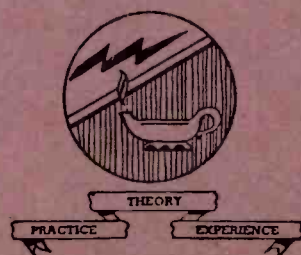


*Most - Often - Needed*

1942

# RADIO DIAGRAMS

*and Servicing Information*



Compiled by

**M. N. BEITMAN**

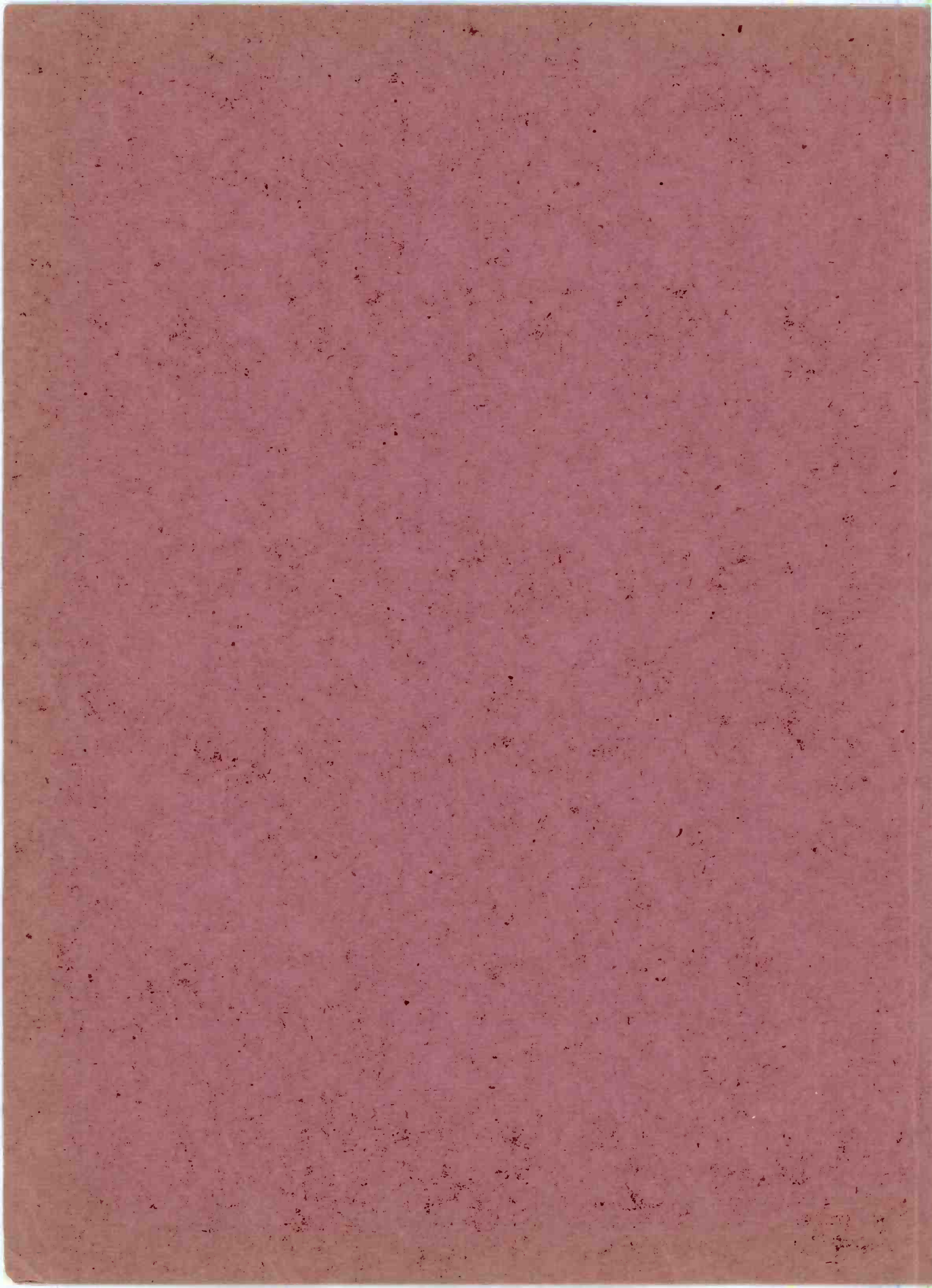
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VOLUME 5

**\$2<sup>00</sup>**







*Most - Often - Needed*

10  
37  
113

1942

RADIO  
DIAGRAMS  
*and Servicing Information*

PREPARED UNDER THE DIRECTION OF

M. N. BEITMAN

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

SUPREME PUBLICATIONS

CHICAGO



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Preface

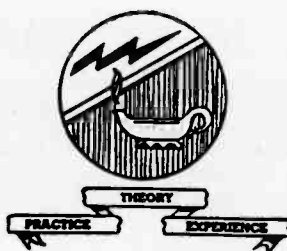
In this new Volume 5, you will find the radio circuits and service data of all popular 1942 sets. Together with the earlier four volumes, this book will permit you to do better servicing with less time per job.

Always use the index to find the page listing the set you are repairing. For the less common sets not listed in SUPREME manuals, try to find a diagram which is similar and use this information as an aid. Every type of circuit used during the 1942 radio season is included among these pages.

I wish to express my sincere thanks to all radio manufacturers who have cooperated with me. These firms are now engaged only on War orders, but we can depend on them to continue building fine radio receivers when the War is won. Meanwhile, my friends, radio servicemen of America, let us keep all radios in good working shape and do our part in helping civilian morale.

M. N. Beitman

April 1942.



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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

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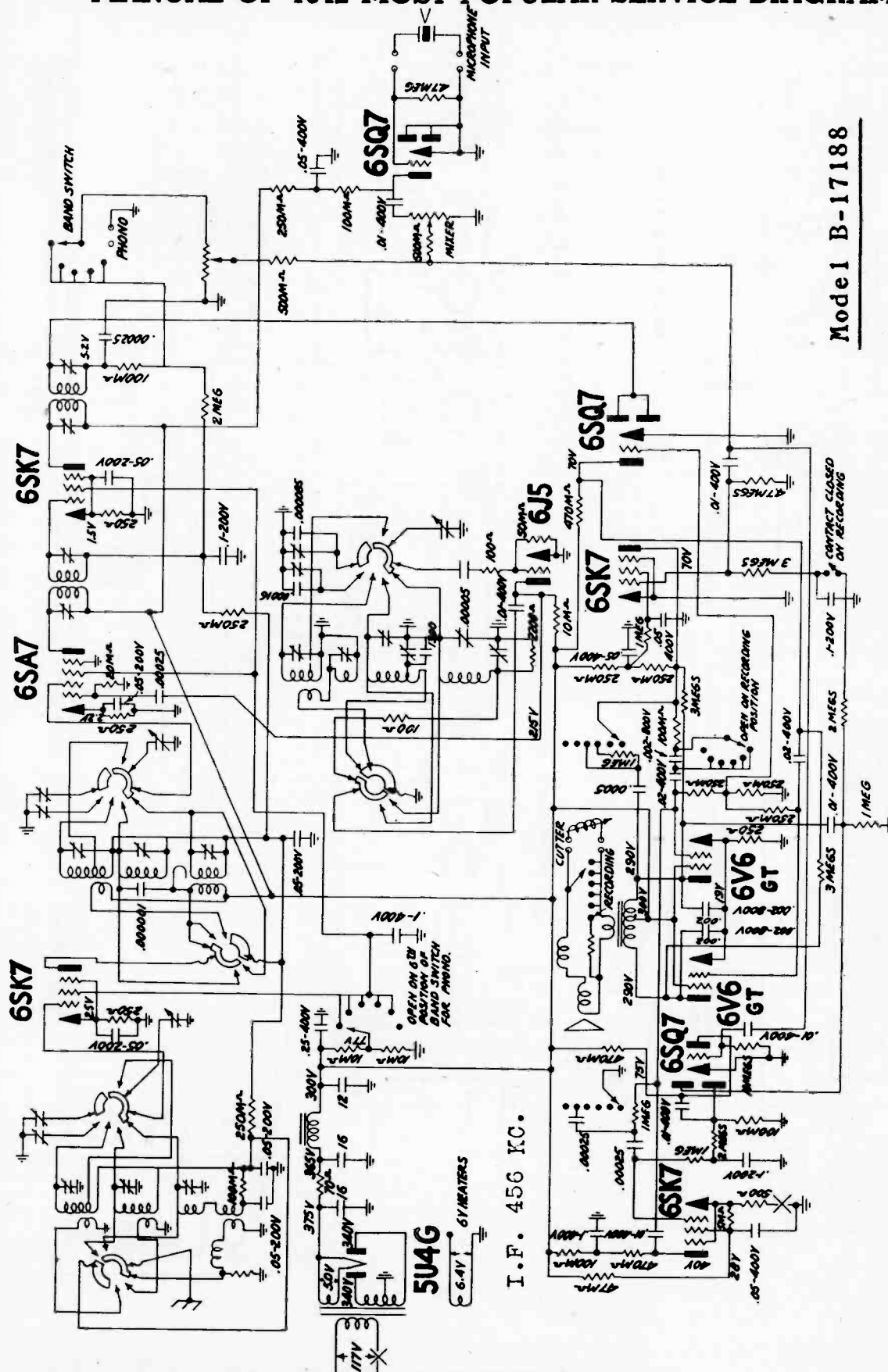
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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



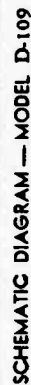
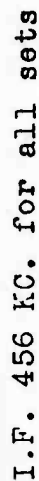
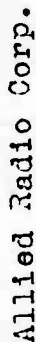
**Model B-17188**

# ALLIED RADIO CORPORATION

7



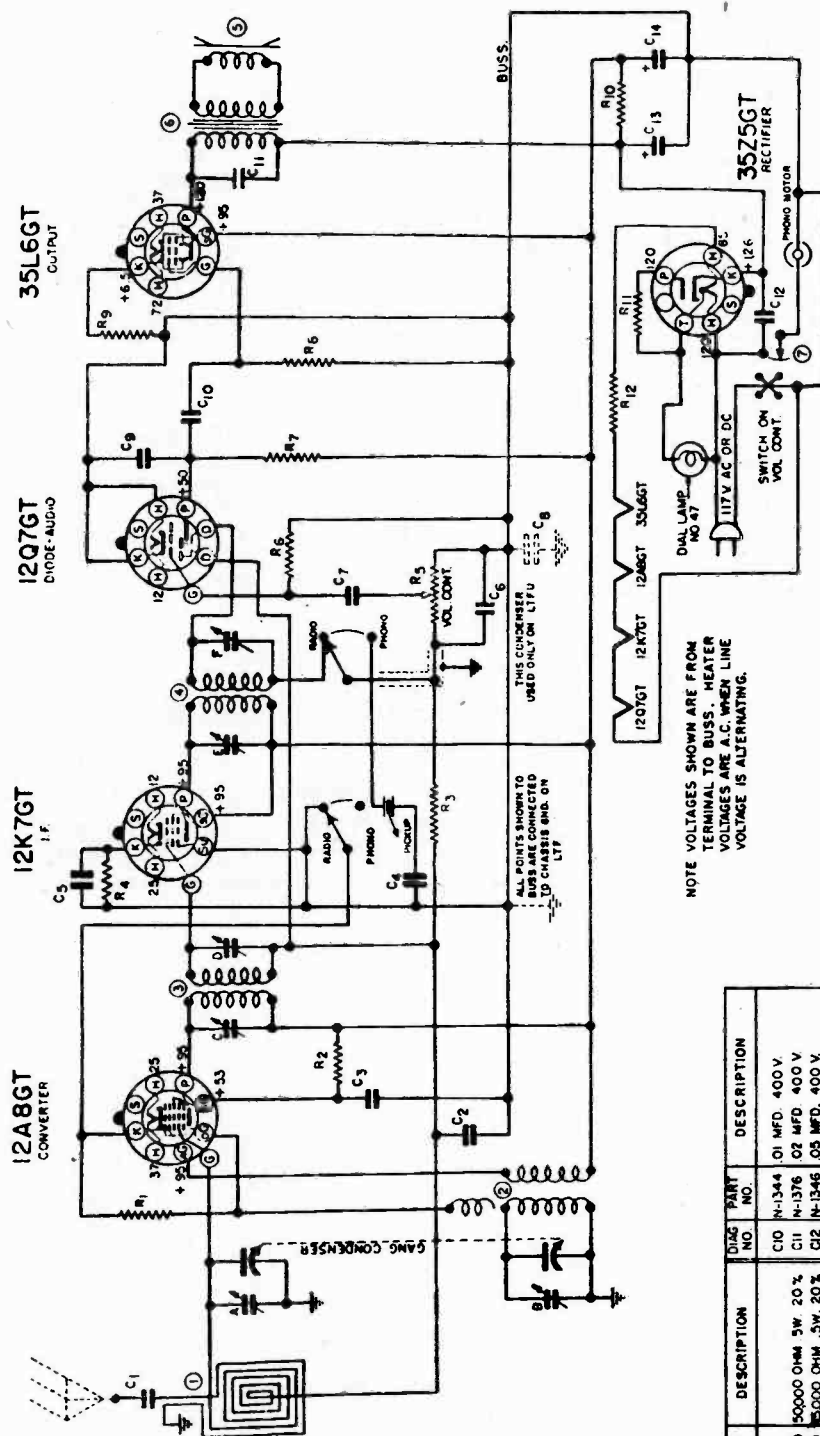
## 8





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

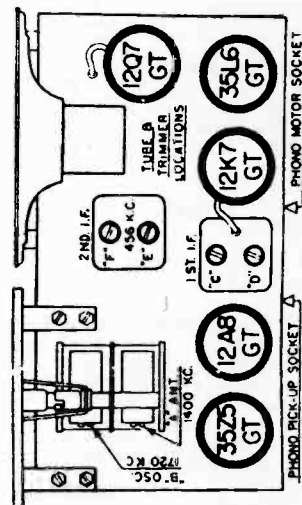
ALLIED Radio Corp.  
(Sonora Radio make)



NOTE VOLTAGES SHOWN ARE FROM  
TERMINAL TO BUSS. HEATER  
VOLTAGES ARE A.C. WHEN LINE  
VOLTAGE IS ALTERNATING.

**I.F. 456 KC.**

**D-170**  
**5 TUBE AC-DC**  
**SUPERMETEROYME**  
**SINGLE RANG**  
**PHONO COMBINATION**



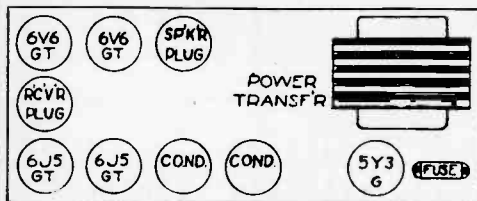
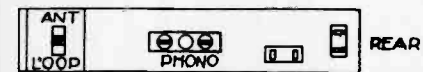
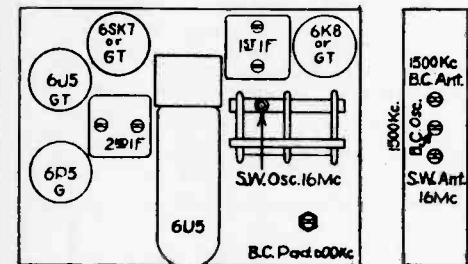
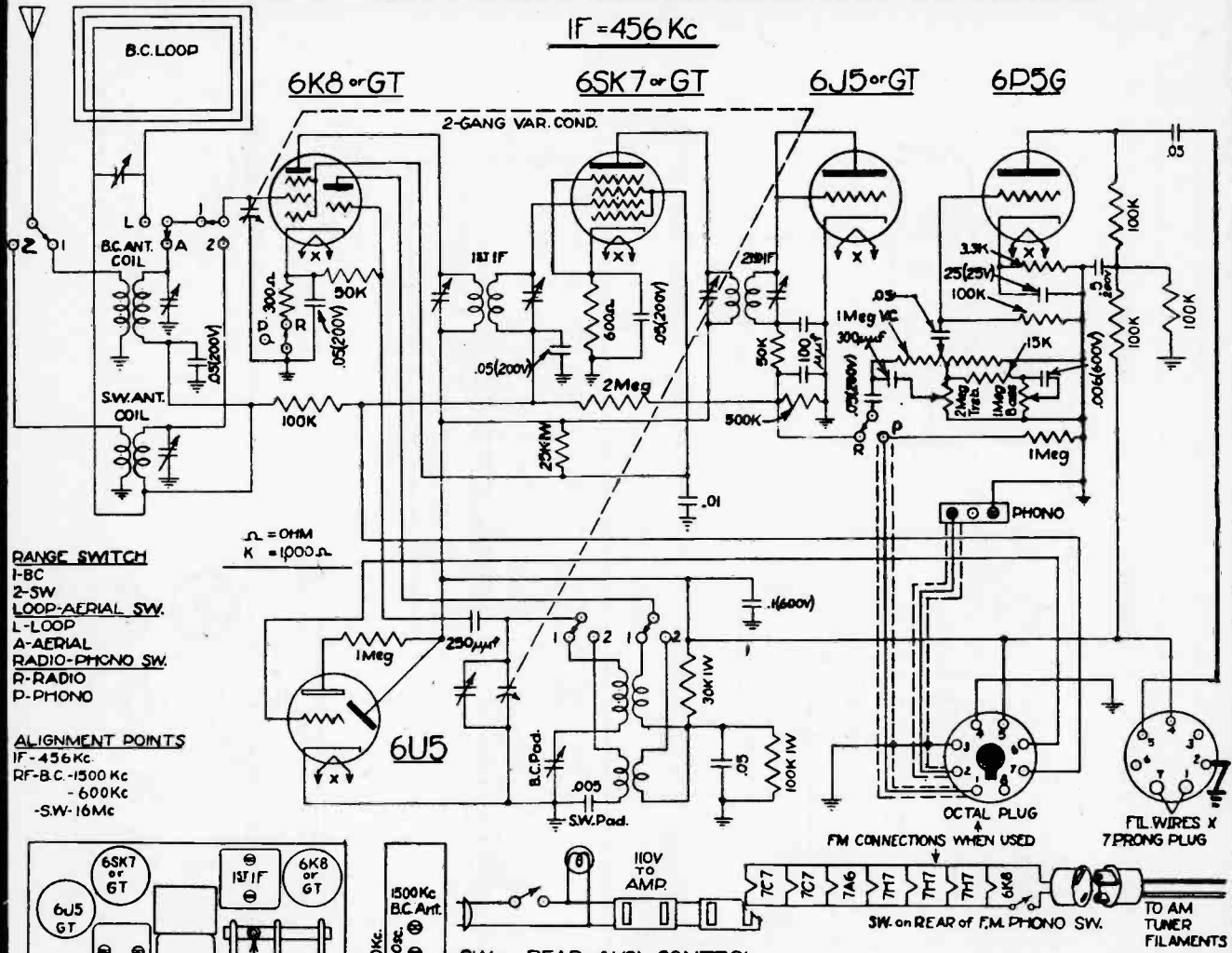
PAGE NO.	PART NO.	DESCRIPTION	PAGE NO.	PART NO.	DESCRIPTION
R1	N-1260	50000 OHM .5W. 20%	C10	N-1344	.01 MFD. 400 V
R2	N-1239	15000 OHM .5W. 20%	C11	N-1376	.02 MFD. 400 V
R3	N-1262	1 MEGOHM .5W. 20%	C12	N-1346	.05 MFD. 400 V
R4	N-2487	200 OHM .5W. 20%	C13	N-3141	40 MFD. 50V ELECTRO.
R5	N-3045	0.5 MEGOHM VOL. CON.	C14	N-3141	25 MFD. 150 V
R6	N-1263	10 MEGOHM .5W. 20%			
R7	N-1377	200,000 OHM .5W. 20%	1	N-3041	LOOP ANTENNA COIL
R8	N-1264	500,000 OHM .5W. 20%	2	N-1452	OSCILLATOR COIL
R9	N-1616	500 OHM .5W. 10%	3	N-3043	1ST I.F. TRANSFORMER
R10	N-1257	2500 OHM .5W. 20%	4	N-3044	2ND I.F. TRANSFORMER
R11	N-1742	25 OHM .5W. 20%	5	N-3824	5" PM. SPEAKER
R12	N-1618	80 OHM 2W. 10%	6	N-3568	OUTPUT MOTOR SWITCH
			7	N-4136	PHONO MOTOR SWITCH
C1	N-1344	.01 MFD. 400 V		N-3046	2 GANG CONDENSER
C2	N-1345	.01 MFD. 200 V		N-3550	RADIO-PHONO SWITCH
C3	N-1345	.05 MFD. 200 V.		N-4188	CRYSTAL PICK-UP
C4	N-2842	.09 MFD. 200 V.		N-4183	PICMO MOTOR & TURNABLE
C5	N-1351	.1 MFD. 200 V.			
C6	N-1374	.0001 MFD. MICA			
C7	N-1344	.01 MFD. 400 V			
C8	N-3080	22 MFD. 200 V			
C9	N-1447	2005 MFD. 400V			

**Allied Radio Corp.**  
**Chicago, Ill.**

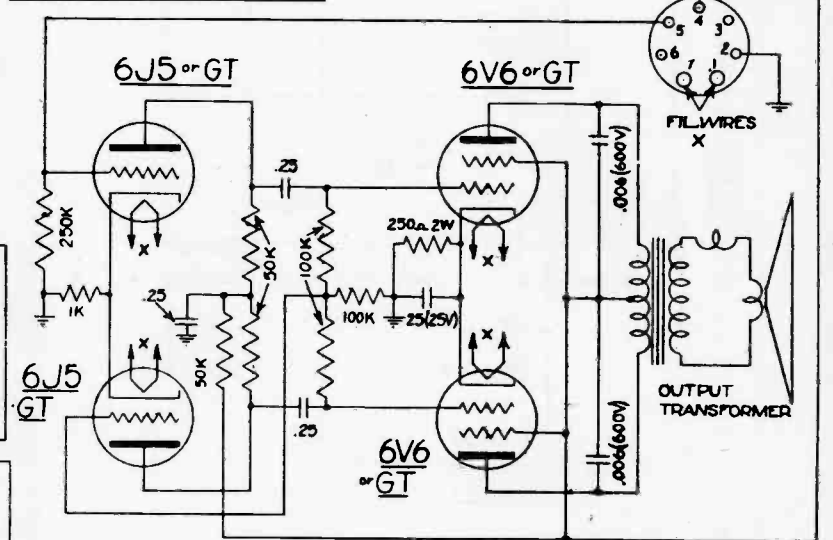
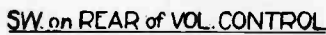
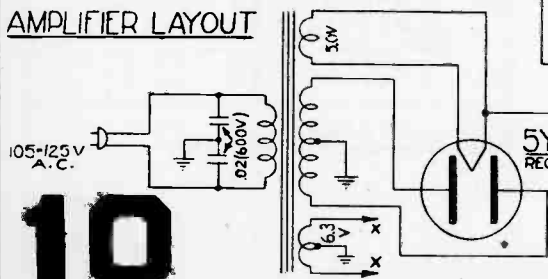
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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## AMPLIFIER LAYOUT



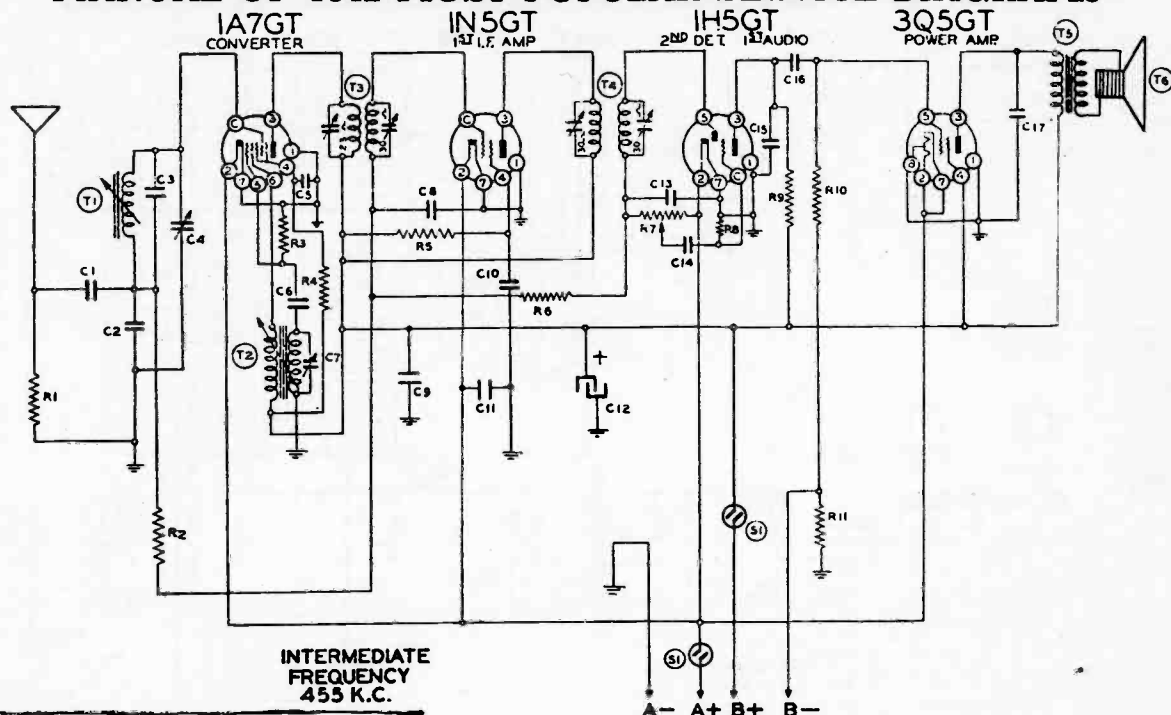
CIRCUIT DIAGRAM FOR  
MODEL #51

ANSLEY RADIO CORP. NY

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Code No.	Part No.	Description
<b>RESISTORS</b>		
R1	13017	10M ohm— $\frac{1}{2}$ w.
R2	1304	3 megohm— $\frac{1}{2}$ w.
R3	1309	200M ohm— $\frac{1}{2}$ w.
R4	130194	35M ohm— $\frac{1}{2}$ w.
R5	13094	50M ohm— $\frac{1}{2}$ w.
R6	1304	3 megohm— $\frac{1}{2}$ w.
R7	101250	1 megohm—Volume control and switch— $\frac{1}{2}$ w.
R8	130257	5 megohm— $\frac{1}{2}$ w.
R9	13019	1 megohm— $\frac{1}{2}$ w.
R10	130146	2 megohm— $\frac{1}{2}$ w.
R11	13079	400 ohm— $\frac{1}{2}$ w.

<b>CONDENSERS</b>		
C1	12936	.0003 mica
C2	100112	.001 x 200 v.
C3	129177	.000045—Ceramicon
C4	124165	Antenna trimmer
C5	1009	.05 x 200 v.—Condenser
C6	12912	.00025 mica
C7	124165	Oscillator trimmer
C8	1009	.05 x 200 v. Condenser
C9	1006	.25 x 200 v. Condenser
C10	10020	.1 x 200 v.
C11	10017	.5 x 120 v.
C12	119117B	10 mfd. x 150 v. Lytic
C13	1295	.0001 mica
C14	10012	.003 x 600 v. Condenser
C15	1295	.0001 mica
C16	10026	.02 x 400 v. Condenser
C17	1007	.005 x 600 v.

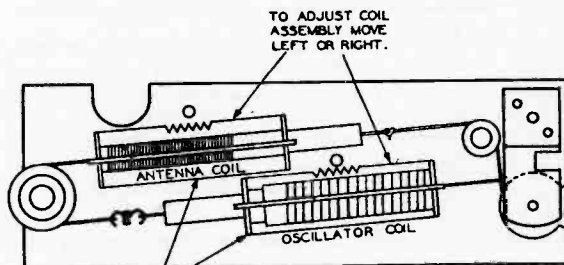
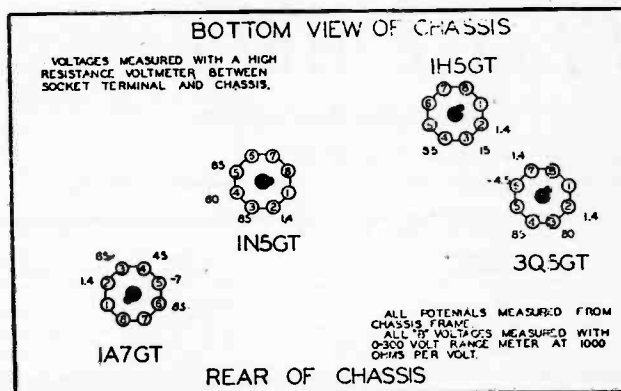
C4 and C7 are in same unit.

## PARTS

T1	1364	Antenna Coil
T2	1364	Oscillator Coil
Permeability tuning assem. Complete.		
T3	108202	Input I. F. Coil 455 Kc.
T4	108153B	Output I. F. Coil 455 Kc.
T5	10591B	Output transformer
T6	114238	5" P.M. speaker
S1		Switch-on Volume Control

Belmont Radio Corp.

# Model 4B16 Radio



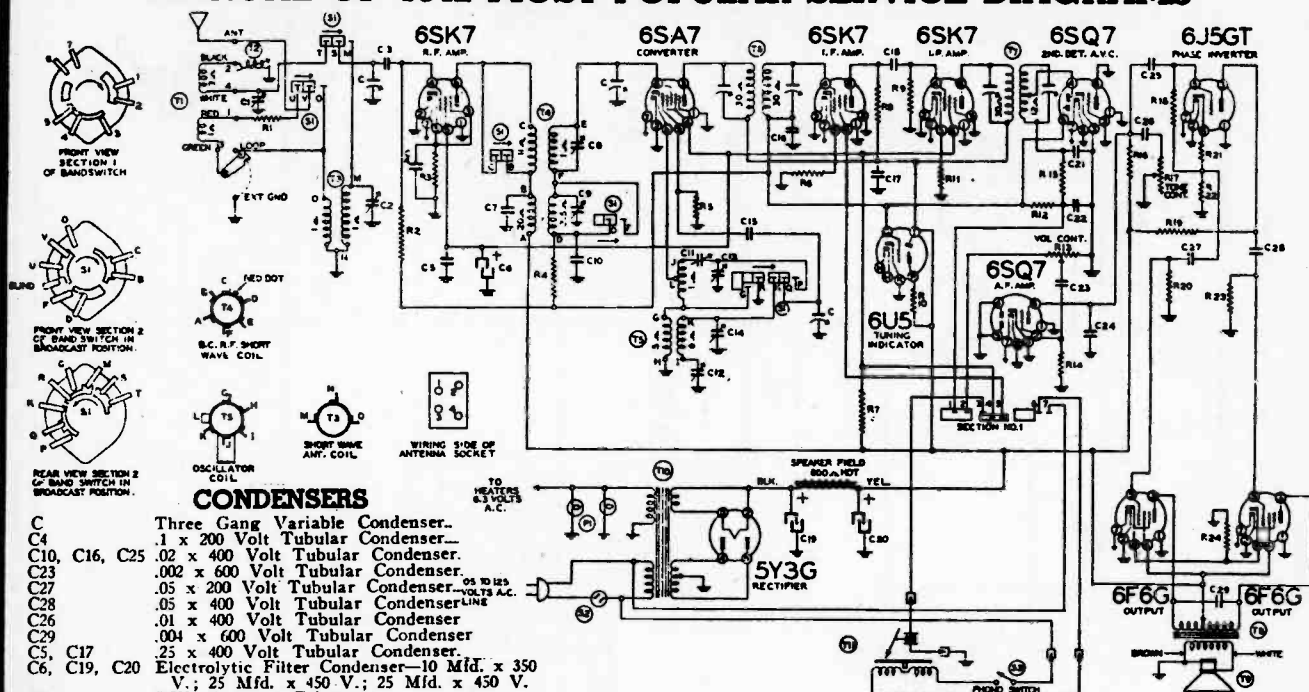
NOTE: THE ANTENNA COIL ASSEMBLY IS MADE SO THAT IT IS MOVABLE LEFT OR RIGHT. WHEN MAKING THE ADJUSTMENT AS GIVEN IN THE ALIGNMENT PROCEDURE MOVE COIL ASSEMBLY VERY SLOWLY

COIL ASSEMBLY VIEW

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## CONDENSERS

- C Three Gang Variable Condenser—  
C4 1 x 200 Volt Tubular Condenser—  
C10, C16, C25 .02 x 400 Volt Tubular Condenser.  
C23 .002 x 600 Volt Tubular Condenser.  
C27 .05 x 200 Volt Tubular Condenser—  
C28 .05 x 400 Volt Tubular Condenser—  
C26 .01 x 400 Volt Tubular Condenser  
C29 .004 x 600 Volt Tubular Condenser  
C5, C17 25 x 400 Volt Tubular Condenser.  
C6, C19, C20 Electrolytic Filter Condenser—10 Mfd. x 350 V.; 25 Mfd. x 450 V.; 25 Mfd. x 450 V.  
C2 S.W. Antenna Trimmer  
C8, C9 S.W. and B.C. R.F. Trimmer—Dual.  
C13, C14 S.W. and B.C. Osc. Trimmer—Dual.  
C1 B.C. Antenna Trimmer  
C12 .000525 Compression Cond.—B.C. Pad  
C3, C18 .0005 Mica Type Condenser—20%  
C7 .0004 Mica Type Condenser—20%  
C15 .00005 Mica Type Condenser—20%  
C21, C22 .0001 Mica Type Condenser—20%  
C11 .0021 Compression Mica Condenser  
C24 .00025 Mica Type Condenser—20%

**Belmont  
Radio**

## RESISTORS

- R13, S2 Volume Control and Switch (500M Ohms) Less Shaft  
R17 Tone Control (1 Megohm) Less Shaft  
R2, R18 Shaft Only for Volume and Tone Controls  
R4 1 Megohm— $\frac{1}{2}$  Watt Resistor—20%  
R5 300M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R6, R11 40M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R8 500 Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R9, R19, R22 12M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R7 100M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R15 12M Ohm—2 Watt Resistor—10%  
R12 50M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R14 3 Megohm— $\frac{1}{2}$  Watt Resistor—25%  
R21 5 Megohm— $\frac{1}{2}$  Watt Resistor—30%  
R20, R23 2500 Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R16 500M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R24 250M Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R3 300 Ohm—1 Watt Resistor—20%  
R1 300 Ohm— $\frac{1}{2}$  Watt Resistor—20%  
R10 400 Ohm— $\frac{1}{2}$  Watt Resistor—20%  
1 Megohm—In Eye Socket.

# Model 11A25

## Alignment Procedure

- Volume control—Maximum all adjustments.
- Connect dummy antenna value in series with generator output lead.

BAND	SIGNAL GENERATOR		Connect on to Radio	Position of Band Switch	Variable Condenser Setting	Trimmers Adjusted to Maximum (in Order Shown)
	Frequency Setting	Dummy Antenna				
I. F.	455 Kc	.1 MFD.	Grid of 6SK7 I. F.	Broadcast	Rotor full open (Plates out of mesh)	Two trimmers on top Output I. F.
	455 Kc	.1 MFD.	Grid of 6SA7 Mixer	Broadcast	Rotor full open (Plates out of mesh)	Two trimmers on top Input I. F.
SHORT WAVE BAND	17 Mc.	400 Ohms	External Antenna and Ground	Short Wave	Set Dial at 17 Mc.	C13, S.W. Osc.
	17 Mc.	400 Ohms	External Antenna and Ground	Short Wave	Set Dial at 17 Mc.	C8, S.W. R.F., C2 S. W. Antenna
	6 Mc.	400 Ohms	External Antenna and Ground	Short Wave	Set Dial at 6 Mc.	C11 S.W. Osc Series Pad See Note "A"
BROAD-CAST BAND	1580 Kc.	200 mmf.	Grid of 6SK7 R. F. Tube	Broadcast	Rotor full open (Plates out of mesh)	C14 B.C. Osc.
	540 Kc.	200 mmf.	Grid of 6SK7 R. F. Tube	Broadcast	Set Dial at 540 Kc. (Plates in Mesh)	C12 B.C. Osc. Series Pad
	1400 Kc.	200 mmf.	Grid of 6SK7 R. F. Tube	Broadcast	Set Dial at 1400 Kc.	C9 B.C. R.F.
LOOP ALIGN-MENT	1400 Kc.	200 mmf.	External Antenna and Ground	Broadcast	Set Dial at 1400 Kc.	C1 B.C. Ant.
	600 Kc.	200 mmf.	External Antenna and Ground	Broadcast	Set Dial at 600 Kc.	T2 Iron Core Tracking Coil

NOTE "A"—Turn the dial back and forth slightly (rock) and adjust trimmer until the peak of greatest intensity is obtained.

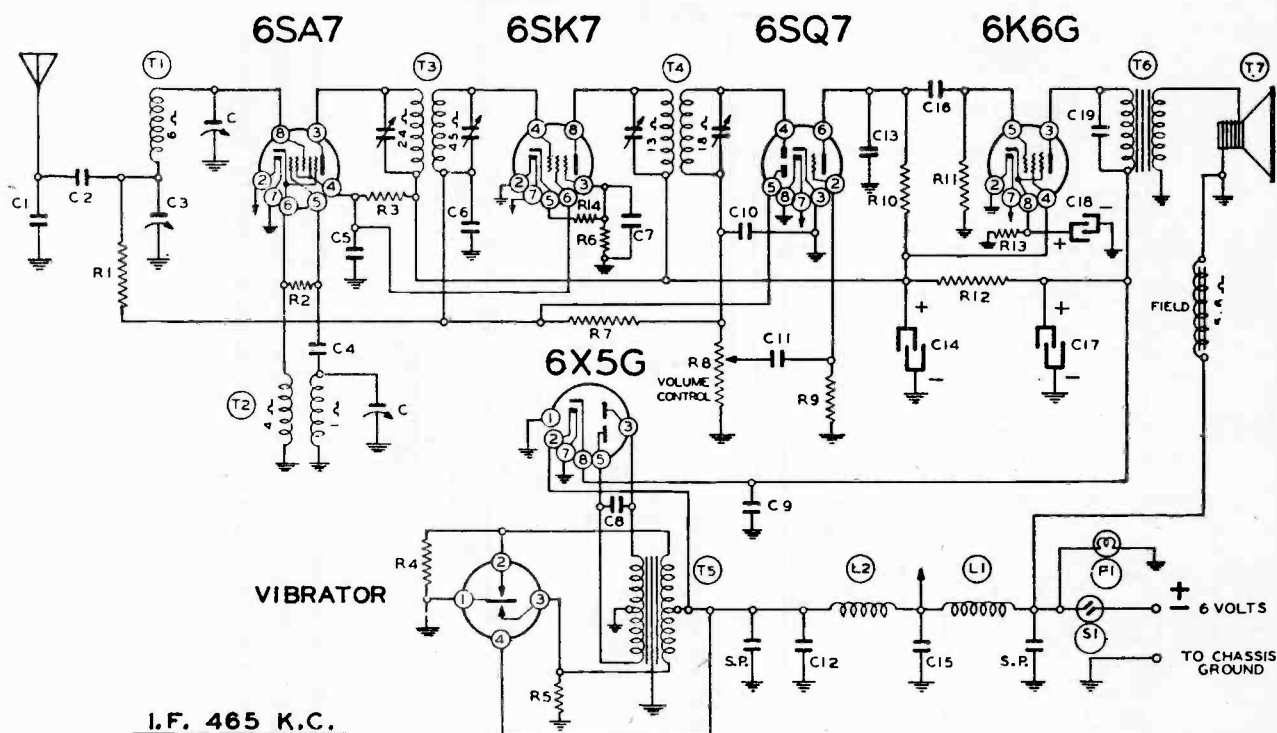
After each band is completed, repeat the procedure as a final check.

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

Belmont MODEL 579



Circuit  
Diagram  
Ref. Part  
No. No.

## RESISTORS

R1	13011	250M ohm— $\frac{1}{2}$ w.
R2	130236	30M ohm— $\frac{1}{2}$ w.
R3	130307	15M ohm—1 watt
R4	13060	100 ohm— $\frac{1}{2}$ w.
R5	13060	100 ohm— $\frac{1}{2}$ w.
R6	13070	500 ohm— $\frac{1}{2}$ w.
R7	1304	3 megohm— $\frac{1}{2}$ w.
R8	101110	1 megohm volume control
R9	130257	5 megohm— $\frac{1}{2}$ w.
R10	13011	250M ohm— $\frac{1}{2}$ w.
R11	1303	500M ohm— $\frac{1}{2}$ w.
R12	130199	1500 ohm—1 watt
R13	130308	750 ohm—1 watt
R14	130174	50 ohm— $\frac{1}{2}$ w.

## CONDENSERS

C	10269	2 gang variable condenser
C1	1293	.00002 mica
C2	10055	.01 x 400 volts
C3	12434	Adj. Antenna Trimmer
C4	12921	.0002 mica
C5	100115	.05 x 400 v.
C6	1009	.05 x 200 v.
C7	10020	.1 x 200 v.
C8	10034	.005 x 1200 v.

Circuit  
Diagram  
Ref. Part  
No. No.

## DESCRIPTION

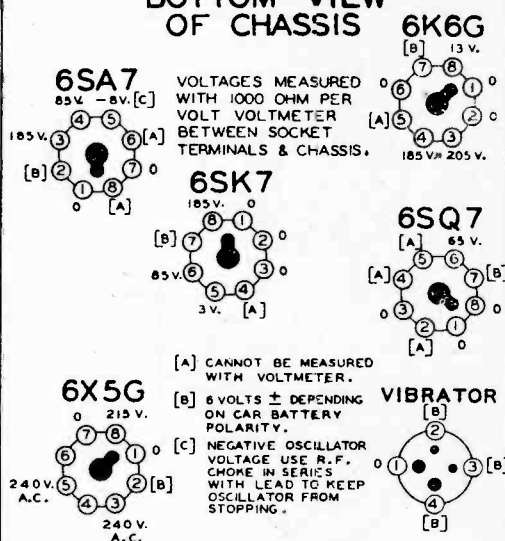
C9	12912	.00025 mica
C10	1295	.0001 mica
C11	10025	.002 x 600 v.
C12	10031	.5 x 120 v.
C13	1292	.0005 mica
C14	119105	15 ufd. lytic x 350 v. v.
C15	10031	.5 x 120 v.
C16	10078	.01 x 200 v.
C17	119105	15 ufd. lytic x 350 v. v.
C18	119105	20 ufd. lytic x 25 v. v.
C19	10087	.01 x 600 v.

C14, C17 and C18 in same unit

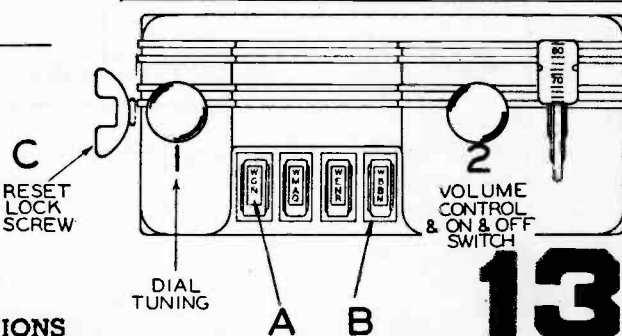
## PARTS

T1	11195B	Antenna Coil
T2	110146	Oscillator Coil
T3	108139	Input I. F. Coil—465 kc.
T4	108121B	Output I. F. Coil—465 kc.
T5	104131	Power Transformer
T6	10567	Output Transformer
T7	114114-R	5" Dynamic Speaker (5.6 ohm)
L1	10568	"A" Choke
L2	10566	"A" Choke
S1		Switch on volume control
P1	10797	Pilot light (T51) 6-8 volts
S.P.	11749	(2) Spark Plates

## BOTTOM VIEW OF CHASSIS



## REAR OF CHASSIS

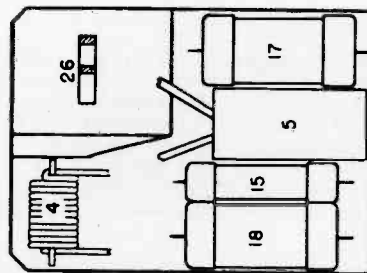
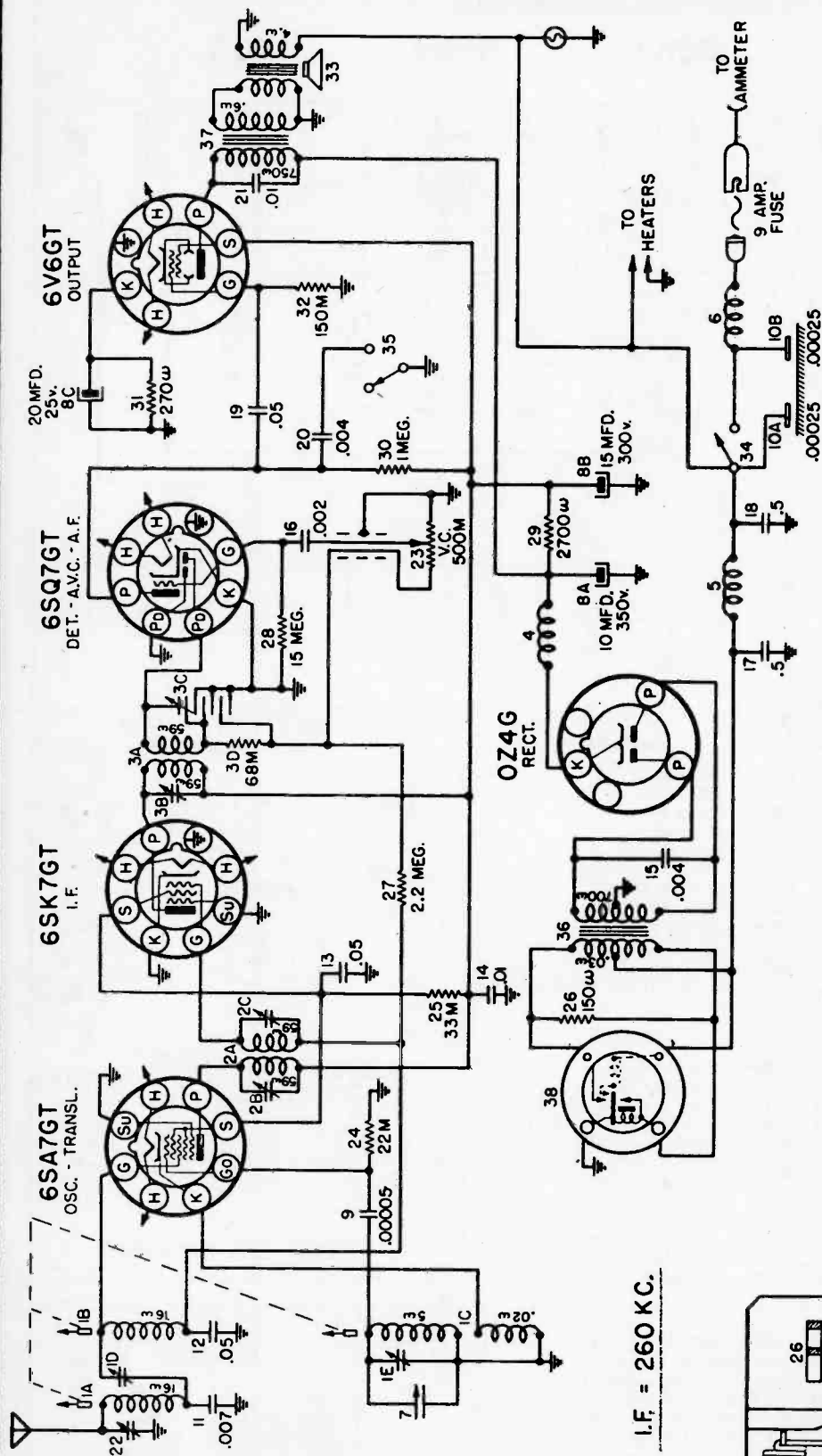


The ignition system of every automobile generates high frequency electrical disturbances which interfere to some extent with the operation of the radio receiver. This disturbance arises from the ignition coil, the distributor and associated wiring. It must either be suppressed at its origin or must be prevented from feeding into the input of the radio receiver through the common storage battery. By proper shielding and by-passing these disturbances are prevented from entering the receiver.

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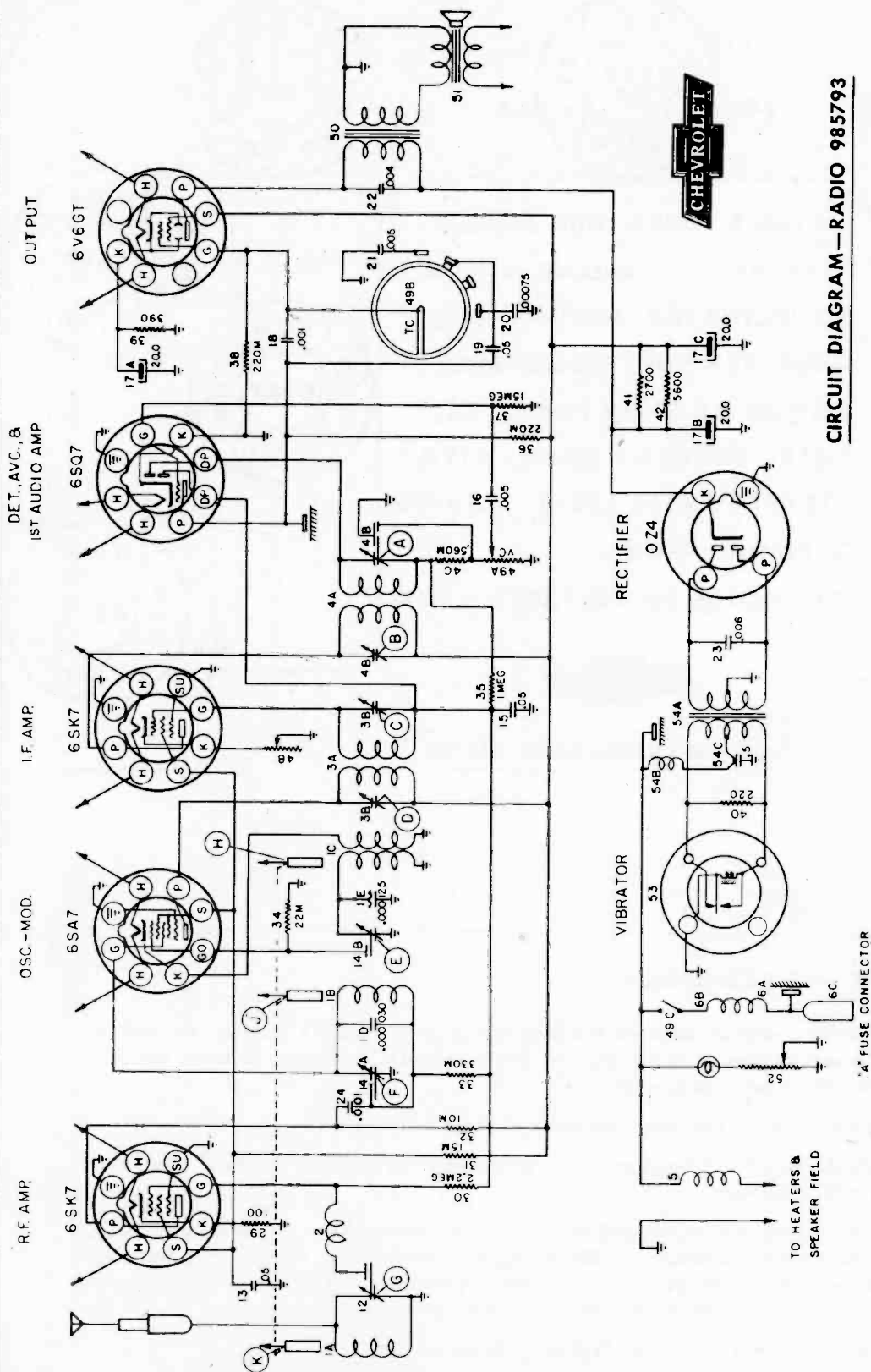


CIRCUIT DIAGRAM—RADIO 985792





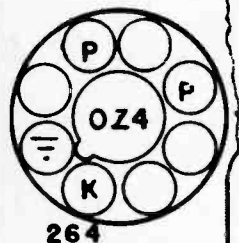
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Antenna trimmer "G" must be adjusted to match the car antenna when receiver is installed. With the antenna fully extended tune in a weak station near 1400 on the dial and adjust the antenna trimmers for maximum volume.



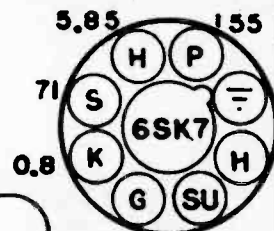
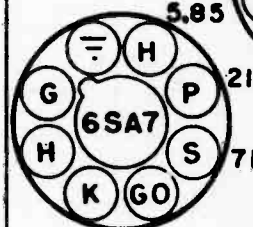
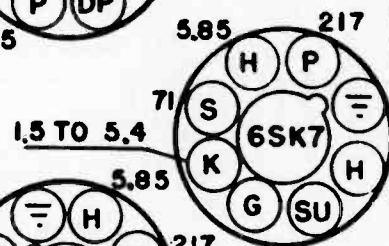
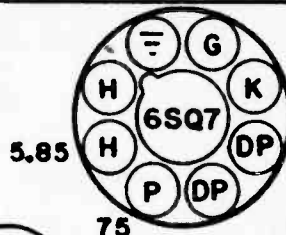
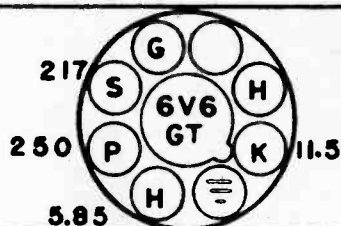
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



VOLTAGES TAKEN FROM SOCKET  
TERMINALS TO GROUND WITH A  
DC VOLTMETER HAVING 1000  
OHMS PER VOLT RESISTANCE.  
6.0V DC AT SPARK PLATE 6A.  
TOTAL CURRENT DRAIN WITH  
SPEAKER & DIAL LIGHT 7.3 AMPS.  
"B" DRAIN - 58 MA.  
TOLERANCE ON VOLTAGES  $\pm 10\%$



VOLTAGE CHART—RADIO 985793

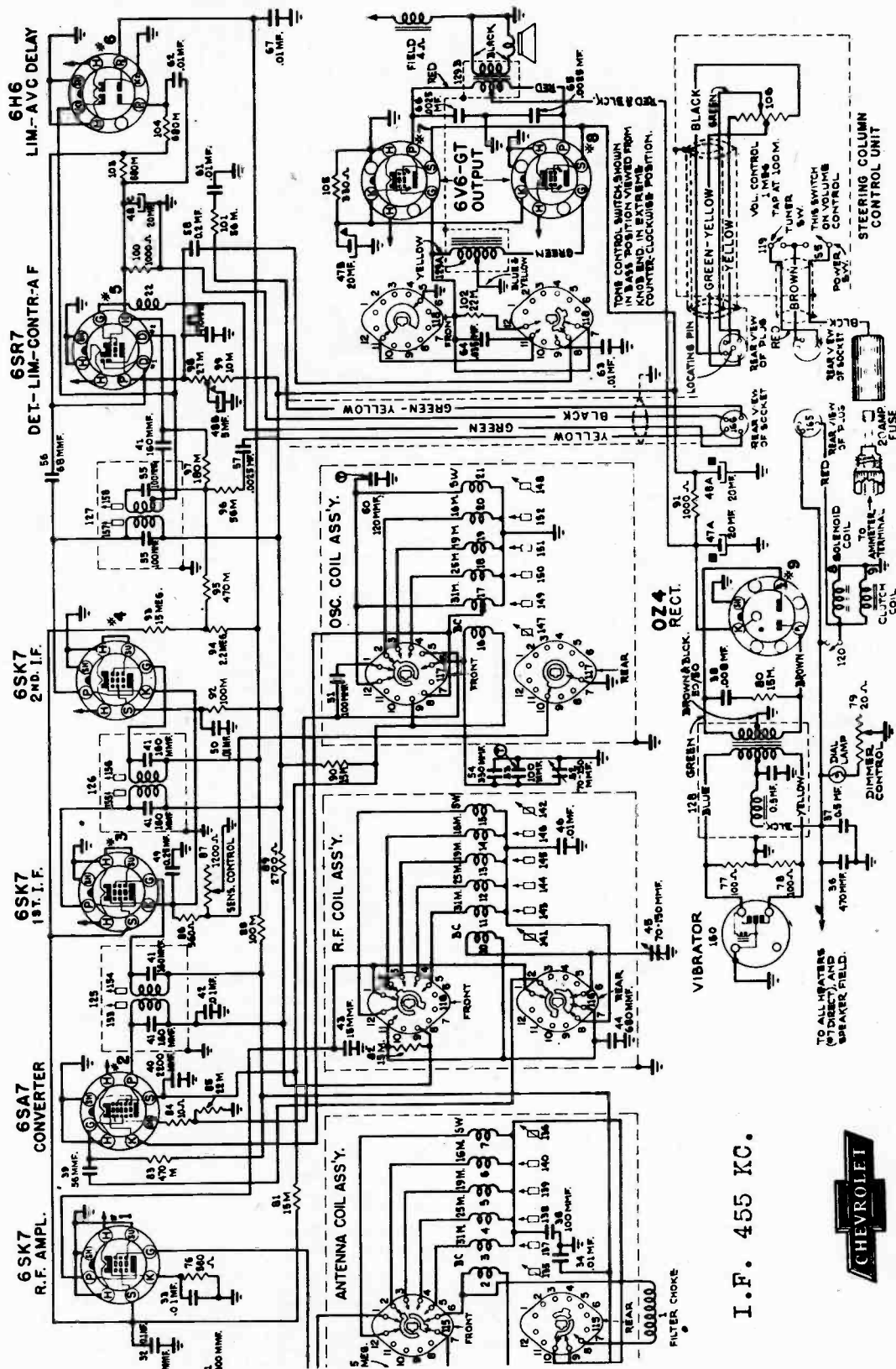


## I.F. Alignment at 262 Kilocycles

- Connect a 0.1 mfd. condenser between the plate prong of the 6V6GT output tube and one terminal of the output meter, to protect the meter from DC voltages. Connect the other terminal of the output meter to ground.
- Connect the ground lead of the signal generator to the chassis frame.
- Connect the signal lead of the signal generator to the grid (G) prong of the 6SA7 tube socket through a 0.1 mfd. condenser.
- Turn the set volume control on full and rotate the tone control knob to the center (Music) position. Adjust the signal generator to 262 kilocycles, and tune the receiver to a frequency where no squeals or beat notes may be heard and so that when the tuning control is moved through narrow limits no appreciable change in output is noticeable.
- Adjust the I.F. trimmers A, B, C, and D for maximum output.



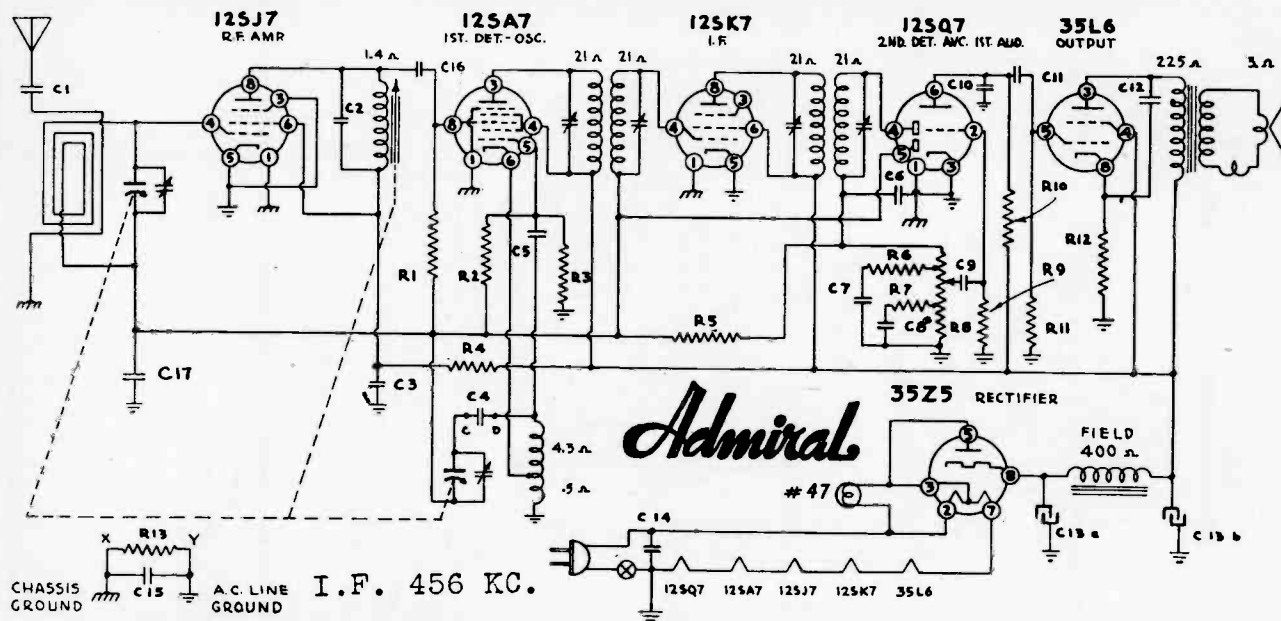
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



CIRCUIT DIAGRAM—RADIO 985794



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Volume control tapped at 100,000 ohms and 200,000 ohms from zero end.

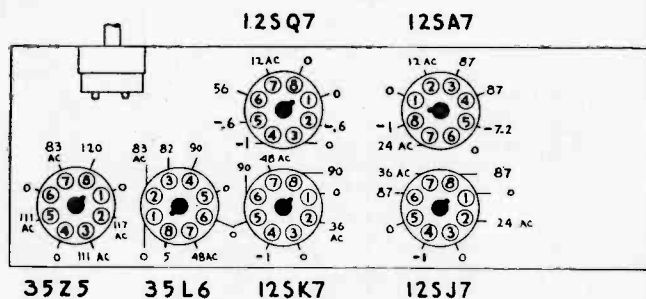
In model B6 only, X and Y are connected together. R13, C15, and C4 are not used. C is connected to D.

## RESISTORS

No.	Ohms
R1	10,000
R2	10,000,000
R3	25,000
R4	100
R5	1,000,000
R6	50,000
R7	30,000
R8 V. C.	500,000
R9	5,000,000
R10	250,000
R11	500,000
R12	150
R13	150,000

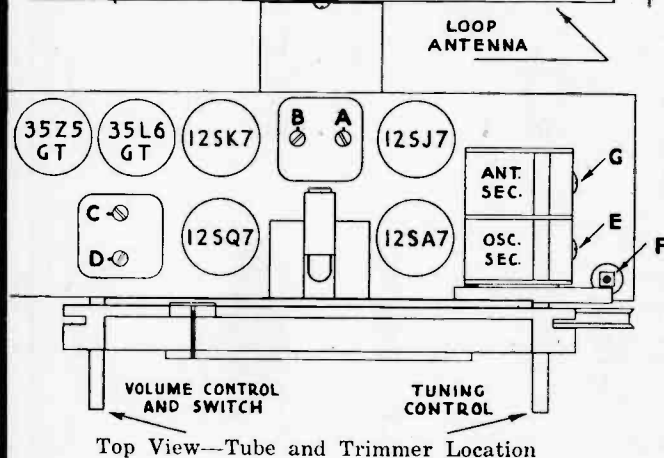
## CONDENSERS

No.	Capacity (Mfd.)
C1	.005
C2	.000785
C3	.05
C4	.02
C5	.00005
C6	.00025
C7	.01
C8	.01
C9	.01
C10	.0005
C11	.01
C12	.02
C13a	30. Elect.
C13b	50. Elect.
C14	.05
C15	.2
C16	.00025
C17	.1

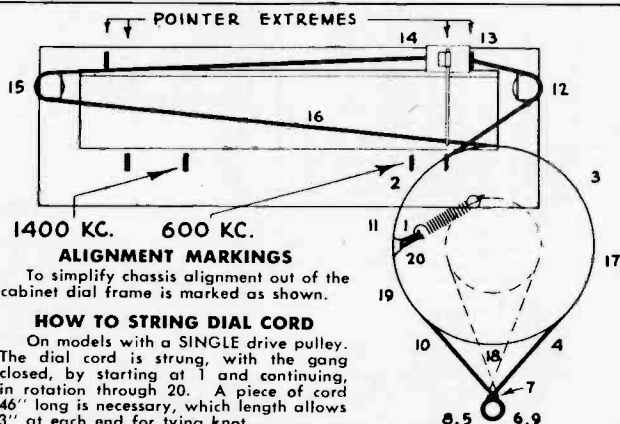


Bottom View—Voltage Chart

Voltages are positive D. C. unless noted. Measured from chassis with 20,000 ohm per volt meter. On XB6 Series use floating ground instead of chassis. Line—117 volts, 60 cycle A.C. Volume control at maximum. No station tuned in.



Top View—Tube and Trimmer Location



## ALIGNMENT MARKINGS

To simplify dial alignment out of the cabinet dial frame is marked as shown.

## HOW TO STRING DIAL CORD

On models with a SINGLE drive pulley. The dial cord is strung, with the gang closed, by starting at 1 and continuing, in rotation through 20. A piece of cord 46" long is necessary, which length allows 3" at each end for tying knot.

On models with DOUBLE drive pulley the dial cord is in two pieces. The pointer cord is on the large pulley starting at 1 and continuing through 20 BUT in the following special order, 1, 2, 3, 4, 18, 19, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20. The drive cord is on the smaller dotted pulley, in the dotted position.

To clarify dial cord arrangement the dial frame is shown as transparent.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

FOR CROSLEY MODEL 62-TA, 62-TC, 62-TD — CHASSIS No. 37

## ALIGNMENT PROCEDURE

Preliminary  
Output Meter Connections.....To Voice Coil Terminals of Speaker or to Plate of 35L6GT and Cathode of 35Z5GT  
Generator Ground Connections.....In Series with .001 MFD. Condenser  
Dummy Antenna.....400 Ohm Carbon Resistor in Series with Generator Output  
Position of Volume Control.....Fully On

## ALIGNMENT CHART

Step	Signal Generator Frequency Setting	Input	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks	Location
1 1-A	456 Kc. 456	Antenna Antenna	S. B. S. B.	Fully open Fully open	2nd I-F (2) 1st I-F (2) Wave trap	Adjust for maximum output. Adjust for minimum output.	Top of I. F. Trans. Center Section of 3 Sec. Trimmer.
2	15.3 Mc.	Antenna	S. W.	Fully open	S. W. "OSC"	Adjust for maximum output.	Top of Tuning Condenser
3	15.0 Mc.	Antenna	S. W.	Approx. 15 on dial	S. W. "Ant."	Adjust for maximum output while rocking gang thru signal.	L. H. Section of 3 Sec. Trimmer.
4	1650 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.	R. H. Section of 3 Sec. Trimmer.
5	1400 Kc.	Antenna	S. B.	Approx. 1400 on dial	B. C. "ANT"	Adjust for maximum output.	On Cabinet Back.

When aligning the short wave band "OSC" trimmer 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 original alignment procedure for more accurate adjustments. Always keep signal generator output low as possible to prevent action of A.S.C. circuit.

Socket Voltage is measured @ 117.5 V line

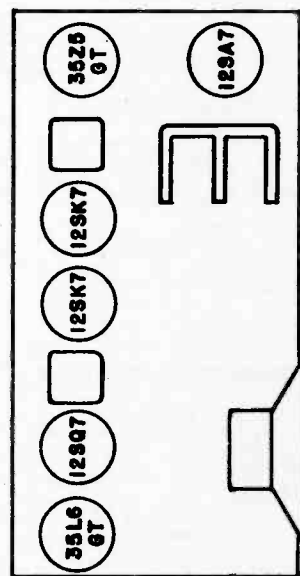
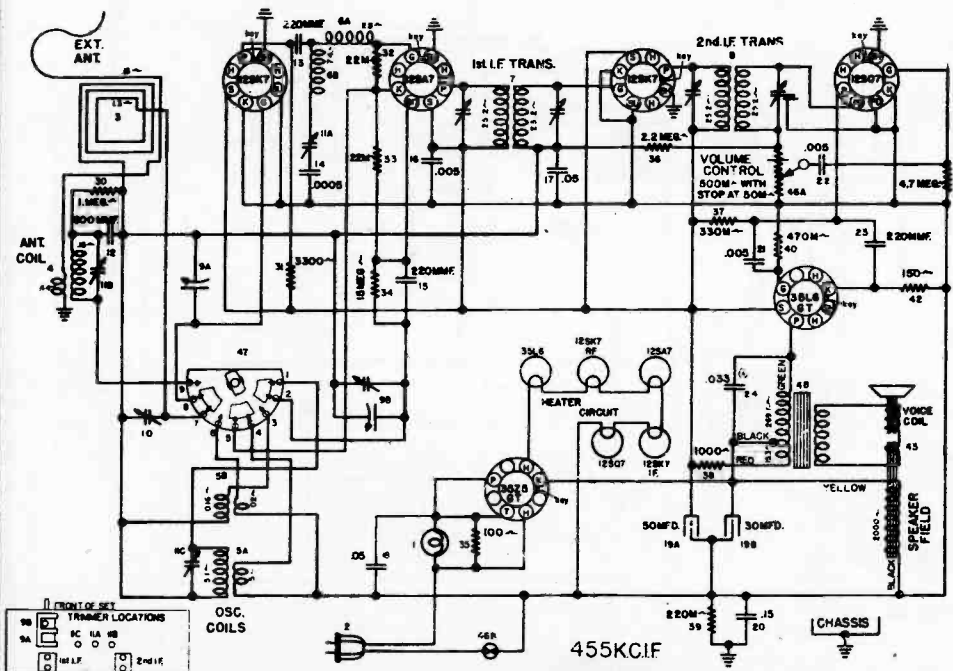
## TUBE VOLTAGE CHART

(BETWEEN SOCKET PINS AND B—) WITH 1000 OHM PER VOLT—500 V. RANGE D. C. VOLTMETER

TUBE	FUNCTION	PIN NUMBER							
		1	2	3	4	5	6	7	8
12SK7	R. F. Amp.	.....	.....	0	Neg.	0	76.	.....	40
12SA7	Osc. Mod.	.....	.....	76	76	Neg.	0	.....	Neg.
12SK7	I. F. Amp.	.....	.....	0	Neg.	0	76	.....	76
12SQ7	Det., Etc.	.....	0	0	0	Neg.	16*	.....	0
35L6	B. P. O.	.....	.....	92	76	0	.....	.....	4
35Z5	Rect.	.....	.....	.....	.....	113AC	.....	.....	100

All voltages may vary 10% of values indicated. Neg. indicates Neg. reading on Voltmeter Scale but of too small a value to record accurately.

\* Measured on 100 V. Scale. Power consumption at 117.5 V. line, 30 watts. Drop across Speaker Field—100 V. Current thru Speaker Field—52 M.A.



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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

**For Model 52-PA — Chassis No. 67**

The chassis as employed in this model portable receiver is a five tube (including rectifier), single band super-heterodyne, designed to operate from an "A and B" Battery Pack, or 110 volts A.C. (50-60 cycle) or 110 volt D.C. electric circuits.

## TUNING RANGE

— 550-1600 Kilocycles — 546-187.5 Meters

### TUBES USED

— one 1A7GT, one—IN5GT, one—IH5GT, one—IT5GT and one—117Z6GT

## BATTERIES REQUIRED

— one No. CR67 Crosley "A and B" Battery Pack (6 Volt "A"—75 Volt "B") or equivalent.

Measured from "B" minus using 1000  $\Omega/V$

Voltmeter, 100 V. Range, no signal input

Tube		@ 117.5-Volt Line				Battery Pack			
Type	Function	Filament Volt	Plate Volt	Screen Volt	Cathode Volt	Filament Volt	Plate Volt	Screen Volt	Cathode Volt
1A7GT	Osc. Modulator	1.3	80	34	.....	1.7	75	30	.....
1N5GT	I. F. Amplifier	3.8	80	80	.....	4.4	75	75	.....
1H5GT	Det.-A. S. C. 1st A. F.	2.6	7	.....	.....	3.0	6	.....	.....
1T5GT	Out Put	5.1	72	80	.....	6.0	68	75	.....
117Z6GT	Rectifier	117.5 A. C.	117.5 A. C.	.....	100	.....	.....	.....	.....

### ALIGNMENT PROCEDURE

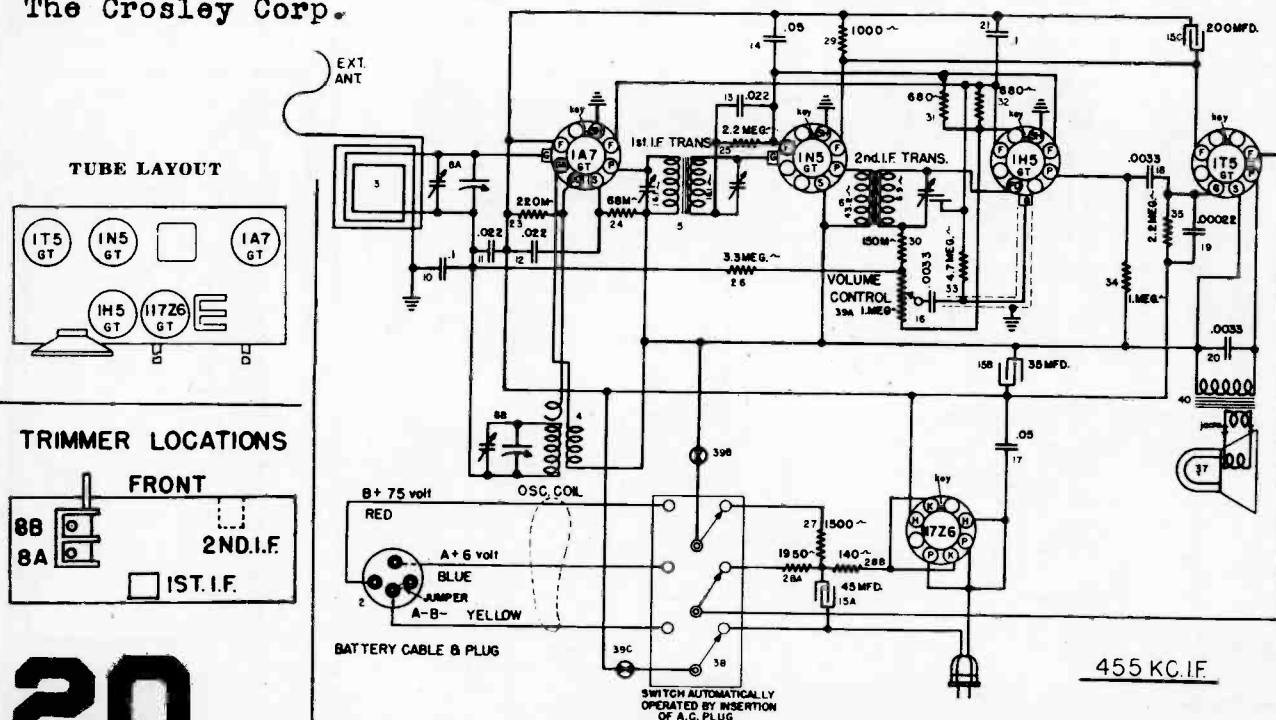
Volume Control on full Output meter connected to Plate and Screen of 1T5GT

SIGNAL GENERATOR		DUMMY ANTENNA	TUNING COND. SETTING	TRIMMERS TO ADJUST (See Fig. 1)	REMARKS
455 Kc	Ant. Lead	.0001 MF	Fully open	2nd 1-F(1) front chassis flange	Adjust for maximum signal.
455 Kc	Ant. Lead	.0001 MF	Fully open	1st 1-F (2)	Adjust for maximum signal. Located top of 1st 1-F ass'y.
1650	Ant. Lead	.0001 MF	Fully open	"OSC" Shunt on gang	Adjust for maximum output. Gang does not have to tune through signal.
1400	Ant. Lead	.0001 MF	140 on dial	"ANT" shunt on gang	Adjust for maximum output.
600	Ant. Lead	.0001 MF	60 on dial	Iron core in "OSC" coil	Adjust for maximum signal while rocking gang.

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

A Battery drain @ 6 volts, .05 Amp.; "B" Battery drain @ 75 V., 9 M. A.  
Power consumption @ 117.5 volts line — 20 Watts

The Crosley Corp.



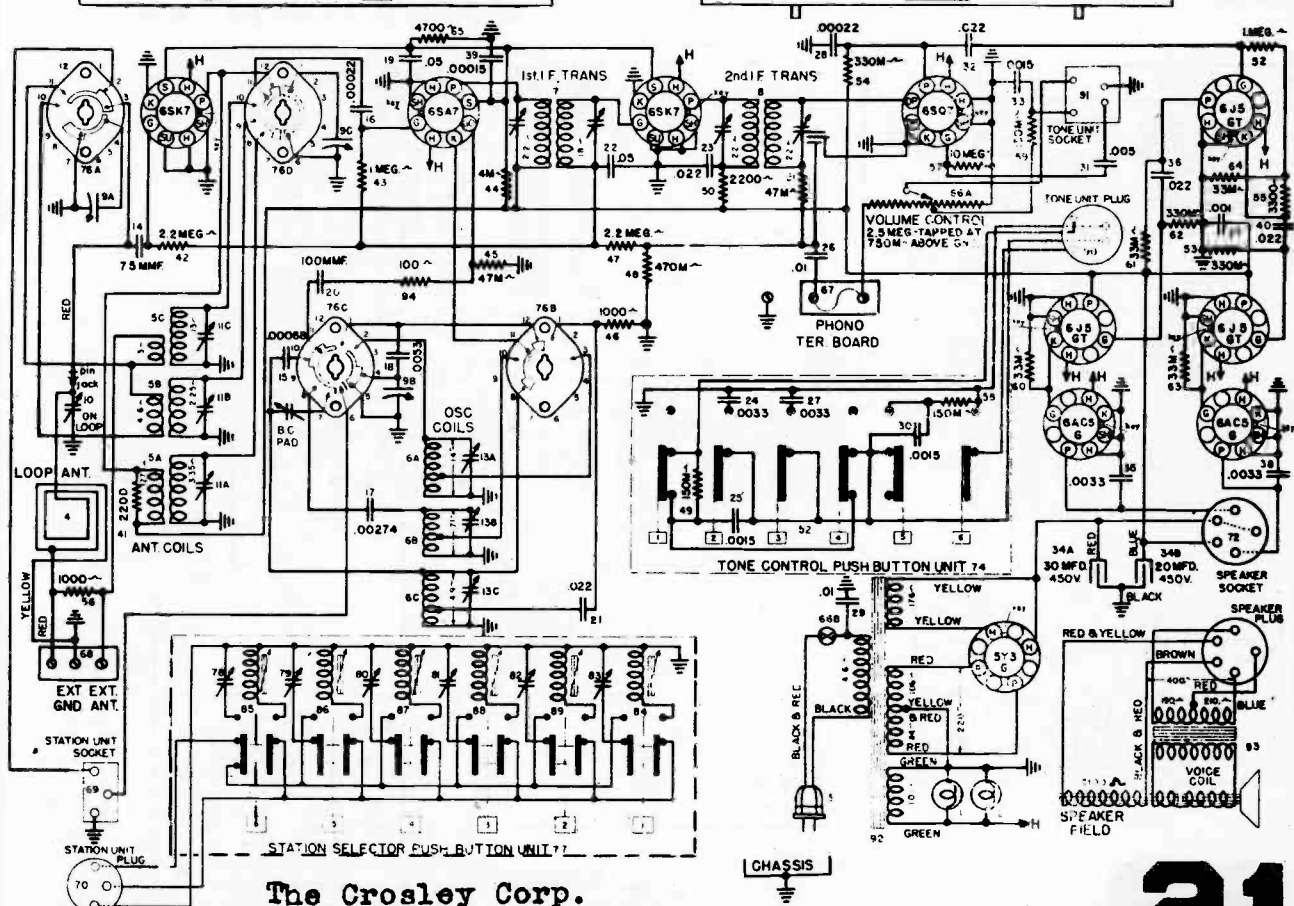
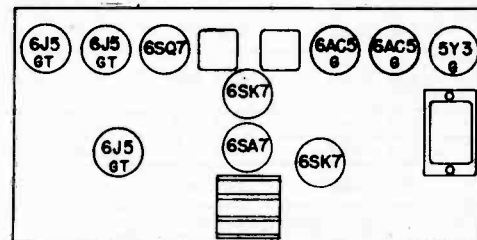
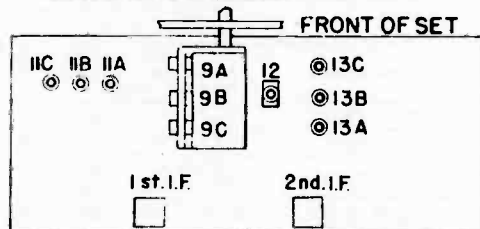
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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## MODELS 02CA AND 02CB — CHASSIS MODEL No. 55

Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Stator lug Rear section of Gang Cond.	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1630 Kc.	Ant. Terminal	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal. Loop must be connected.
3.	.0002 MF.	600 Kc.	Ant. Terminal	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. Terminal	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "R-F" Trimmer	Adjust for maximum output do not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Terminal	Police	Fully open	Pol "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Terminal	Police	Approx. 5.0	Pol "ANT" Trimmer	Adjust for maximum output.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Terminal	S. W.	Fully open	S. W. "OSC" Trimmer	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Terminal	S. W.	Approx. 18	S. W. "ANT" Trimmer	Adjust for maximum output while rocking gang thru signal.
10.	Repeat the above alignment procedure for more accurate adjustments. Always keep signal generator output as low as possible to prevent action of the A. V. C. circuit.						



The Crosley Corp.

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

For Models 62-PA and 62-PB — Chassis No. 68

## Portable Radios for Standard Broadcast Reception

Measured from "B" minus using 1000  $\Omega/V$

Voltmeter, 100 V. Range, no signal input

Tube		@ 117.5-Volt Line				Battery Pack			
Type	Function	Filament Volt	Plate Volt	Screen Volt	Cathode Volt	Filament Volt	Plate Volt	Screen Volt	Cathode Volt
1N5GT	R. F. Amplifier	3.8	.....	.....	.....	4.6	75	75	.....
1A7GT	Osc. Modifier	2.6	80	31	.....	3.1	75	28	.....
1N5GT	I. F. Amplifier	5.0	80	80	.....	6.1	75	75	.....
1H5GT	Det.-A. V. C. 1st A. F.	1.3	7	.....	.....	1.6	4.5	.....	.....
1T5GT	Out Put	6.2	72	80	100	7.7	68	75	.....
117Z6GT	Rectifier	117.5 A. C.	117.5 A. C.	.....	.....				

### ALIGNMENT PROCEDURE

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

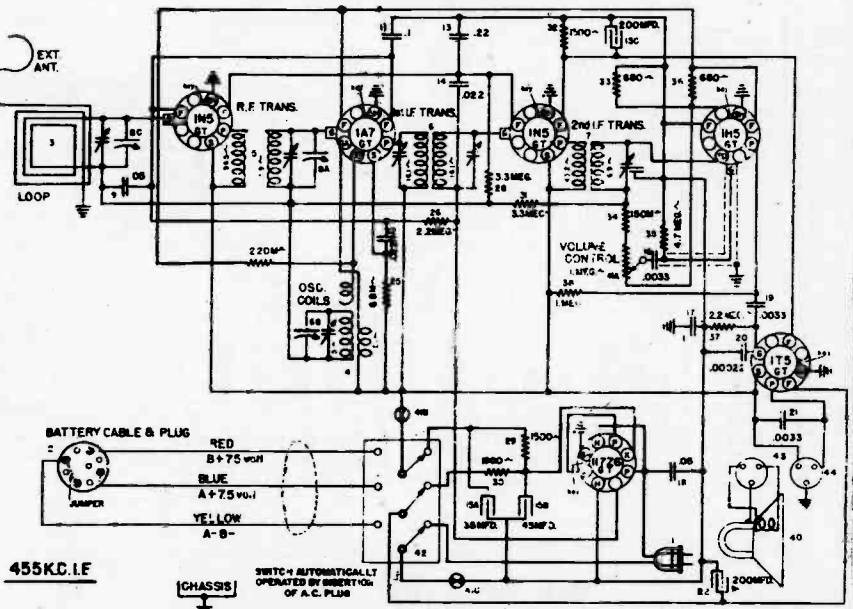
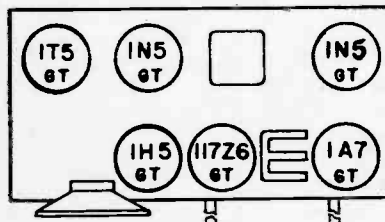
SIGNAL GENERATOR					
FREQUENCY SETTING	CONNECTION TO RADIO	DUMMY ANTENNA	TUNING COND. SETTING	TRIMMERS TO ADJUST (See Fig. 1)	REMARKS
455 Kc	Ant. Lead	.0001 MF	Fully open	2nd 1-F (1) front chassis flange	Adjust for maximum signal.
455 Kc	Ant. Lead	.0001 MF	Fully open	1st 1-F (2)	Adjust for maximum signal. Located top of 1st 1-F ass'y.
1650	Ant. Lead	.0001 MF	Fully open	"OSC" Shunt on gang	Adjust for maximum output. Gang does not have to tune through signal.
1400	Ant. Lead	.0001 MF	140 on dial	"ANT" shunt on gang	Adjust for maximum output.
1400	Ant. Lead	.0001 MF	140 on dial	"RF" shunt on gang	Adjust for maximum output.
600	Ant. Lead	.0001 MF	60 on dial	Iron core in "OSC" coil	Adjust for maximum output while rocking gang.

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

A Battery drain @ 6 volts, .05 Amp.; "B" Battery drain @ 75 V., 9 M. A.;  
Power consumption @ 117.5 volts line — 25 Watts

Item No.	Part No.	Description
1	—43775	Power Cable and Plug
2	—132205-1	Battery Cable and Plug
3	GB—132198-1	Loop Antenna Assem.
4	G623—32002	Osc. Coil
5	G116—32001	R.F. Trans.
6	G268—32004	1st I.F. Trans.
7	Wd. Scr. (5)	2nd I.F. Trans.
8A	—132168-1	Var. Cond. R.F. Section
8B		Var. Cond. Osc. Section
8C		Var. Cond. Ant. Sect.
9	G65—39001	Cond. .05 Mf. 200 V.
10	None	
11	G67—39001	Cond. .1 Mf. 200 V.
12	G63—39001	Cond. .022 Mf. 200 V.
13	G69—39001	Cond. .22 Mf. 200 V.
14	G63—39001	Cond. .022 Mf. 200 V.
15A	—132144-1	Cond. 35 Mfd. Electro
15B		Cond. 45 Mfd. Electro
15C		Cond. 200 Mfd. Electro
16	G10—39001	Cond. .0033 Mf. 600 V.
17	G67—39001	Cond. .1 Mf. 200 V.
18	G65—39001	Cond. .05 Mf. 200 V.
19	G10—39001	Cond. .0033 Mf. 600 V.
20	G9—39004	Cond. .00022 Mf.
21	G10—39001	Cond. .0033 Mf. 600 V.

25	G18—39002	Res. 68 M Ohm $\frac{1}{4}$ W.
26	G27—39002	Res. 2.2 Meg. Ohm $\frac{1}{4}$ W.
27	G21—88002	Res. 220 M Ohm $\frac{1}{4}$ W.
28	G28—39002	Res. 3.3 Meg. Ohm $\frac{1}{4}$ W.
29	G8—39002	Res. 1500 Ohm $\frac{1}{4}$ W.
30	—132502-1	Res. 1900 Ohm Candohm
31	G28—39002	Res. 3.3 Meg. Ohm $\frac{1}{4}$ W.
32	G8—39002	Res. 1500 Ohm $\frac{1}{4}$ W.
33	G8—39002	Res. 680 Ohm $\frac{1}{4}$ W.
34	G20—39002	Res. 150 M Ohm $\frac{1}{4}$ W.
35	G29—39002	Res. 4.7 Meg. Ohm $\frac{1}{4}$ W.
36	G8—39002	Res. 680 Ohm $\frac{1}{4}$ W.
37	G27—39002	Res. 2.2 Meg. Ohm $\frac{1}{4}$ W.
38	G25—39002	Res. 1 Meg. Ohm $\frac{1}{4}$ W.



22

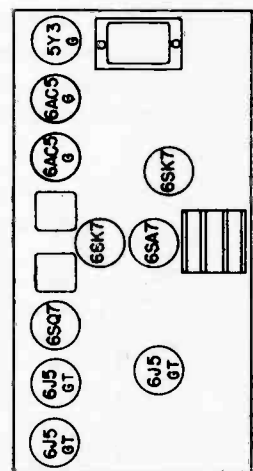
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SOCKET VOLTAGES MEASURED AT 117.5 V. LINE (BETWEEN SOCKET PIN AND CHASSIS) WITH 1000 OHM PER VOLT,  
500 V. RANGE VOLTMETER (D. C.)

MAX. POWER OUTPUT.....	12.0 WATTS
POWER CONSUMPTION.....	90 WATTS
DROP ACROSS SPEAKER FIELD.....	120 VOLTS

on Block N. C.—No Connection





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## CROSLEY MODELS 02CP, 02CQ — CHASSIS MODEL No. 70

### THE AUTOMATIC RECORD CHANGER

This record changer will automatically play a series of twelve 10" or ten 12" records of the standard 78 R. P. M. type. The records must be all one size when loading, and may consist of less records than listed above. Records with or without a starting groove will operate the changer satisfactorily and the inside stopping groove may be a spiral or an eccentric. This means that any type of record, regardless of make, will operate the automatic mechanism. Records of any size up to 12" may be played manually.

The records are supported for automatic operation in two points, in the center by the center post, and on the edge by the record holder post.

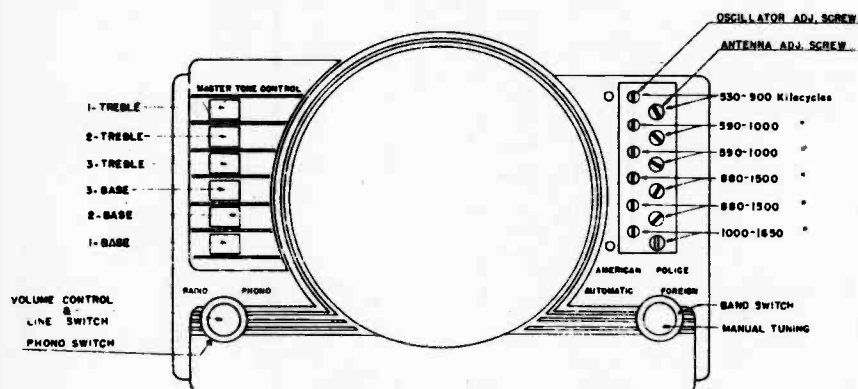
Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Stator lug Rear section of Gang Cond.	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1630 Kc.	Ant. Terminal	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal. Loop must be connected.
3.	.0002 MF.	600 Kc.	Ant. Terminal	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. Terminal	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "R-F" Trimmer	Adjust for maximum output do not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	5.3 Mc.	Ant. Terminal	Police	Fully open	Pol "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal.
7.	400 ohm (carbon)	5.0 Mc.	Ant. Terminal	Police	Approx. 5.0	Pol "ANT" Trimmer	Adjust for maximum output.
8.	400 ohm (carbon)	18.3 Mc.	Ant. Terminal	S. W.	Fully open	S. W. "OSC" Trimmer	Adjust for peak. Gang does not have to tune thru signal.
9.	400 ohm (carbon)	18.0 Mc.	Ant. Terminal	S. W.	Approx. 18	S. W. "ANT" Trimmer	Adjust for maximum output while rocking gang thru signal.
10.	Repeat the above alignment procedure for more accurate adjustments. Always keep signal generator output as low as possible to prevent action of the A. V. C. circuit.						

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 Receiver 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 Receiver 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).

### SETTING THE PUSH BUTTONS

The six station selector push buttons are set up by means of two adjusting screws per button. These adjusting screws are made accessible by removing the station selector push button escutcheon. Pry off carefully being careful not to scratch the main escutcheon.

Select the call letter tabs of your six favorite broadcast stations from the station call letter sheets supplied. Place the call letter tabs in the window above that push button which is to be adjusted for that station.



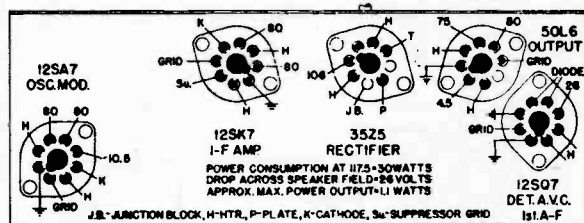


**CROSLEY RADIO MODEL 52-TP — CHASSIS No. 72**

Specialty designed parts of the highest quality are used throughout in the construction of all Crosley products. In order that the original fine quality and excellent performance of this receiver may be maintained, it is recommended that only GENUINE CROSLEY PARTS be used should service be required.

## ALIGNMENT PROCEDURE

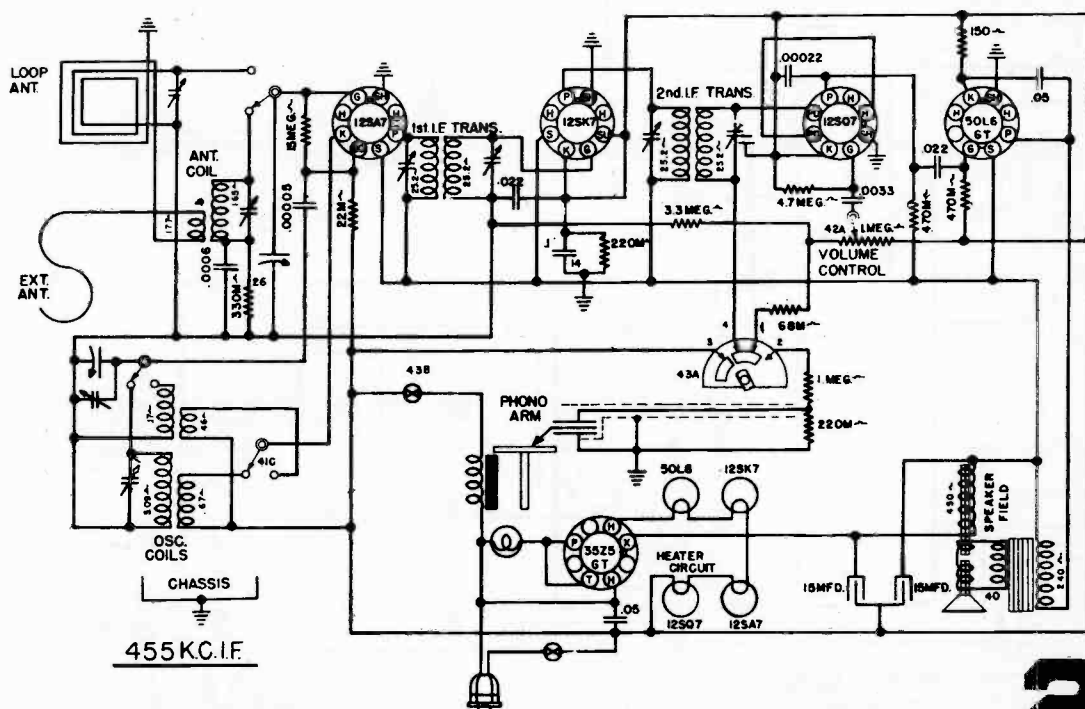
Output Meter Connections . . . . . Plate and screen of 50L6  
Generator Ground Connections . . . . Ground Lead and Chassis  
Dummy Antenna to be in series with generator output  
Position of Volume Control . . . . . Fully on



VOLTAGES MEASURED BETWEEN SOCKET PIN 6 GND. SIDE OF  
VOL. CONT. WITH 250VOLT, 1000 OHMS. PER. VOLT METER.  
READINGS MAY VARY 10%.

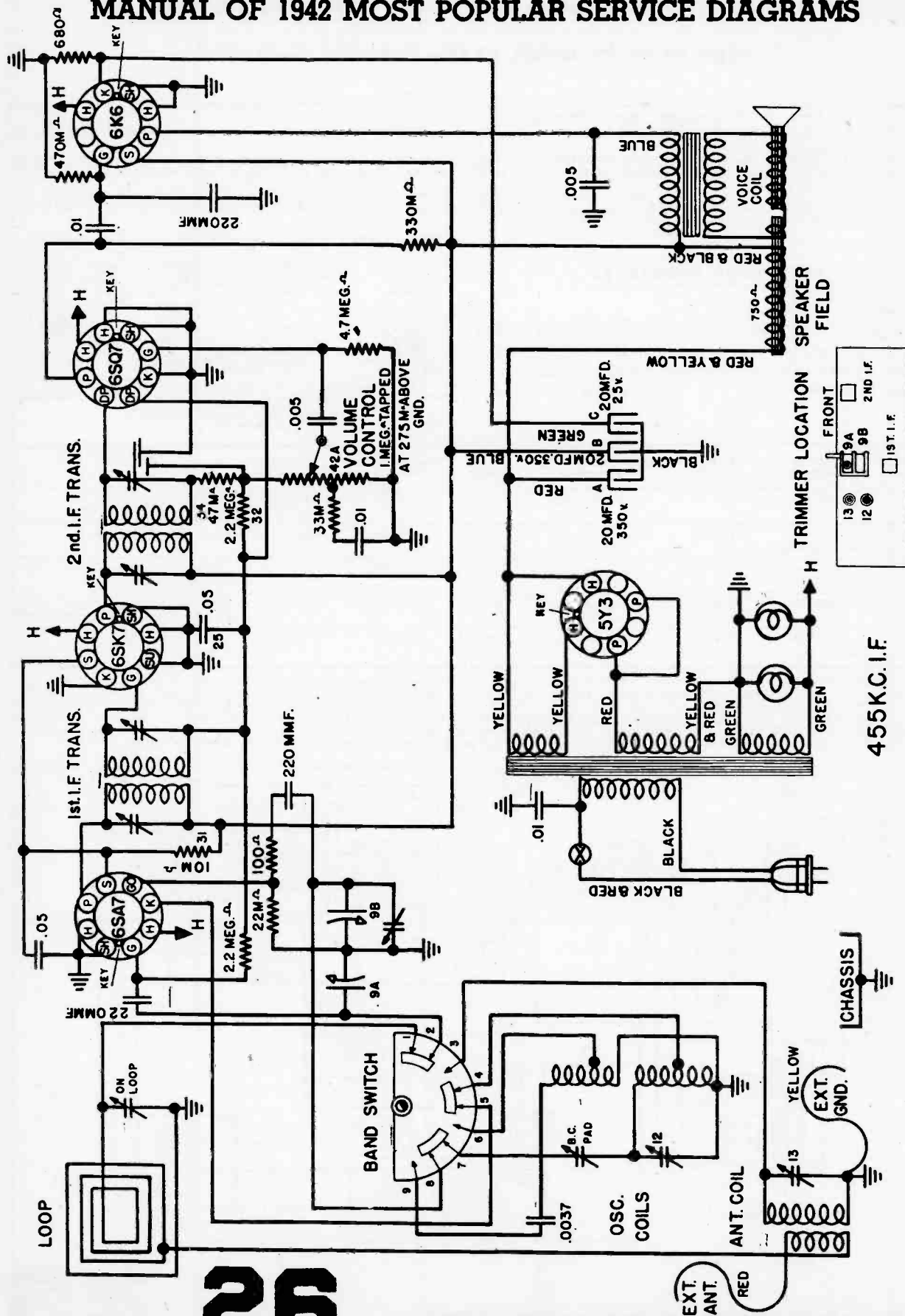
Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.0001 MF.	455 KC.	Antenna Lead	BC	Fully Open	1st I-F(2) 2nd I-F(2)	Adjust for maximum signal. Adjust for maximum signal.
2.	400 ohm Carbon Resistor	15.3 MC.	Antenna Lead (red)	S.W.	Fully Open	S.W. "Osc."	Adjust for maximum output.
3.	400 ohm Carbon	15.0 MC.	Antenna Lead (red)	S.W.	15 on Dial	S.W. "Ant."	Adjust for maximum signal while rocking gang through it.
4.	.0001 MF.	1650 KC.	Antenna Lead (red)	BC	Fully Open	B.C. "Osc."	Adjust for maximum output. Gang does not have to tune through signal
5.	.0001 MF.	1400 KC.	Antenna Lead (red)	BC	140 Dial	B.C. "Ant."	Adjust for maximum output.

When aligning the shortwave band "OSC" trimmer, care must be exercised to see that the circuit is 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 original alignment procedure for more accurate adjustments. Keep signal generator output low as possible to prevent action of A.S.C. circuit.





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



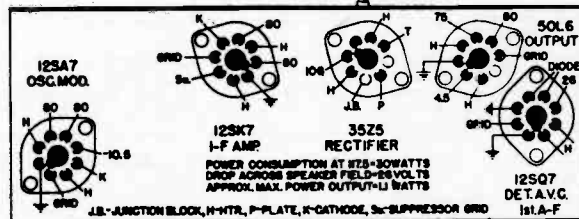
## WIRING DIAGRAM — MODEL 53TF



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## CROSLY RADIO MODELS 52TG, 52TG-U, CHASSIS No. 74-74U

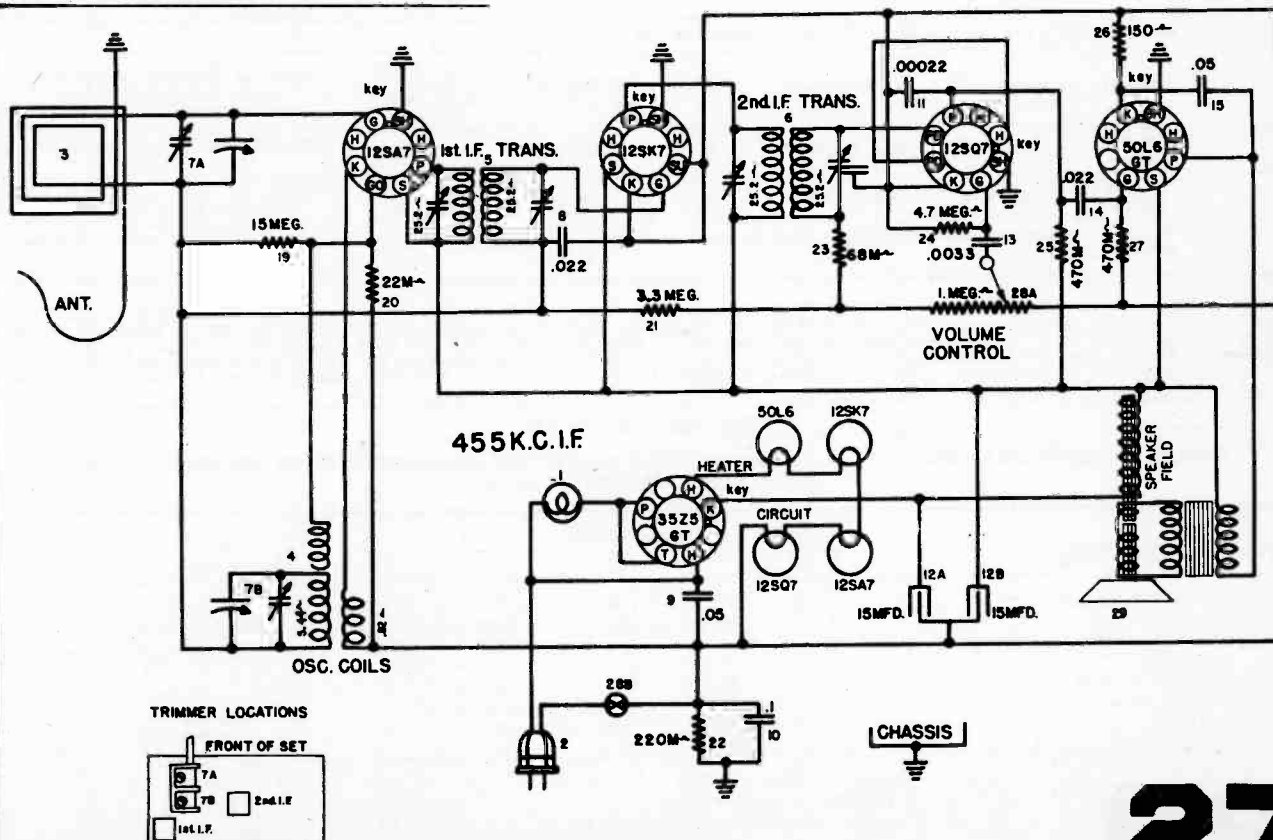
Item No.	Part No.	Description	Item No.	Part No.	Description
1	—48858	Bulb Dial Light 6.3V.	16	NONE	
	L—132109	Dial Light Socket Asm.	17	NONE	
	—132099-2	Dial Face.	18	NONE	
	—132097-5	Dial Pointer.	19	—50671	Res. 15 Megohm $\frac{1}{4}$ W.
	—132117-2	Celluloid Dial Lens.	20	G15—39002	Res. 22,000 Ohms $\frac{1}{4}$ W.
	L—132131	Drive Cord Asm.	21	G28—39002	Res. 3.3 Megohm $\frac{1}{4}$ W.
	—132119-4	Drive Shaft.	22	G21—39002	Res. 220,000 Ohms $\frac{1}{4}$ W.
	—51071	Retaining Ring—Dr. Shaft.	23	G18—39002	Res. 68,000 Ohm $\frac{1}{4}$ W.
2	—132300-1	Power Cord & Plug.	24	G29—39002	Res. 4.7 Megohm $\frac{1}{4}$ W.
	—45738	Lock Plate Power Cord.	25	G23—39002	Res. 470,000 Ohm $\frac{1}{4}$ W.
3	LB—132110	Loop Asm. Antenna.	26	G33—39002	Res. 150 Ohm $\frac{1}{4}$ W.
	—132102	Spacer—Loop Mtg. (2)	27	G23—39002	Res. 470,000 Ohm $\frac{1}{4}$ W.
	—23843	Screw—Loop Mtg. (2)		—132138	Bracket—Speaker Mtg.
4	G261—32002	Coil B. C. Osc.	28A	—49774	[Vol. Control 1 Meg.
5	G266—32004	1st I. F. Trans.	28B		[Power Switch.
6	G267—32004	2nd I. F. Trans.			
7A	—49736-1	2 Gang Var. Cond. {Antenna Sec.			
7B		Oscillator Sec.			
8	G63—39001	Cond. .022 Mfd., 200V.			
9	G65—39001	Cond. .05 Mfd., 200V.			
10	G67—39001	Cond. .1 Mfd., 200V.			
11	G9—39004	Cond. 200 Mmf., Mica.			
12A	—49664-B	{Cond. 15 Mfd., 140V., Elect.			
12B		{Cond. 15 Mfd., 120V., Elect.			
13	G10—39001	Cond. .0033 Mfd., 160V.			
14	G63—39001	Cond. .022 Mfd., 200V.			
15	G65—39001	Cond. .05 Mfd., 200V.			



### ALIGNMENT PROCEDURE

Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.0001 MF.	455 KC.	Antenna Lead	BC	Fully Open	1st I-F(2) 2nd I-F(2)	Adjust for maximum signal. Adjust for maximum signal.
2.	.0001 MF.	1650 KC.	Antenna Lead	BC	Fully Open	B.C. "Osc."	Adjust for maximum output. Gang does not have to tune through signal
3.	.0001 MF.	1400 KC.	Antenna Lead	BC	140 Dial	B.C. "Ant."	Adjust for maximum output.

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





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## FOR CROSLEY MODELS 82CP, 82CQ—CHASSIS MODEL NO. 75

**STARTING THE CHANGER**—Turn the control knob clockwise to the "ON" position; after the turntable has attained speed, turn the control knob all the way counter clockwise to the "REJ." position for a few seconds and release. The bottom record will fall on the turntable and the unit will automatically play the entire stack of records. If the changing cycle should fail to start, repeat the above operation.

**REJECTING A RECORD**—To reject a record, it is only necessary to turn the control knob counter clockwise to the "REJ." position for a few seconds and release. A record can be rejected anytime the needle is in contact with the record.

**UNLOADING THE CHANGER**—Turn the control knob to the "OFF" position and remove the center spindle by pulling straight up. The played records may now be easily removed after which the center post should be replaced. The center spindle must be turned when being replaced so that it drops into correct position.

### TO PLAY RECORDS MANUALLY

**MANUAL OPERATION**—Manual operation is used for all home recordings and for single records is desired. **CAUTION:** For playing records of less than 10" diameter always set the record holding shelf in same position as is used for playing 12" records. Otherwise "Floating Jewel Tone System" may be damaged. 1. Remove the center spindle by pulling straight up. 2. Place record on turntable with desired selection upward. 3. Turn the control knob to the "ON" position. 4. Place pickup on record so the needle enters the outside groove of the record. 5. Adjust volume control to desired level.

**50 CYCLE OPERATION**—(Phonograph)—If operation is desired on 50 cycle current, a small spring, see parts list, must be added to the motor shaft.

**SERVICE**—If your receiver fails to operate satisfactorily, check the tubes to see that all are pushed well down into their respective sockets and that all grid clips are securely in place on the top caps of the tubes. Check the antenna (loop terminals), and power supply connections for good contact. If this visual inspection does not reveal the source of the trouble, disconnect the receiver from the power supply and call a competent service man, preferably your Crosley Dealer.

### ALIGNMENT PROCEDURE

#### Preliminary

Output Meter Connections..... Plate to Plate of 6K8GT'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

Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.02 MF.	455 Kc.	Stator lug Rear section of Gang Cond.	B. C.	Fully open	2nd I-F (2) 1st I-F (2)	Adjust for Maximum. Adjust for Maximum.
2.	.0002 MF.	1650 Kc.	Ant. Terminal	B. C.	Fully open	B. C. "OSC" Trimmer	Adjust for peak; gang does not have to tune thru signal. Loop must be connected.
3.	.0002 MF.	600 Kc.	Ant. Terminal	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. Terminal	B. C.	Approx. 140 on dial	B. C. "ANT" Trimmer B. C. "R-F" Trimmer	Adjust for maximum output do not touch B. C. Osc. Trimmer. Adjust for maximum output.
6.	400 ohm (carbon)	18.3 Mc.	Ant. Terminal	S. W.	Fully open	S. W. "OSC"	Adjust for peak. Gang does not have to tune thru signal.
7.	400 ohm (carbon)	18.0 Mc.	Ant. Terminal	S. W.	Approx. 18	S. W. "ANT" Trimmer	Adjust for maximum output while rocking gang thru signal.
8.	Repeat the above alignment procedure for more accurate adjustments. Always keep signal generator output as low as possible to prevent action of the A. V. C. circuit.						

**IMPORTANT ALIGNMENT NOTES**—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 Receiver 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 Receiver 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).

### TUBE VOLTAGE CHART

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

TUBE	FUNCTION	PIN NUMBER							
		1	2	3	4	5	6	7	8
6SK7GT—R. F. Amplifier.....		0	0	0	0	0	82	6.3 A. C.	210
6SA7GT—OSC.—Mod.....		0	0	210	82BC	0	0	6.3 A. C.	0
6SK7GT—I. F. Amplifier.....		0	0	0	0	-6.5BC - -OSW -	82	6.3 A. C.	210
6SQ7—Det. A. S. C. 1st A. F.....		0	0	1.4	0	0	78	6.3 A. C.	0
6J5GT—Phase Inverter.....		0	0	125	N. C.	0	0	6.3 A. C.	5.2
6K8GT(2)—Output.....		0	0	200	210	0	0	6.3 A. C.	13
5Y3G—Rectifier.....		N. C.	300	N. C.	338	J. B.	338 A. C.	J. B.	300

MAX. POWER OUTPUT..... 6.5 WATTS  
POWER CONSUMPTION..... 85 WATTS  
DROP ACROSS SPEAKER FIELD..... 90 VOLTS

N. C.—No Connection

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## WIRING DIAGRAM, MODELS 82CP AND 82CQ — CHASSIS MODEL No. 75

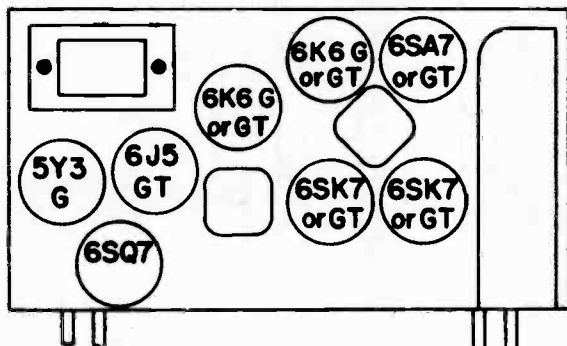
**THE AUTOMATIC RECORD CHANGER**—This record changer will automatically play a series of twelve 10" or ten 12" records of the standard 78 R. P. M. type. The records must be all one size when loading, and may consist of less records than listed above. Records of any size up to 12" may be played manually.

