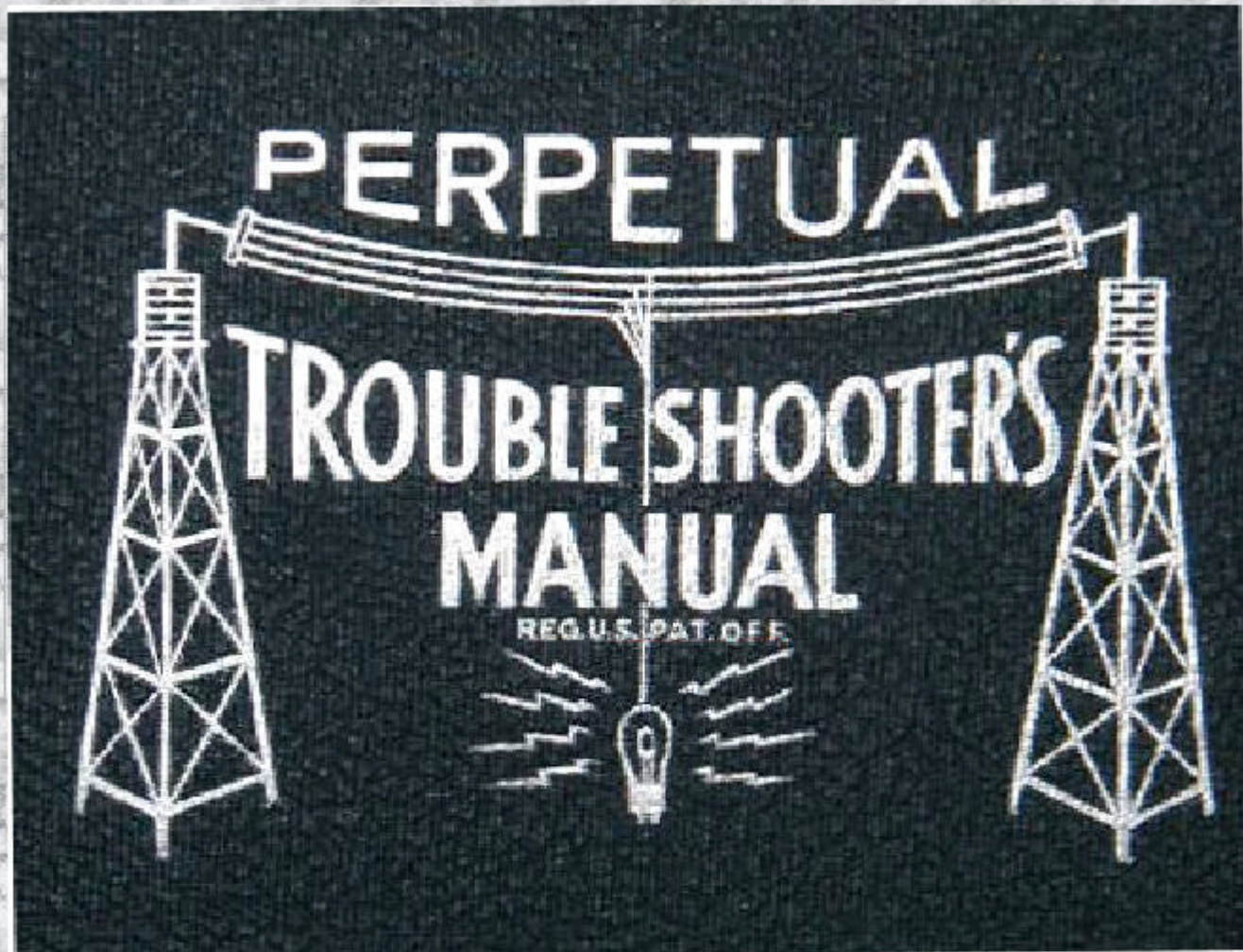


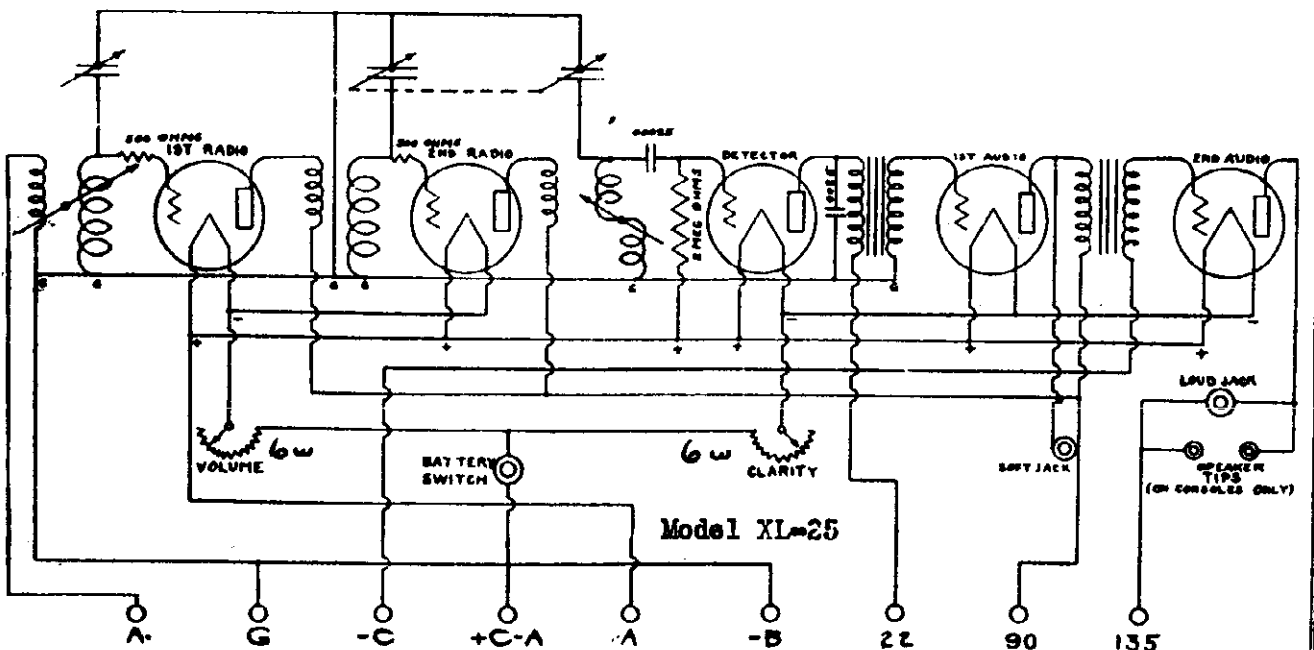
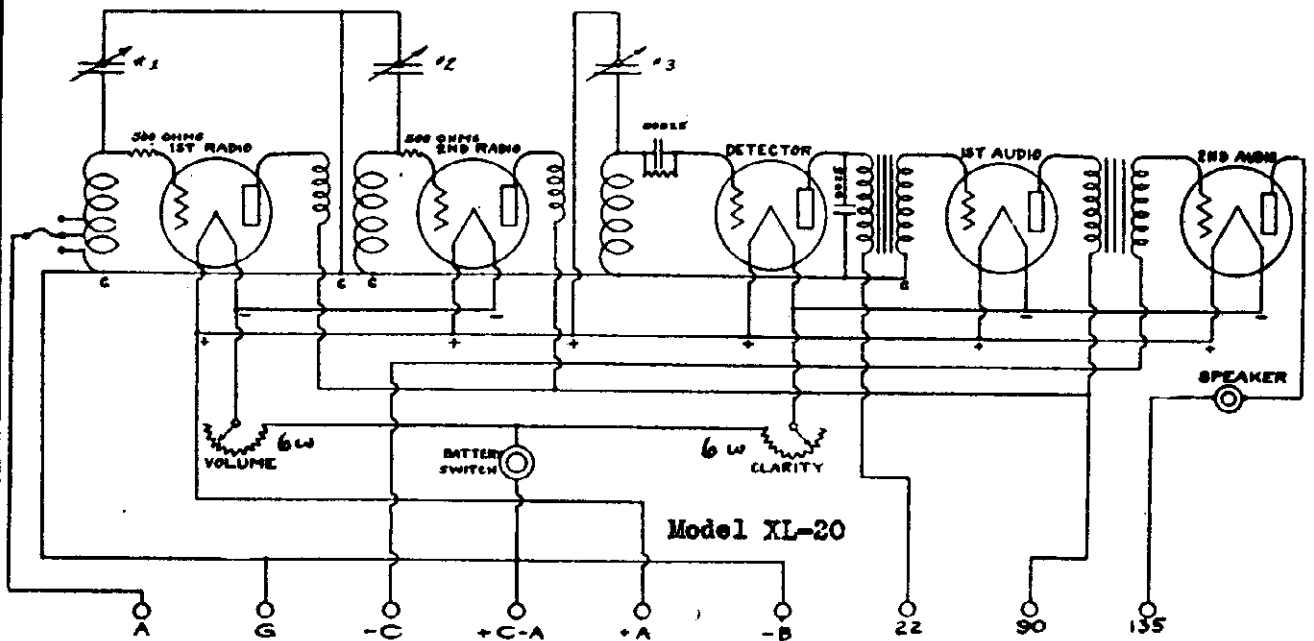
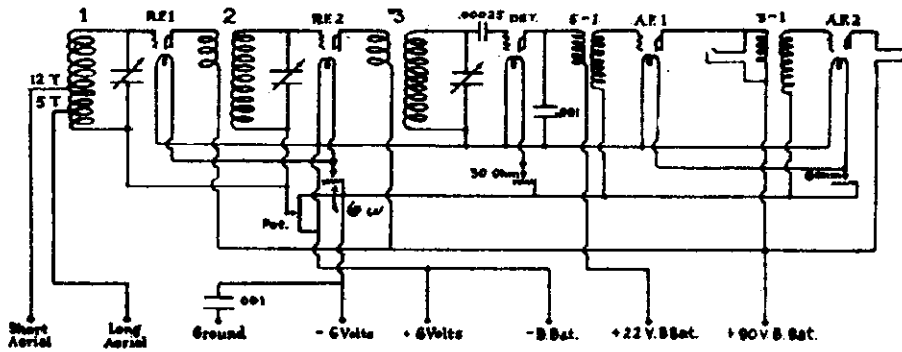
# ***RIDER'S*** **VOLUME - I**



**COVERING THE 1920's  
THROUGH  
LATE 1930**

THE A-C DAYTON CO.

MODEL XL-5  
XL-20  
XL-25

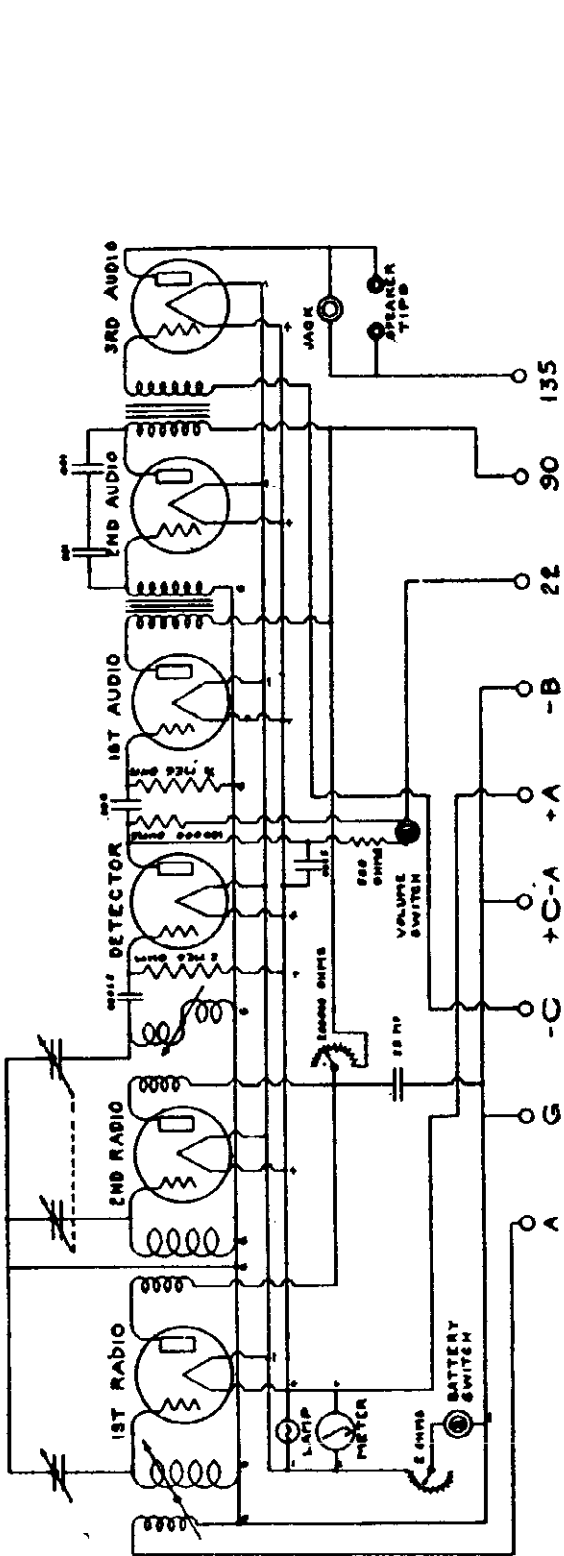




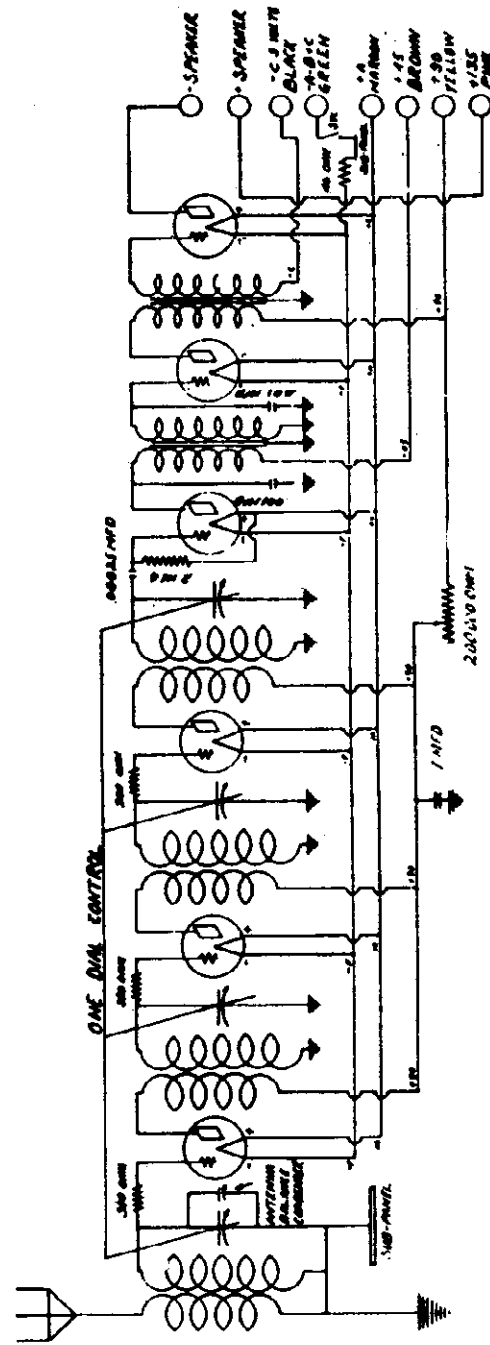


MODEL XL - 30  
XL - 61

THE A-C DAYTON CO



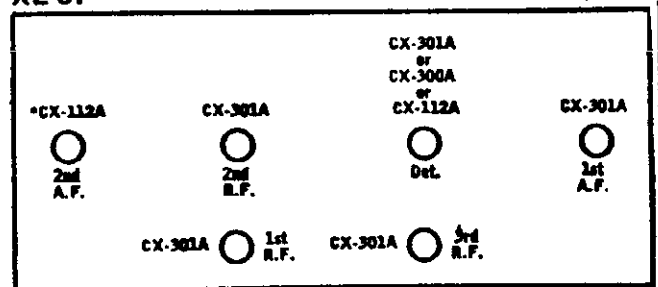
Model XL - 30



Model XL - 61 Battery

XL 61

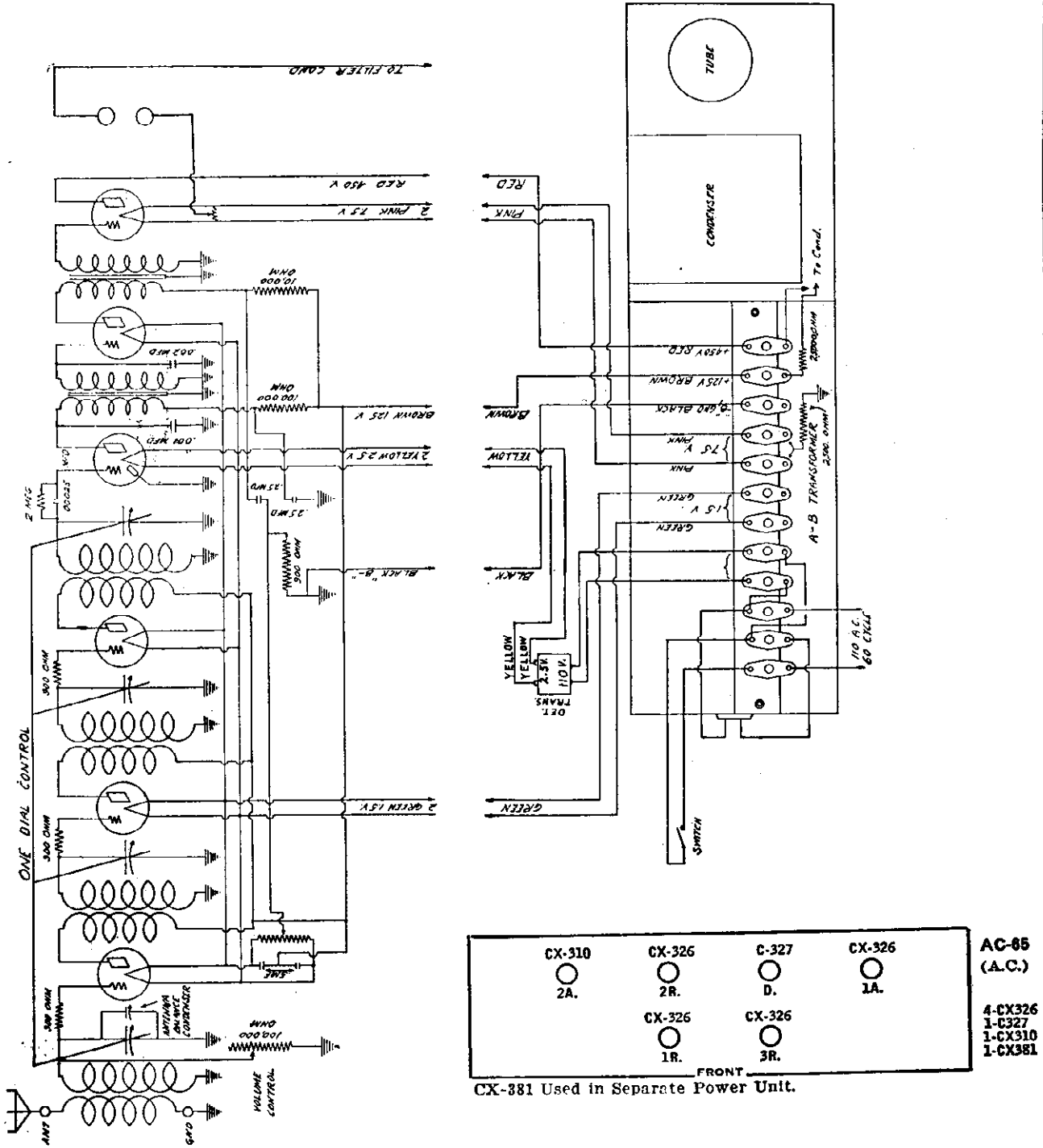
(Cont.)





MODEL AC - 65

THE A-C DAYTON CO.

