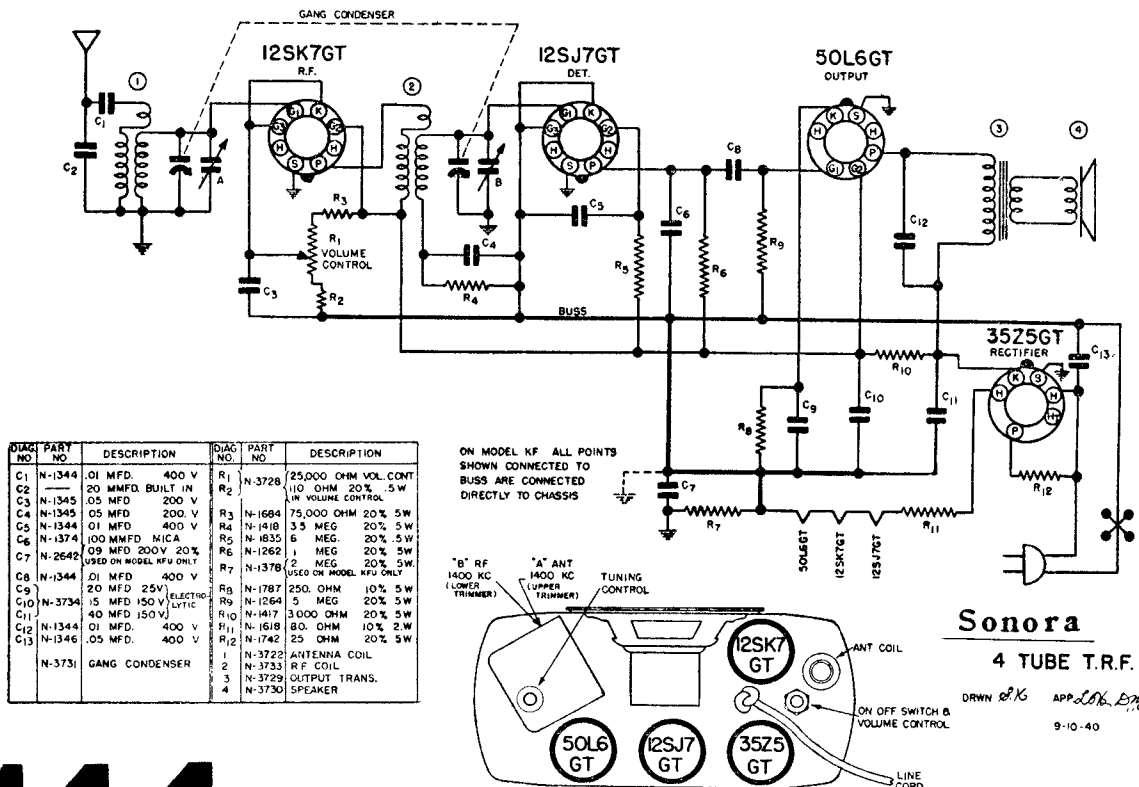
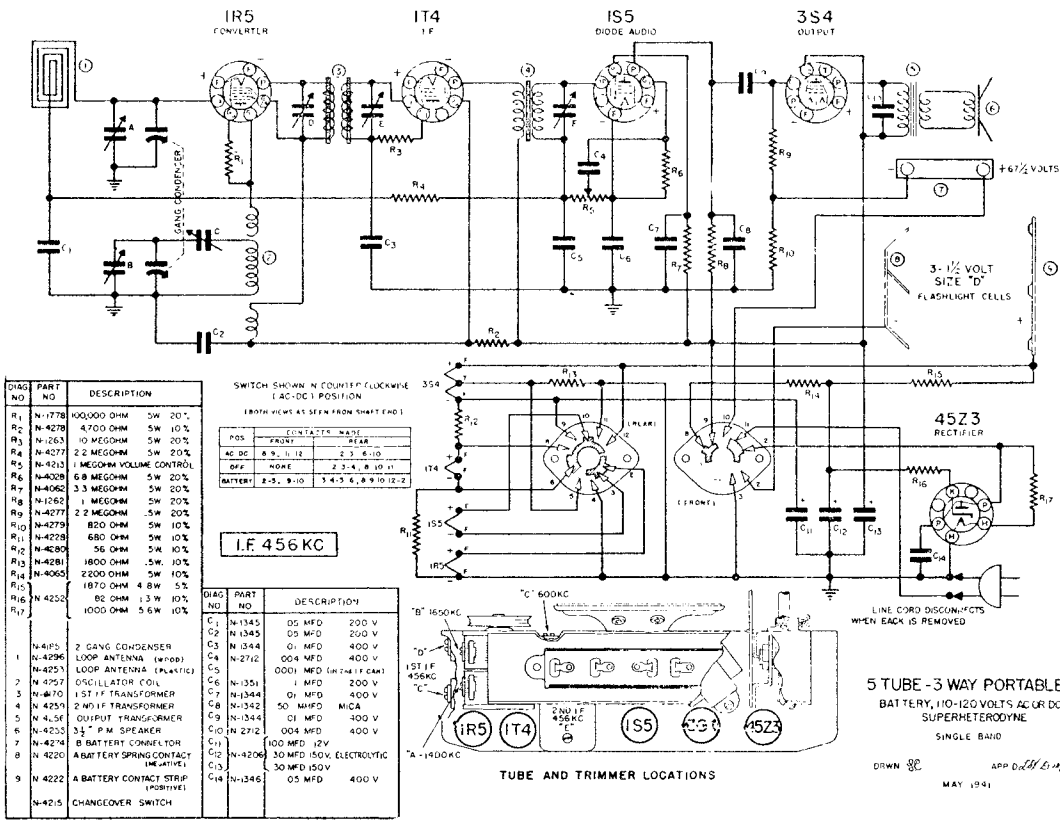


Sentinel Radio Corporation  
 Model 248

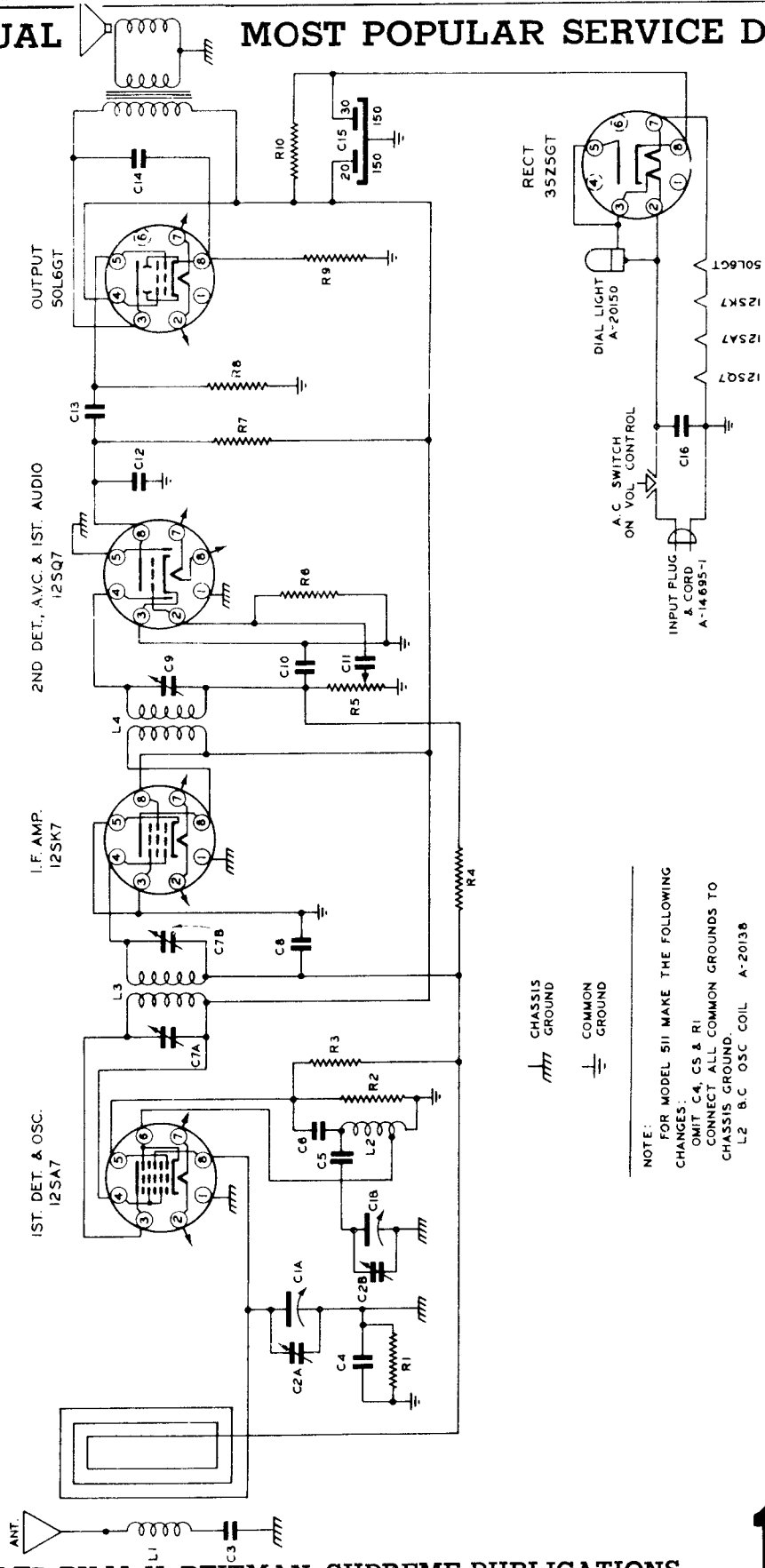
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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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



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

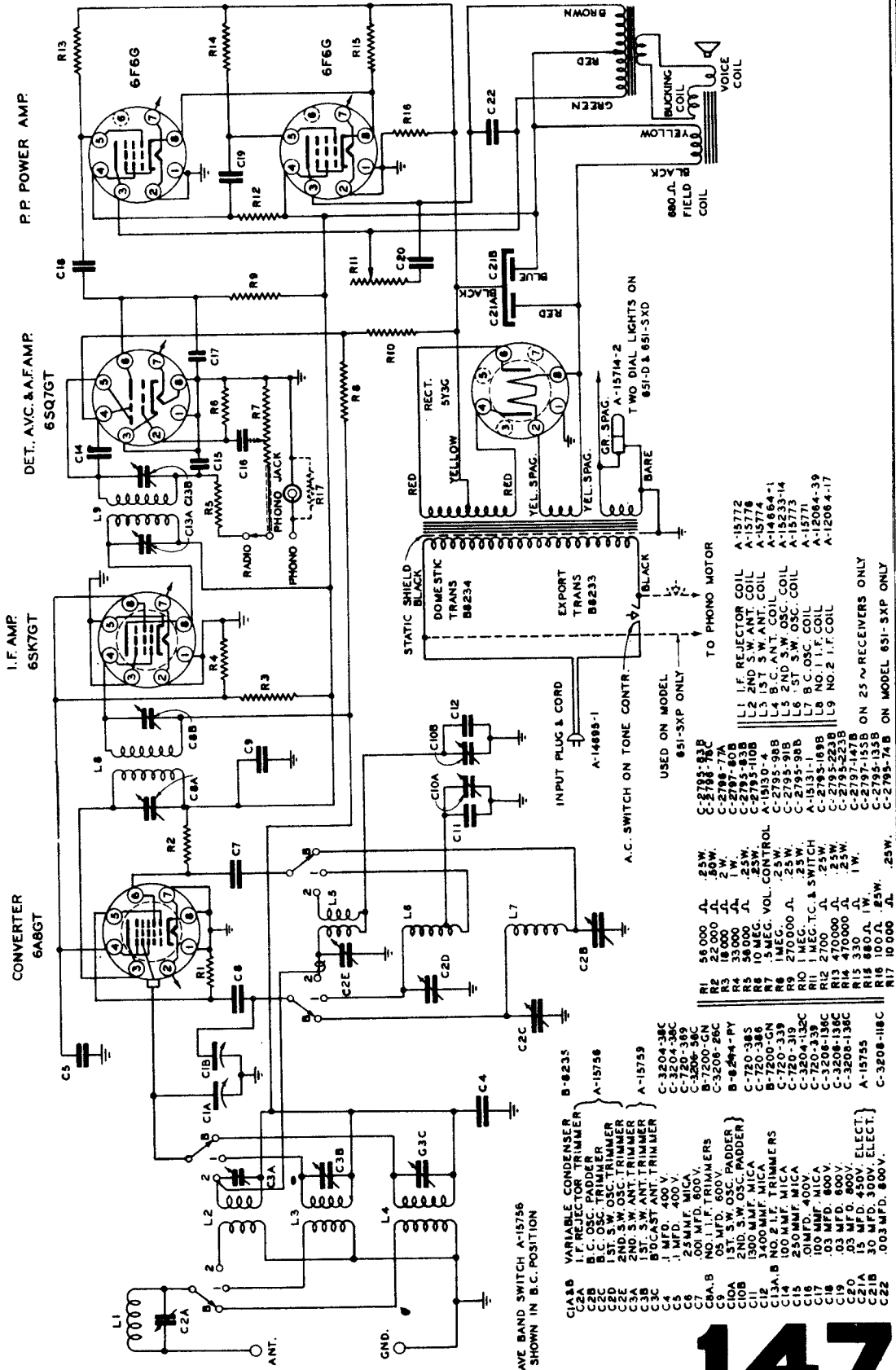
C1A & B	VARIABLE CONDENSER	A-20158	R1	150,000 Ω	.5W.	C-2796-26C	L1	LOOP ANTENNA	A-20158
C2A & B	TRIMMERS ON VARIABLE	C-3206-58C	R2	20,000 Ω	.5W.	A-20138-U	L2	B.C. OSC. COIL	A-20138-U
C3	.001 MFD. 600V.	C-3202-98C	R3	15 MEGOHM	.5W.	A-20136	L3	NO. 1 I.F. COIL	A-20139
C4	.2 MFD. 200V.	C-3202-78C	R4	2 MEGOHM	.5W.	A-20137	L4	NO. 2 I.F. COIL	A-20140
C5	.02 MFD. 200V.	C-720-315	R5	500,000 Ω	.5W. C & S.W.	C-2786-248C			
C6	50 MFD. MICA	C-720-315	R6	5 MEGOHM	.5W.	C-2796-216C			
C7A & B	NO. 1 I.F. TRIMMERS	A-20135	R7	250,000 Ω	.5W.	C-2796-94C			
C8	.05 MFD. 200V.	C-3202-84C	R8	500,000 Ω	.5W.	C-2796-52C			
C9	NO. 2 I.F. TRIMMER	A-20138	R9	150 Ω	.1W.	C-2797-13B			
C10	250 MFD. MICA	C-720-324	R10	1000 Ω	1W.				
C11	.01 MFD. 400V.	C-3204-78C							
C12	500 MFD. 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							





# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## SCHEMATIC DIAGRAM SPARTON SUPERHETERODYNE MODELS 65I, 65I-D, 65I-SX, 65I-SXD, 65I-SXP INTERMEDIATE FREQUENCY 456 K.C. BOTTOM VIEWS OF ALL SOCKET CONNECTIONS



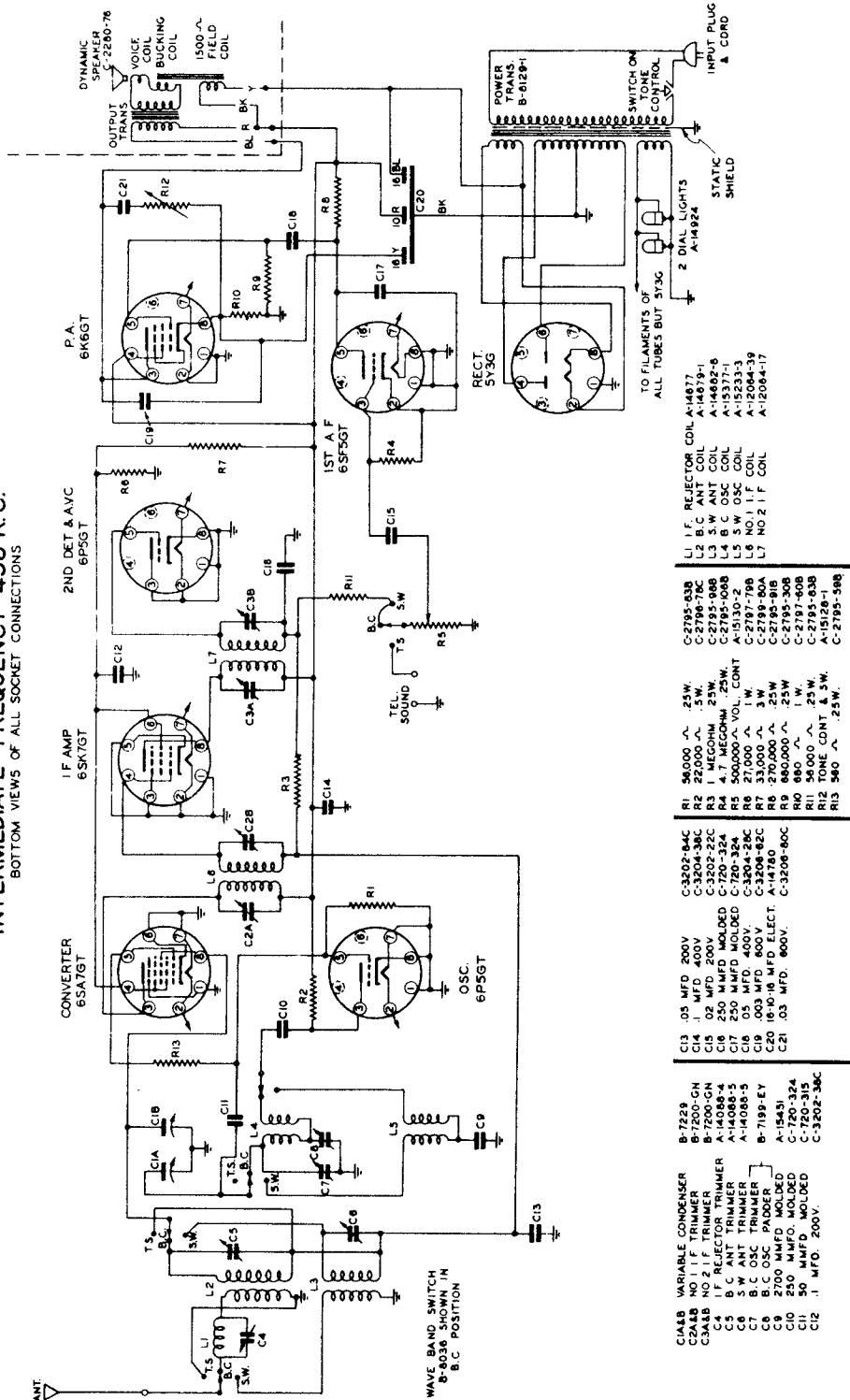
- USED ON MODEL 65I-SXP ONLY
- C-2795-83B
  - C-2798-77A
  - C-2795-83B
  - C-2795-108
  - A-15130-4
  - C-2795-98B
  - C-2795-98B
  - C-2795-98B
  - C-2795-223B
  - C-2795-223B
  - C-2795-223B
  - C-2797-147B
  - C-2797-155B
  - C-2795-74B
  - C-2795-74B
- TO PHONO MOTOR
- L1 I.F. REJECTOR COIL A-15772
  - L2 2ND S.W. ANT. COIL A-15776
  - L3 1ST S.W. ANT. COIL A-15774A-1
  - L4 B.C. ANT. COIL A-15233-14
  - L5 2ND 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

- USED ON MODEL 65I-SXP ONLY
- R2 56,000 Ω .25W.
  - R3 18,000 Ω .50W.
  - R4 33,000 Ω 1W.
  - R5 56M Ω .25W.
  - R6 56M Ω .25W.
  - R7 5MEG. VOL. CONTROL
  - R8 1MEG.
  - R9 270,000 Ω .25W.
  - R10 270,000 Ω .25W.
  - R11 270,000 Ω .25W.
  - R12 270,000 Ω .25W.
  - R13 270,000 Ω .25W.
  - R14 470,000 Ω .25W.
  - R15 330 Ω 1W.
  - R16 100 Ω .5W.
  - R17 10,000 Ω .25W.
- USED ON MODEL 65I-SXP ONLY
- C-3204-38C
  - C-3204-38C
  - C-720-389
  - C-3208-86C
  - C-3208-86C
  - B-9444-PY
  - C-720-385
  - B-7500-CN
  - C-720-339
  - C-720-319
  - C-3204-132C
  - C-3208-136C
  - C-3208-136C
  - C-3208-136C
  - C-3208-136C
  - A-15755
  - C-3208-118C
- USED ON MODEL 65I-SXP ONLY
- C-2795-83B
  - C-2798-77A
  - C-2795-83B
  - C-2795-108
  - A-15130-4
  - C-2795-98B
  - C-2795-98B
  - C-2795-98B
  - C-2795-223B
  - C-2795-223B
  - C-2795-223B
  - C-2797-147B
  - C-2797-155B
  - C-2795-74B
  - C-2795-74B

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## SCHEMATIC DIAGRAM SPARTON SUPERHETERODYNE MODEL 761 INTERMEDIATE FREQUENCY 456 K. C. BOTTOM VIEWS OF ALL SOCKET CONNECTIONS

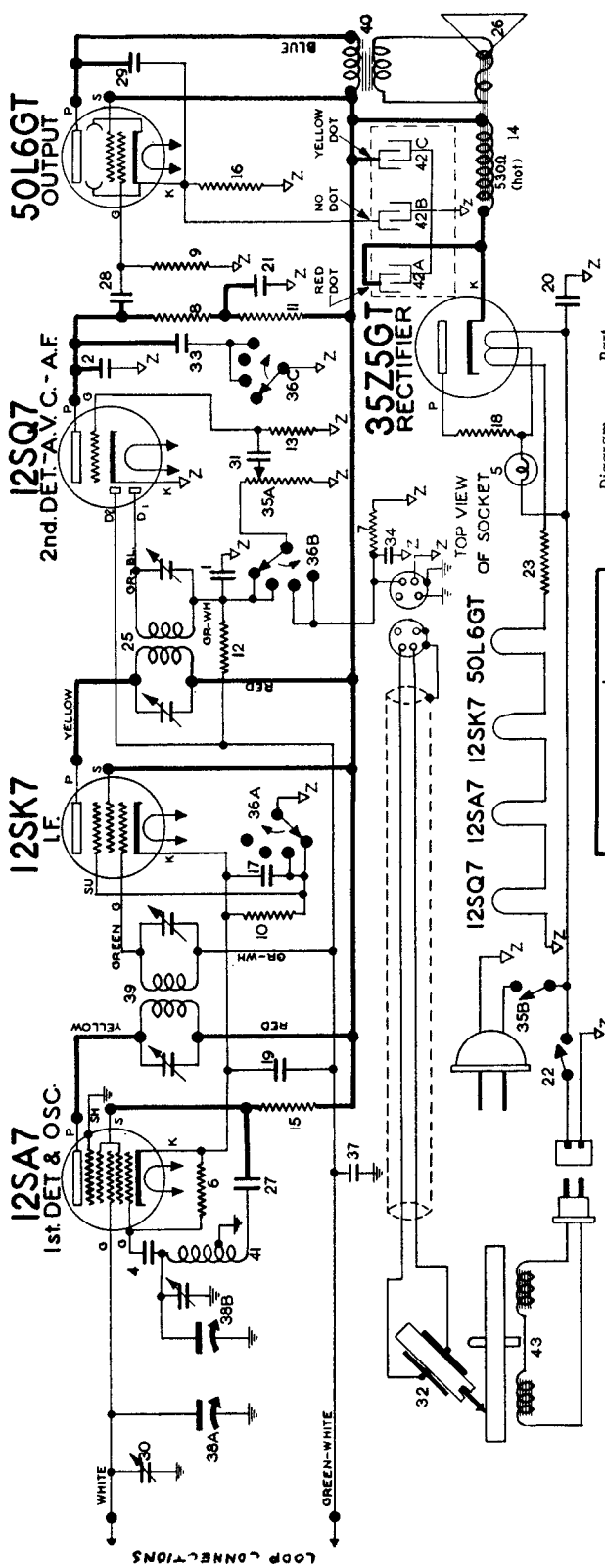


- C13 .05 MFD 200V
- C14 .1 MFD 400V
- C15 .02 MFD 200V
- C16 .01 MFD 200V
- C17 250 MFD MOLDED
- C18 .05 MFD 400V
- C19 .003 MFD 600V
- C20 16-10-16 MFD ELECT.
- C21 .03 MFD 600V
- C295-638 .25W.
- C2796-78C .25W.
- C2795-98B .25W.
- C4195-06B .25W.
- C4517-06A .25W.
- C-2787-70A 1W.
- C-2789-50A 3W.
- C-2795-30B .25W.
- C-2797-60B .25W.
- C-2797-60B .25W.
- A-15126-50B .25W.
- C-2795-50B .25W.
- C-3202-84C
- C-3204-38C
- C-3202-22C
- C-3202-22C
- C-320-35A
- C-3204-28C
- C-3206-82C
- A-4780
- C-3208-80C
- B-7229
- B-7200-GN
- A-14088-5
- A-14088-5
- A-14088-5
- B-7199-EY
- A-15451
- C-720-324
- C-720-315
- C-3202-38C
- C1A8 VARIABLE CONDENSER
- C1A9 I.F. TRIMMER
- C1A10 I.F. TRIMMER
- C5 I.F. REJECTOR TRIMMER
- C6 B.C. ANT. TRIMMER
- C7 B.C. ANT. TRIMMER
- C8 B.C. OSC. TRIMMER
- C9 2700 MFD. MOLDED
- C10 250 MFD. MOLDED
- C11 50 MFD. MOLDED
- C12 .1 MFD. 200V.
- R1 56,000  $\Omega$  .25W.
- R2 22,000  $\Omega$  .25W.
- R3 1 MEGOHM .25W.
- R4 27,000  $\Omega$  .25W.
- R5 500,000  $\Omega$  VOL. CONT.
- R6 27,000  $\Omega$  .1W.
- R7 33,000  $\Omega$  .25W.
- R8 270,000  $\Omega$  .25W.
- R9 680,000  $\Omega$  .25W.
- R10 56,000  $\Omega$  .25W.
- R11 56,000  $\Omega$  .25W.
- R12 TONE CONT. & 5W.
- R13 540  $\Omega$  .25W.
- L1 I.F. REJECTOR COIL A-14677
- L2 B.C. ANT. COIL A-14679-1
- L3 5W ANT. COIL A-14682-6
- L4 B.C. OSC. COIL A-15377-1
- L5 NO. 1 I.F. COIL A-12064-39
- L6 NO. 2 I.F. COIL A-12064-17
- L7 NO. 2 I.F. COIL A-12064-17
- LI I.F. REJECTOR COIL A-14677
- L2 B.C. ANT. COIL A-14679-1
- L3 5W ANT. COIL A-14682-6
- L4 B.C. OSC. COIL A-15377-1
- L5 NO. 1 I.F. COIL A-12064-39
- L6 NO. 2 I.F. COIL A-12064-17
- L7 NO. 2 I.F. COIL A-12064-17



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

150



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

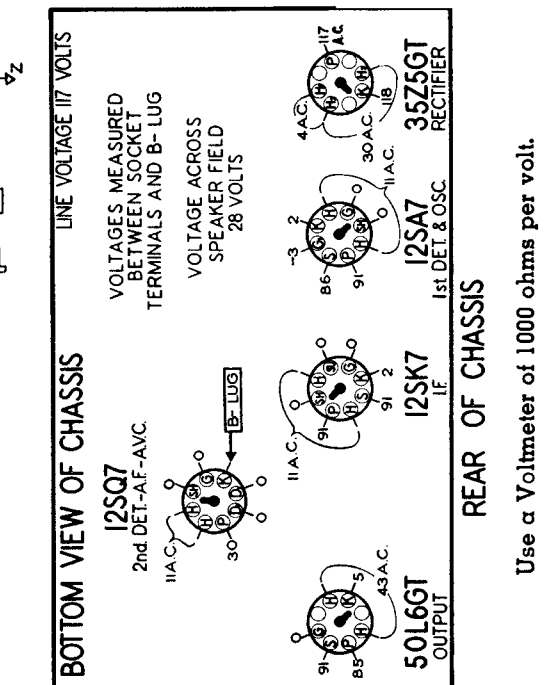


Diagram Number	Part Number	Description
14	R-115102	Speaker—dynamic (S")
15	118803	Resistor—680 ohms 1/4 watt
16	116092	Resistor—140 ohms 1 watt W.W.
17	116706	Condensat.—.2 mfd. 600 volt
18	116752	Resistor—33 ohms 1 watt wire wound
19 to 21	116819	Condenser—.05 mfd. 600 volt
22	116964	Switch—"on-off" for phono motor.
23	117395	Resistor—20 ohms 1 watt
24	118487	Condenser—.07 mfd. 600 volts
25	118803	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
38	119828	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

ELECTRICAL PARTS

Part Number	Description
1-2	Condenser mica 260 mmfd.
3	Condenser mica 110 mmfd.
4	Condenser mica 51 mmfd.
5	Lamp—dial 6 to 8 volt (Marzada 51)
6	Resistor—carbon 47,000 ohms 1/4 w
7	Resistor—carbon 220,000 ohms 1/4 w
8	Resistor—carbon 470,000 ohms 1/4 w
9	Resistor—carbon 100 ohms 1/4 watt
10	Resistor—carbon 100,000 ohms 1/4 w
11	Resistor—carbon 2.2 meg. 1/4 watt.
12	Resistor—carbon 10 meg. 1/4 watt.
13	Resistor—carbon 10 meg. 1/4 watt.

