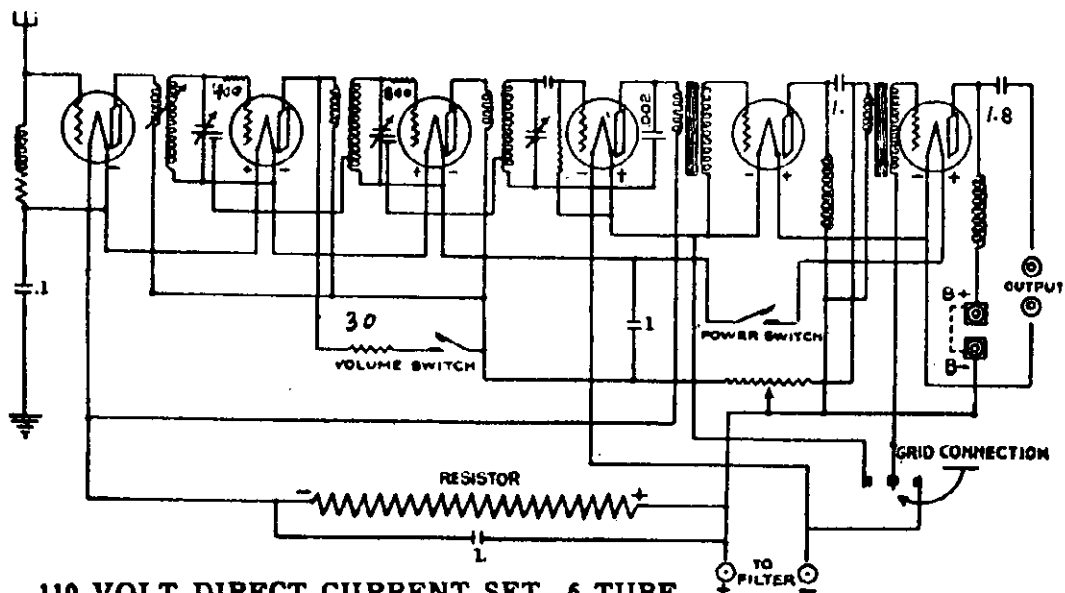
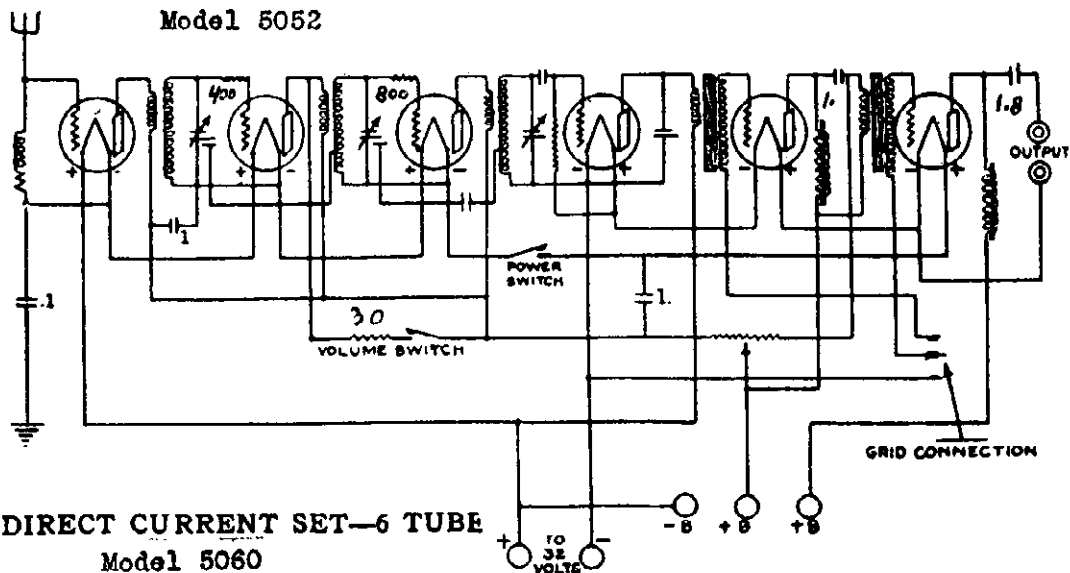


MODEL Day-Fan 5052  
MODEL Day-Fan 5060

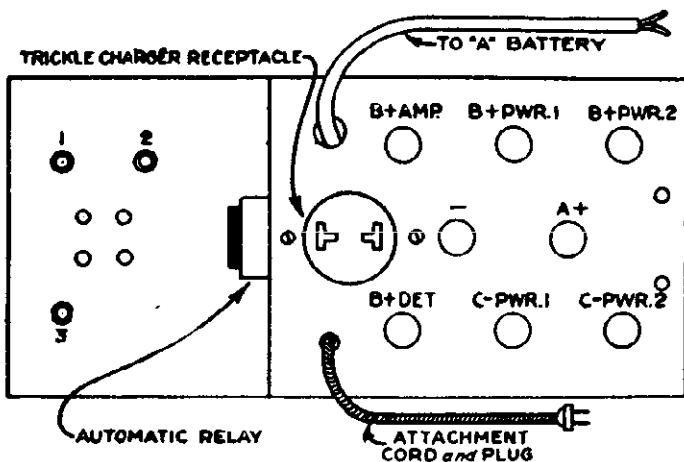
# GENERAL MOTORS RADIO CORP.



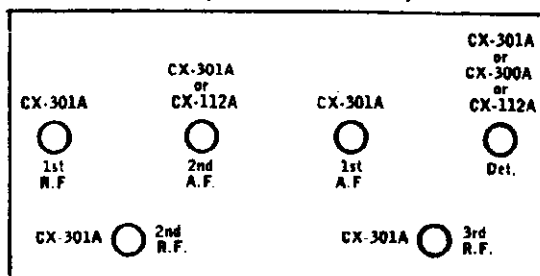
110 VOLT DIRECT CURRENT SET-6 TUBE  
Model 5052



32 VOLT DIRECT CURRENT SET-6 TUBE  
Model 5060

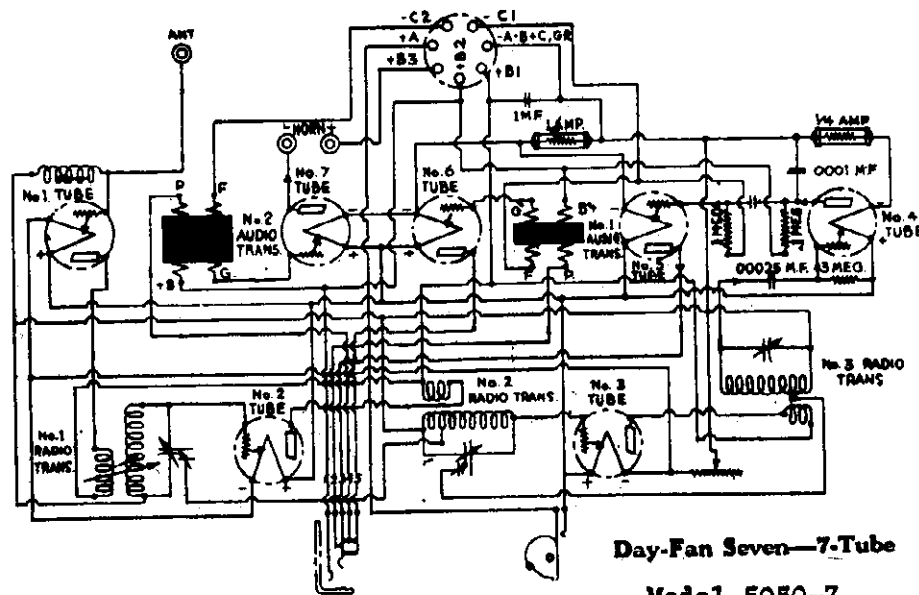
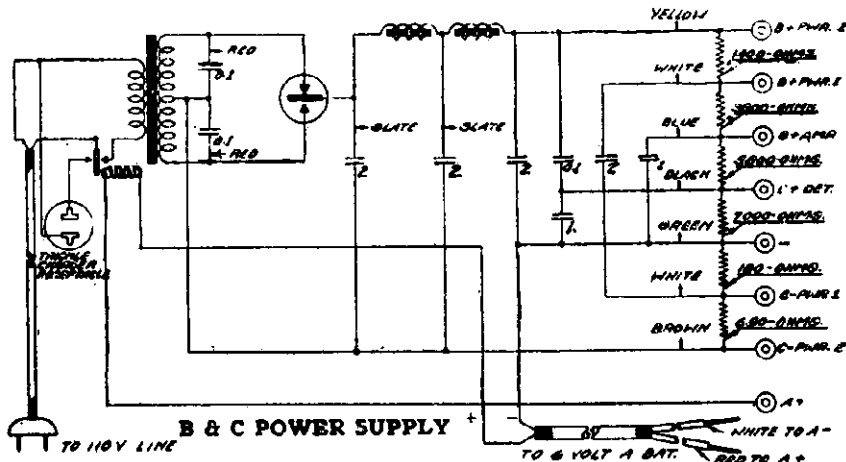


Day-Fan 5060 (D.C. 32V. Set)  
" " 5052 (D.C. 110V. Set)

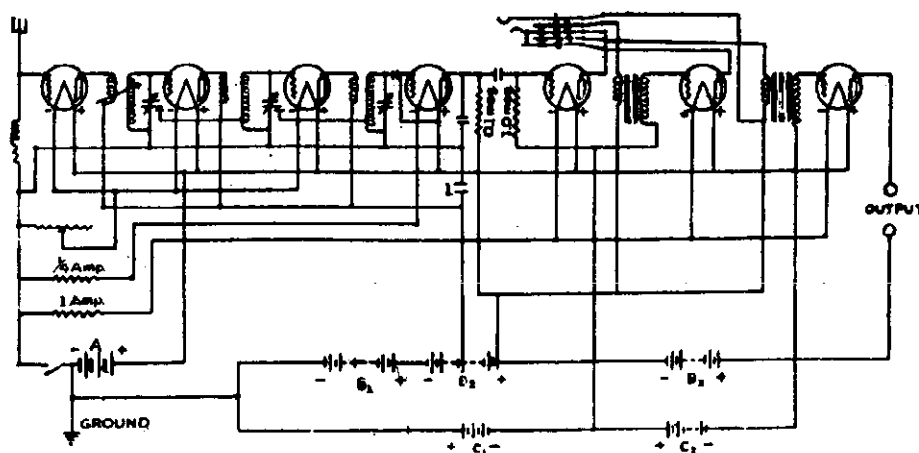


# GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5050-7  
MODEL "B & C" SPV



Day-Fan Seven—7-Tube  
Model 5050-7



DAY-FAN 7—7 TUBE  
Model 5050

## STANDARD BATTERY CONNECTIONS TO DAY-FAN 7 (5050)

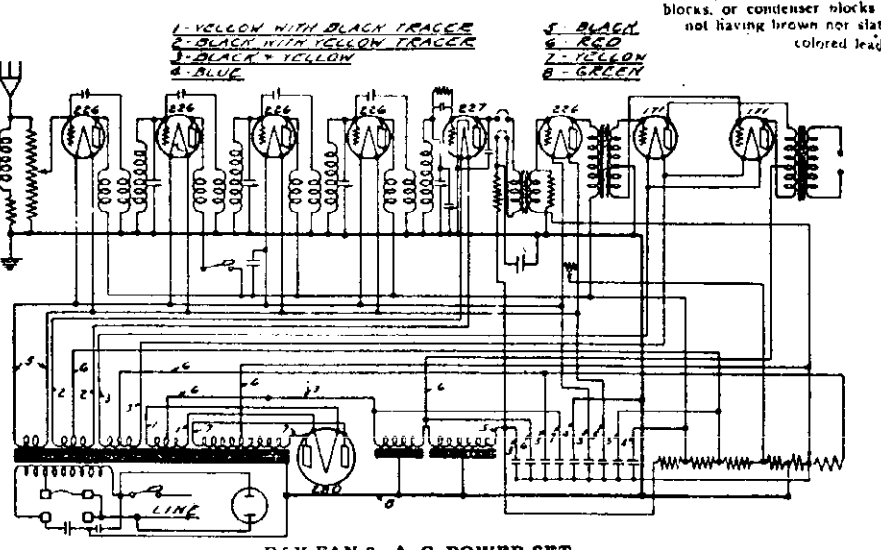
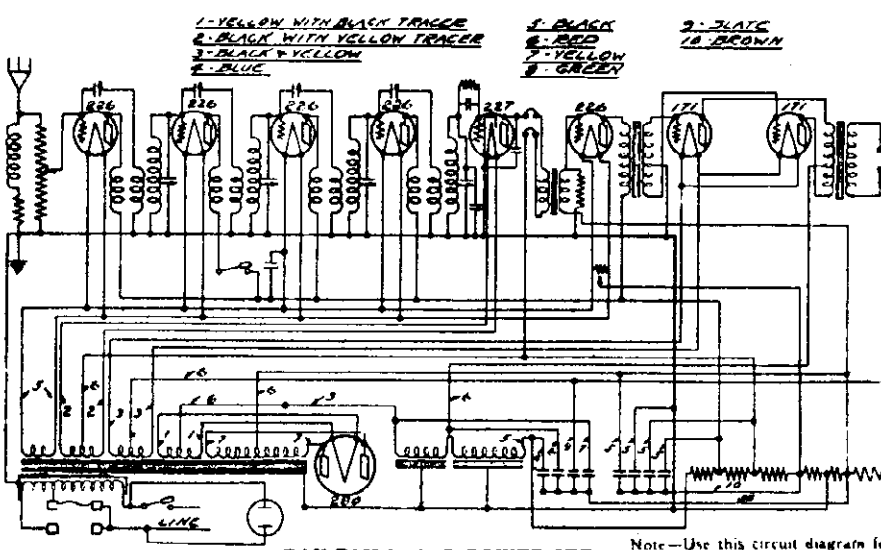
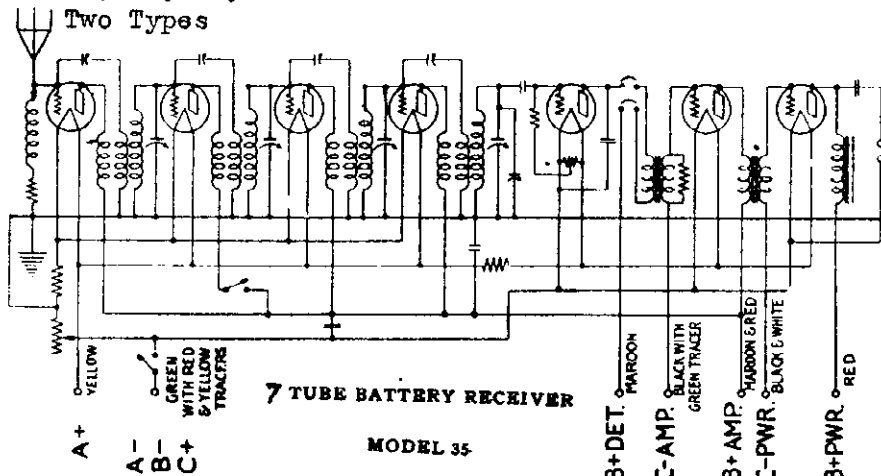
Color of Cable Wire	Voltage
Pink	B + Power
Blue	B + 90
Yellow	B + 67½
Red	A + 6
Green	B - A - C +
Black	C - 4
Brown	C - Power

(Batt.)

Day-Fan 5050

CX-301A or CX-300A	CX-340	Det.
CX-301A	CX-301A	1st A.F.
CX-301A	CX-301A	2nd A.F.
CX-301A	CX-301A	3rd A.F.
CX-301A	CX-301A	4th A.F.
CX-301A	CX-301A	5th A.F.
CX-301A	CX-301A	6th A.F.
CX-301A	CX-301A	7th A.F.
CX-301A	CX-301A	8th A.F.
CX-301A	CX-301A	9th A.F.
CX-301A	CX-301A	10th A.F.
CX-301A	CX-301A	11th A.F.
CX-301A	CX-301A	12th A.F.
CX-301A	CX-301A	13th A.F.
CX-301A	CX-301A	14th A.F.
CX-301A	CX-301A	15th A.F.
CX-301A	CX-301A	16th A.F.
CX-301A	CX-301A	17th A.F.
CX-301A	CX-301A	18th A.F.
CX-301A	CX-301A	19th A.F.
CX-301A	CX-301A	20th A.F.
CX-301A	CX-301A	21st A.F.
CX-301A	CX-301A	22nd A.F.
CX-301A	CX-301A	23rd A.F.
CX-301A	CX-301A	24th A.F.
CX-301A	CX-301A	25th A.F.
CX-301A	CX-301A	26th A.F.
CX-301A	CX-301A	27th A.F.
CX-301A	CX-301A	28th A.F.
CX-301A	CX-301A	29th A.F.
CX-301A	CX-301A	30th A.F.
CX-301A	CX-301A	31st A.F.
CX-301A	CX-301A	32nd A.F.
CX-301A	CX-301A	33rd A.F.
CX-301A	CX-301A	34th A.F.
CX-301A	CX-301A	35th A.F.
CX-301A	CX-301A	36th A.F.
CX-301A	CX-301A	37th A.F.
CX-301A	CX-301A	38th A.F.
CX-301A	CX-301A	39th A.F.
CX-301A	CX-301A	40th A.F.
CX-301A	CX-301A	41st A.F.
CX-301A	CX-301A	42nd A.F.
CX-301A	CX-301A	43rd A.F.
CX-301A	CX-301A	44th A.F.
CX-301A	CX-301A	45th A.F.
CX-301A	CX-301A	46th A.F.
CX-301A	CX-301A	47th A.F.
CX-301A	CX-301A	48th A.F.
CX-301A	CX-301A	49th A.F.
CX-301A	CX-301A	50th A.F.
CX-301A	CX-301A	51st A.F.
CX-301A	CX-301A	52nd A.F.
CX-301A	CX-301A	53rd A.F.
CX-301A	CX-301A	54th A.F.
CX-301A	CX-301A	55th A.F.
CX-301A	CX-301A	56th A.F.
CX-301A	CX-301A	57th A.F.
CX-301A	CX-301A	58th A.F.
CX-301A	CX-301A	59th A.F.
CX-301A	CX-301A	60th A.F.
CX-301A	CX-301A	61st A.F.
CX-301A	CX-301A	62nd A.F.
CX-301A	CX-301A	63rd A.F.
CX-301A	CX-301A	64th A.F.
CX-301A	CX-301A	65th A.F.
CX-301A	CX-301A	66th A.F.
CX-301A	CX-301A	67th A.F.
CX-301A	CX-301A	68th A.F.
CX-301A	CX-301A	69th A.F.
CX-301A	CX-301A	70th A.F.
CX-301A	CX-301A	71st A.F.
CX-301A	CX-301A	72nd A.F.
CX-301A	CX-301A	73rd A.F.
CX-301A	CX-301A	74th A.F.
CX-301A	CX-301A	75th A.F.
CX-301A	CX-301A	76th A.F.
CX-301A	CX-301A	77th A.F.
CX-301A	CX-301A	78th A.F.
CX-301A	CX-301A	79th A.F.
CX-301A	CX-301A	80th A.F.
CX-301A	CX-301A	81st A.F.
CX-301A	CX-301A	82nd A.F.
CX-301A	CX-301A	83rd A.F.
CX-301A	CX-301A	84th A.F.
CX-301A	CX-301A	85th A.F.
CX-301A	CX-301A	86th A.F.
CX-301A	CX-301A	87th A.F.
CX-301A	CX-301A	88th A.F.
CX-301A	CX-301A	89th A.F.
CX-301A	CX-301A	90th A.F.
CX-301A	CX-301A	91st A.F.
CX-301A	CX-301A	92nd A.F.
CX-301A	CX-301A	93rd A.F.
CX-301A	CX-301A	94th A.F.
CX-301A	CX-301A	95th A.F.
CX-301A	CX-301A	96th A.F.
CX-301A	CX-301A	97th A.F.
CX-301A	CX-301A	98th A.F.
CX-301A	CX-301A	99th A.F.
CX-301A	CX-301A	100th A.F.

MODEL Day-Fan 35  
MODEL Day-Fan 25, 26,  
27, 28, 43, 48  
Two Types

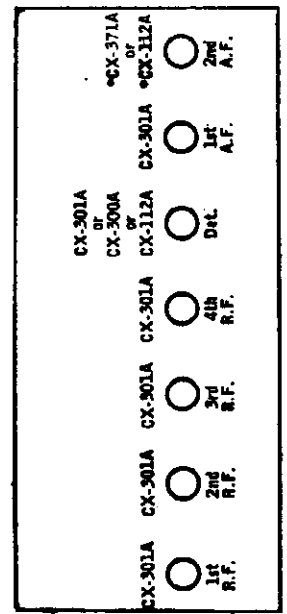


Note—Use this circuit diagram for receivers equipped with sealed power blocks, or condenser blocks not having brown nor slate colored leads.

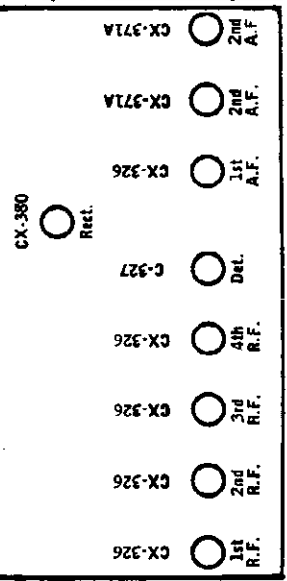
DAY-FAN—Models 25-26  
Line Voltage 116—2nd A. F. Stage—2 Tubes Push Pull

TUBE NO. AND NAME	TYPE OF TUBE	POSITION OF TUBE (BY A. F. DET. ETC.)	TUBE OUT				TUBE IN TESTER				TUBE IN TEST				TUBE IN PLATE TEST			
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	A VOLTS	B VOLTS	C VOLTS	D VOLTS	A VOLTS	B VOLTS	C VOLTS	D VOLTS	A VOLTS	B VOLTS	C VOLTS	D VOLTS
226	1st. R.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
226	2nd. R.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
226	3rd. R.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
226	4th. R.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
226	Detector	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
226	1st. A.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
226	2nd. A.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
1714	2nd. A.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0
1714	2nd. A.F.	1-5	117	1-5	110	5-5	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0	6-5	10-5	4-0

MODEL 35

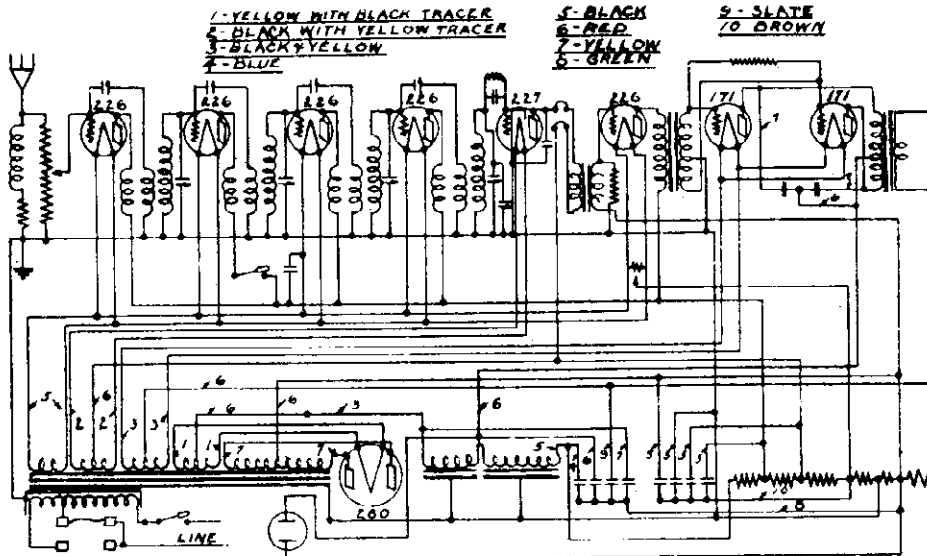


8-AC. MODELS-25, 26, 27, 28, 43, 48

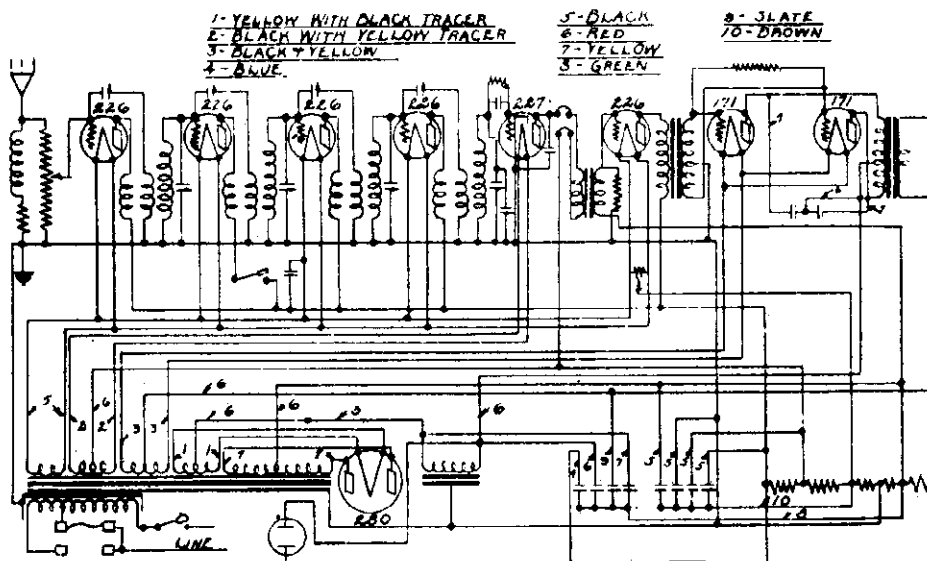


# GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5077  
MODEL Day-Fan 5080



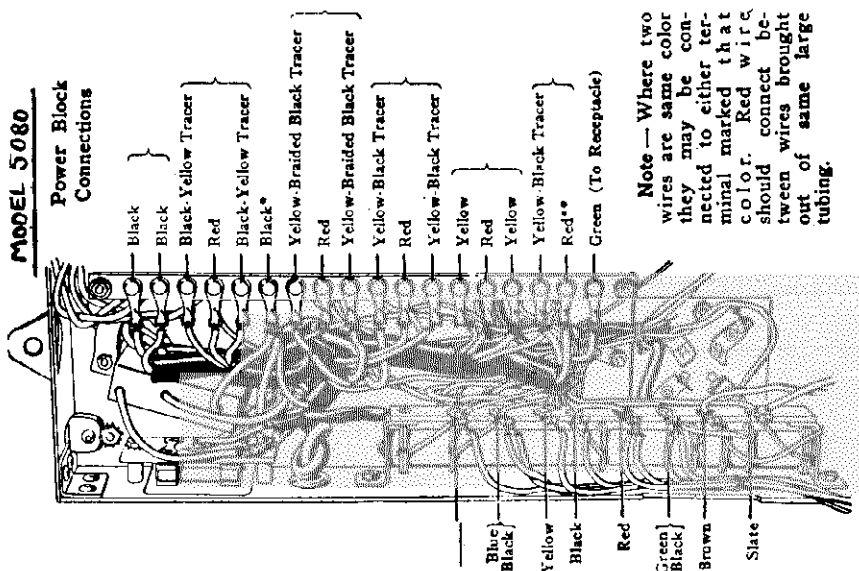
**DAY-FAN 8-TUBE - MODEL 5077**  
(For Use with 200-Volt D. C. Dynamic Speaker)



**DAY-FAN 8-TUBE - MODEL 5080**  
(For Use with 110-Volt D. C. Dynamic Speaker)

## MODEL 5080

### Power Block Connections



(A.C.)

Day-Fan 5069, 5080.

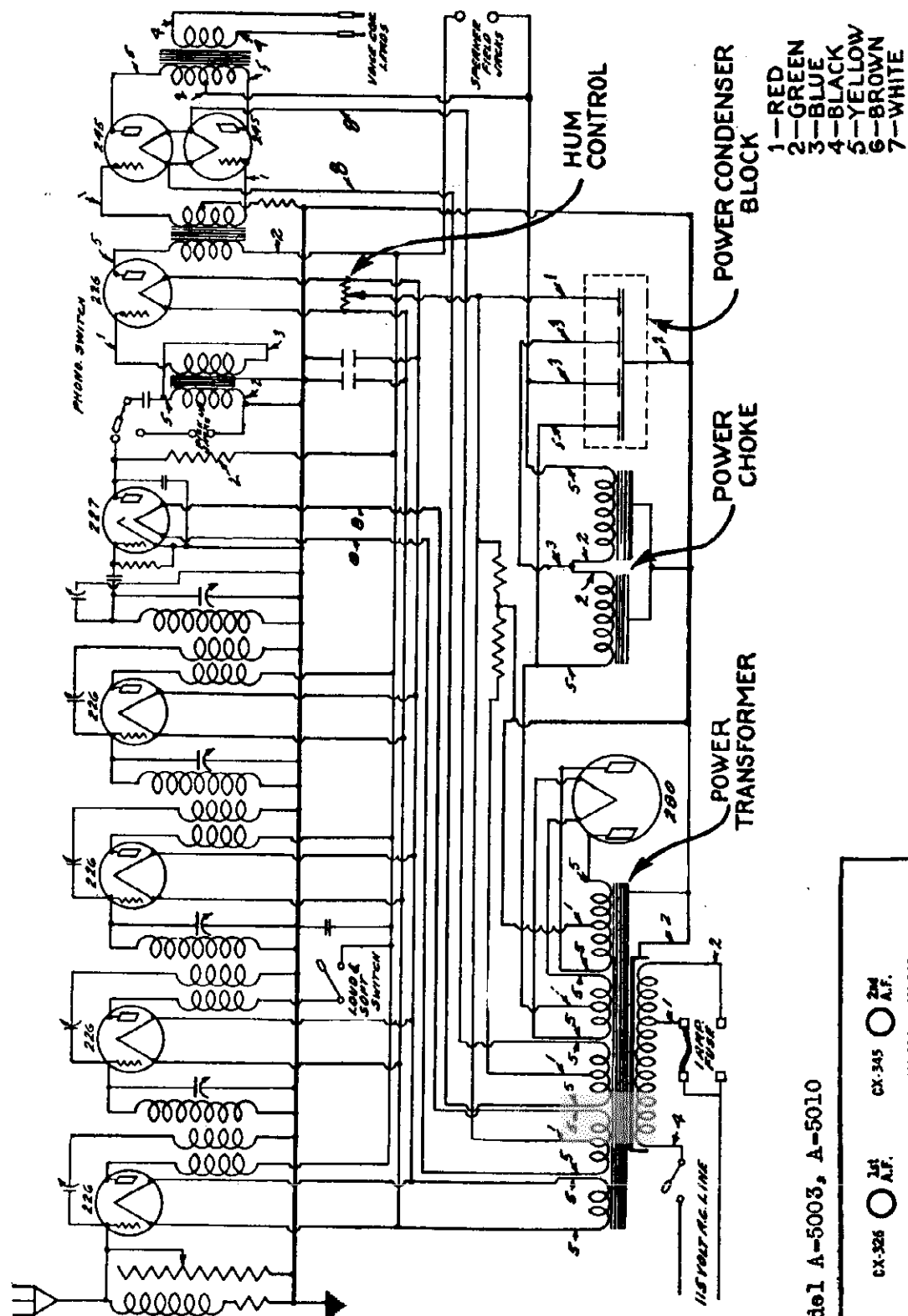
Tube Fil. Vol. Plate Vol. Grid Vol. Plate Current

RF1	1.3	150	9	4.5
RF2	1.3	150	9	4.5
RF3	1.3	150	9	4.5
RF4	1.3	150	9	4.5
Det	2.2	30	**	1.7
AB1	1.3	130	5	4.5
PF1	2.25	235	7 see note	27.5
PF2	2.25	235	7 see note	27.5

Low output tube bias due to resistance in grid circuit.

**GENERAL MOTORS RADIO CORP.**

MODEL Day-Fan A-5003  
A-5010



Model A-5003, A-5010

[illegible]

**DAI-FAN—Model 3091**  
**Line Voltage 120—Set on 120 Volt Tap—Volume Con-**  
**trol Position Max**  
**Note: "C" Bias Voltage—Reading on Audio tubes is low**  
**due to the current draw of the set tester and high resis-**  
**tances in the set.**

(A.C.)

- |        |                                  |          |
|--------|----------------------------------|----------|
| C-327  | <input type="radio"/>            | Dvt.     |
| CX-326 | <input type="radio"/>            | 4th R.F. |
| CX-326 | <input type="radio"/>            | 3rd R.F. |
| CX-326 | <input type="radio"/>            | 2nd R.F. |
| CX-326 | <input type="radio"/>            | 1st R.F. |
| CX-345 | <input type="radio"/>            | 2nd A.F. |
| CX-326 | <input type="radio"/>            | 2nd A.F. |
| CX-380 | <input checked="" type="radio"/> | Radi.    |

EX-380  
Act. O

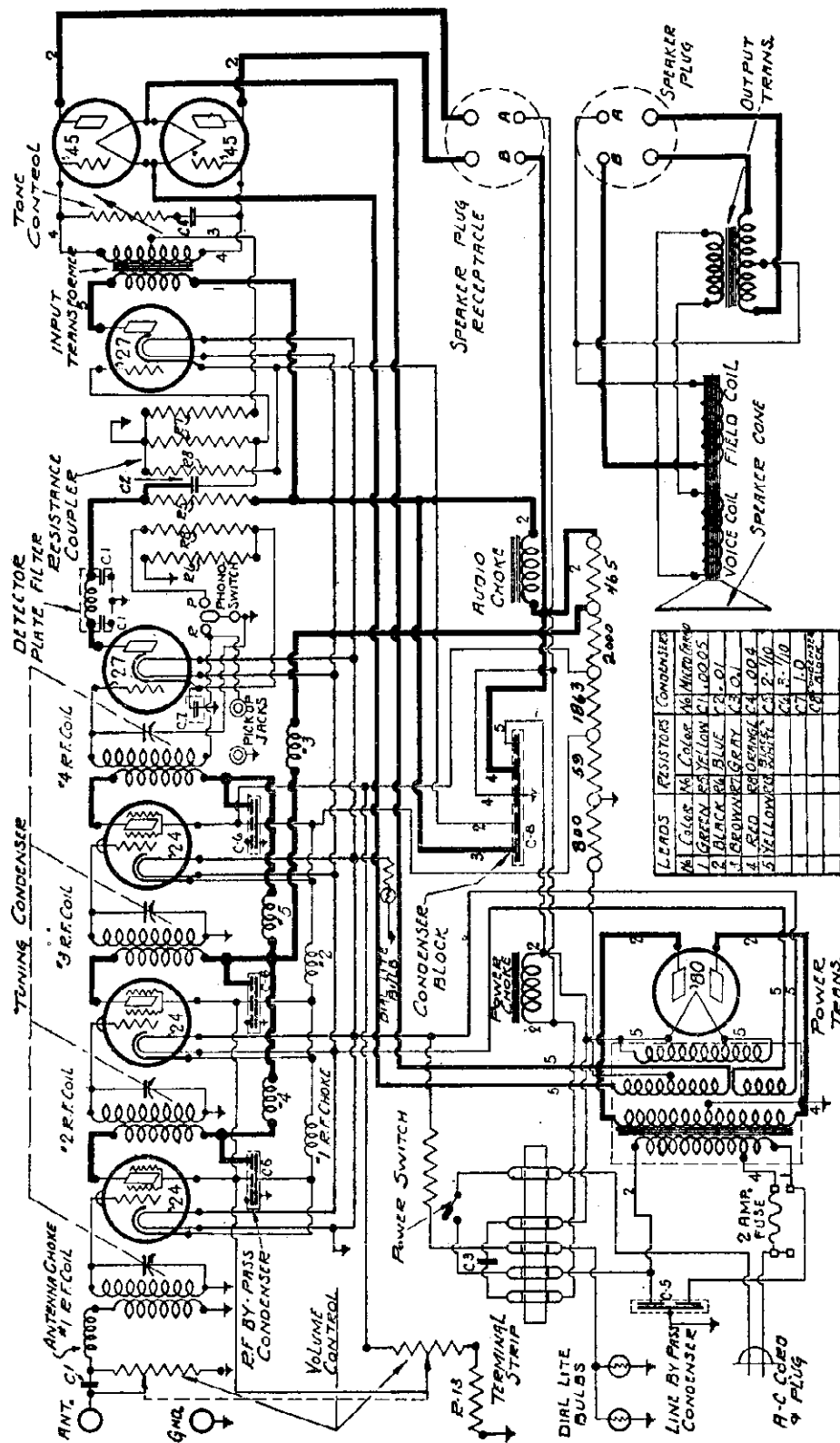
1-RED  
2-GREEN  
3-BLUE  
4-BLACK  
5-YELLOW  
6-BROWN  
7-WHITE

**DAY-PAN**  
**CHASSIS MODEL 5091**  
**1929 - 1930**

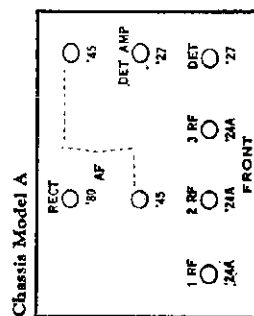
[illegible]

### Circuit Diagram of Chassis with Serial Numbers Below 29100A and 1700B.

**Models 120, 130 & 140**  
**(Chassis Models "A" and "B")**

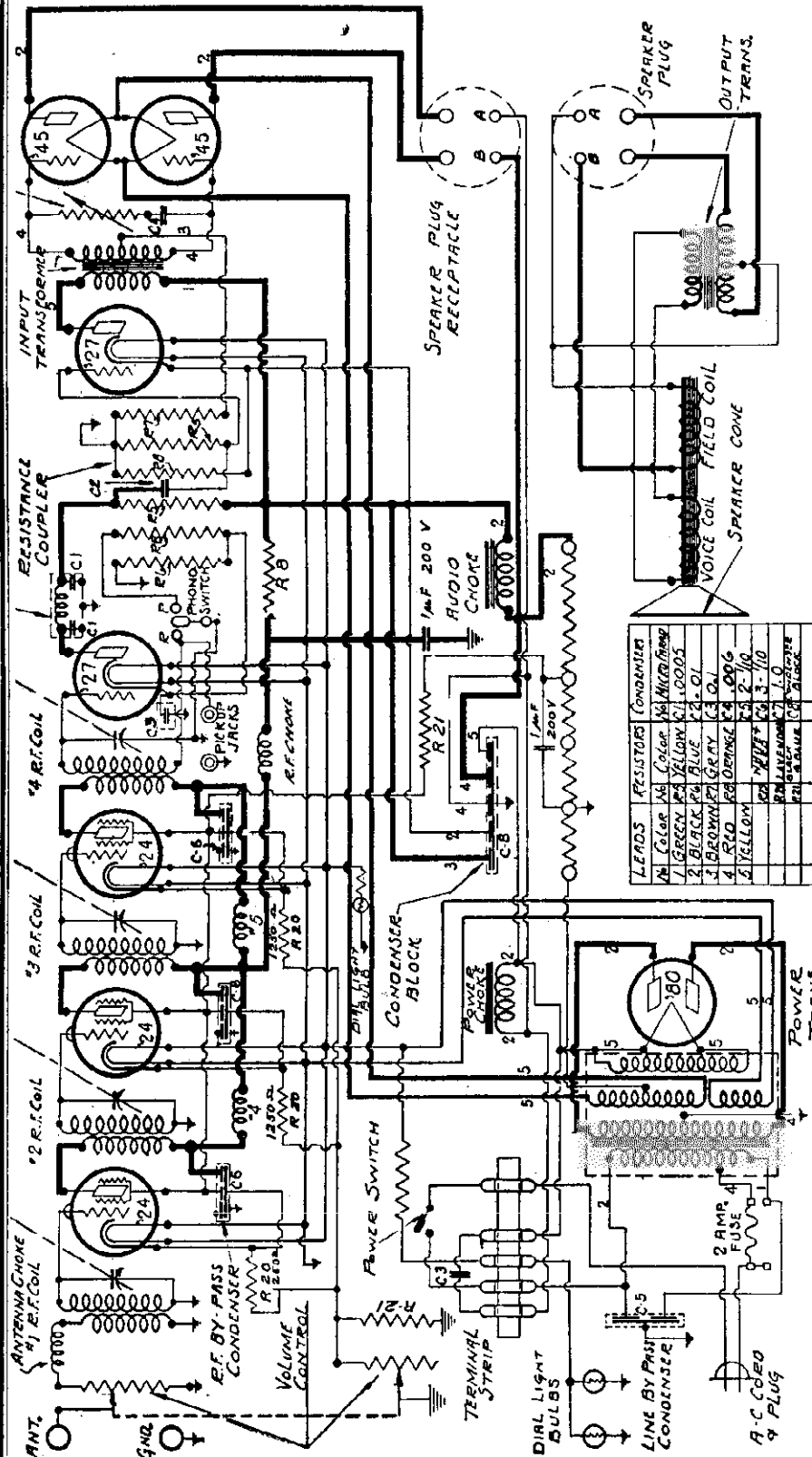


TYPE NO. OF TESTED	TYPE OF TEST SET	NUMBER OF TYPE SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET										
			OPERATING VOLTS				MILLIAMPERES				WATTAGE		
			FLUORIMETER ①	FLUORIMETER ②	FLUORIMETER ③	FLUORIMETER ④	FLUORIMETER ⑤	FLUORIMETER ⑥	FLUORIMETER ⑦	FLUORIMETER ⑧	FLUORIMETER ⑨	FLUORIMETER ⑩	
1	24	1 R.P.	2.2	1.0	-2	60	+2	-	1.5	2.5	1		
2	24	3 R.P.	2.2	1.0	-2	60	+2	-	1.5	2.5	1		
3	24	3 R.P.	2.2	1.0	-2	60	+2	-	1.5	2.5	1		
4	27	Do.	2.2	1.0	-2	60	+2	-	1.5	2.5	2		
5	27	1 A.P.	2.2	1.35	-	85	+2	+6	-	4.5	5.0	1.3	
6	45	2 A.P.	2.5	2.35	-	85	-	-	-	55	29	4	
7	45	2 A.P.	2.5	2.35	-	85	-	-	-	55	29	4	
8	60	Do.	4.5	-	-	-	-	-	-	45	45	-	

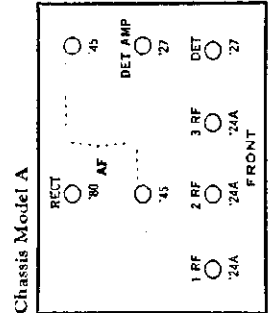


MODEL 120,130,140  
Between Serial  
29100A-62100A  
1700B-1946B

**GENERAL MOTORS RADIO CORP.**



## Models 120, 130 & 140 (Chassis Models "A" and "B")



### Chassis Model A

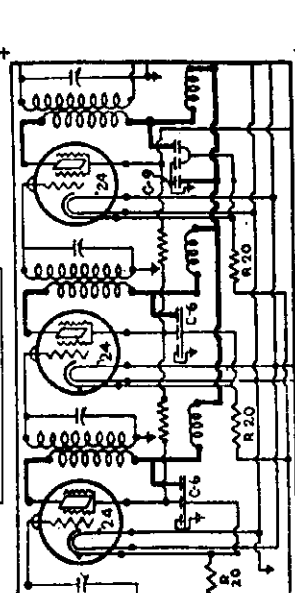
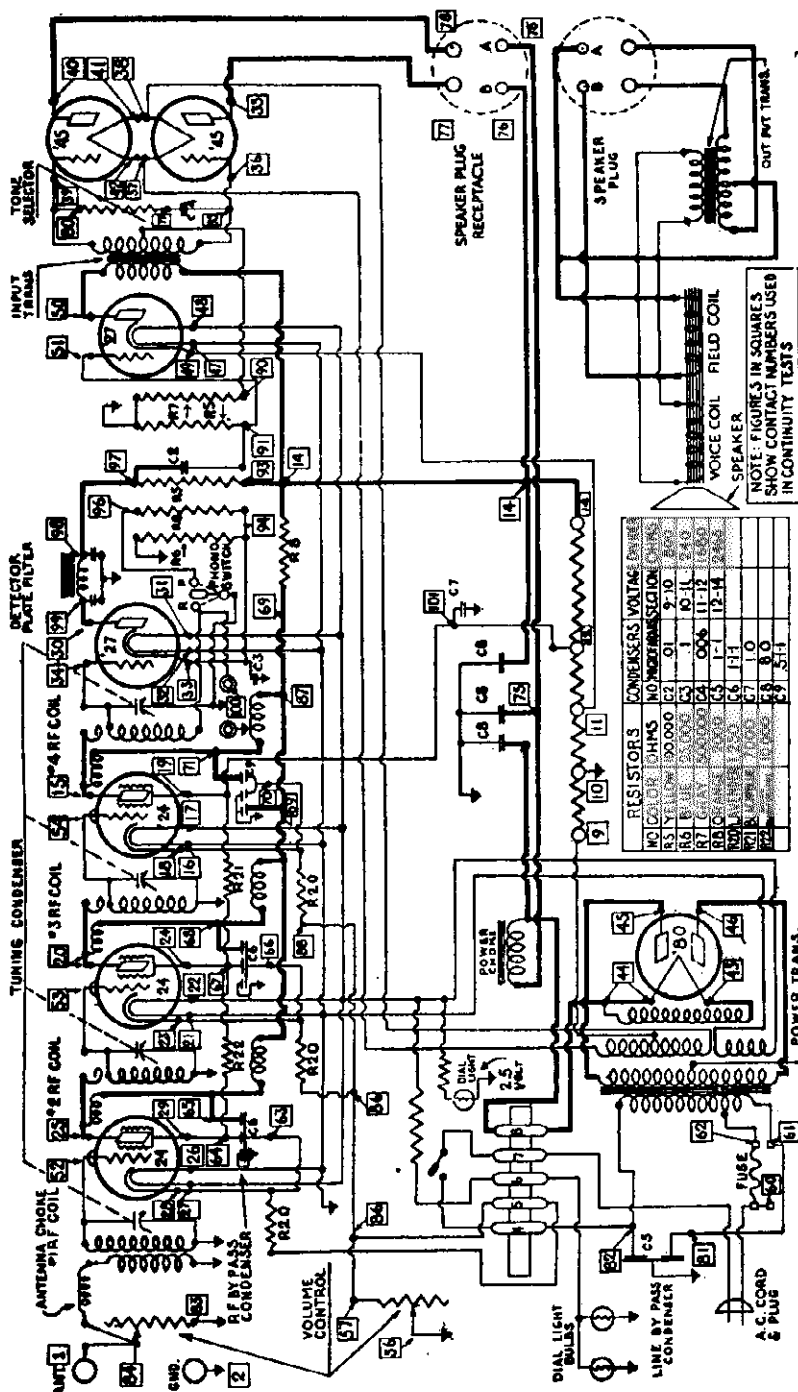
Circuit Diagram of Chassis with Serial Numbers Between 29100A and 1700B and 1946B. 62100A Pl. Cur.

Tube	Fil. V.	Pl. V.	C.G.Volts	S.G.Volts	Cath. Volts	(MA)
RF-1	2.3	150	- 3	55	3	2.
RF-2	2.3	150	- 3	55	3	2.
RF-3	2.3	150	- 3	55	3	2.
Det.	2.3	100	- 8	..	10	.2
AF-1	2.3	140	- 3	..	10	4.
AF-2	2.3	220	-12	..	..	30.
AF-2	2.3	220	-12	..	..	30.
Rect	4.5	...	...	..	..	100.
Line Voltage - 110						Volume Control on Full



MODEL 120,130,140  
Above Serial  
62100A-1964B

# GENERAL MOTORS RADIO CORP.



RESISTORS CONVERSION TABLE

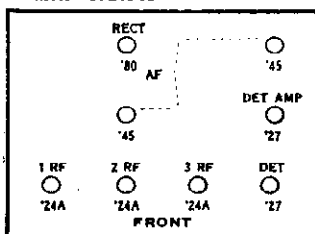
NO.	COLOR	OHMS	NO.	COLOR	OHMS
1	BROWN	100	11	BROWN	100
2	RED	200	12	RED	200
3	ORANGE	300	13	ORANGE	300
4	YELLOW	400	14	YELLOW	400
5	GREEN	500	15	GREEN	500
6	BLUE	600	16	BLUE	600
7	VIOLET	700	17	VIOLET	700
8	PURPLE	800	18	PURPLE	800
9	WHITE	900	19	WHITE	900

## Sets with Serial Numbers Above 62100A

Type of Tube	Position of Tube	TUBE IN SET ANALYSER				Normal Plate Current MA	Grid Changer
		"A" Volts	"B" Volts	"C" Volts Control Grid	Screen Volts		
'24	1st R. F.	2.3	170	-3	60	2.	4.
'24	2nd R. F.	2.3	170	-3	68	2.	4.
'24	3rd R. F.	2.3	170	-3	75	2.	4.
'27	Detector	2.3	100	-12	...	.2	2.
'27	1st A. F.	2.3	165	-3	...	4.	7.
'45	2nd A. F.	2.3	235	-12	...	30.	35.
'45	2nd A. F.	2.3	235	-12	...	30.	35.
'80	Rectifier	4.5	...	...	...	100.	...

Line Voltage 110 Volume Control on Full

Chassis Model A

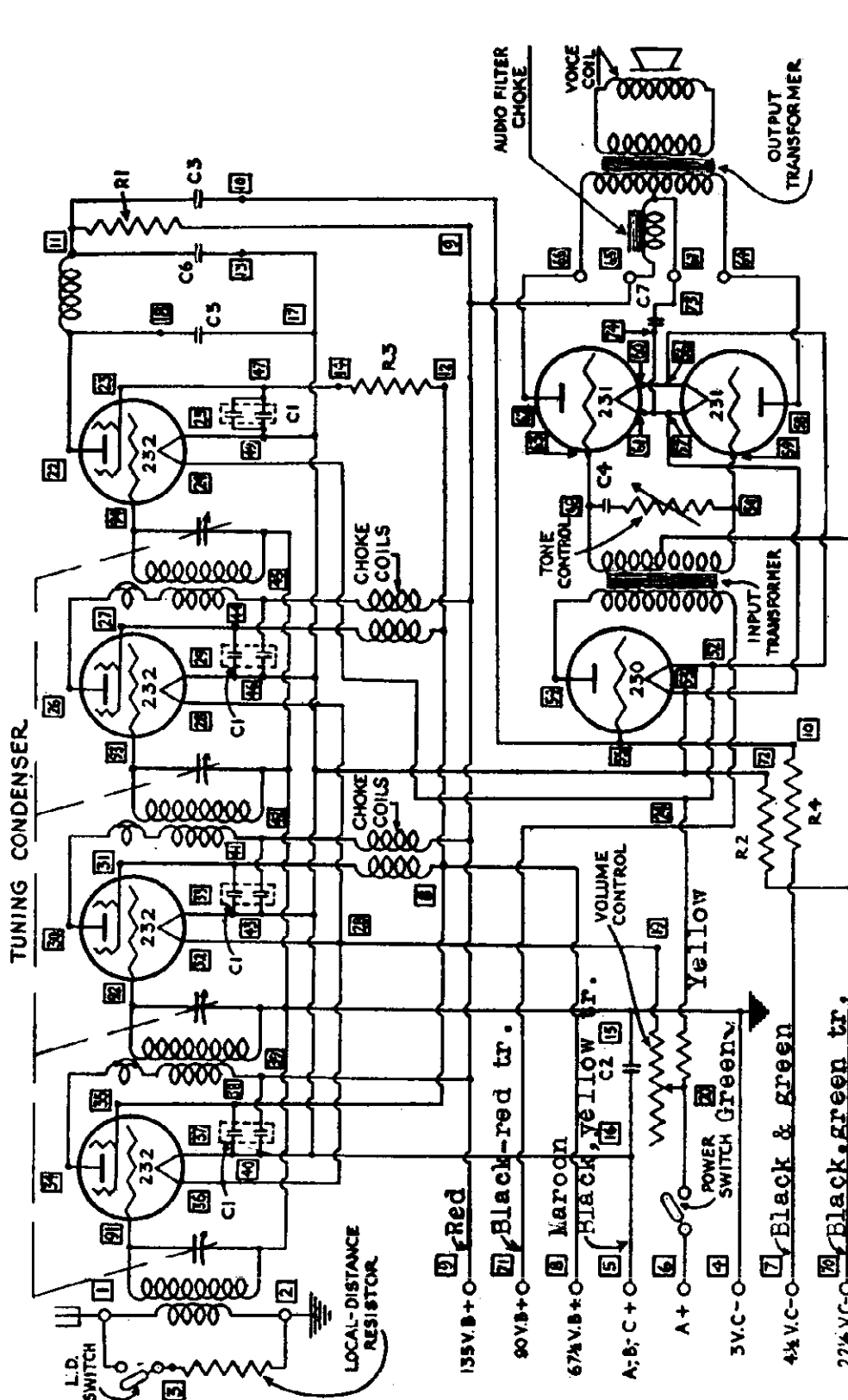


## Models 120, 130 & 140 (Chassis Models "A" and "B")

Circuit Diagram of Chassis with Serial  
Numbers Above 62100A and 1964B.

**GENERAL MOTORS RADIO CORP.**

MODEL 170-(E)  
Schematic

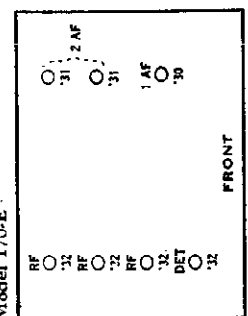


## Model 170, Battery Powered Receiver

(Chassis Model E)

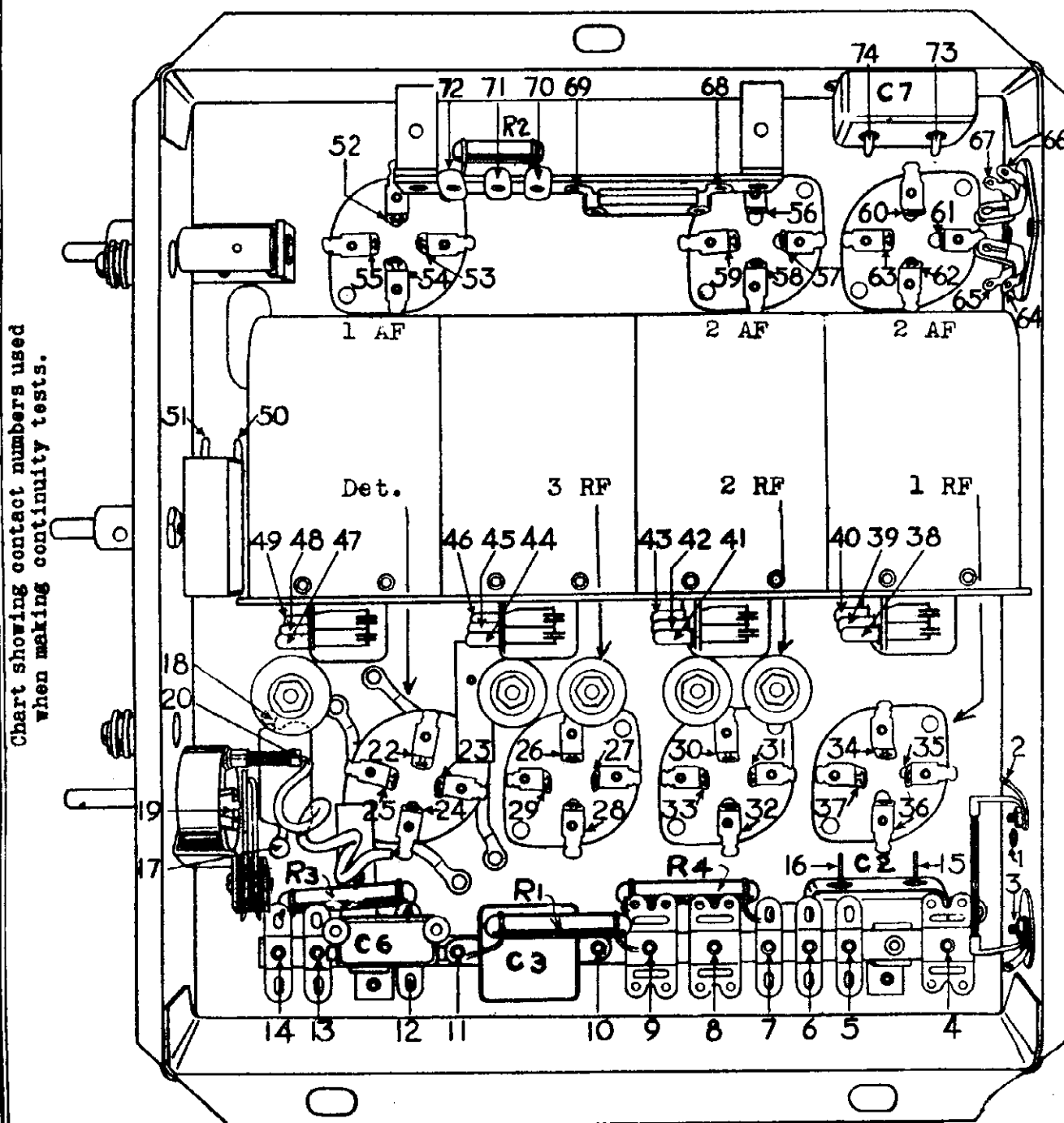
Tube	Fil	Plate	Screen	Plate Grnt.
1 RF	1.7	140	68	1.2 ma
2 RF	1.7	140	68	1.4
3 RF	1.7	140	68	1.5
Det	1.7	80	10	.2
1 AF	1.7	85	-	1.5
2 AF	1.7	135	-	7.

RESISTORS				CONDENSERS	
NO.	BODY	END	BAND	OHMS	NO MICROFARADS
R1	BROWN	BLACK	YELLOW	100,000	C1 .1-.1
R2	RED	BLACK	YELLOW	200,000	C2 .5
R3	GREEN	BLACK	YELLOW	500,000	C3 .01
R4	RED	BLACK	GREEN	2,000,000	C4 .002
					C5 .0005
					C6 .0001
					C7 1.0



MODEL 170-(E)  
Chassis

## GENERAL MOTORS RADIO CORP.



NOTE: NOS. 91, 92, 93 & 94  
ARE GRID CAPS OF 1ST, 2ND & 3RD  
R.F. TUBES AND DETECTOR TUBE.

Model 170 Receiver  
Chassis Model E  
(PIONEER BATTERY POWERED RECEIVER)

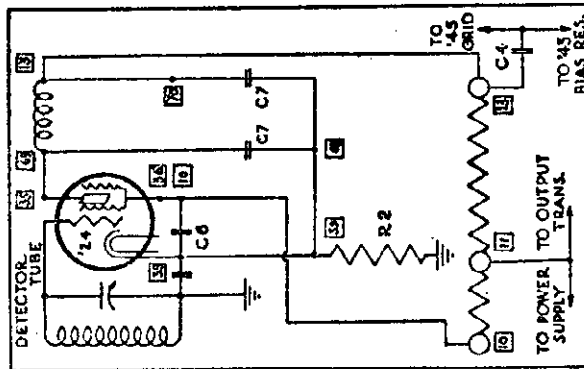
FILTER UNIT

Filter Units, Part No. 1202735, have been supplied to the field with instructions for installation on Model "E" Chassis with Serial Nos. below 3205-E only. All receivers above 3205-E have the Filter Units incorporated in the chassis and speaker. These parts include the Audio Filter Choke which is mounted on the speaker and one 1 Mfd. condenser located in the Chassis. On sets with Serial Numbers below 3205-E, use No. 1951 Speaker. Sets with Serial Numbers above 3205-E use Speaker No. 1952.

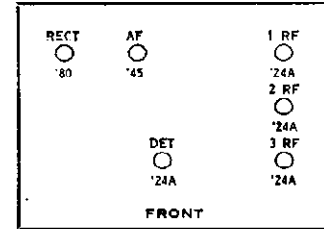
# GENERAL MOTORS RADIO CORP.

MODEL 110,180,190  
Little General

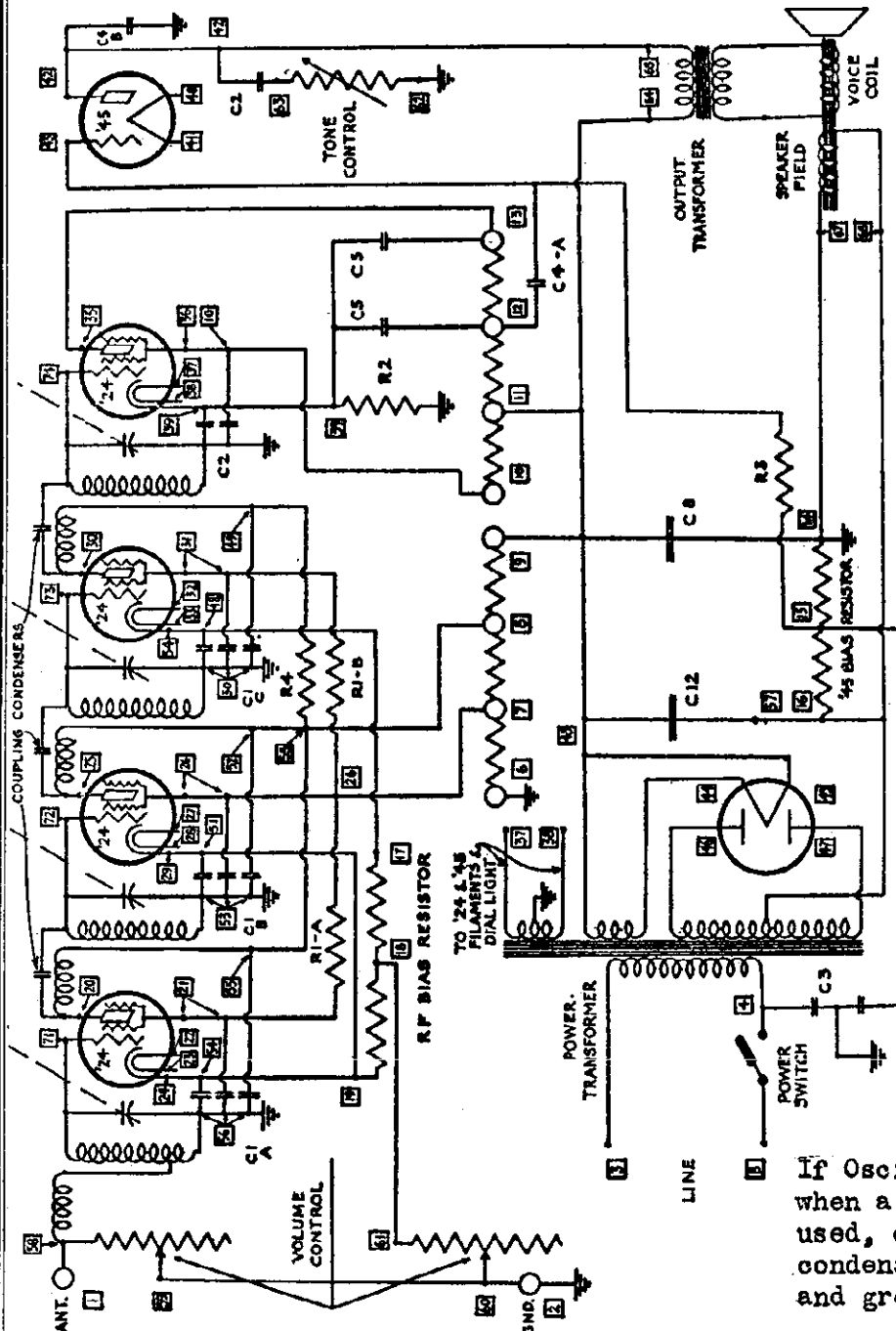
Models 110, 180, 190



The above insert shows a part of the Detector Circuit for Chassis with serial numbers above 23156 MA and 1611 MB — In the Chassis with Circuits as shown above, the Detector Plate Filter Circuit includes a choke coil in the Plate Circuit instead of one section of the Voltage Divider as in previous Chassis



NOTE: In Chassis with serial numbers above 23156 MA and 1611 MB, the Tone Control Condenser and the Line By-Pass Condenser are included in the same can, with capacities as shown for Condenser No. C 2.



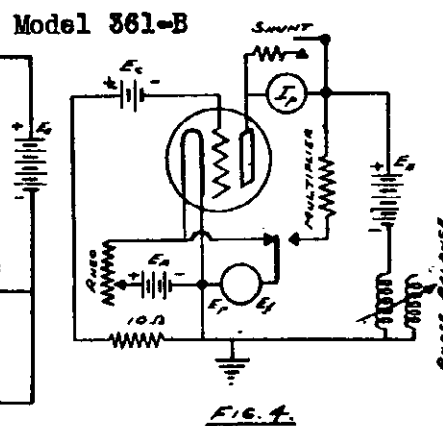
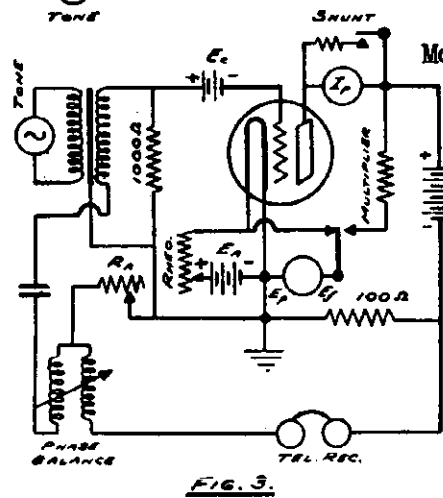
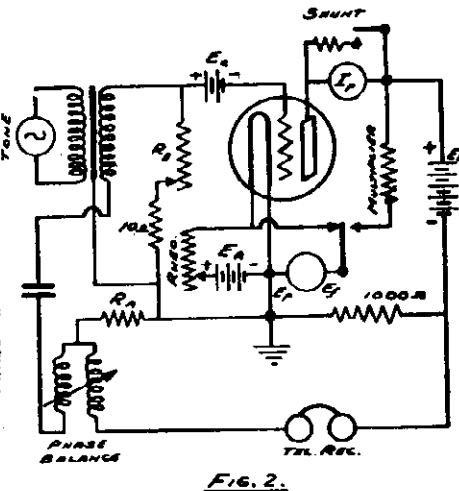
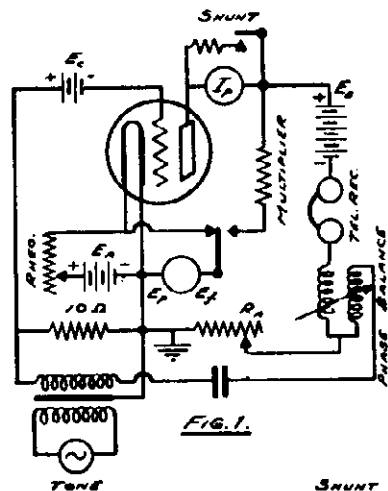
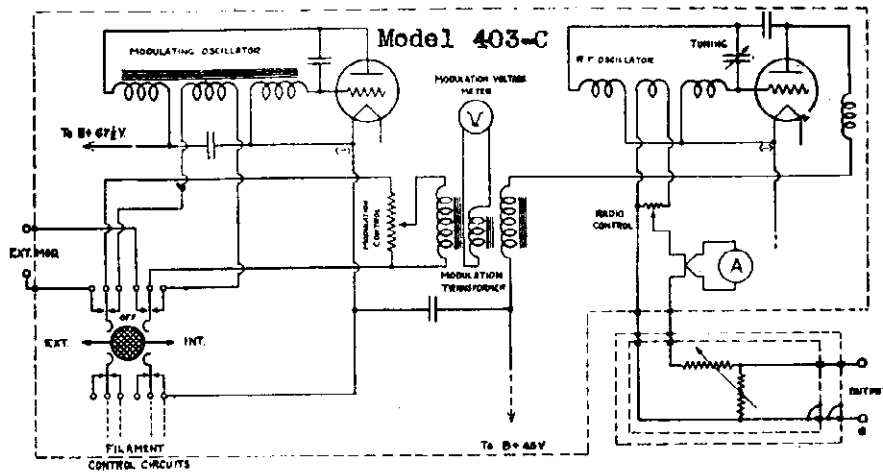
FIXED CONDENSERS		SINGLE FIXED RESISTORS		VOLTAGE DIVIDER		SECTION RESISTANCE		SECTION RESISTANCE	
NO.	CAPACITY	NO.	RESISTANCE	COLOR	END DOT	NO.	RESISTANCE	NO.	RESISTANCE
C-1	1-1 Mfd.	R-1	12,000	Brown	Green	1-1	2,000 Ohms	12	10,000
C-2	2-1-22 Mfd.	R-2	25,000	Red	Green	2-2	2,000 Ohms	13	10,000
C-3	2-1 Mfd.	R-3	500,000	Green	Black	3-3	2,000 Ohms	14	10,000
C-4	0.1 Mfd.	R-4	1,000	Uninsulated	Resistor Wire	4-4	2,000 Ohms	15	10,000
C-5	0.0025 Mfd.					5-5	2,000 Ohms	16	10,000
C-6	5-5 Mfd.					6-6	2,000 Ohms	17	10,000
C-7	0.001 Mfd.					7-7	2,000 Ohms	18	10,000
C-8	80 Mfd.					8-8	2,000 Ohms	19	10,000
C-12	120 Mfd.					9-9	2,000 Ohms	20	10,000
TUBE TYPE FIL.		PLATE CON. GRID S. GRID CATHODE		NORMAL MA.		GRID CHANGE			
124	1RF 2-4	165	3.1	80	3	2.5	2.5	2.5	2.5
124	2RF 2-4	165	3.1	92	3	2.5	2.5	2.5	2.5
124	3RF 2-4	160	3.1	82	3	2.5	2.5	2.5	2.5
124	DET 2-5	100	6.5	12	10	.2	.2	.1	.1
145	1AF 2-4	225	3.0			20	20	40	40
180	RECT 4-5	360							

If Oscillation persists when a small aerial is used, connect a .0001 mfd condenser across the aerial and ground posts.