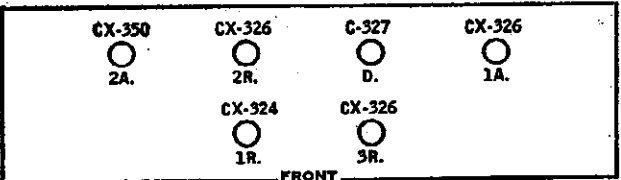
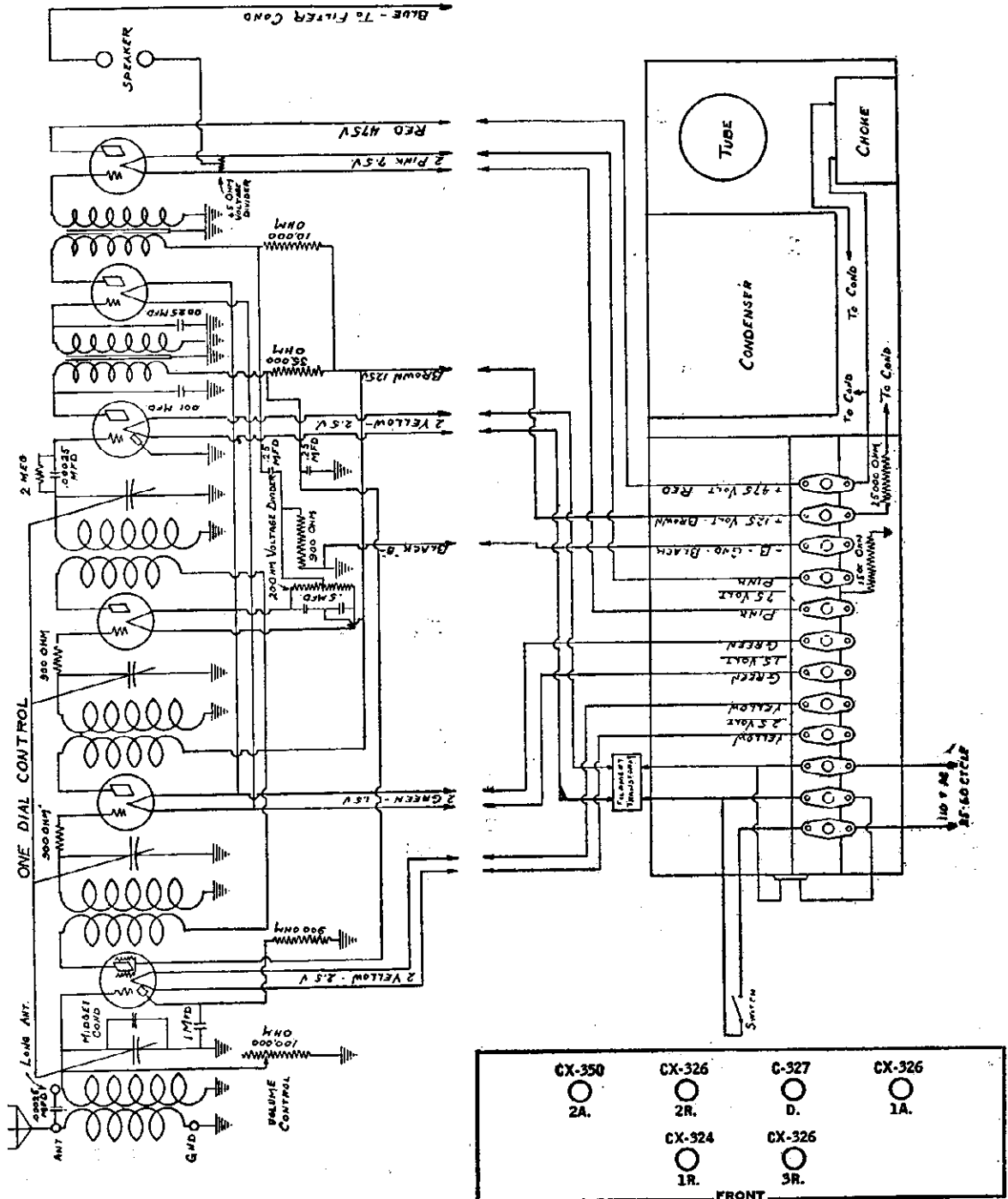


VOLTAGES OF VARIOUS CIRCUITS

Tube Socket	Plate Volts	Plate Current	Filament Volts	"C" Bias
1st R. F.	145 V.	4 mils	1.5 V.	11 V.
2nd R. F.	145 V.	4 mils	1.5 V.	11 V.
3rd R. F.	145 V.	4 mils	1.5 V.	11 V.
Detector	25 V.	1.3 mils	2.45 V.	0 V.
1st A. F.	120 V.	2 mils	1.5 V.	11 V.
2nd A. F.	430 V.	18 mils	6.75 V.	42 V.

The above readings are taken at 120 Volt line voltage. Readings may vary 5% plus or minus

THE A-C DAYTON CO.



AC-66  
(A.C.)  
1-C324  
3-CX326  
1-C327  
1-CX350  
1-CX381

\*CX-381 Used in Separate Power Unit.

VOLTAGES AT THE VARIOUS SOCKETS

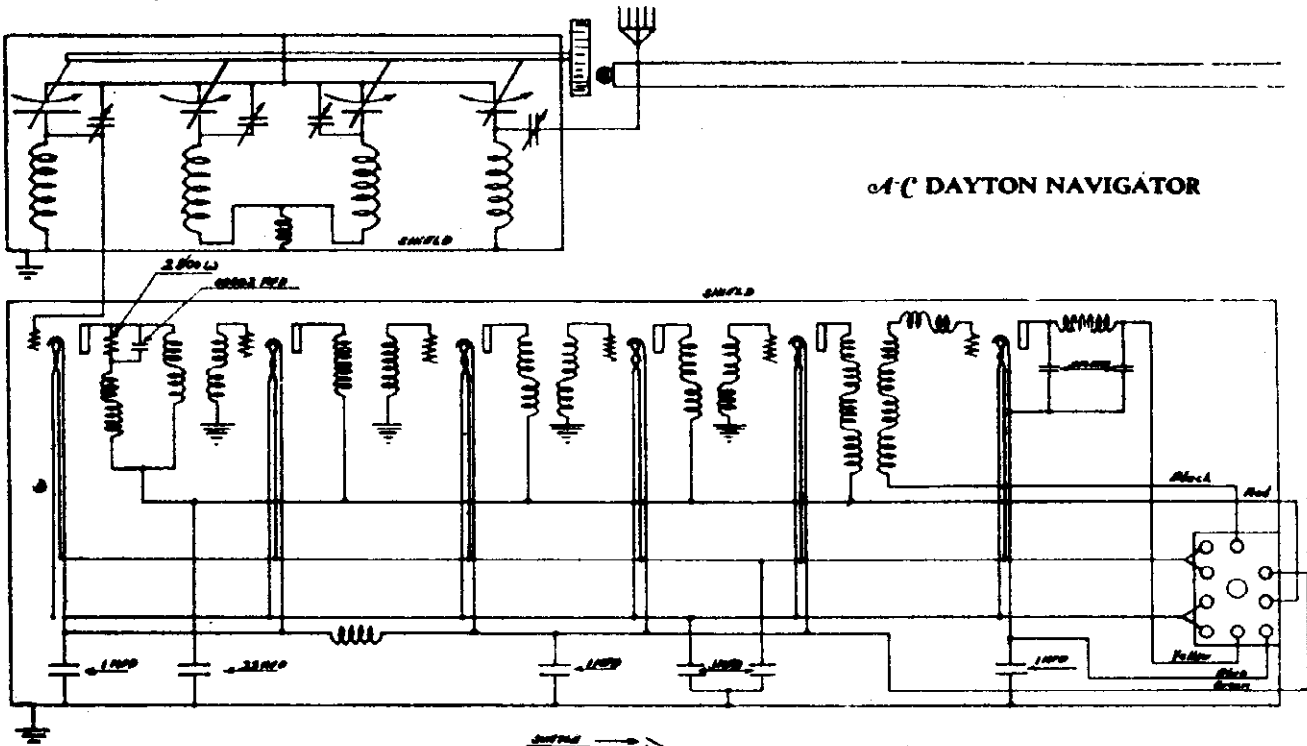
Tube Socket	Plate Volts	Plate Current	Filament Volt	C Bias
1st R. F.	130 V.	1 mil.	2.4 V.	7.5 V.
2nd R. F.	130 V.	4 mils.	1.4 V.	9 V.
3rd R. F.	130 V.	4 mils.	1.4 V.	9 V.
Detector	38 V.	2 mils.	2.4 V.	0 V.
1st A. F.	110 V.	2 mils.	1.4 V.	9 V.
2nd A. F.	350 V.	40 mils.	6.75 V.	63 V.

The above readings can only be taken on a Set Analyzer. They may vary 5% depending on tubes and line voltage.

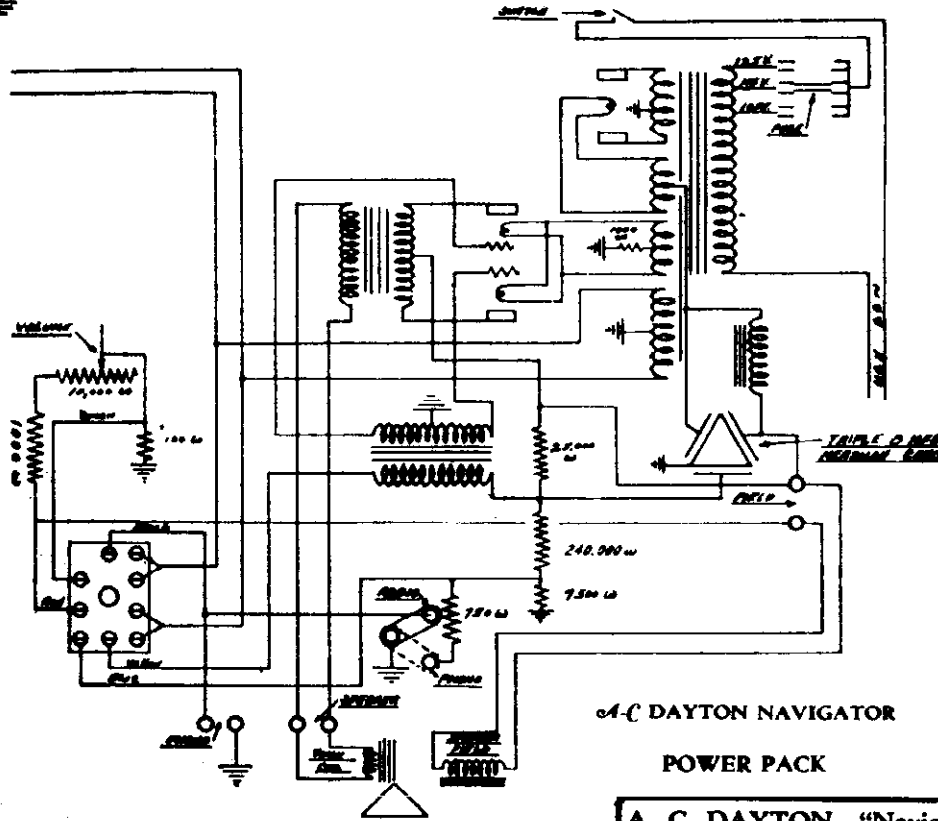


MODEL  
"Navigator"

THE A-C DAYTON CO.



A-C DAYTON NAVIGATOR



A-C DAYTON NAVIGATOR  
POWER PACK

(A.C.)

6-C327  
2-CX345  
1-CX380  
DIN 2.5 V.

C-327 C-327 C-327 C-327 C-327 C-327  
1R. 2R. 3R. 4R. 5R. 5R.

POW. D.

CX-345 1A. CX-345 1A. CX-380 R.

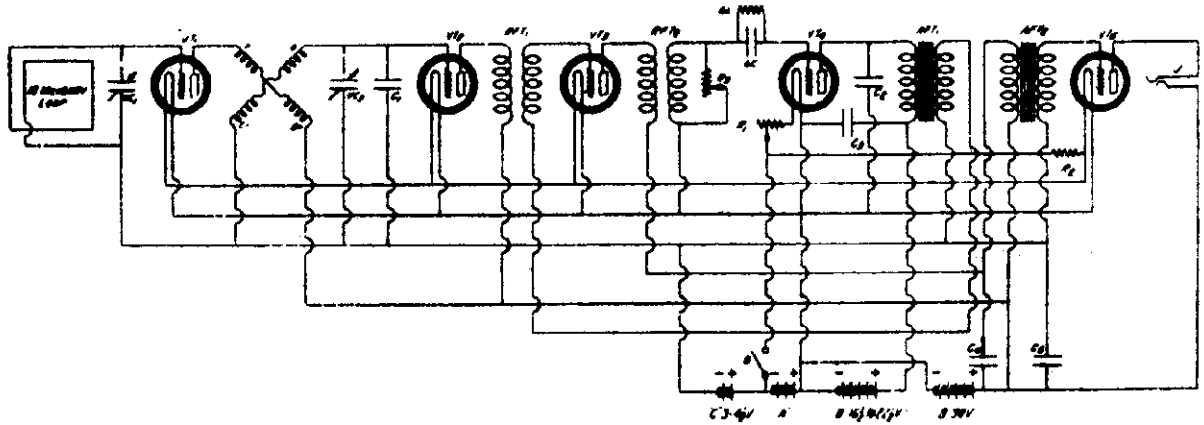
FRONT

A. C. DAYTON—"Navigator" Line Voltage—115

TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE (BY REF. DET. ETC.)	TUBE DATA					READINGS PLUG IN SOCKET BY SET				
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE CONTROL VOLTS	HEATER VOLTS	NORMAL PLATE VOLTS	PLATE CURR. (MA) TEST	PLATE CURR. (MA) CHARGE
1	227	1st RP	2.5	111	2.4	110	3.5	3.5	5	9	4	-
2	227	2nd RP	2.5	111	2.4	110	3.5	3.5	5	9	4	-
3	227	3rd RP	2.5	111	2.4	110	3.5	3.5	5	9	4	-
4	227	4th RP	2.5	111	2.4	110	3.5	3.5	5	9	4	-
5	227	5th RP	2.5	111	2.4	110	3.5	3.5	5	9	4	-
6	227	Det.	2.5	105	2.4	105	15.0	0	1	-	-	-
7	245	Audio	2.5	235	2.4	230	30	-	22	26	4	-
8	245	Audio	2.5	235	2.4	230	30	-	22	26	4	-
9	280	Revt.	4.0	-	4.75	-	-	-	65	-	-	-

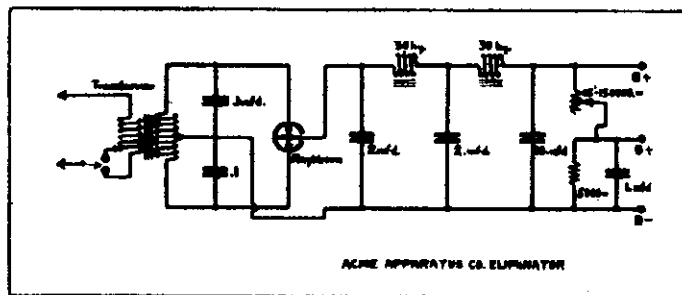
ACME APPARATUS CO.

MODEL 5 Tube Reflex  
"B" Unit



CONSTANTS FOR ACME 5 TUBE REFLEX (1926)

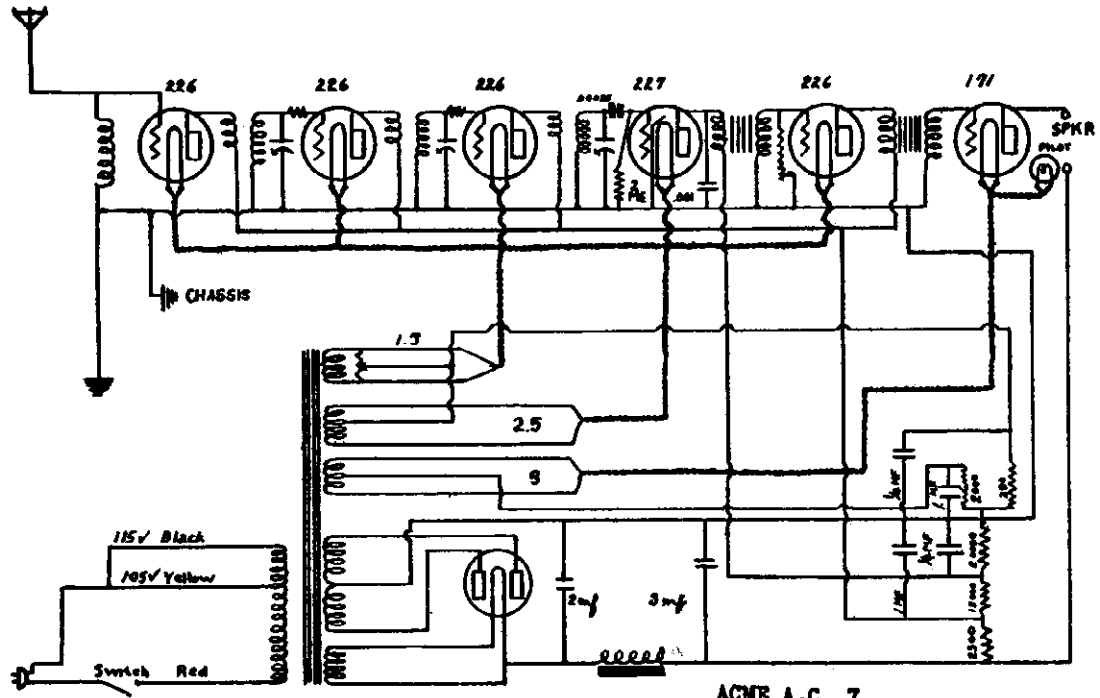
C1	.0004 mfd.	C7	.00025 mfd.
C2	.002 mfd.	C8	.5 to 2 meg
C4	.002 mfd.	R1	6 ohms
C5	1. mfd.	R2	1 ohm
C6	2. mfd.	R3	2000 ohms



ACME APPARATUS CO. "B" ELIMINATOR (1926)

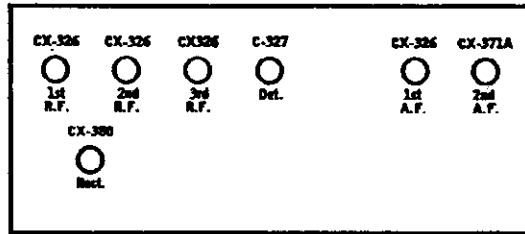
ACME ELECTRIC & MFG. CO.