**CAUTIONS**—1. Never use force to start or stop the motor or any part of the record changing mechanism or pick-up arm. 2. The use of records which have become warped or damaged through improper care may cause the mechanism to jam and damage the instrument. 3. Do not leave records on the supports, as they may warp, particularly in warmer climates. 4. Never leave the pickup arm with the needle resting on a record or the turntable.

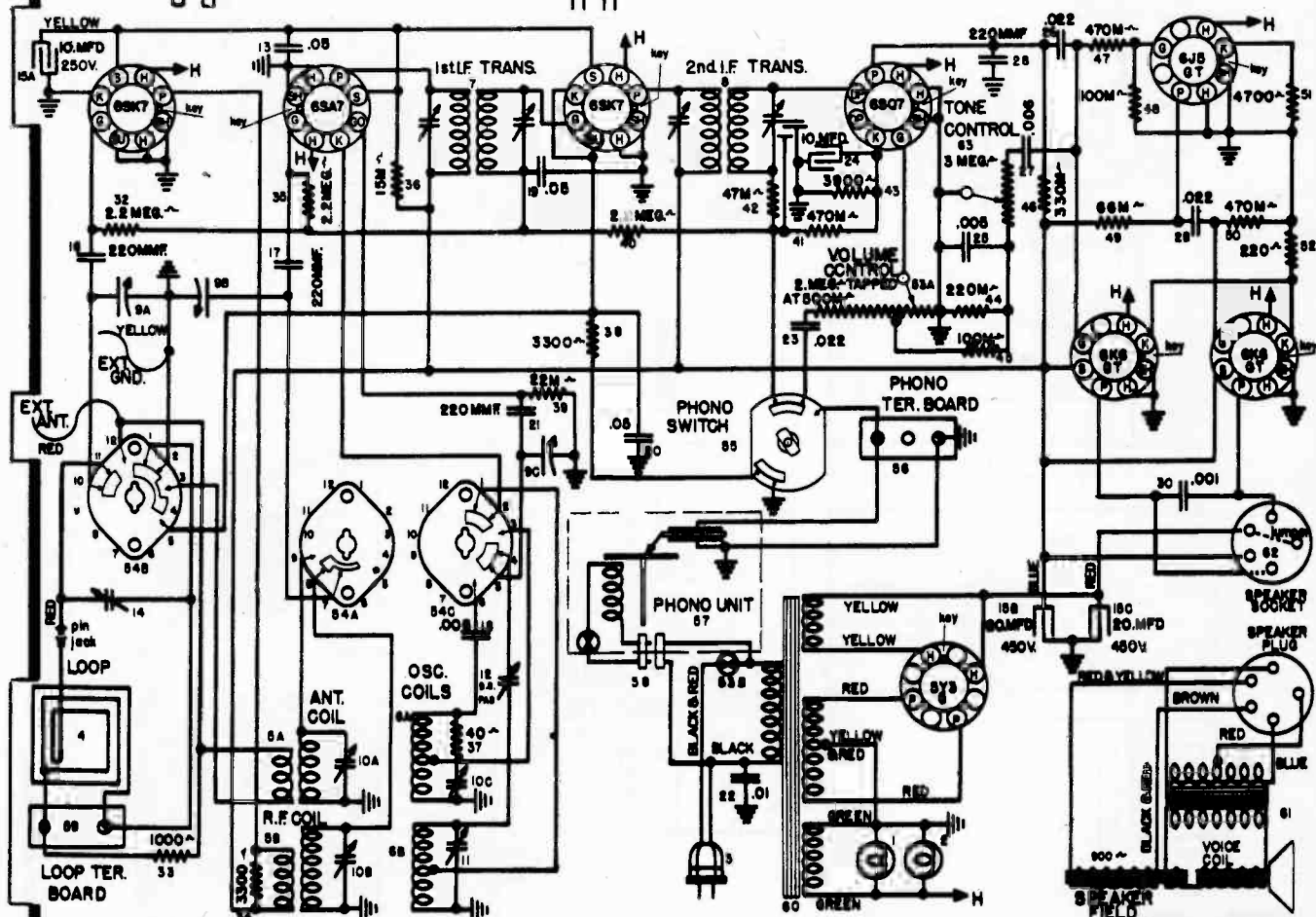
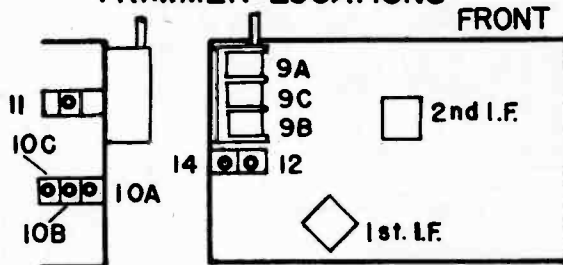
**THE FLOATING JEWEL TONE SYSTEM**—The "Floating Jewel Tone System" is a Crosley invention and an exclusive feature on your Crosley phono-combination. Its sapphire point literally floats across the surface of the record, reducing record wear and assuring maximum tonal fidelity. Needle noise is virtually eliminated. The "Floating Jewel Tone System" supplied with the phono-combination you have purchased is good for years of normal service.

**CAUTION:** Avoid dropping the tone arm on a record or the turntable. Use only the Crosley "Floating Jewel Tone System" with your set.

**SETTING FOR SIZE OF RECORD**—The shelf on the record holder post or the side support for the records may be turned and snaps into place in two points, one for the ten inch records, and the other for the twelve inch records. When the record holder clip (on top of the record holder post) is toward the center spindle, the number showing on the record holder clip is the size record the changer is set to automatically operate.



### TRIMMER LOCATIONS



455K.C.I.F

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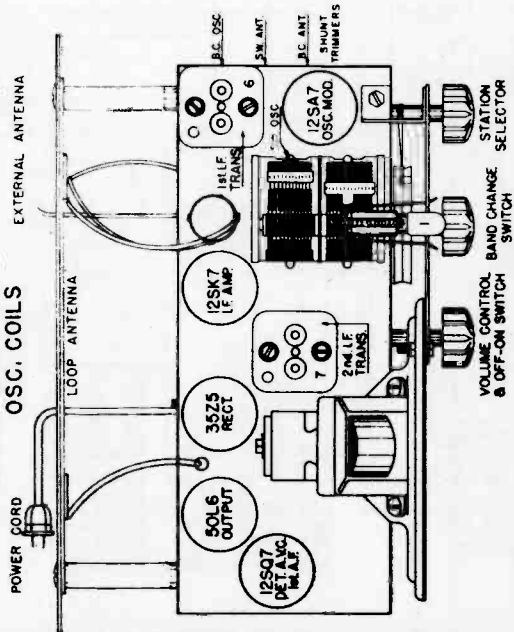


**52TF, 52TF-U — CHASSIS No. 76**



Dummy Antenna	Frequency Setting	Input Connection to Receiver	Band Switch	Tuning Setting	Trimmer Adjusted
Generator .0001 MF.	455 KC.	Antenna Lead	BC	Fully Open	2nd I-F(2) 1st L-F(2)
400 ohm Carbon Resistor	15.3 MC.	Antenna Lead (red)	S. W.	Fully Open	S. W. "Osc."
400 ohm Carbon	15.0 MC.	Antenna Lead (red)	S. W.	15 on Dial	S. W. "Ant."
.0001 MF.	1650 KC.	Antenna Lead (red)	BC	Fully Open	B.C. "Osc."
.0001 MF.	1400 KC.	Antenna Lead	BC	140 Dial	B.C. "Ant."

**CROSLEY**

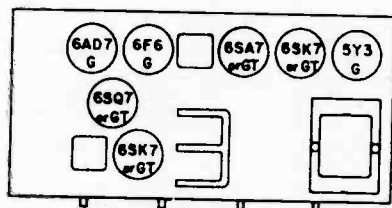




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## INSTALLATION, OPERATING AND SERVICE INSTRUCTIONS for Crosley Model 72CA — Chassis Model No. 80

Model 72CA is a seven tube, two band, superhetrodyne receiver. It is designed to operate on Alternating Current (A.C.) electric circuits as specified on the Model and License label.



### SETTING THE PUSH BUTTONS

Note: When placing call tabs in the window be sure to arrange them according to their frequency (kilocycles) that is: the station whose frequency is well within the range covered by the No. 1 button, should be placed above that button and so on with the rest of the buttons to be set.

Remove station selector push button escutcheon. Turn the receiver on and let it operate for a sufficient length of time to permit the tubes to reach their normal operating conditions.

It is essential that the frequency (kilocycles) of the station selected be within the range of the push button to be set for that station. See Fig. 1.

1. Turn the band change switch to the "American" position. Using the station selector knob, carefully tune in the station to which the No. 1 push button is to be set. Note program.
2. Turn the band change switch to the "Automatic" position and using a small screw driver, carefully turn in a clockwise direction the Oscillator adjusting screw until the station previously tuned in manually is heard again. Adjust for maximum output in the speaker.
3. Adjust the Antenna adjusting screw for maximum volume in the speaker.
4. Turn band change switch from "Automatic" to "American" and back again to check if adjustment has been correctly made. There should be no change in tone quality when switched from one to the other.
5. Repeat above procedure for the remaining push buttons.

To tune the receiver with the push buttons, set the band change switch on "Automatic" and depress completely the button corresponding to the station you wish to hear.

### TUBE VOLTAGE CHART

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

TUBE	FUNCTION	PIN NUMBER						
		1	2	3	4	5	6	7
6SK7—R. F. Amplifier		0	0	0	0	0	80	6.3 A. C.
6SA7—OSC.—Mod.		0	0	260	80	0	0	6.3 A. C.
6SK7—I. F. Amplifier		0	0	0	0	0	80	6.3 A. C.
6SQ7—Det. A. S. C. 1st A. F.		0	0	0	0	0	85	6.3 A. C.
6AD7—Phase Inverter		0	0	255	260	0	180	6.3 A. C.
6F6—Output		0	0	255	260	0	235	6.3 A. C.
5Y3G—Rectifier		N. C.	330	J. B.	300A.C.	J. B.	300 A. C.	J. B.

MAX. POWER OUTPUT.....6.5 WATTS

POWER CONSUMPTION.....85 WATTS

DROP ACROSS SPEAKER FIELD.....70 VOLTS

J. B.—Junction Block. N. C.—No Connection

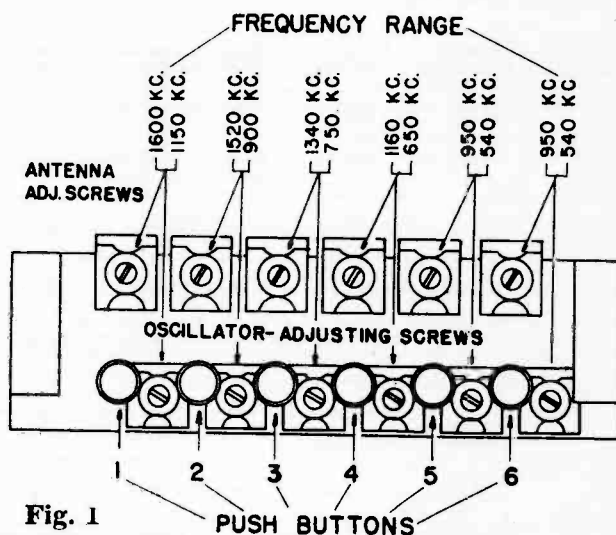


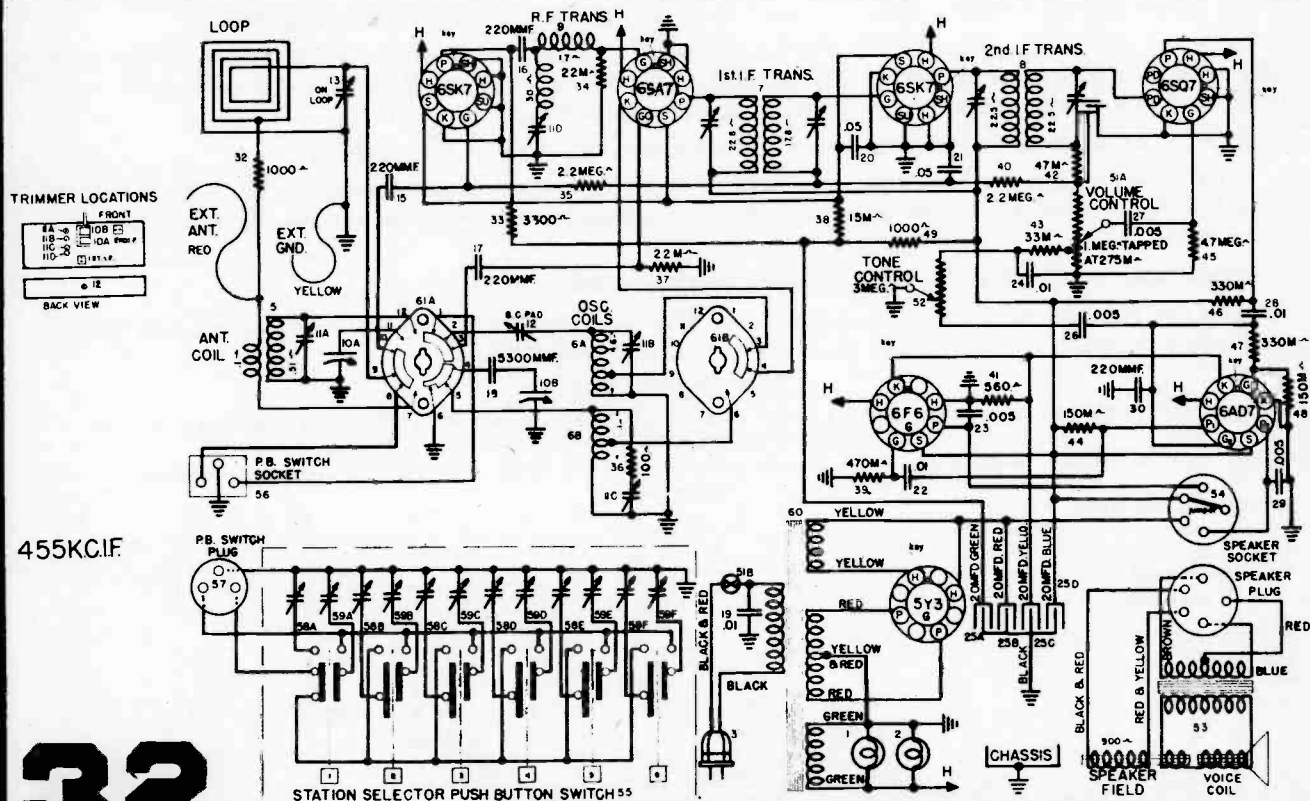
Fig. 1



**Crosley Model 72CA — Chassis Model No. 80**

Output Meter Connections.....	Plate of 6AD7 to Plate of 6F6
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

**IMPORTANT ALIGNMENT NOTES**—When aligning the shortwave band "OSC" trimmer care must be exercised to see that the circuit is aligned on the correct frequency and not on the image which is approximately 910 kilocycles less **as indicated on the Receiver 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 Receiver 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.)





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## INSTALLATION, OPERATION AND SERVICE INSTRUCTIONS FOR CROSLEY RADIO MODEL 52-TQ — CHASSIS No. 83

**THE RADIO-PHONO SWITCH** (center knob) when turned to the right is for radio broadcast reception and when turned to the left cuts off the radio signals and switches in changer. The Volume Control and Line Switch of the receiver must be turned on before the motor will operate. This volume control also controls the output level of the phonograph.

**THE AUTOMATIC RECORD CHANGER**—The record changer built in this combination will automatically play a series of twelve 10" or ten 12" records of the standard 78 R. P. M. type. The records must be all one size when loading, and may consist of less records than listed above.

### ALIGNMENT PROCEDURE CHART

Alignment Sequence	Dummy Antenna	Frequency Setting	Input Connection to Receiver	Phono. Radio Switch	Tuning Cond. Setting	Trimmer Adjusted	Remarks
1.	.0001 MF.	455 KC.	Antenna Lead	Radio	Fully Open	1st I-F(2) 2nd I-F(2)	Adjust for maximum signal. Adjust for maximum signal.
2.	.0001 MF.	1650 KC.	Antenna Lead (red)	Radio	Fully Open	B.C."Osc."	Adjust for maximum output. Gang does not have to tune through signal.
3.	.0001 MF.	1400 KC.	Antenna Lead (red)	Radio	140 Dial	B.C."Ant."	Adjust for maximum output.

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

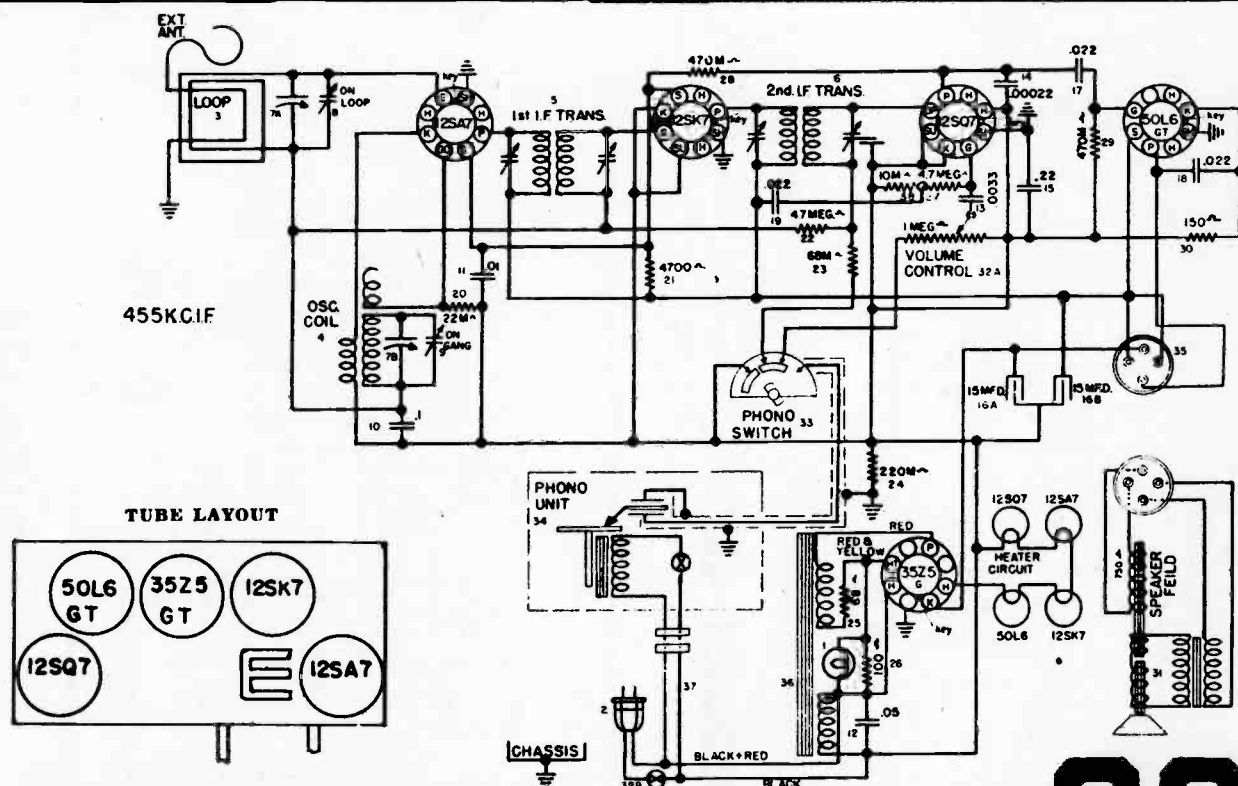
Socket Voltage is measured @ 117.5 V line

### TUBE VOLTAGE CHART

(BETWEEN SOCKET PINS AND B—) WITH 1000 OHM PER VOLT—500 V. RANGE D. C. VOLTMETER

TUBE	FUNCTION	PIN NUMBER							
		1	2	3	4	5	6	7	8
12SA7	Osc. Mod.	.....	.....	123	78	Neg.	0	.....	Neg.
12SK7	I. F. Amp.	.....	.....	0	Neg.	0	78	.....	123
12SQ7	Det., Etc.	.....	0	0	0	Neg.	18.5*	.....	0
50L6	B. P. O.	.....	.....	112	123	0	.....	.....	8.5
35Z5	Rect.	.....	.....	.....	.....	208AC	.....	.....	188

All voltages may vary 10% of values indicated. Neg. indicates Neg. reading on Voltmeter Scale but of too small a value to record accurately.  
\*Measured on 100 V. Scale. Power consumption at 117.5 V. line, 60 watts. Phono Motor 20 watts additional. Drop across Speaker Field—65 V. Current thru Speaker Field—90 M. A.





# 34



# SERIES 419



Detrola Radio



BAND SWITCH SHOWN IN 3rd POSITION.  
SWITCH IS TRUSS POSITION FOR 3rd G.





# Automatic Record Changer

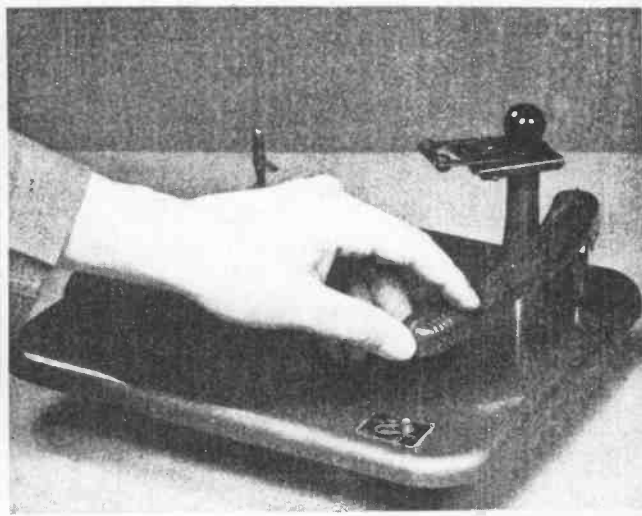
Model N-100 and N-200

Turn **automatic record support** for the size of record to be played—10-inch or 12-inch—and flip the **record alignment plate** away from the turntable.

**Tonearm** should be moved to engage notch marked "A" (automatic) on base of **tonearm** (See Fig. 3).

Place a series of up to twelve ten-inch records or a series of up to ten twelve-inch records on **center spindle** and **automatic record support**. Flip **record alignment plate** on to records.

Move **control lever** to "ON" position, hold for about  $\frac{1}{2}$  second to start automatic operation, then release.



## THE AUTOMATIC REJECT OPERATION

If, while playing a record, you desire to skip the remainder of the recording and pass immediately to the next record of the series, move the **control lever** to "REJ" (reject) position, then release.

## THE MANUAL REJECT OPERATION

If you desire to skip a number of records:

1. Lift the **tonearm** off the record and place in its normal or rest position, clear of the records.
2. Turn the **manual reject knob** clockwise, then release, dropping one record. Repeat until desired record is obtained, then carefully replace needle on edge of record.

## TO REMOVE RECORDS

Always drop all the records from the **automatic record support** (see "manual-reject operation") before removing the records from the **spindle**.

1. Flip **record alignment plate** away from records.
2. Remove **tonearm** to its normal or rest position.
3. Lift records vertically.

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To play a home recording disc, up to 10 inches in diameter, move **control lever** to "OFF" position, then:

1. Turn **automatic record support** for a 12-inch record.
2. **Tonearm** should be moved to engage notch marked "H" (home recording) on base of **tonearm** (See Fig. 2).
3. Move **control lever** to "ON" position and allow **tonearm** to go through its record changing cycle. If the home recording disc is 10" in diameter, the **tonearm** will fall correctly on the record; but for smaller records, the **tonearm** must be placed on the record by hand.
4. At the conclusion of the home recording selection, either return the **tonearm** to the rest position by hand or move the **control lever** to "REJ" position, then release.

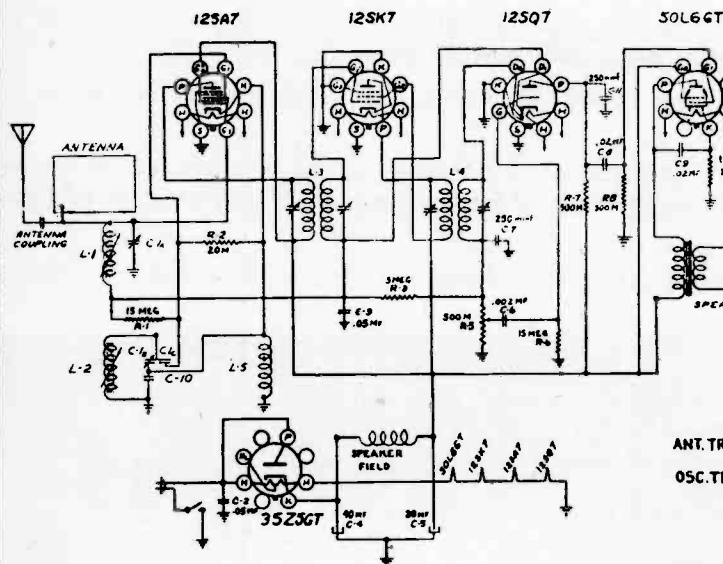
## SEMI-AUTOMATIC OPERATION

Old records that have neither a standard eccentric nor spiral finishing groove do not operate the automatic trip mechanism. They may be played either in a series or singly by moving the **control lever** to the "REJ" position at the conclusion of each selection.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## DETROLA MODEL 441

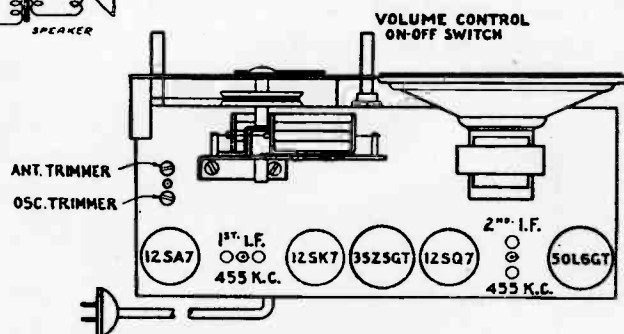


A signal generator which will provide an accurately calibrated signal at the frequencies listed.

An output meter.

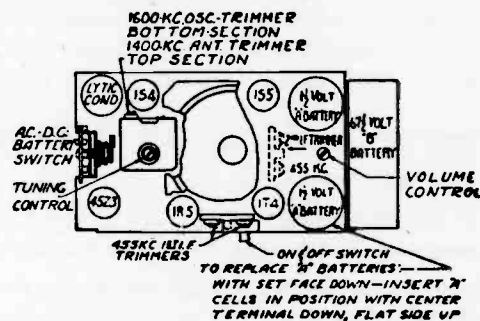
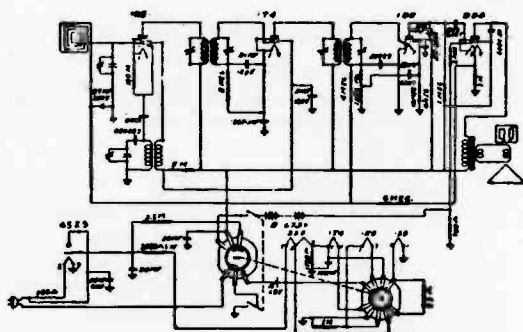
A non-metallic screw driver.

Dummy antennae—.1 mfd., 200 mmf.

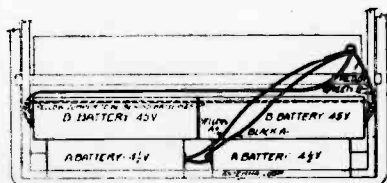


GENERATOR	CONNECTION AT RADIO	DUMMY ANTENNA	DIAL	TRIMMER TO TUNE	REMARKS
I.F. 455 kc.	12SA7 Grid	.1 mfd.	H. F. end	I.F. Transformers	Tune to Max.
1720 kc	Ext. Ant. Wire	200 mmf.	H. F. end	Oscillator Trimmer	Set Limit of band
1400 kc	Ext. Ant. Wire	200 mmf.	1400	Antenna Trimmer	Tune to Max.

### MODEL 3782 AC-DC AND BATTERY PERSONAL RADIO

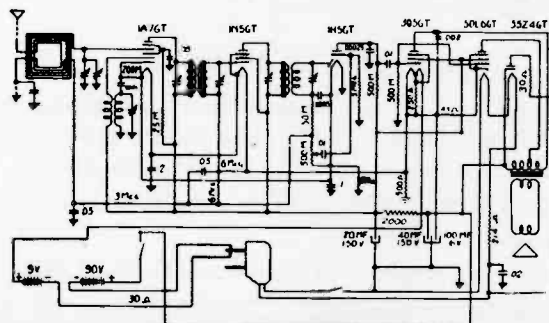


### MODELS 389 SERIES



# 36

Detrola Radio  
I.F. 455 KC.



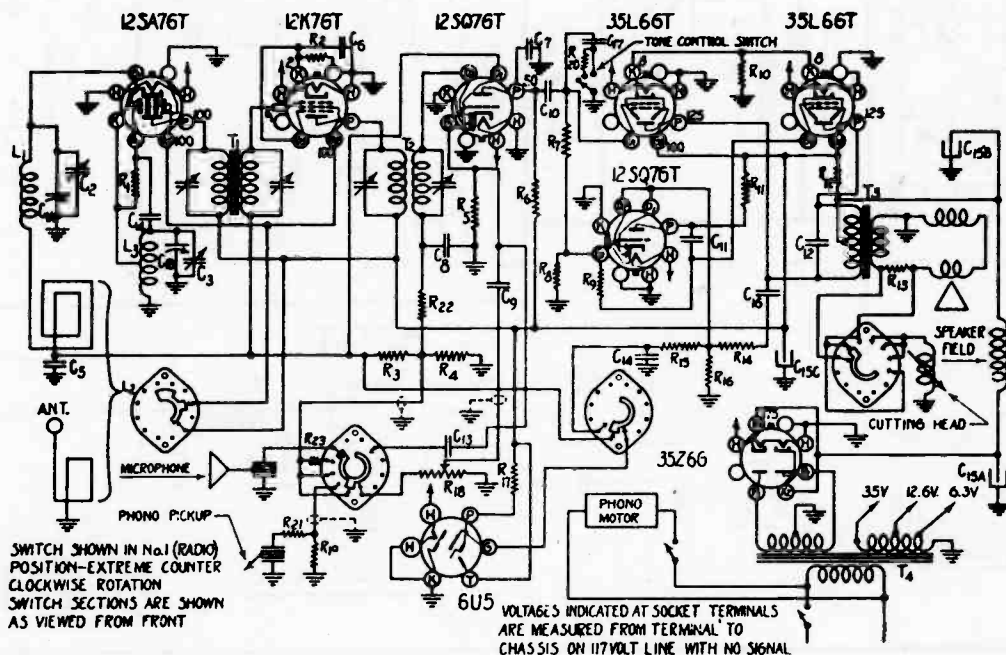
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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## DETROLA CORPORATION

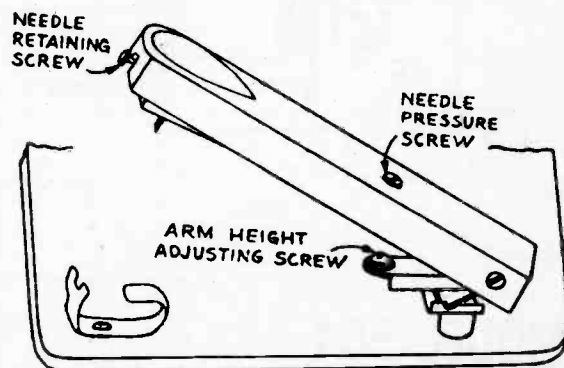
### MODEL 390



Schematic Location	Part Number	Description
	<b>CHASSIS PARTS</b>	
	4417	Button, Snap (Dial Mounting)
	8931	Cable, Tuning Tube
	2163	Cable, drive
	3227	Cap, Grid
R18	8910	Control, Volume and Switch
	1732	Cord, Line
	6424	Clamp, Linecord
	4314	Clamp, Tapped—For Tuning Tube
	4315	Clamp, Plain—For Tuning Tube
	8422	Coil, Oscillator
L3	8423	Coil, Tracking
L1	8911	Condenser, Variable (with Pulley)
C1a,b	8504	Condenser, Dual Trimmer
C2,3	8425	Condenser, Electrolytic (20-250)—(20-150)—(20-150)
C15a,b,c		
C4		Condenser, 100 Mmf. Mica
C5,14		Condenser, 1 Mfd. 200 v.
C6		Condenser, .05 Mfd. 200 v.
C7		Condenser, 250 Mmf. Mica
C8		Condenser, 100 Mmf. Mica
C9		Condenser, .002 Mfd. 600 v.
C10,16		Condenser, .01 Mfd. 400 v.
C11		Condenser, .05 Mfd. 400 v.
C12,13		Condenser, .001 Mfd. 600 v.
C17		Condenser, .005 Mfd. 600 v.
	7209	Grommet, Tuner Assembly Mtg.
	9121	Dial Chart
	8941	Microphone Socket Assembly
	6244	Pulley, Idler
	5026	Pointer
	6158	Pilot Lite
	1207	Retainer, "C" Washer (Holds Tuning Shaft)
R1		Resistor, 20M, 1/3 Watt
R2		Resistor, 200 Ohm, 1/3 Watt

Schematic Location	Part Number	Description
R3,4,14,16		Resistor, 1 Meg. 1/3 Watt
R5		Resistor, 10 Meg. 1/3 Watt
R6,7,8,9,11		Resistor, 200M. 1/3 Watt
R10		Resistor, 120 Ohm, 1/2 Watt
R12		Resistor, 1000 Ohm, 1 Watt
R13		Resistor, 35 Ohm, 1/2 Watt
R15		Resistor, 2 Meg. 1/3 Watt
R17		Resistor, 1 Meg (in Tuning Tube Socket)
R19,20,21,22		Resistor, 50M, 1/3 Watt
R23		Resistor, 4 Meg. 1/3 Watt

#### RECORDING ARM ADJUSTMENTS





De Wald Radio Mfg. Corp.      New York



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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Emerson Radio

**MODELS: EC-296, EC-301, EC-314, EC-315, EC-327, EC-336, EC-347, EC-353, EC-366, EC-242, EC-376 and EC-425**

R1	20,000 ohm ¼ watt carbon resistor
R2, R6	15 megohm ¼ watt carbon resistor
R3	140 ohm ½ watt wire-wound resistor
R4	3 megohm ¼ watt carbon resistor
R5	Volume control .5 megohm
R7, R8	500,000 ohm ¼ watt carbon resistor
R11	200,000 ohm ¼ watt carbon resistor
C1, C2	Two-gang variable condenser
C3, C16	0.002 mf, 600 volt tubular condenser
C4, C15	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	0.05 mf, 200 volt tubular condenser
C14	0.05 mf, 400 volt tubular condenser
C17, C18	0.02 mf, 400 volt tubular condenser
C26	0.2 mf, 200 volt tubular condenser.

### VOLTAGE ANALYSIS

Tube	Plate	Screen	Cathode
12SA7	88	88	0
12SK7	88	88	0
12SQ7	30	—	0
50L6	82	88	5.6

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

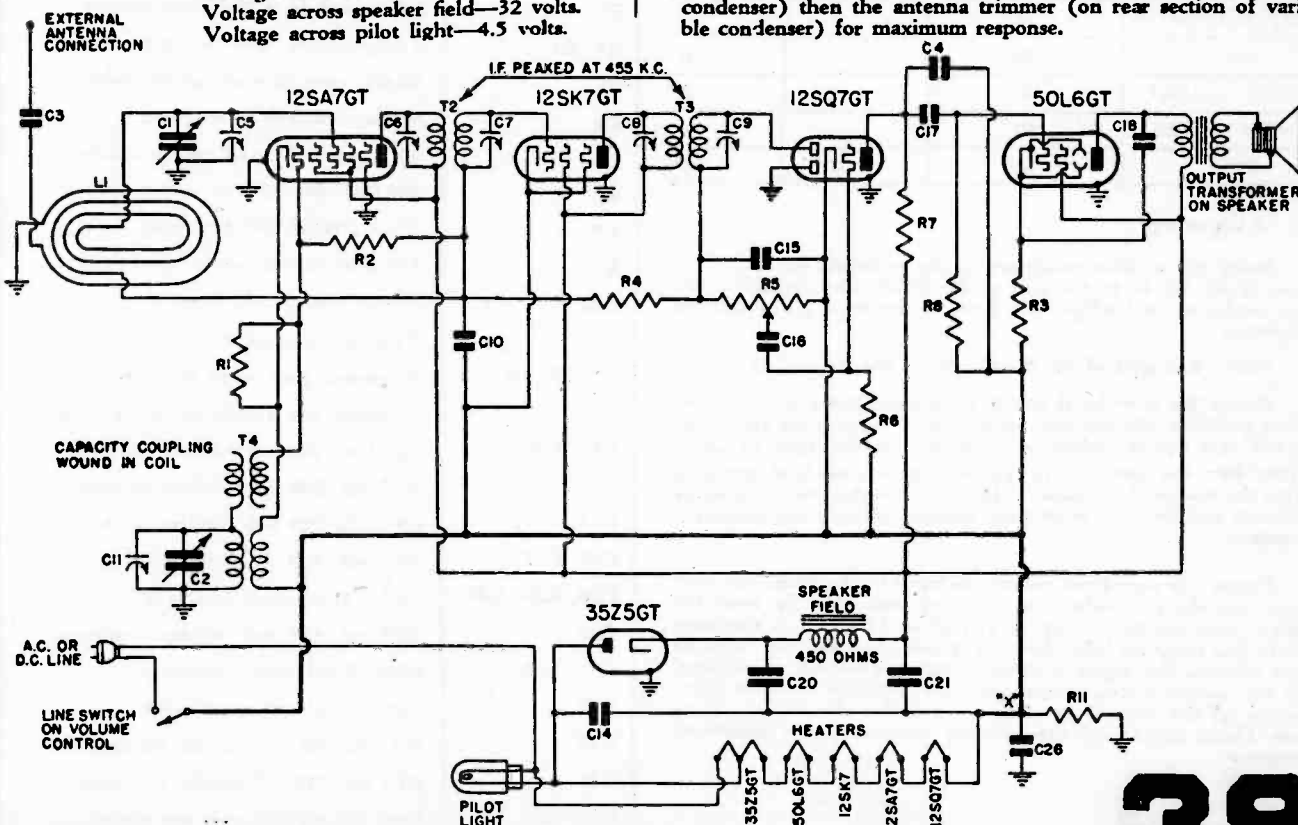
### I-f Alignment

Swing the variable condenser to the minimum capacity position. Feed 455 kc to the grid of the 12SA7 tube through a .01 mf condenser and adjust the four i-f trimmers for maximum response.

Note: The grid of the 12SA7 tube is connected to the stator lug of the rear variable condenser section. Connection may be made with a test clip.

### R-f Alignment

Set the dial pointer at 140. Set the signal generator at 1400 kc and feed its output into a loop of wire about 12 inches in diameter. Hold this radiating loop about 12 inches from and parallel to the receiver loop antenna. Advance the output of the signal generator until deflection is obtained on the output meter. Adjust first the oscillator trimmer (on front section of variable condenser) then the antenna trimmer (on rear section of variable condenser) for maximum response.

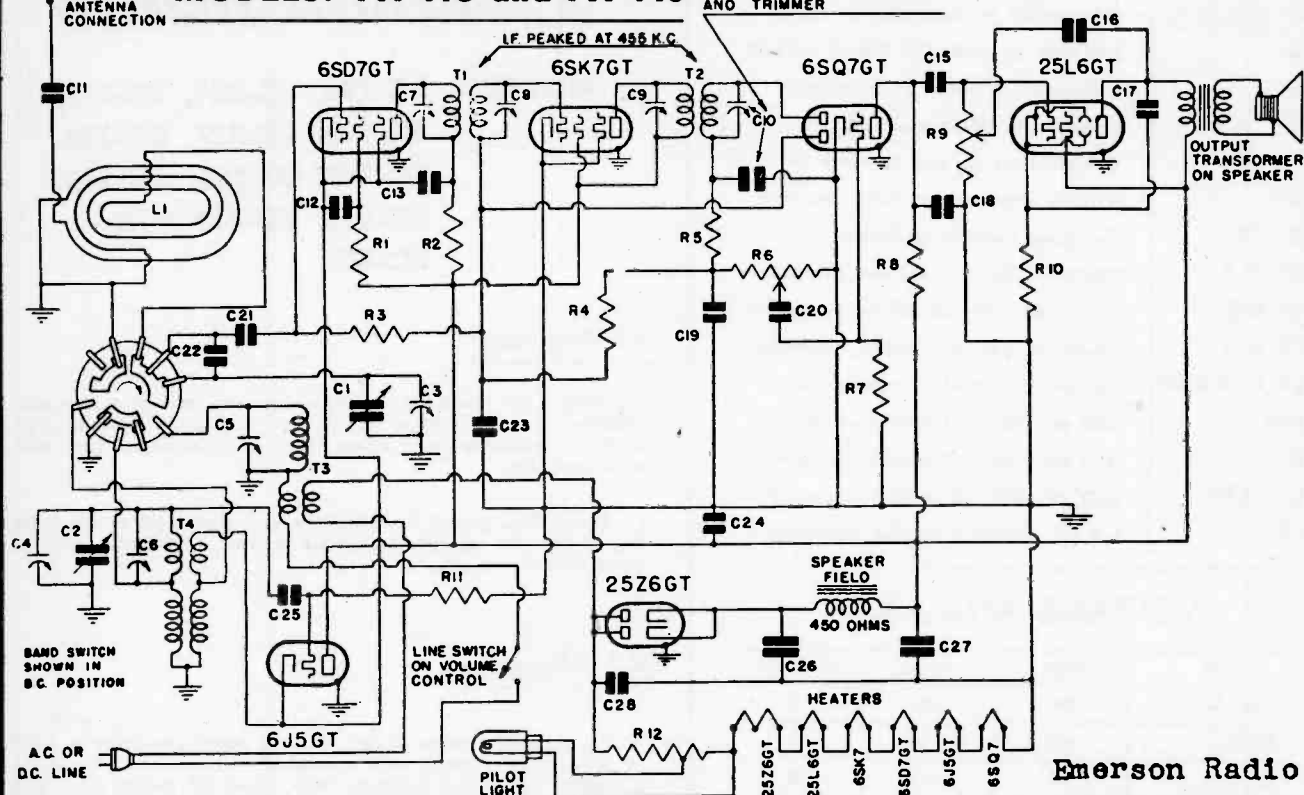




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## MODELS: FH-413 and FH-440

C10 IS COMPOSED OF TWO PARTS, A FIXED CONDENSER AND A TRIMMER



Emerson Radio

Tube	Plate	Screen	Cath
6SG7, 6SD7 or 7H7	92	63	0
6J5	102	—	0
6SK7 or 7A7	102	102	0
6SQ7 or 7B6	30	—	—
25L6	92	102	6.5

### Alignment

Swing the variable condenser to the minimum capacity position. Feed 455 kc to the grid of the 6SD7 tube through a .01 mf condenser and adjust the four i-f trimmers for maximum response.

Note: The grid of the 6SD7 tube is the No. 4 pin.

Rotate the wave-band switch counter-clockwise to the short-wave position. Set the dial pointer at 12 megacycles and using a 400 ohm carbon resistor as a dummy antenna feed 12 megacycles from the generator to the external antenna lead emerging from the rear of the chassis. Adjust first the short-wave oscillator trimmer and then the short-wave antenna trimmer for maximum response.

Rotate the wave-band switch clockwise to the broadcast position. Set the dial pointer at 160 and feed 1600 kc from the signal generator into a loop of wire about 12 inches in diameter. Hold this radiating loop about 12 inches from the loop antenna and advance the signal generator until a deflection is obtained on the output meter. Adjust first the oscillator trimmer (rear section of the variable condenser) and then the antenna trimmer (front section of the variable condenser) for maximum response.

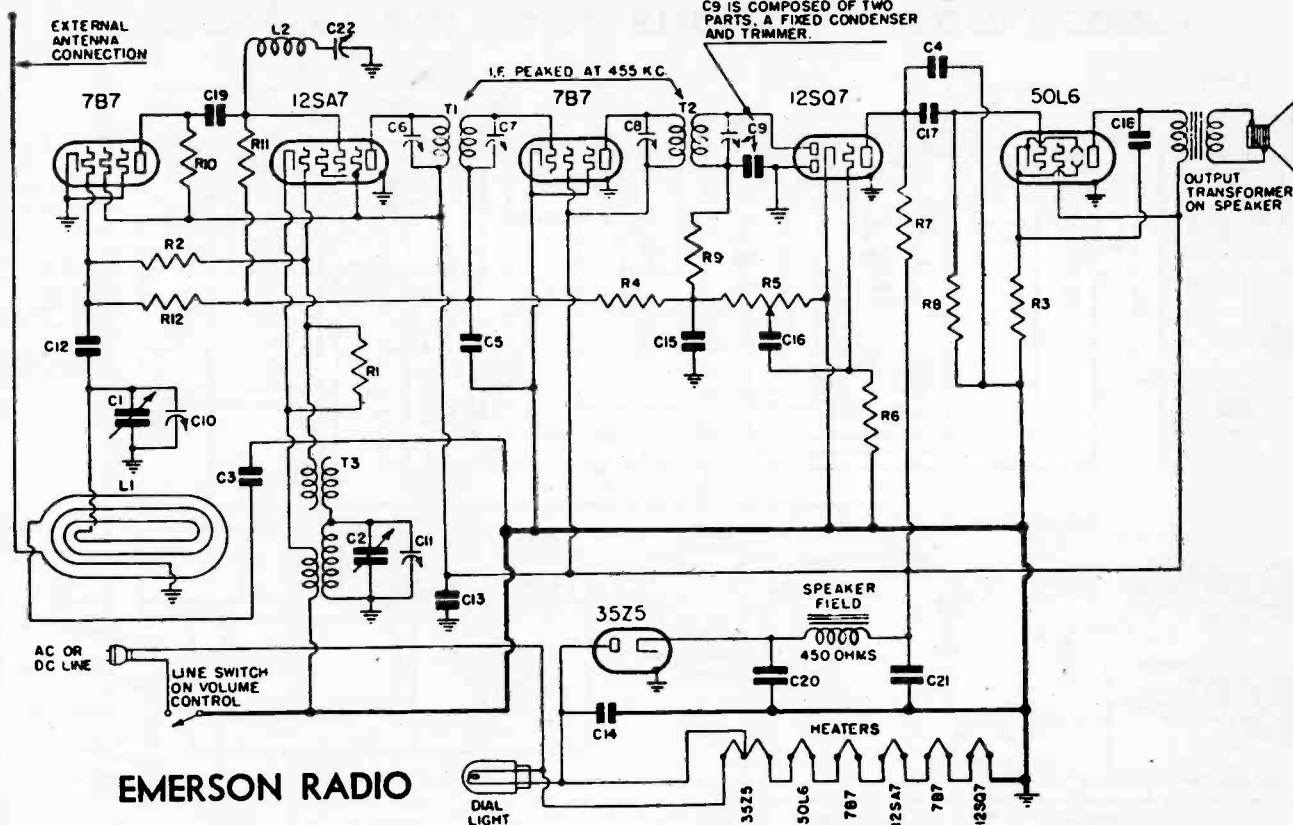
R1, R11	50,000 ohm ¼ watt carbon resistor.
R2	5,000 ohm ¼ watt carbon resistor
R3, R4	3 megohm ¼ watt carbon resistor.
R5	50,000 ohm ¼ watt carbon resistor
R6	Volume control: .5 megohm
R7	10 megohm ¼ watt carbon resistor.
R8	500,000 ohm ¼ watt carbon resistor
R9	Tone control: 400,000 ohm
R10	140 ohm ½ watt wire-wound resistor
R12	Ballast resistor, 155 ohm
†C6	Trimmer, part of T4.
†C7, C8, C9	Trimmers, part of i-f transformers.
†C10	Trimmer and 0.0001 mf, mica condenser
C11, C20	0.002 mf, 600 volt tubular condenser
C12	0.02 mf, 200 volt tubular condenser
C13	0.05 mf, 200 volt tubular condenser.
C15, C17	0.02 mf, 400 volt tubular condenser
C16, C18, C21	0.00022 mf, mica condenser
C28	0.05 mf, 400 volt tubular condenser
C19, C25	0.00011 mf, mica condenser
C22	0.00046 mf, mica condenser
C23	0.1 mf, 200 volt tubular condenser.
C24	0.01 mf, 400 volt tubular condenser
C26, C27	Dual 20 mf, 150 volt dry electrolytic

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## FL-414, FL-415, FL-416, FL-417, FL-418 and FL-419

R1	20,000 ohm 1/4 watt carbon resistor.....
R2	10 megohm 1/4 watt carbon resistor.....
R3	140 ohm 1/4 watt wire-wound resistor...
R4	3 megohm 1/4 watt carbon resistor.....
R5	Volume control .5 megohm
R6	15 megohm 1/4 watt carbon resistor
R7, R8	500,000 ohm 1/4 watt carbon resistor
R9	50,000 ohm 1/4 watt carbon resistor
R10	10,000 ohm 1/4 watt carbon resistor.....
R11	25,000 ohm 1/4 watt carbon resistor.....
R12	1 megohm 1/4 watt carbon resistor.....
C1, C2	Two-gang variable condenser.....
C3, C16	0.002 mf, 600 volt tubular condenser...
C4	0.0002 mf, 600 volt tubular condenser
C5, C13	0.05 mf, 200 volt tubular condenser.....
C6, C7, C8	Trimners, part of i-f transformers.
C9	Trimmer and fixed condenser
C10, C11	Trimners, part of variable condenser.
C12	0.00022 mica condenser.....
C14	0.05 mf, 400 volt tubular condenser...
C15, C19	0.00011 mica condenser.....
C17	0.02 mf, 400 volt tubular condenser...
C18	0.03 mf, 400 volt tubular condenser...
C20, C21	Dual 20 mf, 150 volt dry electrolytic

## Location of Coils and Trimmer Adjustments

The first i-f transformer is mounted on top of the chassis deck to the left of the variable condenser. The trimmers are accessible through holes in the top of the can.

The second i-f transformer is mounted on top of the chassis between the 7B7 tube and the speaker. The trimmers are accessible through holes in the top of the can.

The 455 kc wave-trap is located below the chassis deck.

The trimmers for the antenna and oscillator coils are located on the variable condenser. The trimmer on the front section is for the oscillator coil.

The oscillator coil is located underneath the chassis. The loop antenna acts as the antenna coil.

## VOLTAGE ANALYSIS

Tube	Plate	Screen	Cathode
7B7 (r-f)	18	88	0
12SA7	88	88	0
7B7	88	85	0
12SQ7	30	—	0
50L6GT	82	88	5.6

Voltage at 35Z5GT cathode—120 volts.

Voltage across speaker field—32 volts.

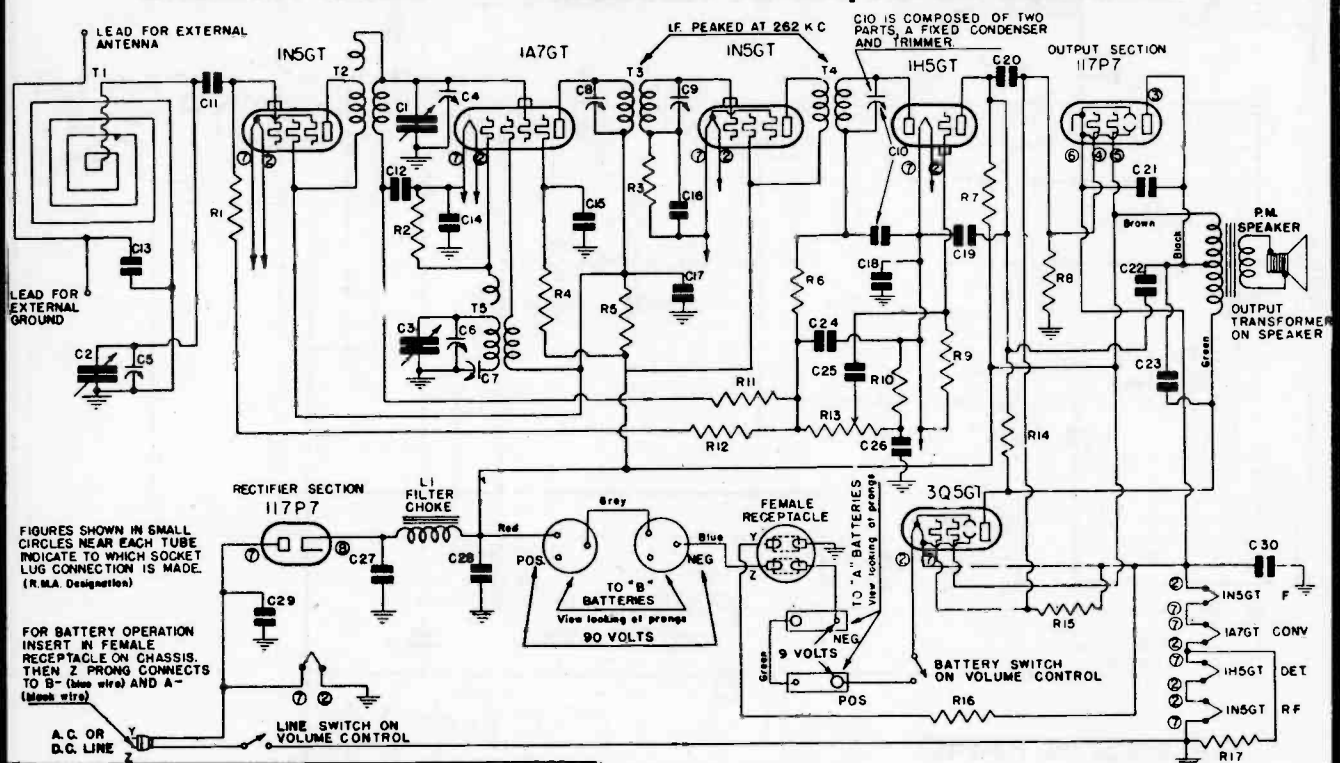
Voltage across pilot light—4.5 volts.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## EMERSON RADIO

### MODELS: FU-424, FU-427 and FU-428



R1	2 megohm $\frac{1}{4}$ watt carbon resistor.
R2	200,000 ohm $\frac{1}{4}$ watt carbon resistor
R3	5 megohm $\frac{1}{4}$ watt carbon resistor.....
R4	30,000 ohm $\frac{1}{4}$ watt carbon resistor
R5	1,000 ohm $\frac{1}{4}$ watt carbon resistor....
R6	47,000 ohm $\frac{1}{4}$ watt carbon resistor
R7, R8	500,000 ohm $\frac{1}{4}$ watt carbon resistor
R9	10 megohm $\frac{1}{4}$ watt carbon resistor
R10	4,000 ohm $\frac{1}{4}$ watt carbon resistor
R11, R12, R14, R15	3 megohm $\frac{1}{4}$ watt carbon resistor
R13	Volume control .5 megohm
R16	1,200 ohm $\frac{1}{4}$ watt carbon resistor
R17	860 ohm $\frac{1}{2}$ watt wire-wound resistor
C1, C2, C3	Three-gang variable condenser.....
C4, C5, C6	Part of variable condenser.
C7	Padder condenser .....
C8, C9, C10	Trimmers, part of i-f transformers.
C11, C12, C16, C17	0.05 mf, 200 volt tubular condenser
C13, C23, C25	0.002 mf, 600 volt condenser.....
C14, C18, C26	0.25 mf, 100 volt tubular condenser
C15	0.02 mf, 200 volt tubular condenser
C16, C17	0.05 mf, 200 volt tubular condenser
C19	0.0004 mf, 600 volt tubular condenser
C20	0.02 mf, 400 volt tubular condenser
C21	0.01 mf, 400 volt tubular condenser
C22	0.00006 mf, mica condenser.....
C24	0.00011 mf, mica condenser.....
C26	0.25 mf, 100 volt tubular condenser
C27, C28	Dual 20 mf, 150 volt dry electrolytic
C29	0.05 mf, 400 volt tubular condenser.....
C30	40 mf, 25 volt dry electrolytic condenser

## Location of Coils and Trimmer Adjustments

The oscillator coil is located beneath the chassis. The trimmer for the oscillator is on the middle section of the variable condenser.

The interstage coil is the shielded coil located beneath the chassis. Its trimmer is on the front section of the variable condenser.

The trimmer for the loop antenna is on the last section of the variable condenser (the section nearest the loop).

The i-f transformers are mounted on top of the chassis. The first i-f transformer is mounted next to the loop. The second i-f transformer is mounted next to the dial.

The series padder is located between the variable condenser and the shielded 1N5 tube.

Note: This receiver has an i-f of 262 kc.

Swing variable condenser to minimum capacity position.

Feed 262 kc to the grid of the 1A7 tube through a 0.01 mf condenser. Adjust the three i-f trimmers for maximum response.

Set the dial pointer at 140. Feed 1400 kc from the signal generator into a loop of wire about one foot in diameter. Hold this radiating loop approximately one foot away from and parallel to the receiver loop and advance the output of the signal generator until a suitable deflection is obtained on the output meter. Adjust first the oscillator trimmer (middle section) then the interstage and loop trimmers for maximum response. Move dial pointer to 60 and feed 600 kc into the radiating loop and adjust the series padding condenser (while rocking the variable condenser back and forth) for maximum response. Realign at 1400 kc.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Emerson Radio

**MODEL: GC-448**

**CHASSIS MODEL: GC**

R1, R10	3 megohm ¼ watt carbon resistor.....
R2	100,000 ohm ¼ watt carbon resistor.
R3	15,000 ohm ¼ watt carbon resistor....
R4, R6	15 megohm ¼ watt carbon resistor....
R5	75 ohm ½ watt carbon resistor.....
R7, R9	1 megohm ¼ watt carbon resistor.....
R8	5 megohm ¼ watt carbon resistor.....
R11	2500 ohm 1 watt carbon resistor.....
R12	10 megohm ¼ watt carbon resistor....
R13	Volume control 3. megohm.....
R14	500 ohm 1 watt carbon resistor.....
R15	980 ohm ½ watt wire-wound, moulded
R16	1500 ohm 5 watt wire-wound, ceramic
R17	950 ohm 5 watt wire-wound, ceramic
C5, C17	0.02 mf, 100 volt tubular condenser....
C6, C7, C9	0.25 mf, 100 volt tubular condenser....
C8	0.00005 mf, ceramic condenser.....
C10, C11	Trimmer, part of i-f transformer.
C12	0.01 mf, 100 volt tubular condenser....
C13	Fixed condenser, part of i-f transformer.
C14, C19	0.0001 mf, ceramic condenser.....
C15	0.001 mf, 100 volt tubular condenser....
C16, C21	0.002 mf, 150 volt tubular condenser....
C18	40. mf, 40 volt dry electrolytic condenser
C20	0.001 mf, 100 volt flat wound condenser

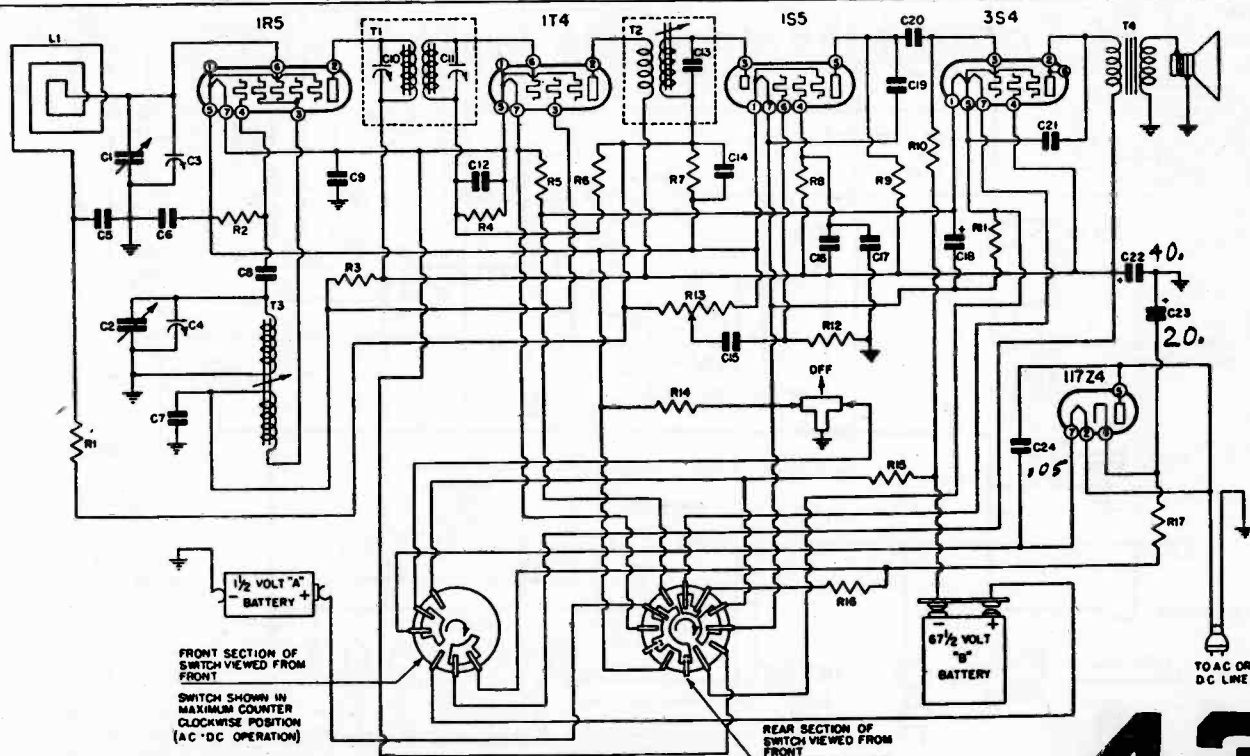
### I-f Alignment

Rotate variable condenser to minimum capacity position.

Feed 455 kc to the grid of the 1R5 tube through a 0.01 mf condenser. Adjust the three i-f trimmer screws for maximum response. (Clip the i-f input to the stator lug of the larger variable condenser section.)

### R-f Alignment

Set the dial pointer at 160. Set the signal generator at 1600 kc and feed its output into a loop of wire about one foot in diameter. Hold this radiating loop about one foot away from and parallel to the receiver loop antenna. Advance the output of the generator until deflection is obtained on the output meter. Adjust first the oscillator trimmer (smaller section of variable condenser) then the antenna trimmer (larger section of variable condenser) for maximum response. Set the dial pointer at 60. Feed 600 kc and rock the variable condenser while adjusting the oscillator core adjustment for maximum response. Return to 1600 and check alignment. If re-adjustment is necessary return to 600 and repeat entire procedure.





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

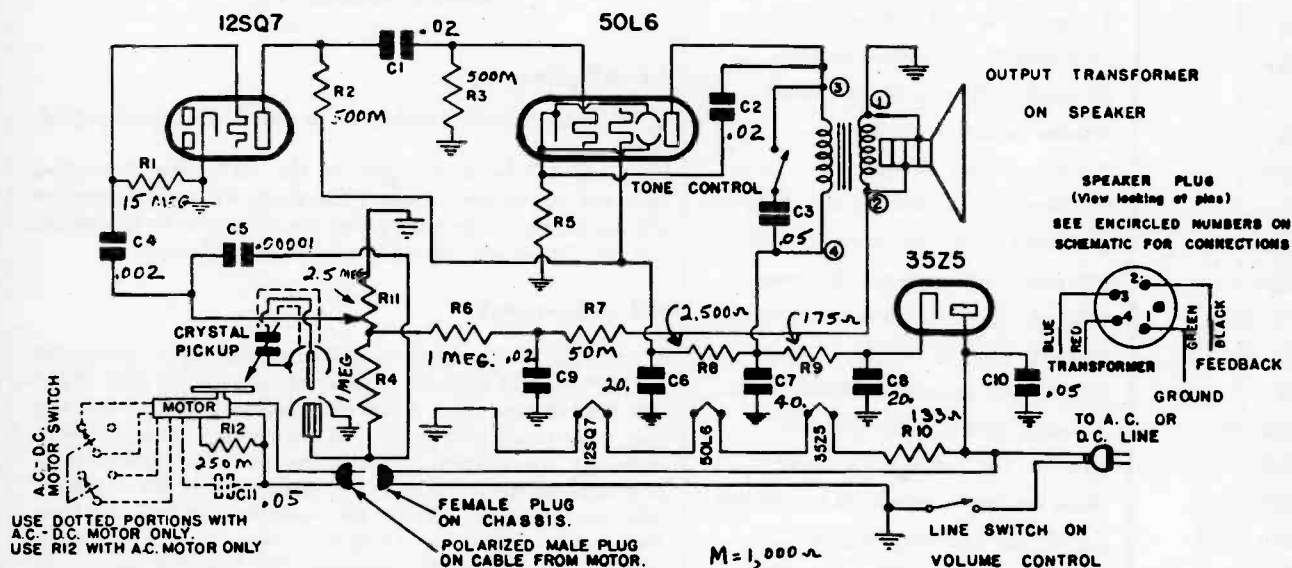
## Emerson Radio

**MODEL: FY-434**

CHASSIS MODEL: FY

**MODEL: FY2-434 A.C.-D.C.**

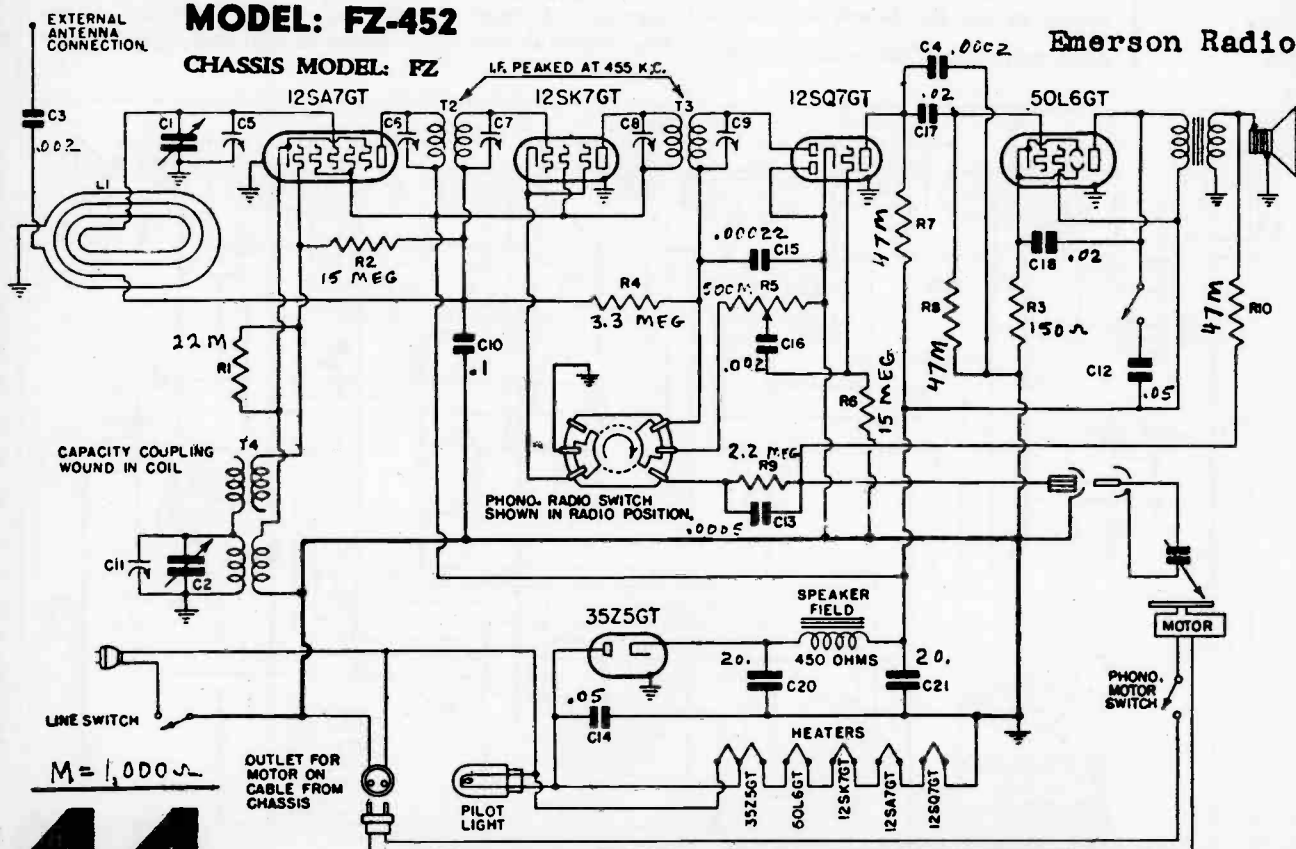
CHASSIS MODEL: FY2



**MODEL: FZ-452**

CHASSIS MODEL: FZ

Emerson Radio





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Emerson Radio

### I-f and Wave-trap Alignment

Swing the variable condenser to the minimum capacity position. Feed 455 kc to the grid of the 12SA7 tube through a .01 mf condenser and adjust the four i-f trimmers for maximum response.

Feed 455 kc to the external antenna lead and adjust the wave-trap for minimum response.

Note: The grid of the 12SA7 tube is the No. 8 pin.

### VOLTAGE ANALYSIS

Tube	Plate	Screen	Cathode
12SA7	88	88	0
12SK7	48	46	0
12SF7	89	89	0
12SJ7	8	14	—
50L6GT	108	89	5.1

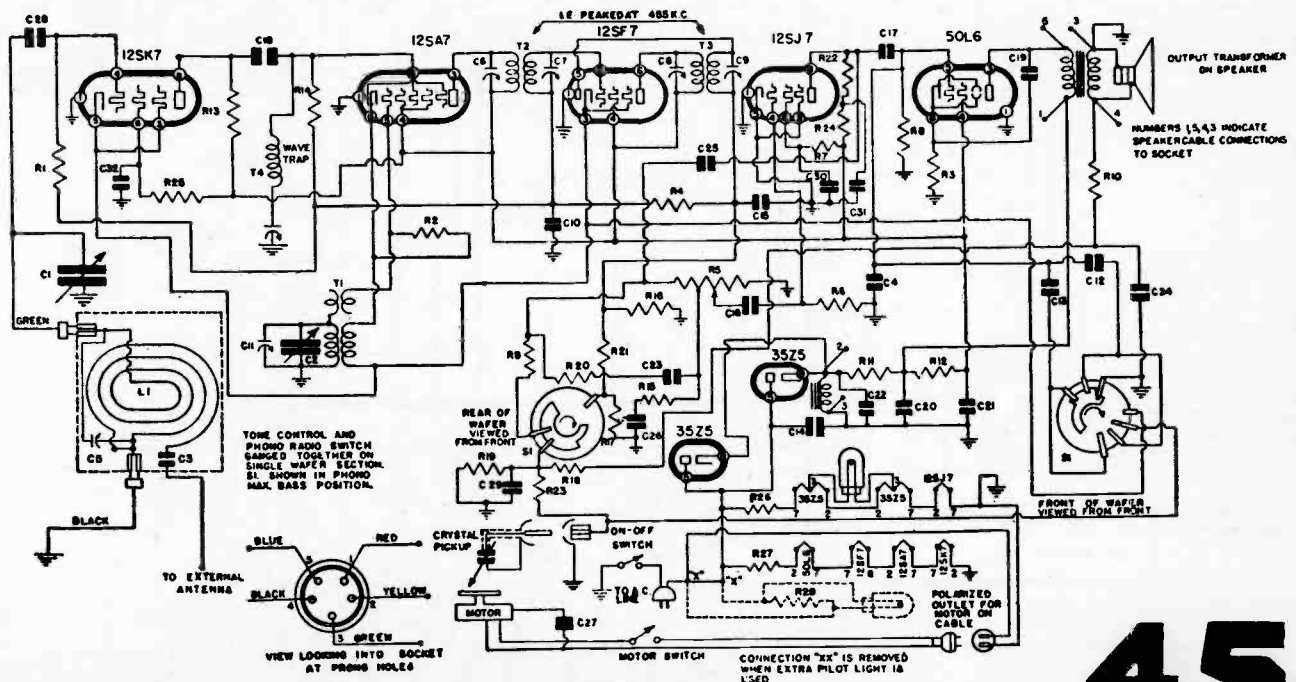
**MODEL: GH-437, GH-447**

**CHASSIS MODEL: GH**

**MODEL: GH2-447**

**CHASSIS MODEL: GH2**

R1, R7, R18, R19	1 megohm 1/4 watt carbon resistor.....
R2	20,000 ohm 1/4 watt carbon resistor.....
R3	140 ohm 1/2 watt wire wound resistor
R4	3 megohm 1/4 watt carbon resistor.....
R5	Volume control 2.5 meg.....
R6	10 megohm 1/4 watt carbon resistor.....
R8, R16, R17, R20	500,000 ohm 1/4 watt carbon resistor..
R9, R10, R24	50,000 ohm 1/4 watt carbon resistor....
R11	175 ohm 1 watt carbon resistor.....
R12	750 ohm 1 watt wire-wound resistor.
R13	10,000 ohm 1/4 watt carbon resistor....
R14	25,000 ohm 1/4 watt carbon resistor....
R15, R23	100,000 ohm 1/4 watt carbon resistor.
R21, R22	100,000 ohm 1/4 watt carbon resistor.
R25	30,000 ohm 1/4 watt carbon resistor....
R26, R27, R28	Ballast resistor: R26—233 ohm, 6 watt; R27—190 ohm, 5 watt; R28—250 ohm, 3 watt
C1, C2	Two-gang variable condenser.....
C3, C16	0.002 mf, 600 volt tubular condenser..
C4	0.0004 mf, 600 volt tubular condenser..
C5	Trimmer, part of loop assembly.
C6, C7, C8, C9	Trimmers, part of variable condenser.
C11	Trimmer, part of variable condenser.
C10	0.1 mf, 200 volt tubular condenser.....
C12	0.0006 mf, 600 volt tubular condenser
C13	0.0015 mf, 600 volt tubular condenser
C14	0.05 mf, 400 volt tubular condenser.....
C15	0.0002 mf, 600 volt tubular condenser
C17	0.02 mf, 400 volt tubular condenser....
C18	0.00011 mf, mica condenser.....
C19	0.005 mf, 400 volt tubular condenser
C20, C21, C22	Multiple dry electrolytic condenser: 150 volt; C20—20 mf; C21—80 mf; C22—40 mf
C23	0.00025 mf, mica condenser.....
C24, C27, C30	0.05 mf, 200 volt tubular condenser..
C31, C32	0.000026 mf, mica condenser.....
C25	0.001 mf, 600 volt tubular condenser
C26	0.00022 mf, mica condenser.....
C28	0.00022 mf, mica condenser.....
C29	0.0003 mf, mica condenser.....



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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Emerson Radio

R1	20,000 ohm 1/4 watt carbon resistor....
R2, R6	15 megohm 1/4 watt carbon resistor....
R3	140 ohm 1/2 watt wire-wound resistor
R4	2 megohm 1/4 watt carbon resistor....
R5	Volume control .5 meg. (Model 431)
R5	Volume control .5 meg. (Model 439)
R7, R8	500,000 ohm 1/4 watt carbon resistor
R9	50,000 ohm 1/4 watt carbon resistor
R10	10,000 ohm 1/4 watt carbon resistor
R11	25,000 ohm 1/4 watt carbon resistor
R12, R13	R12—130 ohm, 12.5 watt; R13—25 ohm
R14	220,000 ohm 1/4 watt carbon resistor....
C1, C2	Two-gang variable condenser.....
C3, C16	0.002 mf, 600 volt tubular condenser.
C4	0.0002 mf, 600 volt tubular condenser
C5	0.05 mf, 200 volt tubular condenser
C12, C19	0.00022 mica condenser.....
C13	0.05 mf, 200 volt tubular condenser.
C14	0.05 mf, 400 volt tubular condenser.
C15	0.04 mf, 200 volt tubular condenser.
C17, C18	0.02 mf, 400 volt tubular condenser.
C19	0.00022 mica condenser.....
C20, C21	Dual 20 mf, 150 volt, dry electrolytic
C22	Trimmer, part of L2.
C23	0.2 mf, 200 volt tubular condenser

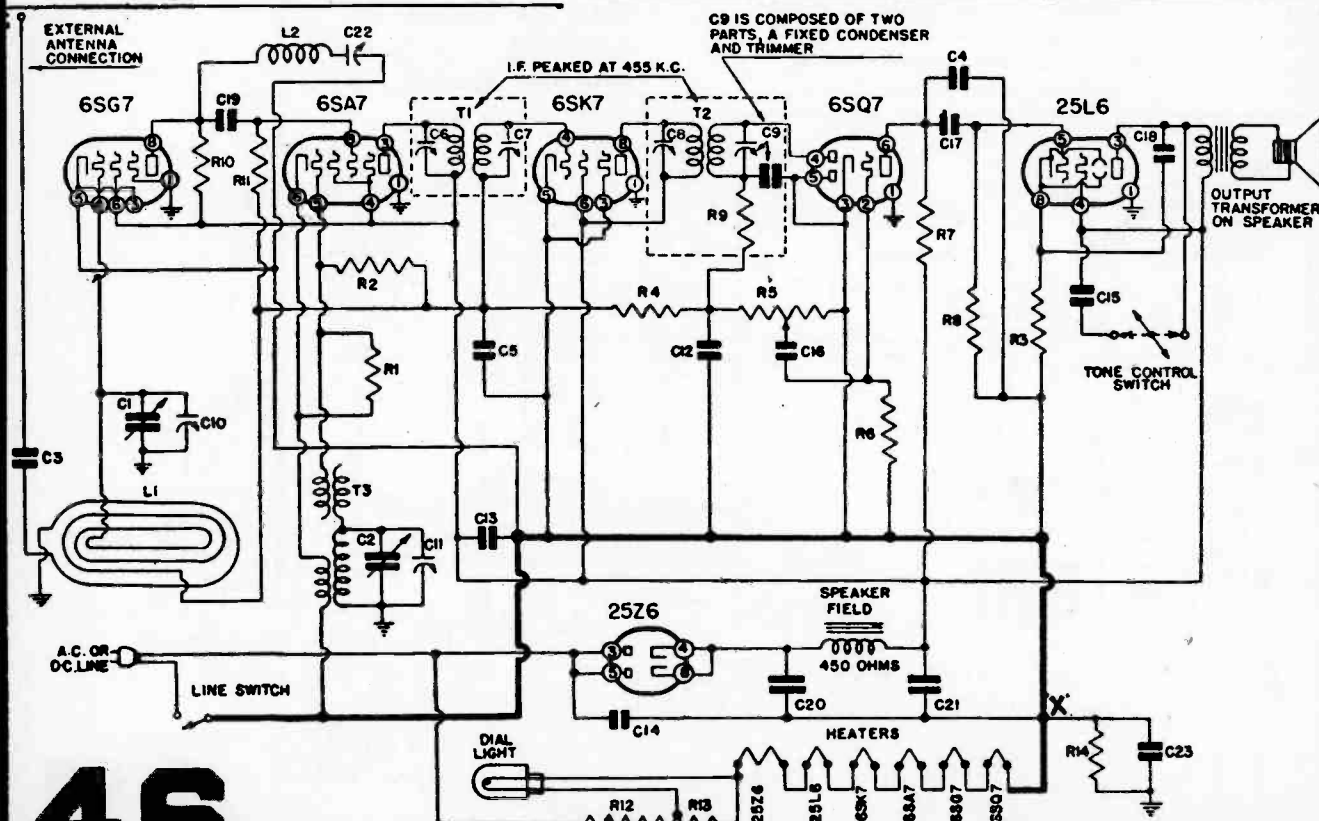
**MODELS: GA-439 and GA-441**  
CHASSIS MODEL: GA

**MODELS: GA1-439 and GA1-441**  
CHASSIS MODEL: GA1

### R-f Alignment

Set the dial pointer at 140. Feed 1400 kc from the signal generator into a loop of wire about one foot in diameter. Hold this radiating loop about 12 inches away from and parallel to the receiver loop antenna. Advance the input to the loop until a satisfactory deflection is obtained on the output meter. Adjust first the oscillator trimmer then the antenna trimmer for maximum response. If the loop antenna has been replaced it may be necessary to retrack the loop inductance. With the dial set at 60 feed 600 kc to the antenna lead. A portion of the outside may be swung to either side of the center to give maximum response. Repeat the trimmer alignment at 140.

Tube	Plate	Screen	Cathode
6SG7 or 7H7	87	39	0
6SA7	87	87	0
6SK7 or 7A7	87	87	0
6SQ7 or 7B6	32	—	0
25L6	79	87	6.0



# 46

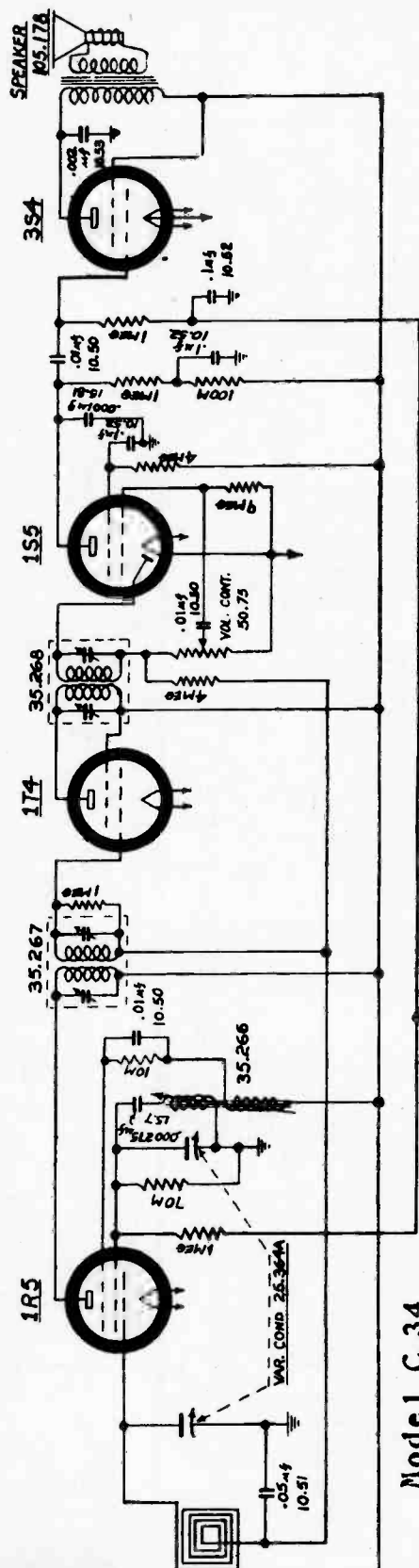
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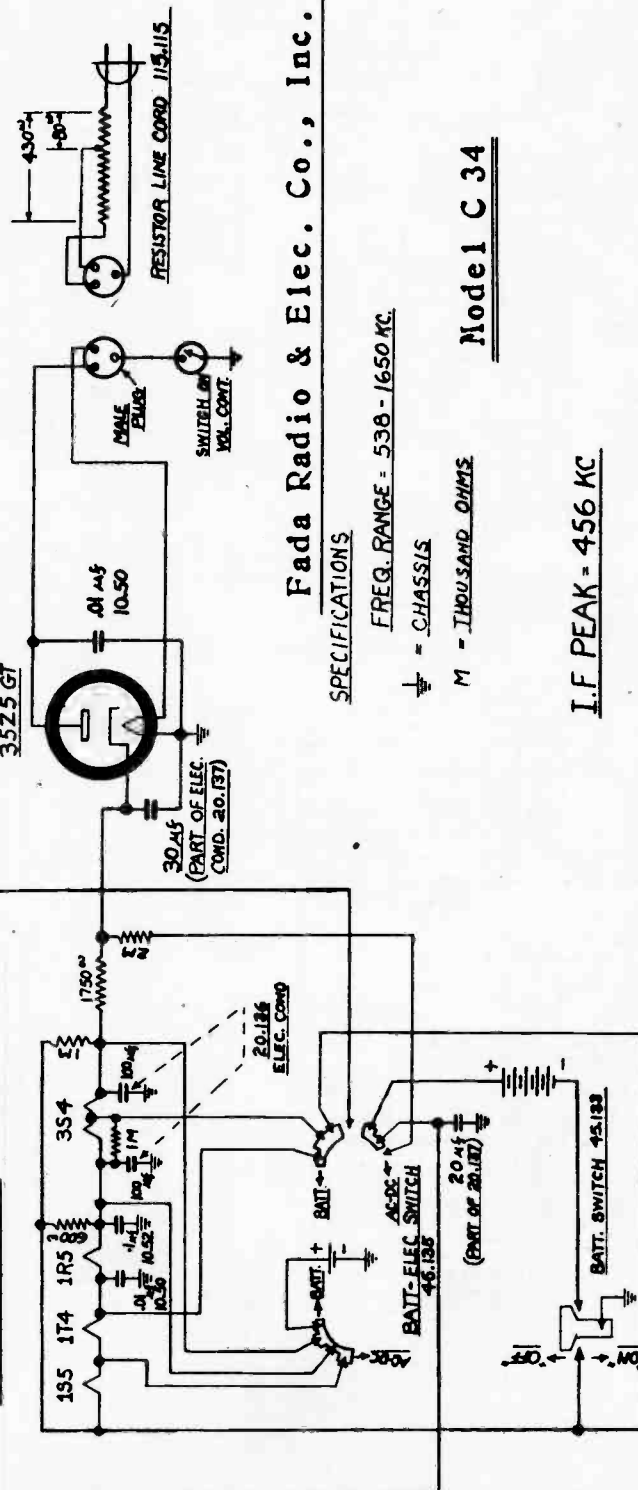




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Model C 34



Fada Radio & Elec. Co., Inc.

## SPECIFICATIONS

FREQ. RANGE = 530 - 1650 KC.

⌚ = CHASSIS

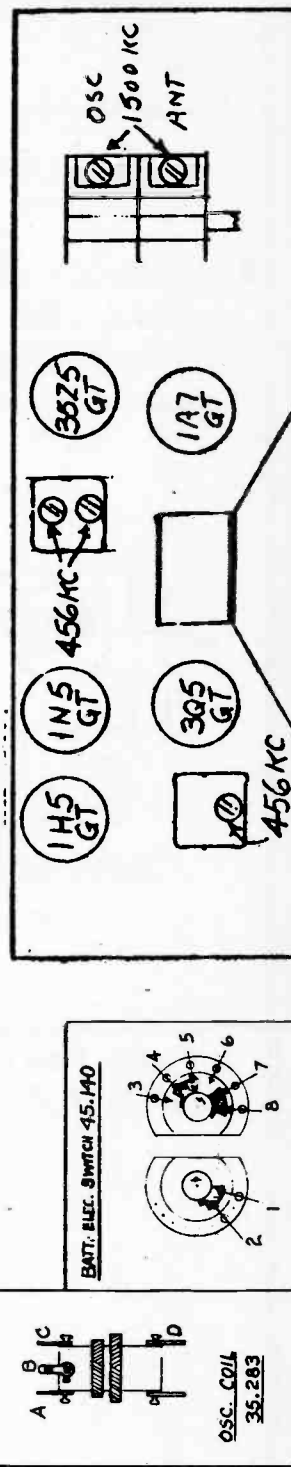
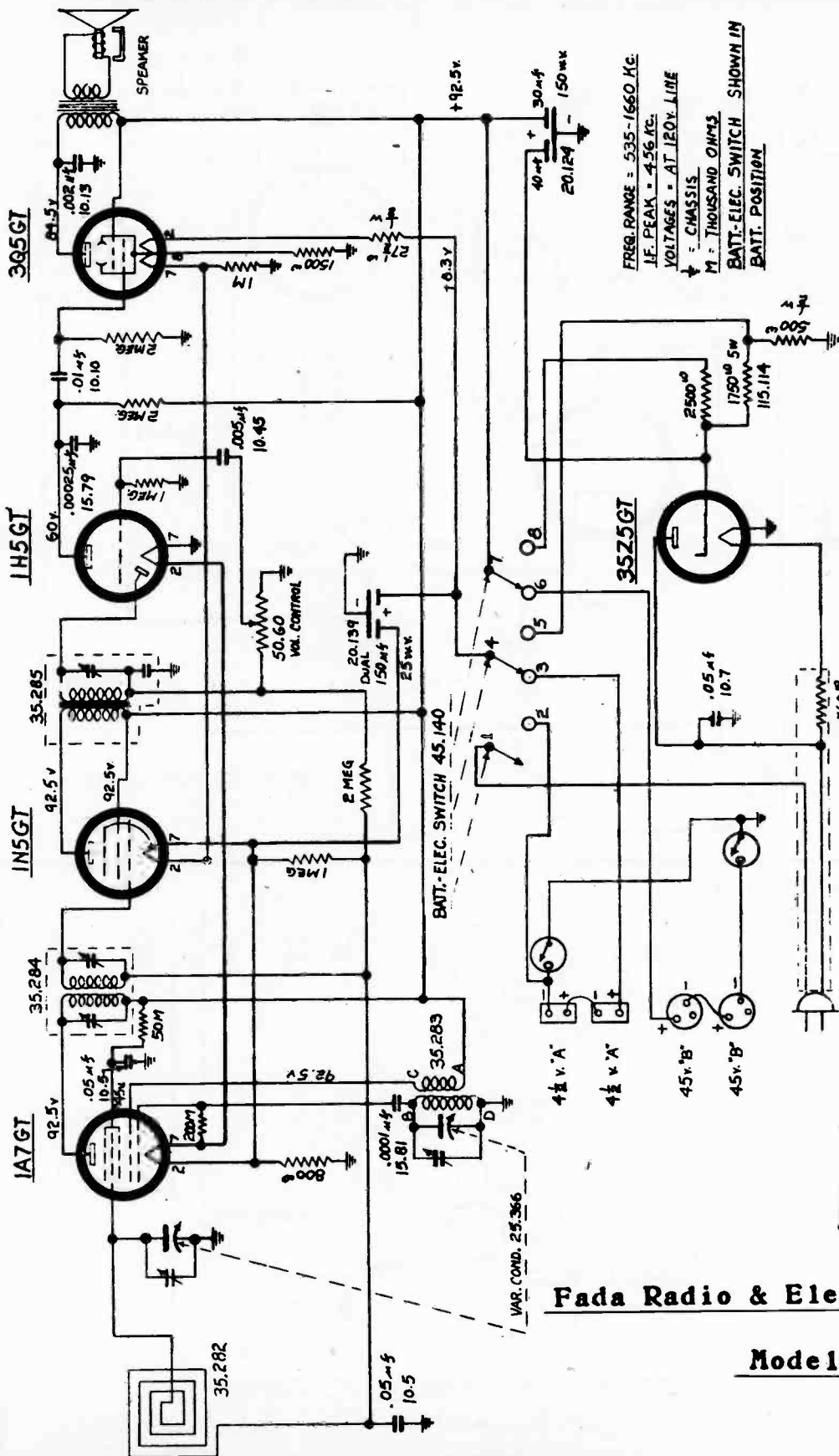
M = THOUSAND OHMS

Model C 34

I.F. PEAK = 456 KC



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



**Fada Radio & Elec. Co., Inc.**

**Model P 41**

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

49

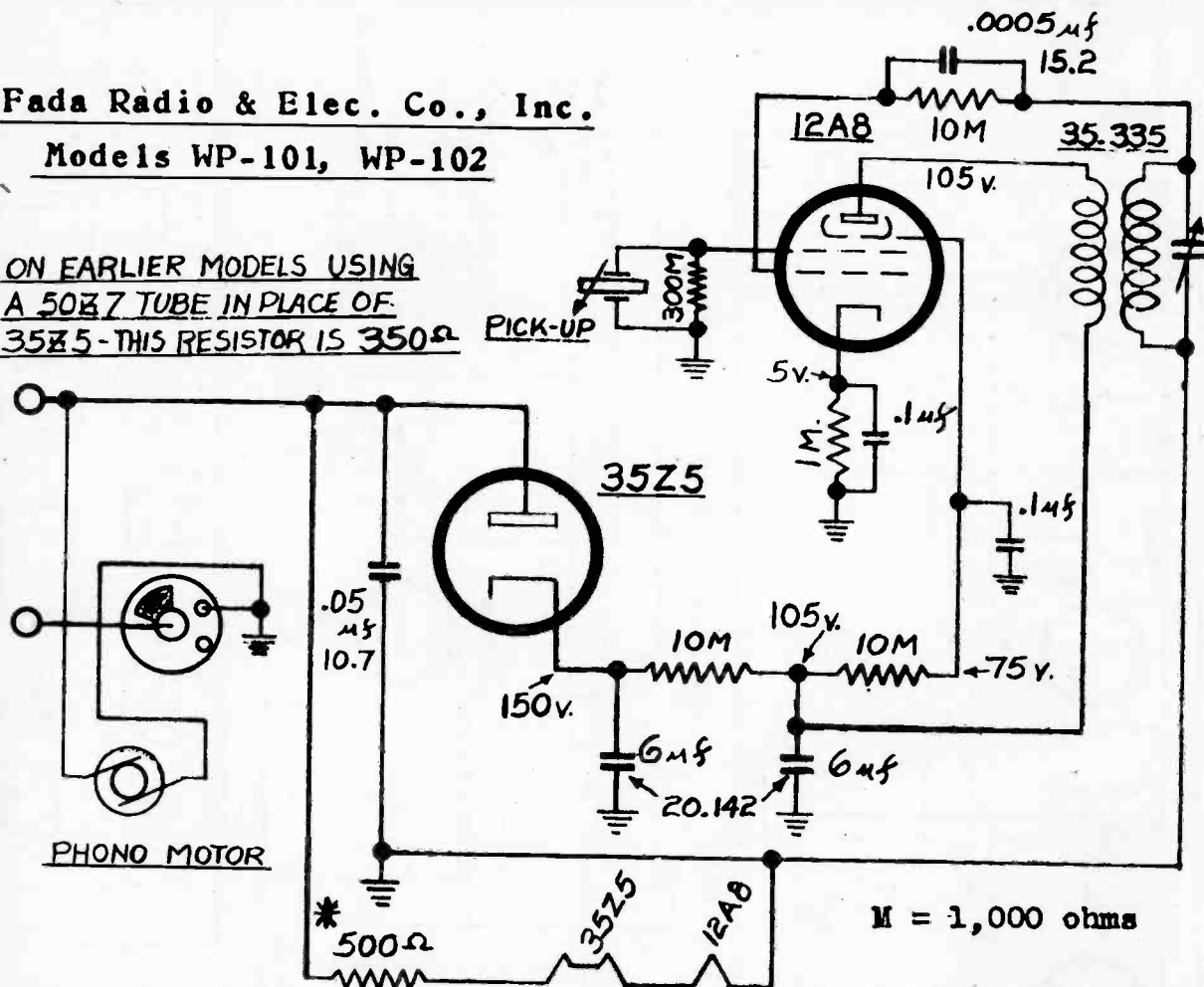


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

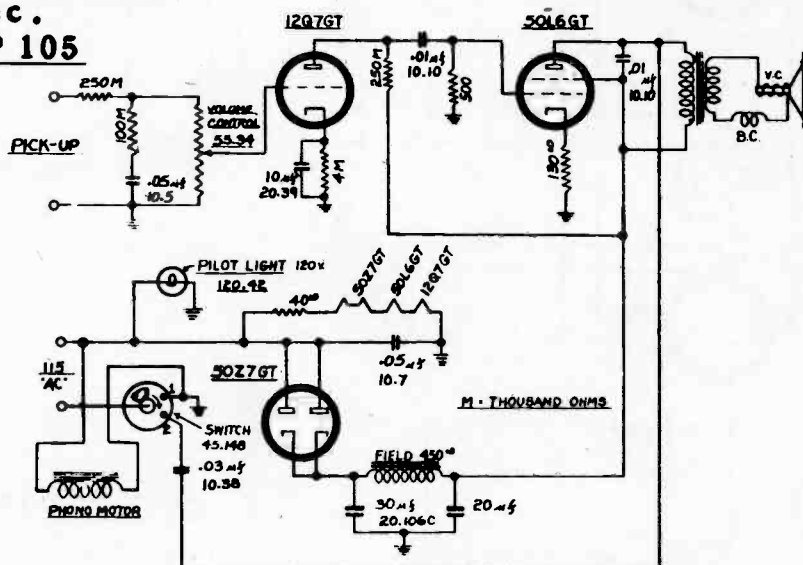
Fada Radio & Elec. Co., Inc.

Models WP-101, WP-102

\* ON EARLIER MODELS USING  
A 50Z7 TUBE IN PLACE OF  
35Z5 - THIS RESISTOR IS 350Ω



Fada Radio & Elec.  
Models AP 104, AP 105



SWITCH 45-148 SHOWN IN "OFF" POSITION

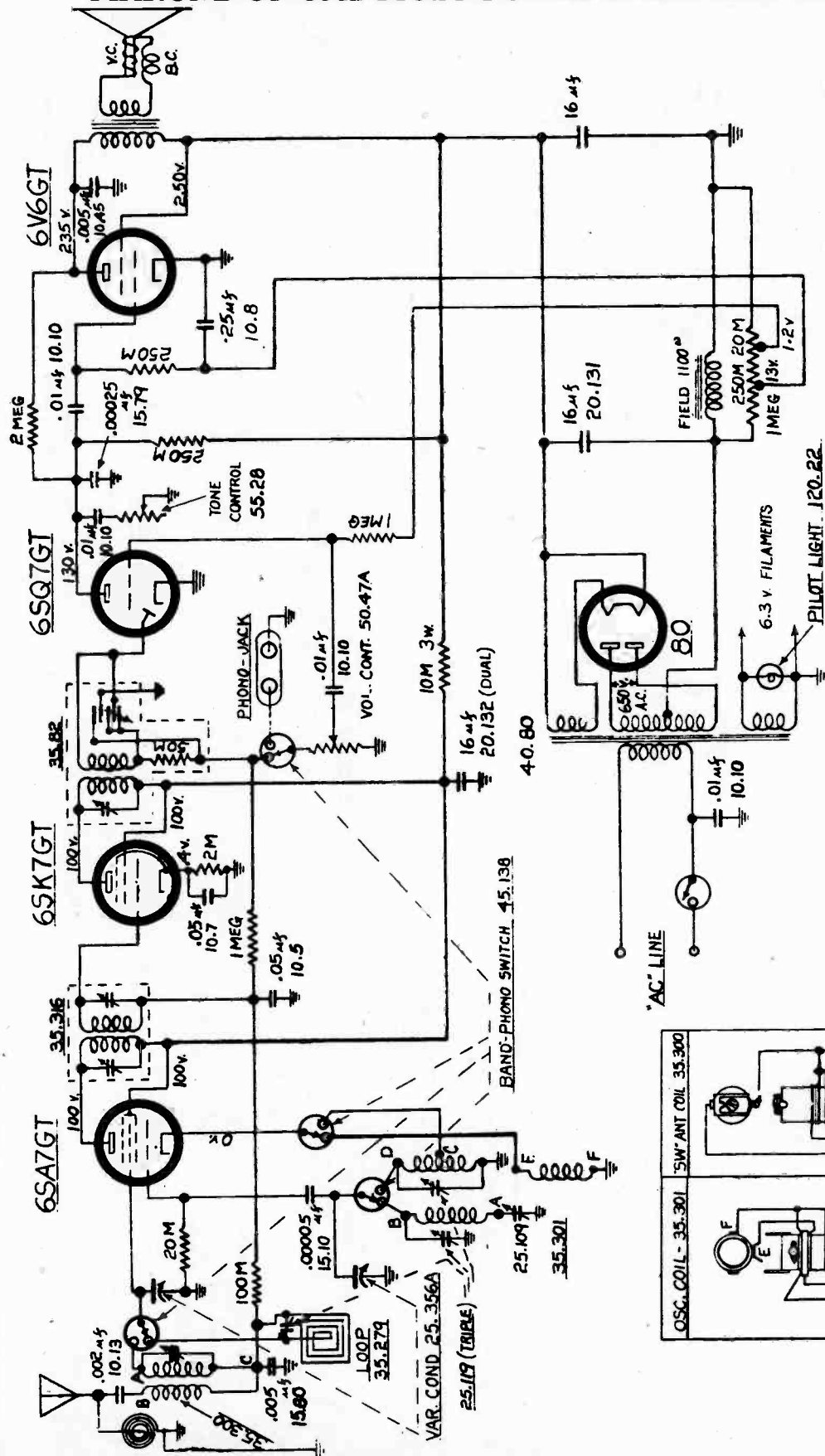
CONTACT 1 - MOTOR & UNIT 'ON' - TREBLE TONE

" 1 & 2 - " " " " - BASS "

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



**I.F. 456 KC.**

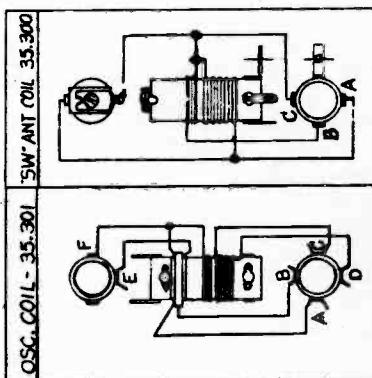
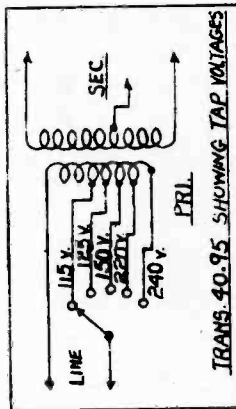
SPEC'S -  
VOLTAGES MEASURED TO CHASSIS WITH 1000 OHMS  
PER VOLT VOLTMETER

M = THOUSAND OHMS

$$\frac{1}{\text{---}} = \underline{\text{CHASSIS}}$$

SWITCH 45.138 SHOWN IN "BC" POSITION

Fada Radio Model 256



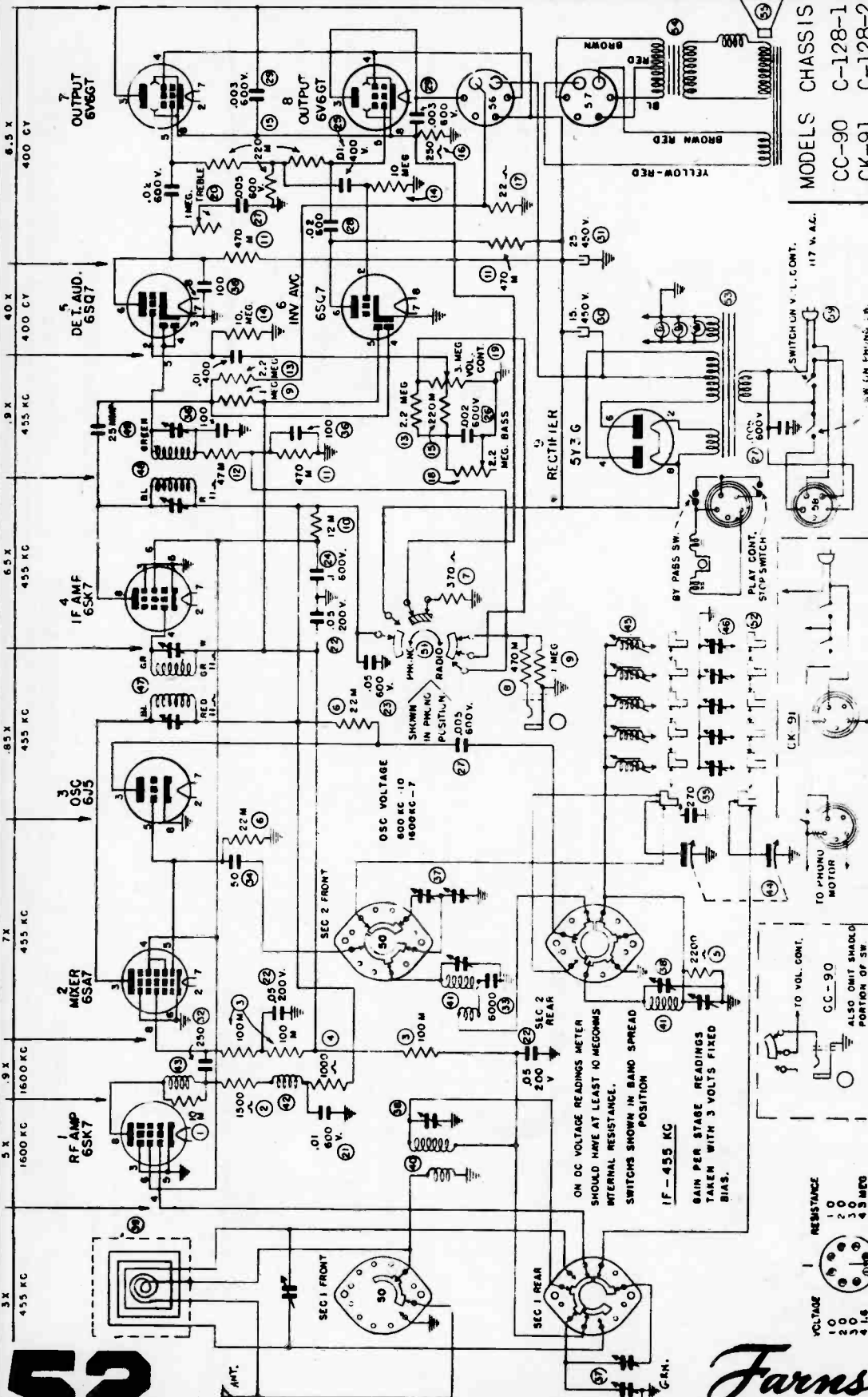
**COVERAGE** =

BROADCAST: 538-1625 KC.

SHORT WAVE - 4.7-16.5 MC.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



MODELS	CHASSIS	VOLTAGE	RESISTANCE
CC-90	C-128-1	1.0	1.0
CK-91	C-128-2	2.0	2.0
CK-92	C-128-3	3.0	3.0
CK-93	C-128-4	4.0	4.0

SCHEMATIC CC-90, CK-91, CK-92 AND CK-93

VOLTAGE	RESISTANCE	VOLTAGE	RESISTANCE	VOLTAGE	RESISTANCE	VOLTAGE	RESISTANCE
1.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0
2.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0
3.0	3.0	4.0	4.0	5.0	5.0	6.0	6.0
4.0	4.0	5.0	5.0	6.0	6.0	7.0	7.0
5.0	5.0	6.0	6.0	7.0	7.0	8.0	8.0
6.0	6.0	7.0	7.0	8.0	8.0	9.0	9.0
7.0	7.0	8.0	8.0	9.0	9.0	10.0	10.0
8.0	8.0	9.0	9.0	10.0	10.0	11.0	11.0
9.0	9.0	10.0	10.0	11.0	11.0	12.0	12.0
10.0	10.0	11.0	11.0	12.0	12.0	13.0	13.0
11.0	11.0	12.0	12.0	13.0	13.0	14.0	14.0
12.0	12.0	13.0	13.0	14.0	14.0	15.0	15.0
13.0	13.0	14.0	14.0	15.0	15.0	16.0	16.0
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91.0	91.0	92.0	92.0	93.0	93.0	94.0	94.0
92.0	92.0	93.0	93.0	94.0	94.0	95.0	95.0
93.0	93.0	94.0	94.0	95.0	95.0	96.0	96.0
94.0	94.0	95.0	95.0	96.0	96.0	97.0	97.0
95.0	95.0	96.0	96.0	97.0	97.0	98.0	98.0
96.0	96.0	97.0	97.0	98.0	98.0	99.0	99.0
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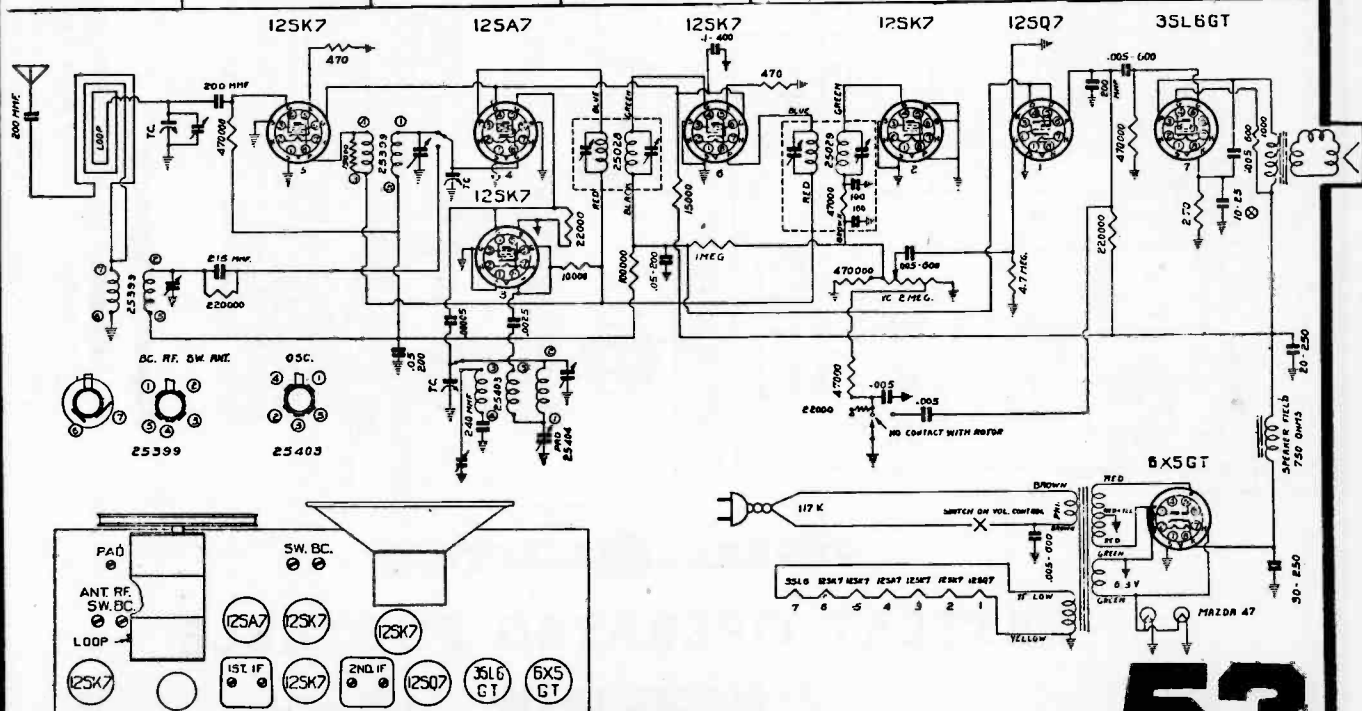
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## GAMBLE-SKOGMO INC.

MINNEAPOLIS, MINNESOTA

# Model 1682A

Generator Frequency	Connection at Radio	Dummy Antenna	Range Switch Setting	Dial Setting	Trimmers to Tune	Approx. Sensitivity .05 Watt O. P
I. F. 456 k.c.	Center Stator of Var. Cond.	.1 Mfd.	B. C.	H. F. End	I. F. Trans. Tune to Max.	65 to 75 Mv.
B. C. 1650 k.c.	Ant.	200 Mmf.	B. C.	H. F. Limit of Travel	B. C. Osc.	—
1400 k.c.	"	"	"	1400— See Note "A"	B. C. RF. " " Loop Tune to Max.	20 Mv.
600 k.c.	"	"	"	600— Rock Rotor	Padder	15 Mv.
11.6 m.c.	Ant.	400 Ohms	S. W.	11.6 m.c.	S. W. Osc	40 to 50 Mv.
9.6 m.c.	Ant.	400 Ohms	S. W.	Check Dial at 9.6 Mc.		