MODEL 403-C  
MODEL 361-B

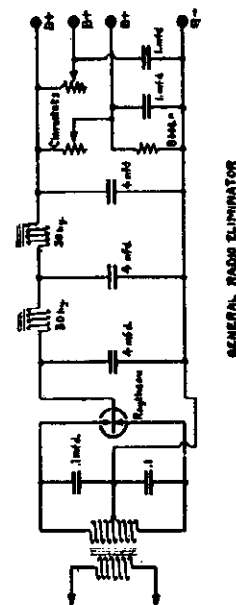
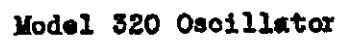
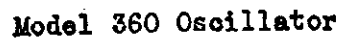
# GENERAL RADIO CO



- Figure 1 Amplification Constant.
- Figure 2 Plate Resistance
- Figure 3 Mutual Conductance
- Figure 4 Static characteristics

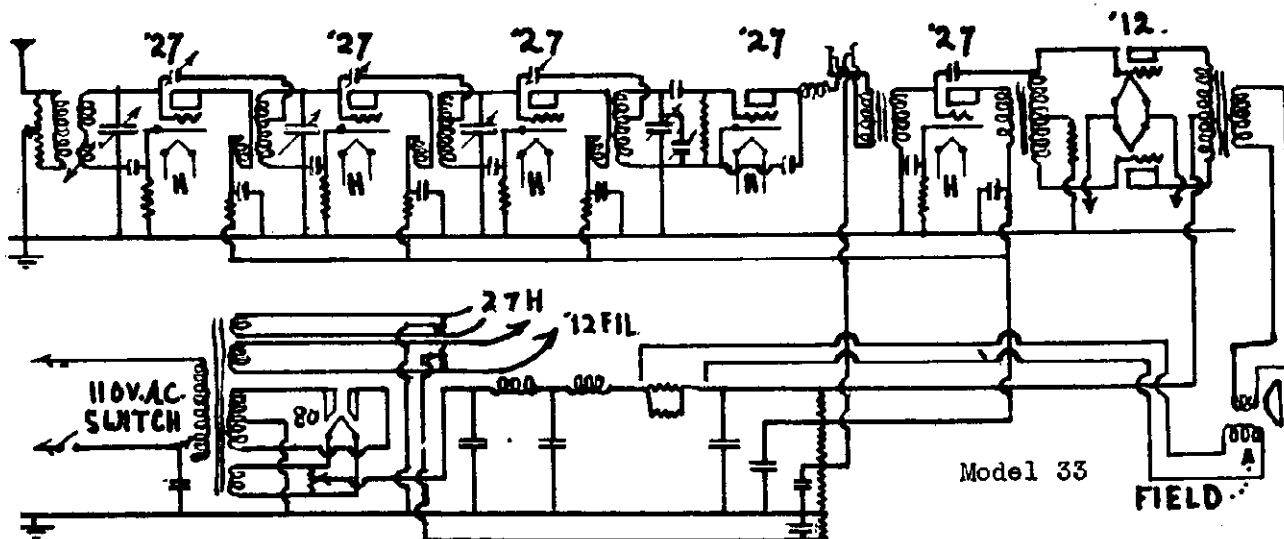
Special adaptors are available for conversion and application of the 361-B bridge to AC tubes.

MODEL 360 Oscillator  
MODEL 360-A Oscillator  
MODEL 320 Oscillator

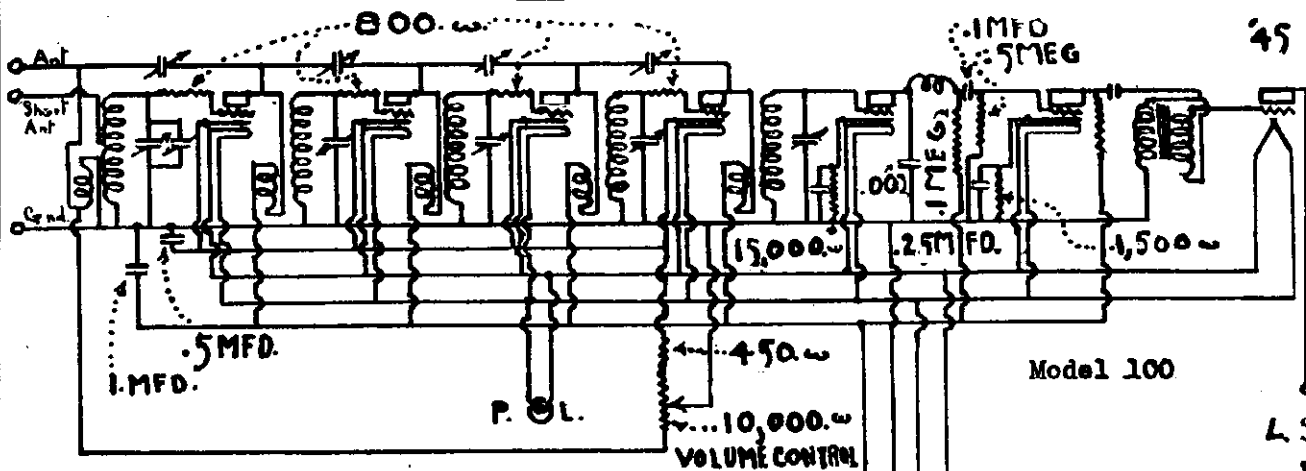
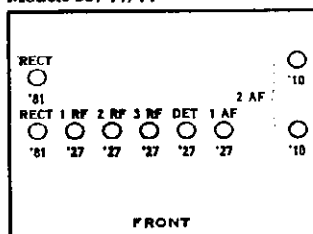


# GILFILLAN BROS.

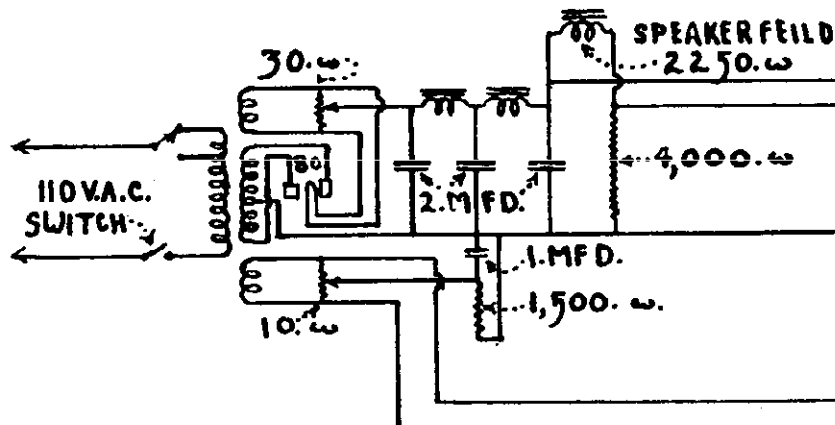
MODEL 33  
MODEL 100



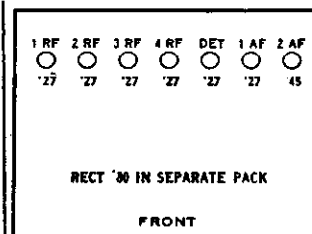
Models 33, 44, 77



Model 100



Model 100 Chassis





The diagram illustrates the Model 66 electronic circuit. The top section consists of four identical stages, each containing a 27k resistor, a 100k resistor, a 100pF capacitor, and a 100k resistor, connected to a 100V AC source. The bottom section shows a 100V AC source connected to a 100k resistor, a 100pF capacitor, and a 100k resistor, with a 100V AC switch. The output is connected to a 100V AC source and a 100k resistor.

1 RF 2 RF 2 AF 1 AF 3 RF DET  
 ○ '26 ○ '26 '71A '26 '26 ○ '27  
 FRONT

Diagram illustrating the 4-man crew position on a boat. The boat is oriented with STERN (Stern) at the top and BOW (Bow) at the bottom. The positions are marked as follows:

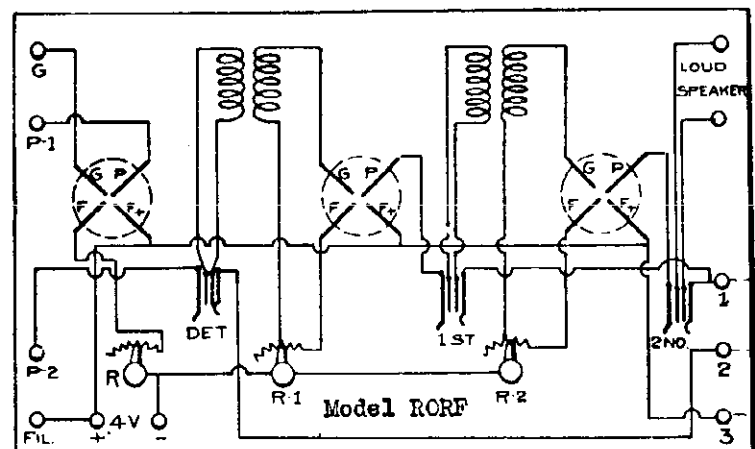
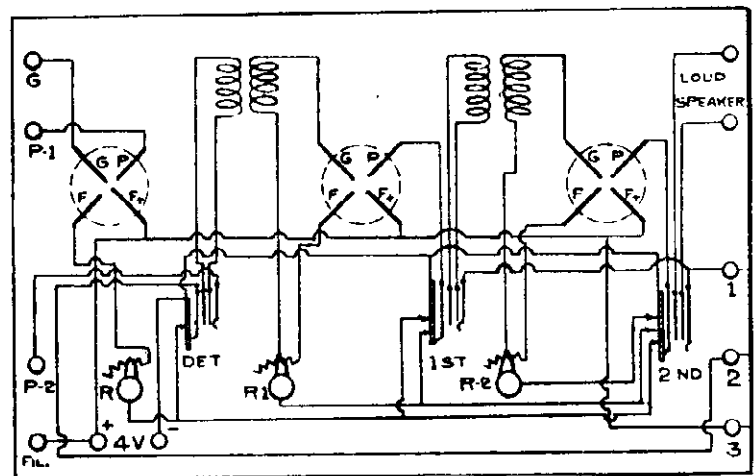
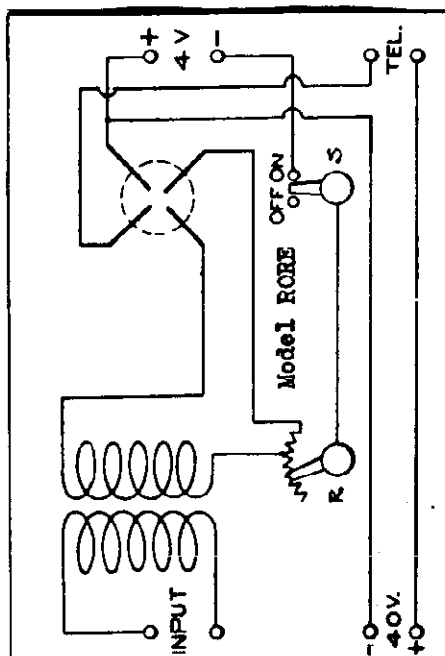
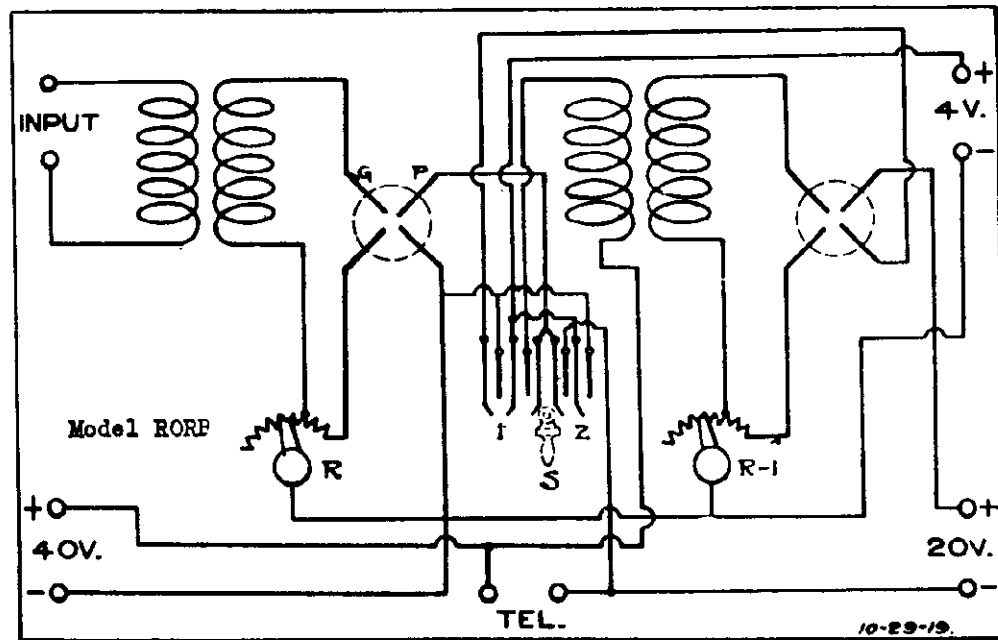
- 1 AF (Aft) at the top center.
- 1 RF (Right Fore) at the bottom left.
- 2 RF (Right Fore) at the bottom center-left.
- 3 RF (Right Fore) at the bottom center-right.
- DET (Driver) at the bottom right.

The word FRONT is written below the boat diagram.

Diagram of the front view of the circuit board. It shows two 10-pin connectors labeled "2 AF" and two 8-pin connectors labeled "RECT". The board is labeled "FRONT" at the bottom.

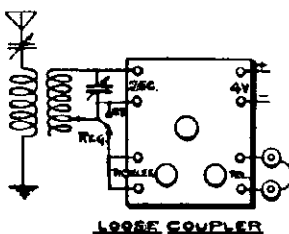
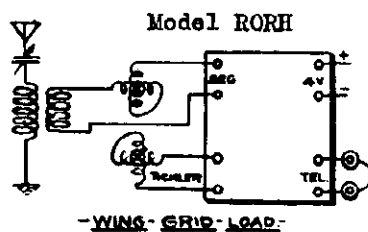
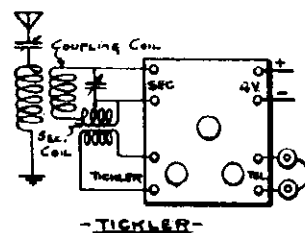
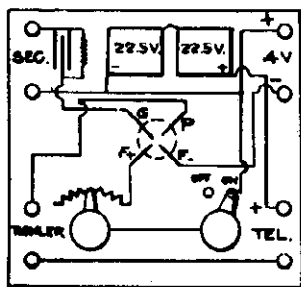
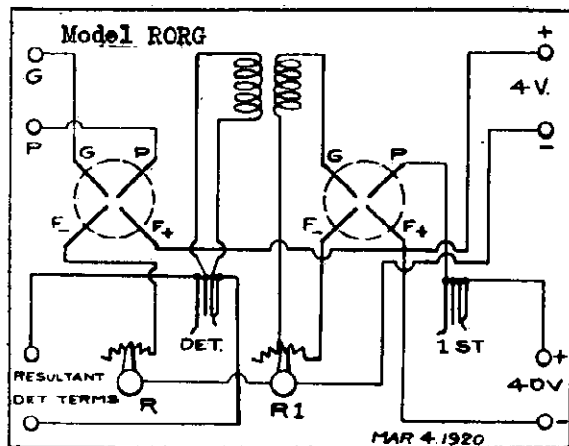
A. H. GREBE &amp; CO.

MODEL RORF  
 MODEL RORD  
 MODEL RORE  
 MODEL ROEF

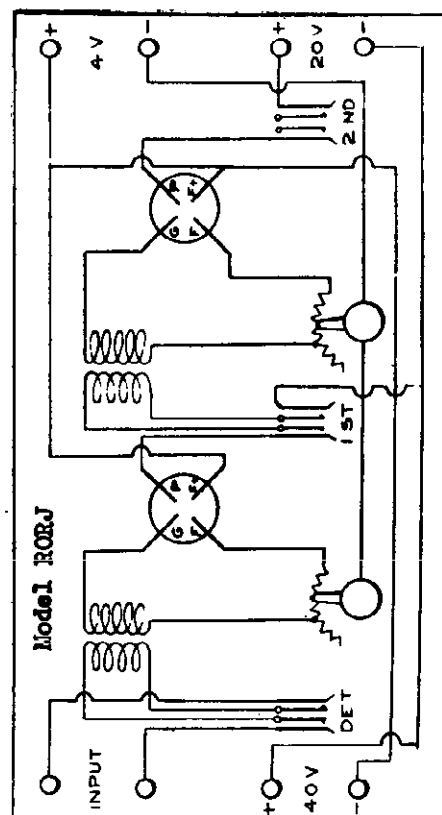
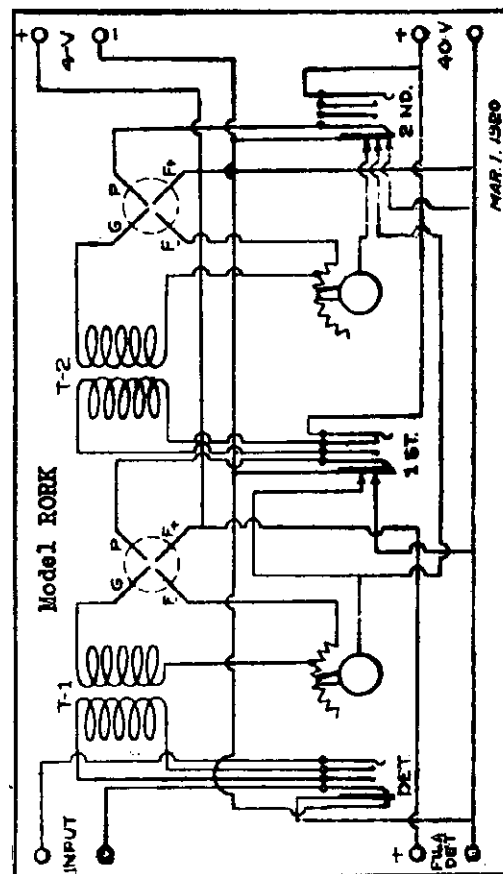
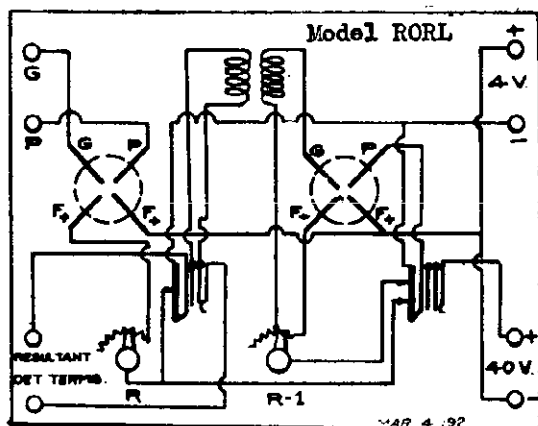


MODEL RORG  
MODEL RORH  
MODEL RORJ  
MODEL RORK  
MODEL RORL

A. H. GREBE & CO.



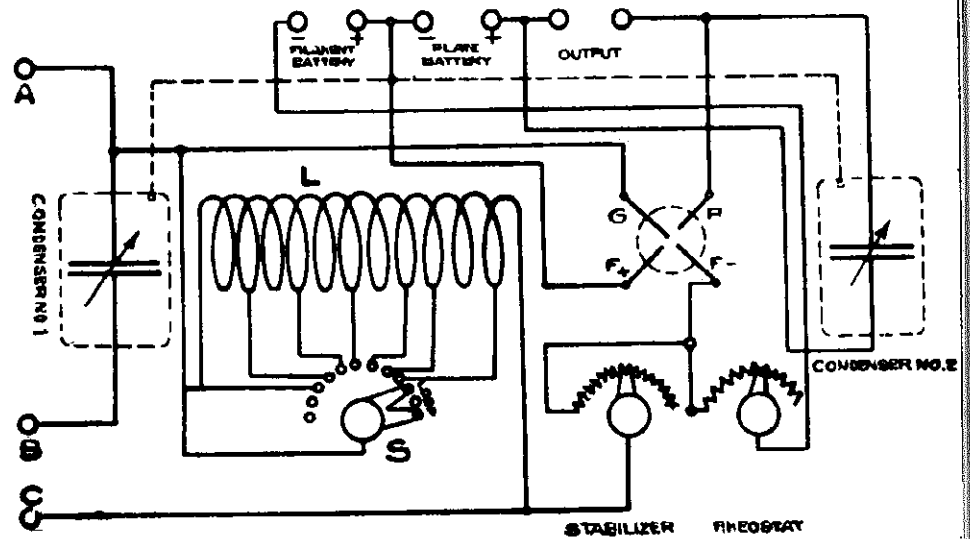
FEB 25 1920



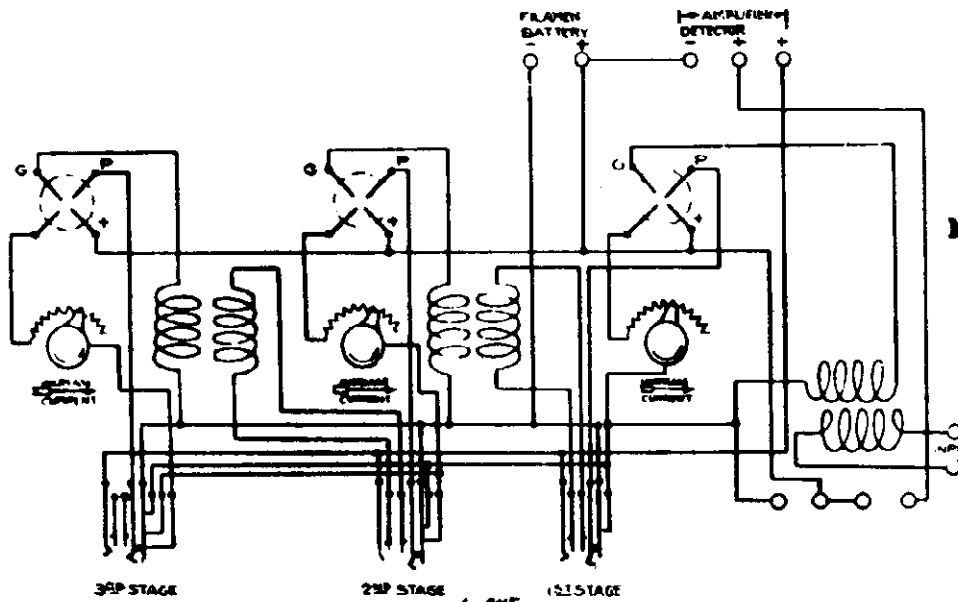
A. H. GREBE &amp; CO.

MODEL RORN  
 MODEL RORO  
 MODEL RORQ

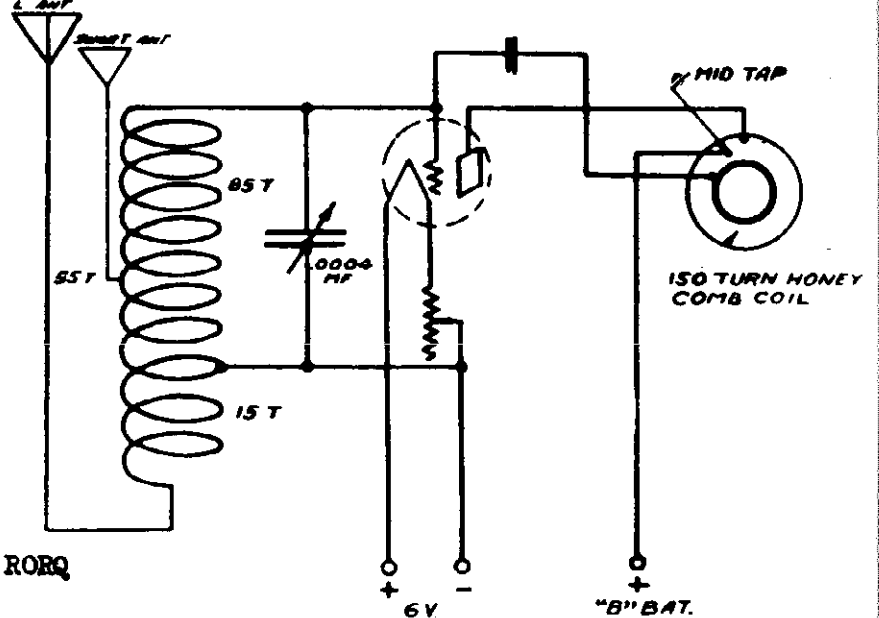
Model RORN



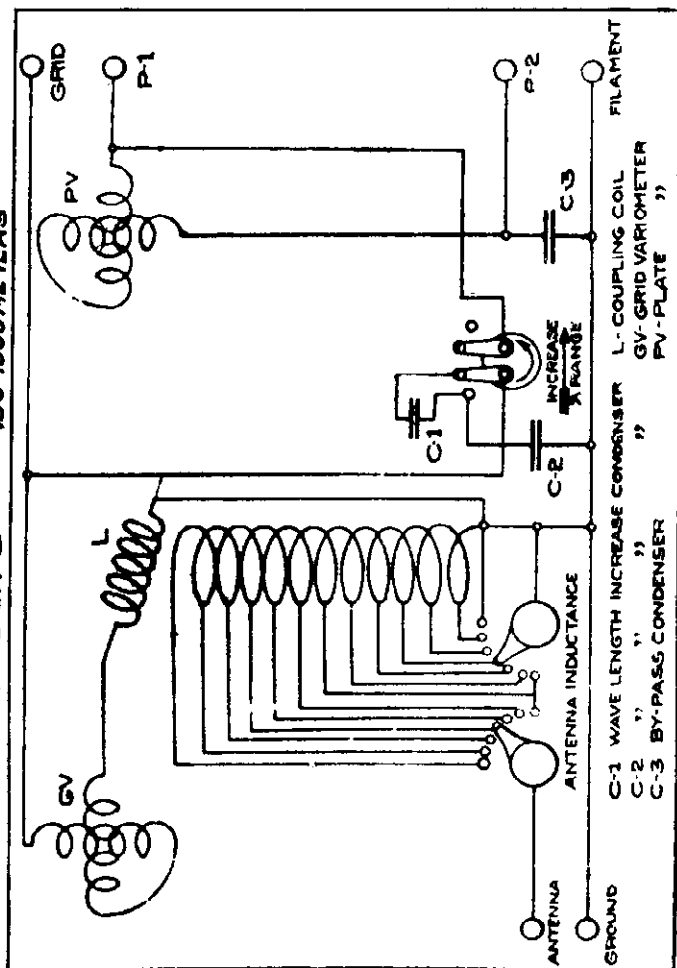
Model RORO



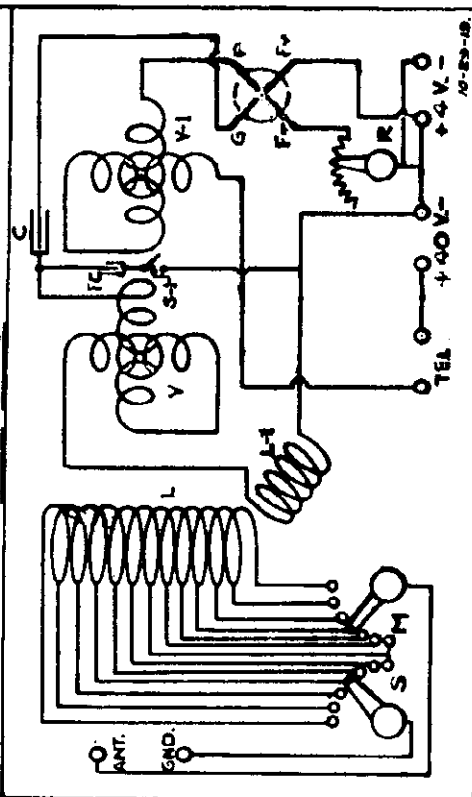
Model RORQ



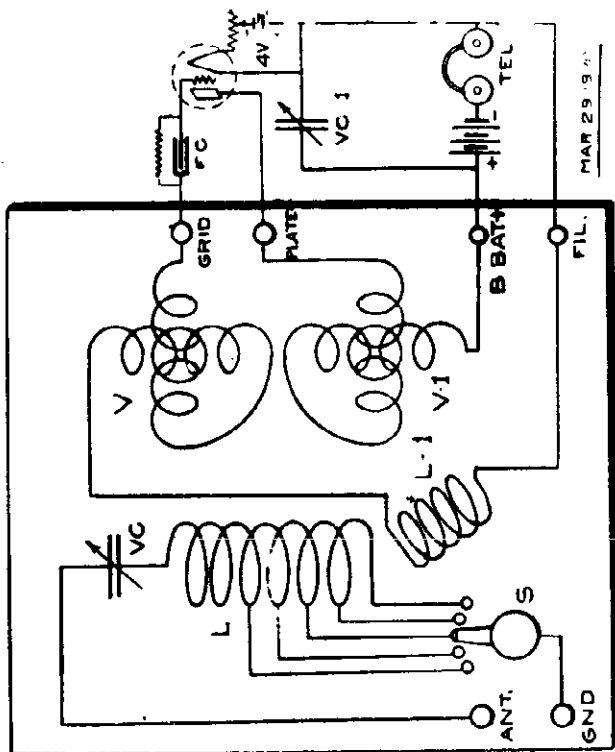
**GREBE SHORT-WAVE REGENERATIVE RECEIVER  
TYPE CR-3  
150-1000 METERS**



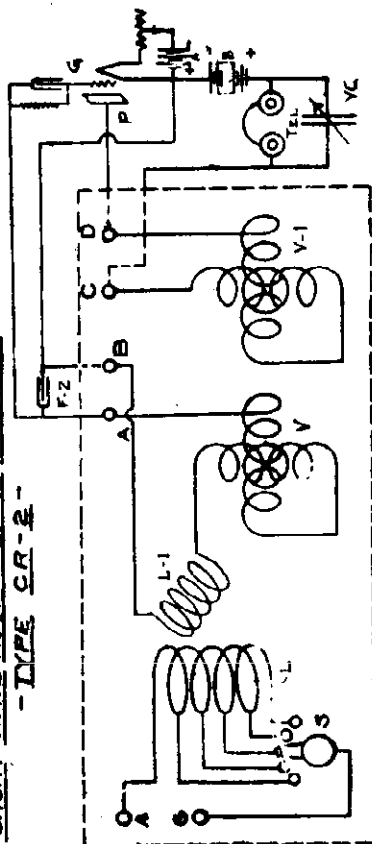
- SHORT WAVE REGENERATIVE RECEIVER -  
- TYPE CR-1 -



- SHORT WAVE REGENERATIVE RECEIVER -  
- TYPE C M 4 -

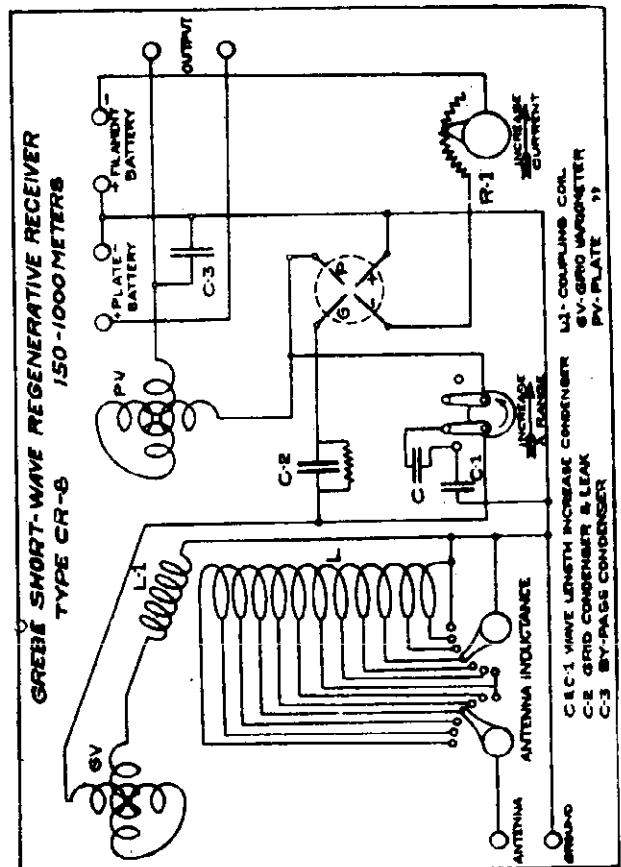
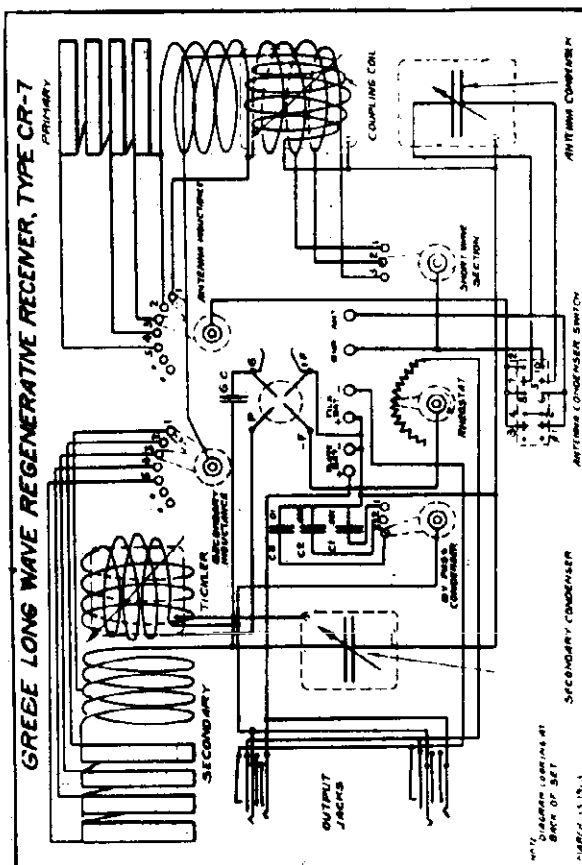
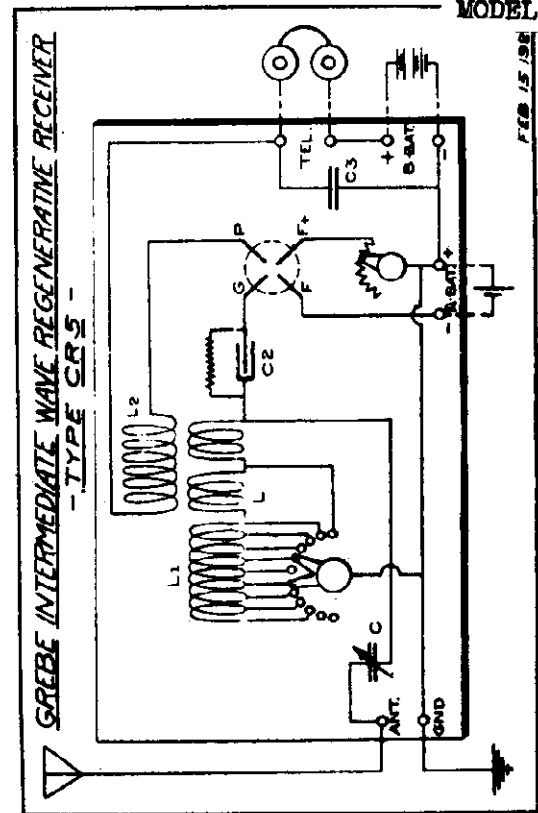
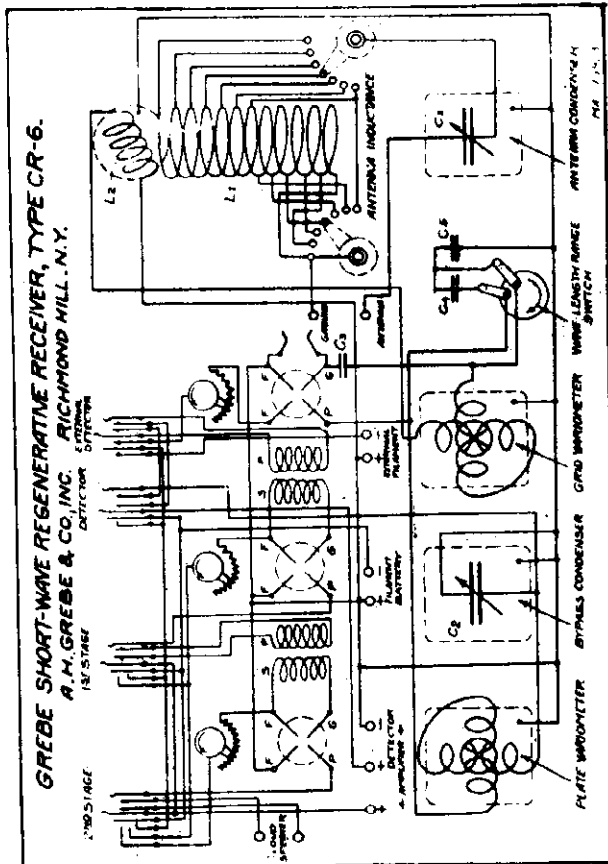


SHORT WAVE REGENERATIVE RECEIVER -  
- DFE CR-2 -

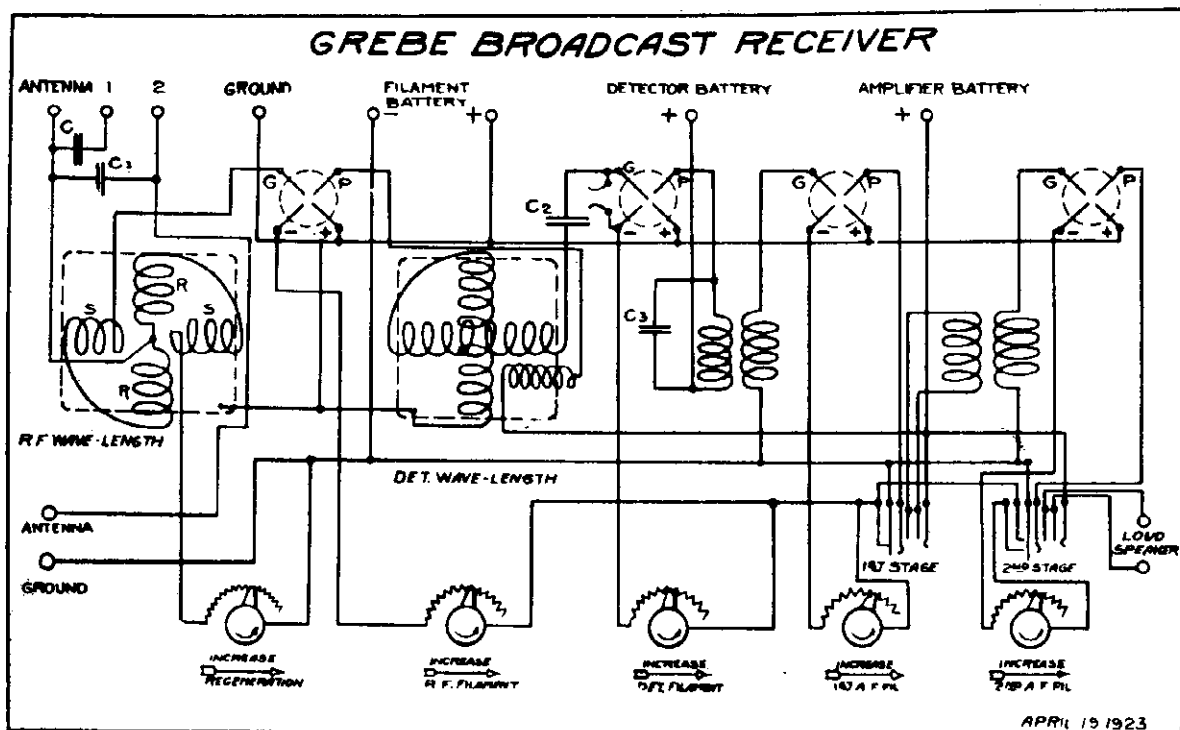


## A. H. GREBE &amp; CO.

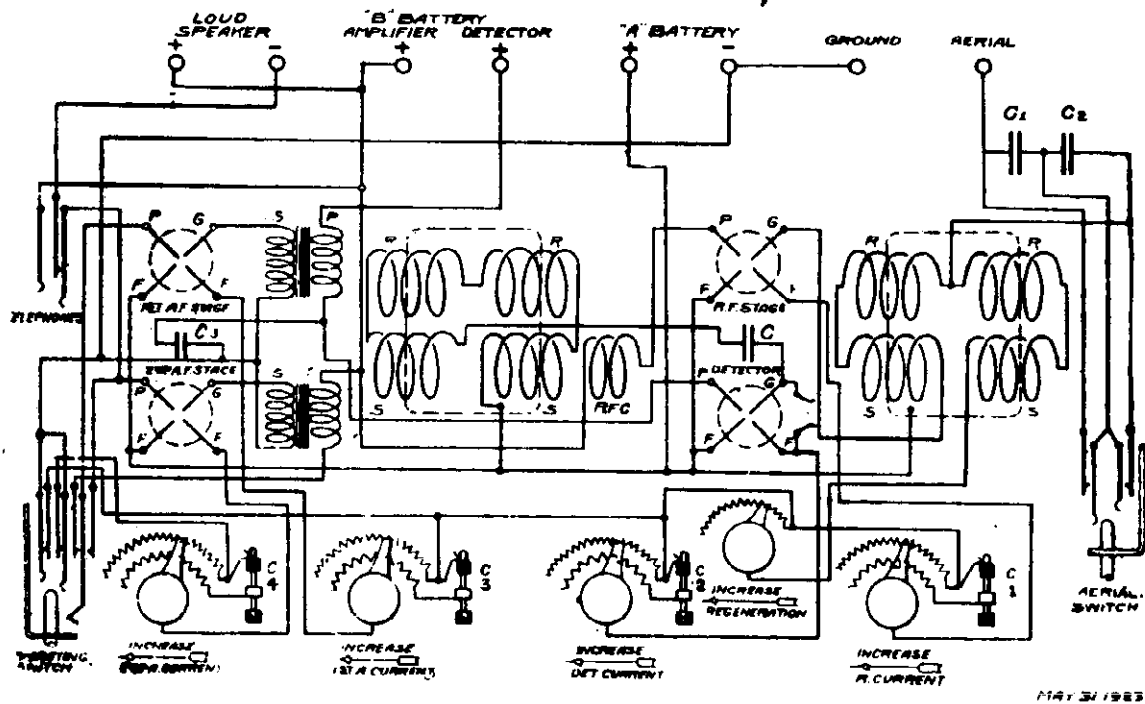
MODEL CR-5  
 MODEL CR-6  
 MODEL CR-7  
 MODEL CR-8



MODEL Broadcast Receiver A. H. GREBE & CO.,  
MODEL CR-12



**GREBE BROADCAST RECEIVER, TYPE CR-12.**

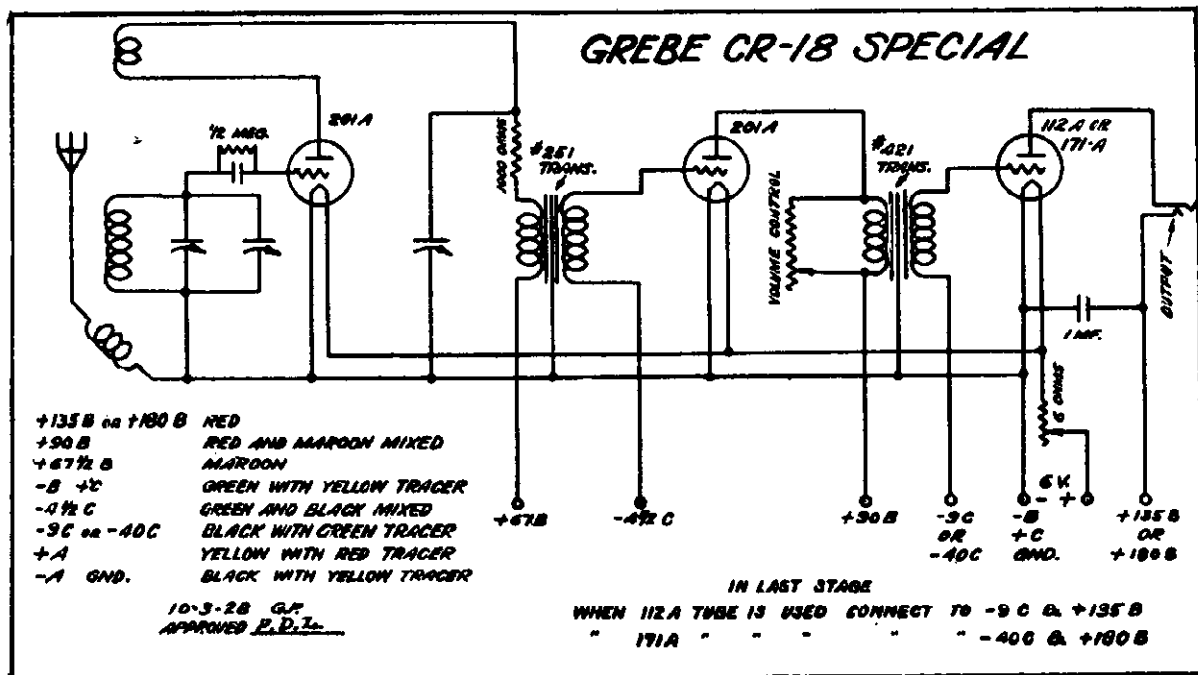
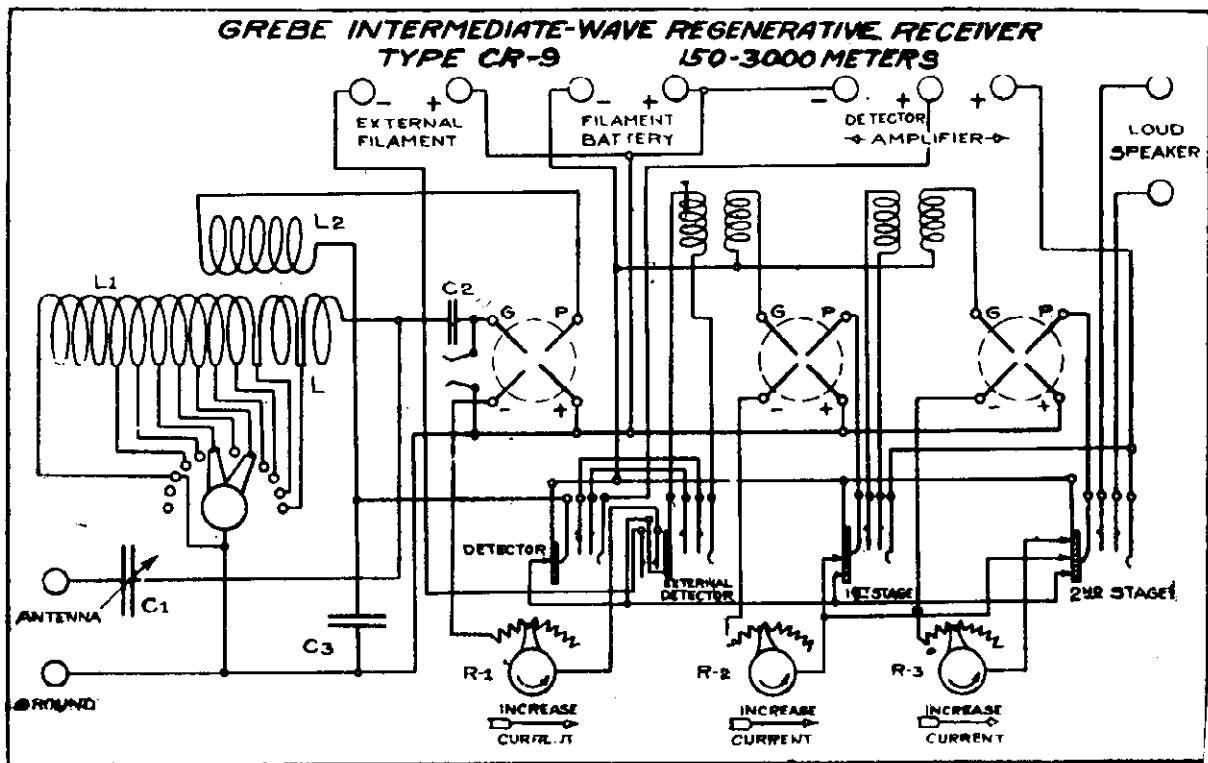


CR-12

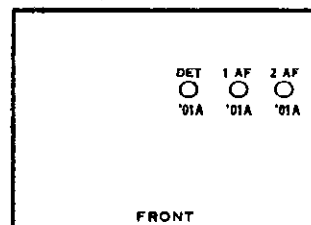
(Batt.)

*CX-301A or *CX-299	1st R.F.	*CX-301A or *CX-299	1st A.F.
*CX-301A or *CX-300A or *CX-299	Det.	*CX-301A or CX-312A or *CX-299	2nd A.F.

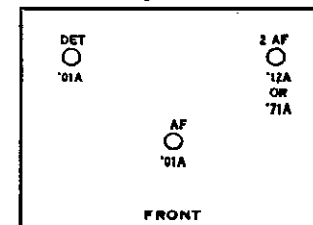
A. H. GREBE &amp; CO.

MODEL CR-9  
MODEL CR-18(Special)

Model CR9



Model CR18 Special

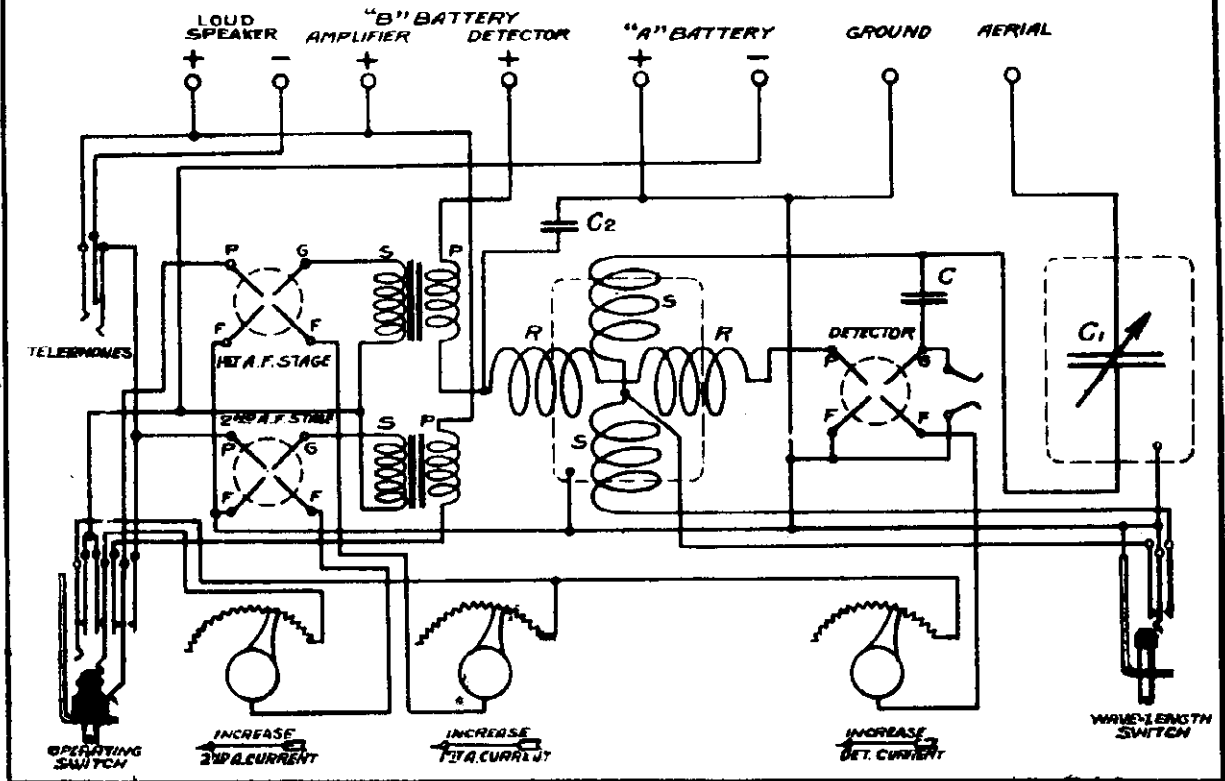




MODEL CR-13  
MODEL CR-14

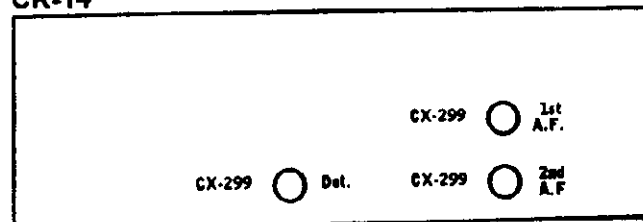
• A. H. GREBE & CO.,

# GREBE BROADCAST RECEIVER, TYPE CR-14.

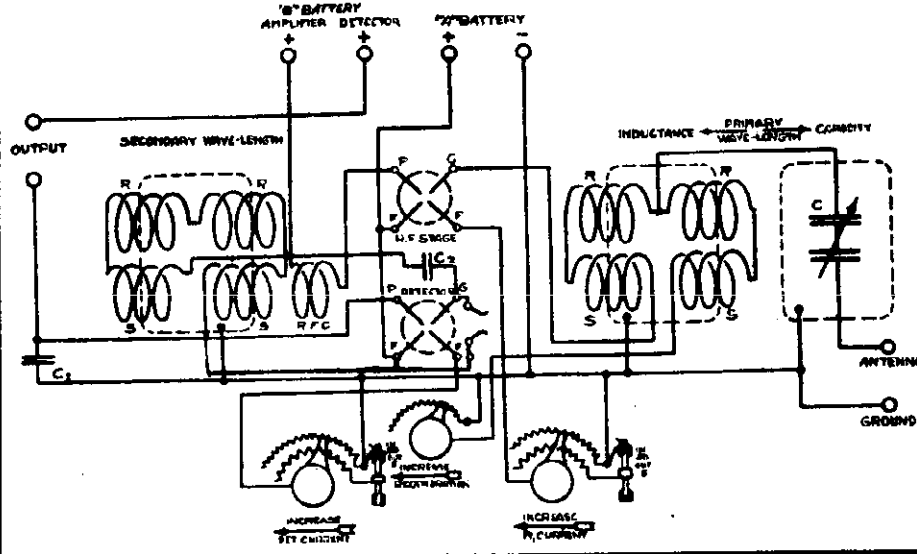


CR-14

(Batt.)



# GREBE "13" REGENERATIVE RECEIVER, 80 TO 300 M. TYPE CR-13



A. H. GREBE &amp; CO.

MODEL CR-18

\*CR-18—1 Stage A.F.

(Batt.)

1CX-301A  
or  
1CX-299  
or  
1CX-112A  
Det.

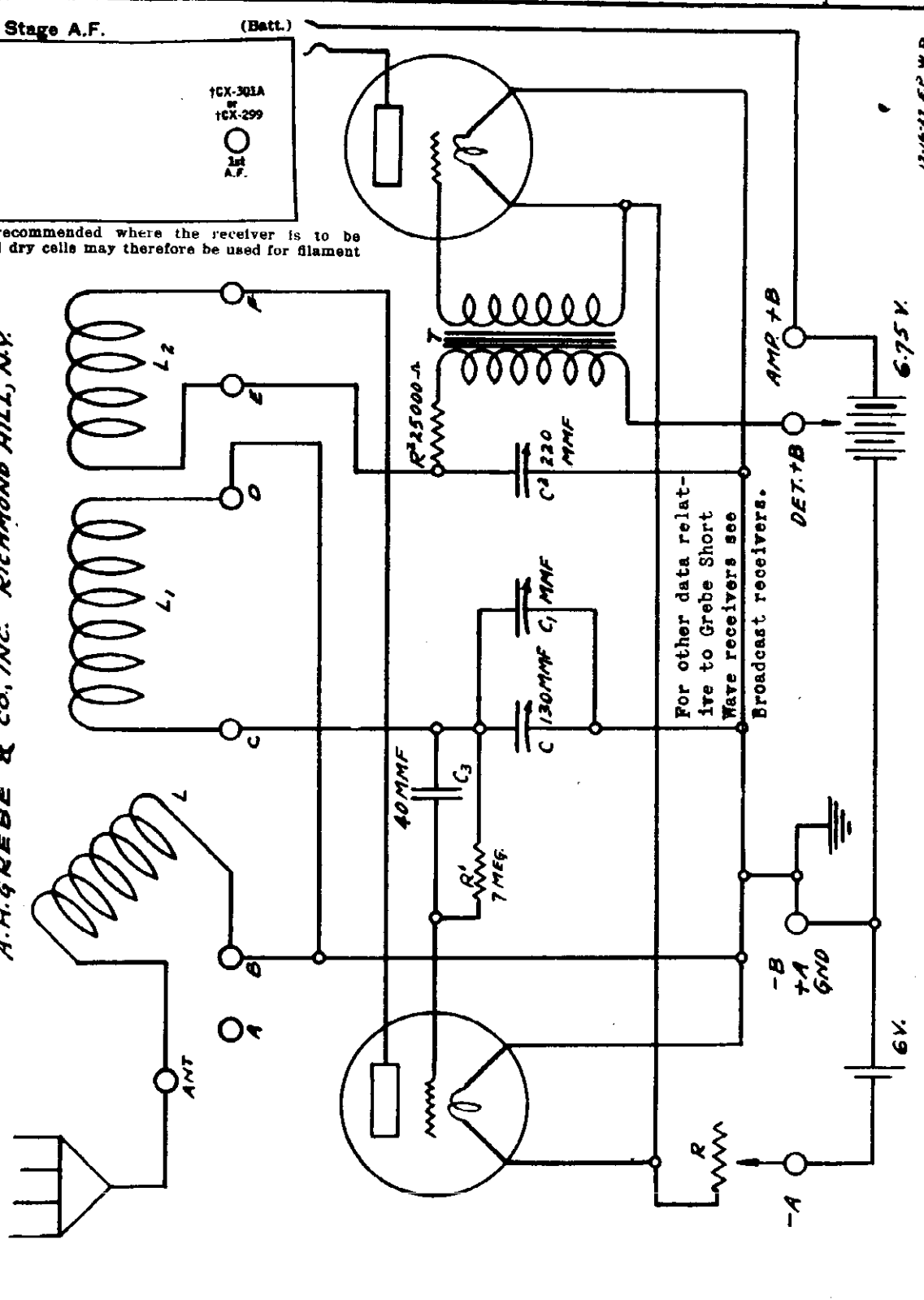
1CX-301A  
or  
1CX-299  
1st  
A.F.

\*CX-299 is recommended where the receiver is to be portable and dry cells may therefore be used for filament supply.

# INTERNAL WIRING DIAGRAM

FOR

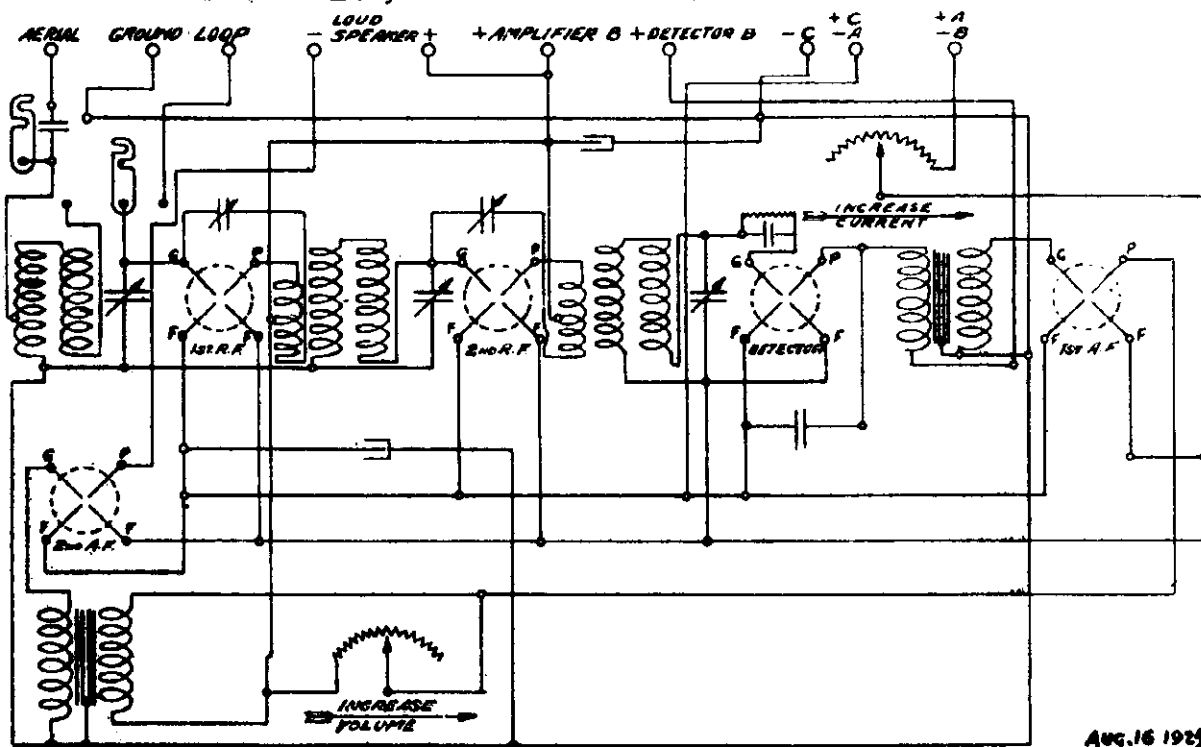
GREBE SHORT WAVE RECEIVER TYPE CR-18  
A.H. GREBE & CO., INC. RICHMOND HILL, N.Y.



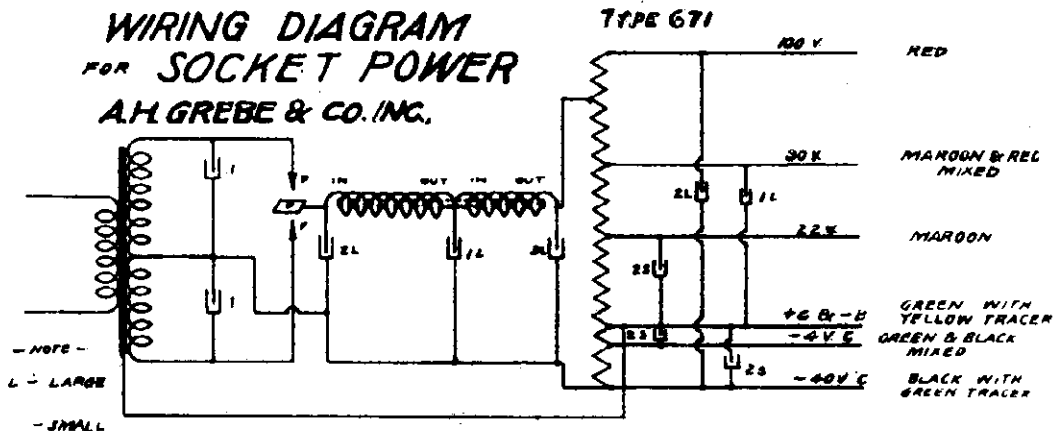
MODEL Synchrophase 5  
With 671 Socket Power

A. H. GREBE & CO.,

**GREBE SYNCHROPHASE RECEIVER**  
A. H. GREBE & CO., INC. RICHMOND HILL, N. Y.



**WIRING DIAGRAM**  
FOR SOCKET POWER  
A. H. GREBE & CO. INC.



**SYNCHROPHASE "5"**

(Batt.)

\*EX-371A  
or  
\*CX-112A



CX-301A  
1st  
R.F.

CX-301A  
2nd  
R.F.

CX-301A  
or  
CX-300A  
or  
CX-112A



CX-301A  
1st  
A.F.