MODEL AC-7  
SG-83



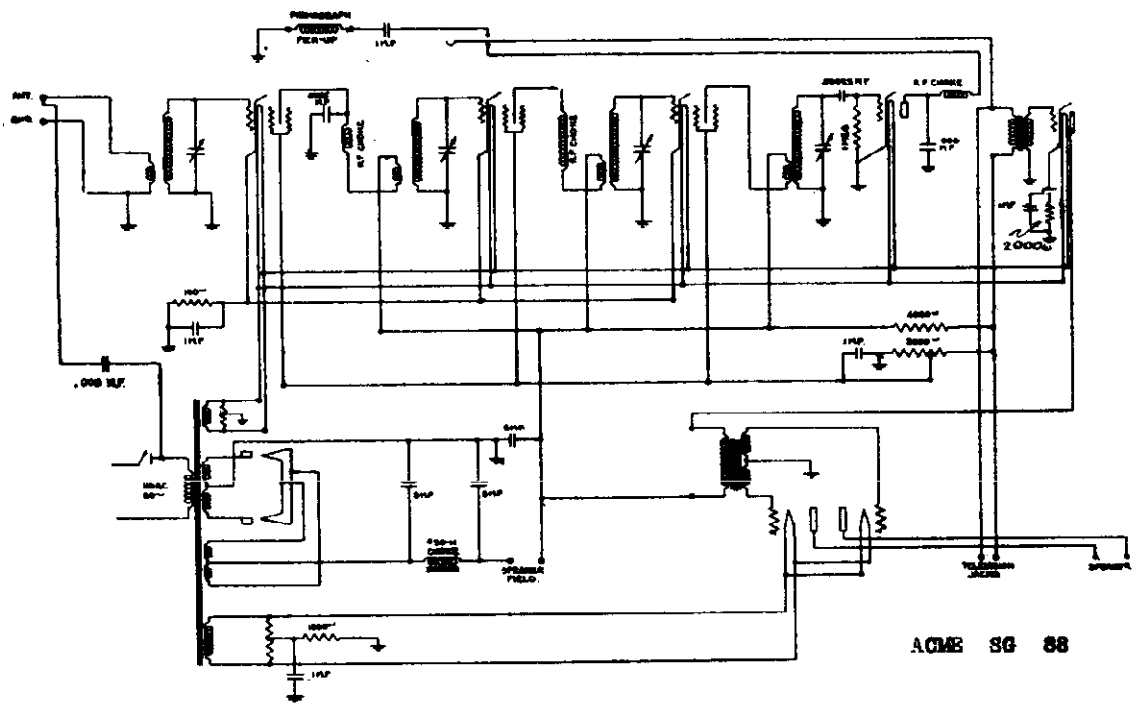
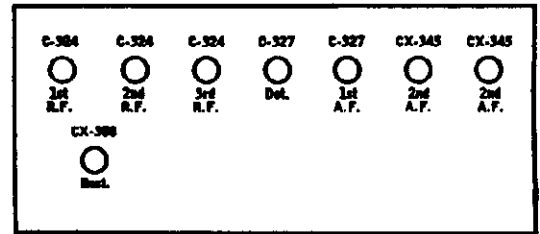
ACME A.C. 7

AC7



88

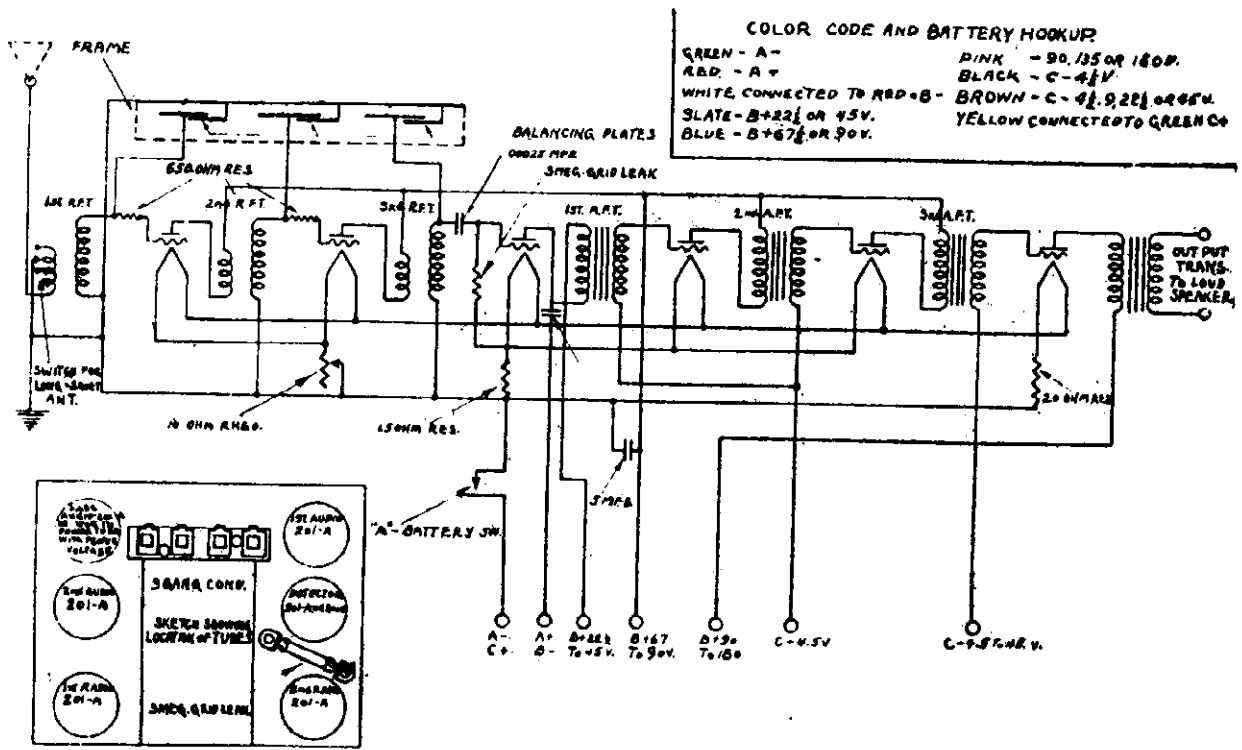
(A.C.)



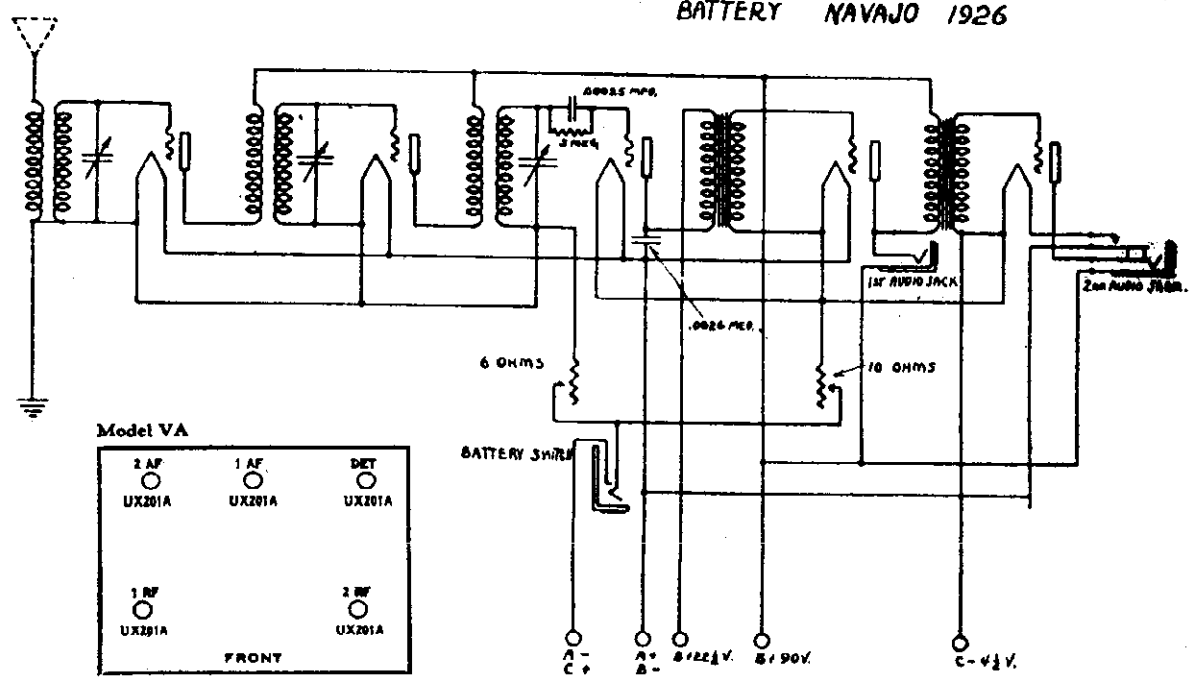
ACME SG 88

ALL-AMERICAN MOHAWK CORP.

MODEL Navajo  
VA  
Battery Operated

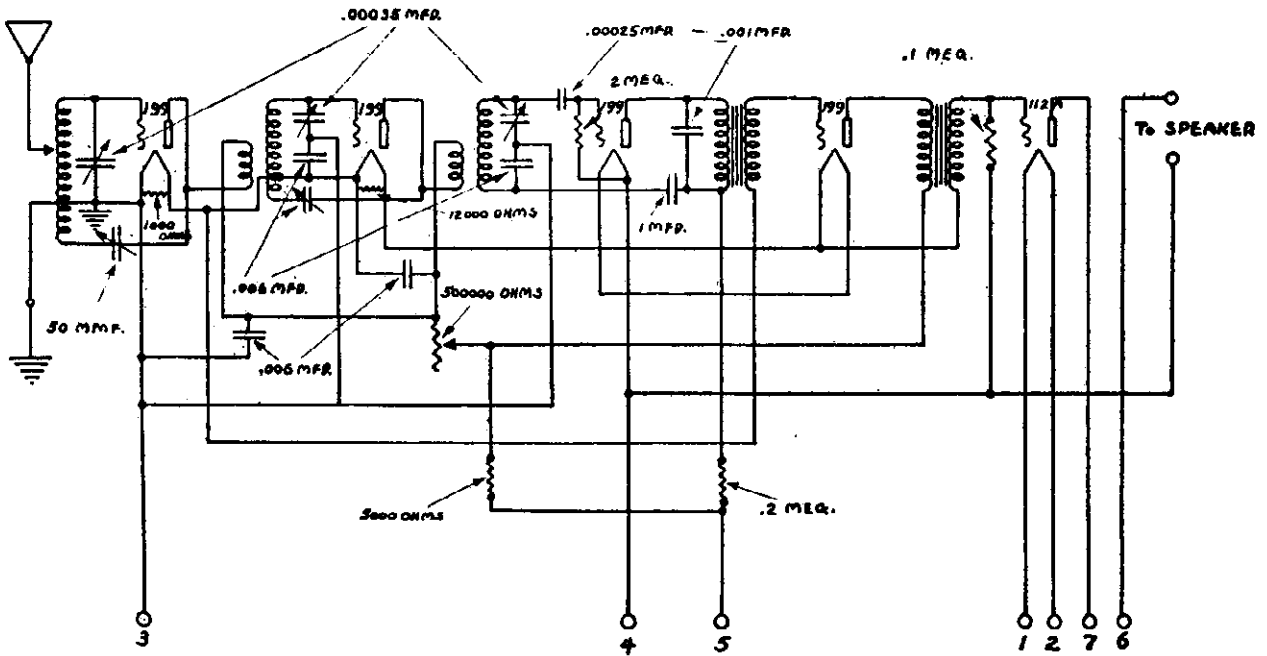


SCHEMATIC CIRCUIT of MOHAWK RECEIVER.  
BATTERY NAVAJO 1926

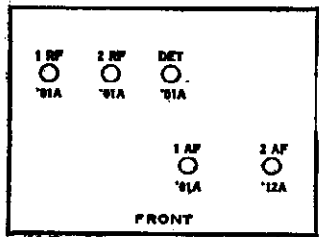


5 TUBE VA CIRCUIT -1925-26-

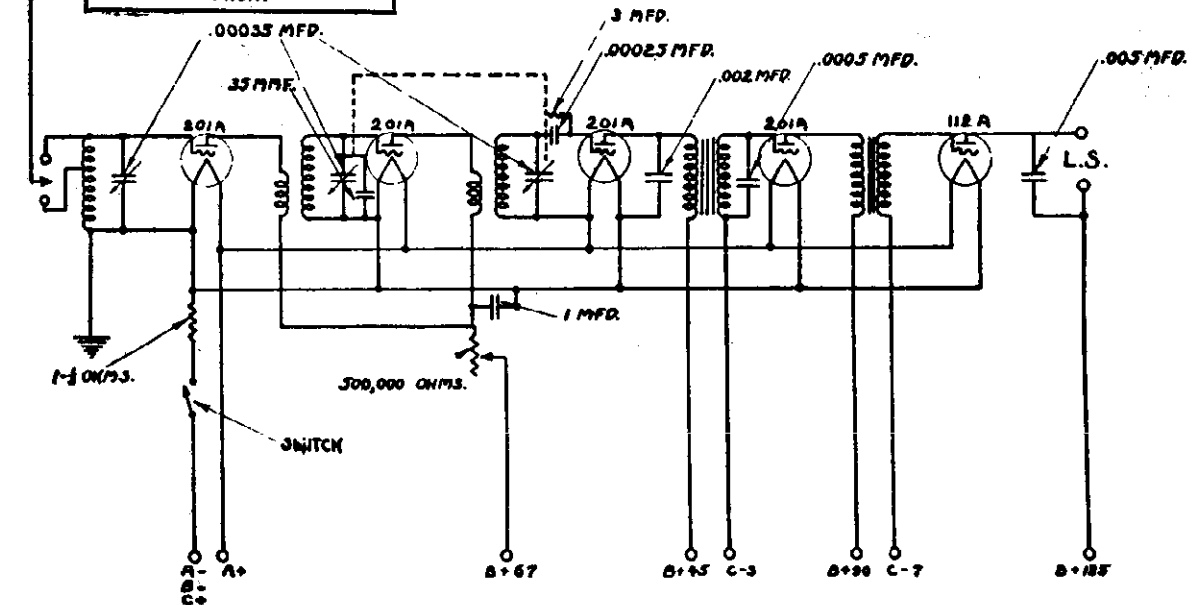
**MODEL 115 -1926 ALL-AMERICAN MOHAWK CORP.**  
**5 Tube All-Electric**  
**MODEL 115- 1926**  
**5 Tube All-Battery**



Model 115-BO (1926)



**5 TUBE ALL ELECTRIC - 1926.**  
**MODEL -115**

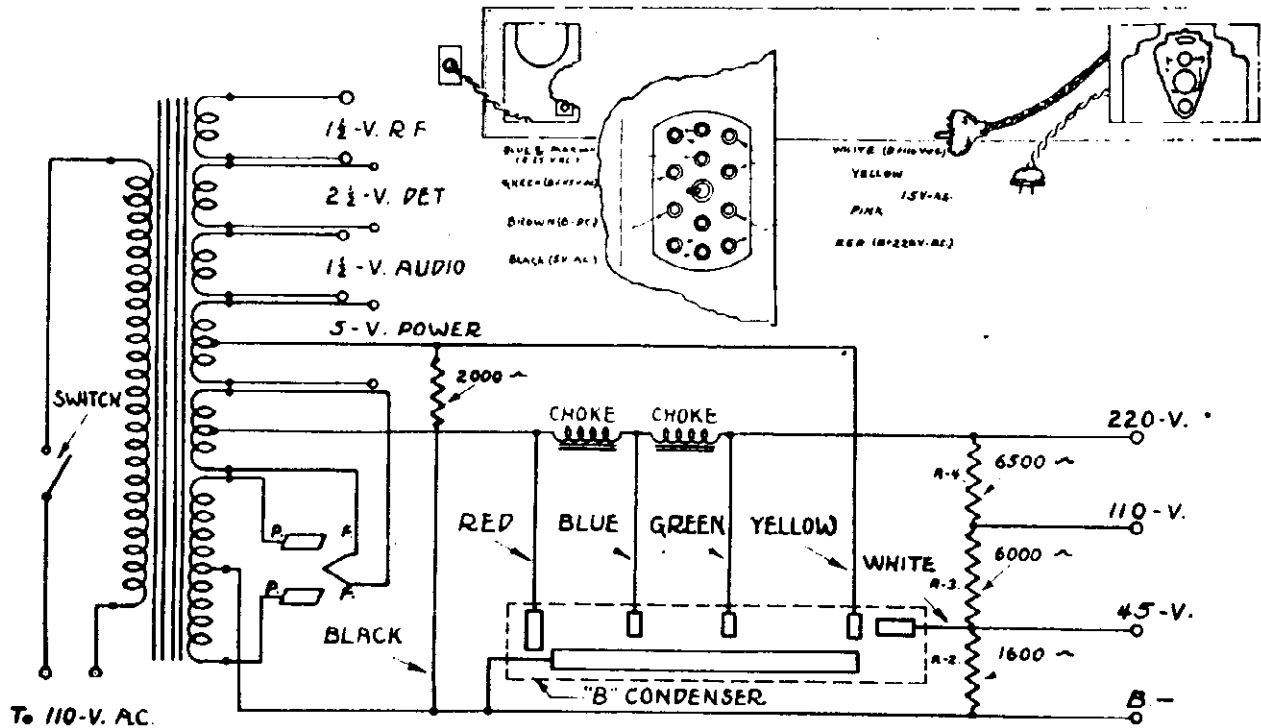


**5 TUBE ALL AMERICAN BATTERY SET.**  
**MODEL 115 - 1926-27.**

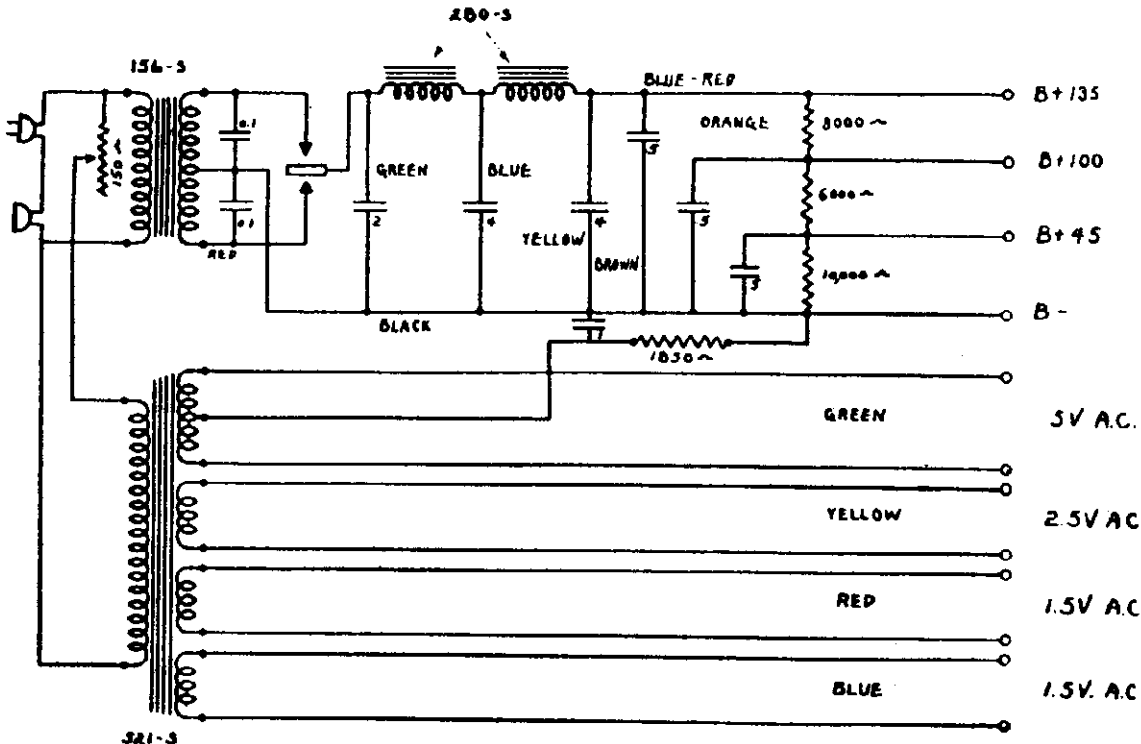


MODEL Mohawk 226  
 12 Contact  
 Power Pack  
 A-10 Eliminator

ALL-AMERICAN MOHAWK CORP.



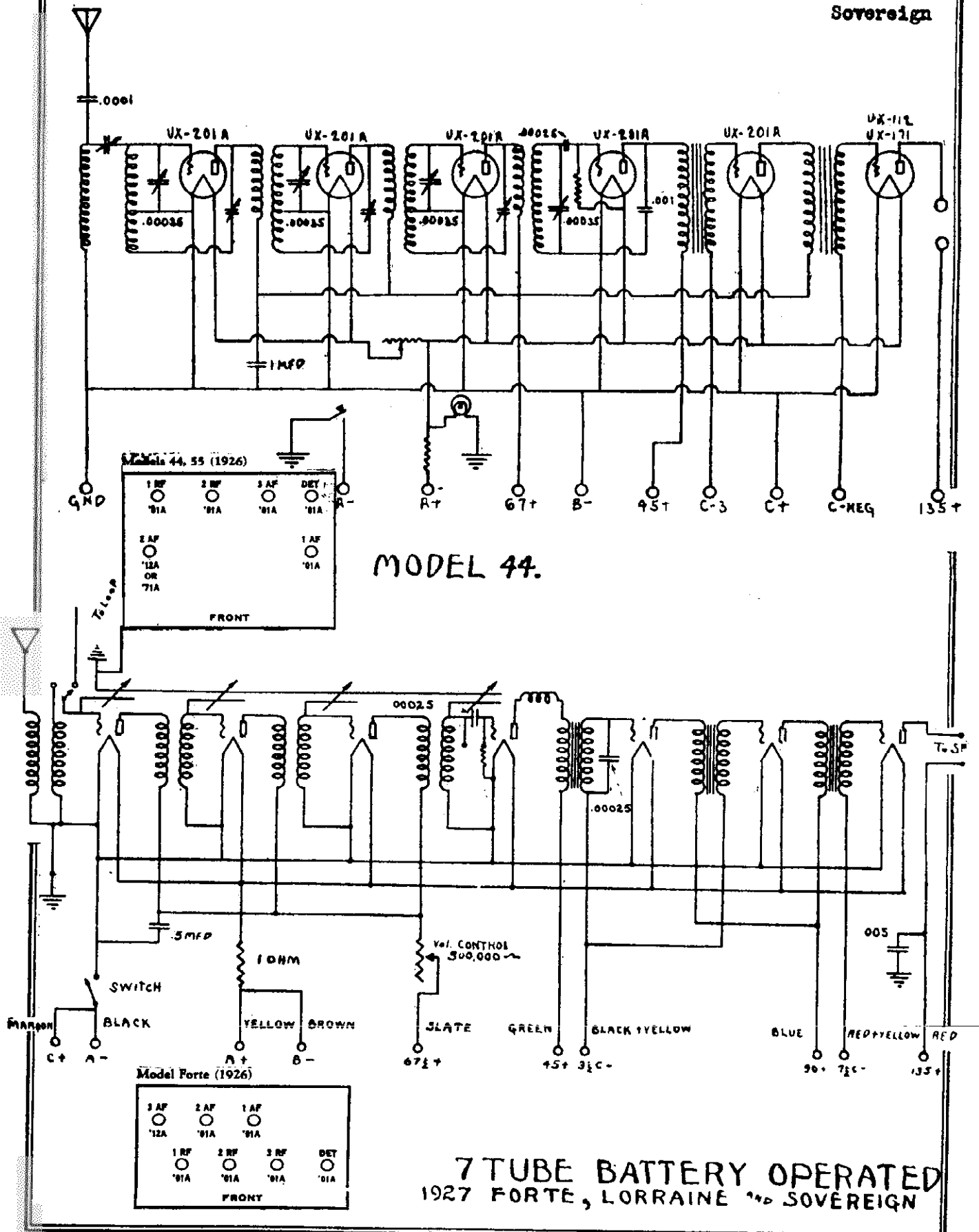
12 CONTACT POWER PACK for Mohawk 226  
 WITH NEWTYPE CONDENSER



A-10 MOHAWK ELIMINATOR

ALL-AMERICAN MOHAWK CORP.