REAR OF CHASSIS

Use a Voltmeter of 1000 ohms per volt.

# STEWART-WARNER 11-5W CHASSIS

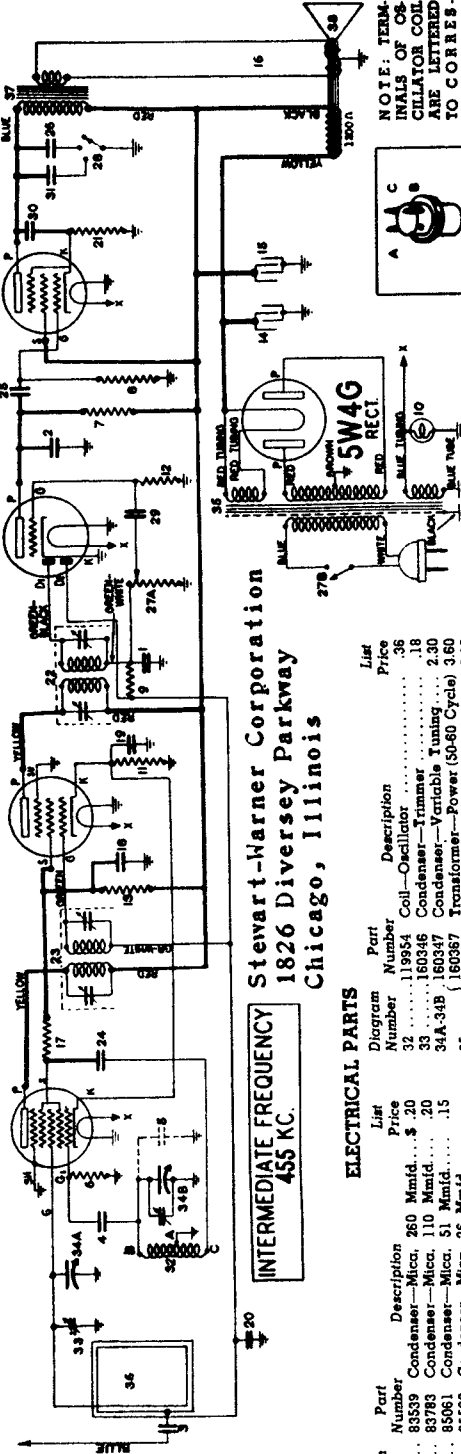
(RECEIVER MODELS 11-SW1 TO 11-5W9)

**6SA7**  
1st DET & OSC.

**6SK7**  
IF

**6SQ7**  
2nd DET.-A.V.C.-A.F.

**6F6G**  
OUTPUT



INTERMEDIATE FREQUENCY  
455 KC.

Stewart-Warner Corporation  
1826 Diversey Parkway  
Chicago, Illinois

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

OSCILLATOR COIL  
PART NO. 119954  
DIAGRAM NO. 32

### ELECTRICAL PARTS

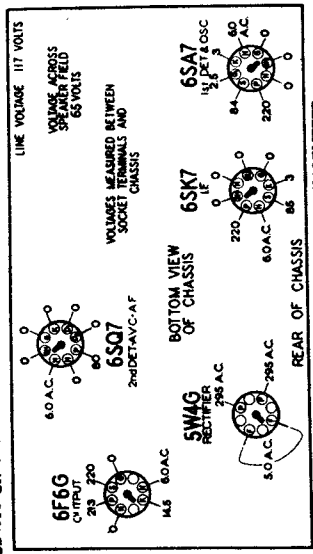
Diagram Number	Part Number	Description	List Price
1-2	83539	Condenser—Mica, 260 Mmfd.	.20
3	83783	Condenser—Mica, 110 Mmfd.	.20
4	85061	Condenser—Mica, 51 Mmfd.	.15
5	85563	Condenser—Mica, 26 Mmfd. (used only on some sets)	.15
6	110552	Resistor—Carbon, 47,000 Ohms, 1/4 Watt	.12
7-8	110553	Resistor—Carbon, 220,000 Ohms, 1/4 Watt	.12
9	110580	Resistor—Carbon, 3.3 meg, 1/4 W.	.12
10	110629	Dial Light—6.3 Volt (Maxida No. 44)	.15
11	112874	Resistor—Carbon—220 Ohms, 1/4 Watt	.15
12	112975	Resistor—Carbon—10 Meg, 1/4 W.	.15
13	112997	Resistor—Carbon—22,000 Ohms, 1 Watt	.15
14-15	114258	Condenser—Electrolytic—8 mid., 450 Volt	.98
16	U-115114	Speaker—Dynamic (5")	4.50
17	116068	Resistor—680 Ohms, 1/4 Watt	.12
18-19	116825	Condenser—1 Mid., 600 Volt.	.25
20	116819	Condenser—.05 Mid., 600 Volt.	.20
21	116978	Resistor—420 Ohm — 1/2 Watt Wire Wound	.15
22	119024	Transformer—2nd I.F.	1.15
23	119042	Transformer—1st I.F.	1.10
24	25-26	Condenser—01 Mid., 600 Volt.	.15
27	27A-27B	Vol. Control—(1 meg.) & Switch.	1.30
28	119630	Tone Switch	.65
28-30	119817	Condenser—.04 Mid., 600 Volt.	.15
31	119880	Condenser—.04 Mid., 600 Volt.	.20

### 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	Phil. Lamp Sockets	.14
160355	Pointer	.50
81145	Retaining Ring for Drive Shaft.	.01
83824	Screw—Self Tapping 8x1/4	.12
116690	Socket—Octal Base	.02
117078	Socket—Octal with Special Gnds. Lug.	.02
111090	Spacer—Steel	.02
114968	Spring—Dial Cord Tension	.07
119615	Tuning Shaft	.07
111456	Washer—For Tuning Shaft.	.50

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

VOLUME ON FULL WITH NO SIGNAL  
DIAL TUNED TO 840 KC

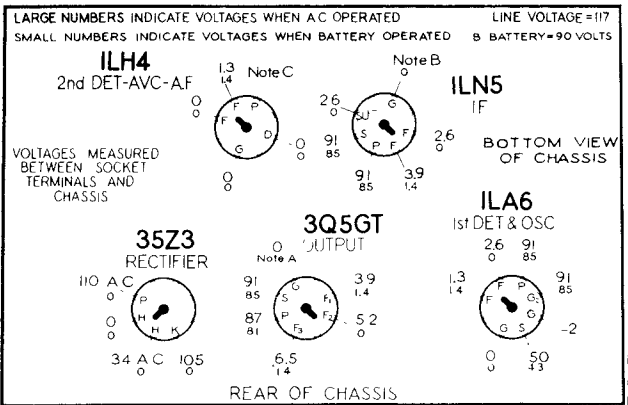
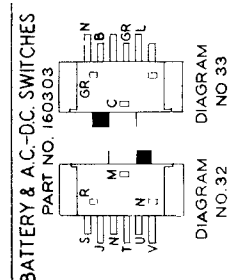
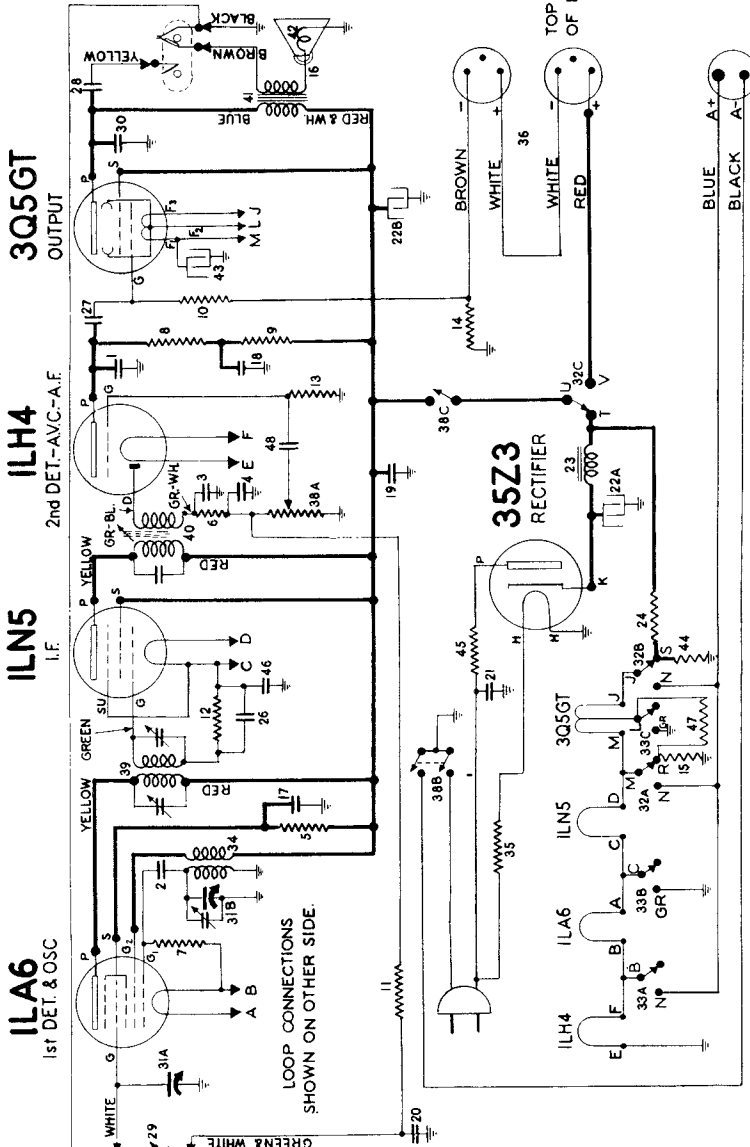


USE A 1000 OHM PER VOLT — VOLTMETER

# STEWART-WARNER 15-5 Y CHASSIS

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

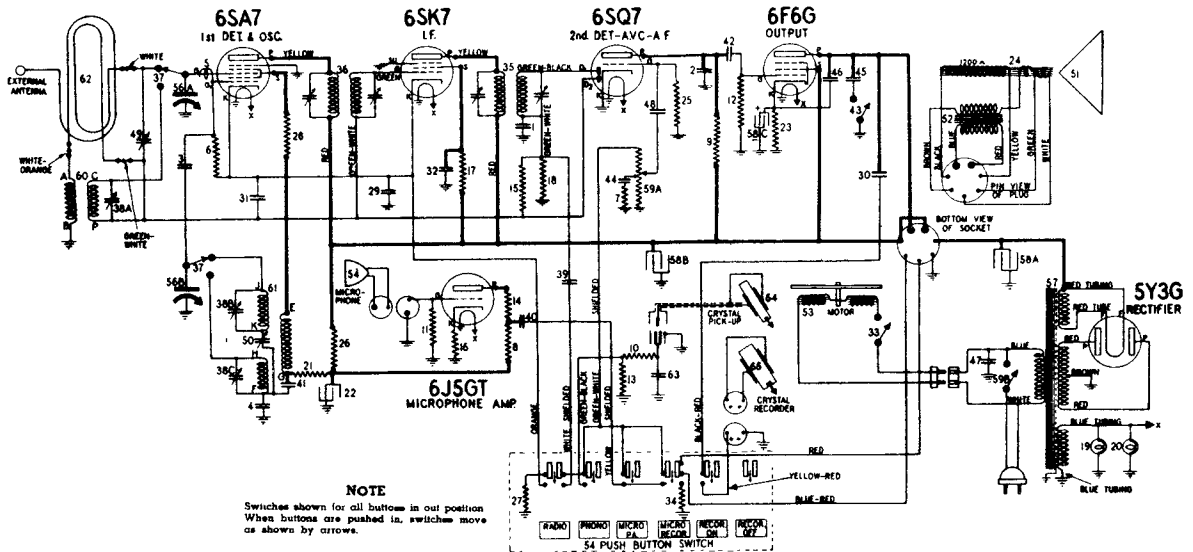
SWITCHES 32 & 33 ARE SHOWN IN A.C.-D.C. POSITION.



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

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS STEWART-WARNER 11-6T and 11-6T-S CHASSIS

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



## ELECTRICAL PARTS

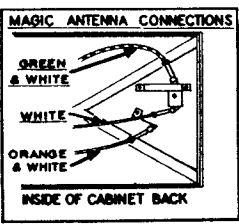
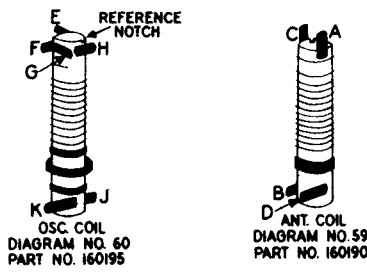
Diagram Number	Part Number	Description	List Price
1-2	83539	Condenser—mica 250 mmfd.	\$0.20
3	88173	Condenser—mica 50 mmfd.	.....
4	88587	Condenser—mica 0042 mfd.	.....
5	110510	Condenser—wire 9 mmfd.	.....
6-7-8	110552	Resistor—carbon 47,000 ohms 1/4 watt.	.....
9-10	110553	Resistor—carbon 220,000 ohms 1/4 watt.	.....
11	110554	Resistor—carbon 1 megohm 1/4 watt.	.....
12	110559	Resistor—carbon 470,000 ohms 1/4 watt.	.....
13	110564	Resistor—carbon 100,000 ohms 1/4 watt.	.....
14	110565	Resistor—carbon 22,000 ohms 1/4 watt.	.....
15	110570	Resistor—carbon 2 meg. 1/4 watt.	.....
16	110573	Resistor—carbon 2,200 ohms 1/4 watt.	.....
17	110578	Resistor—carbon 68,000 ohms 1/4 watt.	.....
18	110584	Resistor—carbon 330,000 ohms 1/4 watt.	.....
19-20	110629	Diode light—3 volt.	.....
21	112952	Resistor—carbon 3,300 ohms 1/4 watt.	.....
22	114009	Condenser—electrolytic 4 mfd. 350 volt.	.....
23	114235	Resistor—wire wound 430 ohms 2 watts.	.....
24	U 115107	Speaker—dynamic 6"	6.10
25	116050	Resistor—insulated 10 meg. 1/4 watt.	.....
26	116055	Resistor—carbon 22,000 ohms 1/4 watt.	.....
27-28	116062	Resistor—150 ohms 1/4 watt.	.....
29-30	116625	Condenser—1 mfd. 600 volt.	.....
31-32	116819	Condenser—.05 mfd. 600 volt.	.....
33	116964	Switch—on-off for phono motor with escutcheon	.....
34	118819	Resistor—5 ohms 1 watt wire wound.	.....
35	119024	Transformer—2nd I.F.	1.15
36	119042	Transformer—1st I.F.	1.10
37	119005	Range switch	.....

Diagram Number	Part Number	Description	List Price
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. 800 volt.	15
47	119757	Condenser—metal clad 01 mfd. 600 volt.	20
48	119817	Condenser—.004 mfd. 600 volt.	15
49	119845	Condenser—trimmer (on loop).	18
50	119924	Condenser—padder	38
51	U 160028	Cone & voice coil for U-115107 speaker.	1.80
52	U 160029	Transformer—output for U-115107 speaker.	1.55
53	160036	Motor (flex tunable)	8.00
54	160038	Microphone	12.50
55	160111	Push button switch.	2.50
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	160180	Coil—antenna (S.W.)	44
61	160195	Coil—oscillator	75
62	160279	Loop antenna & cabinet back (complete) (Model 11-6T9).	1.40
63	160430	Condenser—.001 mfd. 600 volt.	1.40
64	161288	Crystal Pickup Cartridge	5.00
65	161288	Crystal Recorder Cartridge	9.50

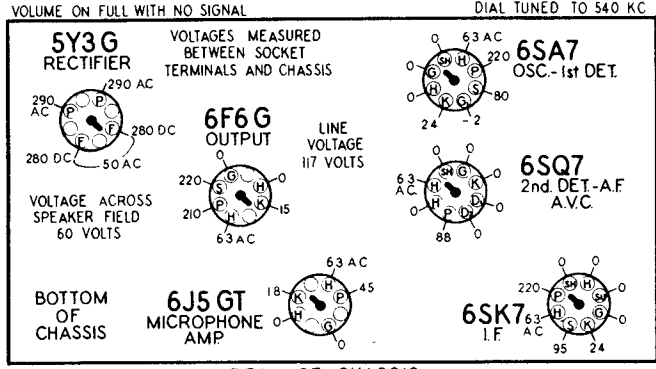
## DIAL AND MISCELLANEOUS PARTS

Part Number	Description	List Price
117417	Cable—motor	\$0.38
114555	Clamp—for dial cord	01
113019	Clip—dial scale retaining	01
117057	Cord—drive (supplied in 3 ft. lengths)	15
160200	Dial scale	28
119328	Escutcheon—dial	80
119167	Knob	10
119166	Knob—push button	.08
117789	Name Plate (S.W.) (Model 11-6T8)	.07
117779	Name Plate (Ohm Val.) (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
160200	Needle cup	88
160127	Phonograph needles	Envelope of 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	50
160175	Socket—4 prong	10
160158	Socket—7 prong for speaker	14
119791	Socket—8 prong	12
114876	Socket—octal	15
160038	Socket for pick up	.08
113177	Spring—dial cord tension	88
161245	Tab & windows for recorder push button	10
111456	Washer—spring washer	Per C 50

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.



## SOCKET VOLTAGES





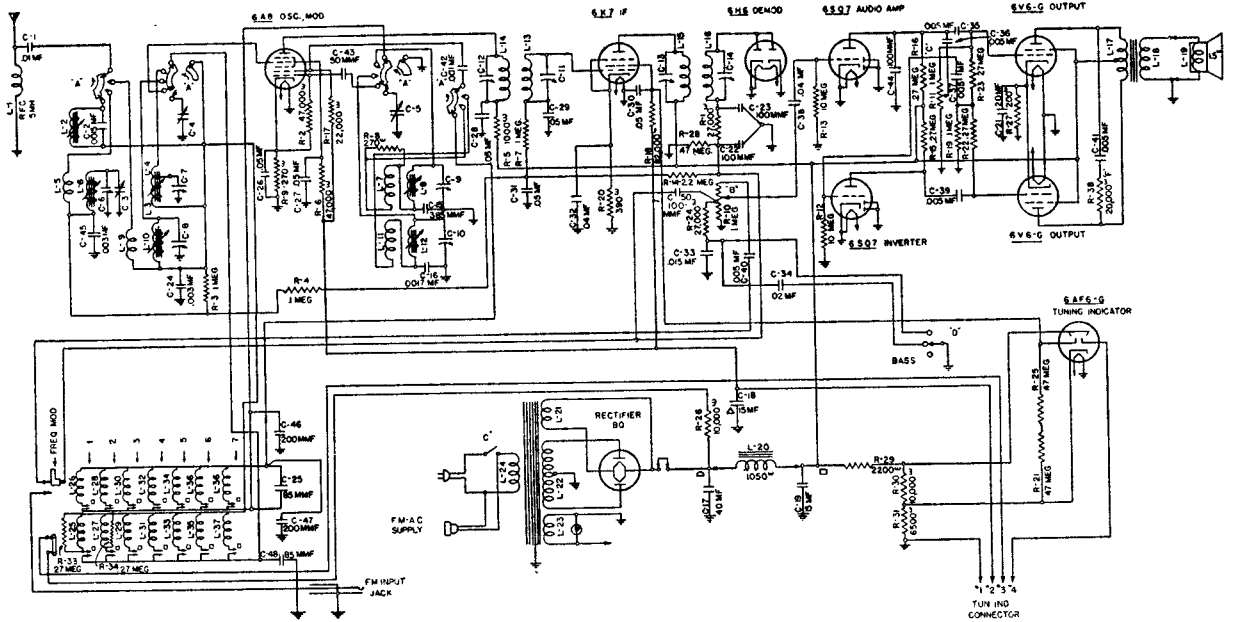


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

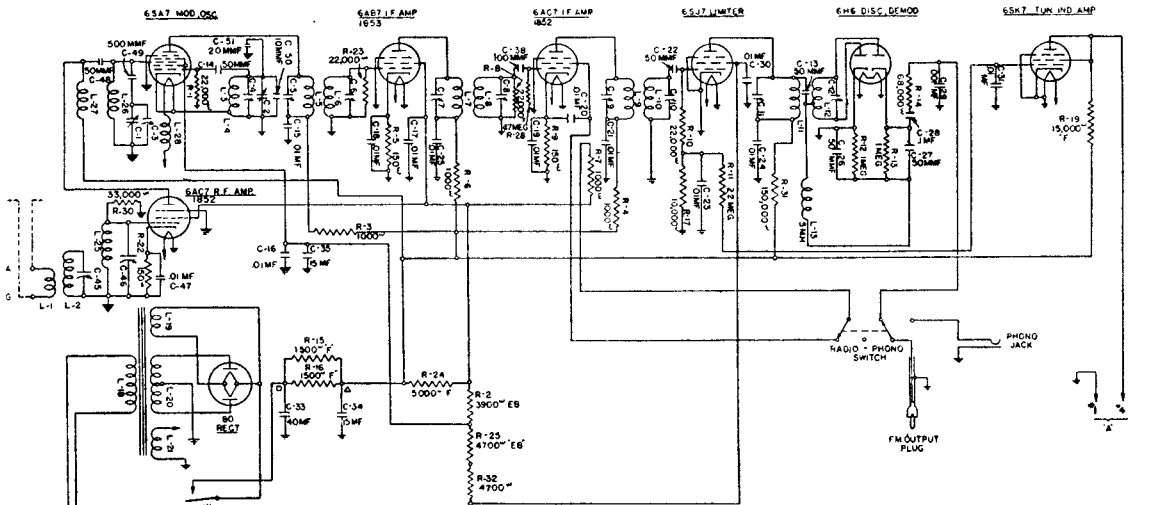
## STROMBERG-CARLSON NO. 515 RADIO RECEIVERS

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY  
ROCHESTER, NEW YORK

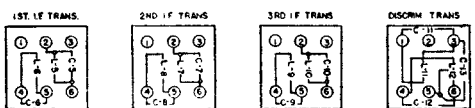
Input Power Rating ----- 140 Watts  
Intermediate Frequency ----- { 455 Kilocycles (Amplitude Modulation)  
4.3 Megacycles (Frequency Modulation)