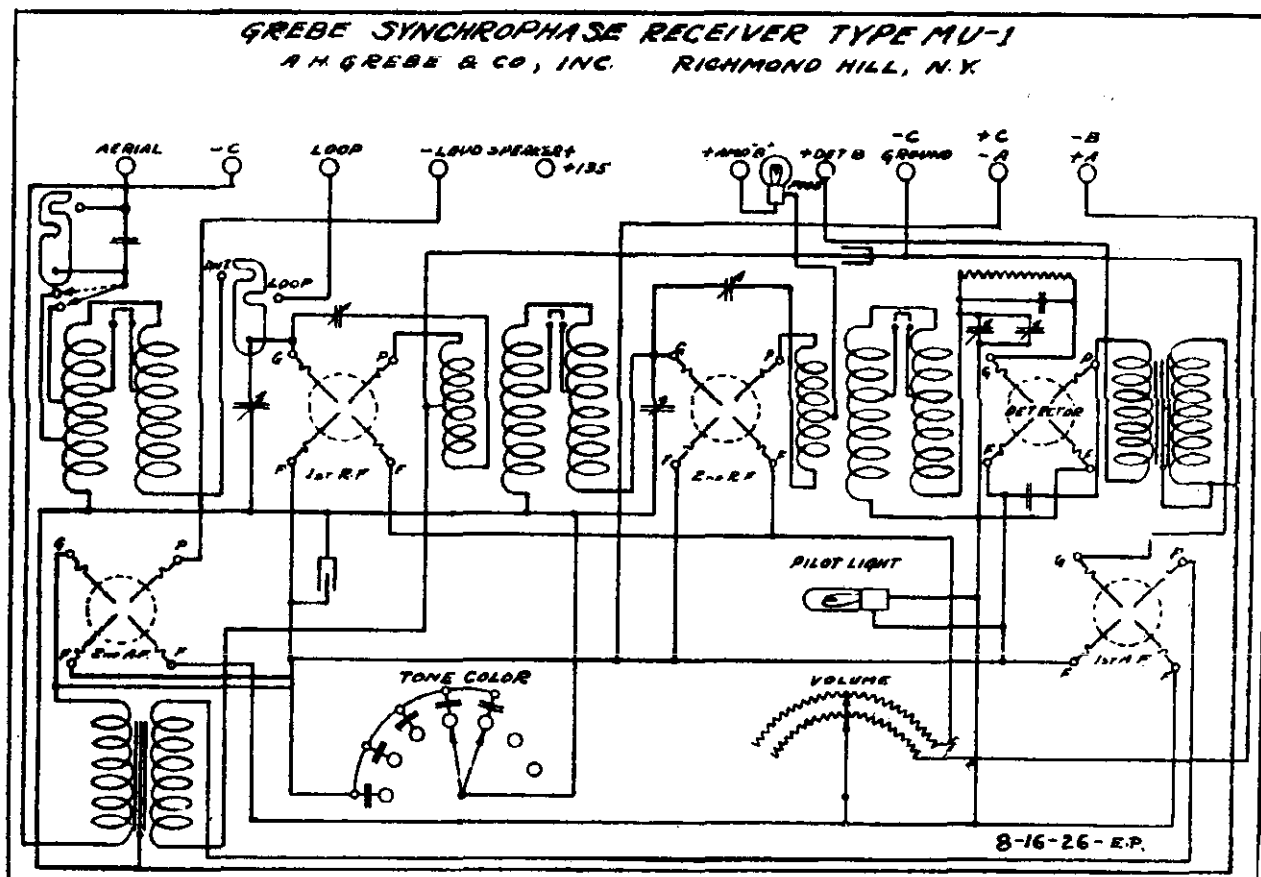
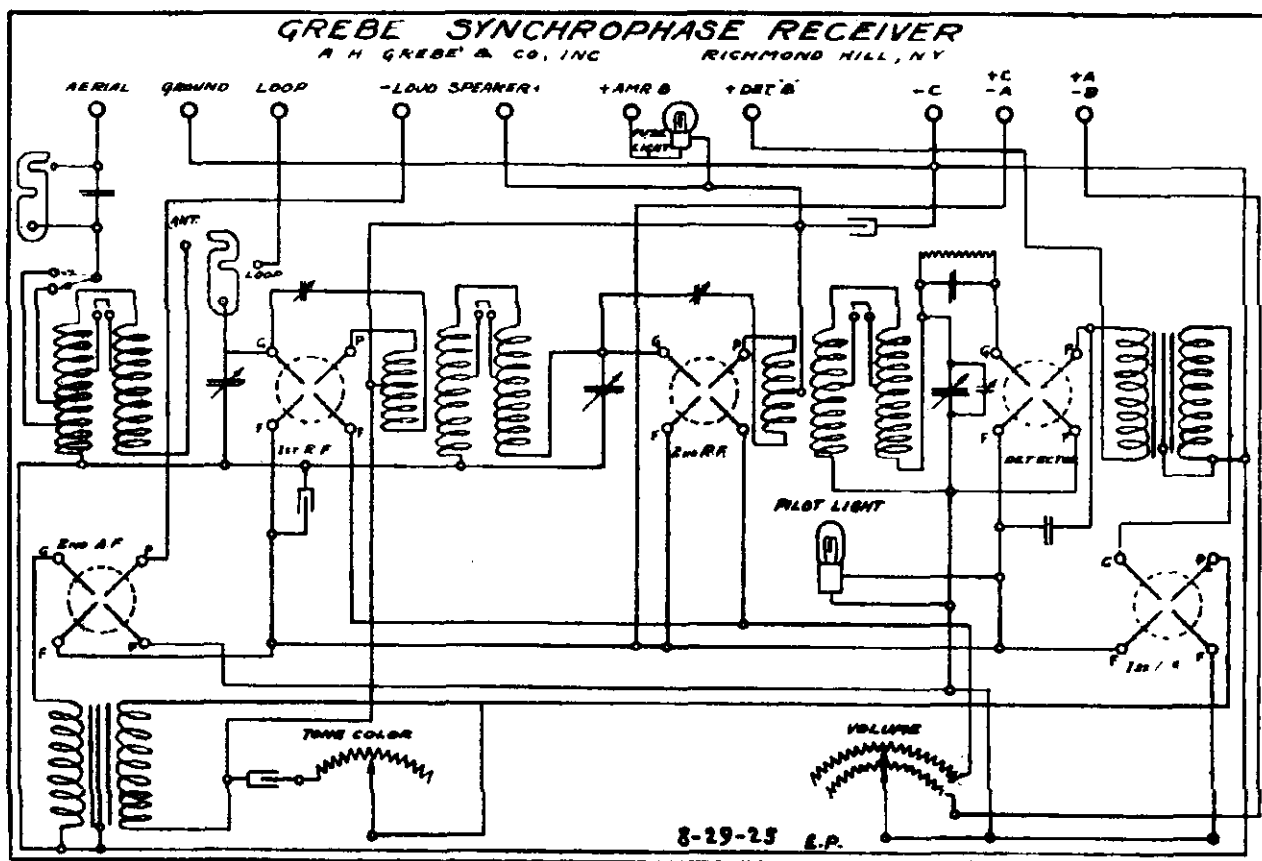
**GREBE SYNCHROPHASE "5" with 671 Socket Power**

TUBE IN TEST	TYPE OF TUBE	RESISTANCE OF TUBE, OHMS	TUBE OUT					TUBE IN TESTER			
			A	B	C	D	E	CATHODE	ANODE	PLATE	SCREEN
1	201A	1st. R.F.	6	115	5	105	0			7.0	
2	201A	2nd. R.F.	6	115	5	105	0			7.0	
3	201A	Detector	6	40	5	28	0				
4	201A	1st. A.F.	6	115	5	105	0				
5	127A	2nd. A.F.	6	200	5	180	40				

A. H. GREBE &amp; CO., Inc.

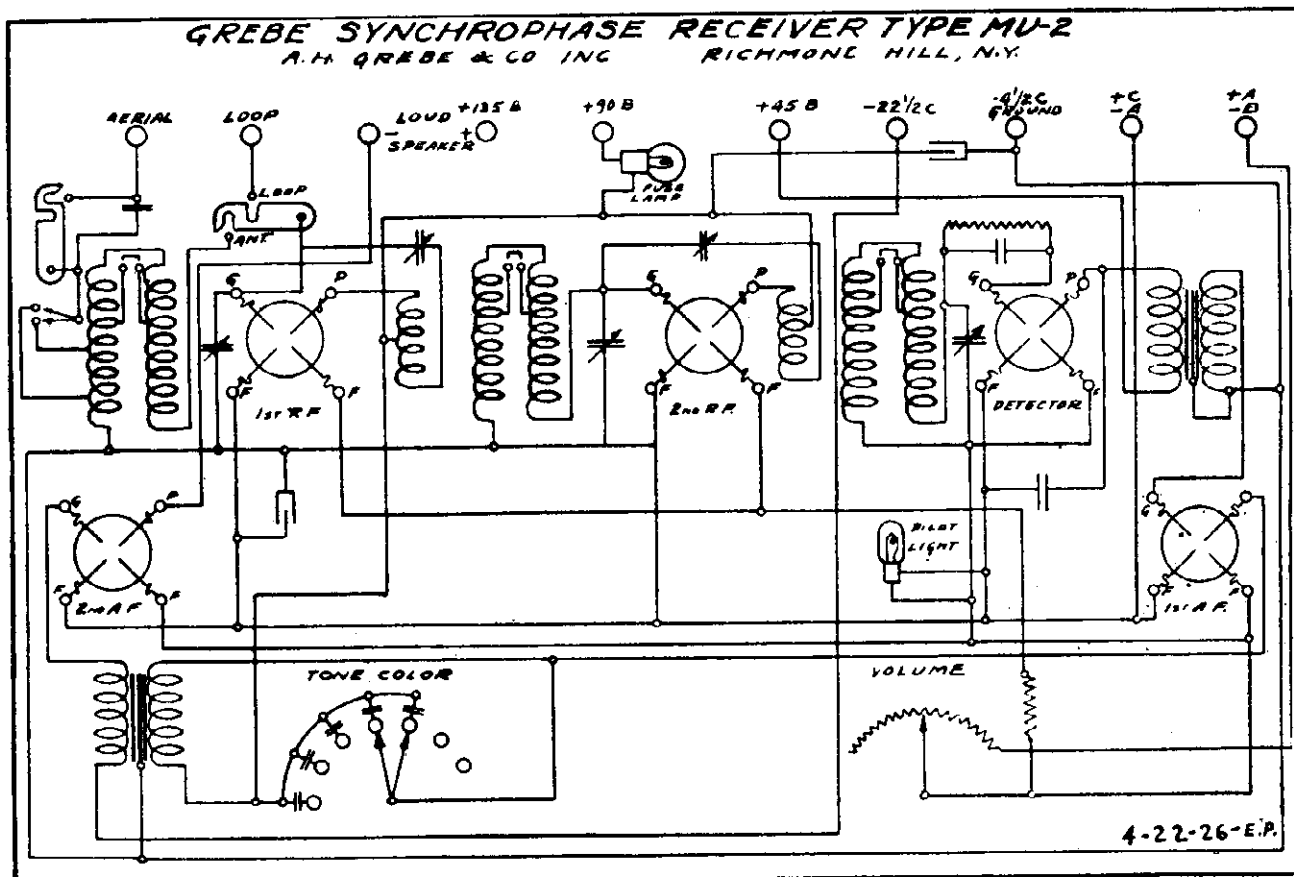
MODEL Synchrophase 1925

MODEL Synchrophase MU-1



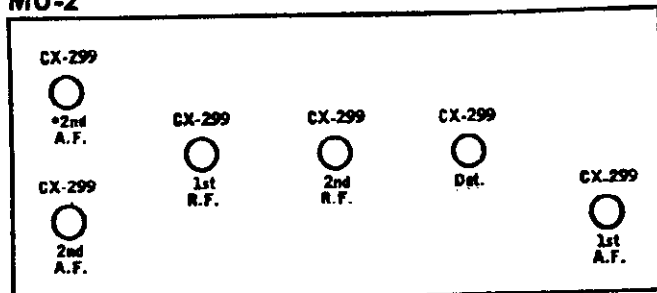
MODEL Synchrophase MU-2

A. H. GREBE & CO., Inc.



**MU-2**

(Batt.)



\* 2nd Audio Frequency tubes are in parallel.

**GREBE SYNCHROPHASE "5" or "MU-1"**

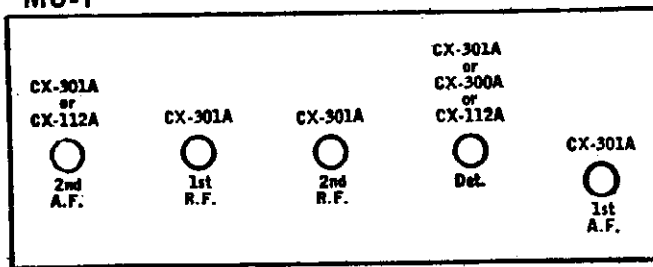
Tube No. 5 Used in 1925 Models

Tube No. 6 Used in Early 1927 Models

Tube No. 7 Used in Late 1927 Models

**MU-1**

(Batt.)



TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1st R.F. DET. ETC.	HEADERS MADE IN ORDER OF SET									
			TUBE OUT					TUBE IN TUBE				
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE VOLTS	HEATER PLATE B.A. TEST	PLATE B.A. TEST	PLATE B.A. CHARGE	
1	201A	1st. R.F.	6	100	5	90	4.5		5.0	7.5	2.5	
2	201A	2nd. R.F.	6	100	5	90	4.5		5.0	7.5	2.5	
3	201A	Detector	6	25	5	90	5.0		5.0	5.5	3.5	
4	201A	1st. A.F.	6	100	5	90	4.5		5.0	7.5	2.5	
5	201A	2nd. A.F.	6	100	5	90	4.5		5.0	7.5	2.5	
6	112	2nd. A.F.	6	150	5	135	9		9.0	13.0	4.0	
7	271A	2nd. A.F.	6	200	5	180	40		20.0	28.0	6.0	

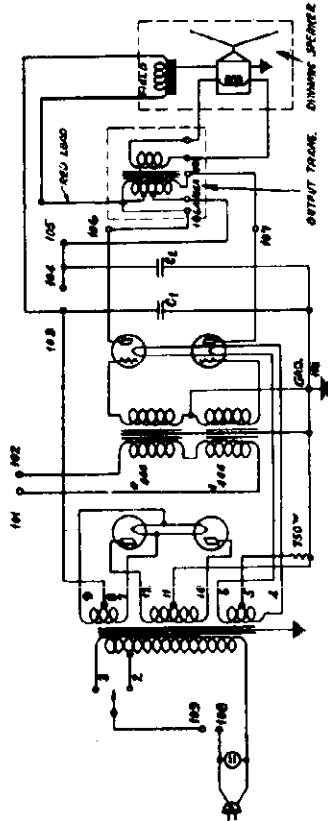
A. H. GREBE & CO., Inc.

MODEL 412  
Push-Pull Amplifier

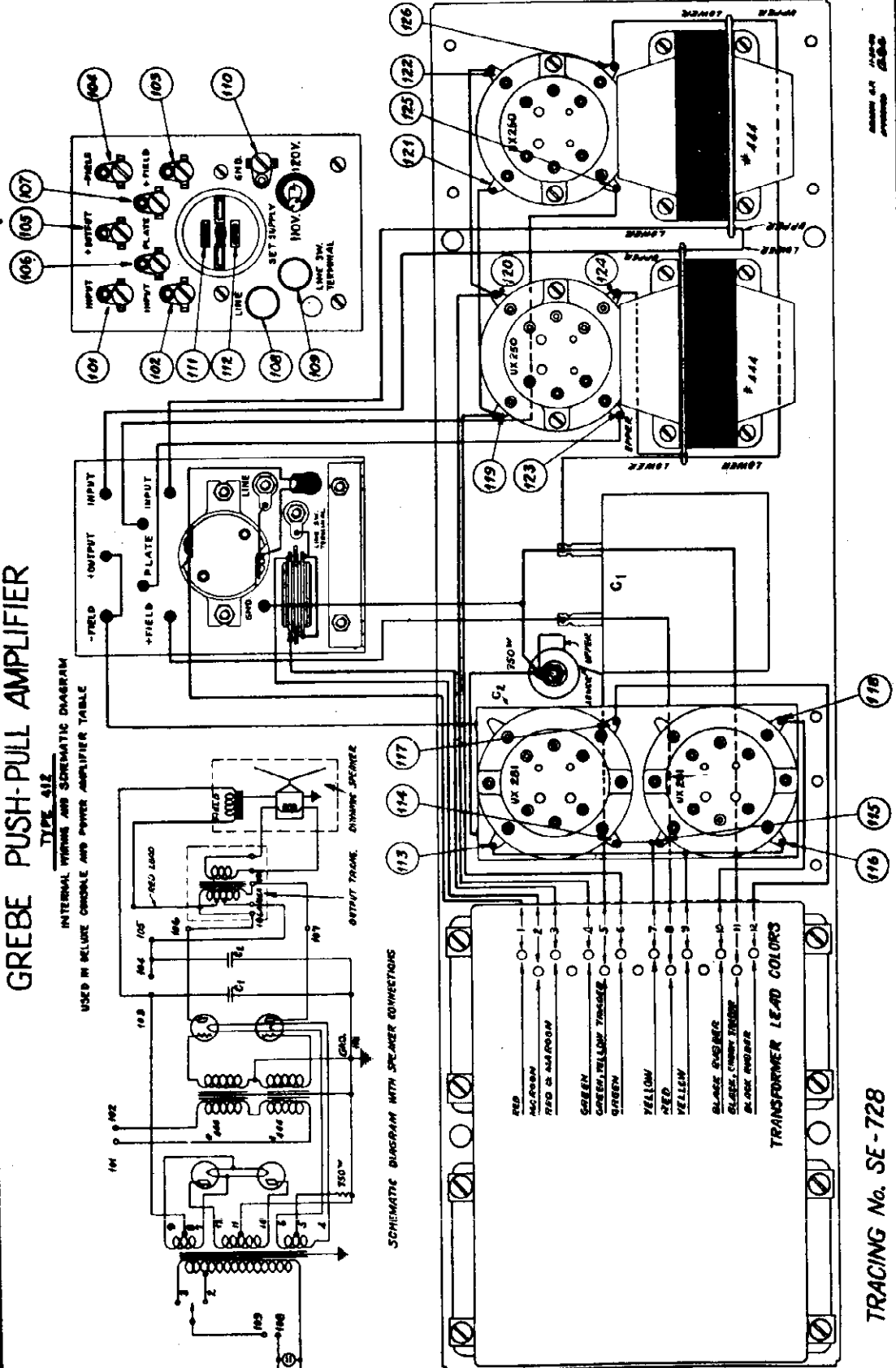
# GREBE PUSH-PULL AMPLIFIER

TYPE 412

INTERNAL WIRING AND SCHEMATIC DIAGRAM  
USED IN BELUX CHROME AND POWER AMPLIFIER TABLE



SCHEMATIC DIAGRAM WITH SPACER CONNECTIONS



TRANSFORMER LEAD COLORS

- RED
- BLACK
- RED OR BLACK
- GREEN
- GREEN-YELLOW TRIGGER
- GREEN
- YELLOW
- RED
- YELLOW
- BLACK OVERS
- BLACK, GREEN TRIGGER
- BLACK ANODE

TRACING No. SE-728

MODEL 412  
Push-Pull Amplifier

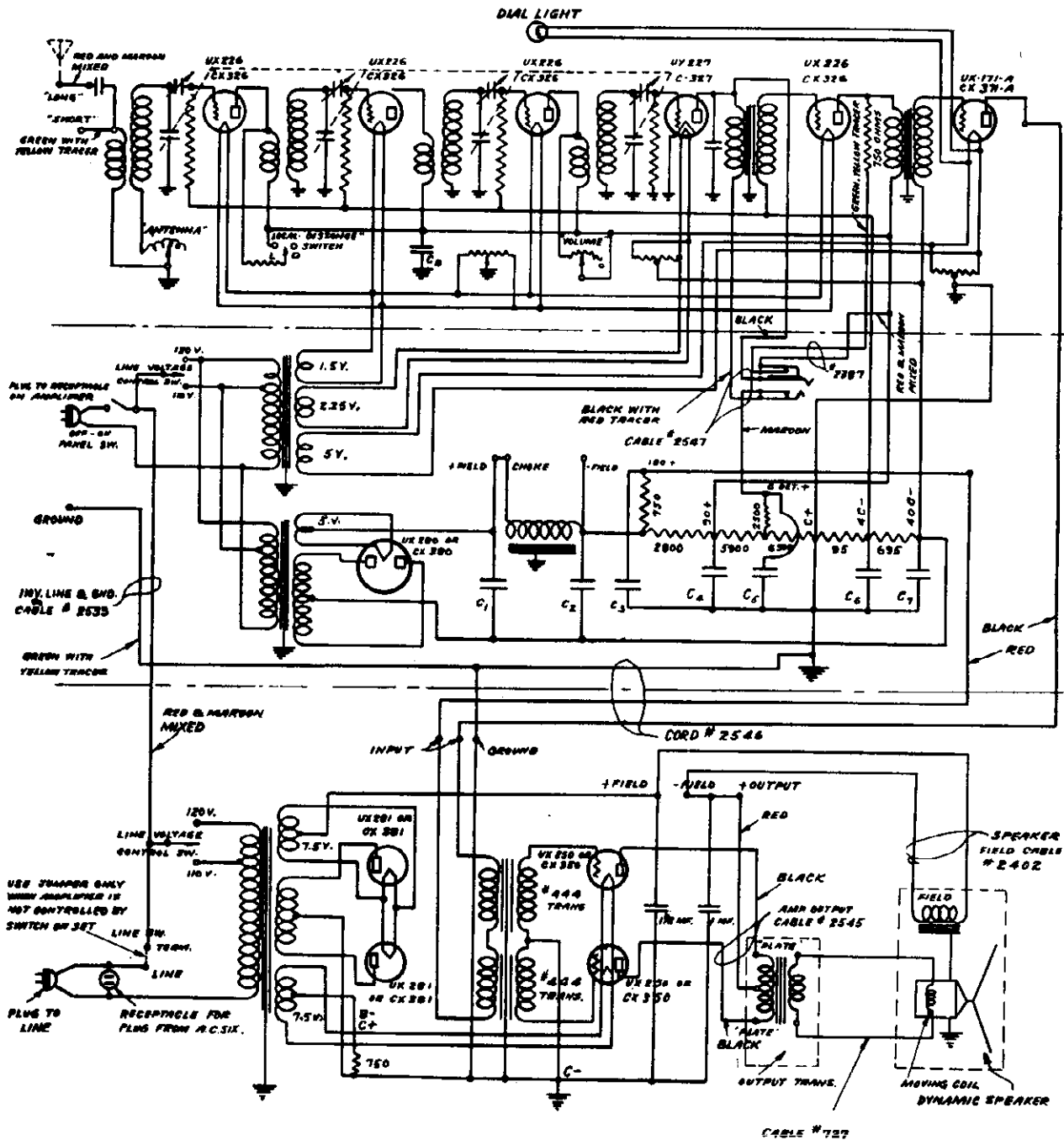
MODEL 428  
DeLux Console

A. H. GREBE & CO.

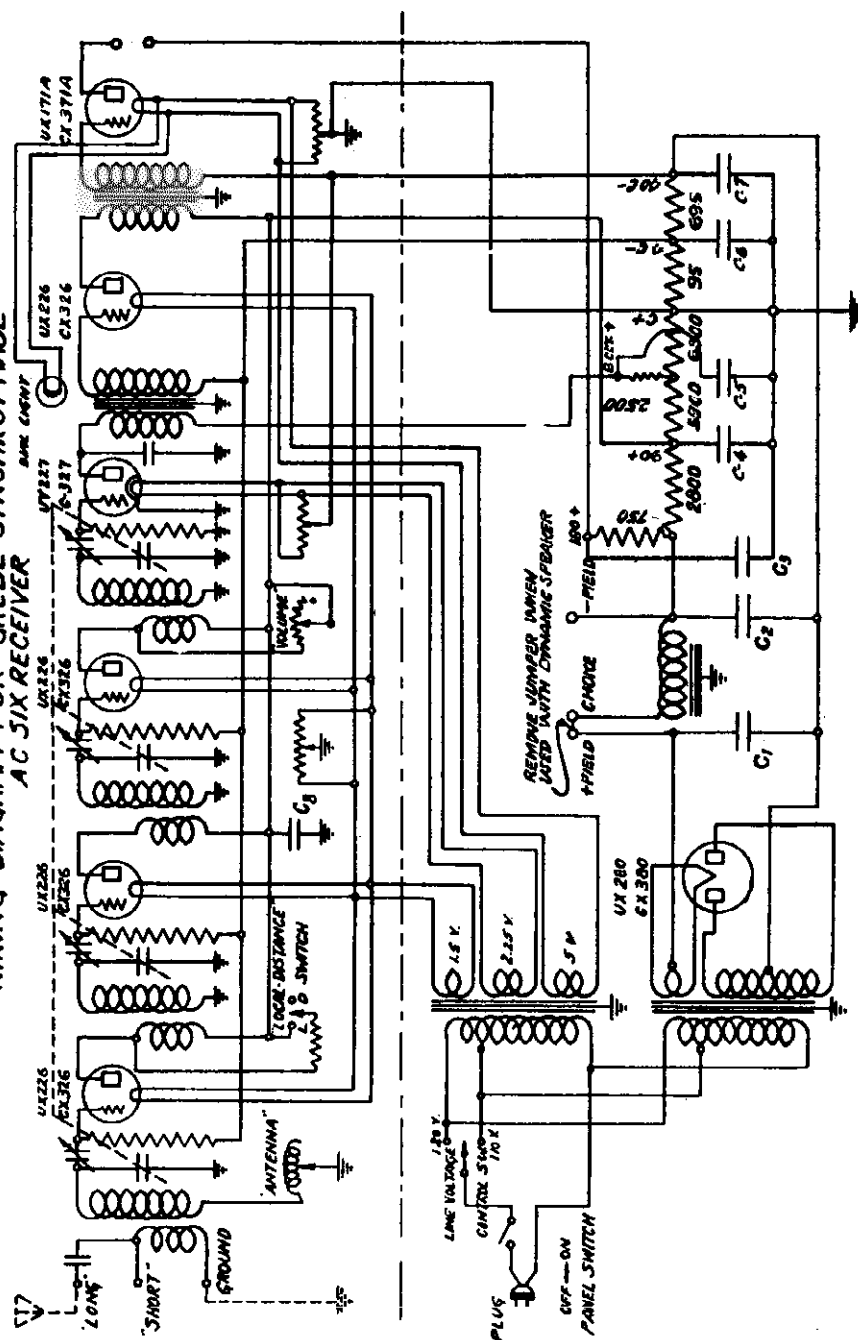
# WIRING DIAGRAM FOR GREBE DELUXE CONSOLE TYPE 428

A.C. SIX RECEIVER, PUSH PULL AMPLIFIER TYPE 412  
OUTPUT TRANS. TYPE 415 AND DYNAMIC SPEAKER TYPE 400

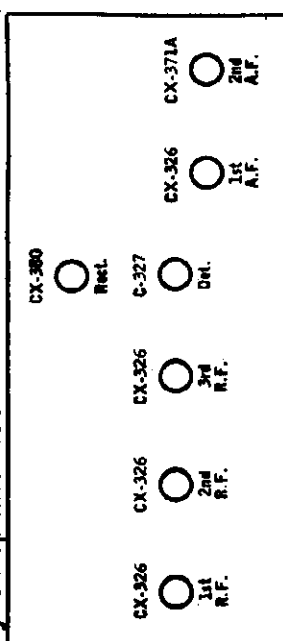
A.H. GREBE & CO., INC.  
RICHMOND HILL, N.Y.



# WIRING DIAGRAM FOR GREBE SYNCHROPHASE AC SIX RECEIVER



**Synchrophase AC6**  
(A.C.)



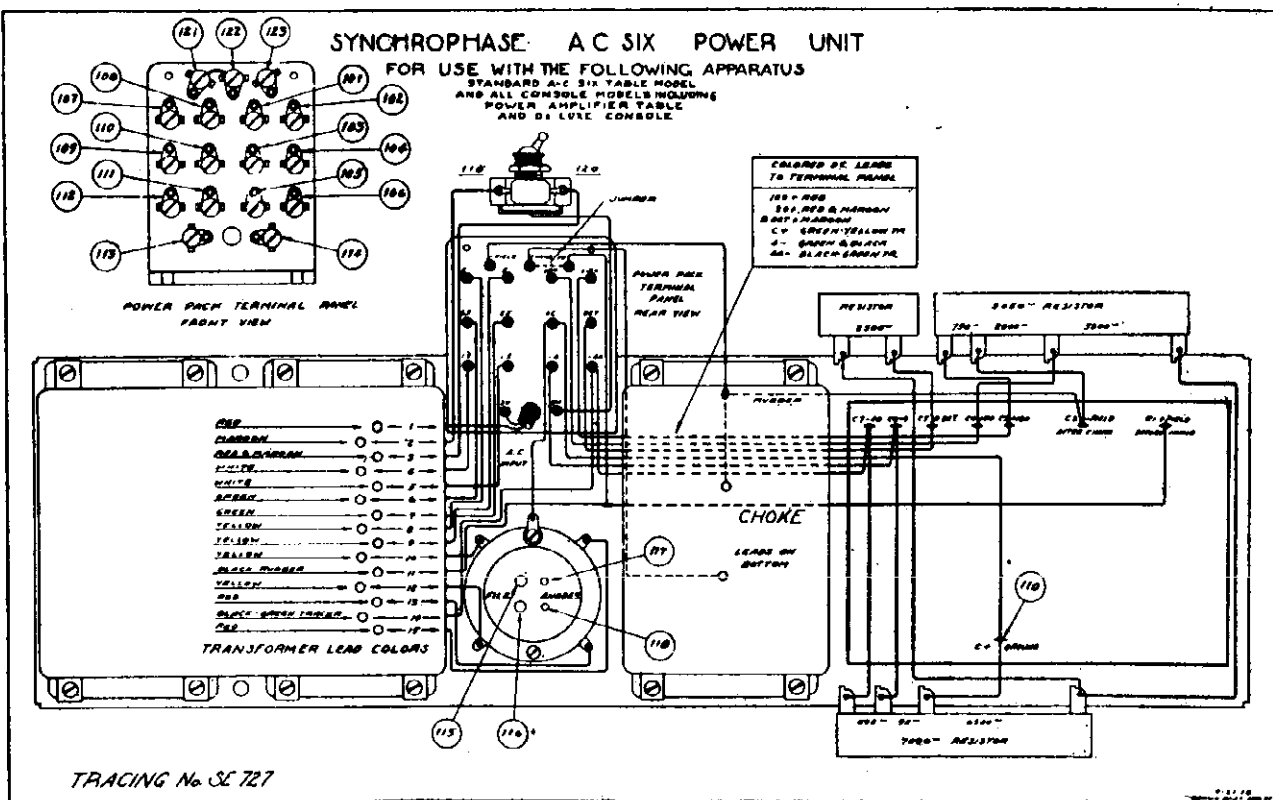
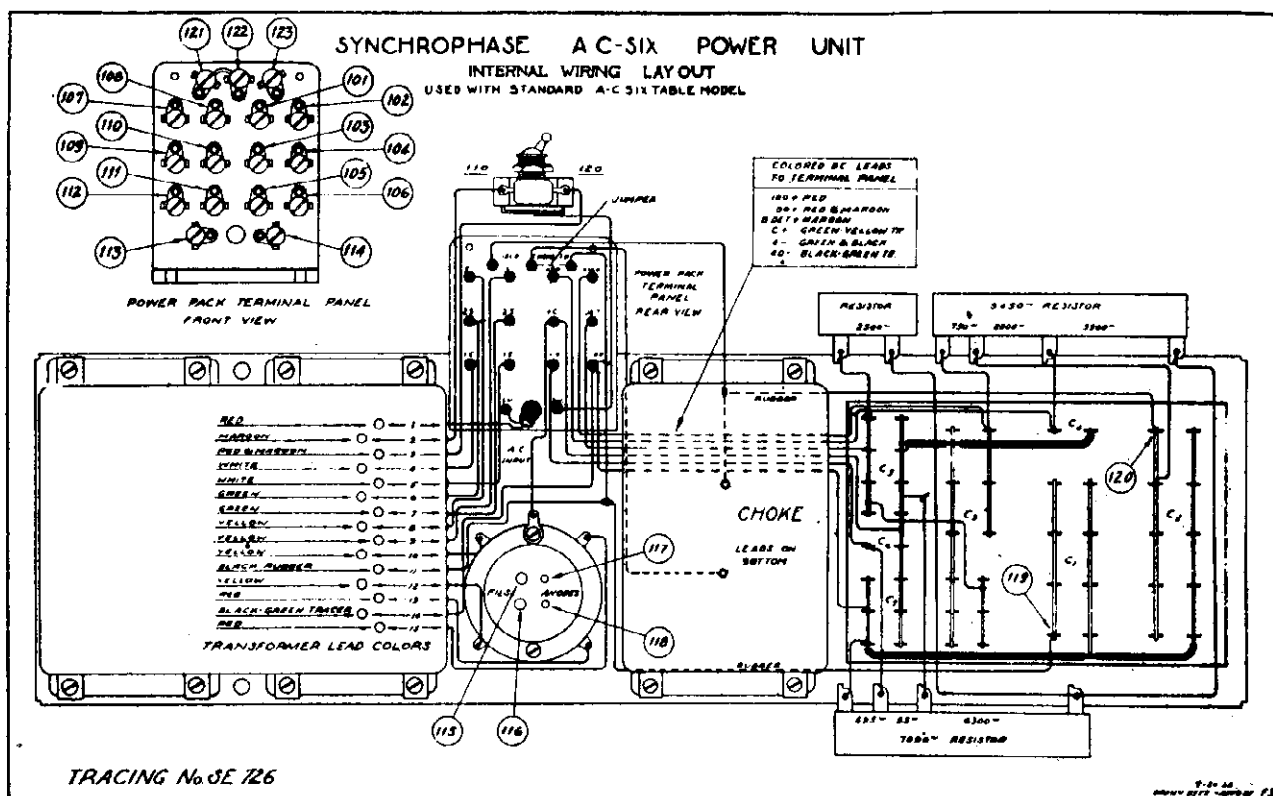
GREBE—Type A. C. 6  
Line Voltage 120—Set on 120 Volt Tap

[illegible]



**MODEL Synchrophase AC-6**  
**Power Unit**  
**Chassis**  
**Two Types**

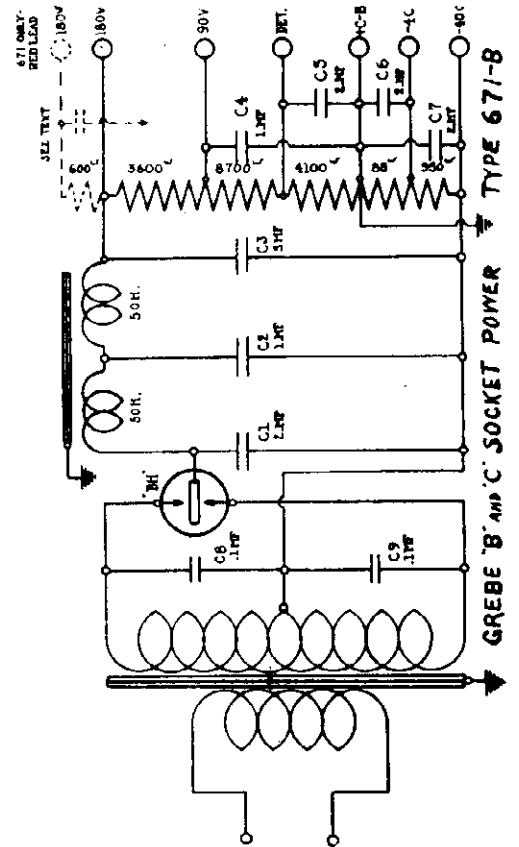
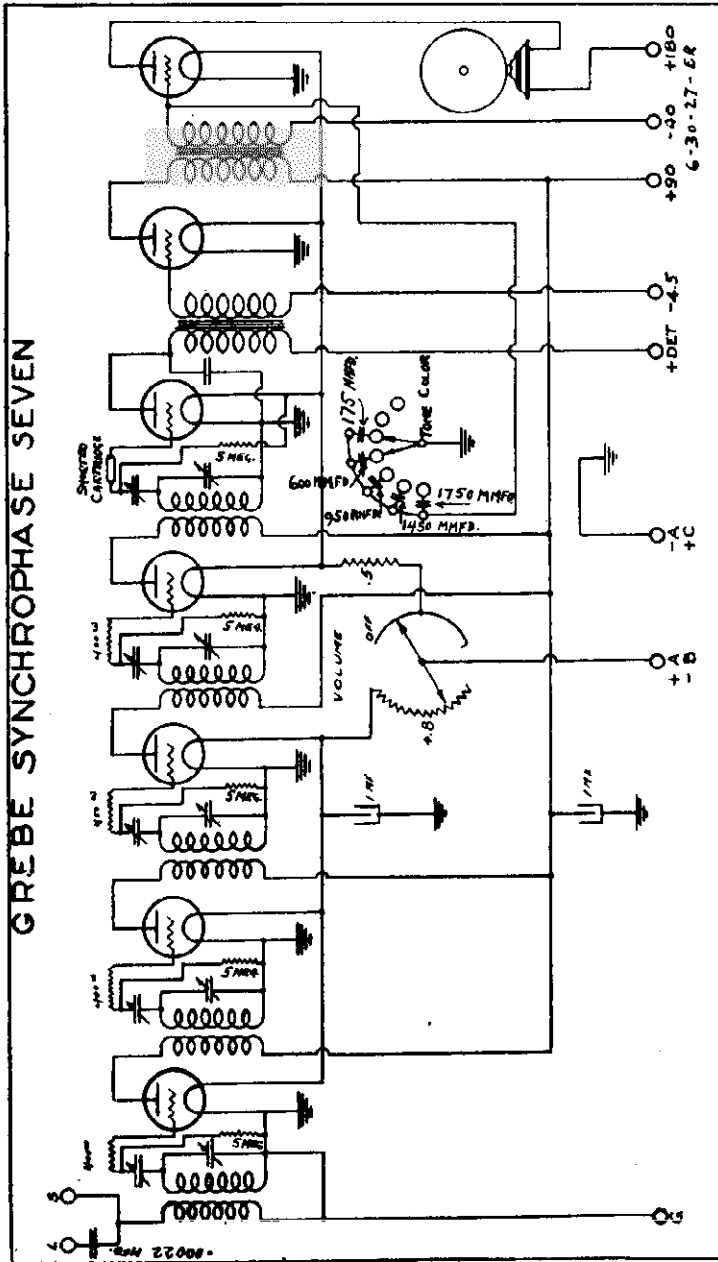
**A. H. GREBE & CO., Inc.**



A. H. GREBE &amp; CO.

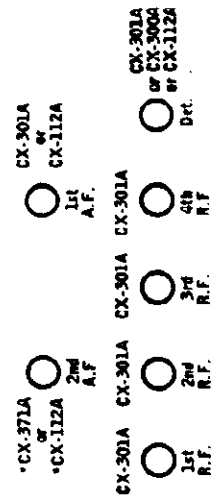
MODEL Synchrophase 7  
 Battery Type  
 Socket Power Unit 671-B

## GREBE SYNCHROPHASE SEVEN

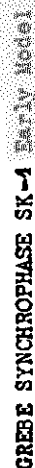


(Batt.)

Synchrophase 7







RECT

AF

90 45 45

RECTIFIER, POWER AMPLIFIER

FRONT

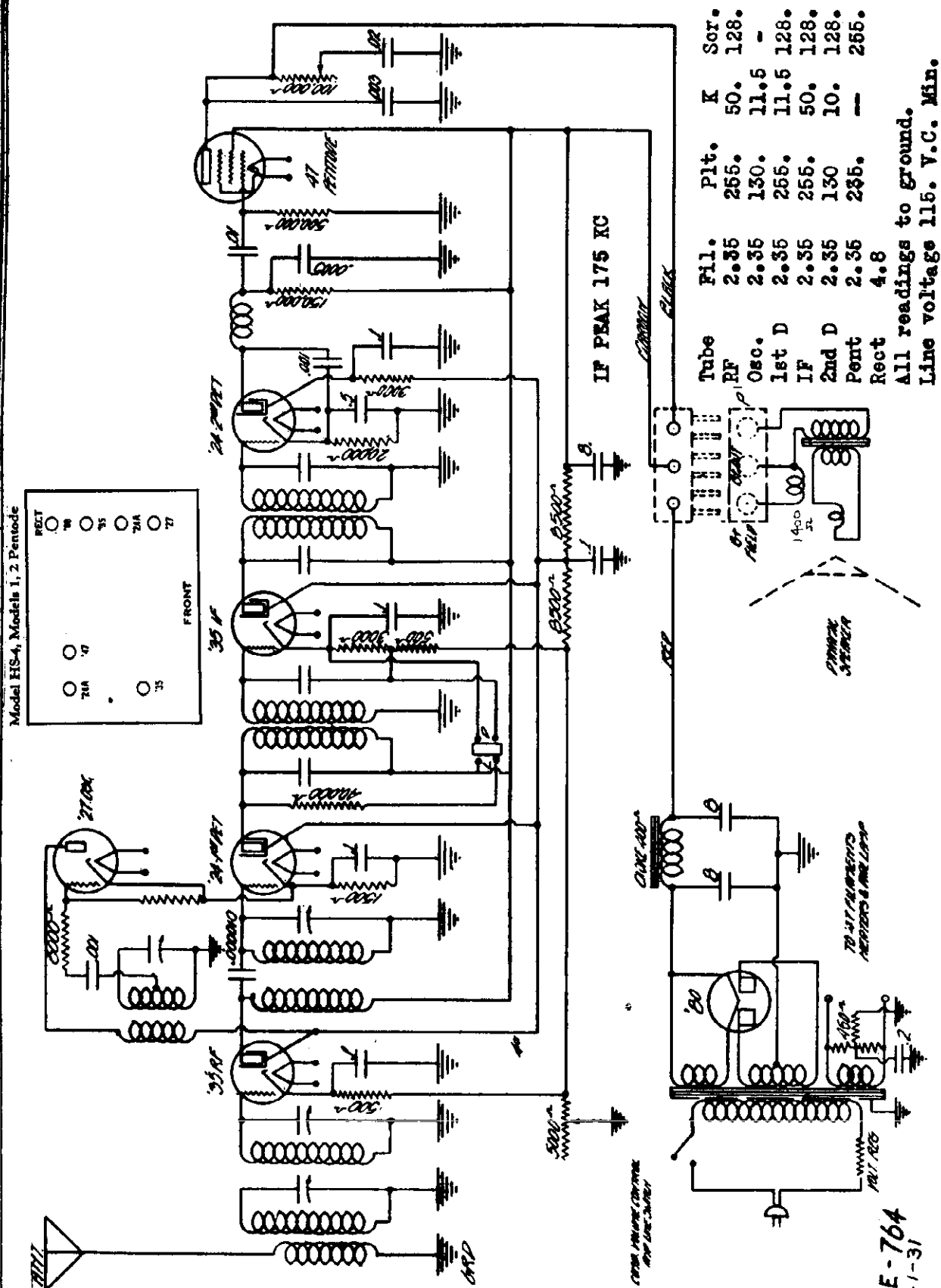
Note: -\*.224 plate current read with volume control at maximum position.

FUEL NO.	TYPE OF FUEL	POSITION OF G VALVE INLET ETC	MEASURED PLUG IN ORDER OF SET											
			TIME OUT				TIME IN TESTER							
			VOLTS	VOLTS	VOLTS	VOLTS	BAROMETER INCHES HG	HUMIDITY PERCENT	PLATE TEMPERATURE °C	PLATE TEMPERATURE °F	PLATE CURRENT AMPS	SCREEN CURRENT AMPS		
284	1st	UP	2.7	1.95	2.35	1.88	16	-	0	2	2	37		
284	2nd	UP	2.7	1.95	2.36	1.88	16	-	0	2	2	37		
284	3rd	UP	2.7	1.95	2.38	1.90	16	-	0	2	2	37		
287	Test	UP	2.7	1.95	2.38	1.10	8	-	.8	.8	0			
315	1st	AP	2.7	2.70	2.35	345	8	-	30	34	6	-		
315	2nd	AP	2.7	2.70	2.36	345	8	-	30	34	6	-		
360	Reg.	Y			5.2				80					



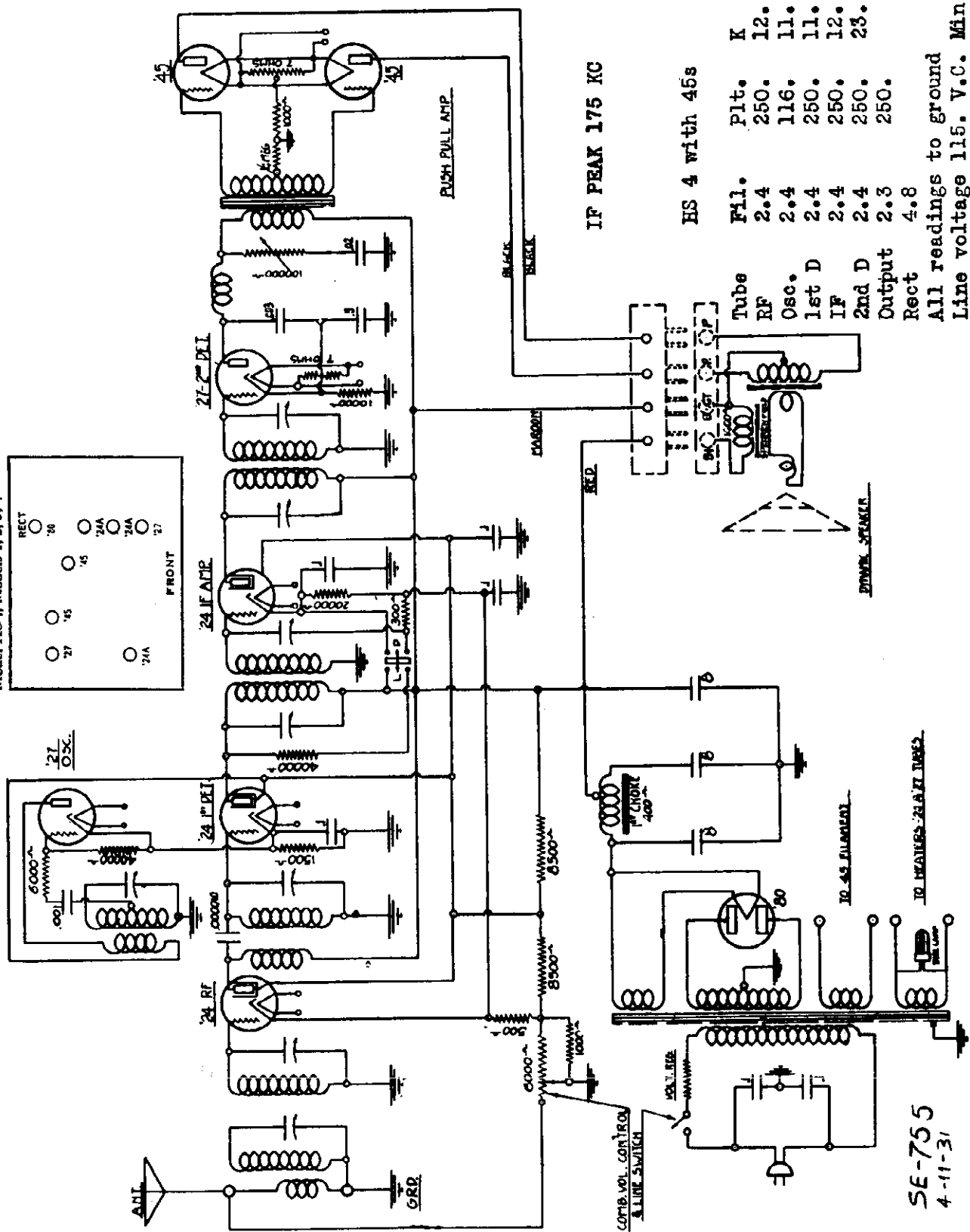
**A. H. GREBE & CO.,**

**MODEL HS-4**  
**1 Pentode**

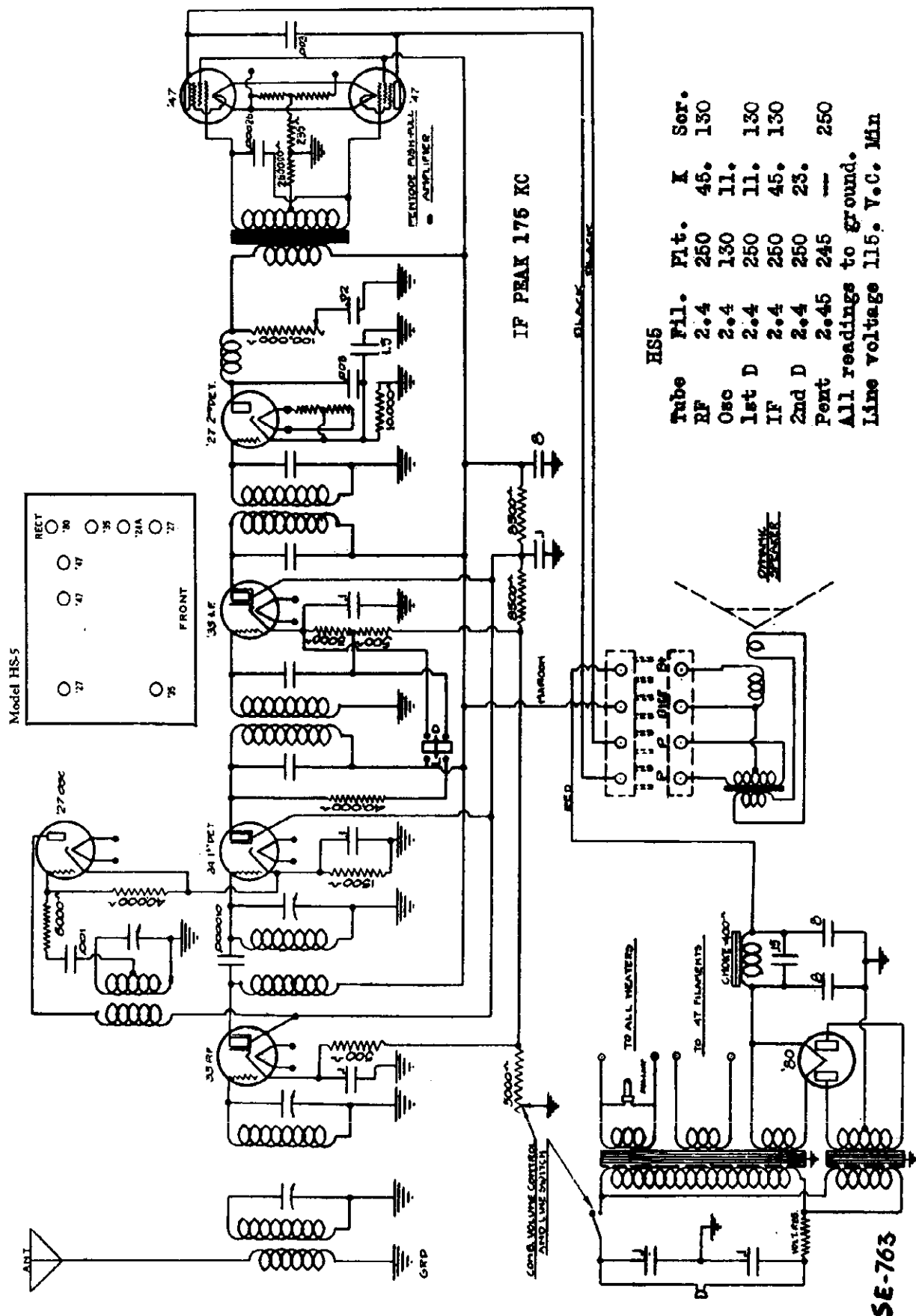


SE-764  
6-1-31

Sor.  
116.  
-  
116.  
116.



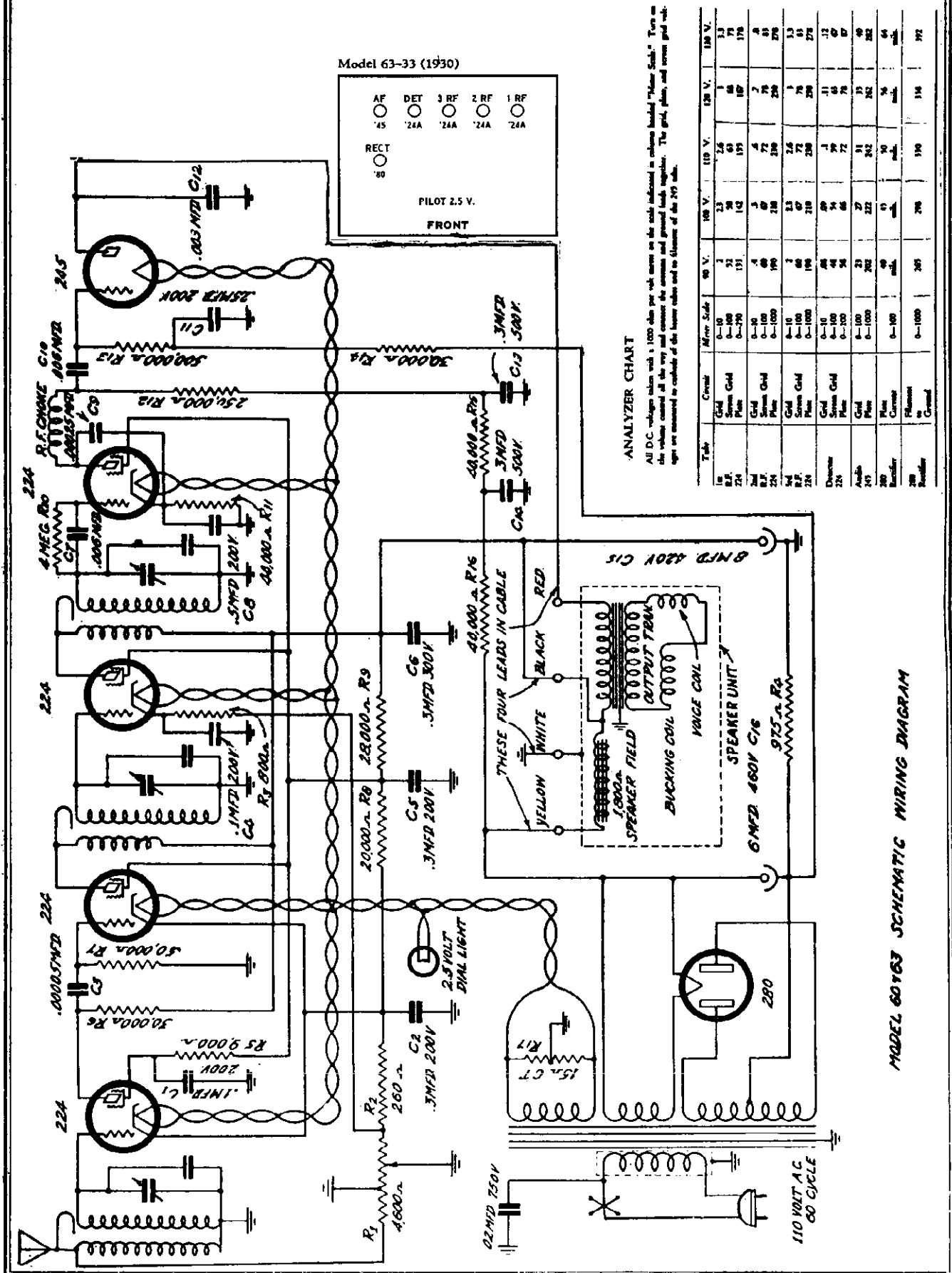
SE-755  
4-11-31





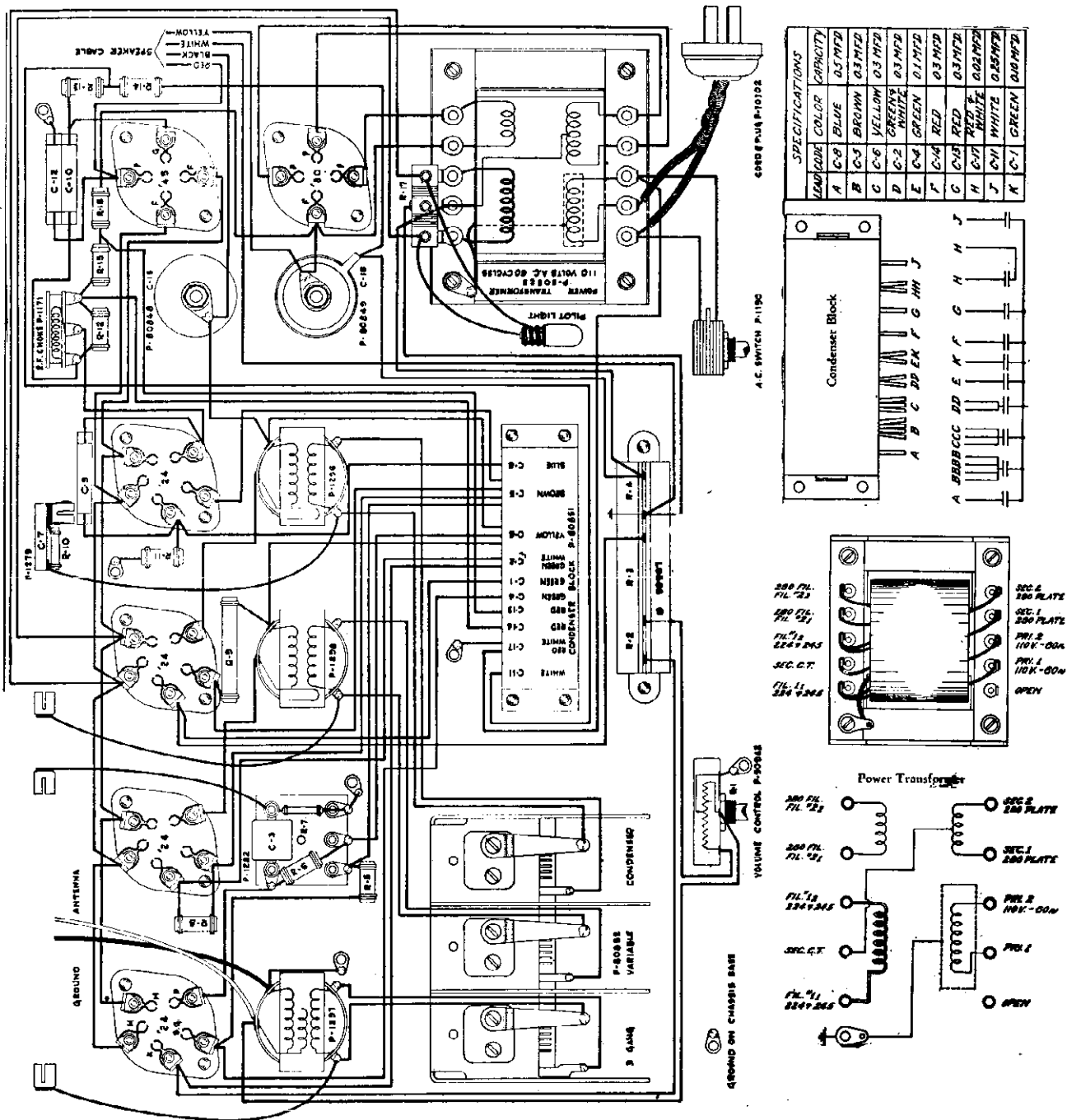
**GULBRANSEN CO.**

MODEL 60, 63  
Schematic  
Voltage

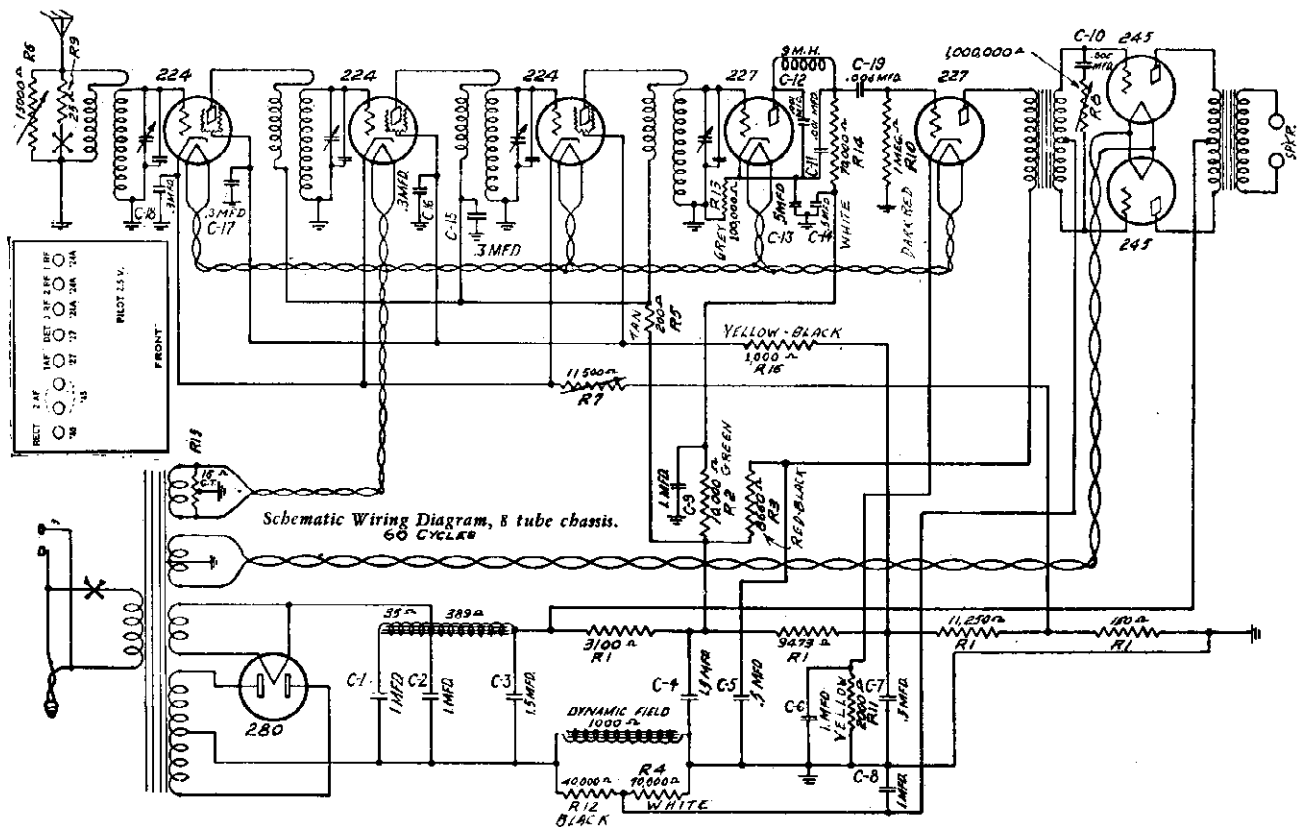


**MODEL 60, 63**  
**Chassis**

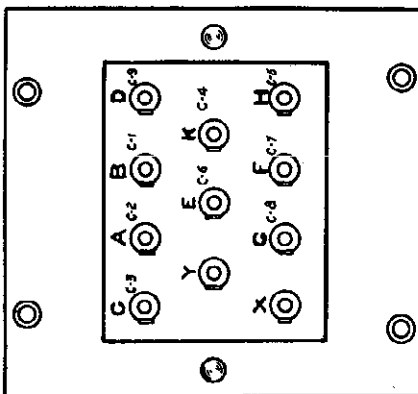
**GULBRANSEN CO.**



GULBRANSEN CO.

**MODEL 160, 161**  
**60 Cycles**  
**Schematic-Data**


CAPACITY		CODE		CYCLE		25 CYCLE	
A	1.0 MFC2	A	1.0 MFC1	2.5 MFC1	B	1.0 MFC3	4. MFC3
C	1.5 MFC3	D	1.0 MFC9	10 MFC9	E	1.0 MFC6	10 MFC6
F	0.5 MFC7	G	1.0 MFC8	15 MFC8	H	0.5 MFC5	0.5 MFC5
K	1.5 MFC4	X	COMMON	COMMON	Y	COMMON	COMMON



Filter Condenser (60 and 25 cycle receivers).

## FIXED CONDENSERS

Condensers C1 to C9 inclusive are in the filter block. C1, C2, C3, C4, and C7 are in the main filter circuits. C5 bypasses R3, which is the 8,660 ohm resistor in the first audio plate circuit. C6 by-passes R11, the cathode bias resistor on the first audio stage. C8 by-passes the grid bias on the 245 tubes, (obtained through R4 and R12) and C9 bypasses the 10,000 ohm resistor R2 in the detector plate circuit.

C10 and C19 are located on the resistor-condenser terminal strip (See Fig. 4) and are both .006 mfd. moulded condensers. C10 is in the tone control circuit, while C19 is the coupling condenser in the resistance coupled amplifier.

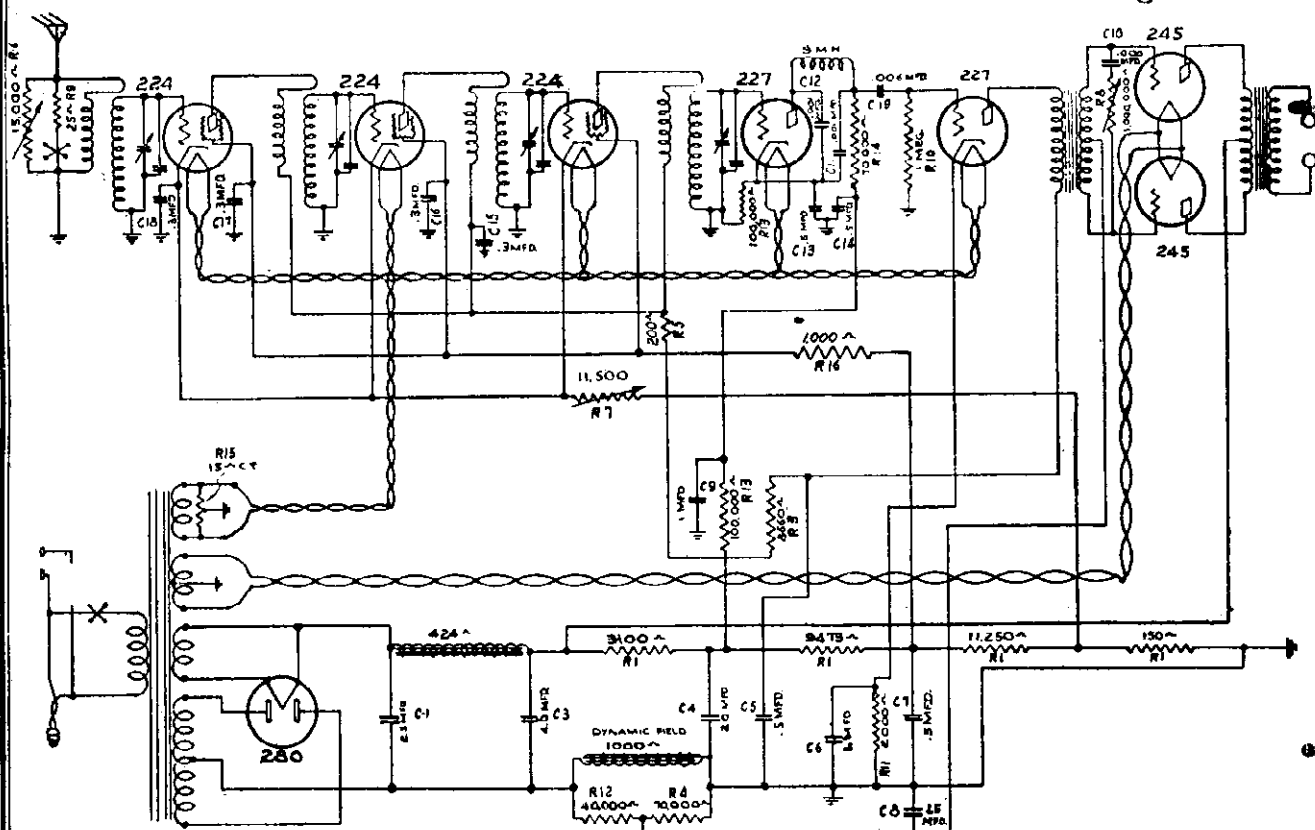
C11 and C12 are .001 mfd. moulded condensers, and are used in the detector plate circuit filter. C13 and C14 are the two units in the dual 1/2 mfd. by-pass condenser.

C15, C16 and C18 are located in the triple 3 mfd. condenser case. C17 is a single .3 mfd. condenser, and is mounted alongside of the triple 3 mfd. condenser case.

Code Fig. 1	Stock No.	Capacity
C1 to C9 inclusive	80818	9 Mfd. total. Filter block.
C10 and C19	80822	.006 Mfd. White paint spot.
C11 and C12	80821	.001 Mfd. Grey paint spot.
C13 and C14	80826	Dual .5 Mfd. Metal case.
C15, C16, C18	80817	Triple .3 Mfd. Metal case.
C17	80820	.3 Mfd. Metal case.