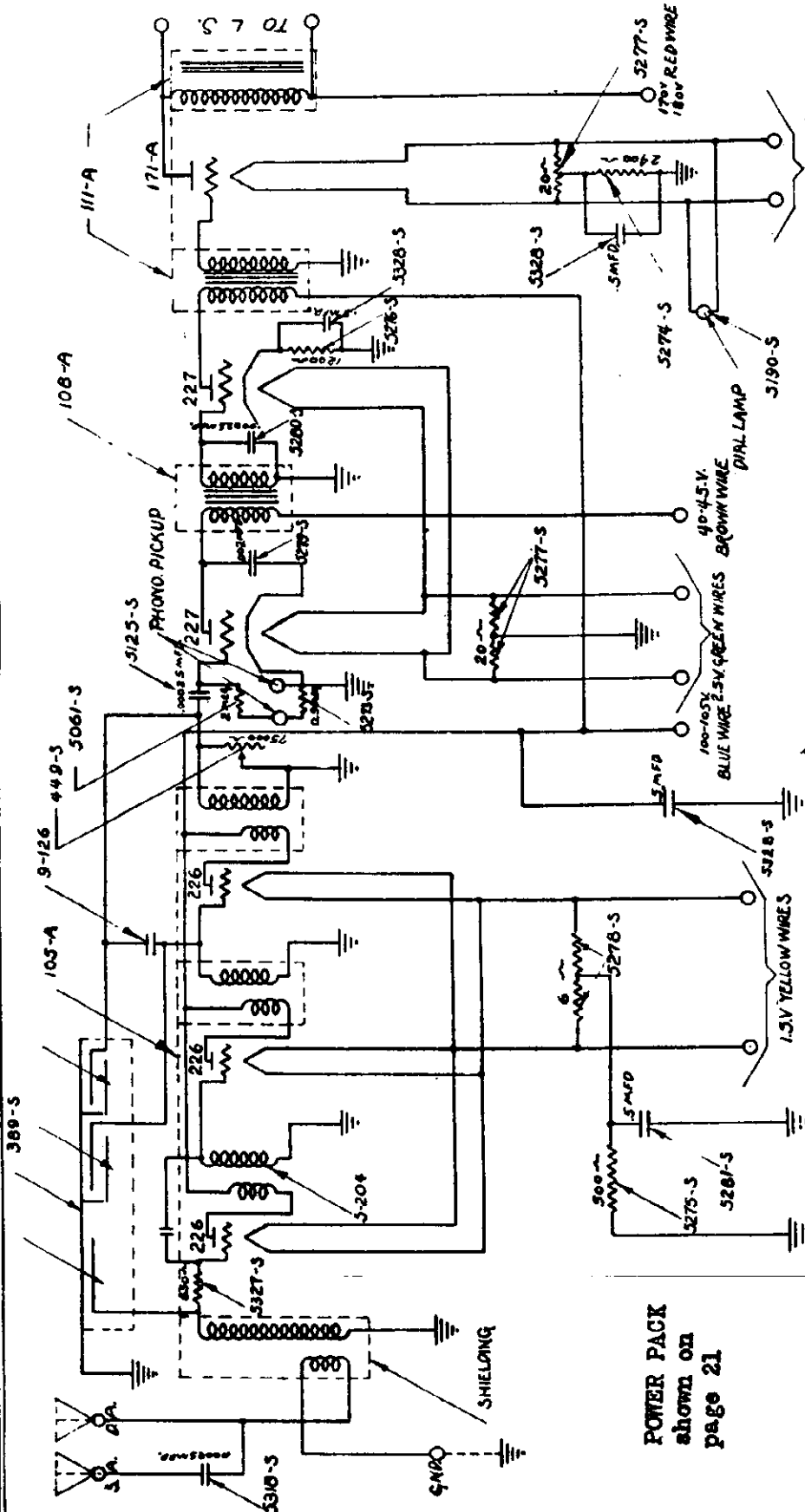
MODEL 44  
7 Tube  
Forte  
Lorraine  
Sovereign





MODEL 60,61,62,  
65,66  
Receiver Chassis

ALL-AMERICAN MOHAWK CORP.



POWER PACK  
shown on  
page 21

ALL AMERICAN—Models 60-61-62-65-66  
Line Voltage 110:—95-115 Volt Tap:—Volume Con-  
trol Full

TUBE NO.	TYPE OF TUBE	MANUFACTURER'S PART NO.	TAP 110 V.		TAP 95 V.		TAP 115 V.		PLATE RESISTANCE	GRID RESISTANCE	TEST CURRENT	PLATE VOLTAGE
			W	R	W	R	W	R				
1	389-S	101-Rel.	1.4	180	1.25	112	8	3.2	0.6	3.4		
2	105-A	2nd R.F.	1.4	180	1.25	112	8	3.2	0.6	3.4		
3	108-A	2nd R.F.	1.4	180	1.25	112	8	3.2	0.6	3.4		
4	171-A	Detector	2.4	110	2.20	112	0	2.2	2.2	0.0		
5	171A	2nd A.F.	4.7	180	4.50	112	8	3.0	0.4	3.4		
6	250	Rectifier	-	-	4.70	-	-	15.0	15.5	1.5		

60, 61, 62, 65 (A.C.)

5-CX326  
2-CX27  
1-CX371A  
1-CX380

5-V. SLATE WIRES

170V. RED WIRE

90-45-V. DIAL LAMP BROWN WIRE

100-165V. 5-V. GREEN WIRES

40-45-V. DIAL LAMP BROWN WIRE

1.5V. YELLOW WIRES

5-V. SLATE WIRES

3190-S

5274-S

5277-S

5278-S

5279-S

5280-S

5281-S

5282-S

5283-S

5284-S

5285-S

5286-S

5287-S

5288-S

5289-S

5290-S

5291-S

5292-S

5293-S

5294-S

5295-S

5296-S

5297-S

5298-S

5299-S

5300-S

5301-S

5302-S

5303-S

5304-S

5305-S

5306-S

5307-S

5308-S

5309-S

5310-S

5311-S

5312-S

5313-S

5314-S

5315-S

5316-S

5317-S

5318-S

5319-S

5320-S

5321-S

5322-S

5323-S

5324-S

5325-S

5326-S

5327-S

5328-S

5329-S

5330-S

5331-S

5332-S

5333-S

5334-S

5335-S

5336-S

5337-S

5338-S

5339-S

5340-S

5341-S

5342-S

5343-S

5344-S

5345-S

5346-S

5347-S

5348-S

5349-S

5350-S

5351-S

5352-S

5353-S

5354-S

5355-S

5356-S

5357-S

5358-S

5359-S

5360-S

5361-S

5362-S

5363-S

5364-S

5365-S

5366-S

5367-S

5368-S

5369-S

5370-S

5371-S

5372-S

5373-S

5374-S

5375-S

5376-S

5377-S

5378-S

5379-S

5380-S

5381-S

5382-S

5383-S

5384-S

5385-S

5386-S

5387-S

5388-S

5389-S

5390-S

5391-S

5392-S

5393-S

5394-S

5395-S

5396-S

5397-S

5398-S

5399-S

5400-S

5401-S

5402-S

5403-S

5404-S

5405-S

5406-S

5407-S

5408-S

5409-S

5410-S

5411-S

5412-S

5413-S

5414-S

5415-S

5416-S

5417-S

5418-S

5419-S

5420-S

5421-S

5422-S

5423-S

5424-S

5425-S

5426-S

5427-S

5428-S

5429-S

5430-S

5431-S

5432-S

5433-S

5434-S

5435-S

5436-S

5437-S

5438-S

5439-S

5440-S

5441-S

5442-S

5443-S

5444-S

5445-S

5446-S

5447-S

5448-S

5449-S

5450-S

5451-S

5452-S

5453-S

5454-S

5455-S

5456-S

5457-S

5458-S

5459-S

5460-S

5461-S

5462-S

5463-S

5464-S

5465-S

5466-S

5467-S

5468-S

5469-S

5470-S

5471-S

5472-S

5473-S

5474-S

5475-S

5476-S

5477-S

5478-S

5479-S

5480-S

5481-S

5482-S

5483-S

5484-S

5485-S

5486-S

5487-S

5488-S

5489-S

5490-S

5491-S

5492-S

5493-S

5494-S

5495-S

5496-S

5497-S

5498-S

5499-S

5500-S

5501-S

5502-S

5503-S

5504-S

5505-S

5506-S

5507-S

5508-S

5509-S

5510-S

5511-S

5512-S

5513-S

5514-S

5515-S

5516-S

5517-S

5518-S

5519-S

5520-S

5521-S

5522-S

5523-S

5524-S

5525-S

5526-S

5527-S

5528-S

5529-S

5530-S

5531-S

5532-S

5533-S

5534-S

5535-S

5536-S

5537-S

5538-S

5539-S

5540-S

5541-S

5542-S

5543-S

5544-S

5545-S

5546-S

5547-S

5548-S

5549-S

5550-S

5551-S

5552-S

5553-S

5554-S

5555-S

5556-S

5557-S

5558-S

5559-S

5560-S

5561-S

5562-S

5563-S

5564-S

5565-S

5566-S

5567-S

5568-S

5569-S

5570-S

5571-S

5572-S

5573-S

5574-S

5575-S

5576-S

5577-S

5578-S

5579-S

5580-S

5581-S

5582-S

5583-S

5584-S

5585-S

5586-S

5587-S

5588-S

5589-S

5590-S

5591-S

5592-S

5593-S

5594-S

5595-S

5596-S

5597-S

5598-S

5599-S

5600-S

5601-S

5602-S

5603-S

5604-S

5605-S

5606-S

5607-S

5608-S

5609-S

5610-S

5611-S

5612-S

5613-S

5614-S

5615-S

5616-S

5617-S

5618-S

5619-S

5620-S

5621-S

5622-S

5623-S

5624-S

5625-S

5626-S

5627-S

5628-S

5629-S

5630-S

5631-S

5632-S

5633-S

5634-S

5635-S

5636-S

5637-S

5638-S

5639-S

5640-S

5641-S

5642-S

5643-S

5644-S

5645-S

5646-S

5647-S

5648-S

5649-S

5650-S

5651-S

5652-S

5653-S

5654-S

5655-S

5656-S

5657-S

5658-S

5659-S

5660-S

5661-S

5662-S

5663-S

5664-S

5665-S

5666-S

5667-S

5668-S

5669-S

5670-S

5671-S

5672-S

5673-S

5674-S

5675-S

5676-S

5677-S

5678-S

5679-S

5680-S

5681-S

5682-S

5683-S

5684-S

5685-S

5686-S

5687-S

5688-S

5689-S

5690-S

5691-S

5692-S

5693-S

5694-S

5695-S

5696-S

5697-S

5698-S

5699-S

5700-S

5701-S

5702-S

5703-S

5704-S

5705-S

5706-S

5707-S

5708-S

5709-S

5710-S

5711-S

5712-S

5713-S

5714-S

5715-S

5716-S

5717-S

5718-S

5719-S

5720-S

5721-S

5722-S

5723-S

5724-S

5725-S

5726-S

5727-S

5728-S

5729-S

5730-S

5731-S

5732-S

5733-S

5734-S

5735-S

5736-S

5737-S

5738-S

5739-S

5740-S

5741-S

5742-S

5743-S

5744-S

5745-S

5746-S

5747-S

5748-S

5749-S

5750-S

5751-S

5752-S

5753-S

5754-S

5755-S

5756-S

5757-S

5758-S

5759-S

5760-S

5761-S

5762-S

5763-S

5764-S

5765-S

5766-S

5767-S

5768-S

5769-S

5770-S

5771-S

5772-S

5773-S

5774-S

5775-S

5776-S

5777-S

5778-S

5779-S

5780-S

5781-S

5782-S

5783-S

5784-S

5785-S

5786-S

5787-S

5788-S

5789-S

5790-S

5791-S

5792-S

5793-S

5794-S

5795-S

5796-S

5797-S

5798-S

5799-S

5800-S

5801-S

5802-S

5803-S

5804-S

5805-S

5806-S

5807-S

5808-S

5809-S

5810-S

5811-S

5812-S

5813-S

5814-S

5815-S

5816-S

5817-S

5818-S

5819-S

5820-S

5821-S

5822-S

5823-S

5824-S

5825-S

5826-S

5827-S

5828-S

5829-S

5830-S

5831-S

5832-S

5833-S

5834-S

5835-S

5836-S

5837-S

5838-S

5839-S

5840-S

5841-S

5842-S

5843-S

5844-S

5845-S

5846-S

5847-S

5848-S

5849-S

5850-S

5851-S

5852-S

5853-S

5854-S

5855-S

5856-S

5857-S

5858-S

5859-S

5860-S

5861-S

5862-S

5863-S

5864-S

5865-S

5866-S

5867-S

5868-S

5869-S

5870-S

5871-S

5872-S

5873-S

5874-S

5875-S

5876-S

5877-S

5878-S

5879-S

5880-S

5881-S

5882-S

5883-S

5884-S

5885-S

5886-S

5887-S

5888-S

5889-S

5890-S

5891-S

5892-S

5893-S

5894-S

5895-S

5896-S

5897-S

5898-S

5899-S

5900-S

5901-S

5902-S

5903-S

5904-S

5905-S

5906-S

5907-S

5908-S

5909-S

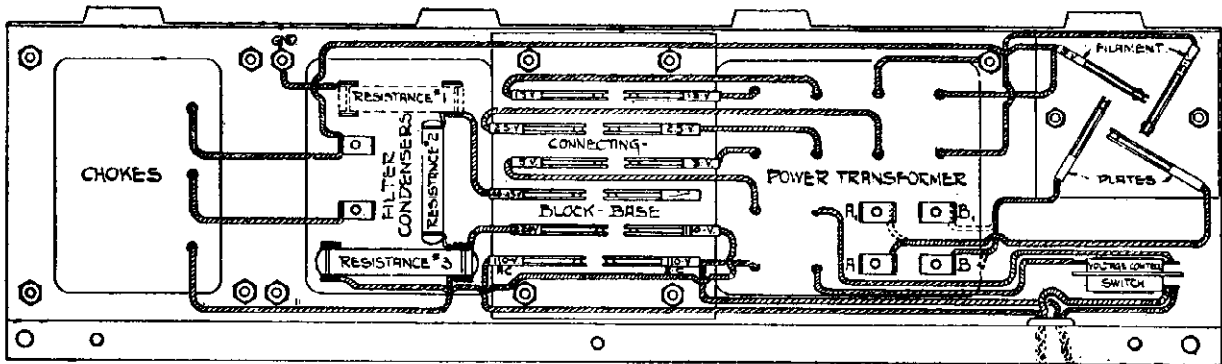
5910-S

5911-S

5912-S

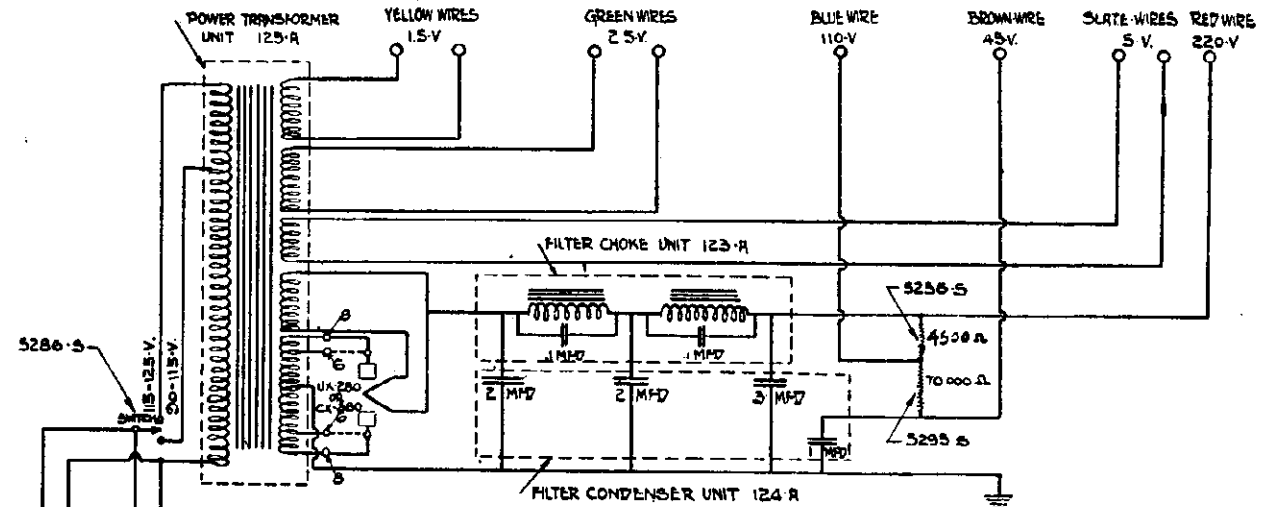
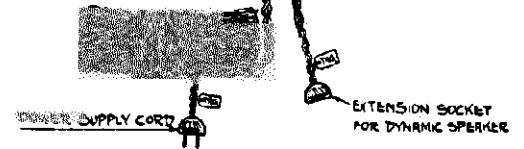
ALL-AMERICAN MOHAWK CORP.

MODEL 60,61,62,  
65,66  
Power Pack



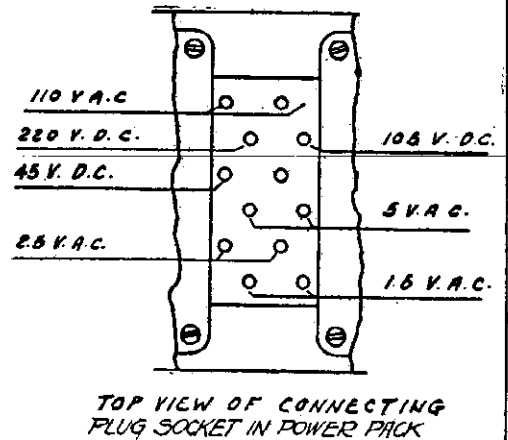
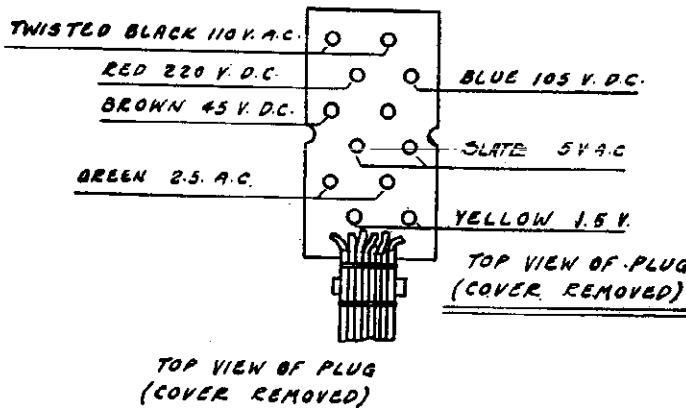
BLUE RESISTANCE #1 = 10,000 Ω  
 RED . . . . #2 = 25,000 Ω OR ORANGE-70,000 Ω WITH RES. #1 OUT  
 MAROON . . . . #3 = 4500 Ω

NOTE: WIRING FOR 8 TUBE SET-AS SHOWN-  
 WIRING FOR 6 TUBE SET-PLATE WIRE 'A' LEAD TO 'A',  
 AND PLATE WIRE 'B' LEAD TO 'B'.