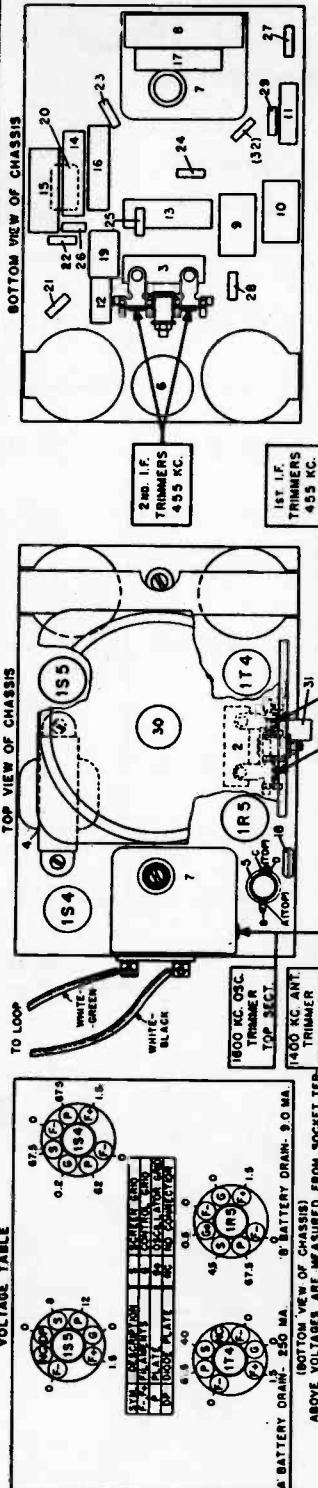
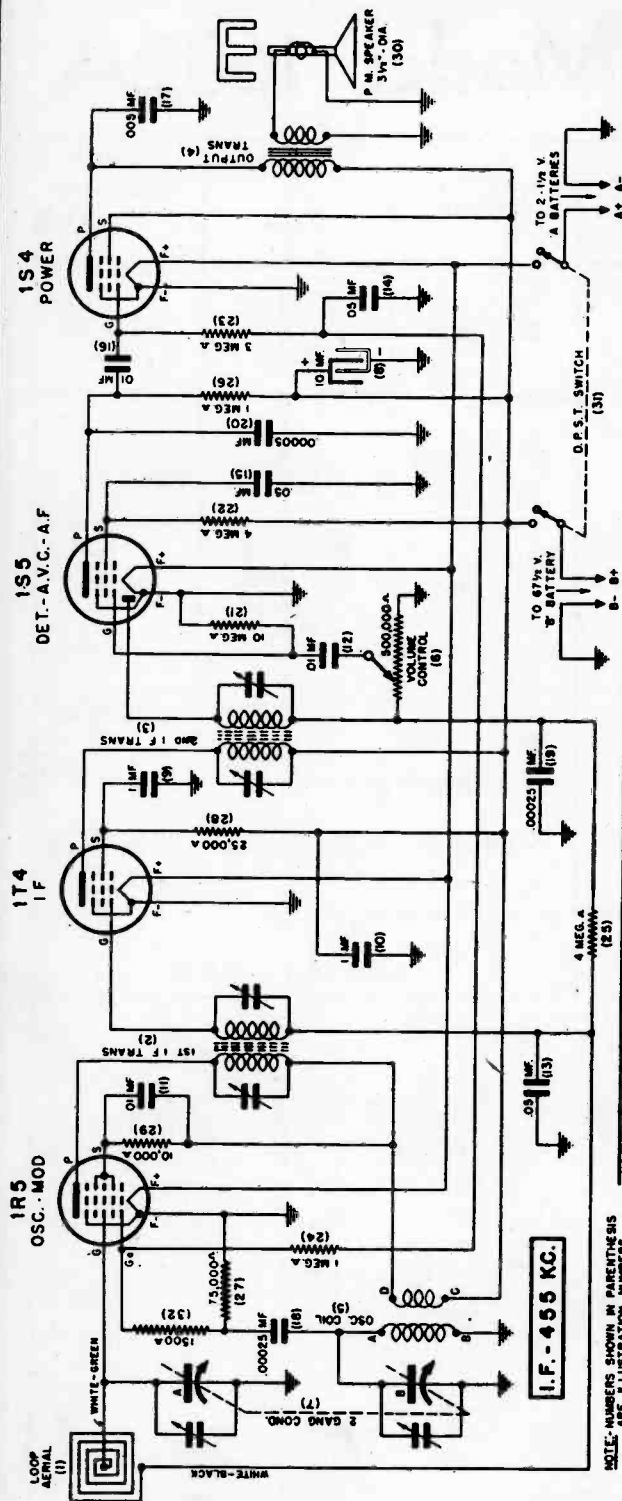


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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



**Battery Specification**..... 2-1 1/2 Volt "A" Eveready No. 950 or Equivalent 1-6 7/8 Volt "B" Eveready No. 467 or Equivalent  
**Tuning Frequency Range**..... 455 K.C.  
**Maximum Power Output**..... 540-1600 K.C.  
**Loud Speaker**..... 175 Milliwatts  
**Voice Coil Impedance**..... Cone Diameter 3 Inches  
**Tubes:** Converter-Oscillator 1R5, I.F. 1T4, Detector A.V.C. 1S5, Power Output 1S4.

## ALIGNMENT PROCEDURE

**Alignment Frequencies** I.F. .... 455 K.C.  
 R.F. .... 1600 & 1400 K.C.

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

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

GENERAL ELECTRIC

BATTERY OPERATED PORTABLE

MODEL LB-412

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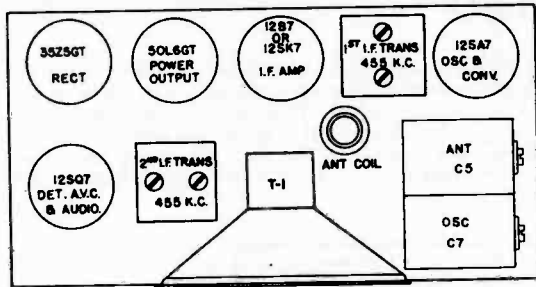


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

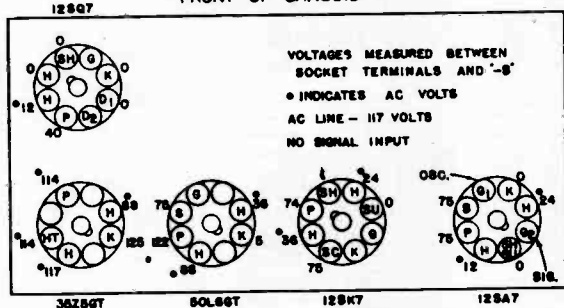
## GENERAL ELECTRIC

### ALIGNMENT PROCEDURE

#### MODELS L500, L510, L550, L560



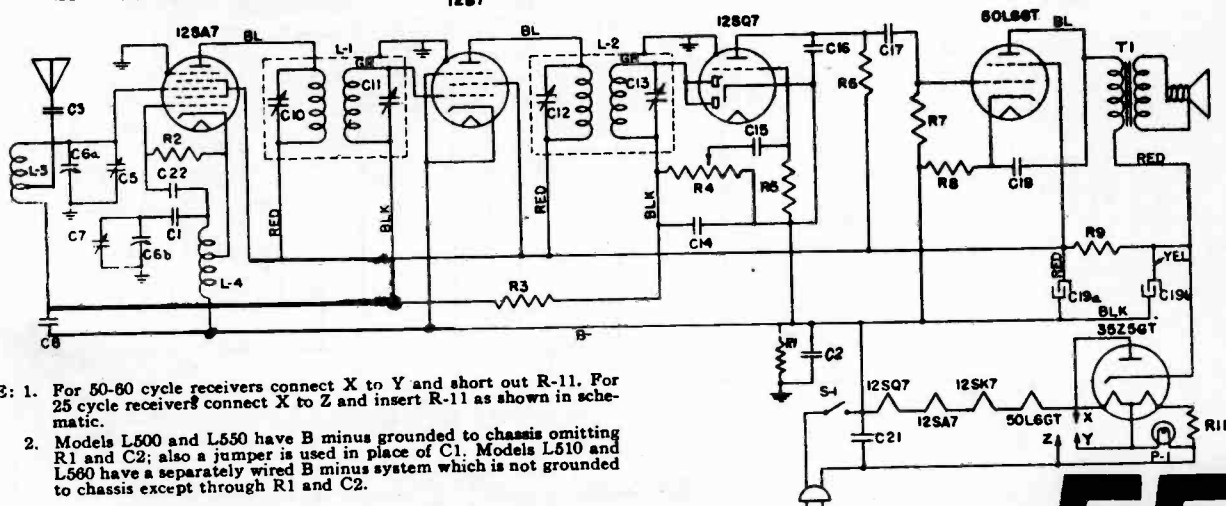
FRONT OF CHASSIS



BOTTOM VIEW OF CHASSIS

C1	CAPACITOR—.05 mfd., 200 V. paper.....
C2	CAPACITOR—.20 mfd., 400 V. paper.....
C3	CAPACITOR—470 mmf., mica.....
C6a, 6b	CONDENSER—Tuning condenser.....
C8	CAPACITOR—.05 mfd., 200 V. paper.....
C14	CAPACITOR—330 mmf., mica.....
C15	CAPACITOR—.005 mfd., 600 V. paper.....
C16	CAPACITOR—330 mmf., mica.....
C17	CAPACITOR—.01 mfd., 600 V. paper.....
C18	CAPACITOR—.02 mfd., 600 V. paper.....
C19a	CAPACITOR—20 mfd., 150 V. electrolytic.....
C19b	CAPACITOR—30 mfd., 150 V. electrolytic.....
C21	CAPACITOR—.05 mfd., 600 V. paper.....
C22	CAPACITOR—100 mmf., mica.....
R1	RESISTOR—330,000 ohms, 1/2 W. carbon.....
R2	RESISTOR—22,000 ohms, 1/2 W. carbon.....
R3	RESISTOR—2.2 megohms, 1/2 W. carbon.....
R4	VOL. CONTROL—.5 megohm control.....
R5	RESISTOR—4.7 megohms, 1/2 W. carbon.....
R6	RESISTOR—270,000 ohms, 1/2 W. carbon.....
R7	RESISTOR—470,000 ohms, 1/2 W. carbon.....
R8	RESISTOR—150 ohms, 1/2 W. carbon.....
R9	RESISTOR—2,700 ohms, 1 W. carbon.....
R11	RESISTOR—13 ohms, 1/2 W. carbon.....

12B7



- NOTE: 1. For 50-60 cycle receivers connect X to Y and short out R-11. For 25 cycle receivers connect X to Z and insert R-11 as shown in schematic.
2. Models L500 and L550 have B minus grounded to chassis omitting R1 and C2; also a jumper is used in place of C1. Models L510 and L560 have a separately wired B minus system which is not grounded to chassis except through R1 and C2.

I.F. .... 455 KC  
R.F. .... 1500 KC  
The location of all trimmers is shown in Fig. 1.

#### I.F. Alignment

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

Apply signal to the converter grid through a .05 mfd. capacitor and align progressively the trimmers in the 2nd and 1st I.F. transformer cans.

#### R.F. Alignment

Close the gang condenser by rotating the tuning control. Slide the pointer along the cord until it lines up with the first dial marking on the left. Now rotate the tuning control until the pointer is over the 1500 KC dial mark. Apply a 1500 KC signal to the receiver antenna post through a standard I.R.E. dummy antenna. Align the oscillator trimmer (C-7) to bring in the signal and peak the signal by adjusting the antenna trimmer (C-5). (See Fig. 1 for trimmer locations.)

#### 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\*  
Antenna Post to Converter Grid.... 4.0 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 Diode Plate... 45 at 455 KC
- 0.20-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 leak..... 6 volts

\* Variations of  $\pm 20\%$  permissible. All readings obtained with enough signal input to give 1/2-watt speaker output.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## GENERAL ELECTRIC

Six-tube Superheterodyne with Electric Tuning Keys

### MODEL L-660

#### Alignment Frequencies

RF ..... 1500 KC  
IF ..... 455 KC

The chassis must be removed from the cabinet as described above to make the following alignments. The locations of all trimmers is shown in Fig. 1.

#### IF Alignment

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

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

#### RF Alignment

When making the following alignment the loop antenna must be bolted to the chassis by the two mounting screws. Since the glass dial scale is fastened to the cabinet, it cannot be used for reference during the alignment of the chassis outside the cabinet. Use must be made therefore of the four calibration marks at the bottom flange of the dial scale reflector plate (immediately below end of dial scale pointer). These marks referring from left to right are as follows: Reference point, 580 KC, 1000 KC, and 1500 KC.

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.

With the gang condenser plates completely closed, the end of the pointer should line up with the first mark to the left of the dial reflector plate. If it doesn't the pointer can be moved on the dial cord until it does. Set the signal generator to 1500 KC. Set pointer to the 1500 KC mark (extreme right flange mark) and align (C2B) to the signal. Peak (C2A) for maximum output.

Part No.	Symbol	Description
XC-702	C1A, 1B	CONDENSER—Yoking Condenser (with trimmer 1A, 2B mounted)
XC-324	C2A	CAPACITOR—100 Mfd., min.
XC-374	C2B	CAPACITOR—100 Mfd., min.
XC-302	C3	CAPACITOR—100 Mfd., min.
XC-303	C4	CAPACITOR—100 Mfd., min.
XC-304	C5	CAPACITOR—100 Mfd., min.
XC-305	C6	CAPACITOR—100 Mfd., min.
XC-306	C7	CAPACITOR—100 Mfd., min.
XC-307	C8	CAPACITOR—100 Mfd., min.
XC-308	C9	CAPACITOR—100 Mfd., min.
XC-309	C10	CAPACITOR—100 Mfd., min.
XC-310	C11	CAPACITOR—100 Mfd., min.
XC-311	C12	CAPACITOR—100 Mfd., min.
XC-312	C13	CAPACITOR—100 Mfd., min.
XC-313	C14	CAPACITOR—100 Mfd., min.
XC-314	C15	CAPACITOR—100 Mfd., min.
XC-315	C16	CAPACITOR—100 Mfd., min.
XC-316	C17	CAPACITOR—100 Mfd., min.
XC-317	C18	CAPACITOR—100 Mfd., min.
XC-318	C19	CAPACITOR—100 Mfd., min.
XC-319	C20	CAPACITOR—100 Mfd., min.
XC-320	C21	CAPACITOR—100 Mfd., min.
XC-321	C22	CAPACITOR—100 Mfd., min.
XC-322	C23	CAPACITOR—100 Mfd., min.
XC-323	C24	CAPACITOR—100 Mfd., min.
XC-324	C25	CAPACITOR—100 Mfd., min.
XC-325	C26	CAPACITOR—100 Mfd., min.
XC-326	C27	CAPACITOR—100 Mfd., min.
XC-327	C28	CAPACITOR—100 Mfd., min.
XC-328	C29	CAPACITOR—100 Mfd., min.
XC-329	C30	CAPACITOR—100 Mfd., min.
XC-330	C31	CAPACITOR—100 Mfd., min.
XC-331	C32	CAPACITOR—100 Mfd., min.
XC-332	C33	CAPACITOR—100 Mfd., min.
XC-333	C34	CAPACITOR—100 Mfd., min.
XC-334	C35	CAPACITOR—100 Mfd., min.
XC-335	C36	CAPACITOR—100 Mfd., min.
XC-336	C37	CAPACITOR—100 Mfd., min.
XC-337	C38	CAPACITOR—100 Mfd., min.
XC-338	C39	CAPACITOR—100 Mfd., min.
XC-339	C40	CAPACITOR—100 Mfd., min.
XC-340	C41	CAPACITOR—100 Mfd., min.
XC-341	C42	CAPACITOR—100 Mfd., min.
XC-342	C43	CAPACITOR—100 Mfd., min.
XC-343	C44	CAPACITOR—100 Mfd., min.
XC-344	C45	CAPACITOR—100 Mfd., min.
XC-345	C46	CAPACITOR—100 Mfd., min.
XC-346	C47	CAPACITOR—100 Mfd., min.
XC-347	C48	CAPACITOR—100 Mfd., min.
XC-348	C49	CAPACITOR—100 Mfd., min.
XC-349	C50	CAPACITOR—100 Mfd., min.
XC-350	C51	CAPACITOR—100 Mfd., min.
XC-351	C52	CAPACITOR—100 Mfd., min.
XC-352	C53	CAPACITOR—100 Mfd., min.
XC-353	C54	CAPACITOR—100 Mfd., min.
XC-354	C55	CAPACITOR—100 Mfd., min.
XC-355	C56	CAPACITOR—100 Mfd., min.
XC-356	C57	CAPACITOR—100 Mfd., min.
XC-357	C58	CAPACITOR—100 Mfd., min.
XC-358	C59	CAPACITOR—100 Mfd., min.
XC-359	C60	CAPACITOR—100 Mfd., min.
XC-360	C61	CAPACITOR—100 Mfd., min.
XC-361	C62	CAPACITOR—100 Mfd., min.
XC-362	C63	CAPACITOR—100 Mfd., min.
XC-363	C64	CAPACITOR—100 Mfd., min.
XC-364	C65	CAPACITOR—100 Mfd., min.
XC-365	C66	CAPACITOR—100 Mfd., min.
XC-366	C67	CAPACITOR—100 Mfd., min.
XC-367	C68	CAPACITOR—100 Mfd., min.
XC-368	C69	CAPACITOR—100 Mfd., min.
XC-369	C70	CAPACITOR—100 Mfd., min.
XC-370	C71	CAPACITOR—100 Mfd., min.
XC-371	C72	CAPACITOR—100 Mfd., min.
XC-372	C73	CAPACITOR—100 Mfd., min.
XC-373	C74	CAPACITOR—100 Mfd., min.
XC-374	C75	CAPACITOR—100 Mfd., min.
XC-375	C76	CAPACITOR—100 Mfd., min.
XC-376	C77	CAPACITOR—100 Mfd., min.
XC-377	C78	CAPACITOR—100 Mfd., min.
XC-378	C79	CAPACITOR—100 Mfd., min.
XC-379	C80	CAPACITOR—100 Mfd., min.
XC-380	C81	CAPACITOR—100 Mfd., min.
XC-381	C82	CAPACITOR—100 Mfd., min.
XC-382	C83	CAPACITOR—100 Mfd., min.
XC-383	C84	CAPACITOR—100 Mfd., min.
XC-384	C85	CAPACITOR—100 Mfd., min.
XC-385	C86	CAPACITOR—100 Mfd., min.
XC-386	C87	CAPACITOR—100 Mfd., min.
XC-387	C88	CAPACITOR—100 Mfd., min.
XC-388	C89	CAPACITOR—100 Mfd., min.
XC-389	C90	CAPACITOR—100 Mfd., min.
XC-390	C91	CAPACITOR—100 Mfd., min.
XC-391	C92	CAPACITOR—100 Mfd., min.
XC-392	C93	CAPACITOR—100 Mfd., min.
XC-393	C94	CAPACITOR—100 Mfd., min.
XC-394	C95	CAPACITOR—100 Mfd., min.
XC-395	C96	CAPACITOR—100 Mfd., min.
XC-396	C97	CAPACITOR—100 Mfd., min.
XC-397	C98	CAPACITOR—100 Mfd., min.
XC-398	C99	CAPACITOR—100 Mfd., min.
XC-399	C100	CAPACITOR—100 Mfd., min.
XC-400	C101	CAPACITOR—100 Mfd., min.
XC-401	C102	CAPACITOR—100 Mfd., min.
XC-402	C103	CAPACITOR—100 Mfd., min.
XC-403	C104	CAPACITOR—100 Mfd., min.
XC-404	C105	CAPACITOR—100 Mfd., min.
XC-405	C106	CAPACITOR—100 Mfd., min.
XC-406	C107	CAPACITOR—100 Mfd., min.
XC-407	C108	CAPACITOR—100 Mfd., min.
XC-408	C109	CAPACITOR—100 Mfd., min.
XC-409	C110	CAPACITOR—100 Mfd., min.
XC-410	C111	CAPACITOR—100 Mfd., min.
XC-411	C112	CAPACITOR—100 Mfd., min.
XC-412	C113	CAPACITOR—100 Mfd., min.
XC-413	C114	CAPACITOR—100 Mfd., min.
XC-414	C115	CAPACITOR—100 Mfd., min.
XC-415	C116	CAPACITOR—100 Mfd., min.
XC-416	C117	CAPACITOR—100 Mfd., min.
XC-417	C118	CAPACITOR—100 Mfd., min.
XC-418	C119	CAPACITOR—100 Mfd., min.
XC-419	C120	CAPACITOR—100 Mfd., min.
XC-420	C121	CAPACITOR—100 Mfd., min.
XC-421	C122	CAPACITOR—100 Mfd., min.
XC-422	C123	CAPACITOR—100 Mfd., min.
XC-423	C124	CAPACITOR—100 Mfd., min.
XC-424	C125	CAPACITOR—100 Mfd., min.
XC-425	C126	CAPACITOR—100 Mfd., min.
XC-426	C127	CAPACITOR—100 Mfd., min.
XC-427	C128	CAPACITOR—100 Mfd., min.
XC-428	C129	CAPACITOR—100 Mfd., min.
XC-429	C130	CAPACITOR—100 Mfd., min.
XC-430	C131	CAPACITOR—100 Mfd., min.
XC-431	C132	CAPACITOR—100 Mfd., min.
XC-432	C133	CAPACITOR—100 Mfd., min.
XC-433	C134	CAPACITOR—100 Mfd., min.
XC-434	C135	CAPACITOR—100 Mfd., min.
XC-435	C136	CAPACITOR—100 Mfd., min.
XC-436	C137	CAPACITOR—100 Mfd., min.
XC-437	C138	CAPACITOR—100 Mfd., min.
XC-438	C139	CAPACITOR—100 Mfd., min.
XC-439	C140	CAPACITOR—100 Mfd., min.
XC-440	C141	CAPACITOR—100 Mfd., min.
XC-441	C142	CAPACITOR—100 Mfd., min.
XC-442	C143	CAPACITOR—100 Mfd., min.
XC-443	C144	CAPACITOR—100 Mfd., min.
XC-444	C145	CAPACITOR—100 Mfd., min.
XC-445	C146	CAPACITOR—100 Mfd., min.
XC-446	C147	CAPACITOR—100 Mfd., min.
XC-447	C148	CAPACITOR—100 Mfd., min.
XC-448	C149	CAPACITOR—100 Mfd., min.
XC-449	C150	CAPACITOR—100 Mfd., min.
XC-450	C151	CAPACITOR—100 Mfd., min.
XC-451	C152	CAPACITOR—100 Mfd., min.
XC-452	C153	CAPACITOR—100 Mfd., min.
XC-453	C154	CAPACITOR—100 Mfd., min.
XC-454	C155	CAPACITOR—100 Mfd., min.
XC-455	C156	CAPACITOR—100 Mfd., min.
XC-456	C157	CAPACITOR—100 Mfd., min.
XC-457	C158	CAPACITOR—100 Mfd., min.
XC-458	C159	CAPACITOR—100 Mfd., min.
XC-459	C160	CAPACITOR—100 Mfd., min.
XC-460	C161	CAPACITOR—100 Mfd., min.
XC-461	C162	CAPACITOR—100 Mfd., min.
XC-462	C163	CAPACITOR—100 Mfd., min.
XC-463	C164	CAPACITOR—100 Mfd., min.
XC-464	C165	CAPACITOR—100 Mfd., min.
XC-465	C166	CAPACITOR—100 Mfd., min.
XC-466	C167	CAPACITOR—100 Mfd., min.
XC-467	C168	CAPACITOR—100 Mfd., min.
XC-468	C169	CAPACITOR—100 Mfd., min.
XC-469	C170	CAPACITOR—100 Mfd., min.
XC-470	C171	CAPACITOR—100 Mfd., min.
XC-471	C172	CAPACITOR—100 Mfd., min.
XC-472	C173	CAPACITOR—100 Mfd., min.
XC-473	C174	CAPACITOR—100 Mfd., min.
XC-474	C175	CAPACITOR—100 Mfd., min.
XC-475	C176	CAPACITOR—100 Mfd., min.
XC-476	C177	CAPACITOR—100 Mfd., min.
XC-477	C178	CAPACITOR—100 Mfd., min.
XC-478	C179	CAPACITOR—100 Mfd., min.
XC-479	C180	CAPACITOR—100 Mfd., min.
XC-480	C181	CAPACITOR—100 Mfd., min.
XC-481	C182	CAPACITOR—100 Mfd., min.
XC-482	C183	CAPACITOR—100 Mfd., min.
XC-483	C184	CAPACITOR—100 Mfd., min.
XC-484	C185	CAPACITOR—100 Mfd., min.
XC-485	C186	CAPACITOR—100 Mfd., min.
XC-486	C187	CAPACITOR—100 Mfd., min.
XC-487	C188	CAPACITOR—100 Mfd., min.
XC-488	C189	CAPACITOR—100 Mfd., min.
XC-489	C190	CAPACITOR—100 Mfd., min.
XC-490	C191	CAPACITOR—100 Mfd., min.
XC-491	C192	CAPACITOR—100 Mfd., min.
XC-492	C193	CAPACITOR—100 Mfd., min.
XC-493	C194	CAPACITOR—100 Mfd., min.
XC-494	C195	CAPACITOR—100 Mfd., min.
XC-495	C196	CAPACITOR—100 Mfd., min.
XC-496	C197	CAPACITOR—100 Mfd., min.
XC-497	C198	CAPACITOR—100 Mfd., min.
XC-498	C199	CAPACITOR—100 Mfd., min.
XC-499	C200	CAPACITOR—100 Mfd., min.
XC-500	C201	CAPACITOR—100 Mfd., min.
XC-501	C202	CAPACITOR—100 Mfd., min.
XC-502	C203	CAPACITOR—100 Mfd., min.
XC-503	C204	CAPACITOR—100 Mfd., min.
XC-504	C205	CAPACITOR—100 Mfd., min.
XC-505	C206	CAPACITOR—100 Mfd., min.
XC-506	C207	CAPACITOR—100 Mfd., min.
XC-507	C208	CAPACITOR—100 Mfd., min.
XC-508	C209	CAPACITOR—100 Mfd., min.
XC-509	C210	CAPACITOR—100 Mfd., min.
XC-510	C211	CAPACITOR—100 Mfd., min.
XC-511	C212	CAPACITOR—100 Mfd., min.
XC-512	C213	CAPACITOR—100 Mfd., min.
XC-513	C214	CAPACITOR—100 Mfd., min.
XC-514	C215	CAPACITOR—100 Mfd., min.
XC-515	C216	CAPACITOR—100 Mfd., min.
XC-516	C217	CAPACITOR—100 Mfd., min.
XC-517	C218	CAPACITOR—100 Mfd., min.
XC-518	C219	CAPACITOR—100 Mfd., min.
XC-519	C220	CAPACITOR—100 Mfd., min.
XC-520	C221	CAPACITOR—100 Mfd., min.
XC-521	C222	CAPACITOR—100 Mfd., min.
XC-522	C223	CAPACITOR—100 Mfd., min.
XC-523	C224	CAPACITOR—100 Mfd., min.
XC-524	C225	CAPACITOR—100 Mfd., min.
XC-525	C226	CAPACITOR—100 Mfd., min.
XC-526	C227	CAPACITOR—100 Mfd., min.
XC-527	C228	CAPACITOR—100 Mfd., min.
XC-528	C229	CAPACITOR—100 Mfd., min.
XC-529	C230	CAPACITOR—100 Mfd., min.
XC-530	C231	CAPACITOR—100 Mfd., min.
XC-531	C232	CAPACITOR—100 Mfd., min.
XC-532	C233	CAPACITOR—100 Mfd., min.
XC-533	C234	CAPACITOR—100 Mfd., min.
XC-534	C235	CAPACITOR—100 Mfd., min.
XC-535	C236	CAPACITOR—100 Mfd., min.
XC-536	C237	CAPACITOR—100 Mfd., min.
XC-537	C238	CAPACITOR—100 Mfd., min.
XC-538	C239	CAPACITOR—100 Mfd., min.
XC-539	C240	CAPACITOR—100 Mfd., min.
XC-540	C241	CAPACITOR—100 Mfd., min.
XC-541	C242	CAPACITOR—100 Mfd., min.
XC-542	C243	CAPACITOR—100 Mfd., min.
XC-543	C244	CAPACITOR—100 Mfd., min.
XC-544	C245	CAPACITOR—100 Mfd., min.
XC-545	C246	CAPACITOR—100 Mfd., min.
XC-546	C247	CAPACITOR—100 Mfd., min.
XC-547	C248	CAPACITOR—100 Mfd., min.
XC-548	C249	CAPACITOR—100 Mfd., min.
XC-549	C250	CAPACITOR—100 Mfd., min.
XC-550	C251	CAPACITOR—100 Mfd., min.
XC-551	C252	CAPACITOR—100 Mfd., min.
XC-552	C253	CAPACITOR—100 Mfd., min.
XC-553	C254	CAPACITOR—100 Mfd., min.
XC-554	C255	CAPACITOR—100 Mfd., min.
XC-555	C256	CAPACITOR—100 Mfd., min.
XC-556	C257	CAPACITOR—100 Mfd., min.
XC-557	C258	CAPACITOR—100 Mfd., min.
XC-558	C259	CAPACITOR—100 Mfd., min.
XC-559	C260	CAPACITOR—100 Mfd., min.
XC-560	C261	CAPACITOR—100 Mfd., min.
XC-561	C262	CAPACITOR—100 Mfd., min.
XC-562	C263	CAPACITOR—100 Mfd., min.
XC-563	C264	CAPACITOR—100 Mfd., min.
XC-564	C265	CAPACITOR—100 Mfd., min.
XC-565	C266	CAPACITOR—100 Mfd., min.
XC-566	C267	CAPACITOR—100 Mfd., min.
XC-567	C268	CAPACITOR—100 Mfd., min.
XC-568	C269	CAPACITOR—100 Mfd., min.
XC-569	C270	CAPACITOR—100 Mfd., min.
XC-570	C271	CAPACITOR—100 Mfd., min.
XC-571	C272	CAPACITOR—100 Mfd., min.
XC-572	C273	CAPACITOR—100 Mfd., min.
XC-573	C274	CAPACITOR—100 Mfd., min.
XC-574	C275	CAPACITOR—100 Mfd., min.
XC-575	C276	CAPACITOR—100 Mfd., min.
XC-576	C277	CAPACITOR—100 Mfd., min.
XC-577	C278	CAPACITOR—100 Mfd., min.
XC-578	C279	CAPACITOR—100 Mfd., min.
XC-579	C280	CAPACITOR—100 Mfd., min.
XC-580	C281	CAPACITOR—100 Mfd., min.
XC-581	C282	CAPACITOR—100 Mfd., min.
XC-582	C283	CAPACITOR—100 Mfd., min.
XC-583	C284	CAPACITOR—100 Mfd., min.
XC-584	C285	CAPACITOR—100 Mfd., min.
XC-585	C286	CAPAC







# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## IF ALIGNMENT WITH OSCILLOSCOPE—"FM" CHANNEL


Step	Input Signal Connected to	Input Frequency	Band and Pointer Setting	Trimmer Adjustment	Comments
1	6SG7 converter grid in series with 22 mmf.	4.3 MC & $\pm 200$ KC Sweep	"FM" Band 42 MC	C52 C53	<p>Connect high side of oscilloscope in series with 470,000 ohm resistor to R19 at point "B." Connect low side to chassis ground. Peak trimmers for resultant curve shown</p> 
2	6SG7 converter grid in series with 22 mmf.	4.3 KC & $\pm 200$ KC Sweep	"FM" Band 42 MC	C35 C36	
3	Repeat Step 1				
4	Repeat Step 2				
5	6SG7 converter grid in series with 22 mmf.	4.3 MC & $\pm 200$ KC Sweep	"FM" Band 42 MC	C60 C58	
					<p>Connect high side of oscilloscope in series with 470,000 ohm resistor to R36, point "A." Connect low side to chassis ground. Peak trimmers for resultant curve shown in Fig. 4. C60 is aligned when curve crosses midway in vertical plane. Proper alignment of C58 gives straightest sides to curve near crossover point.</p>



Table II IF ALIGNMENT WITH METER—"FM" CHANNEL

Step	Input Signal Connected to	Input Frequency	Band and Pointer Setting	Trimmer Adjustment	Comments
1	6SG7 converter grid in series with 22 mmf.	Unmodulated 4.3 MC signal	"FM" Band 42 MC	C52 C53 C35 C36	Connect the 10-volt scale of a 20,000 ohm per volt voltmeter in series with a 470,000 ohm resistor between point "B" and ground. Peak all trimmers for maximum output using just enough input signal to give a satisfactory output reading.
2	Repeat Step 1				
3	6SG7 converter grid in series with 22 mmf.	Unmodulated 4.3 MC signal	"FM" Band 42 MC	C60 C58	Connect the 10-volt scale of a 20,000 ohm per volt voltmeter in series with a 470,000-ohm resistor between points "A" and ground. <i>With C60 purposely detuned</i> , peak C58 for maximum meter reading. Align C60 for the 0 voltage point where the meter reading changes from a positive to negative value. Use as low a signal input as necessary to give a satisfactory meter reading.

Table III RF ALIGNMENT—"FM" CHANNEL

Step	Input Signal Connected to	Input Frequency	Band and Pointer Setting	Trimmer Adjustment	Comments
1	Direct to "FM" Antenna Post	Unmodulated 49 MC signal	"FM" Band 49 MC	C4 (Osc.)	Connect the 10-volt range of a 20,000 ohm per volt voltmeter in series with a 470,000-ohm resistor to point "B." The other side of the voltmeter lead connects to chassis ground. Peak trimmers for maximum meter reading using just enough signal input to give satisfactory meter reading.
2	Direct to "FM" Antenna Post	Unmodulated 49 MC Signal	"FM" Band 49 MC	C2 C30	
3	Direct to "FM" Antenna Post	Unmodulated 43 MC Signal	"FM" Band 43 MC	C76 (Osc.)	
4	Direct to "FM" Antenna Post	Unmodulated 43 MC Signal	"FM" Band 43 MC	C75 C77	
5	Direct to "FM" Antenna Post	Unmodulated 46 MC Signal	"FM" Band 46 MC	C1	
6	Repeat Step 1				
7	Repeat Step 2				

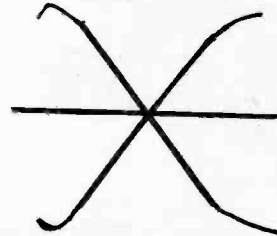


Fig. 4

Table IV IF, "BC," and "SW" ALIGNMENT—"AM" CHANNEL

Step	Input Signal Connected to	Input Frequency	Band and Pointer Setting	Trimmer Adjustment	Comments
1	6SG7 converter grid in series with .05 mfd.	455 KC Modulated	"BC" Band 550 KC	C50 C39 C34 C33	Connect 5.0-volt AC voltmeter across the voice coil of the speaker. Peak all trimmers for maximum output. All RF alignments must be made with the chassis in the cabinet.
2	Capacity Coupled	17.8 MC Modulated	"SW" Band 17.8 MC	C23*	
3	Capacity Coupled	17.8 MC Modulated	"SW" Band 17.8 MC	C19** C11	*When aligning the SW oscillator trimmer, use maximum capacity peak. The image frequency should appear at 18,710 KC. **Rock gang condenser when making alignment.
4	Capacity Coupled	1500 KC Modulated	"BC" Band 1500 KC	C24	
5	Capacity Coupled	1500 KC Modulated	"BC" Band 1500 KC	C17 C8	
6	Capacity Coupled	580 KC Modulated	"BC" Band 580 KC	C25**	
7	Repeat Steps 4 and 5				

## A-FM COMBINATION RECEIVERS

Models LF-115 & LF-116

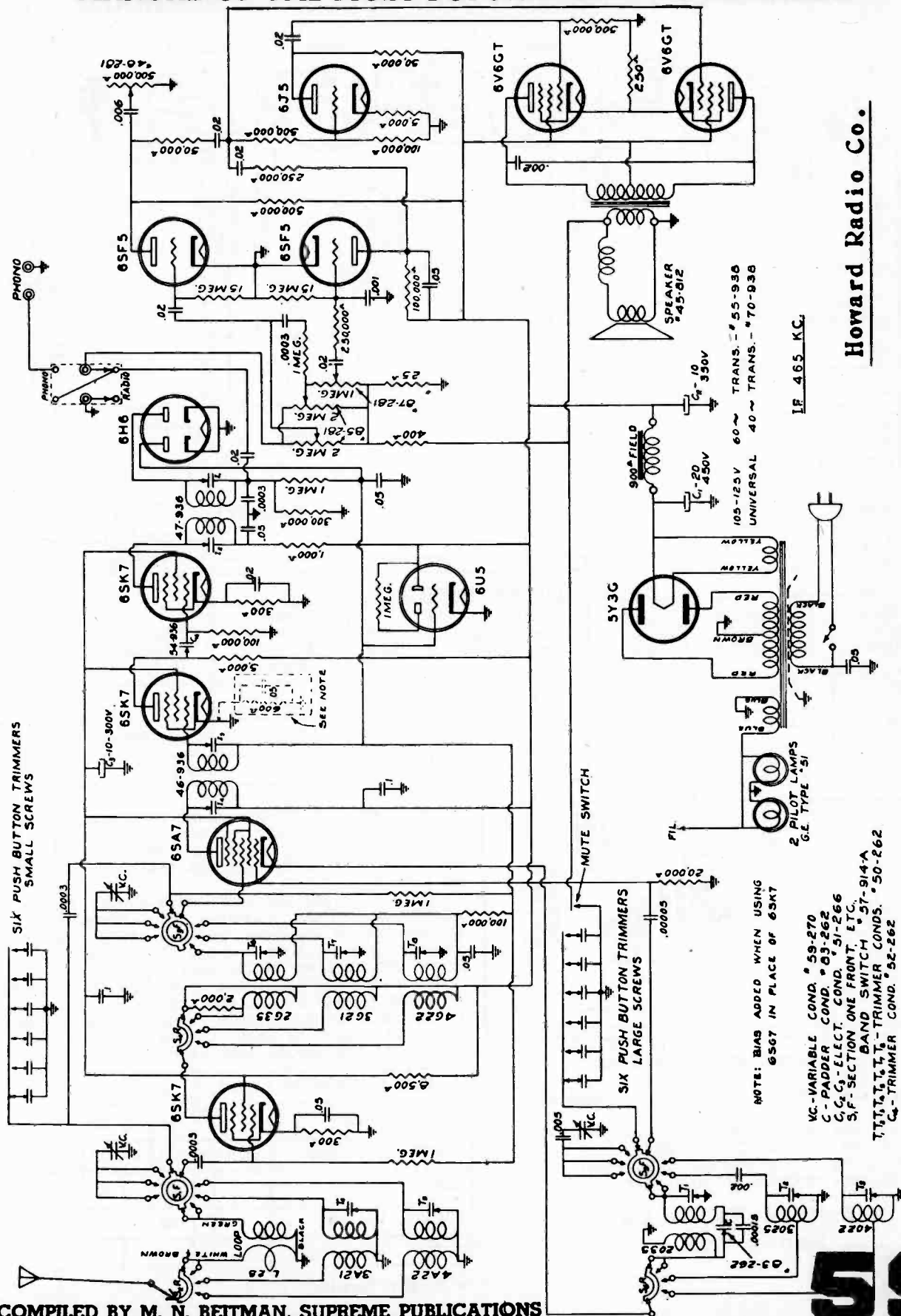
## A-FM PHONOGRAPH COMBINATION RECEIVERS

Models LFC-1118, LFC-1128 & LFC-1228

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

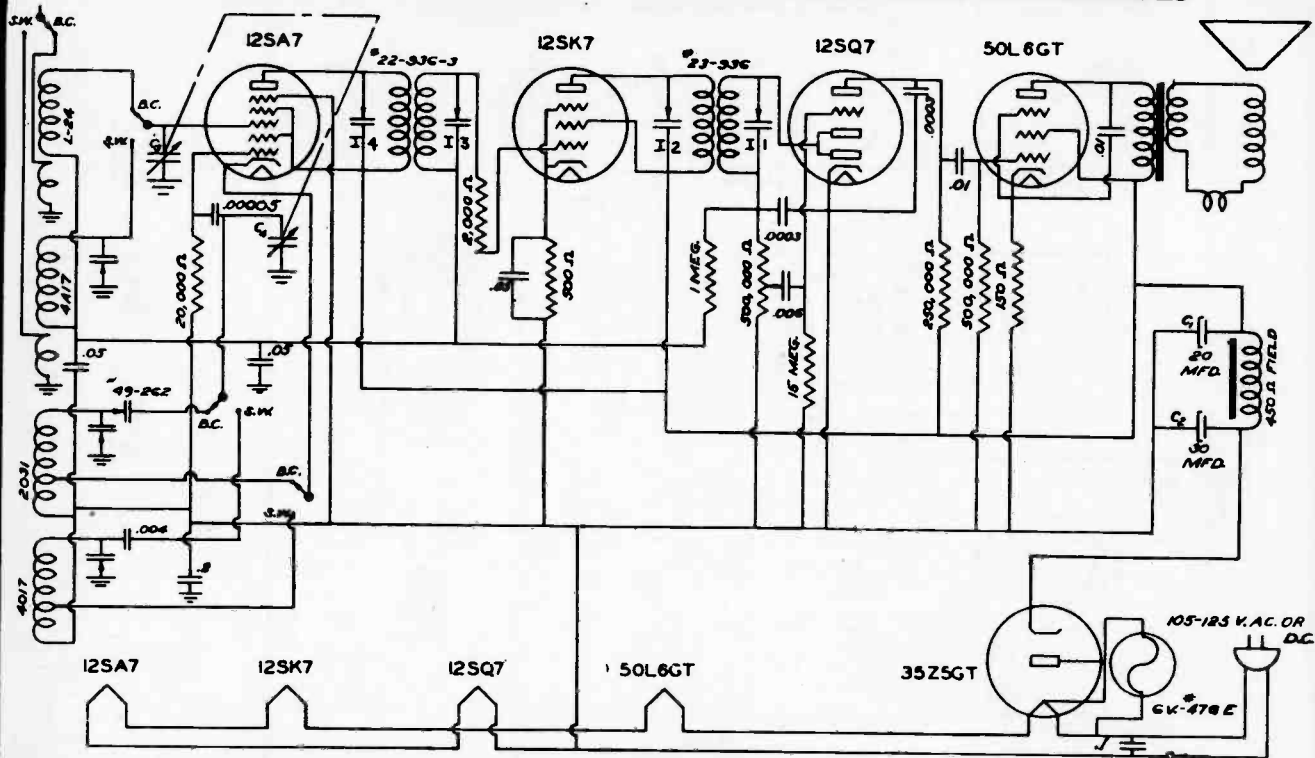


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



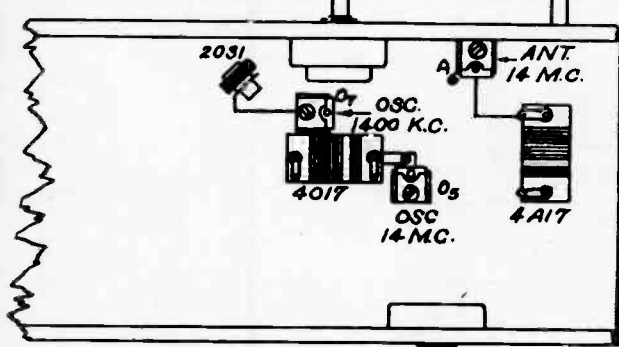


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## ALIGNMENT PROCEDURE

Wave-Band Switch Position	Position of Dial Pointer	Signal Generator Frequency	Signal Generator Connection	See Note	Trimmers Adjusted (In order shown)	Trimmer Function	Check for Image at
KC	540	465	Grid of 12SA7	A	$I_1, I_2, I_3, I_4$	IF	
MC	14 MC	14 MC	Ant. (Brown)	B	$O_5, A_6$	Osc. Ant.	13 MC
KC	1400 KC	1400 KC	Ant. (Brown)		$O_7$	Osc.	



### SOCKET VOLTAGE READINGS

Voltage taken from B- with line voltage at 117 V. A.C.

High voltage reading off rectifier = 115V.

Drop across speaker field = 29V.

Use at least a 1000 Ohm per volt meter.  
High voltage readings off

High voltage reading off rectifier = 121V.

**Howard Radio Co.**  
**Model 802**

## Model 802

# 60

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 14 MC, then a weaker image will be heard at 13,070 KC, in other words 930 KC less on the dial.

The tubes are connected in series in the order as shown by the schematic diagram.

The dual section filter condenser has a common negative, but note that it does not return to ground as the can is insulated from the chassis.

TUBE	FUNCTION	CATH.		SG.		PLATE	
12SA7	Mixer		★	92	4	92	3
12SK7	I.F. Amp	2.1	5	92	6	92	8
12SQ7	Det.					42	6
50L6GT	Output	6	8	92	4	82	3
35Z5GT	Rectifier	121	8				

\* Socket Terminal Number.

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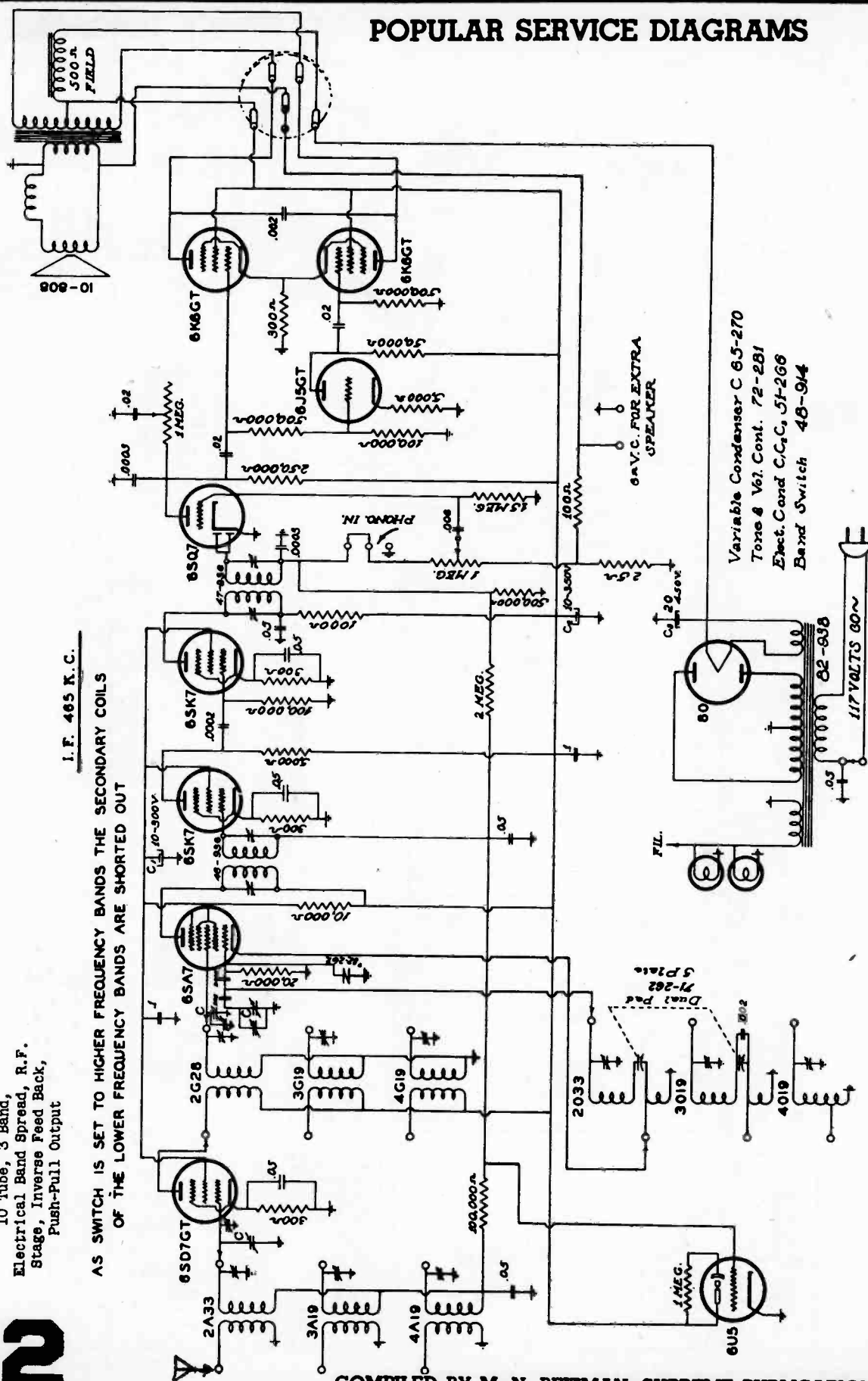
10 Tube, 3 Band,  
Electrical Band Spread, R.F.  
Stage, Inverse Feed Back,  
Push-Pull Output

**Howard Radio Co.**

**I. F. 485 K. C.**

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

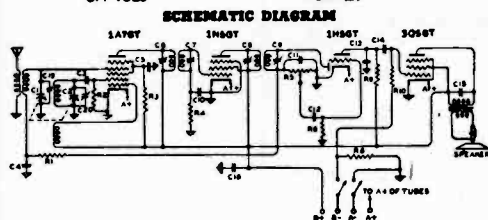
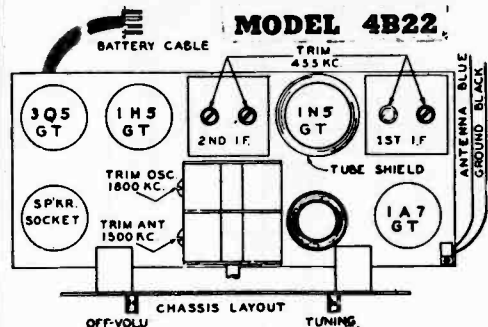
## POPULAR SERVICE DIAGRAMS



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



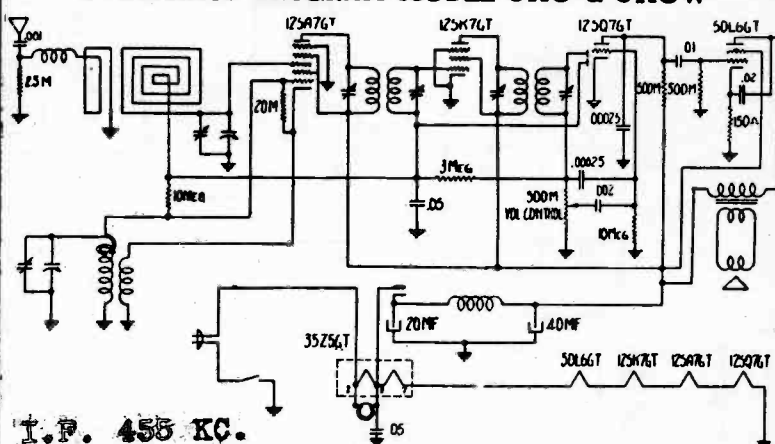
Schematic Location

Description

Schematic Location

Description

## SCHEMATIC DIAGRAM MODEL 5T10 & 5T10W

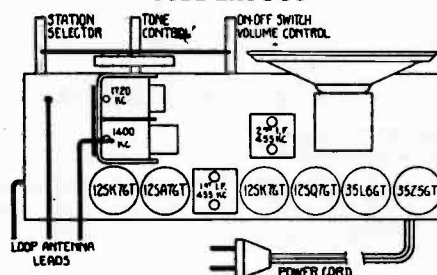


## MODEL 6T23

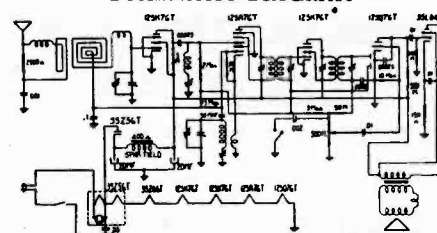
Factory No. 4501X



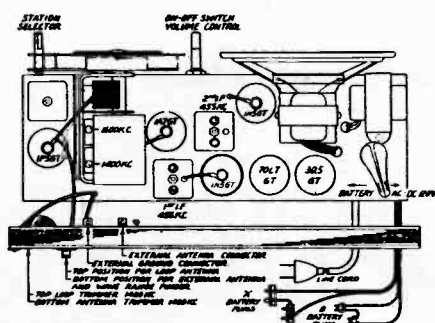
### TUBE LAYOUT



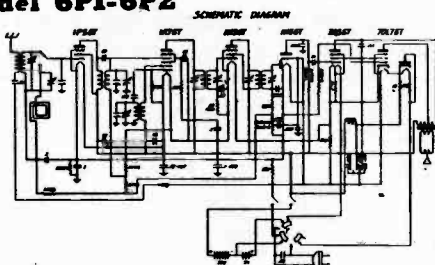
### SCHEMATIC DIAGRAM



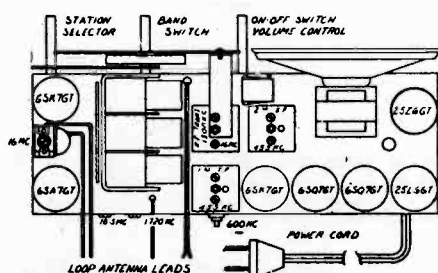
MAJESTIC RADIO AND TELEVISION CORP.  
2600 WEST 50TH STREET CHICAGO, ILLINOIS



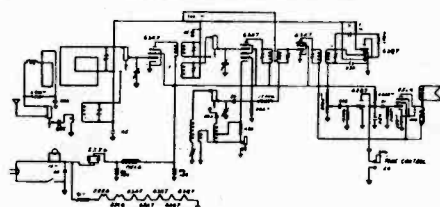
## Model 6P1-6P2



## MODEL 7T20



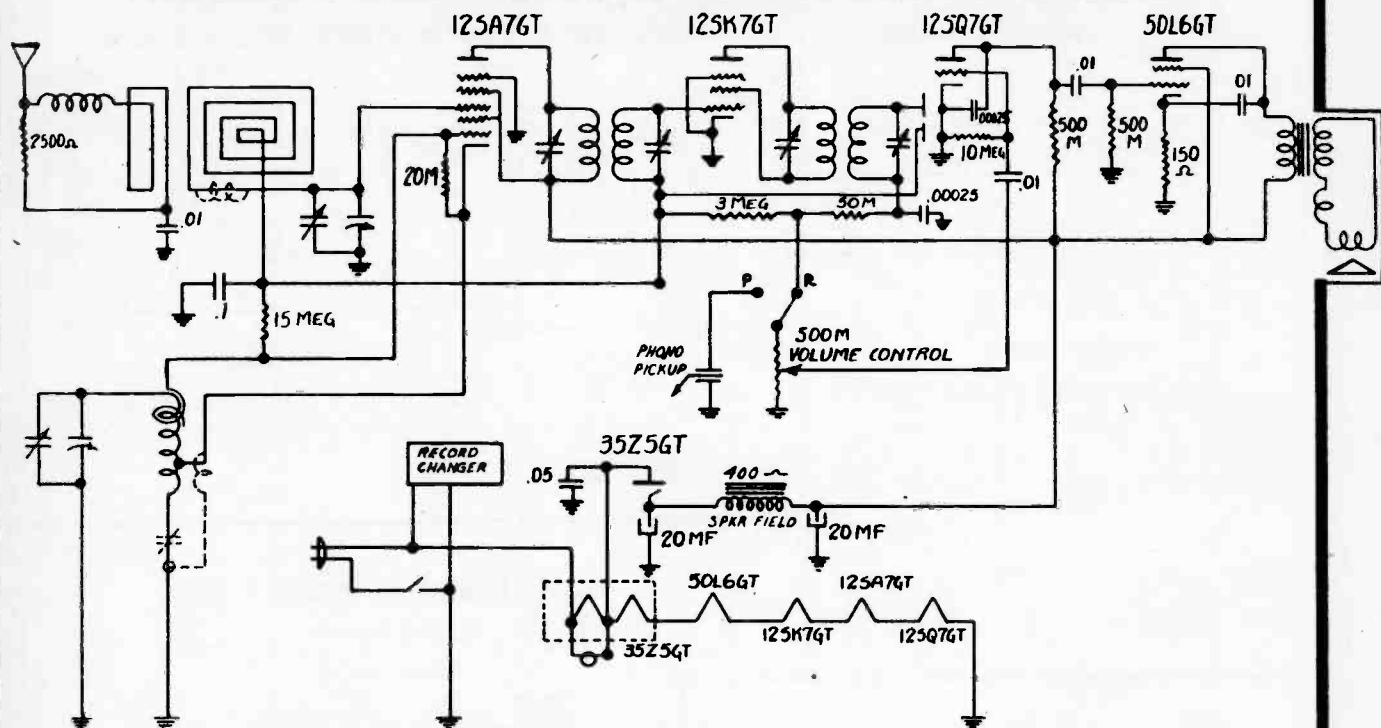
### SCHEMATIC DIAGRAM



MAJESTIC RADIO AND TELEVISION CORP.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## Majestic Radio & Television Corporation

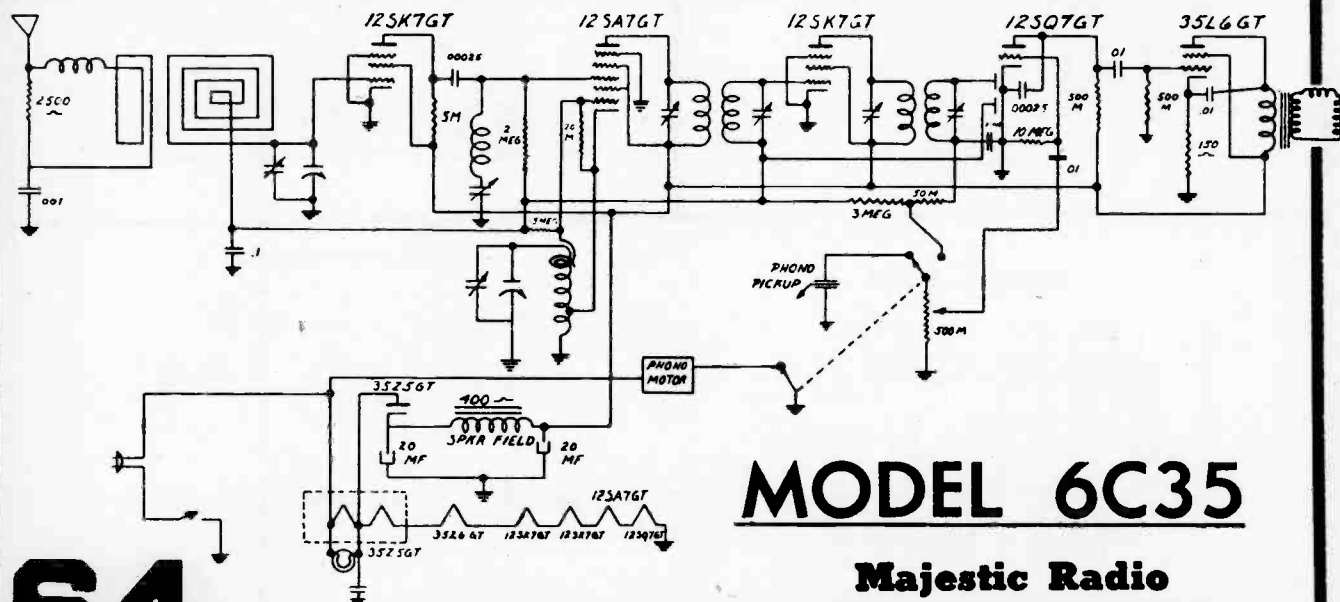
### THE RECORD-CHANGER NEEDLE:

The needle supplied with this unit has a special durable point. No attempt should be made to use ordinary steel or fibre needles. They wear rapidly and will give poor reproduction. Only needles with a point durable enough to play 10 records or more without damaging them should be used.

## MODEL 5C36

### LOADING THE RECORDS FOR AUTOMATIC OPERATION:

This mechanism automatically plays in sequence up to twelve 10" records or ten 12" records at one set-up. ALL RECORDS MUST BE THE SAME SIZE FOR EACH SET-UP.



## MODEL 6C35

Majestic Radio

64

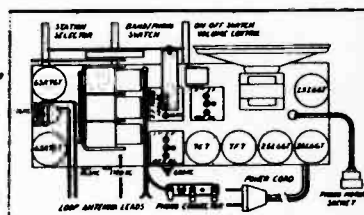
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# Majestic Radio & Television Corporation



# MODEL 7K60



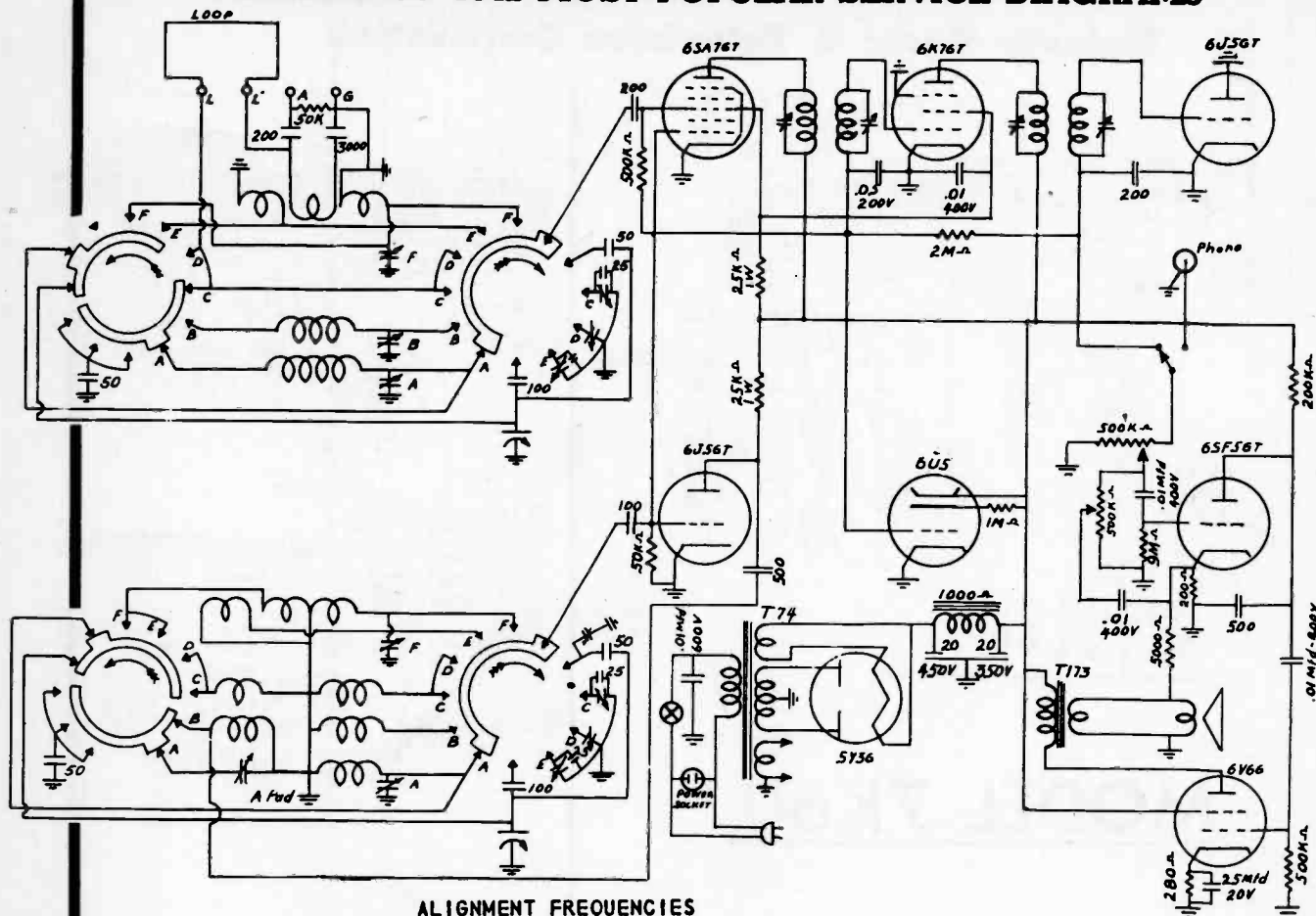
# MODEL 7C40

Band switch sections shown in Broadcast setting.

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## ALIGNMENT FREQUENCIES

IF - 456 KC

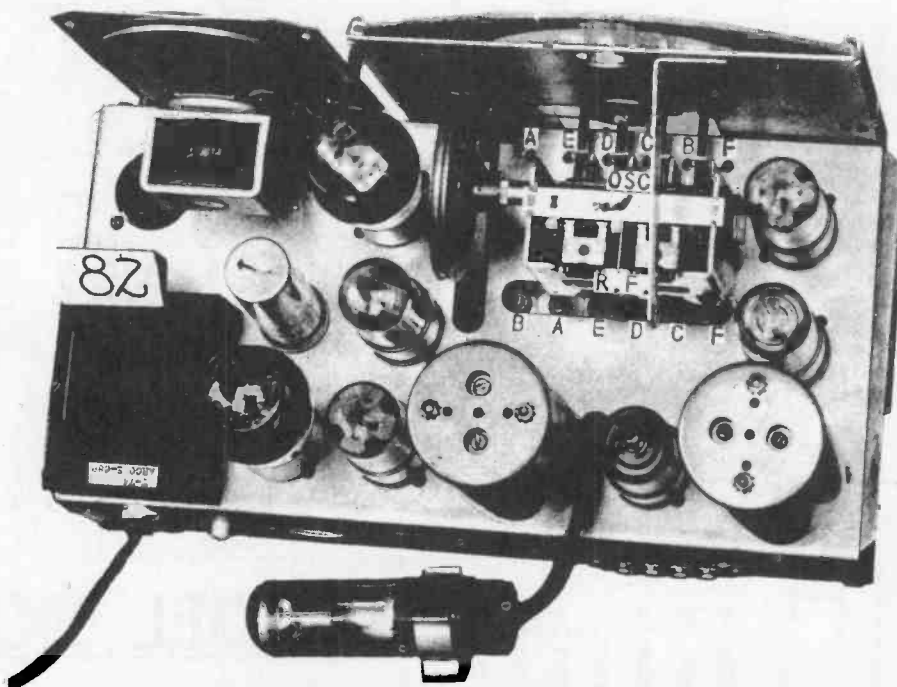
A - 1400 KC  
B - 6.6 MC

C - 9.8 MC  
D - 11.7 MC

E - 15.7 MC  
F - 24 MC

**MODEL 82 RECEIVER**

MIDWEST RADIO CORPORATION  
909 Broadway  
Cincinnati, Ohio



66

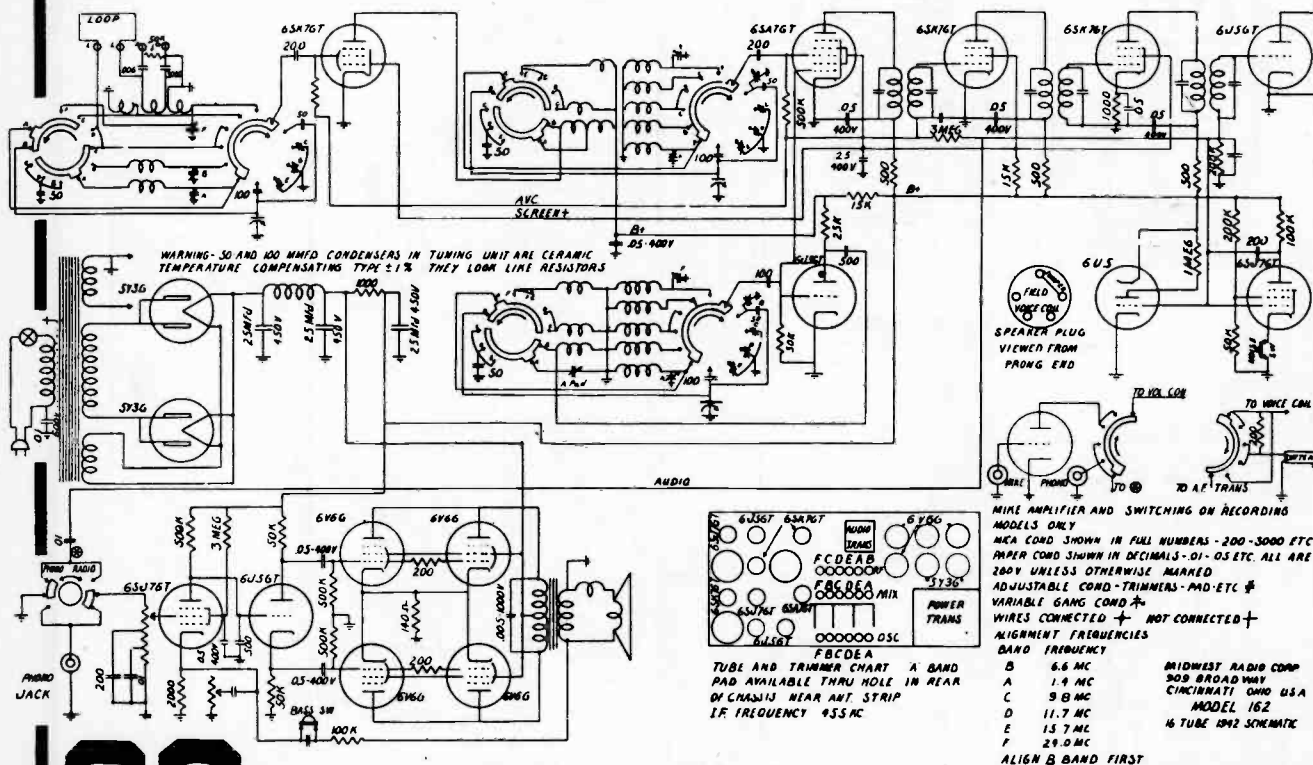
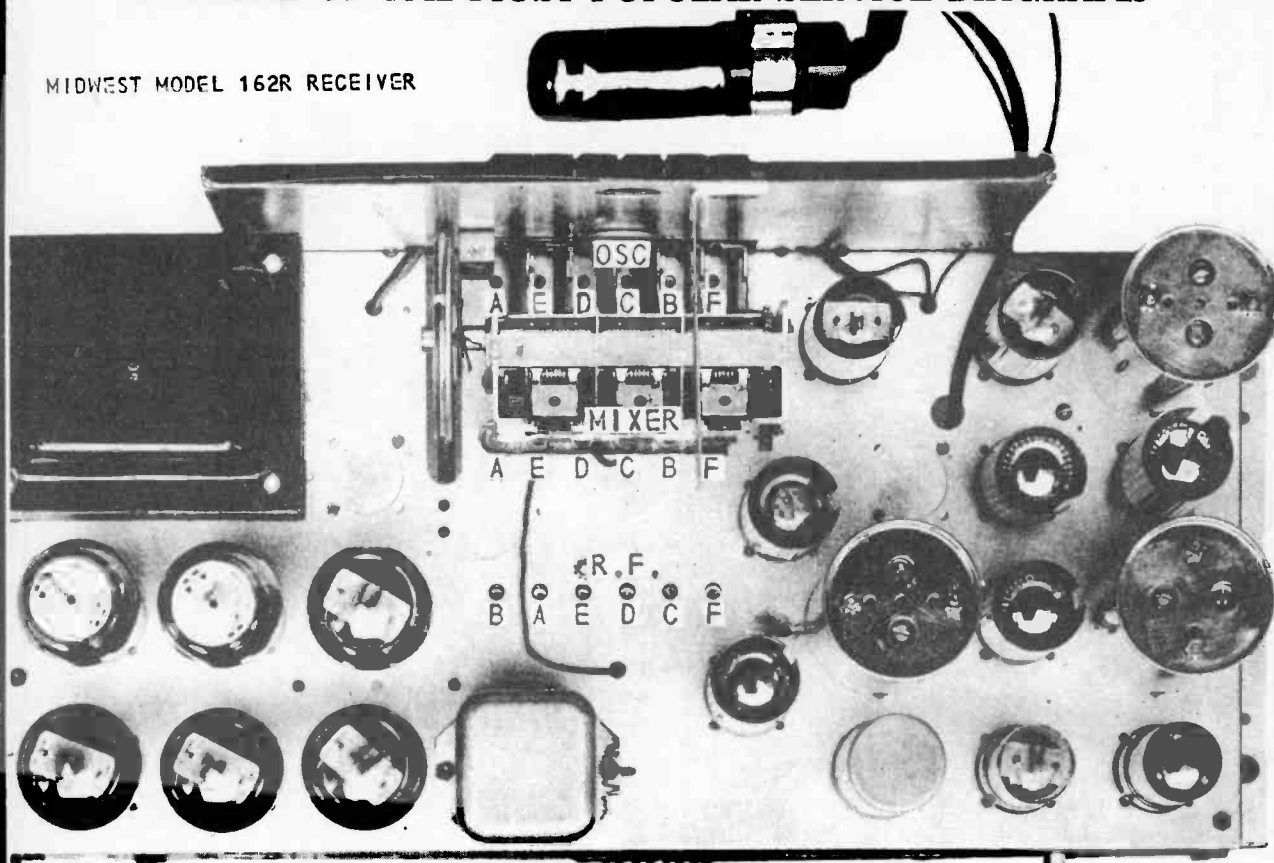
**COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS**







## MIDWEST MODEL 162R RECEIVER



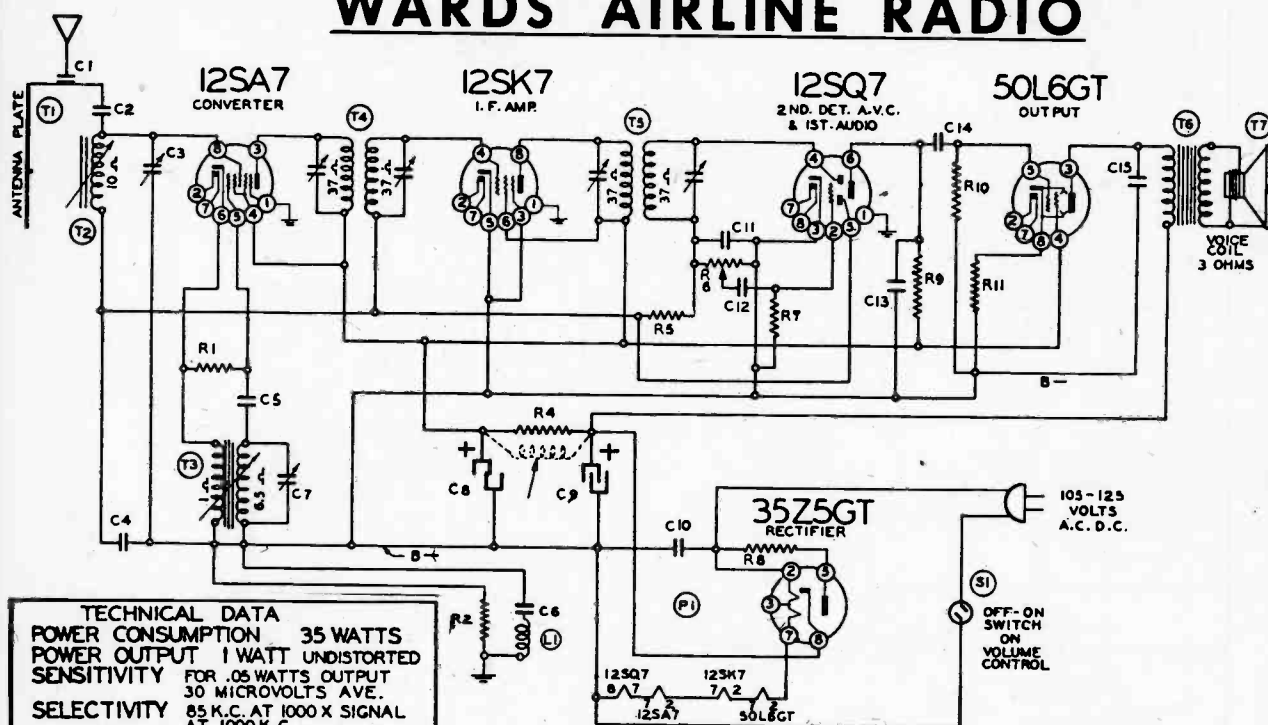






# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## WARDS AIRLINE RADIO



**TECHNICAL DATA**  
 POWER CONSUMPTION 35 WATTS  
 POWER OUTPUT 1 WATT UNDISTORTED  
 SENSITIVITY FOR .05 WATTS OUTPUT  
 30 MICROVOLTS AVE.  
 SELECTIVITY 85 K.C. AT 1000 X SIGNAL  
 AT 1000 K.C.  
 TUNING RANGE 535 TO 1720 K.C.  
 INTERMEDIATE FREQUENCY 455 K.C.

### RESISTORS

- R1 BE130176 20M ohm— $\frac{1}{2}$  w.
- R2 BE130100 150M ohm— $\frac{1}{2}$  w.
- R4 BE130279 1M ohm—1 w.
- R5 BE1304 3 megohm— $\frac{1}{2}$  w.
- R6 BE101255 500M ohm—Volume control and switch.
- R7 BE130257 5 megohm— $\frac{1}{2}$  w.
- R8 BE130240 30 ohm— $\frac{1}{2}$  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.

- 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 .00005 mica
- C6 BE10091 .15 x 400 v.
- C7 BE124137 Trimmer on oscillator coil
- C8 BE11992 20 Mfd. lytic x 150 v.v.
- C9 BE11992 40 mfd. lytic x 150 w. v.
- C10 BE10013 .05 x 400 v.
- C11 BE12912 .00025 mica
- C12 BE10025 .002 x 600 v.
- C13 BE1292 .0005 mica
- C14 BE10011 .01 x 400 v.

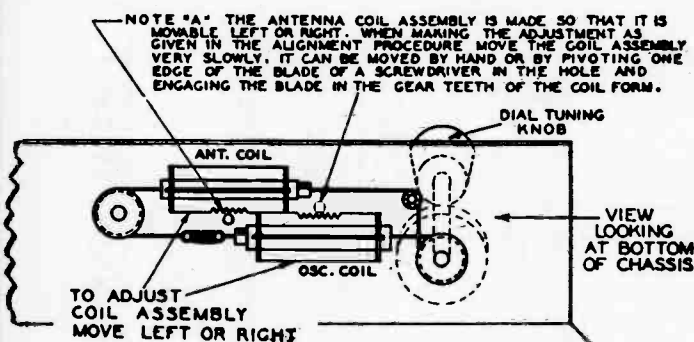
### CONDENSERS

C15 BE10026 .02 x 400 v.

C3 and C7 are in same unit  
 C8 and C9 are in same unit

### PARTS

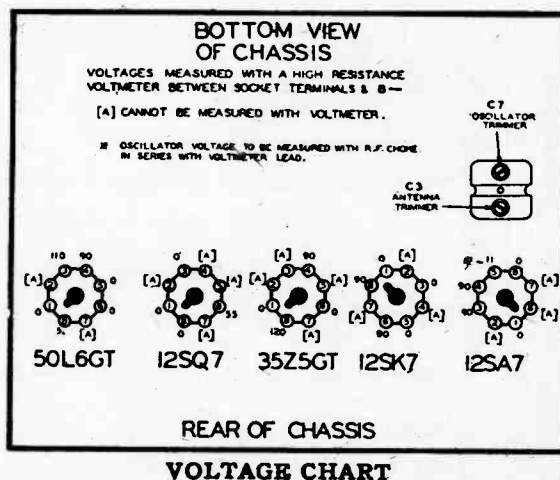
- T1 BE115597-18 Antenna plate (Walnut) or BE115597-9 Antenna plate (Ivory)
- T2 BE111181 Antenna permeability coil
- T3 BE110153 Oscillator permeability coil
- T4 BE108157-H Input I.F. coil—455 kc.
- T5 BE108157-I Output I.F. coil—455 kc.
- T6 BE105128 Output transformer
- T7 BE114199 4" PM speaker
- S1 BE114259 4" Electrodynamic speaker
- S1 Switch on Volume control
- L1 BE105138 R.F. choke



### COIL ASSEMBLY VIEW

**MODEL 14BR-521A**

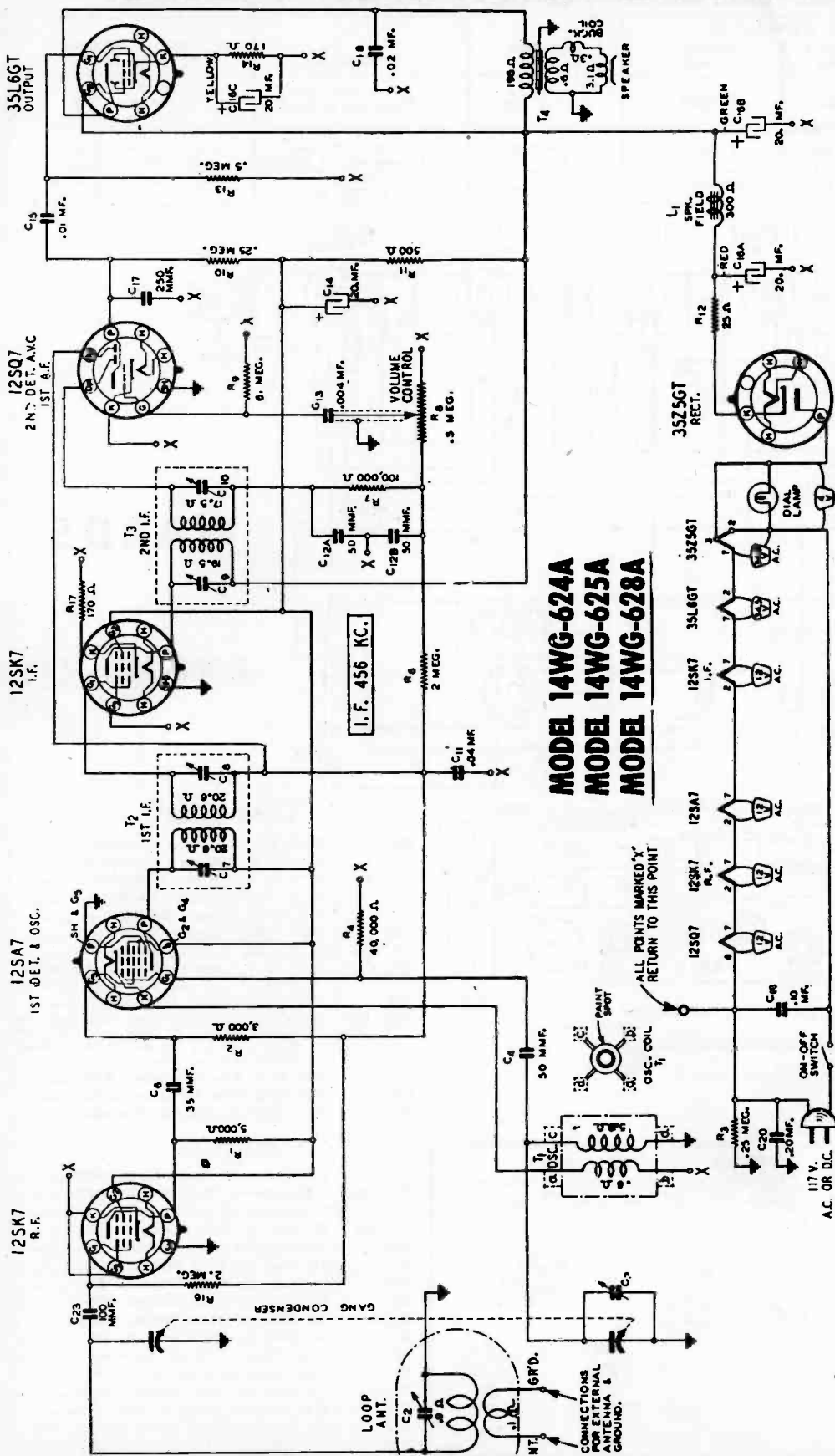
**MODEL 14BR-522A**



### REAR OF CHASSIS VOLTAGE CHART



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



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

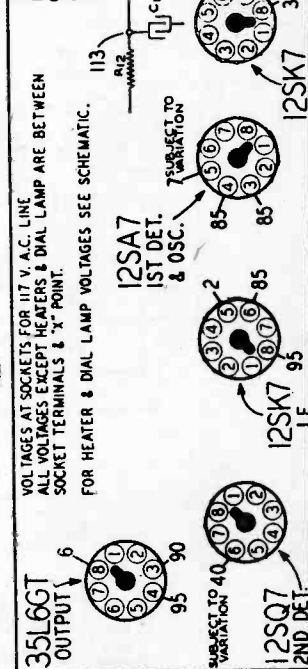


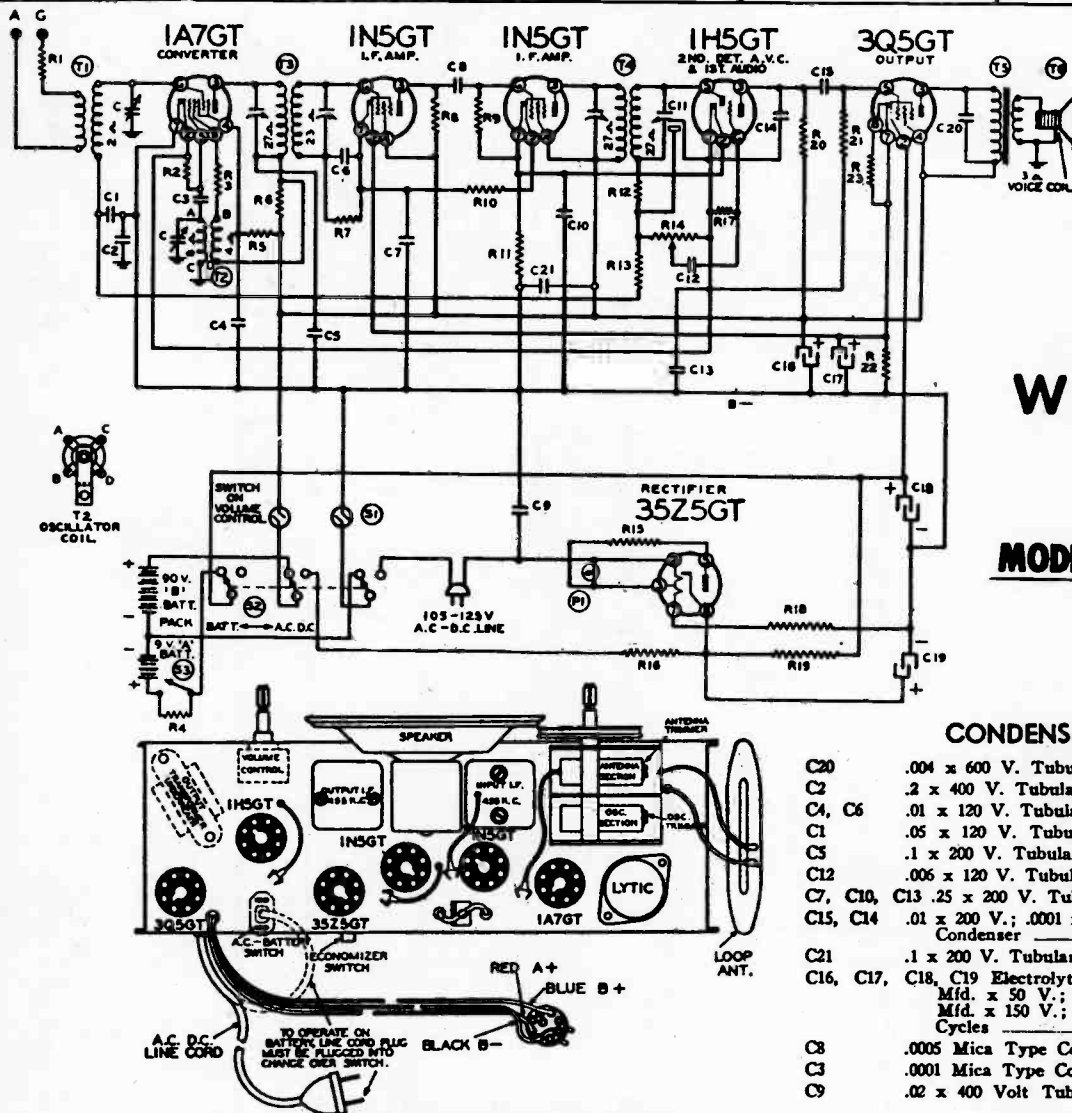
Diagram of the dial lamp circuit for 25 cycle models. The circuit includes a transformer with a primary winding connected to a 1400 ohm resistor (R20) and a secondary winding connected to a dial lamp and a balance circuit. A 3525GT rectifier is connected to the secondary. A note indicates the balance circuit is as shown in the previous diagram.

25 CYCLE MODELS



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

BAND	SIGNAL GENERATOR		Connection to Radio	Dial Setting	Trimmers Adjusted (in Order Shown)
	Frequency Setting	Dummy Antenna			
455 Kc. I. F.	455 Kc.	.1 MFD.	Connect to Grid of 1A7	Rotor full open (Plates out of mesh)	Input and Output Trimmers on Top of I. F. cans
BROADCAST BAND	1600 Kc.	.1 MFD.	Connect to Grid of 1A7	Rotor full open (Plates out of mesh)	Osc. Trimmer on gang (See chassis view)
	1400 Kc.	200 MMF.	Connect to Antenna Clip	Set dial at 1400 Kc.	Ant. Trimmer on gang (See chassis view)



# WARDS

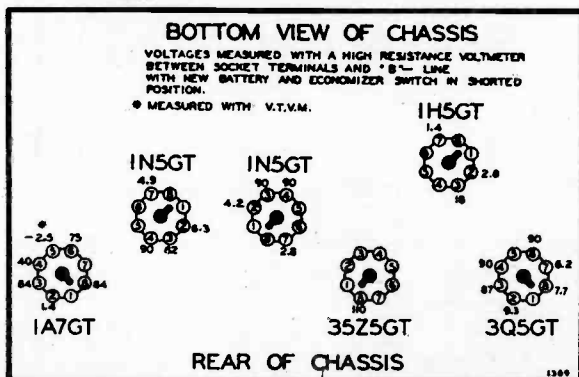
**MODEL 14BR-684A**

## CONDENSERS

C20	.004 x 600 V. Tubular Condenser_____
C2	.2 x 400 V. Tubular Condenser_____
C4, C6	.01 x 120 V. Tubular Condenser_____
C1	.05 x 120 V. Tubular Condenser_____
C5	.1 x 200 V. Tubular Condenser_____
C12	.006 x 120 V. Tubular Condenser_____
C7, C10, C13	.25 x 200 V. Tubular Condenser_____
C15, C14	.01 x 200 V.; .0001 x 200 V. Dual Tubular Condenser_____
C21	.1 x 200 V. Tubular Condenser_____
C16, C17, C18, C19	Electrolytic Filter Condenser 20 Mfd. x 50 V.; 40 Mfd. x 150 V.; 40 Mfd. x 150 V.; 200 Mfd. x 10 V. 50-60 Cycles_____
C8	.0005 Mica Type Condenser—20%_____
C3	.0001 Mica Type Condenser—20%_____
C9	.02 x 400 Volt Tubular Condenser_____

## RESISTORS

R20	1	Megohm— $\frac{1}{2}$	Watt Resistor—20%
R13, R21	3	Megohm— $\frac{1}{2}$	Watt Resistor—20%
R7, R9, R17	5	Megohm— $\frac{1}{2}$	Watt Resistor—25%
R4, R15	20	Ohm— $\frac{1}{2}$	Watt Resistor—10%
R16	2500	Ohm— $\frac{1}{2}$	Watt Resistor—10%
R11	2M	Ohm— $\frac{1}{2}$	Watt Resistor—10%
R10	15	Ohm— $\frac{1}{2}$	Watt Resistor—10%
R8	5M	Ohm— $\frac{1}{2}$	Watt Resistor—20%
R3, R6	3M	Ohm— $\frac{1}{2}$	Watt Resistor—20%
R22	700	Ohm— $\frac{1}{2}$	Watt Resistor—10%
R2	200M	Ohm— $\frac{1}{2}$	Watt Resistor—20%
R5	65M	Ohm— $\frac{1}{2}$	Watt Resistor—10%
R1	1M	Ohm— $\frac{1}{2}$	Watt Resistor—20%
R12	47M	Ohm— $\frac{1}{2}$	Watt Resistor—20%
R18	545	Ohm—14	Watt W.W. Resistor—5%
R19	1975	Ohm—6	Watt W.W. Resistor—5%
R23	350	Ohm— $\frac{1}{2}$	Watt Resistor—10%





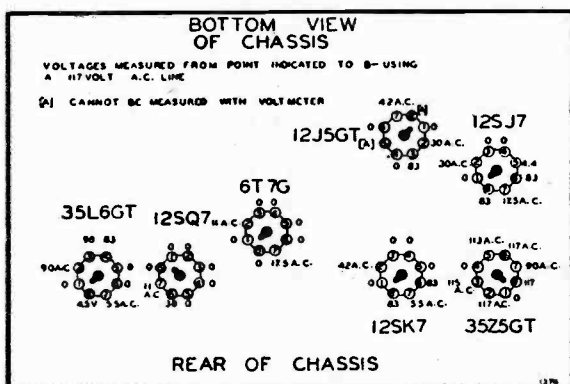
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

• Connect B—of radio chassis to ground post of signal generator through .1 Mfd. condenser.

BAND	SIGNAL GENERATOR Frequency Setting	Dummy Antenna	Connection to Radio	Position of Band Switch	Variable Condenser Setting	Trimmers Adjusted to Maximum
I. F.	455 Kc.	.1 MFD.	Grid of 12SK7 I. F.	Broadcast	Rotor full open (Plates out of mesh)	Two trimmers on top of Output I. F.
	455 Kc.	.1 MFD.	Grid of 12SJ7 Mixer	Broadcast	Rotor full open (Plates out of mesh)	Two trimmers on top of Input I. F.
SHORT WAVE BAND	12 Mc.	400 Ohms	External Antenna and B—	Short Wave	Set Dial at 12 Mc.	S.W. Osc. trimmer C10 S.W. Ant. trimmer C3
BROADCAST BAND	1600 Kc.	.1 mmf.	Grid of 12SJ7	Broadcast	Rotor full open (Plates out of mesh)	B.C. Osc. trimmer C12 on Gang
	1400 Kc.	200 mmf.	External Antenna and B—	Broadcast	Set Dial at 1400 K. C.	B.C. Ant. trimmer C6

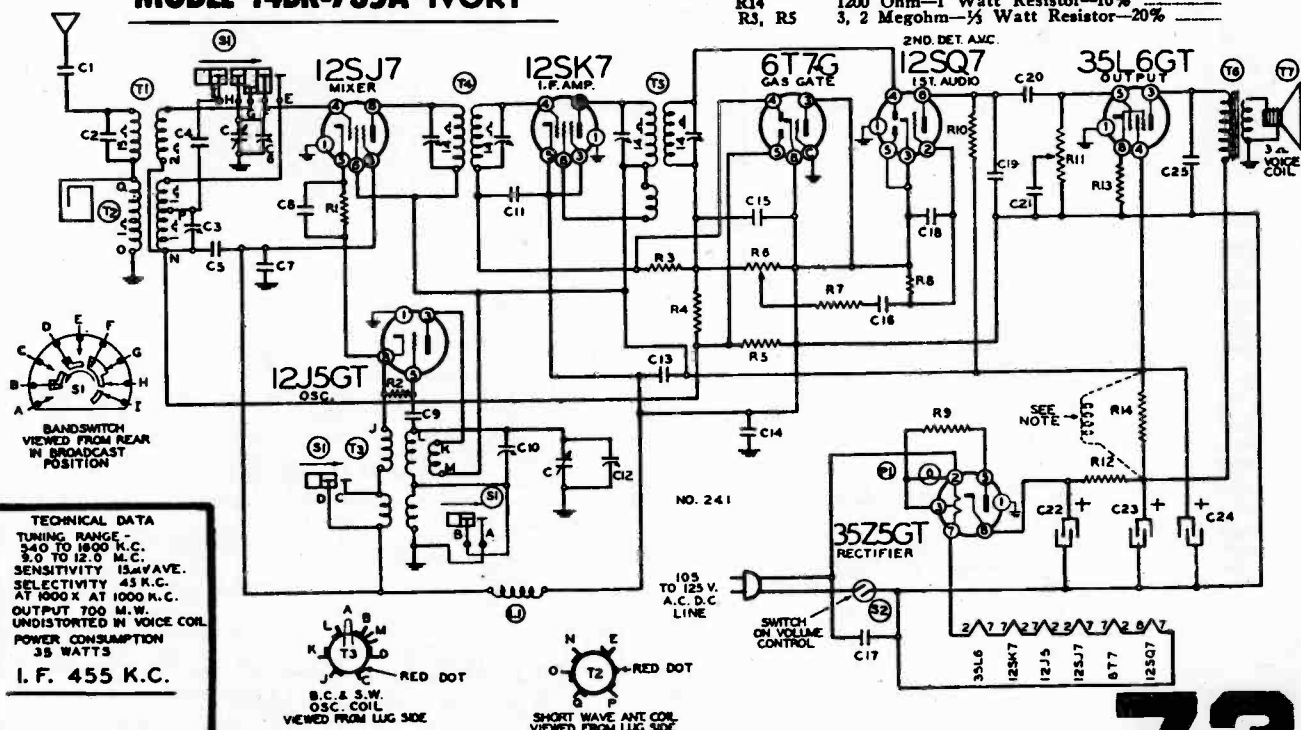
NOTE: The Oscillator Frequency is lower than the signal frequency and should be aligned accordingly.

The loop antenna should be connected to the radio when making all adjustments.



C11	.05 x 200 Volt Tubular Condenser
C16, C21	.006 x 600 Volt Tubular Condenser
C13	.1 x 200 Volt Tubular Condenser
C25, C20	.02 x 400 Volt Tubular Condenser
C1	.003 x 600 Volt Tubular Condenser
C7, C14	.1 x 400 Volt Tubular Condenser
C8	.01 x 120 Volt Tubular Condenser
C5	.05 x 120 Volt Tubular Condenser
C17	.03 x 400 Volt Tubular Condenser
	Electrolytic Filter Cond. added for 25 cycle only. 40 mfd. x 150 Volts across C22 and 20 Mfd. x 150 Volts across C23.
C22, C23, C24	Electrolytic Filter Condenser—40 mfd.—20 mfd.—20 mfd. x 150 Volts
C3, C10	S. W. Antenna and Oscillator Trimmer Condenser
C9, C18	.0001 Mica Type Condenser—20%
C15	.0002 Mica Type Condenser—20%
C2	.00015 Mica Type Condenser—10%
C4	.000445 Mica Type Condenser—3%
C19	.00025 Mica Type Condenser
R10	200M ohm—1/2 Watt Resistor—20%
R2, R7	50M ohm—1/2 Watt Resistor—20%
R4	2 Megohm—1/2 Watt Resistor—20%
R12	200 Ohm—1/2 Watt Resistor—20%
R9	20 Ohm—1/2 Watt Resistor—20%
R13	150 Ohm—1/2 Watt Resistor—10%
R1	5M Ohm—1/2 Watt Resistor—10%
R8	5 Megohm—1/2 Watt Resistor—25%
R14	1200 Ohm—1 Watt Resistor—10%
R3, R5	3, 2 Megohm—1/2 Watt Resistor—20%

## MODEL 14BR-734A BROWN MODEL 14BR-735A IVORY









**MODEL 14BR-912A**

- VIEW LOOKING AT BOTTOM OF CHASSIS**

**6SK7 R.F. AMP.**

**6SA7 CONVERTER**

**6SK7 I.F. AMP.**

**6U5 TUNING INDICATOR**

**5Y3G RECTIFIER**

**6F6G OUTPUT**

**6J5GT INVERTER**

**6SQ7 2ND DET. A.V.C. 1ST. AUDIO**

**Power Consumption (Motor Operating)—120 Watts**

**TUNING RANGES**

BROADCAST BAND 540 TO 1600 KC.  
 19 METER BAND 16.9 TO 15.4 M.C.  
 25 METER BAND 11.4 TO 10.1 M.C.  
 31 METER BAND 9.1 TO 8.0 M.C.  
 49 METER BAND 5.9 TO 5.2 M.C.

**SENSITIVITY 3 MICROROLT. AFE.**  
**SELECTIVITY 35 KC.**  
**1000 A**  
**OUTPUT 3 WATTS**  
**UNDISTORTED IN VOICE CB.**  
**POWER CONSUMPTION**  
**100 WATTS.**  
**1.5 A.C.**

**NOTE: WIRING DIAGRAM SHOWN IN BROADCAST POSITION.**

**ANTENNA BANDSWITCH VIEWED FROM REAR**

**REAR OF 2ND SECTION**

**FRONT OF 2ND SECTION**

**REAR OF 1ST SECTION**

**WIRING SIDE OF TUNER SOCKET HEATERS**

**605-125 VOLTS A.C.**

**600 OHM HOT SUBSTITUTION**

**75**



## 76



01X13	01X14
01X15	01X16

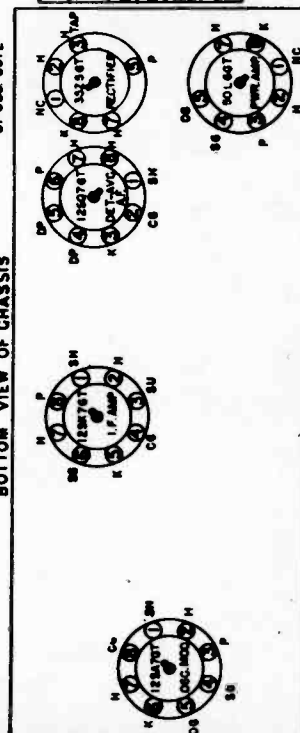
**MODELS 51X11, 12, 15 & 16 SCHEMATIC DIAGRAM PARTS LIST**

Q.C. NO.	PART NO.	DESCRIPTION
1	1428010	BACK & LOOP ASSEMBLY (MODEL 51X11 ONLY)
2	1428211	BACK & LOOP ASSEMBLY (MODEL 51X12 ONLY)
3	1427976	BACK & LOOP ASSEMBLY (MODEL 51X15 ONLY)
4	1425545	OSC. COIL & LEADS ASSEMBLY (MODEL 51X16 ONLY)
5	1425545	OSC. COIL & LEADS ASSEMBLY
6	1425519	1 P. COIL & SHIELD ASSEMBLY
7	1425519	1 P. COIL & SHIELD ASSEMBLY
8	5042000	SPACER (1/2" ELECTRO)
9	1425549	R.F. COIL ASSEMBLY
10	2445500	ELECT. COND. A STRAP (RD-30/150V & 20/25V)
11	1425500	WAGO & PULLY ASSEMBLY (2 WAGO)
12	849001	TUBULAR CONDENSER (.01-.000V)
13	849005	TUBULAR CONDENSER (.01-.000V)
14	849005	TUBULAR CONDENSER (.02-.000V)
15	959005	TUBULAR CONDENSER (.05-.000V)
16	8590116	MODULAR CONDENSER (.05-.000V)
17	8590116	MODULAR CONDENSER (.05-.000V)
18	8590117	MODULAR CONDENSER (.05-.000V)
19	8590117	MODULAR CONDENSER (.05-.000V)
20	8590117	MODULAR CONDENSER (.05-.000V)
21	8590117	MODULAR CONDENSER (.05-.000V)
22	8590117	MODULAR CONDENSER (.05-.000V)
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42	8590117	MODULAR CONDENSER (.05-.000V)
43	8590117	MODULAR CONDENSER (.05-.000V)
44	8590117	MODULAR CONDENSER (.05-.000V)
45	8590117	MODULAR CONDENSER (.05-.000V)
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47	8590117	MODULAR CONDENSER (.05-.000V)
48	8590117	MODULAR CONDENSER (.05-.000V)
49	8590117	MODULAR CONDENSER (.05-.000V)
50	8590117	MODULAR CONDENSER (.05-.000V)
51	8590117	MODULAR CONDENSER (.05-.000V)
52	8590117	MODULAR CONDENSER (.05-.000V)
53	8590117	MODULAR CONDENSER (.05-.000V)
54	8590117	MODULAR CONDENSER (.05-.000V)
55	8590117	MODULAR CONDENSER (.05-.000V)
56	8590117	MODULAR CONDENSER (.05-.000V)
57	8590117	MODULAR CONDENSER (.05-.000V)
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59	8590117	MODULAR CONDENSER (.05-.000V)
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68	8590117	MODULAR CONDENSER (.05-.000V)
69	8590117	MODULAR CONDENSER (.05-.000V)
70	8590117	MODULAR CONDENSER (.05-.000V)
71	8590117	MODULAR CONDENSER (.05-.000V)
72	8590117	MODULAR CONDENSER (.05-.000V)
73	8590117	MODULAR CONDENSER (.05-.000V)
74	8590117	MODULAR CONDENSER (.05-.000V)
75	8590117	MODULAR CONDENSER (.05-.000V)
76	8590117	MODULAR CONDENSER (.05-.000V)
77	8590117	MODULAR CONDENSER (.05-.000V)
78	8590117	MODULAR CONDENSER (.05-.000V)
79	8590117	MODULAR CONDENSER (.05-.000V)
80	8590117	MODULAR CONDENSER (.05-.000V)
81	8590117	MODULAR CONDENSER (.05-.000V)
82	8590117	MODULAR CONDENSER (.05-.000V)
83	8590117	MODULAR CONDENSER (.05-.000V)
84	8590117	MODULAR CONDENSER (.05-.000V)
85	8590117	MODULAR CONDENSER (.05-.000V)
86	8590117	MODULAR CONDENSER (.05-.000V)</

FREQ. RANGE 530 KC TO 1720 KC  
MAX. PWR. OUTPUT 1.35 WATTS

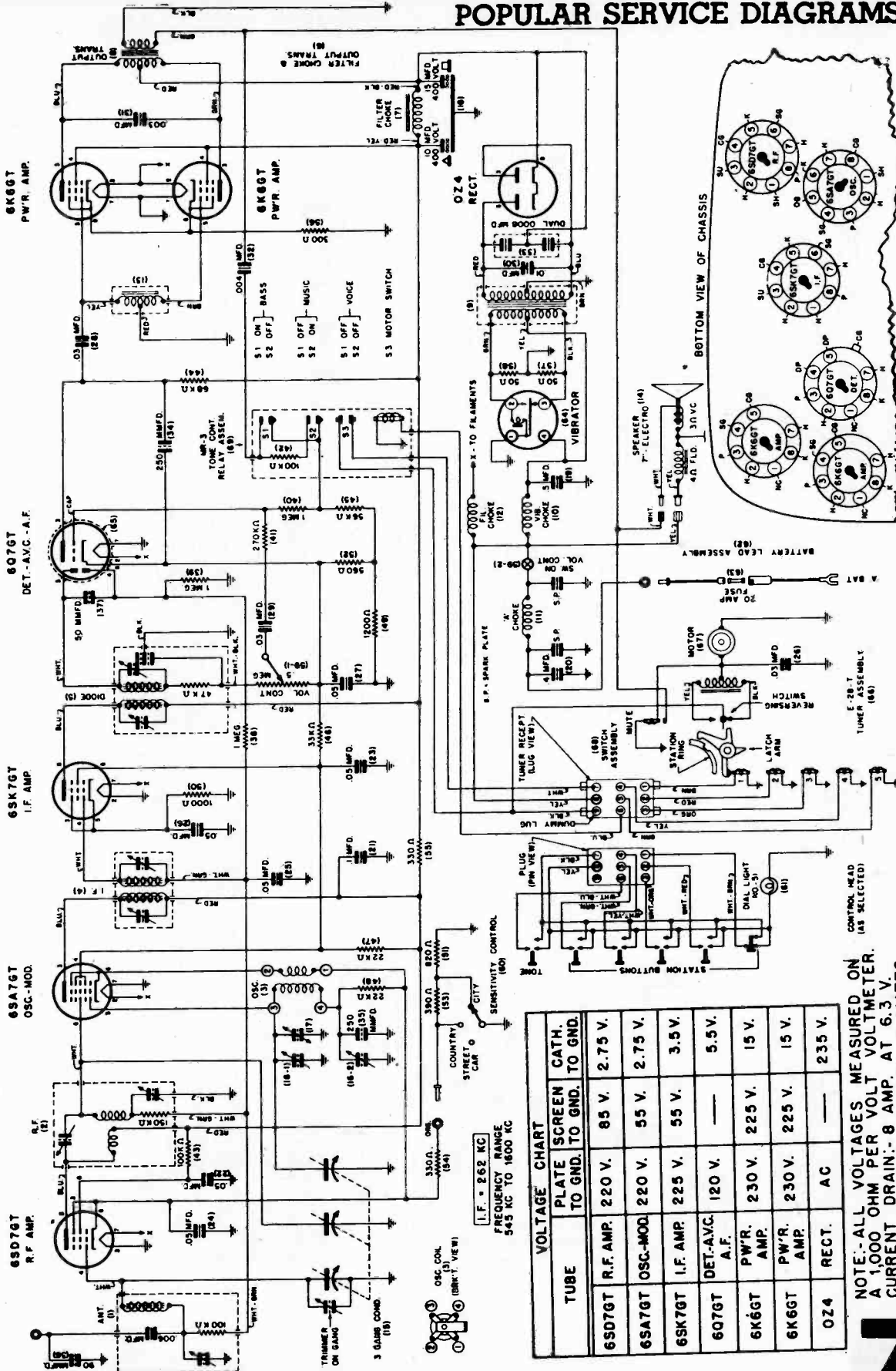
VOLTAGE CHART			
TUBE	PLATE TO B-	SCREEN TO B-	CATH. TO B-
25A76T	500 V.	80 V.	0
28K76T	1 F. AMP.	80 V.	5 V.
25076T	5 F. AMP.	45 V.	0
50L66T	75 V.	80 V.	5.5 V.
35250T	A.C.	—	100 V.

NOTE: ALL VOLTAGES MEASURED ON  
A 1000 OHMS PER VOLT VOLTMETER  
INPUT: 117 V. A.C.





# POPULAR SERVICE DIAGRAMS



**Motorola**

Model 501

77

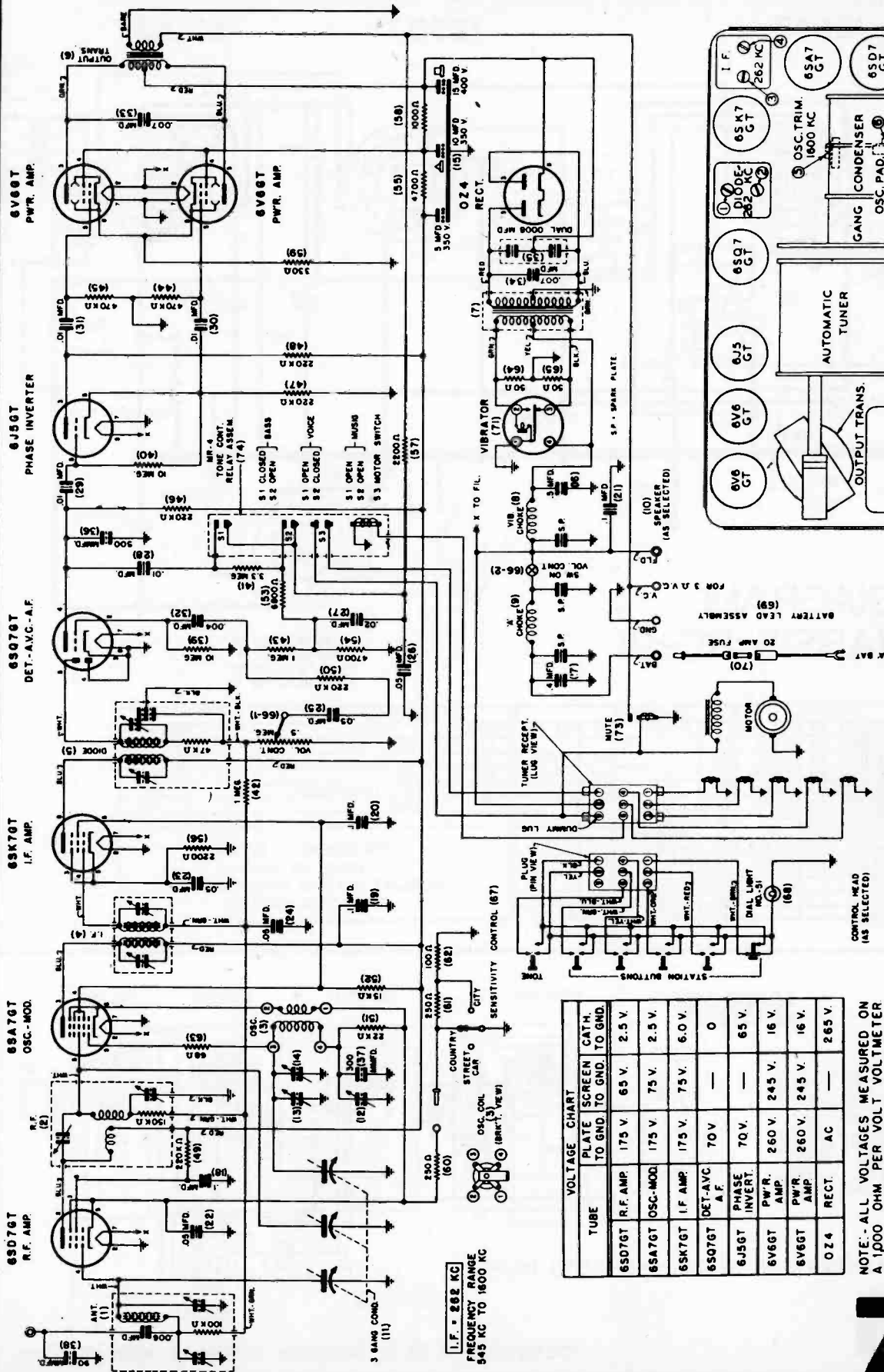


**Motorola**

[illegible]

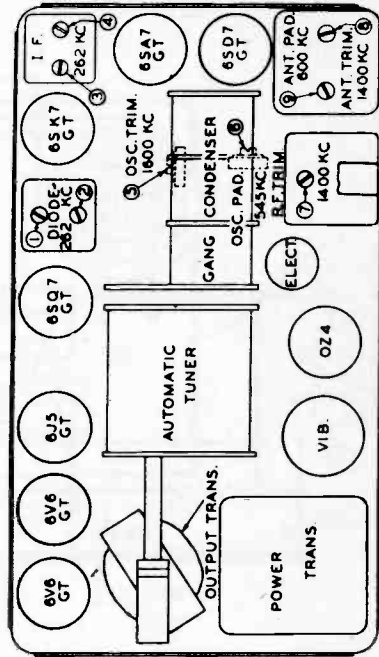


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



TUBE	PLATE	SCREEN	CATH.
	TO GND.	TO GND.	TO GND.
6S07GT R.F. AMP.	175 V.	65 V.	2.5 V.
6SA7GT OSC.-MOD.	175 V.	75 V.	2.5 V.
6SK7GT I.F. AMP.	175 V.	75 V.	6.0 V.
6S07GT DET.-AVC.-A.F.	70 V.	—	0
6J5GT PHASE INVERT.	70 V.	—	65 V.
6V6GT PWR. AMP.	260 V.	245 V.	16 V.
6V6GT PWR. AMP.	260 V.	245 V.	16 V.
OZ4 RECT.	AC	—	265 V.