## GULBRANSEN CO.

MODEL 160, 161  
25 Cycles  
Schematic  
Voltage



Schematic Wiring Diagram, 25 Cycle Model.

The filter system of the 25-cycle chassis shown above is somewhat different than that in the 60-cycle chassis, and the detector plate circuit resistor has been changed from 10,000 ohms to 100,000 ohms.

All servicing data, with the exception of the tube voltages, is the same for both the 25 and 60-cycle chassis.

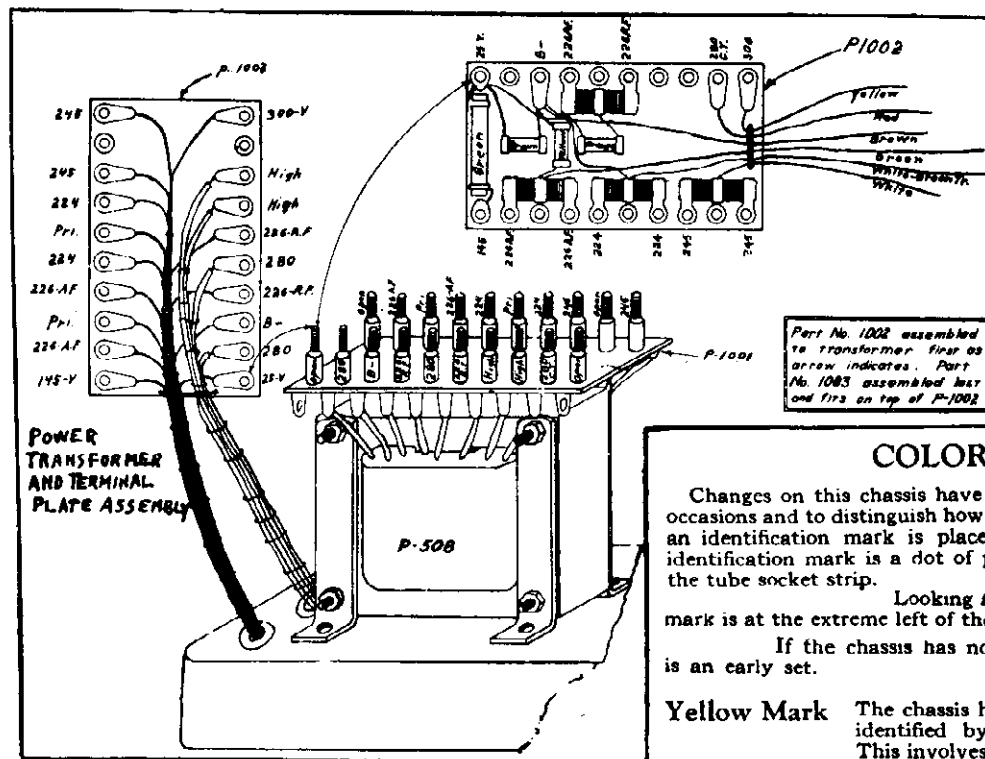
## APPROXIMATE OPERATING VOLTAGES

A. C. LINE VOLTAGE—117. VOLUME CONTROL FULL ON \*

Tube	Position	Filament	Plate	Screen	Grid*	Cathode
224	1st R.F.	2.3	178	90	— 3.0*	3.0
224	2nd R.F.	2.3	178	90	— 3.0*	3.0
224	3rd R.F.	2.3	178	90	— 3.0*	3.0
227	Detector	2.3	100		—10.5*	10.5
227	1st Audio	2.3	130			9.0
245	2nd Audio	2.4	250		51.0	
245	2nd Audio	2.4	250		51.0	
280	Rectifier	4.7				

\* Grid voltages on the 224 R.F. and 227 detector tubes are taken from grid to cathode and not from grid to ground. The grid voltage on the first audio tube is measured from cathode to ground.

## GULBRANSEN CO.

MODEL 200, 291, 292  
295, 9950Voltage  
Data

## COLOR CODE

Changes on this chassis have been made on several different occasions and to distinguish how one chassis differs from another, an identification mark is placed on each one changed. This identification mark is a dot of paint found on the end rivet of the tube socket strip.

Looking at the chassis from the back the mark is at the extreme left of the 226 tube socket

If the chassis has no mark it is understood that it is an early set.

**Yellow Mark** The chassis having the first changes may be identified by the yellow indicating mark. This involves four changes.

1. A "dual volume control" in place of the single type. The new volume control is made in two sections, with five lugs. The section nearest the chassis, having two lugs, operates exactly the same as the single volume control. The section behind the first, having three lugs, is placed in the first audio circuit to reduce the audio amplification and operates in tandem with the antenna volume control.

2. An interchange of position of the two audio transformers. The re-arrangement of the audio transformers has not altered their connections in the circuit.

3. An addition of a "dual half microfarad condenser" and two carbon resistors in the "B" circuit of the detector and first audio tubes. The 40,000 ohm black resistor with one section of the dual condenser is placed in the detector circuit (224) and the 15,000 ohm blue resistor with the other section of the dual condenser is placed in the first audio circuit (226). You will note that the yellow and blue leads in the cable connecting to the terminal strip have been interchanged.

4. A change in the location of the grounding of No. 1 lug on the condenser block. This lug is now grounded to the condenser case with a short piece of bare wire.

**Red Mark**  
(Serial Number 39,000-42,999)

All chassis having a red mark on the rivet of the tube socket strip have all of the changes mentioned above and in addition, have a one-tenth microfarad condenser connected from ground to one side of the 110 volt line.

A peculiarity that may be experienced by the addition of this condenser is a loud hum on every station tuned in only when the antenna wire coming from the set is connected to ground. This can be eliminated by reversing the plug in the socket. Also be sure your antenna is not grounded, either by some other set being connected to your aerial or through any other means.

**Green Mark**  
(Serial Number 43,000 and up)

All Chassis with a green mark on the rivet of the tube socket strip contain the above changes and in addition have a change in the "combination phonograph switch" circuit. This changed circuit makes use of only the audio system of the set for phonograph reproduction, whereas the original circuit included the detector tube.

The Phonograph, Radio, On, and Off positions of the switch are the same as in the early sets. To obtain maximum volume and best tone quality a pick-up coupling transformer should be used to match the pick-up used.

## OPERATING VOLTAGES

Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
226	1st R.F.	1.35	116	8.5				4.7	8.7
226	2nd R.F.	1.35	116	8.5				4.7	8.7
226	3rd R.F.	1.35	116	8.5				4.7	8.7
226	4th R.F.	1.35	116	8.5				4.7	8.7
224	Det.	2.2	80	1.3	15				
226	1st A.F.	1.4	110	1.0				4.0	5.0
245	2nd A.F.	2.2	232	42				27	32
245	2nd A.F.	2.2	232	42				27	32
280	Rect.	4.6						84	

Line Voltage During Test—115 Volts

## REVISION OF OPERATING VOLTAGES

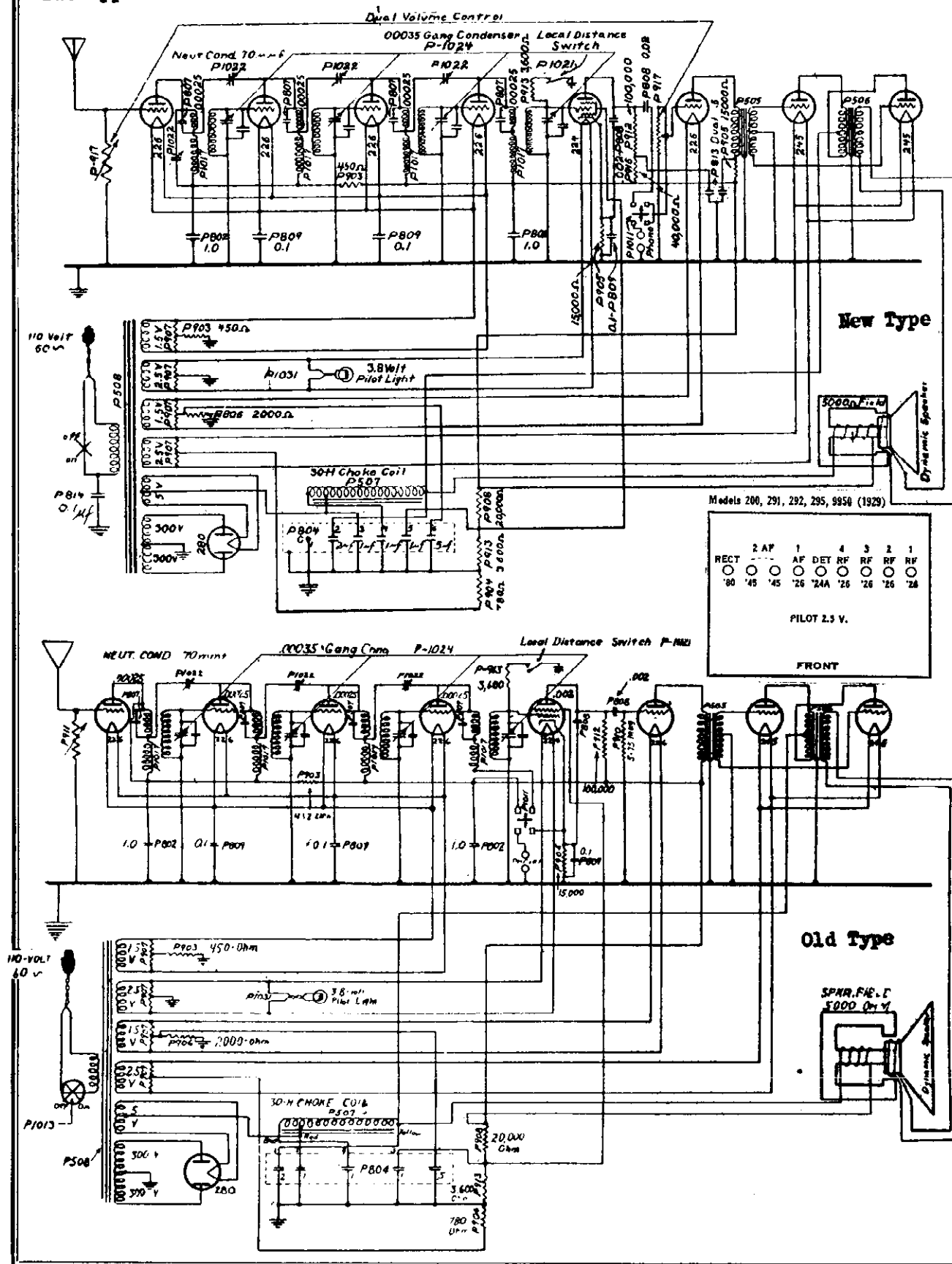
Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
224	Det.	2.2	75	1.3	15				
226	1st A.F.	1.4	77	1.0				4	5

200, 291, 292, 9950

(A.C.)

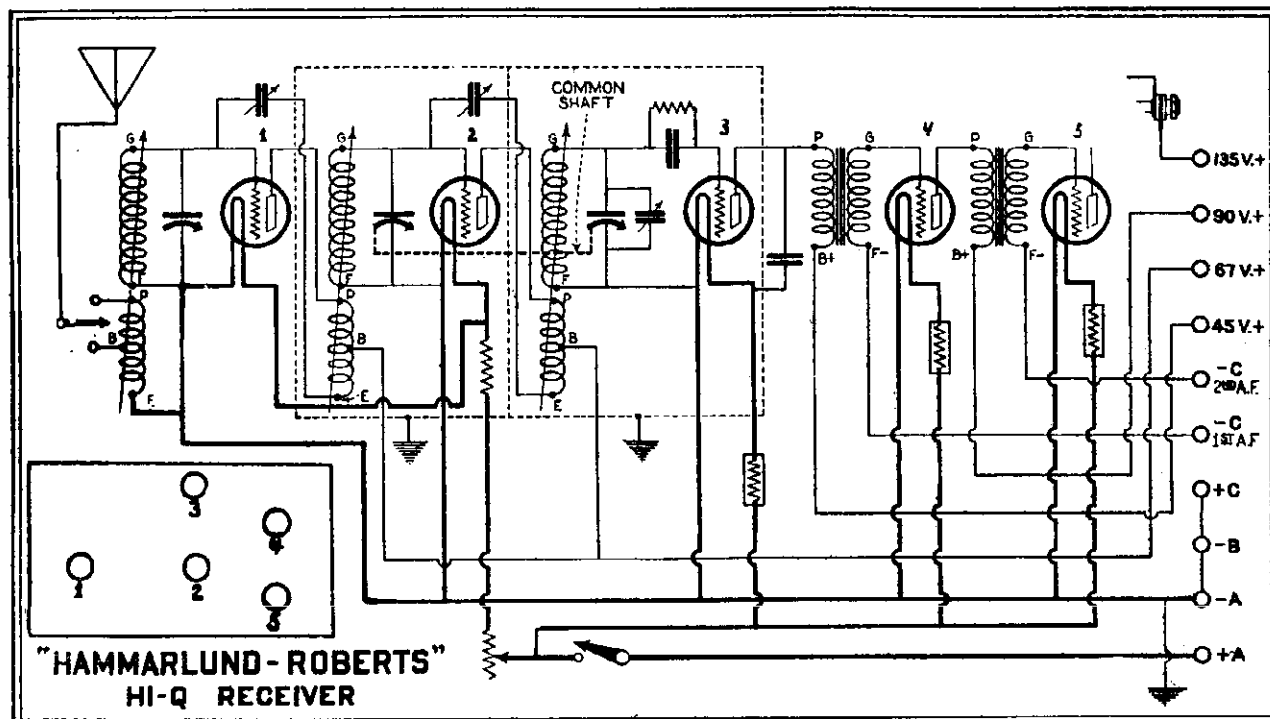
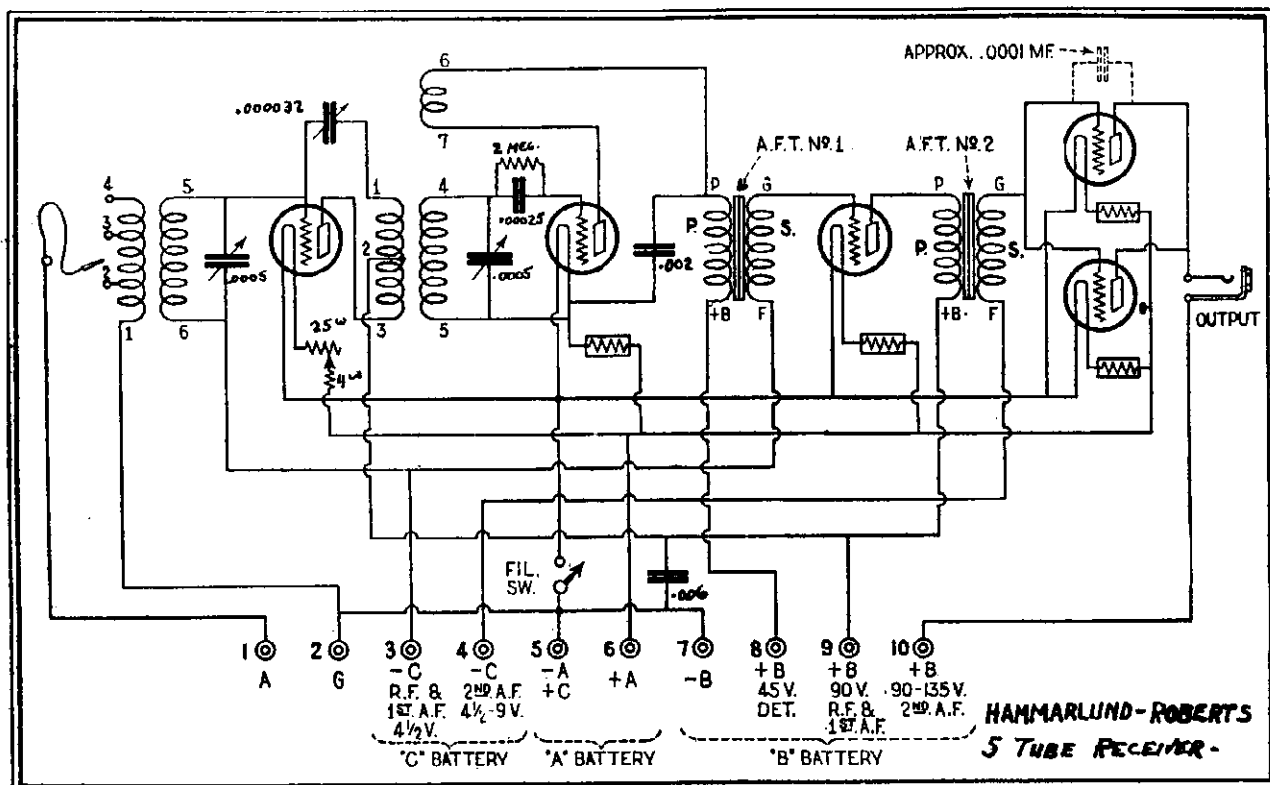
CX-380	CX-345	CX-345	CX-326	C-324	CX-326	CX-326	CX-326	CX-326
Rect.	2nd A.F.	2nd A.F.	1st A.F.	Det.	4th R.F.	3rd R.F.	2nd R.F.	1st R.F.

**GULBRANSEN CO.**



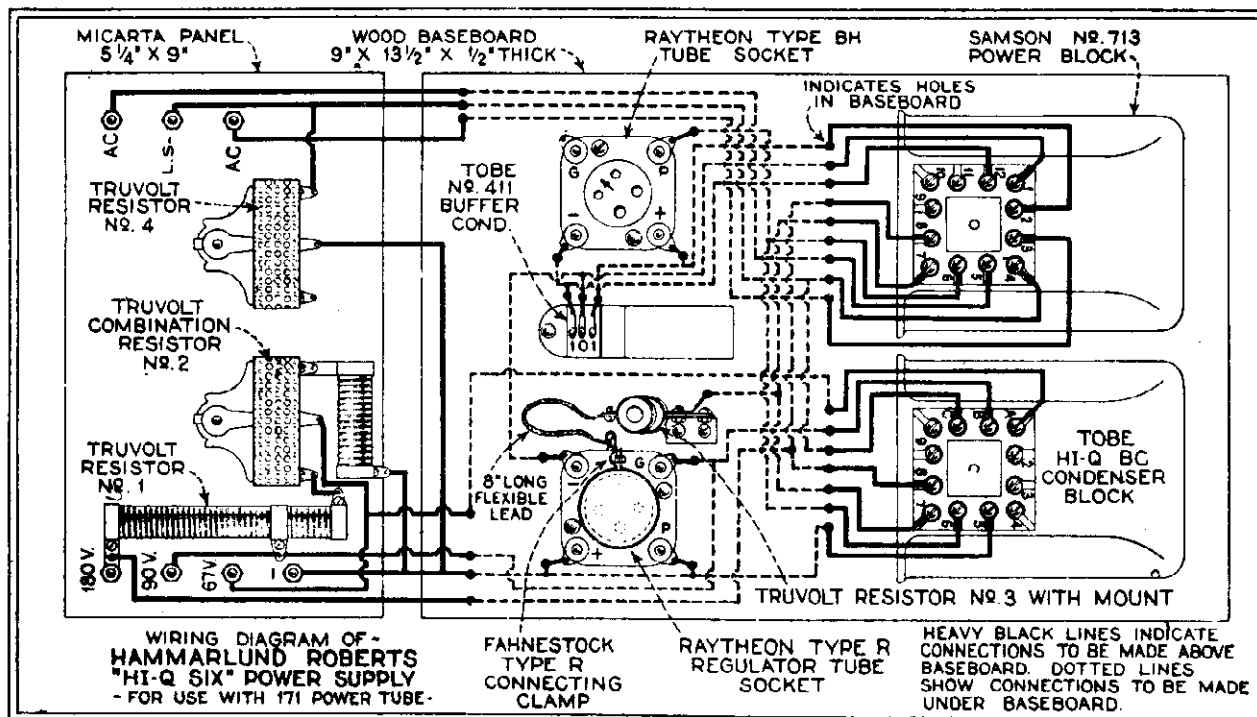
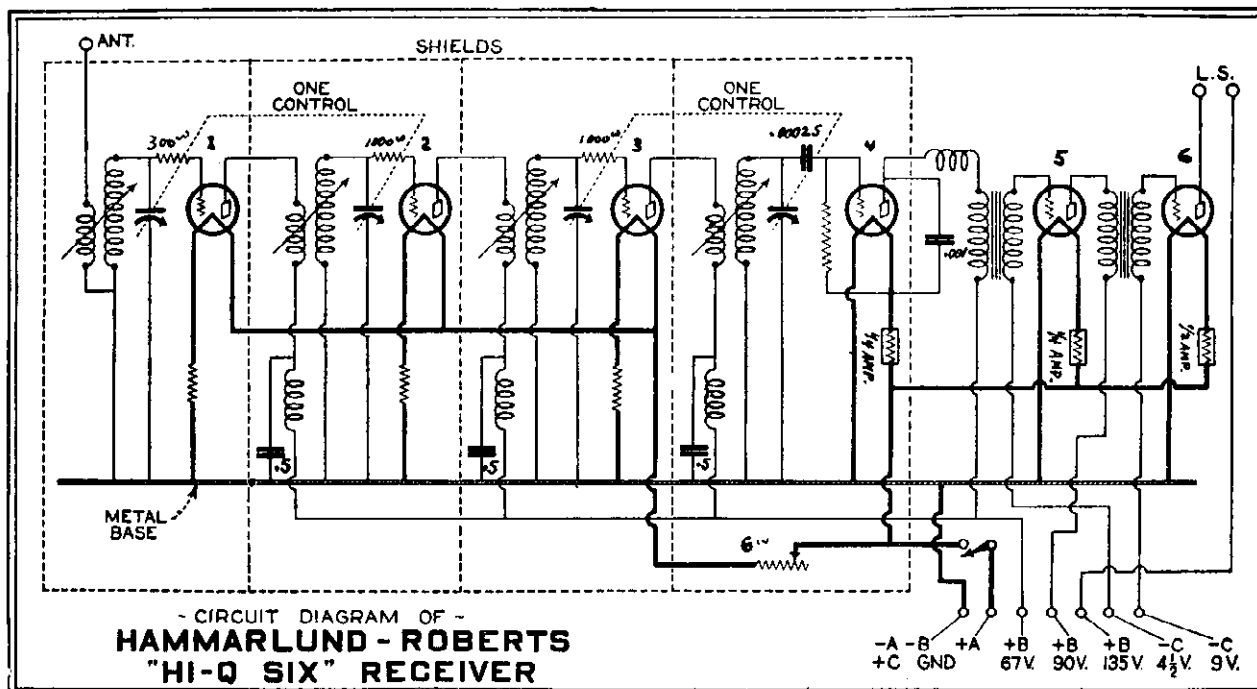
## HAMMARLUND-ROBERTS, INC.

MODEL H-R 5 Tube  
MODEL H-R "HI-Q"

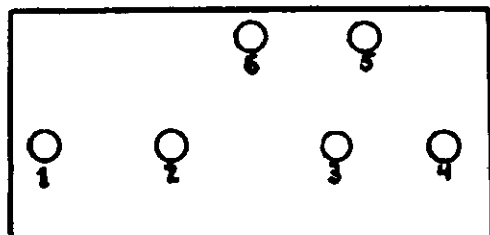


MODEL H-R "HI-Q" 6

HAMMARLUND-ROBERTS, INC.



SOCKET LAYOUT



Battery Cable

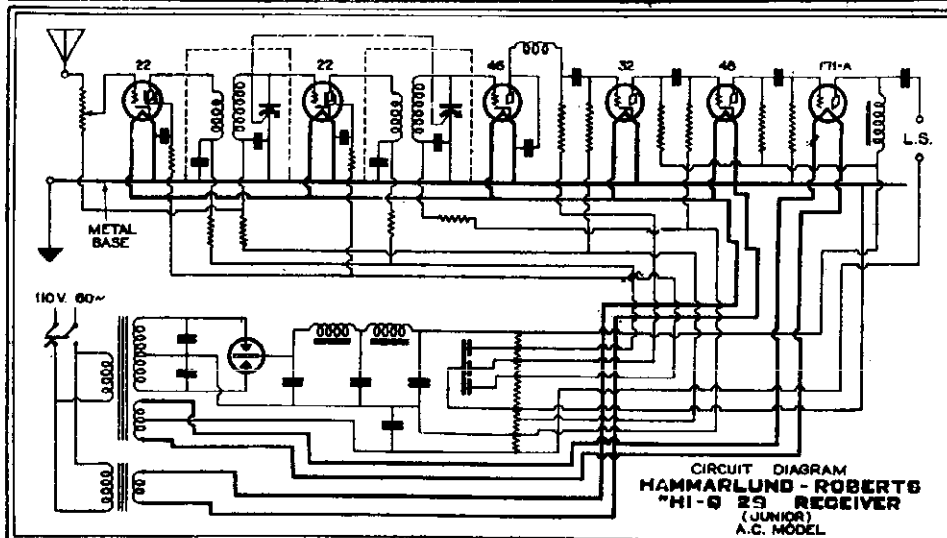
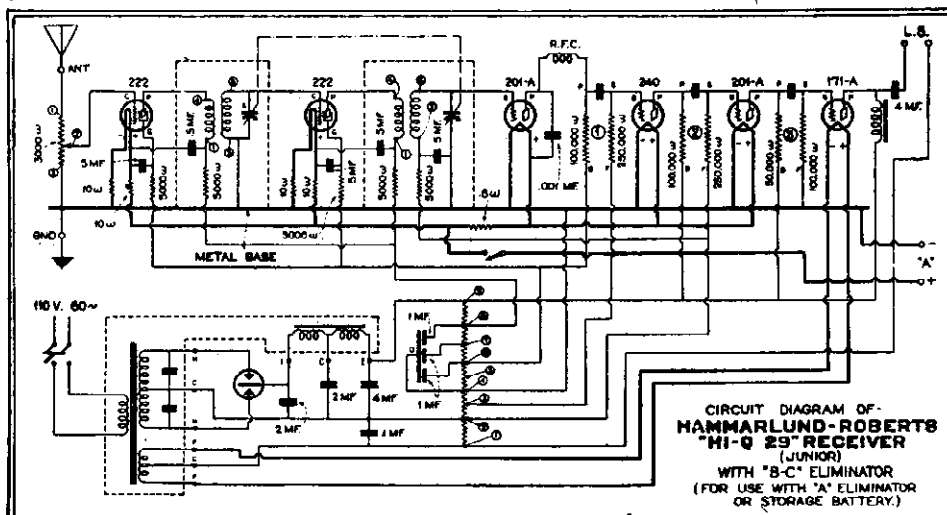
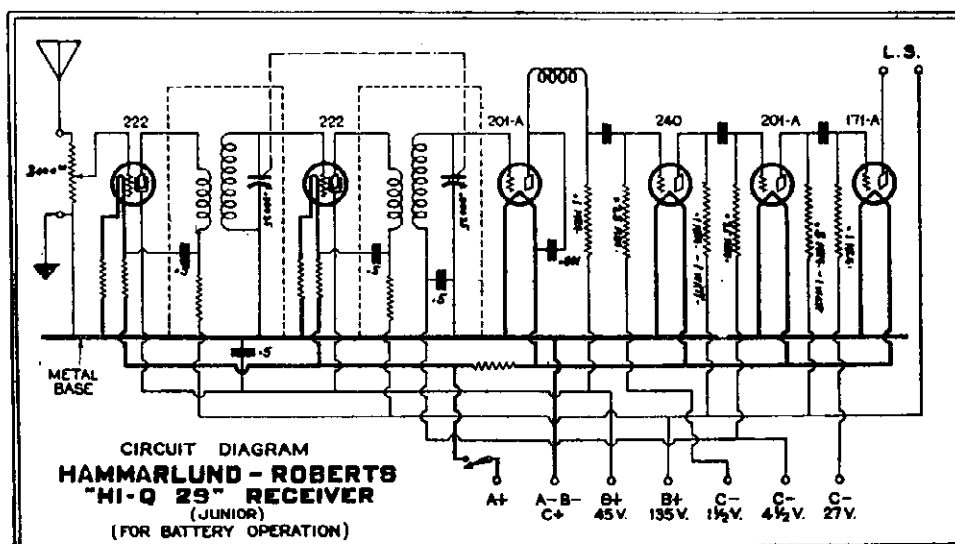
To B+	135	Gray
" B+	90	Yellow
" B+	67	Blue
" B-	C+	A- Black
" C-	4.5	Green
" C-	9.	Brown
" A+		Red

Power Cable

To B+	180	Gray
" B+	90	Yellow
" B+	67	Blue
" B-		Black
" C-		Green
" Fil. center tap		Brown



## HAMMARLUND-ROBERTS, INC.

MODEL H-R "HI-Q" 29  
Junior-Three Types

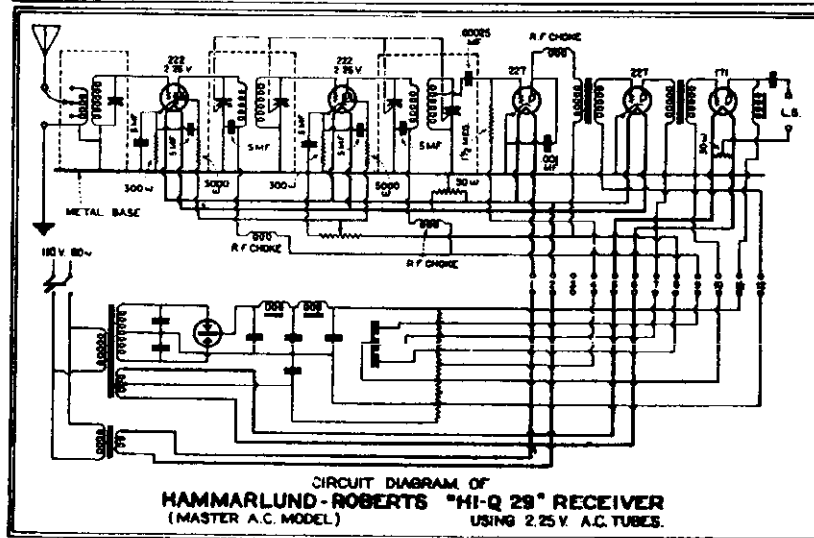
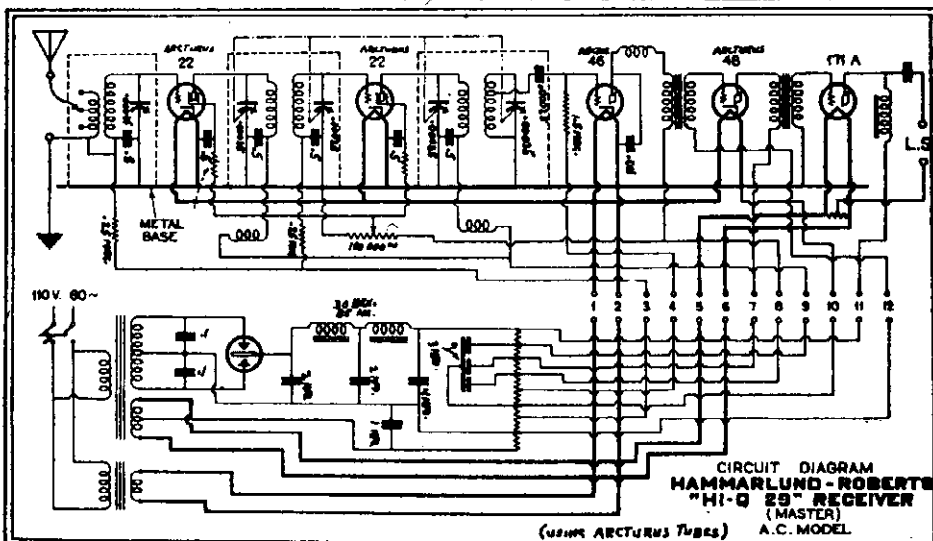
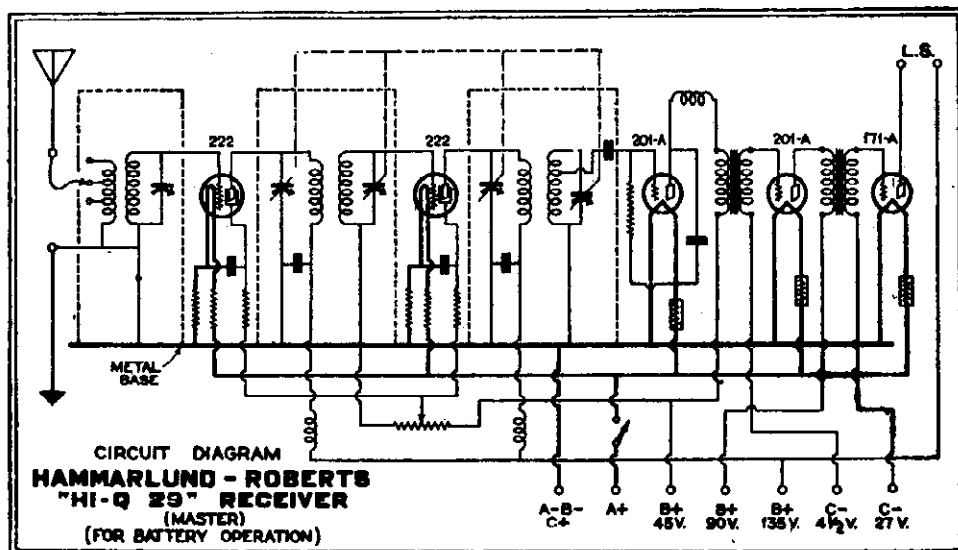
HI-Q 29 Jr. Battery cable.

To B	135	-	Gray
" B	45	-	Blue
" B	A, C	+	Black
" C	1.5		Yellow
" C	4.5		Green
" C	27.		Brown
" A			Red

JUNIOR-A.C. JUNIOR-D.C.	3AF	2AE	1AF	DEY.
	2AF			
	1AF			

MODEL H-R "HI-Q" 29  
Master-Three Types

HAMMARLUND-ROBERTS, INC.



**MASTER A.C. - POWER CABLE**

1-RED } 15 V. A.C.  
2-BLACK }  
3-RED-GREEN TRACER }  
C-1 VOLT  
4-BLACK-GREEN  
5-RED-YELLOW TRACER } 5 V. A.C.  
6-BLACK YELLOW TRACER }

7-YELLOW, B+ 90V.  
8-BLUE, B+ 45V.  
9-SLATE, B+ 135V.  
10-GREEN, B-C+  
11-BROWN, B+ 180V.  
12-WHITE, C-4.5V

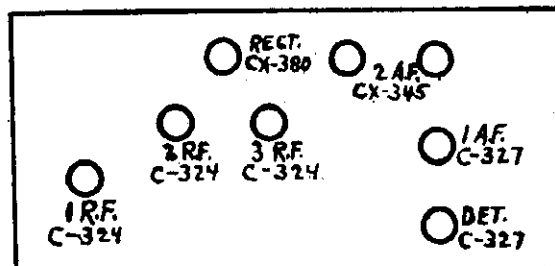
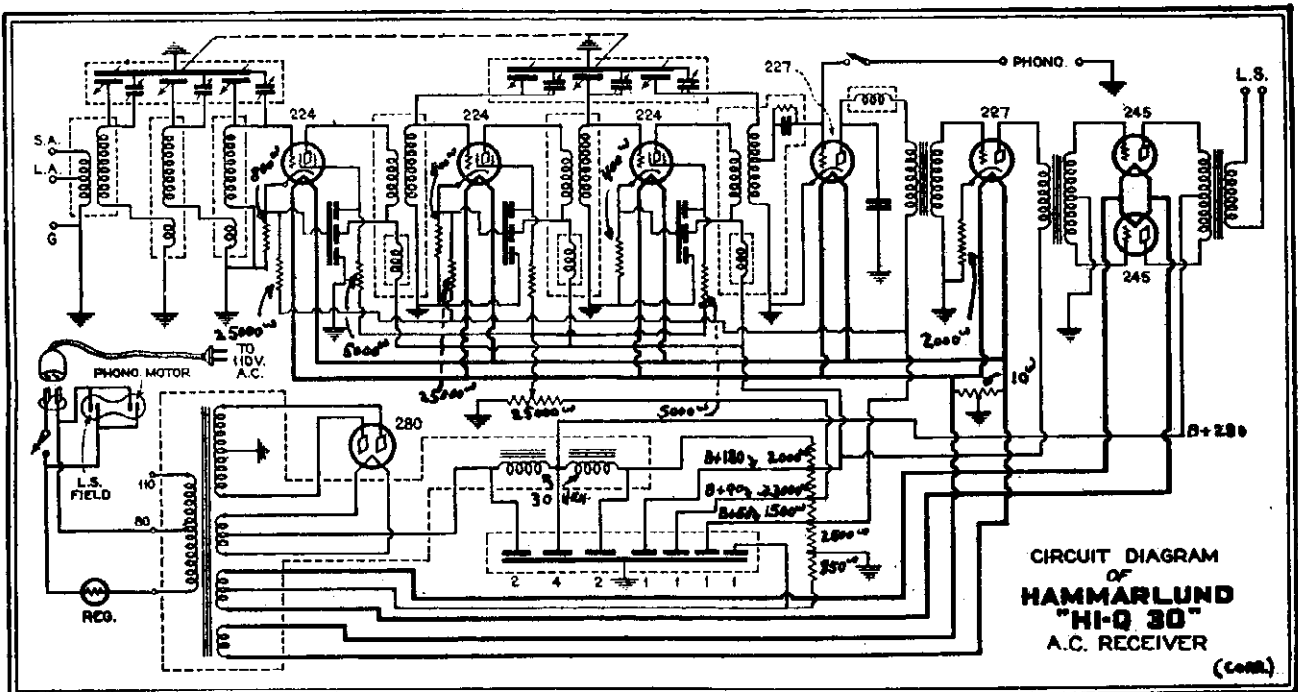
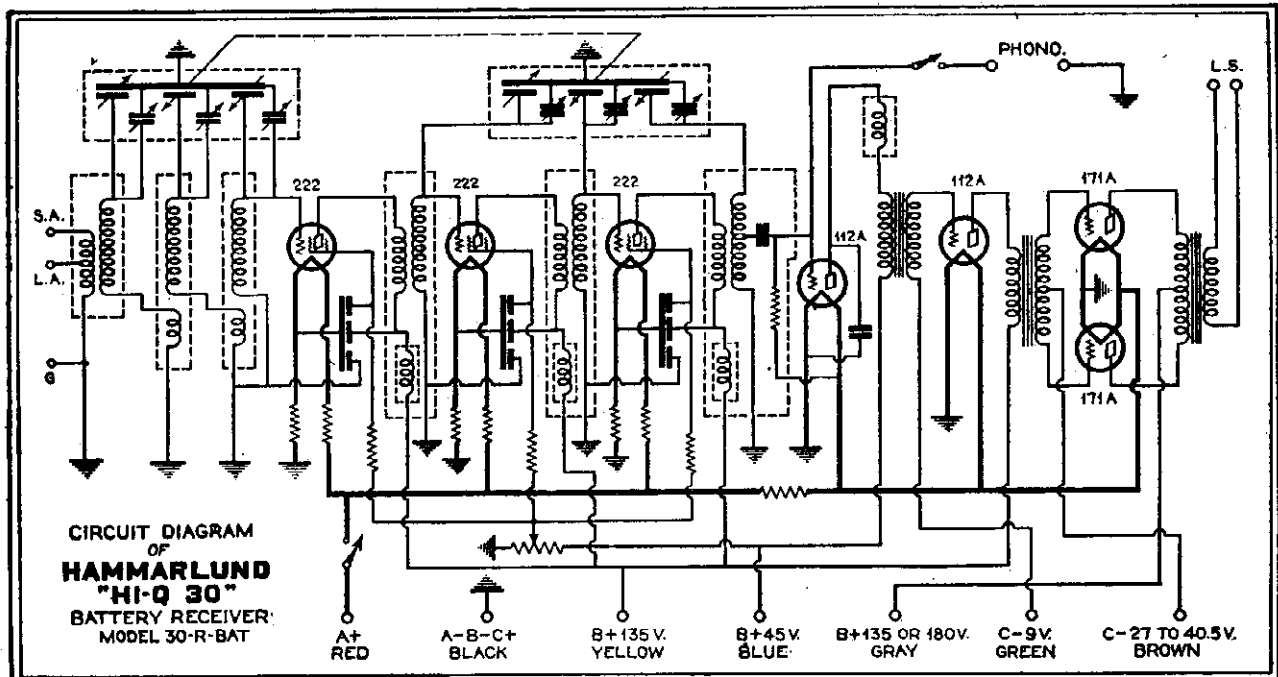
**MASTER-A.C. MASTER-D.C.**

1 R.F.  
2 A.F.  
3 A.F.  
4 DET.

**Master D.C. - Batt. cable.**

To B+ 135 Yellow  
" B+ 90 Blue  
" B+ 45 Black  
" B-, C+, A-, Black  
" C- 4.5 Green  
" C- 27. Brown  
" A+ Red

HAMMARLUND-ROBERTS, INC.

MODEL H-R "HI-Q" 30  
A.C.-Battery

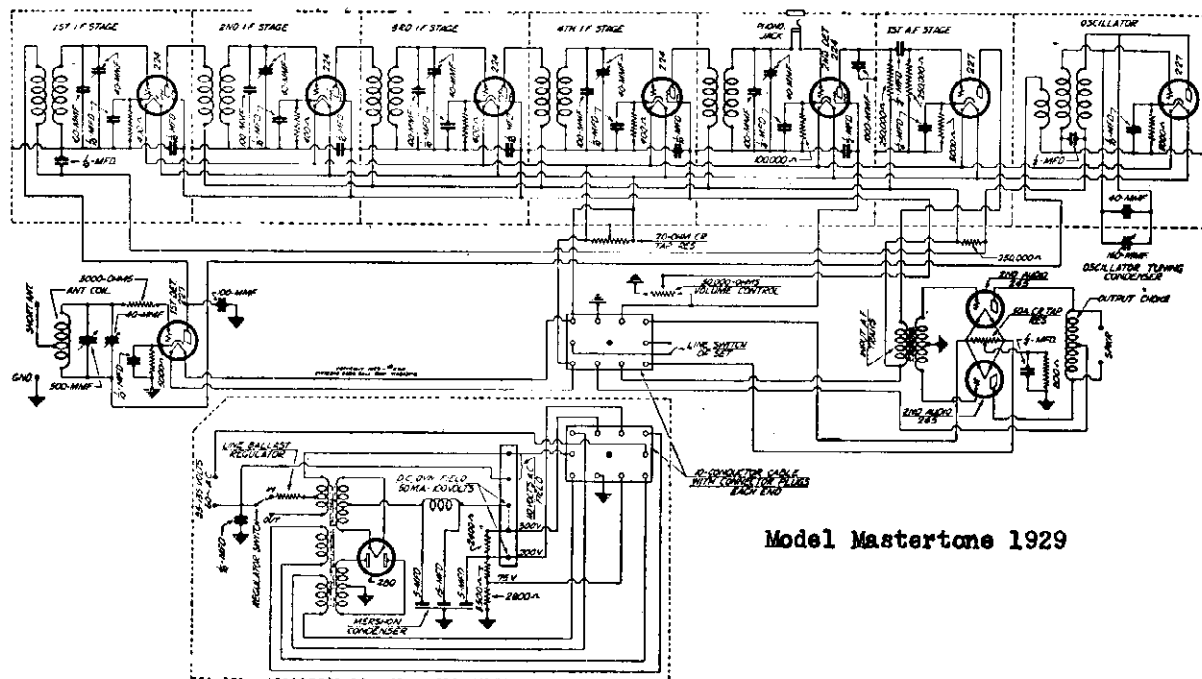




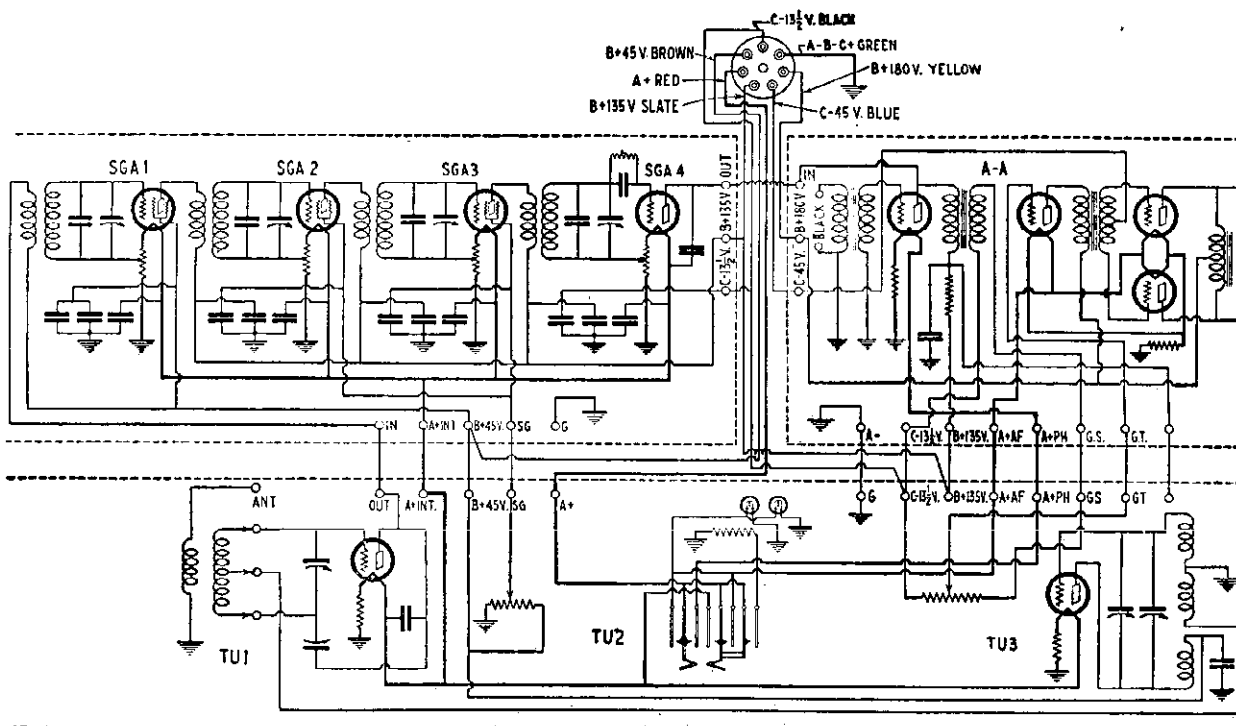


MODEL Mastertone 1929  
MODEL Isotone 10

# HIGH FREQUENCY LABORATORIES



Model Mastertone 1929



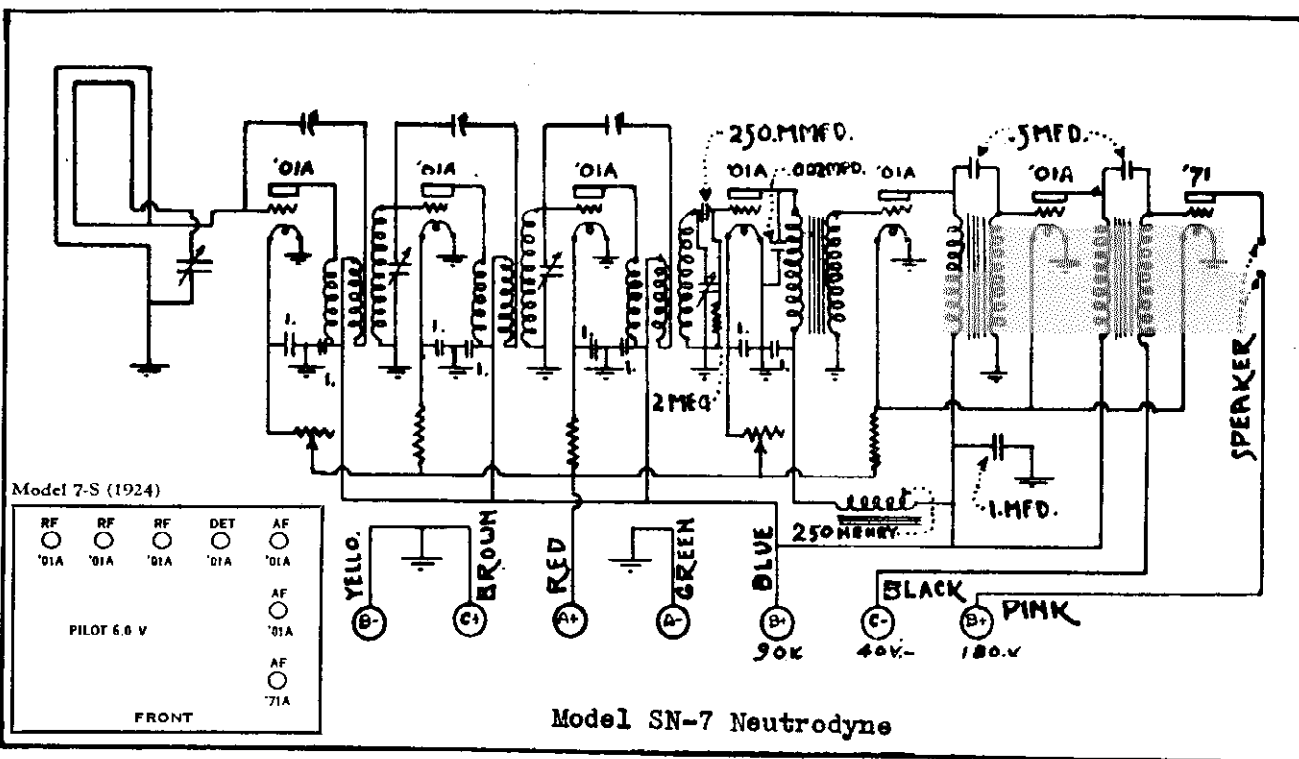
Model Isotone 10





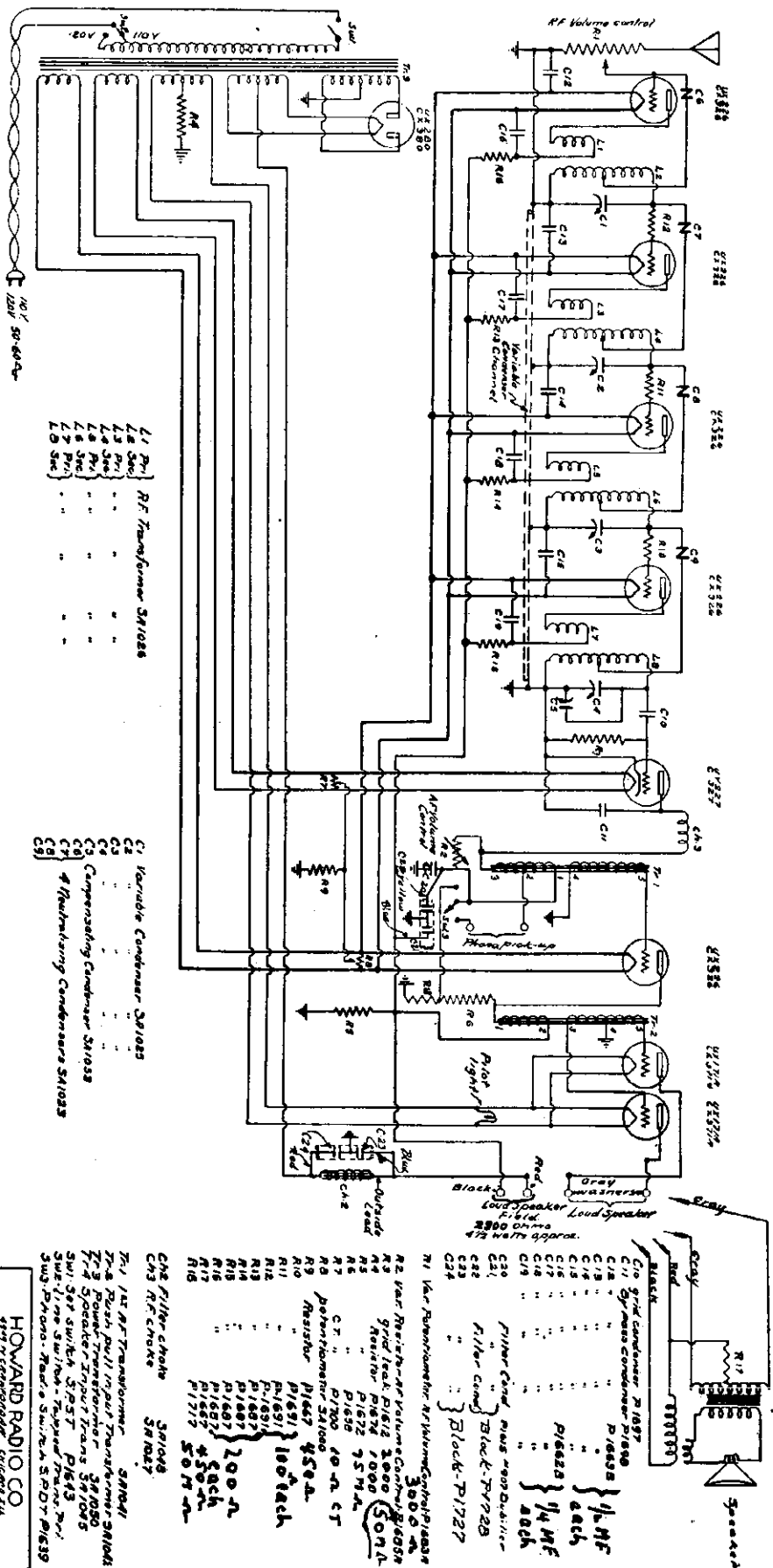
MODEL SN-7  
MODEL K

HOWARD RADIO CO





**HOWARD—Green—Diamond 8**  
Line Voltage 115—2nd A. F. 2 Tubes—Push Pull

[illegible]

## Green Diamond 8,

- |          |          |          |
|----------|----------|----------|
| CX-326   | CX-371A  | CX-380   |
| 1st A.F. | 2nd A.F. | Reet.    |
| C-327    | CX-326   | CX-326   |
| 4th R.F. | 5th R.F. | 2nd R.F. |
| Det.     |          | 1st R.F. |

**[A.C.]**

HOWARD RADIO CO  
4341 N. CARMICHAEL ST. CHICAGO, ILL.  
Schematic Diagrams  
Mousetrap Game and Models  
DATE - 12-10-88  
DWL - WPA  
W-1409-AR

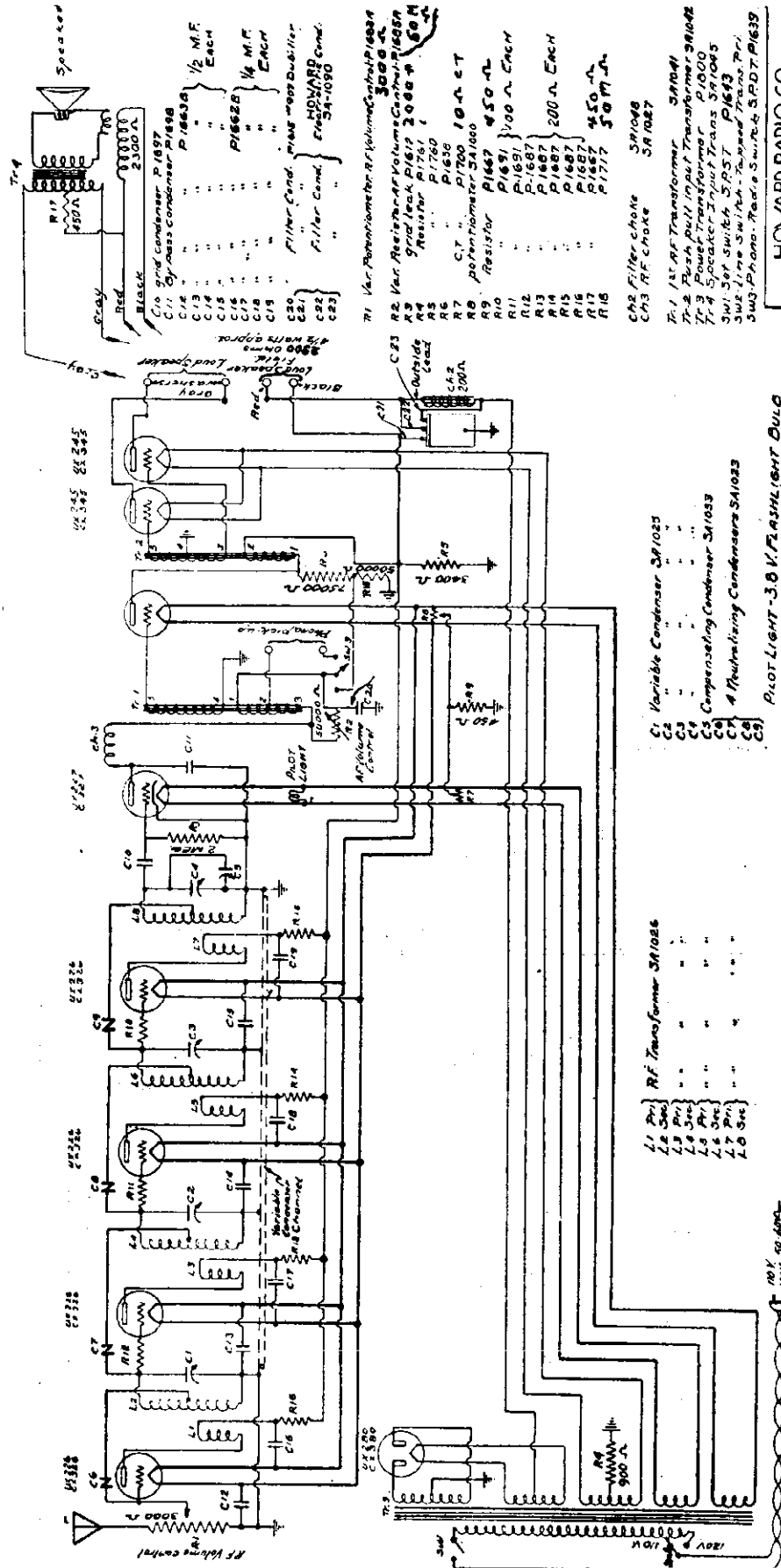
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MODEL Green Diamond 8 (Dym. Spkr. 1.71)

HOWARD RADIO CO.

HOWARD RADIO CO

MODEL Green Diamond 8  
(Dyn. Spkr. '45)



PILLOT LIGHT-3.0 V. FLASHLIGHT BULO

REVISED 7-9-29..

(A.C.)

### Green Diamond 8, Type SH

**HOWARD—Model SH-245**  
Line Voltage 120—Set on High Volt Tap—Volume Control Position No Change

TASK	TYPE OF ORDNANCE	POSITION	"LAST OUT"				"LAST IN FIFTER"			
			1ST RP	2ND RP	3RD RP	4TH RP	1ST RP	2ND RP	3RD RP	4TH RP
1	226	1st RP	1.6	120	1.35	116	6	4.5	7.5	3
2	226	2nd RP	1.4	120	1.35	116	6	4.5	7.5	3
3	226	5th RP	1.35	120	1.3	116	6	4.5	7.5	3
4	226	4th RP	1.35	120	1.3	116	6	4.5	7.5	3
5	227	1st L	2.25	44	2.1	20	-	0	-	-
6	226	1st A	1.35	120	1.3	116	6	2.2	5.4	3.8
7	245	2nd A	8.2	245	8.1	235	36	28	36	9
8	245	2nd A	2.2	245	2.1	235	36	22	36	4
9	280	1st A	5	-	4.8	-	-	0	-	-

HOWARD RADIO CO

2549 NE ARNOLD DR. ENCLAVE II  
Schematic Diagram  
TYPE

Schematic Diagram	Type
	Single-Phase Transformer
	Three-Phase Transformer
	Two-Winding Transformer
	Three-Winding Transformer

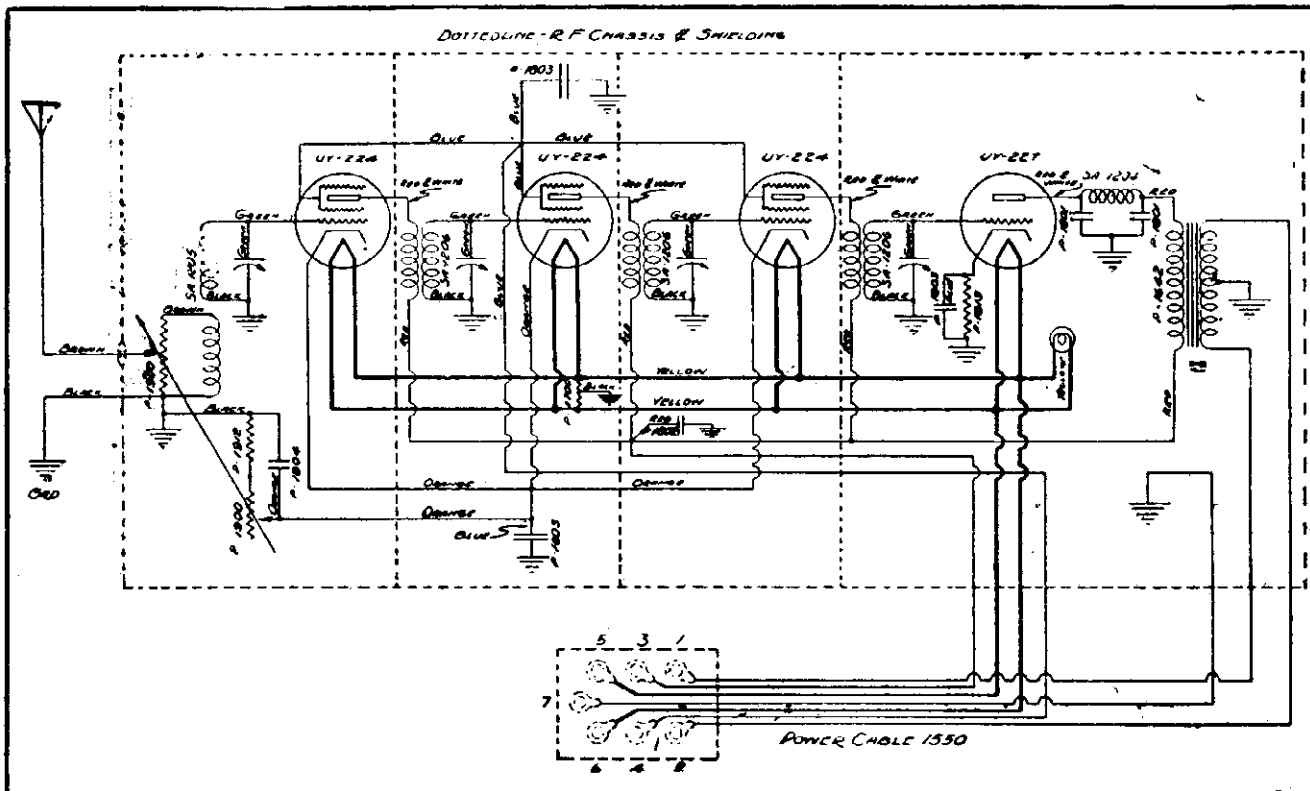
Revised Green Diamond Model

W-1409-E

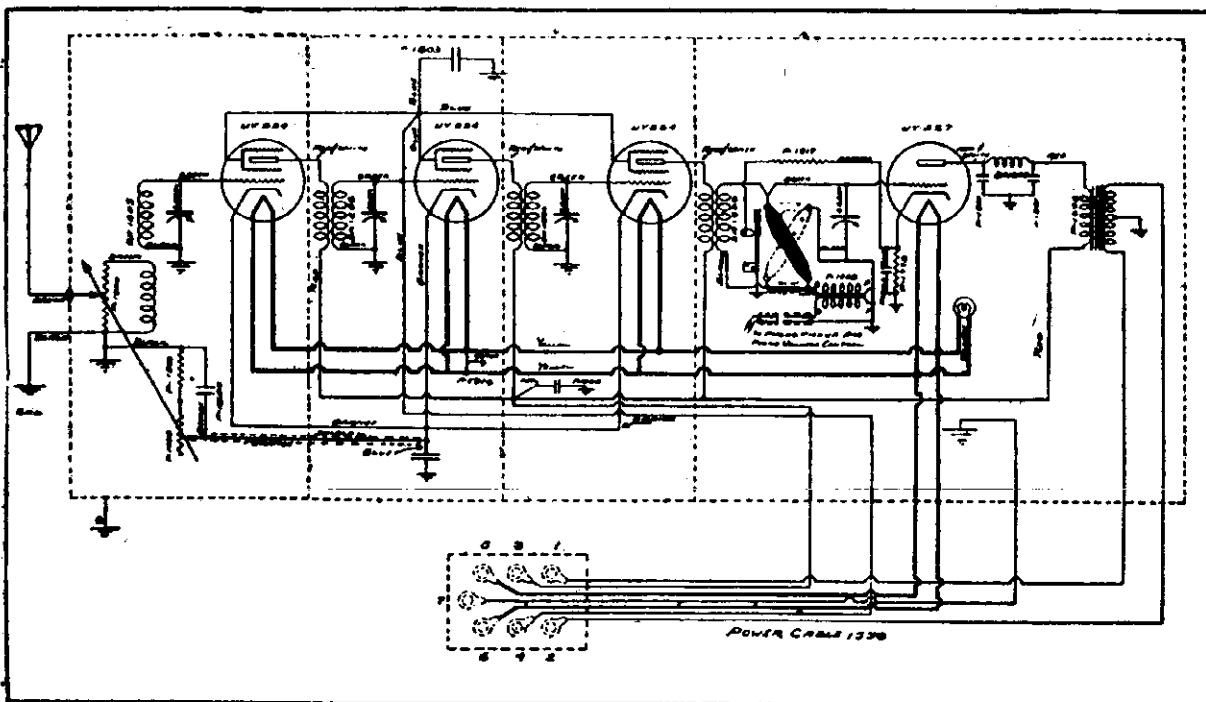
1000

MODEL SG "A"  
RF Chassis  
MODEL SG "C"  
RF Chassis

# HOWARD RADIO CO.



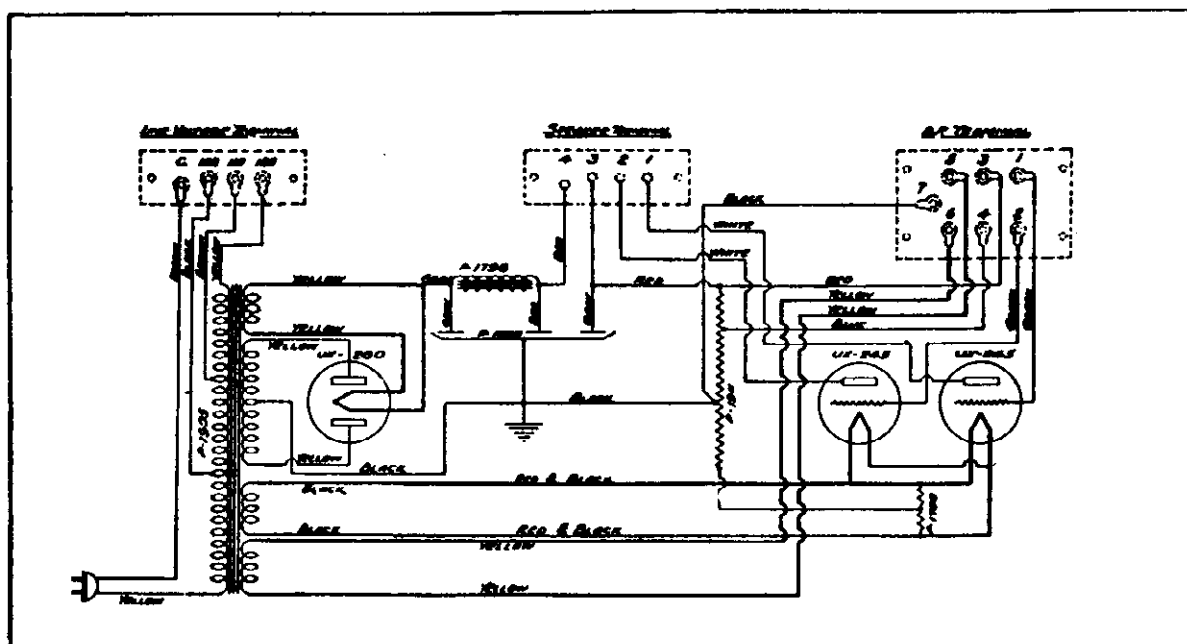
R.F. Chassis Model S.G. "A"



R.F. Chassis Model S.G. "C"

## HOWARD RADIO CO

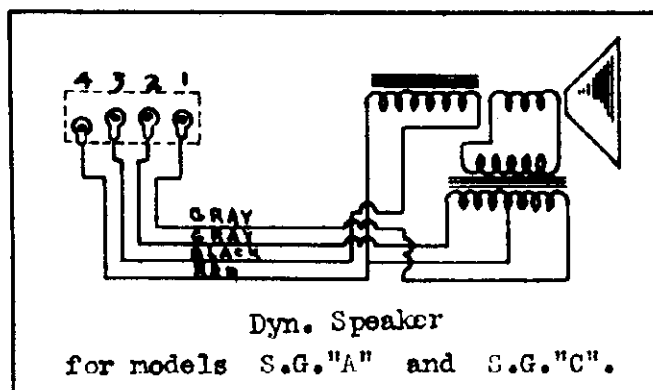
MODEL SG"A"  
AF Chassis  
MODEL SG"C"  
AF Chassis  
Voltage



Power Unit and A.F. Amplifier for HOWARD Models S.G. "A" and S.G. "C"

## R.F. Chassis Term. Plate.

- |   |        |               |
|---|--------|---------------|
| 1 | Gray   | Audio Grid    |
| 2 | Gray   | Audio Grid    |
| 3 | Red    | B + 175 Volts |
| 4 | Blue   | B + 70 "      |
| 5 | Yellow | Fil. 2.25 "   |
| 6 | Yellow | Fil. 2.25 "   |
| 7 | Black  | B - Ground    |

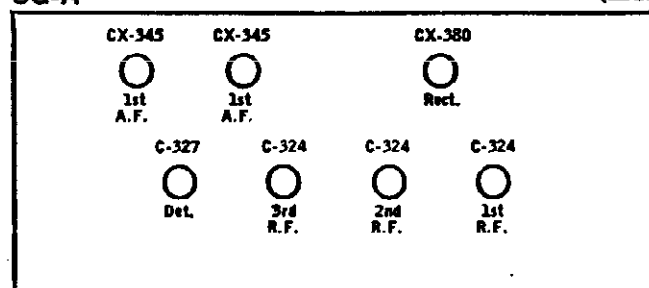


HOWARD RADIO—Model A—Screen Grid  
Line Voltage 110—Set on 110 Volt Tap  
Volume Control Position Max  
\*Detector Plate Voltage on Phone Combination

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE IN SET, ETC.	TUBE DATA				TUBE IN TESTER			
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	CATHODE HEATED VOLTS	NORMAL PLATE VOLTS	PLATE CHANGE VOLTS	SCREEN GRID VOLTS
1	224	1 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3
2	224	2 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3
3	224	3 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3
4	227	Det.	2.45	161	2.33	*150	15.1X	11.6	1.1	1.4
5	245	P. P.	2.33	272	2.21	251	47.0	—	26	30
6	245	P. P.	2.33	272	2.21	251	47.0	—	26	30
7	280	Rect.	5.54	—	4.65	—	—	—	—	—

SG-A

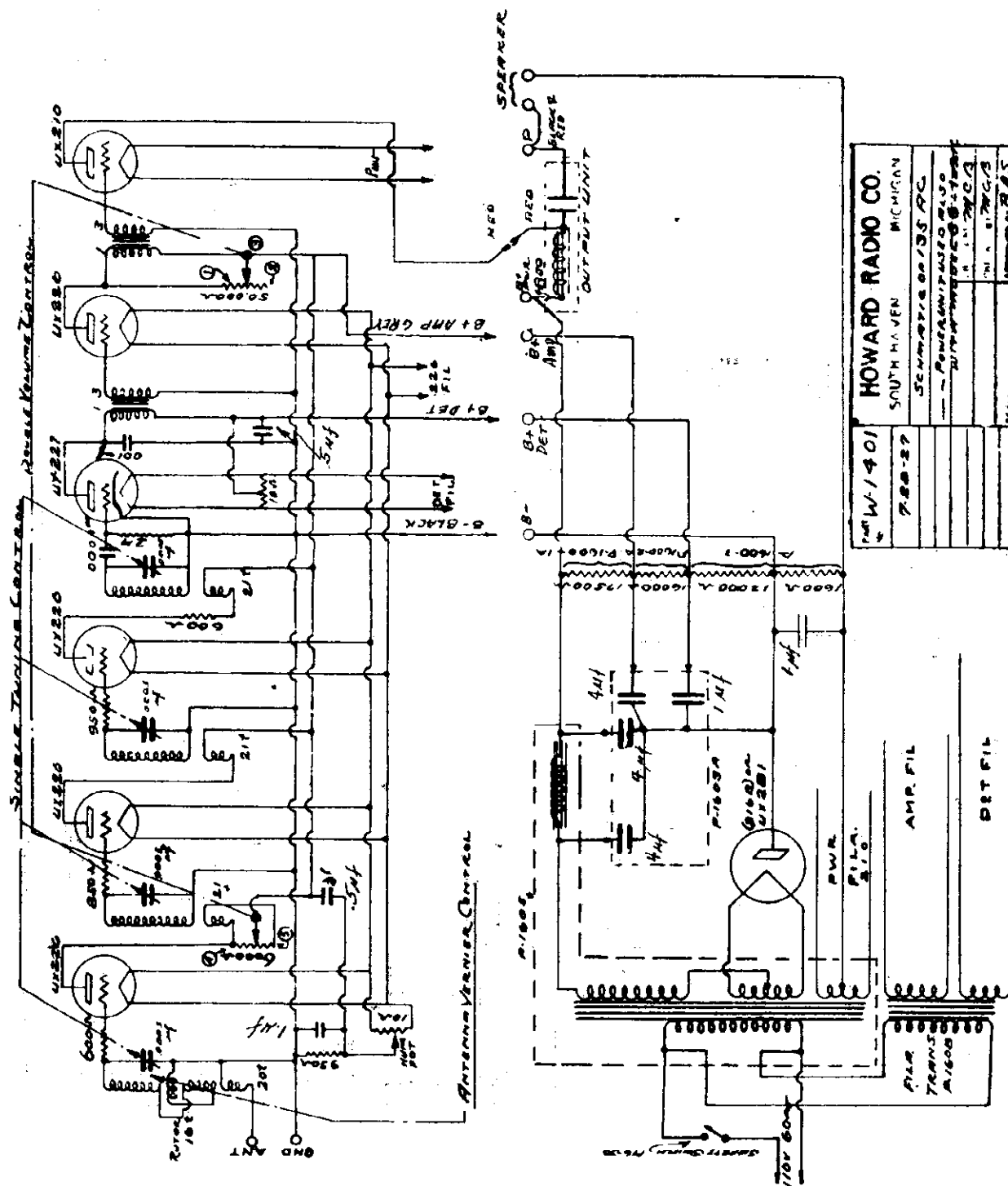
(A.C.)