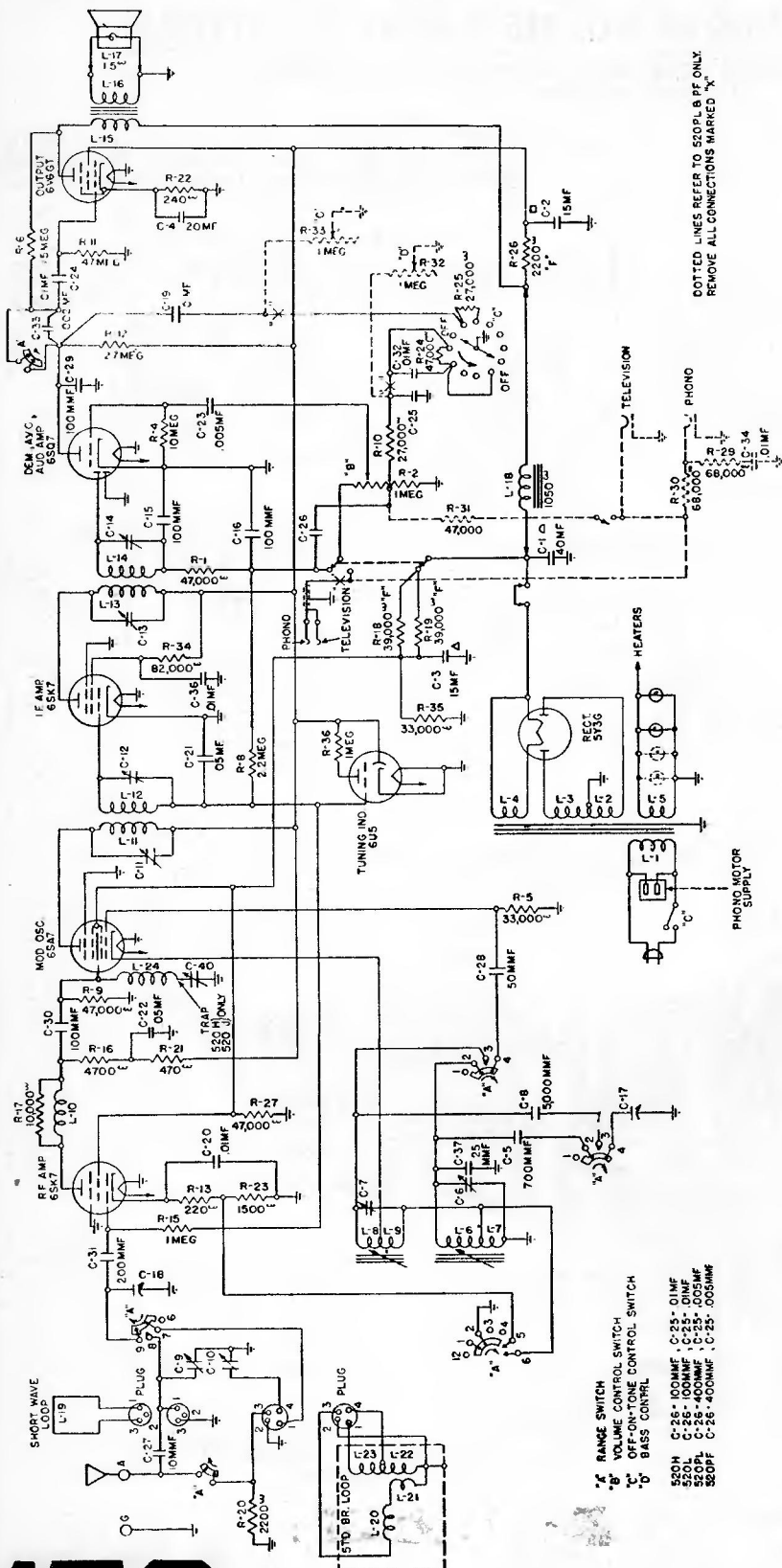


Wiring and Schematic Diagram  
Amplitude Modulation



Wiring and Schematic Diagram  
Frequency Modulation





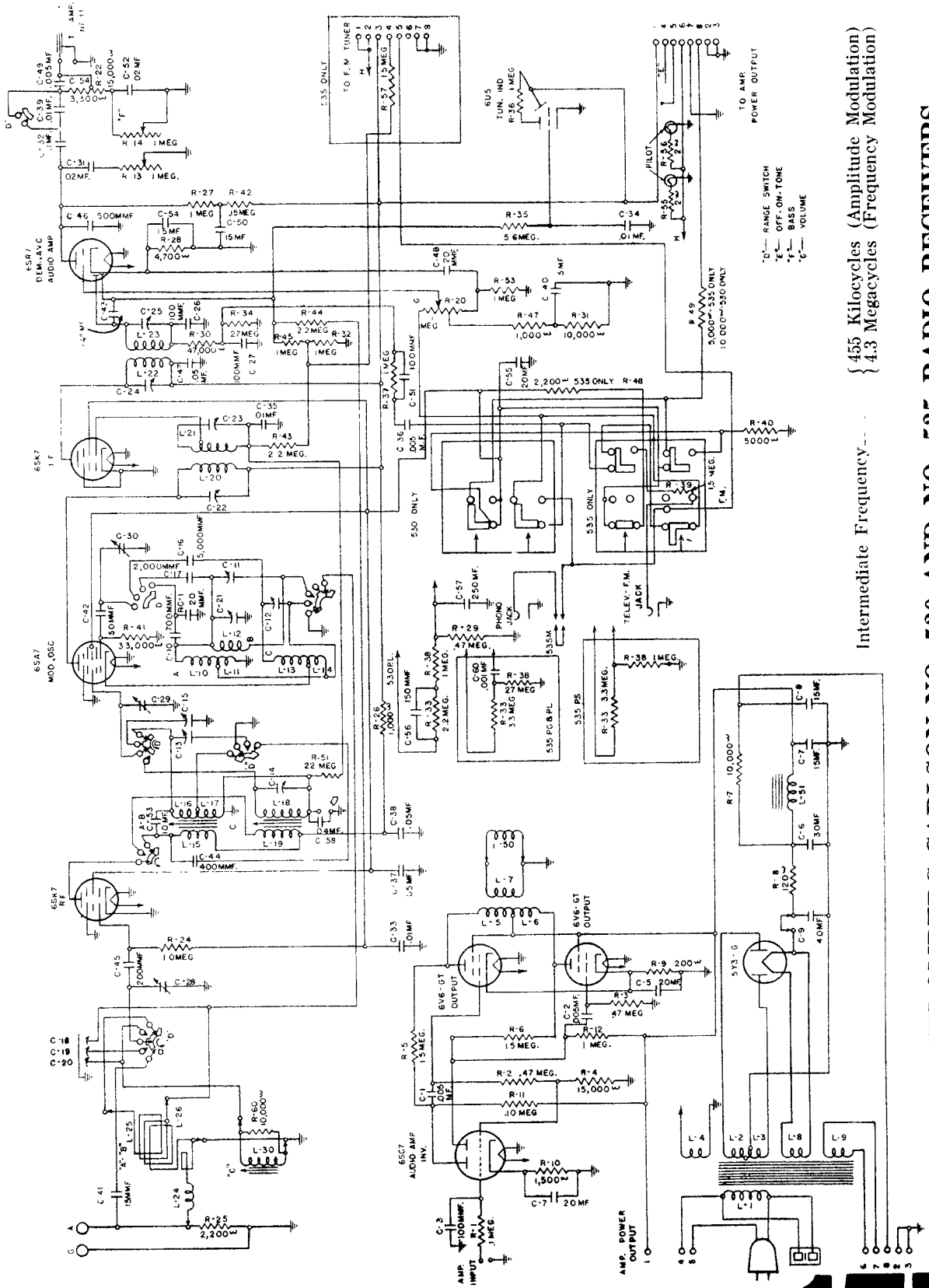
## Stromberg-Carlson Model 520

I. F. 455 KC.

### TERMINALS OF SOCKETS

Tube	Circuit	1	2	3	4	5	6	7	8
6SK7	R. F. Amplifier	0	0	0	0	+3*	+115	6.8	+200
6SA7	Modulator and Oscillator	0	0	+250	+115	0	0	6.8	0
6SK7	I. F. Amplifier	0	0	0	0	+2	+100	6.8	+250
6SQ7	Demodulator, A. V. C., Audio	0	0	0	0	0	+95	6.8	0
6V6GT	Output	0	0	+300	+250	0	0	6.8	+12*
6U5	Tuning Indicator	6.8	+90	0	+250	0	0	—	—
5Y3G	Rectifier	0	+400	0	385	0	385	0	+400
Speaker Socket	—	+310	0	0	+400	+400	0	+400	—

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

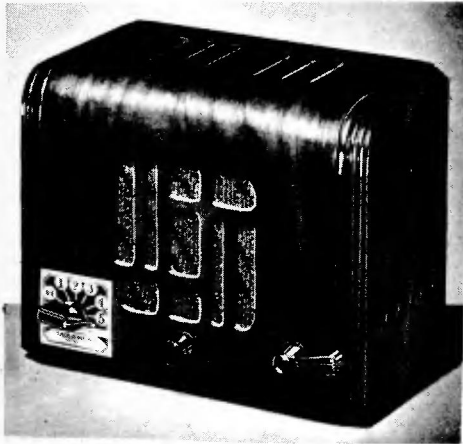
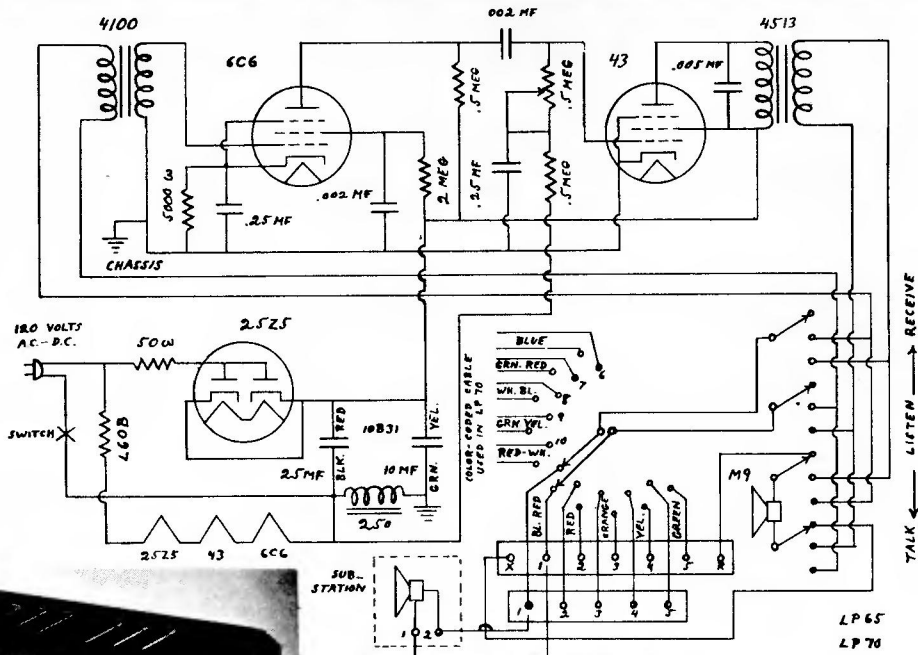


{ 455 Kilocycles (Amplitude Modulation)  
4.3 Megacycles (Frequency Modulation)

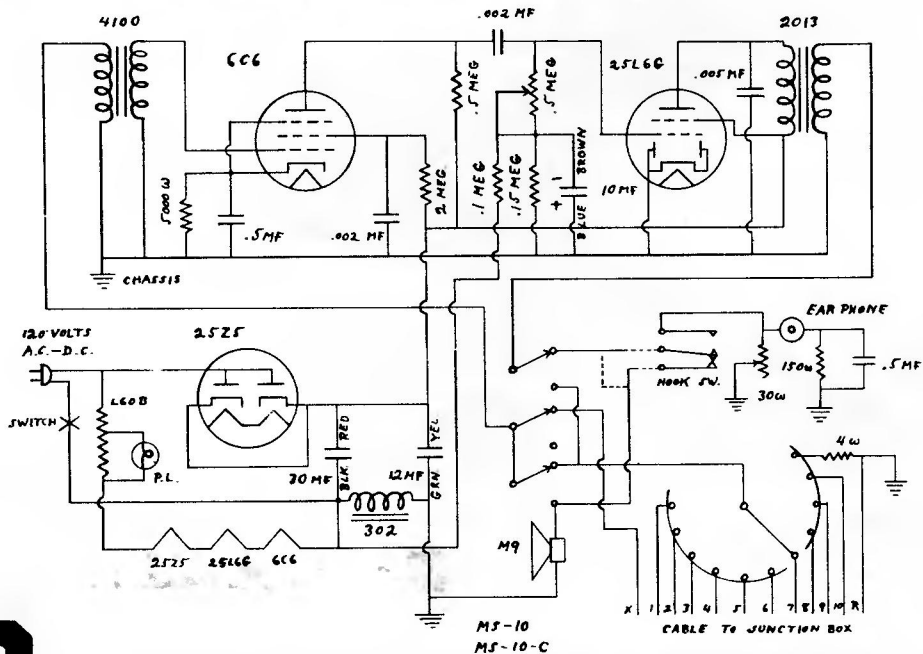
Intermediate Frequency ---

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

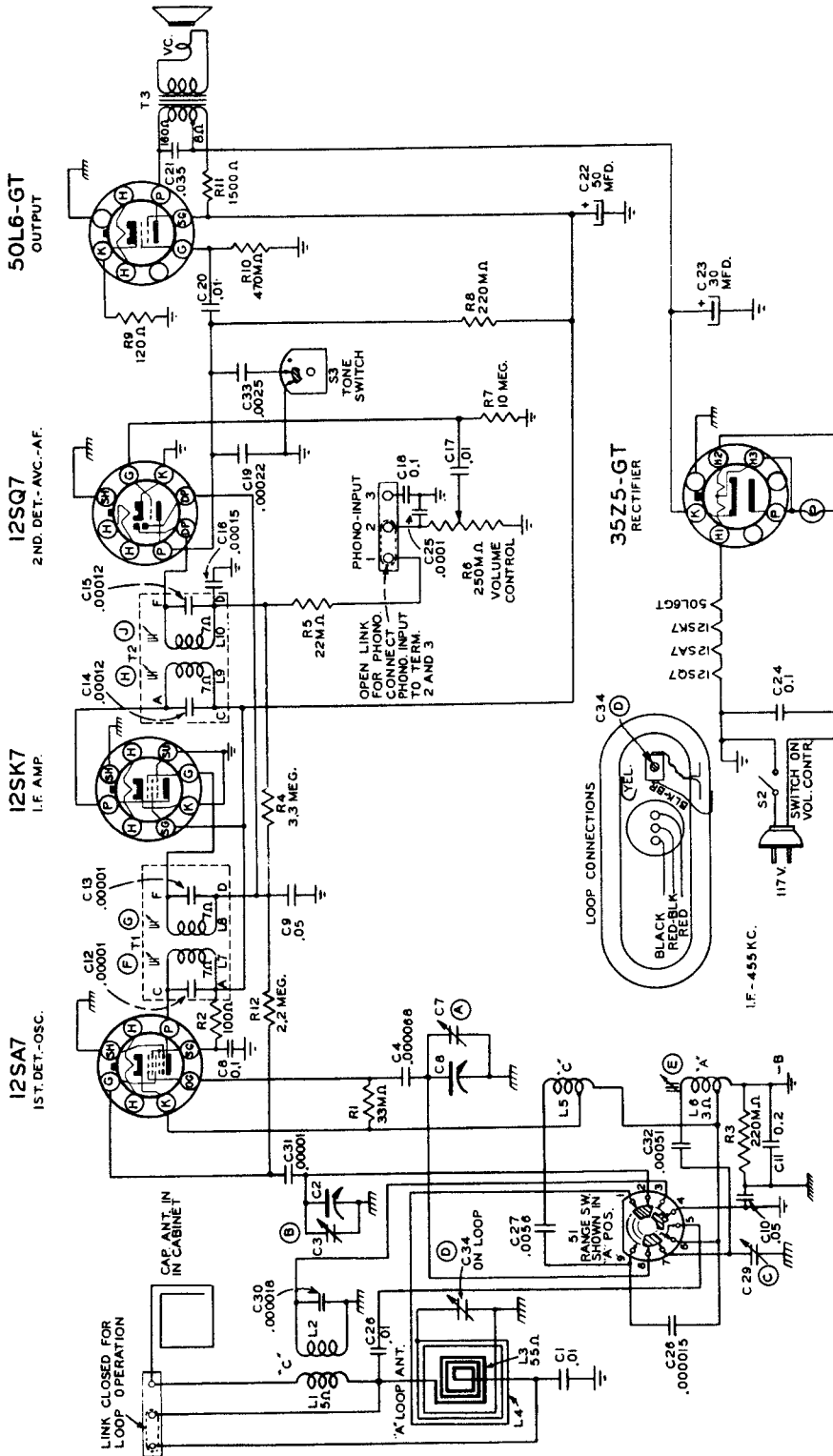
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**Talk-A-Phone Mfg. Co.**

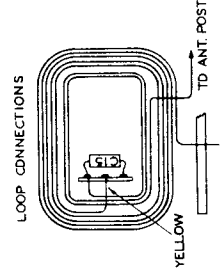
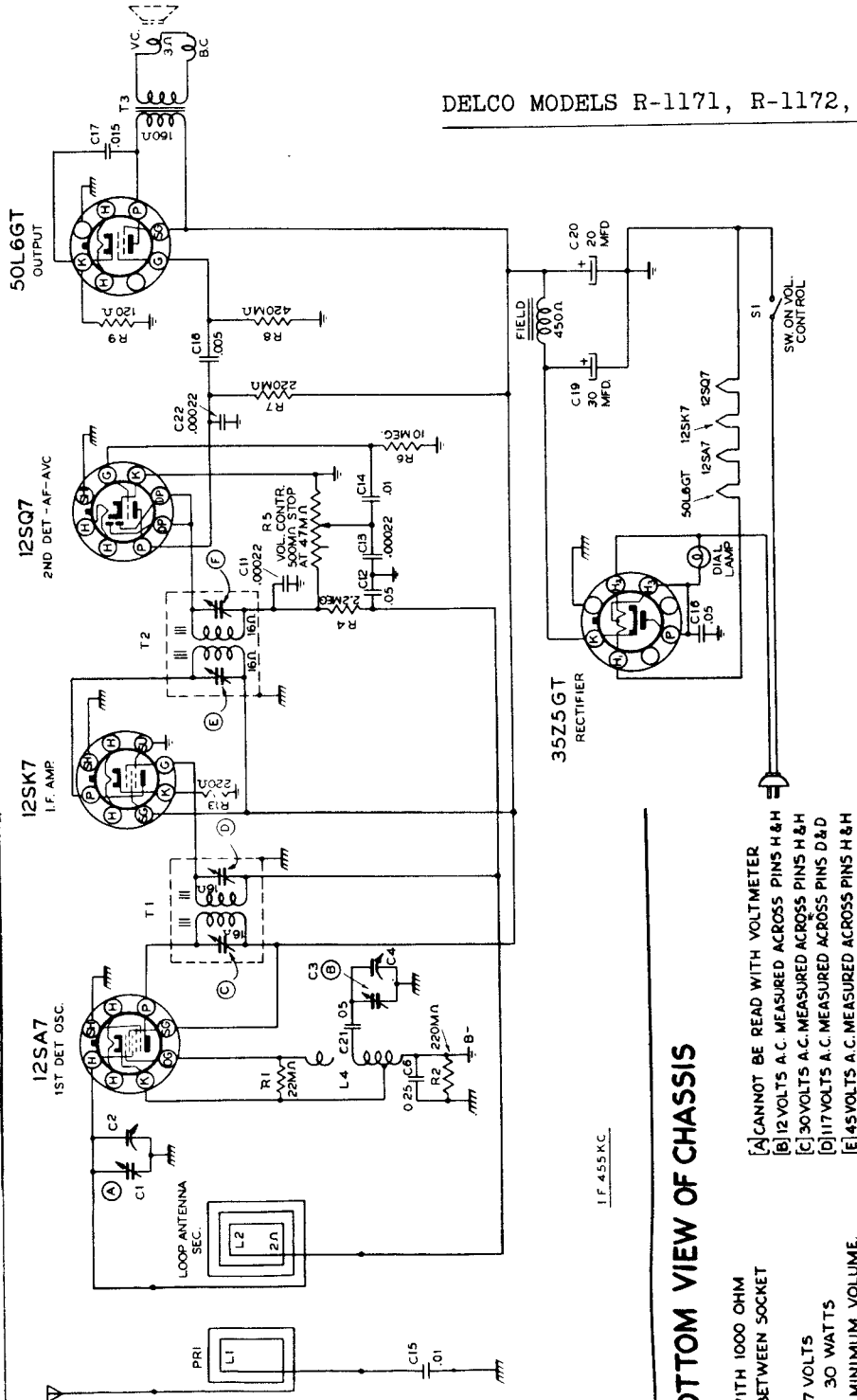


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



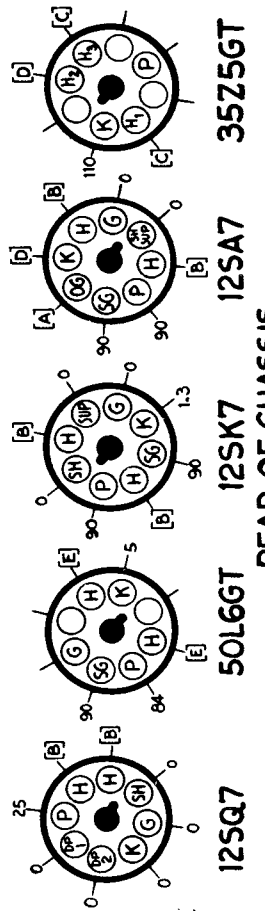
DELCO MODELS R-1176 AND R-1181 CIRCUIT DIAGRAM

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

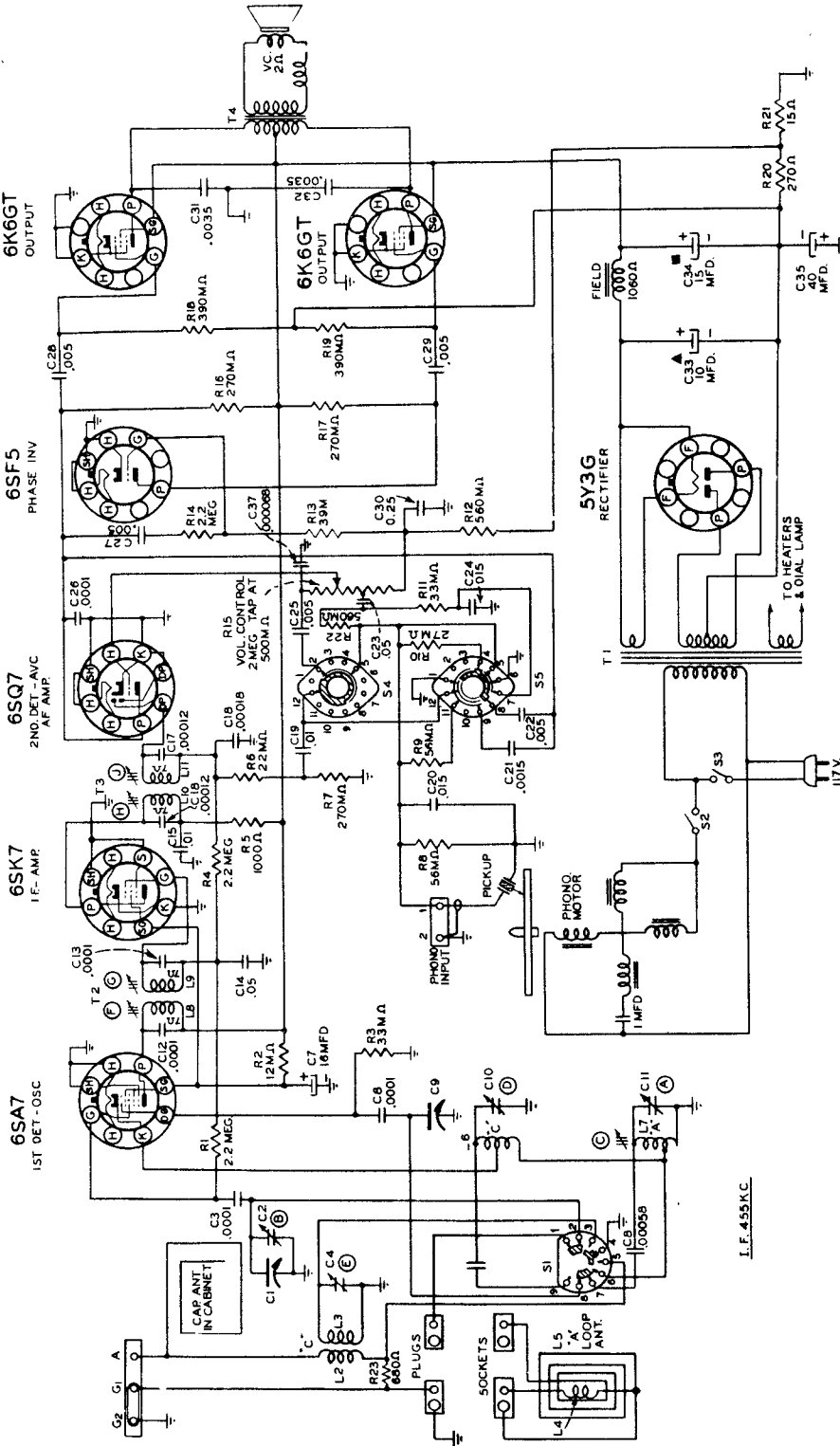


## BOTTOM VIEW OF CHASSIS

- [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] 145 VOLTS A.C. MEASURED ACROSS PINS H & H



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



DELCO MODELS R-1186 AND R-1188 CIRCUIT DIAGRAM.

**UNITED MOTORS SERVICE**  
INCORPORATED  
GENERAL OFFICES—DETROIT



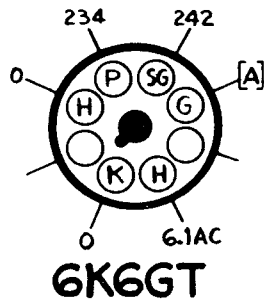
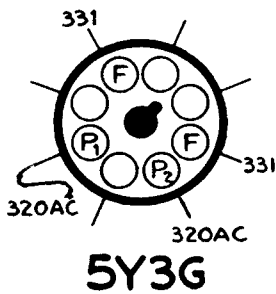
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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.