NOTE: - ALL VOLTAGES MEASURED ON A 1000 OHM PER VOLT VOLTMETER. SENSITIVITY CONTROL IN COUNTY POSITION. CURRENT 7.0 AMPS. AT 6.3 VOLTS. MAXIMUM POWER OUTPUT 9 WATTS.



# Motorola

Model 551



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

12SA7

12SQ7

50L6GT

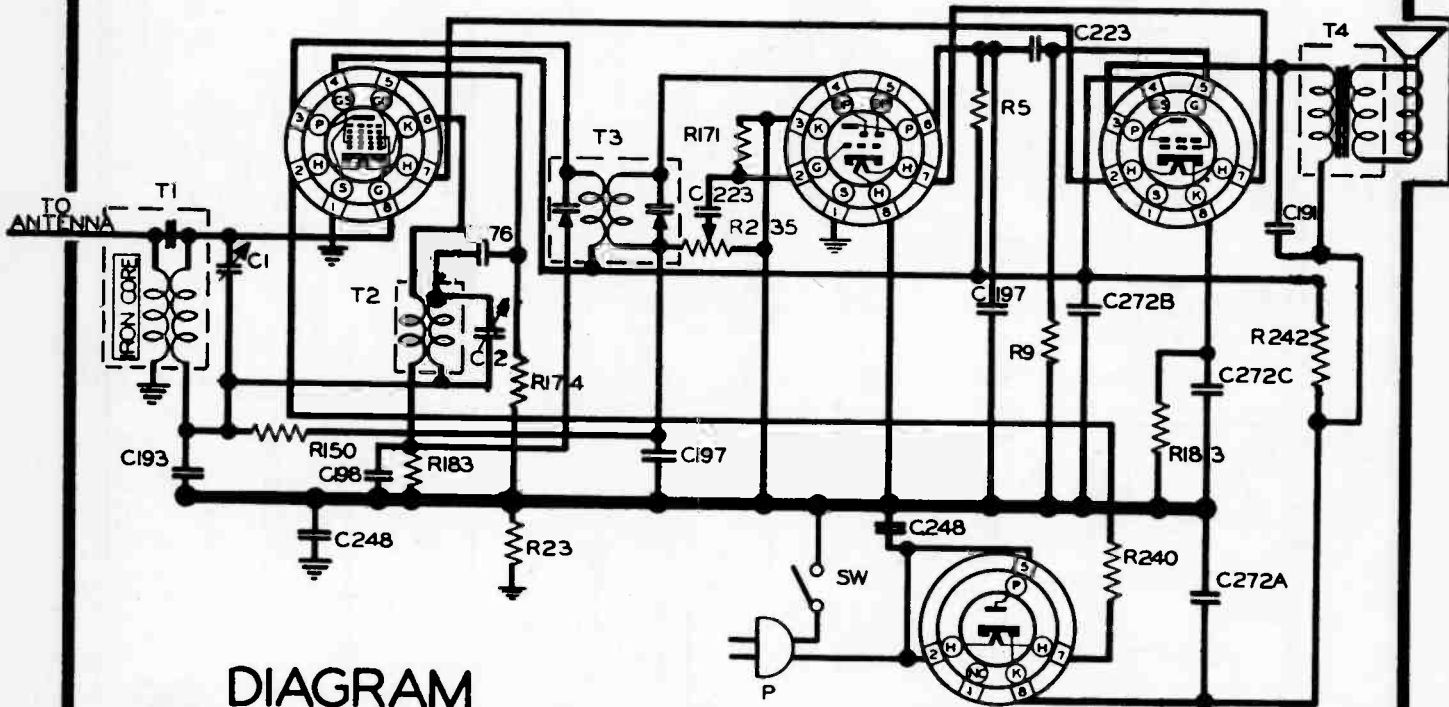


DIAGRAM  
CHASSIS RE-91

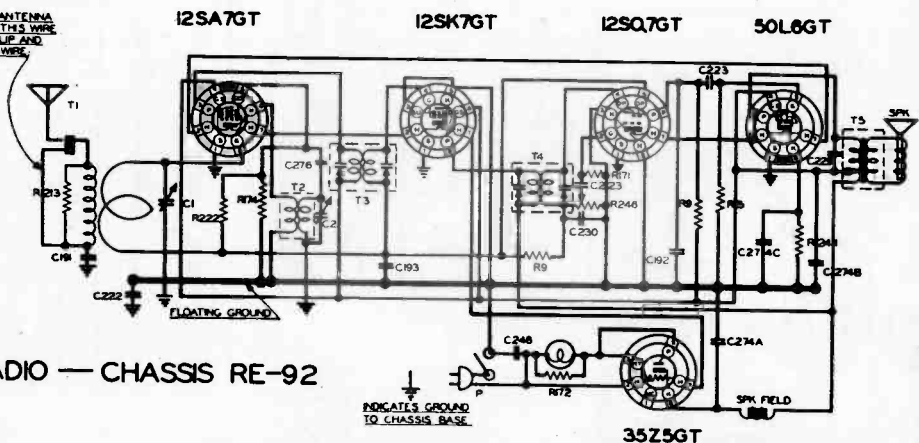
35Z4GT OR  
35Z5GT

RESISTORS				CONDENSERS				MISCELLANEOUS UNITS		
R	OHM	W	PART NO.	C	CAPACITY	VOLT	PART NO.	SYMBOL	DESCRIPTION	PART NO.
174	20 K.	1/4	17-14291	193	.05	200	17-14274	T1	ANTENNA COIL	00-17130
9	1 M.	1/4	17-2080	248	.05	400	17-14366	T2	OSCILLATOR COIL	00-17223
171	15 M.	1/4	17-14288	198	.005	400	17-14279	T3	I.F. COIL	00-17210
5	500K.	1/4	17-2070	223	.002	400	17-14318	T4	OUTPUT TRANSFORMER	00-17131
183	150	1/4	17-14318	191	.01	400	17-14272	SPK.	SPEAKER	17-17208
235	2 M.	V.C.	17-17117	1	TWO GANG					
23	250K	1/4	17-3011	2	VARIABLE		17-17115			
240	47	1	17-14397	272A	40 MFD.	150				
150	5 M.	1/4	17-14242	272B	20 MFD.	150	17-14398			
242	2000	1	17-14399	272C	20 MFD.	25				
				197	.0001	500	17-14278			
				278	.00005	500	17-14404			

FREQUENCY RANGE  
1750 TO 540 KC.  
NOBLITT-SPARKS INDUSTRIES, INC.  
COLUMBUS, INDIANA

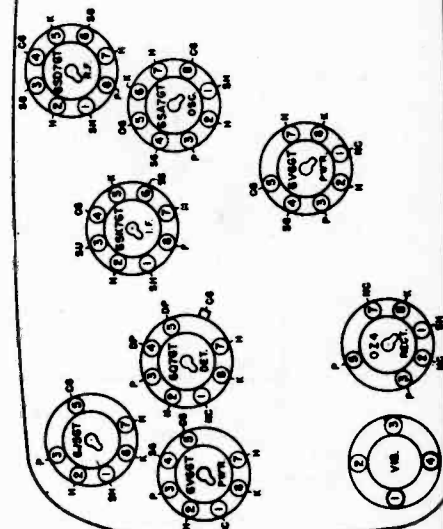
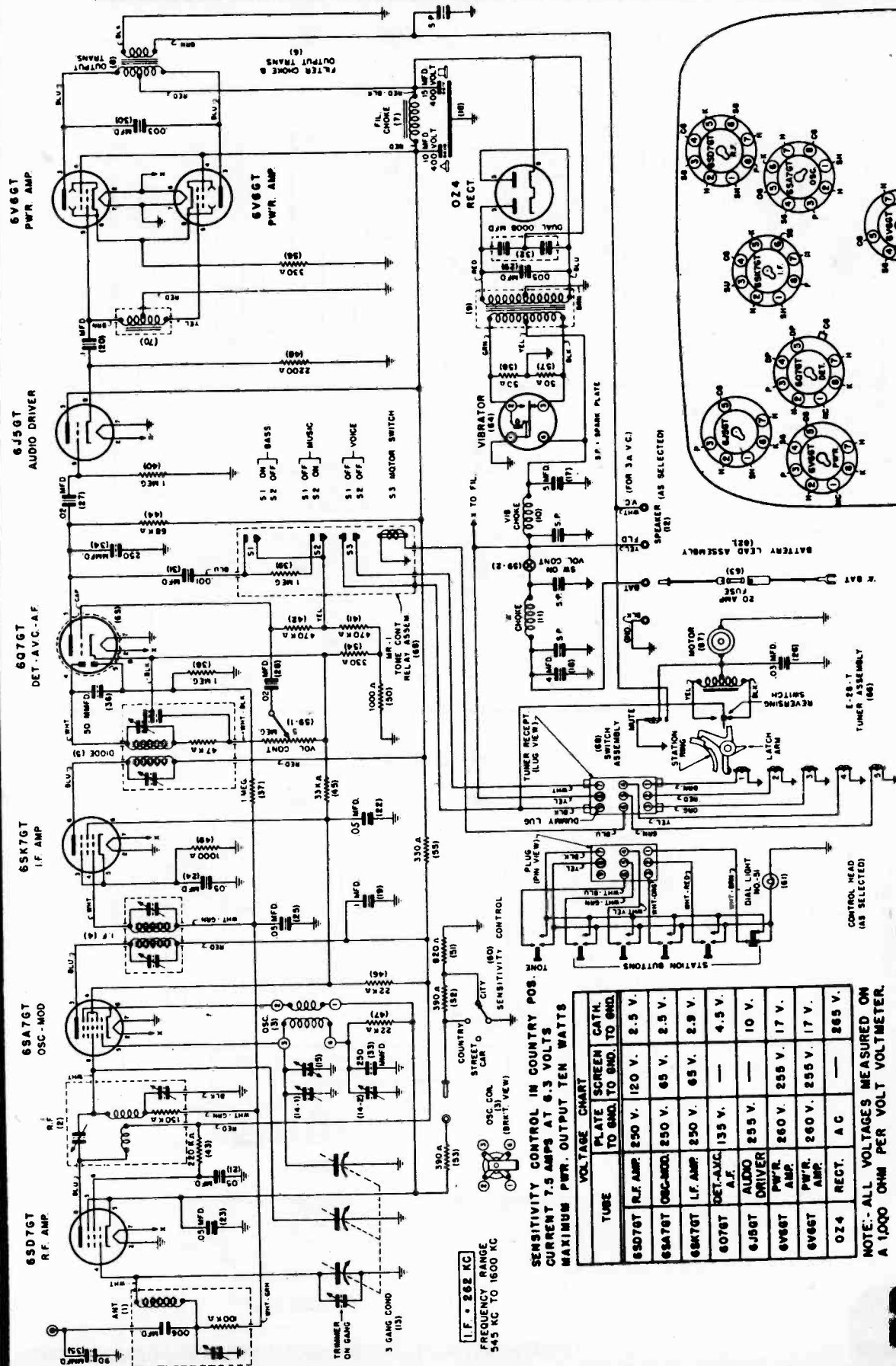
RESISTORS	CONDENSERS
1. 100K 1/4 17-14291	1. 100K 1/4 17-14291
2. 100K 1/4 17-14291	2. 100K 1/4 17-14291
3. 100K 1/4 17-14291	3. 100K 1/4 17-14291
4. 100K 1/4 17-14291	4. 100K 1/4 17-14291
5. 100K 1/4 17-14291	5. 100K 1/4 17-14291
6. 100K 1/4 17-14291	6. 100K 1/4 17-14291
7. 100K 1/4 17-14291	7. 100K 1/4 17-14291
8. 100K 1/4 17-14291	8. 100K 1/4 17-14291
9. 100K 1/4 17-14291	9. 100K 1/4 17-14291
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11. 100K 1/4 17-14291	11. 100K 1/4 17-14291
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23. 100K 1/4 17-14291	23. 100K 1/4 17-14291
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27. 100K 1/4 17-14291	27. 100K 1/4 17-14291
28. 100K 1/4 17-14291	28. 100K 1/4 17-14291
29. 100K 1/4 17-14291	29. 100K 1/4 17-14291
30. 100K 1/4 17-14291	30. 100K 1/4 17-14291
31. 100K 1/4 17-14291	31. 100K 1/4 17-14291
32. 100K 1/4 17-14291	32. 100K 1/4 17-14291
33. 100K 1/4 17-14291	33. 100K 1/4 17-14291
34. 100K 1/4 17-14291	34. 100K 1/4 17-14291
35. 100K 1/4 17-14291	35. 100K 1/4 17-14291
36. 100K 1/4 17-14291	36. 100K 1/4 17-14291
37. 100K 1/4 17-14291	37. 100K 1/4 17-14291
38. 100K 1/4 17-14291	38. 100K 1/4 17-14291
39. 100K 1/4 17-14291	39. 100K 1/4 17-14291
40. 100K 1/4 17-14291	40. 100K 1/4 17-14291
41. 100K 1/4 17-14291	41. 100K 1/4 17-14291
42. 100K 1/4 17-14291	42. 100K 1/4 17-14291
43. 100K 1/4 17-14291	43. 100K 1/4 17-14291
44. 100K 1/4 17-14291	44. 100K 1/4 17-14291
45. 100K 1/4 17-14291	45. 100K 1/4 17-14291
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47. 100K 1/4 17-14291	47. 100K 1/4 17-14291
48. 100K 1/4 17-14291	48. 100K 1/4 17-14291
49. 100K 1/4 17-14291	49. 100K 1/4 17-14291
50. 100K 1/4 17-14291	50. 100K 1/4 17-14291

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





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



VOLTAGE CHART			
TUBE	PLATE TO GND.	SCREEN TO GND.	CATH. TO GND.
6BD7GT	R.F. AMP.	250 V.	120 V. 2.5 V.
6BA7GT	OSC-MOD.	250 V.	65 V. 2.5 V.
6BK7GT	L.F. AMP.	250 V.	65 V. 2.5 V.
6GT8T	DET.-A.V.C. A.F.	135 V.	— 4.5 V.
6J5GT	ALDNO DRIVER	255 V.	— 10 V.
6V6GT	PAW.R. AMP.	260 V.	255 V. 17 V.
6V6GT	PAW.R. AMP.	260 V.	255 V. 17 V.
024	RECT.	A C	— 265 V.

NOTE:- ALL VOLTAGES MEASURED ON  
A 1000 OHM PER VOLT VOLTMETER.

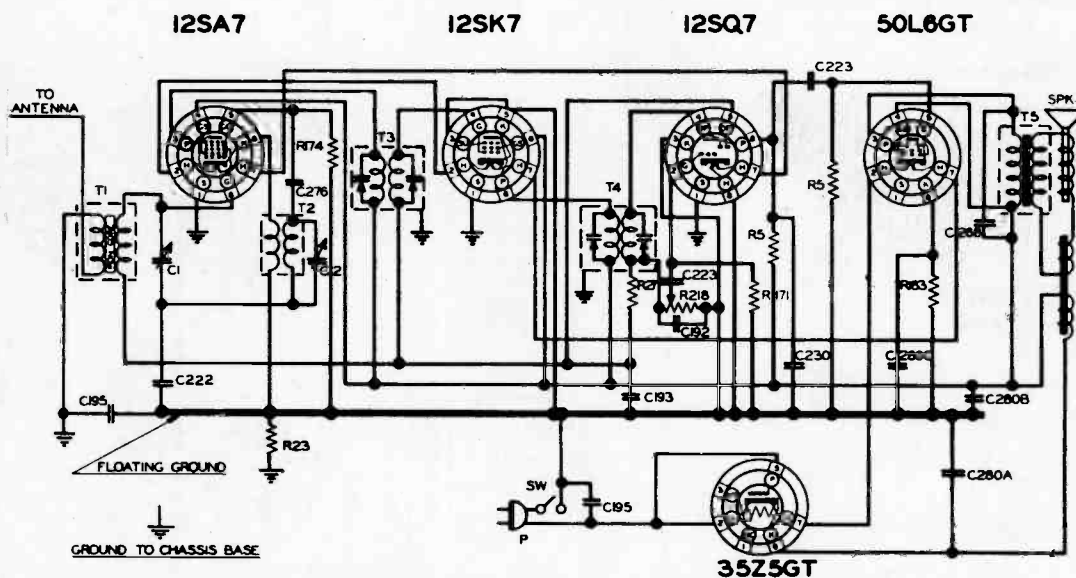
**Motorola**

## Model 701

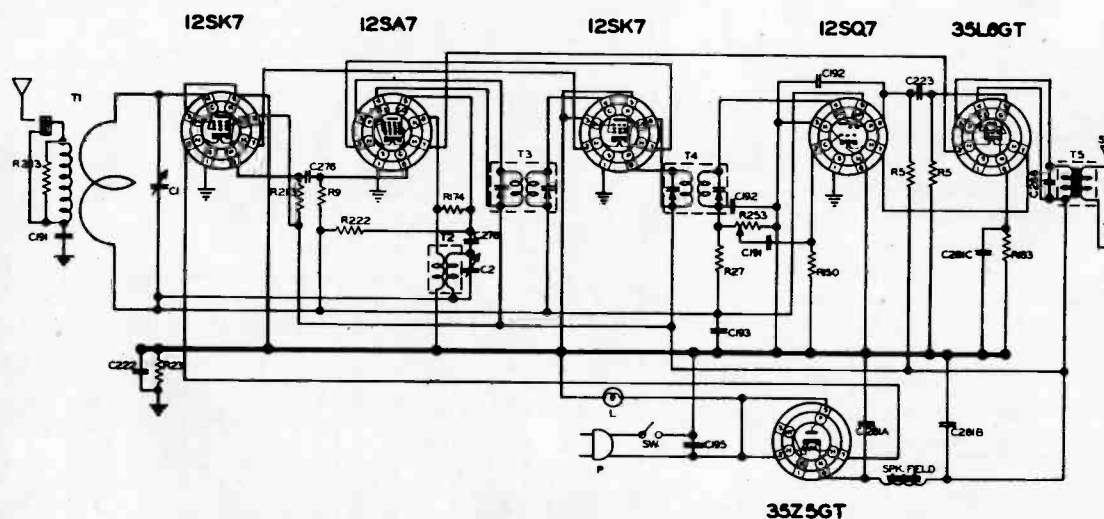


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## ARVIN HOME RADIO CHASSIS RE-99

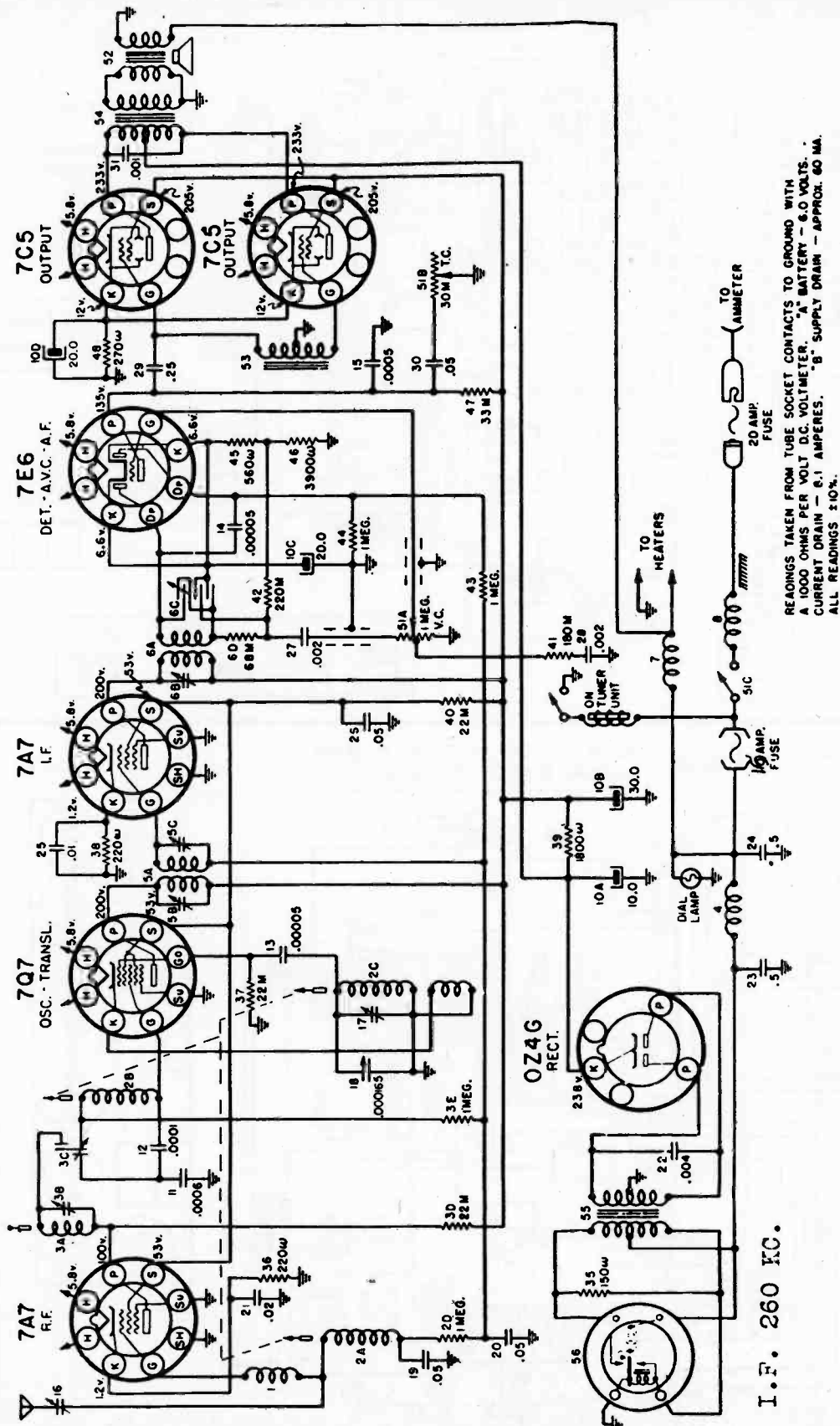
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## ARVIN HOME RADIO - CHASSIS RE-98

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



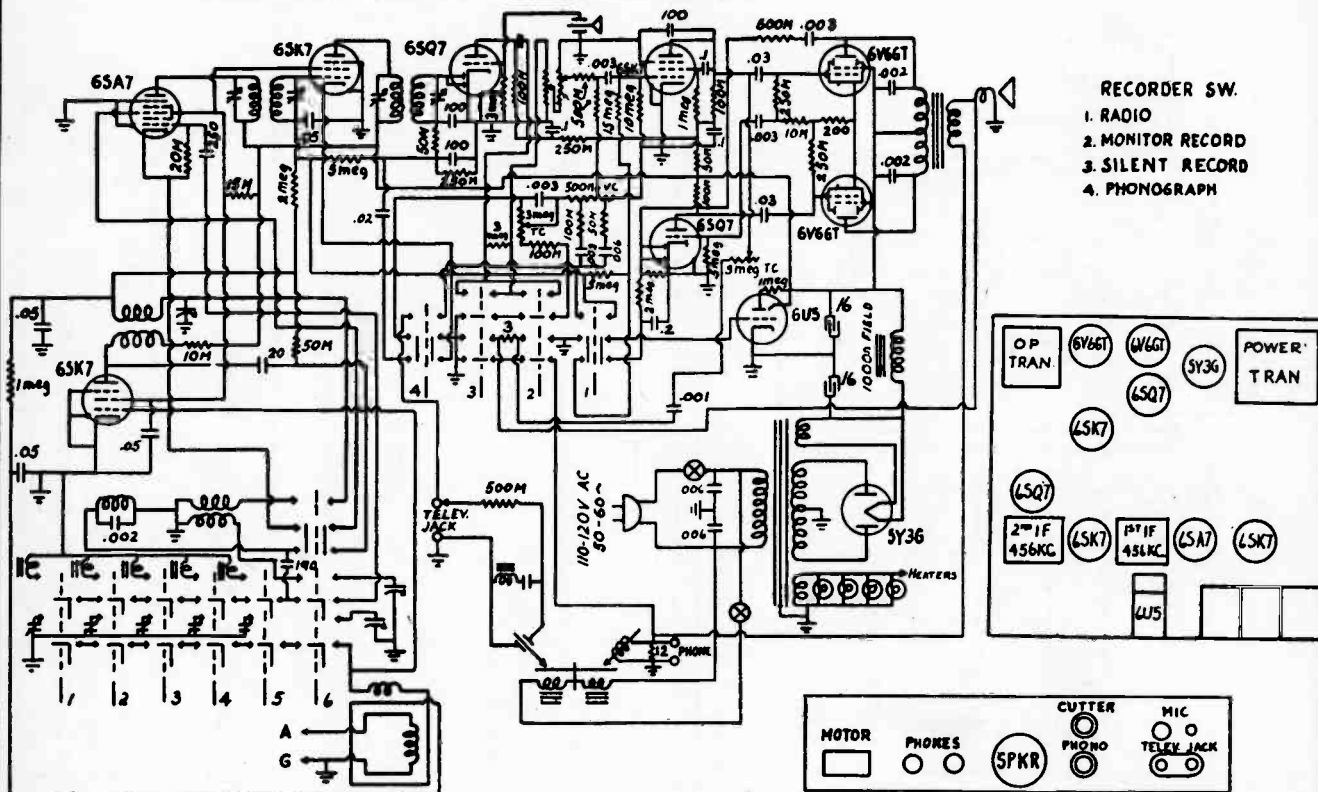
**Oldsmobile Models 982282 (similar to Model 982215)**

All of the adjustable condensers in this receiver are very accurately adjusted at the factory and will need no further adjustment (excepting antenna condenser "F") unless tampered with or a defective coil has been replaced. If realignment is found to be necessary, the circuits can be properly adjusted only with the use of a calibrated test oscillator or signal generator and an output meter.

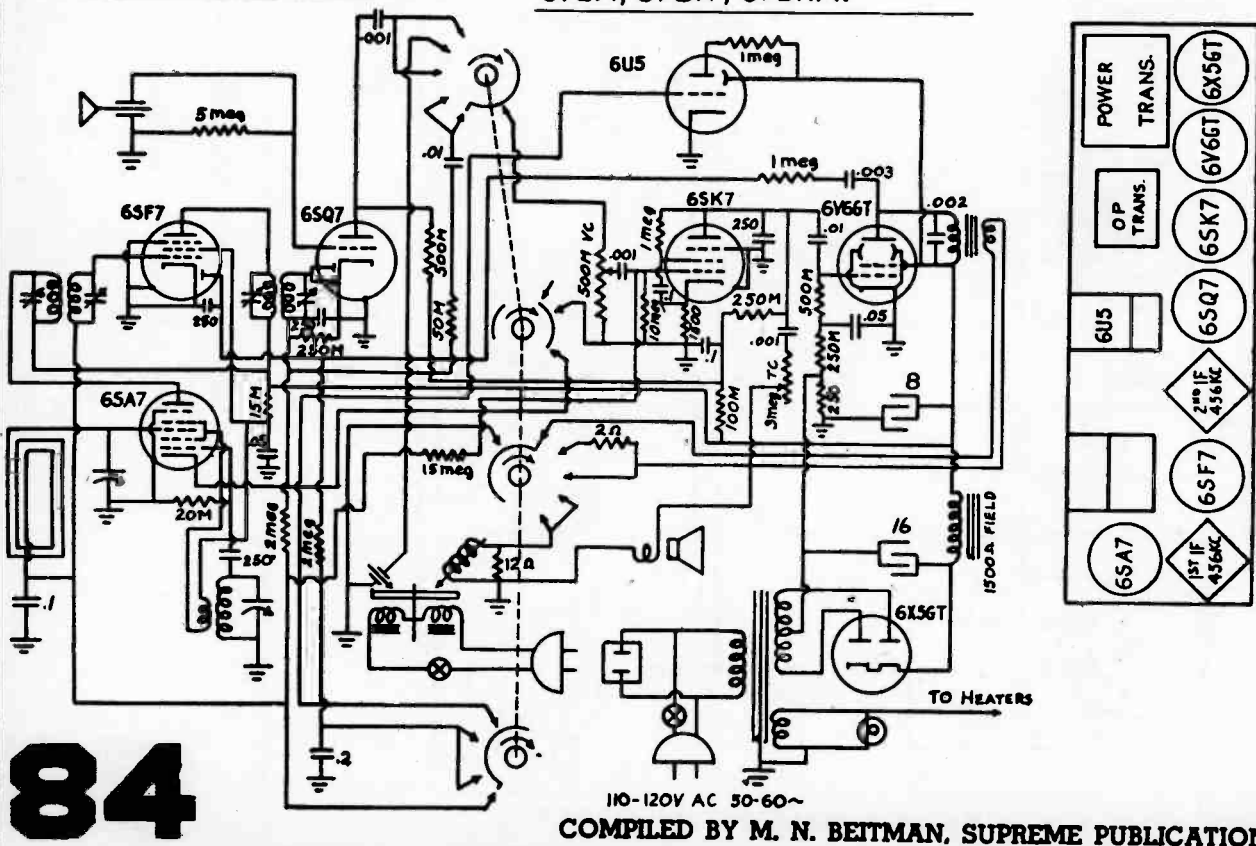


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## PACKARD BELL MODEL 51BPR

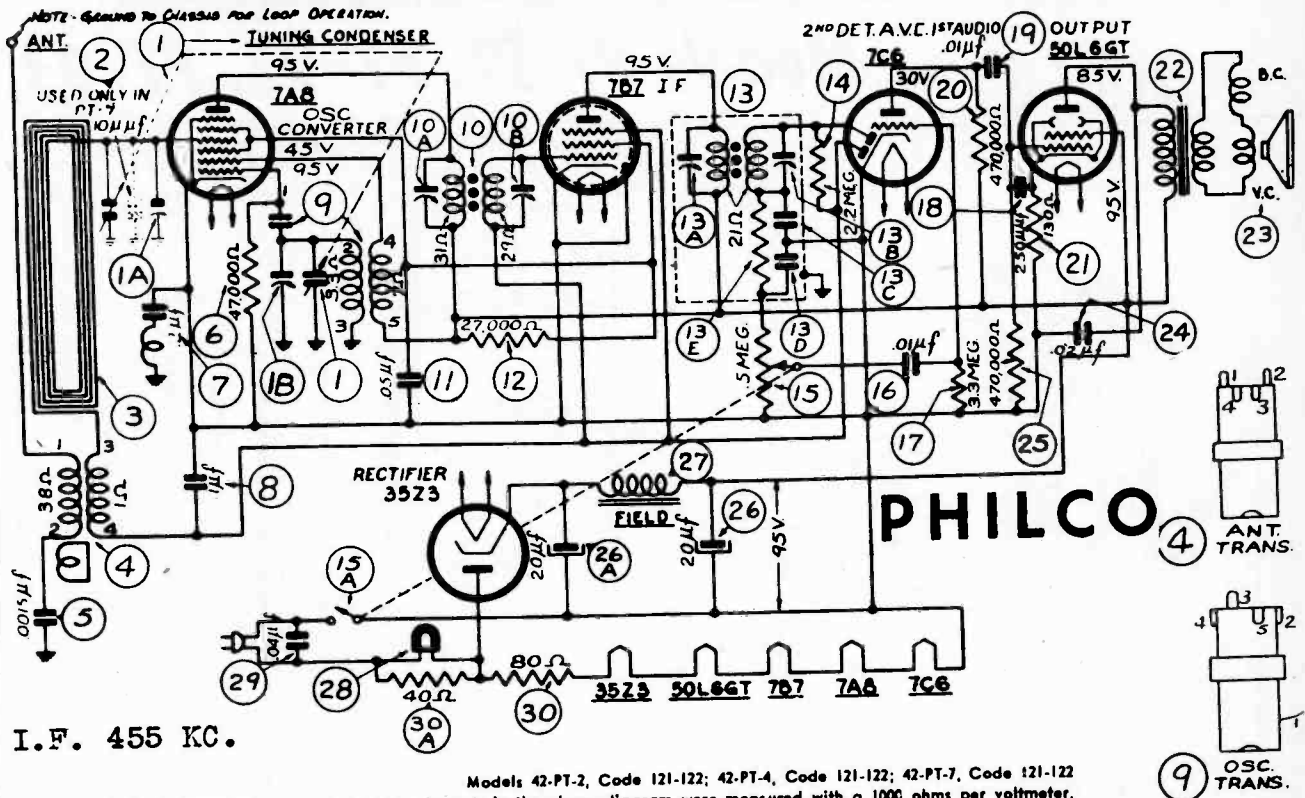


PACKARD BELL MODELS 67B, 678R, 678PR, 678PR DL,  
67BA, 67BK, 67BKA.

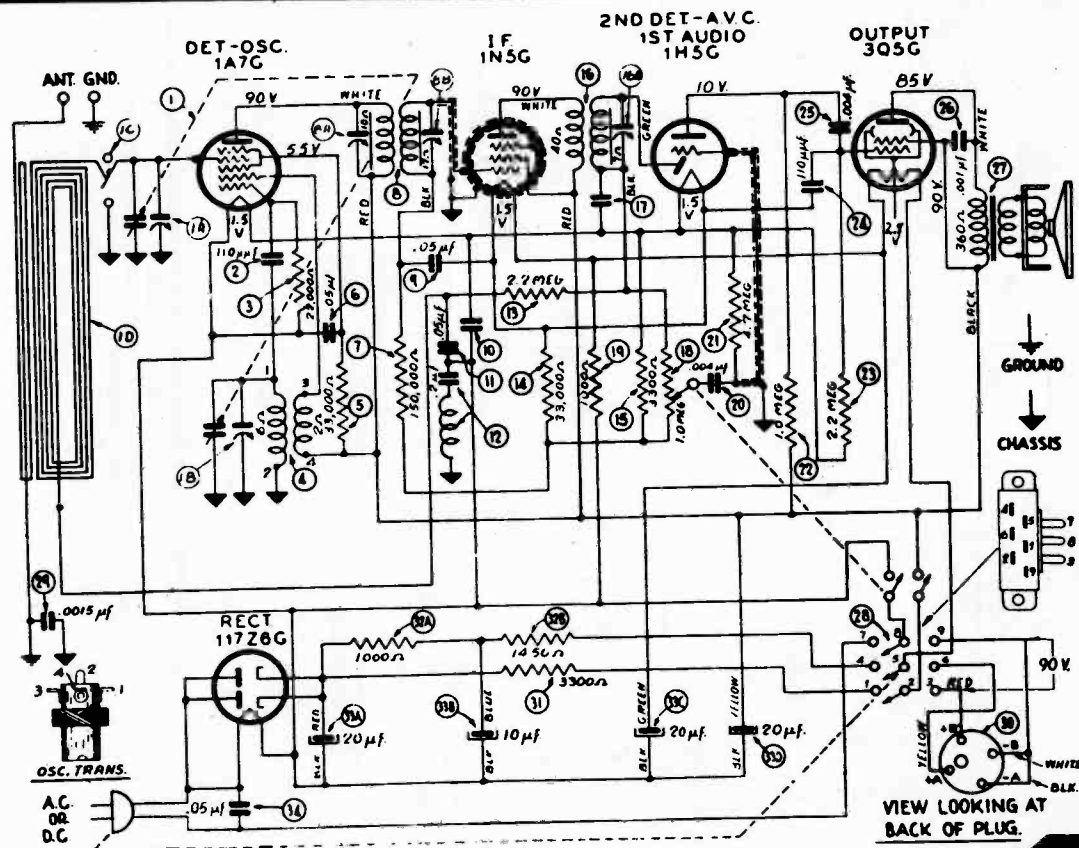




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



D. C. Voltages indicated at the tube elements in the above diagram were measured with a 1000 ohms per voltmeter,

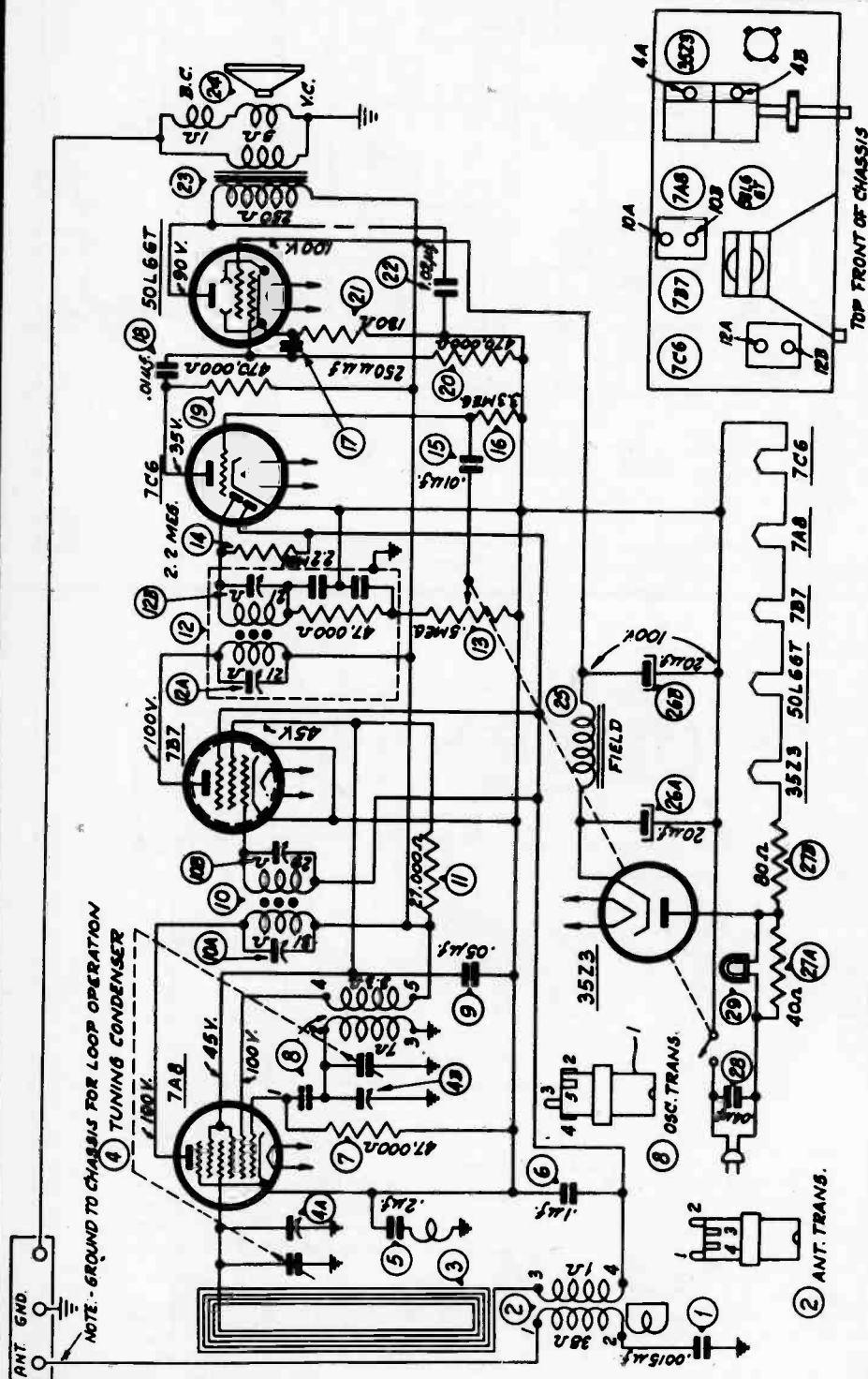


SCHEMATIC DIAGRAM—MODEL 42-PT-87, 42-PT-88  
 SOCKET VOLTAGES INDICATED ON THE DIAGRAM WERE MEASURED WITH A 1000 OHM PER VOLTMETER.  
 COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



# PHILCO

**Models PT-91, PT-92, PT-93,  
PT-94, PT-95**



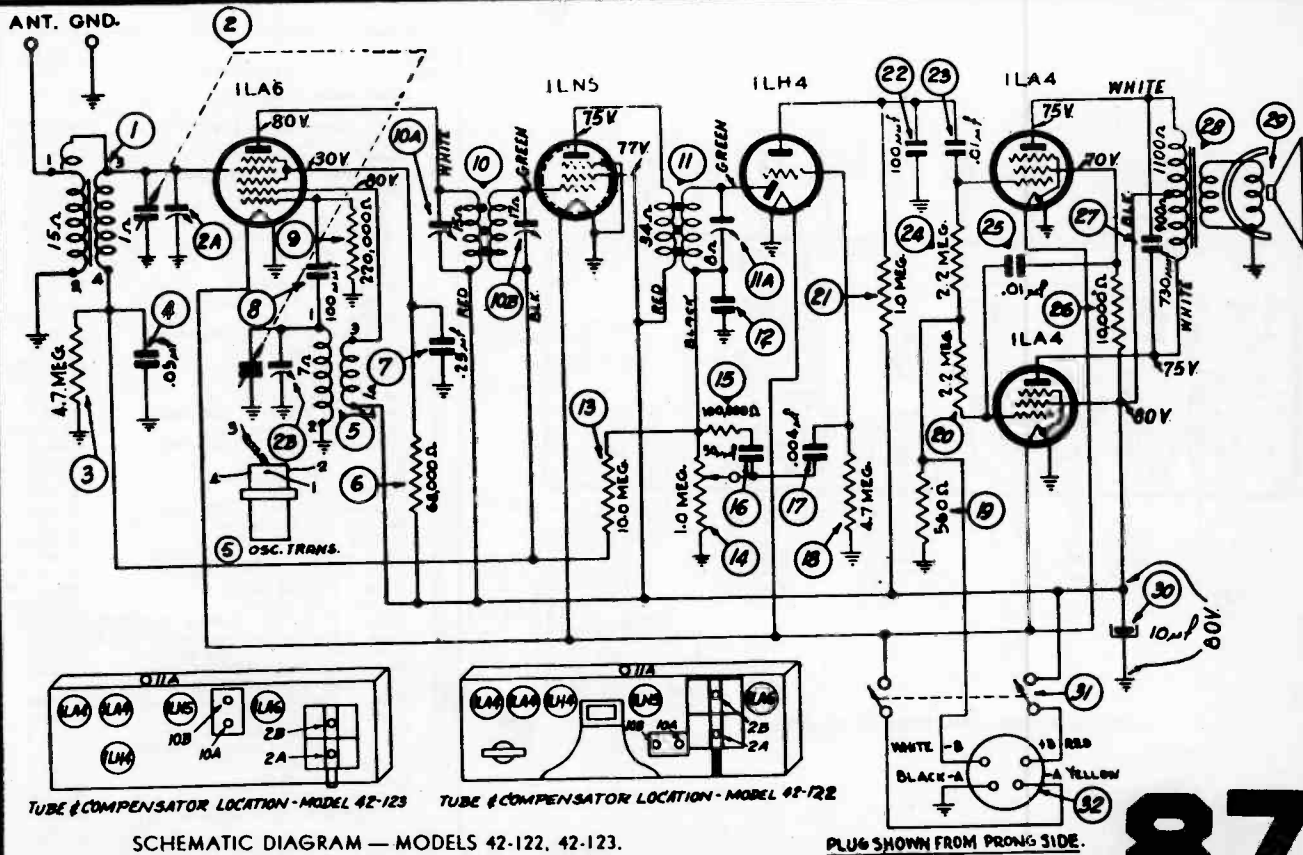
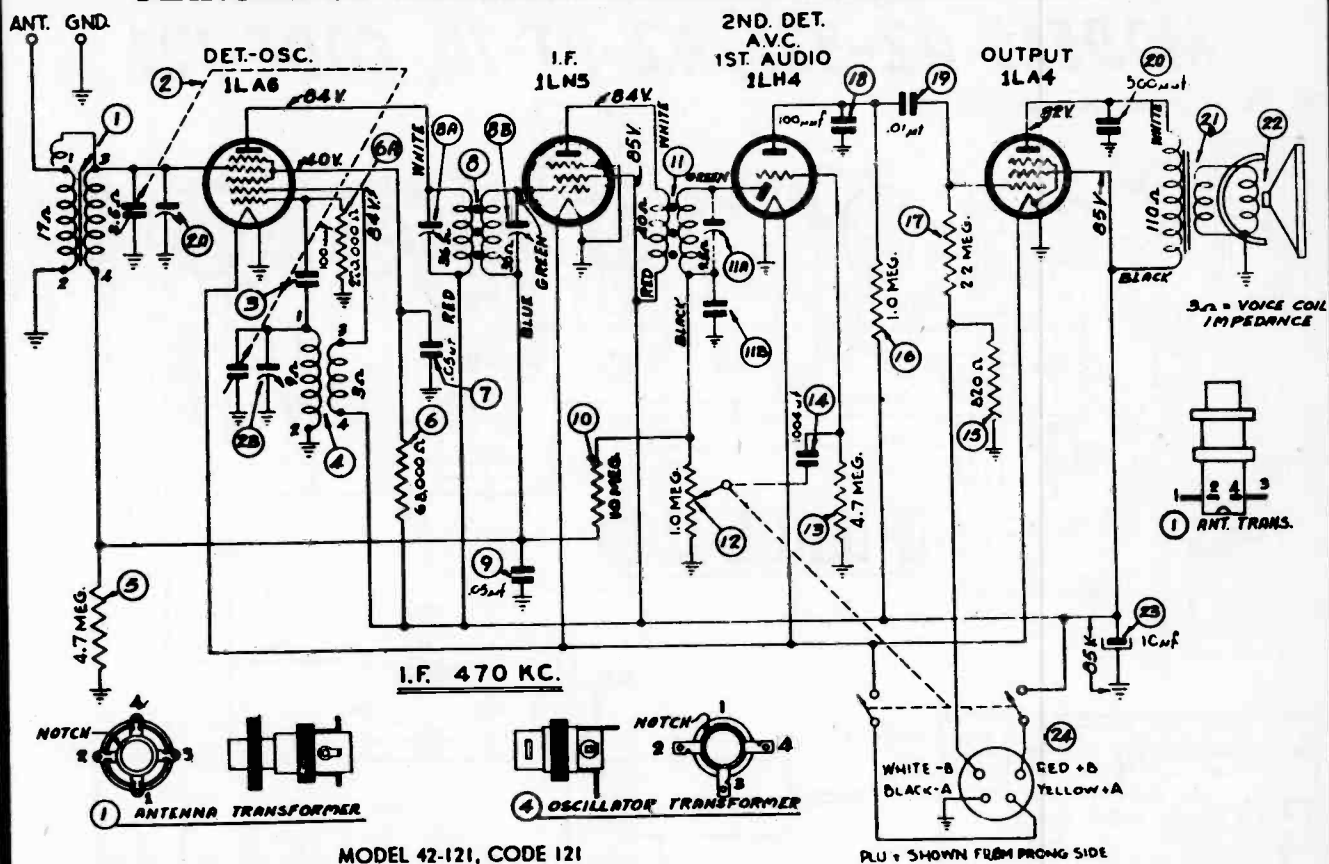
SCHEMATIC DIAGRAM — MODELS PT-91, PT-92, PT-93, PT-94, PT-95

The tube socket voltages indicated on the diagram were measured with a 1,000 ohms per voltmeter — PHILCO Model 027, line voltage 117 volts A.C.

Operations in Order	SIGNAL GENERATOR		RECEIVER	
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting
1.	Ant. Section of tuning	455 K.C.	540 K.C. Tuning Cond. Closed	Vol. Max.  12A, 12B, 10A, 10B
2.	Loop see above instructions	1500 K.C.	1500 K.C.	Vol. Max.  4B
3.	Loop see above instructions	1500 K.C.	1500 K.C.	Vol. Max.  4A



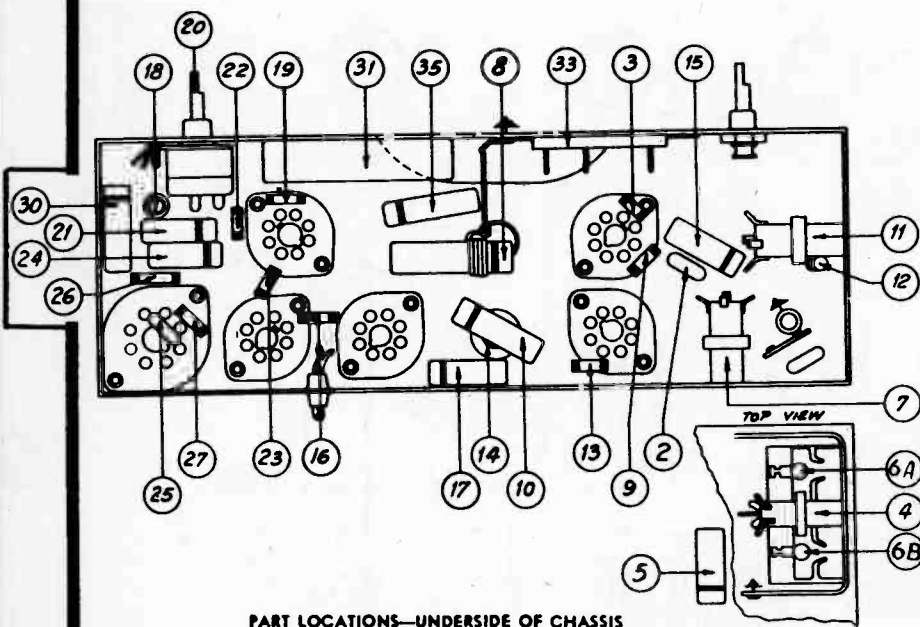
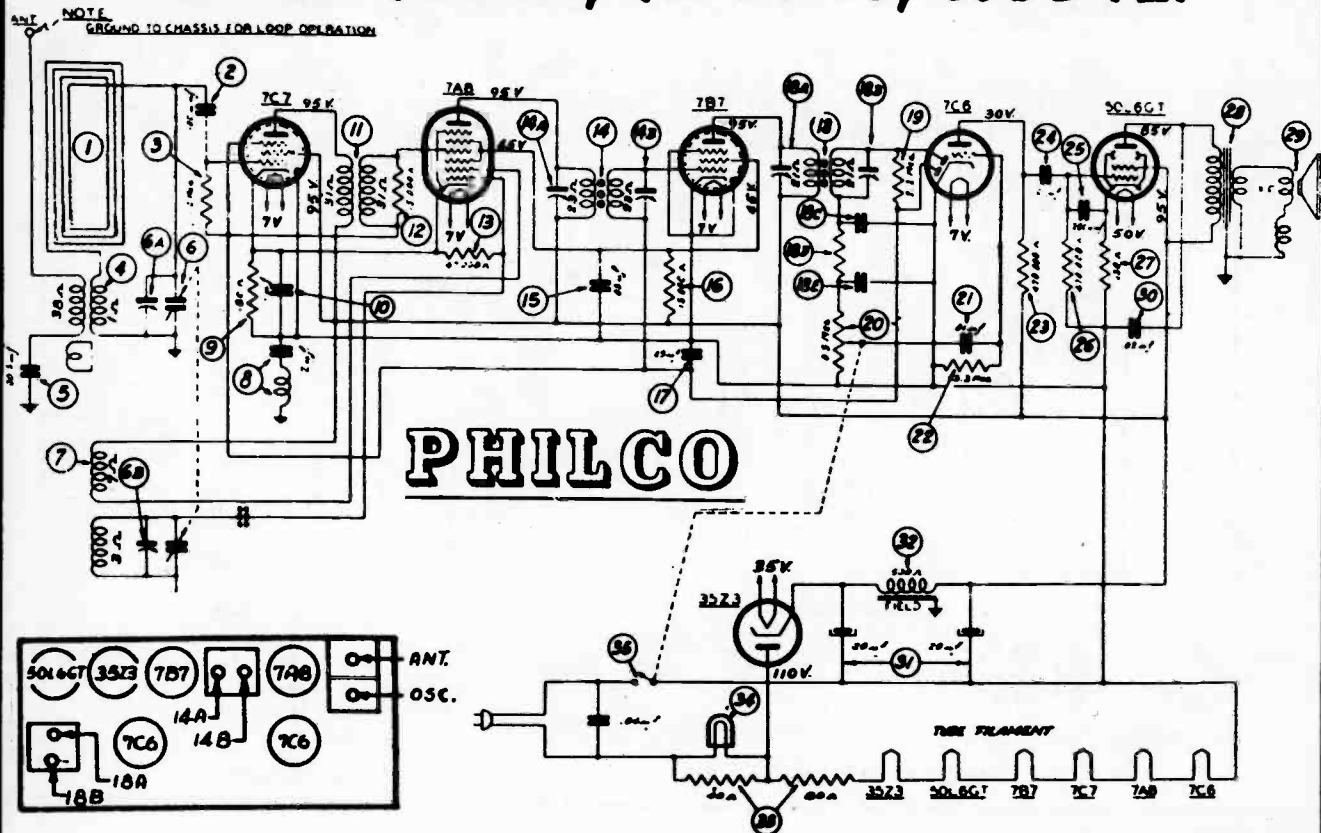
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



87



**MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS**  
***MODELS 42-321, 42-PT-10, CODE 121***

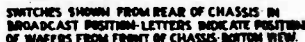


### PART LOCATIONS—UNDERSIDE OF CHASSIS

SCHE. No.	DESCRIPTION	PART No.
1	Loop Aerial (42-321T1)	76-1196
2	Loop Aerial (PT-10) Part of Cabinet.	
3	Mica Condenser (100 mmfd.)	60-110157
3	Resistor (1.0 megohms)	33-510154
4	Aerial Transformer	32-3394
5	Condenser (.0015 mfd., 400 volts)	30-4621
6	Tuning Condenser	31-2527
	Pointer	56-2076
	Spring (Drive Cord)	28-0754
	Shaft Assembly (42-321)	31-2591
	Shaft Assembly (PT-10)	31-2531
	Drive Cord	31-2529
7	Oscillator Transformer	32-3613
8	Condenser and Choke Assembly	76-1198
9	Resistor (180 ohms)	33-118336
10	Condenser (.11 mfd., 200 volts)	30-4584
11	R. F. Transformer	32-3595
12	Resistor (15,000 ohms)	33-315339
13	Resistor (47,000 ohms)	33-347339
14	1st I. F. Transformer	32-3614
15	Condenser (.05 mfd., 200 volts)	30-4519
16	Resistor (15,000 ohms)	33-315339
17	Condenser (.05 mfd., 200 volts)	30-4519
18	2nd I. F. Transformer	32-3604
19	Resistor (2.2 megohms)	33-522339
20	Volume Control	30-5469
21	Condenser (.01 mfd., 400 volts)	30-4572
22	Resistor (3.3 megohms)	33-347339
23	Resistor (470,000 ohms)	33-447339
24	Condenser (.01 mfd., 400 volts)	30-4572
25	Mica Condenser (250 mmfd.)	60-125157
26	Resistor (470,000 ohms)	33-447339
27	Resistor (130 ohms)	33-113336
28	Output Trans. (for Speaker 36-1533-9)	32-8164
29	Cone Assembly (for Speaker 36-1533-9)	36-4190
30	Condenser (.62 mfd., 400 volts)	30-4516
31	Electrolytic Condenser (20-20 mfd.)	30-2382
32	Field Coil (Replace Speaker 36-1533-9)	
33	Resistor (Wirewound, 40-80 ohms)	33-3408
34	Pilot Lamp	34-2068
35	Condenser (.04 mfd., 400 volts)	30-4119
	MISCELLANEOUS PARTS	
	Cabinet (42-321T)	10548A
	Cabinet (42-321T1)	10548B
	Cabinet (PT-10)	76-1195
	Cardboard Back (PT-10)	27-9817



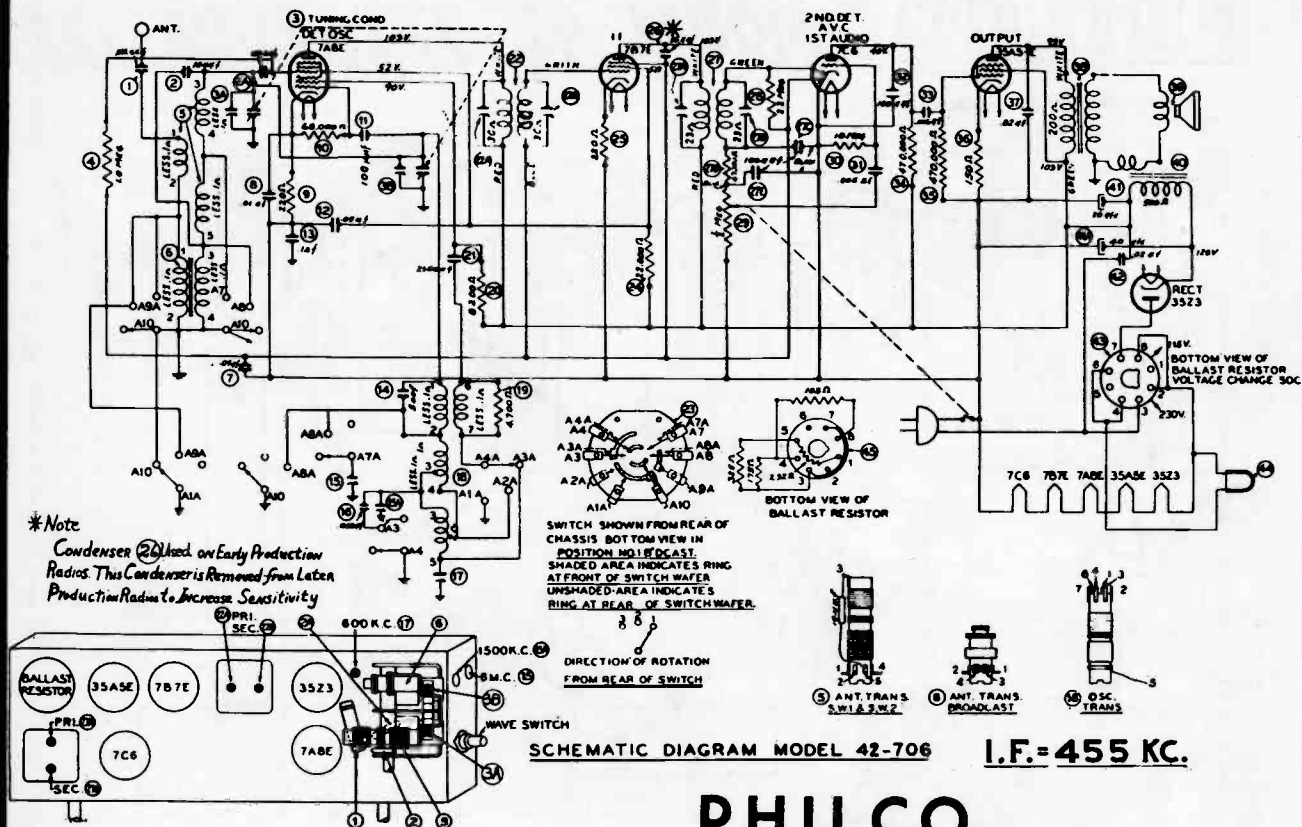
**MODEL 42-322, CODE 121**



Operations in Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order	
1	Lug on the Ant. Section of Tuning	455 K.C.	540 K.C. Tuning Cond. Closed	Vol. Max. Range Switch Brdcast.	27A, 27B 28A, 28B	
2	Loop See Above Instructions	1500 K.C.	1500 K.C.	Vol. Max. Band Switch Brdcast.	7B, 7A	Note A
3	Loop See Above Instructions	580 K.C.	580 K.C.	Vol. Max. Band Switch Brdcast.	(10)	Roll Tuning Condenser
4	Loop See Above Instructions	Repeat Operation 2				
5	Loop See Above Instructions	15 M.C.	15 M.C.	Band Switch S.W.	(18A, 5) Note B	Roll Tuning Condenser When Padding 5

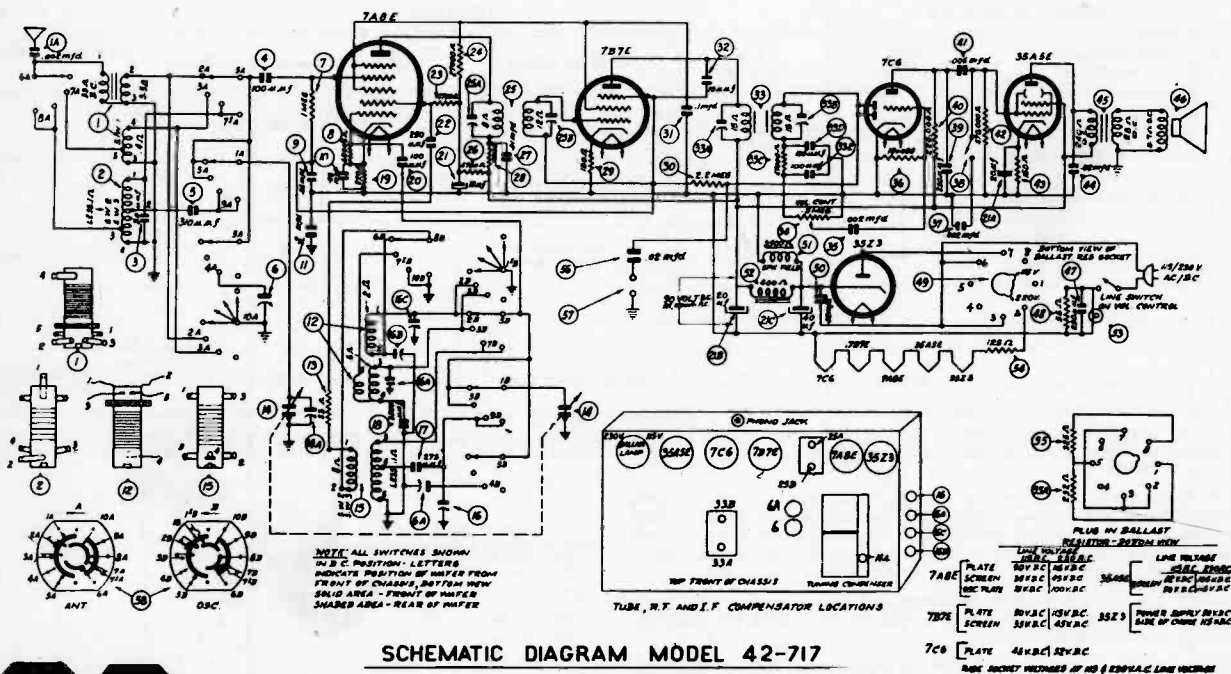


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## PHILCO

### Philco Radio

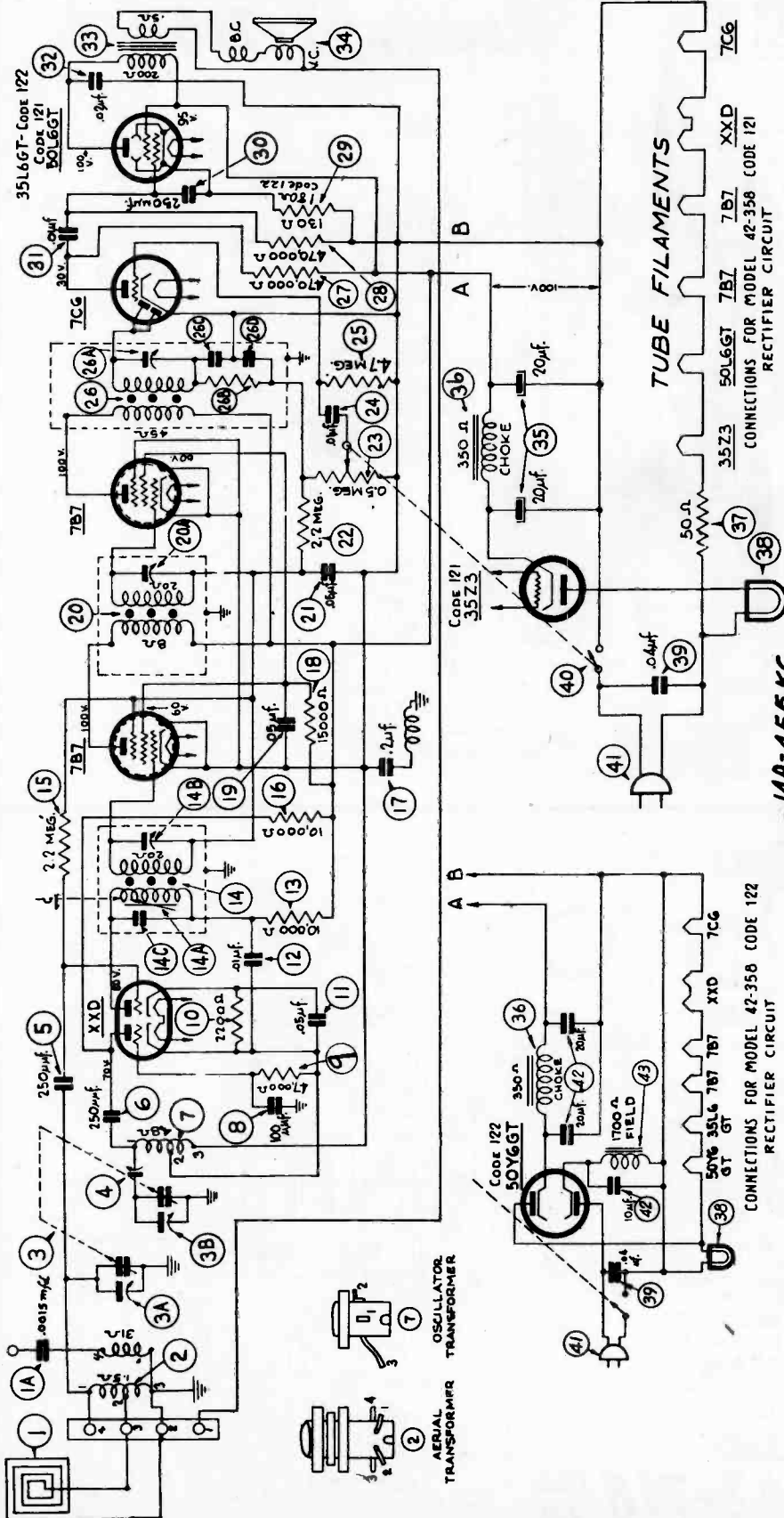


# 90

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS



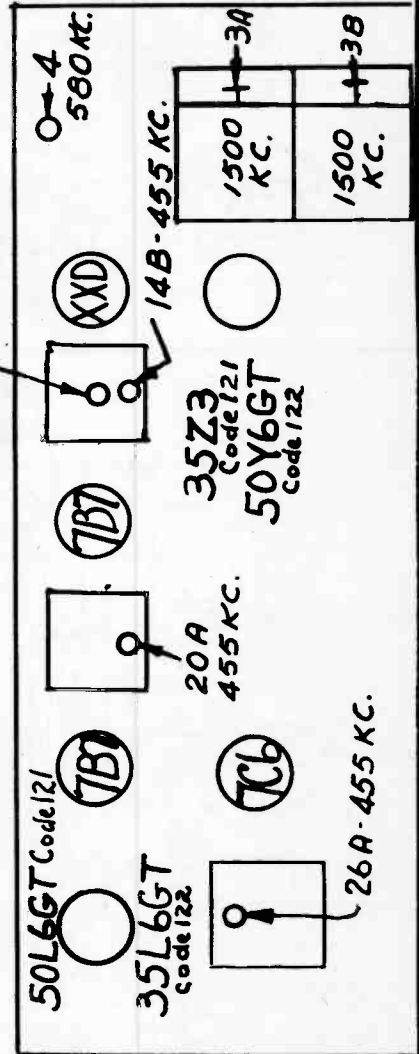
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



DIAGRAM—Model 42-358, Codes 121-122

## PHILCO

Intermediate Frequency: 455 KC.  
 Tuning Bands: 540 to 1620 KC.  
 Power Supply: 115 volts, A. C.-D. C.  
 Power Consumption: 35 watts (Code 121); 50 watts (Code 122)  
 Audio Output: 1 watt.

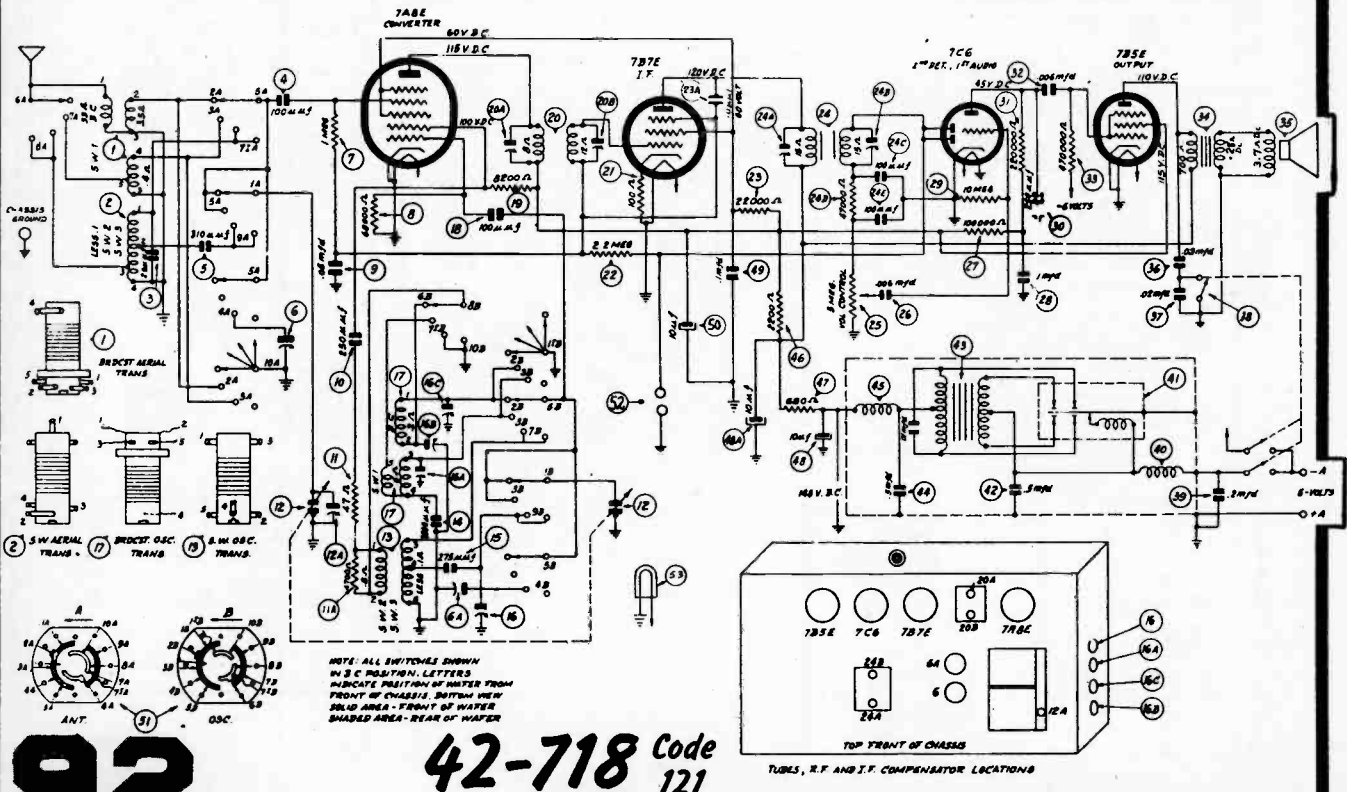
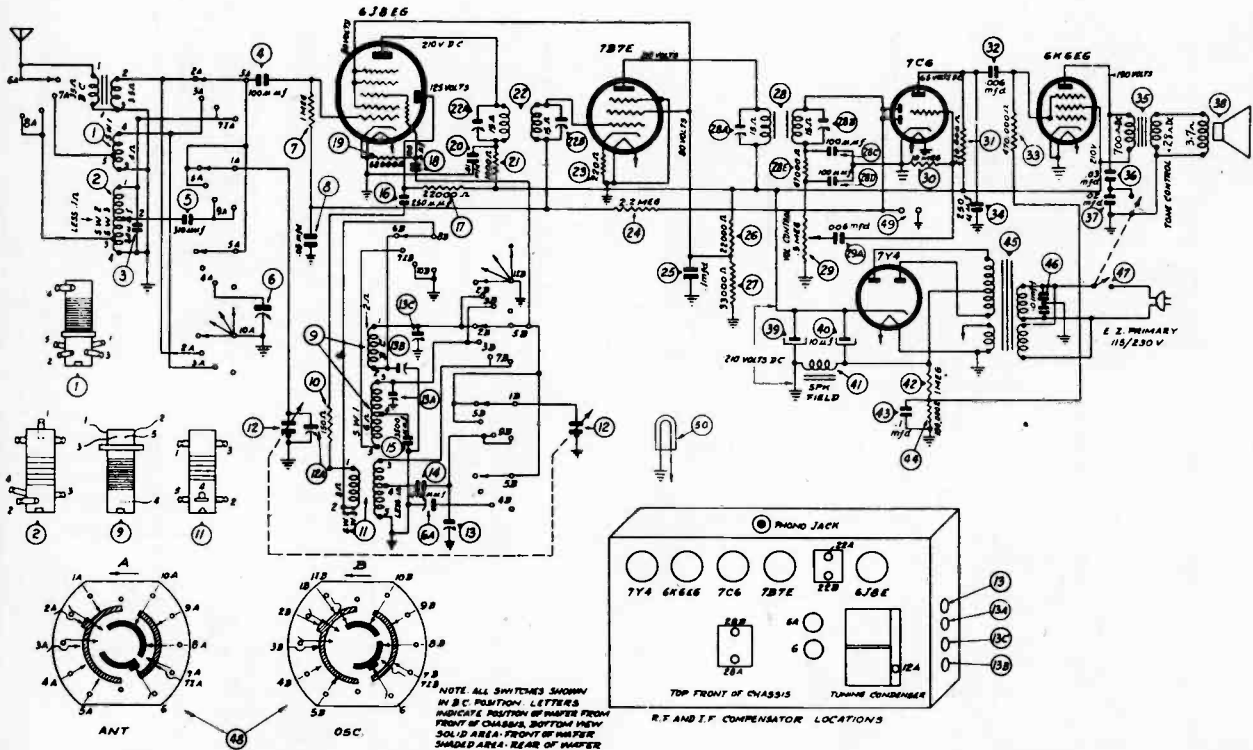




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## PHILCO

## Models 42-716



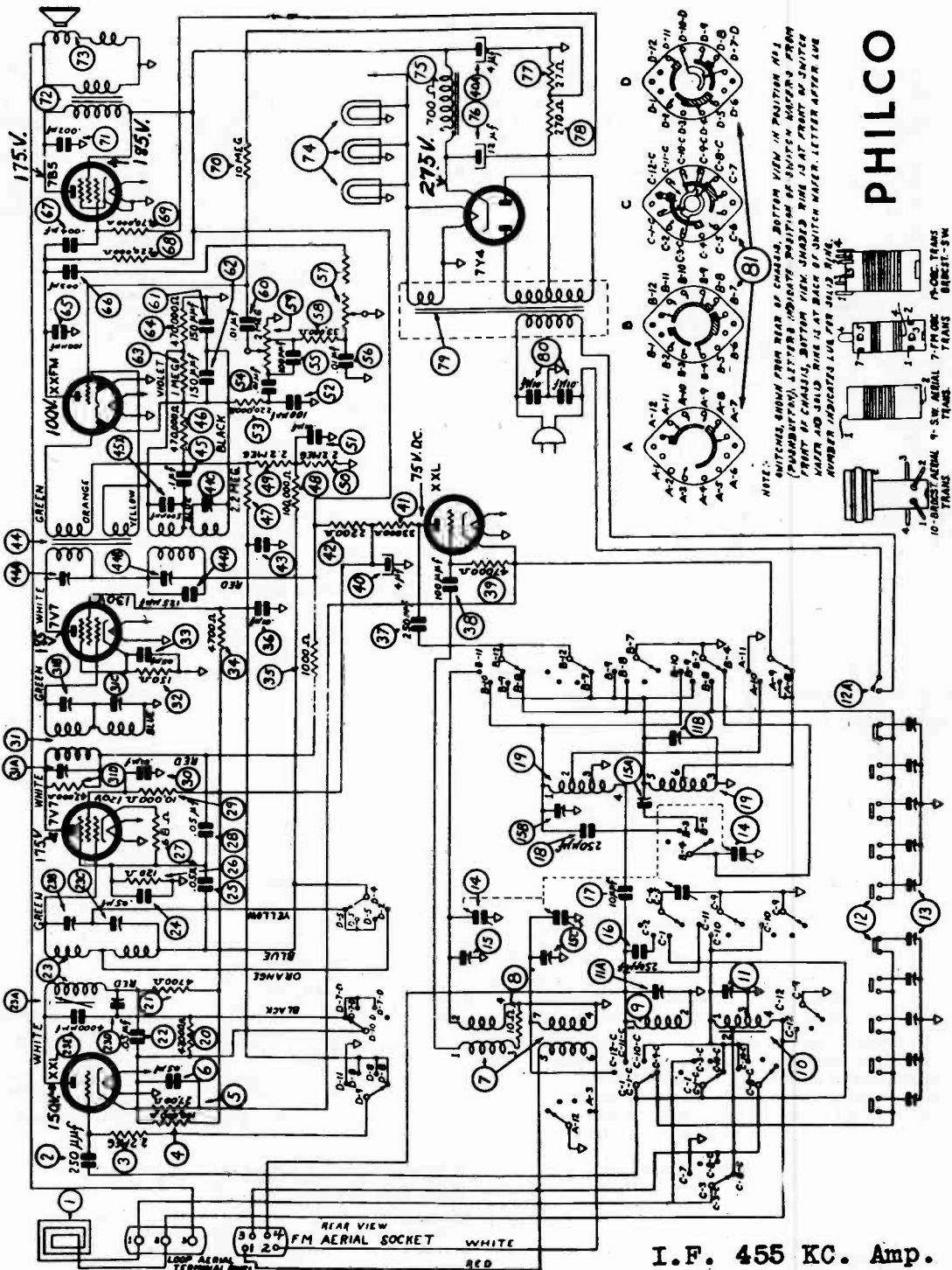
# 92

## 42-718 Code 121

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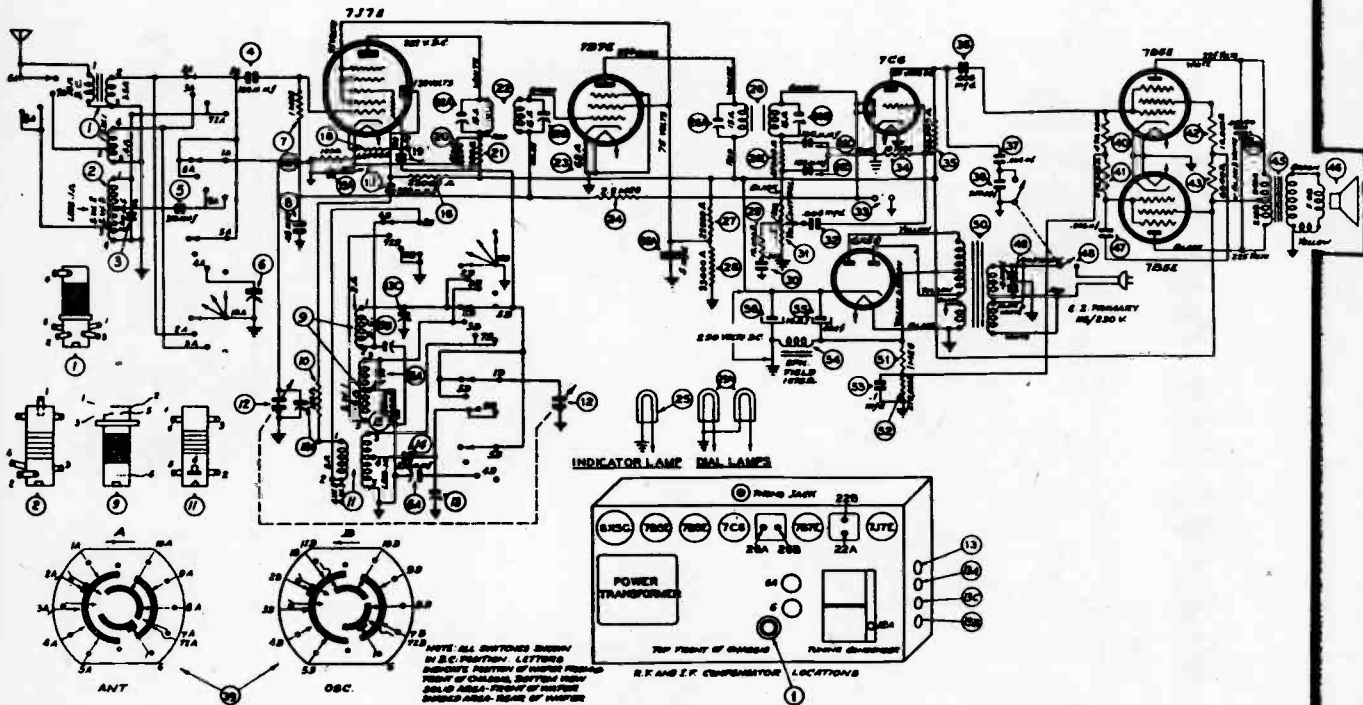
**FREQUENCY MODULATION Model 42-350, Code 121**





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## PHILCO Model 42-724, Code 121



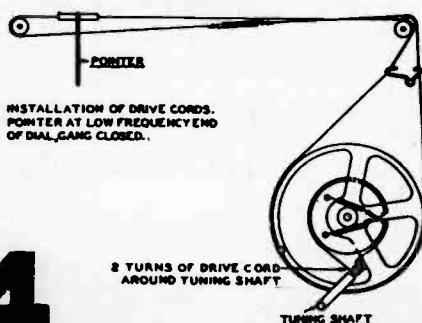
Operations In Order	SIGNAL GENERATOR			RECEIVER			SPECIAL
	Output Connections to Radio	Dummy Aerial Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators	
1	Lug of aerial tuning cond.	.1 mfd.	455 K.C.	580 K.C.	Band Switch "Brdst" Volmax	26A, 26B, 22A, 22B	
2	Aerial	400 ohms	21 M.C.	21 M.C.	Band Switch S. W. 3	13, 12A	Note B Note C
3	Aerial	400 ohms	12 M.C.	12 M.C.	Band Switch S. W. 2	6A, 6	Note C
4	Aerial	400 ohms	6 M.C.	6 M.C.	Band Switch S. W. 1	13A,	
5	Aerial	200 mmfd.	1500 K.C.	1500 K.C.	Band Switch "Brdst"	13C	
6	Aerial	200 mmfd.	580 K.C.	580 K.C.	Band Switch "Brdst"	13B	Roll tuning condenser
7	Aerial	200 mmf.	1500 K.C.	1500 K.C.	Band Switch "Brdst"	13C	

**NOTE A**—The "Dummy Aerial" consists of a condenser or resistor connected in series with the signal generator output lead (highside). Use the capacity or resistance as specified in each step of the above procedure.

**NOTE B**—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 first mark on the left edge (low frequency end) of the broadcast scale.

**NOTE C**—When adjusting the osc. compensators, be sure to tune in the fundamental signal (21 M.C.) (12 M.C.) instead of the image signal. If the compensator is correctly adjusted the image signal will be found by turning the signal generator dial 910 K.C. above the fundamental signal which will be 21,910 M.C. or 12,910 M.C.



**SIGNAL GENERATOR:** Such as Philco Model 070, A.C. operated or Model 177 battery operated. These signal generators cover all frequencies required in aligning these models.

**INDICATING DEVICE:** To obtain maximum signal strength and accurate adjustments of the padders, a vacuum tube voltmeter similar to Philco Models 027 and 028 are recommended. These instruments also contain an audio output meter which may be used as an aligning indicator. The method of connecting either of these instruments is listed below.

**ALIGNING TOOLS:** Fibre handle screw driver, Philco Part No. 45-2610. Service Alanina Scale. Part No. 45-2909.

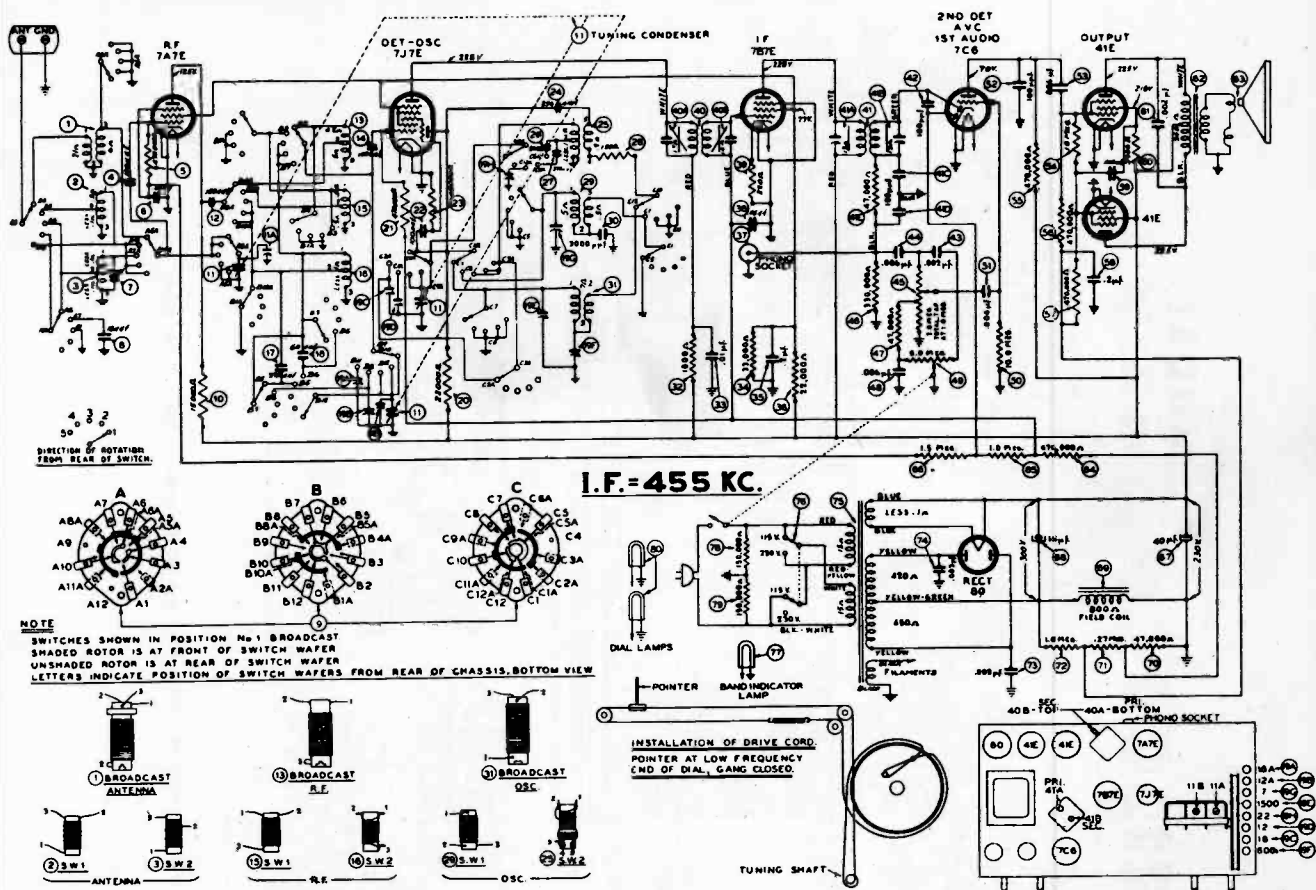
**NOTE:** The dial scale in these models is mounted on the cabinet. For convenience, when aligning the chassis outside of the cabinet, a special service aligning scale, Part No. 45-2909, is available. This service dial scale is attached to the dial background plate. If the radio is aligned in the cabinet, the cabinet dial scale is used.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## PHILCO

### MODEL 42-730, CODE 121



SIGNAL GENERATOR				RECEIVER		SPECIAL INSTRUCTIONS
Output Connections to Radio	Dummy Aerial Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators	
Lug of aerial tuning cond.	.1 mfd.	455 KC.	580 KC.	Band Switch "Brdcst" Volmax	41A, 41B, 40A, 40B	
Aerial	400 ohms	22 MC.	22 MC.	Band Switch SW 2	19H, 11B, 11A	Note B Note C
Aerial	400 ohms	7 MC.	7 MC.	Band Switch SW 1	19G	Roll tuning cond. Note C
Aerial	200 mmfd.	1500 KC.	1500 KC.	Band Switch "Brdcst"	19E	Roll tuning cond.
Aerial	200 mmfd.	600 KC.	600 KC.	Band Switch "Brdcst"	19F	Roll tuning cond.
Aerial	200 mmf.	1500 KC.	1500 KC.	Band Switch "Brdcst"	19E	Roll tuning cond.
Aerial	400 ohms	18 MC.	18 MC.	Band Switch 16 & 19 M.	19C, 19A	Note C
Aerial	400 ohms	12 MC.	12 MC.	Band Switch 25 to 31 M.	19D, 19B	Note C

**NOTE A**—The "Dummy Aerial" consists of a condenser or resistor connected in series with the signal generator output lead (highside). Use the capacity or resistance as specified in each step of the above procedure.

**NOTE B**—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 first mark on the left edge (low frequency end) of the broadcast scale.

**NOTE C**—When adjusting the oscillator compensators, be sure to tune in the fundamental signal instead of the image signal. If the compensator is correctly adjusted the image signal will be found by turning the signal generator dial 910 KC. above the fundamental signal.

#### Tuning Band Frequencies:

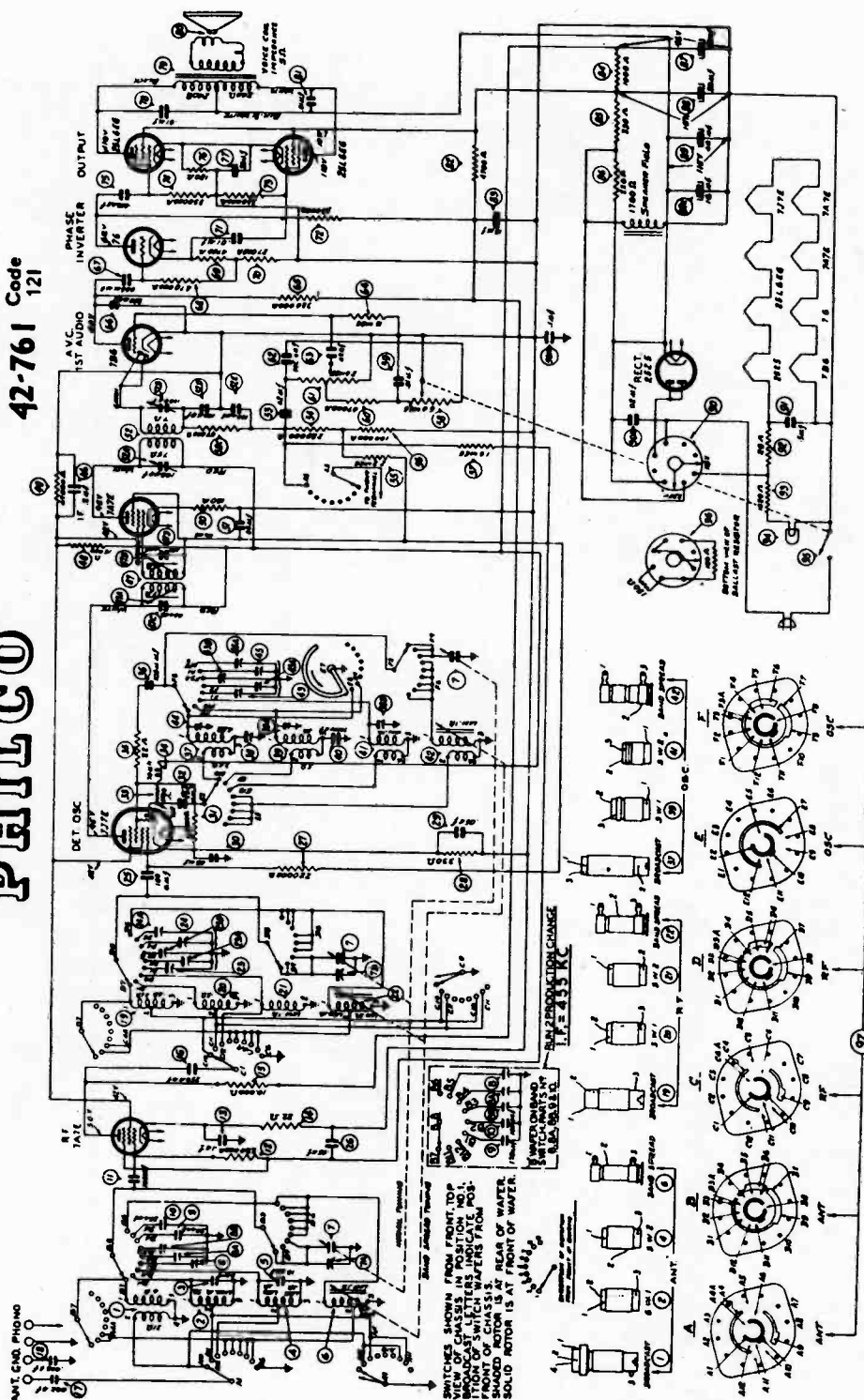
Broadcast	540 to 1720 kc.
SW 1	2.3 to 7.5 mc.
SW 2	7.0 to 22 mc.
Spread Band 1	9.4 to 12 mc.
Spread Band 2	15.1 to 18 mc.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

**MODEL**  
**42-761** Code 121

**PHILCO**

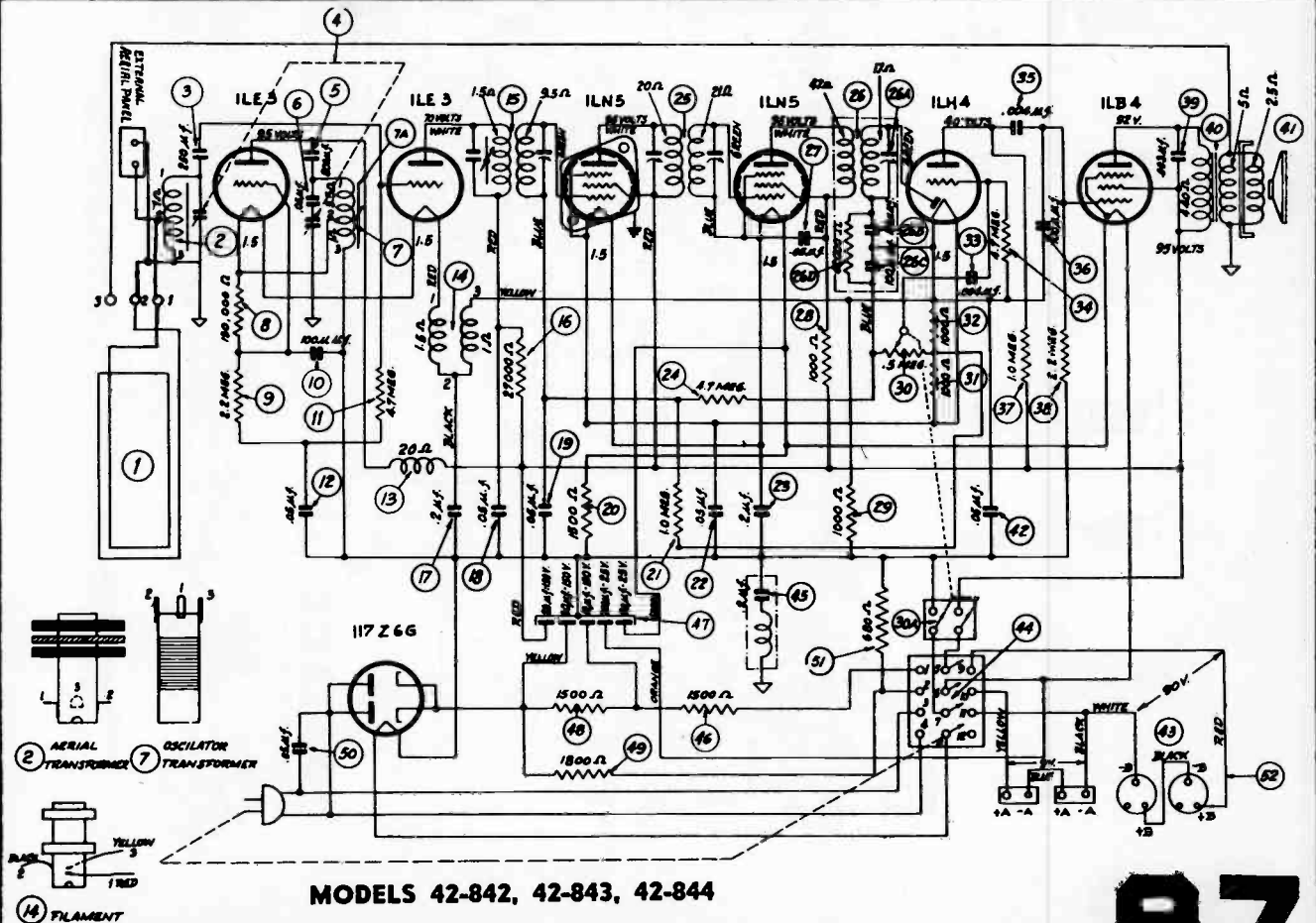
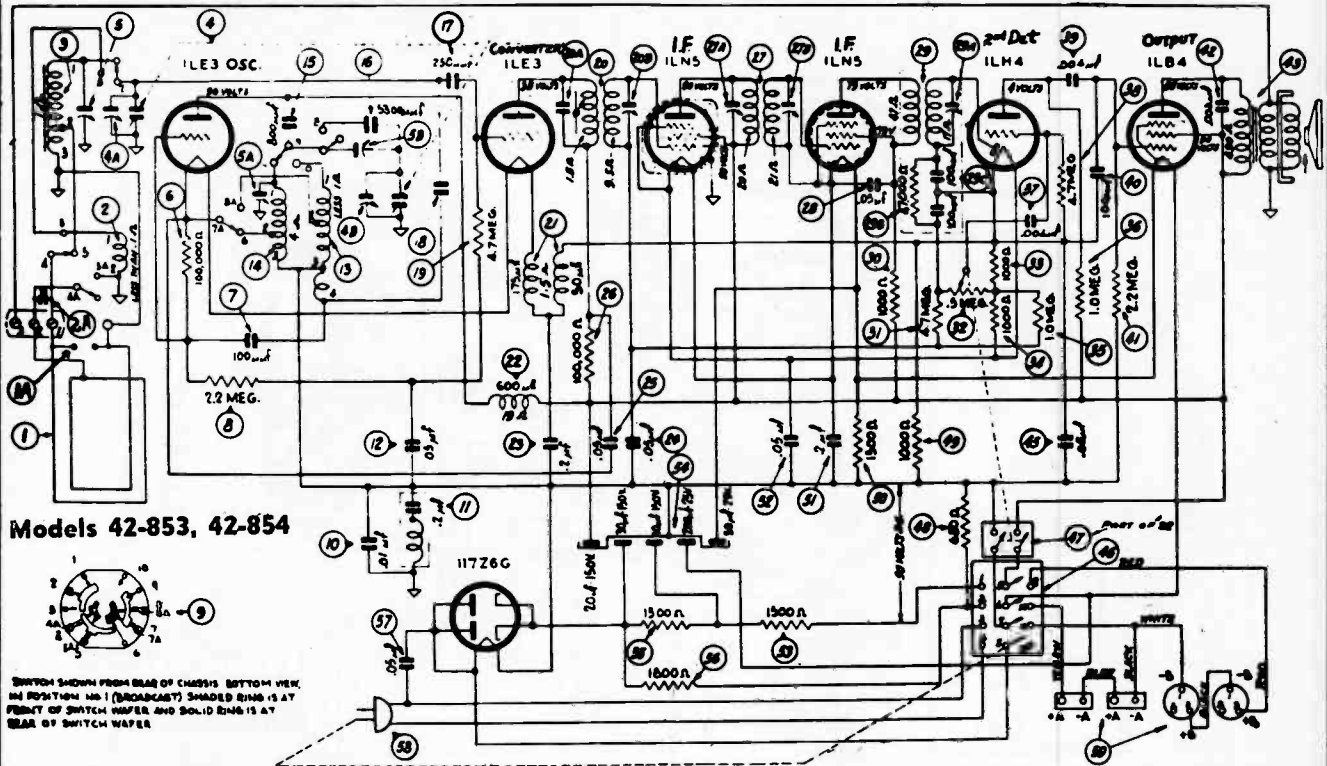


SWITCH SECTION IS REAR OF WATER

The voltages indicated at the tube elements above were measured with a 1000 ohms per volt voltmeter. Philco Model 427, line voltage 117 volts. A. C. band switch (breakdown). No station being received.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## MODELS 42-842, 42-843, 42-844

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## 98

[illegible]

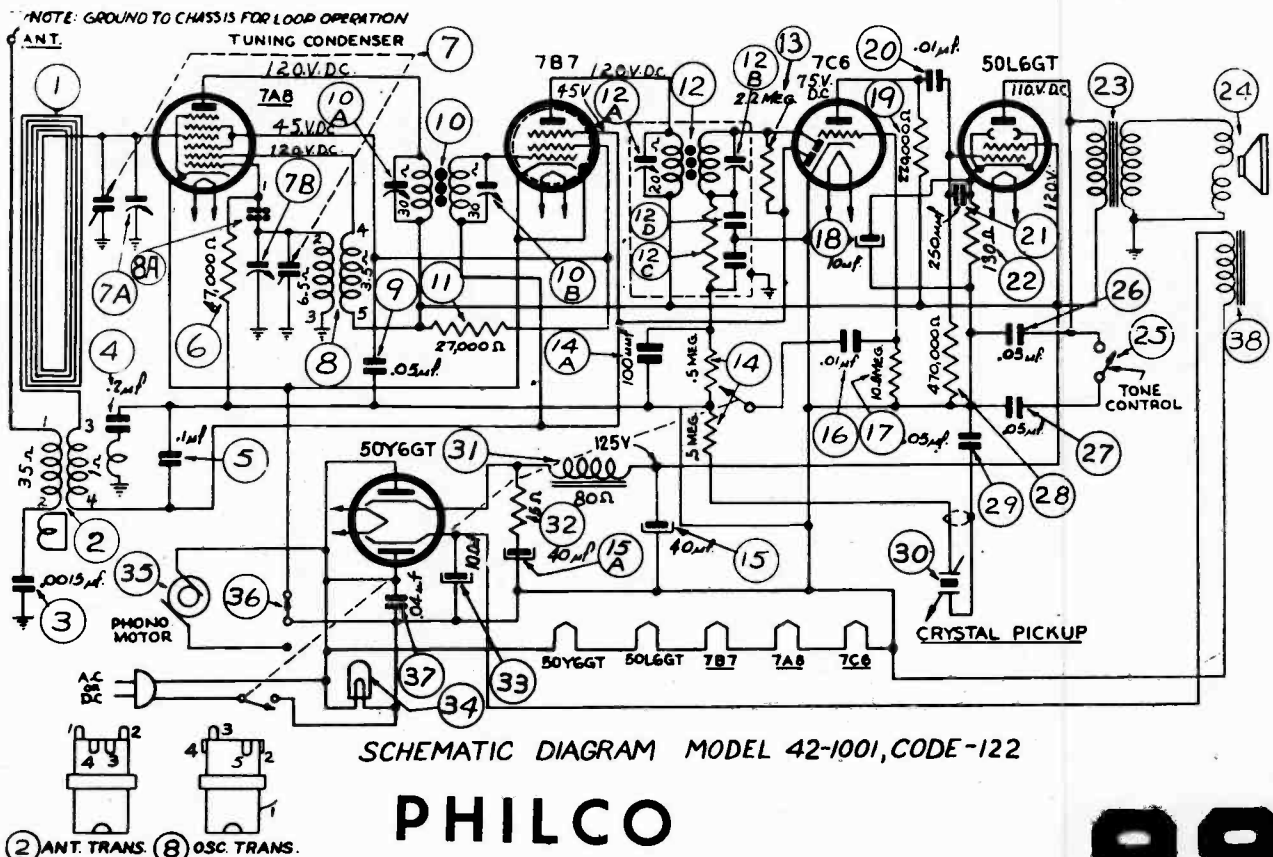
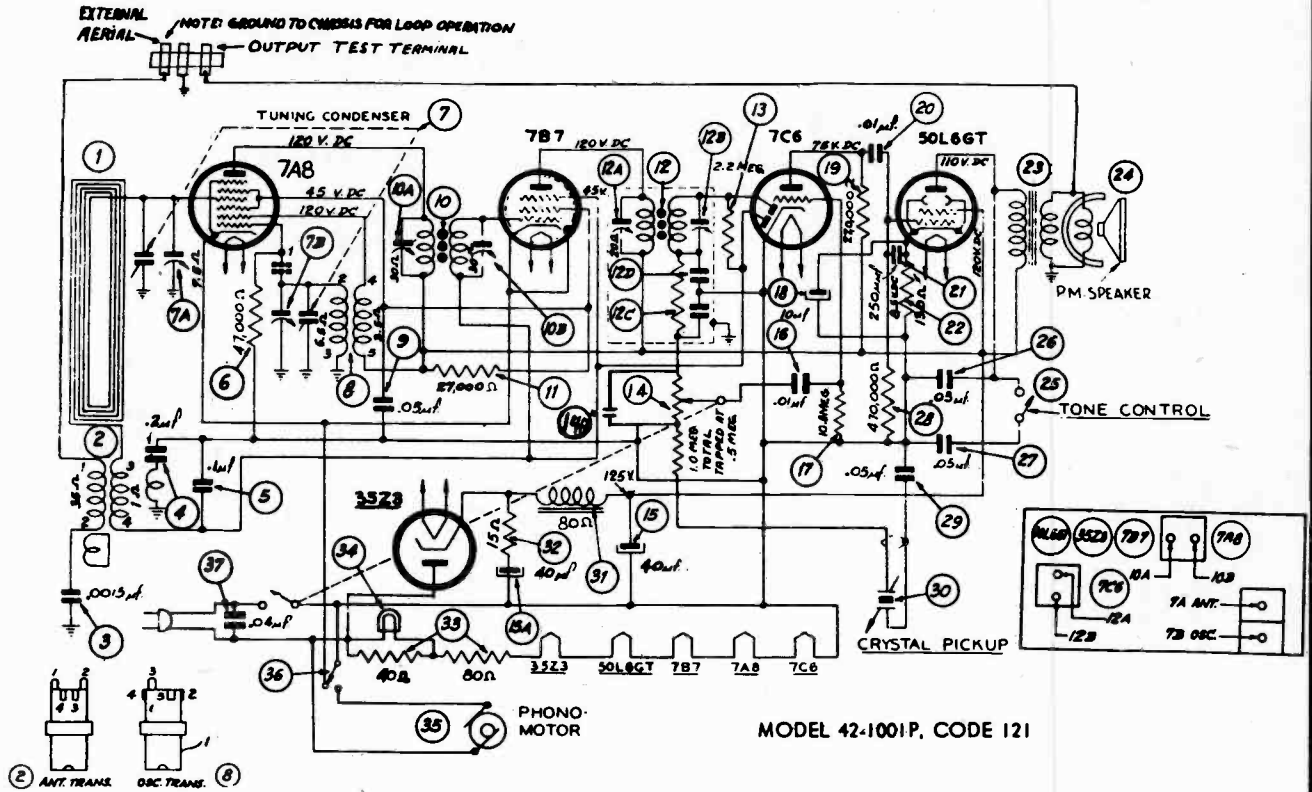
**I.F. = 455 KC.**

**MODEL 42-788, CODE 121-122**

# PHILCO



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



PHILCO

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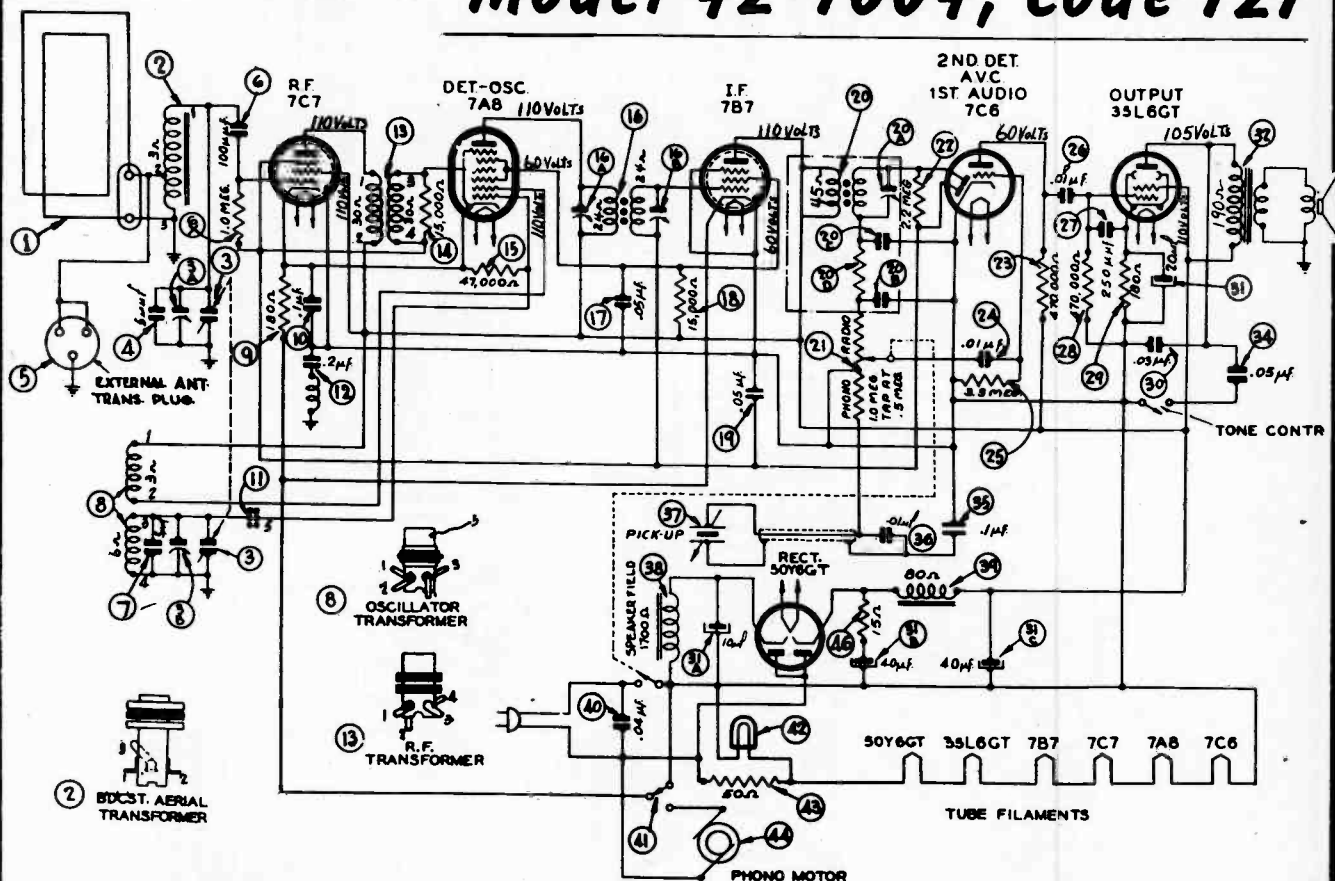




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

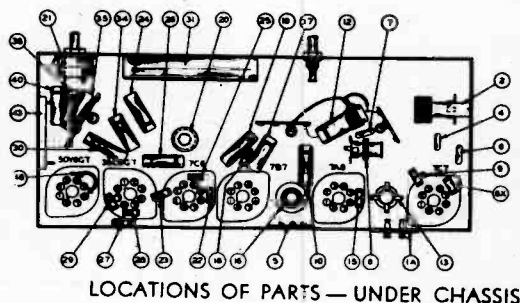
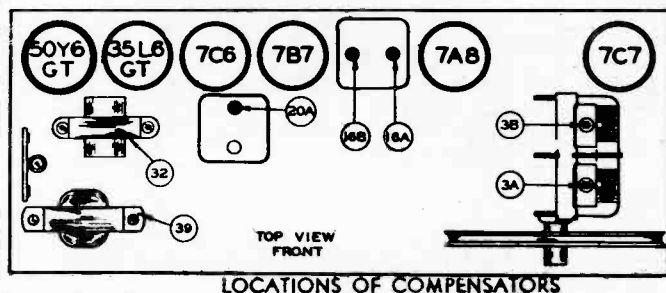
## PHILCO

## Radio-Phonograph Model 42-1004, Code 121



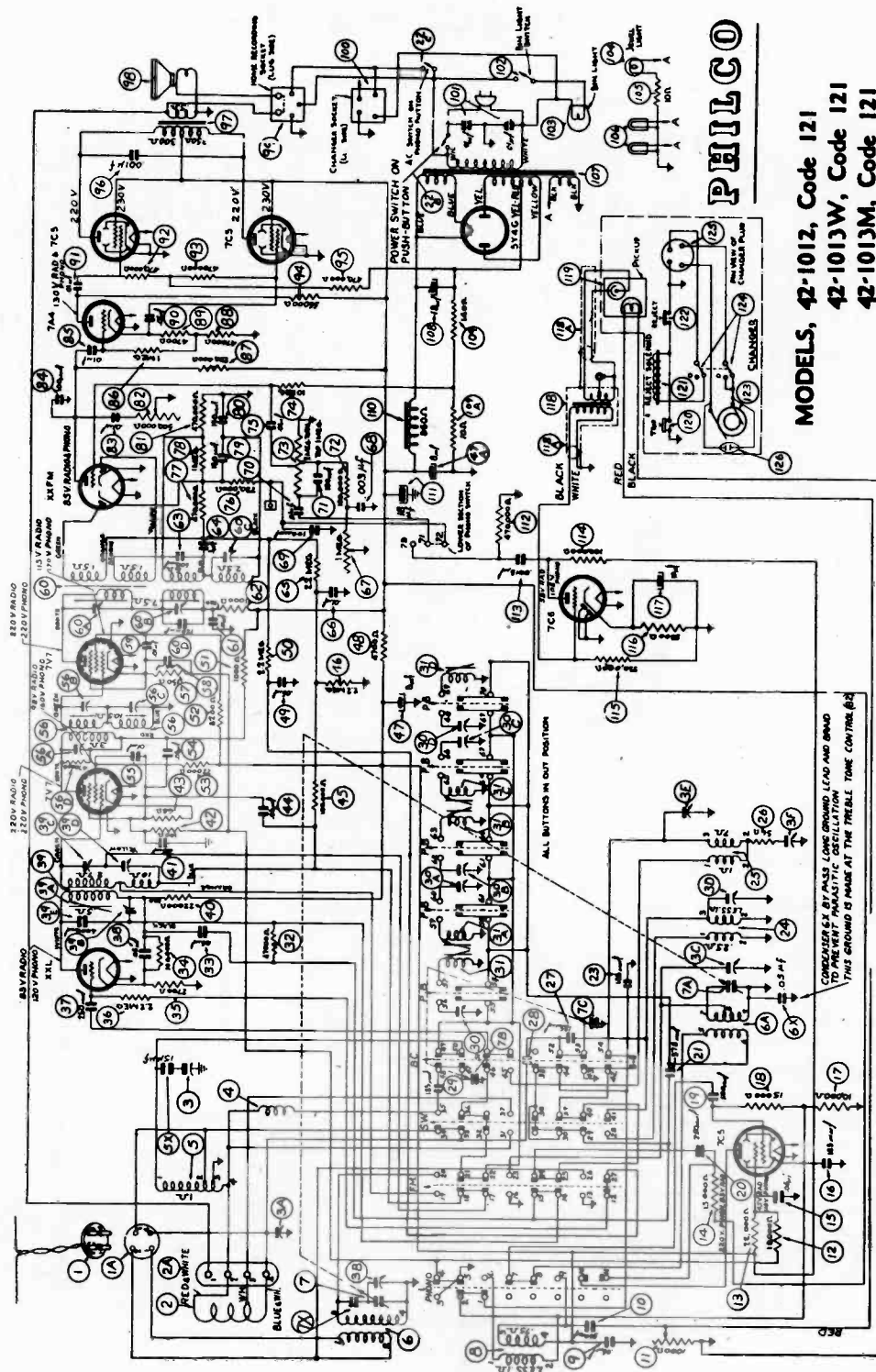
Operations in Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order	
1	Ant. Section of tuning	455 K.C.	540 K.C. Tuning Cond. Closed	Vol. Max.	20A, 16B, 16A	
2	Loop see above instructions	1600 K.C.	1600 K.C.	Vol. Max.	3B, 3A	Note A

**NOTE A:—DIAL CALIBRATION:** In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To do this, proceed as follows: Turn the tuning condenser to the maximum capacity position (plates fully meshed). With the condenser in this position, set the tuning pointer on the small dot below 540 K.C.