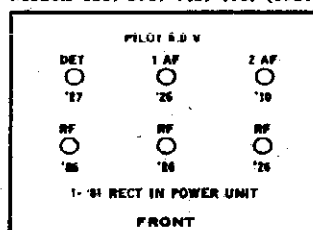
\*Detector coil shorted to give correct voltage when measuring detector

MODEL 395,445,470,495  
(135-AC Chassis)

**HOWARD RADIO CO.**

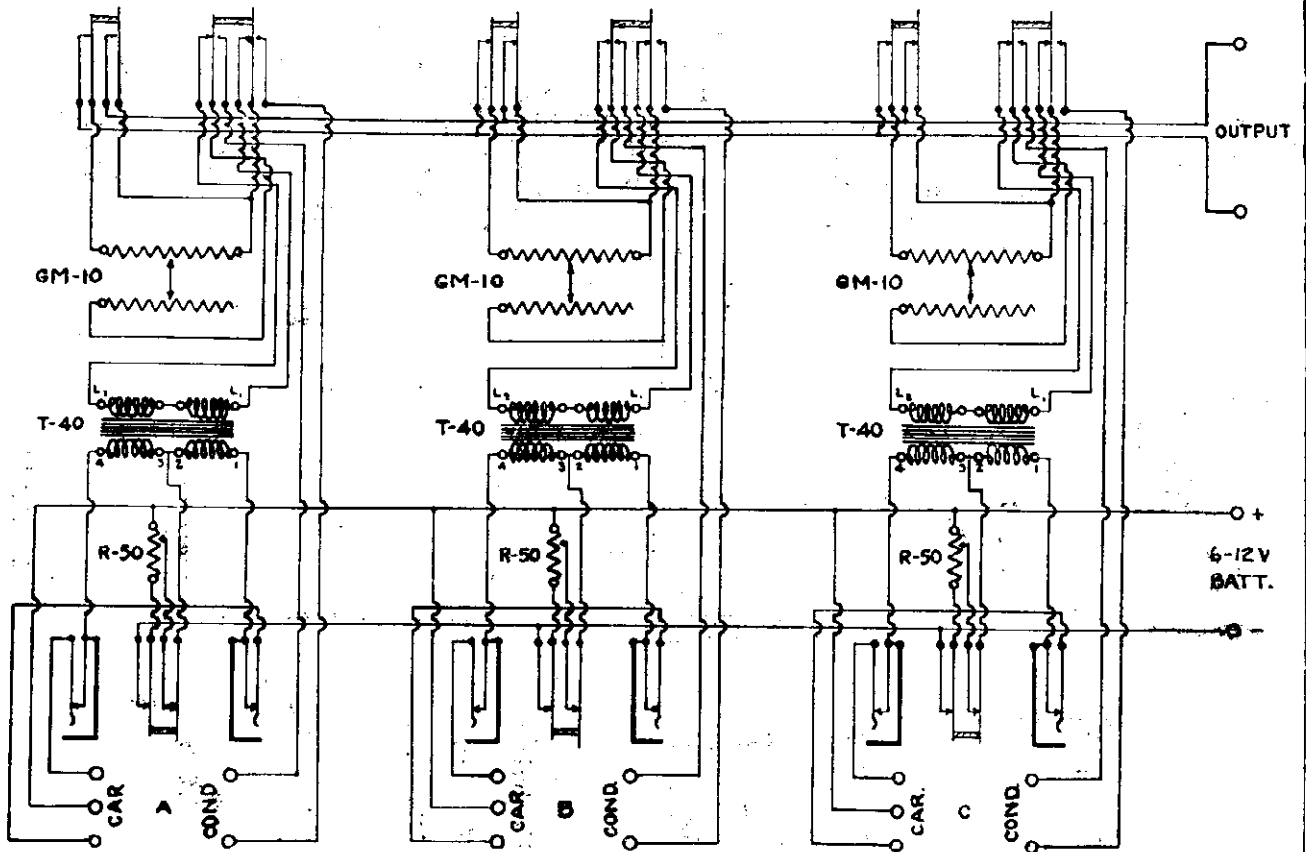


**Models 135, 395, 445, 470. (1927)**

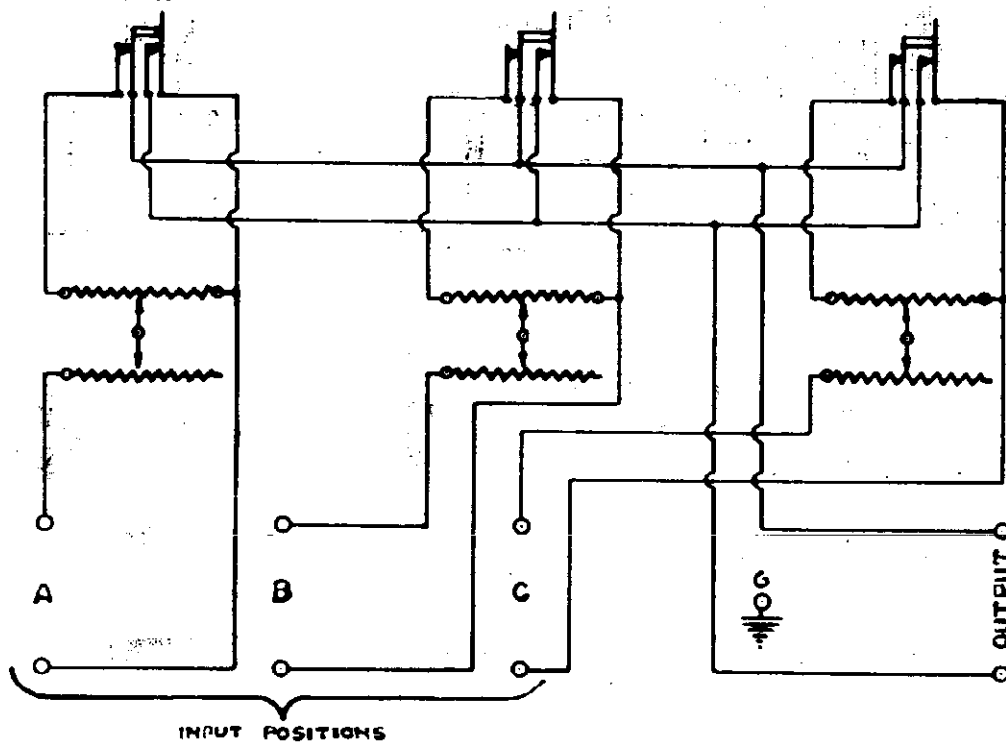


PILOT 5.0 V		
DET ○ '87	1 AF ○ '26	2 AF ○ '10
RF ○ '86	RF ○ '88	RF ○ '26

J. E. JENKINS AND S. E. ADAIR

MODEL 3B Mixing Panel  
MODEL 3C Mixing Panel

Schematic of: 3B MIXING PANEL



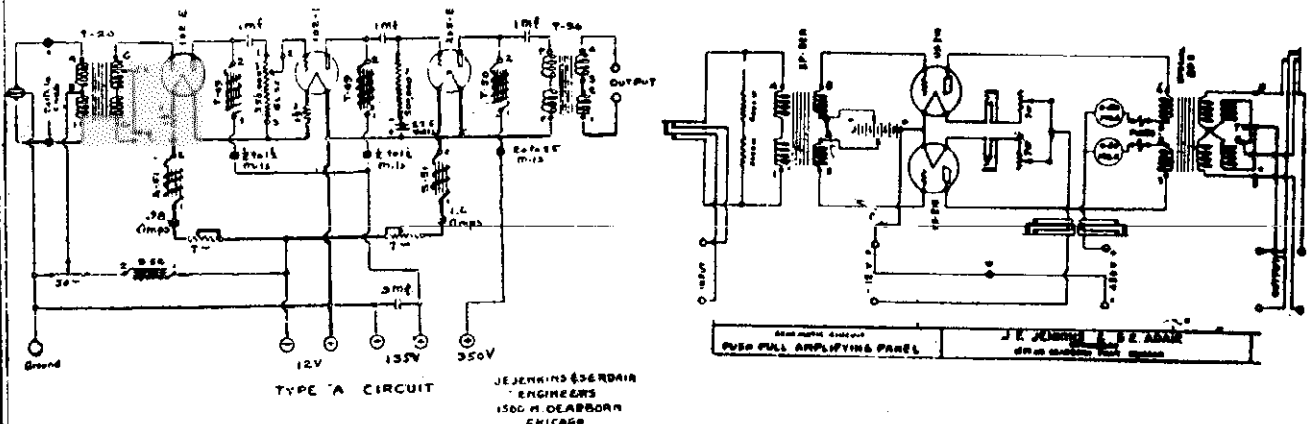
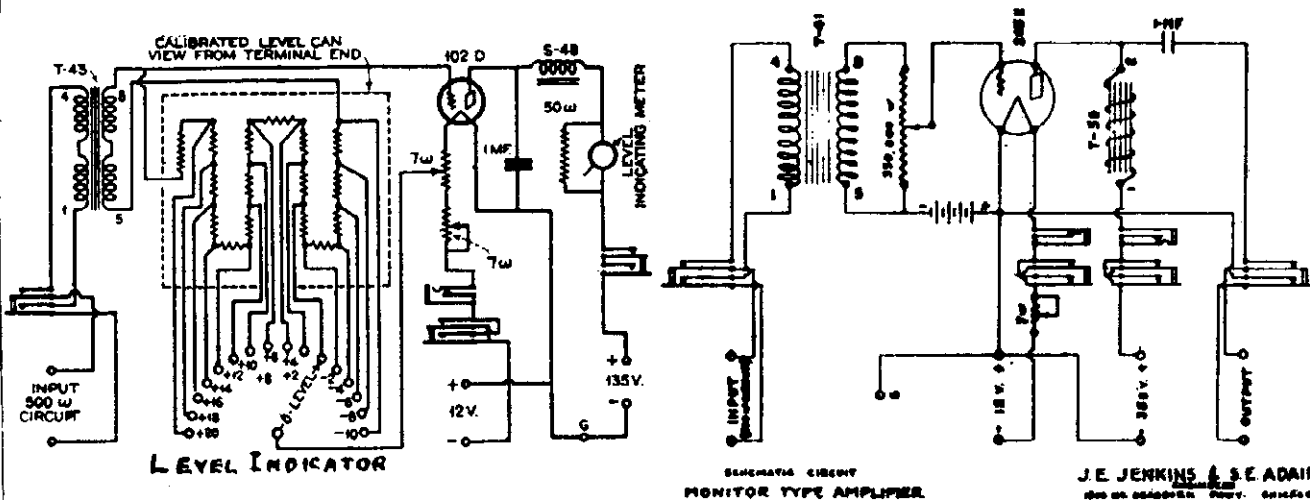
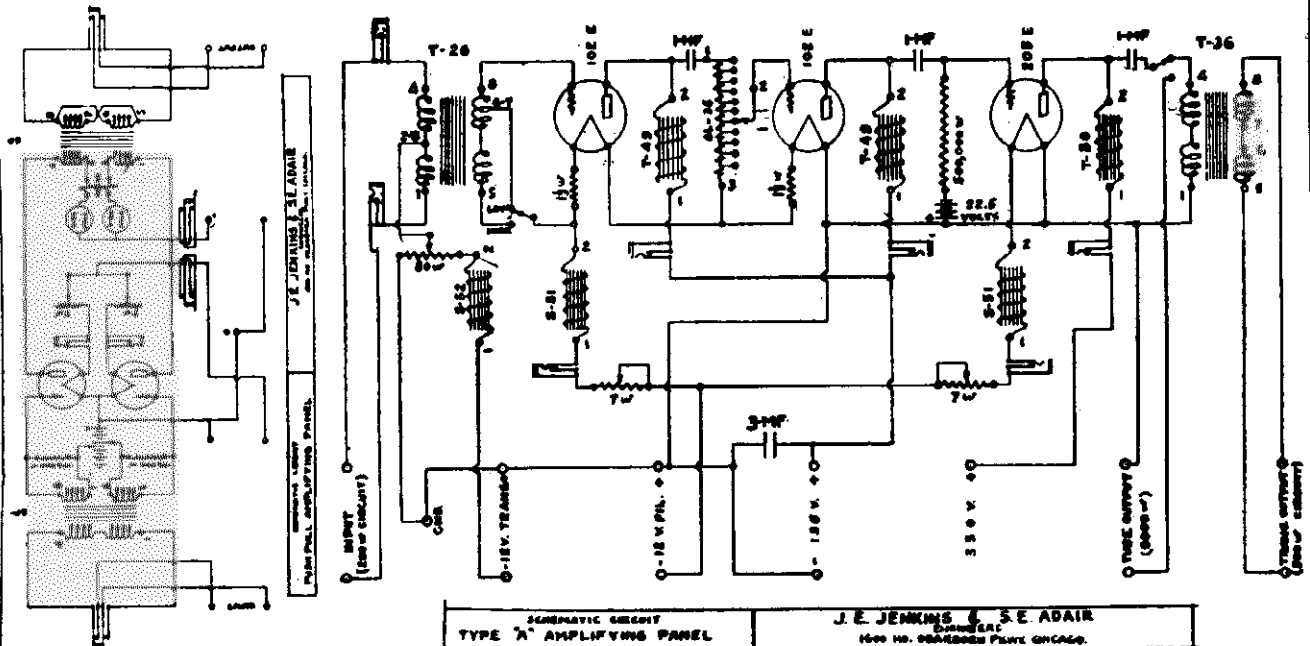
INPUT POSITIONS

SCHEMATIC CIRCUIT  
3-C MIXING PANELJ. E. JENKINS & S. E. ADAIR  
ENGINEERS  
1500 NO. DEARBORN AVE. CHICAGO



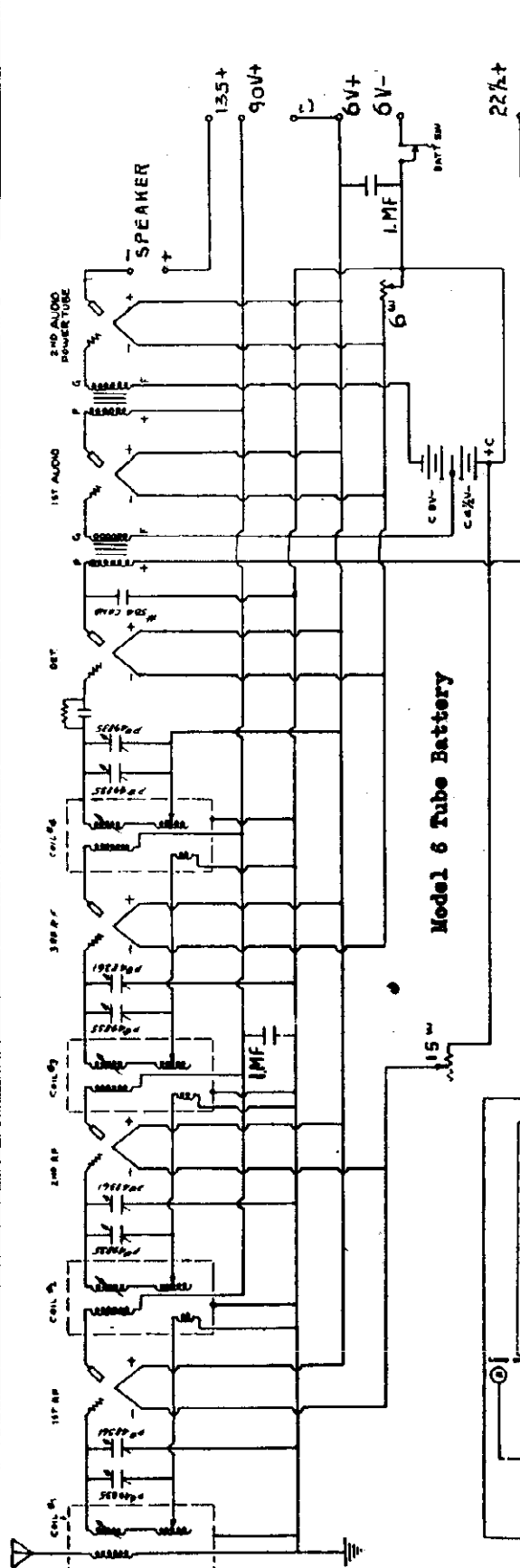
MODEL A Two Types  
MODEL PushPull Amp.  
MODEL Monitor Amp.  
MODEL Level Indicator

J. E. JENKINS AND S. E. ADAIR

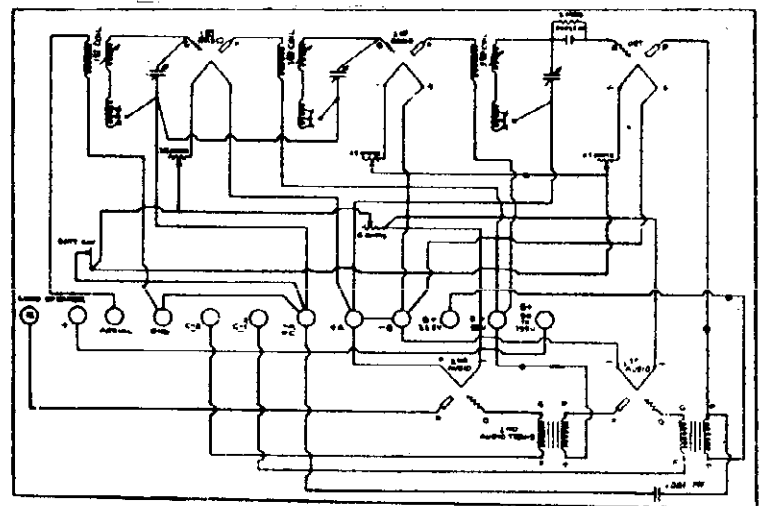


KELLOGG SWITCHBOARD & SUPPLY CO.

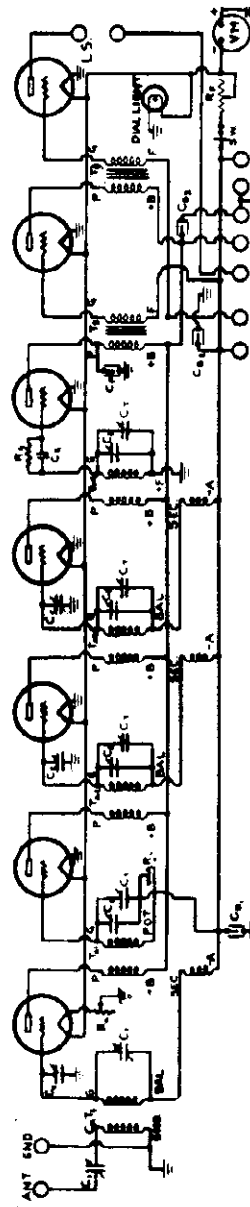
MODEL 6 Tube Battery  
MODEL 7 Tube Cascade  
MODEL Wave Master



Model 6 Tube Battery



Model Wave Master

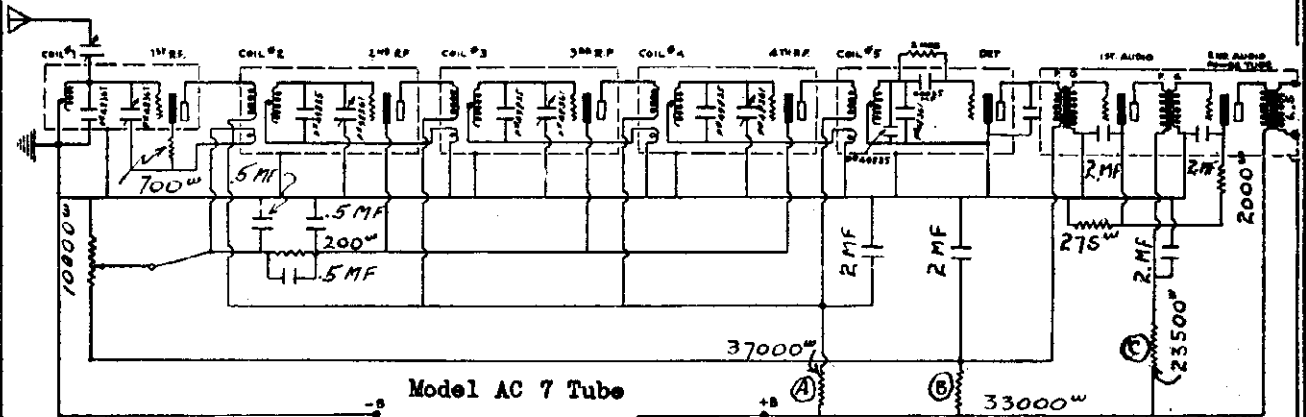


- C<sub>1</sub> ANTENNA EQUALIZER 0.0027 MF
- C<sub>2</sub> TUNING ALIGNMENT CONDENSER
- C<sub>3</sub> BYPASS CONDENSER 1 MF
- C<sub>4</sub> BALANCING CONDENSER 0.0006 MF
- C<sub>5</sub> GRID CONDENSER 0.0025 MF
- C<sub>6</sub> BYPASS CONDENSER 0.01 MF
- C<sub>7</sub> GANG CONDENSER 0.005 MF UNITS [STATION SELECTOR]
- L DIAL LIGHT
- R ROTOR PLATES OF VARIABLE CONDENSER
- R<sub>1</sub> FILAMENT RHEOSTAT 4 OHMS
- R<sub>2</sub> GRID LEAK 21 MEG OHMS
- R<sub>3</sub> NON-INDUCTIVE WIRE RESISTANCE 200 OHMS
- R<sub>4</sub> RHEOSTAT 20 OHMS
- S STATIONARY PLATES OF VARIABLE CONDENSER
- SW FILAMENT SWITCH
- T<sub>1</sub> RADIO FREQUENCY TRANSFORMER
- T<sub>2</sub> INPUT TRANSFORMER
- T<sub>3</sub> KELLOGG AUDIO TRANSFORMER
- VM FILAMENT VOLTMETER
- ⊕ GROUND TO SHIELD

Model 7 Tube Cascade

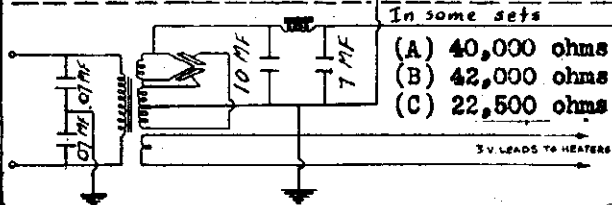
MODEL RFL 701  
MODEL AC 7 Tube  
MODEL Chassis B

# KELLOGG SWITCHBOARD & SUPPLY CO.



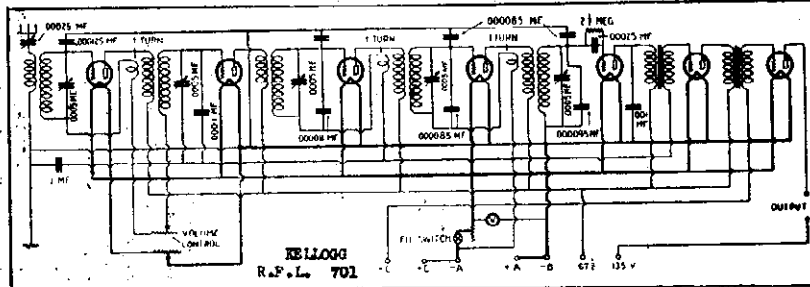
Model AC 7 Tube

KELLOGG—7 Tube "A" Chassis  
Line Voltage 115—Volume Control Full

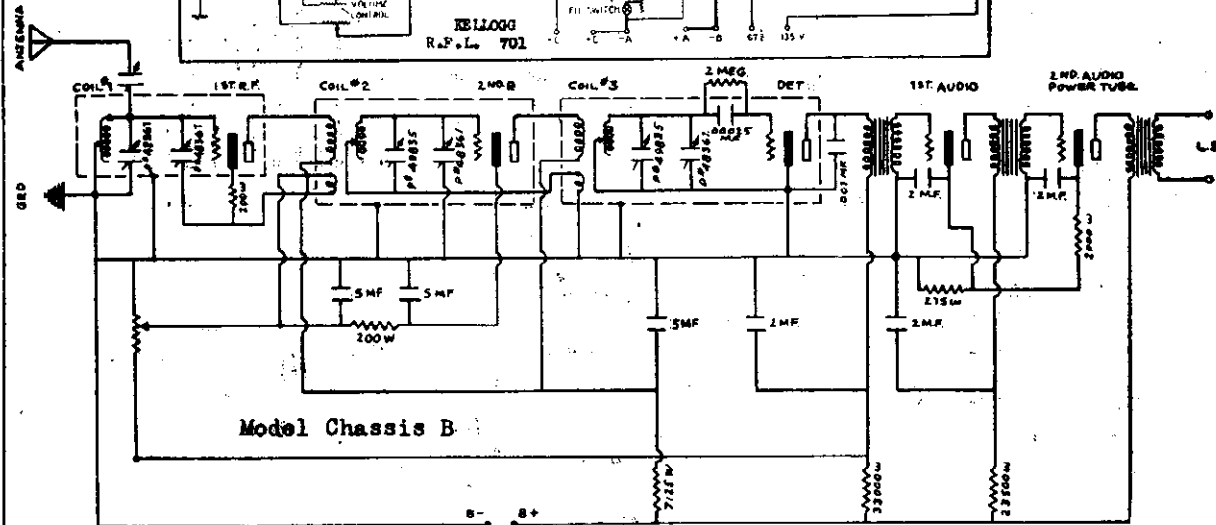


- (A) 40,000 ohms
- (B) 42,000 ohms
- (C) 22,500 ohms

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST R.F., DET., ETC.)	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE R.A. TEST	PLATE R.A. CHANGES	PLATE R.A. CHANGES	PLATE R.A. CHANGES
1	401	1st. R.F.	2.75	115	2.75	108	4.2	—	6.0	10.5	4.3	—
2	401	2nd. R.F.	2.75	115	2.75	108	4.2	—	6.0	10.5	4.3	—
3	401	3rd. R.F.	2.75	115	2.75	108	4.2	—	6.0	10.5	4.3	—
4	401	4th. R.F.	2.75	115	2.75	108	4.2	—	6.0	10.5	4.3	—
5	401	Detector	2.75	28	2.75	23	0.0	—	1.4	1.5	—	—
6	401	1st. A.F.	2.75	115	2.75	108	5.0	—	6.0	10.5	4.3	—
7	405	2nd. A.F.	2.75	165	2.75	155	55.9	—	15.2	15.2	2.0	—
8	280	Rectifier	—	—	4.8	—	—	—	22.0	—	—	—

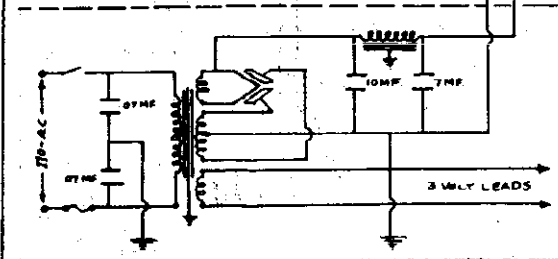


Model RFL 701



Model Chassis B

KELLOGG—5 Tube "B" Chassis  
Line Voltage 115—Volume Control Full



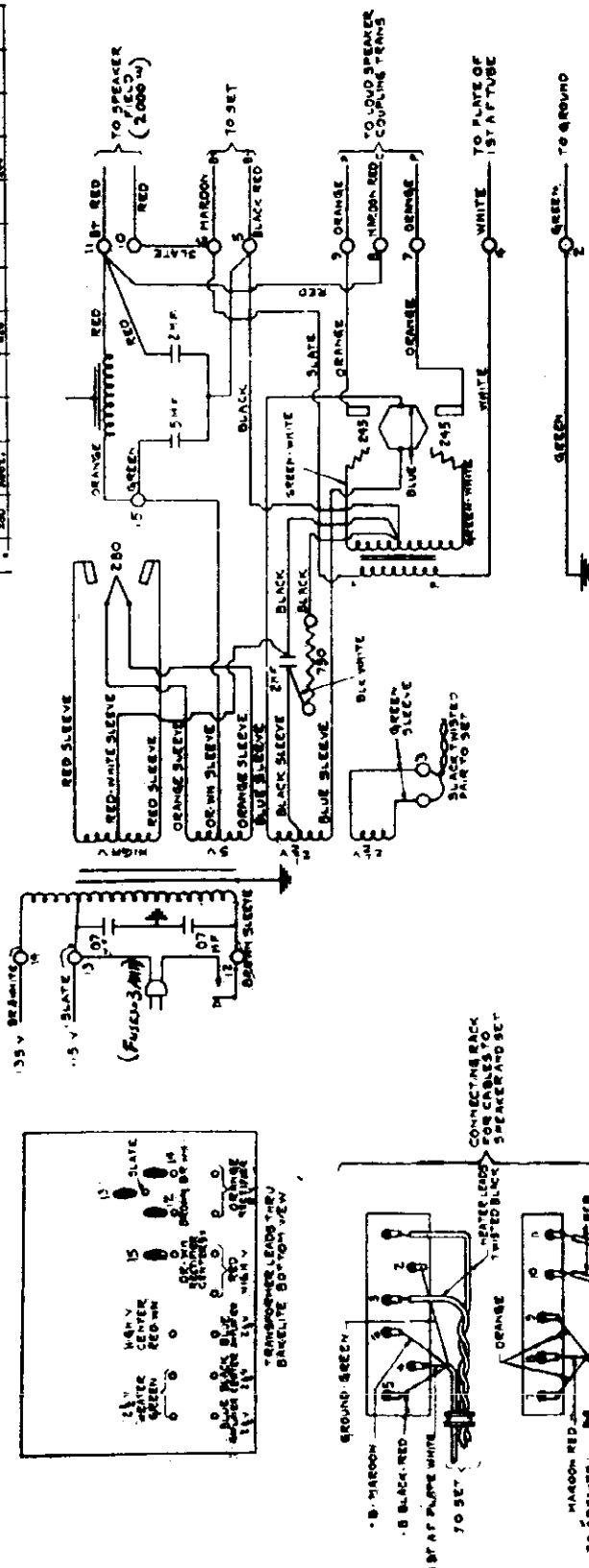
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST R.F., DET., ETC.)	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE R.A. TEST	PLATE R.A. CHANGES	PLATE R.A. CHANGES	PLATE R.A. CHANGES
1	401	1st. R.F.	2.75	113	2.75	105	5.1	—	6.0	9.5	3.5	—
2	401	2nd. R.F.	2.75	113	2.75	105	4.2	—	6.0	9.5	3.5	—
3	401	Detector	2.75	28	2.75	25	0.0	—	1.4	1.5	—	—
4	401	1st. A.F.	2.75	115	2.75	105	4.2	—	6.0	9.5	3.5	—
5	405	2nd. A.F.	2.75	113	2.75	105	4.8	—	4.3	6.0	1.7	—
6	280	Rectifier	—	—	4.60	—	—	—	20.0	—	—	—



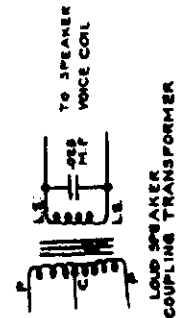
**KELLOGG—Model 526-25 Cycle**  
Line Voltage 112—Volume Control Position Full On  
eVolume Control Tube

# POWER UNIT CIRCUIT 245 TYPE

**FOR SETS 523, 526**



**KELLOGG—Model 523-60 Cycle**  
Line Voltage 112—Volume Control Position Full On  
\*Volume Control Tube

[illegible]

C-303 ☐ 3M  
A.F.

C-304 ☐ 3M  
A.F.

C-305 ☐ 3M  
A.F.

C-306 ☐ 3M  
A.F.

C-307 ☐ 3M  
A.F.

C-308 ☐ 3M  
A.F.

C-309 ☐ 3M  
A.F.

C-310 ☐ 3M  
A.F.

C-311 ☐ 3M  
A.F.

C-312 ☐ 3M  
A.F.

C-313 ☐ 3M  
A.F.

C-314 ☐ 3M  
A.F.

C-315 ☐ 3M  
A.F.

C-316 ☐ 3M  
A.F.

C-317 ☐ 3M  
A.F.

C-318 ☐ 3M  
A.F.

C-319 ☐ 3M  
A.F.

C-320 ☐ 3M  
A.F.

C-321 ☐ 3M  
A.F.

C-322 ☐ 3M  
A.F.

C-323 ☐ 3M  
A.F.

C-324 ☐ 3M  
A.F.

C-325 ☐ 3M  
A.F.

C-326 ☐ 3M  
A.F.

C-327 ☐ 3M  
A.F.

C-328 ☐ 3M  
A.F.

C-329 ☐ 3M  
A.F.

C-330 ☐ 3M  
A.F.

C-331 ☐ 3M  
A.F.

C-332 ☐ 3M  
A.F.

C-333 ☐ 3M  
A.F.

C-334 ☐ 3M  
A.F.

C-335 ☐ 3M  
A.F.

C-336 ☐ 3M  
A.F.

C-337 ☐ 3M  
A.F.

C-338 ☐ 3M  
A.F.

C-339 ☐ 3M  
A.F.

C-340 ☐ 3M  
A.F.

C-341 ☐ 3M  
A.F.

C-342 ☐ 3M  
A.F.

C-343 ☐ 3M  
A.F.

C-344 ☐ 3M  
A.F.

C-345 ☐ 3M  
A.F.

C-346 ☐ 3M  
A.F.

C-347 ☐ 3M  
A.F.

C-348 ☐ 3M  
A.F.

C-349 ☐ 3M  
A.F.

C-350 ☐ 3M  
A.F.

C-351 ☐ 3M  
A.F.

C-352 ☐ 3M  
A.F.

C-353 ☐ 3M  
A.F.

C-354 ☐ 3M  
A.F.

C-355 ☐ 3M  
A.F.

C-356 ☐ 3M  
A.F.

C-357 ☐ 3M  
A.F.

C-358 ☐ 3M  
A.F.

C-359 ☐ 3M  
A.F.

C-360 ☐ 3M  
A.F.

C-361 ☐ 3M  
A.F.

C-362 ☐ 3M  
A.F.

C-363 ☐ 3M  
A.F.

C-364 ☐ 3M  
A.F.

C-365 ☐ 3M  
A.F.

C-366 ☐ 3M  
A.F.

C-367 ☐ 3M  
A.F.

C-368 ☐ 3M  
A.F.

C-369 ☐ 3M  
A.F.

C-370 ☐ 3M  
A.F.

C-371 ☐ 3M  
A.F.

C-372 ☐ 3M  
A.F.

C-373 ☐ 3M  
A.F.

C-374 ☐ 3M  
A.F.

C-375 ☐ 3M  
A.F.

C-376 ☐ 3M  
A.F.

C-377 ☐ 3M  
A.F.

C-378 ☐ 3M  
A.F.

C-379 ☐ 3M  
A.F.

C-380 ☐ 3M  
A.F.

C-381 ☐ 3M  
A.F.

C-382 ☐ 3M  
A.F.

C-383 ☐ 3M  
A.F.

C-384 ☐ 3M  
A.F.

C-385 ☐ 3M  
A.F.

C-386 ☐ 3M  
A.F.

C-387 ☐ 3M  
A.F.

C-388 ☐ 3M  
A.F.

C-389 ☐ 3M  
A.F.

C-390 ☐ 3M  
A.F.

C-391 ☐ 3M  
A.F.

C-392 ☐ 3M  
A.F.

C-393 ☐ 3M  
A.F.

C-394 ☐ 3M  
A.F.

C-395 ☐ 3M  
A.F.

C-396 ☐ 3M  
A.F.

C-397 ☐ 3M  
A.F.

C-398 ☐ 3M  
A.F.

C-399 ☐ 3M  
A.F.

C-400 ☐ 3M  
A.F.

C-401 ☐ 3M  
A.F.

C-402 ☐ 3M  
A.F.

C-403 ☐ 3M  
A.F.

C-404 ☐ 3M  
A.F.

C-405 ☐ 3M  
A.F.

C-406 ☐ 3M  
A.F.

C-407 ☐ 3M  
A.F.

C-408 ☐ 3M  
A.F.

C-409 ☐ 3M  
A.F.

C-410 ☐ 3M  
A.F.

C-411 ☐ 3M  
A.F.

C-412 ☐ 3M  
A.F.

C-413 ☐ 3M  
A.F.

C-414 ☐ 3M  
A.F.

C-415 ☐ 3M  
A.F.

C-416 ☐ 3M  
A.F.

C-417 ☐ 3M  
A.F.

C-418 ☐ 3M  
A.F.

C-419 ☐ 3M  
A.F.

C-420 ☐ 3M  
A.F.

C-421 ☐ 3M  
A.F.

C-422 ☐ 3M  
A.F.

C-423 ☐ 3M  
A.F.

C-424 ☐ 3M  
A.F.

C-425 ☐ 3M  
A.F.

C-426 ☐ 3M  
A.F.

C-427 ☐ 3M  
A.F.

C-428 ☐ 3M  
A.F.

C-429 ☐ 3M  
A.F.

C-430 ☐ 3M  
A.F.

C-431 ☐ 3M  
A.F.

C-432 ☐ 3M  
A.F.

C-433 ☐ 3M  
A.F.

C-434 ☐ 3M  
A.F.

C-435 ☐ 3M  
A.F.

C-436 ☐ 3M  
A.F.

C-437 ☐ 3M  
A.F.

C-438 ☐ 3M  
A.F.

C-439 ☐ 3M  
A.F.

C-440 ☐ 3M  
A.F.

C-441 ☐ 3M  
A.F.

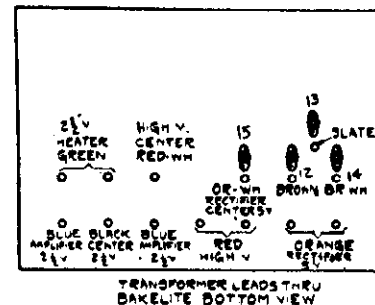
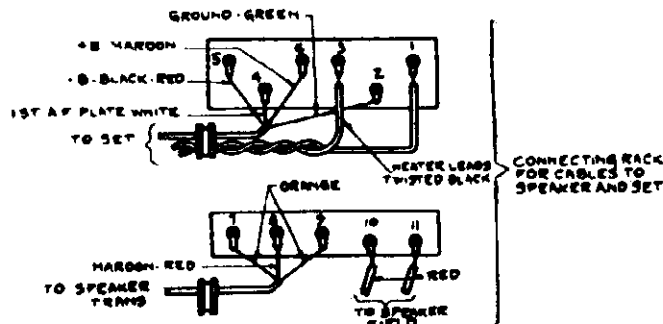
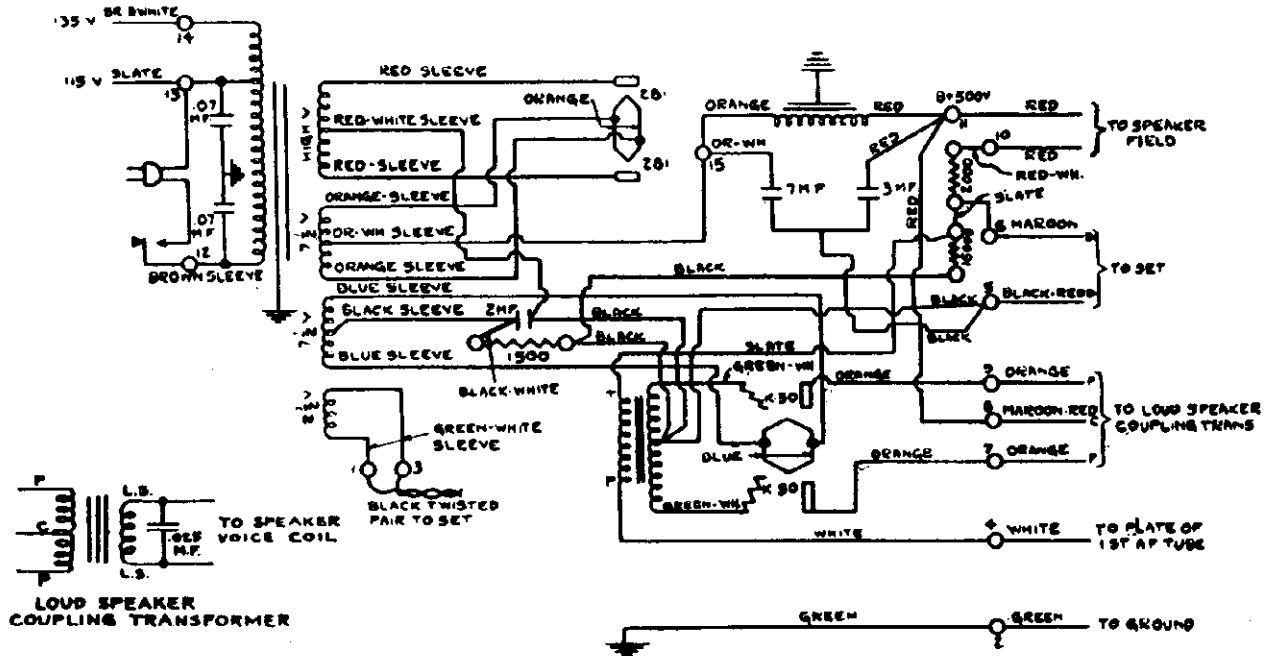
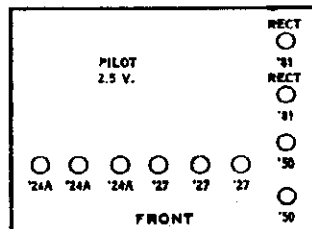
C-442 ☐ 3M  
A.F.

C-443 ☐ 3M  
A.F.

C-4

**KELLOGG SWITCHBOARD & SUPPLY CO.**

**MODEL 524,525,  
527,528  
Power Unit  
Schematic**

**Models 524, 525, 527, 528**

## POWER UNIT CIRCUIT K-50 TYPE

**FOR SETS 524, 525, 527, 528**

**KELLOGG—527-528-25 Cycle**  
**Line Voltage 112—\*Volume Control Tube**

**KELLOGG—524-525-60 Cycle**  
**Line Voltage 112—\*Volume Control Tube**

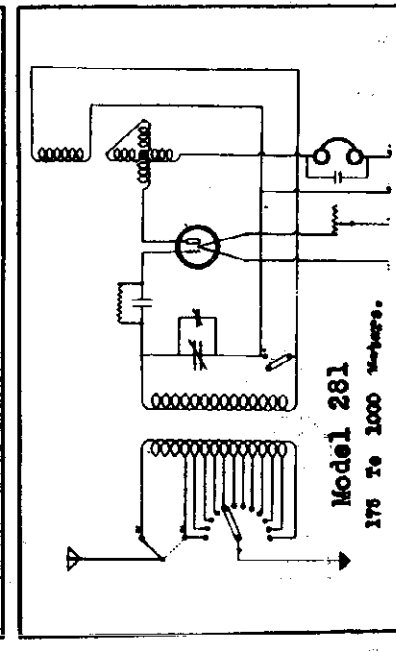
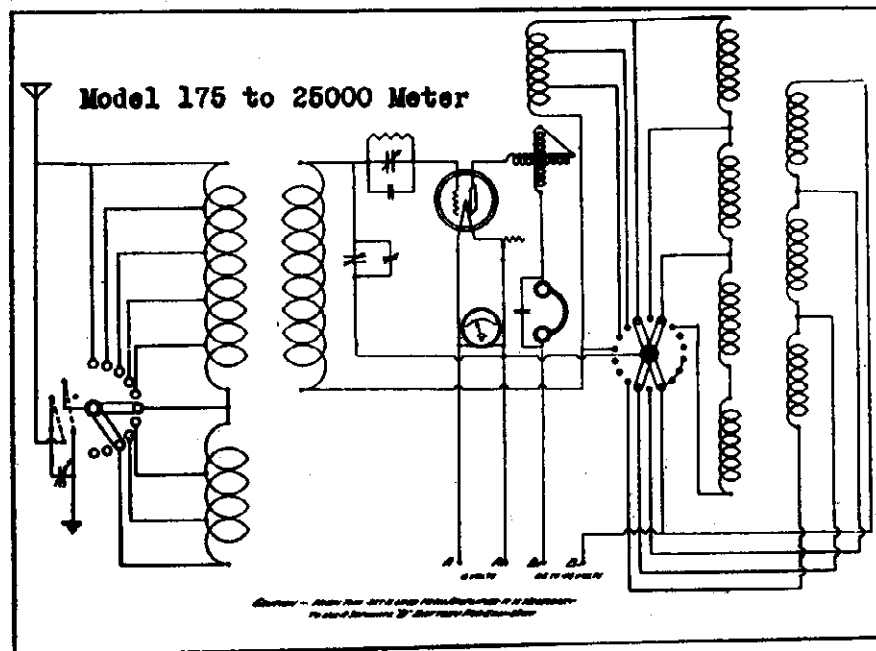
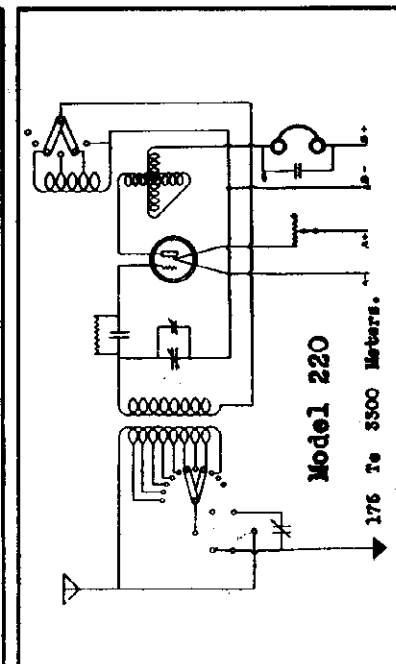
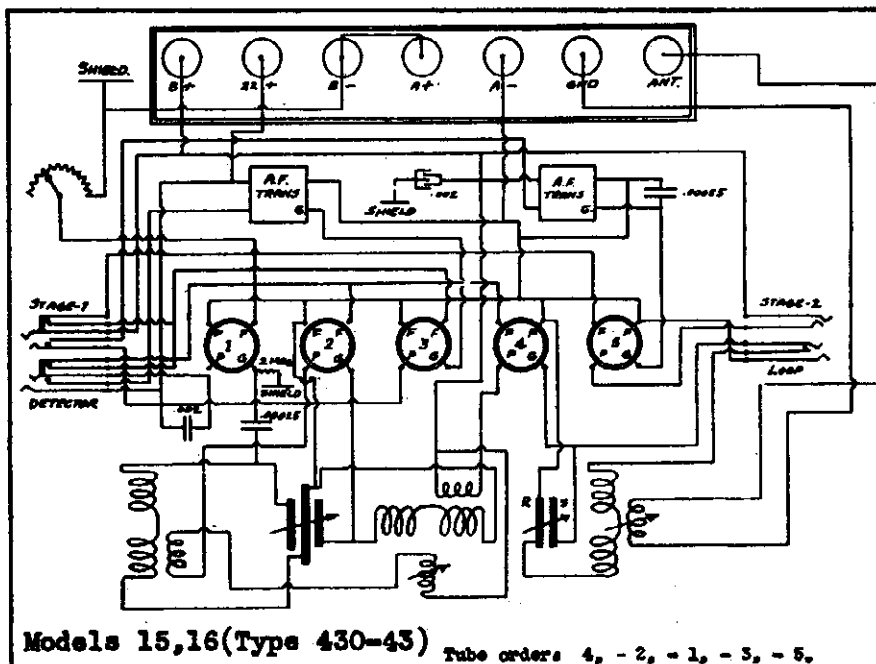
TYPE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RT 2ND LFT	READING, ALUM IN SOCKET OF SET									
			TUBE OUT			TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS CONTROL GRID	CATHODE HEATER VOLTS	NORMAL PLATE VOLTS	PLATE ALA. GRID VOLTS	PLATE CHANGE VOLTS	SCREEN GRID VOLTS
1	224	1st RT	2.4	164	2.25	190	2	2	1.4	1.6	.2	46
1	224	2nd RT	2.4	164	2.25	190	2	2	1.4	1.6	.2	46
1	224	3rd RT	2.4	164	2.25	180	2	2	1.4	1.6	.2	46
1	227	DET.	2.4	300	2.25	180	17	17	1.8	-	-	-
1	327	-	2.4	28	2.25	25	-	45	-	-	-	-
1	227	1st A	2.4	220	2.25	188	10	10	5	-	-	-
1	360	2nd A	7.5	440	7.4	420	86	-	30	-	-	-
1	250	2nd A	7.5	440	7.4	420	86	-	30	-	-	-
1	481	Rect.	7.5	-	7.4	-	-	-	60	-	-	-
1	2A1	Rect.	7.5	-	7.4	-	-	-	60	-	-	-

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1. 1st AF DET. ETC.)	READING: PLUG IN SOCKET OF SET									
			TUBE OUT				TUBE IN TESTER					
			1 VOLTS	2 VOLTS	3 VOLTS	4 VOLTS	5 VOLTS CONTROL & 6-2-1	6 CATHODE HEAT- ER	7 NORMAL PLATE	8 PLATE W/AG- ING	9 PLATE CHARGE	10 SCREEN CHARGE
1	284	1st RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
2	284	2nd RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
3	284	3rd RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
4	287	DET.	2.4	200	2.25	180	17	17	1.6	-	-	-
5	287	"	2.4	86	2.25	86	-	45	-	-	-	-
6	287	1st A	2.4	220	2.25	188	10	5	-	-	-	-
7	250	2nd A	7.5	440	7.4	420	66	-	30	-	-	-
8	250	3rd A	7.5	440	7.4	420	66	-	30	-	-	-
9	281	Rect.	7.5	-	7.4	-	-	-	60	-	-	-
10	281	Rect.	7.5	-	7.4	-	-	-	60	-	-	-



COLIN B. KENNEDY CORP.

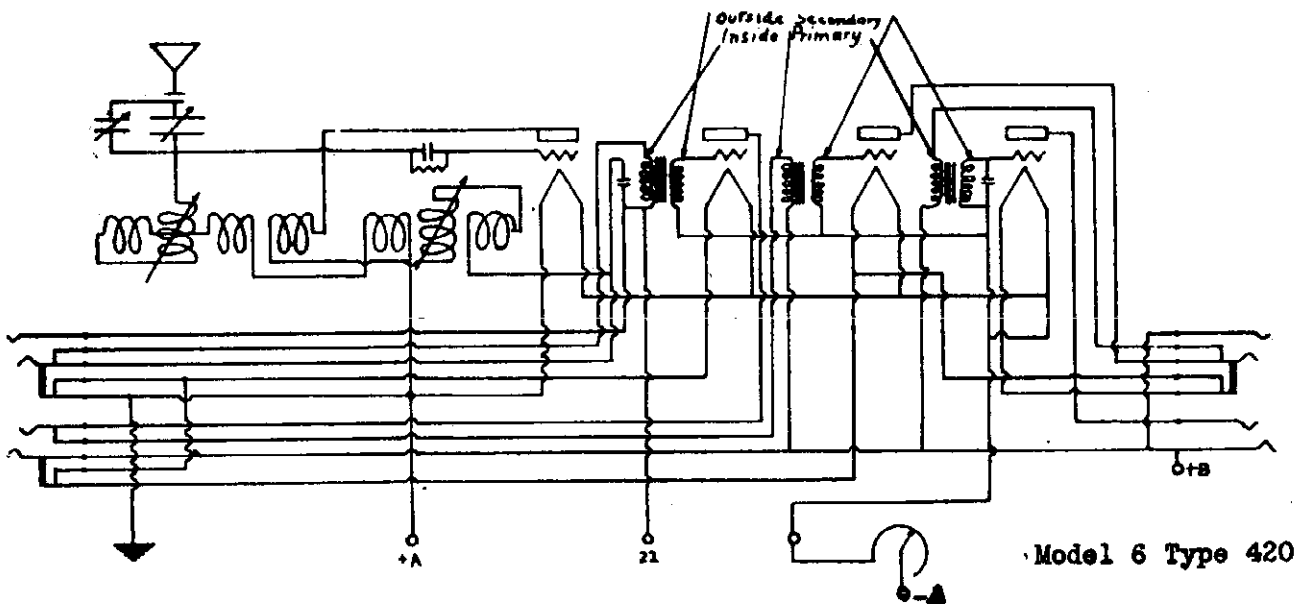
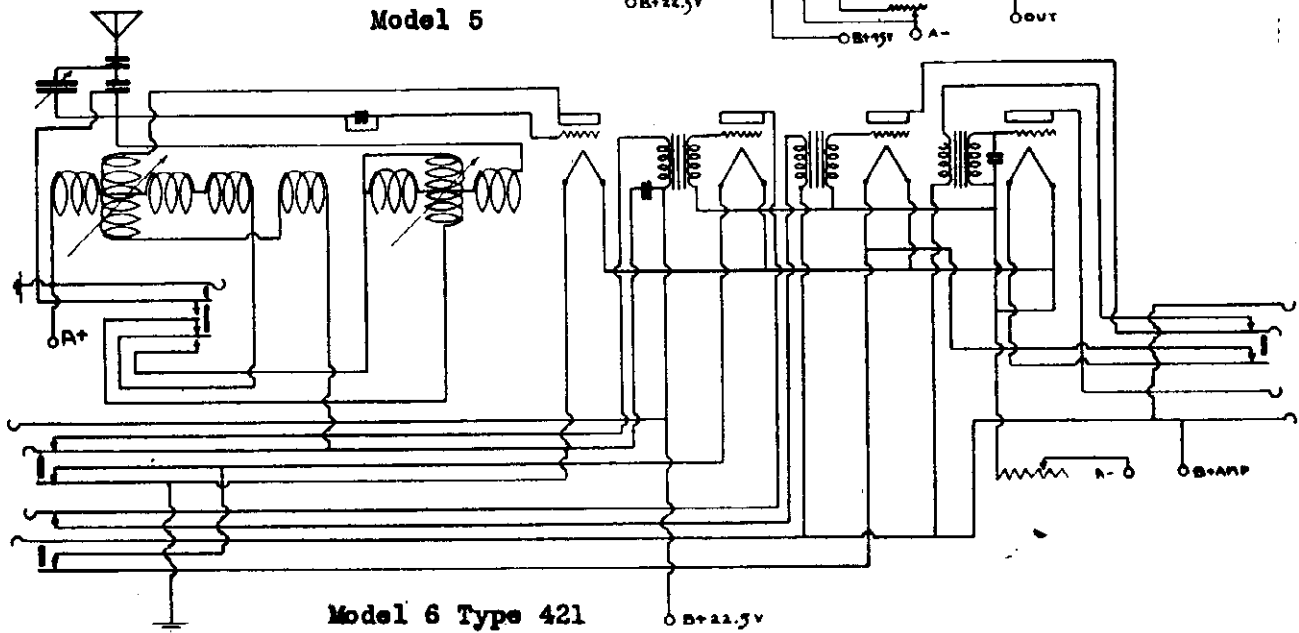
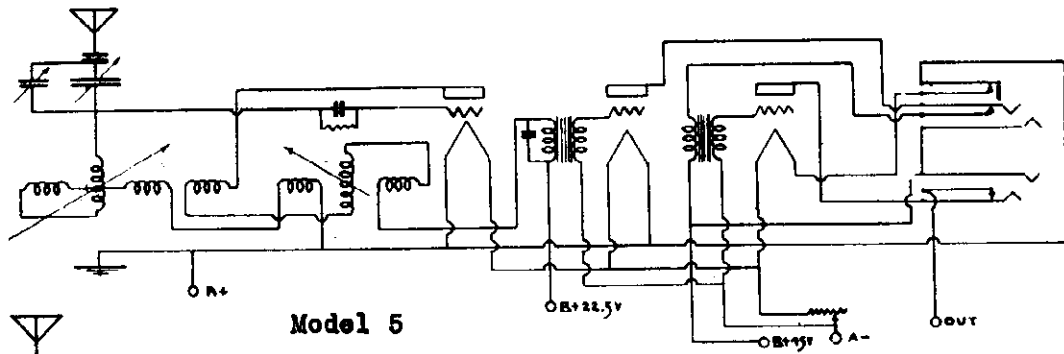
MODEL 220  
MODEL 281  
MODELS 15,16(Type 430-43)  
MODEL 175 to 25000 Meter





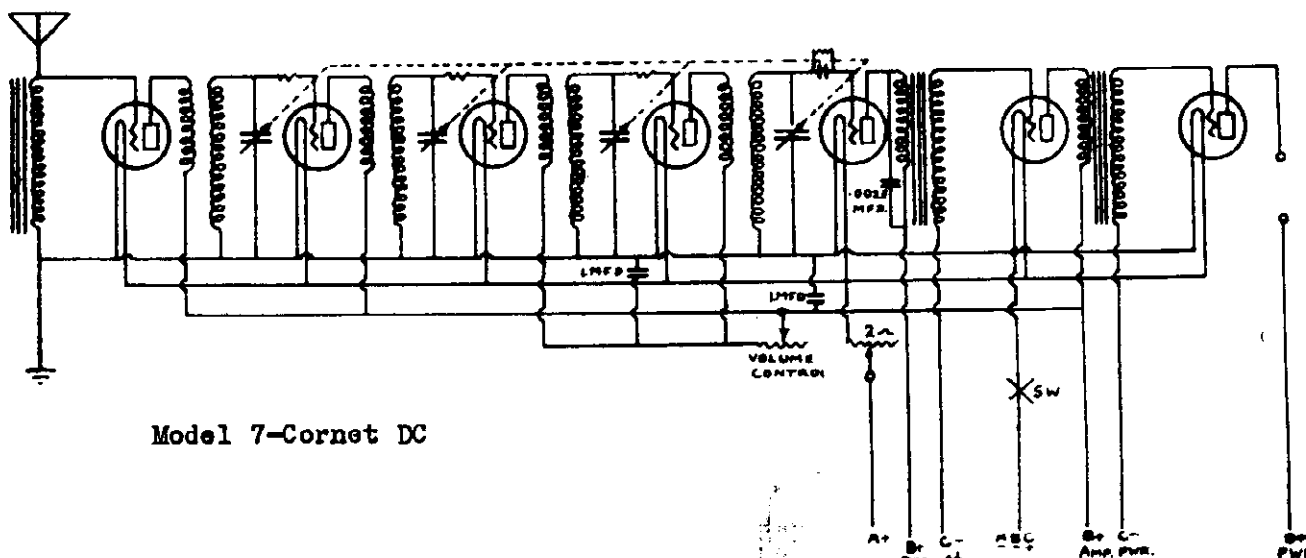
MODEL 5  
MODEL 6 Type 421  
MODEL 6 Type 42C

COLIN B. KENNEDY CORP.

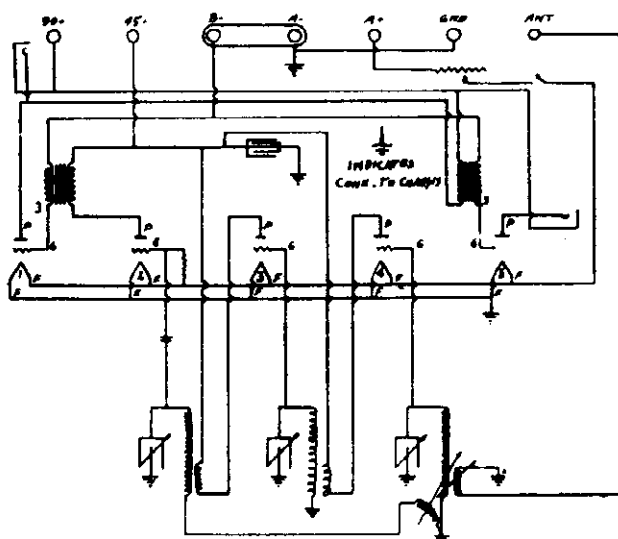


COLIN B. KENNEDY CORP.

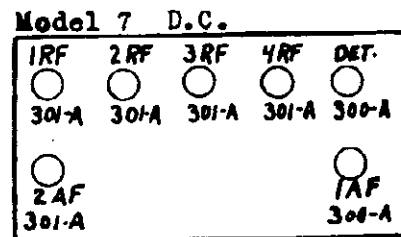
MODEL 7-Cornet DC  
 MODEL 20 Type 440  
 MODEL 30 Type 435



Model 7-Cornet DC



Model 20  
 Type 440  
 Tube Order  
 4,-3,-2,-1,-5.