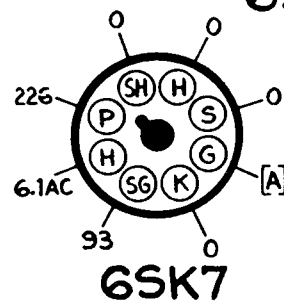
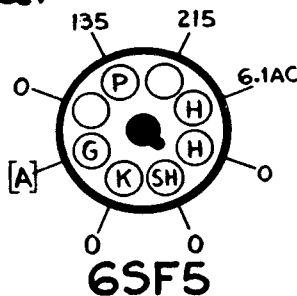
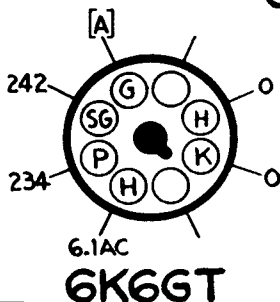
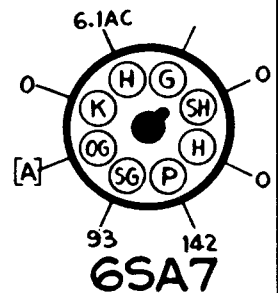
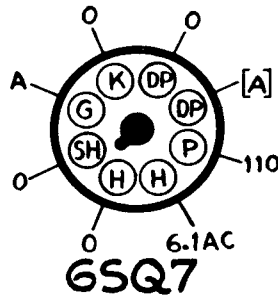
## BOTTOM VIEW OF CHASSIS



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



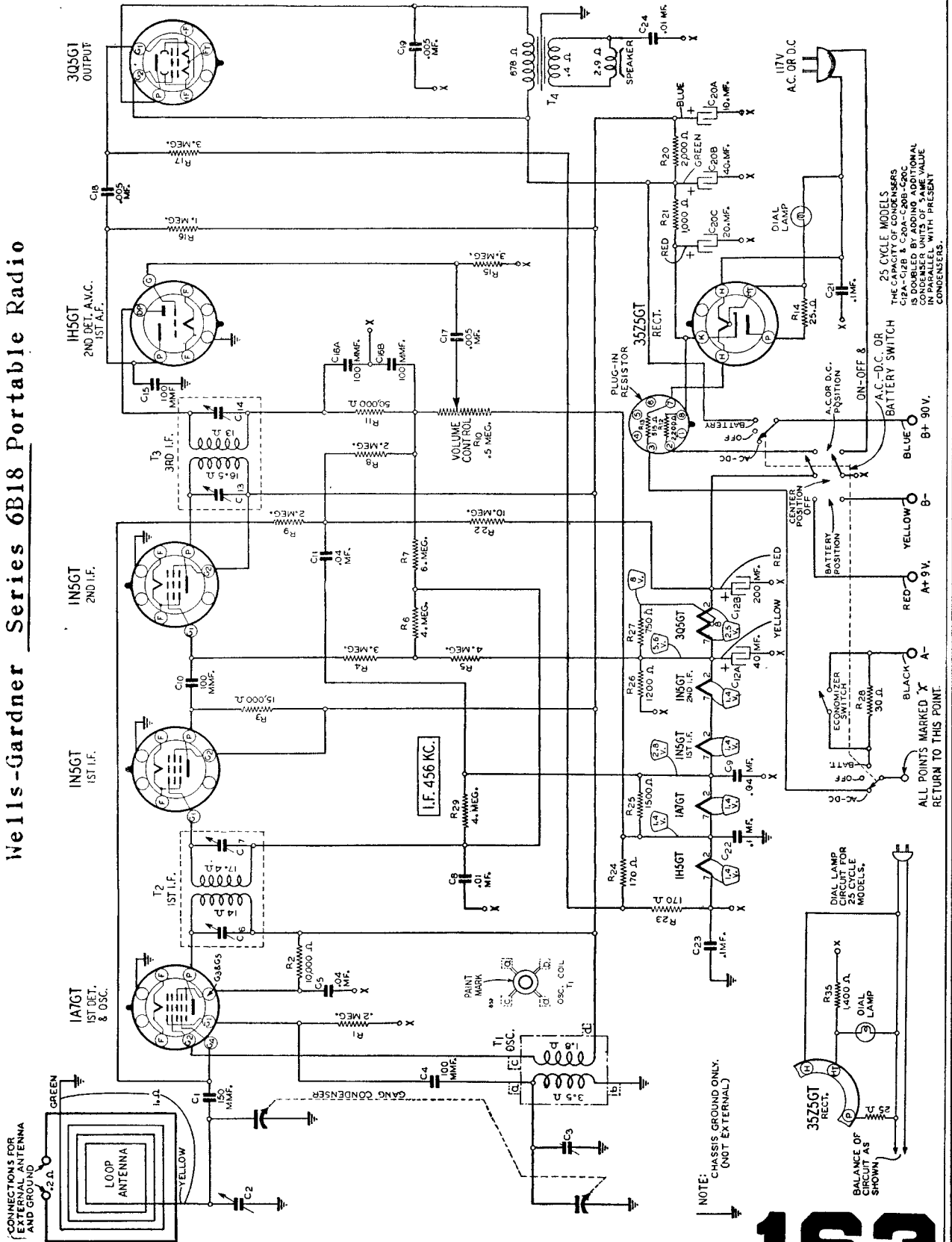
## REAR OF CHASSIS

**162**

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## Wells-Gardner Series 6B18 Portable Radio



25 CYCLE MODELS  
 THE CAPACITY OF CONDENSERS  
 C1, C2, C3, C4, C5, C6, C7, C8,  
 C9, C10, C11, C12, C13, C14,  
 C15, C16, C17, C18, C19, C20,  
 C21, C22, C23 IS DOUBLED BY ADDING ADDITIONAL  
 CONDENSER UNITS OF SAME VALUE  
 IN PARALLEL WITH PRESENT  
 CONDENSERS.

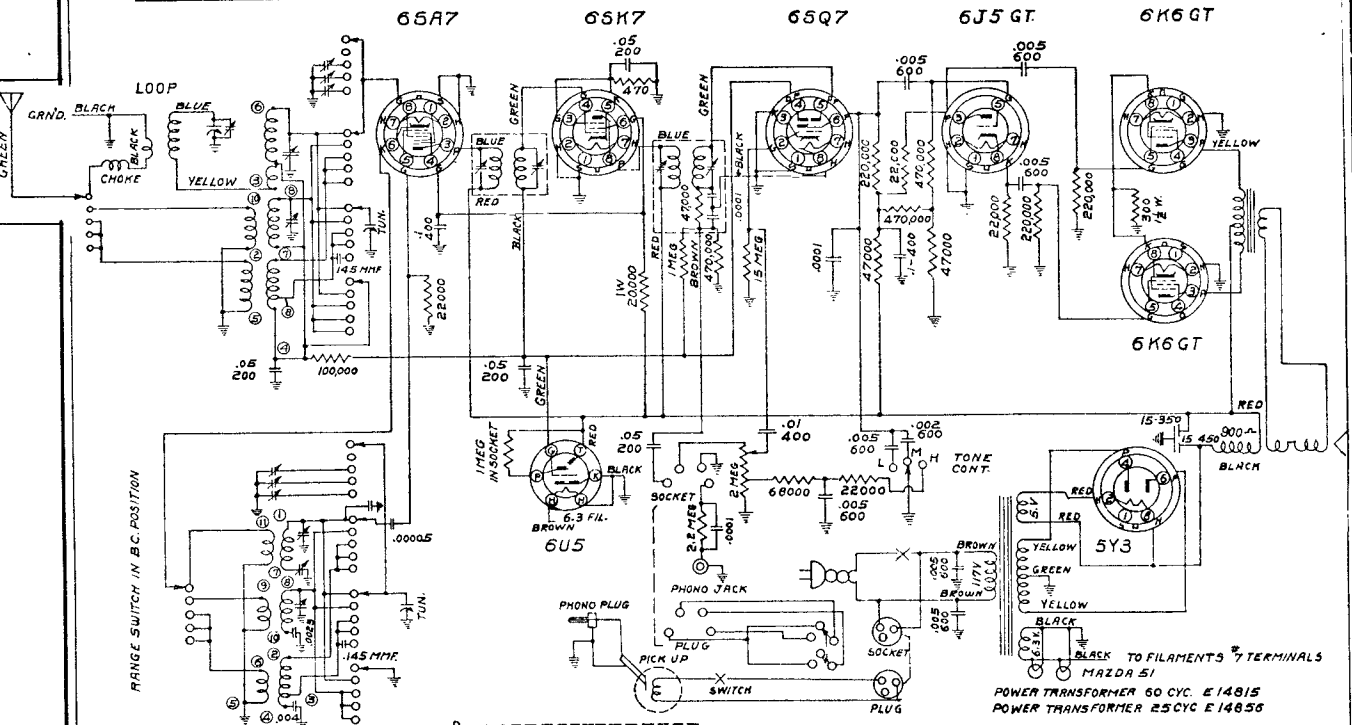
ALL POINTS MARKED 'X'  
 RETURN TO THIS POINT.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

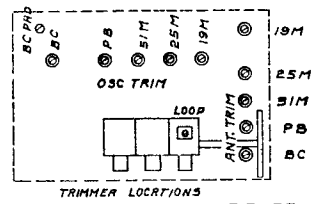
## Truetone

# MODEL D-1175

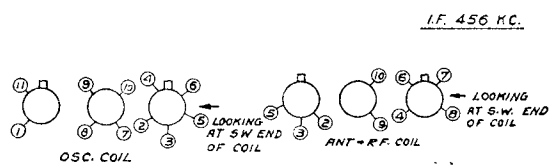
Generator	Connection at Radio	Dummy Antenna	Range Switch	Dial	Trimmers to Tune	Sensitivity
I. F. 456 K. C.	Center Stator of Variable	.1 MFD.	A	H. F. End	I. F. Transformers	65—70 MV.
B. C. 1725 K. C.	Antenna	200 MMF.	A	H. F. Limit of Travel	B. C. Oscillator	
1400 K. C.	Antenna	200 MMF.	A	1400	B. C. Antenna 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.



RANGE SWITCH IN B.C. POSITION



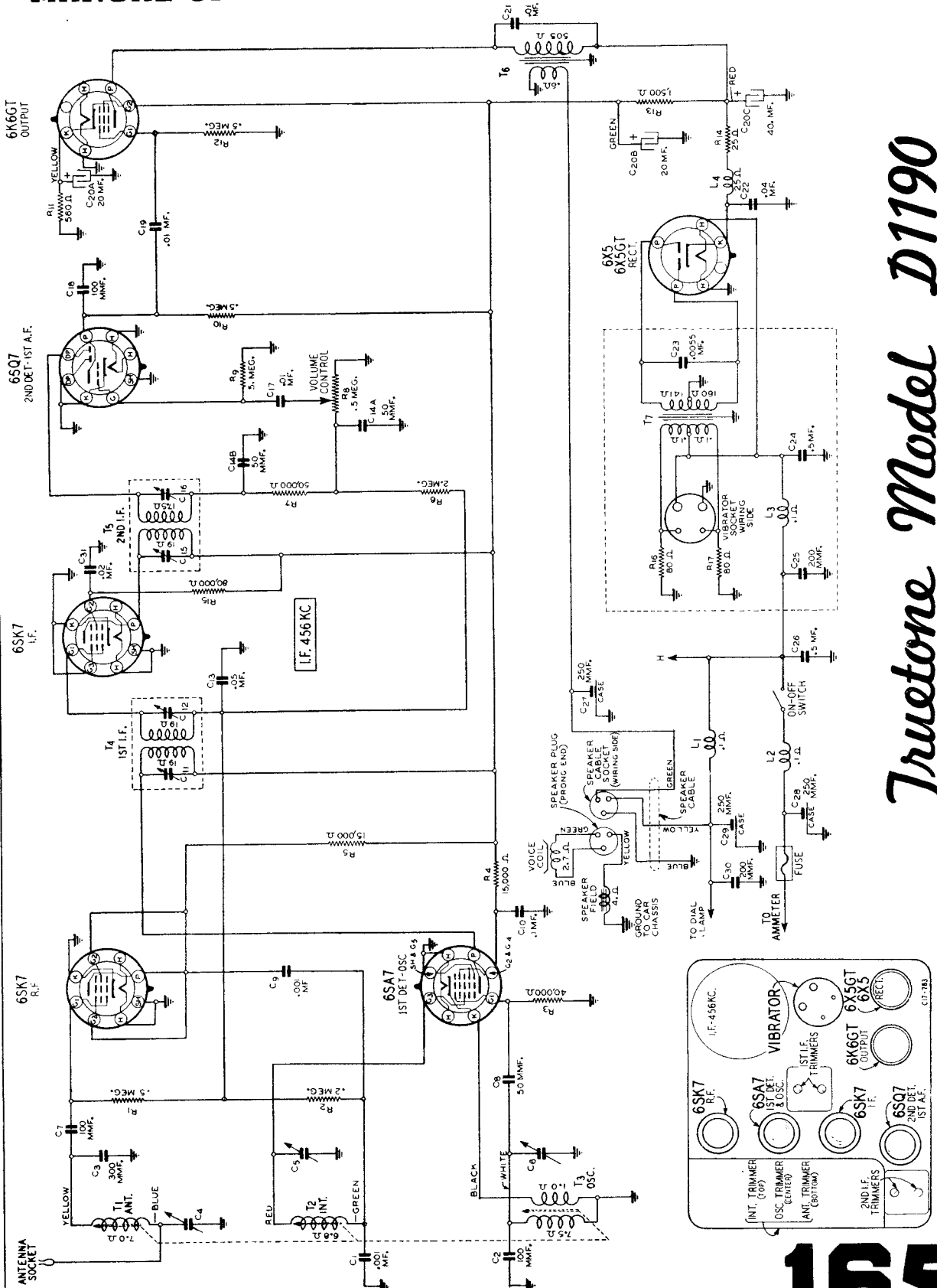
TRIMMER LOCATIONS



Western  
Auto  
**164**

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# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



*Truetone Model D1190*

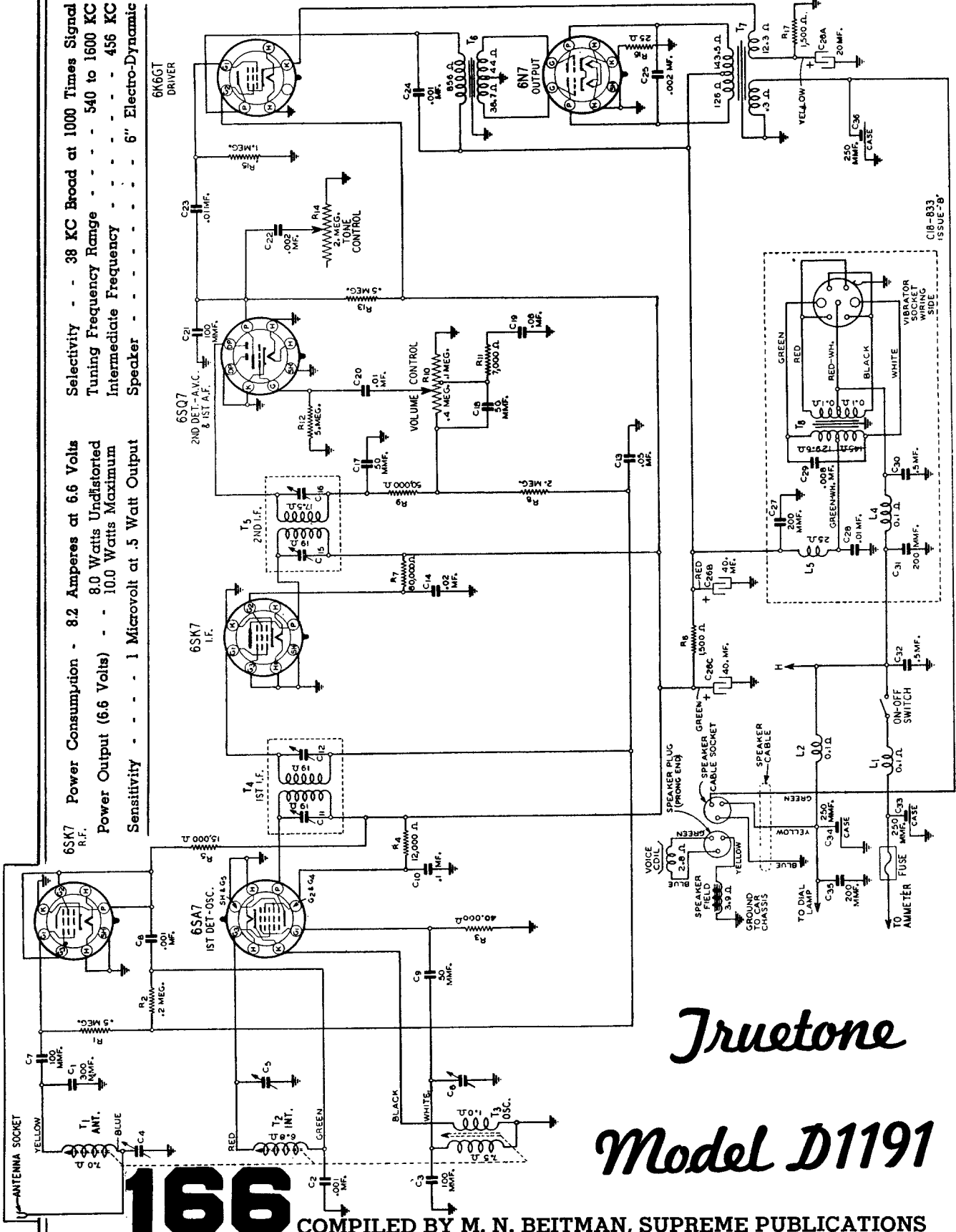
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

**65K7 R.F.** Power Consumption - 8.2 Amperes at 6.6 Volts  
 Tuning Frequency Range - - - - 38 KC Broad at 1000 Times Signal  
 Intermediate Frequency - - - - 456 KC  
 Speaker - - - - 6" Electro-Dynamic

**6SK7 I.F.** Power Consumption - 8.2 Amperes at 6.6 Volts  
 Tuning Frequency Range - - - - 38 KC Broad at 1000 Times Signal  
 Intermediate Frequency - - - - 456 KC  
 Speaker - - - - 6" Electro-Dynamic

**6SA7 1ST DET.-OSC.** 2ND DET.-A.V.C. & 1ST A.F.  
 Tuning Frequency Range - - - - 38 KC Broad at 1000 Times Signal  
 Intermediate Frequency - - - - 456 KC  
 Speaker - - - - 6" Electro-Dynamic

**6K6GT DRIVER**  
 Tuning Frequency Range - - - - 38 KC Broad at 1000 Times Signal  
 Intermediate Frequency - - - - 456 KC  
 Speaker - - - - 6" Electro-Dynamic



C18-833, ISSUE-B

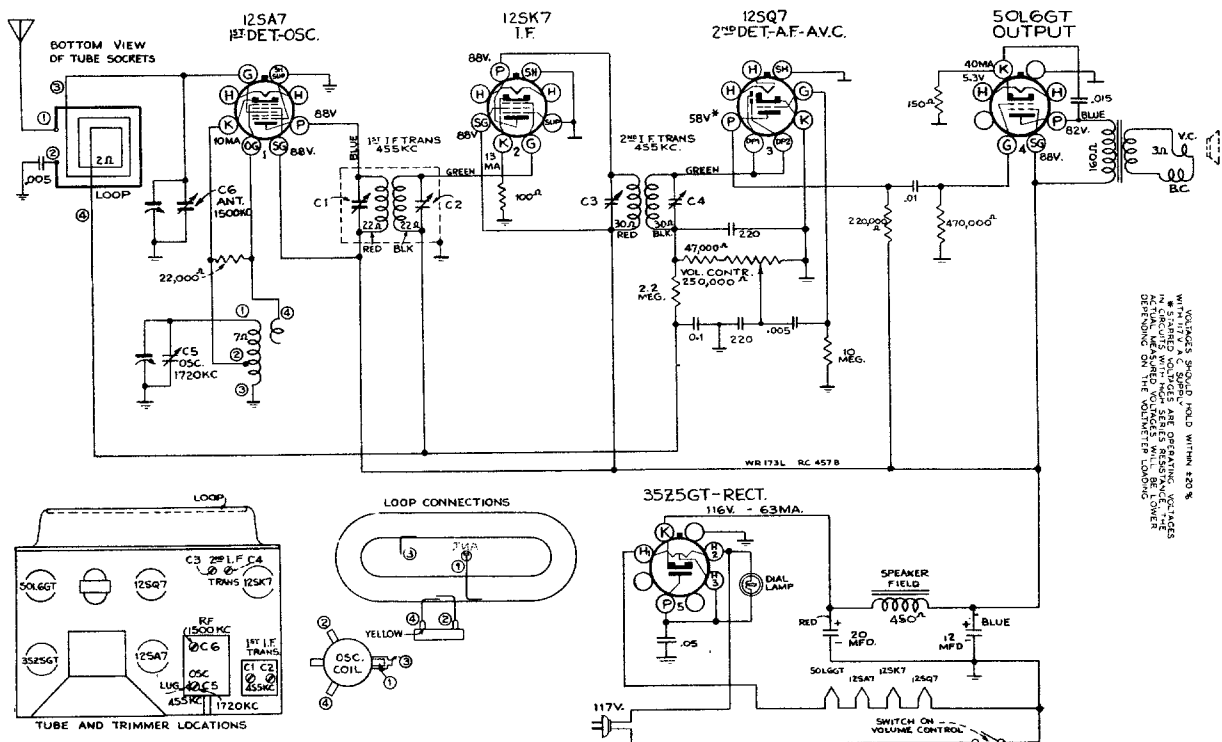
*Jruetone*

*Model D1191*

**166**

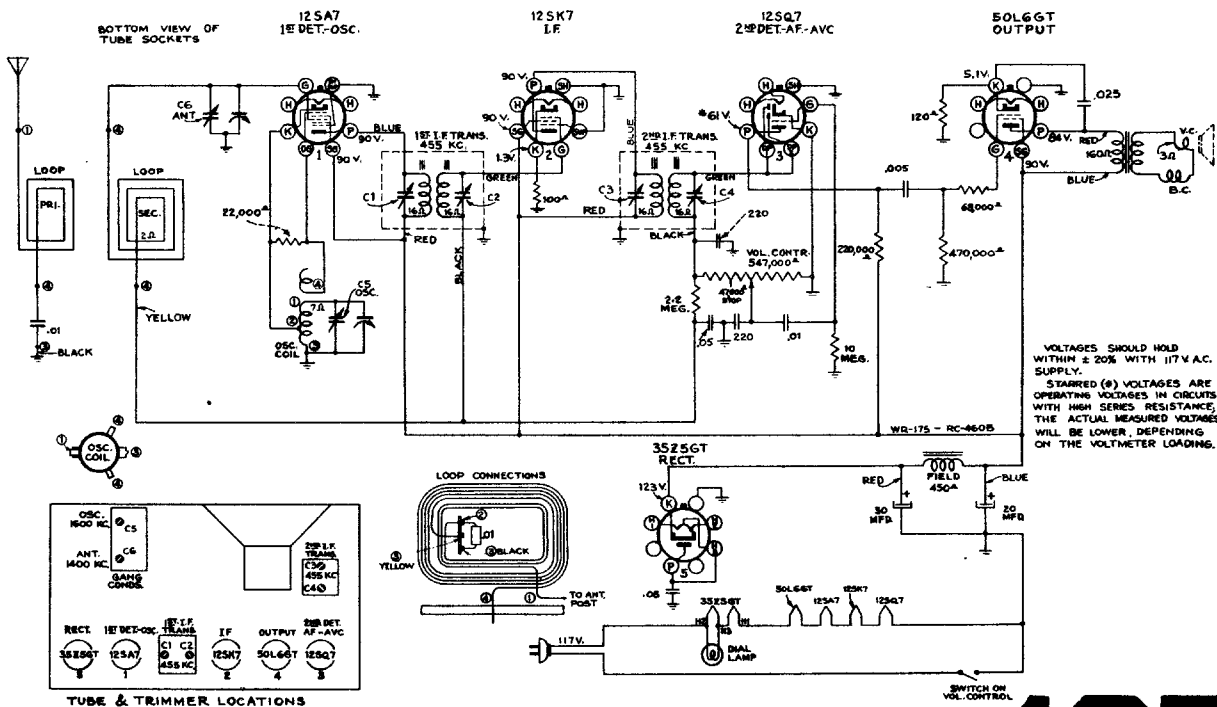
COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

# Westinghouse Radio



VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117V. A.C. SUPPLY. STARRED (\*) VOLTAGES ARE OPERATING VOLTAGES IN CIRCUITS WITH HIGH SERIES RESISTANCE. THE ACTUAL MEASURED VOLTAGES WILL BE LOWER DEPENDING ON THE VOLTMETER LOADING.