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

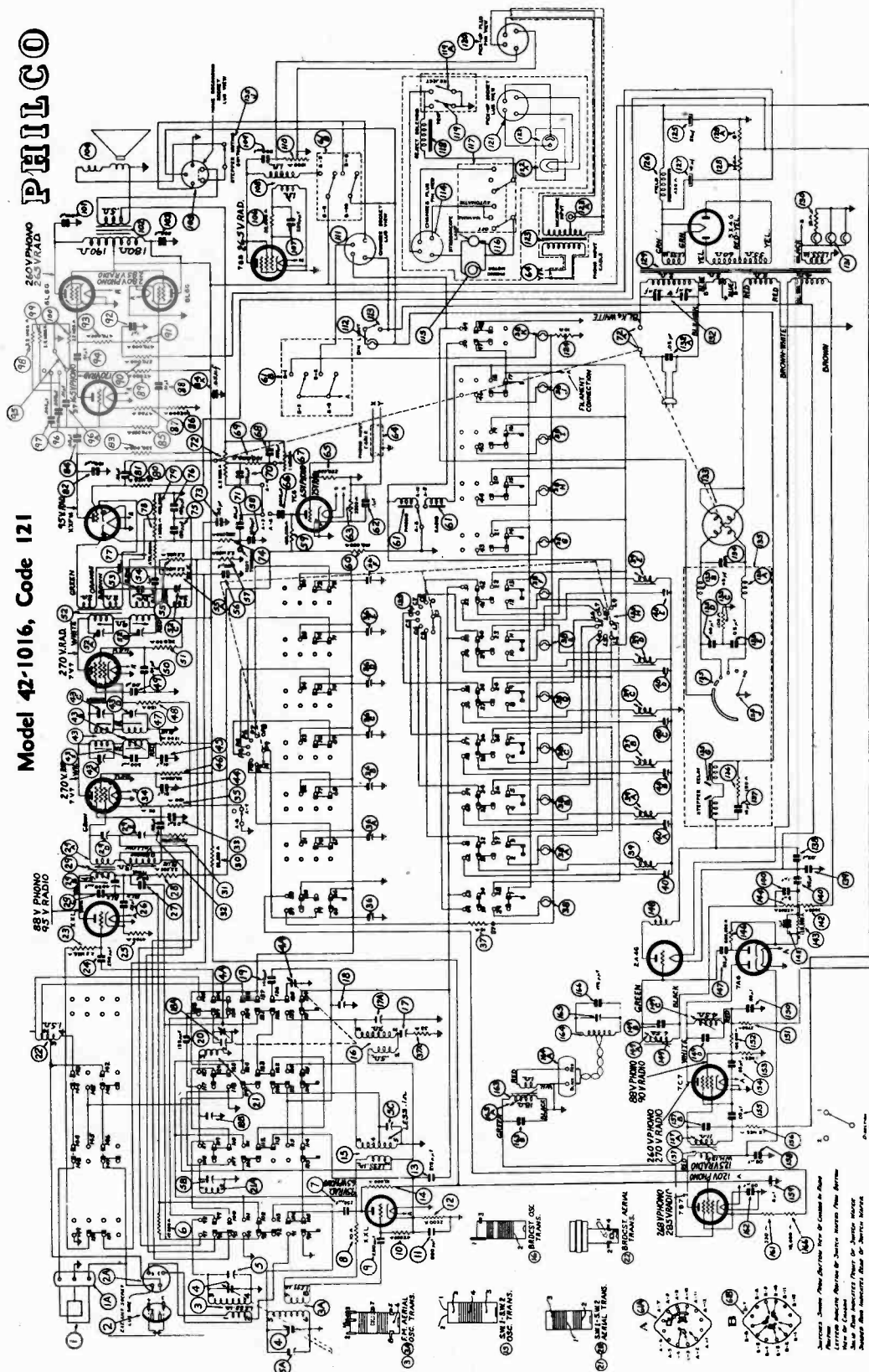


**MODELS, 42-1012, Code 121**  
**42-1013W, Code 121**  
**42-1013M, Code 121**



# PHILCO

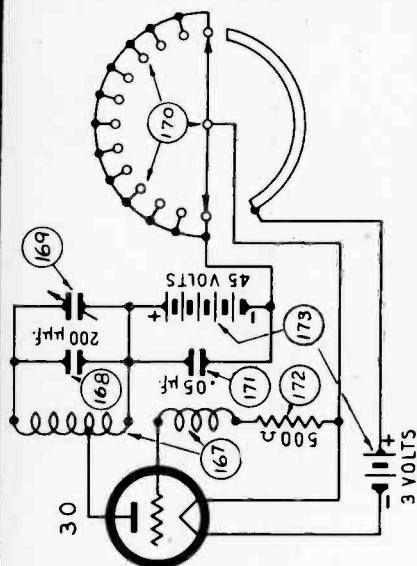
Model 42-1016, Code 121



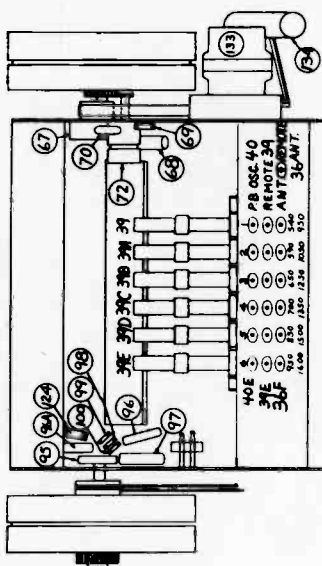
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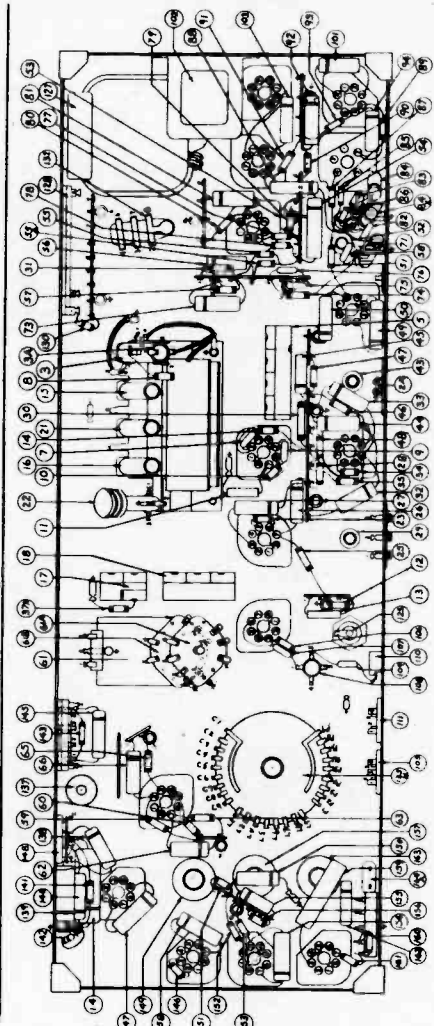
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



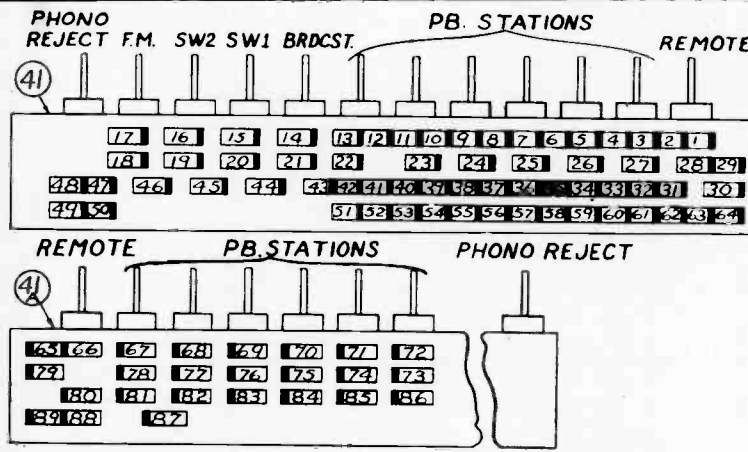
SCHEMATIC DIAGRAM OF WIRELESS REMOTE CONTROL UNIT



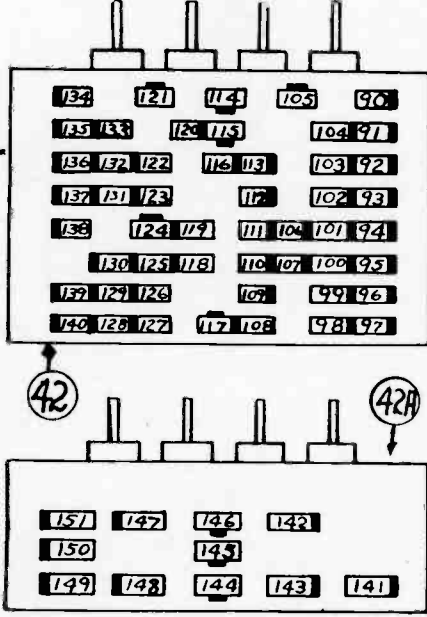
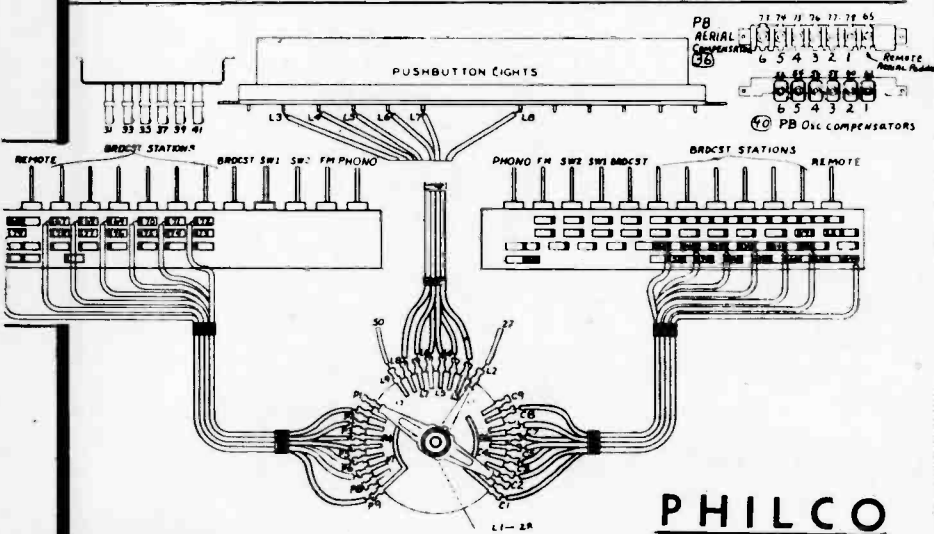
LOCATIONS OF PARTS, TUNING UNIT



PART LOCATIONS—UNDER CHASSIS, MODEL 42-1016



CONTACT LOCATIONS OF STATIONS AND LIGHTS, P. B. SWITCH—TOP 41, BOTTOM 41A



PHILCO

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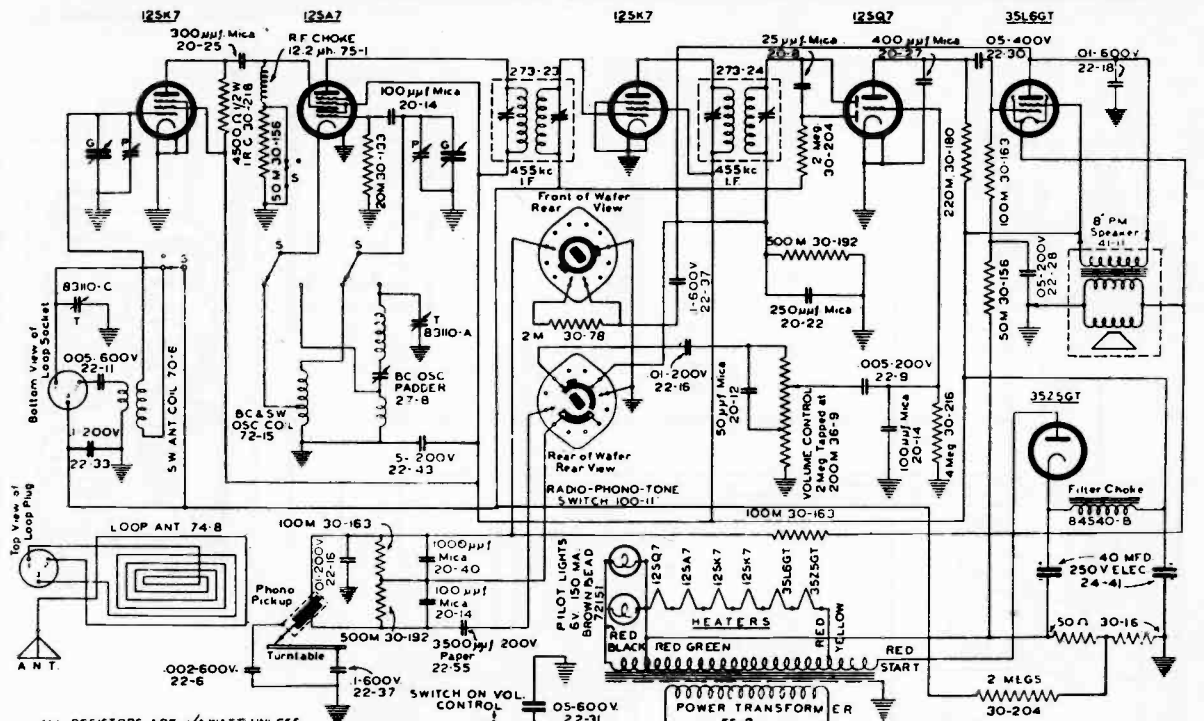
CABLE WIRING Model 42-1016, Code 121

CONTACT LOCATIONS OF TUNING BAND, P. B. SWITCH—42, BOTTOM; 42A, TOP SECTION

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

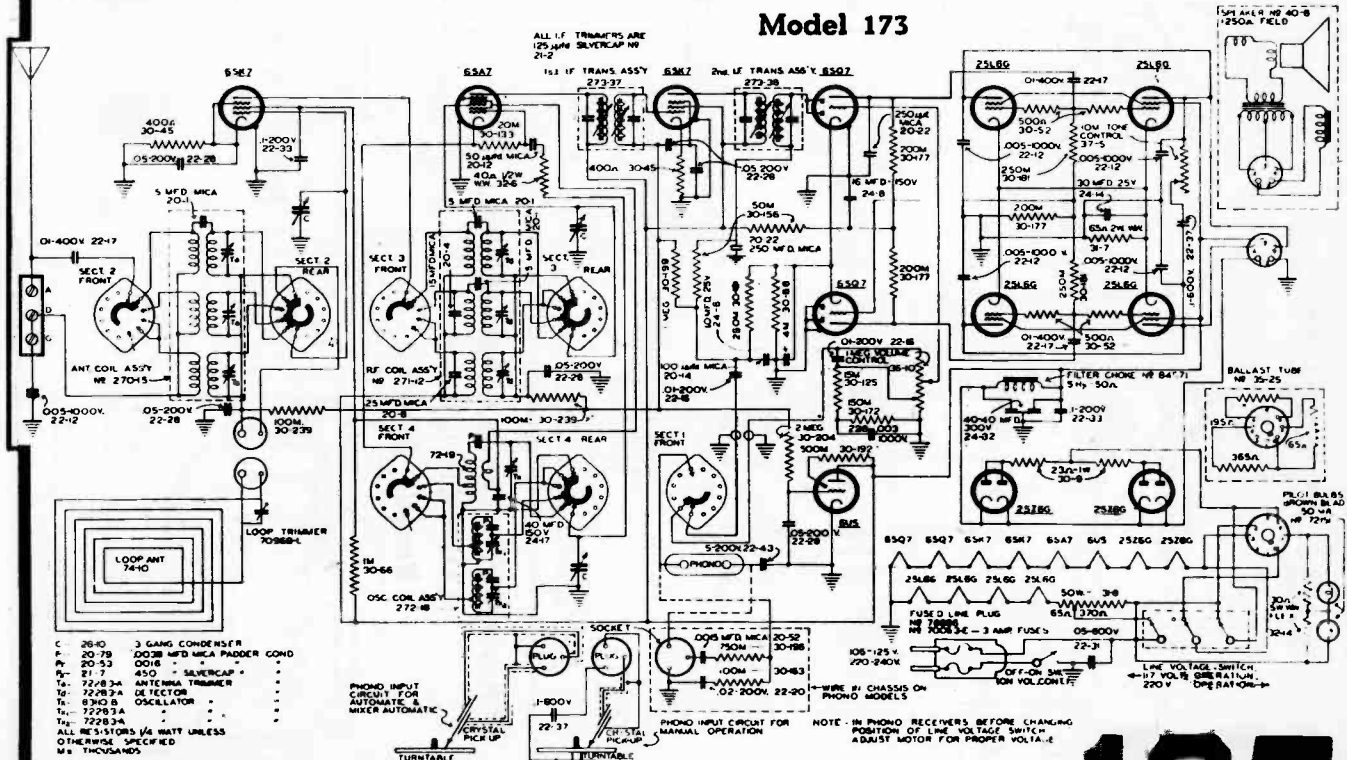


ALL RESISTORS ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED  
 G - GANG CONDENSER 25-9  
 P - TRIMMER ON GANG  
 T - TRIMMER CONDENSERS  
 S - BAND SWITCH 100-10 SHOWN IN 5W POSITION  
 RADIO-PHONO-TONE SWITCH SHOWN IN EXTREME COUNTERCLOCKWISE POSITION (No 1)  
 No 1 - RADIO VOICE  
 No 2 - TREBLE  
 No 3 - BASS  
 No 4 - PHONO VOICE  
 No 5 - TREBLE  
 No 6 - BASS

**Pilot**

Model TP-32

OPERATION	CONNECT A to	CONNECT B to	CONNECT
117 VOLTS	RED-BLACK	RED-YELLOW	NO PRIMARY
130 "	RED-BLACK	RED-YELLOW	NO PRIMARY
150 "	RED-RED	RED	NO PRIMARY
230 "	RED-RED	BLACK	NO RED-YELLOW



C - 25-40 3 GANG CONDENSER  
 A - 20-75 0038 MFD MICA PADDER COND  
 P - 20-53 0016 -  
 T - 21-7 450 - SILVERCAP  
 T - 125-2A ANTENNA TRIMMER  
 T - 722-2A DE-TECTOR  
 T - 630-2 OSCILLATOR  
 T - 722-2A  
 T - 722-2A  
 ALL RESISTORS 1/4 WATT UNLESS OTHERWISE SPECIFIED  
 M - THOUSANDS  
 BAND SWITCH VIEWED FROM FRONT OF CHASSIS, SHOWN IN 5W POSITION  
 BASS SWITCH IN 001-14A  
 IF FREQUENCY IS 455 KC

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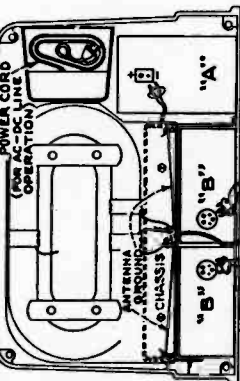
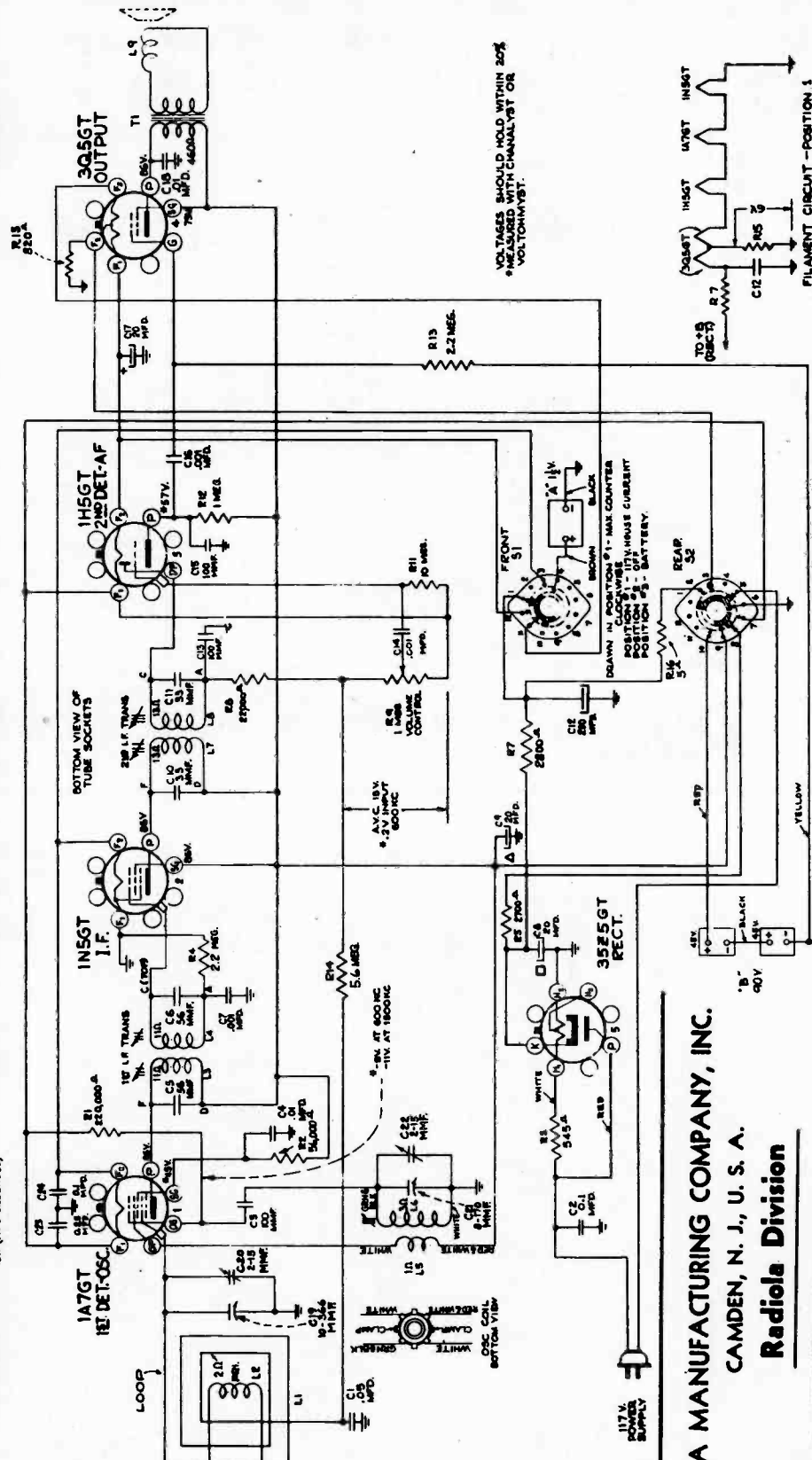
**105**



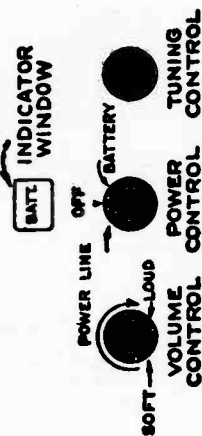
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

# 106

12X (600KC) ANT. TO GRID  
CONVERSION GAIN 600 TO 455 KC  
1X 455 KC  
80X (455 KC)  
2X (455 KC)  
19X (400~)  
14X (400~)  
APPROX. GAIN DATA USING RCA RIDER CHANNELYST



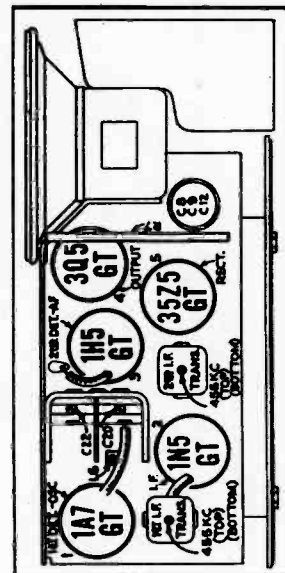
## Model P-5 Portable



RCA MANUFACTURING COMPANY, INC.

CAMDEN, N. J., U. S. A.

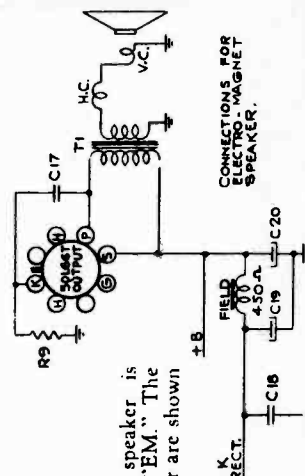
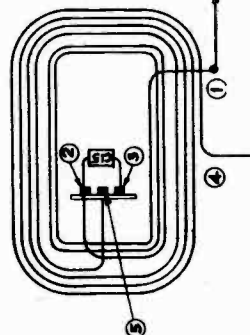
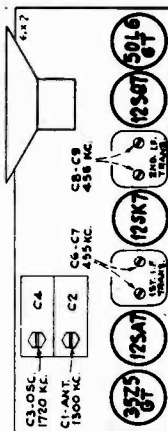
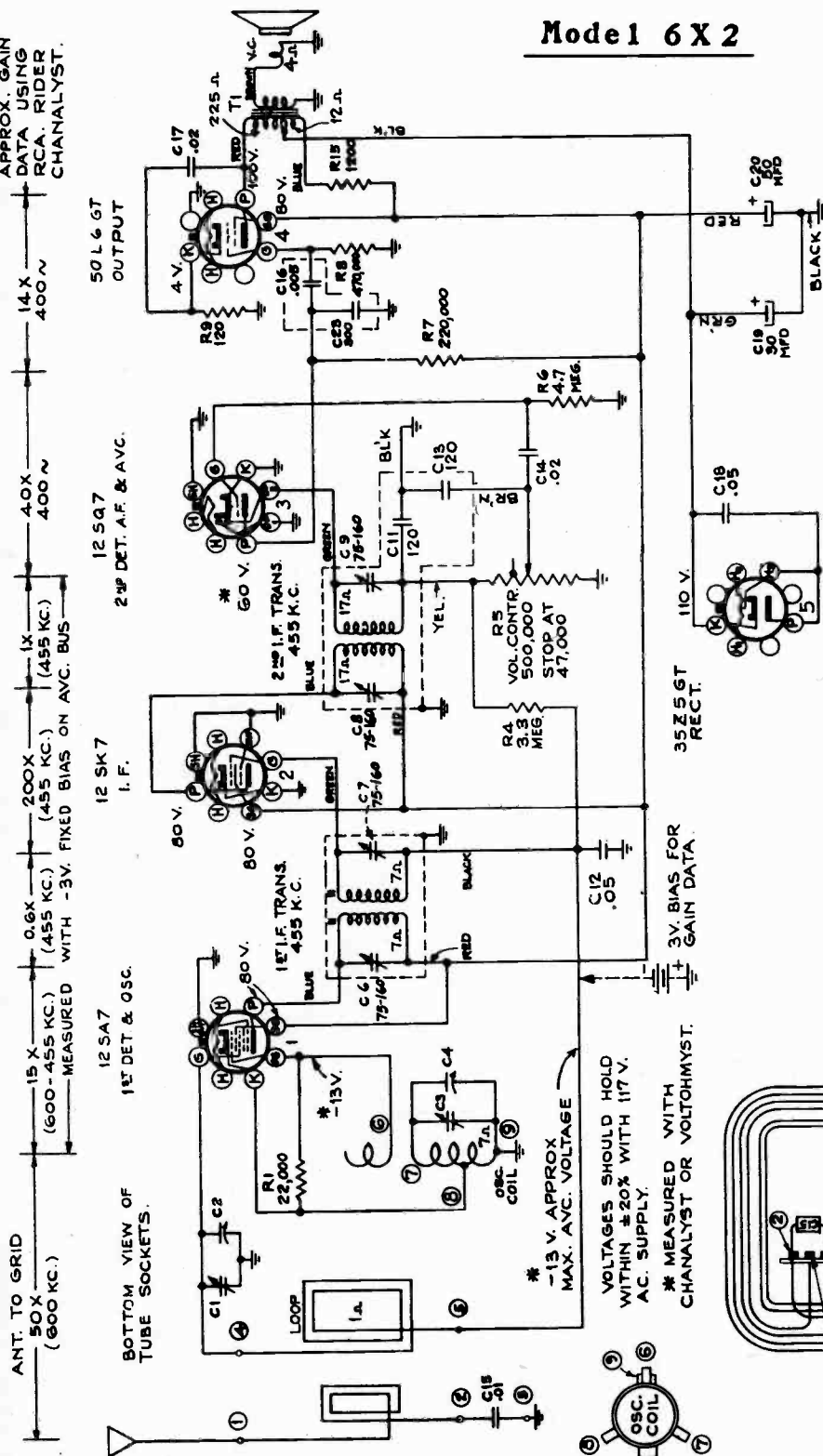
Radio Division



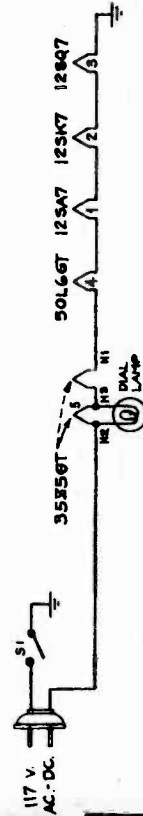


**RCA Victor**

**APPROX. GAIN  
DATA USING  
RCA. RIDER  
CHANALYST.**



In some production, the speaker is changed from a "PM" to an "EM." The connections for the EM speaker are shown at right.

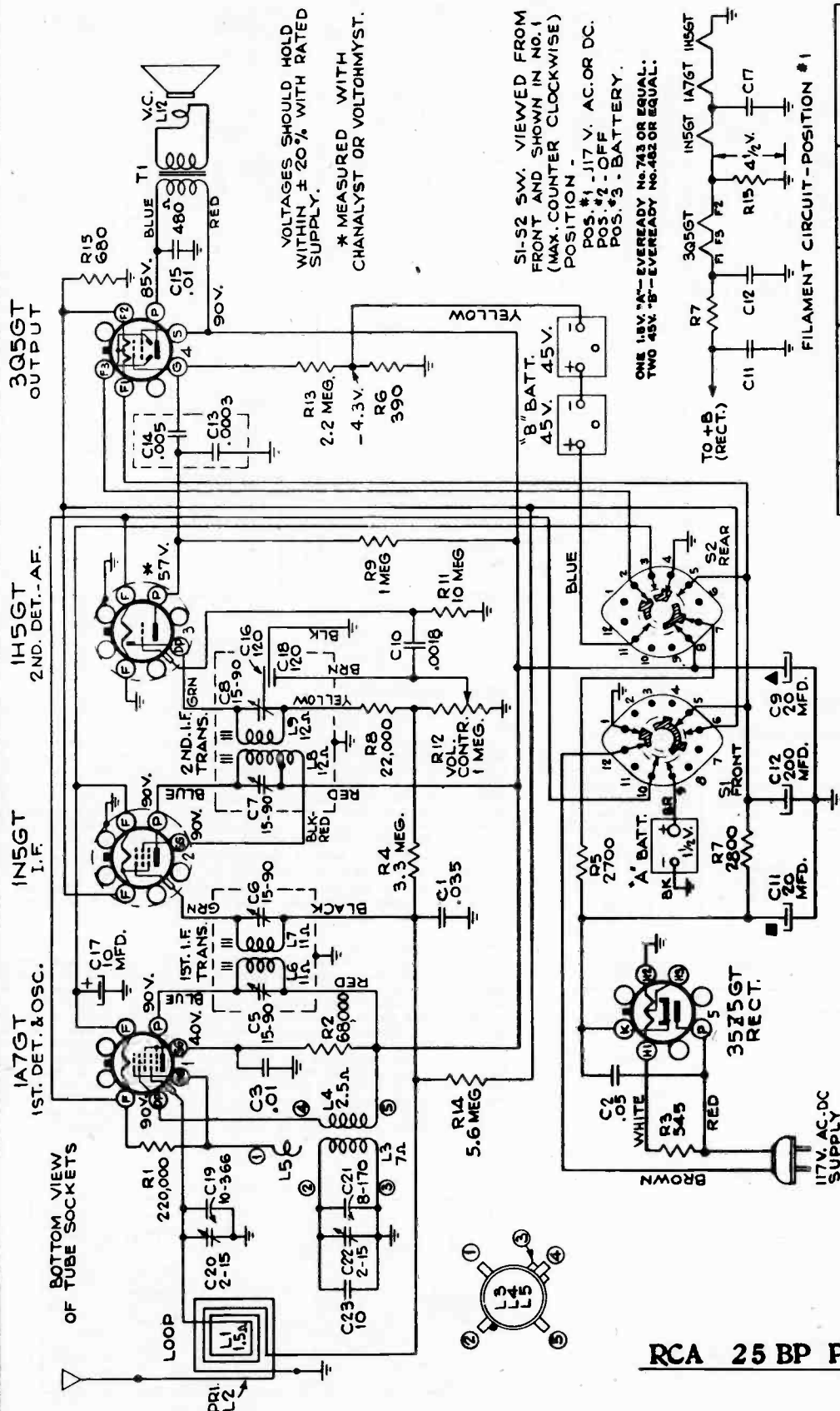




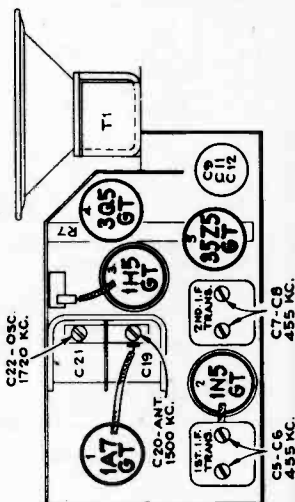




# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Steps	Connect the high side of test-oscillator to—	Turn radio dial to—	Adjust the following for max. peak output—
1	1-P grid cap. in series with .01 mfd.	Quiet point at 1,400 kc. end of dial	C8, C7 (2nd I-F trans.)
2	1st-DET. grid cap. in series with .01 mfd.	455 kc	C6, C6 (1st I-F trans.)
3	radiated signal 1,720 kc.	Gang at min. capacity	C22 (Osc. Trimmer)
4	radiated signal 1,400 kc.	signal frequency	C20 (Ant. Trimmer)

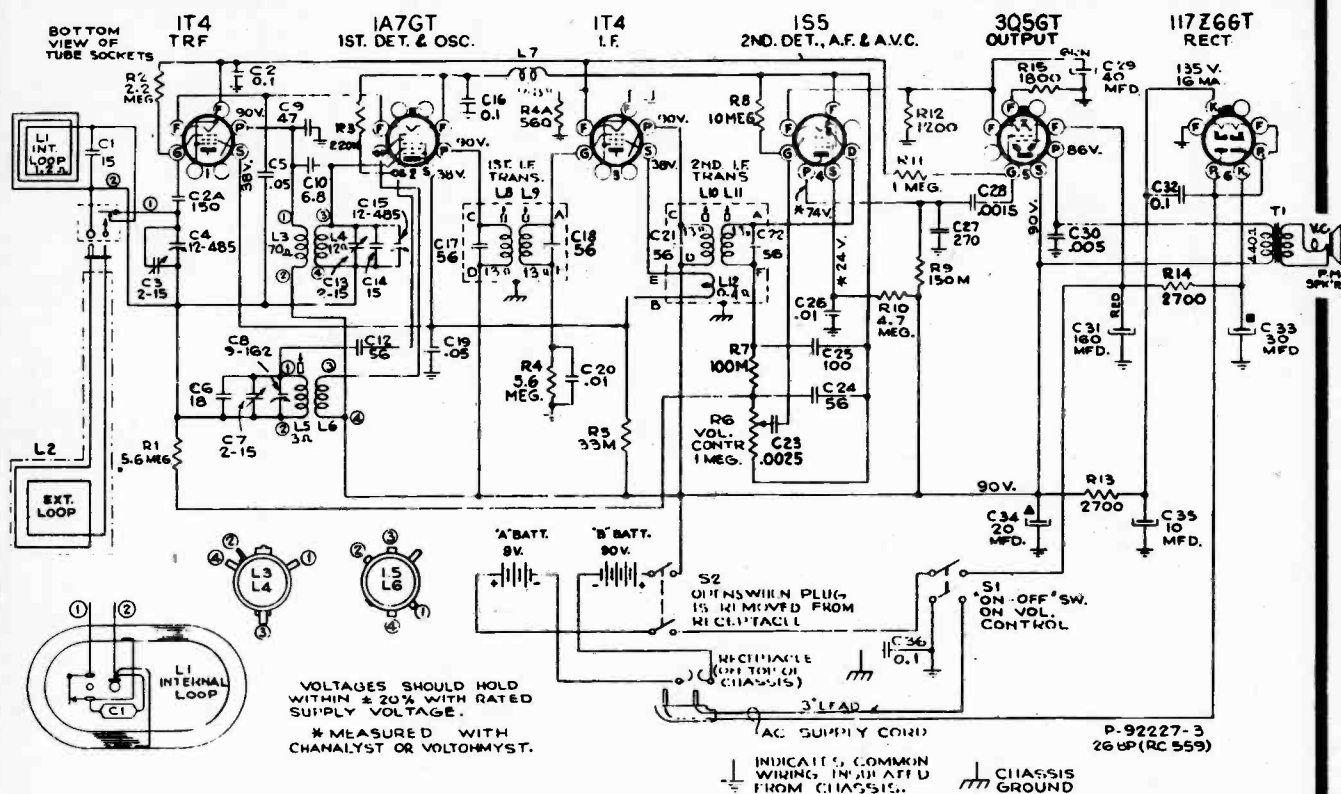


RCA 25 BP Portable

109



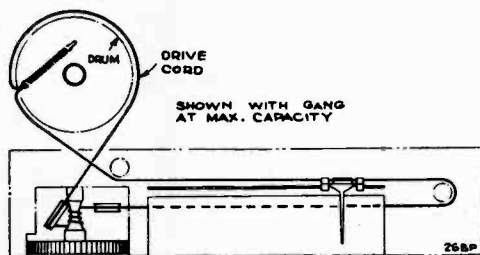
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## Alignment

With gang in full mesh, the pointer should be 1/16-inch to the left of the 550 kc dial mark.

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 at 1,600 kc end of dial	L10, L11 (2nd I-F trans.)
2	1st-Det. grid cap, in series with .01 mfd.			L8, L9 (1st I-F trans.)
3	radiated signal at 1,600 kc	1,600 kc	1,600 kc	C7 (osc.) C3 (ant.) C13 (det.)
4	radiated signal 600 kc	600 kc	600 kc	L5 (Rock in)
5	Repeat steps 3 and 4			



RCA 26 BP Portable

# 110

## AC-DC Operation.—

This receiver will operate on 105 to 125 volts, AC 50 or 60 cycles, or DC.

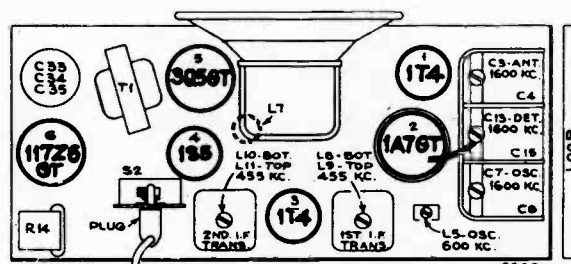
A power cord is housed in the bottom right hand corner looking inside the cabinet as shown in the illustration. Open the cabinet like a suit case, first pushing to one side the little pins under the handle ends to raise the clips. Then pull the power cord plug out of its socket in the top right hand corner as shown, and take out and unroll the power cord. A slot in the bottom allows the closing of the cabinet with the power cord passing through. Close the cabinet with the cord extending and insert the plug into a convenient electrical outlet.

When returning to battery operation, be sure to replace the power plug in its socket inside the case with the cord rolled up.

**NOTE.**—If reception is not obtained on DC, reverse plug in outlet receptacle. This may also reduce hum on AC operation.

## Using External Loop.—

A loop antenna is housed inside the cabinet. Under normal conditions this will give satisfactory reception. If however the receiver is used in a location remote from broadcasting stations where signals are weak, or where interference is excessive, or in a shielded compartment such as an automobile, airplane or railroad train, an RCA Magic Wave Magnifier Antenna with suction cup fastener may be purchased from your dealer. This antenna has a strap connector cord ending in a two-prong plug for attachment to the loop antenna frame. Open the case, plug the antenna cord into the socket (it will only go in one way), bring the strap out at the slot in the case and attach the Antenna by means of the suction cup to any convenient vertical surface. The RCA Magic Wave Magnifier may be attached inside the back case, when not in use, by means of three snap fasteners.





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## RCA Models 26X-1, 26X-3

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

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

**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.

**Power Supply Polarity.**—For operation on d-c, the power plug must be inserted in the outlet for correct polarity. If the set does not function, reverse the plug. On a-c, reversal of the plug may reduce hum.

### Precautionary Lead Dress

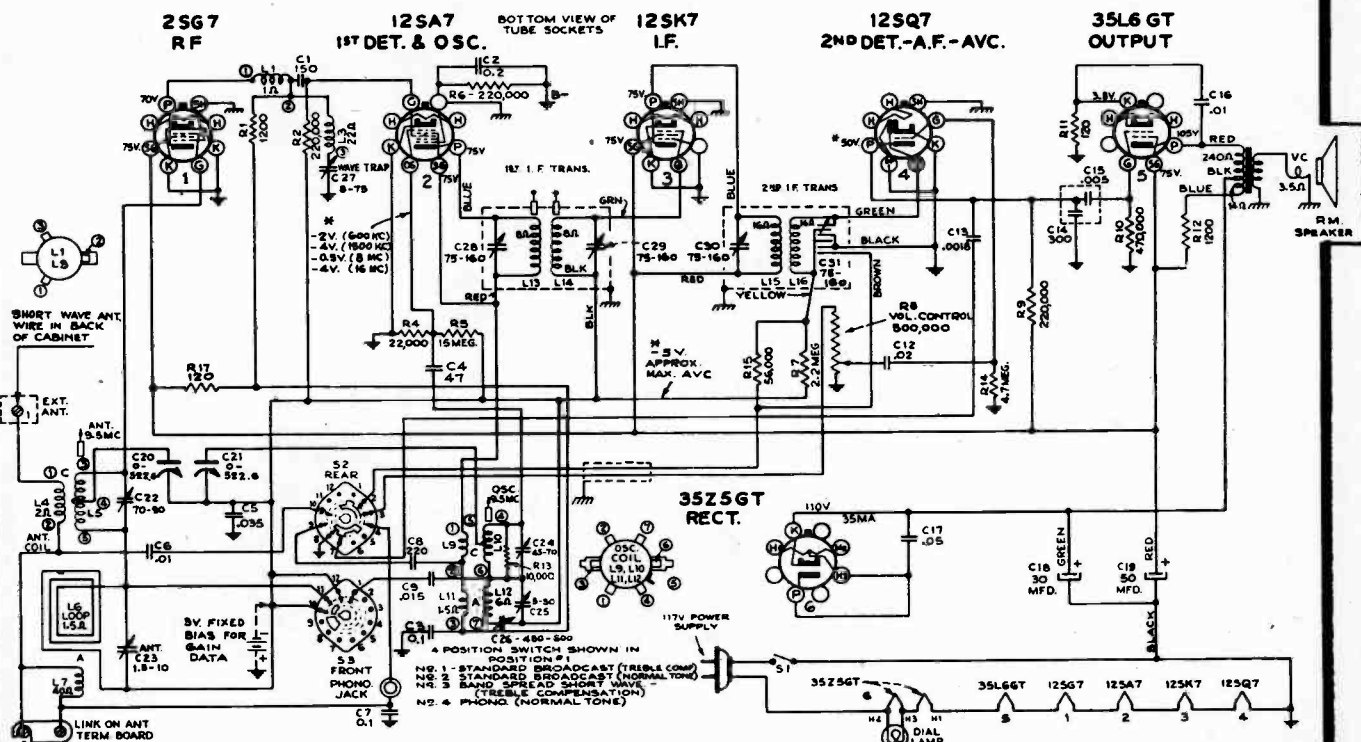
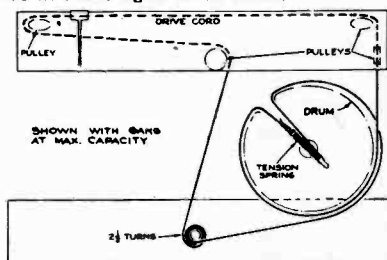
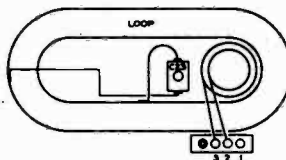
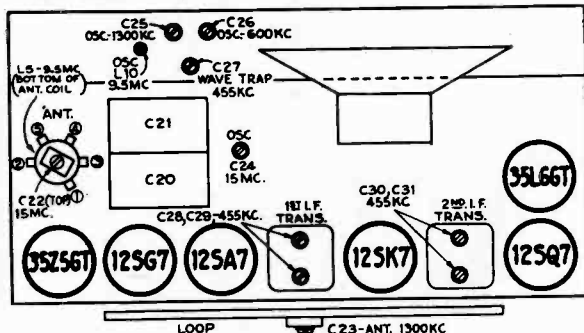
1. Dress output tube plate lead to speaker and output bypass condenser away from terminal board and yellow lead in cable.
2. Dress brown and yellow leads from 2nd I.F. transformer away from output plate and bypass condenser.
3. Dress .02 capacitor C12 away from output capacitor C16.
4. Dress all leads or parts as far as possible away from oscillator coil.
5. Dress lead from C13 to band switch down along front apron of chassis.
6. Dress lead from trimmer condenser on loop to S.W. Ant. coil around outside of rectifier tube. Other leads between rectifier and R.F. tube.

Steps	Connect high side of the test oscillator to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for maximum peak output
1	I.F. grid in series with 0.1 mfd.	455 kc	Quiet Point at 1,700 kc end of dial	C30, C31 2nd I-F trans.
2	1st det. grid in series with 0.1 mfd.			C-28, C-29 1st I-F trans.
3	R.F. grid in series with 0.1 mfd.			C-27** Wave trap
4	Ant. terminal in series with 47 mmf. (link open)	15 mc	15 mc "C" Band	C-24 (osc.)* C-22 (ant.)
5		9.5 mc	9.5 mc "C" Band	L-10 (osc.) L-5 (ant.)
6	Repeat steps 4 and 5.			
7	Ant. terminal in series with 220 mmf. (link open)	1,300 kc	1,300 kc "A" Band	C-25 (osc.) C-23 (ant.)
8		600 kc	600 kc "A" Band	C-26 (osc.)
9		Repeat steps 7 and 8.		

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

\*\*Adjust C-27 for minimum signal with 455 kc applied to R.F. grid.

Note.—Oscillator tracks 455 kc above signal on all bands.



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

\* MEASURED WITH CHANALYST OR VOLTOMYST.

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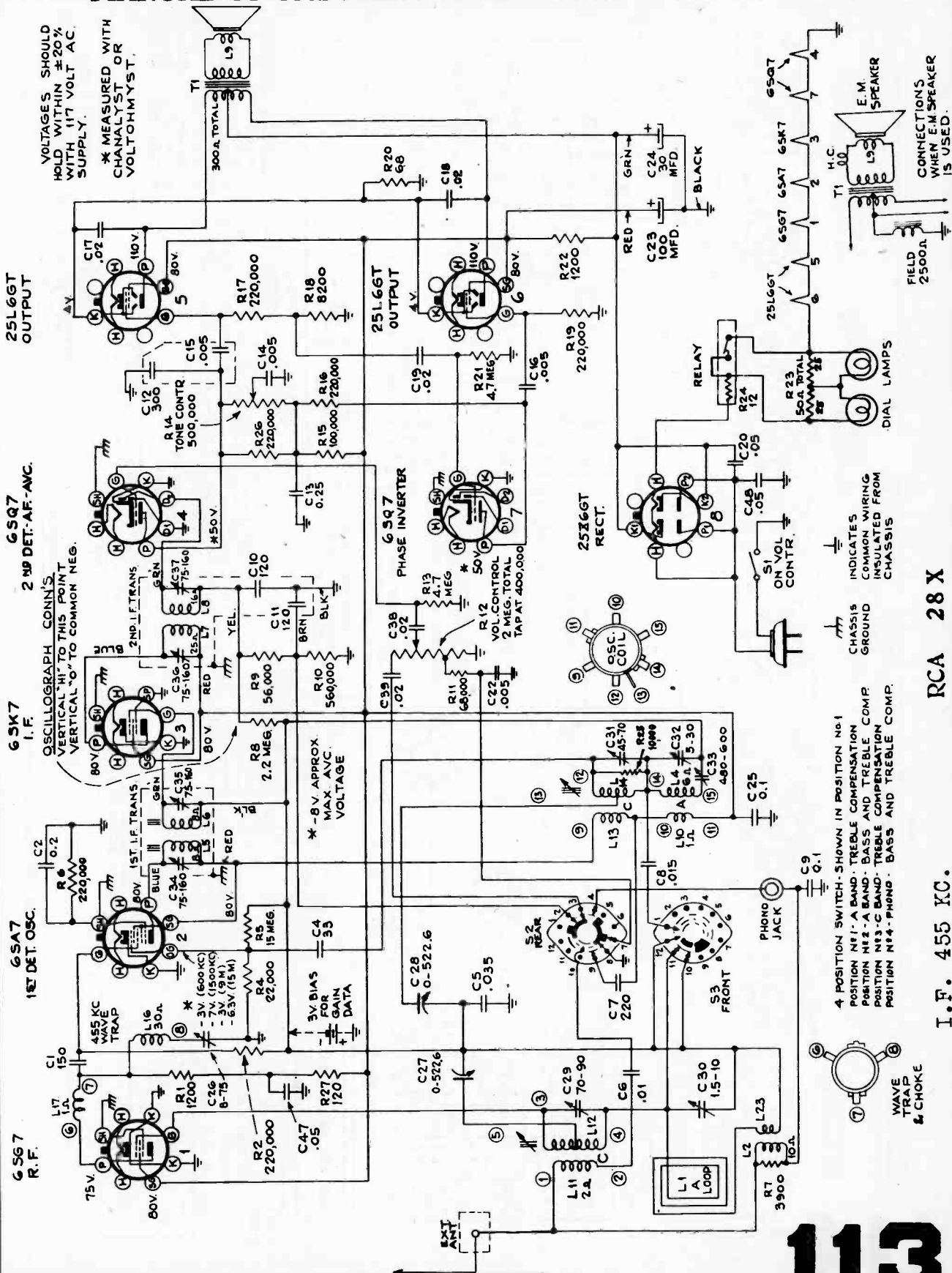


[illegible]

I.F. 455 KC.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

**RCA 28 X**

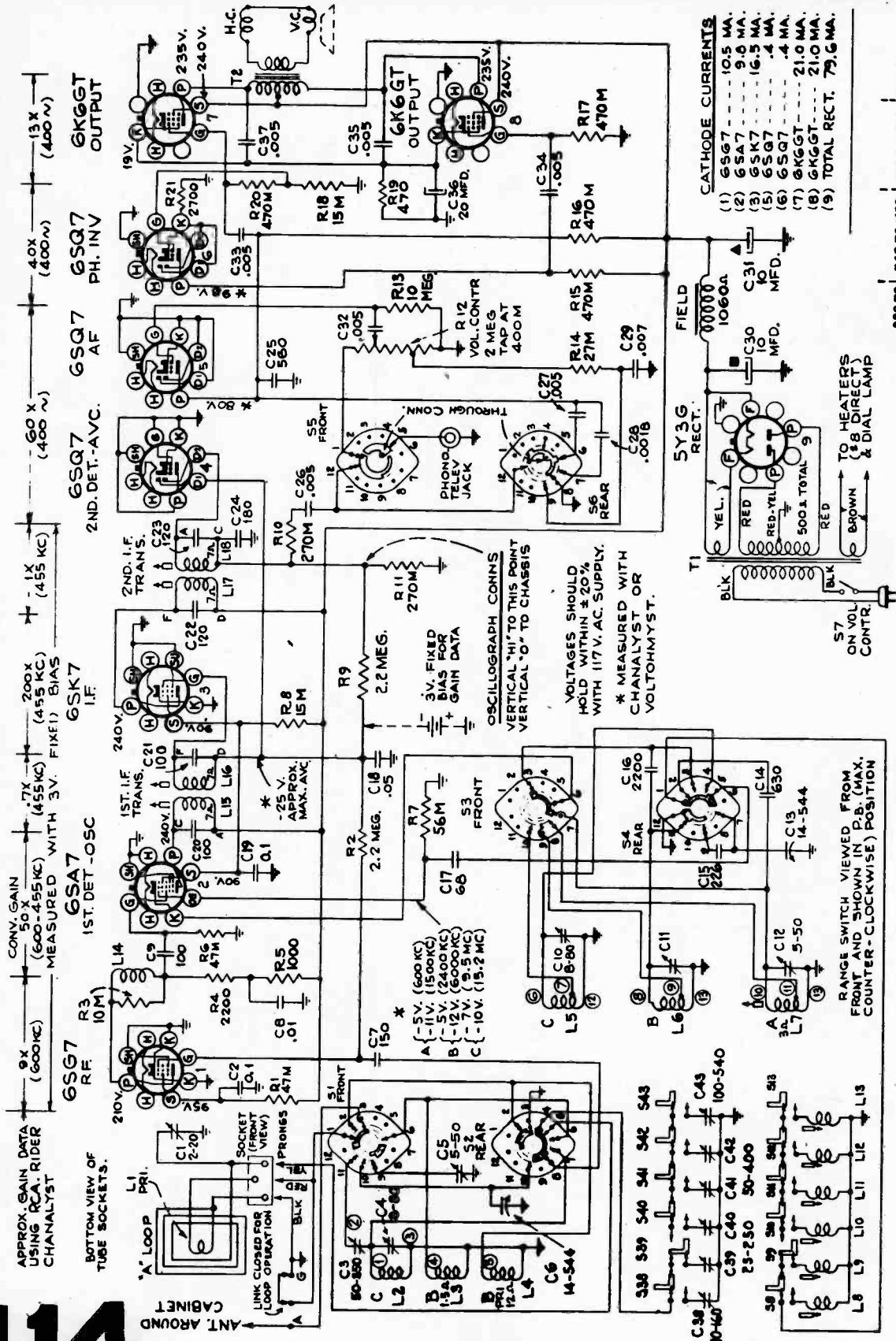
I.F. 455 KC.

113



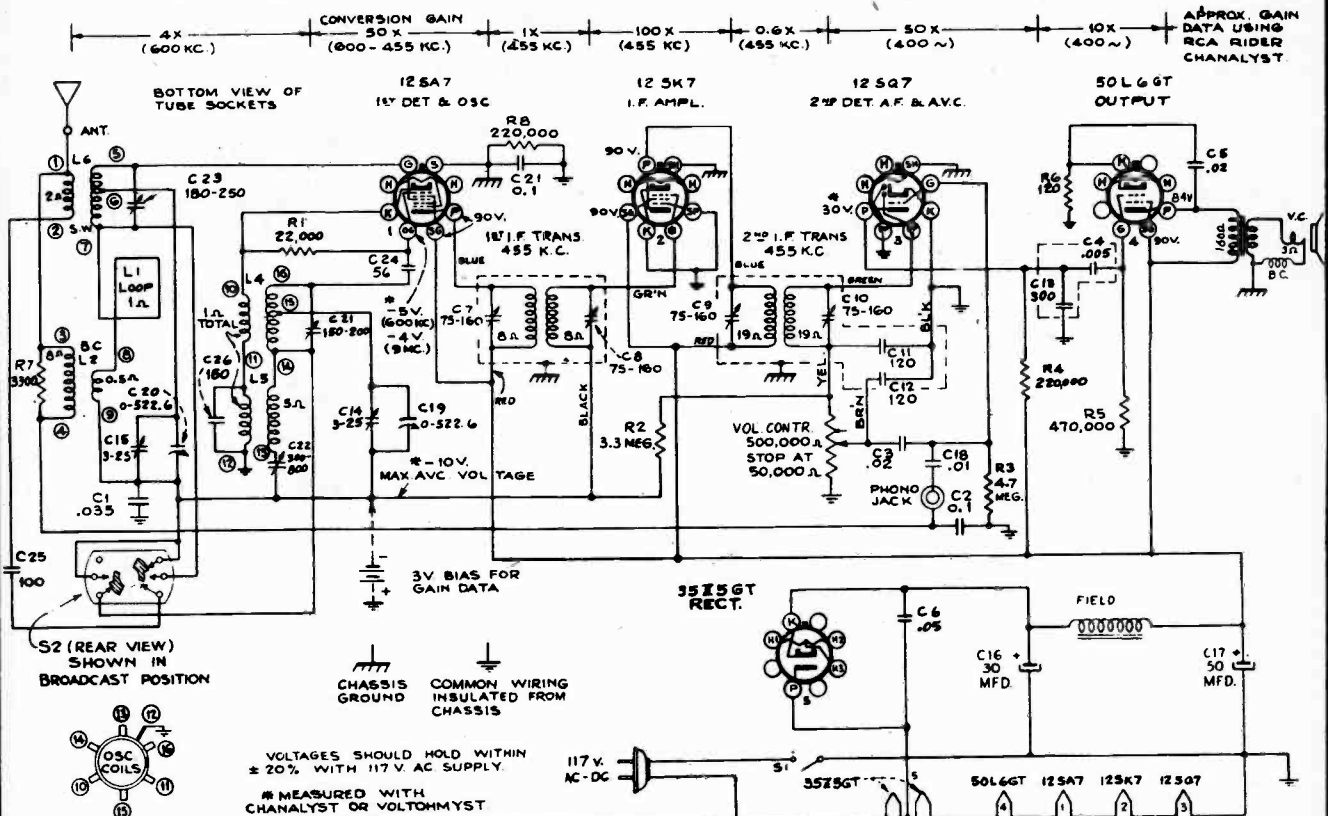
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

# 114





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## 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.

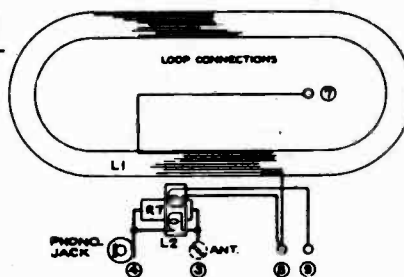
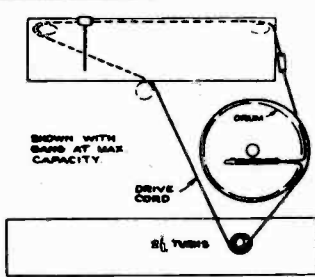
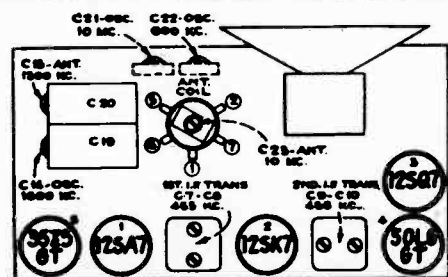
**Power-Supply Polarity.**—For operation on d-c, the power plug must be inserted in the outlet for correct polarity. If the set does not function, reverse the plug. On a-c, reversal of the plug may reduce hum.

\* 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.			C8, C7 1st I-F Transformer
3	Antenna term. in series with 47 mmf.	10 mc*	10 mc	C21 (osc.)** C23 (ant.)
4	Antenna term. in series with 200 mmf.	1,600 kc	1,600 kc	C14 (osc.)
5	Radiation Loop	1,300 kc	Resonance on Signal	C15 (ant.)
6	Radiation Loop	600 kc	600 kc	C92 Osc. Rock in

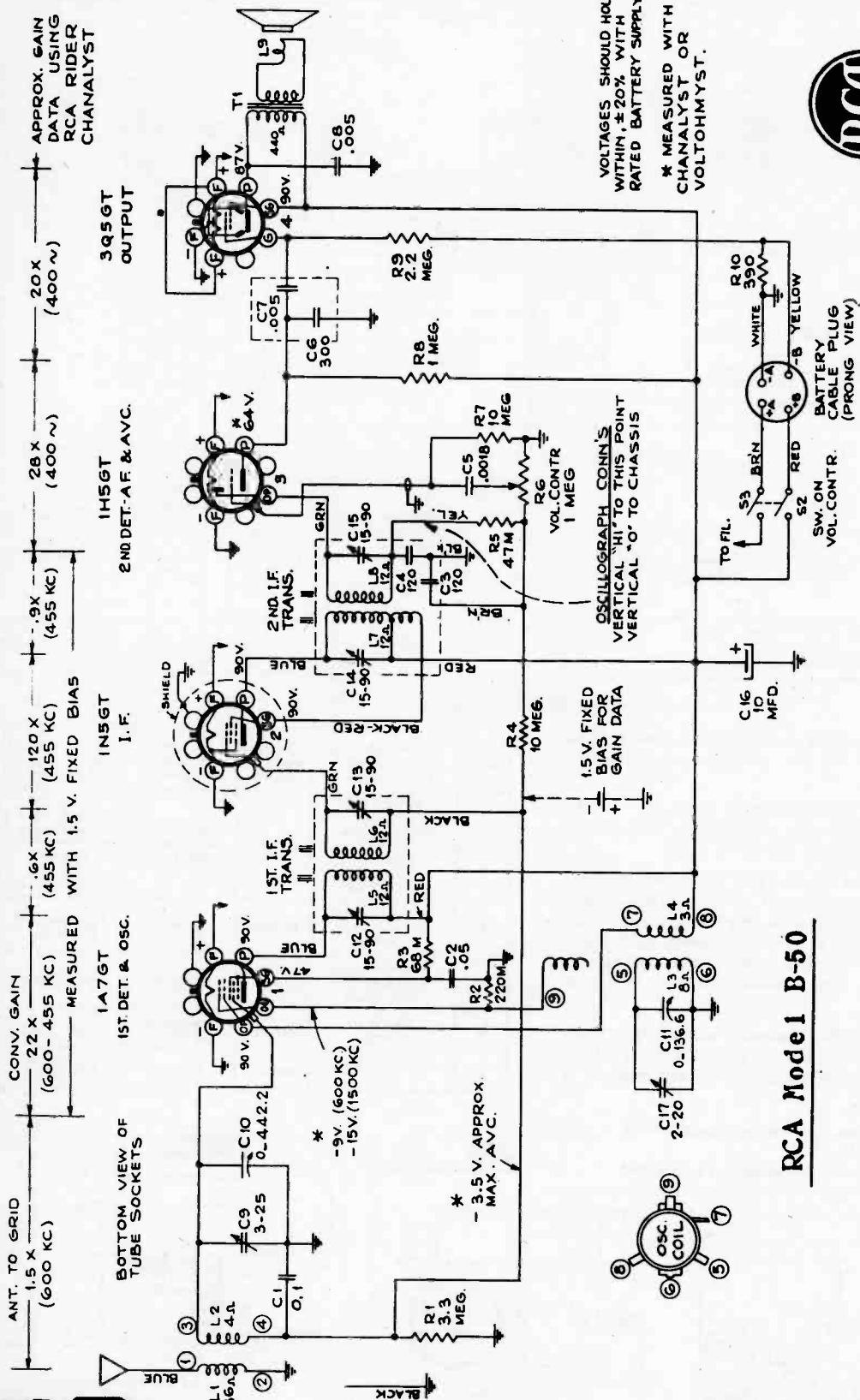
RCA 34 X





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

# 116

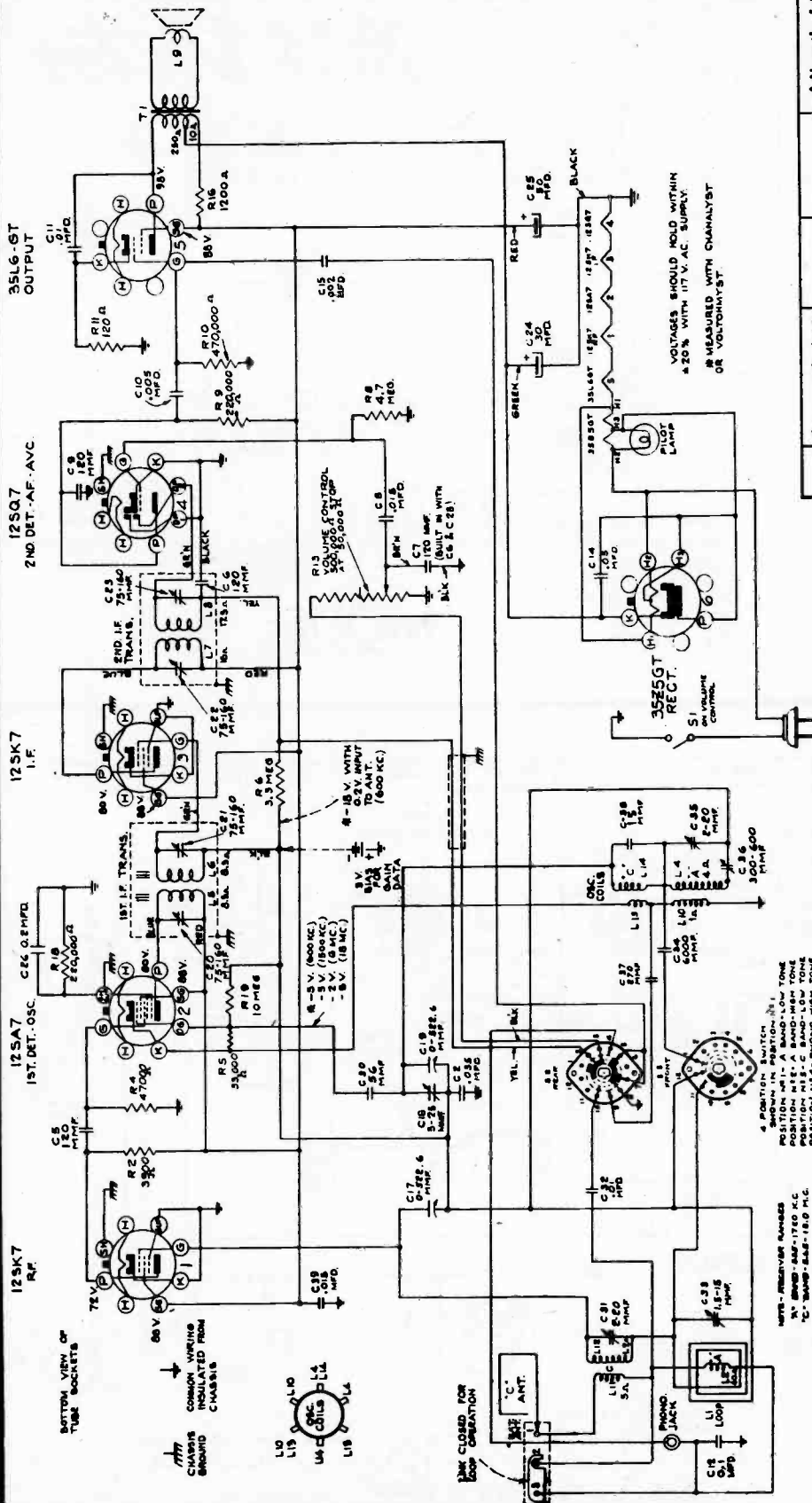


VOLTAGES SHOULD HOLD WITHIN  $\pm 20\%$  WITH RATED BATTERY SUPPLY.  
\* MEASURED WITH CHALALYST OR VOLTOHMYST.

- Precautionary Lead Dress.—**
1. The lead from the 8Q5 plate to output transformer should be dressed under clip and away from audio input leads.
  2. Keep AVC lead connecting C1 away from the 1A7GT plate.
  3. Keep blue plate leads coming from IF transformers short and close to the chassis.
  4. All filament wires should be dressed close to chassis.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



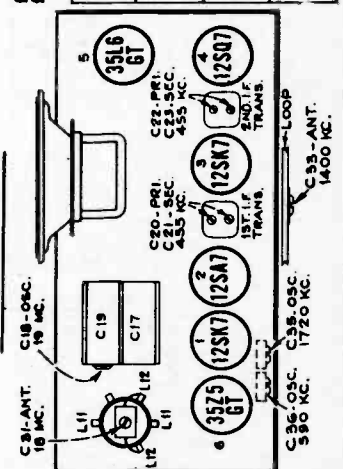
## Alignment Procedure

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.

Steps	Connect the high test-osc. to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for max. peak output—
1	I-F grid in series with 0.1 mfd.	455 kc	"A" Band Quiet Point	C33, C32 2nd I-F Trans.
2	1st Det. grid in series with 0.1 mfd.	19 mc	"C" Band 19 mc	C31, C30 1st I-F Trans.
3	Ant. terminal in series with 47 mmd.	1,730 kc	"A" Band 1,730 kc	C35 (osc.)
4	Radiated Signal, 18 mc	1,730 kc	"C" Band Resonance on Signal	C31 (ant.)
5	Radiated Signal, 6.1 mc	1,730 kc	"A" Band 1,730 kc	C35 (osc.)
6	Ant. terminal in series with 200 mmd.	1,730 kc	Resonance on Signal	C33 (ant.)
7	Radiated signal 1,400 kc (Link closed)	590 kc	"A" Band 590 kc	C36 (osc.)
8	Ant. terminal in series with 200 mmd.	590 kc	"A" Band 590 kc	C36 (osc.)
9	Repeat steps 6, 7 and 8			

\* Adjust by dressing proximity of AVC lead to coil.

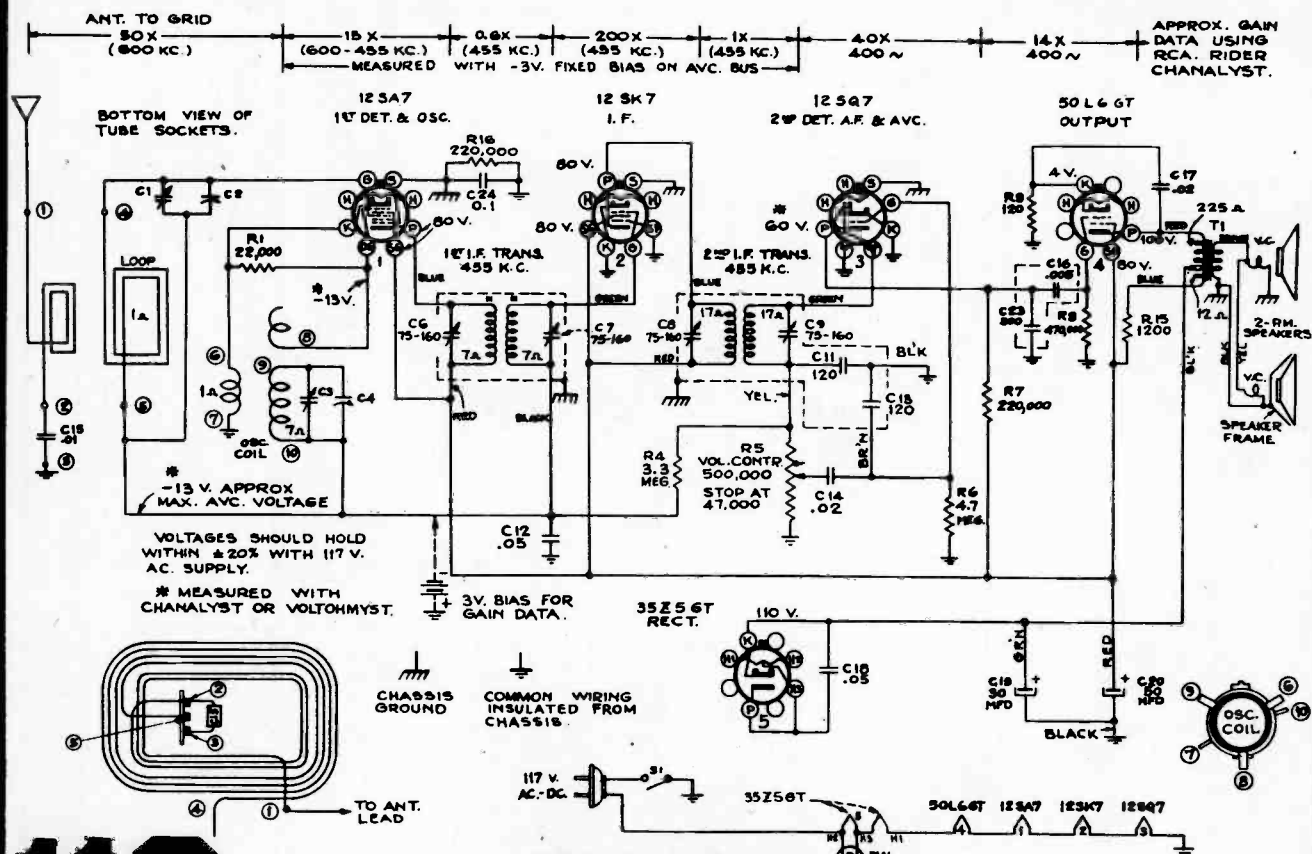
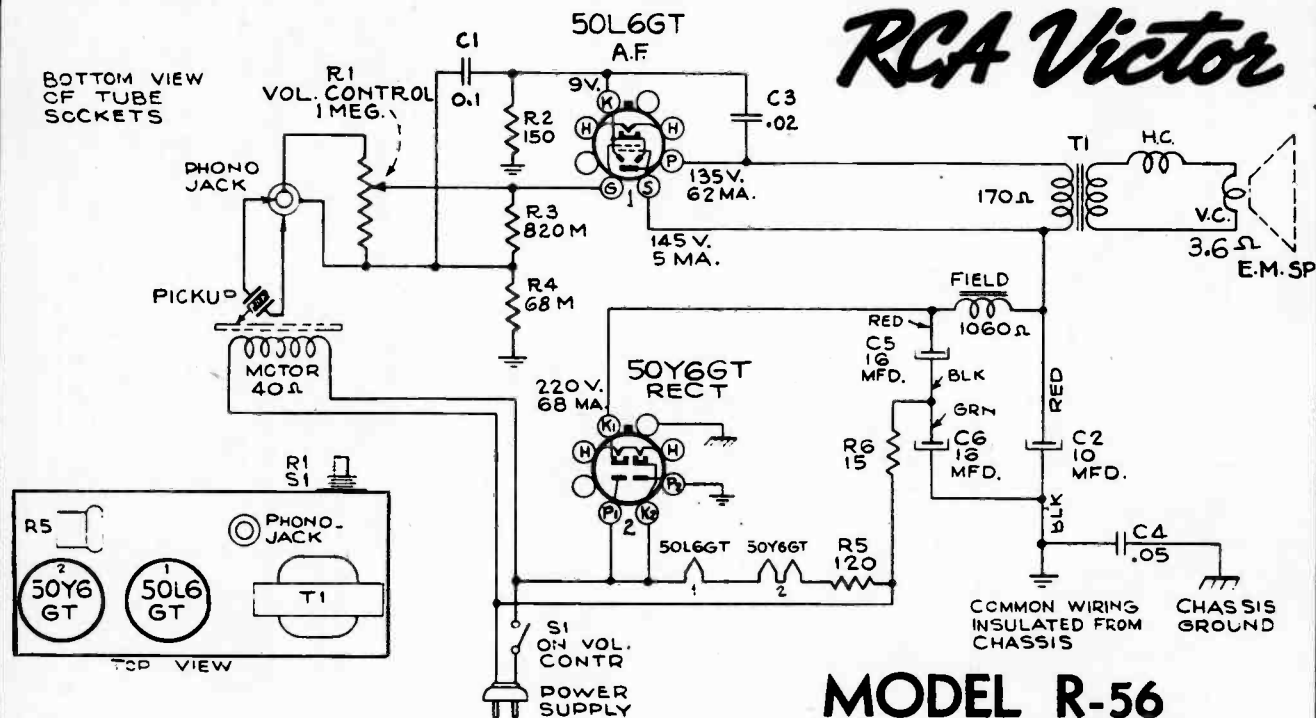
## RCA 515





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

**RCA Victor**





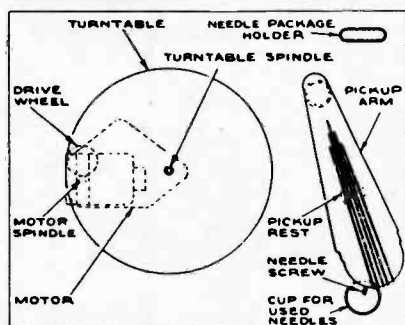
## RCA Models 500, 501



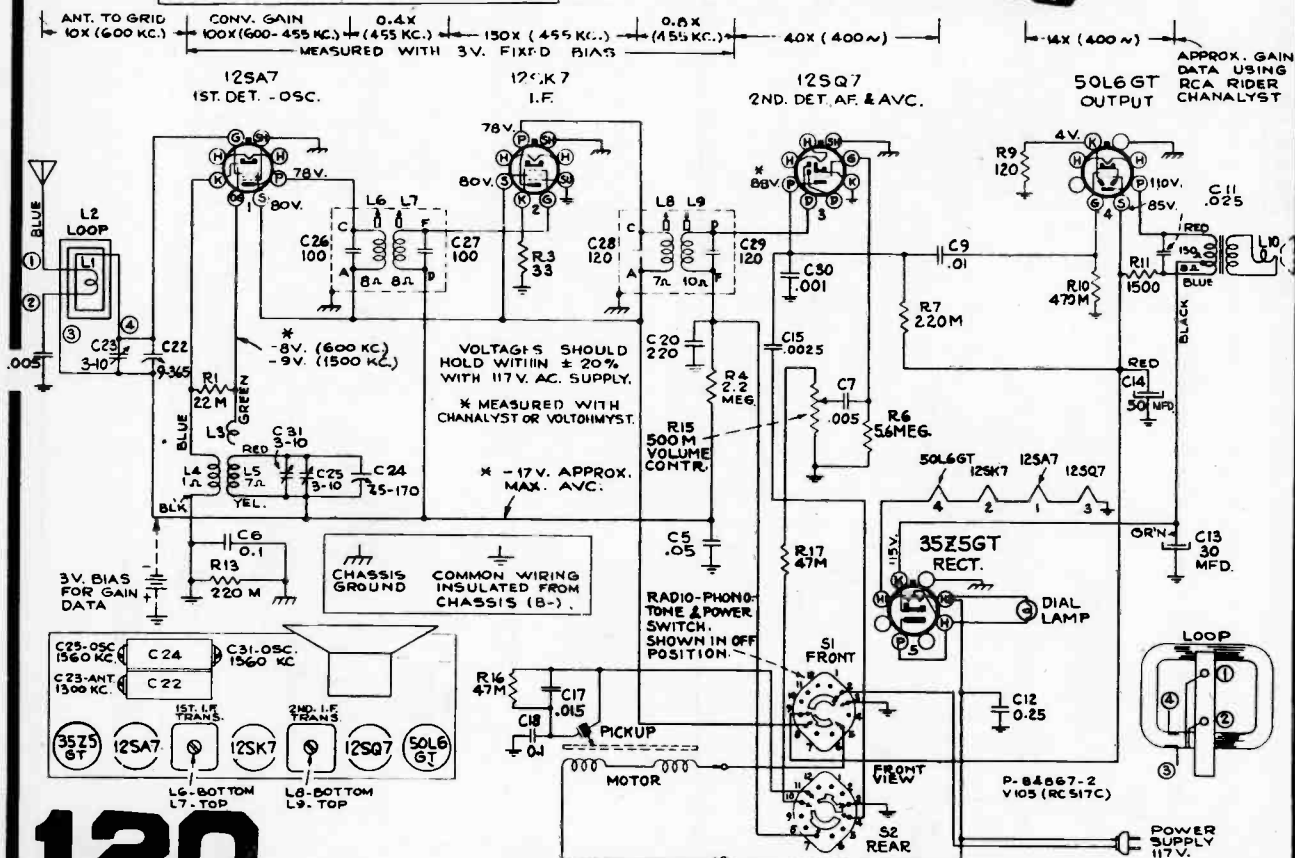
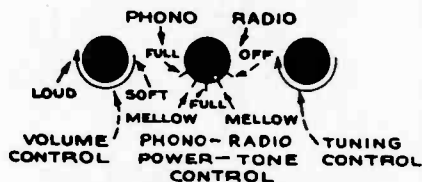


## Alignment Procedure

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	L8 and L9 2nd I-F transformer
2	1st Det. grid in series with .01 mfd.			L6 and L7 1st I-F transformer
3	Ant. terminal in series with 200 mmfd.	1,650 kc	Gang at minimum	C25 (osc.) C31 (osc.)
4	Radiated signal 1300 kc		Signal Frequency	C23 (ant.)
5	Repeat steps 3 and 4.			



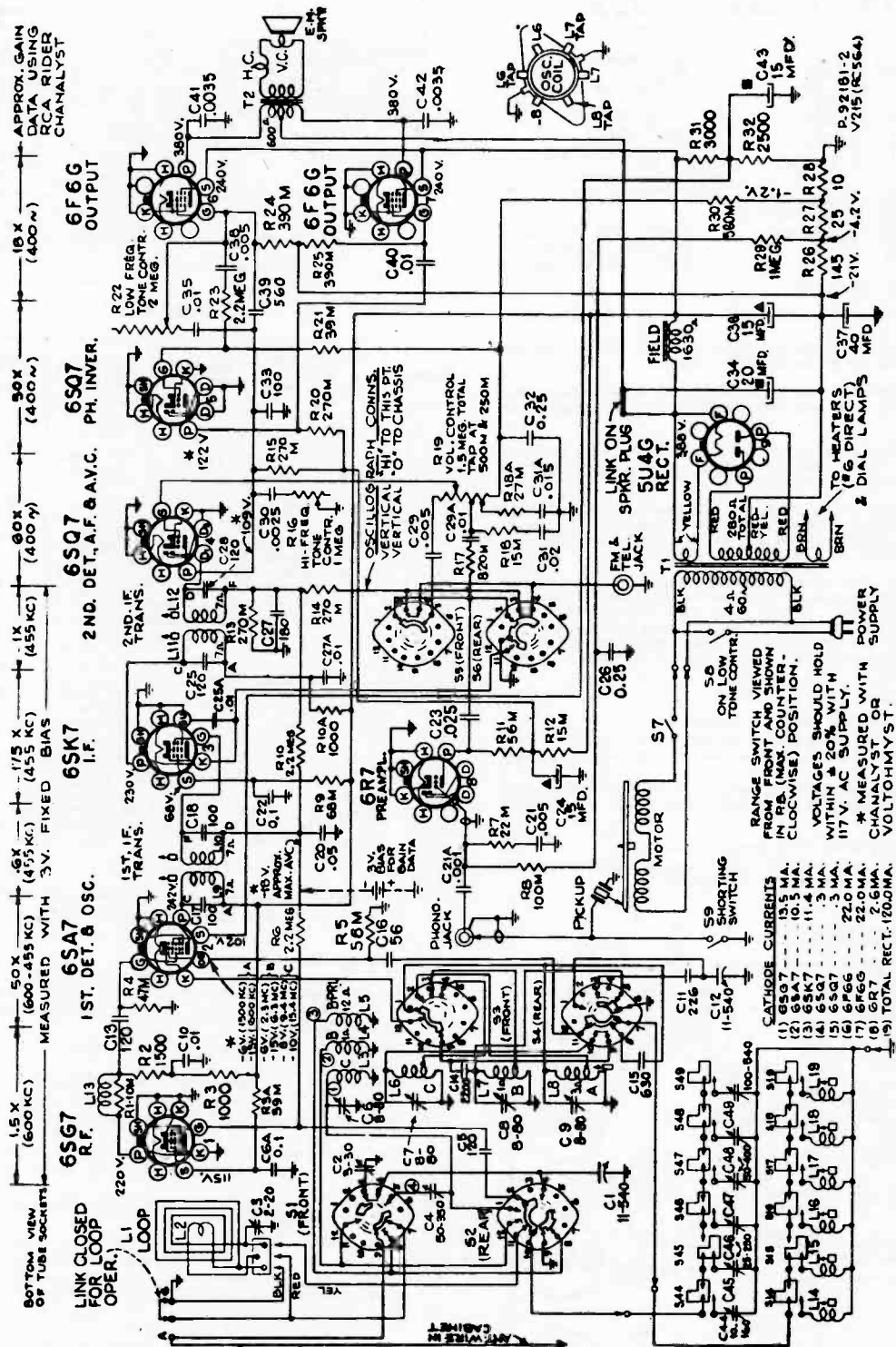
The motor should be lubricated once or twice a year by placing a few drops of S. A. E. 20 (or equivalent) on the turntable spindle and saturating the oil retaining felt pads on the motor shaft with S. A. E. 10 oil. **Caution**—The motor drive spindle and the rubber tire on the idler must be kept clean and entirely free from bil and grease at all times.





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## RCA Models V-215, V-219, V-221, V-225



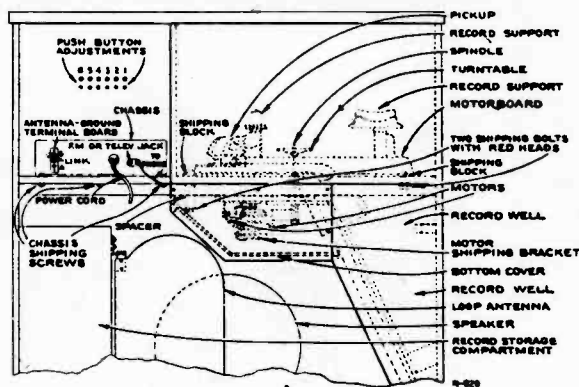
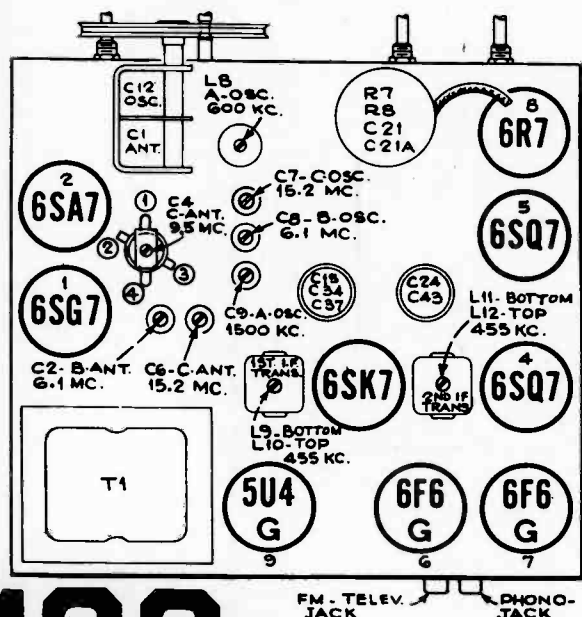
In Model V-219, the loop and phono motor connections are different, as shown in separate diagram on a following page. In Model V-225, R-8 is 220,000 ohms, R-17 is 1.8 Meg., and C-21 is .0035 mfd.



**V-219, V-221, V-225**



Follow the procedure above, substituting the dial scale printed in this service note for the glass dial in the cabinet.



Steps	Connect high side of 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 540 kc	L12, L11 (2nd I-F Trans.)
2	1st Det. grid in series with .01 mfd.			L10, L9 (1st I-F Trans.)
3	Yellow loop lead in series with 200 mmf. (link closed)	1,500 kc	"A" Band 1,500 kc	C9 (osc.)
4		600 kc	"A" Band 600 kc	L8 (osc.)
5		Repeat steps 3 and 4		
6	Ant. terminal in series with 47 mmf. (link closed)	6.1 mc	"B" Band 6.1 mc	C8 (osc.)* C2 (ant.)
7		15.2 mc	"C" Band 15.2 mc	C7 (osc.)* C6 (ant.)
8		9.5 mc	"C" Band 9.5 mc	C4 (ant.)
9		Repeat steps 7 and 8		
10	Install and connect chassis in cabinet, with link closed. Tune in a radiated oscillator signal at 1,500 kc and peak the "A" band ant. trimmer C3 (on loop). Rock in L8 for peak output at 600 kc.			

1. Push button, R.F. and oscillator leads should be separated as much as possible to reduce degeneration on push button reception.
2. R.F. choke in plate circuit of 6SG7 should be dressed towards the back apron.
3. Dress green push button lead under clamp and away from "C" band series capacitor.
4. Dress heater leads away from grids and diodes.
5. Dress phono. cables up and away from all wiring.
6. Dress all excess leads from transformer towards back towards transformer.
7. Keep output plate leads short and dressed close to chassis.
8. Dress green lead from 6SA7 screen to electrolytic down close to chassis.
9. Dress "C" band coil lead from oscillator coil to range switch down towards green lead.
10. Keep yellow loop lead clear of all wiring.
11. Dress ground bus of large electrolytic away from mounting lug.
12. Remove all excess slack from pilot light assembly and dress it close to chassis base away from volume control.
13. Dress oscillator grid capacitor (56 mmfd.) up and away from the screen and plate of 6SA7 socket.
14. A-C leads to "off-on" switch should be kept away from tone control cable to reduce hum.
15. Peaking coil should be dressed away from R-F grid resistor to reduce degeneration in R-F stage.
16. Dress oscillator push button lead in weld clamp on front apron away from 220 mmf. series condenser.
17. Keep all leads away from Phono-FM jack to prevent audio oscillation and hum. Dress underneath the shield provided.



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**RCA Models 516, 517**



1. Dress the power cable to switch on the volume control close to the chassis and away from all grid and diode leads and condensers.
2. Dress capacitors in the 12SQ7 grid circuit away from all wiring.
3. Green and black phono wires should be twisted and dressed away from other parts and leads.
4. 50L-GT filament wires should be dressed to rear of chassis and away from the second 1-F transformer leads.

5. Dress brown lead from second L.F. transformer to 12SQ7 away from power cable.
6. Dress wire to No. 1 grid of the 12SA7 away from pilot lamp leads.
7. Dress wire from loop to variable condenser away from chassis.
8. Dress all capacitors, leads, etc. which come close to oscillator coil rigidly and as far as possible from it.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## RCA Models 526, 527

**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.

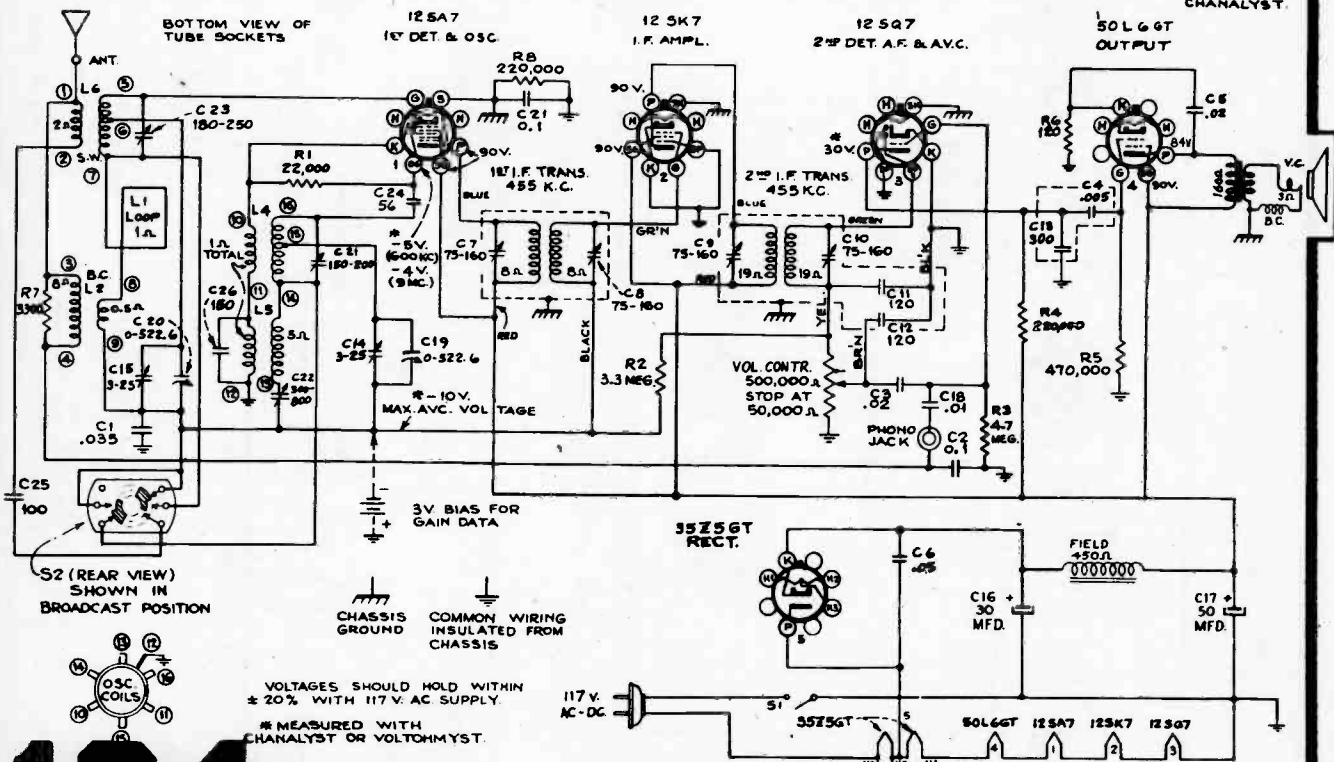
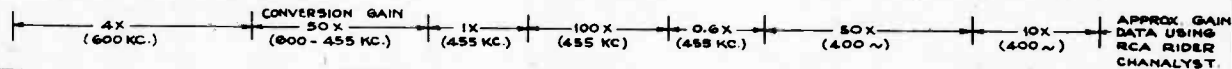
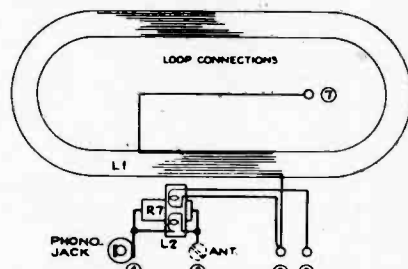
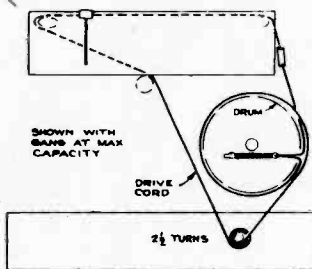
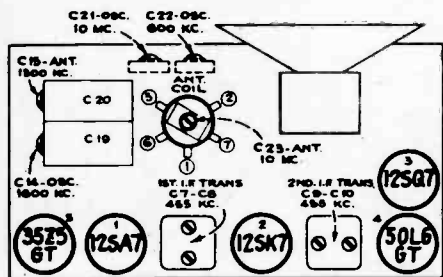
**Calibration Scale.**—The glass tuning dial may be easily removed from the cabinet and temporarily attached to the dial backing plate for quick reference during alignment.

**Power-Supply Polarity.**—For operation on d-c, the power plug must be inserted in the outlet for correct polarity. If the set does not function, reverse the plug. On a-c, reversal of the plug may reduce hum.

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

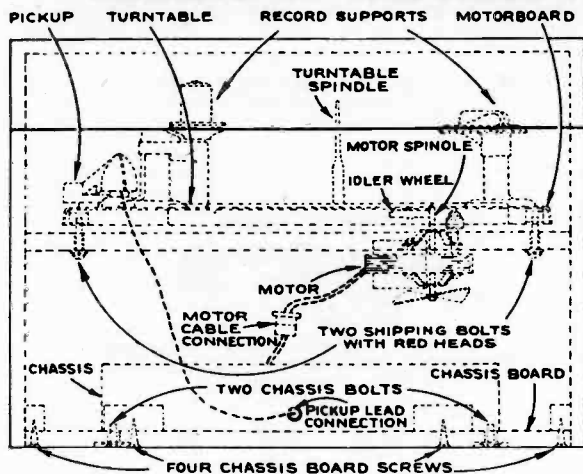
\* It is recommended that this step be repeated using a received station of known frequency.

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





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

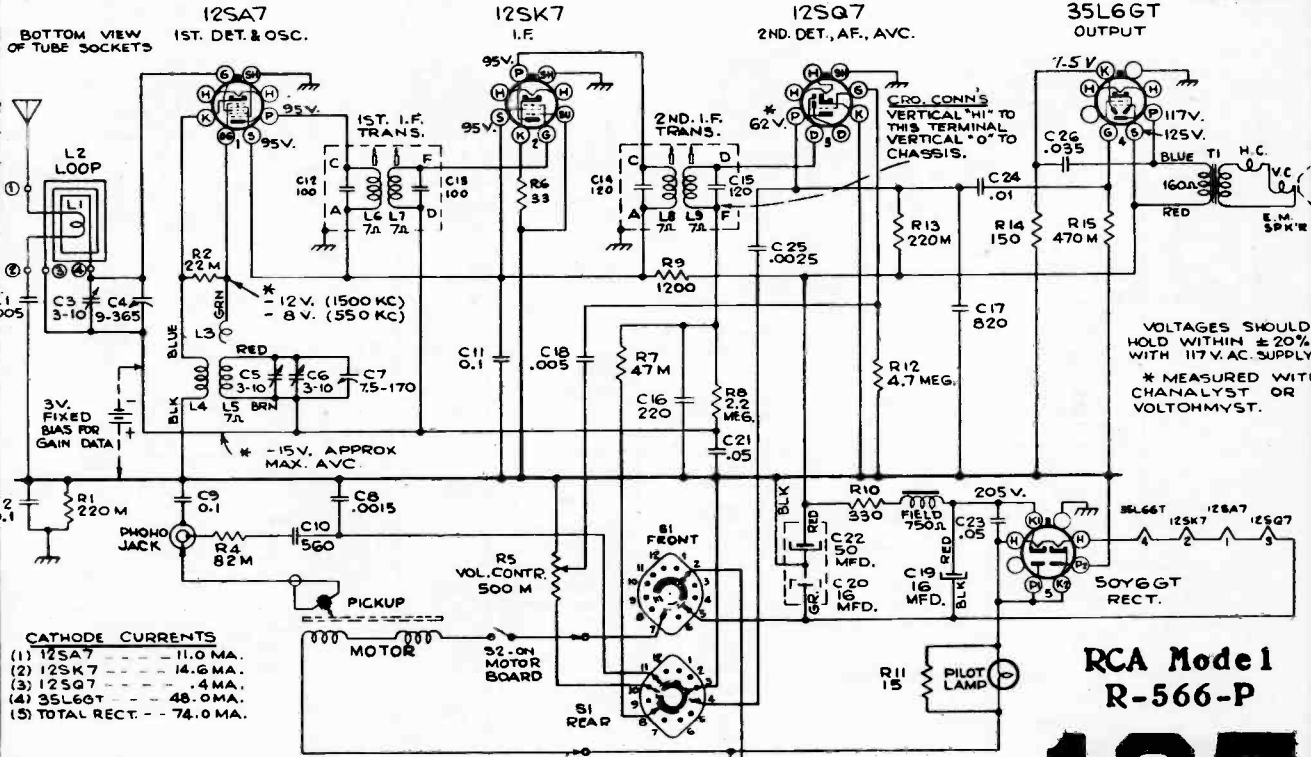
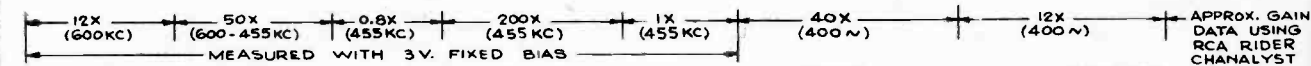
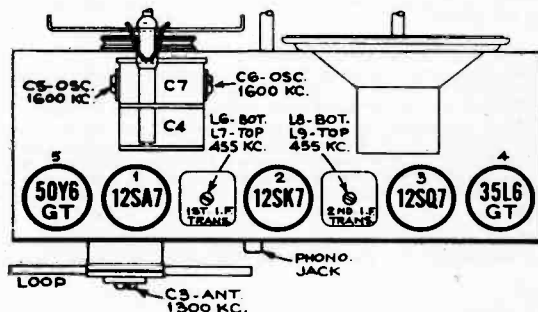
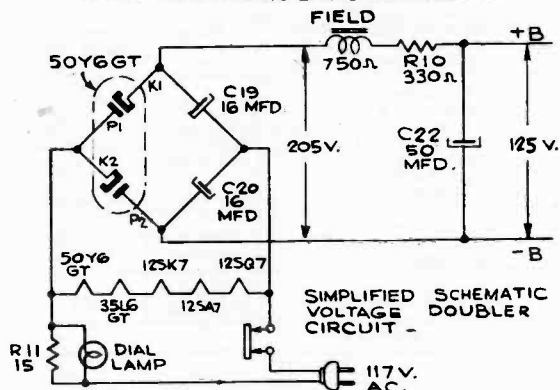


Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the schematic diagram.

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 common negative, and 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	I-F grid, in series with .01 mfd.	455 kc	Quiet point 1,600 kc end of dial	L8 and L9 2nd I-F transformer
2	1st Det. grid in series with .01 mfd.			L6 and L7 1st I-F transformer
3	Ant. terminal in series with 200 mmfd.	1,600 kc	Gang at minimum	C5 (osc.) C6 (osc.)
4	Radiated signal 1,300 kc		Signal Frequency	C3 (ant.)
5	Repeat steps 3 and 4.			



CATHODE CURRENTS  
(1) 12SA7 --- 11.0 MA.  
(2) 12SK7 --- 14.6 MA.  
(3) 12SQ7 --- 4 MA.  
(4) 35L6GT --- 48.0 MA.  
(5) TOTAL RECT. --- 74.0 MA.

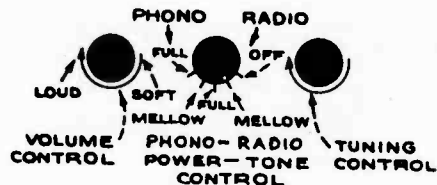
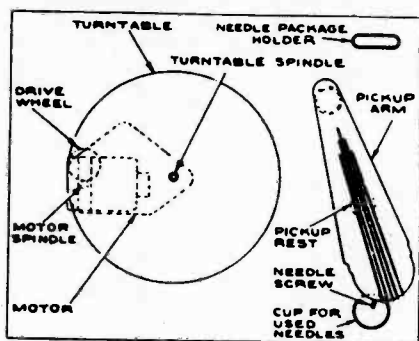
RCA Model 1  
R-566-P

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## RCA Model R-560-P



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

**Test-Oscillator.**—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.

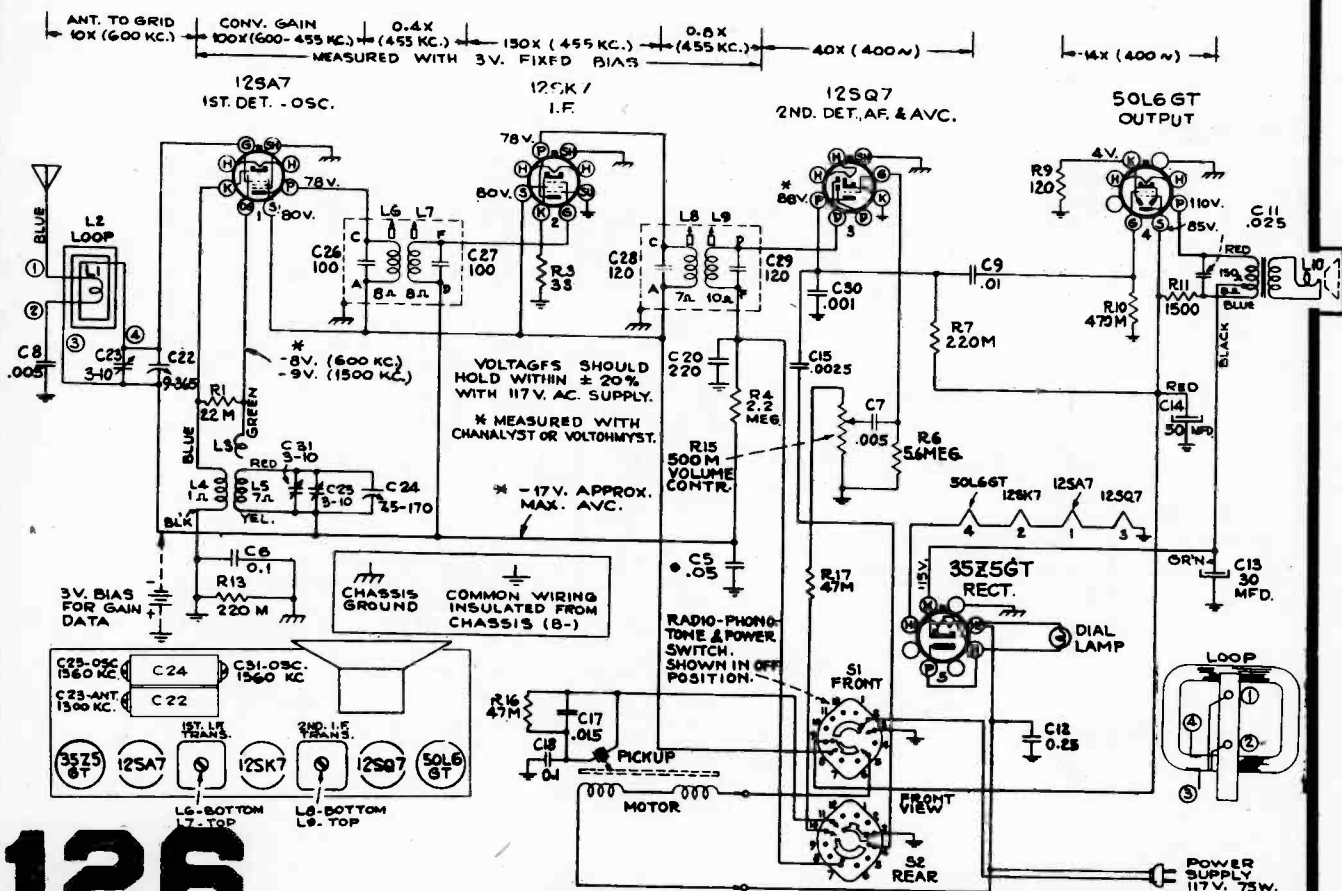
### Phonograph Motor Service Data:—

The phonograph motor is of the self starting synchronous type and operates the turntable through friction drive between the motor drive spindle and the rubber tired idler on the rim of the turntable.

The motor should be lubricated once or twice a year by placing a few drops of S. A. E. 20 (or equivalent) on the turntable spindle and saturating the oil retaining felt pads on the motor shaft with S. A. E. 10 oil. Caution—The motor drive spindle and the rubber tire on the idler must be kept clean and entirely free from oil and grease at all times.

**Power Supply.**—Although this model employs an ac-dc chassis, it is not suitable for use on d.c., as this would damage the motor.

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 1,800 kc end of dial	L8 and L9 2nd I-F transformer
2	1st Det. grid in series with .01 mfd.			L6 and L7 1st I-F transformer
3	Ant. terminal in series with 200 mmfd.	1,650 kc	Gang at minimum	C25 (osc.) C31 (osc.)
4	Radiated signal 1300 kc		Signal Frequency	C23 (ant.)
5	Repeat steps 3 and 4.			





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



**Models 7020 and 7022**  
**Factory No. 132.814**

CODE  
MEG = MEGOHM  
M = 1000 OHM



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

Sears, Roebuck and Co. Model 7057. Factory No. 141,418

Output meter connection . . . . . Across loudspeaker voice coil  
 Output meter reading to indicate 500 milliwatts . . . . . 1.25 volts  
 Generator ground lead connection . . . . . Receiver chassis  
 Dummy antenna value to be in series with generator output . . . . . See chart below  
 Connection of generator output lead . . . . . See chart below  
 Generator modulation . . . . . 30%, 400 cycles  
 Position of Volume Control . . . . . Fully clockwise  
 Position of Tone Control . . . . . HI  
 Position of Dial Pointer with variable fully closed . . . . . On first mark to left of 540 kc calibration mark.