CIRCUIT DIAGRAM OF  
6 & 8 TUBE A.C. SET-POWER PACK

NOTE: ABOVE INDICATED PART NUMBERS ARE THE ELECTRICAL PART AND ASSEMBLY NUMBERS OF ITEMS USED IN CIRCUIT. WHEN ORDERING PARTS OR ASSEMBLIES SPECIFY THIS NUMBER AS WELL AS NAME OF ITEM





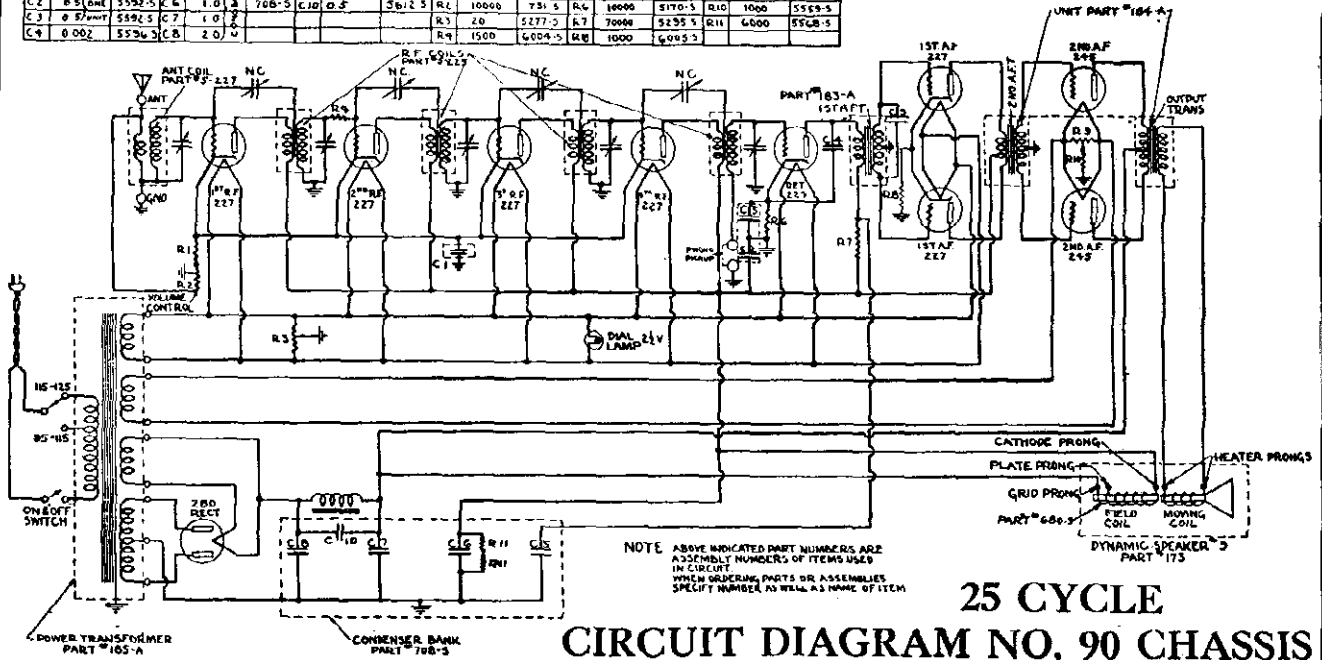


MODEL 90  
25 Cycle

ALL-AMERICAN MOHAWK CORP.

182-W

VALUE AND PART N° OF CIRCUIT ELEMENTS											
UNIT	CAP. IN INFO	PART N°	UNIT	CAP. IN INFO	PART N°	UNIT	RES. IN OHMS	PART N°	UNIT	RES. IN OHMS	PART N°
C1	0.01	5525-S	C2	0.00025	5125-S	R1	380	5526-S	R5	100	5594-S
C2	0.01	5592-S	C4	1.0	70B-S	R2	10000	5170-S	R6	1000	5595-S
C3	0.01	5592-S	C7	1.0	70B-S	R3	2.0	5277-S	R7	70000	5595-S
C4	0.002	5594-S	C8	2.0	70B-S	R4	1500	6004-S	R8	1000	6005-S



VOLTAGE READINGS.

Type of Tube	Position of Tube	Tube in Tester			Cathode-Heater Volts	Normal Plate M. A.
		A Volts	B Volts	C Volts		
227	1 R. F.	2.3	100	6.25	3.5	
227	2 R. F.	2.4	100	5.50	3.5	
227	3 R. F.	2.3	95	6.25	3.5	
227	4 R. F.	2.4	100	6.25	3.5	
227	DET.	2.3	56	5.00	0.5	
227	1 P. P.	2.4	90	5.00	3.5	
227	1 P. P.	2.4	90	5.00	3.5	
245	2 P. P.	2.2	210	42.00	24.0	
245	2 P. P.	2.2	210	42.00	24.0	
280	RECT.	4.5			38 x 2	

SOCKET LAYOUT SAME AS NO. MODEL 90 - 60 CYCLE

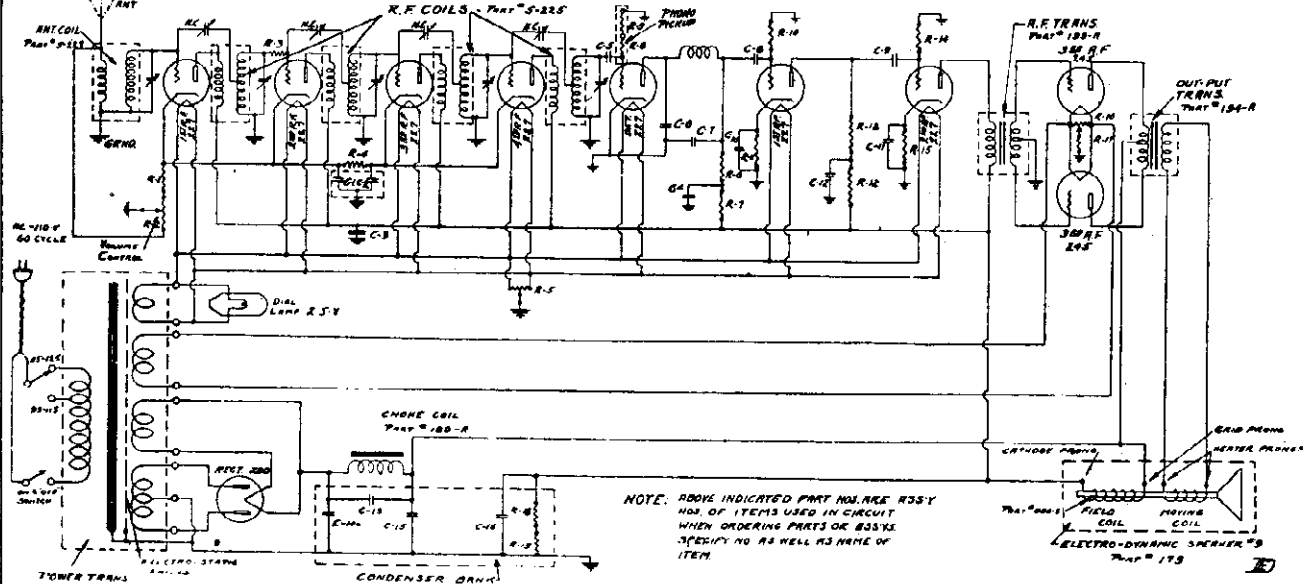
ALL-AMERICAN MOHAWK CORP.

MODEL 90  
60 Cycle

180-W

VALUES AND PART NUMBER OF CIRCUIT ELEMENTS

UNIT	CAP. IN PFD.	PART NO.	UNIT	CAP. IN PFD.	PART NO.	UNIT	RES. IN OHMS	PART NO.	UNIT	RES. IN OHMS	PART NO.	UNIT	RES. IN OHMS	PART NO.
G1	0.1	5223-S	C1	0.001	5124-S	R1	250	5310-S	R7	20,000	5295-S	R13	25,000	5407-S
G2	0.1	5223-S	C2	0.01	5203-S	R2	1,000	5310-S	R8	20,000	5295-S	R14	25,000	5407-S
G3	0.1	5223-S	C3	0.01	5203-S	R3	1,000	5310-S	R9	20,000	5295-S	R15	25,000	5407-S
G4	0.1	5223-S	C4	0.01	5203-S	R4	1,000	5310-S	R10	20,000	5295-S	R16	25,000	5407-S
G5	0.00025	5127-S	C5	0.5	5127-S	R5	20	5310-S	R11	2,400	5295-S	R17	1,900	5407-S
G6	0.001	5124-S	C6	1.0	5124-S	R6	20,000	5310-S	R12	20,000	5295-S	R18	25,000	5407-S

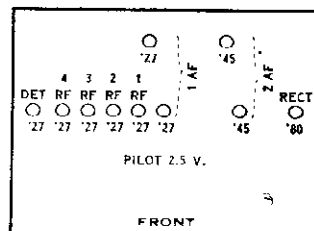


Lyric No. 90 A. C. receiver  
-60 CYCLE

TUBE VOLTAGE AND CURRENT READINGS.  
Below is given a standard set of readings for the tubes of the Lyric A. C. No. 90 receiver, which will serve as a reference in tube voltage and plate current readings:

Type of Tube	Position of Tube	Tube Out		Tube in Tester			Cathode-Heater	Normal Plate
		A Volts	B Volts	A Volts	B Volts	C Volts	Volts	
227	1 R. F.	2.45	120	2.40	114	6.5	6.5	5.3
227	2 R. F.	2.45	120	2.40	115	6.5	6.5	4.6
227	3 R. F.	2.45	120	2.40	113	7.5	7.5	5.8
227	4 R. F.	2.45	120	2.40	113	7.5	7.5	5.9
227	DET.	2.45	84	2.40	16	.5	.0	.7
227	1 A. F.	2.45	94	2.40	30	.5	2.5	1.0
227	2 A. F.	2.45	128	2.40	106	1.5	7.0	3.6
245	P. P.	2.55	256	2.45	232	45.0		23.0
245	P. P.	2.55	256	2.45	232	45.0		23.0
280	RECT.	5.30		4.90				78.0

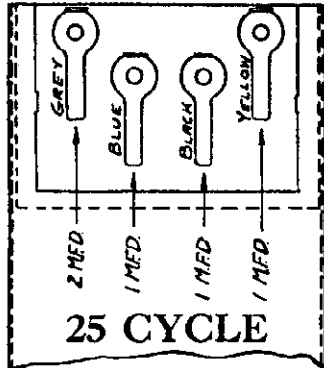
Models 90, 93, 94, 95 (1929)



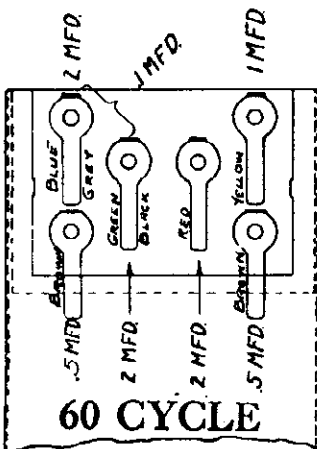


ALL-AMERICAN MOHAWK CORP.

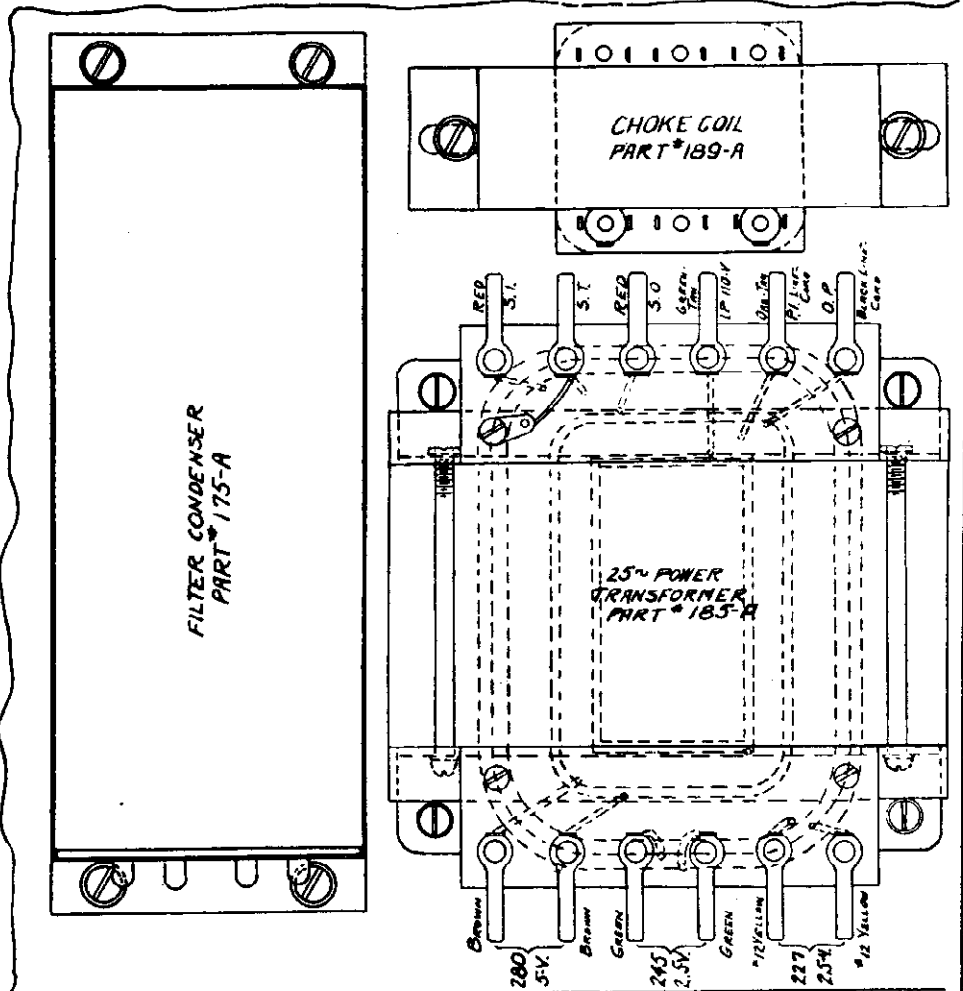
MODEL 90  
Data



FRONT VIEW OF  
CONDENSER TERMINALS

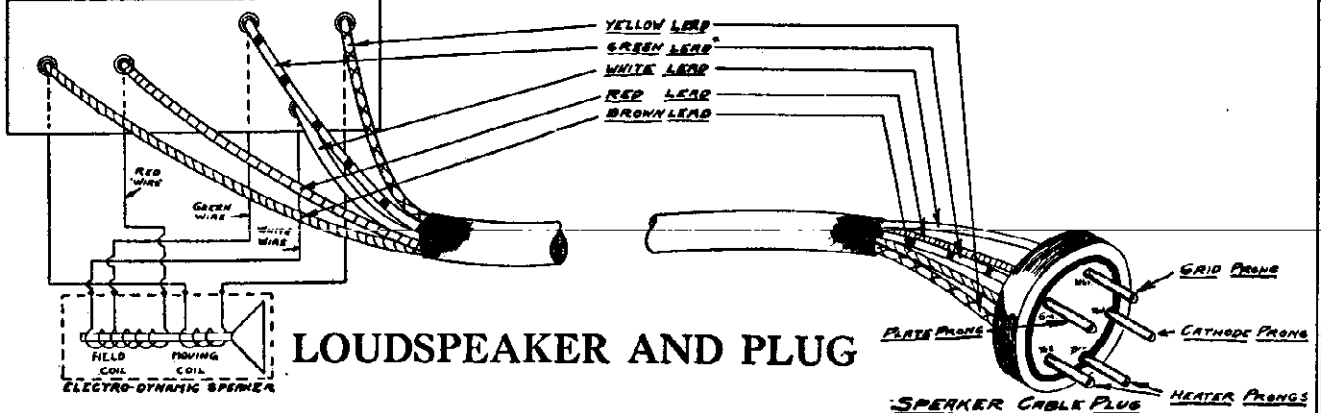


FRONT VIEW OF  
CONDENSER TERMINALS



POWER PACK TERMINALS NO. 90 CHASSIS

SPEAKER TERMINAL STRIP



LOUDSPEAKER AND PLUG









ALL-AMERICAN MOHAWK CORP.

MODEL "J"  
Data

## Model "J" Chassis

## TECHNICAL DATA

The following table shows normal voltages to be found on the LYRIC A. C. Model "J" receiver:

Type of Tube	Position of Tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
'24	1 RF	2.25	2.5	250	70	
'24	2 RF	2.25	2.5	250	70	
'24	3 RF	2.25	2.5	250	70	
'24	DET	2.25	3.0	180*	60*	
'45	AUD	2.25		250		-50*
'80	RECT	4.8		360 A.C.		

\*Due to the high resistance of the circuit, these voltages can only be accurately measured with an electrostatic voltmeter.

The voltages tabulated above are standard under the following conditions:--

1. Line voltage 114.
2. Volume control in full on position.
3. Antenna disconnected so that no signal is received.
4. Measurements made with a 1000 ohm per volt voltmeter.
5. Except where a minus sign precedes the value, the negative side of the instrument is to be connected to the chassis pan.
6. Tested tubes are used.

Slight variation in voltages will be experienced due to manufacturing tolerance on both the parts of the set and the tubes.

## RESISTOR VALUES AND COLOR CODING

Each resistance unit in this set has a distinguishing color code to designate its resistance and current handling capacity. It is recommended that when ordering resistors for replacement purposes, they be specified by colors, resistance and their position in the circuit. This will prevent any possibility of errors.

Resistance	Limits	Watts	Color Code
400 ohms (Wire Wound)	390- 410	1	None
30,000 ohms	27,000- 33,000	1	White or Orange-black-orange
150,000 ohms	135,000- 165,000	1	Violet-green-orange or Brown-green-yellow
300,000 ohms	270,000- 330,000	1	Orange-green end or Orange-black-yellow
500,000 ohms	450,000- 550,000	1	Red-green-yellow or Green-black-yellow
1,000,000 ohms	750,000- 1,250,000	1	Black-red end or Brown-black-green

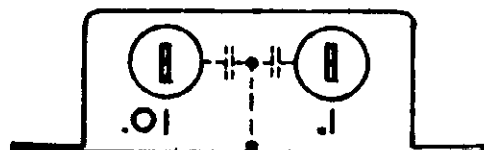
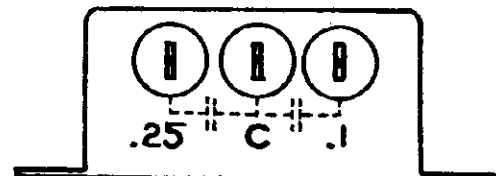
The color coding listed above is in accordance with R. M. A. standards wherever possible. The first color indicates the body, the second the end and the third the band or dot.

## FIXED CONDENSER VALUES AND COLOR CODING

The small condensers in this chassis are color coded and should be ordered the same way as resistors.

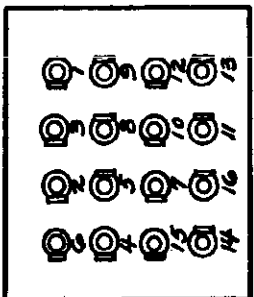
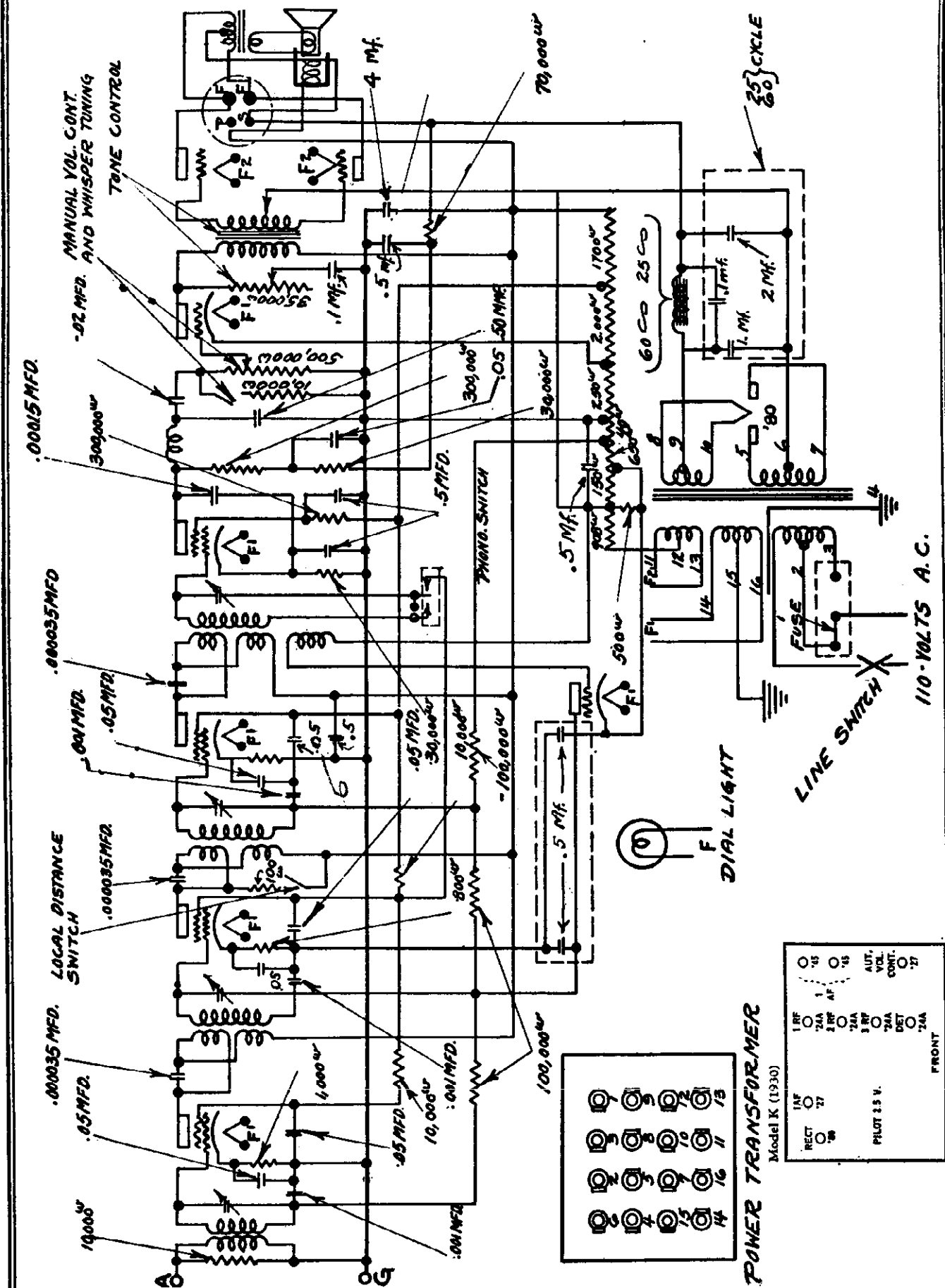
Capacitance	Limits	Color Code
.00005 mfd.	.000045-.000055	Grey Dot
.0001	.00009-.00011	Purple Dot
.00015	.000135-.000165	Yellow Dot
.001	.0009-.0011	Blue Dot
.01	.009-.011	None

Diagrams show the connections of the various tone control and by-pass condenser blocks. The electrolytic condensers may be distinguished by the diameters of their cans. The 16 mfd. unit is in a 2½" container while the 8 mfd. unit is in a 1½" container.