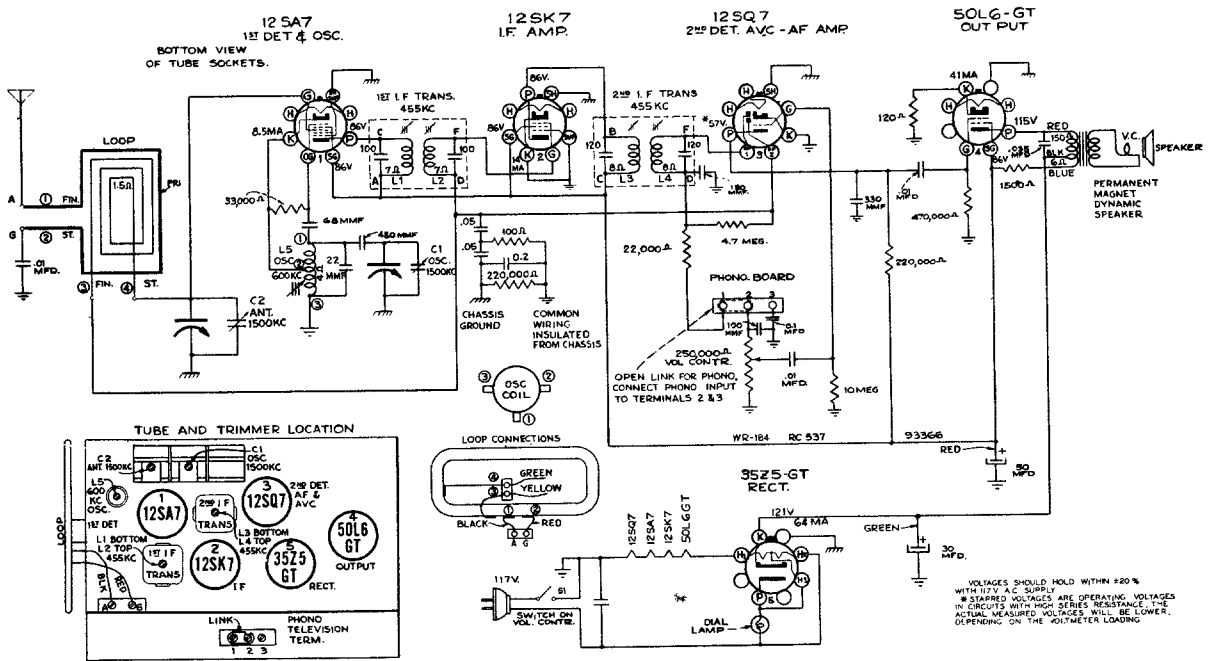
Schematic Circuit Diagram Model WR-173L



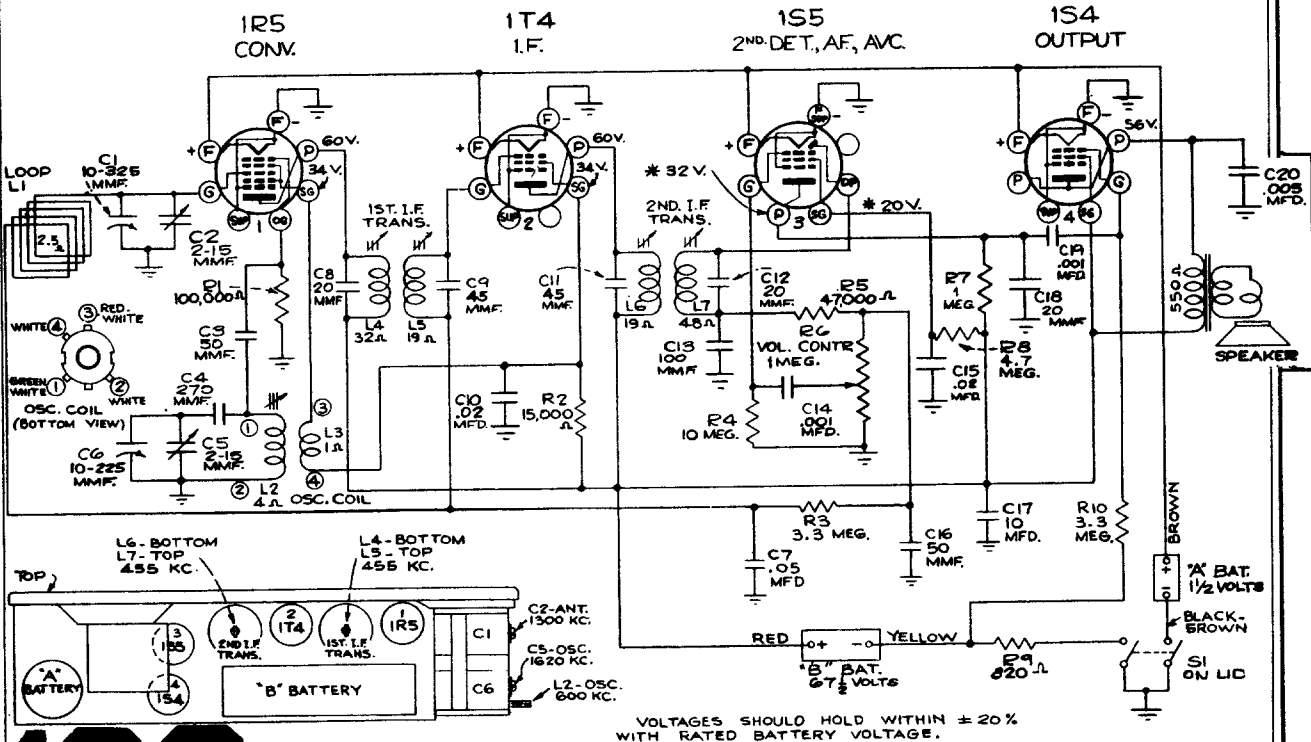
VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117V. A.C. SUPPLY. STARRED (\*) VOLTAGES ARE OPERATING VOLTAGES IN CIRCUITS WITH HIGH SERIES RESISTANCE. THE ACTUAL MEASURED VOLTAGES WILL BE LOWER DEPENDING ON THE VOLTMETER LOADING.

Schematic Circuit Diagram Model WR-175

# Westinghouse Radio Model WR-184



## Models WR-682 & WR-682A

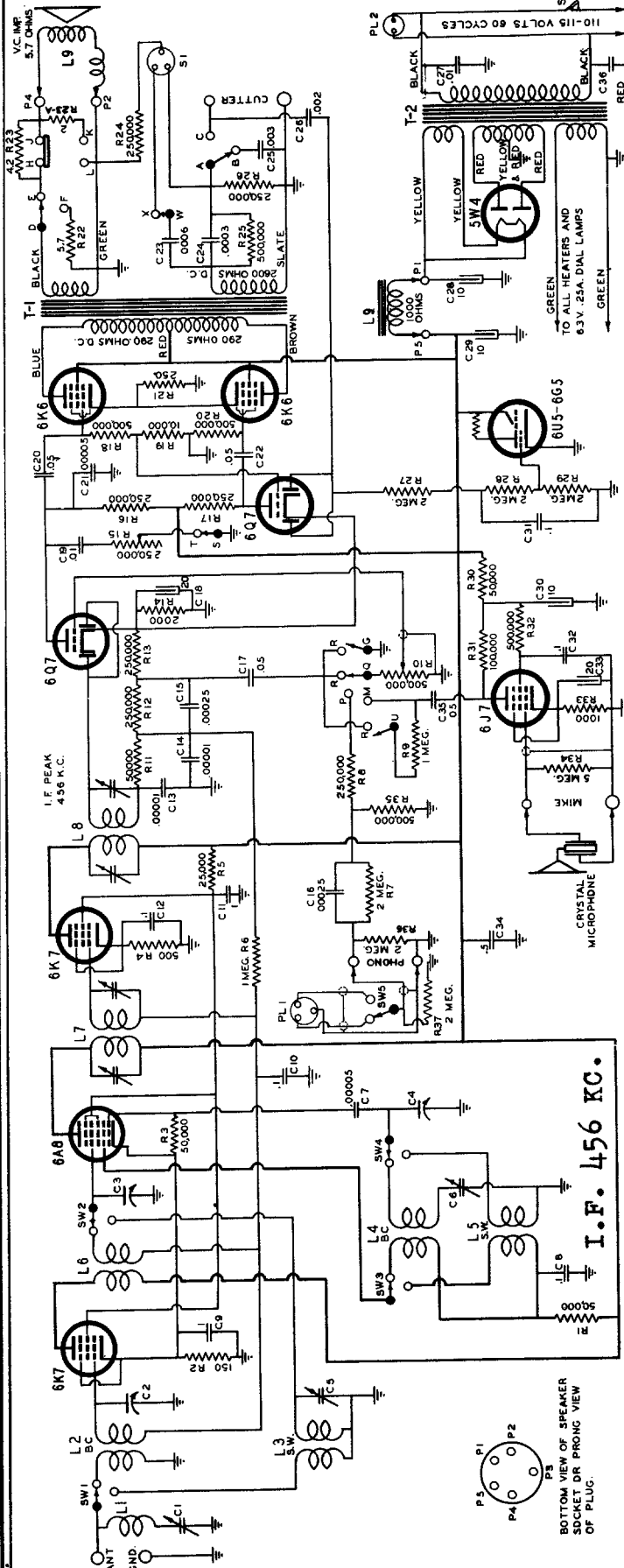




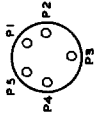




# SERVICE DIAGRAMS



I.F. 456 KC.



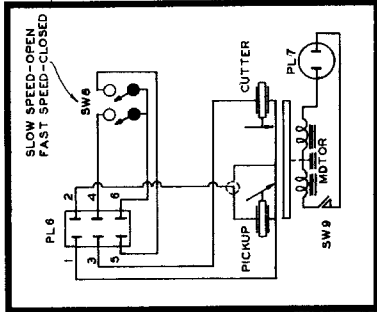
BOTTOM VIEW OF SPEAKER SOCKET DR PRONG VIEW OF PLUG.

## 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)

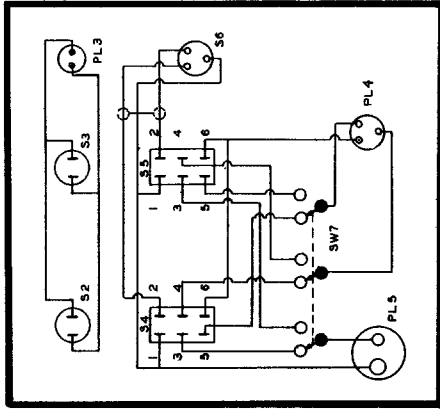
PUSH BUTTON CIRCUIT FUNCTIONS	
NORMAL "UP" POSITION OF PUSH BUTTON SWITCHES INDICATED IN SCHEMATIC DIAGRAM	
1	OPENS Q-R, W-X, CLOSURES Q-R, R-G
2	OPENS Q-R, CLOSURES Q-M
3	FIRST POS. OPENS A-B, T-S, CLOSURES U-R SECOND POS. OPENS C-R, A-B, D-E, T-S CLOSURES Q-M, A-C, D-F
4	FIRST POS. OPENS A-B, T-S,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

NOTE - ALL OTHER CONTACT POSITIONS INDICATED IN DIAGRAM



TURNTABLE UNIT

A-102

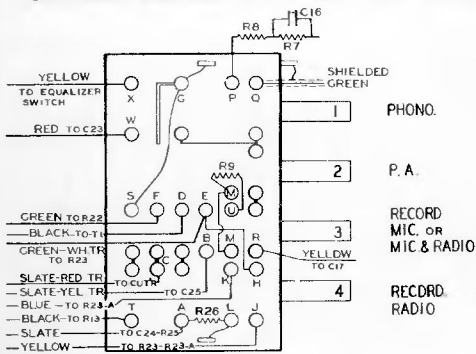


PANEL WIRING - MASTER UNIT

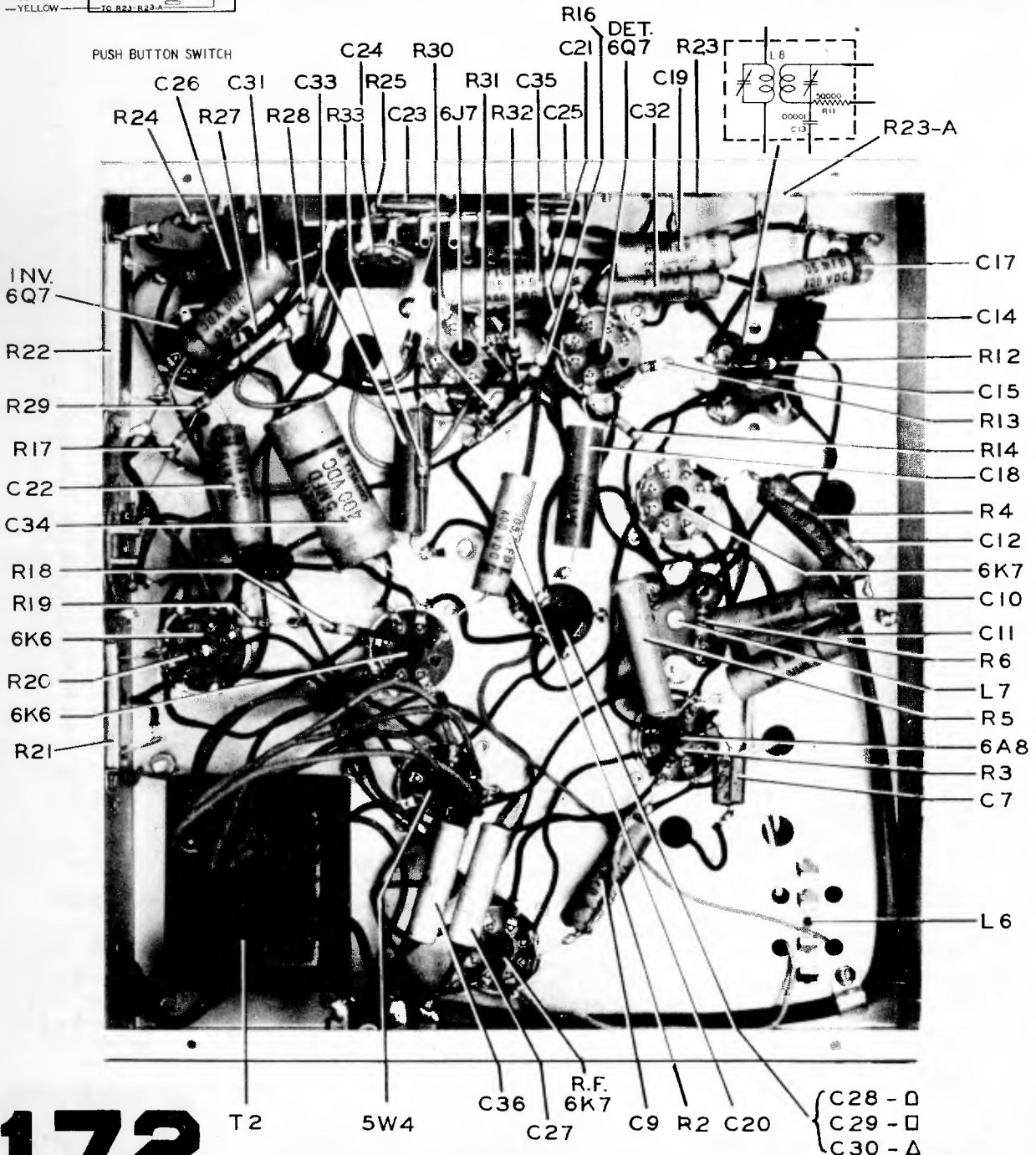
A-101

**Wilcox-Gay Corporation**  
**Models A-89, A-91, A-92, A-93, A-94, A-101, A-102.**  
 See next page for details

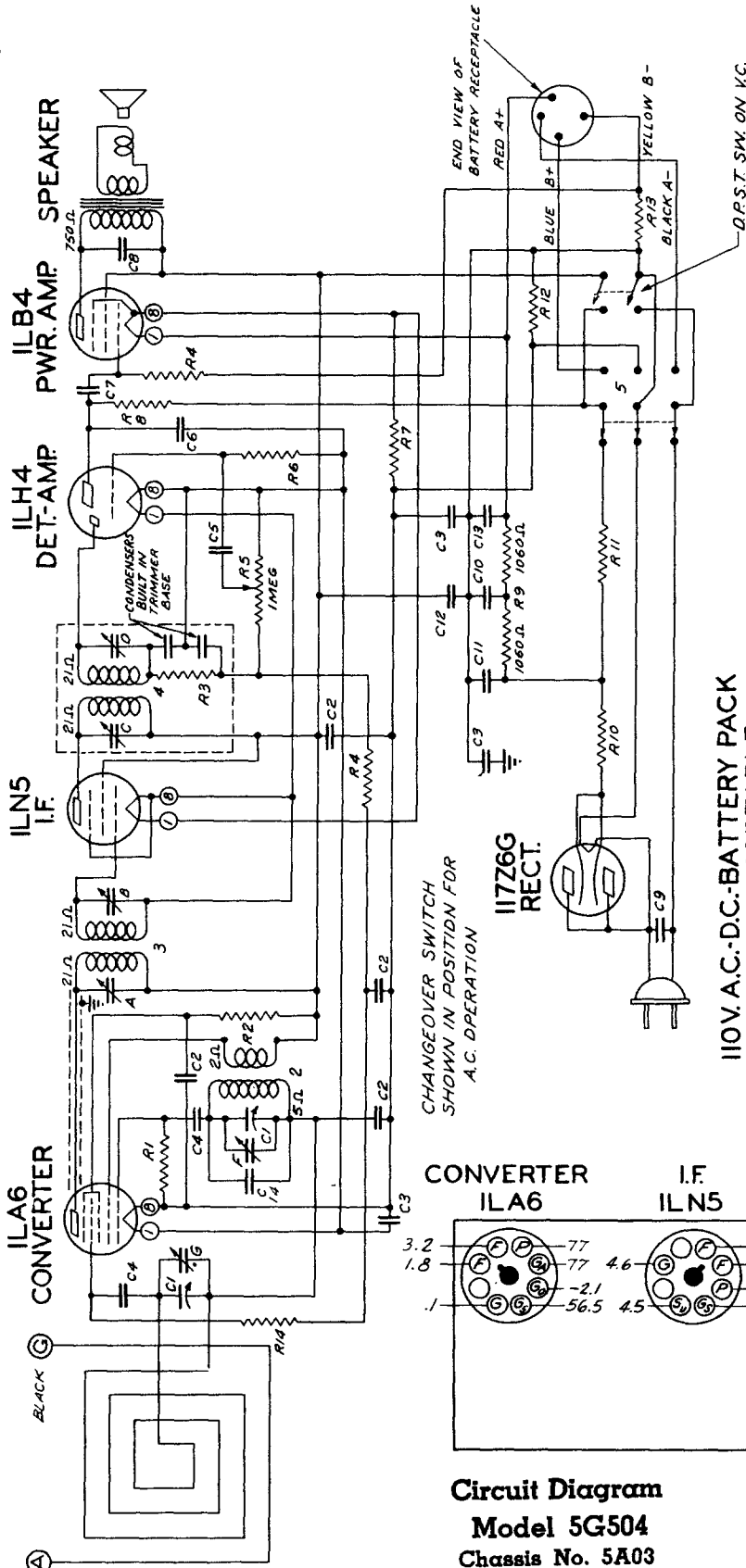
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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

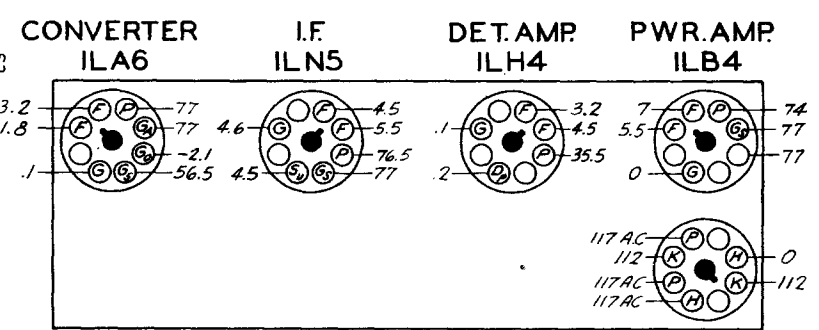


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



ZENITH RADIO CORPORATION  
CHICAGO, ILL.

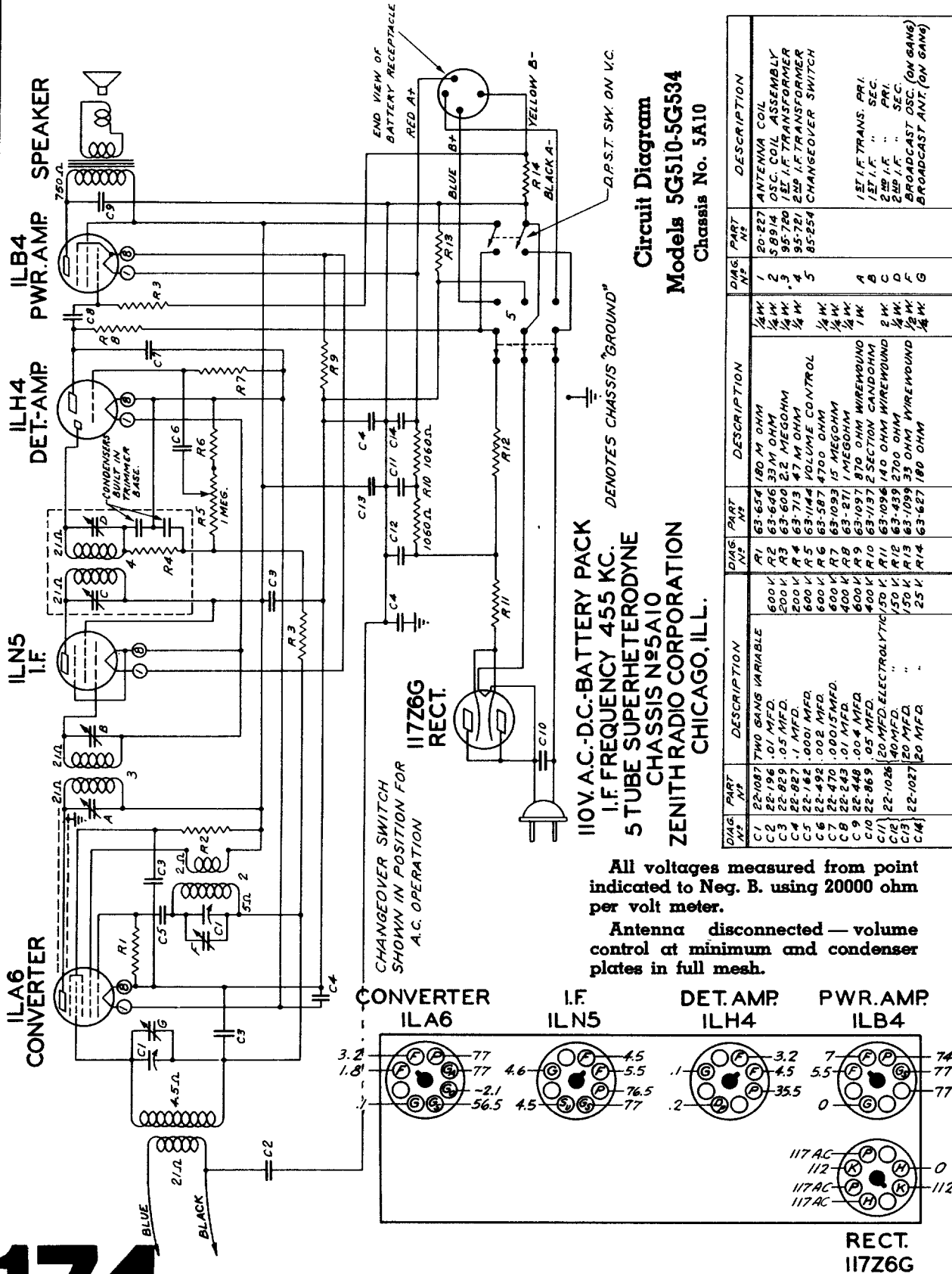
110V. A.C.-D.C. BATTERY PACK  
UNIVERSAL PORTABLE  
I.F. FREQUENCY 455 KC.  
5 TUBE SUPERHETERODYNE  
CHASSIS No 5A03



Circuit Diagram  
Model 5G504  
Chassis No. 5A03

DIAG. No.	PART No.	DESCRIPTION	DIAG. No.	PART No.	DESCRIPTION
C1	22-1022	TUNING GANG VARIABLE	R1	53-773	180 M OHM
C2	22-829	.05 MFD.	R2	53-644	33 M OHM
C3	22-827	.1 MFD.	R3	53-713	47 M OHM
C4	55-462	.002 MFD.	R4	53-600	22 MEGOHM
C5	22-470	.00015 MFD.	R5	53-126	VOLUME CONTROL
C6	22-543	.01 MFD.	R6	53-976	15 MEGOHM
C7	22-526	1.003 MFD.	R7	53-137	870 OHM WIREWOUND
C8	22-869	.05 MFD.	R8	53-137	1 MEGOHM CANOFORM
C9	22-1026	120 MFD. ELECTROLYTIC	R9	53-1036	145 OHM WIREWOUND
C10	22-1027	120 MFD.	R10	53-433	2700 OHM
C11	22-1027	120 MFD.	R11	53-1033	35 OHM WIREWOUND
C12	22-1027	120 MFD.	R12	53-102	180 OHM
C13	22-285	10 MFD.	R13	53-102	180 OHM
C14	22-285	10 MFD.	R14	53-256	220 M OHM
1	58742	WAVEMAGNET ASSEMBLY	A	1/4 W.	
2	58730	OSC. COIL ASSEMBLY	B	1/4 W.	
3	95-720	1ST I.F. TRANSFORMER	C	1/4 W.	
4	95-721	2ND I.F. TRANSFORMER	D	1/4 W.	
5	85-242	CHANGEOVER SWITCH	E	1/4 W.	
			F	1/4 W.	
			G	1/4 W.	
					1ST I.F. TRANS. PRI.
					1ST I.F. SEC.
					2ND I.F. PRI.
					2ND I.F. SEC.
					BROADCAST OSC. (ON-GANG)
					BROADCAST ANT. (ON-GANG)

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



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.