POSITION OF VARIABLE	GENERATOR FREQUENCY	DUMMY ANTENNA	GENERATOR CONNECTION	TRIMMERS ADJUSTED (IN ORDER SHOWN)	TRIMMER FUNCTION	ANT.COUPLED APPROXIMATE MICROVOLTS
Open	455 kc	.1 mfd.	7H7 Grid	T2,T1	IF	--
Fully open	1720 kc	.00005 mfd.	Ant. Lead	C2B*	Oscillator	--
1400 kc	1400 kc	.00005 mfd.	Ant. Lead	C2A*	Antenna	80**

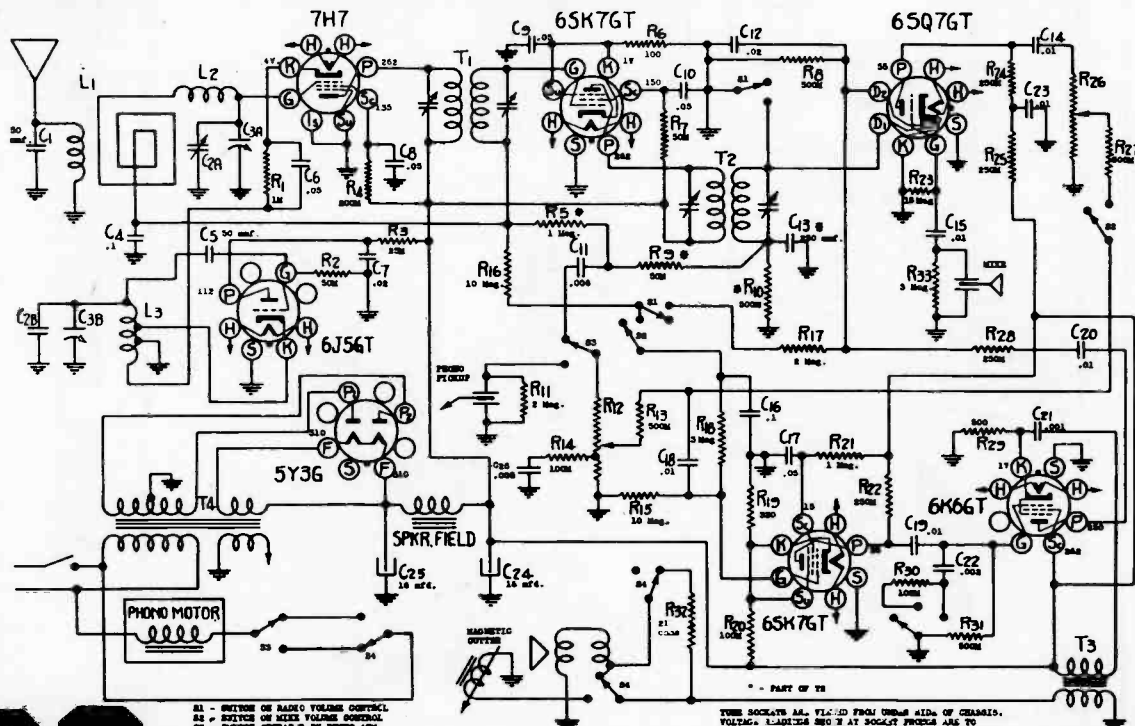
## IMPORTANT ALIGNMENT NOTES

\* C2 A and B are best adjusted when the receiver is in the cabinet, through holes provided in the back cover.

\*\* 120 microvolts per meter using standard Hazeltine alignment loop 24 inches from receiver loop.

For operation of the chassis outside the cabinet with the phonograph plug disconnected, connect a jumper wire across the two top terminals of the phono socket, and between the two terminals marked "X" on the Recorder socket shown below.

The alignment procedure should be repeated stage by stage, in the original order, for greatest accuracy. Always keep the output from the test oscillator at its lowest possible value to make the AVC action of the receiver ineffective.



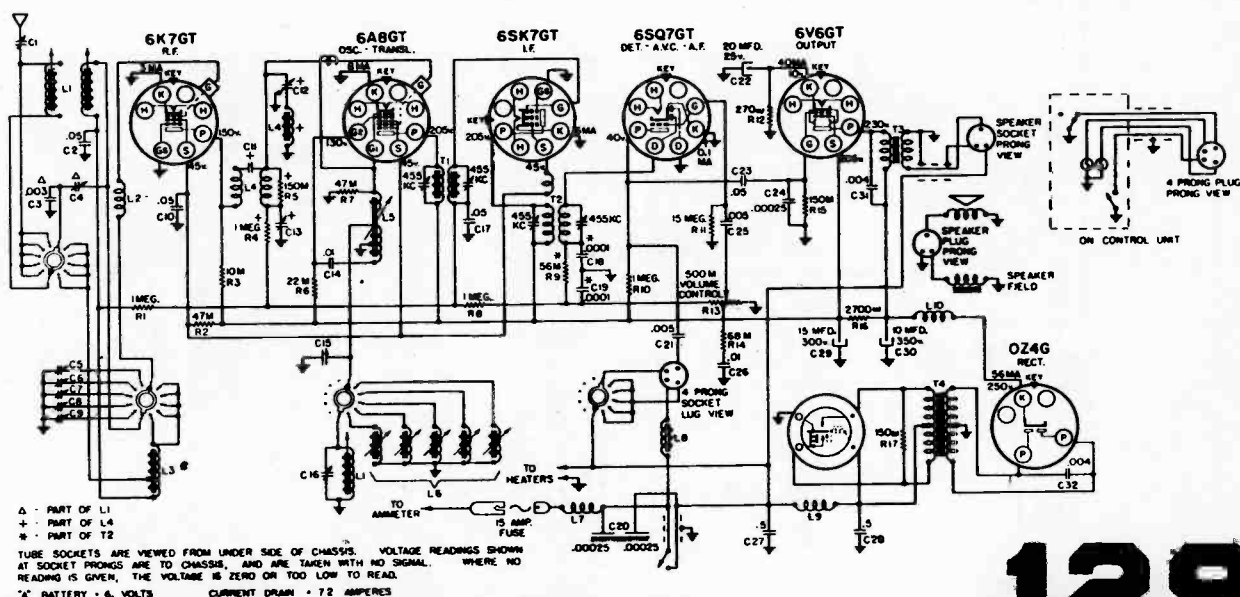
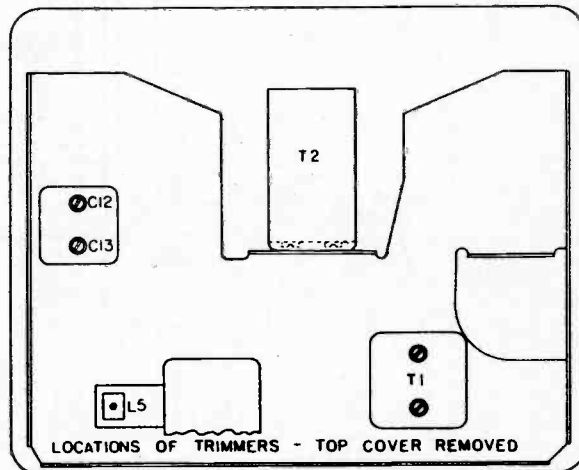
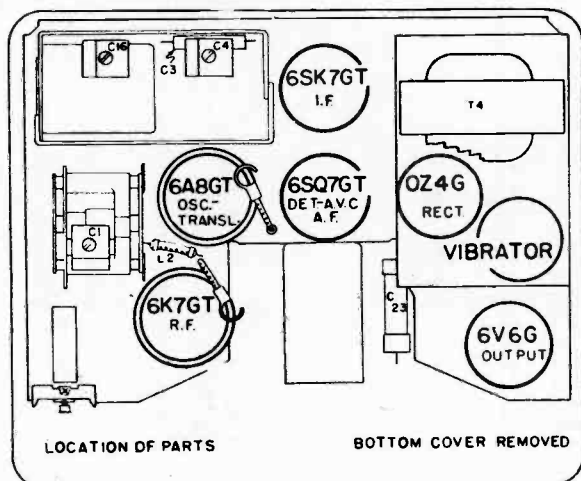


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS SEARS, ROEBUCK AND CO.

Model 7094. Factory No. 101.667

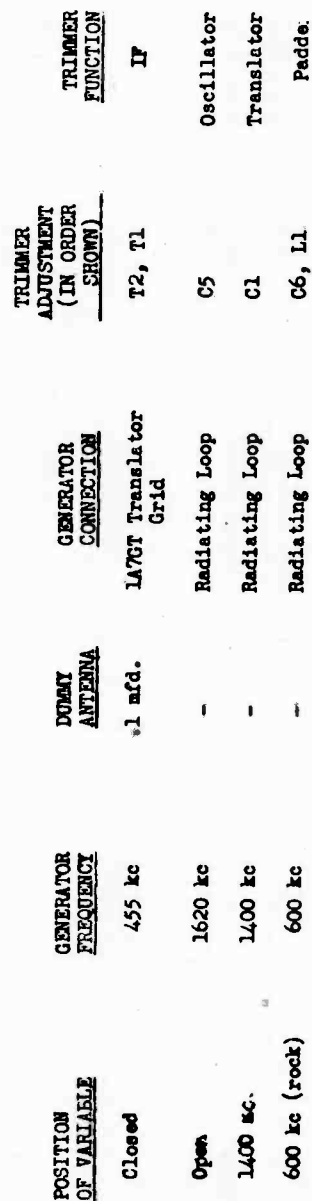
Output meter connections . . . . . Across loud speaker voice coil  
Connection of signal generator ground lead . . . . . Receiver Chassis  
Connection of signal generator output lead . . . . . See chart below  
Dummy antenna value to be in series with generator output. . . . . See chart below  
Position of Volume Control . . . . . Fully on  
Position of Tone Control . . . . . Brilliant

POSITION OF TUNER	GENERATOR FREQUENCY	DUMMY ANTENNA	GENERATOR CONNECTION	TRIMMER ADJUSTMENTS (IN ORDER SHOWN)	TRIMMER FUNCTION
Low Freq. Limit	455 kc	.1 mfd.	Transl. Grid	T2, T1	IF
Low Freq. Limit	455 kc	.1 mfd.	Transl. Grid	C12*	IF Wave Trap
H1 Freq. Limit	1610 kc	.00005 mfd.	Ant. Conn.	C16	Oscillator
H1 Freq. Limit	2520 kc	.00005 mfd.	Ant. Conn.	C13*	Image Rejector
H1 Freq. Limit	1610 kc	.00005 mfd.	Ant. Conn.	C16	Oscillator
H1 Freq. Limit	1610 kc	.00005 mfd.	Ant. Conn.	C1	Antenna
H1 Freq. Limit	1610 kc	.00005 mfd.	Ant. Conn.	C4	R.F.
H1 Freq. Limit	1610 kc	.00005 mfd.	Ant. Conn.	L5	Padder
600 kc (rock)	600 kc	.00005 mfd.	Ant. Conn.		





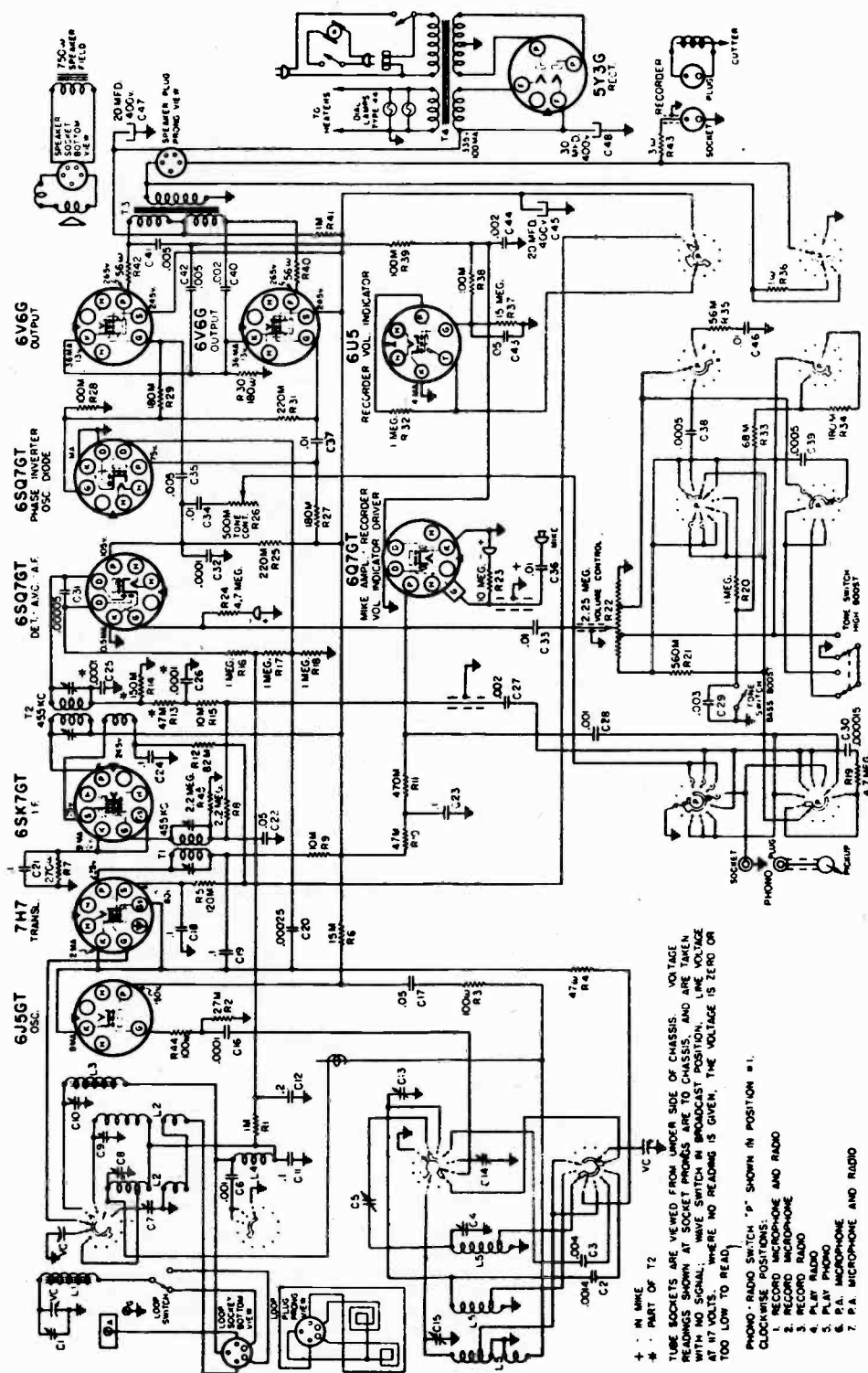
Sears, Roebuck and Co. Model 7083. Factory No. 101.686



+ - PART OF T1  
 \* - PART OF T2  
 TUBE SOCKETS ARE VIEWED FROM UNDER SIDE OF CHASSIS. VOLTAGE READINGS SHOWN AT SOCKET PROMOS ARE TO CHASSIS. WHERE NO READING IS GIVEN, THE VOLTAGE IS ZERO OR TOO LOW TO READ.



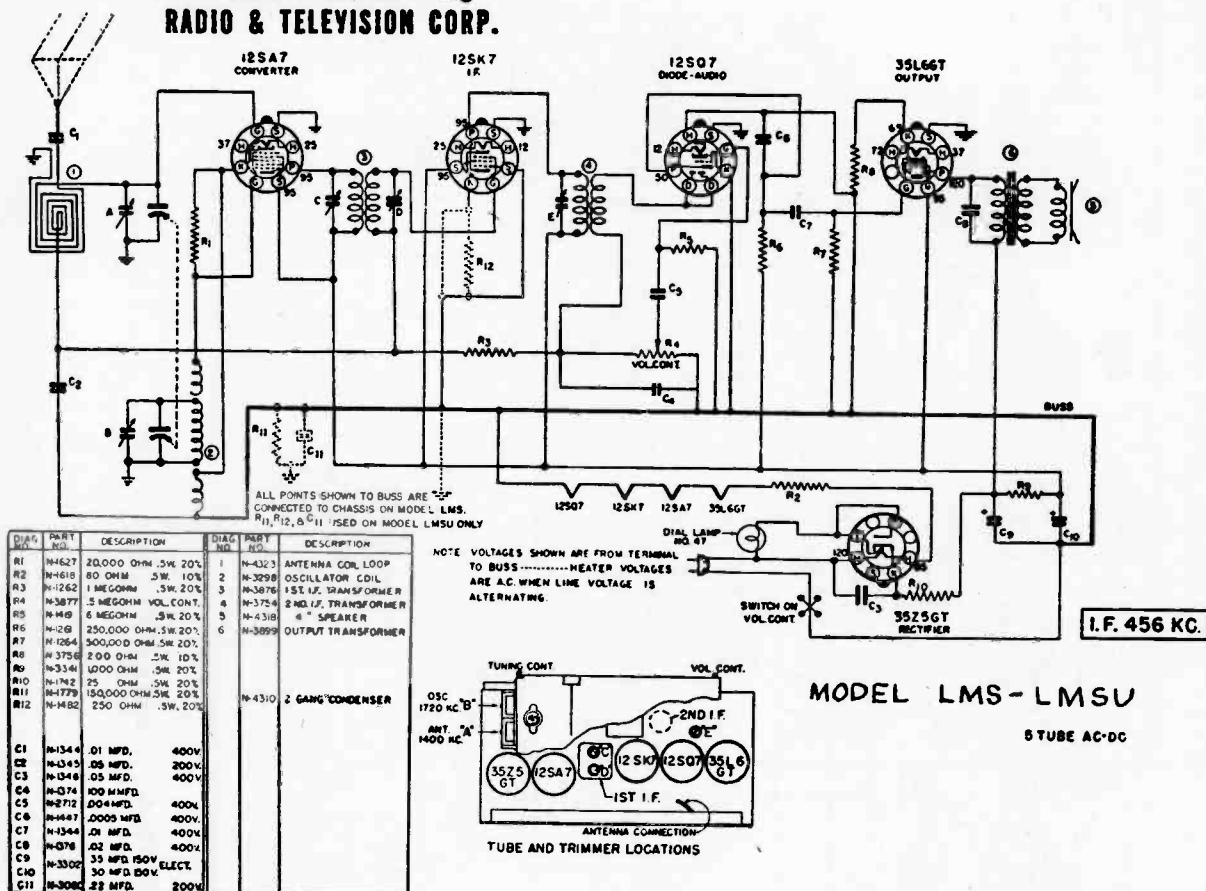
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Sears, Roebuck and Co. Model 7070. Factory No. 101.682



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Voltages shown on the circuit diagram are from socket terminals to ground buss. In measuring voltages use a voltmeter having a resistance of at least 1000 ohms per volt. Allowances should be made for variations in line voltage.

## ALIGNMENT PROCEDURE

**GENERAL DATA.** The alignment of this receiver requires the use of a test oscillator that will cover the frequencies of 456, 600, 1400 and 1720 KC and an output meter to be connected across the primary and secondary of the output transformer. If possible, all alignments should be made with the volume control on maximum and the test oscillator output as low as possible to prevent the AVC from operating and giving false readings.

**CORRECT ALIGNMENT PROCEDURE.** The intermediate frequency (I.F.) stages should be aligned properly as the first step. After the I.F. transformers have been properly adjusted and peaked, the broadcast band should be adjusted.

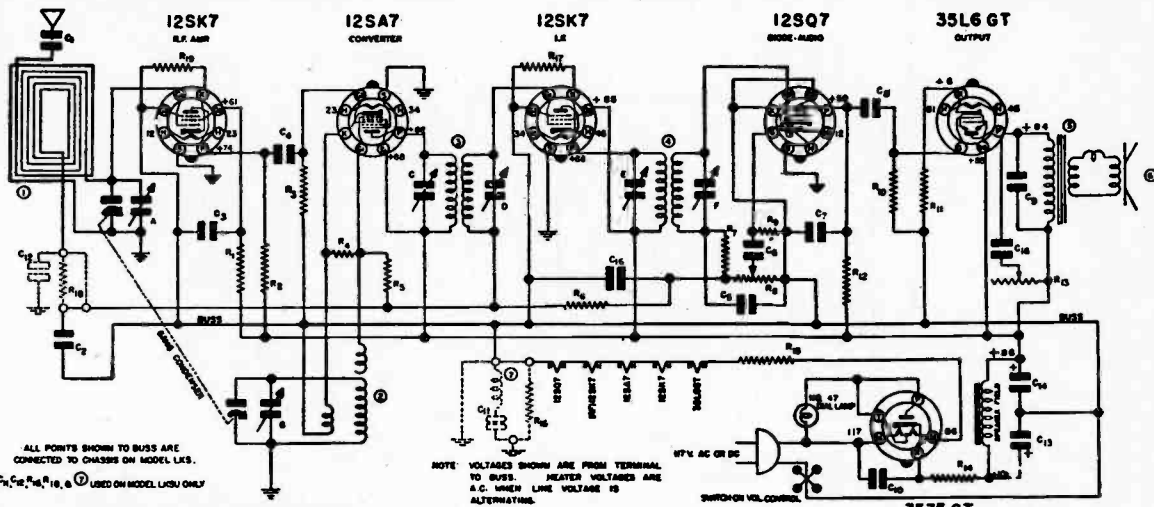
**I. F. ALIGNMENT.** Remove the chassis and loop antenna from the cabinet and set them up on the bench so that they occupy exactly the same respective positions on the bench as they did in the cabinet. Care should be taken to have no iron or other metal near

the loop. Do not make this set-up on a metal bench. With the gang condenser set at minimum, adjust the test oscillator to 456 KC and connect the output to the grid of the first detector tube (12SA7) through a .05 or .1 mfd. condenser. The ground on the test oscillator should be connected to the ground buss, indicated on the circuit diagram. Align all three I.F. trimmers to peak or maximum reading on the output meter.

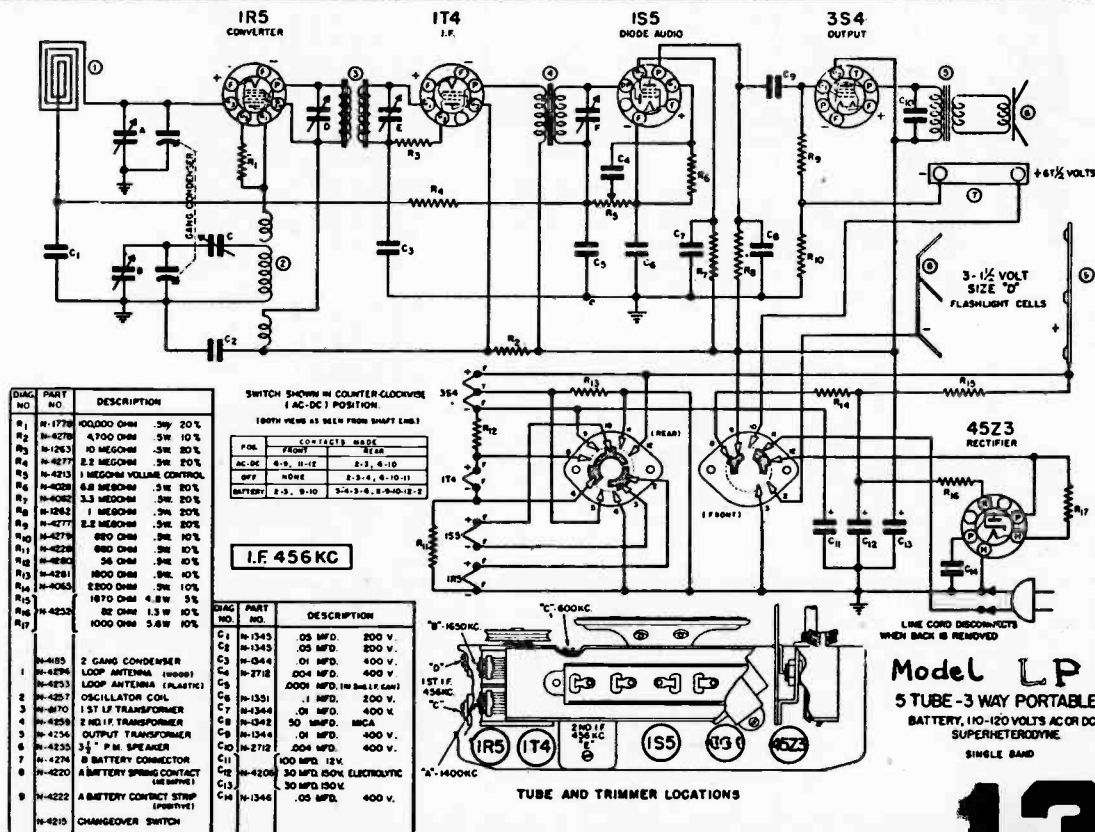
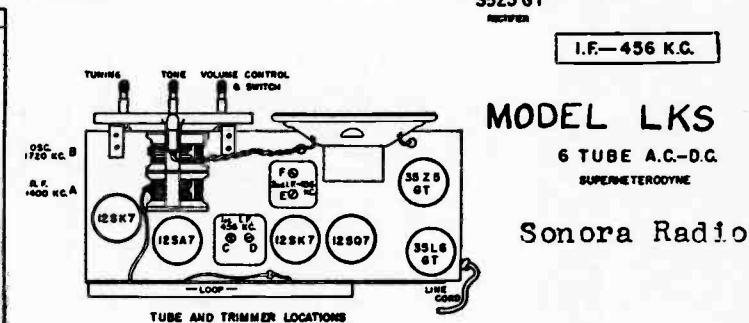
**BROADCAST BAND ALIGNMENT.** Connect the test oscillator to the antenna of the set through a 100 mmfd. (.0001) condenser. With the gang condenser set at minimum capacity, set the test oscillator at 1720 KC, and adjust the oscillator (or 1720 KC trimmer) on gang condenser. Next—set the test oscillator at 1400 KC, and tune in the signal on the gang condenser. Adjust the antenna trimmer (or 1400 KC trimmer) for maximum signal. Next set the test oscillator at 800 KC, and tune in signal on condenser to check alignment of coils.



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DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	N-134-4	01 MFD. 400 V. 20%	R11	N-4047	180 OHM 5 W. 10%
C2	N-134-5	05 MFD. 200 V. 20%	R12	N-408	220,000 OHM 5 W. 20%
C3	N-134-5	20 MFD. 200 V. 20%	R13	N-4033	25,000 OHM TONE CONTROL
C4	N-1371	100 MFD. MCA 20%	R14	N-4068	33 OHM 1.0 W. 20%
C5	N-1374	400 MFD. MCA 20%	R15	N-4068	33 OHM 1.0 W. 20%
C6	N-1383	0.03 MFD. 400 V. 20%	R16	N-4026	220,000 OHM 5 W. 20%
C7	N-1347	0.0005 MFD. 400 V. 20%	R17	N-4081	75 OHM 5 W. 20%
C8	N-1344	01 MFD. 400 V. 20%	R18	N-1242	1 MEGOHM 5 W. 20%
C9	N-1378	02 MFD. 400 V. 20%	R19	N-1401	75 OHM 5 W. 20%
C10	N-1348	05 MFD. 400 V. 20%			
C11	N-1306	20 MFD. 200 V. 10%			
C12	N-1345	08 MFD. 200 V. 20%			
C13	N-4025	18 MFD. 150 V. 20%			
C14	N-4025	30 MFD. 150 V. 20%			
C15	N-1346	20 MFD. 400 V. 20%			
C16	N-1374	100 MFD. MCA 20%			
R1	N-1299	15,000 OHM .5 W. 20%			
R2	N-4048	2200 OHM .5 W. 10%			
R3	N-4043	47,000 OHM .5 W. 20%			
R4	N-4026	22,000 OHM .5 W. 20%			
R5	N-1243	10 MEGOHM .5 W. 20%			
R6	N-4026	3.3 MEGOHM .5 W. 20%			
R7	N-4026	47,000 OHM .5 W. 20%			
R8	N-4071	0.5 MEGOHM .5 W. 20%			
R9	N-4061	4.7 MEGOHM .5 W. 20%			
R10	N-4027	470,000 OHM .5 W. 20%			



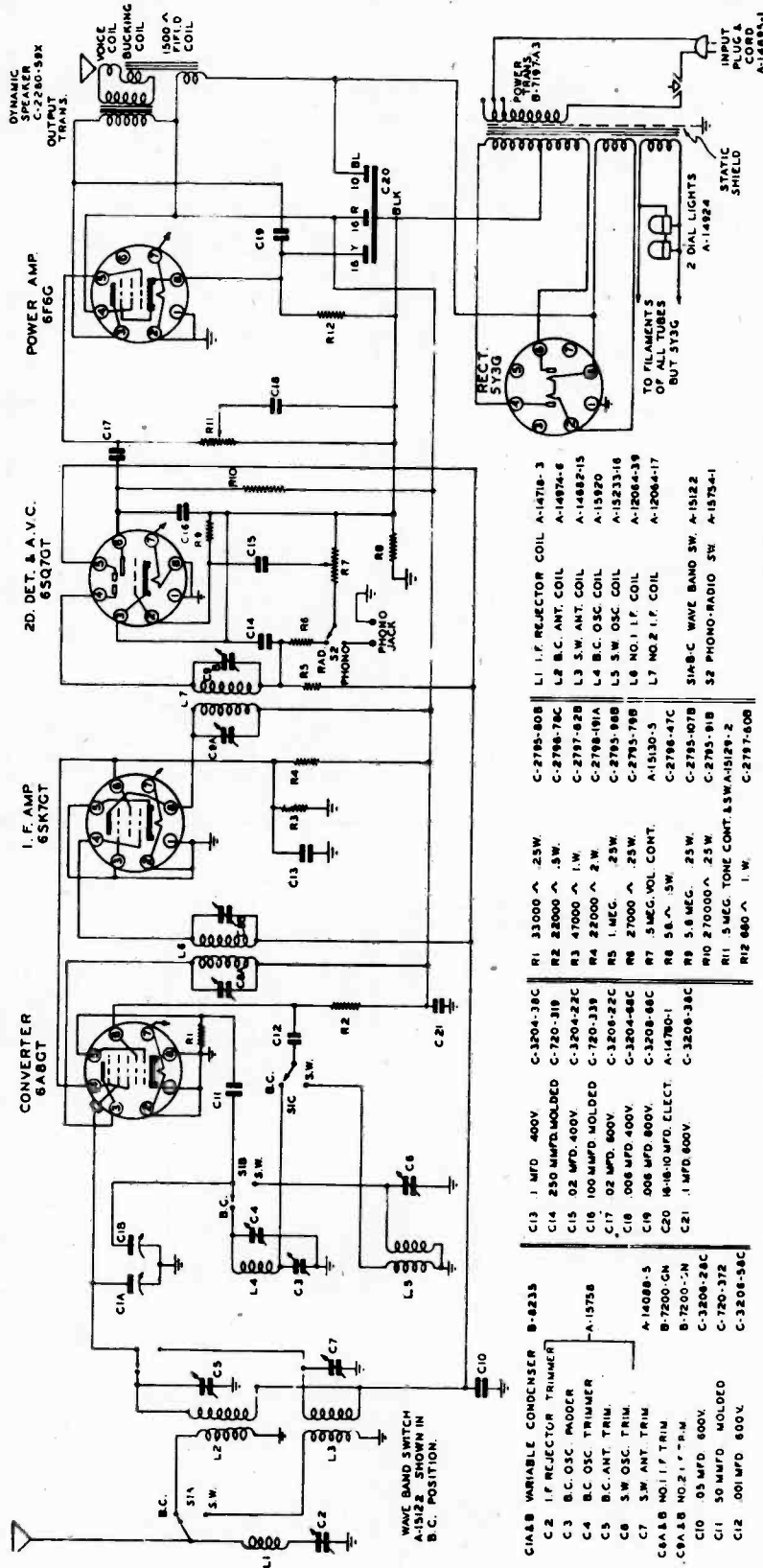
DIAG. NO.	PART NO.	DESCRIPTION
R1	N-1778	100,000 OHM .5W. 20%
R2	N-4278	4700 OHM .5W. 10%
R3	N-1263	10 MEGOHM .5W. 20%
R4	N-4277	2.2 MEGOHM .5W. 20%
R5	N-4213	1 MEGOHM VOLUME CONTROL
R6	N-4026	3.3 MEGOHM .5W. 20%
R7	N-4026	3.3 MEGOHM .5W. 20%
R8	N-1263	1 MEGOHM .5W. 20%
R9	N-4277	2.2 MEGOHM .5W. 20%
R10	N-4279	880 OHM .5W. 10%
R11	N-4228	880 OHM .5W. 10%
R12	N-4254	56 OHM .5W. 10%
R13	N-4281	1000 OHM .5W. 10%
R14	N-4043	2200 OHM .5W. 10%
R15	N-1270	1870 OHM 4.8 W. 5%
R16	N-4253	82 OHM 1.3 W. 10%
R17	N-4253	1000 OHM 5.8 W. 10%

DIAG. NO.	PART NO.	DESCRIPTION
C1	N-1345	05 MFD. 200 V. 20%
C2	N-1345	05 MFD. 200 V. 20%
C3	N-1344	01 MFD. 400 V. 20%
C4	N-2712	0.004 MFD. 100 V. 10%
C5	N-1351	1 MFD. 200 V. 20%
C6	N-1344	01 MFD. 400 V. 20%
C7	N-1344	01 MFD. 400 V. 20%
C8	N-1344	01 MFD. 400 V. 20%
C9	N-1344	01 MFD. 400 V. 20%
C10	N-2712	0.004 MFD. 100 V. 10%
C11	N-1351	1 MFD. 200 V. 20%
C12	N-4208	100 MFD. 12V. 10%
C13	N-4208	30 MFD. 150V. 10%
C14	N-1345	05 MFD. 200 V. 20%



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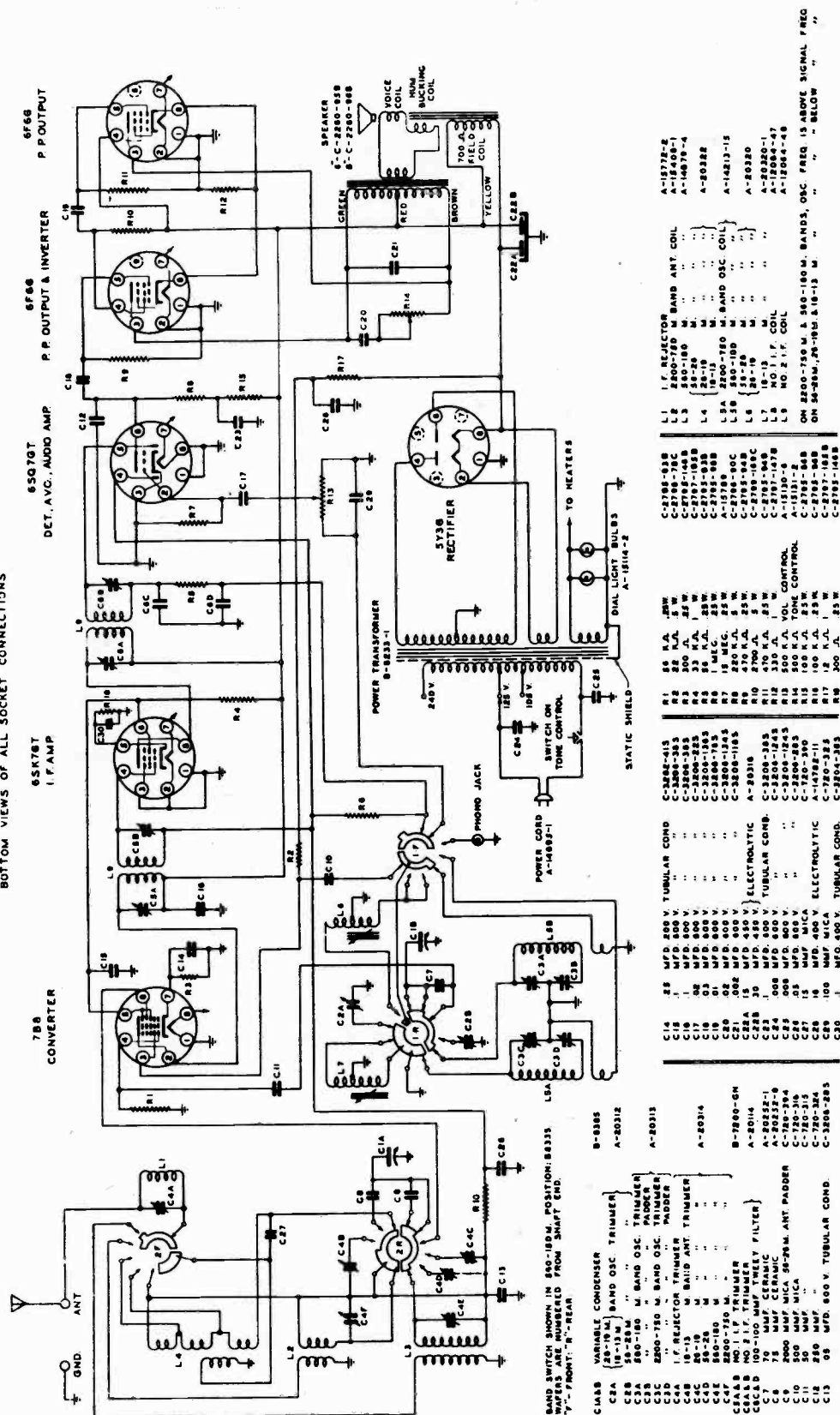
## SPARTON SUPERHETERODYNE MODEL 531-X & 532-X INTERMEDIATE FREQUENCY 456 K.C. BOTTOM VIEW OF ALL SOCKET CONNECTIONS



B.C. OSC. CIRCUIT FREQUENCY IS ABOVE  
ANTENNA FREQUENCY  
SW. OSC. CIRCUIT FREQ. IS BELOW  
ANTENNA FREQ.



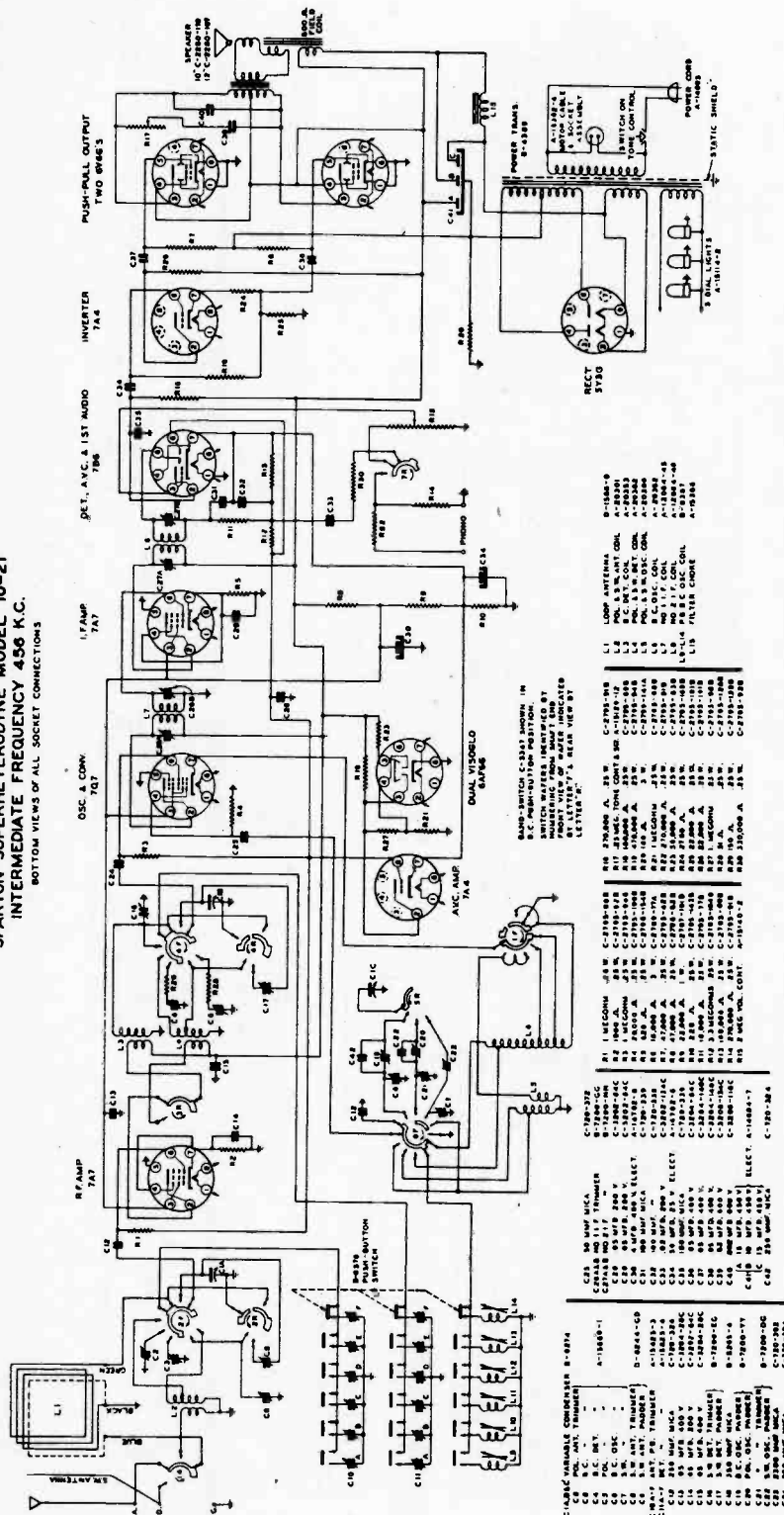
**SPARTON SUPERHETERODYNE MODELS 652-X & 652-XD  
INTERMEDIATE FREQUENCY 450 K.C.  
BOTTOM VIEWS OF ALL SOCKET CONNECTIONS**





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## SPARTON SUPERHETERODYNE MODEL 10-21 INTERMEDIATE FREQUENCY 456 K.C. BOTTOM VIEWS OF ALL SOCKET CONNECTIONS



TUBE	FUNCTION	Voltage of Socket Prongs to Gnd. See Prong Nos. on Schematic Dia.								
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9
7A7	R-F Amplifier	0	260	75	3.8	0	0	3.8	6.2*	0
7Q7	Osc - Converter	0	260	75	-2.3	0	0	0	6.2*	0
7A7	I.F. Amplifier	0	260	75	3	0	0	3	6.2*	0
7B6	2nd Det - AVC - 1st Audio	0	140	0	1.1	0	.5	.6	6.2*	0
7A4	Inverter	0	223	50	0	0	17	60	6.2*	0
7A4	Viso-Glo Amplifier	0	40	160	0	275	0	1.2	6.2*	0
6V6G	Power Amplifier	0	0	260	265	-17	-17.5	6.3*	0	0
5Y3G	Rectifier	0	0	260	265	-17	265	6.3*	0	0
6A6G	Viso-Glo	0	390	0	355*	0	355*	0	390	0
6A6G	Viso-Glo	0	0	40	17	260	0	6.2*	0	0

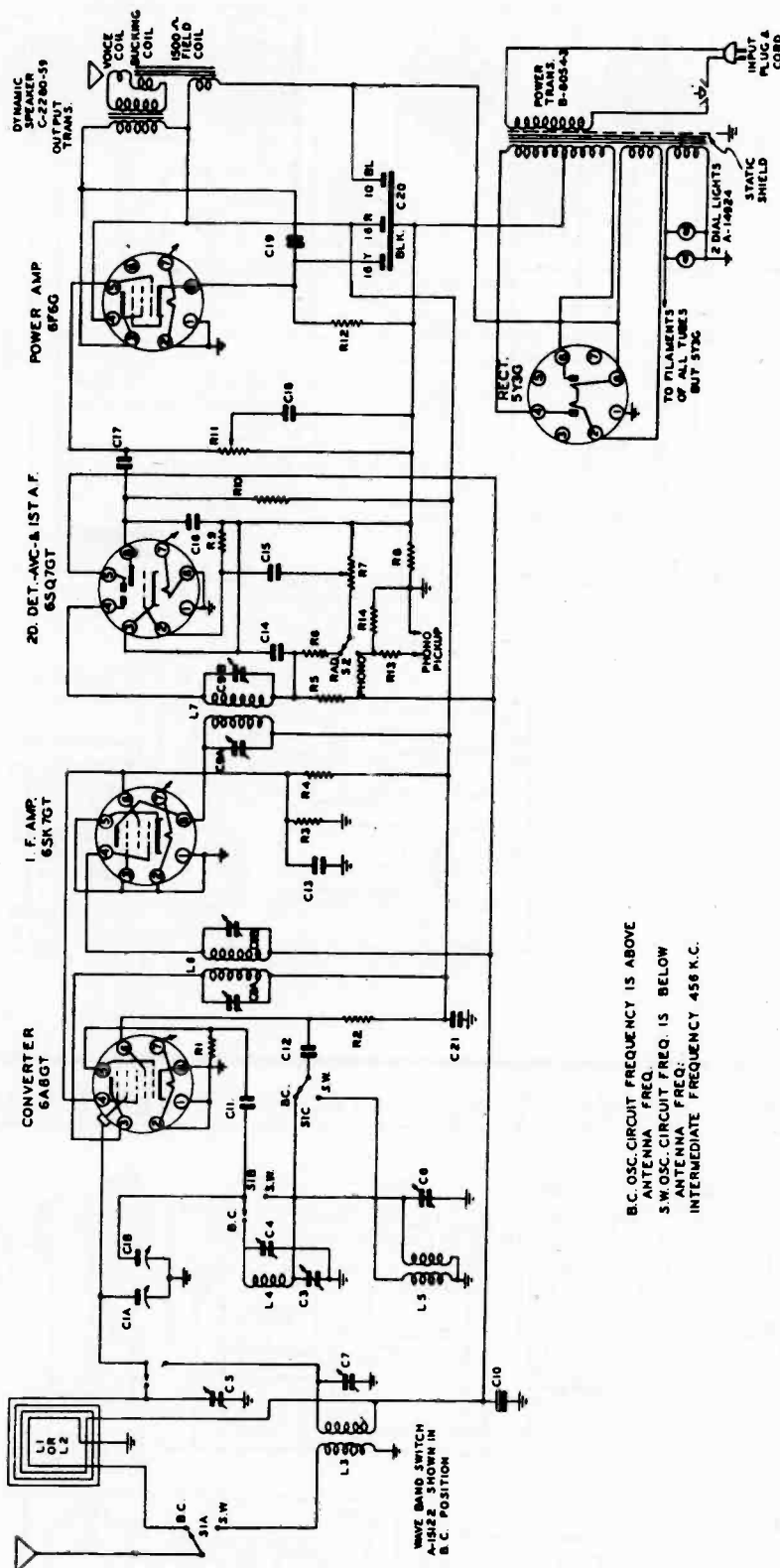
Notes: Voltage readings are for schematic diagram on back of sheet. Allow 15% + or - on all measurements. Always use meter scale which will give greatest deflection within scale limits. All DC measurements made with 20,000 ohms per volt voltmeter. All AC voltages made with rectifier type voltmeter. Unless designated otherwise, voltages in table are + DC voltages. \*AC volts.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## SPARTON SUPERHETERODYNE MODELS 5321 & 5521

BOTTOM VIEW OF ALL SOCKET CONNECTIONS.

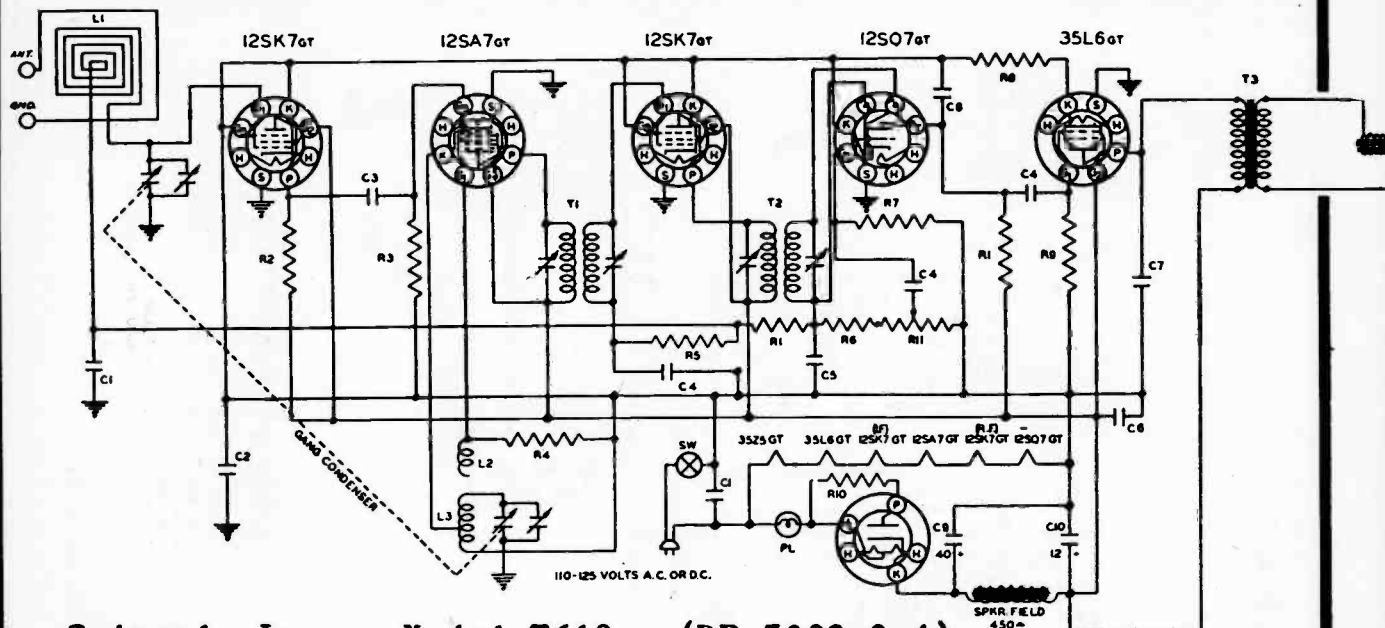


B.C. OSC. CIRCUIT FREQUENCY IS ABOVE  
ANTENNA FREQ.  
S.W. OSC. CIRCUIT FREQ. IS BELOW  
ANTENNA FREQ.  
INTERMEDIATE FREQUENCY 456 K.C.

C1A,B	VARIABLE CONDENSER	B-8235
C-3	B.C. OSC. PADDER	A-15758-1
C-4	B.C. OSC. TRIMMER	A-14088-5
C-5	B.C. ANT. TRIMMER	B-7200-GN
C-6	S.W. OSC. TRIMMER	C-3206-28C
C-7	S.W. ANT. TRIMMER	C-720-372
C8A,B	NO.1 I.F. TRIMMER	C-3206-58C
C9A,B	NO.2 I.F. TRIMMER	
C10	.05 MFD. 600V	
C11	50 MFD. MOLDED	
C12	.001 MFD. 600V	
C13	.1 MFD. 400V	
C14	250 MFD. MOLDED	
C15	.02 MFD. 400V	
C16	100 MFD. MOLDED	
C17	.02 MFD. 600V	
C18	.006 MFD. 400V	
C19	.006 MFD. 800V	
C20	16-16-K MFD. ELECT.	
C21	.1 MFD. 600V	
R1	33000 $\Omega$ .25W	
R2	22000 $\Omega$ .1W	
R3	47000 $\Omega$ .1W	
R4	27000 $\Omega$ .25W	
R5	3.3 MEG. .25W	
R6	27000 $\Omega$ .25W	
R7	5 MEG. $\Omega$ VOL. CONT.	
R8	56 $\Omega$ .5W	
R9	5.6 MEG. .25W	
R10	270,000 $\Omega$ .25W	
R11	5 MEG. TONE CONT. A-15129-2	
R12	680 $\Omega$ .1W	
R13	270,000 $\Omega$ .25W	
R14	270,000 $\Omega$ .25W	
L1	B.C. ANT. COIL-5521-	C-3290-8
L2	B.C. ANT. COIL-5321-	C-3290-9
L3	S.W. ANT. COIL	A-14882-15
L4	B.C. OSC. COIL	A-15920-1
L5	S.W. OSC. COIL	A-15233-16
L6	NO.1 I.F. COIL	A-12064-39
L7	NO.2 I.F. COIL	A-12064-49
S1A-B-C	WAVE BAND SW	A-15122
S2	PHONO-RADIO SW	A-15754-1

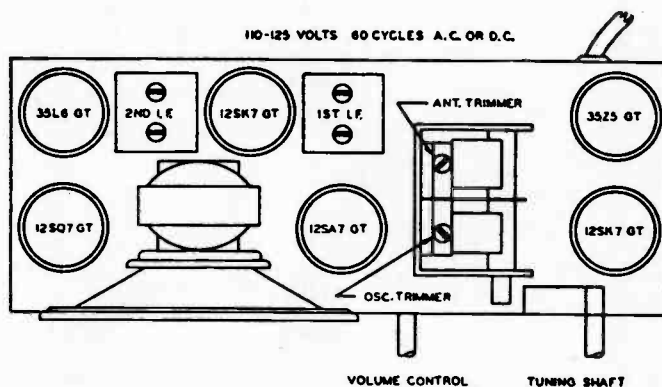


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

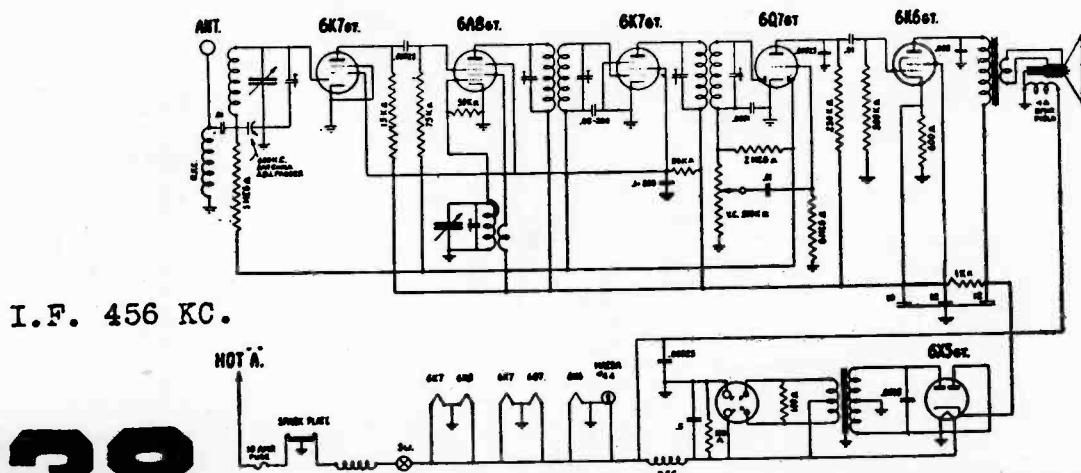


**Spiegel, Inc. Model T618. (DP-7002-3-4)**

PART NO.	SCHEMATIC LOCATION	DESCRIPTION
3-6	R1	1 MEG. 1/2 WATT 20K RESISTOR
3-36	R2	1500 - " " "
3-17	R3	100000 - " " "
3-26	R4	30000 - " " "
3-141	R5	6 MEG. - " " "
3-4	R6	50000 - " " "
3-2	R7	2 MEG. - " " "
3-34	R8	100 - " " "
3-1	R9	500000 - " " "
3-33	R10	50 - " " "
5-301	R11	1 MEGOHM VOLUME CONTROL
6-14	SW	SWITCH
6-30	C1	.05 MFD. 400 VOLTS CONDENSER
6-30	C2	.25 - 200 - " " "
6-8	C3	.0001 - MICA - " " "
6-3	C4	.01 - 400 VOLTS - " " "
6-10	C5	.00025 - MICA - " " "
6-306	C6	.0005 - 600 VOLTS - " " "
6-306	C7	.005 - " " "
6-26	C8	.1 - 400 - " " "
7-301	C9	40 - 150 - " " "
	C10	12 - 150 - " " "



**Spiegel, Inc. Model TA616. (DP-7450 and EP-2450)**



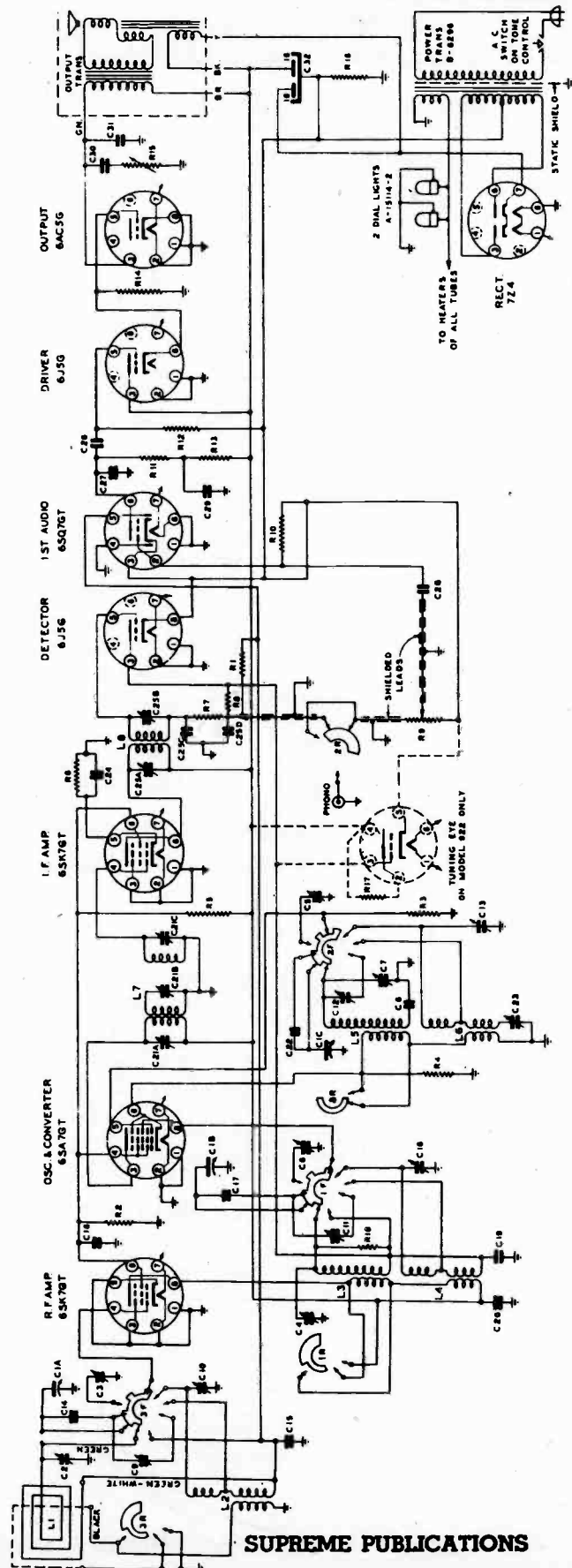
I.F. 456 KC.

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## AIR CASTLE SUPERHETERODYNE MODELS 822 & 922 INTERMEDIATE FREQUENCY 456 K.C. BOTTOM VIEWS OF ALL SOCKET CONNECTIONS



BAND-SWITCH B-2337 SHOWN IN B.C. POSITION  
WATERS NUMBERED FROM SHAFT END.  
"F"-FRONT, "R"-REAR

Spiegel, Inc. Models 822 and 922. (DP-7014)

C1A-B-C 3-GANG VARIABLE CONDENSER		C17		B-6330		C18		B-6330-7		C19		B-6330-7		C20		B-6330-7		C21		B-6330-7		C22		B-6330-7		C23		B-6330-7		C24		B-6330-7		C25		B-6330-7		C26		B-6330-7		C27		B-6330-7		C28		B-6330-7		C29		B-6330-7		C30		B-6330-7		C31		B-6330-7		C32		B-6330-7		C33		B-6330-7		C34		B-6330-7		C35		B-6330-7		C36		B-6330-7		C37		B-6330-7		C38		B-6330-7		C39		B-6330-7		C40		B-6330-7		C41		B-6330-7		C42		B-6330-7		C43		B-6330-7		C44		B-6330-7		C45		B-6330-7		C46		B-6330-7		C47		B-6330-7		C48		B-6330-7		C49		B-6330-7		C50		B-6330-7		C51		B-6330-7		C52		B-6330-7		C53		B-6330-7		C54		B-6330-7		C55		B-6330-7		C56		B-6330-7		C57		B-6330-7		C58		B-6330-7		C59		B-6330-7		C60		B-6330-7		C61		B-6330-7		C62		B-6330-7		C63		B-6330-7		C64		B-6330-7		C65		B-6330-7		C66		B-6330-7		C67		B-6330-7		C68		B-6330-7		C69		B-6330-7		C70		B-6330-7		C71		B-6330-7		C72		B-6330-7		C73		B-6330-7		C74		B-6330-7		C75		B-6330-7		C76		B-6330-7		C77		B-6330-7		C78		B-6330-7		C79		B-6330-7		C80		B-6330-7		C81		B-6330-7		C82		B-6330-7		C83		B-6330-7		C84		B-6330-7		C85		B-6330-7		C86		B-6330-7		C87		B-6330-7		C88		B-6330-7		C89		B-6330-7		C90		B-6330-7		C91		B-6330-7		C92		B-6330-7		C93		B-6330-7		C94		B-6330-7		C95		B-6330-7		C96		B-6330-7		C97		B-6330-7		C98		B-6330-7		C99		B-6330-7		C100		B-6330-7		C101		B-6330-7		C102		B-6330-7		C103		B-6330-7		C104		B-6330-7		C105		B-6330-7		C106		B-6330-7		C107		B-6330-7		C108		B-6330-7		C109		B-6330-7		C110		B-6330-7		C111		B-6330-7		C112		B-6330-7		C113		B-6330-7		C114		B-6330-7		C115		B-6330-7		C116		B-6330-7		C117		B-6330-7		C118		B-6330-7		C119		B-6330-7		C120		B-6330-7		C121		B-6330-7		C122		B-6330-7		C123		B-6330-7		C124		B-6330-7		C125		B-6330-7		C126		B-6330-7		C127		B-6330-7		C128		B-6330-7		C129		B-6330-7		C130		B-6330-7		C131		B-6330-7		C132		B-6330-7		C133		B-6330-7		C134		B-6330-7		C135		B-6330-7		C136		B-6330-7		C137		B-6330-7		C138		B-6330-7		C139		B-6330-7		C140		B-6330-7		C141		B-6330-7		C142		B-6330-7		C143		B-6330-7		C144		B-6330-7		C145		B-6330-7		C146		B-6330-7		C147		B-6330-7		C148		B-6330-7		C149		B-6330-7		C150		B-6330-7		C151		B-6330-7		C152		B-6330-7		C153		B-6330-7		C154		B-6330-7		C155		B-6330-7		C156		B-6330-7		C157		B-6330-7		C158		B-6330-7		C159		B-6330-7		C160		B-6330-7		C161		B-6330-7		C162		B-6330-7		C163		B-6330-7		C164		B-6330-7		C165		B-6330-7		C166		B-6330-7		C167		B-6330-7		C168		B-6330-7		C169		B-6330-7		C170		B-6330-7		C171		B-6330-7		C172		B-6330-7		C173		B-6330-7		C174		B-6330-7		C175		B-6330-7		C176		B-6330-7		C177		B-6330-7		C178		B-6330-7		C179		B-6330-7		C180		B-6330-7		C181		B-6330-7		C182		B-6330-7		C183		B-6330-7		C184		B-6330-7		C185		B-6330-7		C186		B-6330-7		C187		B-6330-7		C188		B-6330-7		C189		B-6330-7		C190		B-6330-7		C191		B-6330-7		C192		B-6330-7		C193		B-6330-7		C194		B-6330-7		C195		B-6330-7		C196		B-6330-7		C197		B-6330-7		C198		B-6330-7		C199		B-6330-7		C200		B-6330-7		C201		B-6330-7		C202		B-6330-7		C203		B-6330-7		C204		B-6330-7		C205		B-6330-7		C206		B-6330-7		C207		B-6330-7		C208		B-6330-7		C209		B-6330-7		C210		B-6330-7		C211		B-6330-7		C212		B-6330-7		C213		B-6330-7		C214		B-6330-7		C215		B-6330-7		C216		B-6330-7		C217		B-6330-7		C218		B-6330-7		C219		B-6330-7		C220		B-6330-7		C221		B-6330-7		C222		B-6330-7		C223		B-6330-7		C224		B-6330-7		C225		B-6330-7		C226		B-6330-7		C227		B-6330-7		C228		B-6330-7		C229		B-6330-7		C230		B-6330-7		C231		B-6330-7		C232		B-6330-7		C233		B-6330-7		C234		B-6330-7		C235		B-6330-7		C236		B-6330-7		C237		B-6330-7		C238		B-6330-7		C239		B-6330-7		C240		B-6330-7		C241		B-6330-7		C242		B-6330-7		C243		B-6330-7		C244		B-6330-7		C245		B-6330-7		C246		B-6330-7		C247		B-6330-7		C248		B-6330-7		C249		B-6330-7		C250		B-6330-7		C251		B-6330-7		C252		B-6330-7		C253		B-6330-7		C254		B-6330-7		C255		B-6330-7		C256		B-6330-7		C257		B-6330-7		C258		B-6330-7		C259		B-6330-7		C260		B-6330-7		C261		B-6330-7		C262		B-6330-7		C263		B-6330-7		C264		B-6330-7		C265		B-6330-7		C266		B-6330-7		C267		B-6330-7		C268		B-6330-7		C269		B-6330-7		C270		B-6330-7		C271		B-6330-7		C272		B-6330-7		C273		B-6330-7		C274		B-6330-7		C275		B-6330-7		C276		B-6330-7		C277		B-6330-7		C278		B-6330-7		C279		B-6330-7		C280		B-6330-7		C281		B-6330-7		C282		B-6330-7		C283		B-6330-7		C284		B-6330-7		C285		B-6330-7		C286		B-6330-7		C287		B-6330-7		C288		B-6330-7		C289		B-6330-7		C290		B-6330-7		C291		B-6330-7		C292		B-6330-7		C293		B-6330-7		C294		B-6330-7		C295		B-6330-7		C296		B-6330-7		C297		B-6330-7		C298		B-6330-7		C299		B-6330-7		C300		B-6330-7		C301		B-6330-7		C302		B-6330-7		C303		B-6330-7		C304		B-6330-7		C305		B-6330-7		C306		B-6330-7		C307		B-6330-7		C308		B-6330-7		C309		B-6330-7		C310		B-6330-7		C311		B-6330-7		C312		B-6330-7		C313		B-6330-7		C314		B-6330-7		C315		B-6330-7		C316		B-6330-7		C317		B-6330-7		C318		B-6330-7		C319		B-6330-7		C320		B-6330-7		C321		B-6330-7		C322		B-6330-7		C323		B-6330-7		C324		B-6330-7		C325		B-6330-7		C326		B-6330-7		C327		B-6330-7		C328		B-6330-7		C329		B-6330-7		C330		B-6330-7		C331		B-6330-7		C332		B-6330-7		C333		B-6330-7		C334		B-6330-7		C335		B-6330-7		C336		B-6330-7		C337		B-6330-7		C338		B-6330-7		C339		B-6330-7		C340		B-6330-7		C341		B-6330-7		C342		B-6330-7		C343		B-6330-7		C344		B-6330-7		C345		B-6330-7		C346		B-6330-7		C347		B-6330-7		C348		B-6330-7		C349		B-6330-7		C350		B-6330-7		C351		B-6330-7		C352		B-6330-7		C353		B-6330-7		C354		B-6330-7		C355		B-6330-7		C356		B-6330-7		C357		B-6330-7		C358		B-6330-7		C359		B-6330-7		C360		B-6330-7		C361		B-6330-7		C362		B-6330-7		C363		B-6330-7		C364		B-6330-7		C365		B-6330-7		C366		B-6330-7		C367		B-6330-7		C368		B-6330-7		C369		B-6330-7		C370		B-6330-7		C371		B-6330-7		C372		B-6330-7		C373		B-6330-7		C374		B-6330-7		C375		B-6330-7		C376		B-6330-7		C377		B-6330-7		C378		B-6330-7		C379		B-6330-7		C380		B-6330-7		C381		B-6330-7		C382		B-6330-7		C383		B-6330-7		C384		B-6330-7		C385		B-6330-7		C386		B-6330-7		C387		B-6330-7		C388		B-6330-7		C389		B-6330-7		C390		B-6330-7		C391		B-6330-7		C392		B-6330-7		C393		B-6330-7		C394		B-6330-7		C395		B-6330-7		C396		B-6330-7		C397		B-6330-7		C398		B-6330-7		C399		B-6330-7		C400		B-6330-7		C401		B-6330-7		C402		B-6330-7		C403		B-6330-7		C404		B-6330-7		C405		B-6330-7		C406		B-6330-7		C407		B-6330-7		C408		B-6330-7		C409		B-6330-7		C410		B-6330-7		C411		B-6330-7		C412		B-6330-7		C413		B-6330-7		C414		B-6330-7		C415		B-6330-7		C416		B-6330-7		C417		B-6330-7		C418		B-6330-7		C419		B-6330-7		C420		B-6330-7		C421		B-6330-7		C422		B-6330-7		C423		B-6330-7		C424		B-6330-7		C425		B-6330-7		C426		B-6330-7		C427		B-6330-7		C428		B-6330-7		C429		B-6330-7		C430		B-6330-7		C431		B-6330-7		C432		B-6330-7		C433		B-6330-7		C434		B-6330-7		C435		B-6330-7		C436		B-6330-7		C437		B-6330-7		C438		B-6330-7		C439		B-6330-7		C440		B-6330-7		C441		B-6330-7		C442		B-6330-7		C443		B-6330-7		C444		B-6330-7		C445		B-6330-7		C446		B-6330-7		C447		B-6330-7		C448		B-6330-7		C449		B-6330-7		C450		B-6330-7		C451		B-6330-7		C452		B-6330-7		C453		B-6330-7		C454		B-6330-7		C455		B-6330-7		C456		B-6330-7		C457		B-6330-7		C458		B-6330-7		C459		B-6330-7		C460		B-6330-7		C461	
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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## STEWART-WARNER 205A & 205B CHASSIS

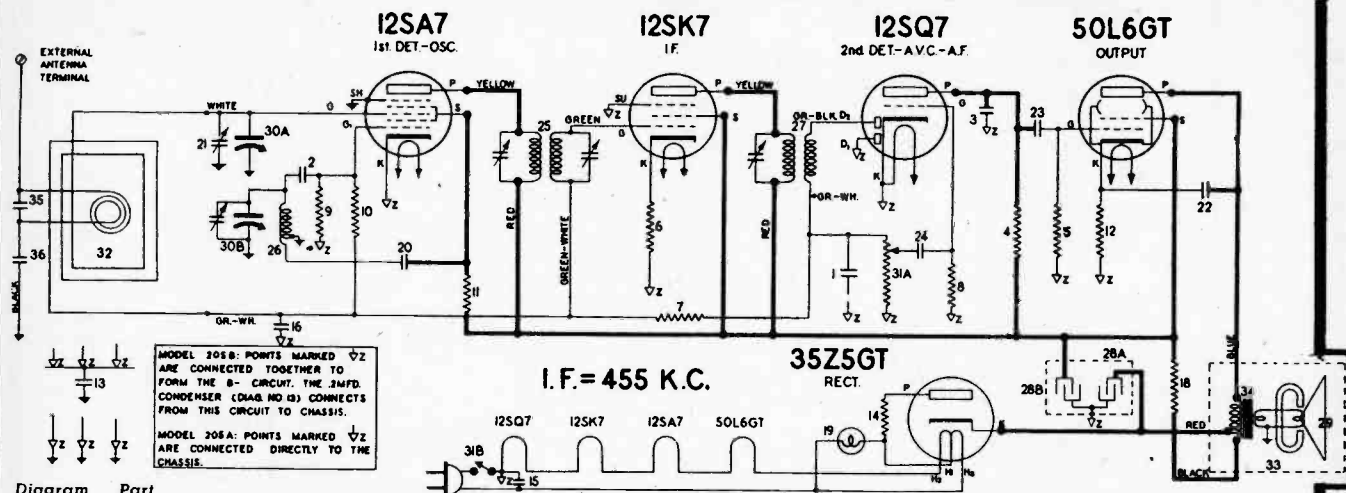
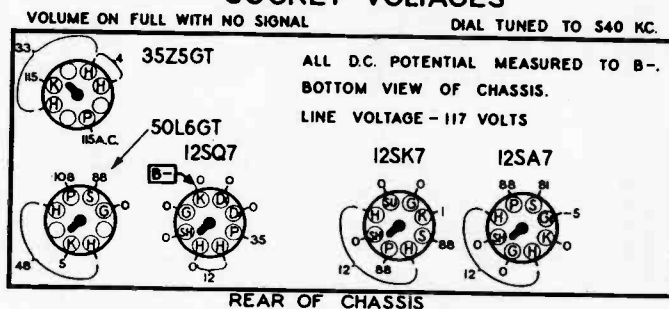


Diagram Number	Part Number	Description
1	83539	Condenser—mica, 260 mmfd.
2	83783	Condenser—mica, 110 mmfd.
3	85394	Condenser—mica, 510 mmfd.
4	110553	Resistor—carbon, 220,000 ohms 1/4 watt.
5	110559	Resistor—carbon, 470,000 ohms 1/4 watt.
6	110560	Resistor—carbon, 100 ohms 1/4 watt.
7	110570	Resistor—carbon, 2.2 meg. 1/4 watt.
8	110580	Resistor—carbon, 3.3 meg. 1/4 watt.
9	112958	Resistor—carbon, 18,000 ohms 1/4 watt.
10	112975	Resistor—carbon, 10 meg. 1/4 watt.
11	116068	Resistor—carbon, 680 ohms 1/4 watt.
12	116092	Resistor—140 ohms 1 watt W.W.
13	116706	Condenser—.2 mfd. 600 volt (205B only).
14	116752	Resistor—33 ohms 1 watt W.W.
15, 16	116819	Condenser—.05 mfd. 600 volt.
17	118824	Resistor—carbon, 1500 ohms 1/2 watt.
18	118921	Lamp Dial (Mazda No. 47)
19	119133	Condenser—.01 mfd. 600 volt.
20	119345	Condenser—Trimmer
21	119414	Condenser—.02 mfd. 600 volt.
22	119417	Condenser—.006 mfd. 600 volt.
23	119817	Condenser—.004 mfd. 600 volt.
24	500131	Transformer—1st I.F.

### SOCKET VOLTAGES



Use a voltmeter of 1000 ohms per volt.

### ALIGNMENT PROCEDURE

1. Connect output meter across the voice coil; or from 50L6GT plate to B— as shown on voltage chart.
2. Connect the ground lead of the signal generator to the chassis through a .25 mfd. condenser.
3. Set the volume control to the maximum volume position.
4. Set dial pointer to lowest frequency point on dial scale with gang in full mesh.
5. Connect the antenna lead of the signal generator to the lug on the top of the rear section of the gang, using a 200 mmfd. mica condenser in series.
6. Set the signal generator to 455 KC. Set receiver dial to a point where it does not affect signal. Adjust the trimmer screws on the top of each I.F. Transformer for maximum output.
7. Connect the output of the signal generator in series with a 200 mmfd. mica condenser to the antenna terminal on the cabinet back. Set the receiver dial to 1500 KC.
8. Set the signal generator to 1500 KC and adjust the trimmer on the front section of the gang condenser for maximum output of the oscillator signal.
9. Place the loop antenna in its correct position at the rear of the cabinet and adjust the trimmer screw on the back of the chassis for maximum output at 1500 KC.

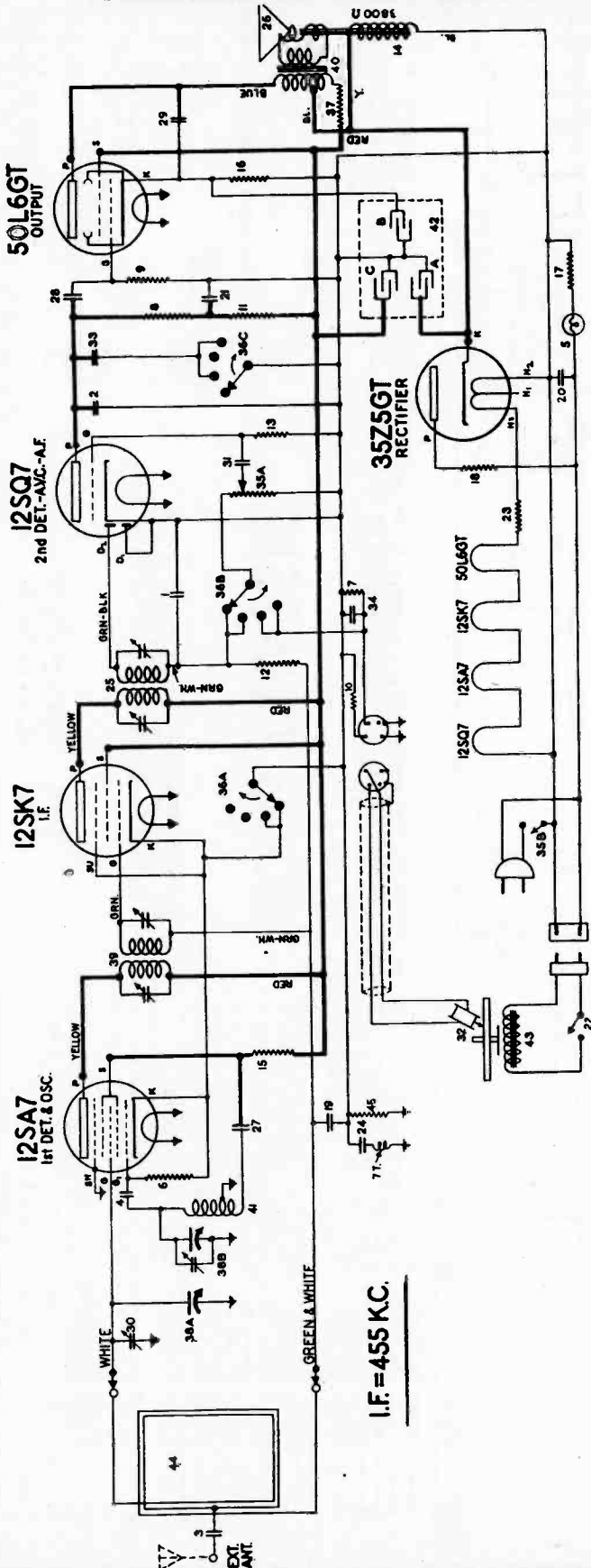
Diagram Number	Part Number	Description
26	500232	Coil—Oscillator
27	500236	Transformer—2nd I.F.
28A-28B	500256	Condenser—Electrolytic A—40 mfd.—150 volt B—20 mfd.—150 volt
29	C-500329	Cone and voice coil for C-500594 speaker
30A-30B	500443	Condenser—variable tuning, with drum
31A-31B	500480	Volume Control—1 meg. (with switch)
32	500566	Loop Antenna & Cabinet Back (205AA & 205BA)
32	500567	Loop Antenna & Cabinet Back (205AB & 205BB)
32	500576	Loop Antenna & Cabinet Back (205AC & 205BC)
33	C-500594	Speaker—P.M. (4")
34	C-500615	Transformer—output for C-500594 speaker
35	83783	Condenser—mica, 110 mmfd.
36	119193	Condenser—.01 mfd. 600 volt (205A only)

### MISCELLANEOUS PARTS

Part Number	Description
116467	Base for mounting electrolytic condenser
114955	Clamp for dial cord
112745	Clip—coil mounting
117057	Cord—drive supplied in 3' lengths
500562	Dial Scale
500422	Knob (for 205AA & 205AC) (205BA & 205BC)
500428	Knob (for 205AB & 205BB)
500527	Pointer
81145	Retaining ring for tuning shaft
116690	Socket—octal base
160392	Socket—octal (rectifier)
500499	Socket—pilot lamp (with leads)
161384	Spring—dial cord tension
500497	Stud—dial scale retaining
111456	Washer—spring washer for tuning shaft

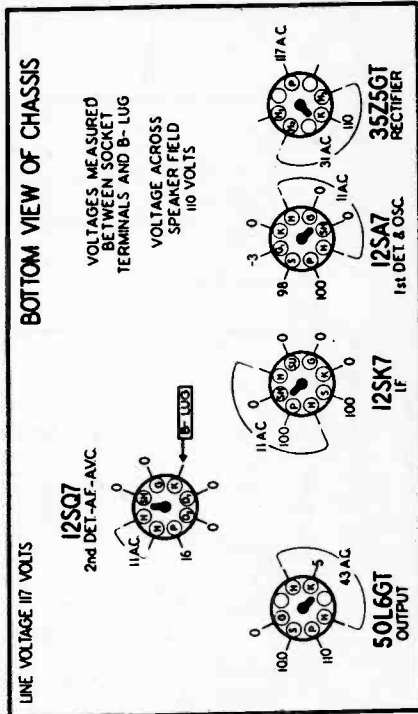


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## SOCKET VOLTAGES

**Volume on full with no signal. Dial tuned to 540 KC.**



## REAR OF CHASSIS

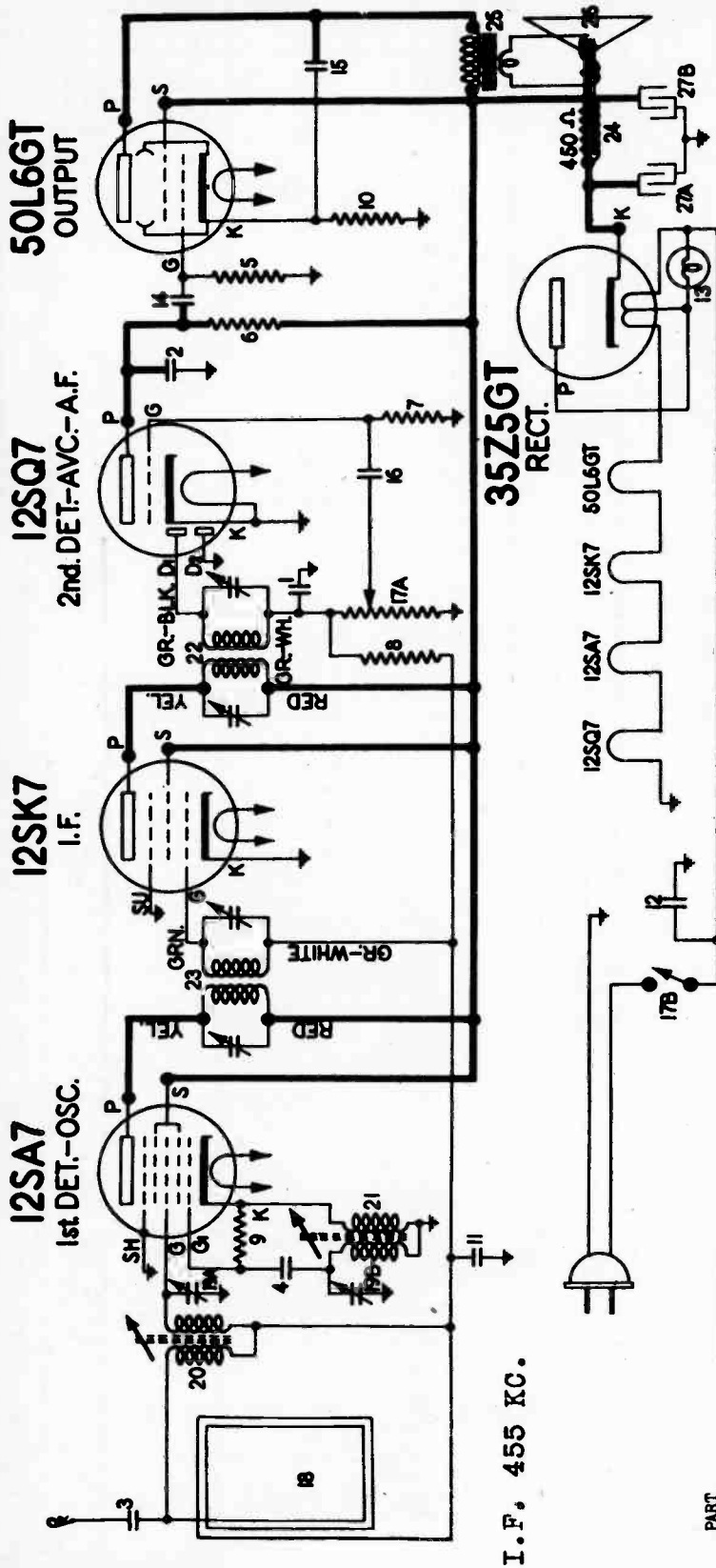
# STEWART-WARNER 205F CHASSIS

Diagram Number	Description
1-2	Condenser—mica 260 mmfd.
3	Condenser—mica 110 mmfd.
4	Condenser—mica 51 mmfd.
5	Lamp-dial (Mazda No. C7)
6	Resistor—carbon 47,000 ohms $\frac{1}{4}$ watt
7	Resistor—carbon 150,000 ohms $\frac{1}{4}$ watt
8-9	Resistor—carbon 470,000 ohms $\frac{1}{4}$ watt
10	Resistor—carbon 680,000 ohms $\frac{1}{4}$ watt
11	Resistor—carbon 100,000 ohms $\frac{1}{4}$ watt
12	Resistor—carbon 2.2 meg. $\frac{1}{4}$ watt.
13	Resistor—carbon 10 meg. $\frac{1}{4}$ watt.
14	Speaker—dynamic (5")
15	Resistor—680 ohms $\frac{1}{4}$ watt
16	Resistor—140 ohms 1 watt W.W.
17	Resistor—220 ohms 1 watt W. W.
18	Resistor—33 ohms 1 watt wire wound
19 to 21	Condenser—.05 mfd. 600 volt.
22	Switch—"on-off" for phono motor.
23	Resistor—20 ohms 1 watt.
24	Condenser—.1 mfd. 600 volts.
25	Transformer—2nd I.F.
26	Cone & Voice Coil for R-501204 speaker
27 to 29	Condenser—.01 mfd. 600 volt.
30	Condenser—trimmer
31	Condenser—.002 mfd. 600 volt.
32	Crystal cartridge
33-34	Condenser—.002 mfd. 600 volt.
35A-35B	Volume control—1 meg. (with switch)
36A-36B-36C	Switch—tone & phonograph (See table for switch positions)
37	Resistor—2000 ohms 1 watt
38A-38B	Condenser—variable tuning
39	Transformer—1st I.F.
40	Transformer—output for R-501204
41	Speaker
42	Coil—oscillator
42A-42B-42C	Condenser—electrolytic, A—40 mfd.—200 volt; B—20—25 volt; C—20 mfd.—200 volt
43	Phonograph motor—60 cycle (less turntable)
44	Loop antenna & back (complete).
45	Resistor—carbon 220,000 ohms $\frac{1}{4}$ watt

(RECEIVER MODEL 205FA)



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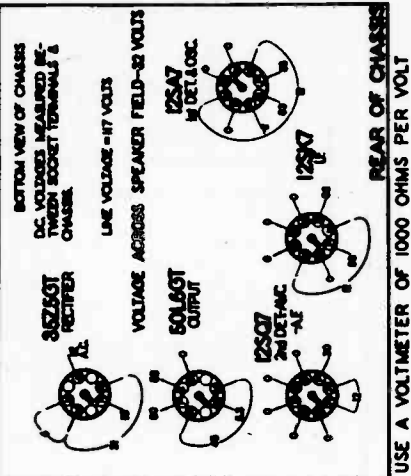


# STEWART-WARNER 205G CHASSIS MODELS 205GA TO 205GZ

## DIAGRAM PART NUMBER DESCRIPTION

1-2	83539	Condenser - mica 260 mmd.
3	86081	Condenser - mica 51 mmd.
4	88686	Condenser - mica 200 mmd.
5	112971	Resistor - insulated, 470,000 ohm 1/2 watt
6	112987	Resistor - insulated, 220,000 ohm 1/2 watt
7	116050	Resistor - insulated, 10 meg. 1/2 watt
8	116056	Resistor - 2.2 meg. 1/2 watt
9	118059	Resistor - insulated, 22,000 ohm 1/2 watt
10	118092	Resistor - 140 ohm, 1 watt-wire wound
11-12	118819	Condenser - .05 mfd., 800 volt
13	118921	Lamp-Dial (Mazda #47)
14-15	119193	Condenser - .01 mfd., 600 volt
16	119875	Condenser - .002 mfd., 800 volt
17A-17B	500223	Volume Control - 1 meg. (with switch)
18	501368	Loop Antenna
19A-19B	501223	Condenser - trimmer (2 sections) (A-35 mmd.) (B-238 mmd.)
20	501157	Coil - antenna (with slug)
21	501158	Coil - oscillator (with slug)
22	501186	Transformer - 2nd I.F.
23	501233	Transformer - 1st I.F.
24	R-500916	Speaker - dynamic (4")
25	R-501163	Transformer - output for R-500916 Spkr.
26	R-501164	Cone & Voice Coil for R-500916 Spkr.
27A-27B	501213	Electrolytic Condenser (A-40 mfd. - 150 volt) (B-20 mfd. - 150 volt)

## SOCKET VOLTAGES

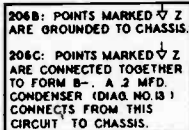




## Receiver Models 206BA to 206BZ & 206CA to 206 CZ

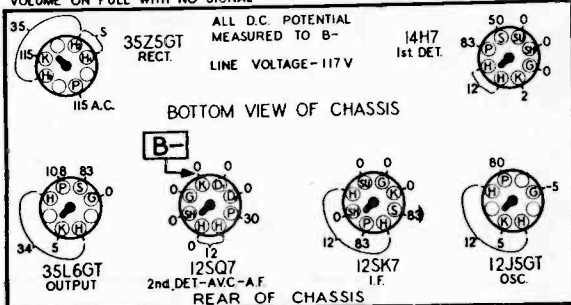
## 35L6GT

### OUTPUT



## SOCKET VOLTAGES

VOLUME ON FULL WITH NO SIGNAL



USE A VOLTMETER OF 1000 OHMS PER VOLT

Diagram Number	Part Number	Description
34	500509	Switch—tone (206B only).....
	500546	Switch—tone (206C only).....
35	R-500587	Cone & Voice Coil for R-500618 speaker.
36	R-500617	Transformer—output for R-500618 speaker.
37	R-500618	Speaker—P.M. dynamic (5").....
	500580	Loop Antenna & Cabinet Back (206BA & 206CA)
38	500581	Loop Antenna & Cabinet Back (206BB & 206CB)
	500678	Loop Antenna & Cabinet Back (206BC & 206CC)
39	83783	Condenser—mica, 110 mmfd.
40	119193	Condenser—01 mfd. 600 volt. (206B only).....

1. Connect the output meter across the voice coil or from the plate of the 35L6GT output tube to B— through a .25 mfd. condenser.
2. Connect the ground lead from signal generator to B— through a .25 mfd. condenser for all alignment steps.
3. Set volume control in maximum position.
4. Set dial pointer to last marking on dial with gang in full mesh.
5. Connect hot lead from signal generator to stator on rear section of gang using 200 mmfd. in series as dummy.
6. Set generator to 455 KC. and adjust trimmer screws on top of I.F. transformer cans for maximum output.
7. Connect hot lead to antenna terminal on loop through a 200 mmfd. condenser as a dummy. Set dial to 1500 KC. and adjust trimmer on front section of gang for maximum output on a 1500 KC. generator signal.
8. Place chassis in cabinet and using connections in "7," place loop in position and adjust loop trimmer at rear of chassis for maximum output while tuning dial to maximum signal.

Part Number	Description
116467	Base for mounting Electrolytic Condenser (206C).....
160026	Base for mounting Electrolytic Condenser (206B).....
114955	Clamp—for dial cord
112745	Clip—coil mounting
117057	Cord—Drive, supplied in 3' lengths.
500563	Dial Scale
500422	Knob—(walnut)
500428	Knob—(ivory)
500527	Pointer
81145	Retaining ring for tuning shaft
116690	Socket—octal base
160392	Socket—octal (rectifier)
160294	Socket—8 prong for 14H7
500499	Socket—pilot lamp (with leads)
161384	Spring—dial cord tension
500497	Stud—dial scale retaining.
500289	Tuning Shaft

I.F. 455 KC.

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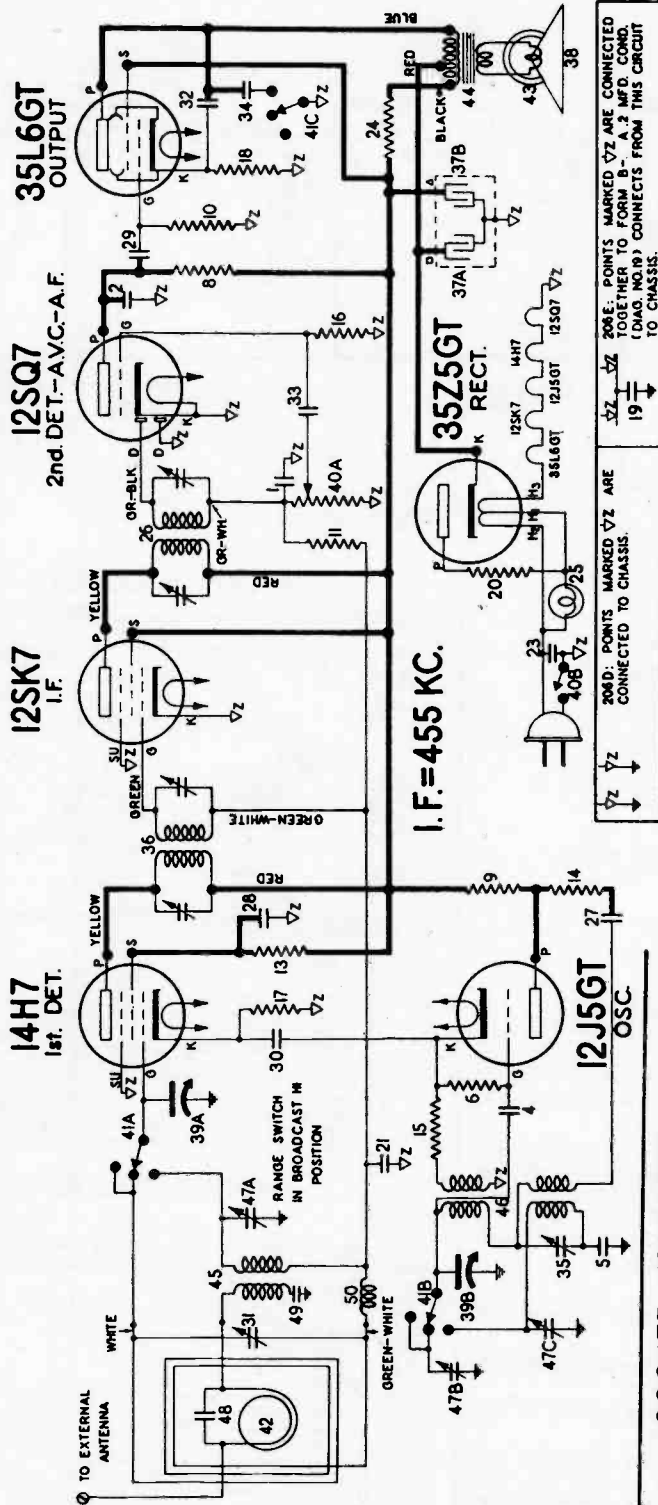


## STEWART-WARNER 206D &amp; 206E CHASSIS

RECEIVER MODELS 206DA to 206DZ and 206EA to 206EZ

THIS MANUAL APPLIES ONLY TO RECEIVERS WITH P.M. SPEAKERS

## MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

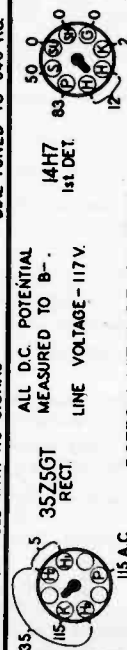


## SOCKET VOLTAGES

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

ALL D.C. POTENTIAL MEASURED TO B-.

LINE VOLTAGE - 117 V.



## BOTTOM VIEW OF CHASSIS

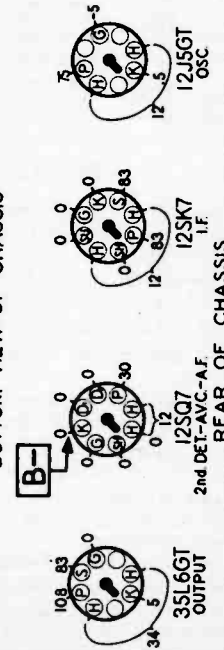


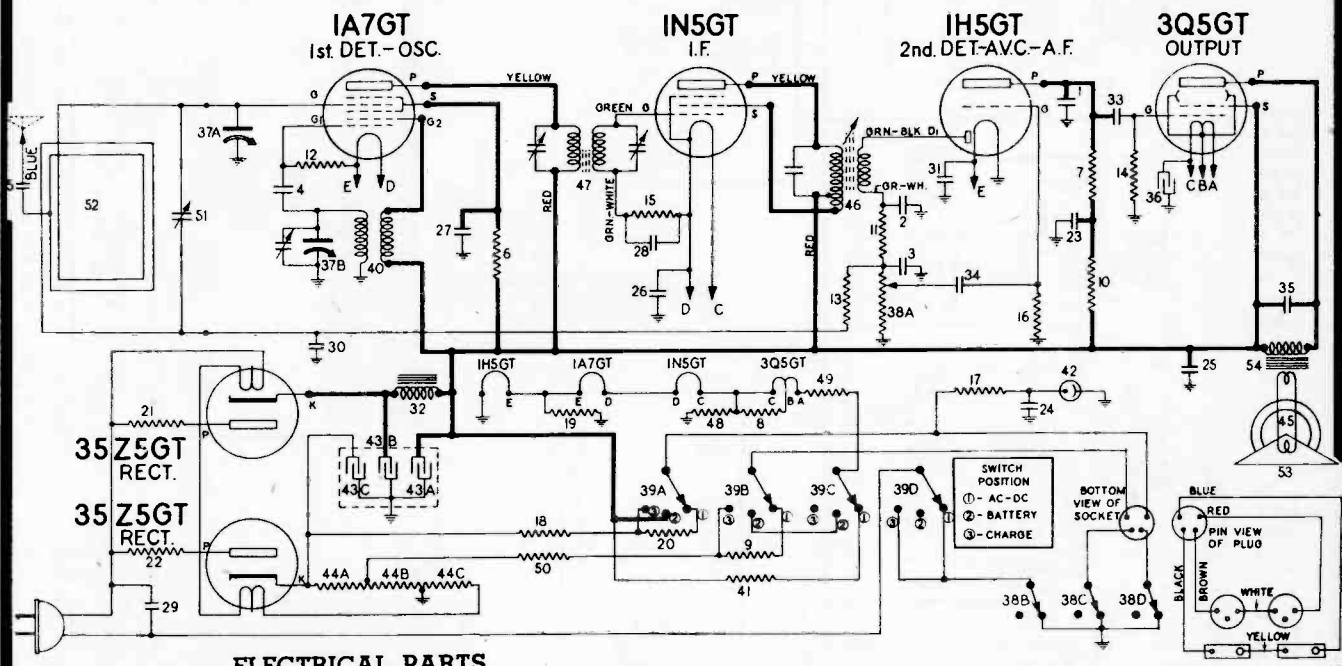
Diagram No.	Part No.	Description	SWITCH POSITION	BAND	ZONE
1-2	83539	Condenser, Mica 260 Mmfd.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
3	83783	Condenser, Mica 110 Mmfd.	MIDDLE POSITION	BROADCAST	HIGH
4	88587	Condenser, Mica .0042 Mmfd.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
5	110552	Resistor, Carbon—47,000 Ohms 1/4 Watt	MIDDLE POSITION	BROADCAST	HIGH
6	110553	Resistor, Carbon—4,700 Ohms 1/4 Watt	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
7	110553	Resistor, Carbon—4,700 Ohms 1/4 Watt	MIDDLE POSITION	BROADCAST	HIGH
8	110553	Resistor, Carbon—4,700 Ohms 1/4 Watt	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
9	110559	Resistor, Carbon—2.2 Meg. 1/4 Watt	MIDDLE POSITION	BROADCAST	HIGH
10	110570	Resistor, Carbon—68,000 Ohms 1/4 Watt	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
11	110578	Resistor, Carbon—180 Ohms 1/4 Watt	MIDDLE POSITION	BROADCAST	HIGH
12	110580	Resistor, Carbon—3.3 Meg. 1/4 Watt	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
13	110590	Resistor, Insulated 1200 Ohms 1/4 Watt	MIDDLE POSITION	BROADCAST	HIGH
14-15	116079	Resistor, 140 Ohms 1 Watt—W.W.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
16	116092	Condenser, .2 Mfd. 600 Volt (206E only)	MIDDLE POSITION	BROADCAST	HIGH
17	116706	Resistor, 33 Ohms, 1 Watt—W.W.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
18	116752	Resistor, .05 Mfd. 600 Volt	MIDDLE POSITION	BROADCAST	HIGH
19	116819	Lamp, Dial (Marzda No. 47)	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
20	118824	Transformer, 2nd I.F.	MIDDLE POSITION	BROADCAST	HIGH
21	118921	Condenser, .01 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
22	119024	Condenser, .02 Mfd. 600 Volt.	MIDDLE POSITION	BROADCAST	HIGH
23	119193	Condenser, .02 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
24	119345	Condenser, .02 Mfd. 600 Volt.	MIDDLE POSITION	BROADCAST	HIGH
25	119414	Condenser, .04 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
26	119817	Condenser, .04 Mfd. 600 Volt.	MIDDLE POSITION	BROADCAST	HIGH
27	119817	Condenser, .04 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
28	119817	Condenser, .04 Mfd. 600 Volt.	MIDDLE POSITION	BROADCAST	HIGH
29	119817	Condenser, .04 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
30	119817	Condenser, .04 Mfd. 600 Volt.	MIDDLE POSITION	BROADCAST	HIGH
31	119817	Condenser, .04 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW
32	119817	Condenser, .04 Mfd. 600 Volt.	MIDDLE POSITION	BROADCAST	HIGH
33	119817	Condenser, .04 Mfd. 600 Volt.	EXTREME COUNTER-CLOCKWISE	BROADCAST	LOW



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## STEWART-WARNER 206G CHASSIS

### RECEIVER MODELS 206GA TO 206GZ



#### ELECTRICAL PARTS

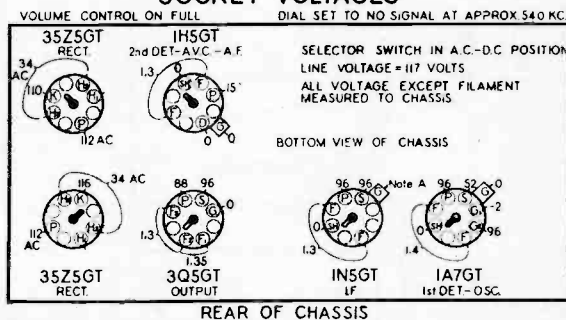
Diagram Number	Part Number	Description
1	83783	Condenser, Mica. 110 Mmfd.
2-3-4	85061	Condenser, Mica. 51 Mmfd.
5	85563	Condenser, Mica. 26 Mmfd.
6	110552	Resistor, Carbon—47,000 Ohms 1/4 Watt.
7	110554	Resistor, Carbon—1 Megohm 1/4 Watt.
8-9	110556	Resistor, Carbon—330 Ohm 1/4 Watt.
10	110559	Resistor, Carbon—470,000 Ohms 1/4 Watt.
11	110564	Resistor, Carbon—100,000 Ohms 1/4 Watt.
12-13-14	110570	Resistor, Carbon—2.2 Meg. 1/4 Watt.
15-16-17	110580	Resistor, Carbon—3.3 Meg. 1/4 Watt.
18	110588	Resistor, Carbon—6800 Ohms 1/4 Watt.
19	112974	Resistor, Carbon—220 Ohm 1/4 Watt.
20	112995	Resistor, Carbon—15,000 Ohm 1/4 Watt.
21-22	116013	Resistor, 50 Ohm 1 Watt.
23 to 26	116625	Condenser, .1 Mfd. 600 Volts.
27 to 31	116819	Condenser, .05 Mfd. 600 Volts.
32	117888	Filter Choke
33	119193	Condenser, .01 Mfd. 600 Volts.
34	119817	Condenser, .004 Mfd. 600 Volts.
35	119875	Condenser, .002 Mfd. 600 Volts.
36	161273	Condenser, Electrolytic 50 Mfd. 25 Volt.
37A-37B	500443	Condenser, Variable Tuning—with drum.
38A to 38D	500481	Volume Control, 1 Meg. (with switch).
39A to 39D	500507	Switch, AC-DC & Battery.
40	500689	Coil, Oscillator.
41	500712	Resistor, 1830 Ohms 5 Watt, Wire Wound.
42	500713	Neon Glow Lamp.
43A to 43C	500714	Condenser, Electrolytic— A—20 Mfd. 200 Volt B—20 Mfd. 200 Volt C—20 Mfd. 150 Volt
44A to 44C	500715	Resistor, Load— A—1460 Ohms 10 Watt B—155 Ohms 1 Watt C—310 Ohms 10 Watt

This receiver is equipped with a neon lamp on the dial scale which indicates the condition of the batteries. The neon lamp is included in an oscillating (R-C) circuit which has been designed to oscillate at approximately 3 pulses per second when the batteries are in a fully charged condition. As the battery voltage decreases with use the number of pulses per second decreases.

When the battery voltage is low (approximately 72 volts) the light flickers more slowly (approximately 1 a second). The set should not be operated from battery power after this point is reached. The batteries should be charged for at least twice the time they were used—as soon as possible after they have been run down.

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#### SOCKET VOLTAGES



#### REAR OF CHASSIS

**NOTE A:** Voltage on the grid of the IN5GT intermediate amplifier tube cannot be measured with a standard voltmeter because of the high resistance of resistor No. 15.

Use A Voltmeter of 1000 Ohms Per Volt.

#### CHARGING BATTERIES

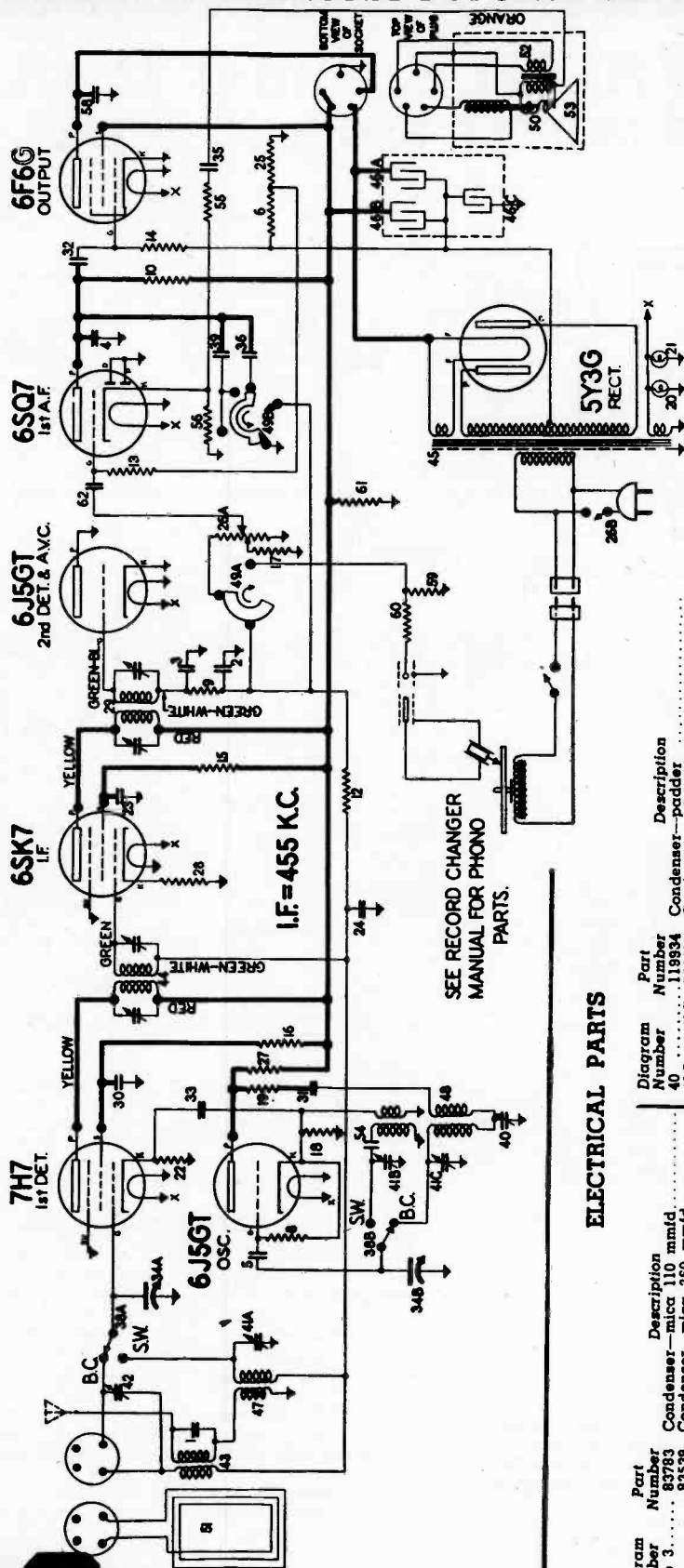
A separate charging system consisting of a 35Z5GT rectifier and a suitable resistor voltage dividing network and filter is incorporated in this receiver. The circuit is arranged to provide a very light charging current when the receiver is operated from either AC or DC. This is just enough to maintain the batteries but will not charge up used batteries. A separate charging position is provided for rapid recharging of the batteries. The resistance voltage divider is designed to give a charging rate of approximately one third the discharge rate, this having been found to give best results. It is recommended that the batteries be left on charge at least twice the time they were used. As the batteries age it is necessary to charge for a longer period.



# STEWART-WARNER 207D CHASSIS

(RECEIVER MODEL 207DK)

## MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



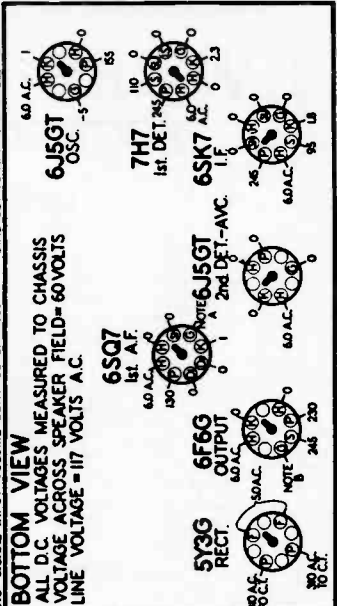
### ELECTRICAL PARTS

Diagram Number	Part Number	Description
1 to 3	83783	Condenser—mica 110 mmfd.
4	83538	Condenser—mica 280 mmfd.
5	85081	Condenser—mica 31 mmfd.
6	89762	Resistor—220 ohms, wire wound, 1 watt
8,9	110532	Resistor—carbon 47,000 ohms 1/4 watt.
10,11	110533	Resistor—carbon 220,000 ohms 1/4 watt.
12,13	110534	Resistor—carbon 1 megohm 1/4 watt.
14	110535	Resistor—carbon 470,000 ohms 1/4 watt.
15,16	111144	Resistor—carbon 100,000 ohms 1/4 watt.
17	110569	Resistor—carbon 10,000 ohms 1/4 watt.
18,19	110590	Resistor—carbon 180 ohms 1/4 watt.
20,21	110623	Dial Light Bulb—6.3 volt (Mazda No. 44)
22	116819	Resistor—560 ohms 1/4 watt.
23,24	118178	Condenser—.05 mfd. 600 volt.
25	117385	Resistor—20 ohm 1 watt.
26,27	118689	Volume Control—1 meg. (with switch)
28	118805	Resistor—carbon 10,000 ohm 1 watt.
29	118827	Resistor—carbon 270 ohm 1/4 watt.
30 to 33	119024	Transformer, 2nd I.F.
34A-34B	119193	Condenser—.01 mfd. 600 volt.
35	119291	Condenser—variable tuning
36	116625	Condenser—1 mfd 500 volt
37	119416	Condenser—.008 mfd. 600 volt.
38A-38B	1160430	Condenser—.001 mfd. 600 volt.
39	119859	Switch—band
	119875	Condenser—.002 mfd. 600 volt

Diagram Number	Part Number	Description
40	118934	Condenser—padder
41A to 41C	180415	Condenser—trimmer, 3 section.
42	180449	Condenser—trimmer (Loop)
43	500255	Coil—B.C. antenna (loading)
44	500801	Transformer—1st I.F.
45	501044	Transformer—power, 60 cycle
46A to 46C	501060	Condenser—Electrolytic— A—20 Mid. 400 V. B—15 Mid. 400 V. C—20 Mid. 25 V.
47	501159	Coil—short wave antenna
48	501160	Coil—oscillator (B.C. & S.W.)
49A-49B	501180	Switch—tone
50	M-501225	Speaker—Dynamic (12")
51	501226	Loop Antenna Complete
52	M-501280	Transformer—output for M-501225 Spkr.
53	M-501281	Cone & Voice Coil for M-501225 Spkr.
54	88587	Condenser—mica .0042 mfd.
55	118816	Resistor—680 ohms 1/4 watt
56	116078	Resistor—560 ohms 1/4 watt
57	118975	Resistor—.002 mfd. 600 volt
58	110584	Resistor—330,000 ohms 1/4 watt
59	112962	Resistor—150,000 ohms 1/4 watt
60	116076	Resistor—33,000 ohms 2 watt
61	119193	Condenser—.01 mfd. 600 volt
62	501366	Crystal Cartridge

NO SIGNAL INPUT—VOLUME CONTROL ON FULL DIAL SET TO APPROXIMATELY 540 KC.