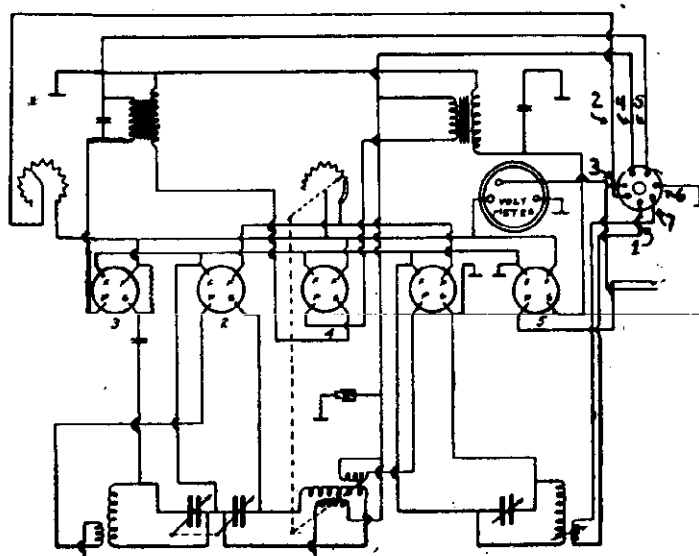
Model 30  
 Type 435

Verify Connections  
 and  
 Cable Colors

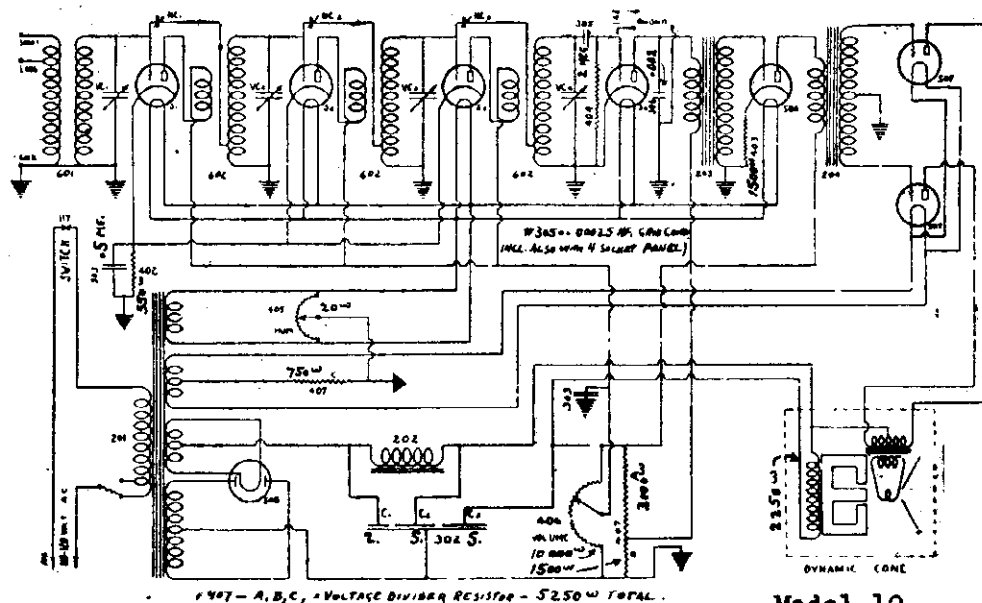
1 Antenna - Green  
 2 - Red  
 3 - Blue  
 4 - Yellow  
 5 - Black  
 6 - Red  
 7 - Green

KENNEDY—Model 30-32  
 Line Voltage 120—Volume Control Full Or

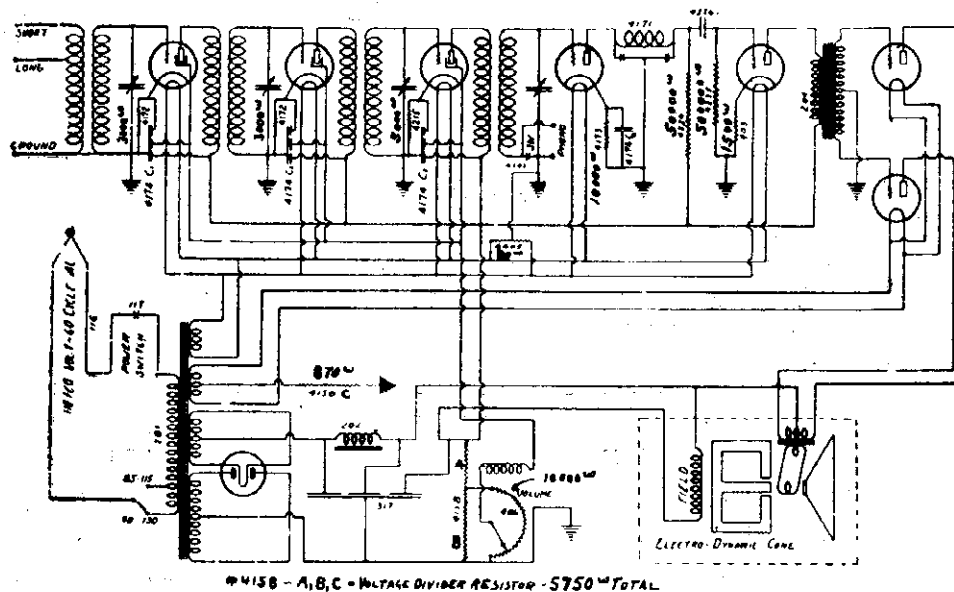
TUBE NO. IN ORDER TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET						
			FLARET ON HEATER	PLATE ON HEATER	CONTROL GRID - SPACE GRID - SCREEN GRID - TAP -	NORMAL GRID - SPACE GRID - SCREEN GRID - TAP -	CATHODE TO HEATER	SCREEN GRID TO HEATER	PLATE TO HEATER
1	224	1 R.F.	2.3	160	3.5	60	-	-	2.2
2	224	2 R.F.	2.3	160	3.5	60	-	-	2.4
3	224	3 R.F.	2.3	160	3.5	60	-	-	2.2
4	227	Det.	2.3	185	-	10	-	-	1.5
5	227	1 A.F.	2.3	185	-	9	-	-	2.4
6	245	PP-AF	2.3	230	-	45	-	-	28
7	245	PP-AF	2.3	230	-	45	-	-	28
8	280	Rect.	4.0	-	-	-	-	45	45



**COLIN B. KENNEDY CORP.)**



### Model 10



Model 20

**KENNEDY—Model 10**  
**Line Voltage 112—Set on 120 Volt Tap**

**KENNEDY—Model 20—Screen Grid  
Line Voltage 112—Set on 120 Volt Tap**

[illegible][illegible]

**20.**

(A.C.)

10

(AC)

CX-388	<input type="radio"/>	Rect.	C-324	<input type="radio"/>	1st R.F.
CX-345	<input type="radio"/>	2nd A.F.	C-324	<input type="radio"/>	2nd R.F.
CX-345	<input type="radio"/>	2nd A.F.	C-324	<input type="radio"/>	3rd R.F.
CX-345	<input type="radio"/>	2nd A.F.	C-327	<input type="radio"/>	Oct.

☐ 1 RF  
☐ C-327

☐ 2 RF  
☐ C-327

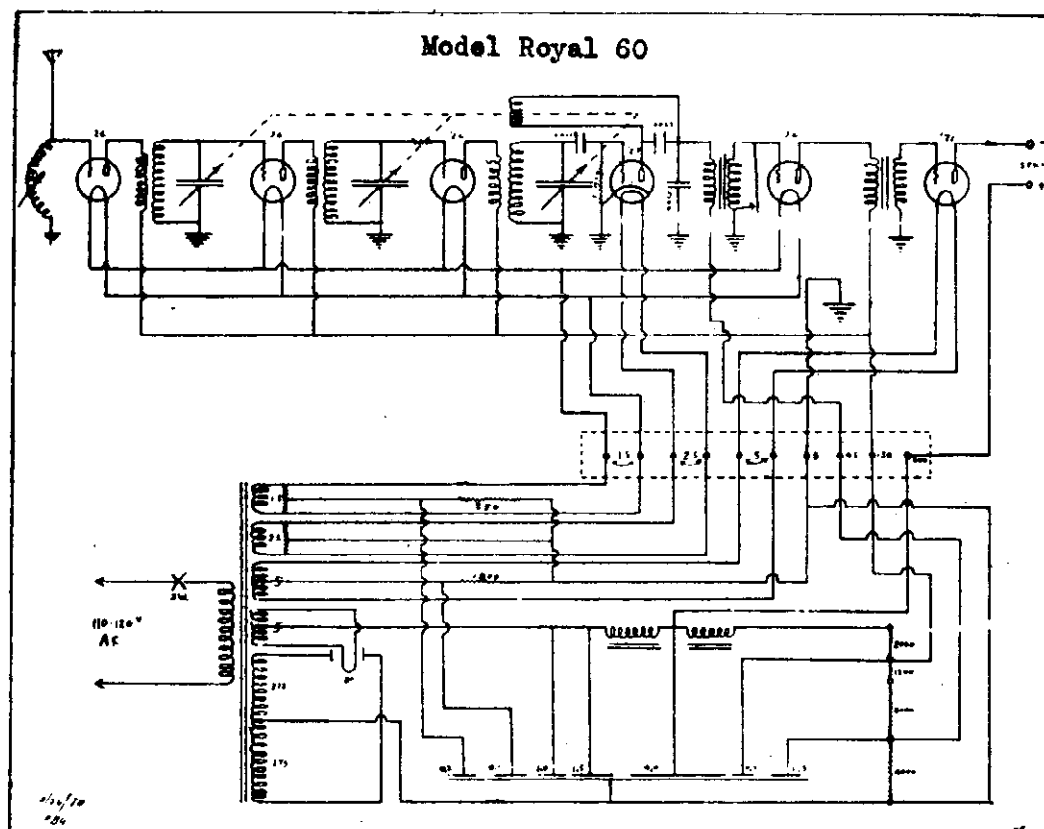
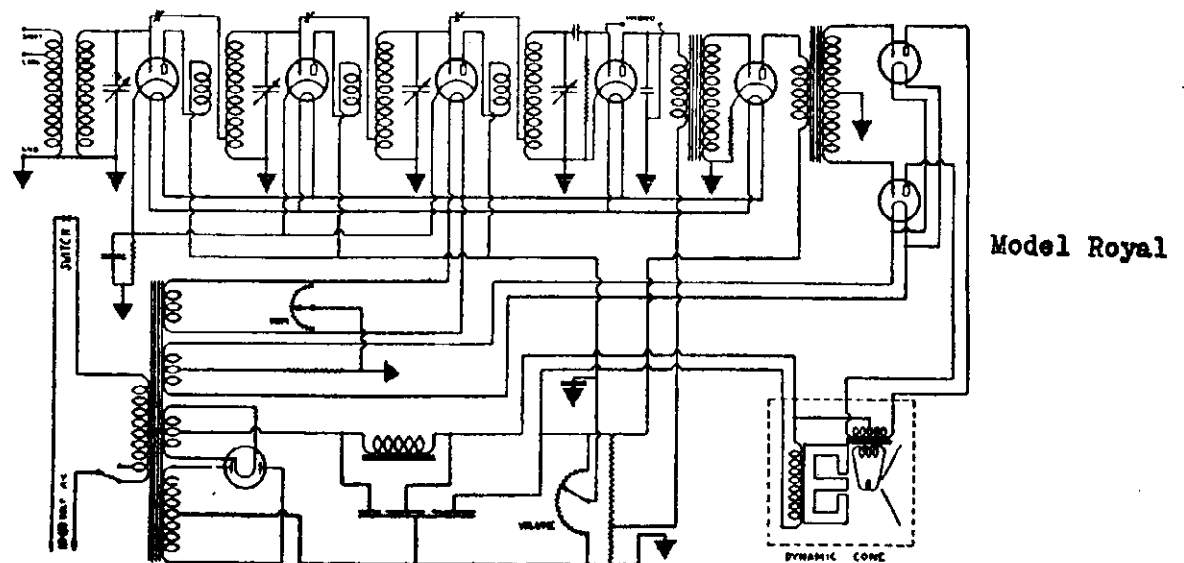
☐ 3 RF  
☐ C-327

☐ DET  
☐ C-327

☐ RECT.  
☐ CX 380

☐ 2 AF  
☐ CX-345

COLIN B. KENNEDY CORP.

MODEL Royal  
MODEL Royal 60

1 RF	DET	2 AF	RECT
26	27	71A	80
2 RF	3 RF	1 AF	
26	26	26	
PILOT 5.0 V			
FRONT			

MODEL 26  
Schematic  
Chassis, Notes

COLIN B. KENNEDY CORP.

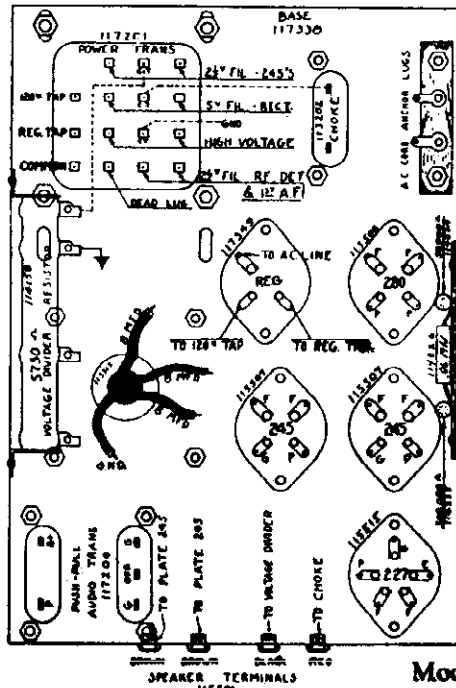
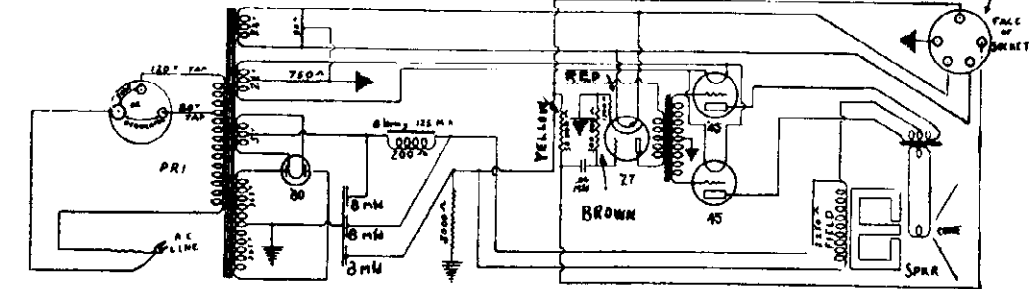
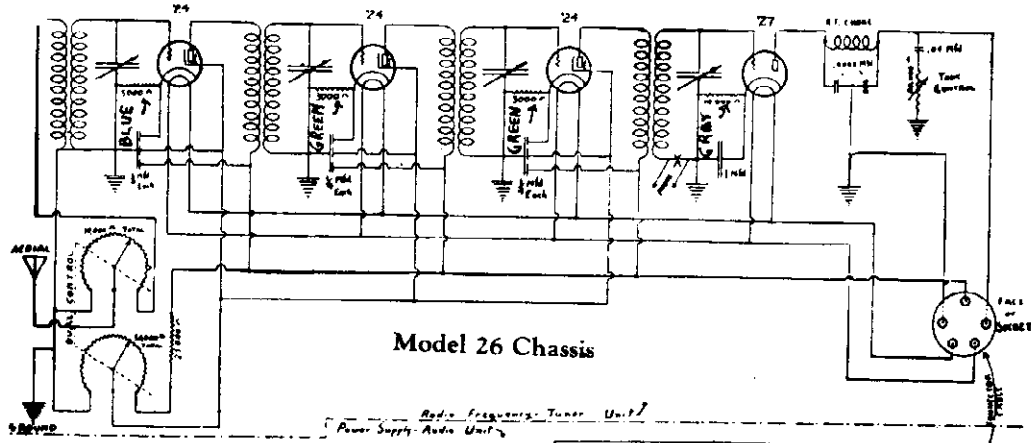
Special Note—Regulator Tubes

The Duracite type 415 line voltage regulator tube has been recommended for Kennedy Model 26 receivers. This tube is unsatisfactory for the model 826-B, however, as the short wave receiver adds to the current draw. The proper Duracite regulator tube for the long wave-short wave chassis only (model 826-B) is type 449.

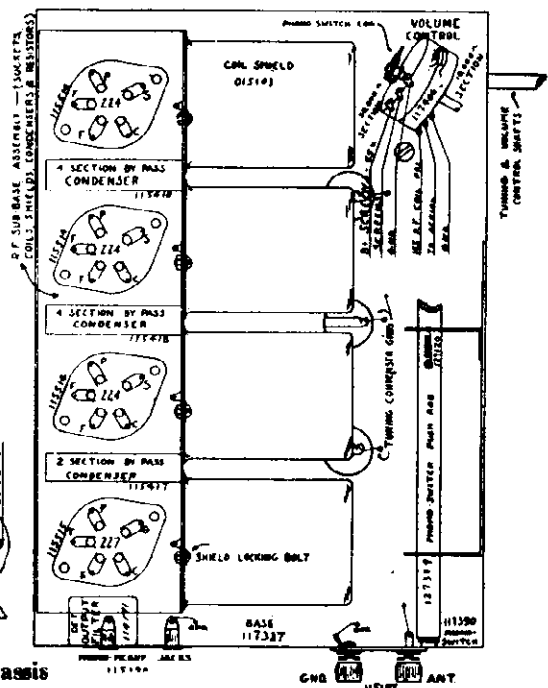
The chassis model 26 is provided with an extra socket for a voltage regulator tube. Receivers are shipped with a plug in this socket which contains a line fuse. The plug automatically connects the line through the fuse, onto the 120 volt primary tap. This transformer tap will provide sufficiently accurate voltages to the set between line voltages of about 108 to 125

The resistance values of the various colored resistors employed are as follows:

Green 3,000 ohms  
Blue 5,000 ohms  
Grey 10,000 ohms  
Yellow 15,000 ohms  
Brown 20,000 ohms  
Red 25,000 ohms



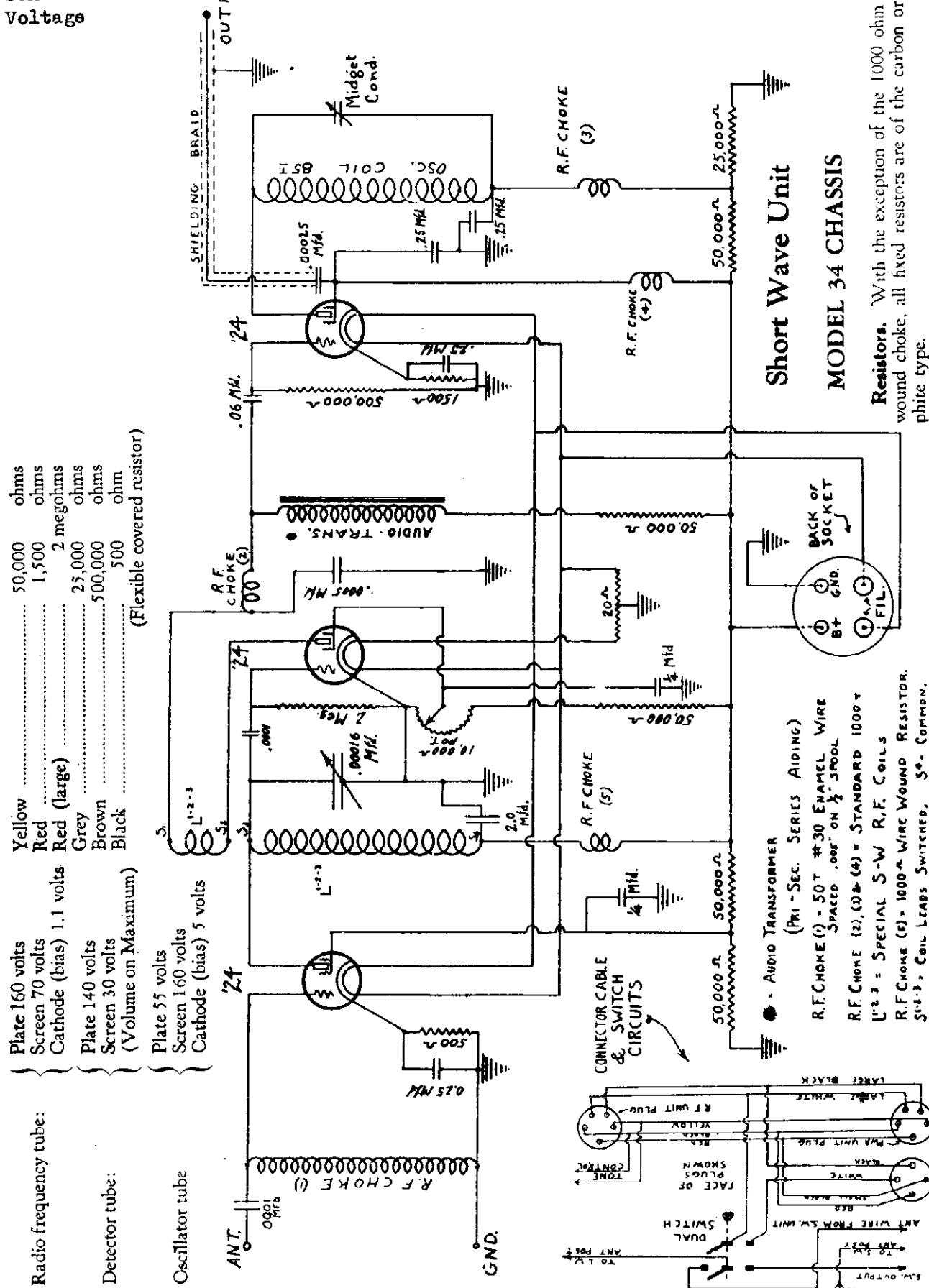
Model 26 Chassis



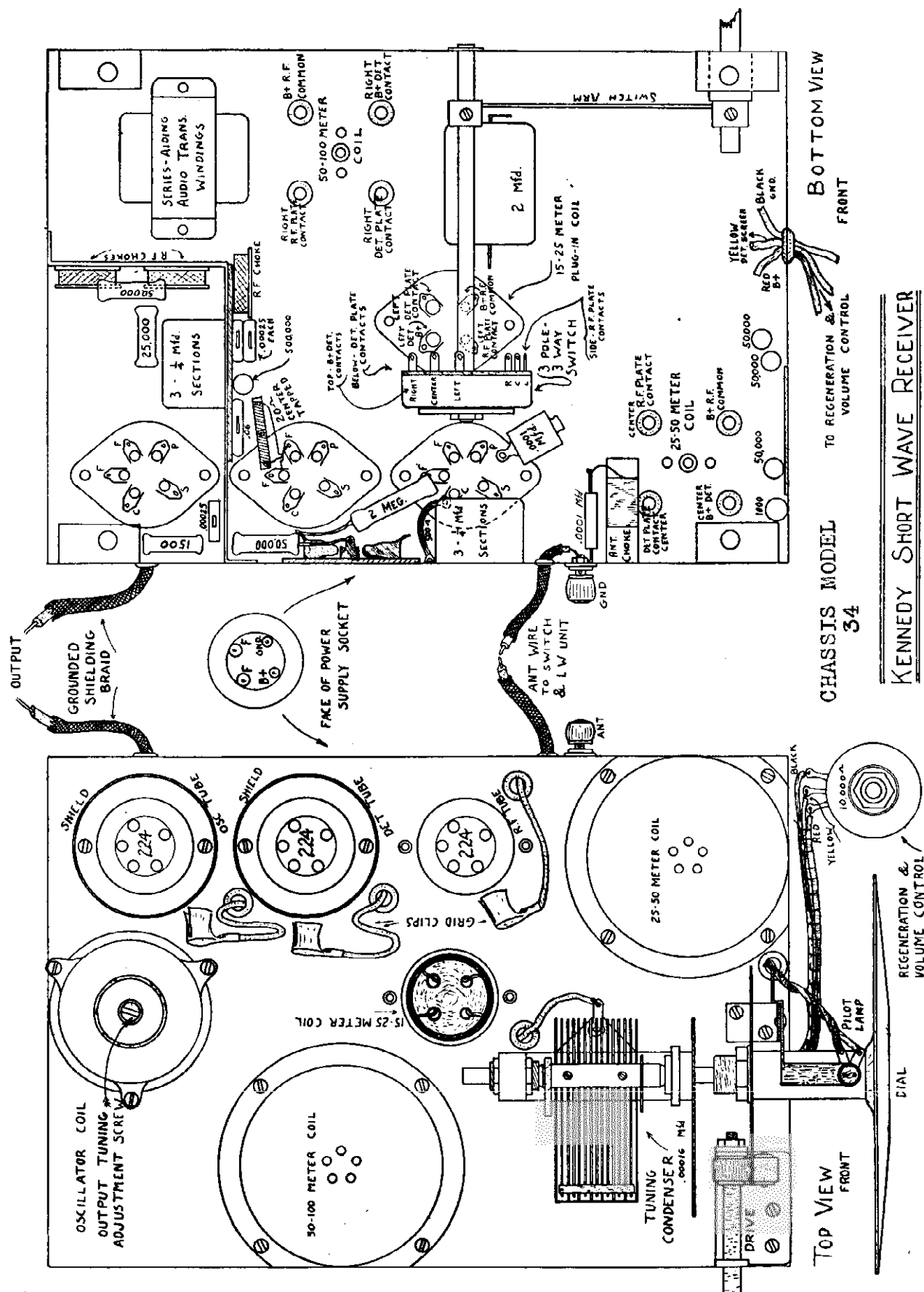


MODEL 34  
Schematic  
Voltage

**COLIN B. KENNEDY CORP.**



COLIN B. KENNEDY CORP.

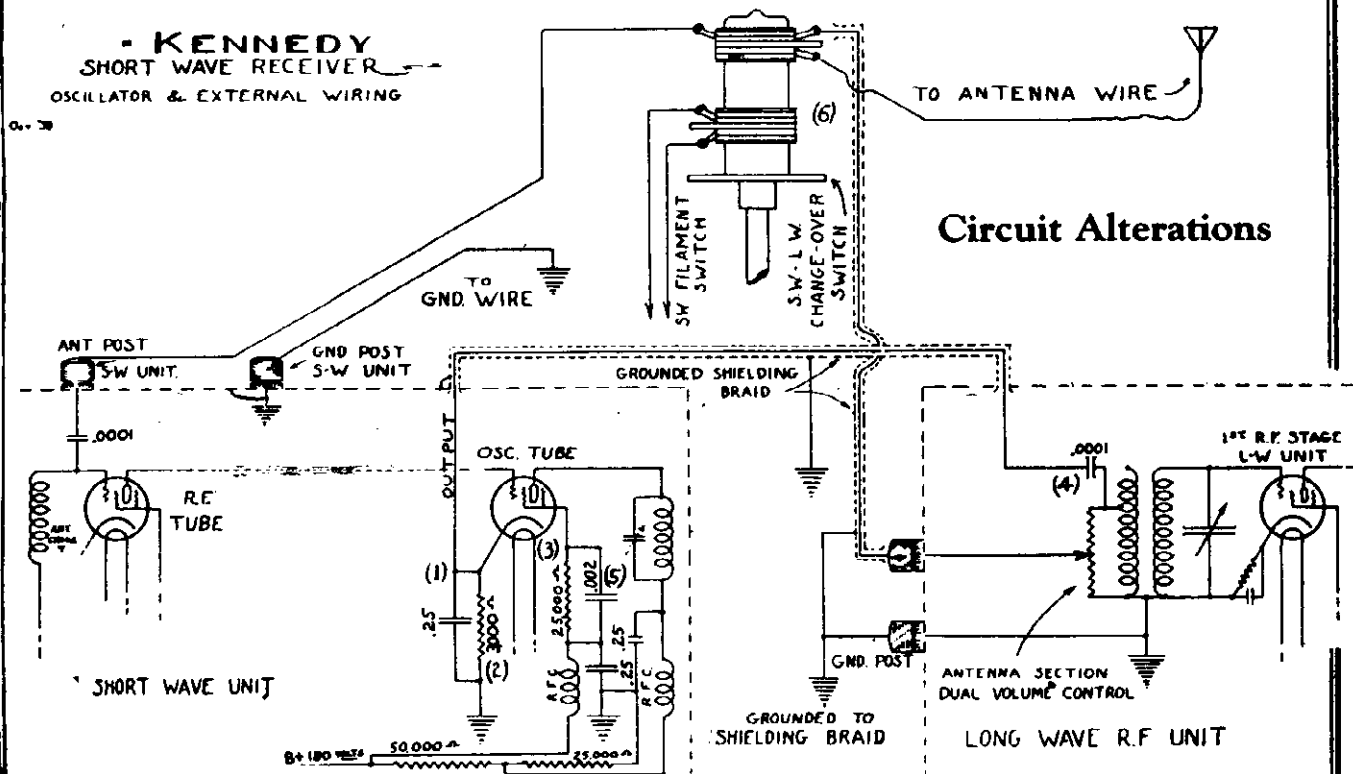
MODEL 34  
Chassis



MODEL 34  
Oscillator  
Data

COLIN B. KENNEDY CORP.

- KENNEDY  
SHORT WAVE RECEIVER  
OSCILLATOR & EXTERNAL WIRING



Circuit Alterations

Short Wave Chassis Model 34

Certain minor alterations in wiring, as well as the addition of a few small parts, have been made in the production of the short wave chassis, model 34.

These changes have been made as they increase the ease in handling and the efficiency of the unit, but are not recommended for units built prior to the time of their adoption in production.

Variations in the circuit diagram in this booklet are shown in the illustration on this page. It will be noted that the changes have been made in the oscillator and external wiring circuits only—the short wave radio frequency stage and detector remaining entirely as previously indicated. The changes are as follows, numbers corresponding to those on illustration.

- (1) The short wave, oscillator output is now taken from the cathode of the oscillator tube instead of the screen.
- (2) A 3,000-ohm biasing resistor replaces the 1,500-ohm resistor previously indicated at the oscillator cathode.
- (3) A 25,000-ohm graphite resistor has been placed in the screen circuit between the R. F. choke and screen.
- (4) A .0001 mfd. condenser has been placed in the long wave R. F. unit, at the ungrounded end of the volume control.
- (5) A .002 mfd. condenser is placed across the 25,000-ohm screen grid series resistor.
- (6) The long wave-short wave change over switch is rewired as indicated in the accompanying diagram. The portion of the switch utilized

in turning the filaments of the S-W unit on and off remains unchanged. The other portion, single pole-double throw, is now rewired so that the antenna is thrown to either short wave or long wave units as required, being entirely disconnected from the unit it is not intended to connect to. The antenna is now connected to the center pole of this switch, as per diagram.

It will be noted that the short wave unit output now connects permanently to the long wave antenna coil primary through the .0001 mfd. condenser located in the long wave R. F. unit, without being cut in and out by the change over switch, as formerly. This does not add a noticeable load to this circuit, for long wave reception, so does not need to be switched.

Shielding braid is used over the short wave output wire, and the wire from the switch to the antenna post of the long wave unit.

The 10,000-ohm wire wound regeneration and volume control, in the short wave unit, has been replaced by a 10,000-ohm graphite control. This provides a smooth control—less inclined to be noisy.

The ground wire is connected to the ground post of the short wave unit, as formerly indicated.

The antenna is now connected to the wire leading from the changeover switch.

MODEL 42 110-120 VOLT A-C



**KENNEDY CORONET (#42)**

Tube	Position	A Volts	B Volts	C Volts	Screen Volts	Where Plate Voltage Measured
224	1 R.F.	2.2	180	3.2	75	Socket Plate to Chassis
224	2 R.F.	2.2	180	3.1	75	Socket Plate to Chassis
224	Det.	2.2	115	2.5*	30	Socket Plate to Chassis
227	1 A.F.	2.2	110	8	.....	Socket Plate to Chassis
245	2 A.F.	2.3	215	37	.....	Socket Plate to Chassis
280	Rect.	4.6	.....	.....	.....	.....

\* Not true voltage, due to drop and draw of meter. Line voltage 115. Watts from line 60. Volume control maximum. Meter used for measurements = 1,000 ohms per volt.

**COIL SHIELDS**  
113103

**DET**  
224  
115514

**1 & 1/2 Mfd.**  
115417

**2 R.F.**  
224  
115514

**FOUR 1/4 Mfd.**  
115418

**1 R.F.**  
224  
115514

**VOLTAGE DIVIDER** 11F158

**POWER TRANS.** 11F201

**120V P.R.**

**24V CT**  
245

**24V**  
245

**24V**  
245

**24V**  
245

**24V**  
245

**24V**  
245

**SW.**

**11F406**

**DIAL DRIVE**  
11F142

**11F117**  
**11F117**  
**TONE CONTROL**  
**SWITCH**

**VOLUME & SWITCH**

**DUAL 1/2 Mfd.**  
113303

**113306**

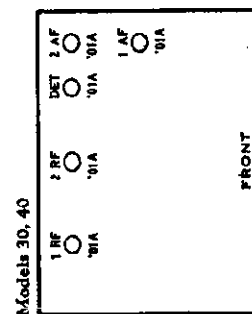
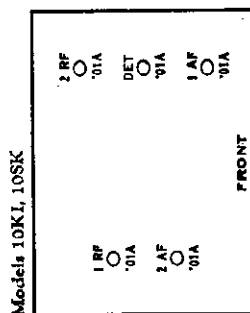
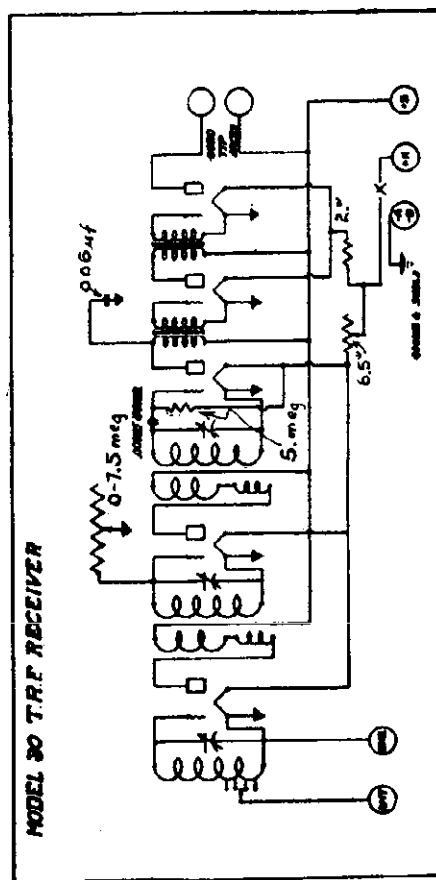
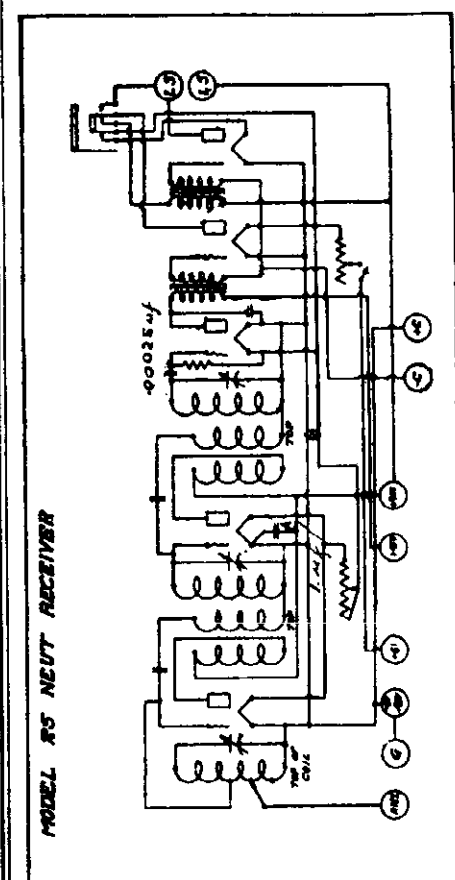
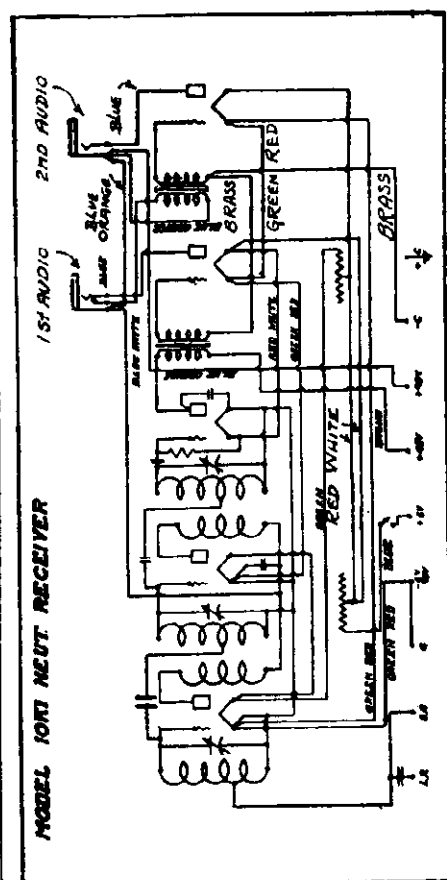
**Model 62**

## Model 42



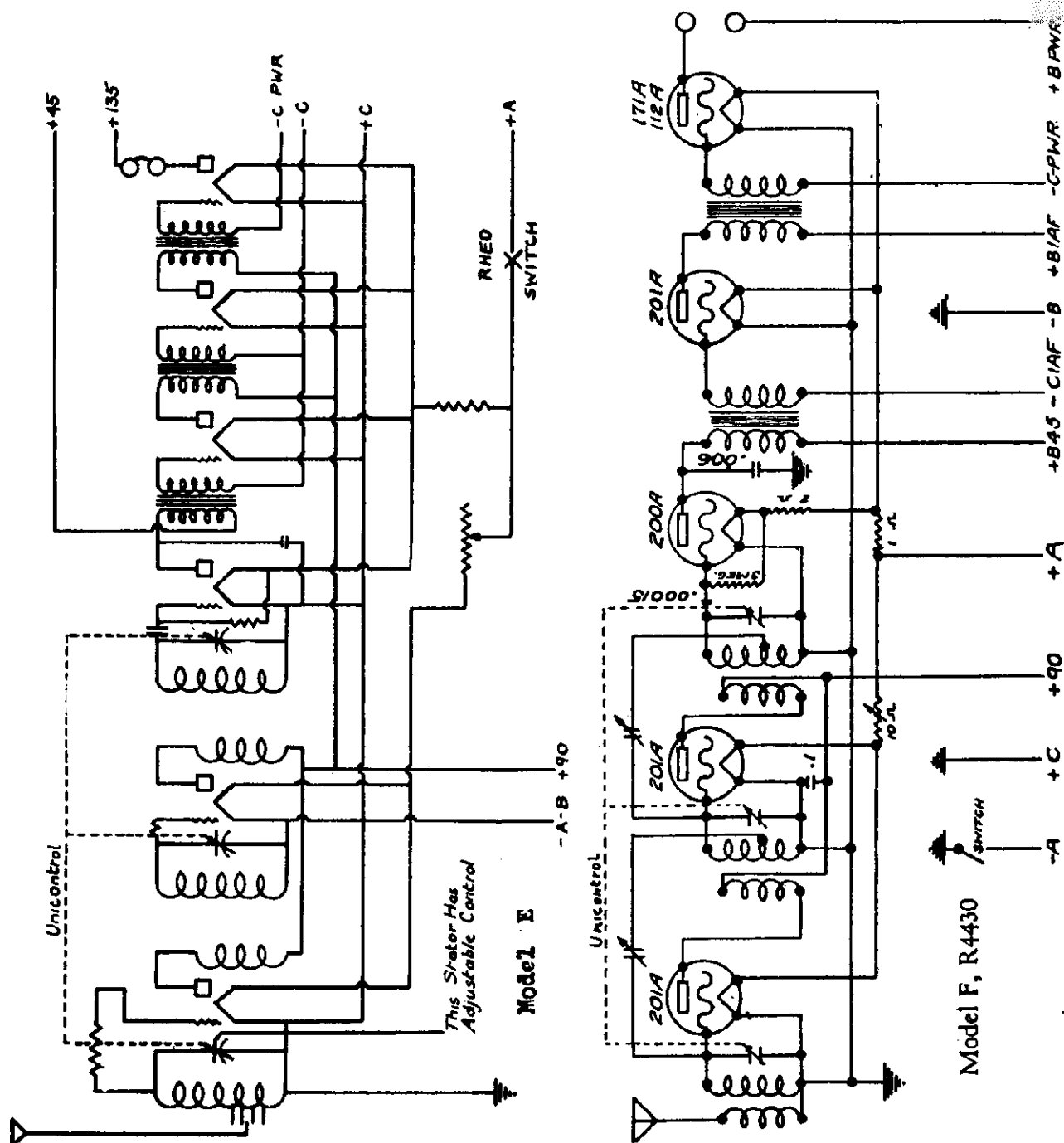
**KING MFG. CORP.**

MODEL 10 K1,10 SK  
MODEL 25  
MODEL 30

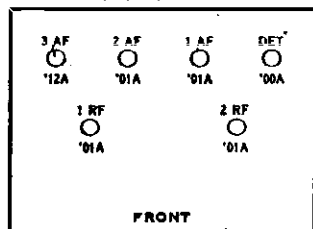


KING MFG. CORP.

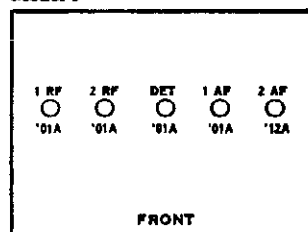
MODEL E  
MODEL F



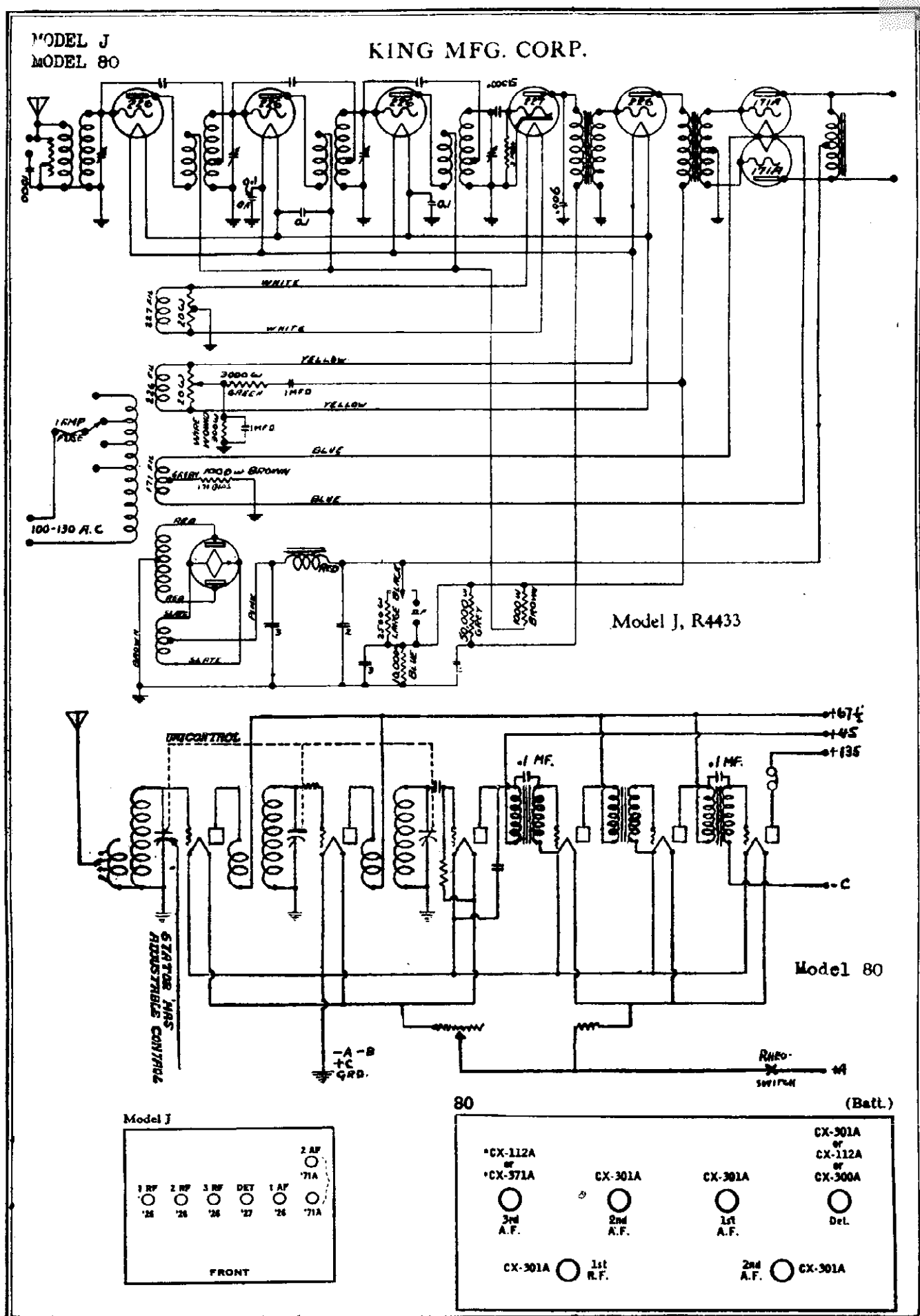
Models OE, E, 80, 80A



Model F

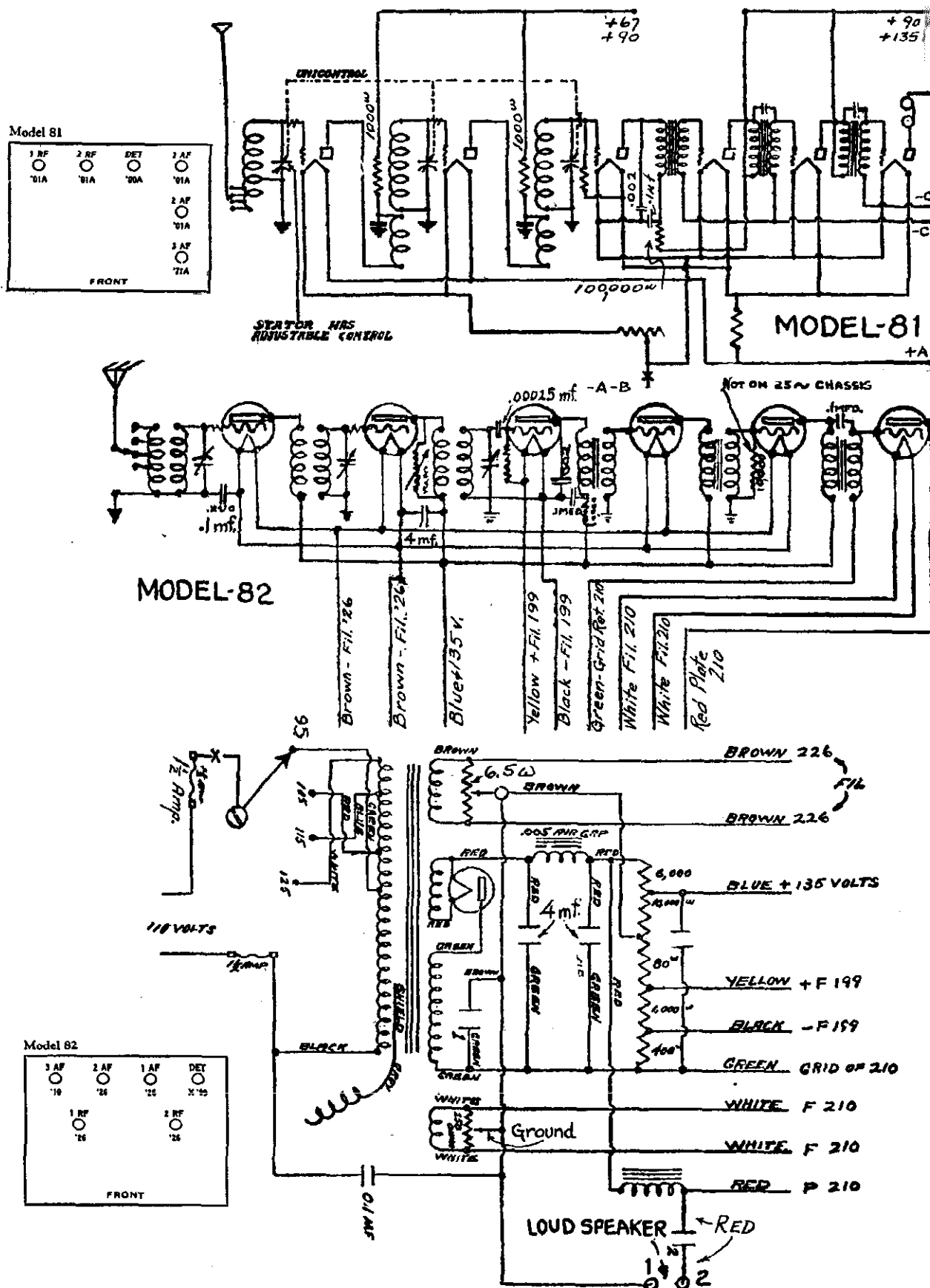






KING MFG CORP.

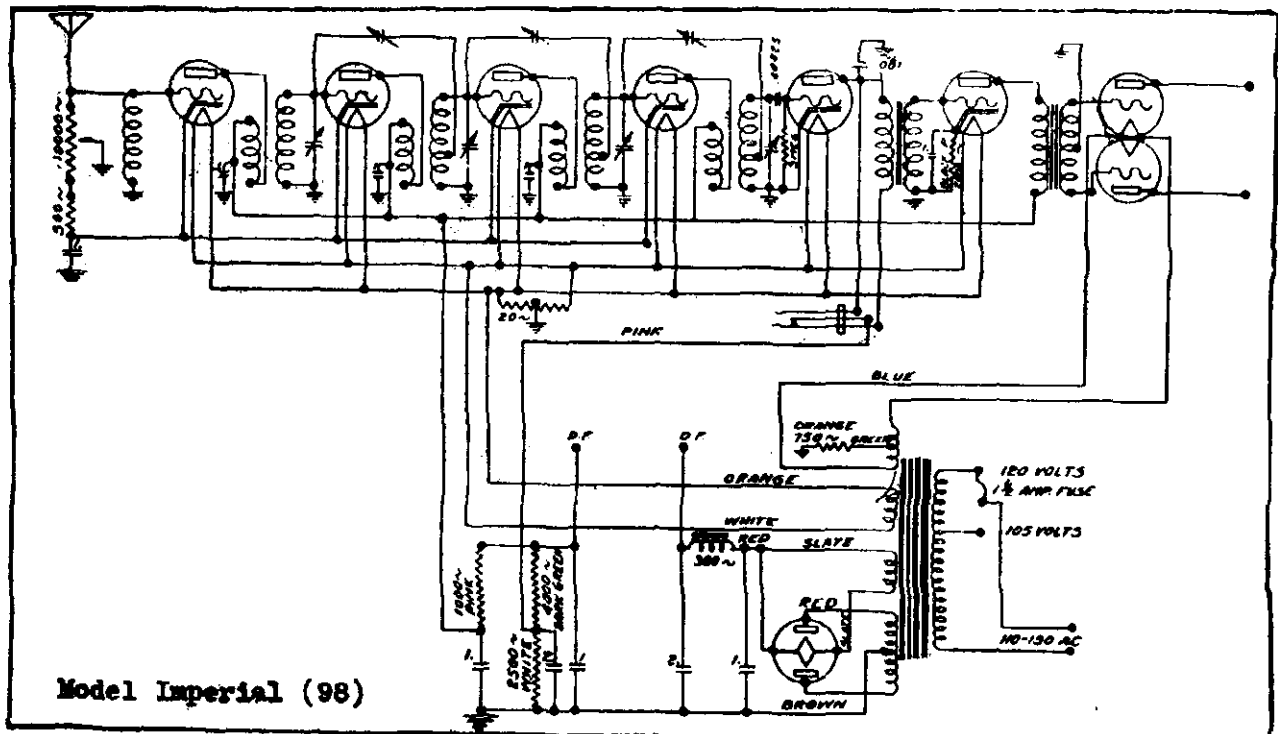
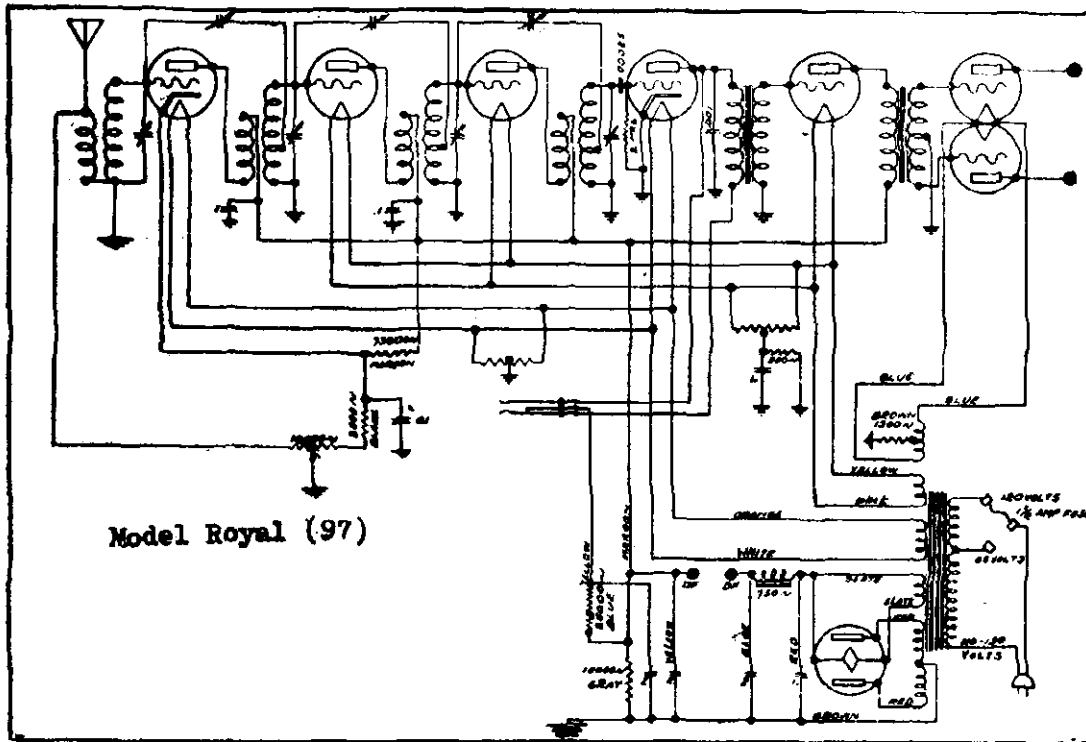
MODEL 81  
MODEL 82





MODEL ROYAL (97)  
MODEL IMPERIAL (98)

KING MFG. CORP.



97

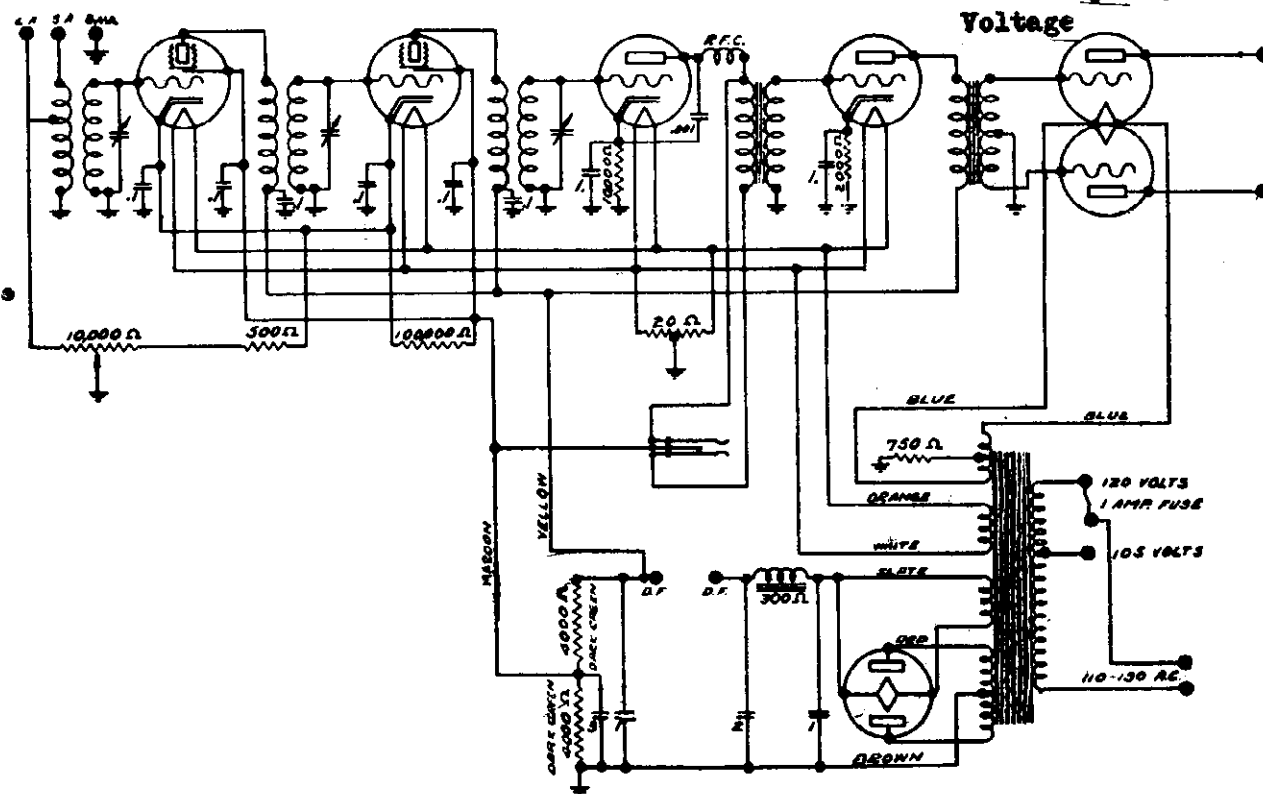
(A.C.) 98

(A.C.)

C-327	CX-326	CX-326	C-327	CX-326	CX-371A
1st R.F.	2nd R.F.	3rd R.F.	Det.	1st A.F.	2nd A.F.

C-327	C-327	C-327	C-327	C-327	CX-345
1st R.F.	2nd R.F.	3rd R.F.	Det.	1st A.F.	2nd A.F.

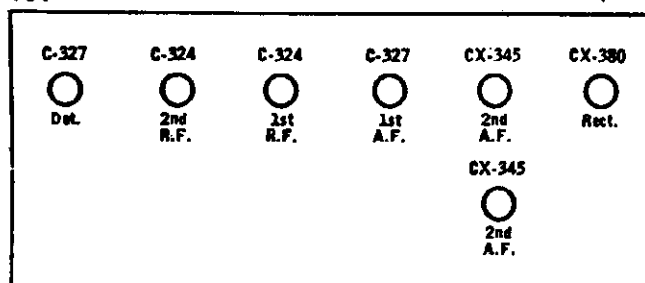
## KING MFG. CORP.

**MODEL Monarch (101)**  
**Schematic - Voltage**  
**MODEL Royal (97)**  
**Voltage**


MONARCH Model 101.					
Tube	Stage	Fil. V.	Plate V.	Screen. Grid V.	Control Grid V.
'24	1 R.F.	2.5	180	85	3.5
'24	2 R.F.	2.5	180	85	3.5
'27	Det.	2.5	90	-----	10.
'27	1 A.F.	2.5	170	-----	13.
'45	2 A.F.	2.5	220	-----	50.
'45	2 A.F.	2.5	220	-----	50.

101

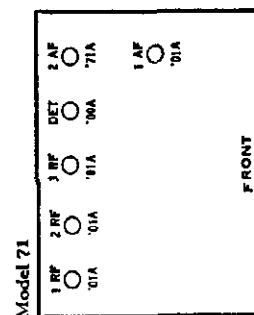
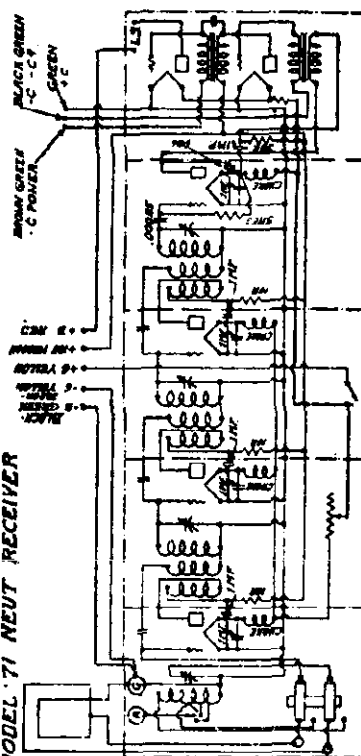
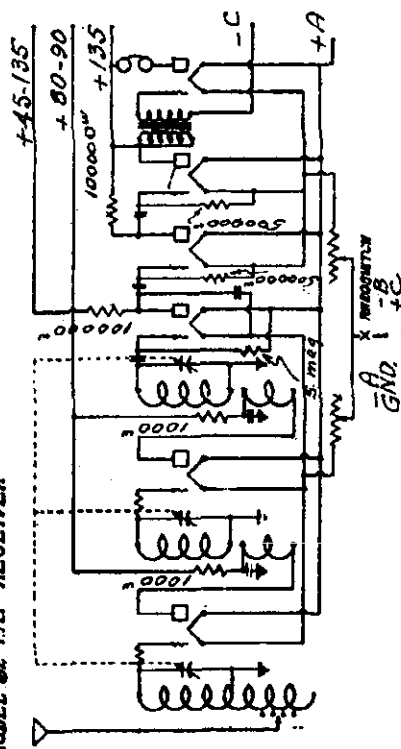
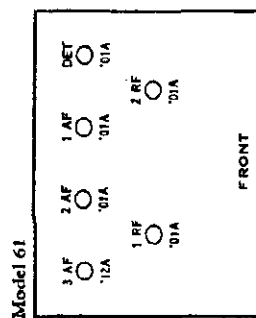
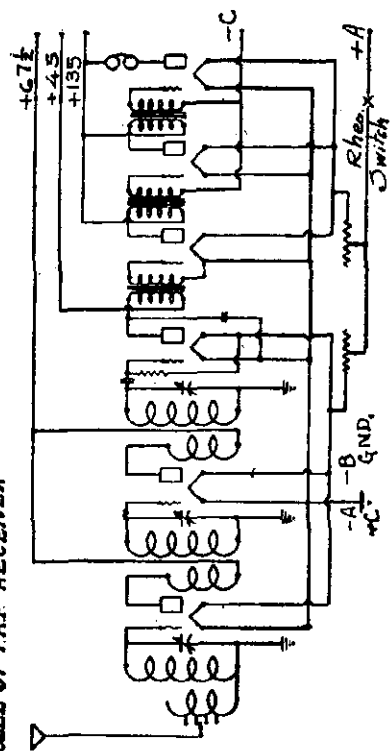
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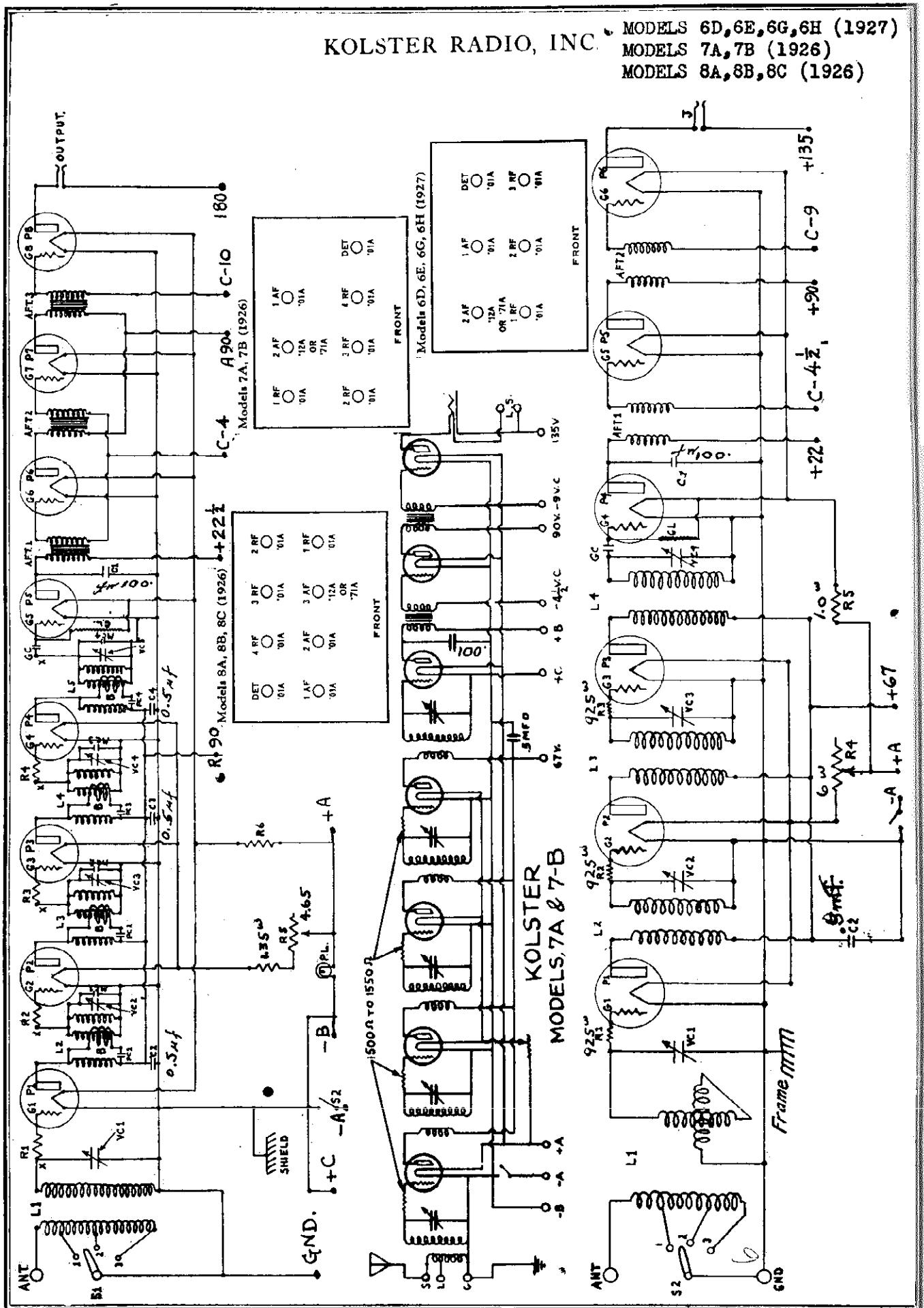


Model 97 Line: 105 Volts.					
Tube	Stage	Fil. V.	Plate V.	Grid V.	Cath. V.
'27	1 R.F.	2.4	136	11.	-----
'26	2 R.F.	1.6	136	10	-----
'26	3 R.F.	1.6	136	10	-----
'27	Det.	2.4	52	-----	-----
'26	1 A.F.	1.6	127	8.	-----
'71	2 A.F.	5.1	184	36	-----
'71	2 A.F.	5.1	184	36	-----

MODEL 61  
MODEL 62,63  
MODEL 71

**KING MFG. CORP.**





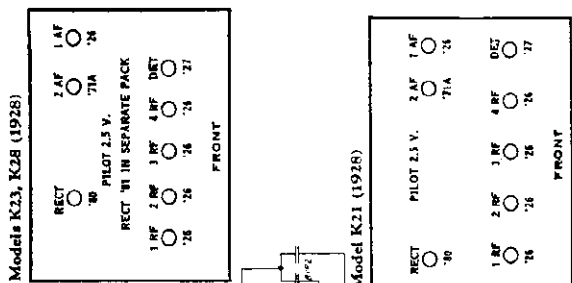




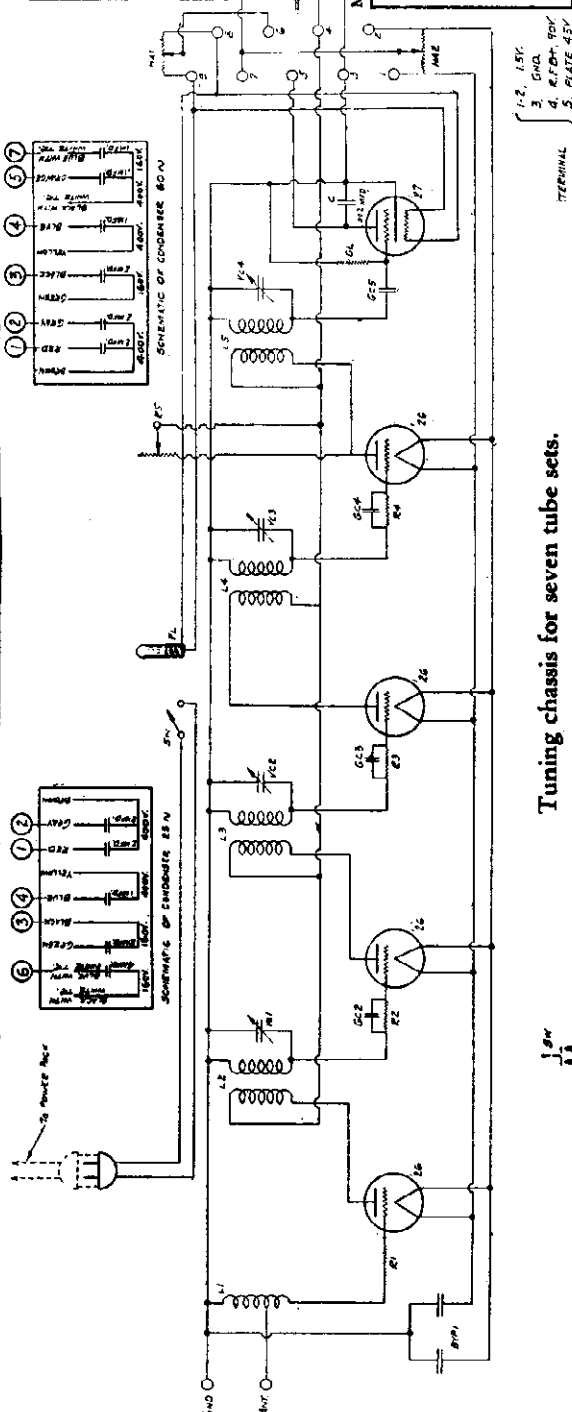
# KOLSTER RADIO, INC.