Aux. By-Pass Condenser Y-1276-R.  
One Side Each Section to Can.Tone Control Condenser Y-1279-R.  
One Side Each Section to Central Lug.

MODEL "K"

ALL-AMERICAN MOHAWK CORP.



POWER TRANSFORMER  
Model K (1930)

1 RF	15	16	AUT. VOL. CONT.
2 RF	17	18	CONT.
3 RF	19	20	
4 RF	21	22	
5 RF	23	24	
6 RF	25	26	
7 RF	27	28	
8 RF	29	30	
9 RF	31	32	
10 RF	33	34	
11 RF	35	36	
12 RF	37	38	
13 RF	39	40	
14 RF	41	42	
15 RF	43	44	
16 RF	45	46	
17 RF	47	48	
18 RF	49	50	
19 RF	51	52	
20 RF	53	54	
21 RF	55	56	
22 RF	57	58	
23 RF	59	60	
24 RF	61	62	
25 RF	63	64	
26 RF	65	66	
27 RF	67	68	
28 RF	69	70	
29 RF	71	72	
30 RF	73	74	
31 RF	75	76	
32 RF	77	78	
33 RF	79	80	
34 RF	81	82	
35 RF	83	84	
36 RF	85	86	
37 RF	87	88	
38 RF	89	90	
39 RF	91	92	
40 RF	93	94	
41 RF	95	96	
42 RF	97	98	
43 RF	99	100	
44 RF	101	102	
45 RF	103	104	
46 RF	105	106	
47 RF	107	108	
48 RF	109	110	
49 RF	111	112	
50 RF	113	114	
51 RF	115	116	
52 RF	117	118	
53 RF	119	120	
54 RF	121	122	
55 RF	123	124	
56 RF	125	126	
57 RF	127	128	
58 RF	129	130	
59 RF	131	132	
60 RF	133	134	
61 RF	135	136	
62 RF	137	138	
63 RF	139	140	
64 RF	141	142	
65 RF	143	144	
66 RF	145	146	
67 RF	147	148	
68 RF	149	150	
69 RF	151	152	
70 RF	153	154	
71 RF	155	156	
72 RF	157	158	
73 RF	159	160	
74 RF	161	162	
75 RF	163	164	
76 RF	165	166	
77 RF	167	168	
78 RF	169	170	
79 RF	171	172	
80 RF	173	174	
81 RF	175	176	
82 RF	177	178	
83 RF	179	180	
84 RF	181	182	
85 RF	183	184	
86 RF	185	186	
87 RF	187	188	
88 RF	189	190	
89 RF	191	192	
90 RF	193	194	
91 RF	195	196	
92 RF	197	198	
93 RF	199	200	
94 RF	201	202	
95 RF	203	204	
96 RF	205	206	
97 RF	207	208	
98 RF	209	210	
99 RF	211	212	
100 RF	213	214	
101 RF	215	216	
102 RF	217	218	
103 RF	219	220	
104 RF	221	222	
105 RF	223	224	
106 RF	225	226	
107 RF	227	228	
108 RF	229	230	
109 RF	231	232	
110 RF	233	234	
111 RF	235	236	
112 RF	237	238	
113 RF	239	240	
114 RF	241	242	
115 RF	243	244	
116 RF	245	246	
117 RF	247	248	
118 RF	249	250	
119 RF	251	252	
120 RF	253	254	
121 RF	255	256	
122 RF	257	258	
123 RF	259	260	
124 RF	261	262	
125 RF	263	264	
126 RF	265	266	
127 RF	267	268	
128 RF	269	270	
129 RF	271	272	
130 RF	273	274	
131 RF	275	276	
132 RF	277	278	
133 RF	279	280	
134 RF	281	282	
135 RF	283	284	
136 RF	285	286	
137 RF	287	288	
138 RF	289	290	
139 RF	291	292	
140 RF	293	294	
141 RF	295	296	
142 RF	297	298	
143 RF	299	300	
144 RF	301	302	
145 RF	303	304	
146 RF	305	306	
147 RF	307	308	
148 RF	309	310	
149 RF	311	312	
150 RF	313	314	
151 RF	315	316	
152 RF	317	318	
153 RF	319	320	
154 RF	321	322	
155 RF	323	324	
156 RF	325	326	
157 RF	327	328	
158 RF	329	330	
159 RF	331	332	
160 RF	333	334	
161 RF	335	336	
162 RF	337	338	
163 RF	339	340	
164 RF	341	342	
165 RF	343	344	
166 RF	345	346	
167 RF	347	348	
168 RF	349	350	
169 RF	351	352	
170 RF	353	354	
171 RF	355	356	
172 RF	357	358	
173 RF	359	360	
174 RF	361	362	
175 RF	363	364	
176 RF	365	366	
177 RF	367	368	
178 RF	369	370	
179 RF	371	372	
180 RF	373	374	
181 RF	375	376	
182 RF	377	378	
183 RF	379	380	
184 RF	381	382	
185 RF	383	384	
186 RF	385	386	
187 RF	387	388	
188 RF	389	390	
189 RF	391	392	
190 RF	393	394	
191 RF	395	396	
192 RF	397	398	
193 RF	399	400	
194 RF	401	402	
195 RF	403	404	
196 RF	405	406	
197 RF	407	408	
198 RF	409	410	
199 RF	411	412	
200 RF	413	414	
201 RF	415	416	
202 RF	417	418	
203 RF	419	420	
204 RF	421	422	
205 RF	423	424	
206 RF	425	426	
207 RF	427	428	
208 RF	429	430	
209 RF	431	432	
210 RF	433	434	
211 RF	435	436	
212 RF	437	438	
213 RF	439	440	
214 RF	441	442	
215 RF	443	444	
216 RF	445	446	
217 RF	447	448	
218 RF	449	450	
219 RF	451	452	
220 RF	453	454	
221 RF	455	456	
222 RF	457	458	
223 RF	459	460	
224 RF	461	462	
225 RF	463	464	
226 RF	465	466	
227 RF	467	468	
228 RF	469	470	
229 RF	471	472	
230 RF	473	474	
231 RF	475	476	
232 RF	477	478	
233 RF	479	480	
234 RF	481	482	
235 RF	483	484	
236 RF	485	486	
237 RF	487	488	
238 RF	489	490	
239 RF	491	492	
240 RF	493	494	
241 RF	495	496	
242 RF	497	498	
243 RF	499	500	
244 RF	501	502	
245 RF	503	504	
246 RF	505	506	
247 RF	507	508	
248 RF	509	510	
249 RF	511	512	
250 RF	513	514	
251 RF	515	516	
252 RF	517	518	
253 RF	519	520	
254 RF	521	522	
255 RF	523	524	
256 RF	525	526	
257 RF	527	528	
258 RF	529	530	
259 RF	531	532	
260 RF	533	534	
261 RF	535	536	
262 RF	537	538	
263 RF	539	540	
264 RF	541	542	
265 RF	543	544	
266 RF	545	546	
267 RF	547	548	
268 RF	549	550	
269 RF	551	552	
270 RF	553	554	
271 RF	555	556	
272 RF	557	558	
273 RF	559	560	
274 RF	561	562	
275 RF	563	564	
276 RF	565	566	
277 RF	567	568	
278 RF	569	570	
279 RF	571	572	
280 RF	573	574	
281 RF	575	576	
282 RF	577	578	
283 RF	579	580	
284 RF	581	582	
285 RF	583	584	
286 RF	585	586	
287 RF	587	588	
288 RF	589	590	
289 RF	591	592	
290 RF	593	594	
291 RF	595	596	
292 RF	597	598	
293 RF	599	600	
294 RF	601	602	
295 RF	603	604	
296 RF	605	606	
297 RF	607	608	
298 RF	609	610	
299 RF	611	612	
300 RF			

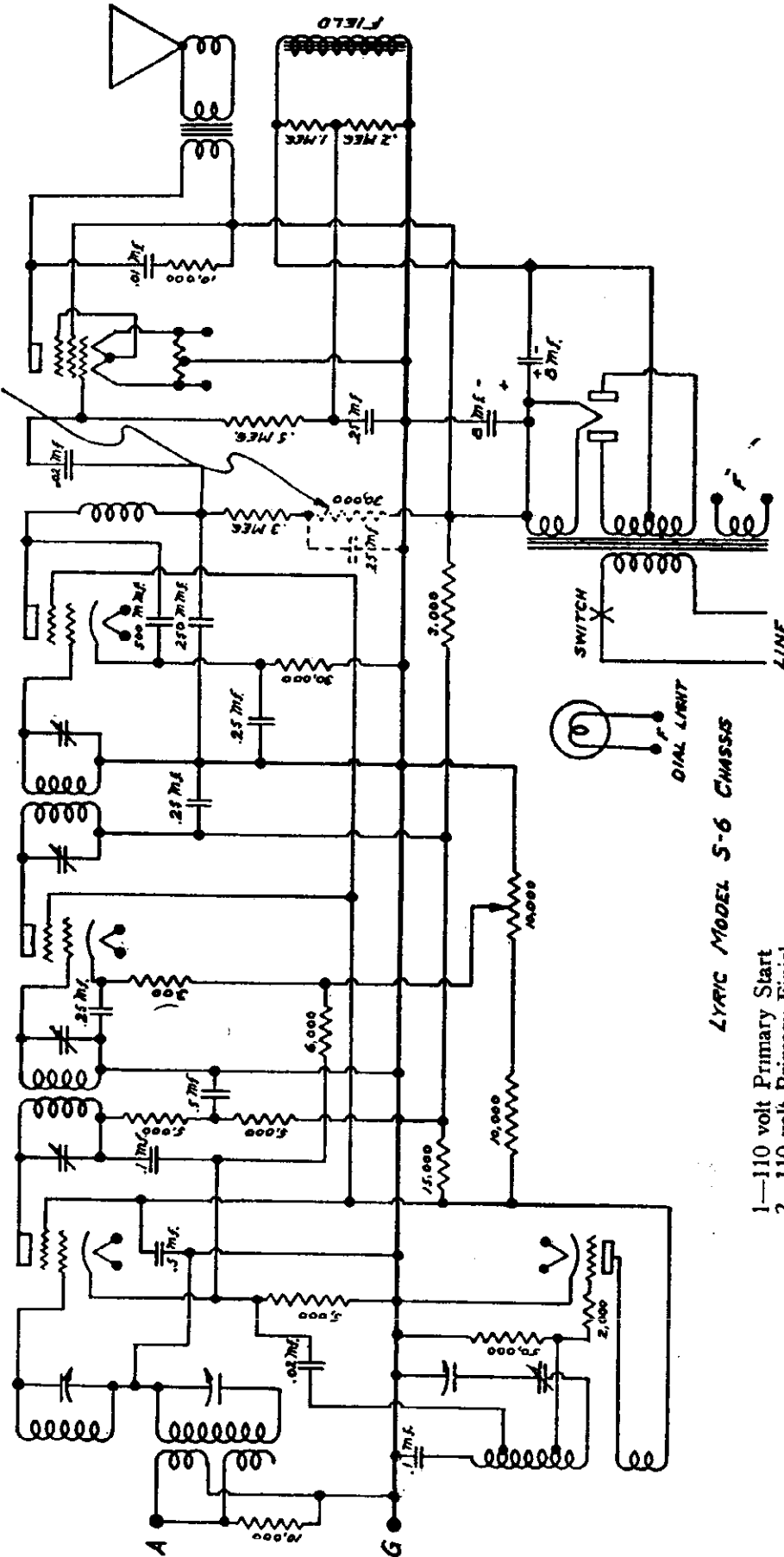




ALL-AMERICAN MOHAWK CORP.

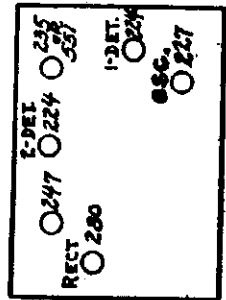
MODEL S-6  
Chassis

DOTTED LINES REPRESENT  
CHANGE IN EFFECT AFTER  
SERIAL NUMBER 1,402,550

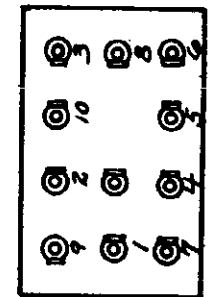


LYRIC MODEL S-6 CHASSIS

- 1—110 volt Primary Start
- 2—110 volt Primary Finish
- 3—Shield
- 4—High Voltage Secondary Start
- 5—High Voltage Secondary Tap
- 6—High Voltage Secondary Finish
- 7—'80 Filament Winding Start
- 8—'80 Filament Winding Finish
- 9—Heater Winding Start
- 10—Heater Winding Finish
- 11—No Connection



FRONT



POWER TRANSFORMER



MODEL S-6  
Data

ALL-AMERICAN MOHAWK CORP.

Model S-6

TECHNICAL DATA

Resistors:

All carbon resistors used in these chassis are color coded in accordance with the R.M.A. code.

Resistance	Color	Capacity	Tolerance	Part No.
300 ohms	Orange-black-brown	1/3 watt	10%	14-1773
2,000 ohms	Red-black-red	1/3 watt	10%	14-1806
3,000 ohms	Orange-black-red	1 watt	10%	14-1498
5,000 ohms	Green-black-red	1/3 watt	10%	14-1600
6,000 ohms	Blue-black-red	1/3 watt	10%	14-1502
10,000 ohms	Brown-black-orange	1/3 watt	10%	14-1599
15,000 ohms	Brown-green-orange	3 watt	10%	14-1745
30,000 ohms	Orange-black-orange	1/3 watt	10%	14-1555
50,000 ohms	Green-black-orange	1/3 watt	10%	14-1544
100,000 ohms	Brown-black-yellow	1/3 watt	10%	14-1541
200,000 ohms	Red-black-yellow	1/3 watt	10%	14-1730
300,000 ohms	Orange-black-yellow	1/3 watt	10%	14-1556
500,000 ohms	Green-black-yellow	1/3 watt	10%	14-1531

One-third watt resistors are approximately 3/4" long x 1/4" diameter.

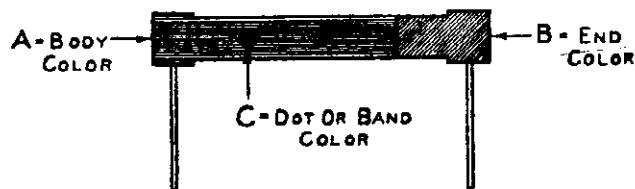
One watt resistors are approximately 1 1/4" long x 1/4" diameter.

Three watt resistors are approximately 1 1/4" long x 3/8" diameter.

RESISTOR COLOR CODE

All resistors on LYRIC Model "S" receivers have their resistance value indicated by the RMA Color Code which is described below.

C—Dot or band color denotes number of zeros following second significant figure.



0—Black	5—Green
1—Brown	6—Blue
2—Red	7—Violet
3—Orange	8—Grey
4—Yellow	9—White

A few samples of this code are given below.

Body Color	End Color	Dot Color	Resistance
Orange	Black	Yellow	300,000 ohms
Brown	Green	Orange	15,000 ohms
Violet	Green	Red	7,500 ohms
Orange	Black	Brown	300 ohms

A—Body color denotes first significant figure.  
B—End color denotes second significant figure.

Condensers:

Fixed mica condensers used in these receivers are color coded to indicate capacity.

Capacity	Color	Tolerance	Part Number
.0005 Mfd.	Green, Black, Brown	10%	14-1186

Paper bypass condensers used in these receivers are of the cub type and are plainly marked to show capacity. In addition each unit carries a distinguishing color dot indicating the voltage rating as listed below:

Voltage	Color
200	Green dot or label
400	Red dot or label
600	Yellow dot or label

Normal Working Voltages:

- Line voltage 115 volts.
- Volume control in full "ON" position.
- Antenna disconnected so that no signal is received.
- Measurements made with 1000 ohm per volt meter.
- Except where a minus sign precedes the reading the NEGATIVE SIDE OF THE INSTRUMENT IS TO BE CONNECTED TO THE CHASSIS PAN.
- Tested tubes are used.

In a normal receiver all voltages will be within 5% of the values listed below:—

Position of tube	Type of tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
1st Det.	-24	2.5	4.2	185	70	0
Oscillator	-27	2.5	0	70		0
I.F. Amp.	-51 or -35	2.5	1.8	195	70	0
2nd Det.	-24	2.5	4.5	195**	70	0
Output	-47	2.5		225	245 (note)	-17**

Speaker Field Current—49 M.A.

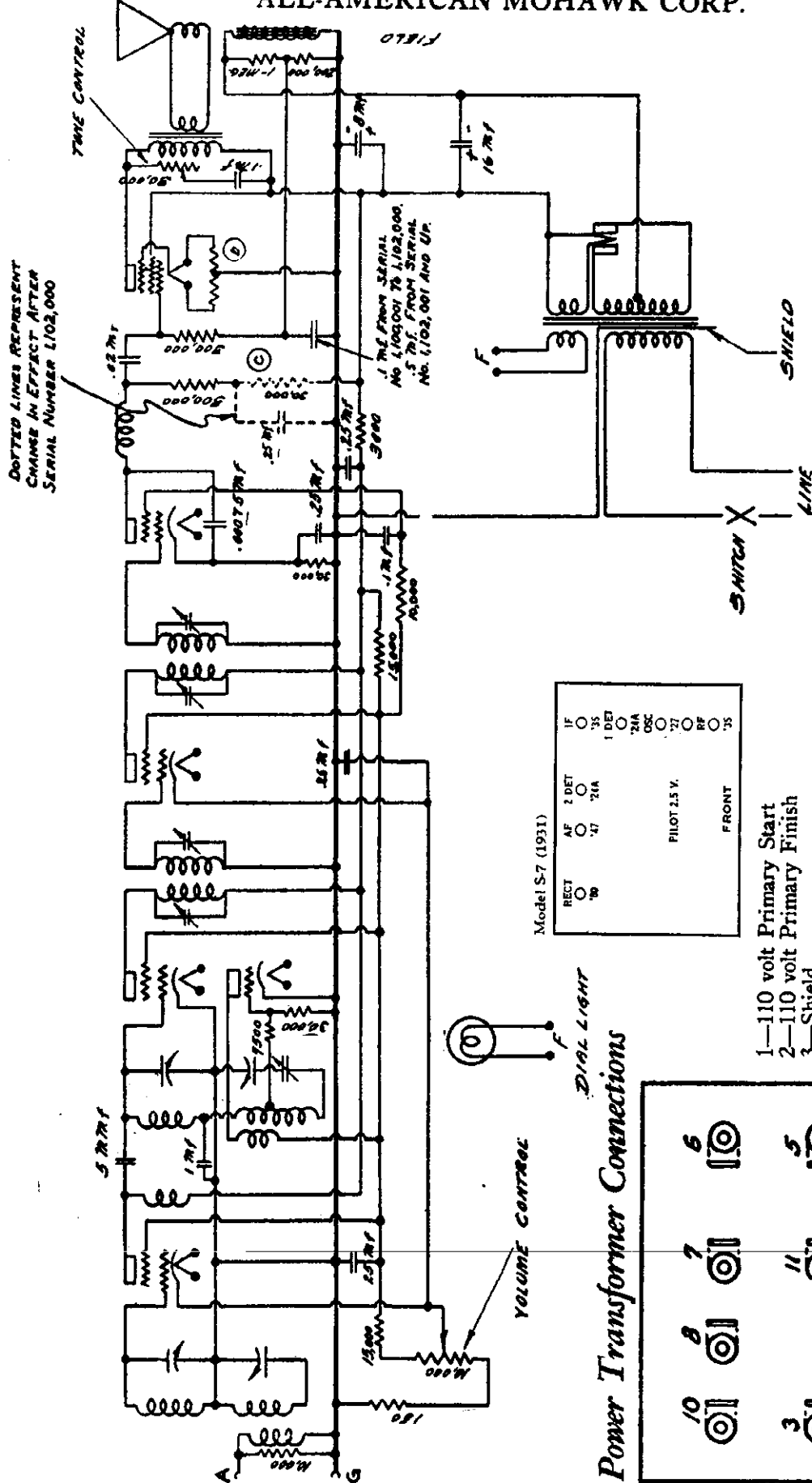
Note—Screen of pentode is connected to cathode pin on socket.