ALL D.C. VOLTAGES MEASURED TO CHASSIS  
VOLTAGE ACROSS SPEAKER FIELD=60 VOLTS  
LINE VOLTAGE=117 VOLTS A.C.



NOTE A: Voltages on the grid of the 6SQ7 1st A.F. = 1 volt measured across resistor No. 25.

NOTE B: Voltages on the grid of the 6F6G Output Tube = 8 volts measured across Resistor No. 25 and 6.

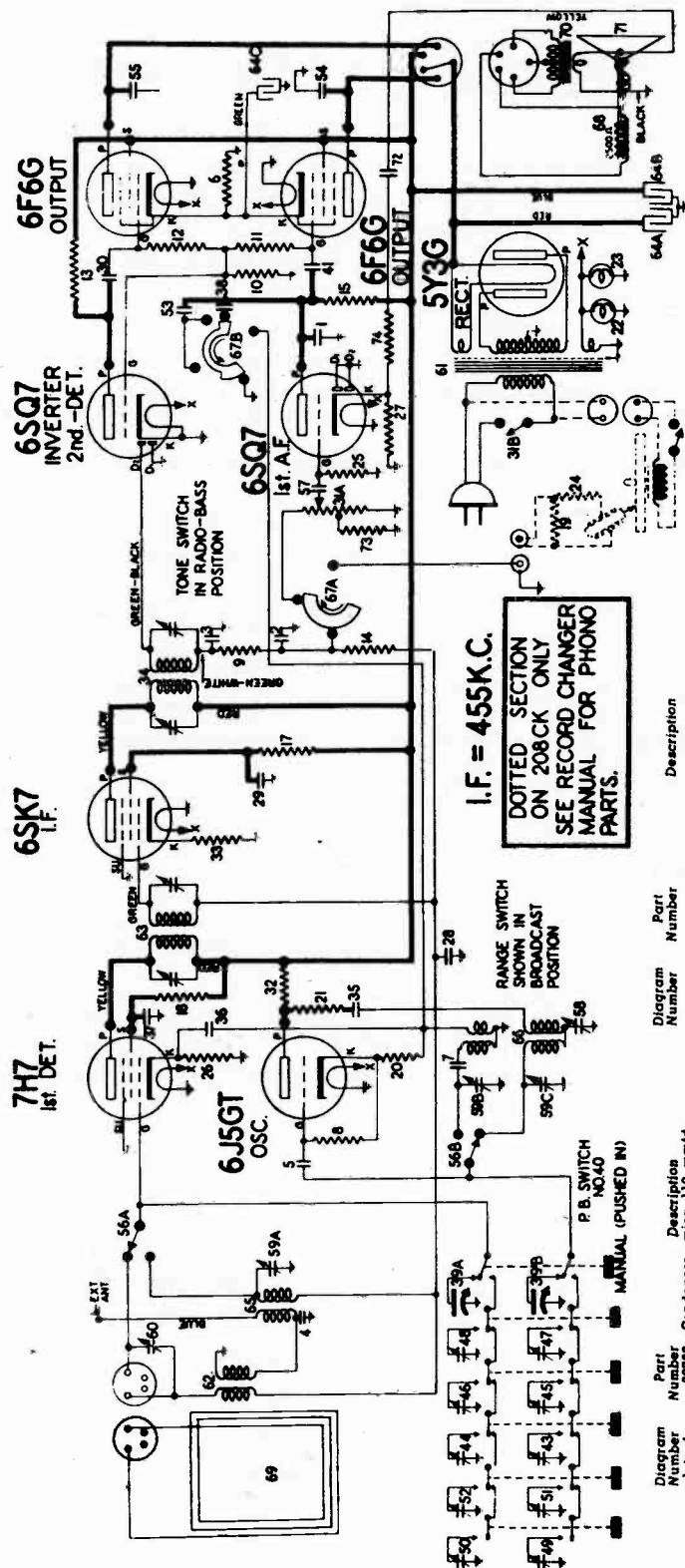


(RECEIVER MODELS  
208BK AND 208CK)

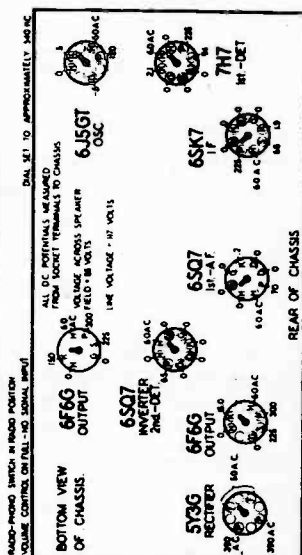
# STEWART-WARNER 208B & 208C CHASSIS

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## MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



### SOCKET VOLTAGES



Use a high resistance voltmeter of 1000 ohms per volt.

Diagram Number	Part Number	Description	Freq.
1 to 4	85081	Condenser mica 110 mmfd.	
5	85081	Condenser mica 110 mmfd.	
6	85081	Condenser mica 110 mmfd.	
7	85081	Condenser mica 110 mmfd.	
8-9	110552	Resistor wire wound 270 ohms 1 watt.	
10 to 13	110553	Resistor carbon 47,000 ohms 1/4 watt.	
14	110553	Resistor carbon 220,000 ohms 1/4 watt.	
15	110553	Resistor carbon 470,000 ohms 1/4 watt.	
16-18	110554	Resistor carbon 100,000 ohms 1/4 watt.	
19	110554	Resistor carbon 22,000 ohms 1/4 watt.	
20-21	110591	Resistor carbon 680,000 ohms 1/4 watt.	
22-23	110629	Resistor carbon 180 ohms 1/4 watt.	
24	110629	Dial Light Bulb 6.3 volt (Mazda No. 44)	
25	110629	Resistor carbon 22,000 ohms 1/4 watt.	
26-27	110629	Resistor carbon 560 ohms 1/4 watt.	
28 to 30	116825	Condenser .05 mid. 600 volt.	
31A-31B	116819	Volume Control 1 meg. (with switch)	
32	116805	Resistor carbon 10,000 ohm 1 watt.	
33	116827	Resistor carbon 270 ohms 1/4 watt.	
34	119131	Resistor carbon 0.1 mid. 600 volt.	
35 to 38	119131	Condenser variable tuning	
39A-39B	119231	Switch push button	
40	119246	Condenser .02 mid. 600 volt.	
41	119414	Condenser - push button trimmer (Med. Freq.)	
43 to 46	119653	Condenser push button trimmer (High Freq.)	
47-48	119654	Condenser push button trimmer (Low Freq.)	
49 to 52	119753	Condenser .004 mid. 600 volt.	
53 to 55	119817	Condenser .002 mid. 600 volt.	
56A-56B	119819	Condenser .002 mid. 600 volt.	
57	119825	Condenser .002 mid. 600 volt.	
58	119834	Condenser .002 mid. 600 volt.	
59A to 59C	160415	Condenser trimmer 3 section	
60	160415	Condenser trimmer 3 section	
61	500116	Transformer power (80 cycles)	
62	500116	Transformer power (80 cycles)	
63	500116	Transformer power (80 cycles)	
64A to 64C	501060	Transformer electrolytic	
65	501159	Coil - short wave antenna	
66	501180	Coil - oscillator (B.C. & S.W.)	
67A-67B	501180	Switch - tone	
68	501233	Loop Antenna	
69	501233	Loop Antenna	
70	M-501304	Transformer output for M-501245 Spkr.	
71	M-501305	Cone & Voice Coil for M-501245 Spkr.	
72	116825	Condenser .1 mid.	
73	110585	Resistor carbon 22,000 ohms 1/4 watt.	
74	110585	Resistor carbon 10,000 ohms 1/4 watt.	



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## SERVICE DATA for 208B & 208C CHASSIS

### ALIGNMENT EQUIPMENT & PROCEDURE

1. Connect the output meter across the voice coil or from the plate of one 6F6G output tube to chassis through a .1 mfd. condenser.
2. Connect the ground lead of the signal generator to the receiver chassis.
3. Check the pointer to see that it is correctly set to the low freq. end of the dial scale with gang in full mesh.
4. Push in the "manual" button and keep it pushed in.
5. Turn the volume control to the maximum volume position, and the tone control to the "Radio-Speech" position.
6. FOLLOW THE ORDER OF ALIGNMENT INDICATED BELOW.

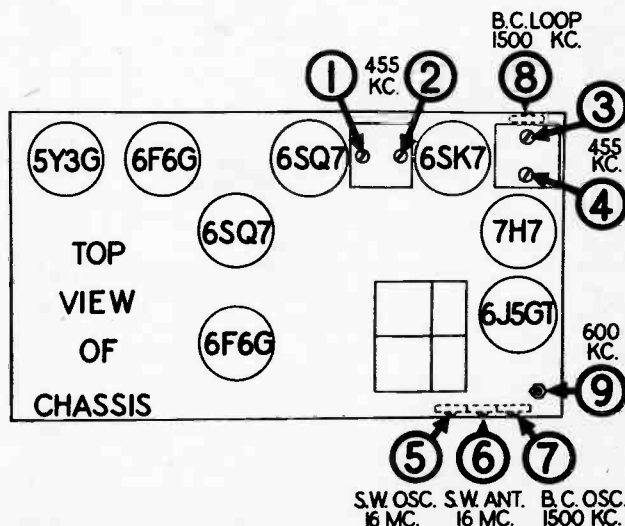
Dummy Ant. in Series with Sig. Gen.	Connection of Sig. Generator Output to Receiver	Signal Generator Frequency	Band Switch Position	Receiver Dial Setting	Trimmer Number	Trimmer Description	Type of Adjustment
.1 MFD Condenser	Lug on Rear Section of Gang Cond.	455 KC	Broadcast	Any Point Where It Does Not Affect the Signal	1-2	2nd I.F.	Adjust for Maximum Output. Then repeat Adjustment.
					3-4	1st I.F.	
400 OHM Carbon Resistor	Blue Lead from Chassis	16 MC	Foreign	16 MC	5	Foreign Oscillator	Adjust for Maximum Output. Check to see if Proper Peak was Obtained by Tuning in Image at Approx. 15.1 MC. If Image does not appear, Realign at 16 MC. with Trimmer Screw farther out. Recheck Image.
400 OHM Carbon Resistor	Blue Lead from Chassis	16 MC	Foreign	Tune to 16 MC Generator Signal	6	Foreign Antenna	Adjust for Maximum Output. Try to Increase Output by Detuning Trimmer and Retuning Receiver Dial until Maximum Output is Obtained.
No Connection	Place Lead from Signal Gen. Near Loop	1500 KC	Broadcast	1500 KC	7	Broadcast Oscillator (Shunt)	Adjust for Maximum Output.

NOW PLACE THE CHASSIS AND LOOP ANTENNA INTO POSITION IN THE CABINET.

No Connection	Place Lead from Signal Gen. Near Loop	1500 KC	Broadcast	Tune to 1500 KC Generator Signal	8	Broadcast Antenna	Adjust for Maximum Output.
No Connection	Place Lead from Signal Gen. Near Loop	600 KC	Broadcast	Tune to 600 KC Generator Signal	9	Broadcast Oscillator (Series)	Adjust for Maximum Output. Try to Increase Output by Detuning Trimmer and Retuning Receiver Dial until Maximum Output is Obtained.

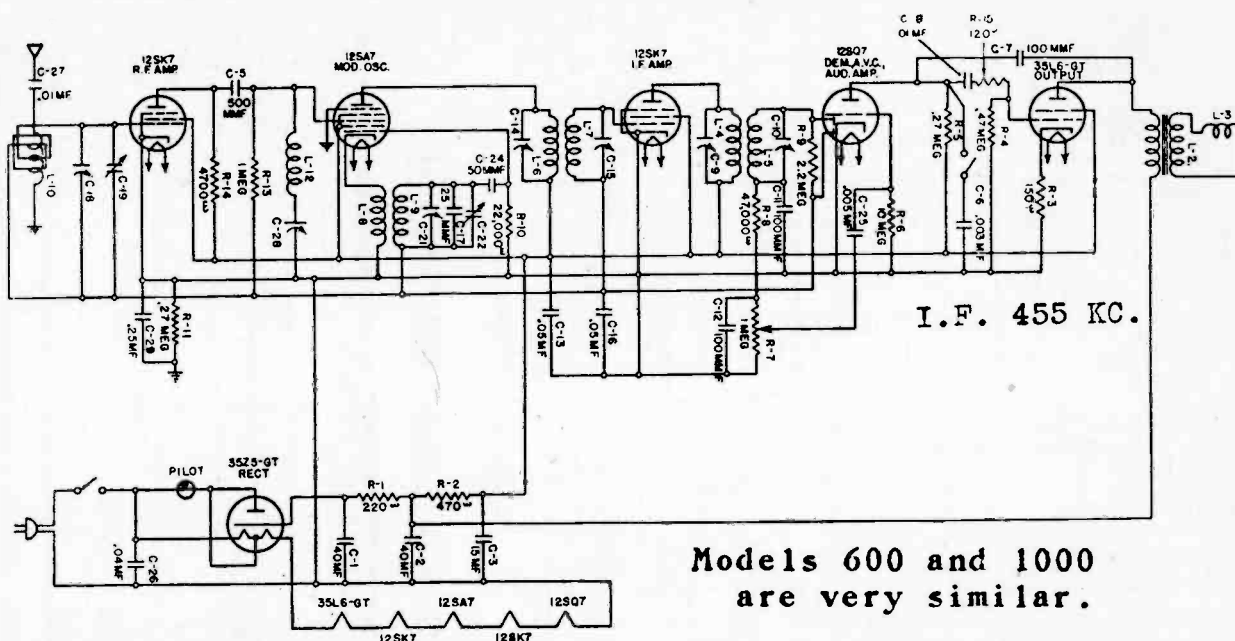
### MISCELLANEOUS PARTS

Part Number	Description
501182	Cable—motor (with receptacle).....
117493	Cable—pickup.....
114355	Clamp—for dial cord.....
112745	Clip—coil mounting.....
117057	Cord—drive (specify 6 ft. lengths).....
501199	Dial Scale.....
113402	Drum—dial cord drive.....
160182	Escutcheon—dial with glass.....
160634	Escutcheon—push button (complete).....
88348	Eyelet—for pointer cord.....
160219	Knob.....
12349	Nut—8-32 for mounting.....
116952	Pin for push buttons.....
119451	Pointer.....
160185	Push button.....
81145	Retaining ring for tuning shaft.....
113463	Rubber Bushing—chassis mounting.....
118606	Shaft—tuning.....
112874	Screw—No. 10 x 1½ chassis mounting.....
114314	Screw—special head for mounting escutcheon.....
85827	Set Screw—8-32 Sq. Hd. for drive drum.....
119791	Socket—octal.....
114378	Socket—octal, with special ground.....
114876	Socket—octal (rectifier).....
160294	Socket for 7H7 8 prong.....
500051	Socket for loop antenna.....

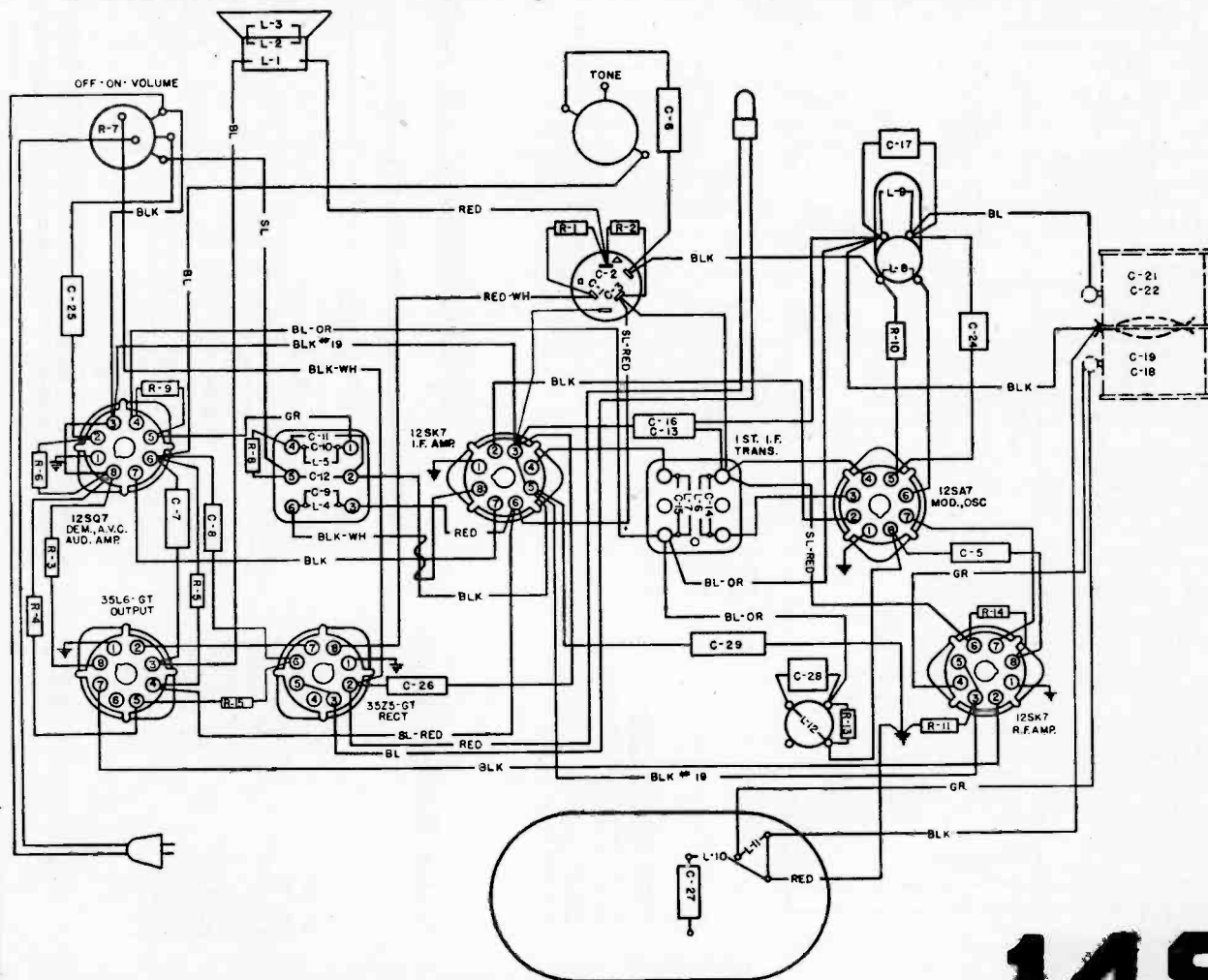




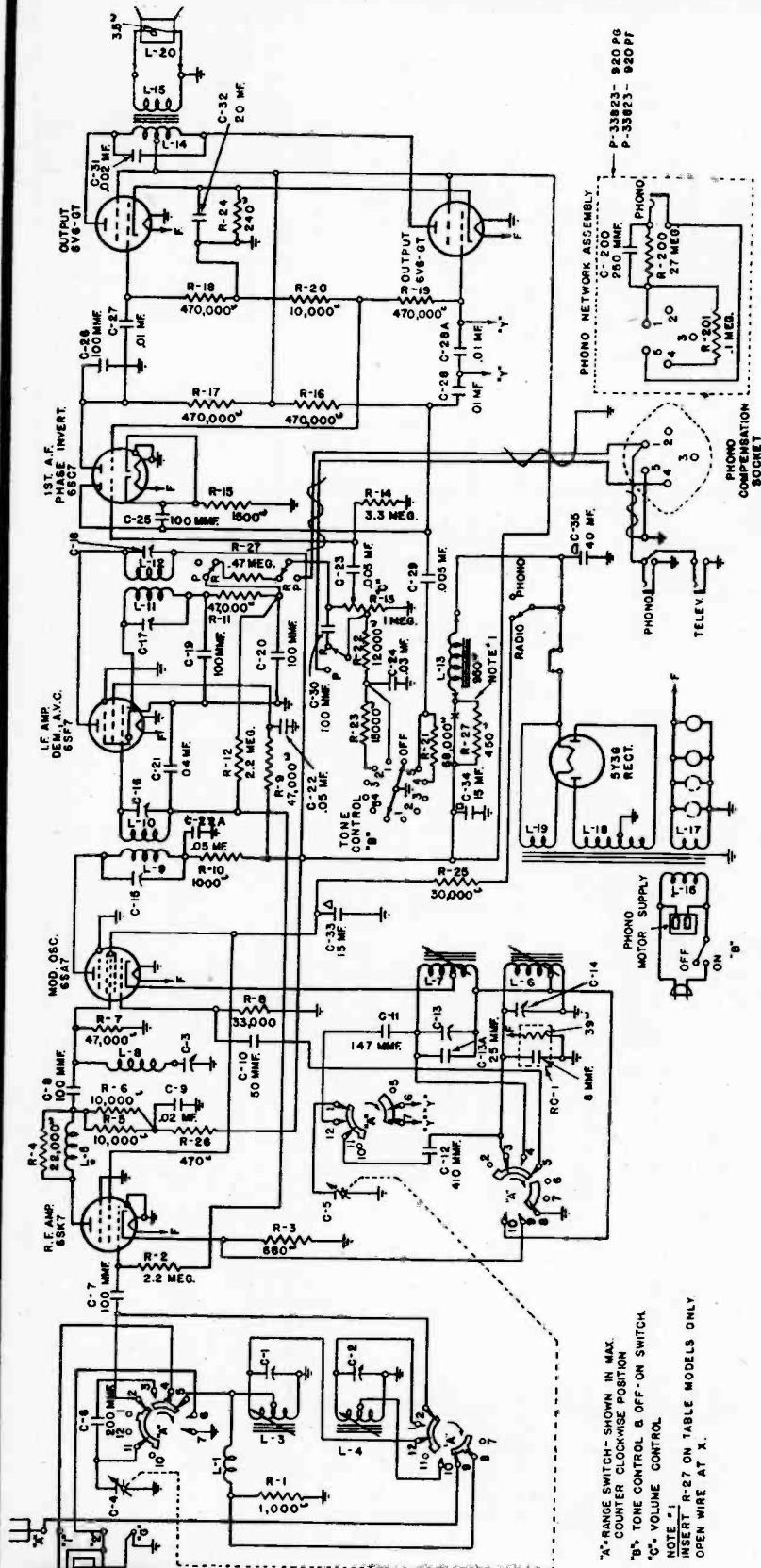
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## STROMBERG-CARLSON NO. 900 AC-DC RADIO RECEIVERS







## STROMBERG-CARLSON NO. 920 RADIO RECEIVERS

### TERMINALS OF SOCKETS

Tube	Circuit	1	2	3	4	5	6	7	8
6SK7	R. F. Amp.	0	6.3	0	0	0	+85	0	+178
6SA7	Osc. and Mod.	0	0	+240	+85	0	0	6.3	0
6SF7	I. F. Amp.	0	0	0	+95	0	+240	0	6.3
6SC7	Audio Amp. and Inverter	0	+65	0	0	+65	4*	0	6.3
6V6GT	Output	0	0	+235	+240	0	0	6.3	13*
6V6GT	Output	0	6.3	+235	+240	0	0	0	13*
5Y3G	Rectifier	0	+380	—	380	—	380	—	+380

\*Read on lowest possible scale of voltmeter

Also Model 1020

**Model**  
920-H  
920-HB  
920-L  
920-LB  
920-PF  
920-PFB  
920-PG  
920-PGB

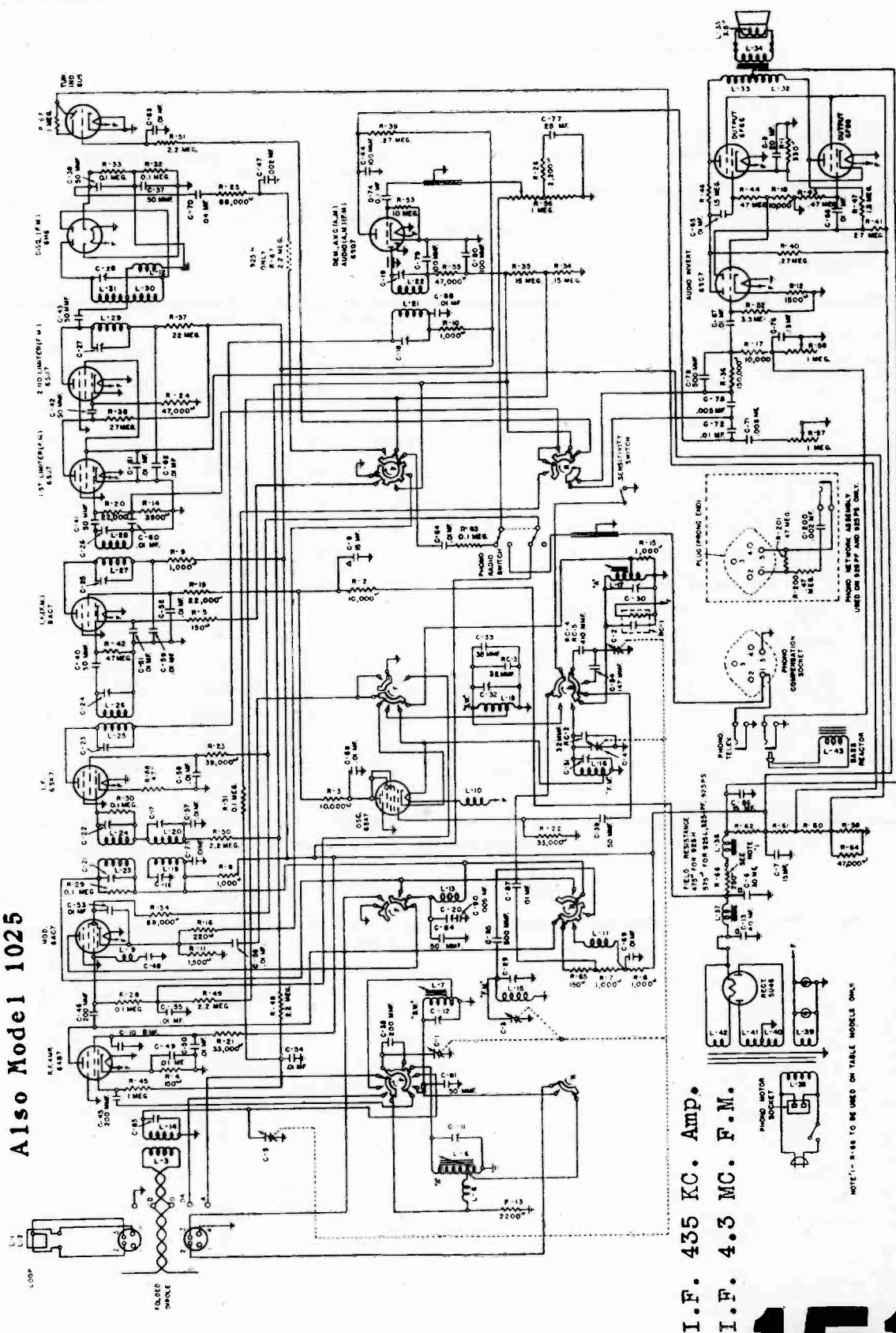
**Input Power**  
**Frequency**  
50-60 Cycles  
25-60 Cycles  
50-60 Cycles  
25-60 Cycles  
60 Cycle  
25 Cycle  
60 Cycle  
25 Cycle

I.F. 455 KC.



**STROMBERG-CARLSON NO. 925 RADIO RECEIVERS**  
STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY  
ROCHESTER, NEW YORK

Also Model 1 1025



I.F. 435 KC. Amp.

I. F. 4.3 MC. F.M.

NOTE: 1- R-66 TO BE USED ON TABLE MODELS ONLY.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Stromberg-Carlson Models 925 and 1025

### CONTINUITY TEST

NOTE: These receivers use either a 6AC7 or 7V7 tube in the modulator stage. (See wiring diagram)

Remove all tubes and disconnect all plugs from the chassis before checking continuity.

Use a good meter capable of measuring accurately up to several megohms.

The resistances given are often approximate, owing

to electrolytic capacitors in the circuit. When this is the case, be sure to reverse the test leads and read the highest resistance.

Read from indicated terminals to chassis base unless otherwise specified.

		TERMINALS OF SOCKETS							
Tube	Circuit	1	2	3	4	5	6	7	8
6AB7	R. F. Amplifier	S	S	S	A	150 $\Omega$	50000 $\Omega$	S	21000 $\Omega$
6AC7 or 7V7	Modulator	S	S	S	B	C	80000 $\Omega$	S	18000 $\Omega$
		S	18000 $\Omega$	80000 $\Omega$	S	S	S	C	S
6SA7	Oscillator	S	S	35000 $\Omega$	35000 $\Omega$	30000 $\Omega$	S	S	35000 $\Omega$
6SK7	I. F. Amplifier	S	S	S	2M	S	70000 $\Omega$	S	18000 $\Omega$
6AC7	2nd I. F. Amplifier (F. M.)	S	S	S	450000 $\Omega$	D	45000 $\Omega$	S	18000 $\Omega$
6SJ7	1st Limiter (F. M.)	S	S	S	22000 $\Omega$	S	3500 $\Omega$	S	280000
6SJ7	2nd Limiter (F. M.)	S	S	S	40000 $\Omega$	S	4000 $\Omega$	S	240000
6H6	Discriminator (F. M.)	S	S	100000	S	100000 $\Omega$	100000 $\Omega$	S	180000
6SQ7	Demod., A. V. C. (A. M.), Audio Amplifier	S	10M	S	E	S	250000	S	S
6SC7	Audio Amp. and Inverter	S	220000	9000 $\Omega$	3M	200000 $\Omega$	1200 $\Omega$	S	S
6F6G	Output	S	S	17000 $\Omega$	17000 $\Omega$	400000 $\Omega$	O	S	290 $\Omega$
6F6G	Output	S	S	17000 $\Omega$	170000 $\Omega$	400000 $\Omega$	O	S	290 $\Omega$
5U4G	Rectifier	O	20000 $\Omega$	O	50 $\Omega$	O	60 $\Omega$	O	20000 $\Omega$
6U5	Tuning Indicator	S	1M	2M	14000 $\Omega$	S	S	—	—

Symbols shown on chart are as follows:  $\Omega$ —ohms; M—megohms; S—short; O—open.

### NORMAL VOLTAGE READINGS

		TERMINALS OF SOCKETS							
Tube	Circuit	1	2	3	4	5	6	7	8
6AB7	R. F. Amplifier	0	0	0	0	+2.4	+182	6.3	+275
6AC7 or 7V7	Modulator	0	0	0	0	+6	+218	6.3	+300
		0	+300	+218	0	0	0	+6	6.3
6SA7	Oscillator	0	0	+120	+120	-5	0	6.3	+120
6SK7	I. F. Amplifier	0	0	0	0	0	+110	6.3	+290
6AC7	2nd I. F. Amplifier (F. M.)	0	0	0	0	+8	+265	6.3	+300
6SJ7	1st Limiter (F. M.)	0	0	0	0	0	+54	6.3	+2
6SJ7	2nd Limiter (F. M.)	0	0	0	0	0	+54	6.3	+3
6H6	Discriminator (F. M.)	0	0	0	0	0	0	6.3	0
	Demod., A. V. C. (A. M.), Audio Amplifier	0	0	0	0	0	0	6.3	0
6SQ7	Audio Amp. and Inverter	0	0	0	0	0	+100*	0	6.3
6SC7	Audio Amp. and Inverter	0	+140*	0	0	+130*	+2	6.3	0
6F6G	Output	0	0	+340	+300	0	0	6.3	+22
6F6G	Output	0	0	+340	+300	0	0	6.3	+22
5U4G	Rectifier	0	+450	0	415	0	415	0	+450
6U5	Tuning Indicator	6.3	+80	0	+250	0	0	—	—

\*Read on 1000 volt scale of voltmeter.

Between terminals 2 and 8 of rectifier socket—5 volts A. C.

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

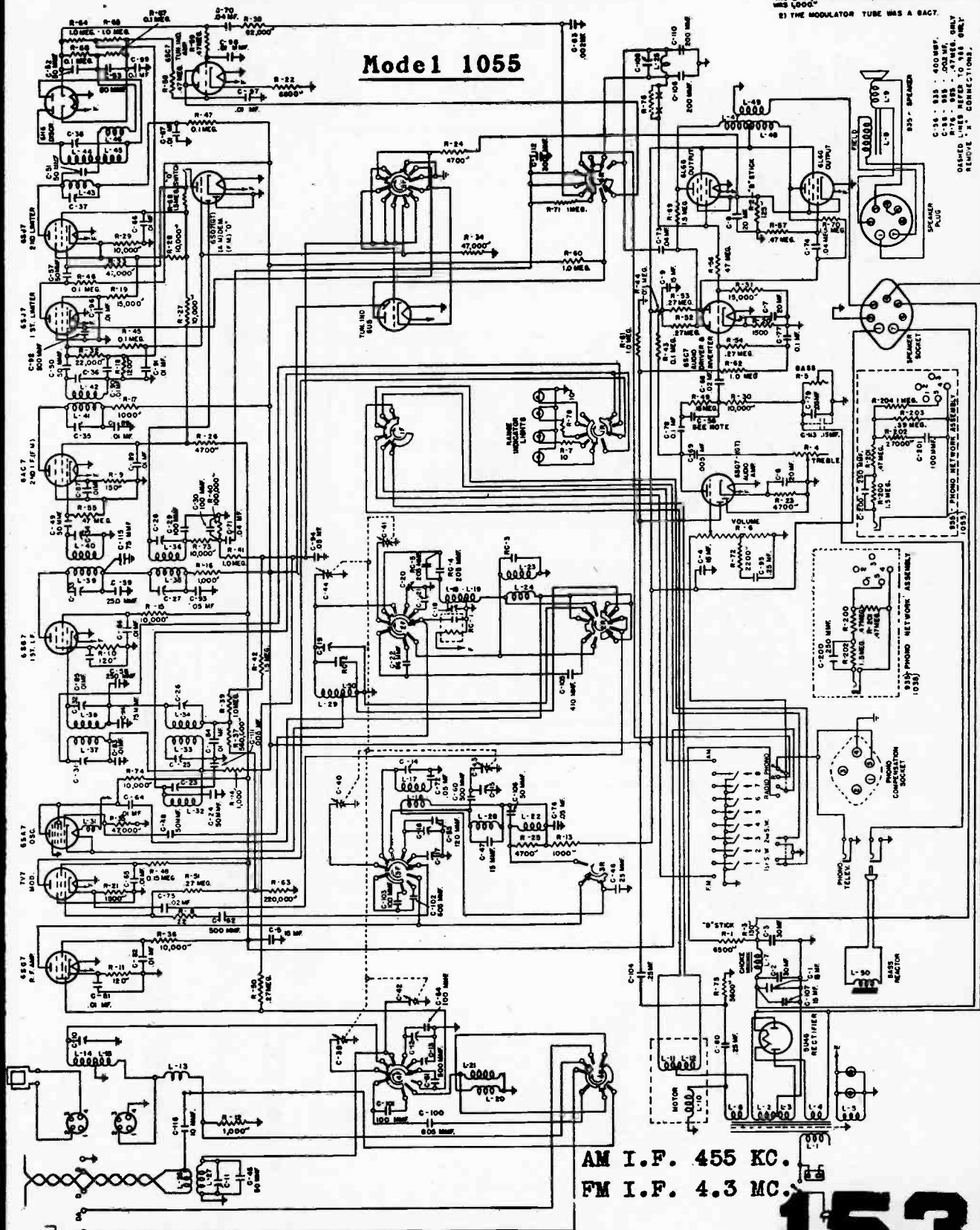


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## STROMBERG-CARLSON NO. 955 RADIO

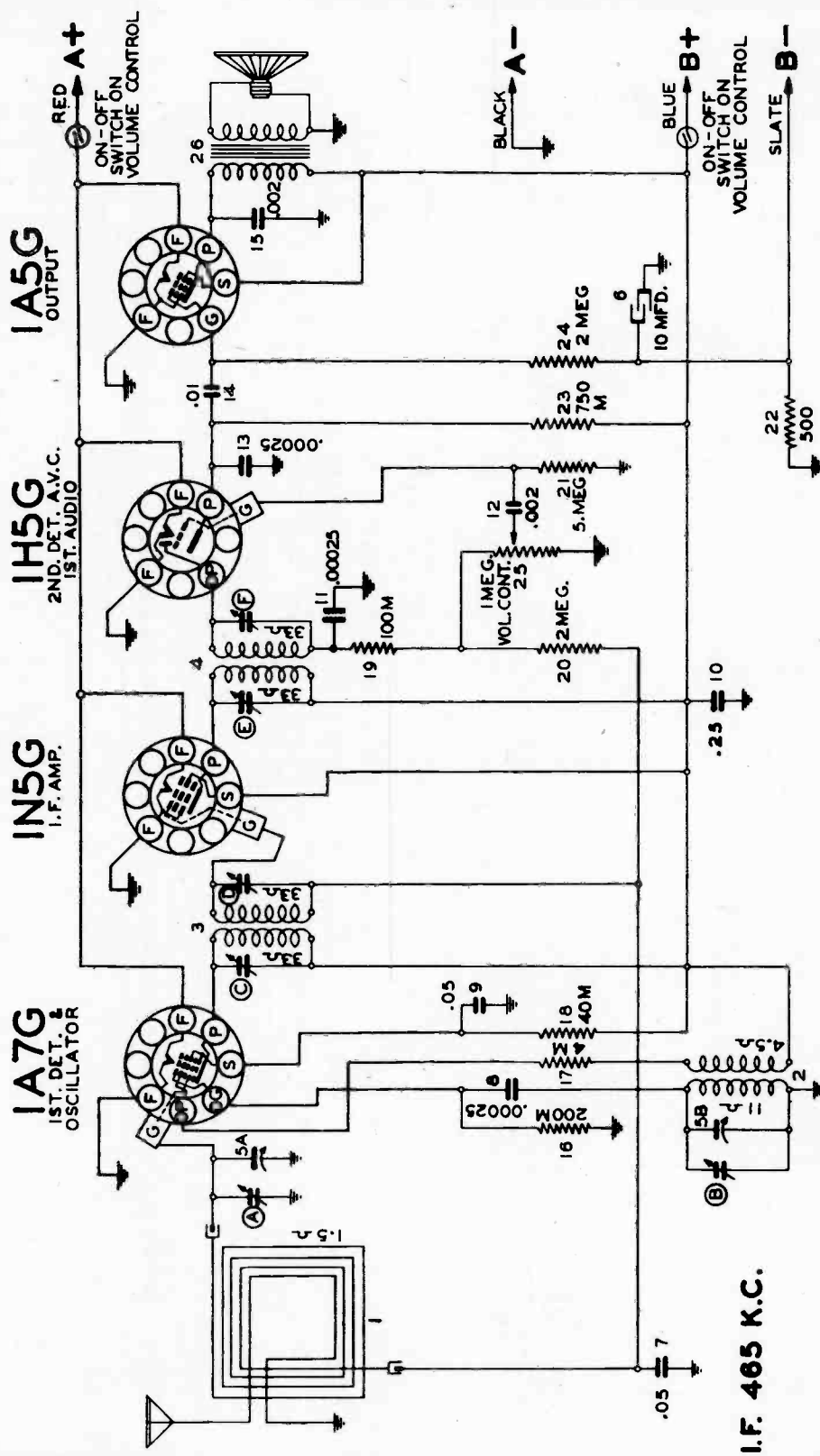
Model 1055

1- ALTERNATIVE WIRING WITH OTHER TYPES OF TUBES INVOLVES THE FOLLOWING DIFFERENCES:  
 12 A.F. & 1ST. I.F. AMPLIFIER TUBES WERE 6AB7'S WITH SUPPRESSORS CONNECTED TO GROUND. R-11 WAS 250K, R-10 WAS 220K & R-15 WAS 100K.  
 2) THE MODULATOR TUBE WAS A 6AC7.





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



# DELCO MODELS R-1401 AND R-1402 CIRCUIT DIAGRAM

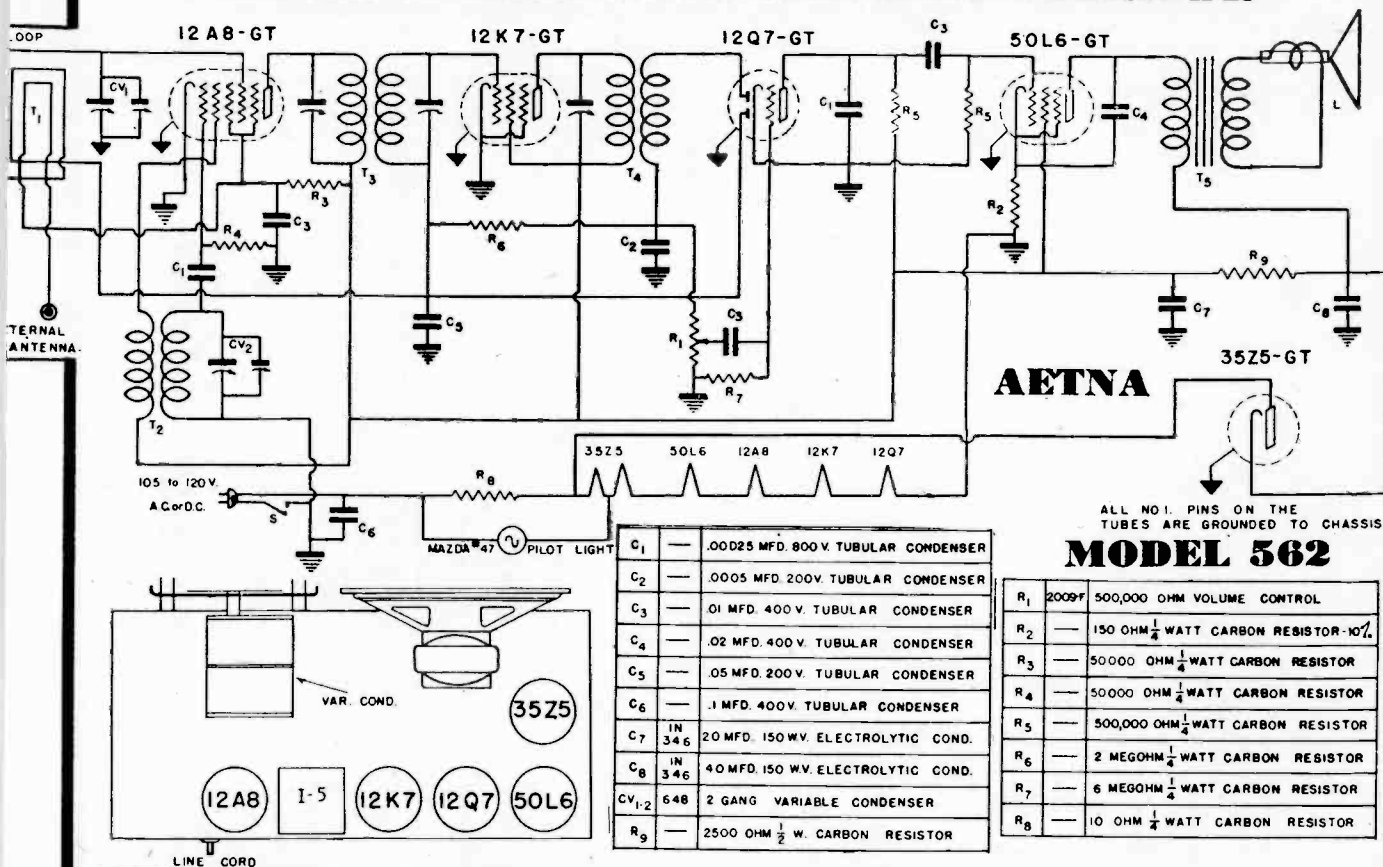
**UNITED MOTORS SERVICE  
INCORPORATED**

154

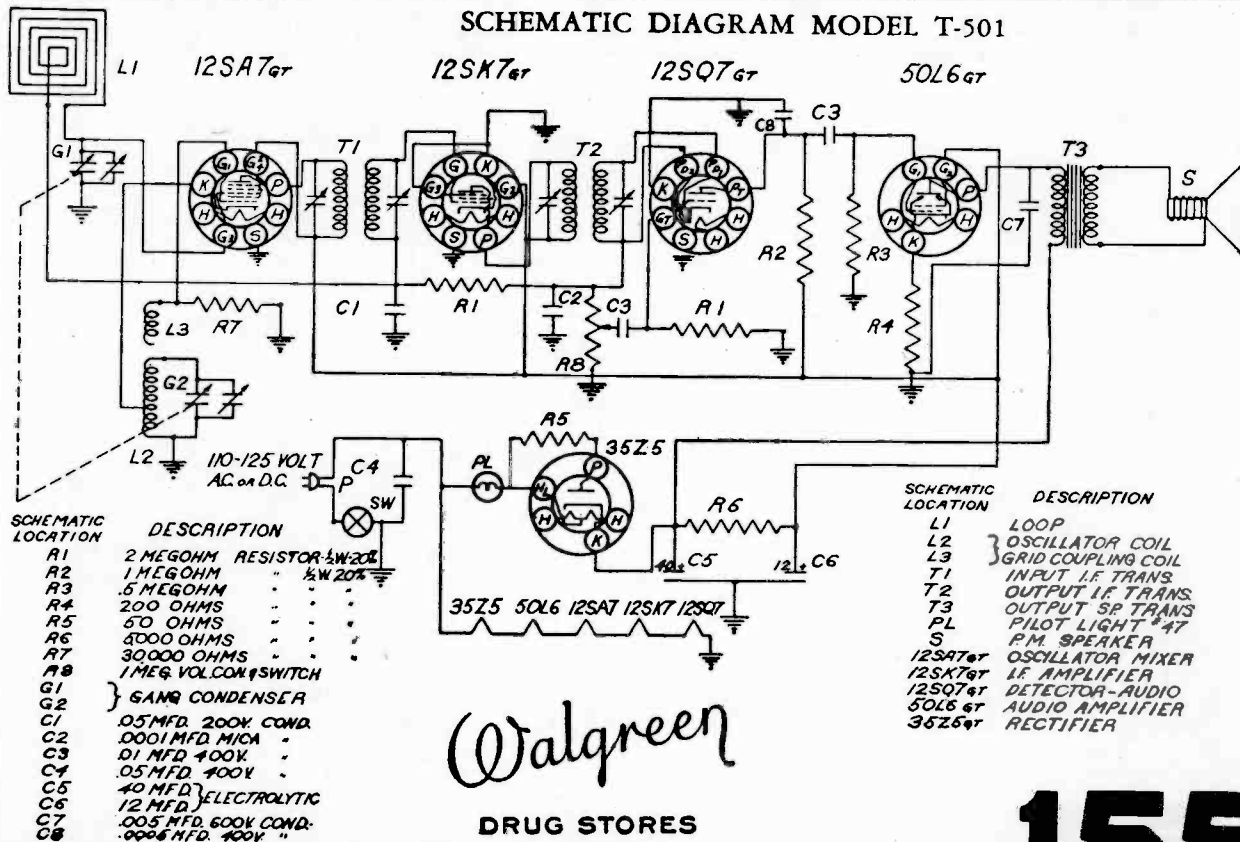
**COMPILED BY M. N. BETTMAN, SUPREME PUBLICATIONS**



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## SCHEMATIC DIAGRAM MODEL T-501



Walgreen

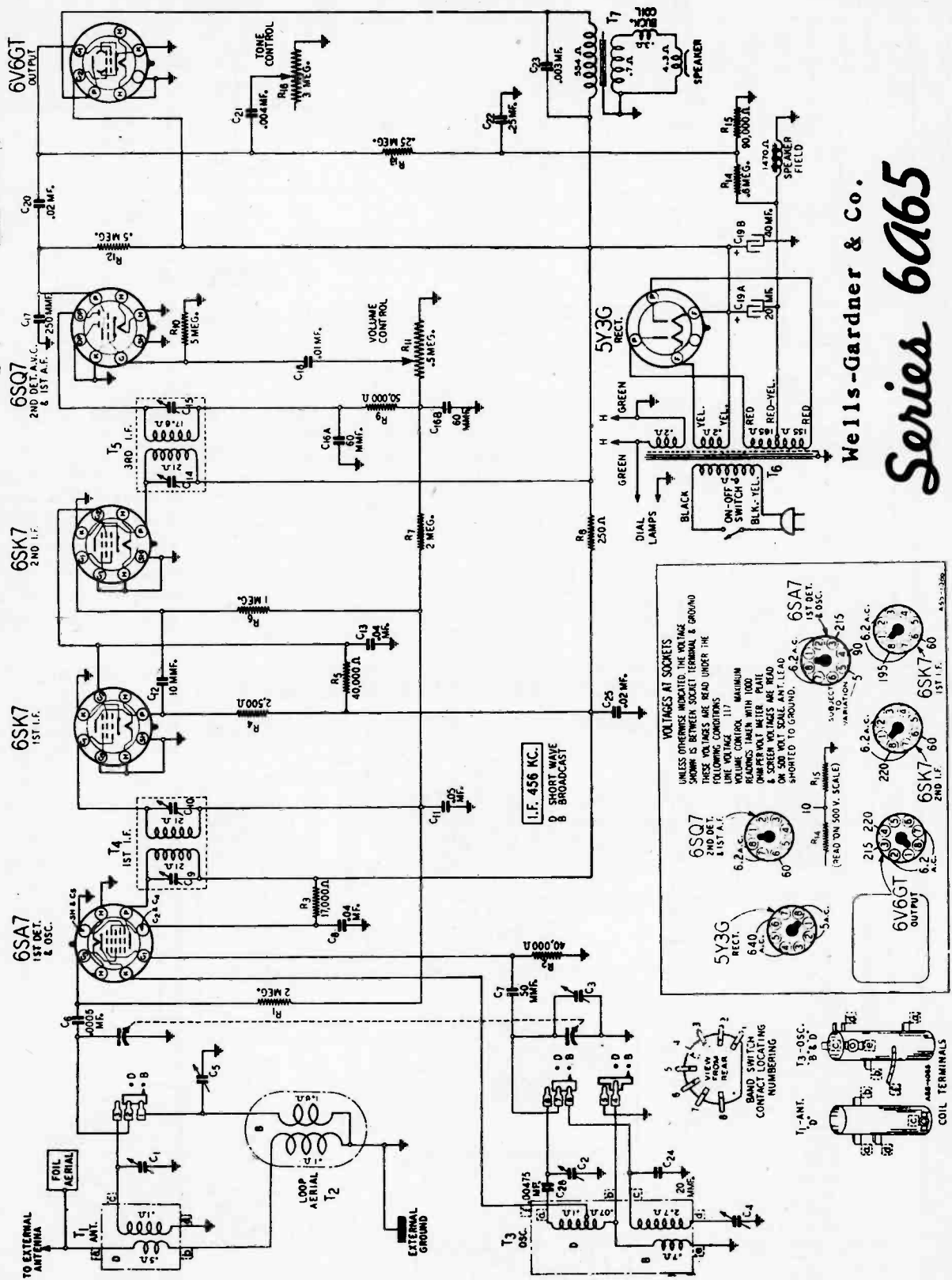
DRUG STORES

COMPILED BY M. N. BEITMAN, SUPREME PUBLICATIONS

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Wells-Gardner & Co.

Series 6A65



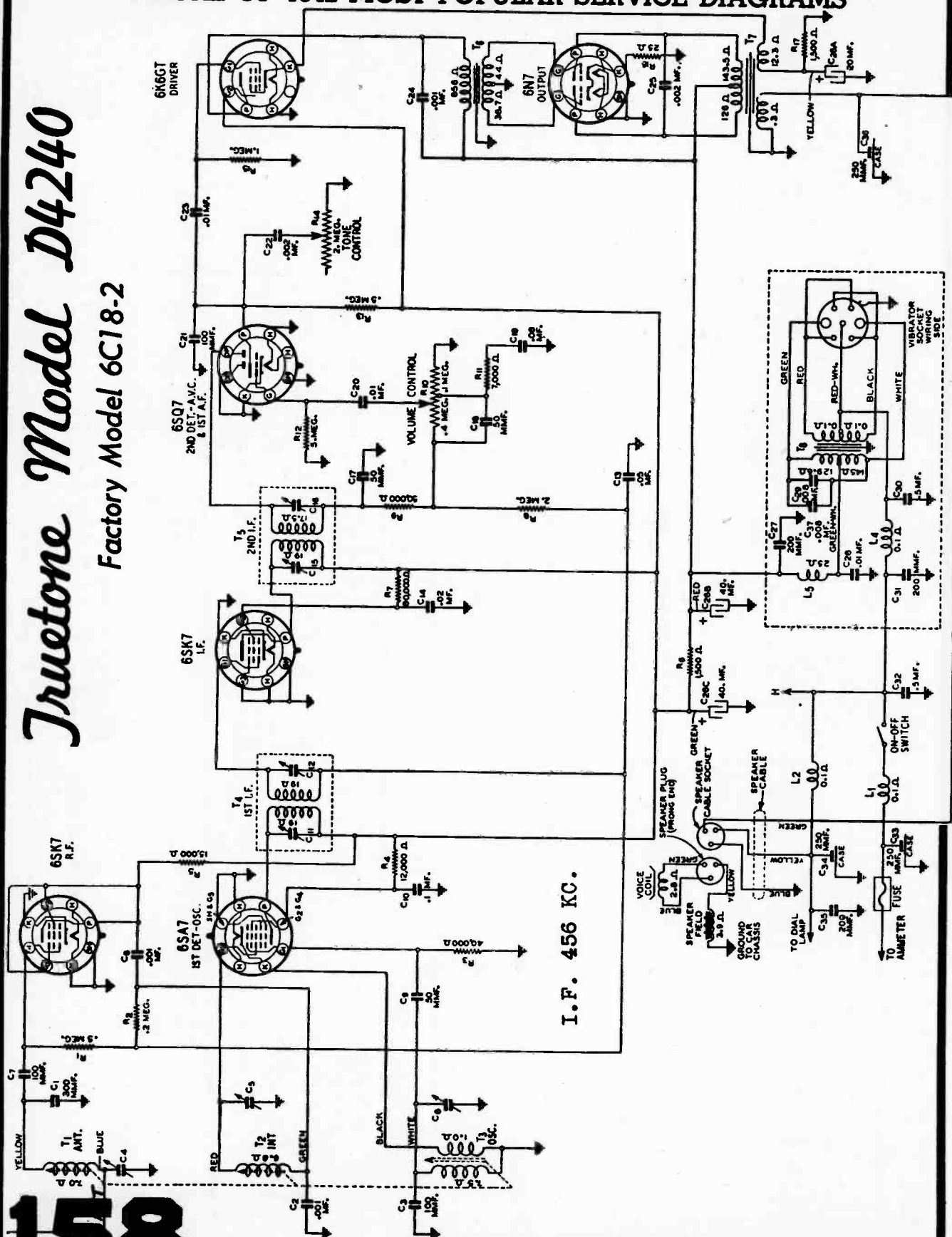
**Wells-Gardner & Co.**





*Truetone Model D4240*

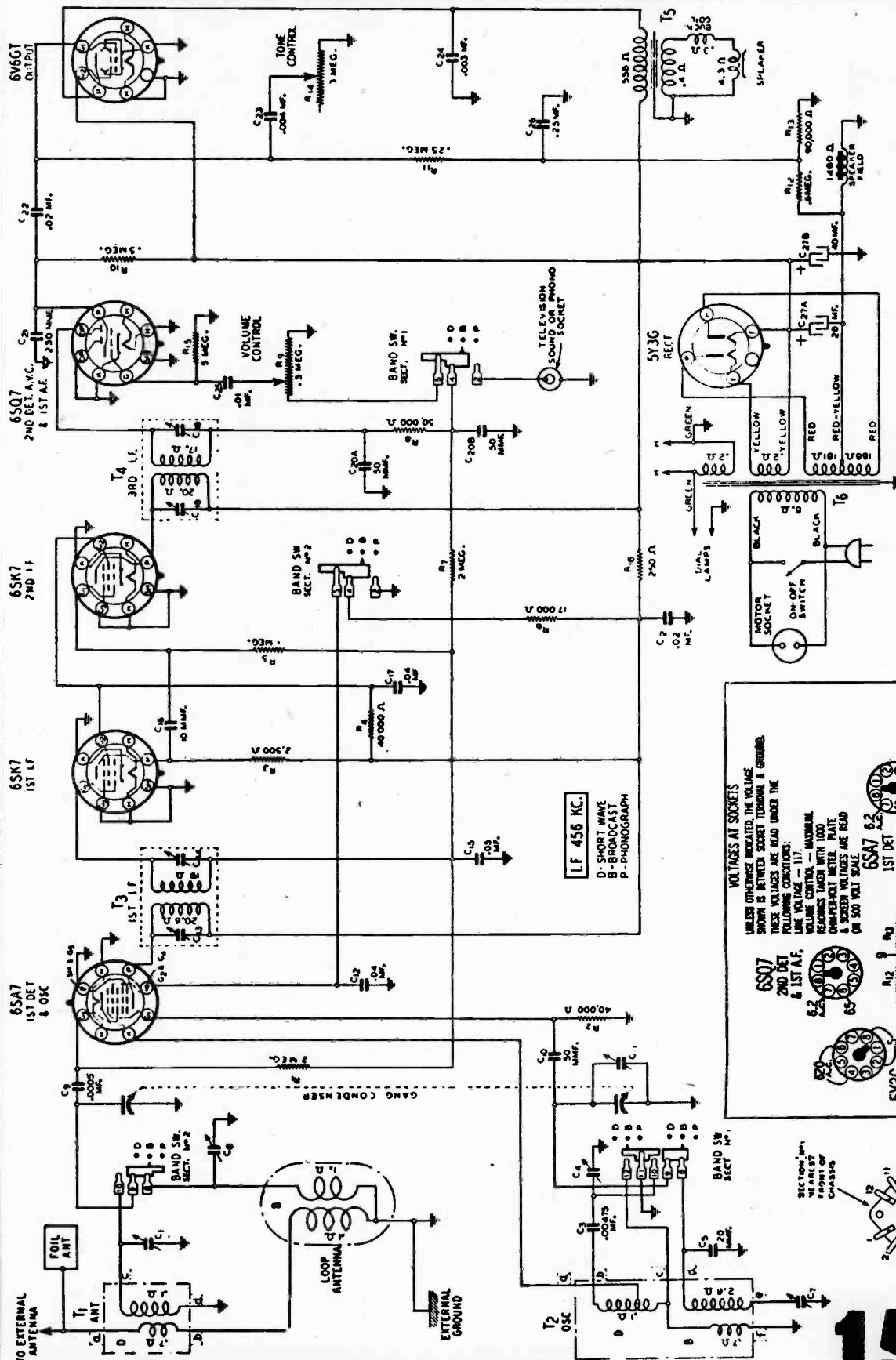
**Factory Model 6C18-2**



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

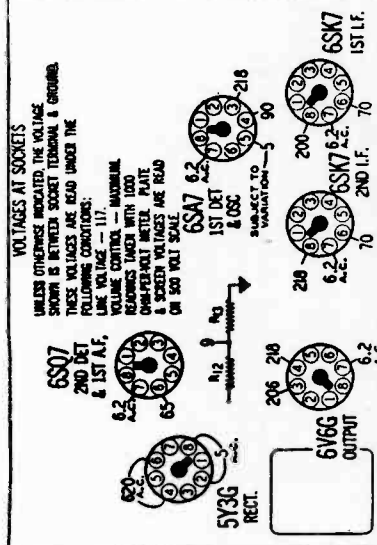


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



**Truetone Model D1145**  
(Former D1176)

Factory Model 6A50-2

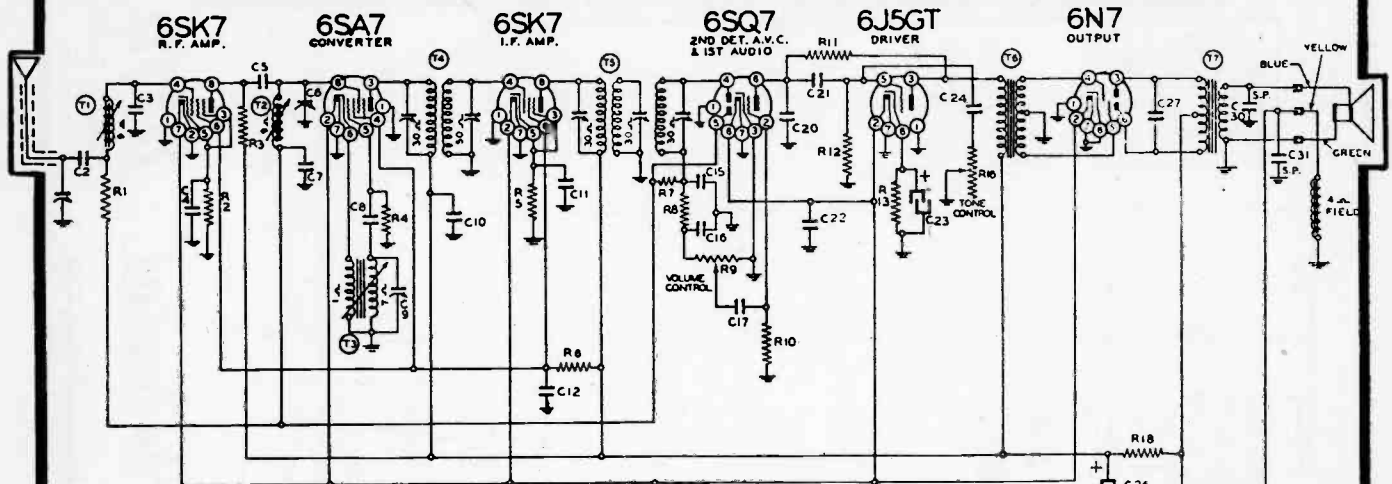


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**159**



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## RESISTORS

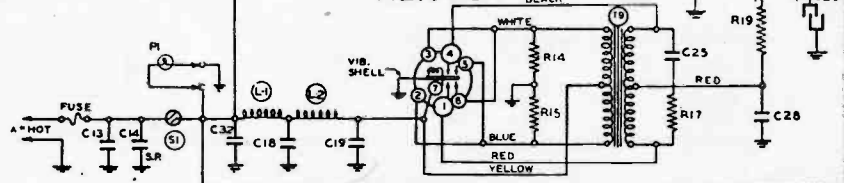
R1	130330	220M ohm— $\frac{1}{2}$ w.
R2	130332	250 ohm— $\frac{1}{2}$ w.
R3	130331	15M ohm— $\frac{1}{2}$ w.
R4	130329	47M ohm— $\frac{1}{2}$ w.
R5	13016	900 ohm— $\frac{1}{2}$ w.
R6	130196	30M ohm—1 w.
R7	13019	1 megohm— $\frac{1}{2}$ w.
R8	130329	47M ohm— $\frac{1}{2}$ w.
R9	101242	500M ohm volume control
R10	130257	5 megohm— $\frac{1}{2}$ w.
R11	130102	500M ohm— $\frac{1}{2}$ w.
R12	130102	500M ohm— $\frac{1}{2}$ w.
R13	13092	1M ohm— $\frac{1}{2}$ w.
R14	130168	100 ohm— $\frac{1}{2}$ w.
R15	130168	100 ohm— $\frac{1}{2}$ w.
R16	101245	1 megohm tone control
R17	13092	1M ohm— $\frac{1}{2}$ w.
R18	130199	1500 ohm—1 w.
R19	130328	75 ohm— $\frac{1}{2}$ w.

## CONDENSERS

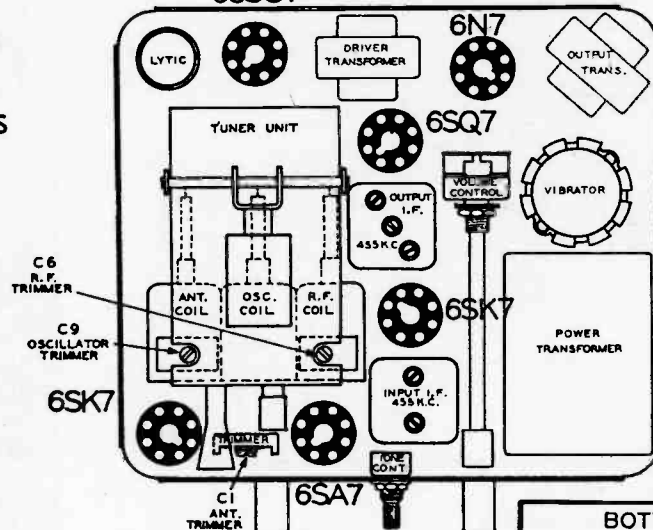
C1	124157	Antenna trimmer
C2	100127	.01 x 120 v.
C3	129172	.0001 ceramicon
C4	100128	.05 x 120 v.
C5	129145	.00001 ceramicon
C6	124159	R.F. trimmer
C7	100129	.02 x 120 v.
C8	129172	.0001 ceramicon
C9	124158	Oscillator trimmer
C10	1001	.1 x 400 v.
C11	100128	.05 x 120 v.
C12	10053	.25 x 400 v.
C13	10031	.5 x 120 v.
C14	115687	Spark plate
C15	129165B	.00005 mica
C16	129165B	.00005 mica
C17	100127	.01 x 120 v.
C18	10031	.5 x 120 v.
C19	10031	.5 x 120 v.
C20	12912	.00025 mica
C21	10026	.02 x 400 v.
C22	1292	.0005 mica
C23	119118	20.0 mfd. x 25 v. lytic
C24	10011	.01 x 400 v.
C25	10098	.005 x 1600 v.
C26	119118	20 mfd. x 400 v. lytic
C27	100126	.006 x 800 v.
C28	1001	.1 x 400 v.
C29	119118	20 mfd. x 400 v. lytic
C30	115710	Spark plate
C31	115710	Spark plate
C32	12912	.00025 mica

C15 and C16 are in same unit  
C20 and C21 are in same unit  
C23, C26 and C29 are in same unit

## VIBRATOR



6J5GT INTERMEDIATE FREQUENCY 455 K.C.



NOTE:  
CHECK VIBRATOR  
POLARITY THRU  
OPENING ON THIS  
SIDE OF CASE.

Western Auto

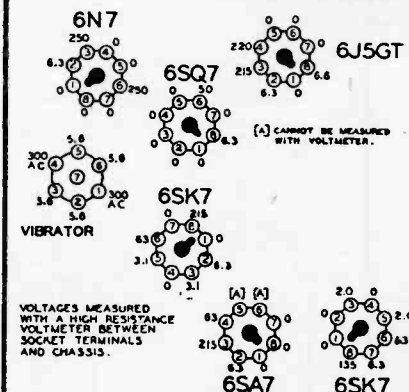
Truetone

MODEL D4255

(Former No. D1294)

160

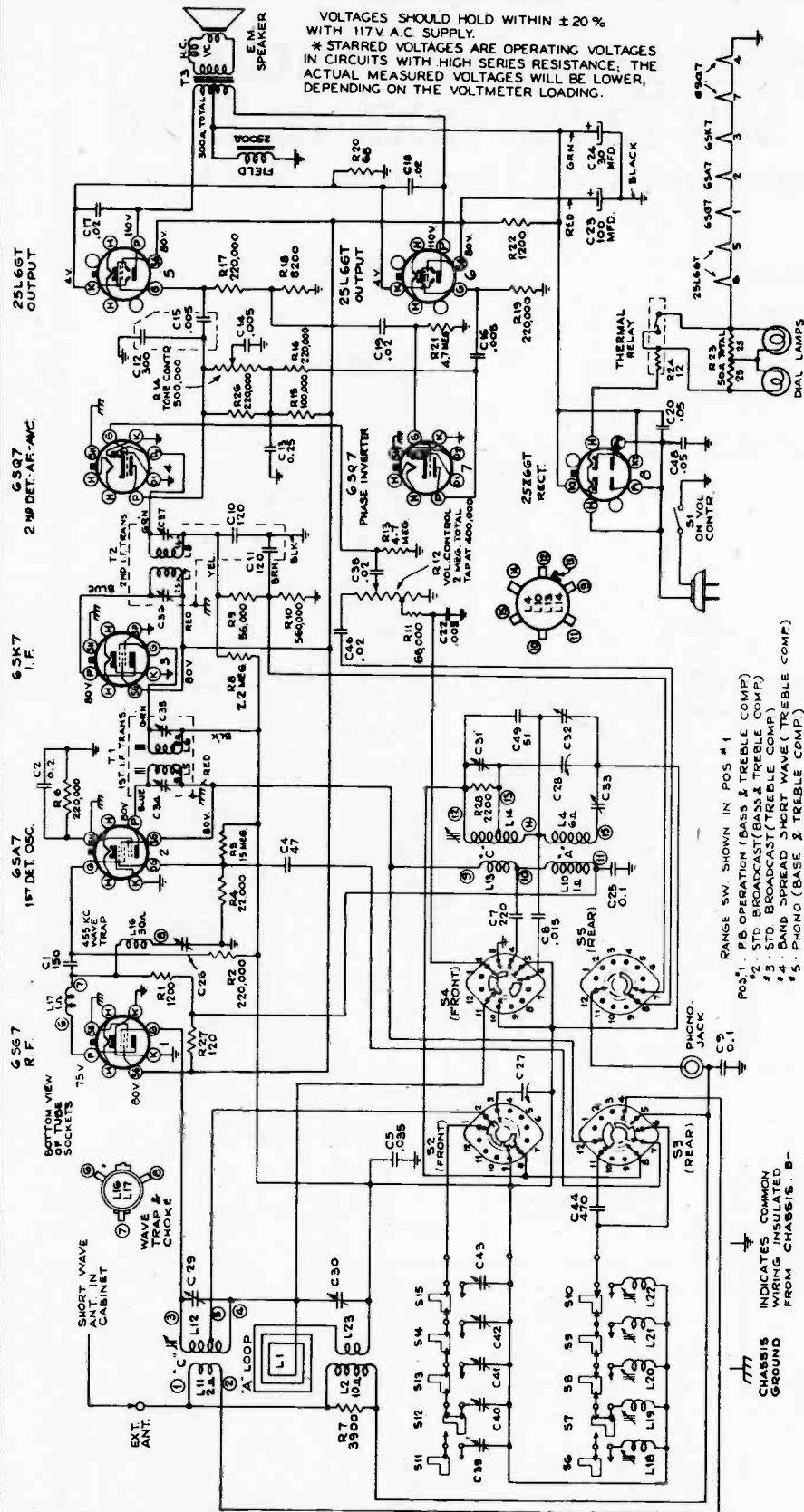
## BOTTOM VIEW OF CHASSIS



VOLTAGES MEASURED  
WITH A HIGH RESISTANCE  
VOLTMETER BETWEEN  
SOCKET TERMINALS  
AND CHASSIS.

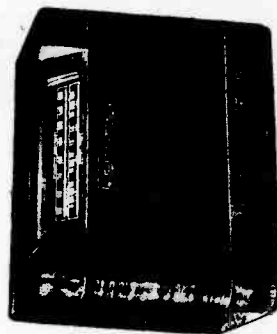


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

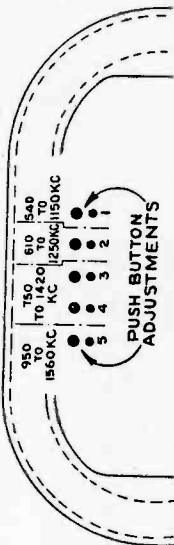
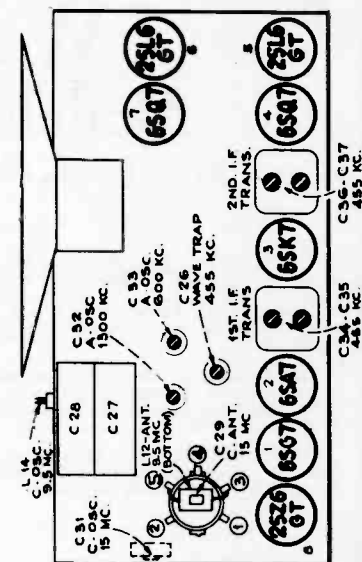


Westinghouse Radio

## Model WR-12X16



# 161





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Westinghouse Radio Models WR-12X3, 12X5 & 12X6

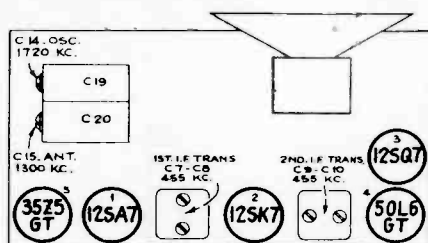
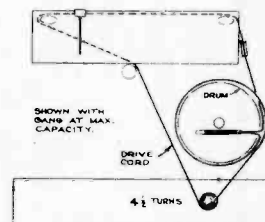
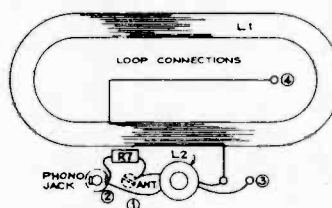
Five-Tube, Single-Band, AC-DC, Superheterodyne Receiver

### 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.

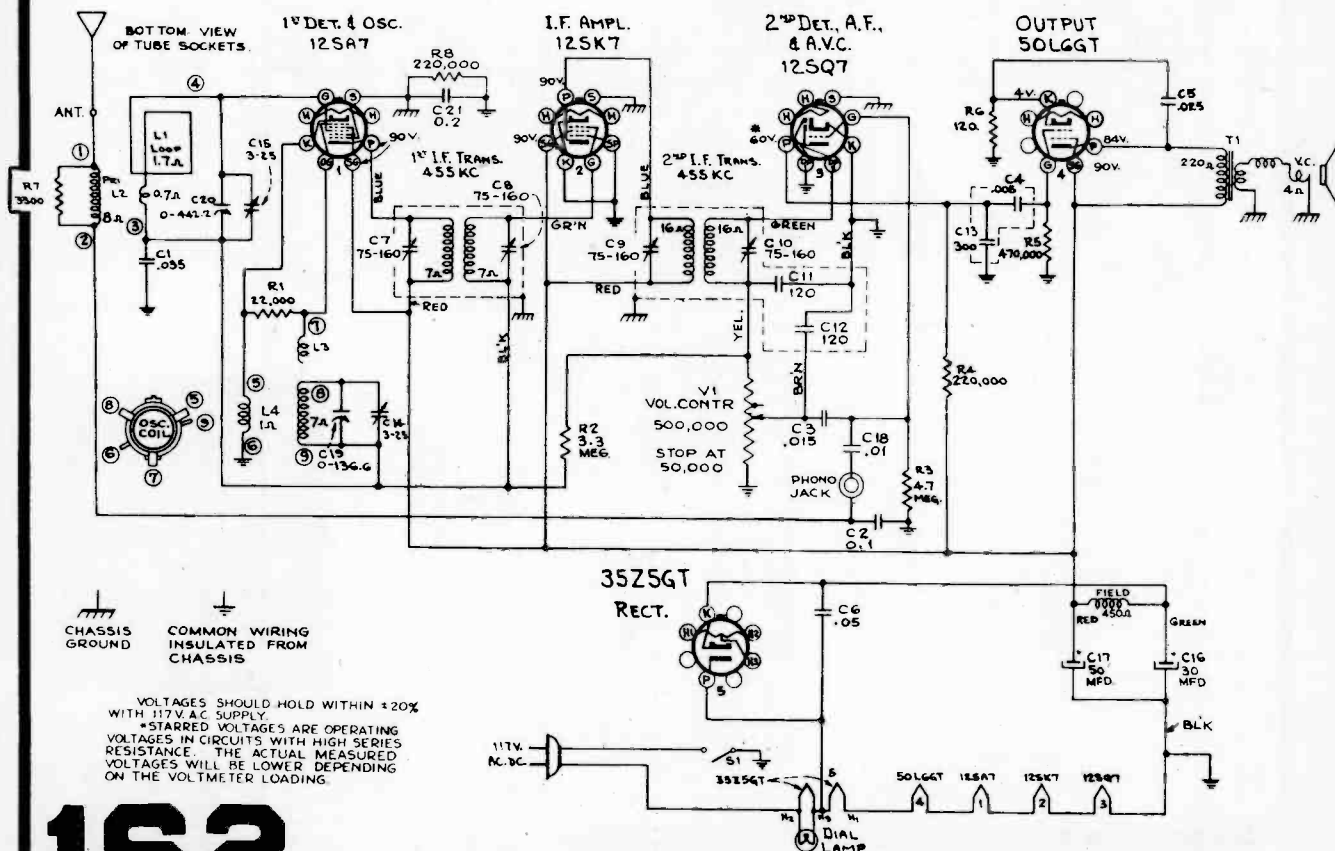
**Test Oscillator.**—Connect the low side of the test oscillator to the receiver chassis through a .01 mfd. capacitor. With the output meter alignment method the test oscillator output should be kept as low as possible.

**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.



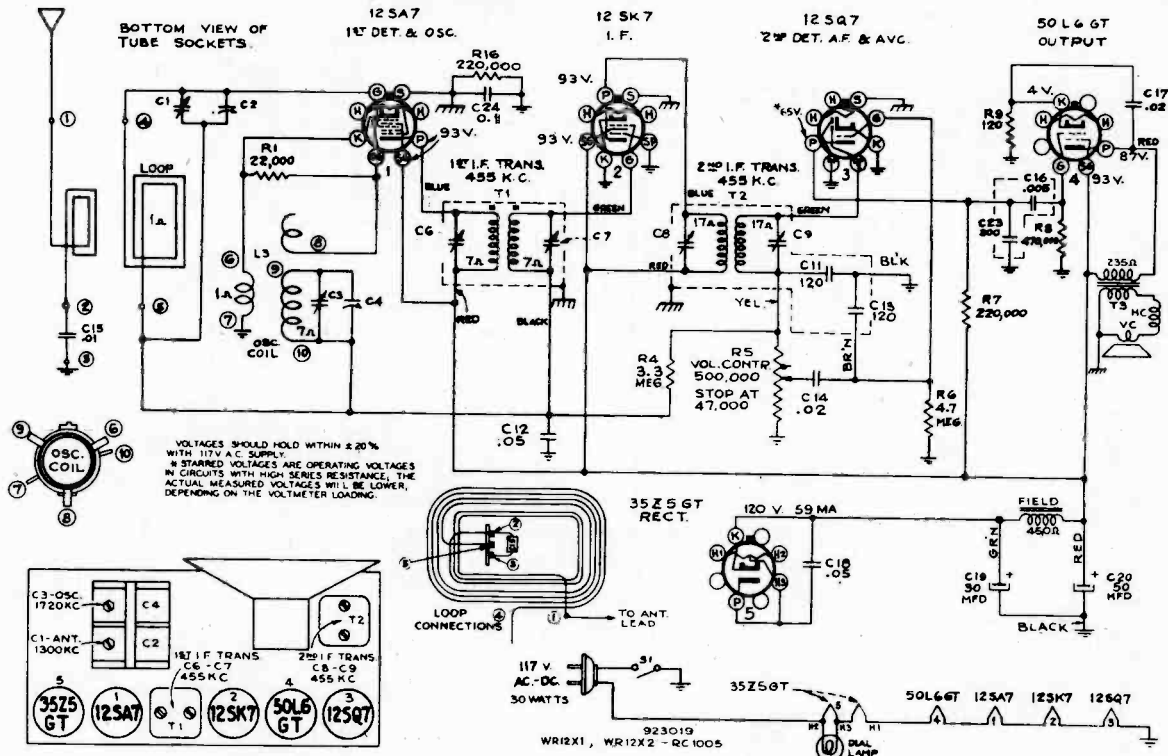
Tube and Trimmer Locations

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 1,800 kc end of dial	C10, C9 2nd I-F Transformer
2	1st Det. grid in series with .01 mfd.			C8, C7 1st I-F Transformer
3	Ant. terminal in series with 100 mmfd.	1,720 kc	Gang at minimum	C14 (osc.)
4	Radiated signal 1,300 kc		Signal frequency	C15 (ant.)
5	Repeat steps 3 and 4.			

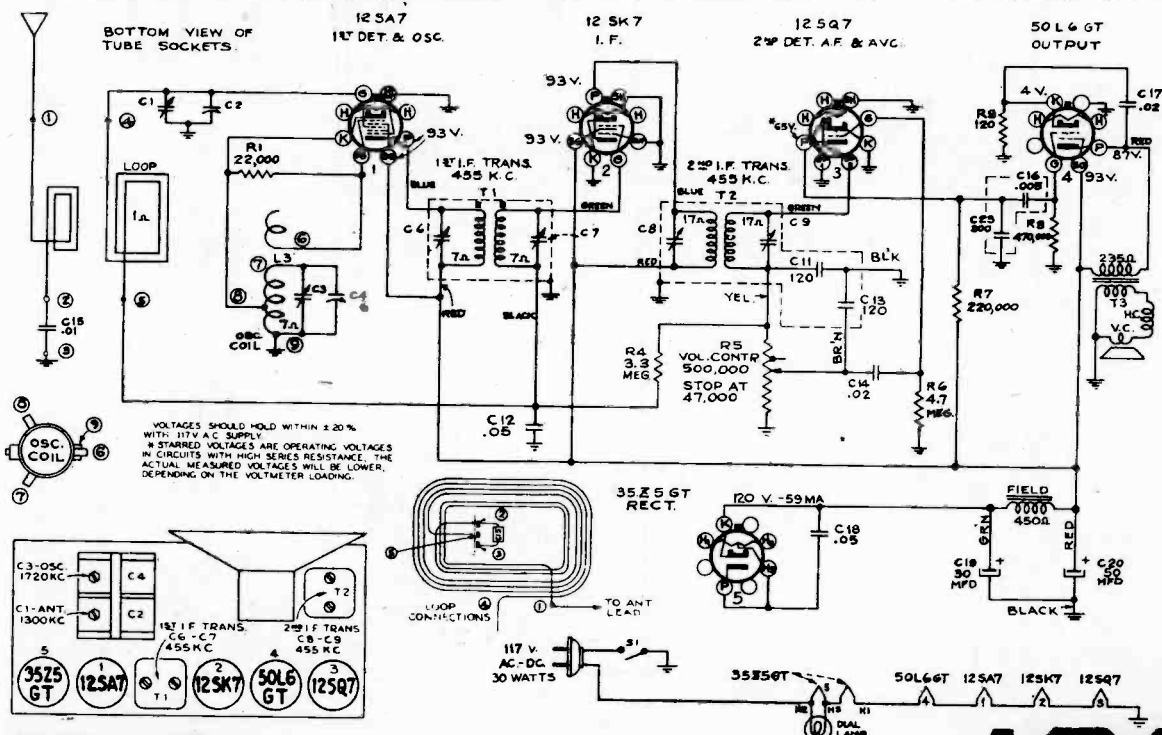




# Westinghouse Radio



Schematic Circuit Diagram Model WR-12X1 & WR-12X2



**WR-12K1**

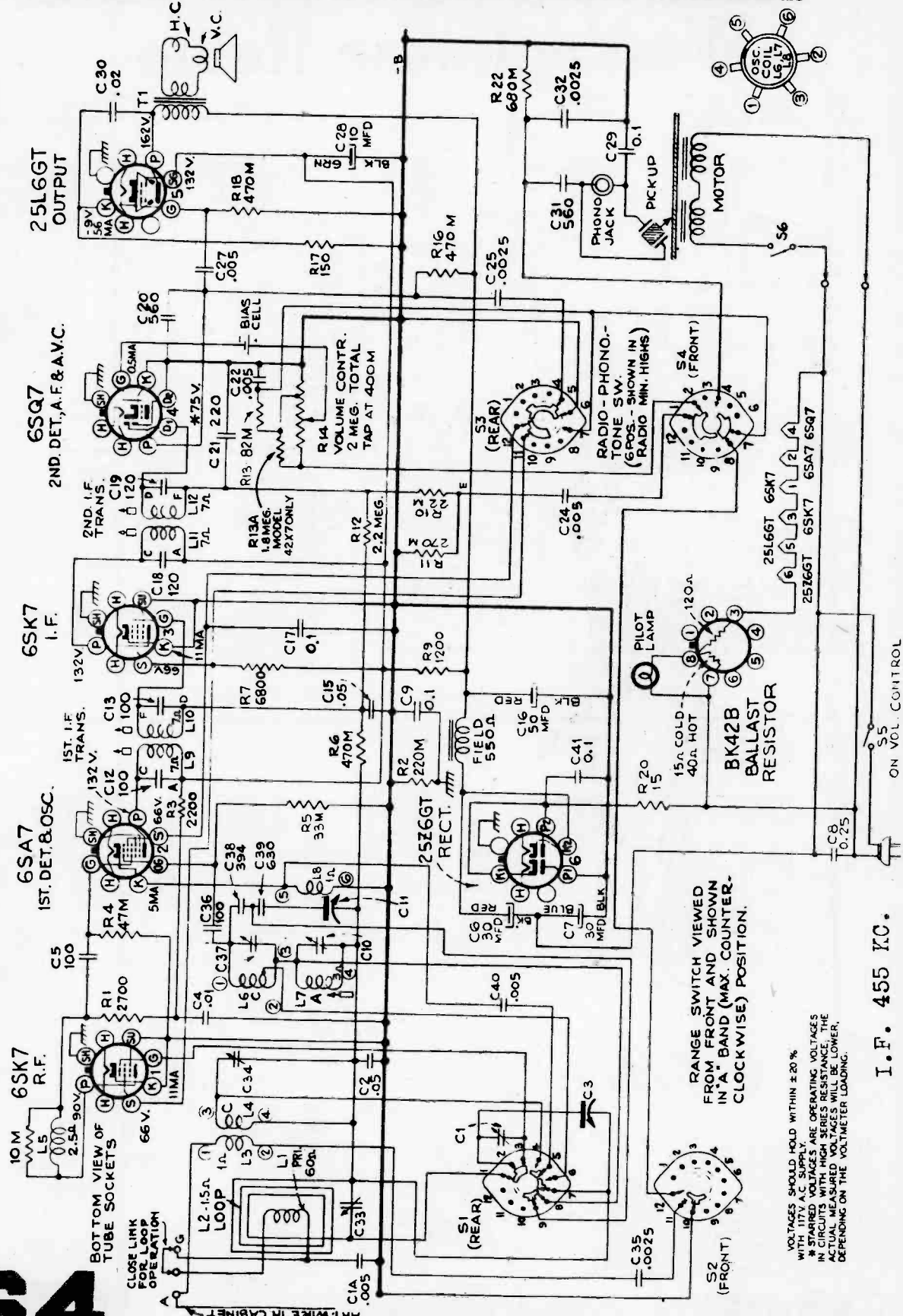
Schematic Circuit Diagram Model WR-12K1



# Westinghouse Models WR-42X3 & WR-42X7

# 164

MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



I.F. 455 KC.



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## Models WR-62K1 & WR-62K2

### Alignment Procedure

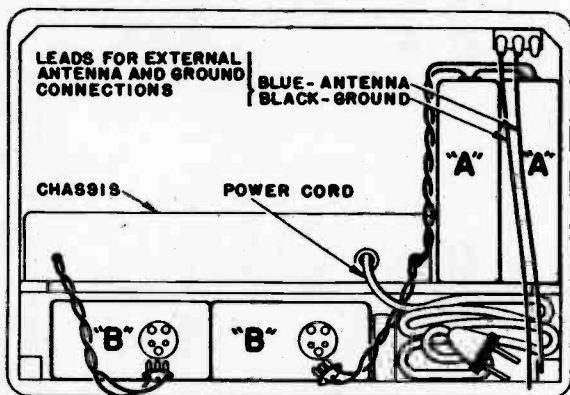
**Output Meter Alignment.**—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

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

#### Precautionary Lead Dress.

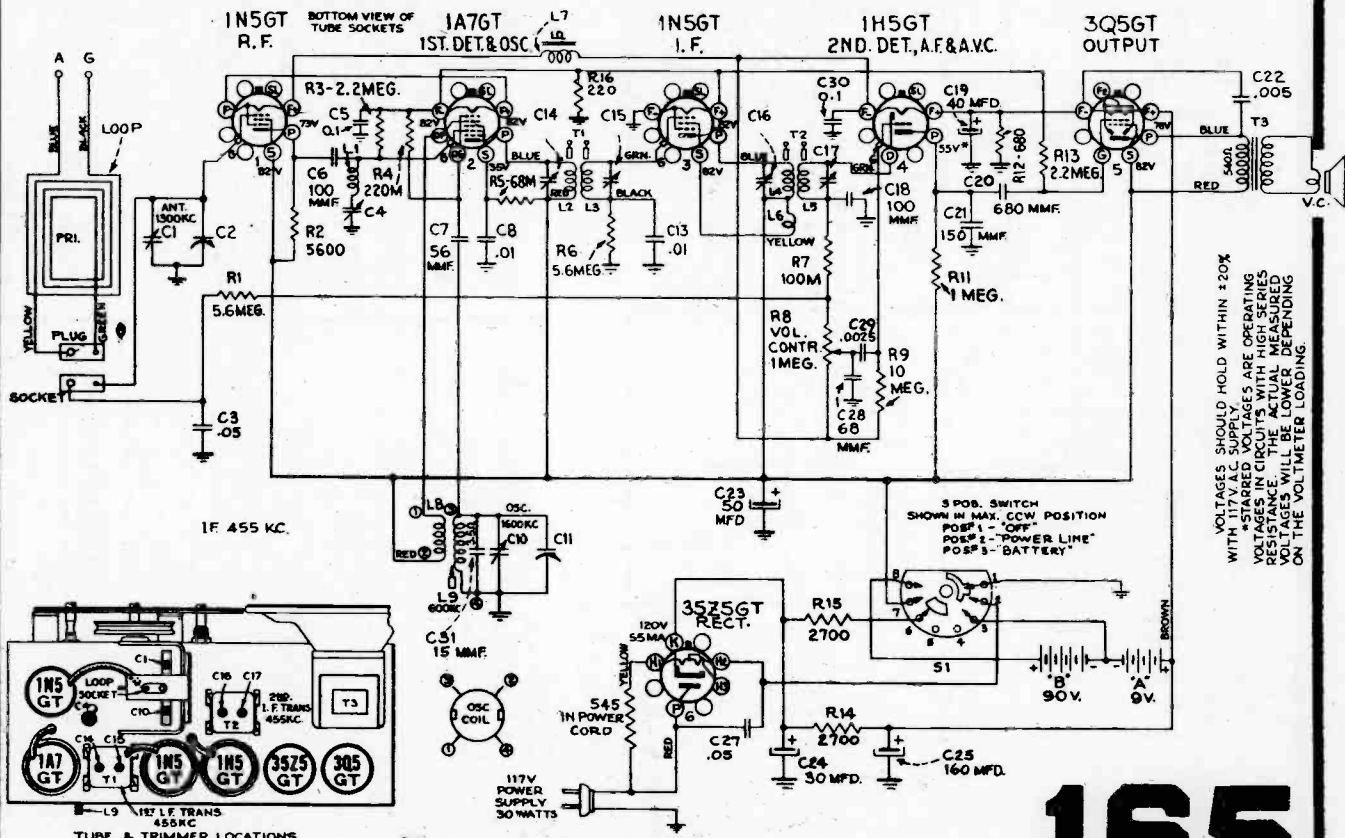
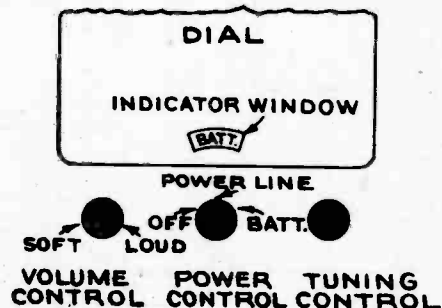
1. Keep green grid leads above chassis away from each other.
2. All filament wires should be dressed close to chassis.
3. Keep blue leads from I-F transformers close to chassis.

### BATTERY INSTALLATION



- "A"—TWO 4.5-VOLT EVEREADY NO. 746, BURGESS NO. G-3, RAY-O-VAC NO. P-83-A, OR EQUIVALENT.
- "B"—TWO 45-VOLT EVEREADY NO. 402, BURGESS NO. M-30, RAY-O-VAC NO. P-7830, OR EQUIVALENT.

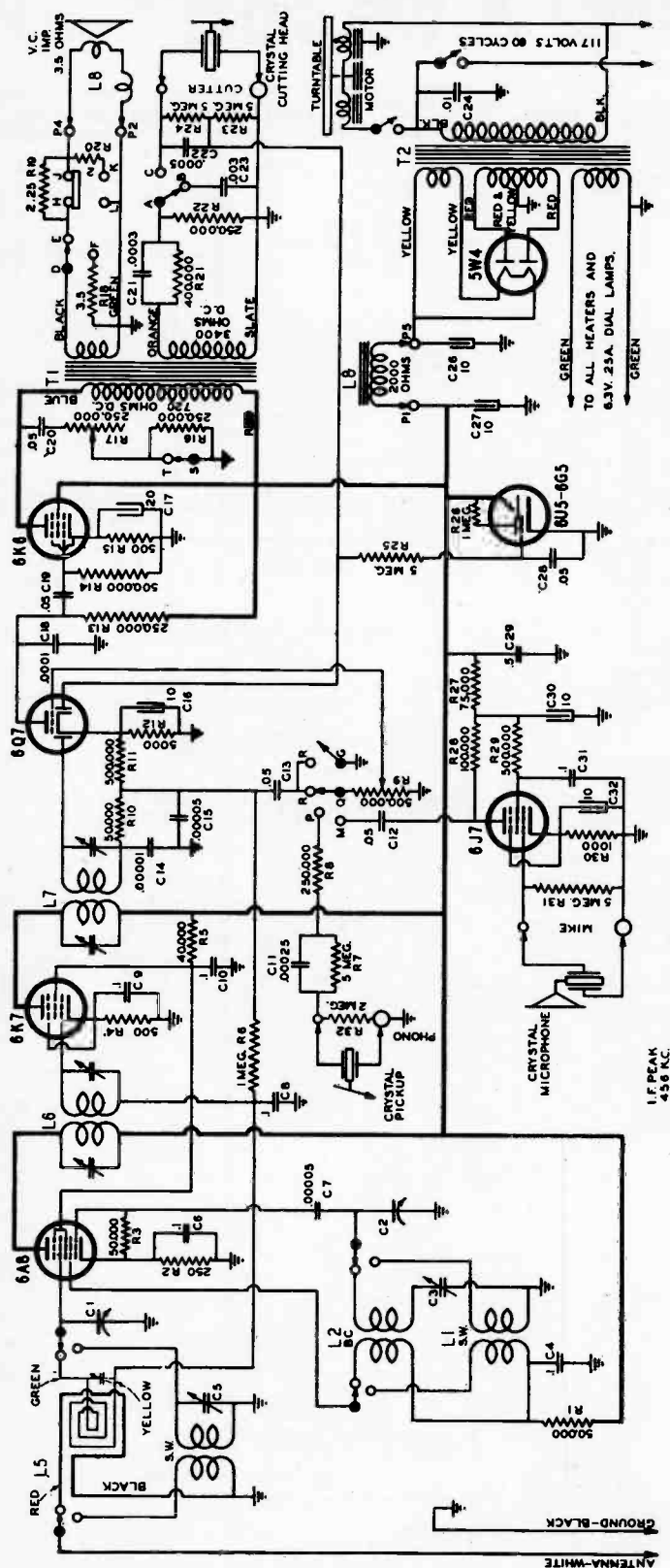
Steps	Connect the high side of test-osc. to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	1N5GT I-F grid cap, in series with .01 mfd.			C16, C17 (2nd I-F transformer)
2	1A7GT 1st Det. grid cap, in series with .01 mfd.	455 kc	Quiet point at 1,600 kc end of dial	C14, C15 (1st I-F transformer)
3				C4 Wave trap for minimum output
4	Antenna terminal in series with 200 mmfd.	800 kc	800 kc	L9 (osc.) (Rock in)
5		1,600 kc	1,600 kc	C10 (osc.)
6		1,300 kc	1,300 kc	C1 (ant.)
7	Repeat steps 4, 5 and 6 until aligned			
8	With chassis in cabinet and batteries connected repeat step 6			



# 165



## 166



<u>Tube</u>	<u>Position</u>	<u>Plate</u>	<u>Screen</u>	<u>Cathode</u>
6A8	1st. Det. Osc.	230	75	2.2
6K7	I.F.	230	75	3.0
6Q7	2nd. Det.	90*		1.5
6J7	Mike Amp.	45 to 65*	30*	.8
6K6	Output	215	235	13.5

NOTE: This is a typical voltage analysis made by use of standard 1000 ohm per volt voltmeter, using the 300 volt scale for plate and screen voltage readings.

**WILCOX-GAY CORPORATION**  
**Charlotte, Michigan**

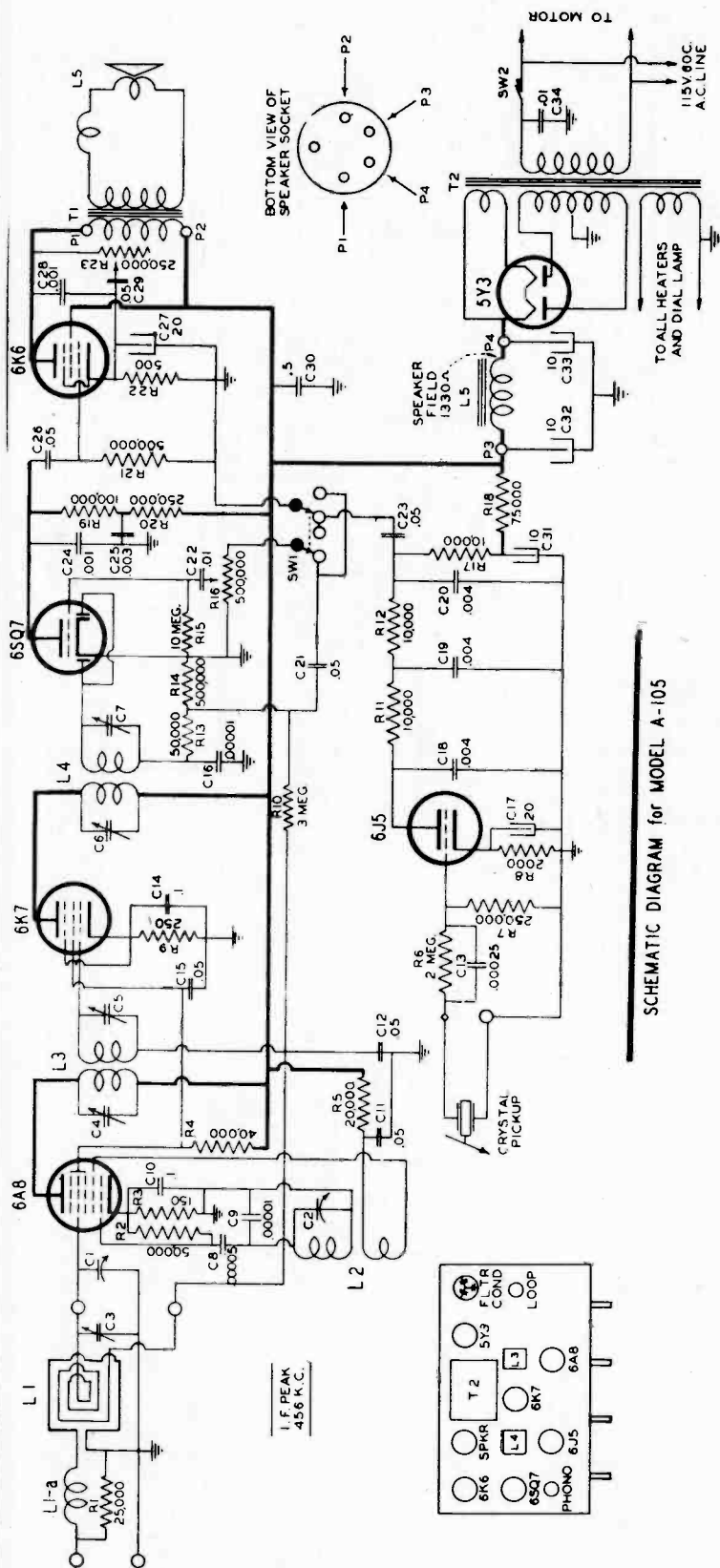
## Models

**A-104** **A-107**

Line Voltage-----118  
P5 or C26 to GND.-----350  
P1 or C27 to GND.-----240  
P5 to P1 (sp'kr field)---110  
C30 to GND.-----150



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



- (1) Connect signal generator to control grid of 6A8 tube.
- (2) Peak all trimmers for maximum reading on meter.

WILCOX-GAY CORPORATION  
Charlotte, Michigan

Model A-105

SIGNAL GENERATOR FREQUENCY	DIAL POSITION	TRIMMER
456 K.C.	1700 K.C.	I.F. - C4*
" "	" "	I.F. - C5*
" "	" "	I.F. - C6*
" "	" "	I.F. - C7*
1400 K.C.	1400 K.C.	C2-Oso.
" "	" "	Trimmer on Loop - R.F.

Connect signal generator to ANT. and GND. terminals.



VOLTAGES & CURRENTS OF MODELS 501 & 502 AMPLIFIERS			ALL MEASUREMENTS MADE WITH LINE AT 117 VOLTS 2.5 OR 60 CYCLE		
ALL VOLTAGES MEASURED WITH 1000 OHMS PER VOLT PLATE METER			CALL VOLTAGES OVER 50 USE 500 VOLT SCALE		
AVERAGE PLATE & SCREEN VOLTAGE	AVERAGE PLATE CURRENT	AVERAGE VOLTAGE ACROSS CONDENSERS			
MEASURED TO CHASSIS					
6L6G	68	MA. D.C.			
65C7	18	"			
6J5	8	"			
6L6G PLATE	310 VOLTS D.C.		C 15	320 VOLTS D.C.	
6L6G SCREEN	315 "		C 14	310 "	"
65C7 PLATE	170 "		C 13	315 "	"
6J5 PLATE	170 "		C 12	290 "	"
6J5 PLATE	170 "		C 11	275 "	"

SPEAKER FIELD RESISTANCE 5200 OHMS-VOICE COIL 8 OHMS

320 VOLTS D.C. BETWEEN TERMINALS 1 & 7 OF SPEAKER SOCKET

[illegible]

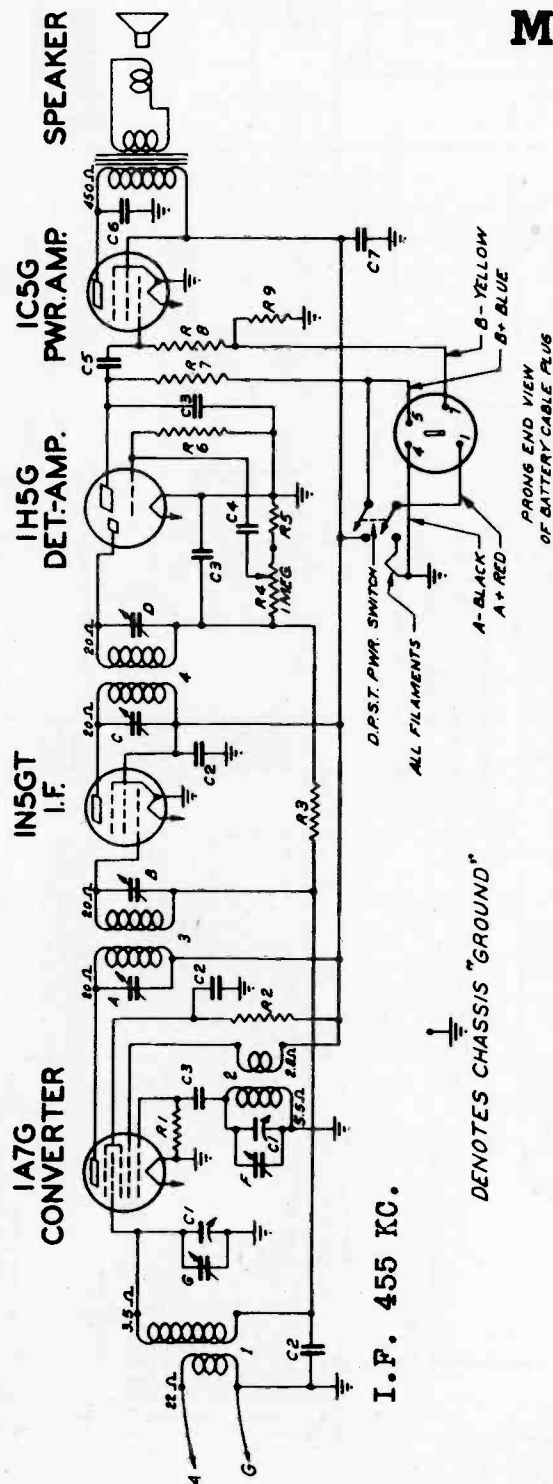


# ZENITH RADIO CORPORATION

CHICAGO • ILLINOIS

## Models 4K616-4K635-4K658

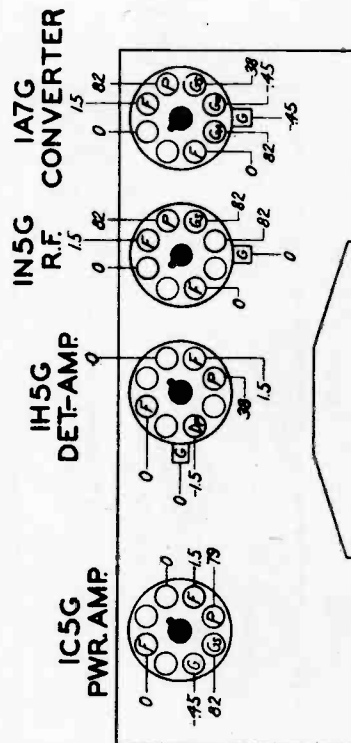
Chassis No. 4B02-4B03



DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	22-1209	TWO GANG VARIABLE -4802	R4	63-1235	VOLUME CONTROL-4803
C2	22-1213	TWO GANG VARIABLE -4802	R5	63-1240	VOLUME CONTROL-4802
C3	22-879	.05 MFD.	R6	63-587	4700 OHM
C4	22-162	.0001 MFD.	R7	63-976	15 MEGOHM
C5	22-825	.01 MFD.	R8	63-271	1 MEGOHM
C6	22-443	.004 MFD.	R9	63-600	2.2 MEGOHM
C7	22-684	8 MFD. ELECTROLYTIC/150V		63-634	820 OHM
R1	63-654	180 M OHM		20-237	ANTENNA COIL
R2	63-594	68 M OHM		39584	OSC. COIL ASSEMBLY
R3	63-669	5.9 MEGOHM		95-B14	1ET I.F. TRANSFORMER
				95-B15	2ND I.F.

CHASSIS MODEL SPEAKER  
4B02 4K616 49-449 5"  
4B03 4K635 49-450 6"  
4B03 4K658 49-461 8"

BATTERY PACK NO Z-28



SOCKET VOLTAGES—BOTTOM VIEW

All voltages measured with a 1000 ohm per volt meter from chassis to socket contact indicated.

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

Volume control on full.

Battery Z28

Power consumption—1.3 watts.

Power output— .28 watts.

Tuning Range—540 Kc.—1740 Kc.

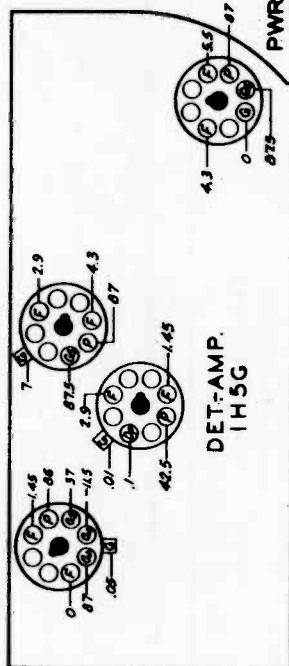


### Zenith Radio

I.F. FREQUENCY 455 KC

CONVERTER  
1A7G

I.F.  
IN5G



All voltages measured with a 1000 ohm per volt meter from chassis to socket contacts.  
Voltage readings are all positive D.C. unless otherwise indicated.  
Antenna disconnected volume control full on.  
Battery voltage 6 volt.  
Battery consumption—.5 ampere.  
Power Output—.37 watt.

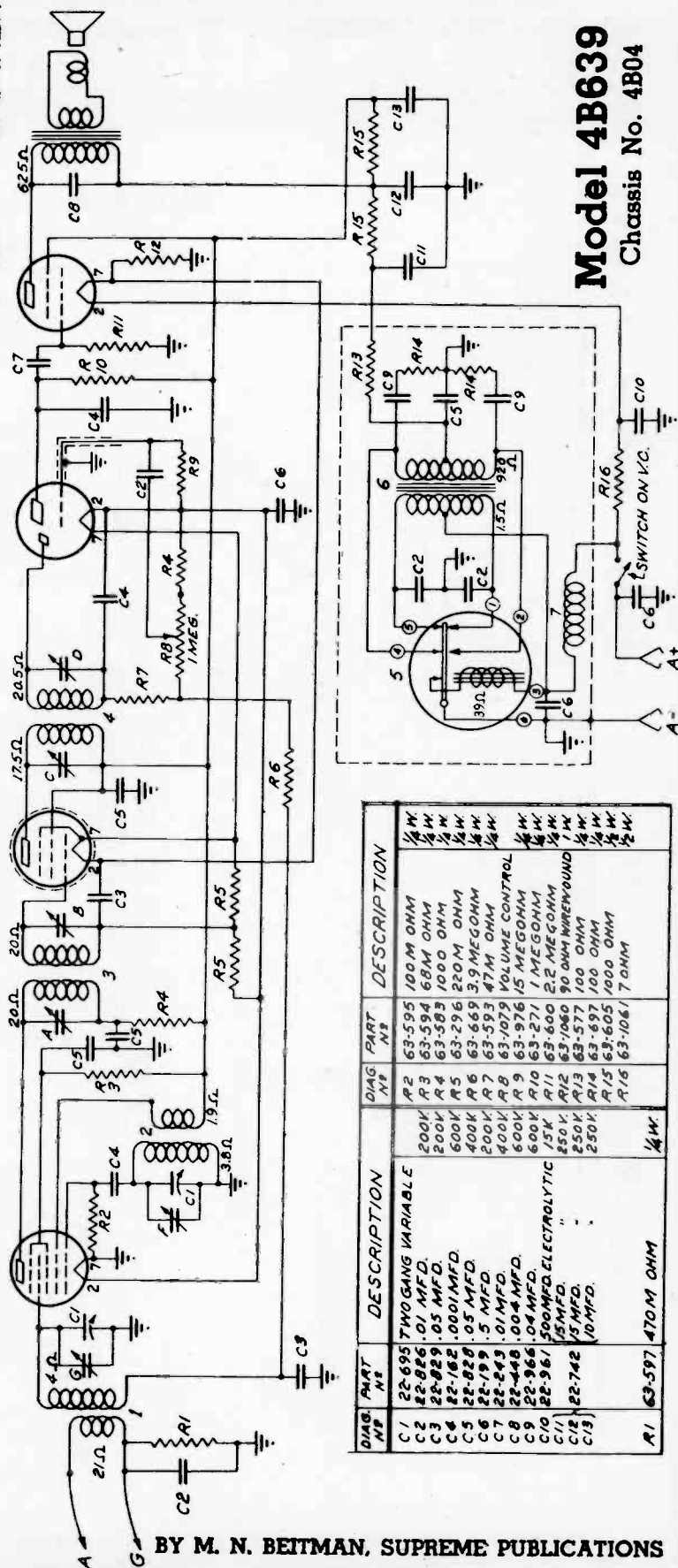
1A7G  
CONVERTER

IN5G  
I.F.

IH5G  
DET-AMP.

IQ5G  
PWR. AMP.