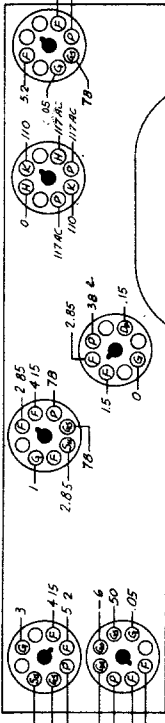


# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

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

R.F. I.LN5  
PWR. AMP  
3Q5G

R.F. I.LN5  
RECT.  
117Z6G



DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	22-928	TWO GANGS VARIABLE	2	S8374	OSCILLATOR ASSEMBLY
C2	22-929	.001 MFD.	3	58326	IMMUNE TRAP ASSEMBLY
C3	22-162	.001 MFD.	4	95-739	I.F. TRANSFORMER
C4	22-827	.1 MFD.	5	95-740	I.F. TRANSFORMER
C5	22-928	20 MMFD.	6	95-524	CHANGEOVER SWITCH
C6	22-865	.002 MFD.	7	95-525	WAVEMAGNET SWITCH
C7	22-495	.002 MFD.			
C8	22-1026	20 MMFD. ELECTROLYTIC			
C9	22-1026	20 MMFD. ELECTROLYTIC			
C10	22-1026	20 MMFD. ELECTROLYTIC			
C11	22-1026	20 MMFD. ELECTROLYTIC			
C12	22-1026	20 MMFD. ELECTROLYTIC			
C13	22-1026	20 MMFD. ELECTROLYTIC			
C14	22-1026	20 MMFD. ELECTROLYTIC			
C15	22-470	.0005 MFD.			
R1	63-590	15M OHM			

**ILH4  
DET.-AMP.**

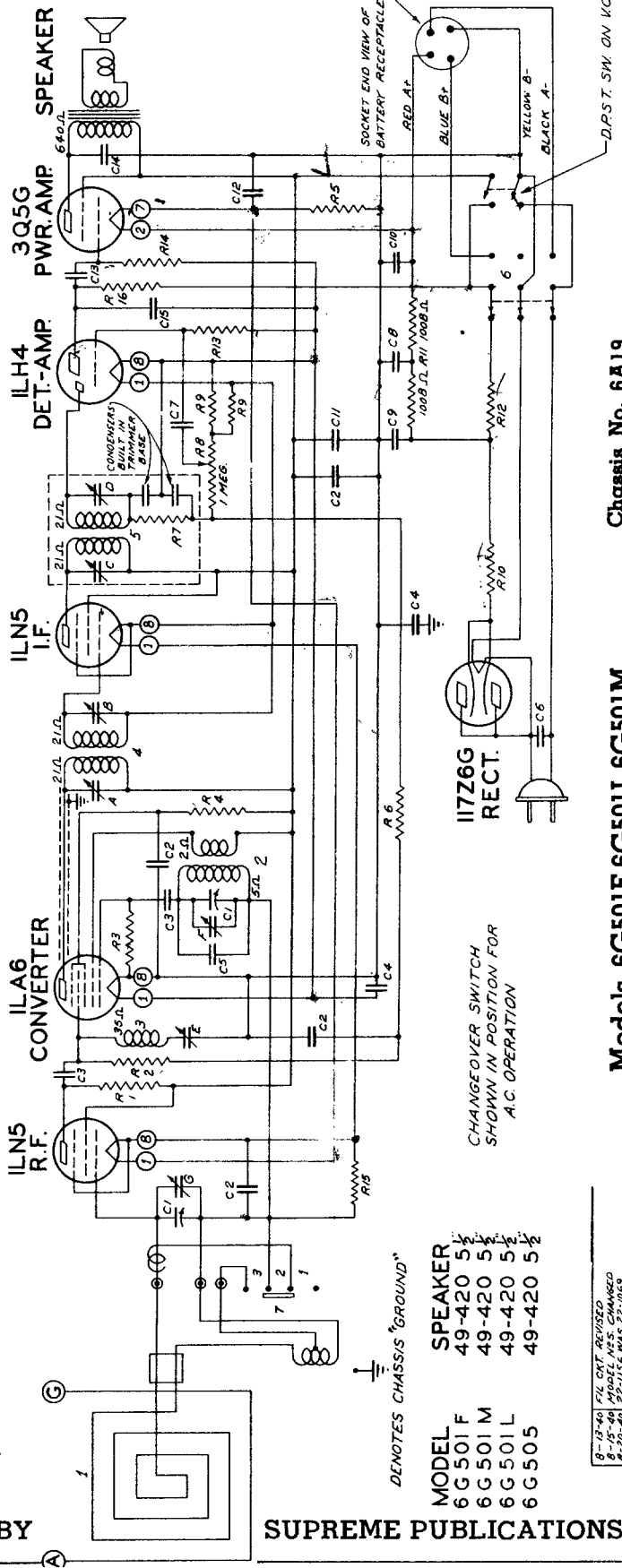
**ILA6  
CONVERTER**

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.



DEMOTES CHASSIS "GROUND"

MODEL	SPEAKER
6G501F	49-420 5 1/2"
6G501M	49-420 5 1/2"
6G501L	49-420 5 1/2"
6G505	49-420 5 1/2"

8-13-40 FIL CAT REVISED  
6-15-40 MODEL NOS. CHANGED  
6-20-40 22-1156 WAS 22-1059  
9-23-40 63-590 WAS C2  
11-11-40 22-756 WAS 22-823

Chassis No. 6A19

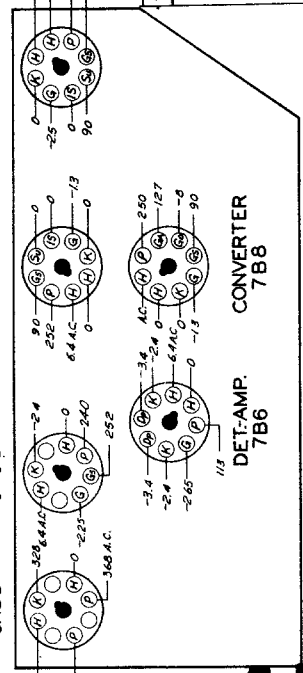
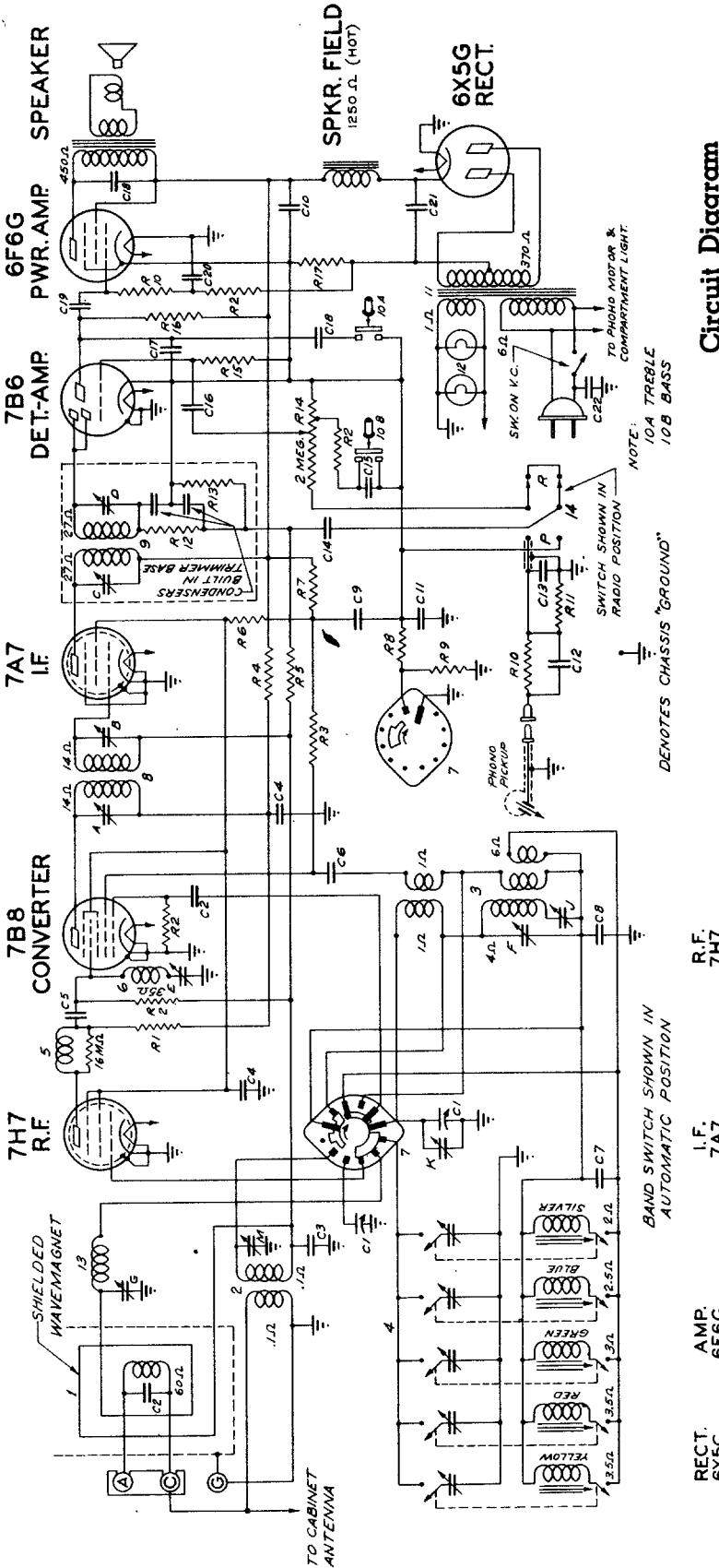
Models 6G501F-6G501L-6G501M

# 176

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SUPREME PUBLICATIONS

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



**Circuit Diagram**  
**Models 6S596-6S597**  
**Chassis No. 6A20**

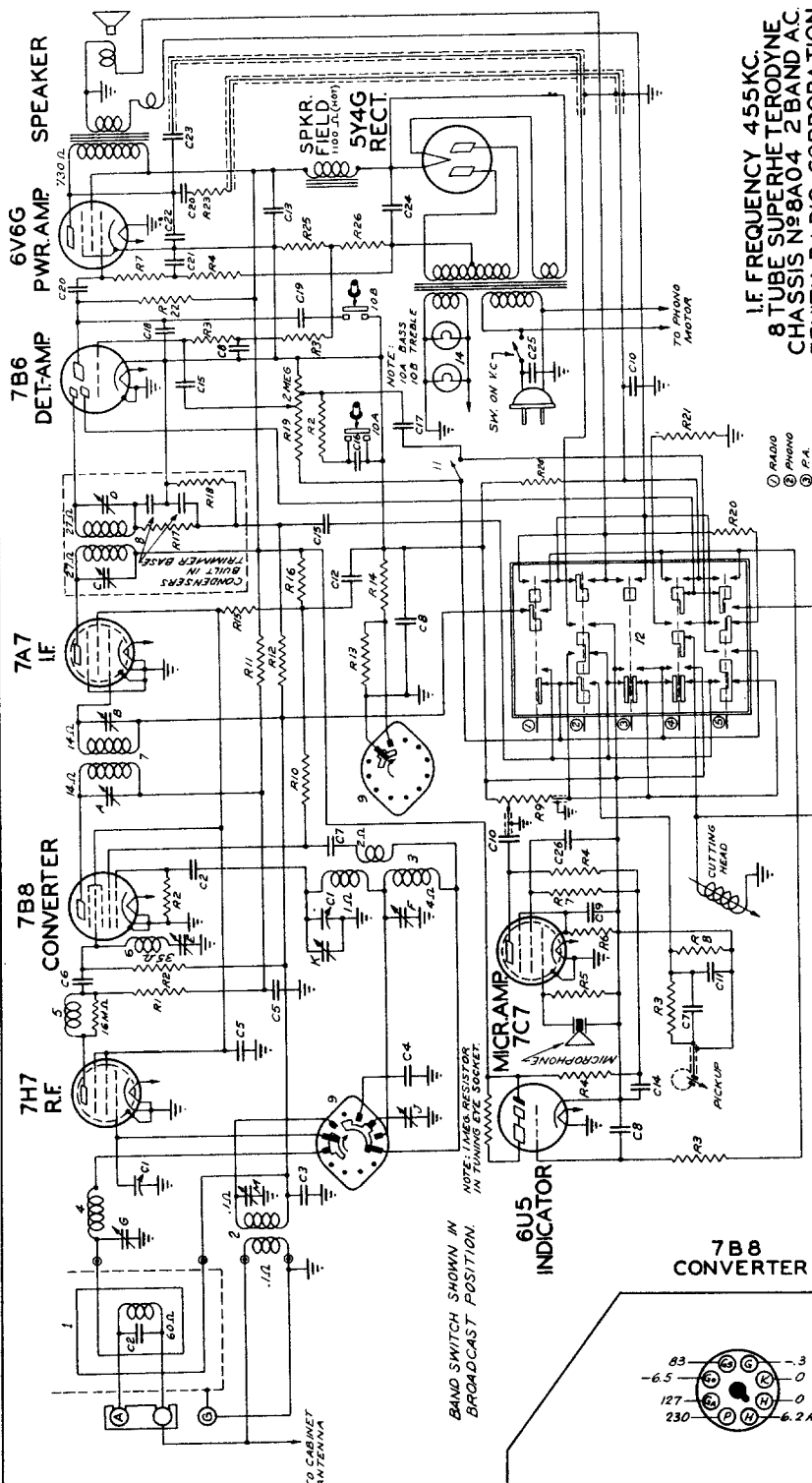
**MODEL 6S596**  
**MODEL 6S597**  
**SPEAKER 49-396 10"**  
**SPEAKER 49-380 10"**

DWG. NO.	PART NO.	DESCRIPTION
C1	221044	TWO GANG VARIABLE
C2	221289	50 MFD. 50V D.
C3	221289	50 MFD. 50V D.
C4	551828	.05 MFD.
C5	221162	90.0 MFD.
C6	221182	90.0 MFD.
C7	221868	COMPENSATING COND.
C8	221082	.005 MFD.
C9	221082	.005 MFD.
C10	221082	.005 MFD.
C11	221082	.005 MFD.
C12	221082	.005 MFD.
C13	221082	.005 MFD.
C14	221082	.005 MFD.
C15	221082	.005 MFD.
C16	221082	.005 MFD.
C17	221082	.005 MFD.
C18	221082	.005 MFD.
C19	221082	.005 MFD.
R1	63-637	4700 OHM
R2	63-593	47 M OHM
R3	63-150	10 M OHM
R4	63-593	1000 OHM
R5	63-593	1.5 MEG OHM
R6	63-102	1.5 M OHM
R7	63-102	8000 OHM
R8	63-102	8000 OHM
R9	63-102	8000 OHM
R10	63-593	330 M OHM
R11	63-593	47 M OHM
R12	63-719	47 M OHM
R13	63-719	470 M OHM
R14	63-1023	VOLUME CONTROL
R15	63-976	1.5 MEG OHM
R16	63-296	220 M OHM
R17	63-1056	280 OHM WIREWOUND
1	58507	WAVE MAGNET ASSEMBLY
2	58508	ANTENNA COIL ASSEMBLY
3	58509	OSCILLATOR TUNING UNIT
4	58510	P.F. CHOKES & RES. ASSEMBLY
5	58511	WAVE TRAP ASSEMBLY
6	58512	BAND SELECTOR SWITCH
7	95-708	1ST I.F. TRANSFORMER
8	95-709	2ND I.F. TRANSFORMER
9	58531	TONE CONTROL SWITCH
10	95-705	POWER TRANS. 50-60V 1/7 V
11	100-36	PILOT LIGHT 6.3 V .25 A.

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



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



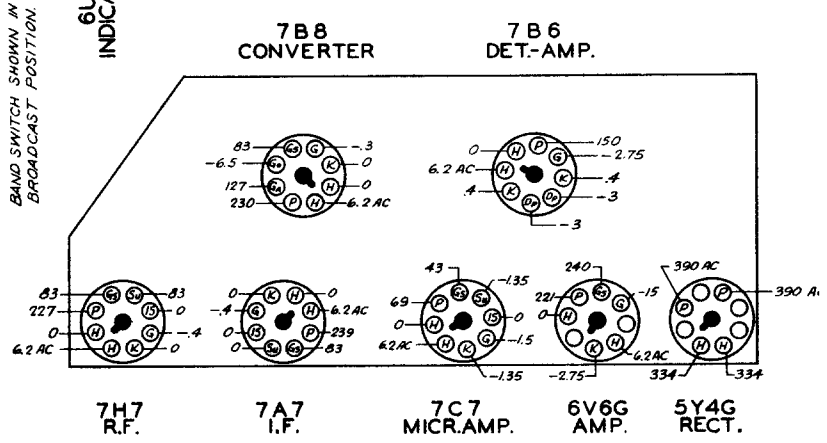
IF FREQUENCY 455KC.  
 8 TUBE SUPERHETERODYNE  
 CHASSIS No 8A04 2 BAND AC.  
 ZENITH RADIO CORPORATION  
 CHICAGO, ILL.

- ① RADIO
- ② PHONO
- ③ P.A.
- ④ RECORD MOTOR
- ⑤ RECORD RADIO

NOTE: ALL BUTTONS SHOWN IN NON-OPERATED POSITION.

**Circuit Diagram**  
**Models 8S593-8S594**  
**Chassis No. 8A04**

DWG. NO.	PART NO.	DESCRIPTION	DWG. NO.	PART NO.	DESCRIPTION	DWG. NO.	PART NO.	DESCRIPTION
C1	22-1044	500K. VARIABLE	R17	63-718	47M OHM	D1	8553	TONE CONTROL SWITCH
C2	22-1044	500K. VARIABLE	R18	63-718	47M OHM	D2	85-154	NORMAL-BRILLIANT SWITCH
C3	22-829	105 MFD.	R19	63-1023	VOLUME CONTROL	D3	85-259	REORDER UNIT SWITCH
C4	22-829	105 MFD.	R20	63-1023	VOLUME CONTROL	D4	100-36	PILOT LIGHT 17V. 50-60~
C5	22-829	105 MFD.	R21	63-1023	VOLUME CONTROL	D5	100-36	PILOT LIGHT 6.3K. 25A.
C6	22-162	1000 MFD.	R22	63-596	200M OHM			
C7	22-162	1000 MFD.	R23	63-596	200M OHM			
C8	22-827	1 MFD.	R24	63-700	4.7 MEGOHM			
C9	22-1089	200 MFD.	R25	63-1068	18 OHM WIREWOUND			
C10	22-1089	200 MFD.	R26	63-1068	18 OHM WIREWOUND			
C11	22-827	1 MFD.						
C12	22-1089	200 MFD.						
C13	22-1089	200 MFD.						
C14	22-1089	200 MFD.						
C15	22-954	1000 MFD.						
C16	22-954	1000 MFD.						
C17	22-954	1000 MFD.						
C18	22-824	100 MFD.						
C19	22-830	100 MFD.						
C20	22-321	100 MFD.						
C21	22-321	100 MFD.						
C22	22-321	100 MFD.						
C23	22-119	105 MFD.						
C24	22-1036	14 MFD. ELECTROLYTIC						
C25	22-1036	14 MFD. ELECTROLYTIC						
C26	22-1036	14 MFD. ELECTROLYTIC						
R1	63-637	4700 OHM						
R2	63-593	47M OHM						
R3	63-595	100M OHM						
R4	63-602	4.7 MEGOHM						
R5	63-639	1000 OHM						
R6	63-595	100M OHM						
R7	63-595	100M OHM						
R8	63-550	60M OHM						
R9	63-1146	VOLUME CONTROL						
R10	63-150	10M OHM						
R11	63-595	100M OHM						
R12	63-595	100M OHM						
R13	63-624	68 OHM						
R14	63-1059	42 OHM WIREWOUND						
R15	63-1059	42 OHM WIREWOUND						
R16	63-1101	1820 OHM						
R17	63-1101	1820 OHM						
R18	63-1101	1820 OHM						
R19	2 MEG	2 MEG						
R20	2 MEG	2 MEG						
R21	2 MEG	2 MEG						
R22	2 MEG	2 MEG						
R23	2 MEG	2 MEG						
R24	2 MEG	2 MEG						
R25	2 MEG	2 MEG						
R26	2 MEG	2 MEG						

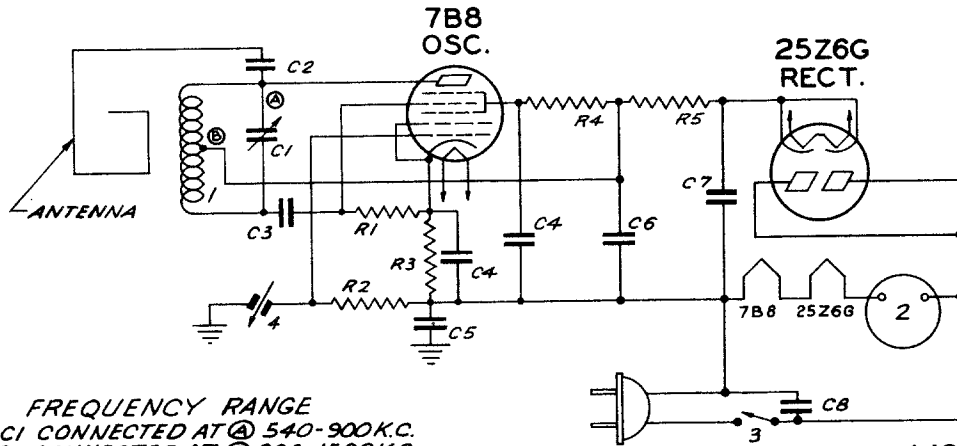






# ZENITH RADIO CORPORATION

CHICAGO • ILLINOIS

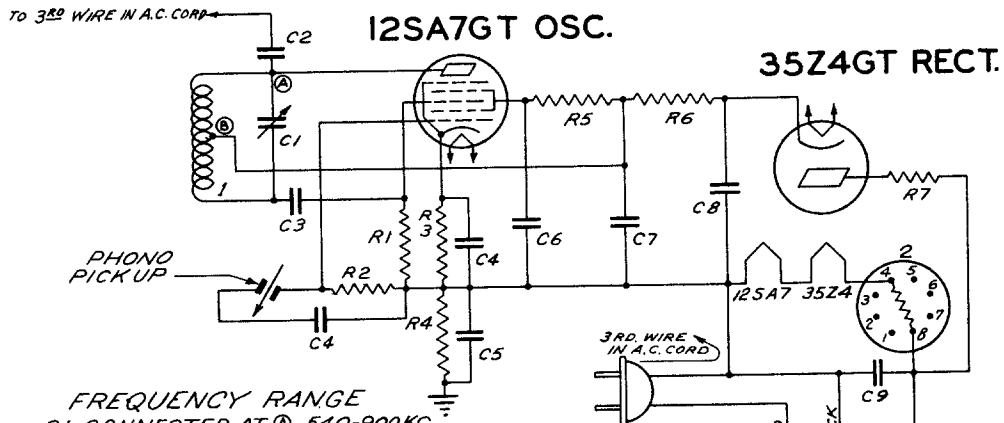


FREQUENCY RANGE  
 C1 CONNECTED AT Ⓐ 540-900K.C.  
 C1 CONNECTED AT Ⓑ 900-1500K.C.

MODELS  
 S8500Z

DIAG. N <sup>o</sup>	PART N <sup>o</sup>	DESCRIPTION	DIAG. N <sup>o</sup>	PART N <sup>o</sup>	DESCRIPTION
C1	22-690	TUNING CONDENSER	R2	63-464	1 MEGOHM 1/4 W.
C2	22-127	25 MMFD. 600V.	R3	63-581	470 OHM 1/4 W.
C3	22-182	.00025 MFD. 600V.	R4	63-964	4700 OHM 1/4 W.
C4	22-829	.05 MFD. 200V.	R5	63-707	4700 OHM 1/4 W.
C5	22-827	.1 MFD. 200V.			
C6	22-1061	8 MFD. ELECTROLYTIC 150V.	1	58611	OSC. COIL ASSEM.
C7		16 MFD. " 150V.	2	141-85	MOTOR (60~)
C8	22-869	.05 MFD. 400V.	3	85-191	A.C. SWITCH
			4	142-30	PICKUP
R1	63-593	47 M OHM 1/4 W.			

PHONOGRAPH OSCILLATOR  
 ZENITH RADIO CORPORATION  
 CHICAGO ILL.



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

MODEL  
 S9000

DIAG. N <sup>o</sup>	PART N <sup>o</sup>	DESCRIPTION	DIAG. N <sup>o</sup>	PART N <sup>o</sup>	DESCRIPTION
C1	22-690	TUNING CONDENSER	R3	63-701	470 OHM 1/4 W.
C2	22-127	25 MMFD. 600V.	R4	63-296	220M OHM 1/4 W.
C3	22-182	.00025 MFD. 600V.	R5	63-964	4700 OHM 1/2 W.
C4	22-829	.05 MFD. 200V.	R6	63-803	2200 OHM 1/2 W.
C5	22-827	.1 MFD. 200V.	R7	63-575	47 OHM 1/4 W.
C6	22-243	.01 MFD. 400V.			
C7	22-876	8 MFD. ELECTROLYTIC 150V.	1	58611	OSC. COIL ASSEM.
C8		40 MFD. " 150V.	2	100-76	BALLAST TUBE
C9	22-828	.05 MFD. 400V.	3	52-208	3 PRONG RECEPTACLE
R1	63-591	22 M OHM 1/4 W.			
R2	63-271	1 MEGOHM 1/4 W.			