\*\* Owing to the high resistance of the circuit these voltages can be measured accurately only with an electrostatic voltmeter.

ALL-AMERICAN MOHAWK CORP.

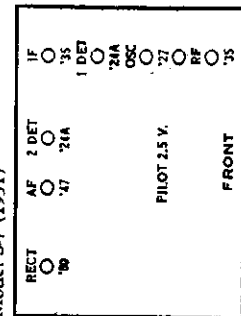
MODEL S-7

PEAK FREQUENCY = 175 KC.

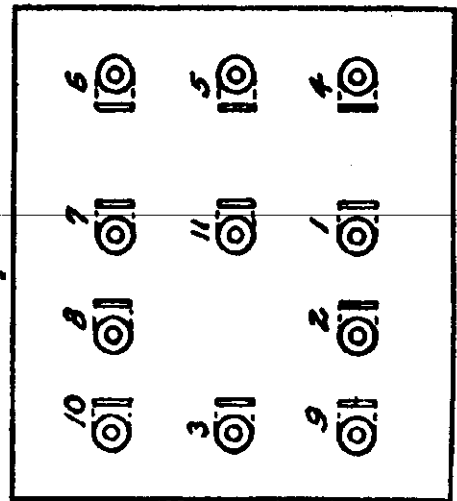


Model S-7 Receiver

Model S-7 (1931)



Power Transformer Connections



- 1—110 volt Primary Start
- 2—110 volt Primary Finish
- 3—Shield
- 4—High Voltage Secondary Start
- 5—High Voltage Secondary Tap
- 6—High Voltage Secondary Finish
- 7—'80 Filament Winding Start
- 8—'80 Filament Winding Finish
- 9—Heater and '47 Filament Winding Start
- 10—Heater and '47 Filament Winding Finish
- 11—No Connection

**MODEL S-7**

Data

**ALL-AMERICAN MOHAWK CORP.**

**Model S-7**

**TECHNICAL DATA**

**Resistors:**

All carbon resistors used in these chassis are color coded in accordance with the R.M.A. code. In the following table the nominal resistance, power capacity, test limits, color marks and part numbers are listed.

Resistance	Color	Capacity	Tolerance	Part No.
150 ohms	Brown-green-brown	1/3 watt	10%	11-1760 or 11-1603
3,000 ohms	Orange-black-red	2 watt	10%	11-1759
4,500 ohms	Yellow-green-red	1/3 watt	10%	11-1542
7,500 ohms	Violet-green-red	1/3 watt	10%	11-1642
10,000 ohms	Brown-black-orange	1/3 watt	10%	11-1599
15,000 ohms	Brown-green-orange	1/3 watt	10%	11-1601
15,000 ohms	Brown-green-orange	2 watt	10%	11-1745
30,000 ohms	Orange-black-orange	1/3 watt	10%	11-1555
200,000 ohms	Red-black-yellow	1/3 watt	10%	11-1730
300,000 ohms	Orange-black-yellow	1/3 watt	10%	11-1556
500,000 ohms	Green-black-yellow	1/3 watt	10%	11-1531

One-third watt resistors are approximately 3/4" long by 1/4" in diameter.

One watt resistors are approximately 1 1/4" long by 1/4" in diameter.

Two watt resistors are approximately 1 3/4" long by 3/8" in diameter.

**Condensers:**

Fixed mica condensers used in these receivers are color coded to indicate capacity. In the following table nominal capacity, test limits, color code and part number are listed.

Capacity	Color	Tolerance	Part Number
.00075 Mfd.	Violet, Green, Brown	10%	11-1801
5 m. mfd.	Black, Green, Black	10%	11-1595

Paper bypass condensers used in these receivers are of the cub type and are plainly marked to show capacity. In addition each unit carries a distinguishing color dot indicating the voltage rating as listed below.

Voltage	Color
200	Green dot or label
400	Red dot or label
600	Yellow dot or label

**Normal Working Voltages:**

- Line voltage 115 volts.
- Volume control in full "ON" position.
- Antenna disconnected so that no signal is received.
- Measurements made with 1000 ohm per volt meter.
- Except where a minus sign precedes the reading the NEGATIVE SIDE OF THE INSTRUMENT IS TO BE CONNECTED TO THE CHASSIS PAN.
- Tested tubes are used.

In a normal receiver all voltages will be within 5% of the values listed below:

Position of tube	Type of tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
R.F. Amp.	-51 or 35	2.50 A. C.	2.00	195.0	70.0	0
1st Det.	-24	2.50 A. C.		195.0	70.0	0
Oscillator	-27	2.50 A. C.	0	70.0		0
I.F. Amp.	-51 or 35	2.50 A. C.	2.00	195.0	70.0	0
2nd. Det.	-24	2.50 A. C.	4.50	168.0 **	70.0	0
Output	-47	2.50 A. C.		230.0	250.0 (note)	-17.0**
Rectifier	-80	5.00 A. C.		350.0 A. C.		

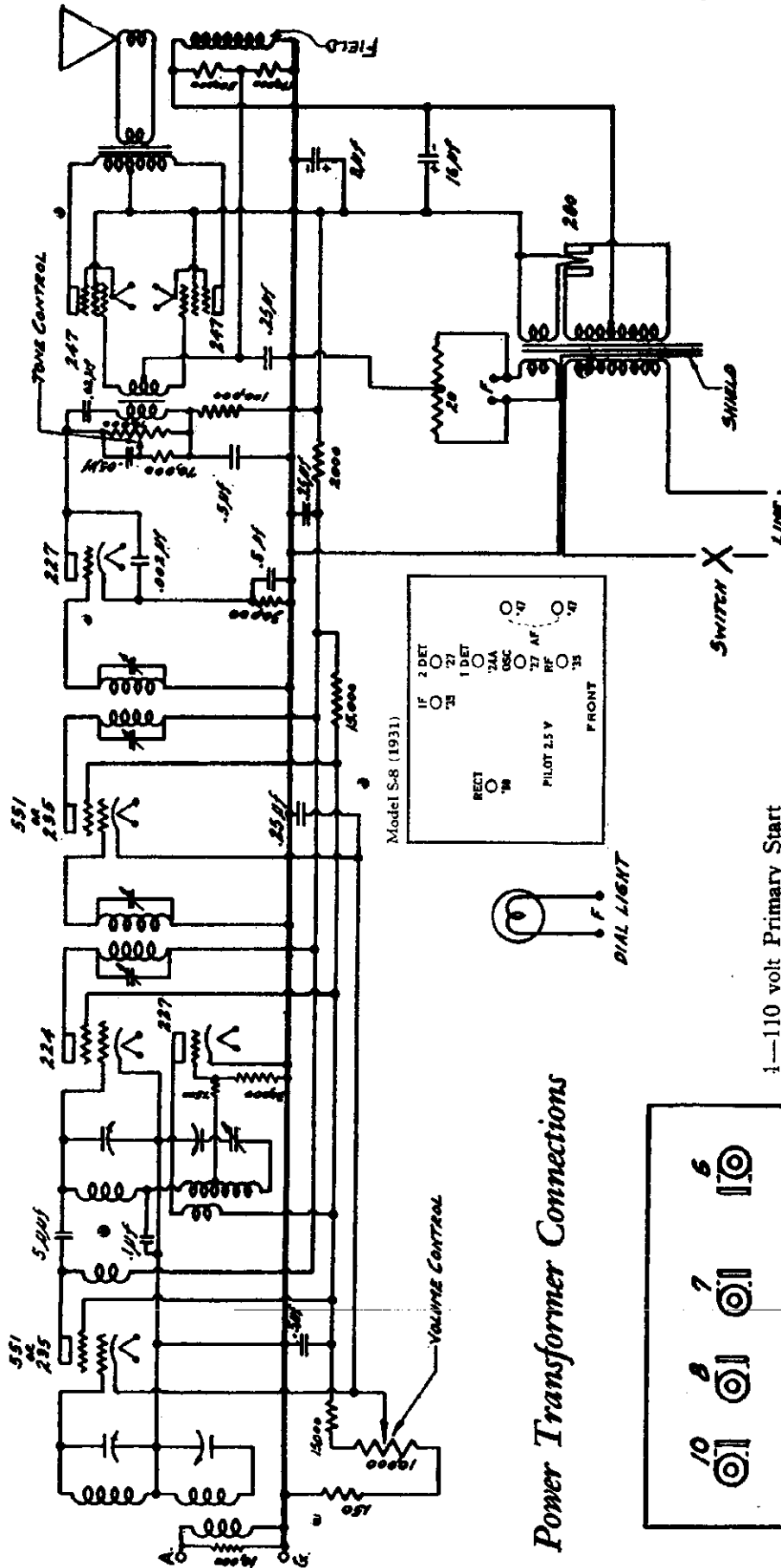
Speaker field current—57 M. A.

\*\* Owing to the high resistance of the circuit these voltages can be measured accurately only with an electrostatic voltmeter. Note—Screen of pentode is connected to cathode pin on socket.

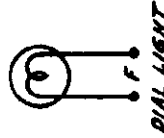
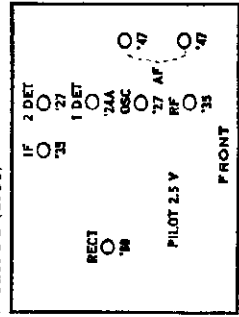
ALL-AMERICAN MOHAWK CORP.

MODEL S-8

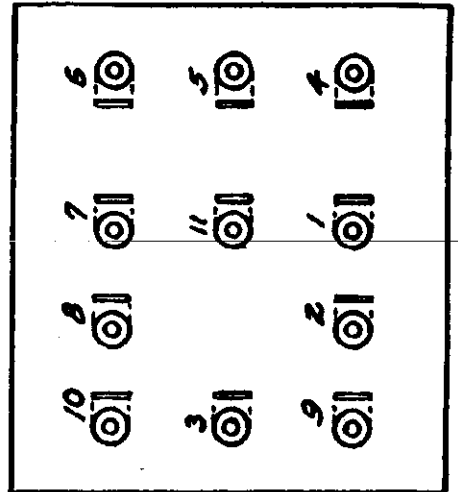
PEAK FREQUENCY = 176 KC.



Model S-8 (1931)



Power Transformer Connections



- 1—110 volt Primary Start
- 2—110 volt Primary Finish
- 3—Shield
- 4—High Voltage Secondary Start
- 5—High Voltage Secondary Tap
- 6—High Voltage Secondary Finish
- 7—'80 Filament Winding Start
- 8—'80 Filament Winding Finish
- 9—Heater and '47 Filament Winding Start
- 10—Heater and '47 Filament Winding Finish
- 11—No Connection

Model S-8 Receiver

MODEL S-8  
Data

ALL-AMERICAN MOHAWK CORP

Model S-8

TECHNICAL DATA

Resistors:

All carbon resistors used in these chassis are color coded in accordance with the R.M.A. code. In the following table the nominal resistance, power capacity, test limits, color marks and part numbers are listed.

Resistance	Color	Capacity	Tolerance	Part No.
150 ohms	Brown-green-brown	1/3 watt	10%	12-1603 or 12-1760
2,000 ohms	Red-black-red	3 watt	10%	12-1777
7,500 ohms	Violet-black-red	1/3 watt	10%	12-1642
10,000 ohms	Brown-black-orange	1/3 watt	10%	12-1599
15,000 ohms	Brown-green-orange	1/3 watt	10%	12-1601
15,000 ohms	Brown-green-orange	3 watt	10%	12-1745
30,000 ohms	Orange-black-orange	1/3 watt	10%	12-1555
70,000 ohms	Violet-black-orange	1/3 watt	10%	12-1558
100,000 ohms	Brown-black-yellow	1/3 watt	10%	12-1614
170,000 ohms	Brown-violet-yellow	1/3 watt	10%	12-1734
500,000 ohms	Green-black-yellow	1/3 watt	10%	12-1531

One-third watt resistors are approximately 3/4" long by 1/4" in diameter.

One watt resistors are approximately 1 1/4" long by 1/4" diameter.

Three watt resistors are approximately 1 3/4" long by 3/8" in diameter.

Condensers:

Fixed mica condensers used in these receivers are color coded to indicate capacity. In the following table nominal capacity, test limits, color code and part numbers are listed.

Capacity	Color	Tolerance	Part Number
5 m. mfd.	Black, Green, Black	10%	12-1595
.002	Red, Black, Red	10%	12-1625

Paper bypass condensers used in these receivers are of the cub type and are plainly marked to show capacity. In addition each unit carries a distinguishing color dot indicating the voltage rating as listed below.

Voltage	Color
200	Green dot or label
400	Red dot or label
600	Yellow dot or label

Part numbers for these units are given on the schematic diagram at the end of the manual.

Normal Working Voltages:

1. Line voltage 115 volts.
2. Volume control in full "On" position.
3. Antenna disconnected so that no signal is received.
4. Measurements made with 1000 ohm per volt meter.
5. Except where a minus sign precedes the reading the NEGATIVE SIDE OF THE INSTRUMENT IS TO BE CONNECTED TO THE CHASSIS PAN.
6. Tested tubes are used.

In a normal receiver all voltages will be within 5% of the values listed below:—

Position of tube	Type of tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
R.F. Amp.,	-51 or -35	2.5 A. C.	2.1	200	70	0
1st Det.	-24	2.5 A. C.		205	70	0
Oscillator	-27	2.5 A. C.	0	70		0
I.F. Amp.	-51 or -35	2.5 A. C.	2.1	200	70	0
2nd Det.	-24	2.5 A. C.	10	125		0
Output	-47	2.5 A. C.		235	250 (note)	-17.0**

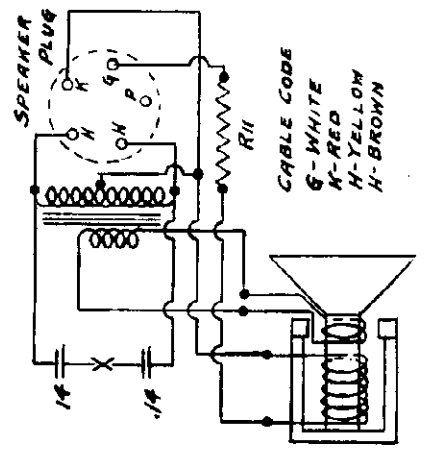
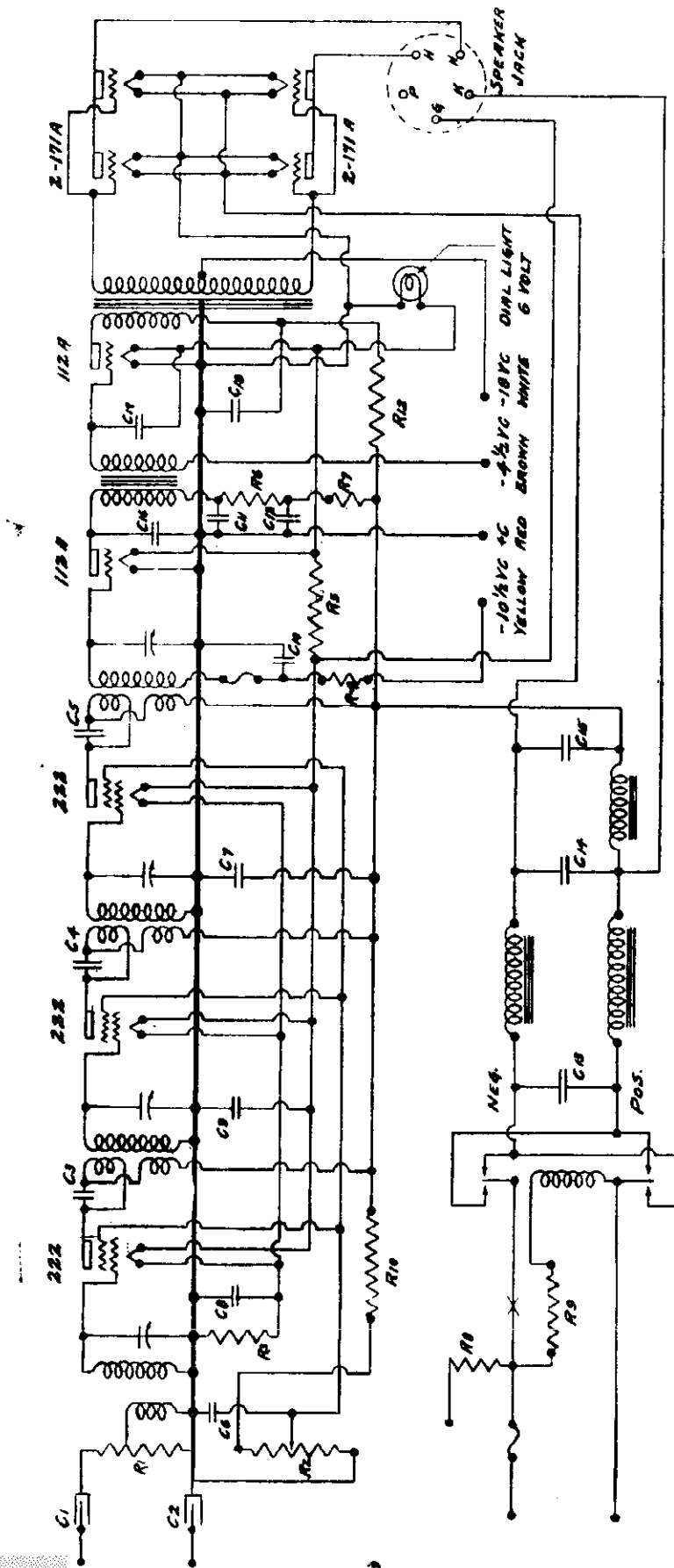
Speaker field current—91 M.A.

Note—Screen of pentode is connected to cathode pin on socket.

\*\*Owing to the high resistance of the circuit these voltages can be measured accurately only with an electrostatic voltmeter.