SPEAKER

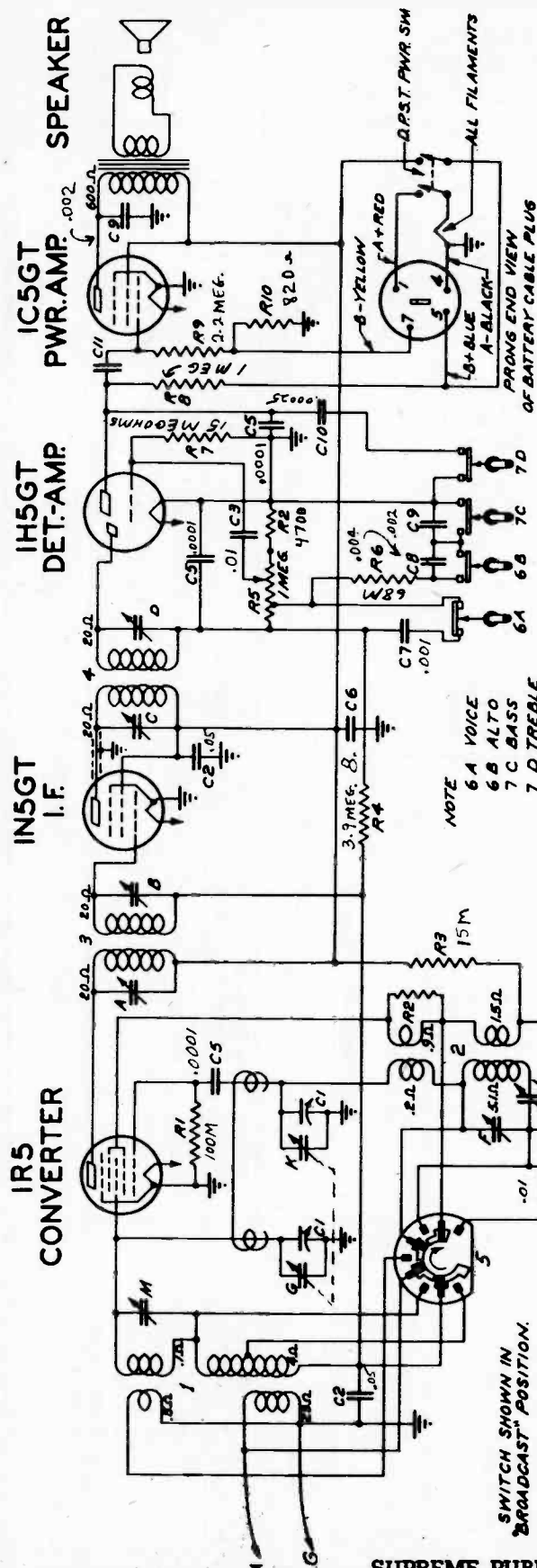


**Model 4B639**  
Chassis No. 4B04

DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	22-695	TWO GANG VARIABLE	R2	63-595	100M OHM
C2	22-826	.01 MFD.	R3	63-594	68M OHM
C3	22-829	.05 MFD.	R4	63-583	1000 OHM
C4	22-162	.0001 MFD.	R5	63-296	250M OHM
C5	22-828	.05 MFD.	R6	63-669	3.9 MEG OHM
C6	22-199	.5 MFD.	R7	63-593	47M OHM
C7	22-543	.01 MFD.	R8	63-1079	VOLUME CONTROL
C8	22-448	.004 MFD.	R9	63-976	15 MEG OHM
C9	22-966	.04 MFD.	R10	63-271	1 MEG OHM
C10	22-961	.500 MFD. ELECTROLYTIC	R11	63-600	22 MEG OHM
C11	22-742	.15 MFD.	R12	63-1060	90 OHM WIREWOUND
C12	22-742	.15 MFD.	R13	63-577	100 OHM
C13	22-742	.15 MFD.	R14	63-697	100 OHM
			R15	63-605	1000 OHM
			R16	63-1061	70 OHM
R1	63-597	470M OHM			



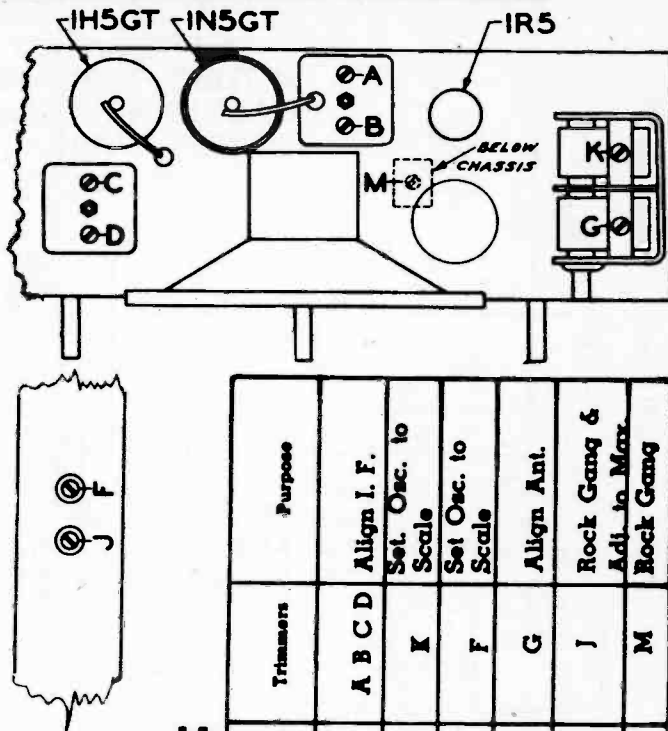
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



SWITCH SHOWN IN  
BROADCAST" POSITION.

# Model 4K640

Chassis No. 4B05



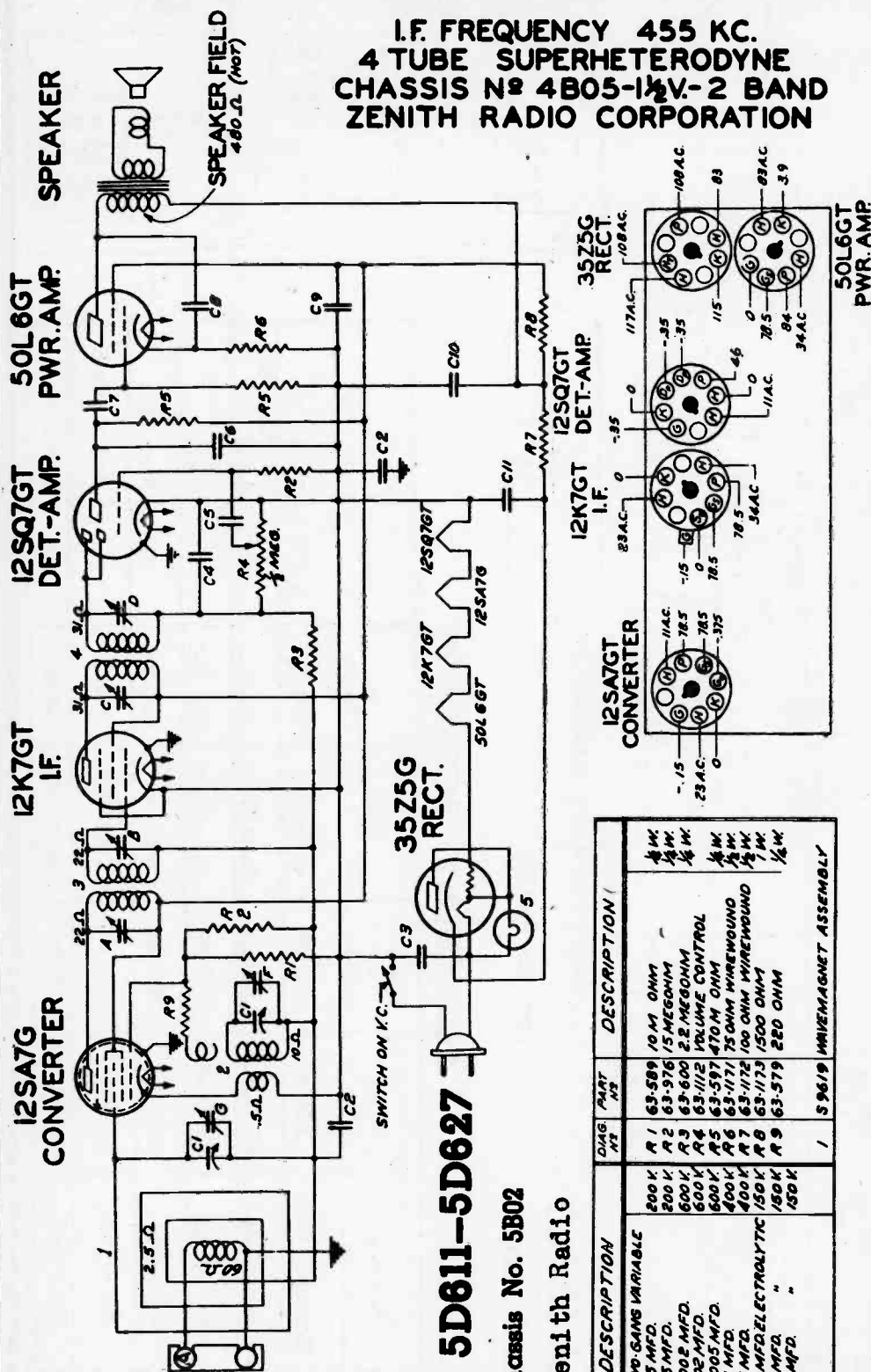
## ALIGNMENT PROCEDURE

Oper- ation	Coax. Test Osc. to	Dummy Ant.	Input Sig. Freq.	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.5 Mid.	455 Kc.	Broadcast	600 Kc.	A B C D	Align I. F.
2	Ant.—Gnd.	400 Ohms	18 Mc.	Short Wave	18 Mc.	K	Set. Osc. to Scale
3	Ant.—Gnd.	200 Mmf.	1600 Kc.	Broadcast	1600 Kc.	F	Set Osc. to Scale
4	Ant.—Gnd.	200 Mmf.	1400 Kc.	Broadcast	1400 Kc.	G	Align Ant.
5	Ant.—Gnd.	200 Mmf.	600 Kc.	Broadcast	600 Kc.	J	Rock Gang & Adj. to Max.
6	Ant.—Gnd.	400 Ohms	18 Mc.	Short Wave	18 Mc.	M	Rock Gang



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

I.F. FREQUENCY 455 KC.  
4 TUBE SUPERHETERODYNE  
CHASSIS No 4B05-1½V-2 BAND  
ZENITH RADIO CORPORATION



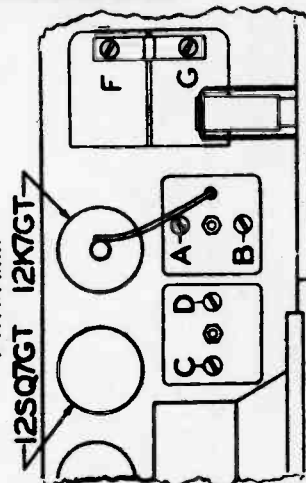
Models 5D811-5D827

Chassis No. 5B02

Zenith Radio

DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	22-1006	TWO-SAMS VARIABLE	R1	63-589	10 M OHM
C2	22-829	.05 MFD.	R2	63-576	15 MEG OHM
C3	22-1017	.05 MFD.	R3	63-600	2.2 MEG OHM
C4	22-953	.0002 MFD.	R4	63-1112	VOLUME CONTROL
C5	22-492	.0002 MFD.	R5	63-597	470 M OHM
C6	22-854	.0005 MFD.	R6	63-1171	75 OHM WIREWOUND
C7	22-243	.01 MFD.	R7	63-1172	100 OHM WIREWOUND
C8	22-1182	.01 MFD.	R8	63-1173	1500 OHM
C9	22-1182	.01 MFD.	R9	63-579	220 OHM
C10	22-1186	.01 MFD.			
C11	22-1186	.01 MFD.			

1 S9619 WHITE MAGNET ASSEMBLY

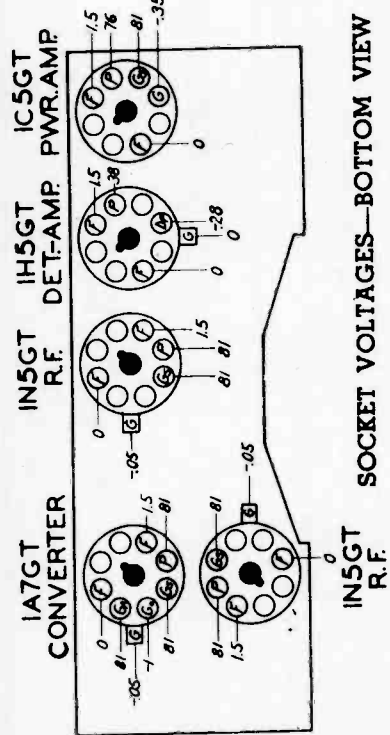


Operation	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.1 mfd.	455 Kc.	—	600 Kc.	A, B, C, D	Align I. F.
2	Single Turn Loop coupled loosely to Wave Magnet	—	1500 Kc.	—	1500 Kc.	F	Set Oscillator to Scale
3		—	1500 Kc.	—	1500 Kc.	G	Adjust for Maximum





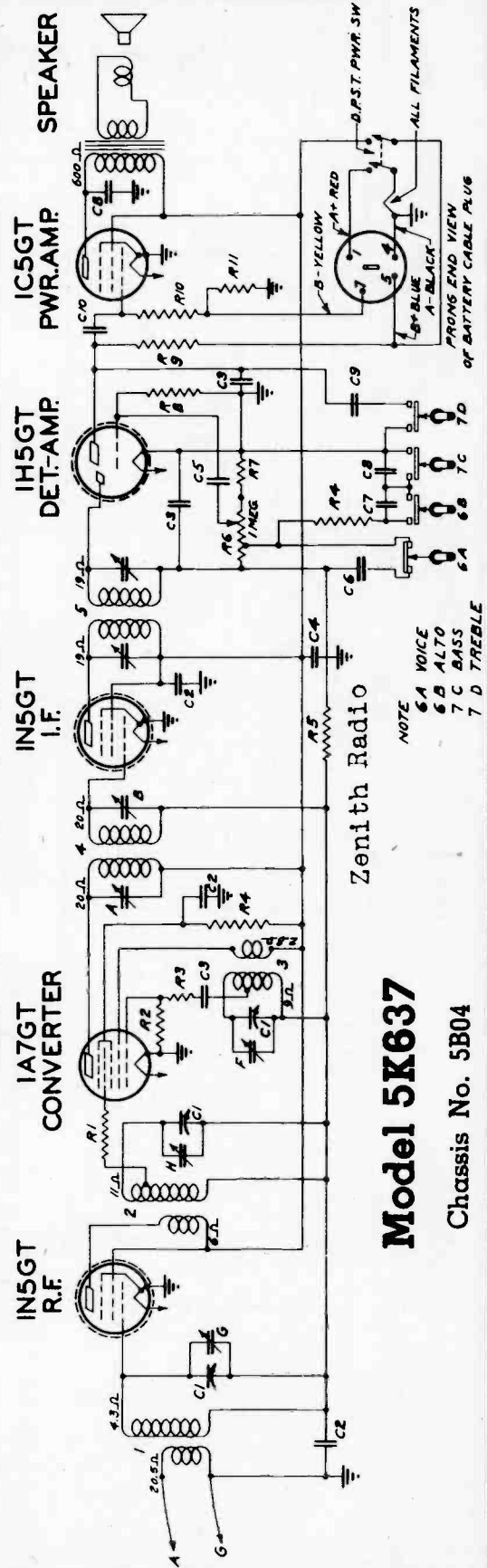
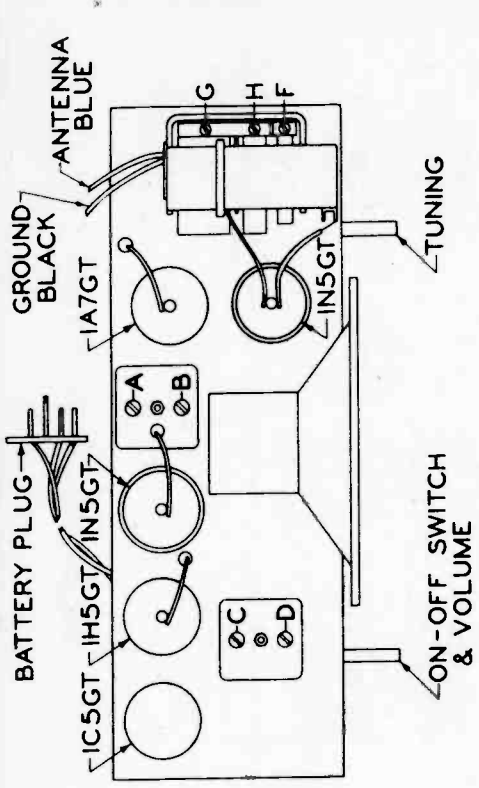




**Model 5K637**  
Chassis No. 5B04

DIAG. NO.	DESCRIPTION	DIAG. NO.	DESCRIPTION
C1	THREE GANG VARIABLE	R5	3.5 MEG OHM
C2	.05 MFD.	R6	VOLUME CONTROL
C3	.001 MFD.	R7	4700 OHM
C4	8 MFD. ELECTROLYTIC	R8	15 MEG OHM
C5	.01 MFD.	R9	1 MEG OHM
C6	.001 MFD.	R10	2.2 MEG OHM
C7	.004 MFD.	R11	BEO OHM
C8	.002 MFD.		
C9	.0022 MFD.		
C10	.01 MFD.		
R1	5600 OHM		
R2	180M OHM		
R3	470 OHM		
R4	68M OHM		

Operation	Connect Test Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Adjust Trimers	Purpose
1	Converter Grid	1/2 Mid.	455 Kc.	Broadcast	600 Kc.	A, B, C, D	I. F. Alignment
2	Ant.—Gnd.	200 Mmf.	1500 Kc.	Broadcast	1500 Kc.	F	Set Oscillator to Scale
3	"	200 Mmf.	1400 Kc.	Broadcast	1400 Kc.	H, G	Align R.F. & Ant.



**Model 5K637**  
Chassis No. 5B04

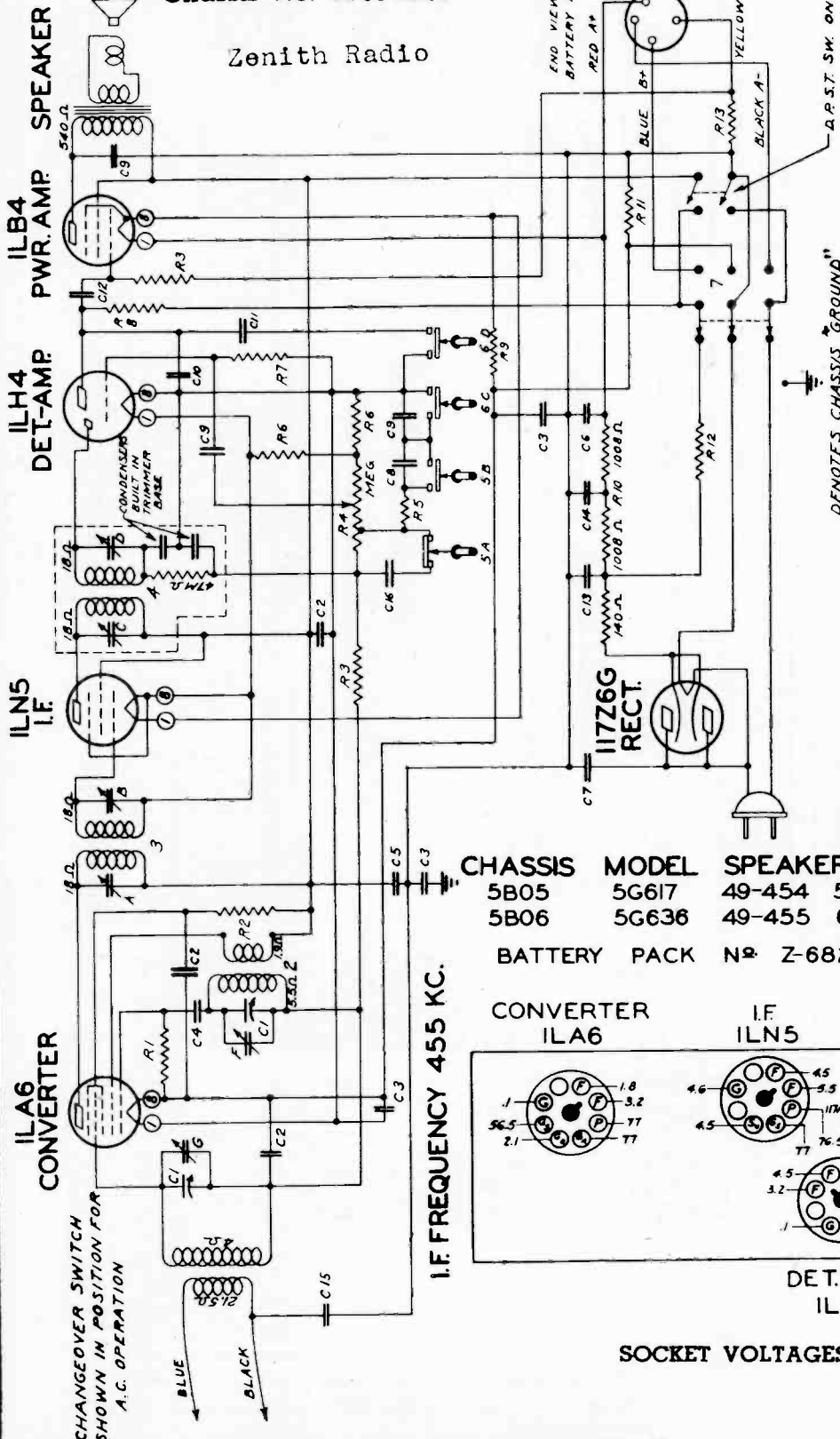


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

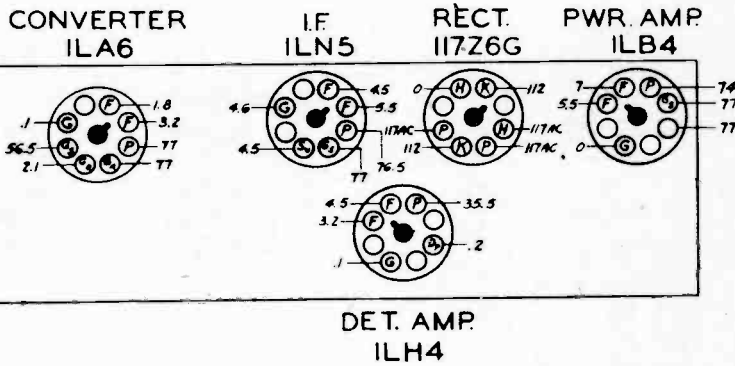
## Models 5G617-5G636

Chassis No. 5B05-5B06

Zenith Radio

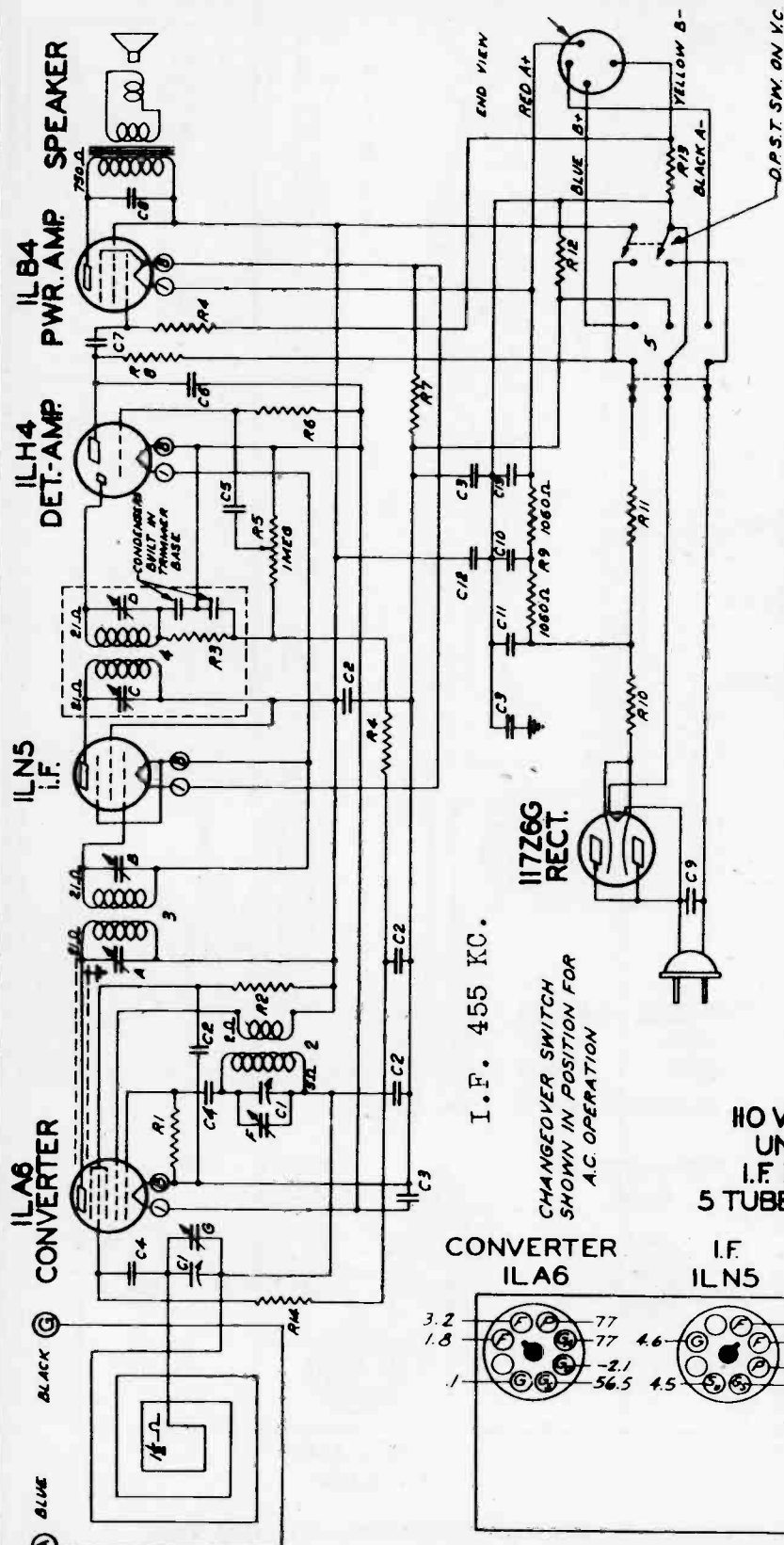


DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
1	20-238	ANTENNA COIL	1	63-654	180 M OHM
2	5-9597	OSCILLATOR COIL ASSEMBLY	2	63-646	33 M OHM
3	95-816	187 I.F. TRANSFORMER	3	63-600	2.2 MEG OHM
4	95-817	280 I.F. TRANSFORMER	4	63-1236	VOLUME CONTROL
5	85-285	T.C. SWITCH LEFT { 5B05	5	63-1241	VOLUME CONTROL
6	85-284	" " " " { 5B06	6	63-534	68 M OHM
7	85-283	" " " " { 5B05	7	63-534	68 M OHM
8	85-282	" " " " { 5B06	8	63-271	15 MEG OHM
9	85-281	CHANGEOVER SWITCH	9	63-1097	870 OHM WIREWOUND
10	187 I.F. TRANS. PRI		10	63-1339	3 SECTION CAND OHM
11	187 I.F. TRANS. SEC		11	63-1339	3 SECTION CAND OHM
12	280 I.F. TRANS. PRI		12	63-439	2700 OHM
13	280 I.F. TRANS. SEC		13	63-627	180 OHM
14	BROADCAST OSC. (ON GANG)				
15	BROADCAST ANT. (ON GANG)				





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



Zenith Radio

**Model 5G603**

Chassis No. 5B07

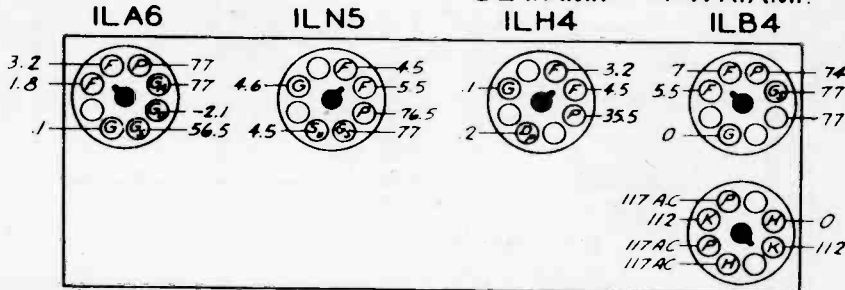
WINDING	RESISTANCE	WINDING	RESISTANCE
117 AC	117	117 AC	117
112	112	112	112
117 AC	117	117 AC	117
117 AC	117	117 AC	117

CONVERTER

I.F.

DET. AMP.

PWR. AMP.



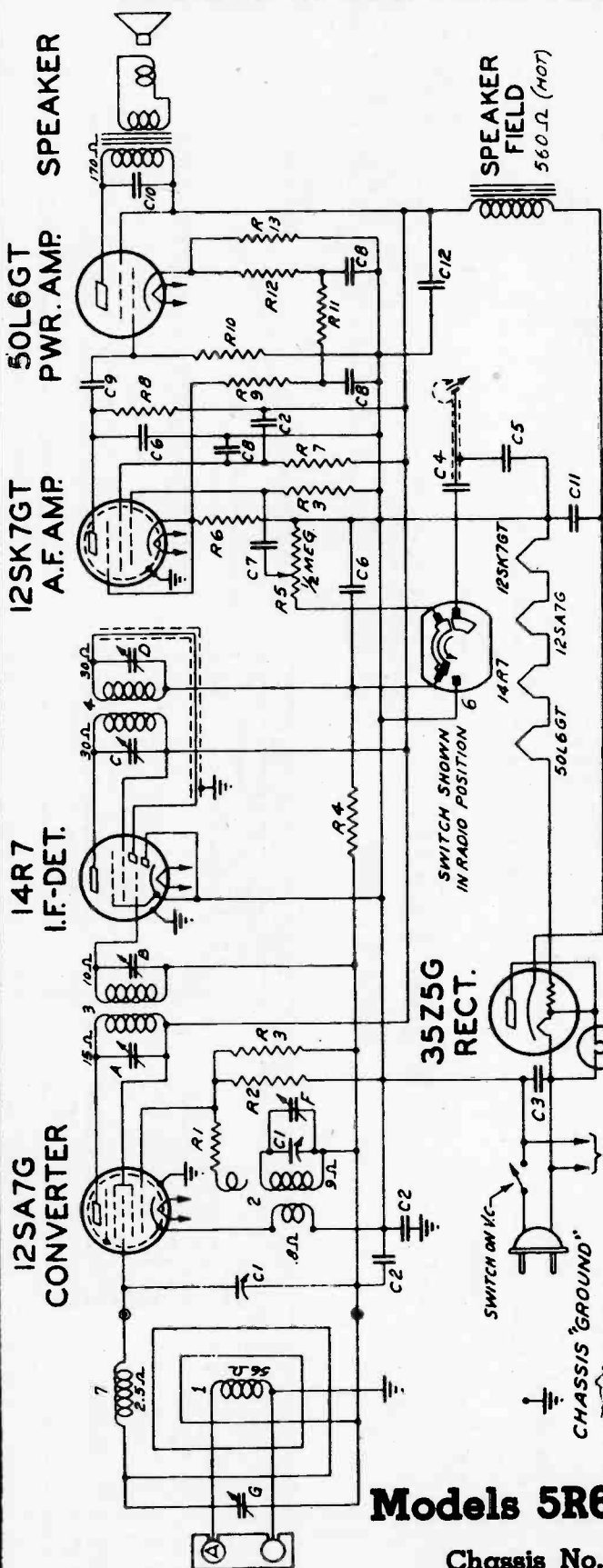
All voltages measured from point indicated to Neg. B. using 20000 ohm per volt meter.

RECT.  
117Z6G

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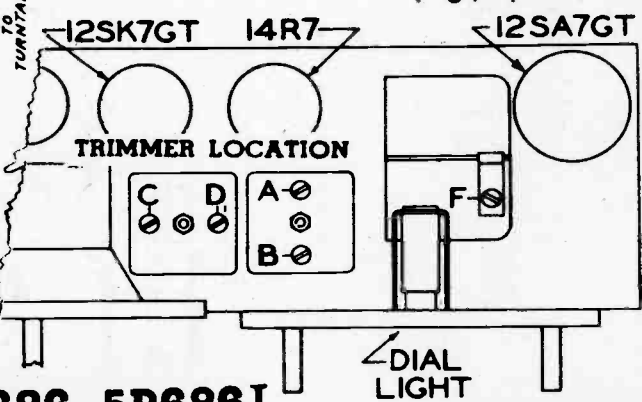


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION	DIAG. NO.	PART NO.	DESCRIPTION
C1	22-1243	TWO-GANG VARIABLE	A3	63-976	15 MEGOHM	A	W	1ET I/F TRANSFORMER
C2	22-1229	.05 MFD.	A4	63-600	2.2 MEGOHM	A	W	2ND I/F TRANSFORMER
C3	22-1017	.05 MFD.	A5	63-112	VOLUME CONTROL	A	W	DUAL LIGHT 6.3 V. 15A.
C4	22-1189	.00075 MFD.	A6	63-634	820 OHM	A	W	PHONO-RADIO SWITCH
C5	22-327	.02 MFD.	A7	63-778	470M OHM	A	W	LOOP LOADING COIL
C6	22-953	.0002 MFD.	A8	63-445	100M OHM	A	W	
C7	22-492	.002 MFD.	A9	63-439	2700 OHM	A	W	
C8	22-827	.1 MFD.	A10	63-597	470 M OHM	A	W	
C9	22-188	.02 MFD.	A11	63-637	4700 OHM	A	W	
C10	22-1182	.01 MFD.	A12	63-639	6800 OHM	A	W	
C11	22-1026	20 MFD. ELECTROLYTIC	A13	63-1015	140 OHM WIREWOUND	A	W	
C12		40 MFD.						
R1	63-579	220 OHM	1	S3079	WAVEMAGNET	A	W	
R2	63-589	10M OHM	2	S9470	OSCILLATOR COIL ASSEMBLY	A	W	

Operation	Connect Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Converter Grid	.5 mfd.	455 Kc.	BC	1600 Kc.	A, B, C, D	Align I.F.
2	One Turn Loop Coupled Loosely to Wave Magnet	—	1600 Kc.	"	1600 Kc.	F	Set to Scale
3	"	—	1400 Kc.	"	1400 Kc.	G. Located at Back of Wave Magnet	Align Ant.



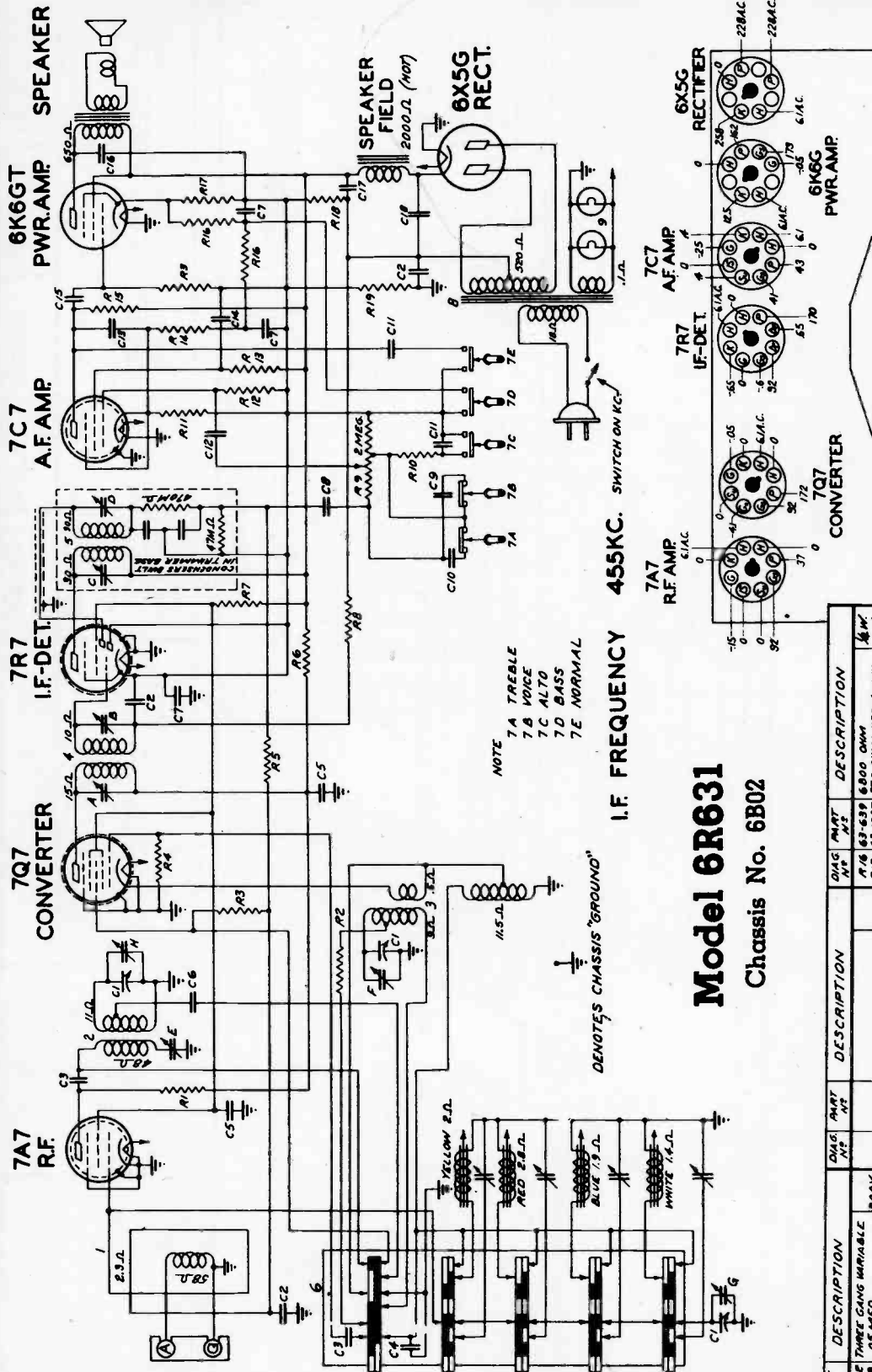
## Models 5R686-5R686J

**Chassis No. 5B13 Phono.**

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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## SOCKET VOLTAGES—BOTTOM VIEW

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

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

QWG No.	PART No.	DESCRIPTION	QWG No.	PART No.	DESCRIPTION
R1	63-639	6800 OHM	R16	63-639	6800 OHM
R2	63-639	6800 OHM	R17	63-639	6800 OHM
R3	63-639	6800 OHM	R18	63-639	6800 OHM
R4	63-639	6800 OHM	R19	63-639	6800 OHM
R5	63-639	6800 OHM	R20	63-639	6800 OHM
R6	63-639	6800 OHM	R21	63-639	6800 OHM
R7	63-639	6800 OHM	R22	63-639	6800 OHM
R8	63-639	6800 OHM	R23	63-639	6800 OHM
R9	63-639	6800 OHM	R24	63-639	6800 OHM
R10	63-639	6800 OHM	R25	63-639	6800 OHM
R11	63-639	6800 OHM	R26	63-639	6800 OHM
R12	63-639	6800 OHM	R27	63-639	6800 OHM
R13	63-639	6800 OHM	R28	63-639	6800 OHM
R14	63-639	6800 OHM	R29	63-639	6800 OHM
R15	63-639	6800 OHM	R30	63-639	6800 OHM
C1	63-639	6800 OHM	C16	63-639	6800 OHM
C2	63-639	6800 OHM	C17	63-639	6800 OHM
C3	63-639	6800 OHM	C18	63-639	6800 OHM
C4	63-639	6800 OHM	C19	63-639	6800 OHM
C5	63-639	6800 OHM	C20	63-639	6800 OHM
C6	63-639	6800 OHM	C21	63-639	6800 OHM
C7	63-639	6800 OHM	C22	63-639	6800 OHM
C8	63-639	6800 OHM	C23	63-639	6800 OHM
C9	63-639	6800 OHM	C24	63-639	6800 OHM
C10	63-639	6800 OHM	C25	63-639	6800 OHM
C11	63-639	6800 OHM	C26	63-639	6800 OHM
C12	63-639	6800 OHM	C27	63-639	6800 OHM
C13	63-639	6800 OHM	C28	63-639	6800 OHM
C14	63-639	6800 OHM	C29	63-639	6800 OHM
C15	63-639	6800 OHM	C30	63-639	6800 OHM
C16	63-639	6800 OHM	C31	63-639	6800 OHM
C17	63-639	6800 OHM	C32	63-639	6800 OHM
C18	63-639	6800 OHM	C33	63-639	6800 OHM
C19	63-639	6800 OHM	C34	63-639	6800 OHM
C20	63-639	6800 OHM	C35	63-639	6800 OHM
C21	63-639	6800 OHM	C36	63-639	6800 OHM
C22	63-639	6800 OHM	C37	63-639	6800 OHM
C23	63-639	6800 OHM	C38	63-639	6800 OHM
C24	63-639	6800 OHM	C39	63-639	6800 OHM
C25	63-639	6800 OHM	C40	63-639	6800 OHM
C26	63-639	6800 OHM	C41	63-639	6800 OHM
C27	63-639	6800 OHM	C42	63-639	6800 OHM
C28	63-639	6800 OHM	C43	63-639	6800 OHM
C29	63-639	6800 OHM	C44	63-639	6800 OHM
C30	63-639	6800 OHM	C45	63-639	6800 OHM
C31	63-639	6800 OHM	C46	63-639	6800 OHM
C32	63-639	6800 OHM	C47	63-639	6800 OHM
C33	63-639	6800 OHM	C48	63-639	6800 OHM
C34	63-639	6800 OHM	C49	63-639	6800 OHM
C35	63-639	6800 OHM	C50	63-639	6800 OHM
C36	63-639	6800 OHM	C51	63-639	6800 OHM
C37	63-639	6800 OHM	C52	63-639	6800 OHM
C38	63-639	6800 OHM	C53	63-639	6800 OHM
C39	63-639	6800 OHM	C54	63-639	6800 OHM
C40	63-639	6800 OHM	C55	63-639	6800 OHM
C41	63-639	6800 OHM	C56	63-639	6800 OHM
C42	63-639	6800 OHM	C57	63-639	6800 OHM
C43	63-639	6800 OHM	C58	63-639	6800 OHM
C44	63-639	6800 OHM	C59	63-639	6800 OHM
C45	63-639	6800 OHM	C60	63-639	6800 OHM
C46	63-639	6800 OHM	C61	63-639	6800 OHM
C47	63-639	6800 OHM	C62	63-639	6800 OHM
C48	63-639	6800 OHM	C63	63-639	6800 OHM
C49	63-639	6800 OHM	C64	63-639	6800 OHM
C50	63-639	6800 OHM	C65	63-639	6800 OHM
C51	63-639	6800 OHM	C66	63-639	6800 OHM
C52	63-639	6800 OHM	C67	63-639	6800 OHM
C53	63-639	6800 OHM	C68	63-639	6800 OHM
C54	63-639	6800 OHM	C69	63-639	6800 OHM
C55	63-639	6800 OHM	C70	63-639	6800 OHM
C56	63-639	6800 OHM	C71	63-639	6800 OHM
C57	63-639	6800 OHM	C72	63-639	6800 OHM
C58	63-639	6800 OHM	C73	63-639	6800 OHM
C59	63-639	6800 OHM	C74	63-639	6800 OHM
C60	63-639	6800 OHM	C75	63-639	6800 OHM
C61	63-639	6800 OHM	C76	63-639	6800 OHM
C62	63-639	6800 OHM	C77	63-639	6800 OHM
C63	63-639	6800 OHM	C78	63-639	6800 OHM
C64	63-639	6800 OHM	C79	63-639	6800 OHM
C65	63-639	6800 OHM	C80	63-639	6800 OHM
C66	63-639	6800 OHM	C81	63-639	6800 OHM
C67	63-639	6800 OHM	C82	63-639	6800 OHM
C68	63-639	6800 OHM	C83	63-639	6800 OHM
C69	63-639	6800 OHM	C84	63-639	6800 OHM
C70	63-639	6800 OHM	C85	63-639	6800 OHM
C71	63-639	6800 OHM	C86	63-639	6800 OHM
C72	63-639	6800 OHM	C87	63-639	6800 OHM
C73	63-639	6800 OHM	C88	63-639	6800 OHM
C74	63-639	6800 OHM	C89	63-639	6800 OHM
C75	63-639	6800 OHM	C90	63-639	6800 OHM
C76	63-639	6800 OHM	C91	63-639	6800 OHM
C77	63-639	6800 OHM	C92	63-639	6800 OHM
C78	63-639	6800 OHM	C93	63-639	6800 OHM
C79	63-639	6800 OHM	C94	63-639	6800 OHM
C80	63-639	6800 OHM	C95	63-639	6800 OHM
C81	63-639	6800 OHM	C96	63-639	6800 OHM
C82	63-639	6800 OHM	C97	63-639	6800 OHM
C83	63-639	6800 OHM	C98	63-639	6800 OHM
C84	63-639	6800 OHM	C99	63-639	6800 OHM
C85	63-639	6800 OHM	C100	63-639	6800 OHM

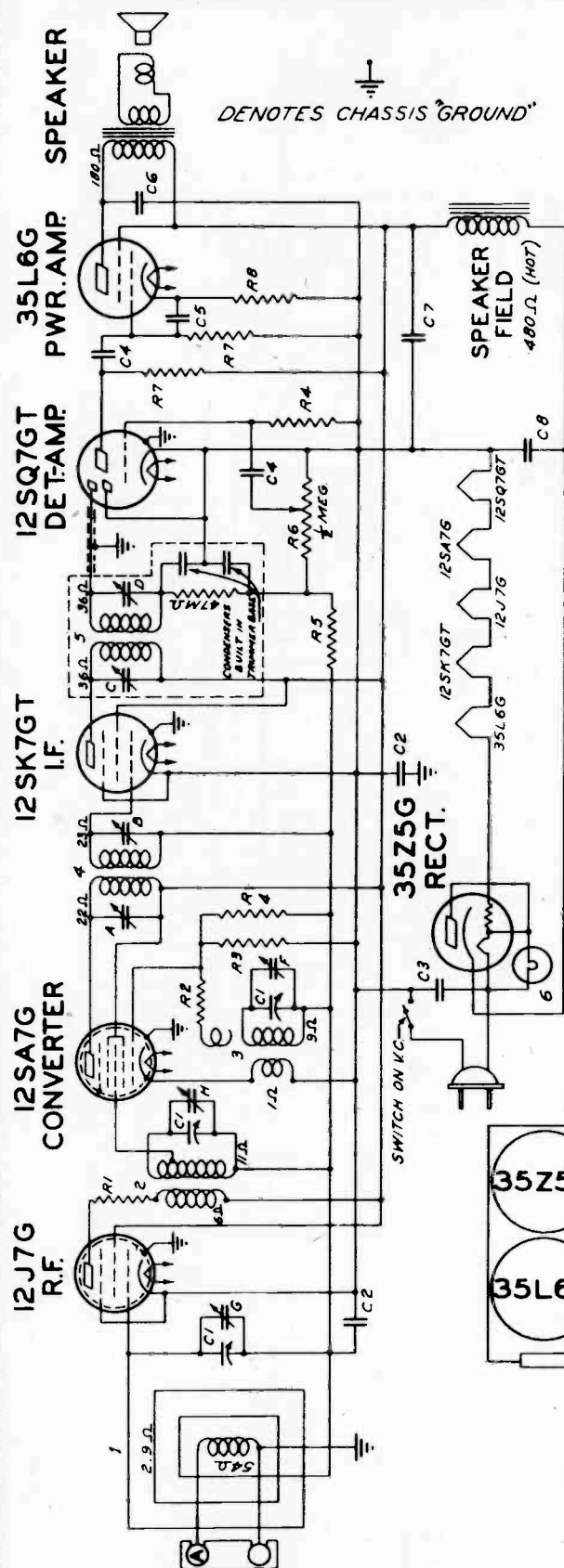
**Model 6R631**

Chassis No. 6B02

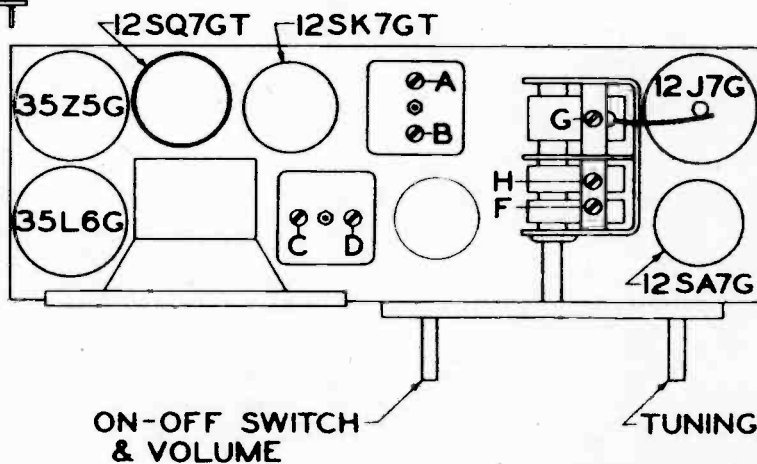
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# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

[illegible]

## Models 6D612-6D612W-6D622-6D628

Zenith Radio  
Chassis No. 6B04

Operation	Connect Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial A1	Trimmers
1	Converter Grid	.5 mfd.	455 Kc.	BC	1600 Kc.	A, B, C, D
2	Single Turn Loop Coupled Loosely to Wave Magnet	.5 mfd.	1600 Kc.	"	1600 Kc.	F
3		.5 mfd.	1400 Kc.	"	1400 Kc.	H, G



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

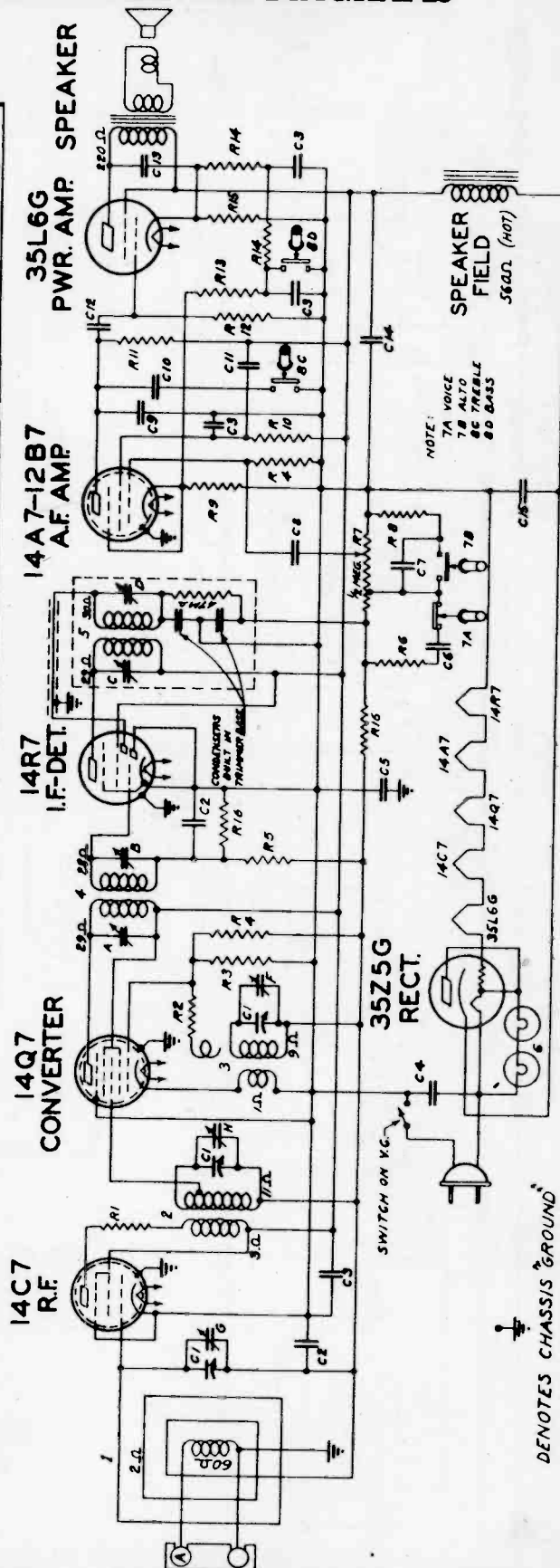
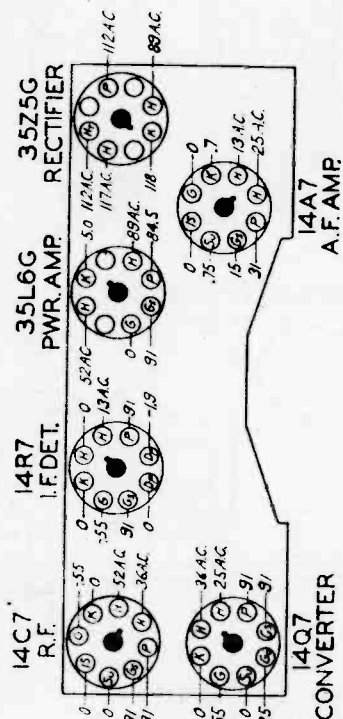
180

Operation	Connect Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers
1	Converter Grid	.5 mfd.	455 Kc.	BC	600 Kc.	A, B, C, D
2	1 turn loop made from generator or Radex Loop	—	1600 Kc.	BC	1600 Kc.	F
3	—	—	1400 Kc.	BC	1400 Kc.	H, G

## Models 6D615-6D615W - 6D623-6D630

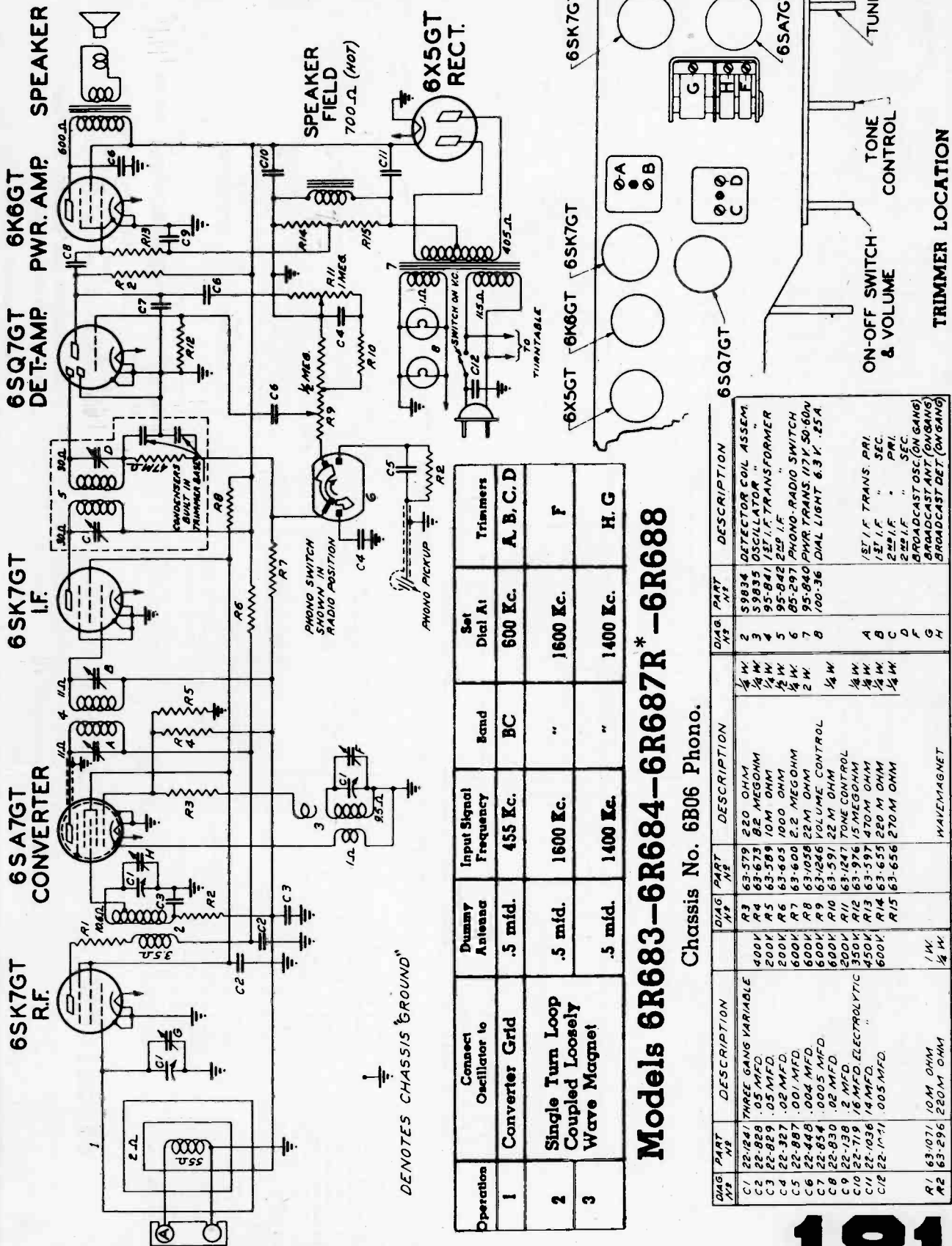
Chassis No. 6B05

Part No.	Description	Part No.	Description
C1	12-1201 THREE-GANG VARIABLE	R1	63-590 15M OHM
C2	12-229 .02 MFD.	R2	63-578 220 OHM
C3	12-227 .1 MFD.	R3	63-598 10M OHM
C4	12-1017 .05 MFD.	R4	63-1023 15 MEGOHM
C5	12-127 .01 MFD.	R5	63-722 2.2 MEGOHM
C6	12-326 .02 MFD.	R6	63-325 150M OHM
C7	12-327 .02 MFD.	R7	63-723 150M OHM
C8	12-243 .01 MFD.	R8	63-521 22M OHM
C9	12-254 .0005 MFD.	R9	63-634 220 OHM
C10	12-267 .001 MFD.	R10	63-659 470M OHM
C11	12-1218 .04 MFD.	R11	63-260 180M OHM
C12	12-1191 .05 MFD.	R12	63-587 470M OHM
C13	12-1191 .05 MFD.	R13	63-589 2700 OHM
C14	12-1814 120 MFD. ELECTROLYTIC	R14	63-737 150 OHM
C15	12-1814 120 MFD. ELECTROLYTIC	R15	63-600 5.2 MEGOHM



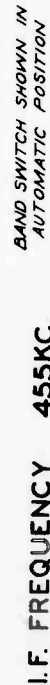


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



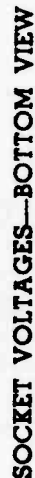
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**I.F. FREQUENCY 455KC.**

QW#	PART #	DESCRIPTION	DIAG. #	PART #	DESCRIPTION	QW#	PART #	DESCRIPTION
C 4	22-489	30 MFD	C 20	22-036	14 MFD ELECTROLYTIC	R 16	63-597	470 M OHM
C 5	22-489	30 MFD	C 21	22-104	1.005 MFD.	R 17	63-658	300 M OHM
C 6	22-489	30 MFD				R 18	63-660	560 M OHM
C 7	22-489	30 MFD						
C 8	22-489	30 MFD						
C 9	22-489	30 MFD						
C 10	22-489	30 MFD						
C 11	22-489	30 MFD						
C 12	22-489	30 MFD						
C 13	22-489	30 MFD						
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C 216	22-489	30 MFD						
C 217	22-489	30 MFD						
C 218	22-489	30 MFD						
C 219	22-489	30 MFD						
C 220								



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.**

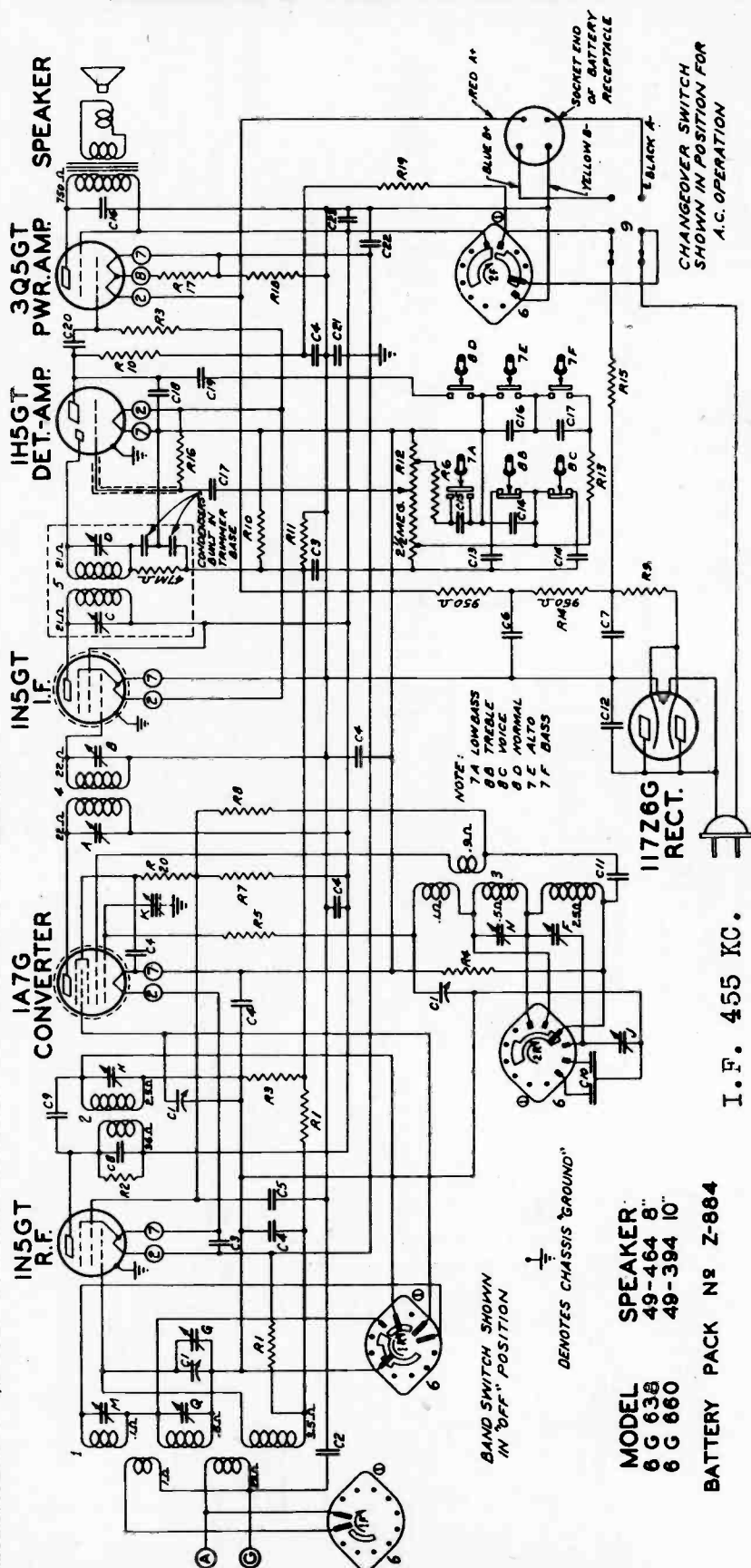
**Models 6S632-6S646-6S656**

Chassis No. 6B08

# Zenith Radio



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

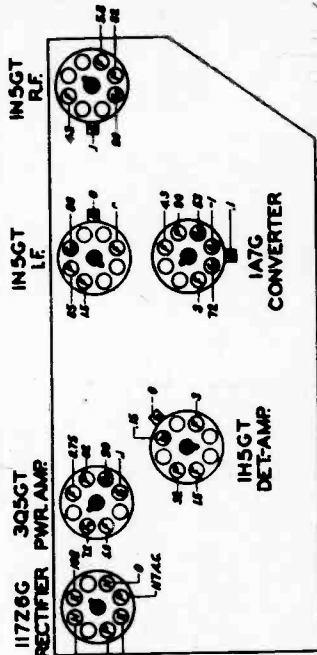


## Models 6G638-6G660

Zenith Radio Chassis No. 6B09

I. F. 455 KC.

MODEL  
6 G 638  
6 G 660  
BATTERY PACK N<sup>o</sup> Z-884



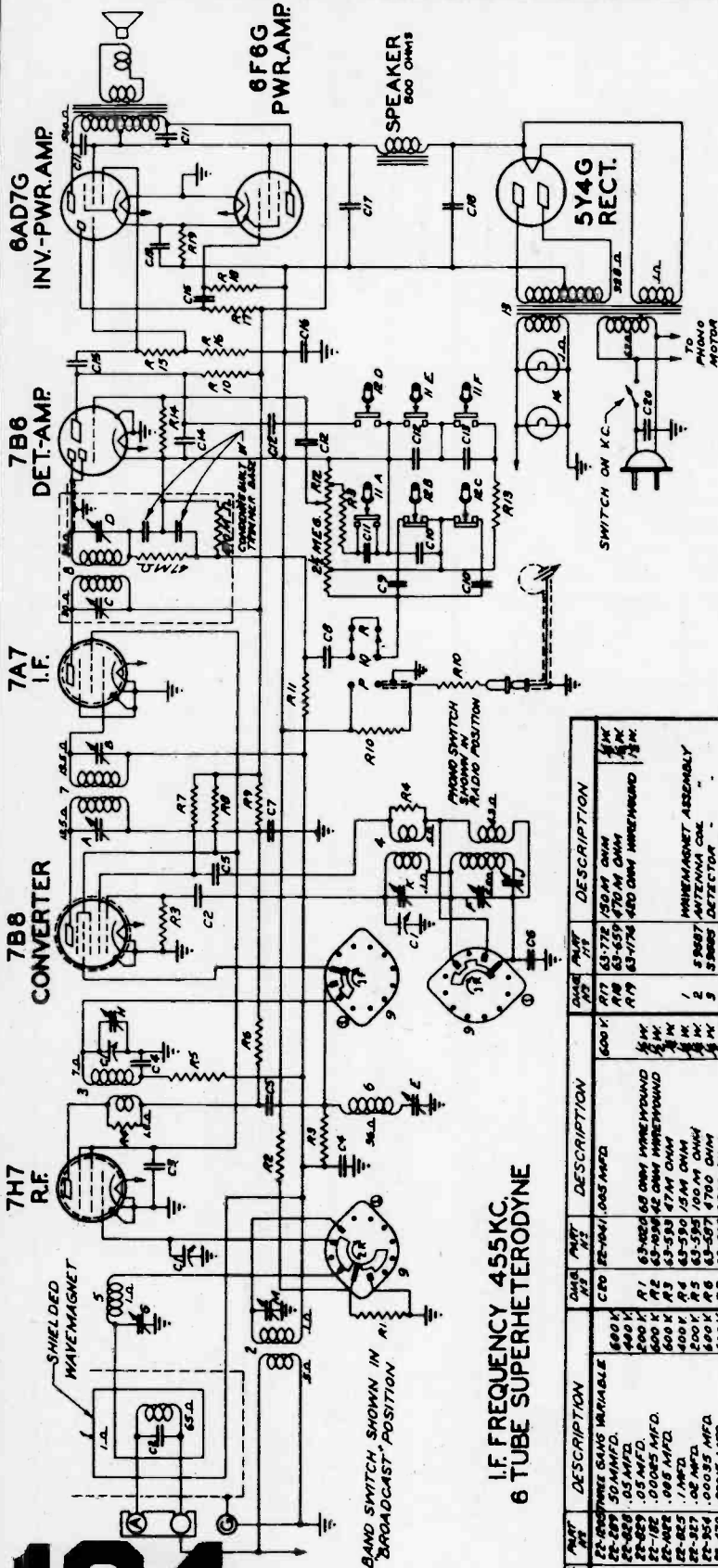
### SOCKET VOLTAGES—BOTTOM VIEW

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

COMP. PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY.
C1	RE-17	1	C2	RE-17	1	C3	RE-17	1	C4	RE-17	1
C5	RE-17	1	C6	RE-17	1	C7	RE-17	1	C8	RE-17	1
C9	RE-17	1	C10	RE-17	1	C11	RE-17	1	C12	RE-17	1
C13	RE-17	1	C14	RE-17	1	C15	RE-17	1	C16	RE-17	1
C17	RE-17	1	C18	RE-17	1	C19	RE-17	1	C20	RE-17	1
C21	RE-17	1	C22	RE-17	1	C23	RE-17	1	C24	RE-17	1
C25	RE-17	1	C26	RE-17	1	C27	RE-17	1	C28	RE-17	1
C29	RE-17	1	C30	RE-17	1	C31	RE-17	1	C32	RE-17	1
C33	RE-17	1	C34	RE-17	1	C35	RE-17	1	C36	RE-17	1
C37	RE-17	1	C38	RE-17	1	C39	RE-17	1	C40	RE-17	1
C41	RE-17	1	C42	RE-17	1	C43	RE-17	1	C44	RE-17	1
C45	RE-17	1	C46	RE-17	1	C47	RE-17	1	C48	RE-17	1
C49	RE-17	1	C50	RE-17	1	C51	RE-17	1	C52	RE-17	1
C53	RE-17	1	C54	RE-17	1	C55	RE-17	1	C56	RE-17	1
C57	RE-17	1	C58	RE-17	1	C59	RE-17	1	C60	RE-17	1
C61	RE-17	1	C62	RE-17	1	C63	RE-17	1	C64	RE-17	1
C65	RE-17	1	C66	RE-17	1	C67	RE-17	1	C68	RE-17	1
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C105	RE-17	1	C106	RE-17	1	C107	RE-17	1	C108	RE-17	1
C109	RE-17	1	C110	RE-17	1	C111	RE-17	1	C112	RE-17	1
C113	RE-17	1	C114	RE-17	1	C115	RE-17	1	C116	RE-17	1
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C129	RE-17	1	C130	RE-17	1	C131	RE-17	1	C132	RE-17	1
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C161	RE-17	1	C162	RE-17	1	C163	RE-17	1	C164	RE-17	1
C165	RE-17	1	C166	RE-17	1	C167	RE-17	1	C168	RE-17	1
C169	RE-17	1	C170	RE-17	1	C171	RE-17	1	C172	RE-17	1
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C473	RE-17	1	C474	RE-17	1	C475	RE-17	1	C476	RE-17	1
C477	RE-17	1	C478	RE-17	1	C479	RE-17	1	C480	RE-17	1</



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



## Models 7S681-7S682-7S685

Chassis No. 7B02 Phono.

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.

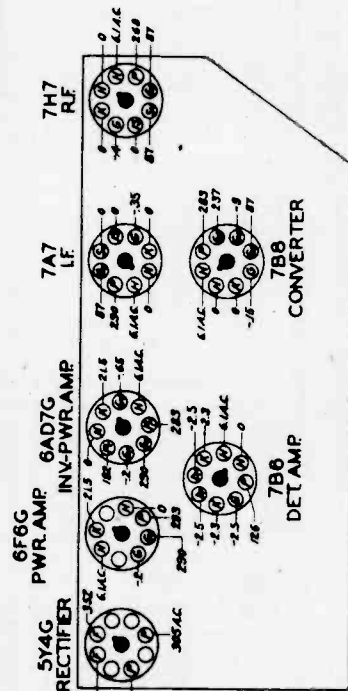
Volume control full on.  
Line voltage 117 A.C.  
Power consumption 80+30 watts.  
Power output 8.4 watts.  
Tuning Range  
540 Kc. to 1620 Kc.  
5400 Kc.—18300 Kc.

Stage Gains  
Bc. and I.F.  
Ant. to R.F. grid 7.1× at 1000 Kc.  
R.F. grid to conv. grid 5.6× at 1000 Kc.  
Conv. grid to I.F. grid 73× at 455 Kc.  
Overall audio 1600× at 1 watt 400 cycles.

Zenith Radio

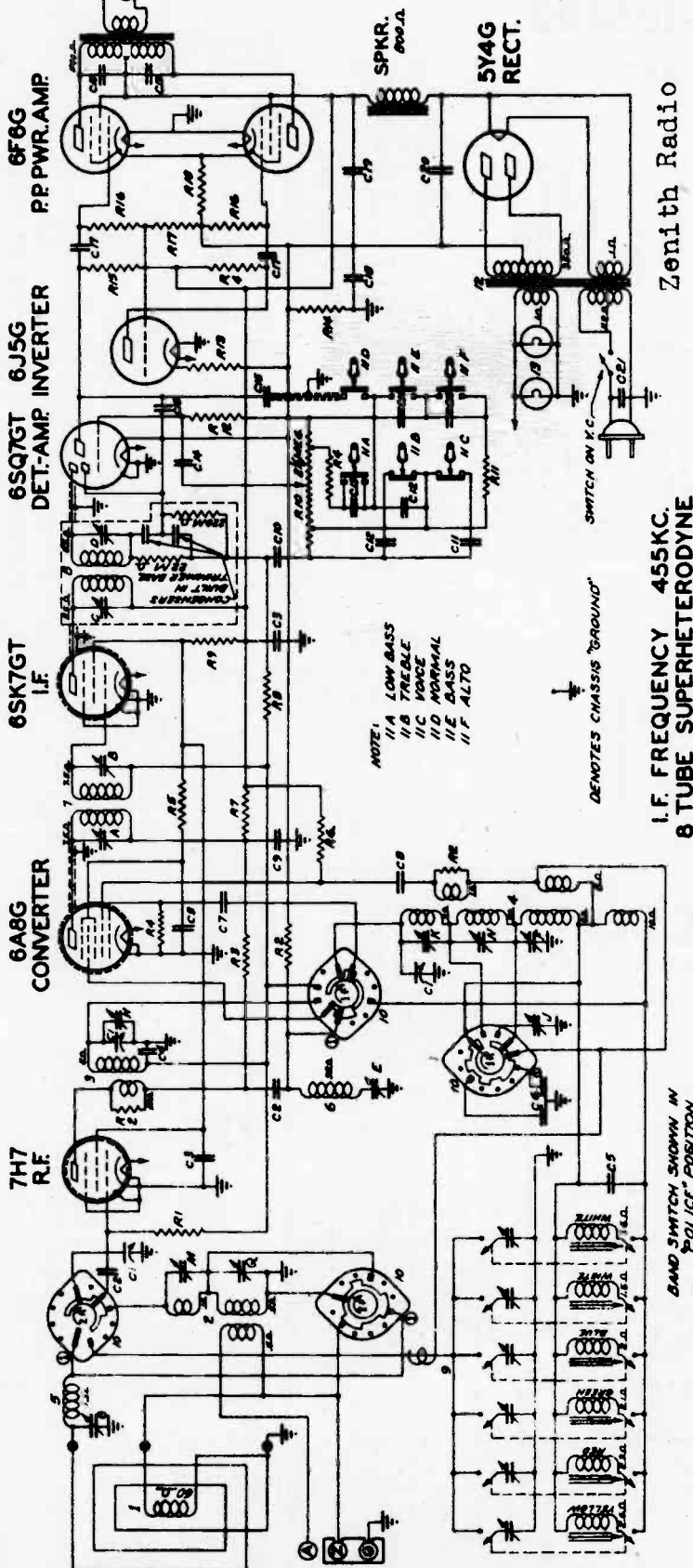
### I.F. FREQUENCY 455KC. 6 TUBE SUPERHETERODYNE

QWG RT	PART NO.	DESCRIPTION	QWG RT	PART NO.	DESCRIPTION	QWG RT	PART NO.	DESCRIPTION
C1	63-280	50 MFD. VARIABLE	R17	63-770	450 M OHM	1	53687	ANTENNA COIL
C2	63-280	50 MFD. VARIABLE	R18	63-439	470 M OHM	2	53688	ANTENNA COIL
C3	63-280	50 MFD. VARIABLE	R19	63-176	450 OHM WIREWOUND	3	53689	OSCILLATOR
C4	63-280	50 MFD. VARIABLE				4	53690	OSCILLATOR
C5	63-280	50 MFD. VARIABLE				5	53691	OSCILLATOR
C6	63-280	50 MFD. VARIABLE				6	53692	OSCILLATOR
C7	63-280	50 MFD. VARIABLE				7	53693	OSCILLATOR
C8	63-280	50 MFD. VARIABLE				8	53694	OSCILLATOR
C9	63-280	50 MFD. VARIABLE				9	53695	OSCILLATOR
C10	63-280	50 MFD. VARIABLE				10	53696	OSCILLATOR
C11	63-280	50 MFD. VARIABLE				11	53697	OSCILLATOR
C12	63-280	50 MFD. VARIABLE				12	53698	OSCILLATOR
C13	63-280	50 MFD. VARIABLE				13	53699	OSCILLATOR
C14	63-280	50 MFD. VARIABLE				14	53700	OSCILLATOR
C15	63-280	50 MFD. VARIABLE				15	53701	OSCILLATOR
C16	63-280	50 MFD. VARIABLE				16	53702	OSCILLATOR
C17	63-280	50 MFD. VARIABLE				17	53703	OSCILLATOR
C18	63-280	50 MFD. VARIABLE				18	53704	OSCILLATOR
C19	63-280	50 MFD. VARIABLE				19	53705	OSCILLATOR
C20	63-280	50 MFD. VARIABLE				20	53706	OSCILLATOR





# 1942 MOST POPULAR SERVICE DIAGRAMS



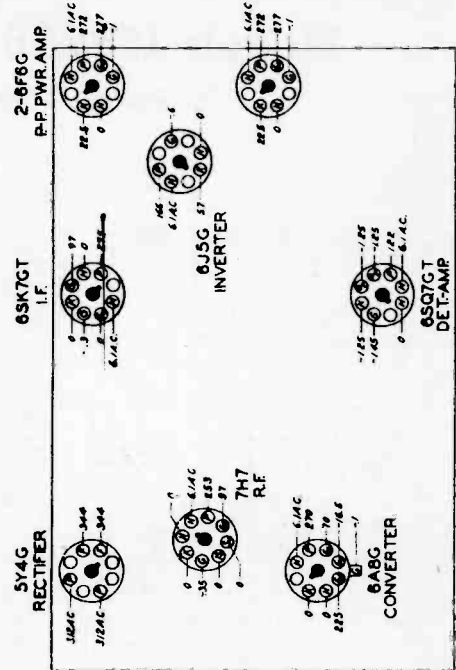
**Zenith Radio**  
**I.F. FREQUENCY 455 KC.**  
**8 TUBE SUPERHETERODYNE**

COMP.	PART NO.	DESCRIPTION	VAL.	PART NO.	DESCRIPTION	VAL.	PART NO.	DESCRIPTION	VAL.
C1	22-178	THREE GANG VARIABLE	600K	A1	63-600	2.2 MEG OHM	A17	63-648	47M OHM
C2	22-178	THREE GANG VARIABLE	600K	A2	63-570	15M OHM	A18	63-1155	470 OHM WIREWOUND
C3	22-828	.05 MFD.	600K	A3	63-587	6700 OHM			
C4	22-828	.05 MFD.	600K	A4	63-593	67M OHM			
C5	22-868	COMPENSATING COND.	600K	A5	63-629	67M OHM			
C6	22-930	DUAL PADDER	600K	A6	63-605	1000 OHM			
C7	22-127	.05 MFD.	600K	A7	63-605	1000 OHM			
C8	22-127	.05 MFD.	600K	A8	63-605	1000 OHM			
C9	22-127	.05 MFD.	600K	A9	63-605	1000 OHM			
C10	22-127	.05 MFD.	600K	A10	63-1053	VOLUME CONTROL			
C11	22-127	.05 MFD.	600K	A11	63-1053	VOLUME CONTROL			
C12	22-127	.05 MFD.	600K	A12	63-1053	VOLUME CONTROL			
C13	22-127	.05 MFD.	600K	A13	63-1053	VOLUME CONTROL			
C14	22-127	.05 MFD.	600K	A14	63-1053	VOLUME CONTROL			
C15	22-127	.05 MFD.	600K	A15	63-1053	VOLUME CONTROL			
C16	22-127	.05 MFD.	600K	A16	63-1053	VOLUME CONTROL			
C17	22-127	.05 MFD.	600K	A17	63-1053	VOLUME CONTROL			
C18	22-127	.05 MFD.	600K	A18	63-1053	VOLUME CONTROL			
C19	22-127	.05 MFD.	600K	A19	63-1053	VOLUME CONTROL			
C20	22-127	.05 MFD.	600K	A20	63-1053	VOLUME CONTROL			

**Models 8S647-8S661**

Chassis No. 8B01

SOCKET VOLTAGES—BOTTOM VIEW



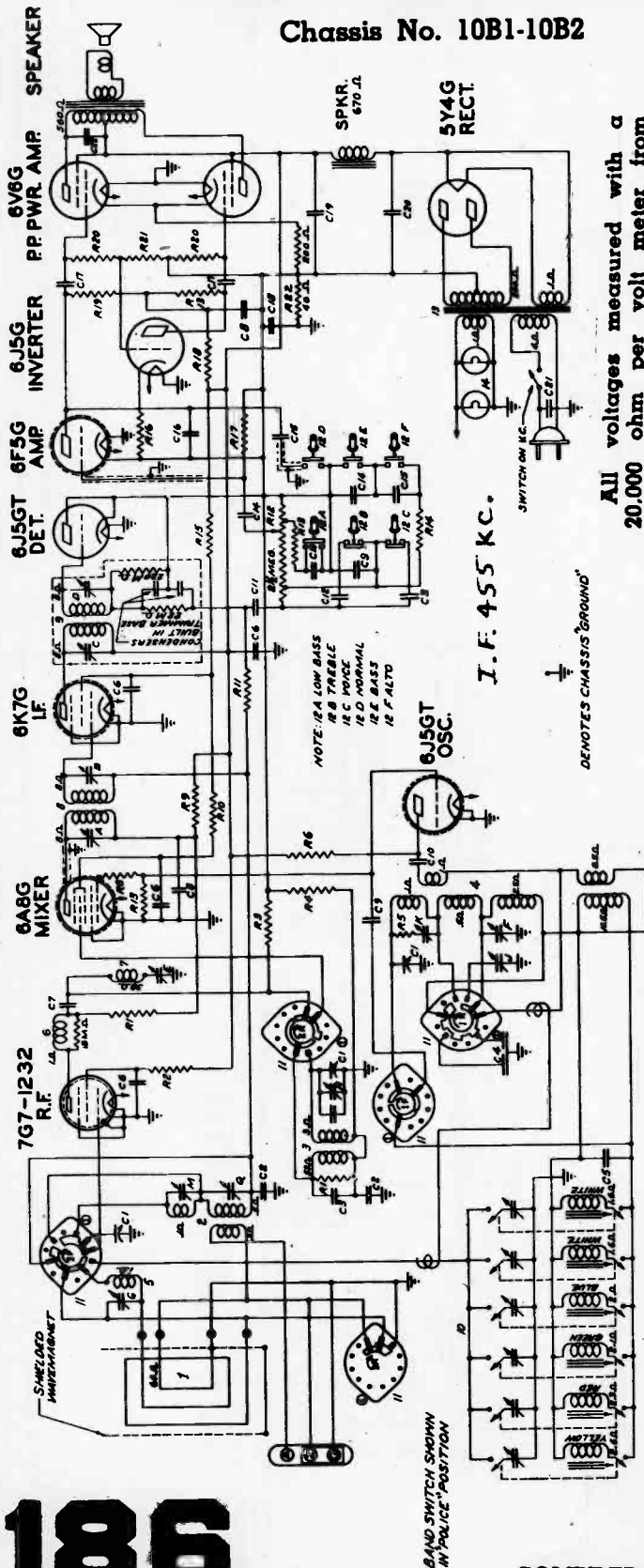


# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

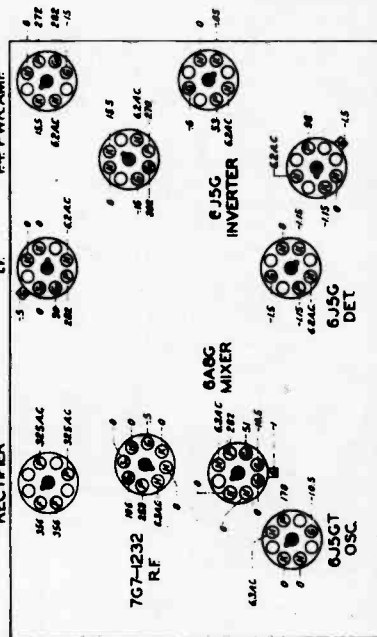
## Models 10S669-10S690

Zenith Radio

Chassis No. 10B1-10B2



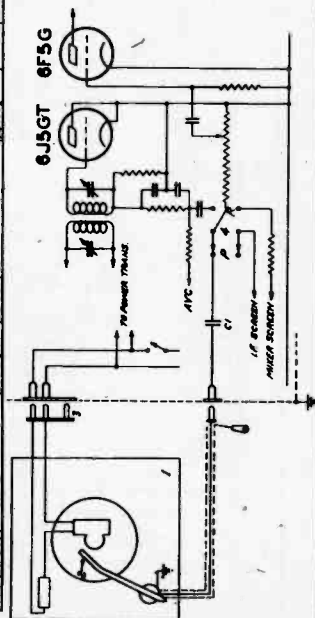
All voltages measured with a 20,000 ohm per volt meter from chassis to socket contact indicated.  
All voltages are positive D.C. unless marked otherwise.  
Volume control full on.



SOCKET VOLTAGES—BOTTOM VIEW

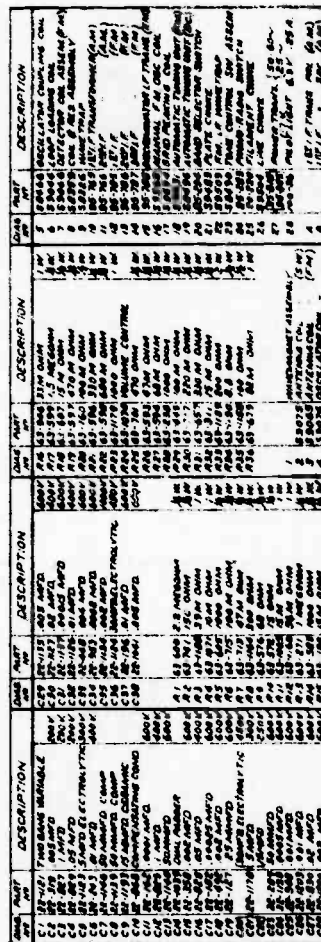
COMPONENT	DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE	UNIT	DESCRIPTION	VALUE	UNIT
C1	12-1000 THREE GANG VARIABLE	120V		R1	15-500	1700 OHM			
C2	10-1000 .05 MFD.	500V		R2	15-500	1700 OHM			
C3	10-1000 .05 MFD.	500V		R3	15-500	1700 OHM			
C4	10-1000 .05 MFD.	500V		R4	15-500	1700 OHM			
C5	10-1000 .05 MFD.	500V		R5	15-500	1700 OHM			
C6	10-1000 .05 MFD.	500V		R6	15-500	1700 OHM			
C7	10-1000 .05 MFD.	500V		R7	15-500	1700 OHM			
C8	10-1000 .05 MFD.	500V		R8	15-500	1700 OHM			
C9	10-1000 .05 MFD.	500V		R9	15-500	1700 OHM			
C10	10-1000 .05 MFD.	500V		R10	15-500	1700 OHM			
C11	10-1000 .05 MFD.	500V		R11	15-500	1700 OHM			
C12	10-1000 .05 MFD.	500V		R12	15-500	1700 OHM			
C13	10-1000 .05 MFD.	500V		R13	15-500	1700 OHM			
C14	10-1000 .05 MFD.	500V		R14	15-500	1700 OHM			
C15	10-1000 .05 MFD.	500V		R15	15-500	1700 OHM			
C16	10-1000 .05 MFD.	500V		R16	15-500	1700 OHM			
C17	10-1000 .05 MFD.	500V		R17	15-500	1700 OHM			
C18	10-1000 .05 MFD.	500V		R18	15-500	1700 OHM			
C19	10-1000 .05 MFD.	500V		R19	15-500	1700 OHM			
C20	10-1000 .05 MFD.	500V		R20	15-500	1700 OHM			

PHONO CIRCUIT DATA  
MODEL SPEAKER  
10S690  
49-442 1/4  
CHASSIS N10B2





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**SUPREME PUBLICATIONS**

Zenith Radio

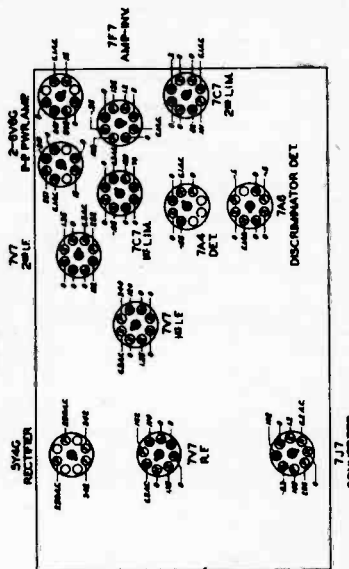
# Models 12H678-12H679

Chassis No. 12A6

AMP. MOD. IF. FREQUENCY 4.55 MC.  
FREQ. MOD. IF. FREQUENCY 3.3 MC.  
12 TUBE SUPERHETERODYNE  
CHASSIS N212A6 - A.C. 4 BAND  
ZENITH RADIO CORPORATION

### SOCKET VOLTAGES—BOTTOM VIEW

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





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

## ALIGNMENT PROCEDURE

Operation	Connect Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Con. Grid	0.5 mid.	455 Kc.	BC	600 Kc.	A, B, C, D	Align I.F.
2	R.F. Grid	0.5 mid.	455 Kc.	BC	600 Kc.	E	Adjust for minimum 455 Kc. signal
3	Ant. Z and G	400 ohm	18 Mc.	SW	18 Mc.	E	Scale SW Osc. at 18 meg.
4	"	"	18 Mc.	SW	16 Mc.	M	Align SW antenna
5	"	"	5 Mc.	Med.	5.0 Mc.	N	Scale med. band osc. at 5. meg.
6	"	"	4.5 Mc.	Med.	4.5 Mc.	Q	Align med. band antenna
7	One turn loop made with generator lead or Hadex loop	—	1600 Kc.	BC	1600 Kc.	F	Set BC Osc. to scale at 1600 Kc.
8		—	1400 Kc.	BC	1400 Kc.	G	Align broadcast loop
9		—	600 Kc.	BC	600 Kc.	J	Rock gang to track BC padder
10	7V7 2nd I.F. Grid	0.5 mid.	8.3 Mc.	Man. F.M.	42.5 Mc.	A <sub>1</sub>	Align for max. deflection across 1/2 discrim. load
11	"	"	"	"	"	B <sub>1</sub>	Align for zero deflection across full discrim. load
12	"	"	"	"	"	A <sub>3</sub> - B <sub>3</sub>	Align for max. deflection across 1/2 discrim. load
13	7V7 1st I.F. Grid	"	"	"	"	A <sub>2</sub> - B <sub>2</sub>	"
14	Converter Grid	"	"	"	"	A <sub>1</sub> - B <sub>1</sub>	"
15	F.M. Ant. Terminal	100 ohm	46 Mc.	"	46 Mc.	Adj. cam on gang to scale osc.	Align for zero deflection across full discrim. load
16	"	"	42.5 Mc.	"	42.5 Mc.	P <sub>1</sub>	Align for max. deflection across 1/2 discrim. load
17	"	"	49 Mc.	"	49 Mc.	P <sub>2</sub>	"
18	"	"	46 Mc.	"	46 Mc.	Z	"

## Models 12H678-12H679

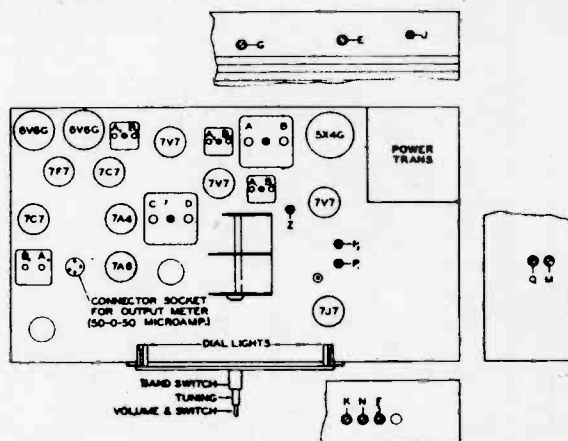
Chassis No. 12A6

Stage Gains  
Bc. and I.F.

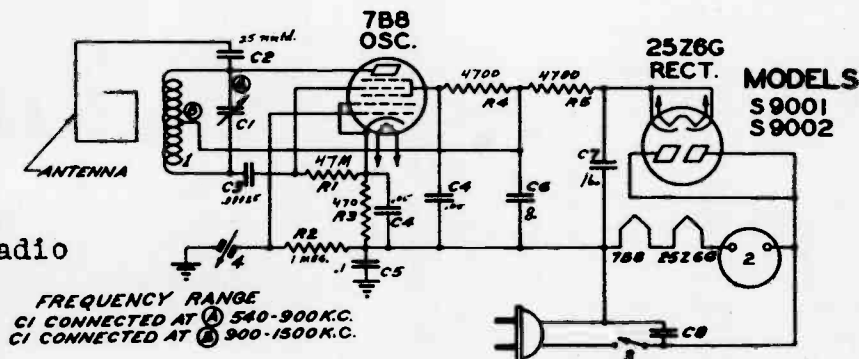
Ant. to R.F. grid  $6.5\times$  at 1000 Kc.  
R.F. grid to conv. grid  $28.1\times$  at 1000 Kc.

Conv. grid to I.F. grid  $265\times$  at 455 Kc.

Overall audio  $807\times$  at 1 watt, 400 cycles.

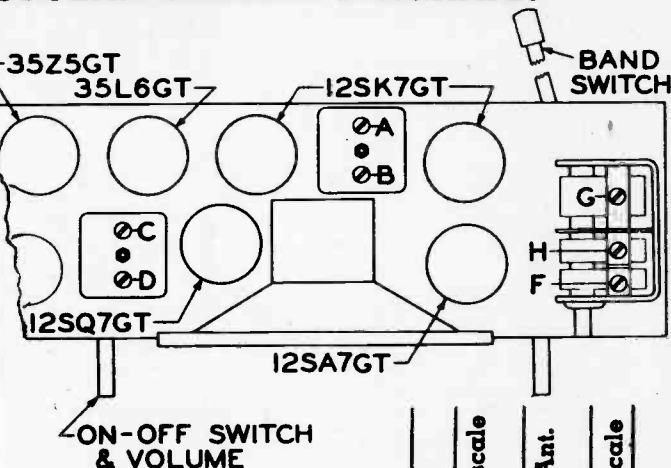
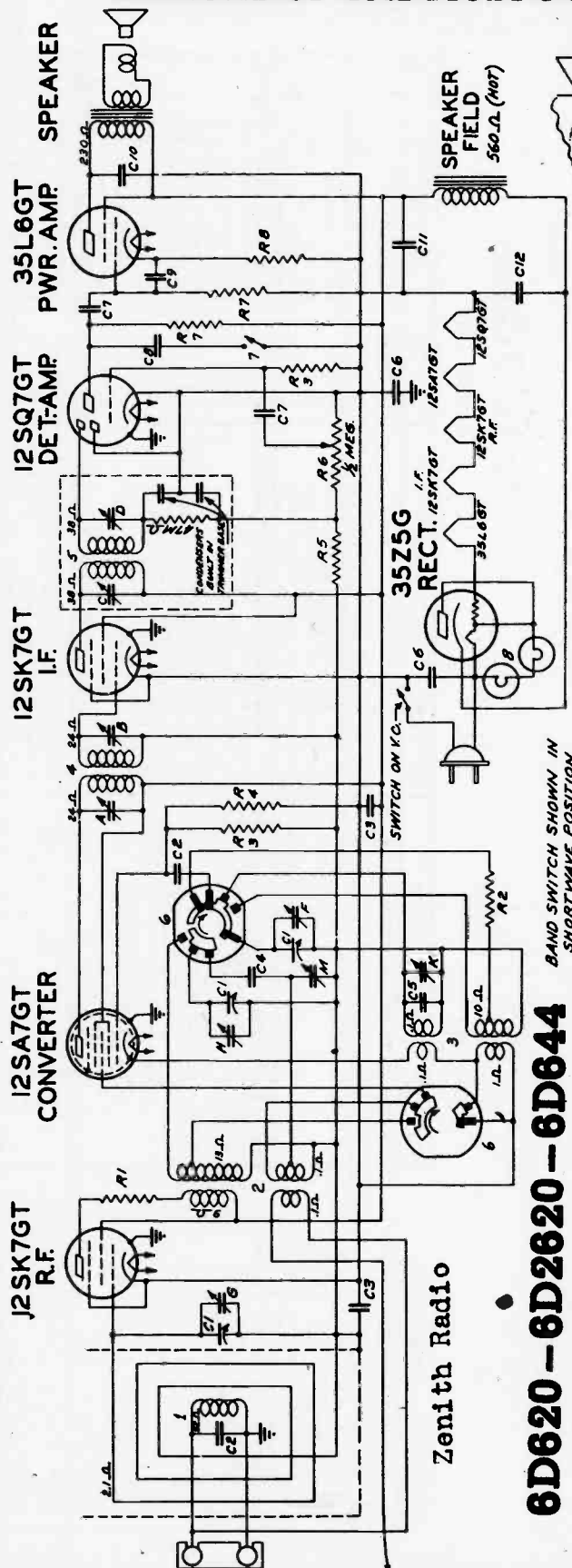


Zenith Radio





# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS

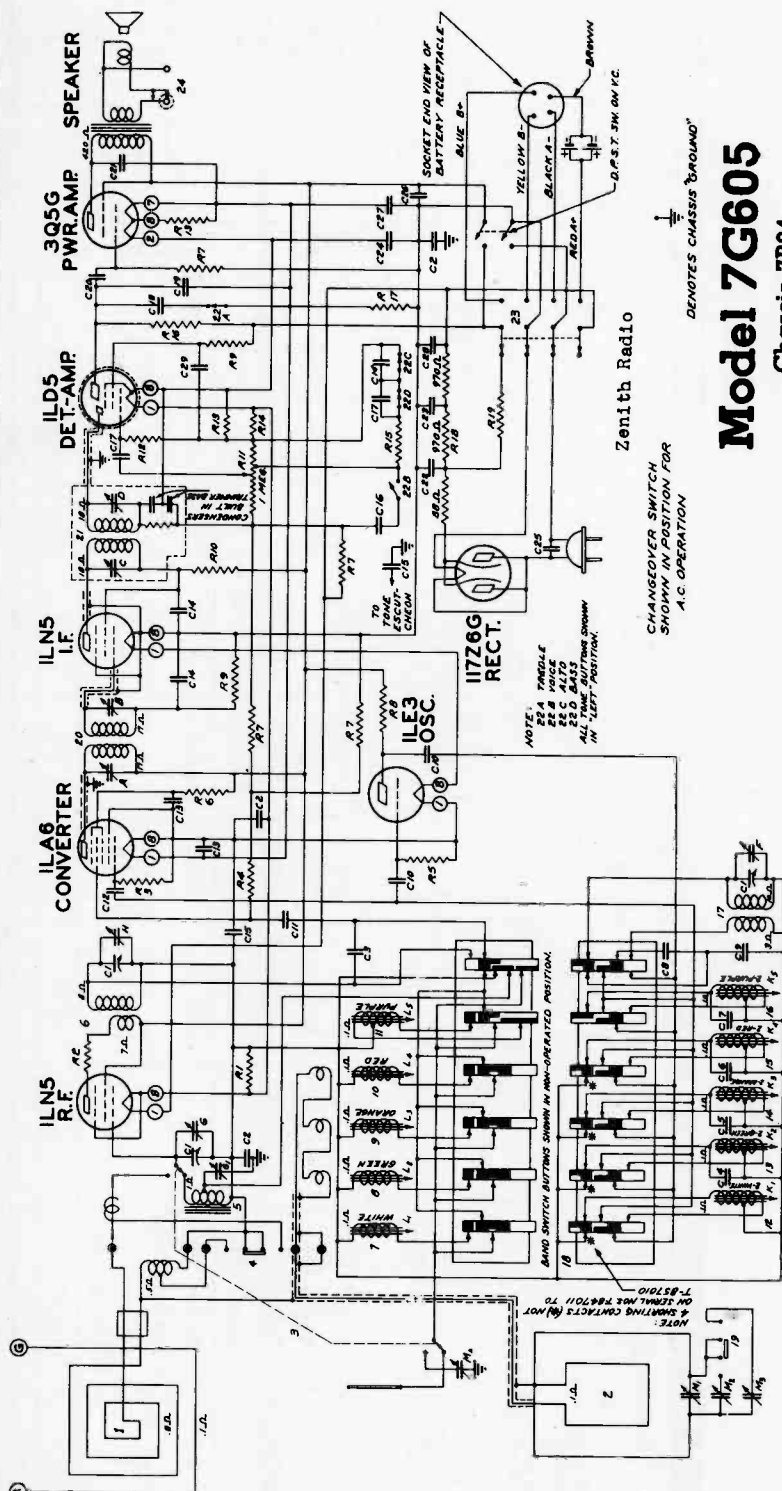


Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description
C1	22-1250 THREE BAND VARIABLE	A2	63-579 220 OHM	7	85-257 TONE CONTROL SWITCH		
C2	22-259 50 MFD.	A3	63-578 10 M OHM	8	100-90 DIAL LAMP 3.2 K 11A		
C3	22-259 50 MFD.	A4	63-578 10 M OHM				
C4	22-1250 THREE BAND VARIABLE	A5	63-578 10 M OHM				
C5	22-1250 THREE BAND VARIABLE	A6	63-578 10 M OHM				
C6	22-1017 .05 MFD.	A7	63-578 10 M OHM				
C7	22-243 .01 MFD.	A8	63-578 10 M OHM				
C8	22-412 .005 MFD.						
C9	22-716 .005 MFD.						
C10	22-1049 .03 MFD.						
C11	22-1280 20 MFD. ELECTROLYTIC						
C12	22-1280 20 MFD.						
A1	63-200 2000 OHM						

Operation	Connect	Dummy Antenna	Signal Frequency	Band	Set Dial at	Trimmers	Purpose
1	Conv. Grid	.5 mfd.	455 Kc.	B.C.	600 Kc.	A, B, C, D	Align I.F.
2	Single Turn Loop Loosely Coupled to Wavemagnet	—	1400 Kc.	B.C.	1400 Kc.	F	Set oscillator to scale
3	Coupled to Wavemagnet	—	1400 Kc.	B.C.	1400 Kc.	H & G	Align R.F. and Ant.
4	Ant.-Gnd.	400 ohms	12 Mc.	S.W.	12 Mc.	K	Set oscillator to scale
5	Ant.-Gnd.	400 ohms	12 Mc.	S.W.	12 Mc.	M	Align Ant.



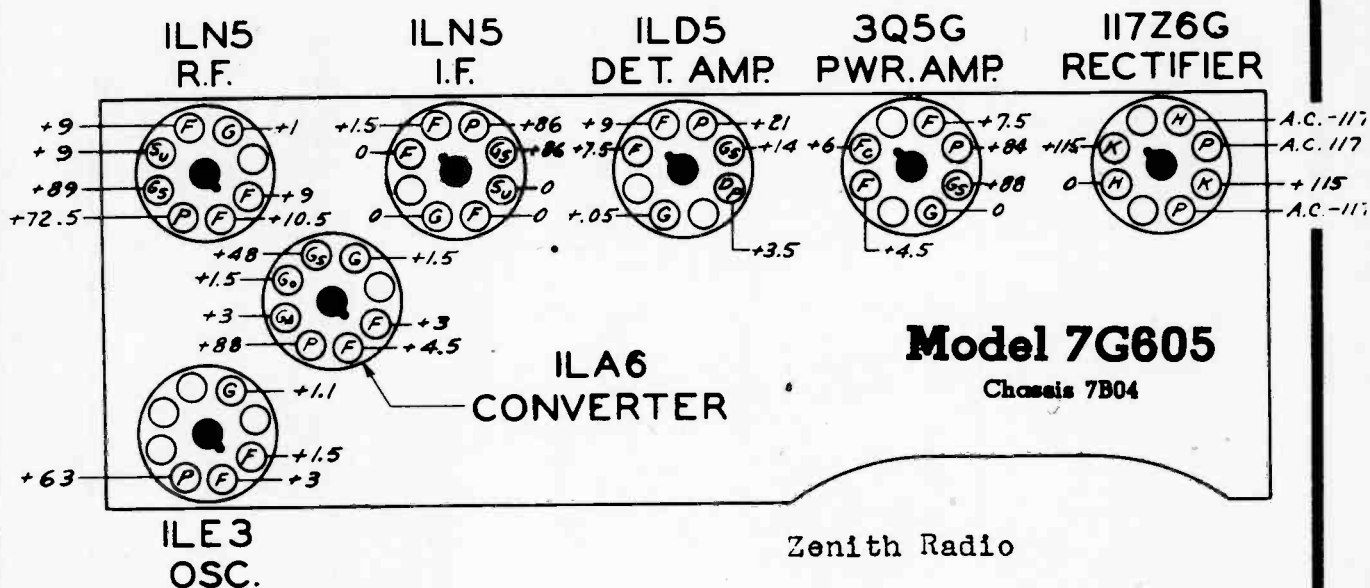
# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



DWG. No.	PART No.	DESCRIPTION	DWG. No.	PART No.	DESCRIPTION	DWG. No.	PART No.	DESCRIPTION	DWG. No.	PART No.	DESCRIPTION	DWG. No.	PART No.	DESCRIPTION	DWG. No.	PART No.	DESCRIPTION
C1	22-1308	THREE GANG VARIABLE	C26	22-1288	40 MFD. ELECTROLYTIC	1	S10680	BROADCAST WAVE MAGNET	24	44-17	HEADPHONE JACK						
C2	22-827	1 MFD.	C27	OR	40 MFD.	2	S10682	SHORTWAVE WAVE MAGNET	A								
C3	22-1130	15 MMFD.	C28	22-1159	20 MFD.	3	S10684	ANTENNA COIL SWITCH	B								
C4	22-1312	100 MMFD. COMP	C29	22-326	.003 MFD.	4	S10686	ANTENNA COIL ASSEM.	C								
C5	22-1312	200 MMFD. COMP				5	S10688	6MC. ANTENNA COIL ASSEM.	D								
C6	22-705	150 MMFD. COMP				6	S10690	6MC. ANTENNA COIL ASSEM.	F								
C7	22-702	250 MMFD. COMP				7	S10692	6MC. ANTENNA COIL ASSEM.	G								
C8	22-1311	75 MMFD. COMP				8	S10694	6MC. ANTENNA COIL ASSEM.	H								
C9	22-1310	50 MMFD. COMP				9	S10696	6MC. ANTENNA COIL ASSEM.	I								
C10	22-162	.0001 MFD.				10	S10698	6MC. ANTENNA COIL ASSEM.	K								
C11	22-327	.02 MFD.				11	S10699	6MC. ANTENNA COIL ASSEM.	L								
C12	22-289	.05 MFD.				12	S10701	6MC. ANTENNA COIL ASSEM.	M								
C13	22-826	.01 MFD.				13	S10702	6MC. ANTENNA COIL ASSEM.	N								
C14	22-1207	.07 MFD.				14	S10703	6MC. ANTENNA COIL ASSEM.	O								
C15	22-887	.001 MFD.				15	S10704	6MC. ANTENNA COIL ASSEM.	P								
C16	22-482	.002 MFD.				16	S10705	6MC. ANTENNA COIL ASSEM.	Q								
C17	22-953	.003 MFD.				17	S10706	6MC. ANTENNA COIL ASSEM.	R								
C18	22-470	.0005 MFD.				18	S10707	6MC. ANTENNA COIL ASSEM.	S								
C19	22-196	.004 MFD.				19	S10708	6MC. ANTENNA COIL ASSEM.	T								
C20	22-448	.004 MFD.				20	S10709	6MC. ANTENNA COIL ASSEM.	U								
C21	22-1307	40 MFD. ELECTROLYTIC				21	S10710	6MC. ANTENNA COIL ASSEM.	V								
C22	22-1307	40 MFD. ELECTROLYTIC				22	S10711	6MC. ANTENNA COIL ASSEM.	W								
C23	22-1307	40 MFD. ELECTROLYTIC				23	S10712	6MC. ANTENNA COIL ASSEM.	X								
C24	22-1307	40 MFD. ELECTROLYTIC							Y								
C25	22-1307	40 MFD. ELECTROLYTIC							Z								



# MANUAL OF 1942 MOST POPULAR SERVICE DIAGRAMS



All voltages measured with a 20,000 ohm per volt meter from B minus to socket contact indicated.  
All voltages are positive D.C. unless marked otherwise.

Volume control full on.  
Line voltage 117 A.C. or D.C. 25 to 80 cycle or Battery Pack Z-985 and two flashlight cells.

Power consumption 25 watts.

Power output .35 watts.

Tuning ranges:

540 to 1620 Kc.

8.0 to 6.5 Mc.

9.4 to 9.8 Mc.

11.7 to 11.9 Mc.

15.1 to 15.3 Mc.

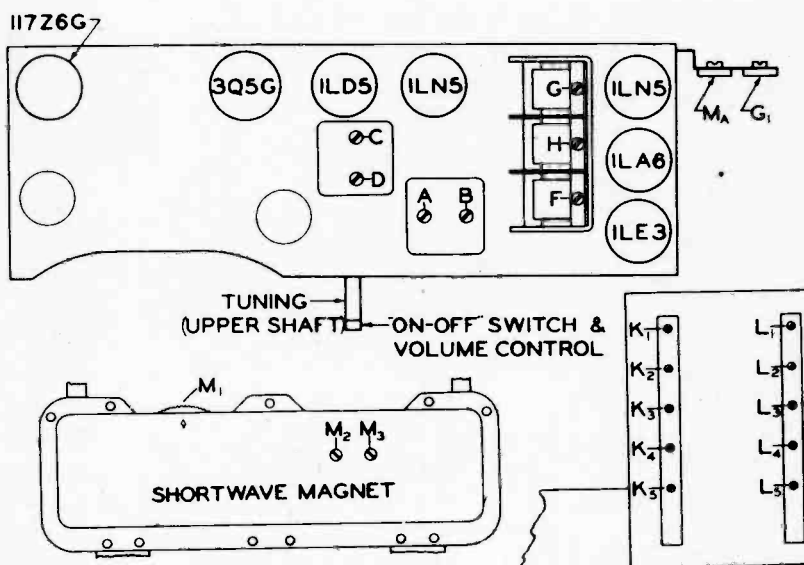
17.6 to 18.0 Mc.

Stage Gains  
Bc. and I.F.

Ant. to R.F. grid 5X at 1000 Kc.  
R.F. grid to conv. grid 9X at 1000 Kc.

Conv. grid to I.F. grid 86X at 455 Kc.

Overall audio 900X at .05 watt.  
400 cycles.



Operation	Connect Oscillator to	Dummy Antenna	Input Signal Frequency	Band	Set Dial At	Trimmers	Purpose
1	Conv. grid	.1 mid.	455 Kc.	BC	600 Kc.	A, B, C, D	Align I.F.
2	One Turn Loop Coupled Loosely to Broadcast Wavemagnet		1600 Kc.	BC	1600 Kc.	F	Set oscillator to scale
3			1400 Kc.	BC	1400 Kc.	H	Alignment of detector section
4	3 Feet of Wire Approximately 1 Foot from Extended Waverod		1400 Kc.	BC	1400 Kc.	G	Alignment of B.C. Wavemagnet
5			1400 Kc.	BC	1400 Kc.	G <sub>1</sub>	B.C. waverod alignment
6	One Turn Loop Coupled Loosely to Shortwave Magnet. Waverod Collapsed		6.2 Mc.	49 Met.	6.2 Mc.	K <sub>1</sub> , L <sub>1</sub>	Alignment of S.W. Oscillators and Antenna Trimmers
7			9.6 Mc.	31 Met.	9.6 Mc.	K <sub>2</sub> , L <sub>2</sub>	
8			11.8 Mc.	25 Met.	11.8 Mc.	K <sub>3</sub> , L <sub>3</sub>	
9			15.2 Mc.	19 Met.	15.2 Mc.	K <sub>4</sub> , L <sub>4</sub>	
10			17.8 Mc.	16 Met.	17.8 Mc.	K <sub>5</sub> , L <sub>5</sub>	
11			15.2 Mc.	19 Met.	15.2 Mc.	M <sub>1</sub> , M <sub>2</sub>	
12			11.8 Mc.	25 Met.	11.8 Mc.	M <sub>2</sub>	
13			9.6 Mc.	31 Met.	9.6 Mc.	M <sub>1</sub>	



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