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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 very 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.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

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

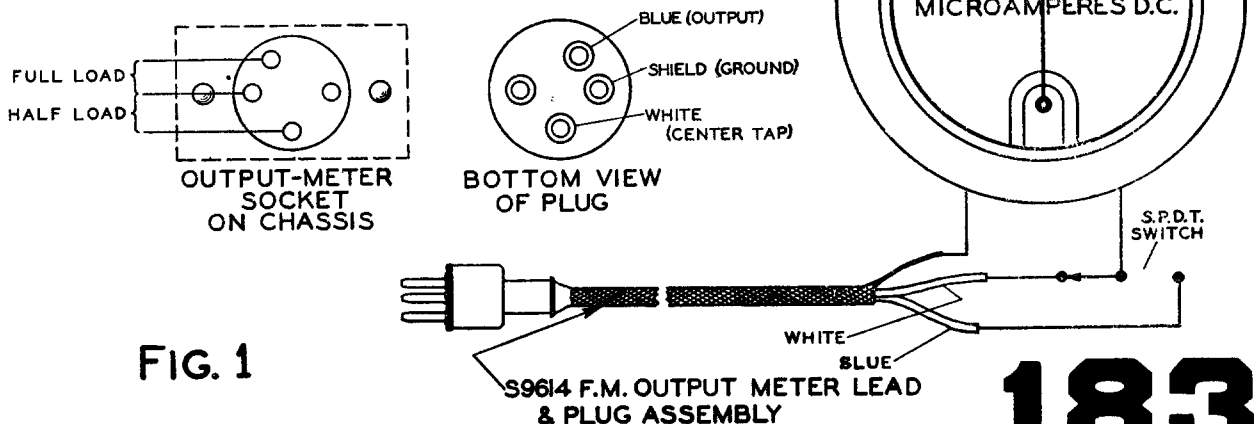
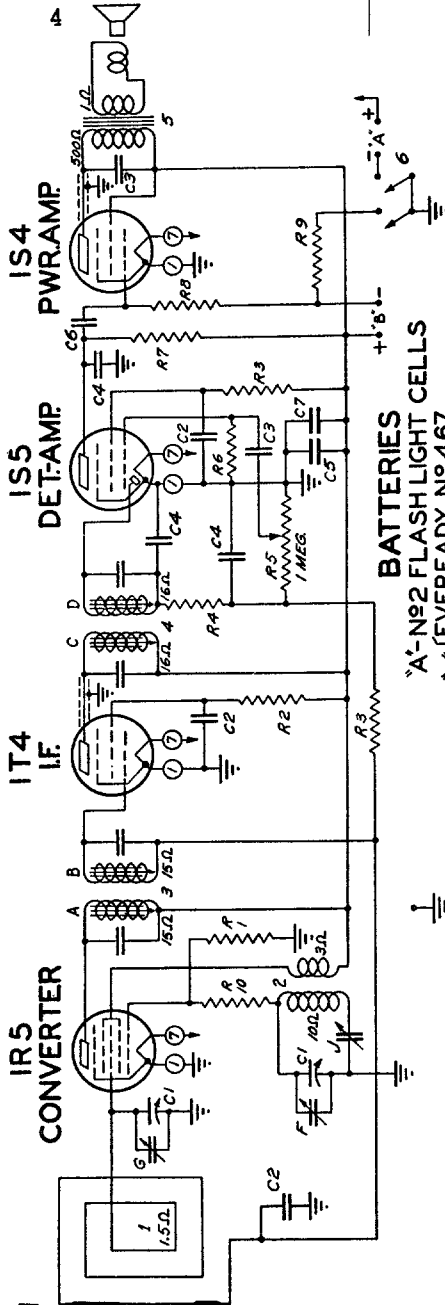


FIG. 1

FIG. 2

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS 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



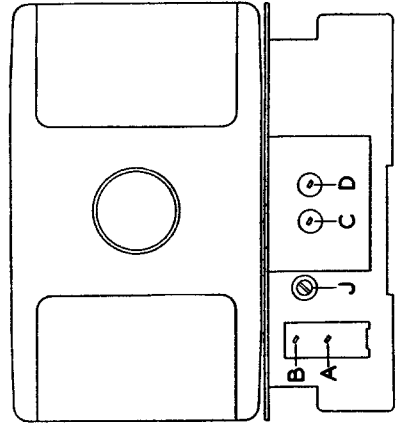
BATTERIES  
 \*A\*—No. 2 FLASH LIGHT CELLS  
 \*B\*—EVEREADY No. 467  
 \*C\*—BURGESS No. XX46

DENOTES CHASSIS "GROUND"

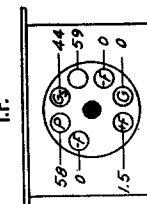
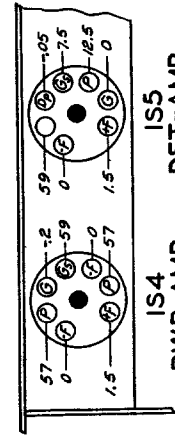
**Circuit Diagram**  
**Model 4K600**  
**Chassis No. 4B01**

DIAG. No.	PART No.	DESCRIPTION	DIAG. No.	PART No.	DESCRIPTION
C1	22-1167	TWO GANG VARIABLE	4	95-781	2ND I.F. TRANS.
C2	22-1174	.01 MFD.	5	95-779	SPKR. TRANS.
C3	22-1169	.001 MFD.	6	95-267	PWR. SWITCH
C4	22-1168	.001 MFD.	A		1ST I.F. PRI.
C5	22-1176	50 MFD. ELECTROLYTIC	B		1ST I.F. SEC.
C6	22-1173	.005 MFD.	C		2ND I.F. SEC.
C7	22-1168	.05 MFD.	D		BROADCAST OSCILLATOR
R1	63-775	100M OHM	F		BROADCAST ANTENNA
R2	63-765	33M OHM	G		BROADCAST PADDER
R3	63-724	4.7 MEGOHM			
R4	63-719	47M OHM			
R5	63-1175	VOLUME CONTROL			
R6	63-1093	1/5 MEGOHM			
R7	63-464	1 MEGOHM			
R8	63-723	3.3 MEGOHM			
R9	63-749	580 OHM			
R10	63-1234	680 OHM			
	S9-385	WAVEMAGNET ASSEMBLY			
	S9-584	OSC. COIL ASSEMBLY			
	95-780	1ST I.F. TRANS.			

1-29-41, R10 ADDED

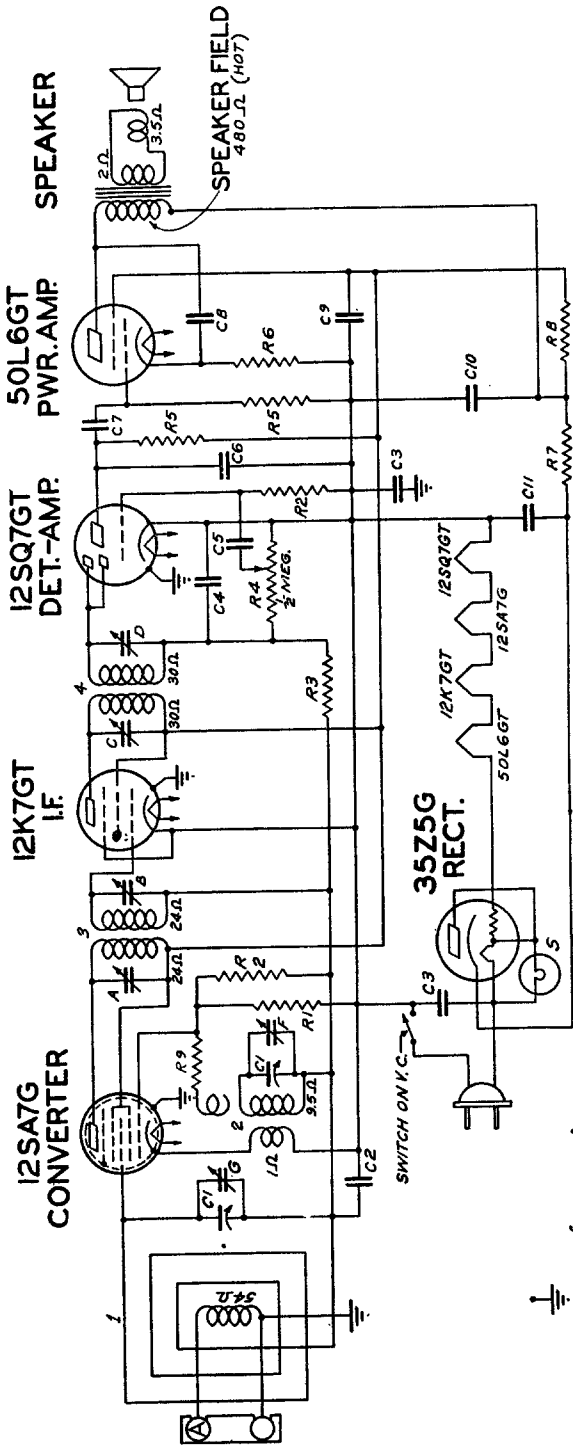


TRIMMER LOCATIONS



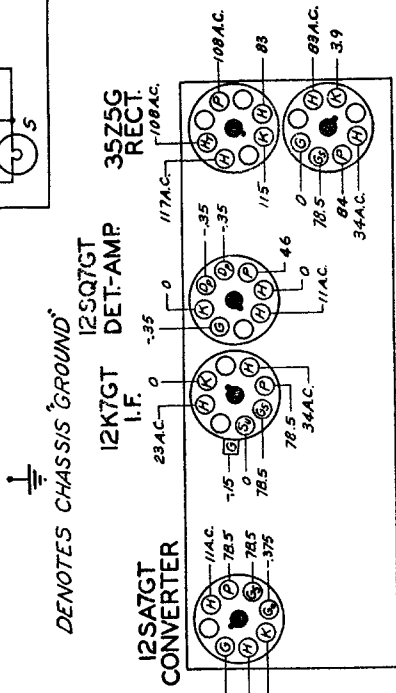
IR5  
CONVERTER

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



## 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.



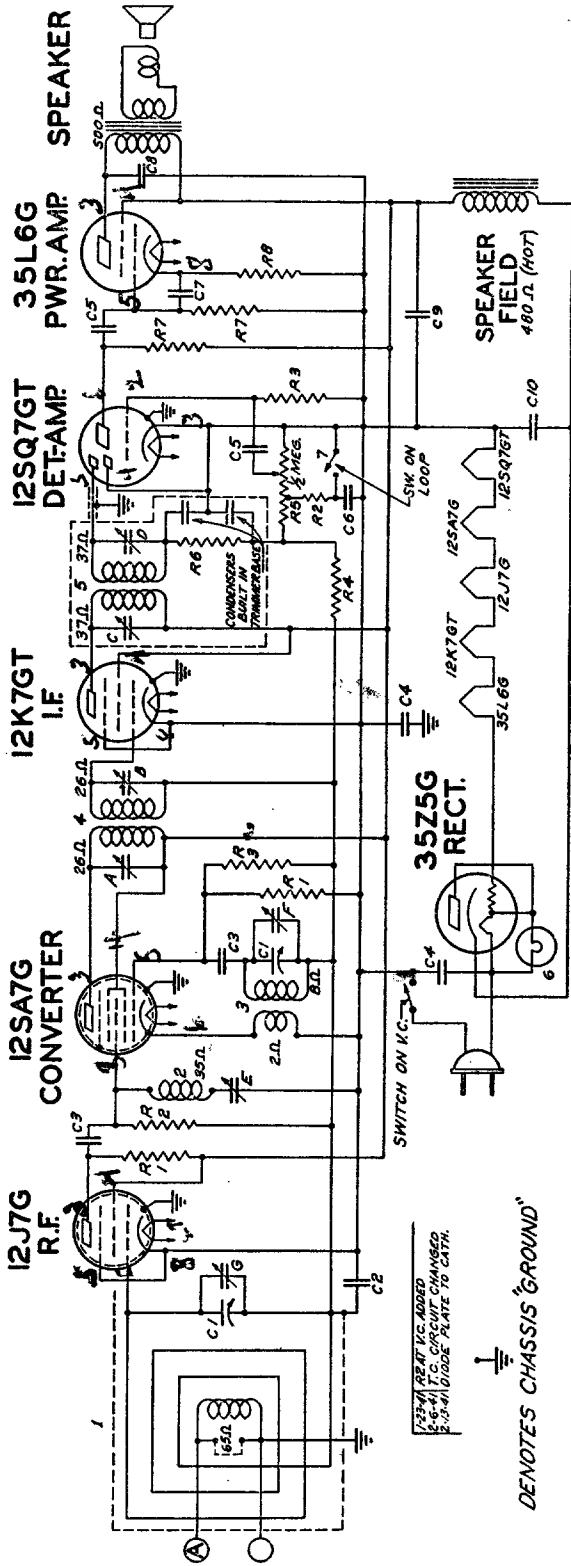
1-9-41 R9 ADDED

ZENITH RADIO CORPORATION  
CHICAGO, ILL.

Circuit Diagram  
Models 5D610, 5D610W, 5D625  
Chassis No. 5B01

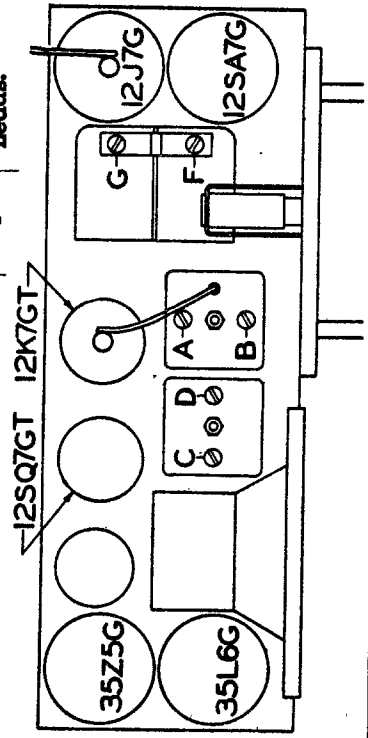
DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
1	22-1185	TWO-GANG VARIABLE	R 1	63-589	10 M OHM
2	22-829	.05 MFD.	R 2	63-976	15 MEGOHM
3	22-1017	.05 MFD.	R 3	63-600	2.2 MEGOHM
4	22-953	.002 MFD.	R 4	63-1112	VOLUME CONTROL
5	22-492	.002 MFD.	R 5	63-597	470 M OHM
6	22-854	.0005 MFD.	R 6	63-1171	75 OHM WIREWOUND
7	22-243	.01 MFD.	R 7	63-1172	100 OHM WIREWOUND
8	22-1182	.01 MFD.	R 8	63-1173	1500 OHM
9	22-1186	30 MFD. ELECTROLYTIC	R 9	63-579	220 OHM
10	22-1186	20 MFD. ELECTROLYTIC	S 9452	WAVE/MAGNET ASSEMBLY	
11	22-1186	30 MFD. ELECTROLYTIC			





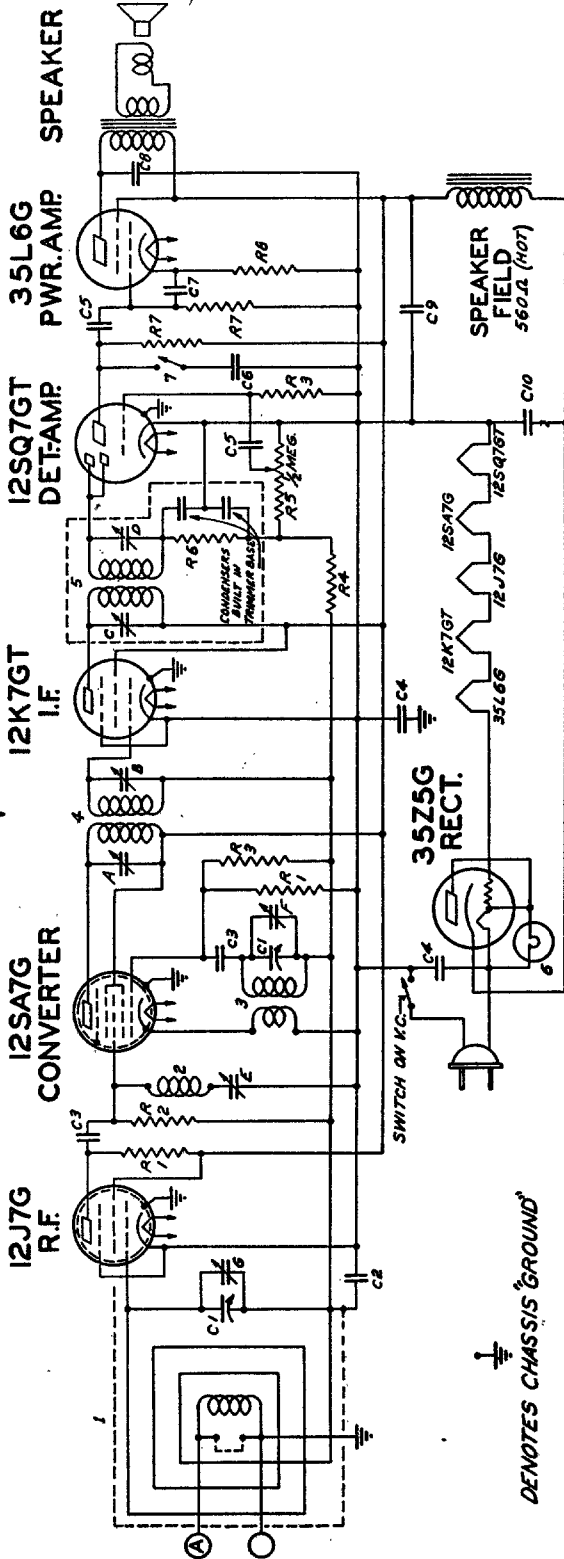
Operation	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.5 mfd.	455 Kc.	BC	600 Kc.	A, B, C, D	Align I. F.
2	R. F. Grid	.5 mfd.	455 Kc.	BC	600 Kc.	E	Adj. Wave Trap for Minimum
3	1 Turn Loop Made from Generator	—	1600 Kc.	BC	1600 Kc.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

I.F. FREQUENCY 455 KC.  
 Circuit Diagram  
 Models 6D520, 6D520W, 6D538  
 Chassis No. 6A26



DIAG. NO.	PART NO.	DESCRIPTION	DESCRIPTION
C1	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C2	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C3	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C4	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C5	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C6	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C7	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C8	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C9	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
C10	22-100K	TRIMMERS BUILT IN	TRIMMERS BUILT IN
R1	63-589	10M OHM	10M OHM
R2	63-591	22M OHM	22M OHM
R3	63-108	15 MEGOHM	15 MEGOHM
R4	63-600	2.2 MEGOHM	2.2 MEGOHM
R5	63-119	VOLUME CONTROL	VOLUME CONTROL
R6	63-713	47M OHM	47M OHM
R7	63-597	470M OHM	470M OHM
R8	63-686	150 OHM WIREWOUND	150 OHM WIREWOUND
1	58356	WAVEMAGNET ASSEMBLY	WAVEMAGNET ASSEMBLY
2	58356	WAVE TRAP COIL ASSEMBLY	WAVE TRAP COIL ASSEMBLY
3	58356	OSC. COIL ASSEMBLY	OSC. COIL ASSEMBLY
4	127	1ST I.F. TRANS.	1ST I.F. TRANS.
5	127	2ND I.F. TRANS.	2ND I.F. TRANS.
6	127	PILOT LIGHT 6.3V. 15A	PILOT LIGHT 6.3V. 15A
7	127	TO NE CONTROL SWITCH	TO NE CONTROL SWITCH
A	127	1ST I.F. TRANS. PRI.	1ST I.F. TRANS. PRI.
B	127	1ST I.F. TRANS. SEC.	1ST I.F. TRANS. SEC.
C	127	2ND I.F. TRANS. PRI.	2ND I.F. TRANS. PRI.
D	127	2ND I.F. TRANS. SEC.	2ND I.F. TRANS. SEC.
E	127	WAVE TRAP	WAVE TRAP
F	127	BROADCAST OSC. (ON GANG)	BROADCAST OSC. (ON GANG)
G	127	BROADCAST ANT. (ON GANG)	BROADCAST ANT. (ON GANG)

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



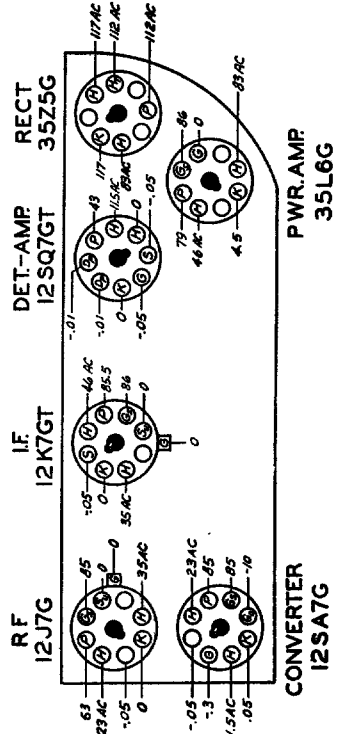
PART NO.	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION		
C1	22-104	TWO-GANG VARIABLE	A2	63-571	22 M OHM	4	95-760	1B7 I.F. TRANS
C2	22-929	.05 MFD.	A3	63-576	18 MEG OHM	5	95-790	2B7 I.F. TRANS
C3	22-162	.0001 MFD.	A4	63-550	5.2 MEG OHM	6	100-67	1P10T LIGHT 6.3V .15A
C4	22-007	.05 MFD.	A5	63-730	1/2 M OHM	7	85-270	100-67 PILOT LIGHT 6.3V .15A
C5	22-243	.01 MFD.	A6	63-719	470 M OHM	A		1B7 I.F. TRANS. PRL
C6	22-492	.002 MFD.	A7	63-586	1/2 M OHM WIREWOUND	B		2B7 I.F. TRANS. SEC.
C7	22-954	.0005 MFD.	A8			C		2B7 I.F. TRANS. SEC.
C8	22-104	50 MFD. ELECTROLYTIC	1	S9465	WAVEMAGNET ASSEMBLY	D		1B7 I.F. TRANS. PRL
C9	22-104	50 MFD. ELECTROLYTIC	2	S8326	WAVE TRAP COIL ASSEMBLY	E		2B7 I.F. TRANS. SEC.
C10	22-104	50 MFD. ELECTROLYTIC	3	S9437	OSC. COIL ASSEMBLY	F		1B7 I.F. TRANS. PRL
R1	63-589	10M OHM				6	22-1015	WAVE TRAP BROADCAST OSC.(ON GANG) BROADCAST ANT.(ON GANG)

DENOTES CHASSIS GROUND

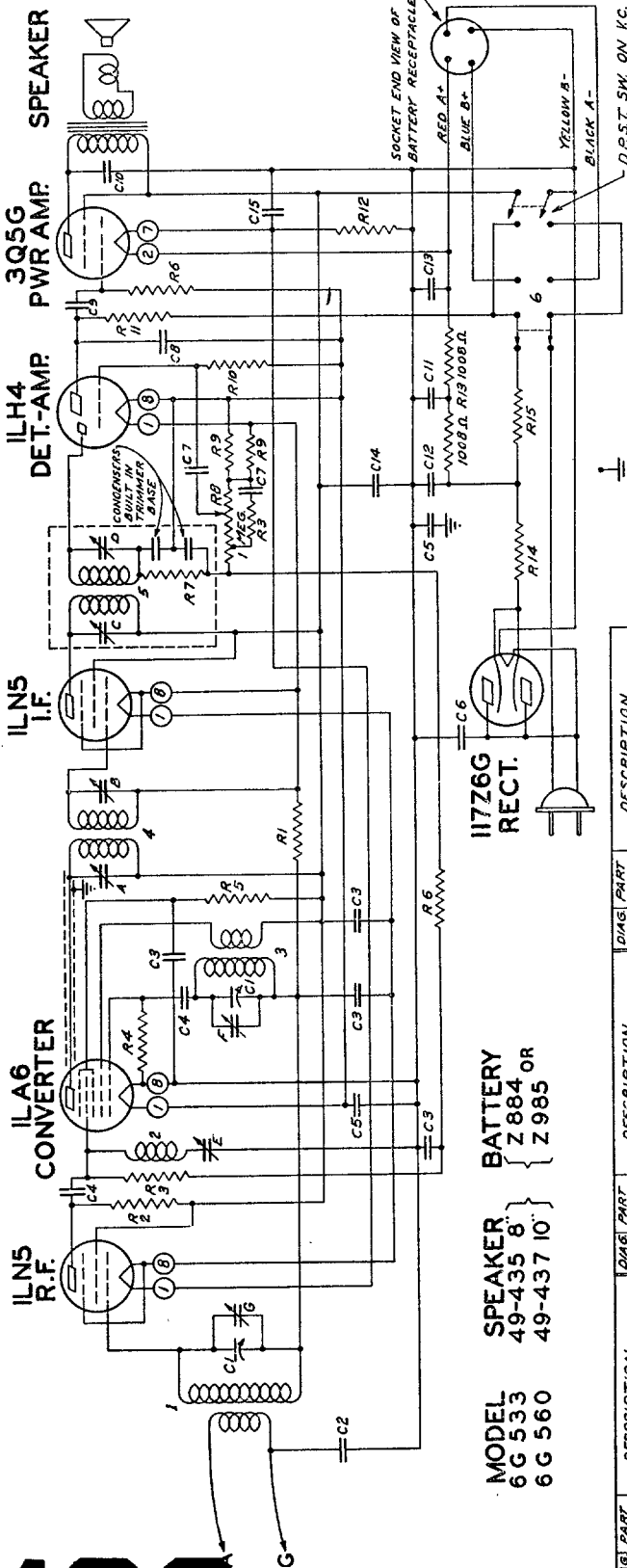
All voltages measured with a 20,000 ohm per volt meter from chassis to socket contact indicated.  
 All voltages are positive D.C. unless marked otherwise.  
 Volume control full on.  
 Line voltage 117 A.C.  
 Power consumption 25.5 watts.  
 Power output 1 watt.  
 Tuning Ranges 540 Kc. to 1600 Kc.

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

Circuit Diagram  
 Model 6D516  
 Chassis No. 6A24



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



SOCKET END VIEW OF BATTERY RECEPTACLE  
RED A+  
BLUE B+  
YELLOW A-  
BLACK A-  
D.P.S.T. SW. ON K.C.

CHANGEOVER SWITCH SHOWN IN POSITION FOR 115 V. A.C.-D.C. OPERATION.

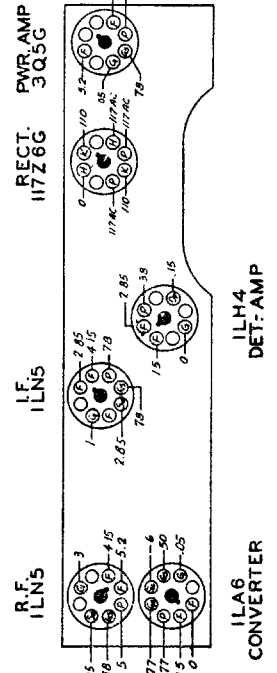
## Model 6G533 - 6G560

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.