MODEL K-21, K-23, K-28  
Schematic, Voltage

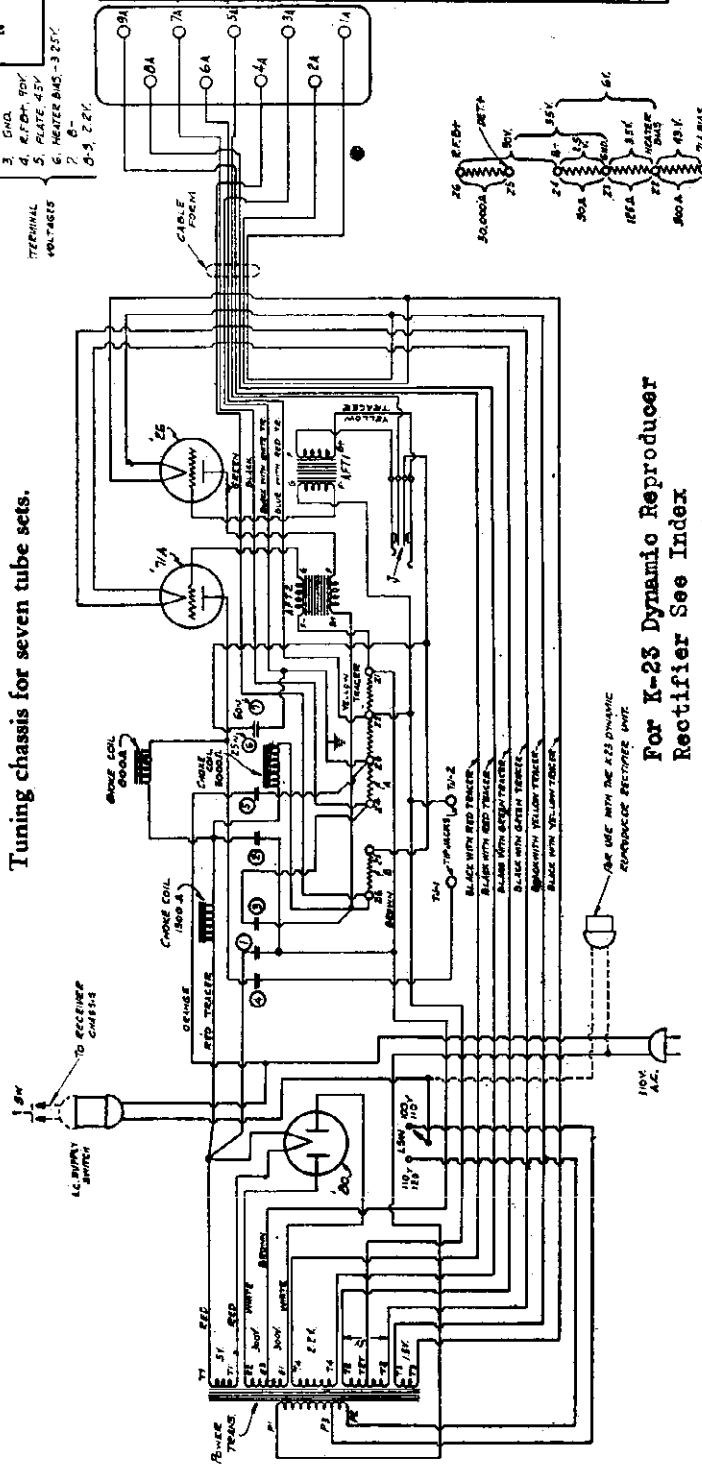
## KOLSTER—Models K21-23 Line Voltage 116



TUBE ORDER	TUBE TYPE	POSITION OF TUBE	READINGS PLUS IN SOCKET OF SET									
			A	B	C	D	E	F	G	H	I	J
1	225	1st. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
2	225	2nd. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
3	225	3rd. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
4	225	4th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
5	225	5th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
6	225	6th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
7	225	7th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
8	225	8th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
9	225	9th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8
10	225	10th. R.F.	1.48	90	1.4	84	2.2	5.8	5.8	5.8	5.8	5.8



Tuning chassis for seven tube sets.

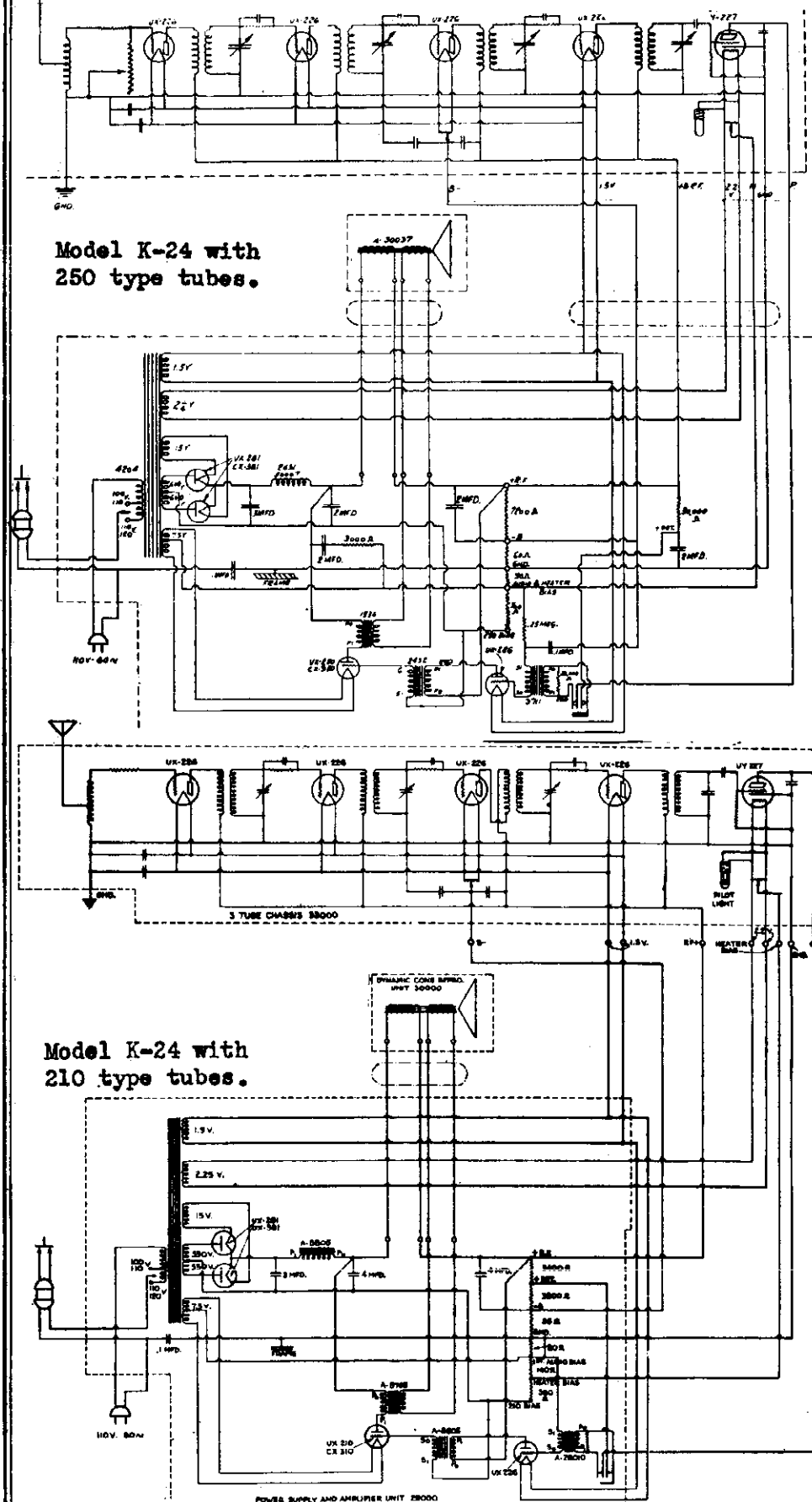


For K-23 Dynamic Reproducer  
Rectifier See Index

Schematic diagram of seven tube receiver Power Pack and Audio Amplifier.

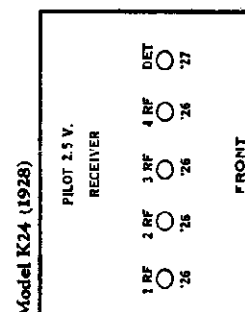
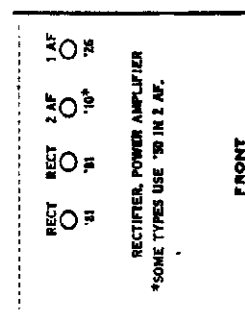
- MODEL K-24(250)
- MODEL K-24(210)
- Schematic, Voltage

## KOLSTER RADIO, INC.



Line Voltage 116

TUBE	TYPE OF TUBE	POSITION	BY AT SET ETC	REPLACE PLUG IN SOCKET OF SET										
				TUBE OUT				TUBE IN TESTER						
				5	6	7	8	9	10	11	12	NORMAL	PLATE	WATTS
				VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	VOLTS	WATTS
1	226	1st. R.F.	1.48	30	1.4	84	2.5	2.5	2.5	2.5	2.5	2.5	5.8	9.8 4.0
2	226	2nd. R.F.	1.48	30	1.4	84	2.5	2.5	2.5	2.5	2.5	2.5	5.8	9.8 4.0
3	226	3rd. R.F.	1.48	30	1.4	84	2.5	2.5	2.5	2.5	2.5	2.5	5.8	9.8 4.0
4	226	4th. R.F.	1.48	30	1.4	84	2.5	2.5	2.5	2.5	2.5	2.5	5.8	9.8 4.0
5	227	DET.	2.5	44	2.0	36	2.5	2.5	2.5	2.5	2.5	2.5	1.6	1.6 0
6	226	1st. A.	1.56	88	1.4	72	2.0	2.0	2.0	2.0	2.0	2.0	4.8	7.8 3.0
7	210	2nd. A.	7.5	512	7.4	430	32.5	32.5	32.5	32.5	32.5	32.5	24.0	28.0 4.0
8	231	Rect.	-	-	-	-	-	-	-	-	-	-	28.0	-
9	231	Rect.	-	-	-	-	-	-	-	-	-	-	-	-



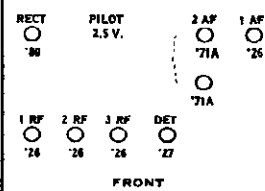




MODEL K-42  
Schematic  
Voltage

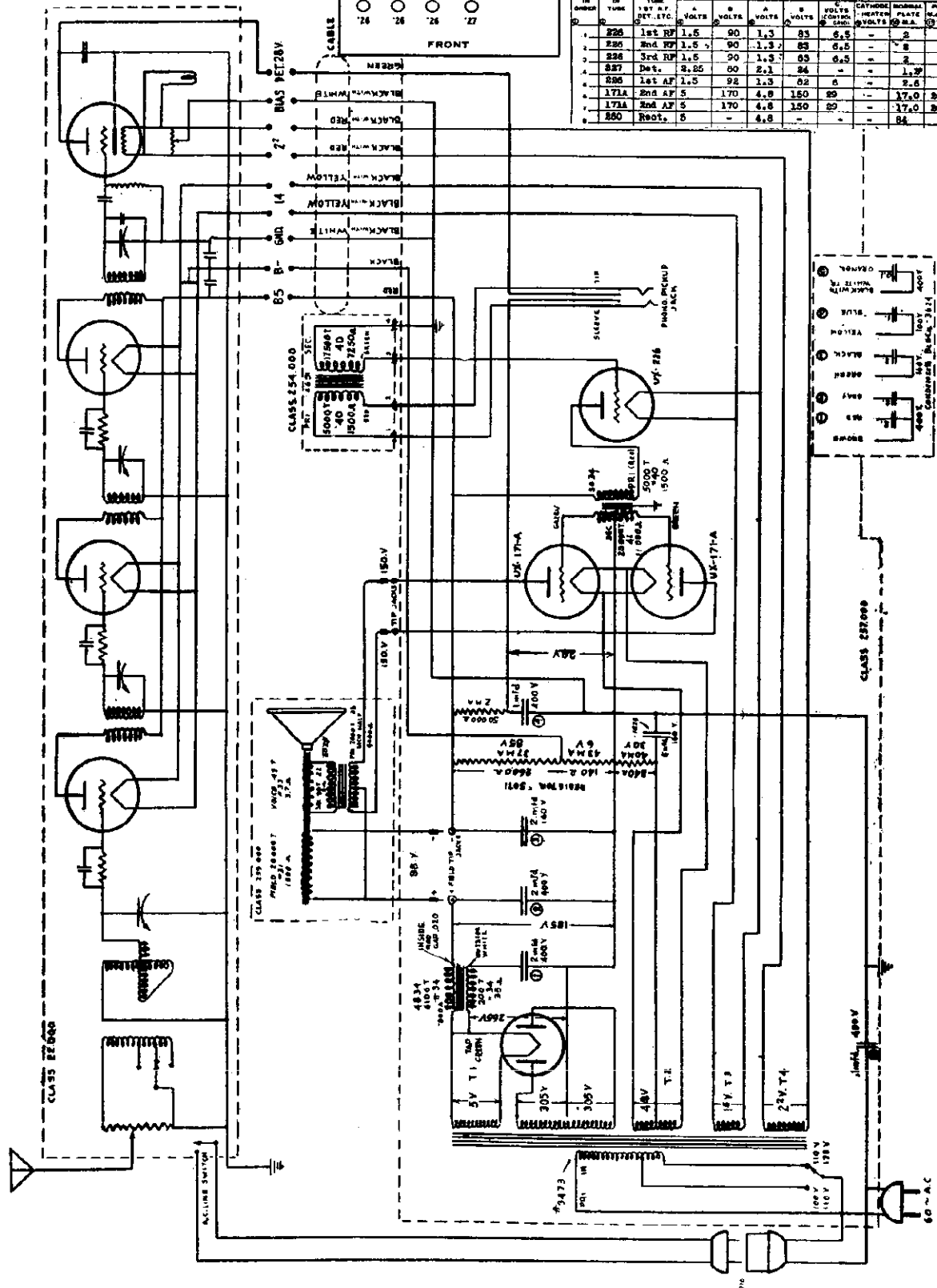
## KOLSTER RADIO, INC.

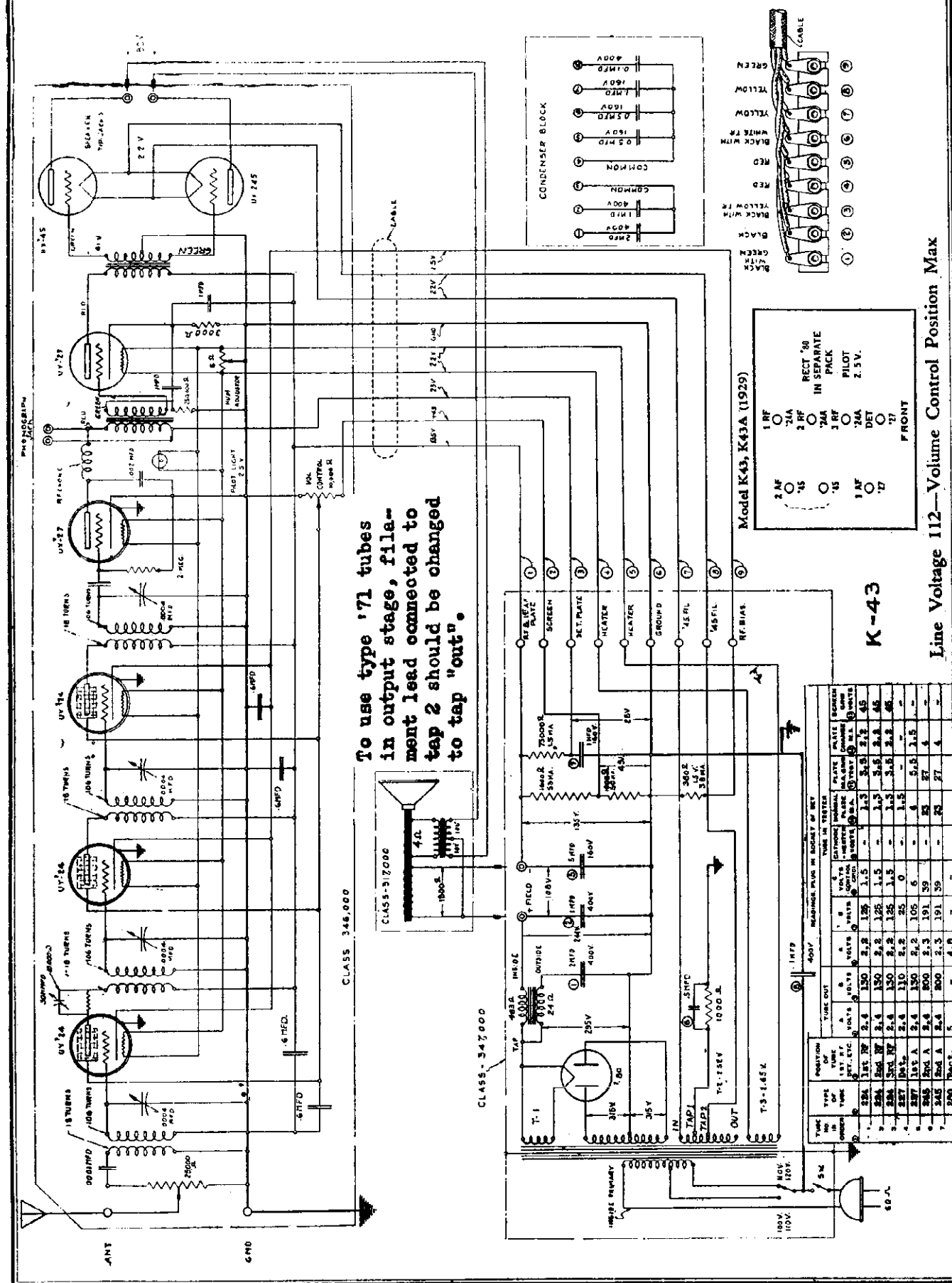
Model K42 (1930)

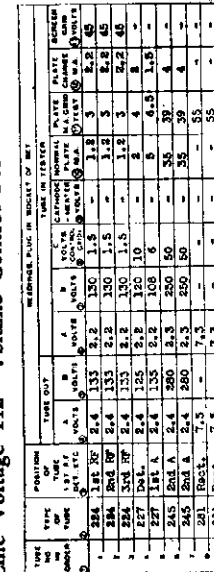


KOLSTER—Model 42  
Line Voltage 112—Volume Control Position Max  
\*Grid Leak Shorted

TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE DET. ETC.	TUBE OUT				TUBE IN TESTER				READINGS, PLUS IN SOCKET OR SET			
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CONTROL 1500)	CATHODE HEATERS (VOLTS)	MINIMUM PLATE (VOLTS)	MAXIMUM PLATE (VOLTS)	PLATE CHANGE (50 mA)	PLATE CHANGE (50 mA)	PLATE CHANGE (50 mA)	PLATE CHANGE (50 mA)
1	226	1st RF	1.5	90	1.3	83	6.5	—	2	2.5	2.5	2.5	2.5	2.5
2	226	2nd RF	1.5	90	1.3	83	6.5	—	2	2.5	2.5	2.5	2.5	2.5
3	226	3rd RF	1.5	90	1.3	83	6.5	—	2	2.5	2.5	2.5	2.5	2.5
4	227	Det.	2.25	90	2.1	84	—	—	1.2	1.2	1.2	1.2	1.2	1.2
5	226	1st AF	1.5	92	1.3	82	6	—	2.6	2.6	2.6	2.6	2.6	2.6
6	171A	2nd AF	5	170	4.8	150	89	—	17.0	17.0	17.0	17.0	17.0	17.0
7	171A	2nd AF	5	170	4.8	150	89	—	17.0	17.0	17.0	17.0	17.0	17.0
8	226	Rect.	5	—	4.8	—	—	—	84	—	—	—	—	—

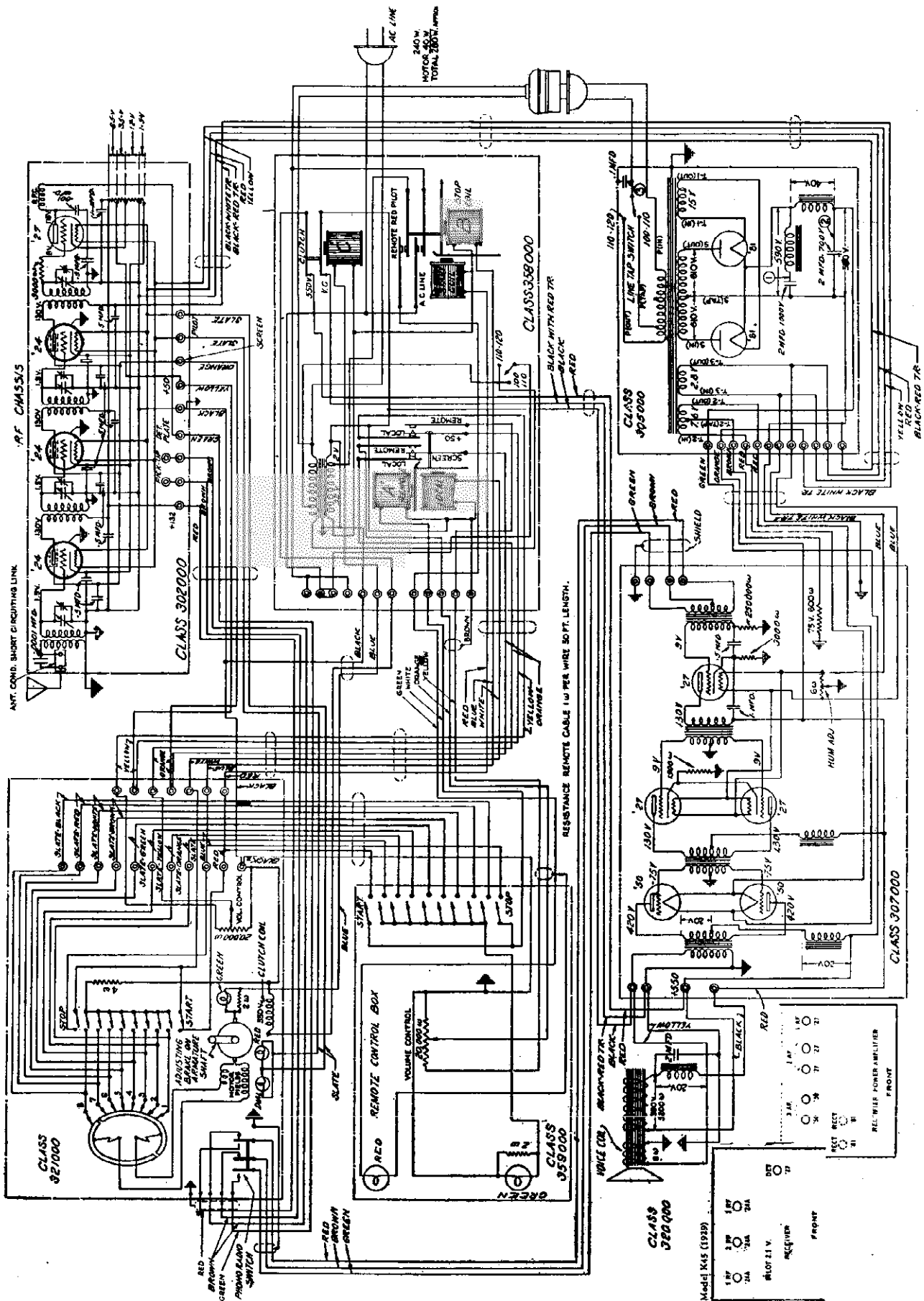




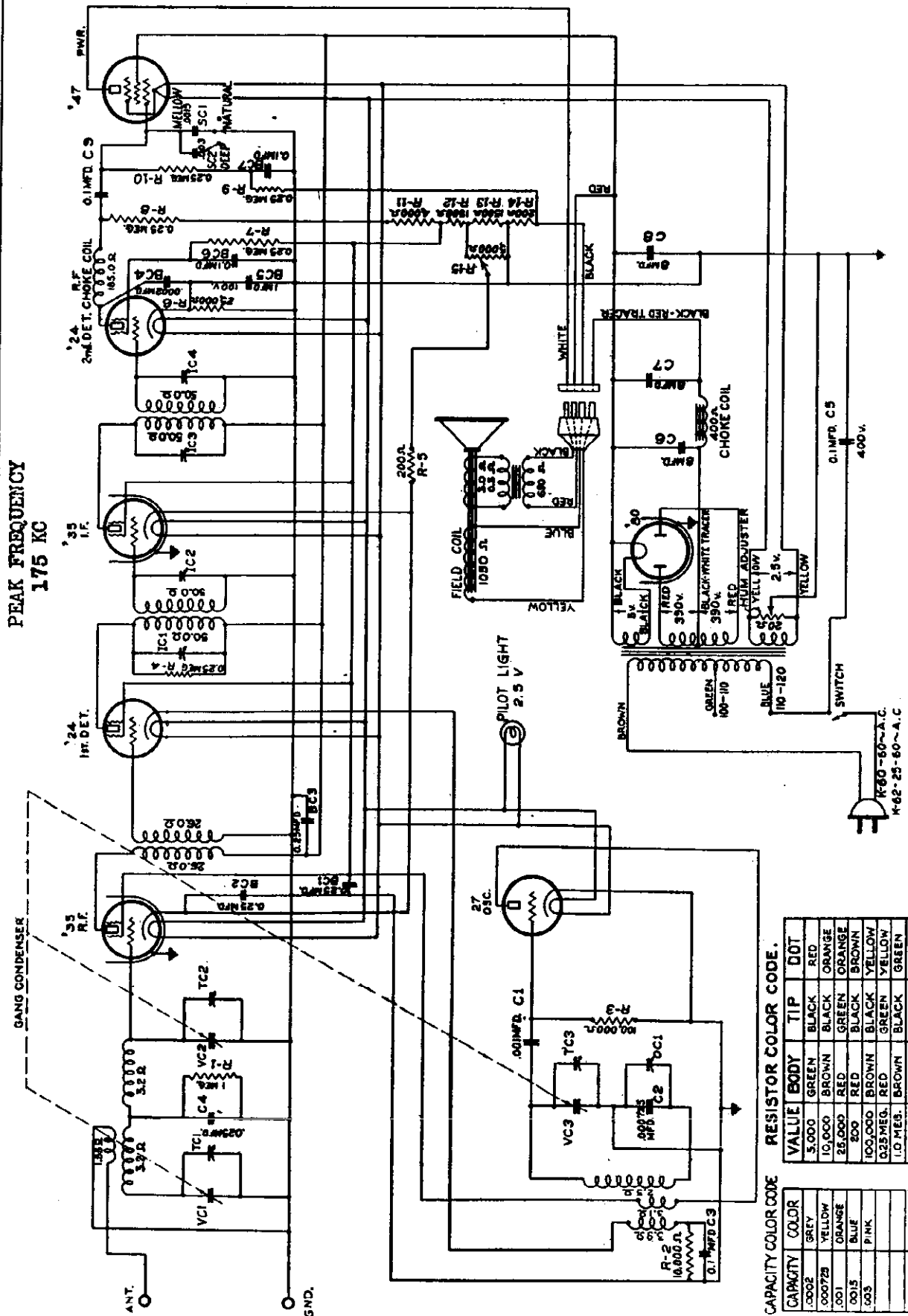


Line Voltage 112—Volume Control Position Max

**KOLSTER RADIO, INC.**

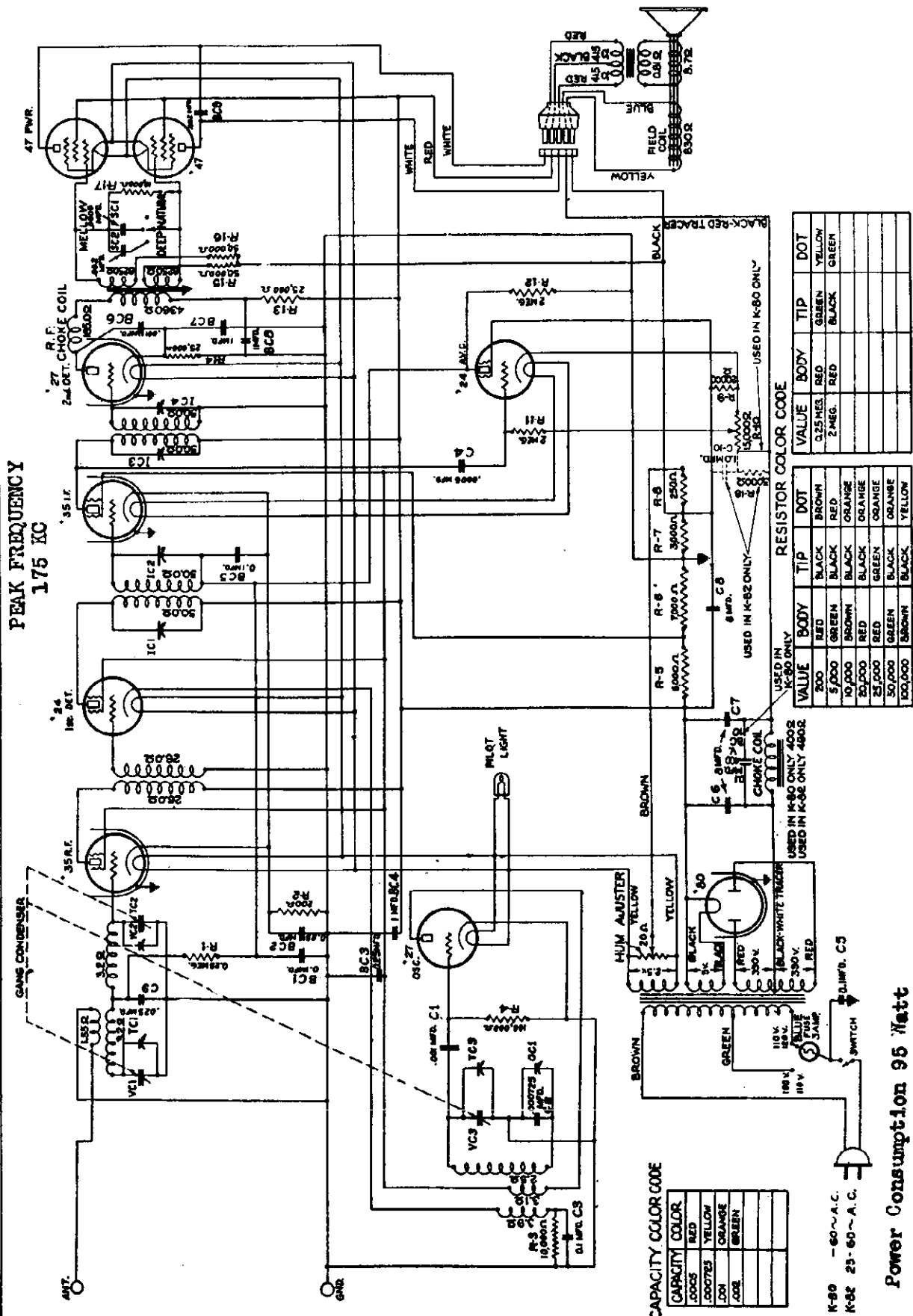


**KOLSTER RADIO, INC.**





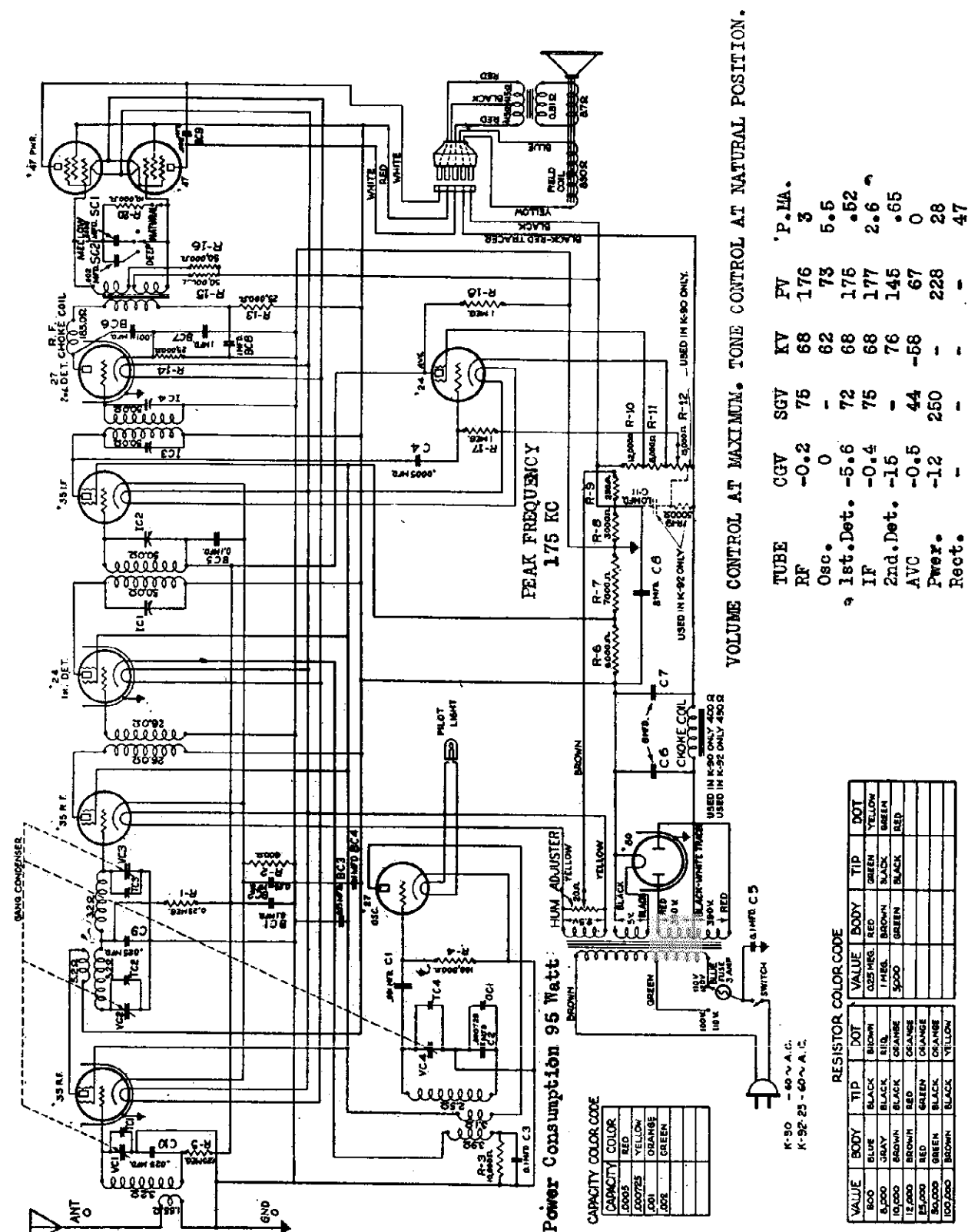
**KOLSTER RADIO, INC.**

**KOLSTER --- INTERNATIONAL RADIO MODELS K-80---K-82**



MODEL K-90, K-92  
Schematic  
Voltage

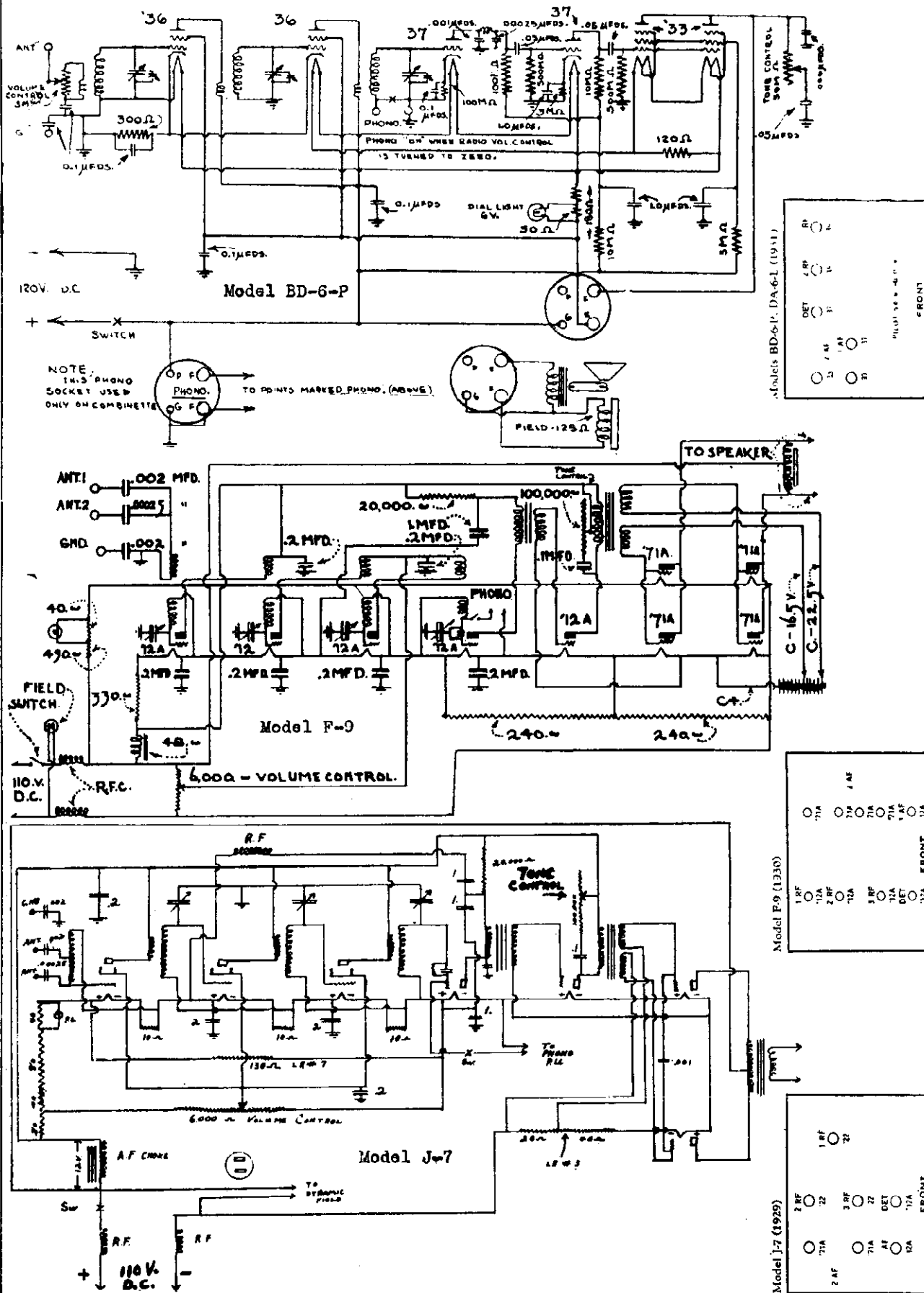
KOLSTER RADIO, INC.





MODEL BD-6-P  
MODEL F-9  
MODEL J-7

# LANG RADIO CO

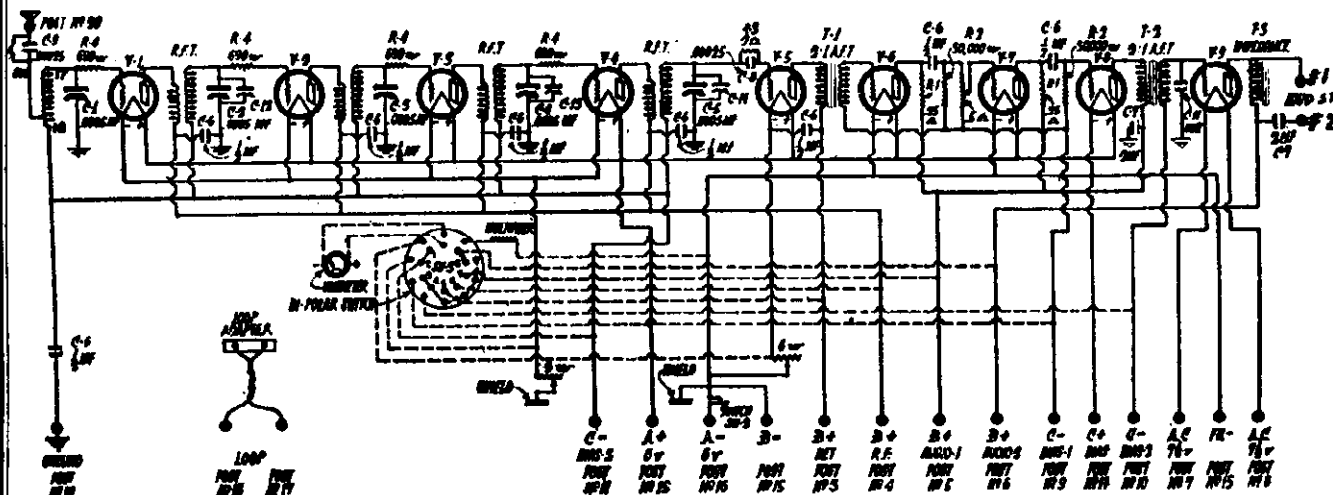




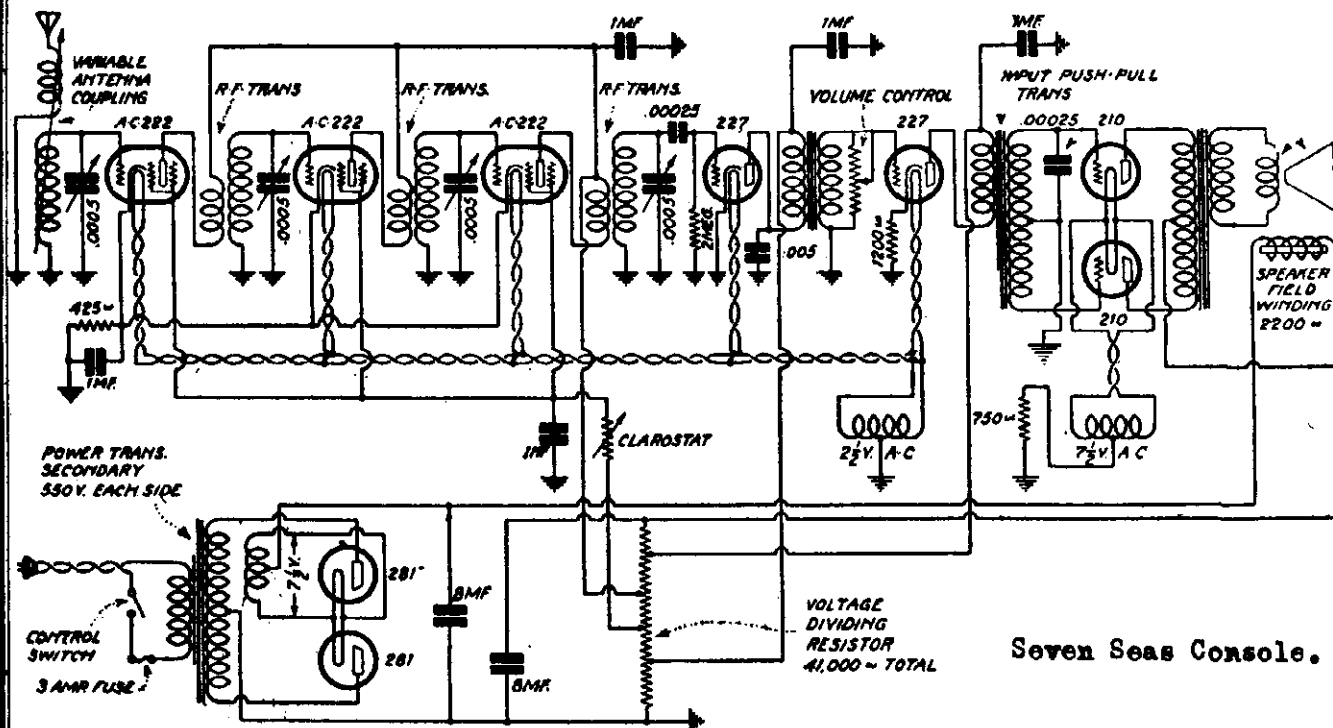


MODEL Trans-Oceanic  
MODEL Seven Seas

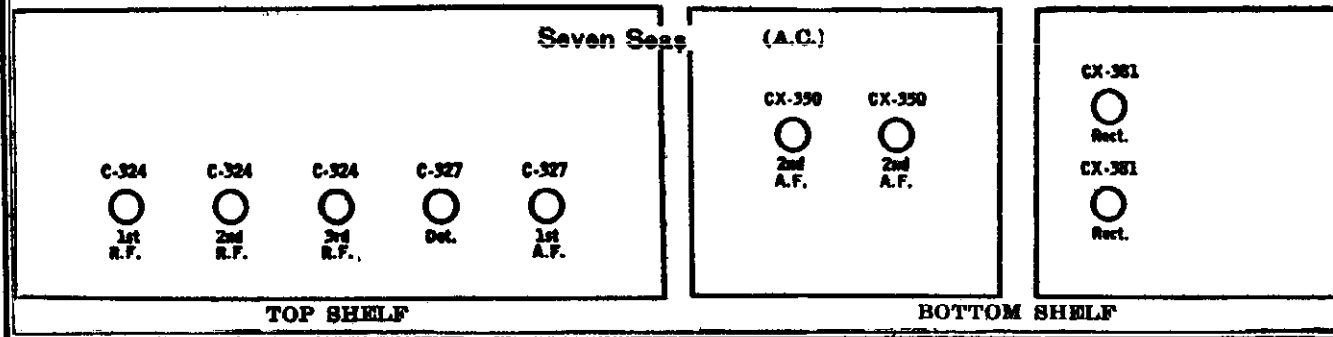
C. R. LEUTZ, INC.



Universal Trans-Oceanic Receiver.

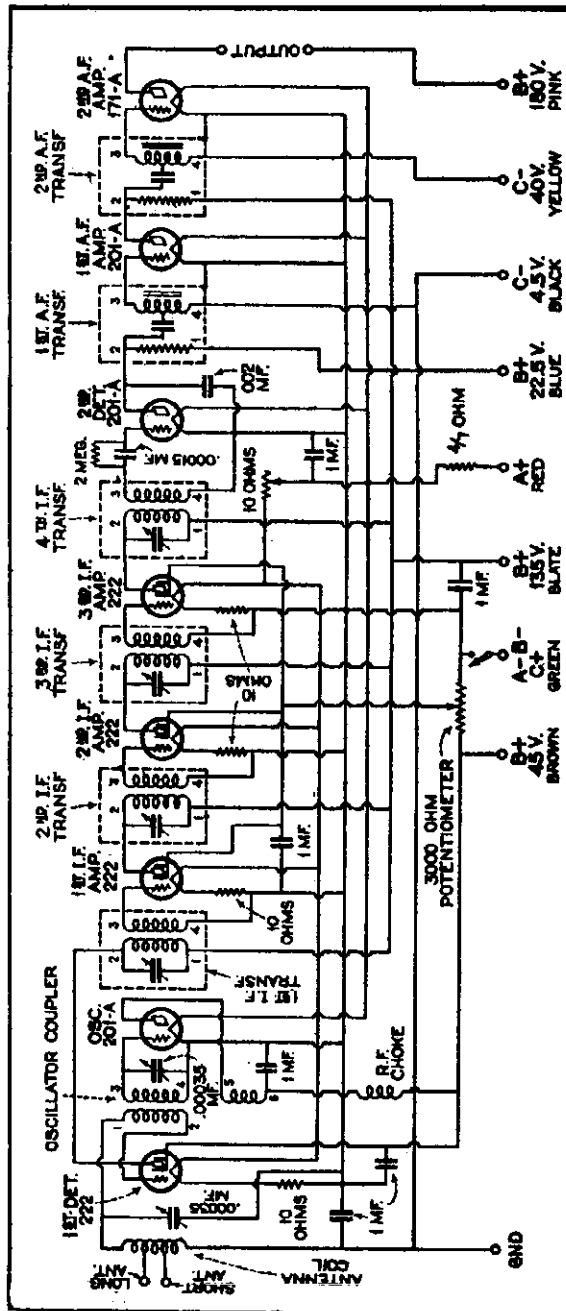


Seven Seas Console.

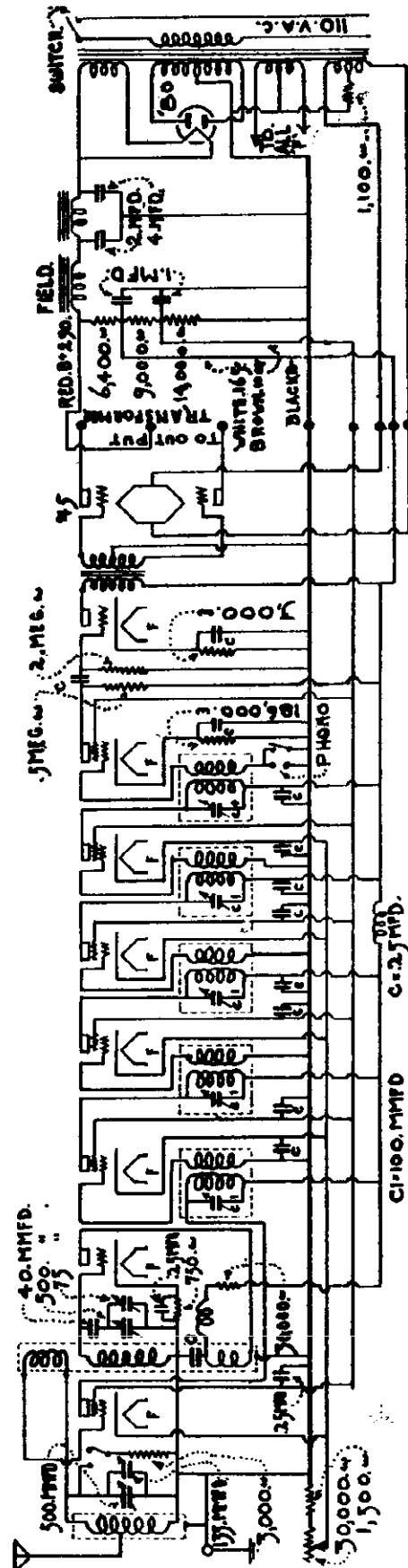


# LINCOLN RADIO CORP.

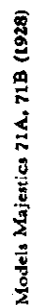
MODEL 8-80  
MODEL 31



Model 8-80



Model 31



PILOT INC. 40 MAZDA 6 W.

**MAJESTIC—Models 71-72**  
**Line Voltage 112—Volume Control Full**  
**2nd A. F. Stage—2 Tubes Push Pull**

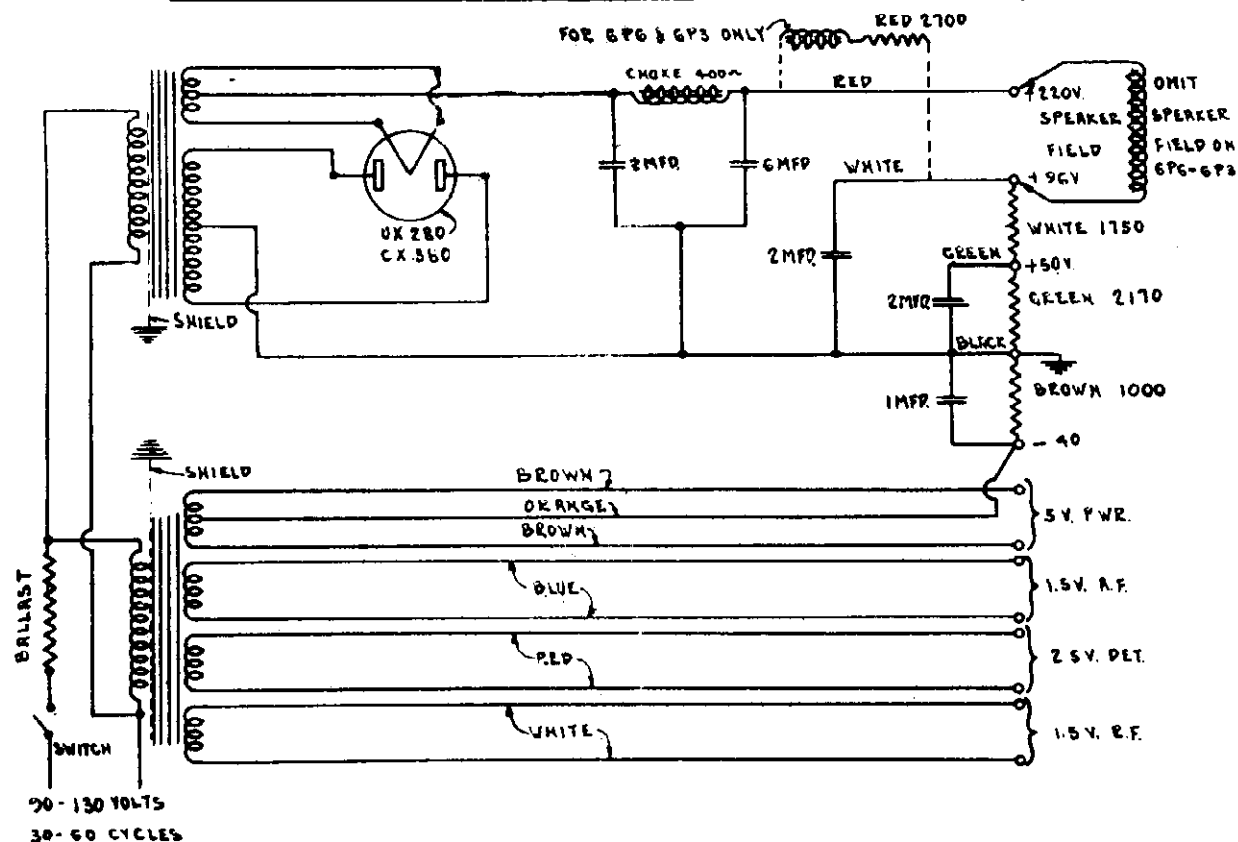
TUBE NO. IN SERIES	TYPE OF TUBE	POSITION OF TUBE 1ST AT DIST. IN CH	TUBE OUT		TUBE IN TESTER						RESIDUE PLUG IN SOCKET OF SET	
			VALVE	P VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VACUUM	NORMAL PLATE VACUUM	PLATE VACUUM		
225	1st	R.P.	1.5	102	1.4	96	5	3.5	8.5	1.0		
226	2nd	A.P.	1.5	102	1.4	96	5	3.5	8.5	1.0		
226	3rd	R.P.	1.5	102	1.4	96	5	3.5	8.5	1.0		
227	Detector	2.4	100	2.2	40	0	3.0	3.0	0	0		
228	1st	A.P.	1.5	100	1.4	83	4	3.5	8.0	0.8		
229	2nd	A.P.	5.0	192	4.8	190	40	20.0	23.0	3.5		
230	End	A.P.	5.0	192	4.8	180	40	20.0	23.0	3.5		
230	Rectifier				4.8			20.0				



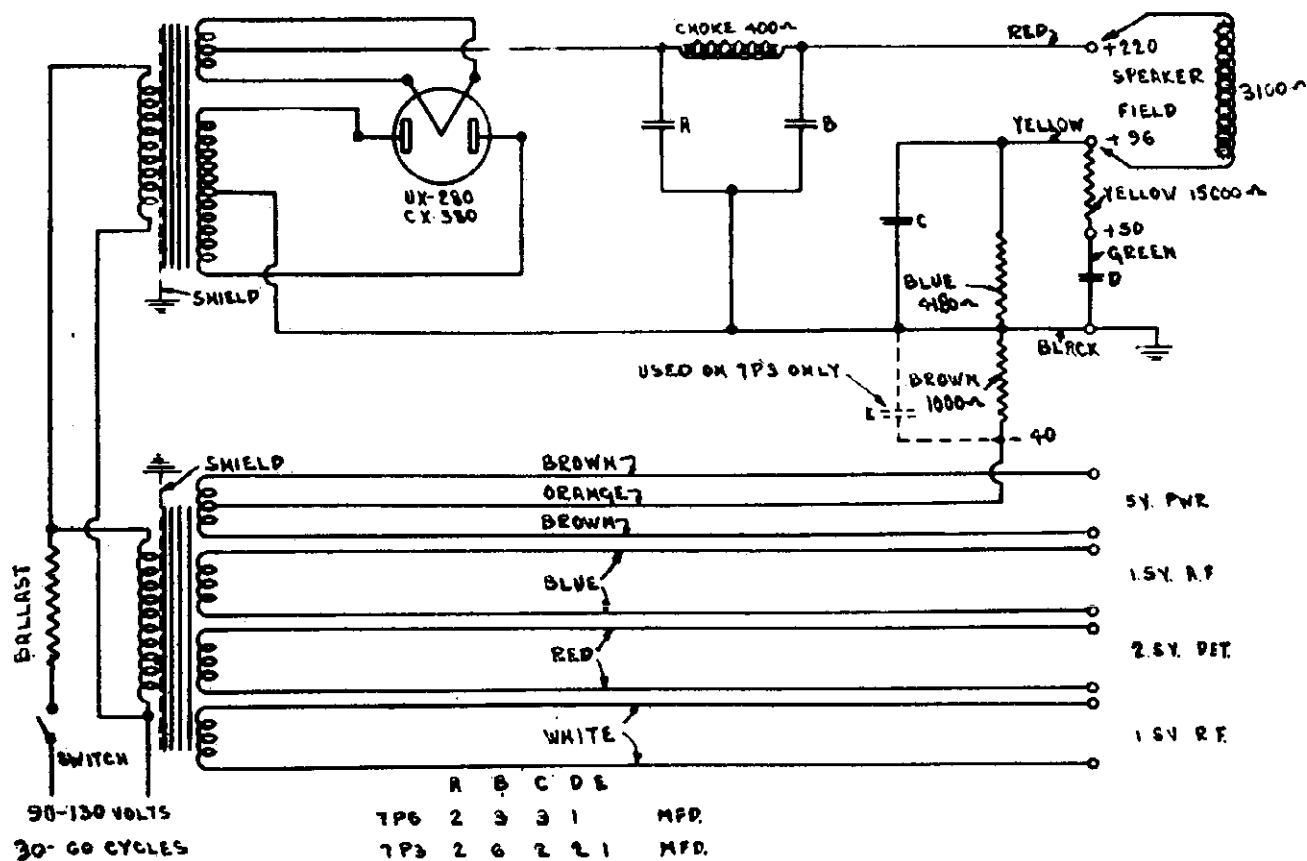
MODEL 7-P-6, 7-P-3  
Two Types

GRIGSBY - GRUNOW CO.

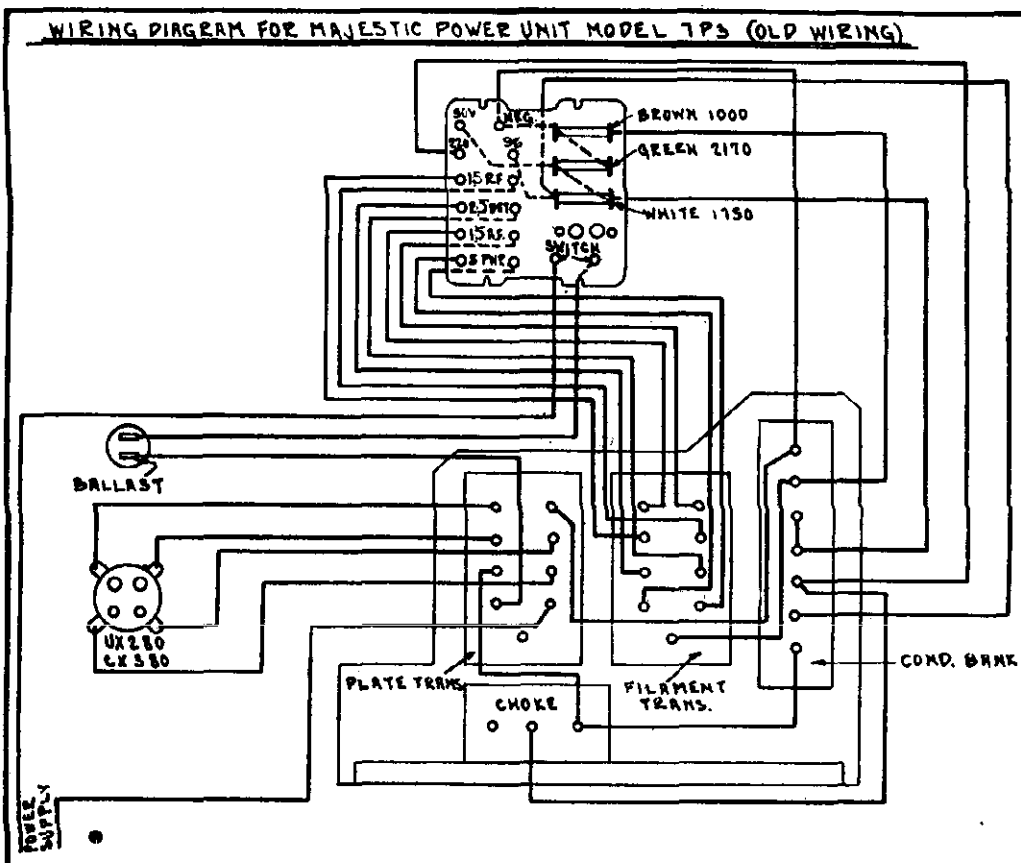
SCHEMATIC DIAGRAM OF 7P6-7P3 POWER PACK (OLD VIKING)



SCHEMATIC DIAGRAM OF 7P6-7P3 POWER PACK



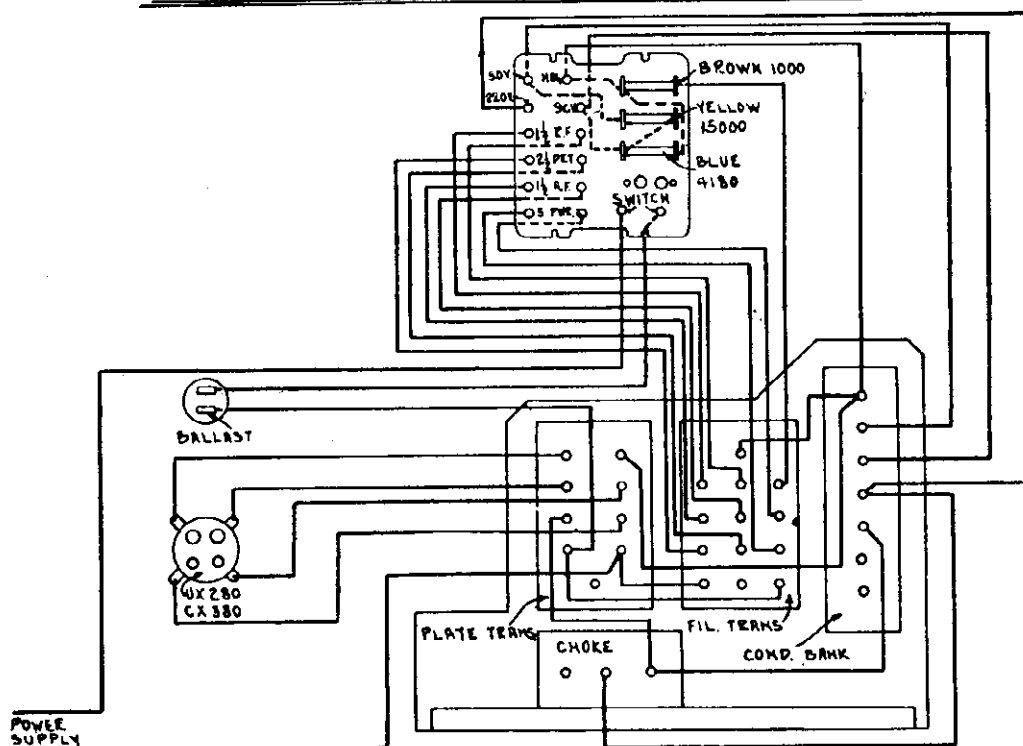
WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7PG (OLD WIRING)



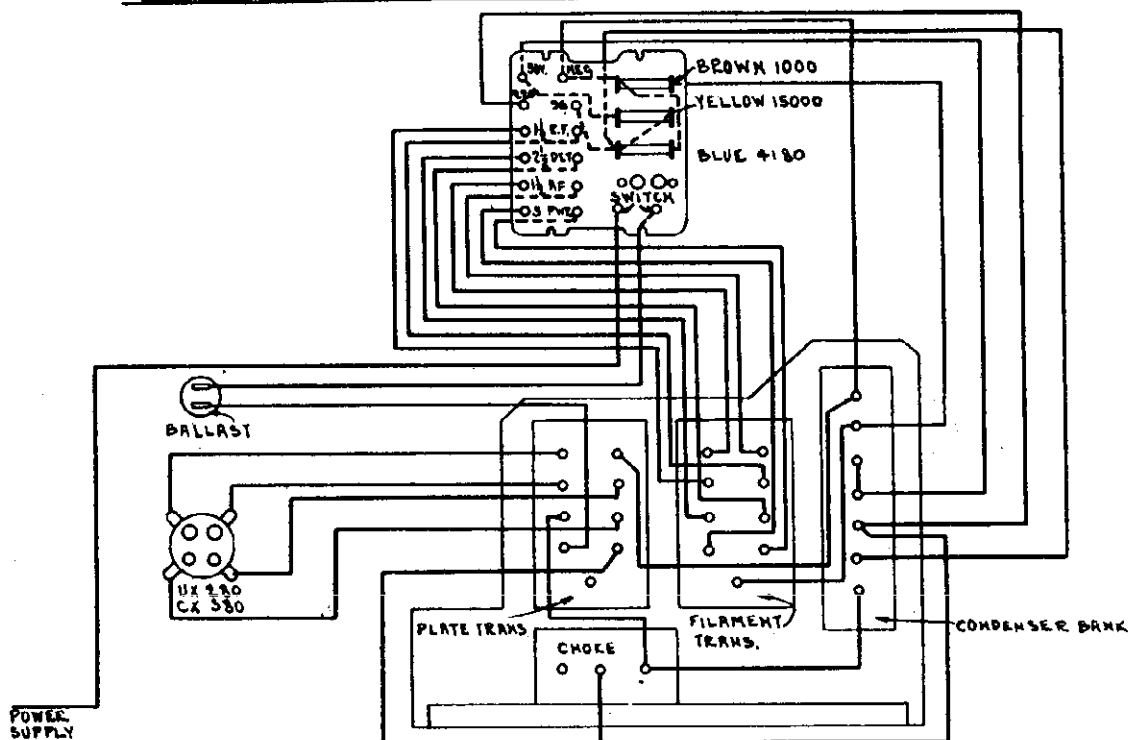
MODEL 7-P-6, 7-P-3  
Wiring Diagram

GRIGSBY - GRUNOW CO.

WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7P6



WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7P3

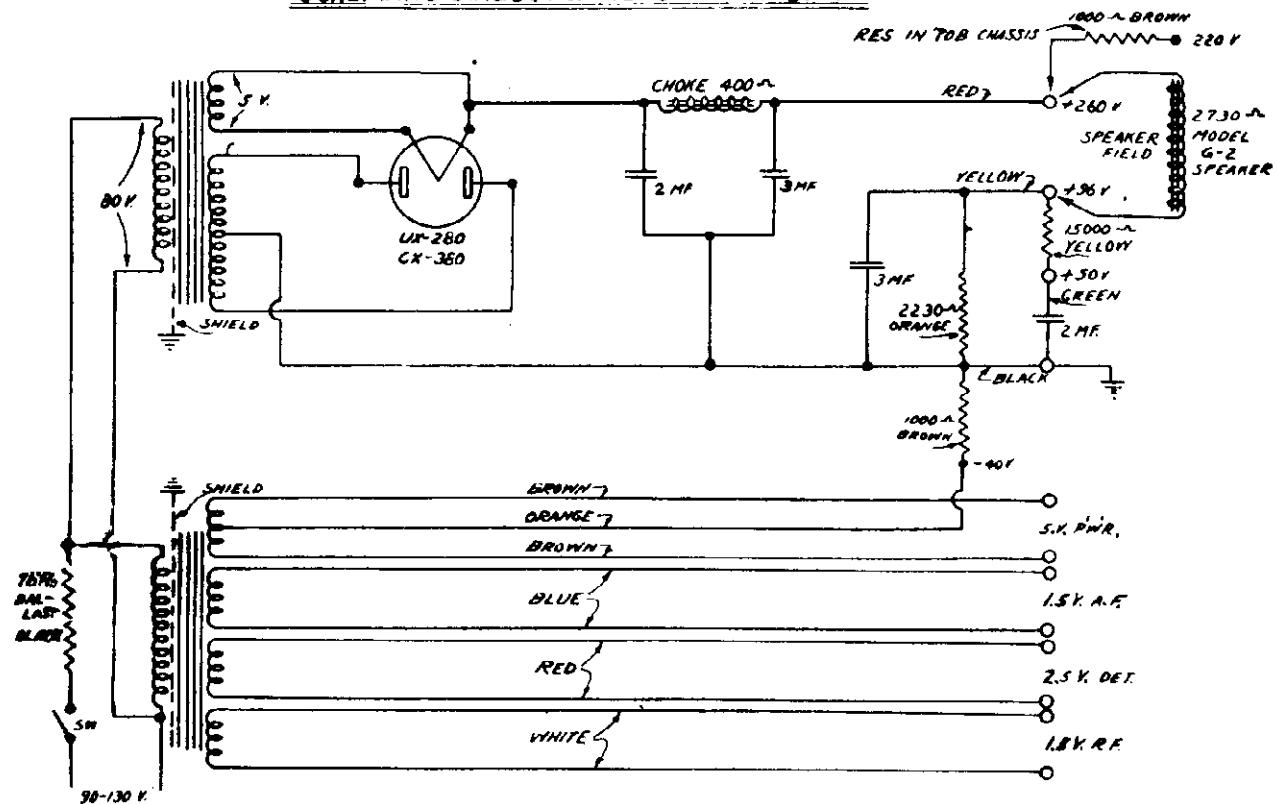




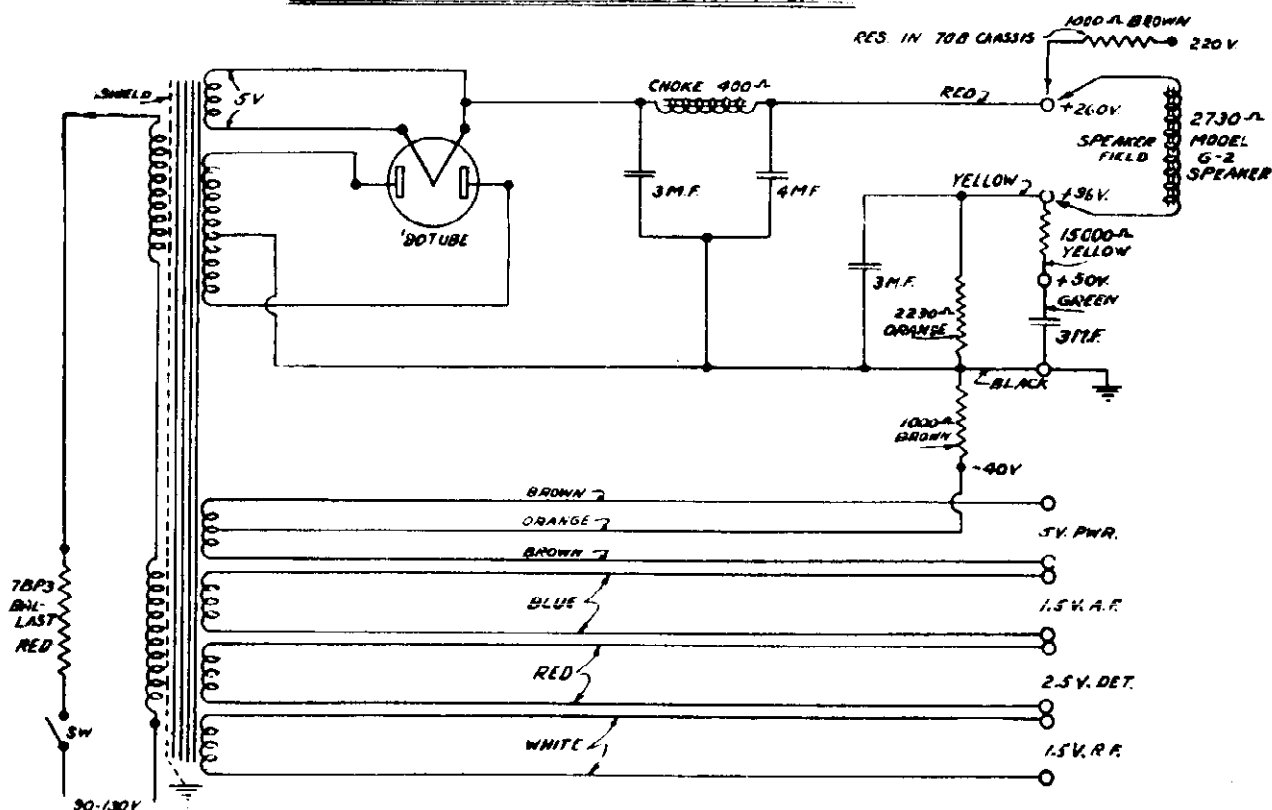
MODEL 7-BP-6,7-BP-3  
Schematic

GRIGSBY - GRUNOW CO.

SCHEMATIC DIAGRAM OF 7BP6 POWER UNIT



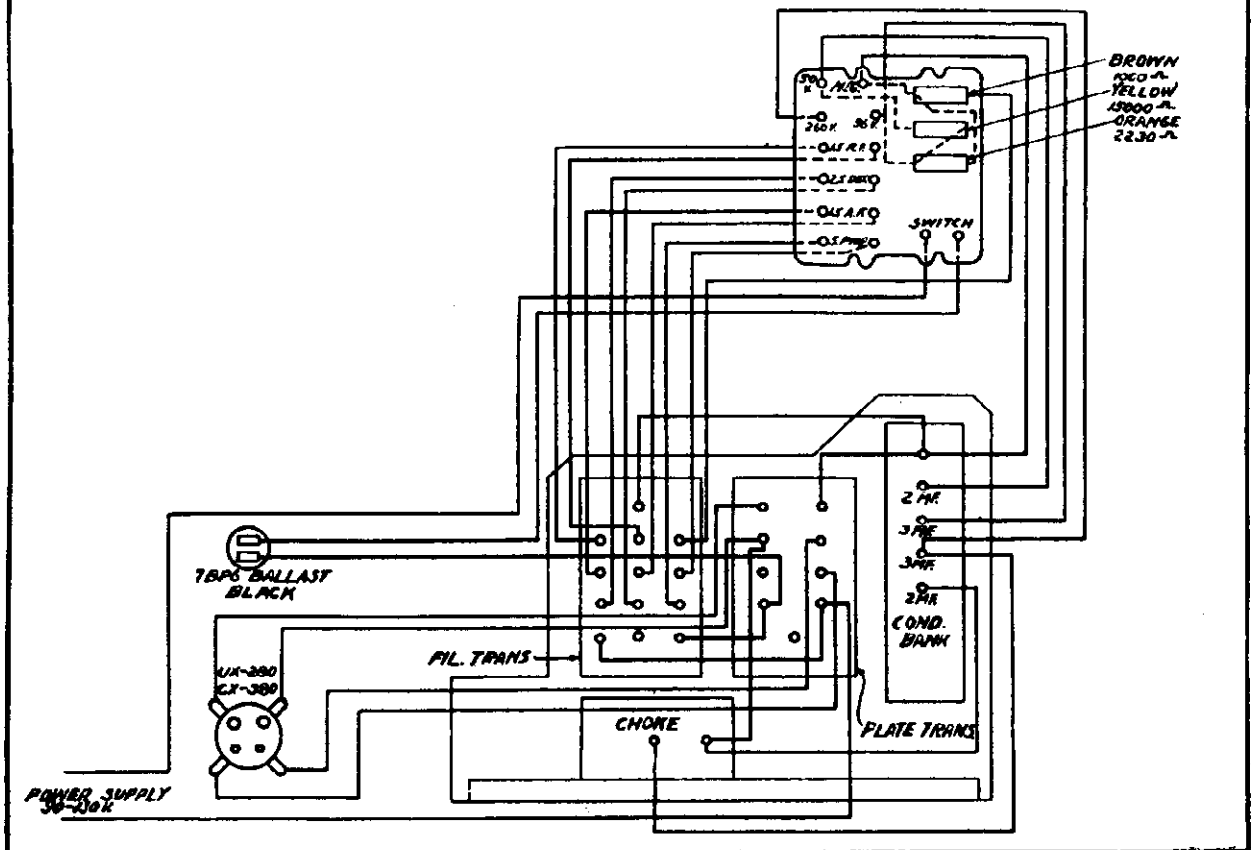
SCHEMATIC DIAGRAM OF 7BP3 POWER UNIT



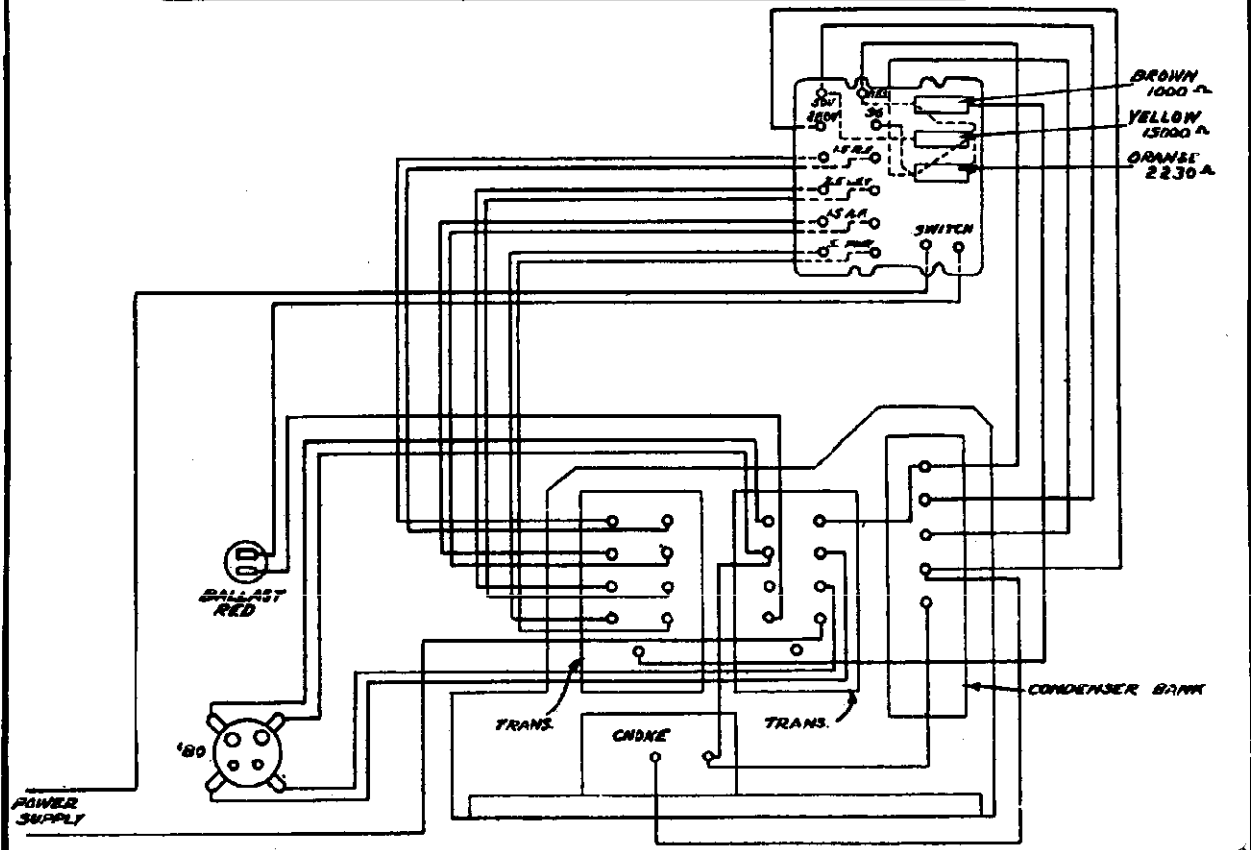
GRIGSBY - GRUNOW CO.

MODEL 7-BP-6,7-BP-3  
Wiring Diagram

WIRING DIAGRAM FOR MAJESTIC POWER UNIT - MODEL 7BP6

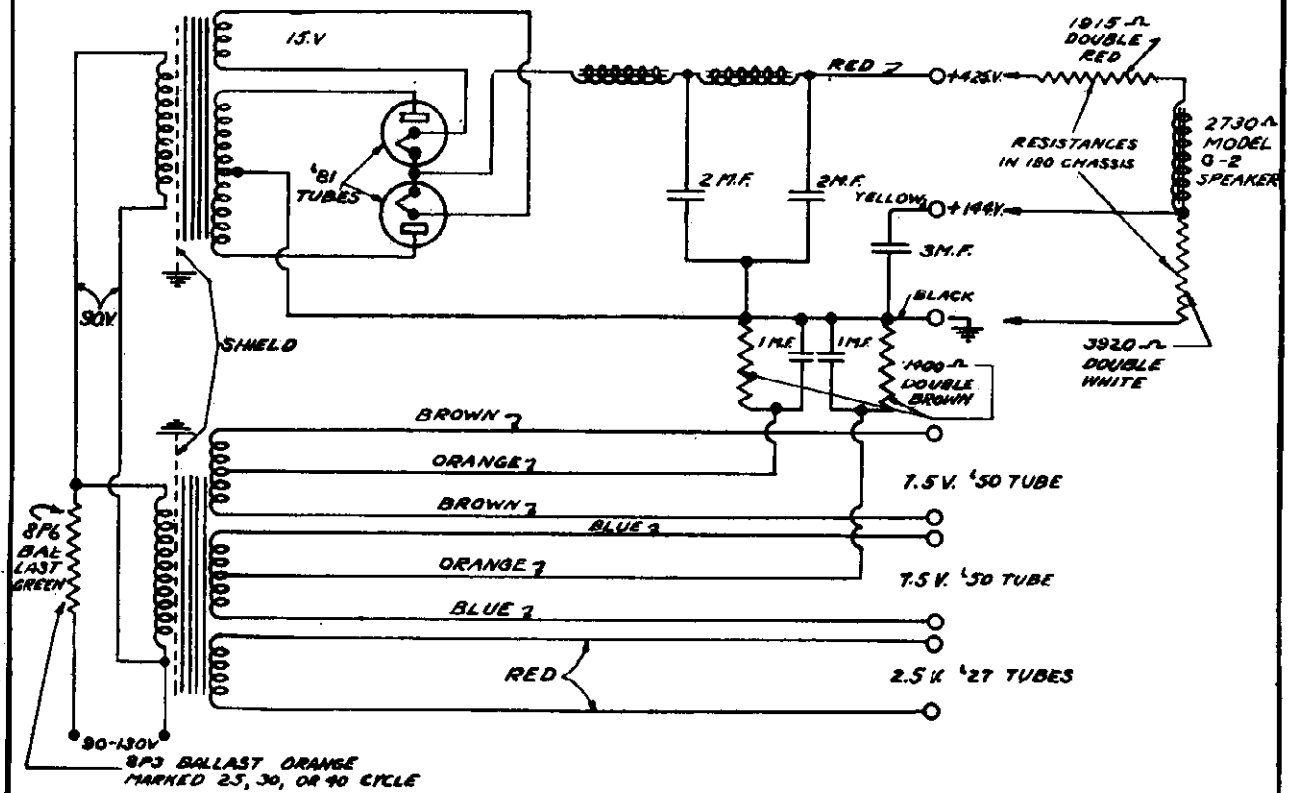


### WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7BP3

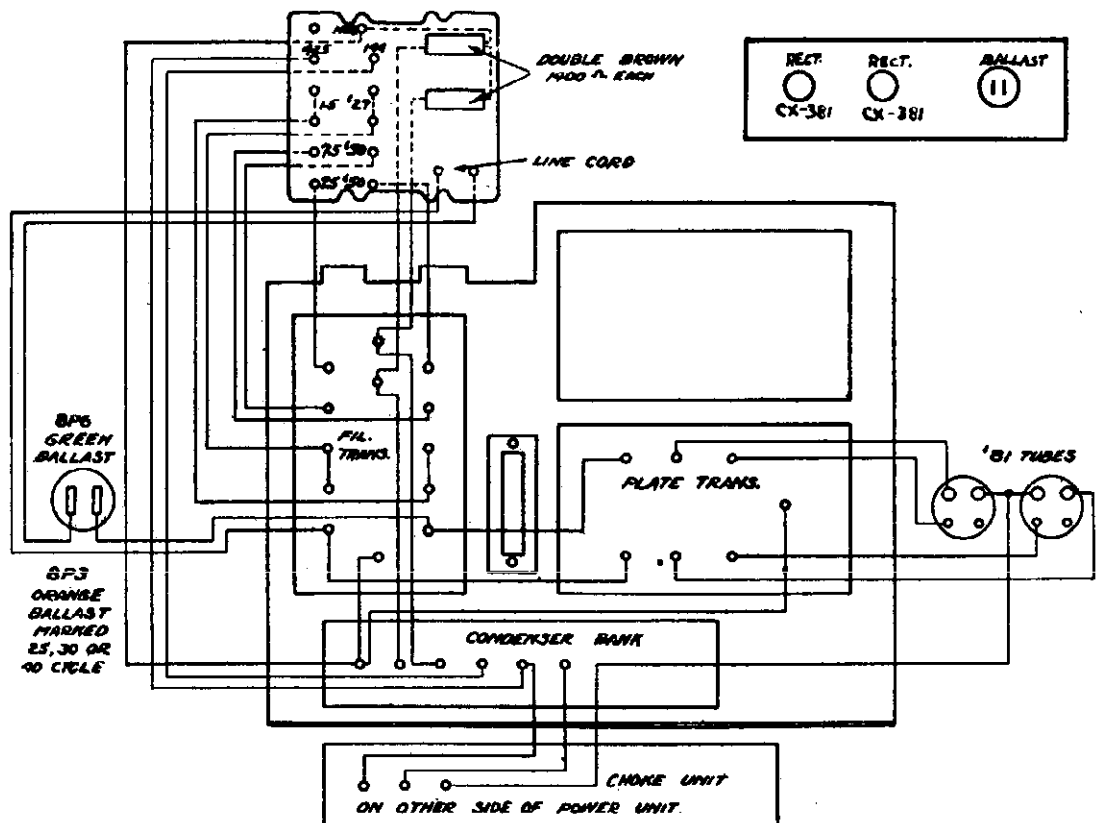




GRIGSBY - GRUNOW CO. MODEL 8-P-6, 8-P-3  
Schematic, Wiring Diagram  
GRAM OF 8P6 & 8P3 POWER UNITS  
(FOR MODEL 180 CHASSIS)



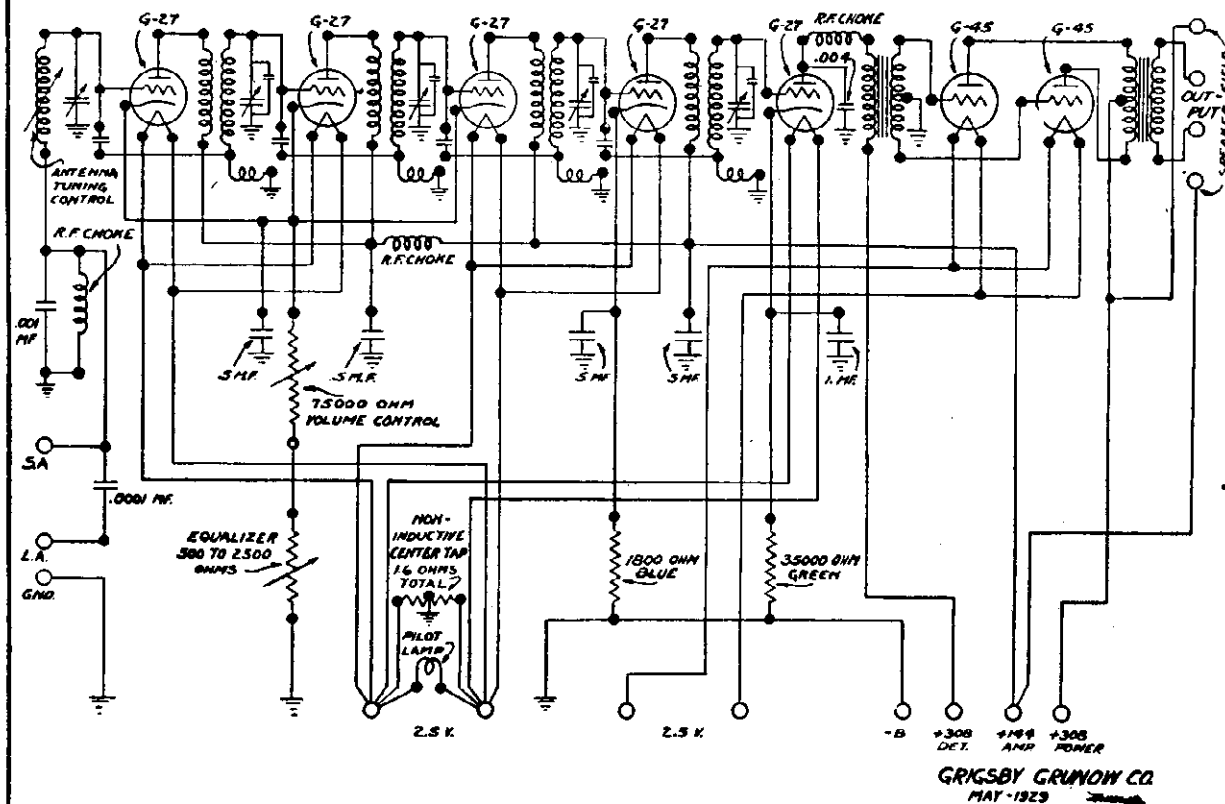
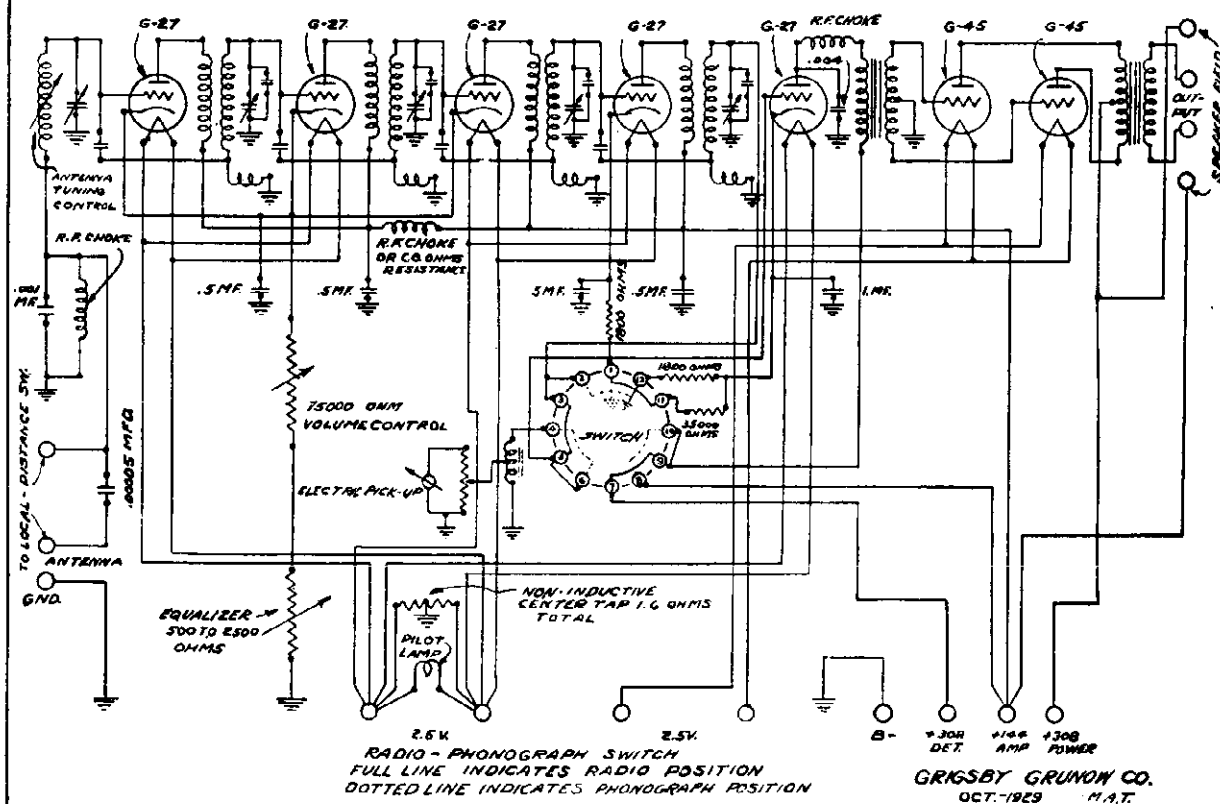
## WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 8P6 & 8P3



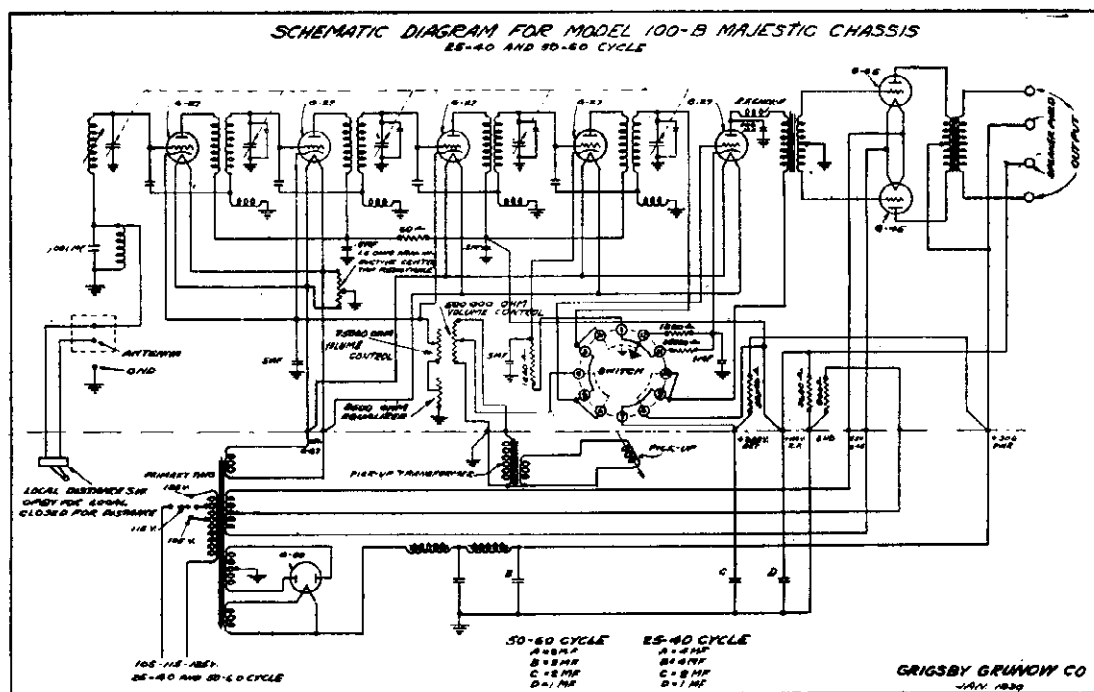


BALLAST SPECIFICATIONS FOR THE VARIOUS TYPES OF MAJESTIC ELECTRIC POWER UNITS						
POWER UNIT TYPE	FREQUENCY CYCLES PER SECOND	BALLAST MARKING	BALLAST COLOR	LINE VOLTAGE	PRIMARY VOLTS	
1PG	60	B	BLACK	115	80	
7P3	25-30-40	B	BLACK	115	60	
7BPG	60	7BPG	BLACK	115	80	
7BPG	60	7BPG	BLUE	230	160	
7BP3	25	7BP3 25	RED	115	80	
7BP3	30	7BP3 30	RED	115	80	
7BP3	40	7BP3 40	RED	115	80	
8PG	60	8PG	GREEN	115	90	
8PG	60	8PG	YELLOW	230	180	
8P3	25	8P3 25	ORANGE	115	90	
8P3	30	8P3 30	ORANGE	115	90	
8P3	40	8P3 40	ORANGE	115	90	

## GRIGSBY - GRUNOW CO.

MODEL 90,100  
SchematicSCHEMATIC DIAGRAM FOR MODEL 90 MAJESTIC RECEIVERSCHEMATIC DIAGRAM FOR MODEL 100 MAJESTIC RECEIVER

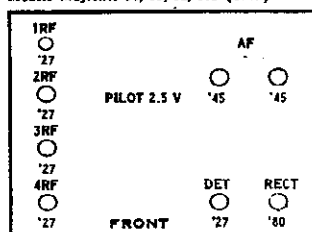
SCHEMATIC DIAGRAM FOR MODEL 90-B MAJESTIC CHASSIS  
25-40 AND 50-60 CYCLE

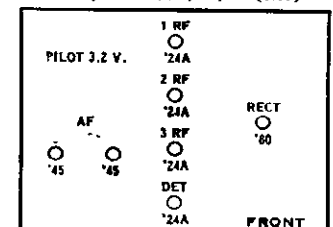


**Line Voltage 112—Set on \*Volt Tap—Volume Control  
Position Full On  
\*Voltage Regulator Is Used**

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST REF. DET. ETC.	READING: PLUG IN SOCKET OF KEY									
			TUBE OUT				TUBE IN TESTER					
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	VOLTS CONTROL (CATH.)	CATHODE -HEAT VOLTS	NORMAL M.A.	PLATE CHARGE M.A.	PLATE M.A.	SCREEN VOLTS
1	27	1st RF	2.58	145	2.35	130	8	8	5.5	7.8	2.3	-
2	27	2nd RF	2.58	145	2.35	130	8	8	5.5	7.8	2.3	-
3	27	3rd RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
4	27	4th RF	2.58	148	2.36	130	9	9	5	7.2	2.8	-
5	27	DET.	2.55	305	2.35	270	30	30	1	1	1	-
6	245	Power	2.65	275	2.45	250	50	-	32	37	5	-
7	245	Power	2.65	275	2.45	250	50	-	32	37	5	-
8	380	-	-	-	-	-	-	-	100	-	-	-

**Models Majestics 90, 91, 92, 101 (1929)**

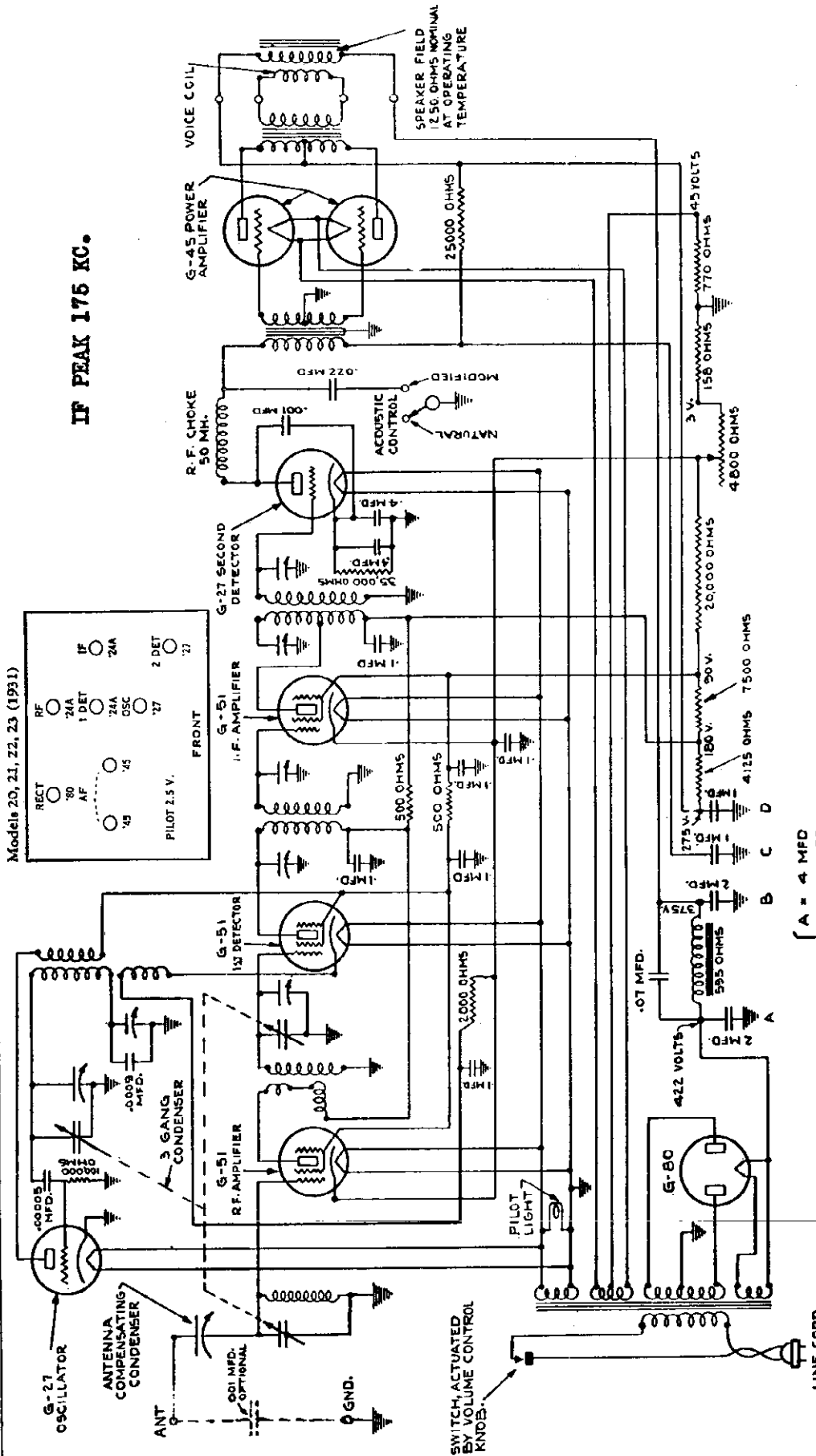




MODEL 20,21,22,23

GRIGSBY - GRUNOW CO.

IF PEAK 175 KC.



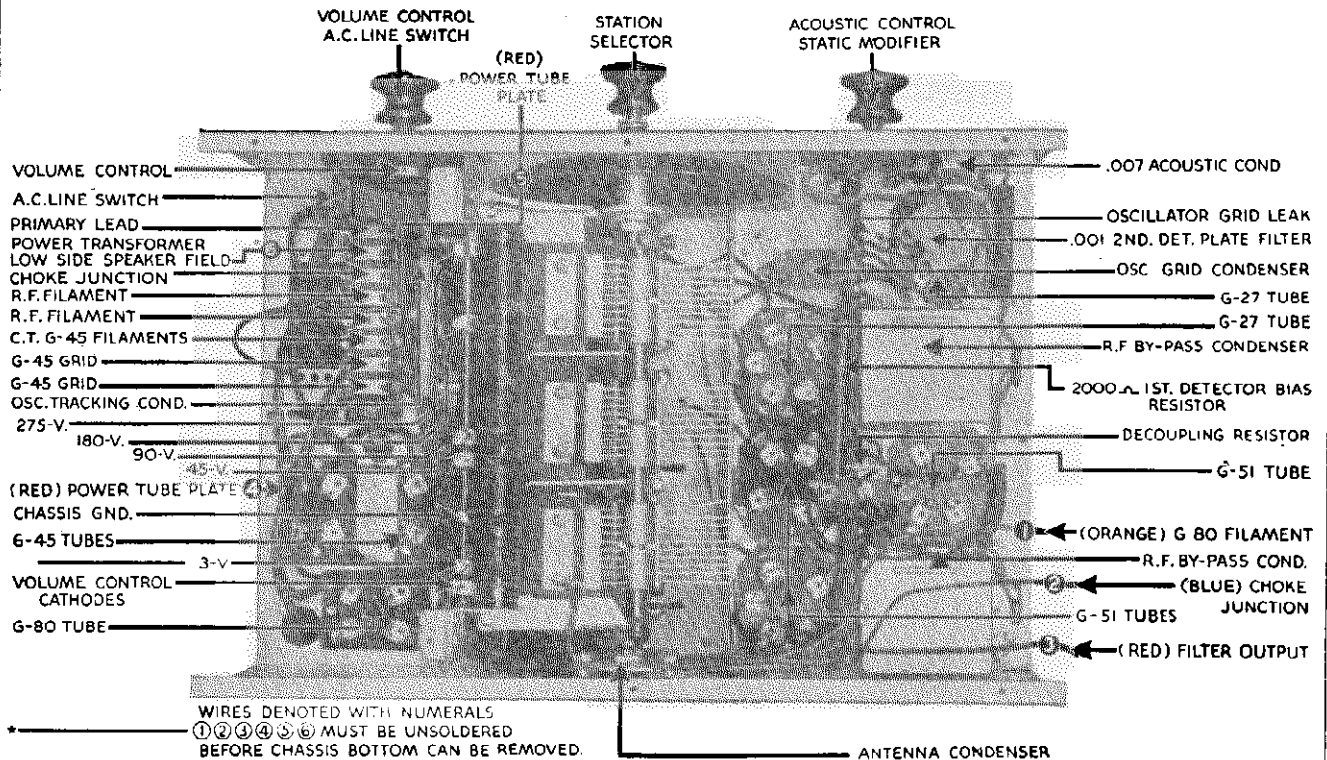
Tube	Plt.V.	Grd.V.	Cath.V.	Se.Gr.V.	Plt.Crnt
IRF	2.32	180.	3.	90.	5. ma
Osc.	2.32	90.	0.		4.
1Det.	2.32	180.	8.	90.	1.
1IF	2.32	180.	3.	90.	5.
2Det	2.32	255.	21		8.
PPAF	2.36	275.	45.		28.
PPAF	2.36	275.	45.		28.
Reo.	4.88	410.			80.

25-40 CYCLE  
A = 4 MFD  
B = 2 MFD  
C = 1 MFD  
D = 1 MFD

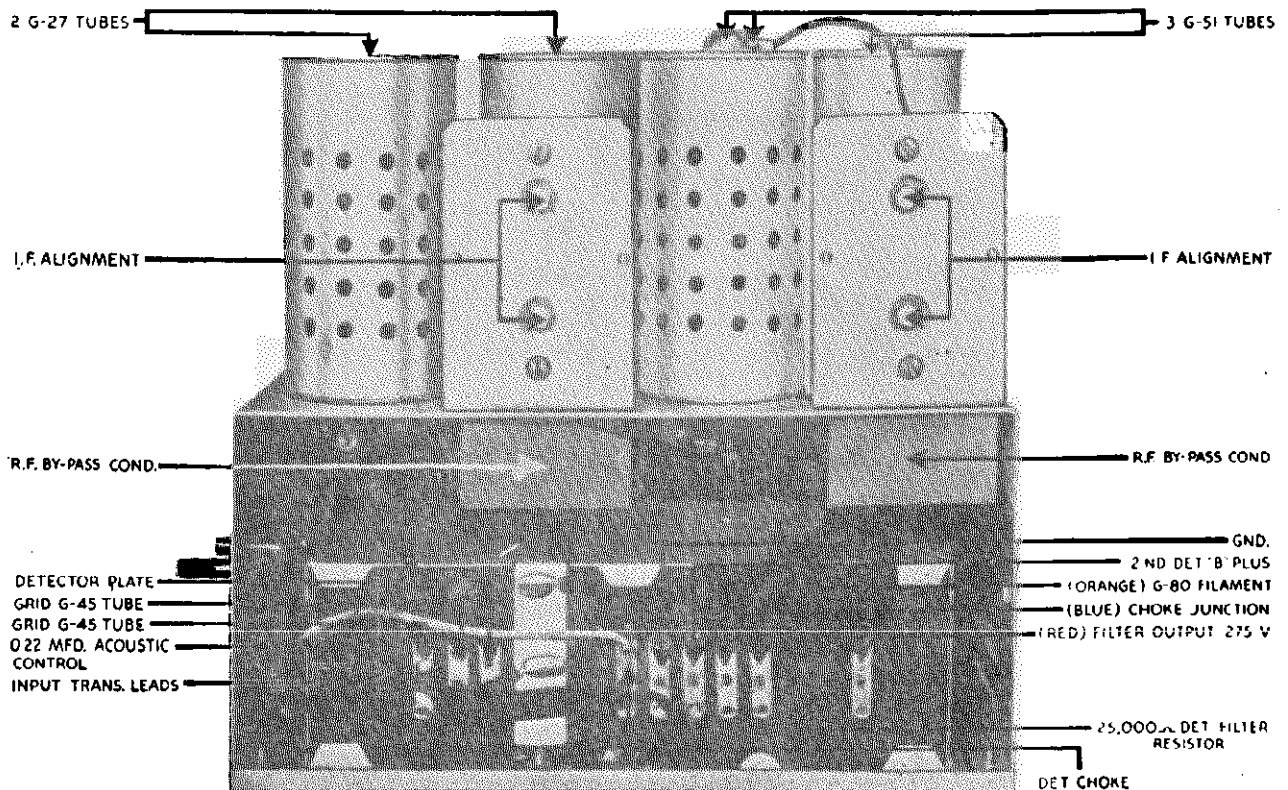
CONDENSER COLOR CODE

- 2 mfd condenser- Orange, stranded
- 2 mfd condenser- Blue, stranded
- 1 mfd condenser- Red, stranded
- 1 mfd condenser- Green stranded
- Condenser common- Black stranded
- .07 mfd condenser- White stranded.

## GRIGSBY - GRUNOW CO.

MODEL 20  
Chassis

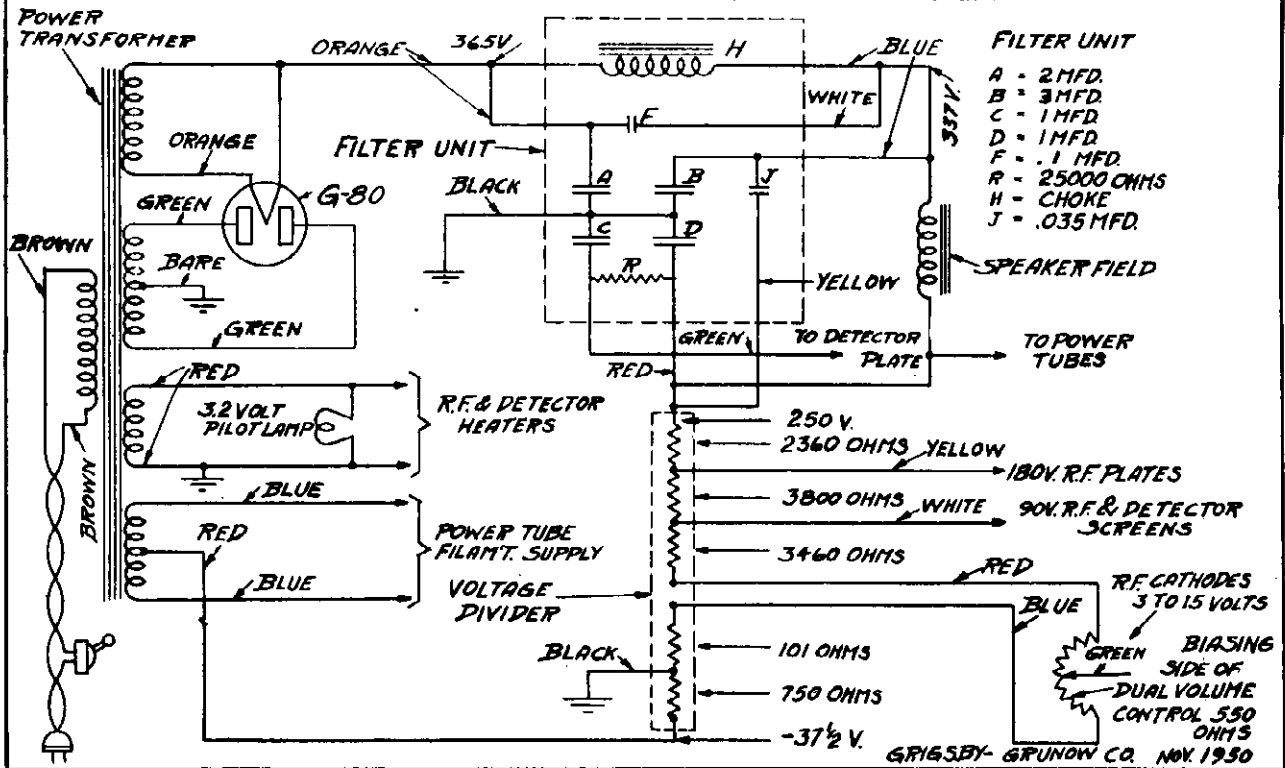
Bottom View of Model 20 Chassis



End View of Model 20 Chassis



## GRIGSBY - GRUNOW CO.

MODEL 30  
Voltage-DataSCHEMATIC DIAGRAM OF POWER UNIT AND VOLTAGE DIVIDER SYSTEM  
MODEL 30 MAJESTIC SCREEN GRID CHASSIS 50-60 CYCLE.**FILTER UNIT**

From:	Connect to:
Orange	G-80 Socket (Filament)
Blue	Junction of Speaker Field and Choke
Green	Start of Primary of Input Transformer
Red	Free end of 2500 ohm resistor
Yellow	Free end of 2500 ohm resistor
White	Junction of Speaker Field and Choke
Black	Ground
Orange	Choke
Blue	(1-40 socket (Filament))
	Junction of speaker field and choke

**Caution**

Under no condition, attempt to use a ground connection on the antenna binding posts. Be certain that the antenna and ground wires are on their respective posts. Under no circumstances should a gas pipe be used for a ground.

**Model G-6 Dynamic Speaker**

The Model G-6 Dynamic Speaker used on the Model 30 receiver is a highly efficient speaker. The field construction is of the improved "U" Type. The field coil is treated in an impregnating compound that keeps it waterproof and allows air cooling. The field coil resistance is 1,000 ohms. The G-6 speaker uses a nine inch cone of waterproof lacquered bakelite made by the same process as the Super-Colortone G-5 cone. The G-6 Dynamic Speaker has been designed to give a uniform response over the audio frequency range. The cone coil is the same as used on Model G-5 Speaker.

**Speaker Cables**

During the periods of production of the G-6 Speaker, different colored wires will be used for the field and voice coil leads, in the cable. So that the service man may easily check the circuits, we are listing below the three groups which will be used:

Standard Cable	Reversed Cable	Chassis Connections	Speaker Terminal Connections
Blue	Red	Secondary of Output Transformer	White - Voice Coil
Blue	Red	"B" Maximum on Multiple Resistor	White - Leads
Red	Yellow	Speaker Field and Choke Junction	Red - Field Coil
Black	Green		Blue - Leads

For example you may be called upon to check a Receiver and Speaker, and upon examination you find that the leads are two White wires, and a Red and a Blue wire. Reference to the group above will eliminate any trouble you might experience in determining whether the leads in question are voice coil or field coil leads.

**Table of Voltages**

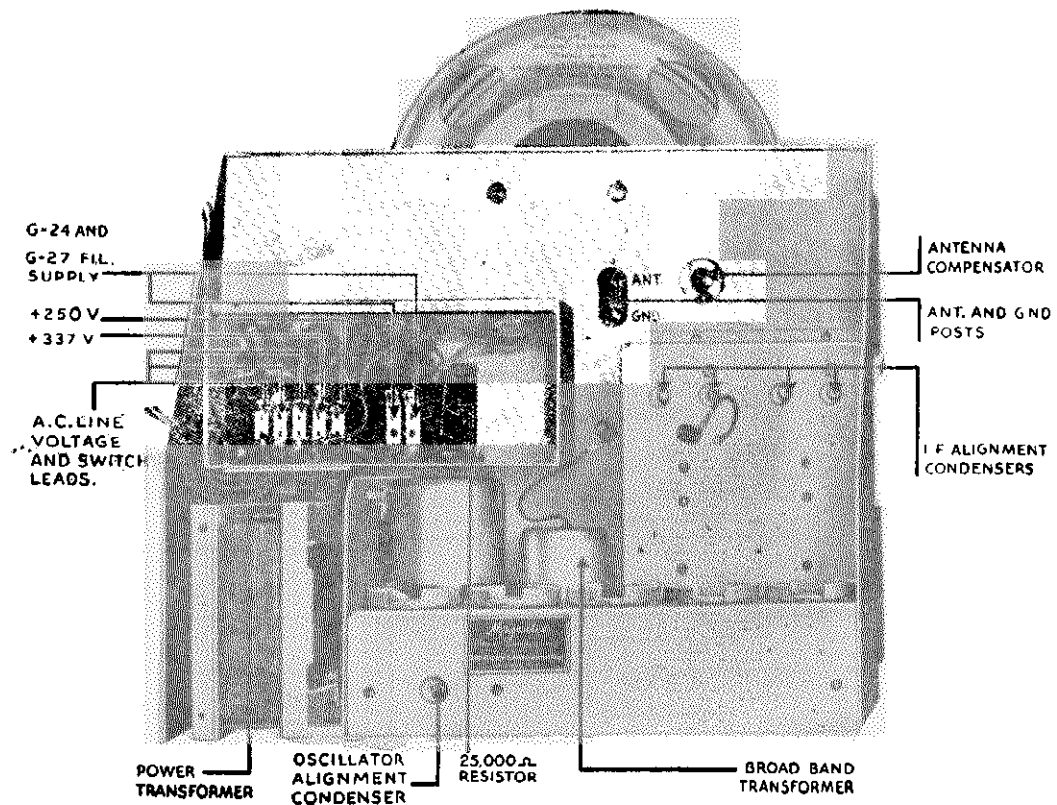
Stage	Tube	Fil. Volts	Plate Volts	Grid Volts	Cath. Volts	Normal Plate M. A.	Screen Volts
1st R. F.	G-24	2.35	180	3	3	3	90
2nd R. F.	G-24	2.35	180	3	3	3	90
Detector	G-24	2.35	225	10	10	3	90
1st Pwr.	G-45	2.35	250	37.5		25	
2nd Pwr.	G-45	2.35	250	37.5		25	
Rect.	G-80	4.80	338			40	

**NOTE:** All Plate, Screen Grid, Control Grid, and Cathode Voltages are measured from Ground (chassis) with a standard 1,000 ohm per volt, voltmeter.

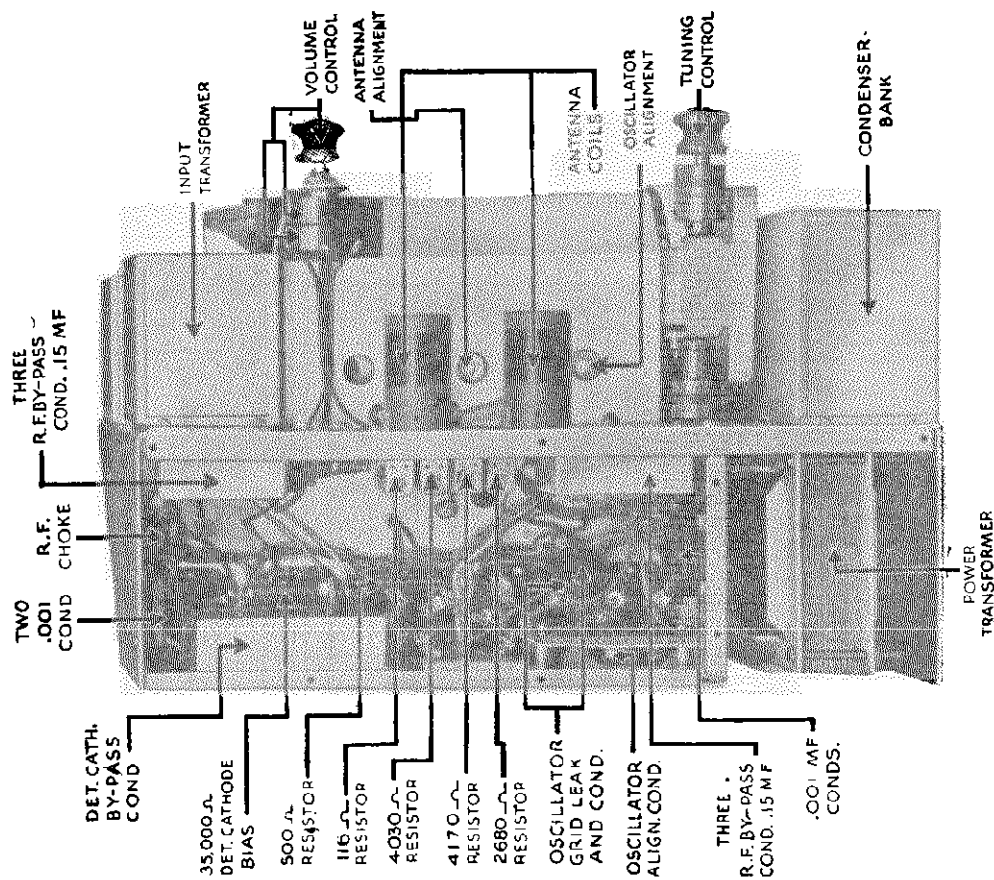




## GRIGSBY - GRUNOW CO.

MODEL 50  
Chassis Views

Rear View of Model 50 Chassis, Showing Voltage Taps, Etc.



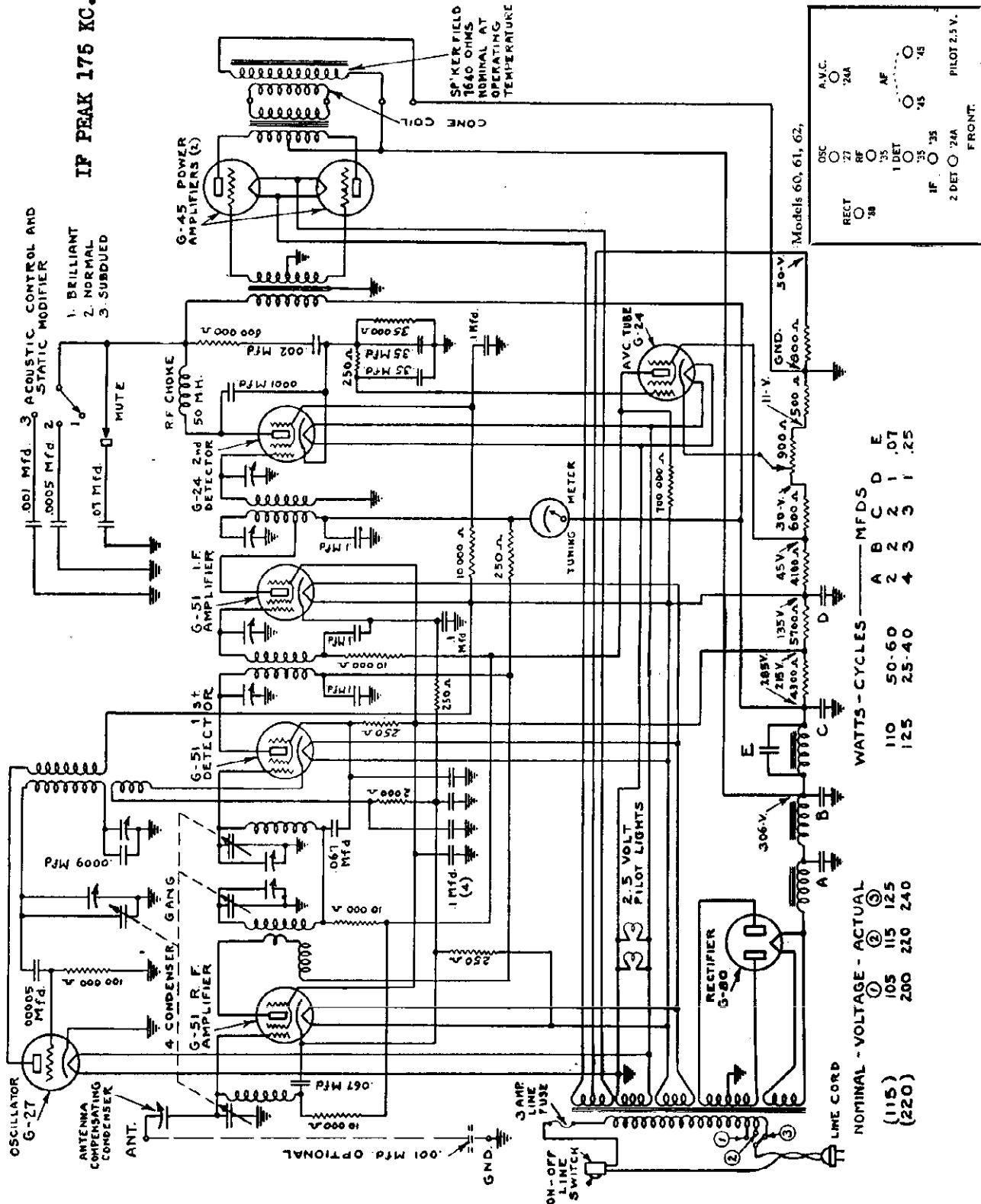
Bottom View of Model 50 Chassis

MODEL 60,61,62  
Schematic

GRIGSBY - GRUNOW CO.

Additional data on pages following

IF PEAK 175 KC.



## GRIGSBY GRUNOW CO.

MODEL 60,61,62  
MODEL 160,163  
Data

## OPERATING VOLTAGES FOR MODEL 60 and 160 CHASSIS OR 61,62,163 Receivers

		Fil.	Plate.	Screen.	Con.Grd.	Cathode	Plate Crnt.
1st RF	G-51	2.35	285	215		3	4.5 ma
Osc.	G-27	2.35	135				4.0
1st Det	G-51	2.35	285	215		8	4.5
IF Amp	G-51	2.35	285	215		3	4.5
2nd Det	G-24	2.35	275	135		12	.25
1st PA	G-45	2.4	300		50.		32.5
2nd PA	G-45	2.4	300		50		32.5
AVC	G-24	2.35	+	45		11	0.
Rect	G-80	4.88	490				90. Per anode

+ Readings of the automatic volume control tube plate terminal will be erratic because of the 700000 ohm resistance which is in series with the plate supply lead.

Note.. All plate, screen grid, control and cathode voltages are measured from Ground (chassis) with a standard 1000 ohms per volt meter. Voltage readings with volume control setting at maximum.

## COLOR CODING DATA

Power Transformer. Start of winding of primary Red  
105 volts Red and white  
115 volts Yellow  
125 volts Green

Filament 45 Blue. Centre tap 45 Red

Filament 80 Brown. Rectifier anodes Green. Centre tap anodes Bare

Heater 2nd Det., AVC, and Osc. Red

Heater white (135 volts above ground)

## Filter Unit.

2 mfd condenser Green. 2 mfd condenser Red. 2 mfd condenser Blue. 1 mfd condenser Yellow. .07 mfd condenser White. Condenser common Black.

## Choke

Filter output Red. Detector choke low side Green. Junction of chokes Blue.

## General

The antenna compensator control is located adjacent to the antenna terminal. A 3 ampere fuse is used.

## Resistances.

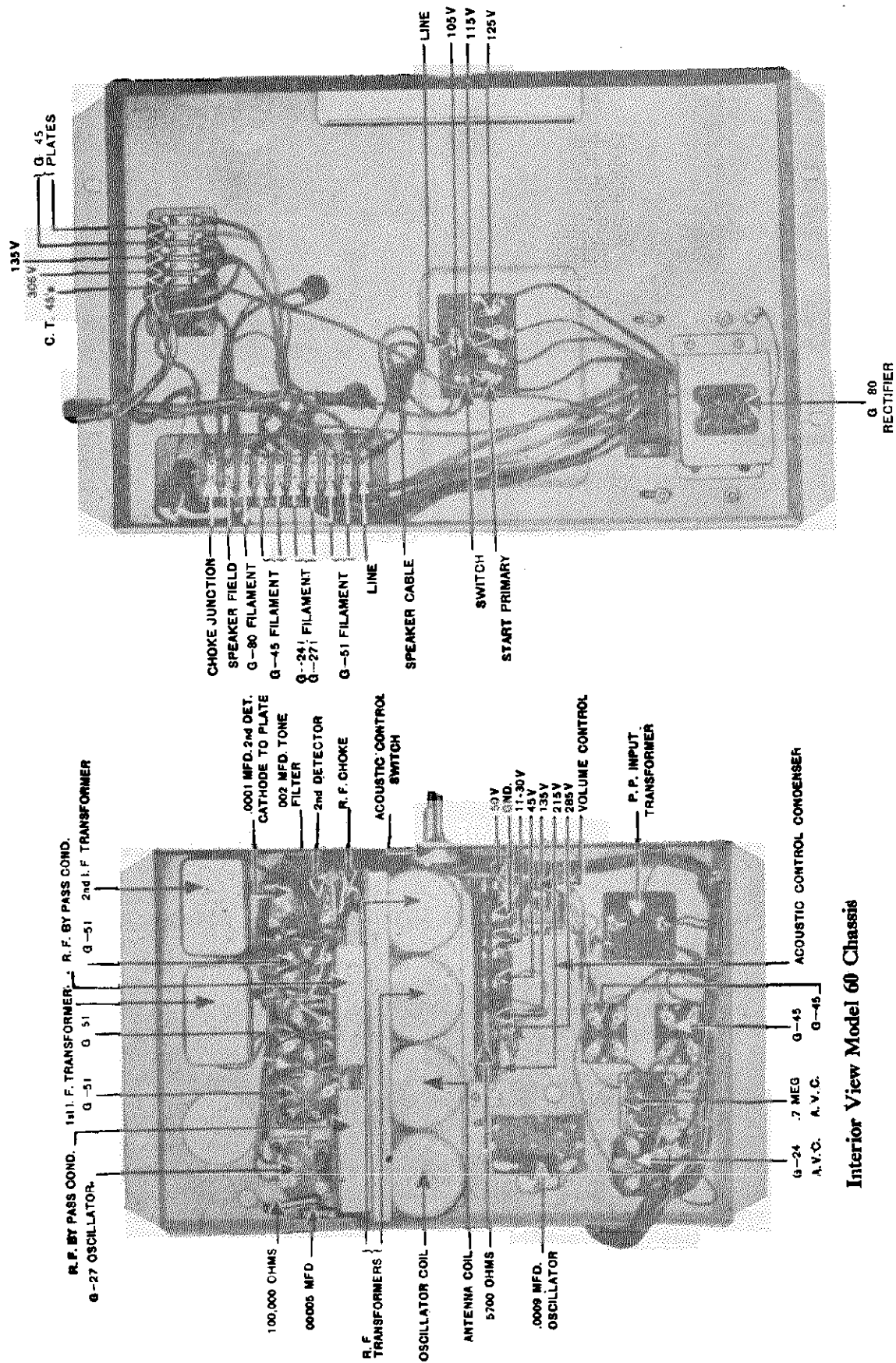
100000 ohm oscillator grid leak - Orange. 600000 ohm Acoustic control- Red.  
700000 ohm AVC plate resistor - Yellow. 35000 ohm 2nd detector cathode bias- Green  
5700 ohm section of voltage divider- Blue. 10000 ohm 2nd detector screen decoupler- Orange. 250 ohm 1st detector screen, 1st detector plate, 2nd detector cathode, AVC grid, RF and 1st detector decoupler- Green. 250 ohm RF, 1st detector, IF auto bias- Yellow. 2000 ohm 1st detector auto bias- Blue.

## Model - 163

The radio circuit and performance of the model 163 is identical to that of the model 60 chassis. The front panel controls of the 163 combination are radio controls only, and are the same as that of the model 61 and 62 radio receivers. The second detector tube grid comprises the audio frequency input circuit, that is when the phono switch is in phono position. The second detector tube becomes an audio amplifier, the grid bias and input circuit being changed accordingly.

MODEL 60,61  
Chassis Views

GRIGSBY - GRUNOW CO.



View Showing Power Supply Circuit Model 60 Chassis

Interior View Model 60 Chassis

## GRIGSBY - GRUNOW CO.

MODEL 160,163  
Schematic

For Voltage Data See Model 60

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