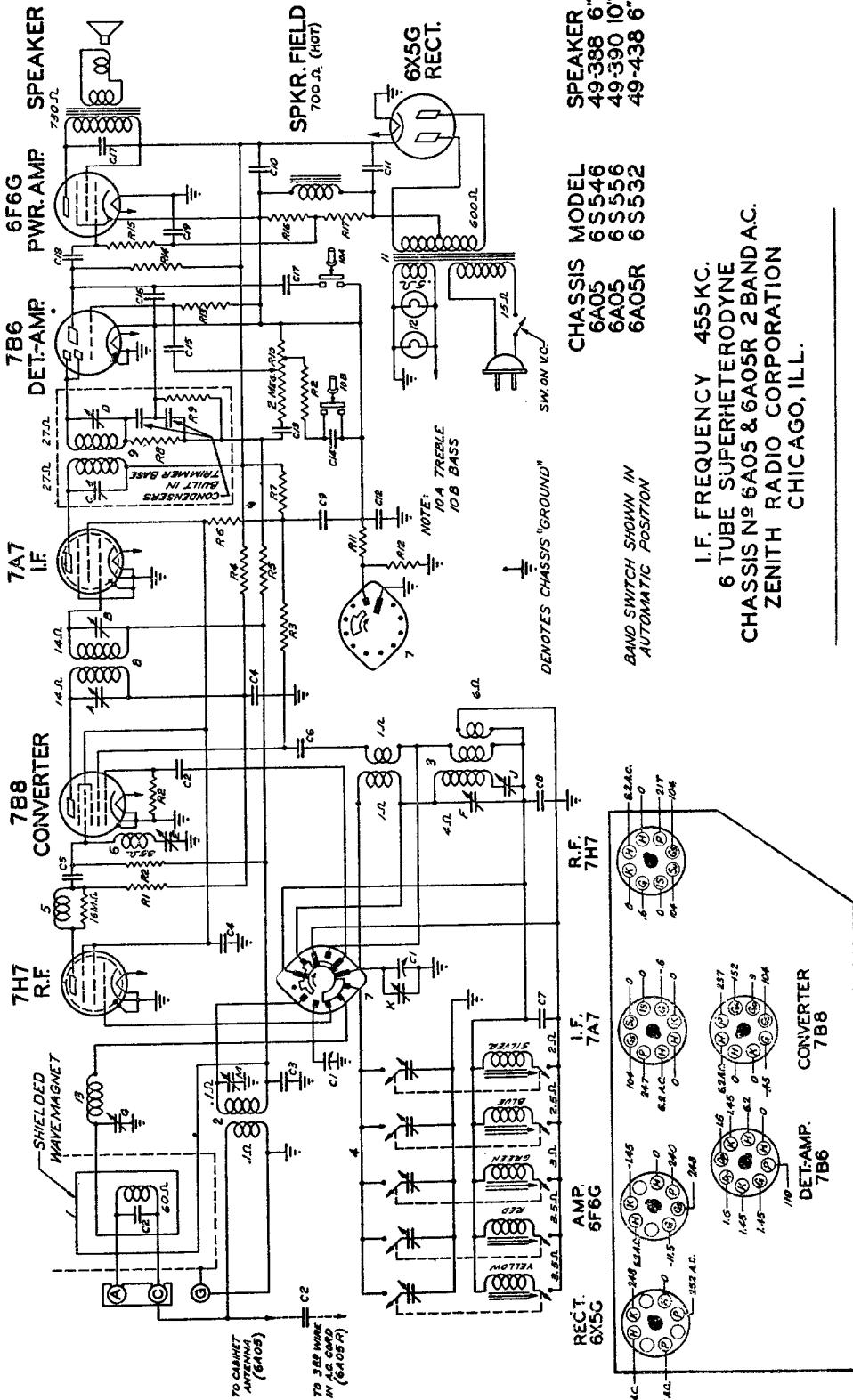
# 188

PART No.	DESCRIPTION	OHMS	PART No.	DESCRIPTION	OHMS	PART No.	DESCRIPTION
C1	22-1181 TWO GANG VARIABLE	400V	R1	63-325 150M OHM	1	20-287 ANTENNA COIL	
C2	22-1289 .05 MFD.	200V	R2	63-590 15M OHM	2	5.83225 WAVE TRAP COIL ASSEMBLY	
C3	22-162 100M MFD.	600V	R3	63-595 100M OHM	3	5.9446 OSCILLATOR COIL ASSEMBLY	
C4	22-162 100M MFD.	600V	R4	63-654 180M OHM	4	95-792 1ET I.F. TRANSFORMER	
C5	22-871 .1 MFD.	200V	R5	63-592 33M OHM	5	95-793 2M I.F. TRANSFORMER	
C6	22-1017 .05 MFD.	200V	R6	63-600 2.2 MEG OHM	6	85-171 CHANGEOVER SWITCH	
C7	22-492 .002 MFD.	600V	R7	63-713 47M OHM			
C8	22-470 .00015 MFD.	600V	R8	63-1178 VOLUME CONTROL			
C9	22-196 .01 MFD.	600V	R9	63-595 2200 OHM			
C10	22-448 .004 MFD.	600V	R10	63-976 15 MEG OHM			
C11	22-1066 20 MFD. ELECTROLYTIC	150K	R11	63-271 1 MEG OHM			
C12	140 MFD. ELECTROLYTIC	150K	R12	63-703 2.2 MEG OHM			
C13	20 MFD. ELECTROLYTIC	150K	R13	63-1032 2.2 MEG OHM			
C14	20 MFD. ELECTROLYTIC	150K	R14	63-1036 140 OHM WIREWOUND			
C15	22-1189 40 MFD. ELECTROLYTIC	25V	R15	63-1156 1800 OHM			



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

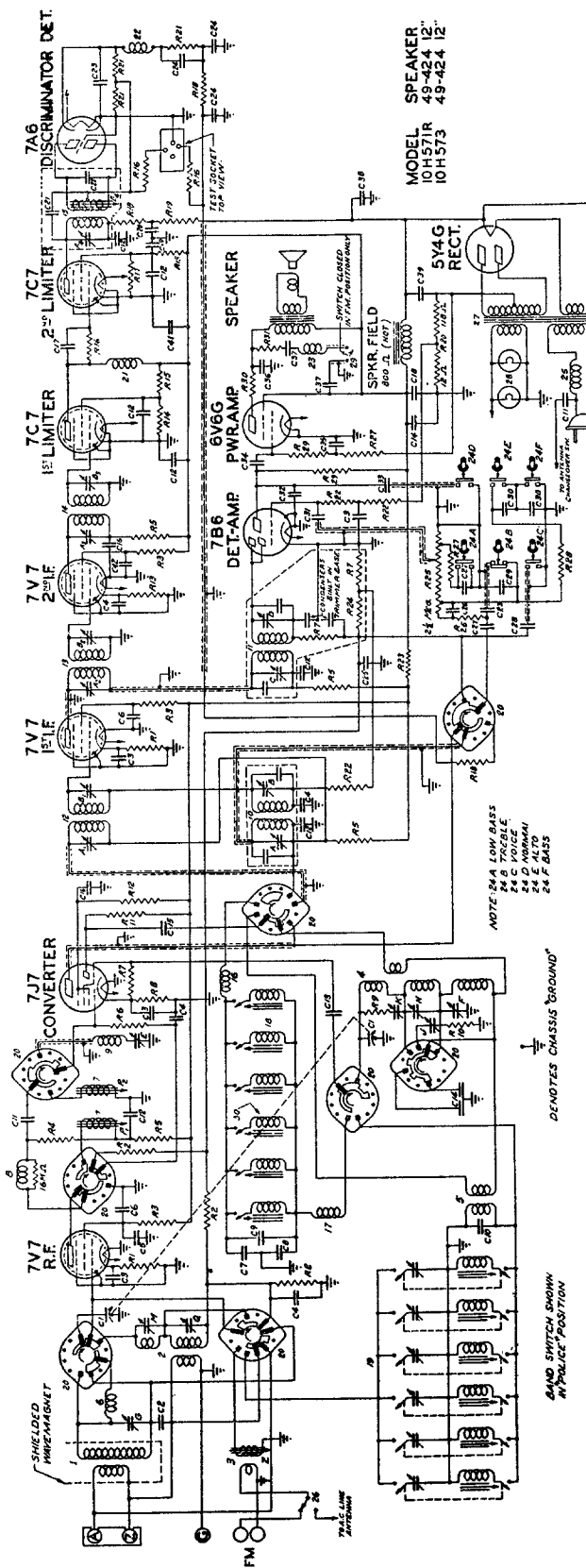
# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	22-1044	270 GANG VARIABLE	C15	22-1330	.2 MFD.	6A05	800 K	6A05
C2	22-289	50 MFD.	C16	22-1330	.1 MFD.	6A05R	800 K	6A05R
C3	22-924	.05 MFD.	R1	63-637	4700 OHM	1	1/4 W	1/2 M. MAGNET ASSEMBLY
C4	22-924	.05 MFD.	R2	63-593	470 M OHM	2	1/4 W	1/2 M. MAGNET ASSEMBLY
C5	22-108	.00025 MFD.	R3	63-150	10 M OHM	3	1/4 W	1/2 M. MAGNET ASSEMBLY
C6	22-108	.00025 MFD.	R4	63-288	1000 OHM	4	1/4 W	1/2 M. MAGNET ASSEMBLY
C7	22-108	.00025 MFD.	R5	63-288	1000 OHM	5	1/4 W	1/2 M. MAGNET ASSEMBLY
C8	22-108	.00025 MFD.	R6	63-288	1000 OHM	6	1/4 W	1/2 M. MAGNET ASSEMBLY
C9	22-108	.00025 MFD.	R7	63-101	8200 OHM	7	1/4 W	1/2 M. MAGNET ASSEMBLY
C10	22-108	.00025 MFD.	R8	63-719	470 M OHM	8	1/4 W	1/2 M. MAGNET ASSEMBLY
C11	22-108	.00025 MFD.	R9	63-719	470 M OHM	9	1/4 W	1/2 M. MAGNET ASSEMBLY
C12	22-108	.00025 MFD.	R10	63-1099	42 OHM WIRE WOUND	10	1/4 W	1/2 M. MAGNET ASSEMBLY
C13	22-108	.00025 MFD.	R11	63-1099	42 OHM WIRE WOUND	11	1/4 W	1/2 M. MAGNET ASSEMBLY
C14	22-225	.005 MFD.	R12	63-524	18 OHM WIRE WOUND	12	1/4 W	1/2 M. MAGNET ASSEMBLY
C15	22-492	.005 MFD.	R13	63-524	18 OHM WIRE WOUND	13	1/4 W	1/2 M. MAGNET ASSEMBLY
C16	22-492	.005 MFD.	R14	63-298	220 M OHM	14	1/4 W	1/2 M. MAGNET ASSEMBLY
C17	22-444	.004 MFD.						
C18	22-830	.02 MFD.						



# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS



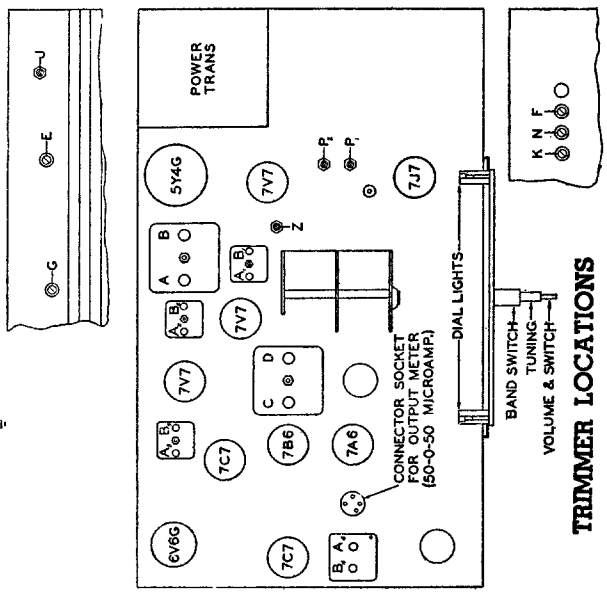
MODEL  
10H571R  
10H573  
49-424 12"  
49-424 12"

NOTE: 24 A LOW BASS  
24 B TREBLE  
24 C VOICE  
24 E ALTO  
24 F BASS

REQUIRES CHASSIS GROUND

BAND SWITCH SHOWN  
IN "VOICE" POSITION

TYPE	NO.	DESCRIPTION	TYPE	NO.	DESCRIPTION	TYPE	NO.	DESCRIPTION	TYPE	NO.	DESCRIPTION
C1	RE-721	TRIO BAND VARIABLE	C8	RE-178	500 KΩ	17	500 KΩ	17	500 KΩ	17	500 KΩ
C2	RE-721	1 MFD	C9	RE-178	500 KΩ	18	500 KΩ	18	500 KΩ	18	500 KΩ
C3	RE-721	1 MFD	C10	RE-178	500 KΩ	19	500 KΩ	19	500 KΩ	19	500 KΩ
C4	RE-721	1 MFD	C11	RE-178	500 KΩ	20	500 KΩ	20	500 KΩ	20	500 KΩ
C5	RE-721	1 MFD	C12	RE-178	500 KΩ	21	500 KΩ	21	500 KΩ	21	500 KΩ
C6	RE-721	1 MFD	C13	RE-178	500 KΩ	22	500 KΩ	22	500 KΩ	22	500 KΩ
C7	RE-721	1 MFD	C14	RE-178	500 KΩ	23	500 KΩ	23	500 KΩ	23	500 KΩ
C8	RE-721	1 MFD	C15	RE-178	500 KΩ	24	500 KΩ	24	500 KΩ	24	500 KΩ
C9	RE-721	1 MFD	C16	RE-178	500 KΩ	25	500 KΩ	25	500 KΩ	25	500 KΩ
C10	RE-721	1 MFD	C17	RE-178	500 KΩ	26	500 KΩ	26	500 KΩ	26	500 KΩ
C11	RE-721	1 MFD	C18	RE-178	500 KΩ	27	500 KΩ	27	500 KΩ	27	500 KΩ
C12	RE-721	1 MFD	C19	RE-178	500 KΩ	28	500 KΩ	28	500 KΩ	28	500 KΩ
C13	RE-721	1 MFD	C20	RE-178	500 KΩ	29	500 KΩ	29	500 KΩ	29	500 KΩ
C14	RE-721	1 MFD	C21	RE-178	500 KΩ	30	500 KΩ	30	500 KΩ	30	500 KΩ
C15	RE-721	1 MFD	C22	RE-178	500 KΩ	31	500 KΩ	31	500 KΩ	31	500 KΩ
C16	RE-721	1 MFD	C23	RE-178	500 KΩ	32	500 KΩ	32	500 KΩ	32	500 KΩ
C17	RE-721	1 MFD	C24	RE-178	500 KΩ	33	500 KΩ	33	500 KΩ	33	500 KΩ
C18	RE-721	1 MFD	C25	RE-178	500 KΩ	34	500 KΩ	34	500 KΩ	34	500 KΩ
C19	RE-721	1 MFD	C26	RE-178	500 KΩ	35	500 KΩ	35	500 KΩ	35	500 KΩ
C20	RE-721	1 MFD	C27	RE-178	500 KΩ	36	500 KΩ	36	500 KΩ	36	500 KΩ
C21	RE-721	1 MFD	C28	RE-178	500 KΩ	37	500 KΩ	37	500 KΩ	37	500 KΩ
C22	RE-721	1 MFD	C29	RE-178	500 KΩ	38	500 KΩ	38	500 KΩ	38	500 KΩ
C23	RE-721	1 MFD	C30	RE-178	500 KΩ	39	500 KΩ	39	500 KΩ	39	500 KΩ
C24	RE-721	1 MFD	C31	RE-178	500 KΩ	40	500 KΩ	40	500 KΩ	40	500 KΩ
C25	RE-721	1 MFD	C32	RE-178	500 KΩ	41	500 KΩ	41	500 KΩ	41	500 KΩ
C26	RE-721	1 MFD	C33	RE-178	500 KΩ	42	500 KΩ	42	500 KΩ	42	500 KΩ
C27	RE-721	1 MFD	C34	RE-178	500 KΩ	43	500 KΩ	43	500 KΩ	43	500 KΩ
C28	RE-721	1 MFD	C35	RE-178	500 KΩ	44	500 KΩ	44	500 KΩ	44	500 KΩ
C29	RE-721	1 MFD	C36	RE-178	500 KΩ	45	500 KΩ	45	500 KΩ	45	500 KΩ
C30	RE-721	1 MFD	C37	RE-178	500 KΩ	46	500 KΩ	46	500 KΩ	46	500 KΩ
C31	RE-721	1 MFD	C38	RE-178	500 KΩ	47	500 KΩ	47	500 KΩ	47	500 KΩ
C32	RE-721	1 MFD	C39	RE-178	500 KΩ	48	500 KΩ	48	500 KΩ	48	500 KΩ
C33	RE-721	1 MFD	C40	RE-178	500 KΩ	49	500 KΩ	49	500 KΩ	49	500 KΩ
C34	RE-721	1 MFD	C41	RE-178	500 KΩ	50	500 KΩ	50	500 KΩ	50	500 KΩ
C35	RE-721	1 MFD	C42	RE-178	500 KΩ	51	500 KΩ	51	500 KΩ	51	500 KΩ
C36	RE-721	1 MFD	C43	RE-178	500 KΩ	52	500 KΩ	52	500 KΩ	52	500 KΩ
C37	RE-721	1 MFD	C44	RE-178	500 KΩ	53	500 KΩ	53	500 KΩ	53	500 KΩ
C38	RE-721	1 MFD	C45	RE-178	500 KΩ	54	500 KΩ	54	500 KΩ	54	500 KΩ
C39	RE-721	1 MFD	C46	RE-178	500 KΩ	55	500 KΩ	55	500 KΩ	55	500 KΩ
C40	RE-721	1 MFD	C47	RE-178	500 KΩ	56	500 KΩ	56	500 KΩ	56	500 KΩ
C41	RE-721	1 MFD	C48	RE-178	500 KΩ	57	500 KΩ	57	500 KΩ	57	500 KΩ
C42	RE-721	1 MFD	C49	RE-178	500 KΩ	58	500 KΩ	58	500 KΩ	58	500 KΩ
C43	RE-721	1 MFD	C50	RE-178	500 KΩ	59	500 KΩ	59	500 KΩ	59	500 KΩ
C44	RE-721	1 MFD	C51	RE-178	500 KΩ	60	500 KΩ	60	500 KΩ	60	500 KΩ
C45	RE-721	1 MFD	C52	RE-178	500 KΩ	61	500 KΩ	61	500 KΩ	61	500 KΩ
C46	RE-721	1 MFD	C53	RE-178	500 KΩ	62	500 KΩ	62	500 KΩ	62	500 KΩ
C47	RE-721	1 MFD	C54	RE-178	500 KΩ	63	500 KΩ	63	500 KΩ	63	500 KΩ
C48	RE-721	1 MFD	C55	RE-178	500 KΩ	64	500 KΩ	64	500 KΩ	64	500 KΩ
C49	RE-721	1 MFD	C56	RE-178	500 KΩ	65	500 KΩ	65	500 KΩ	65	500 KΩ
C50	RE-721	1 MFD	C57	RE-178	500 KΩ	66	500 KΩ	66	500 KΩ	66	500 KΩ
C51	RE-721	1 MFD	C58	RE-178	500 KΩ	67	500 KΩ	67	500 KΩ	67	500 KΩ
C52	RE-721	1 MFD	C59	RE-178	500 KΩ	68	500 KΩ	68	500 KΩ	68	500 KΩ
C53	RE-721	1 MFD	C60	RE-178	500 KΩ	69	500 KΩ	69	500 KΩ	69	500 KΩ
C54	RE-721	1 MFD	C61	RE-178	500 KΩ	70	500 KΩ	70	500 KΩ	70	500 KΩ
C55	RE-721	1 MFD	C62	RE-178	500 KΩ	71	500 KΩ	71	500 KΩ	71	500 KΩ
C56	RE-721	1 MFD	C63	RE-178	500 KΩ	72	500 KΩ	72	500 KΩ	72	500 KΩ
C57	RE-721	1 MFD	C64	RE-178	500 KΩ	73	500 KΩ	73	500 KΩ	73	500 KΩ
C58	RE-721	1 MFD	C65	RE-178	500 KΩ	74	500 KΩ	74	500 KΩ	74	500 KΩ
C59	RE-721	1 MFD	C66	RE-178	500 KΩ	75	500 KΩ	75	500 KΩ	75	500 KΩ
C60	RE-721	1 MFD	C67	RE-178	500 KΩ	76	500 KΩ	76	500 KΩ	76	500 KΩ
C61	RE-721	1 MFD	C68	RE-178	500 KΩ	77	500 KΩ	77	500 KΩ	77	500 KΩ
C62	RE-721	1 MFD	C69	RE-178	500 KΩ	78	500 KΩ	78	500 KΩ	78	500 KΩ
C63	RE-721	1 MFD	C70	RE-178	500 KΩ	79	500 KΩ	79	500 KΩ	79	500 KΩ
C64	RE-721	1 MFD	C71	RE-178	500 KΩ	80	500 KΩ	80	500 KΩ	80	500 KΩ
C65	RE-721	1 MFD	C72	RE-178	500 KΩ	81	500 KΩ	81	500 KΩ	81	500 KΩ
C66	RE-721	1 MFD	C73	RE-178	500 KΩ	82	500 KΩ	82	500 KΩ	82	500 KΩ
C67	RE-721	1 MFD	C74	RE-178	500 KΩ	83	500 KΩ	83	500 KΩ	83	500 KΩ
C68	RE-721	1 MFD	C75	RE-178	500 KΩ	84	500 KΩ	84	500 KΩ	84	500 KΩ
C69	RE-721	1 MFD	C76	RE-178	500 KΩ	85	500 KΩ	85	500 KΩ	85	500 KΩ
C70	RE-721	1 MFD	C77	RE-178	500 KΩ	86	500 KΩ	86	500 KΩ	86	500 KΩ
C71	RE-721	1 MFD	C78	RE-178	500 KΩ	87	500 KΩ	87	500 KΩ	87	500 KΩ
C72	RE-721	1 MFD	C79	RE-178	500 KΩ	88	500 KΩ	88	500 KΩ	88	500 KΩ
C73	RE-721	1 MFD	C80	RE-178	500 KΩ	89	500 KΩ	89	500 KΩ	89	500 KΩ
C74	RE-721	1 MFD	C81	RE-178	500 KΩ	90	500 KΩ	90	500 KΩ	90	500 KΩ
C75	RE-721	1 MFD	C82	RE-178	500 KΩ	91	500 KΩ	91	500 KΩ	91	500 KΩ
C76	RE-721	1 MFD	C83	RE-178	500 KΩ	92	500 KΩ	92	500 KΩ	92	500 KΩ
C77	RE-721	1 MFD	C84	RE-178	500 KΩ	93	500 KΩ	93	500 KΩ	93	500 KΩ
C78	RE-721	1 MFD	C85	RE-178	500 KΩ	94	500 KΩ	94	500 KΩ	94	500 KΩ
C79	RE-721	1 MFD	C86	RE-178	500 KΩ	95	500 KΩ	95	500 KΩ	95	500 KΩ
C80	RE-721	1 MFD	C87	RE-178	500 KΩ	96	500 KΩ	96	500 KΩ	96	500 KΩ
C81	RE-721	1 MFD	C88	RE-178	500 KΩ	97	500 KΩ	97	500 KΩ	97	500 KΩ
C82	RE-721	1 MFD	C89	RE-178	500 KΩ	98	500 KΩ	98	500 KΩ	98	500 KΩ
C83	RE-721	1 MFD	C90	RE-178	500 KΩ	99	500 KΩ	99	500 KΩ	99	500 KΩ
C84	RE-721	1 MFD	C91	RE-178	500 KΩ	100	500 KΩ	100	500 KΩ	100	500 KΩ



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 I turn loop during alignment.

AMP MOD. I.F. FREQUENCY 455 KC  
FREQ. MOD. I.F. FREQUENCY 866 MC  
IO TUBE SUPERHETERODYNE  
CHASSIS NO. 10A3R-A-C-4 BAND  
ZENITH RADIO CORPORATION  
CHICAGO, ILL.

# MANUAL OF 1941 MOST POPULAR SERVICE DIAGRAMS

## 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.

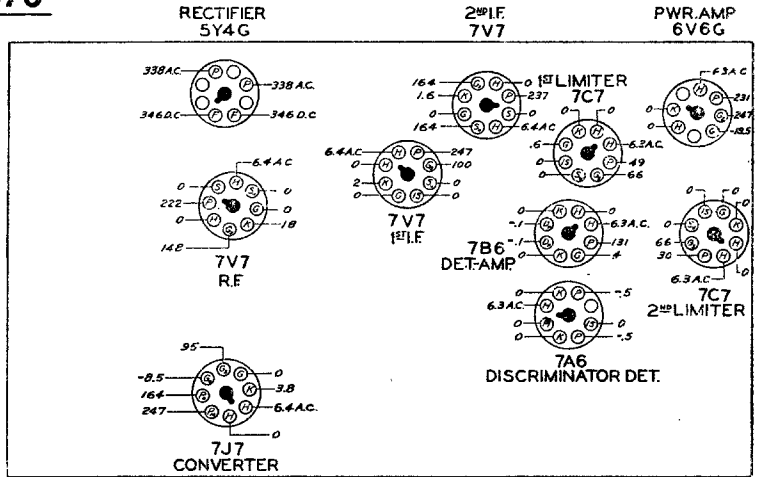
Tuning Ranges

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.

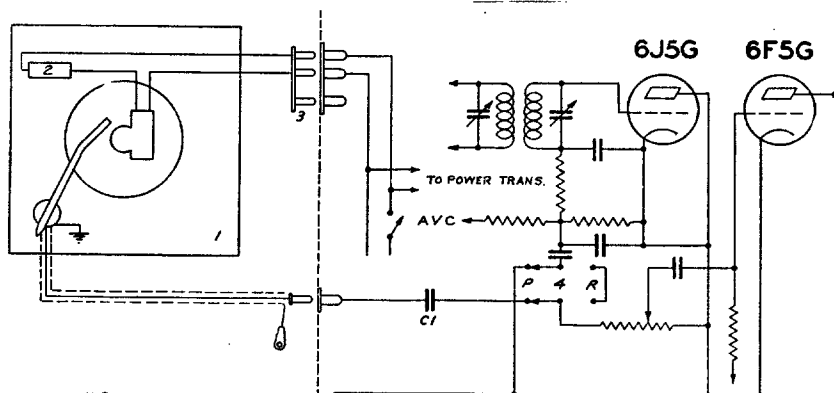


### ALIGNMENT PROCEDURE

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	18 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.	—	1400 Kc.	BC	1400 Kc.	F	Set Oscillator to Scale
8	See Note!	—	1400 Kc.	BC	1400 Kc.	G	Align Antenna
9	See Note!	—	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	"	8.6 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	46. Mc.	"	46. Mc.	Adj. Cam on Gang Shaft to Scale Osc.	Align for Zero deflection—X
16	"	"	42.5 Mc.	"	42.5 Mc.	P 1	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
C 1	22-1189	.00075 MFD. 600 V.
1	169-63	WEBSTER AUTOMATIC RECORD PLAYER
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 No 10A2R

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

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