ALL-AMERICAN MOHAWK CORP

MODEL - DC



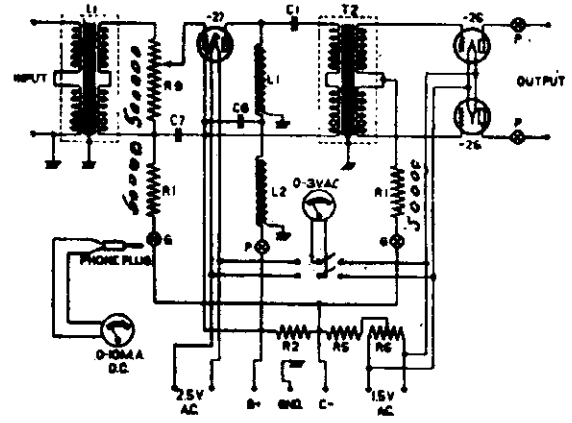
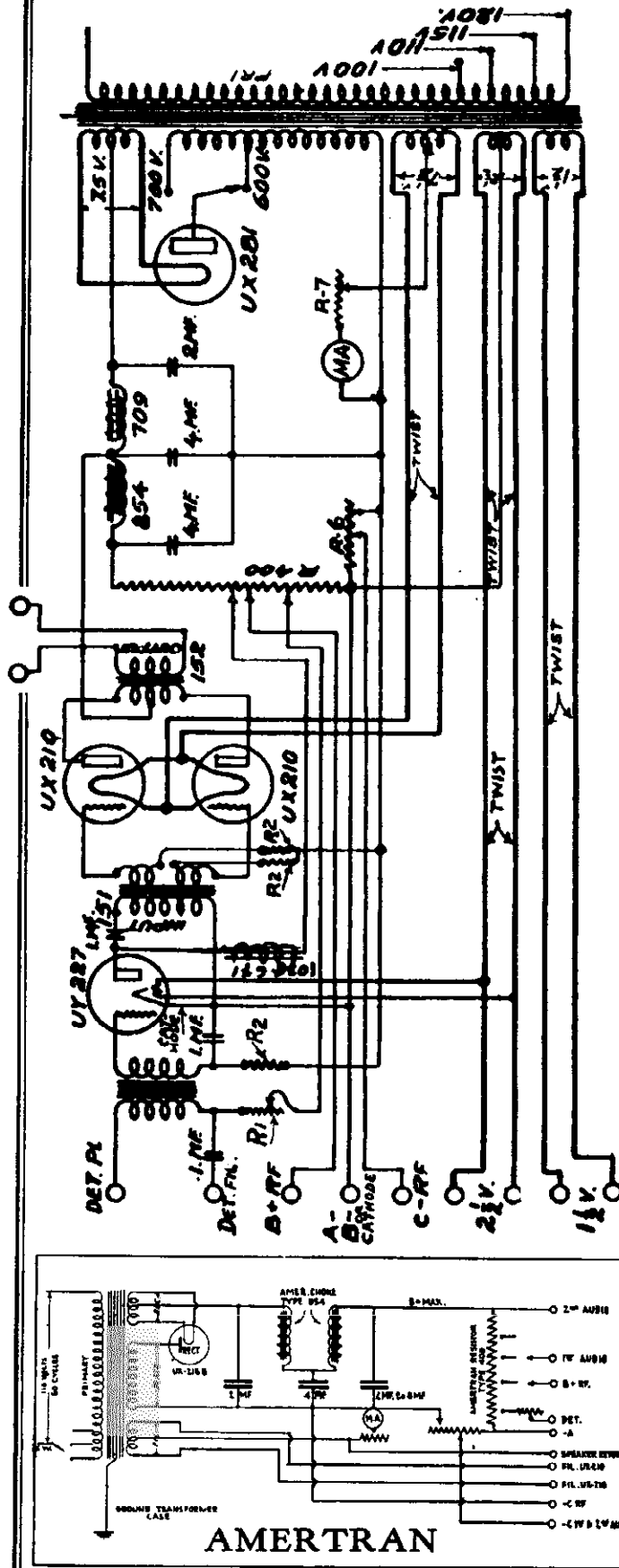
CABLE CODE  
 G-WHITE  
 H-RED  
 H-YELLOW  
 H-BROWN

- R1 10000 w VOLUME CONTROL
- R2 3500 w WIRE WOUND
- R3 86 w WIRE WOUND
- R4 10000 w CARBON
- R5 2.25 w WIRE WOUND
- R6 4500 w CARBON
- R7 4500 w CARBON
- R8 10 w VITREOUS ENAMELLED (IN CHASSIS)
- R9 700 w CARBON
- R10 4500 w CARBON
- R11 85 w VITREOUS ENAMELLED (ON SPEAKER)
- R12 2400 w CARBON

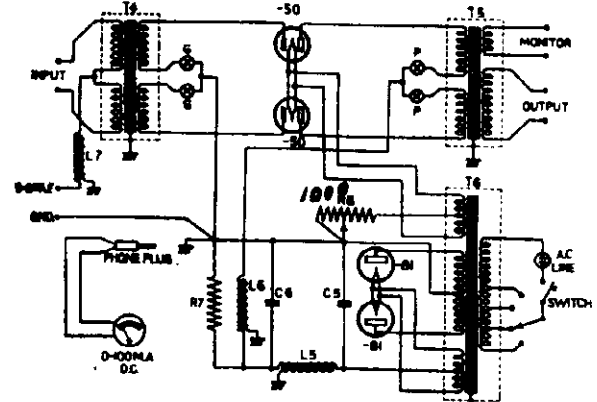
- C1 .02 μF
- C2 .05 μF
- C3 .38 μmf
- C4 .35 μmf
- C5 .35 μmf
- C6 .5 μmf
- C7 .5 μmf
- C8 .5 μmf
- C9 .05 μmf
- C10 .1 μmf (2.05 μ in PARALLEL)
- C11 .1 μmf (2.5 μ in PARALLEL)
- C12 .5 μmf
- C13 1.0 μmf
- C14 8 μmf (ELECTROLYTIC)
- C15 8 μmf (ELECTROLYTIC)
- C16 .001 μmf
- C17 .00025 μmf
- C18 .5 μmf

SCHEMATIC DIAGRAM - DC CHASSIS 11-4-30

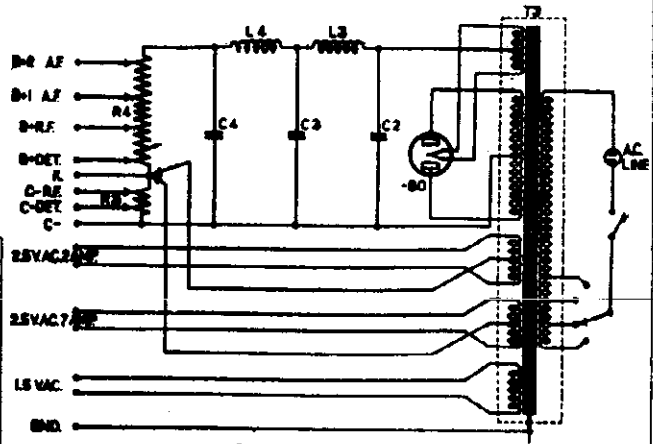
AMERICAN TRANSFORMER CO. MODEL 25-A Amp'lier



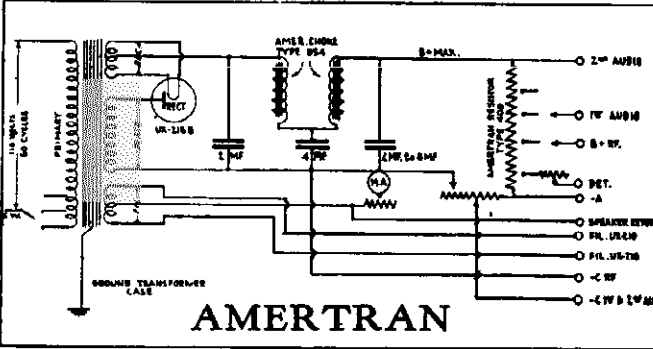
25-A Power Amplifier (A Unit)



25-A Power Amplifier (PA Unit)



25-A Power Amplifier (P Unit)

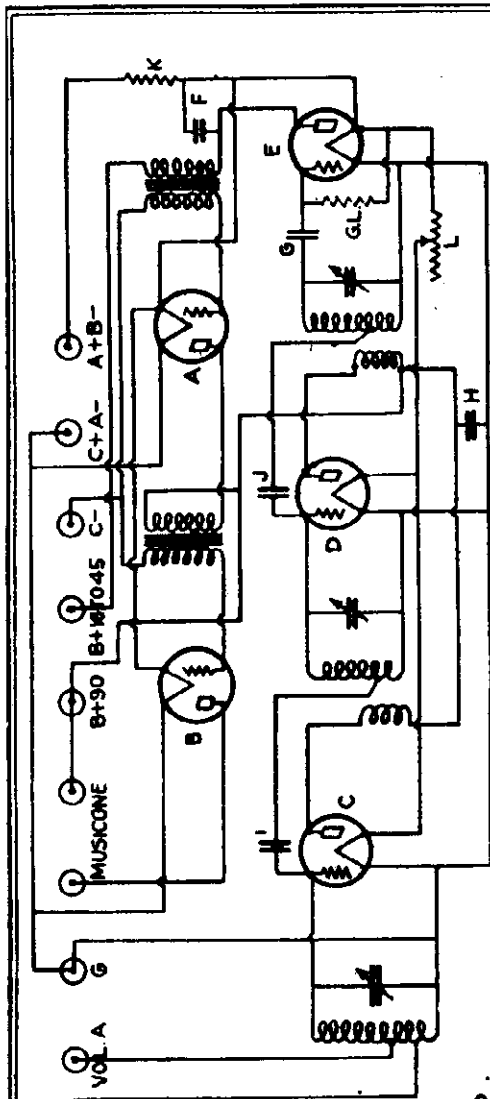






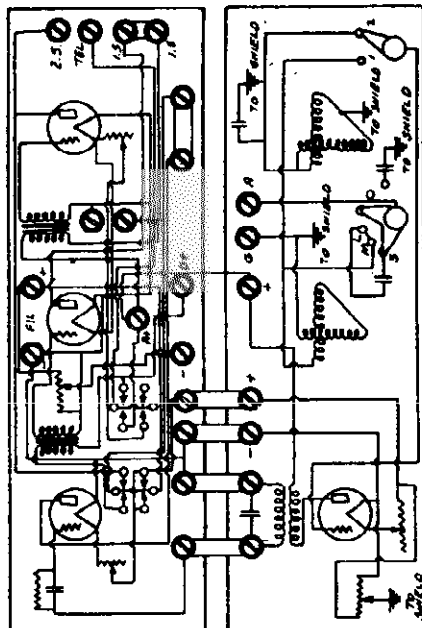
AMRAD CORPORATION

MODEL S-522  
 MODEL 3500-1  
 MODEL 3500-2



KEY	
A	1st Audio Stage
B	Detector
C	2nd Audio Stage
D	Detector & AF
E	Tuning Eye
SEL. A	Volume Control

S-522

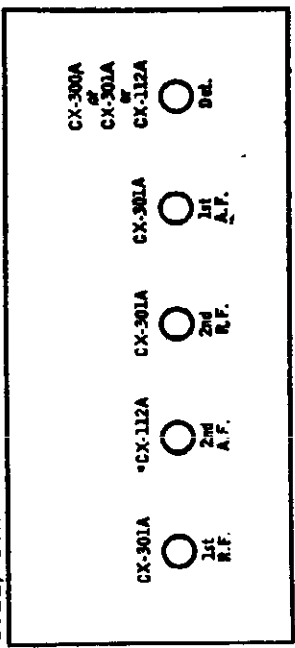


3500-2

INTERNAL WIRING OF DETECTOR & STAGE AMPLIFIER 2634 AND BROADCAST TUNER 3475 AS VIEWED FROM FRONT OF INSTRUMENT

(Batt.)

S522, S522-C

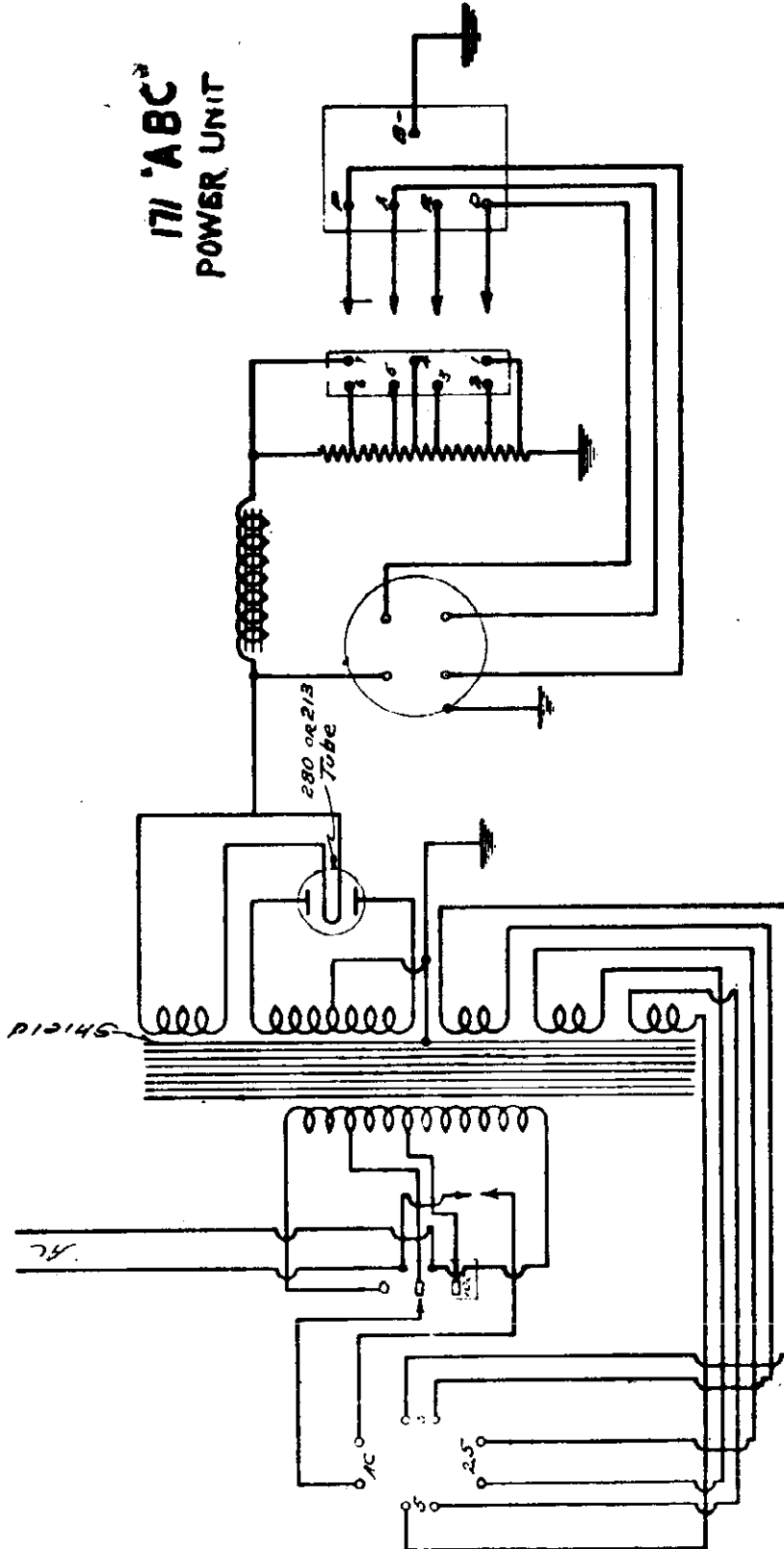


3500-1

INTERNAL WIRING OF DETECTOR & STAGE AMPLIFIER 2634 BROADCAST TUNER 3475 AS VIEWED FROM FRONT OF INSTRUMENT

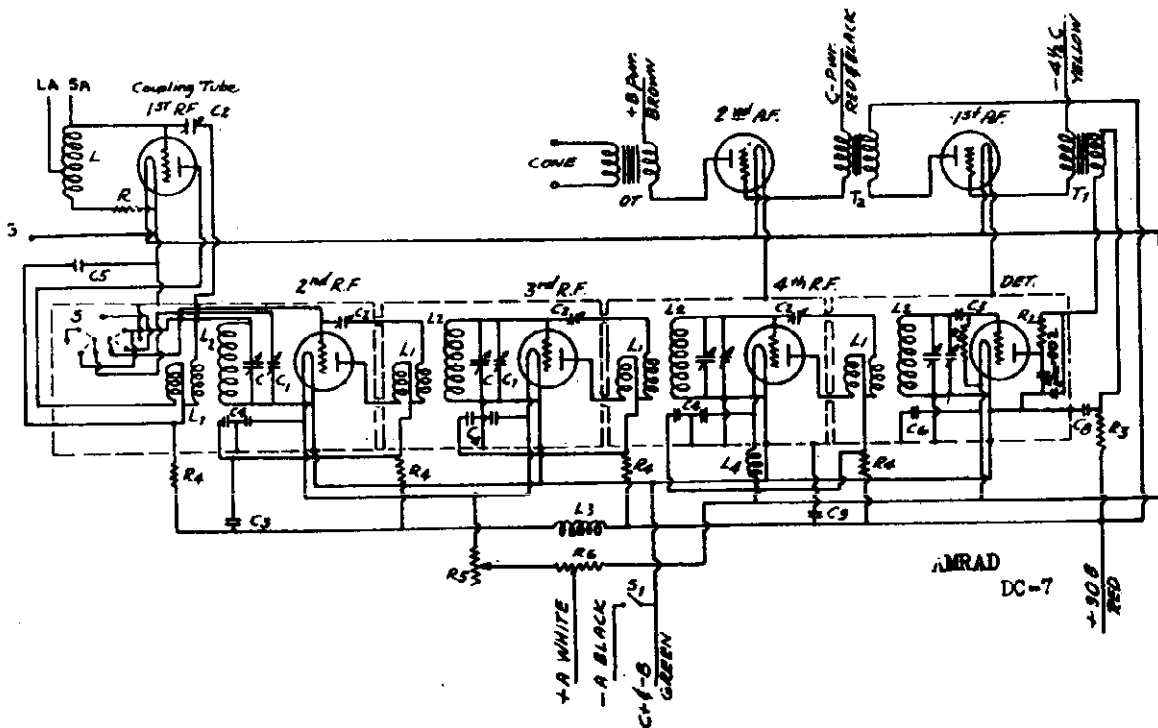
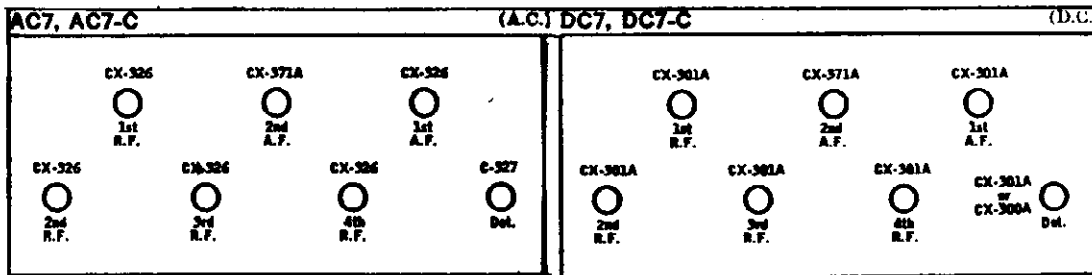
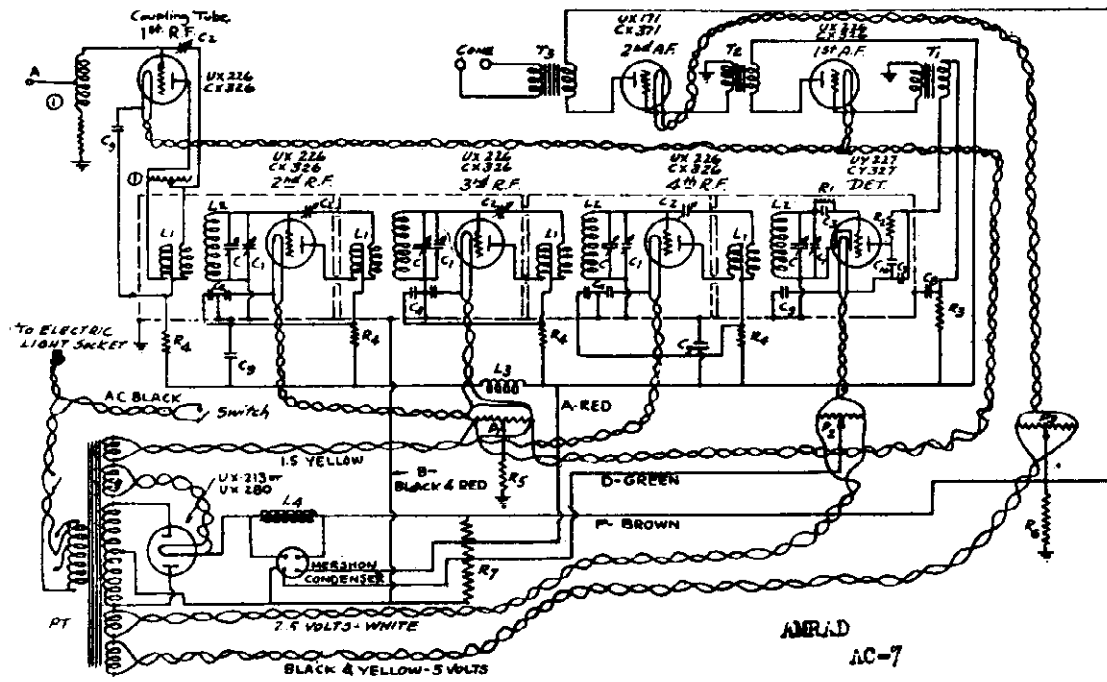
MODEL 171 ABC  
Power Pack

AMRAD CORPORATION



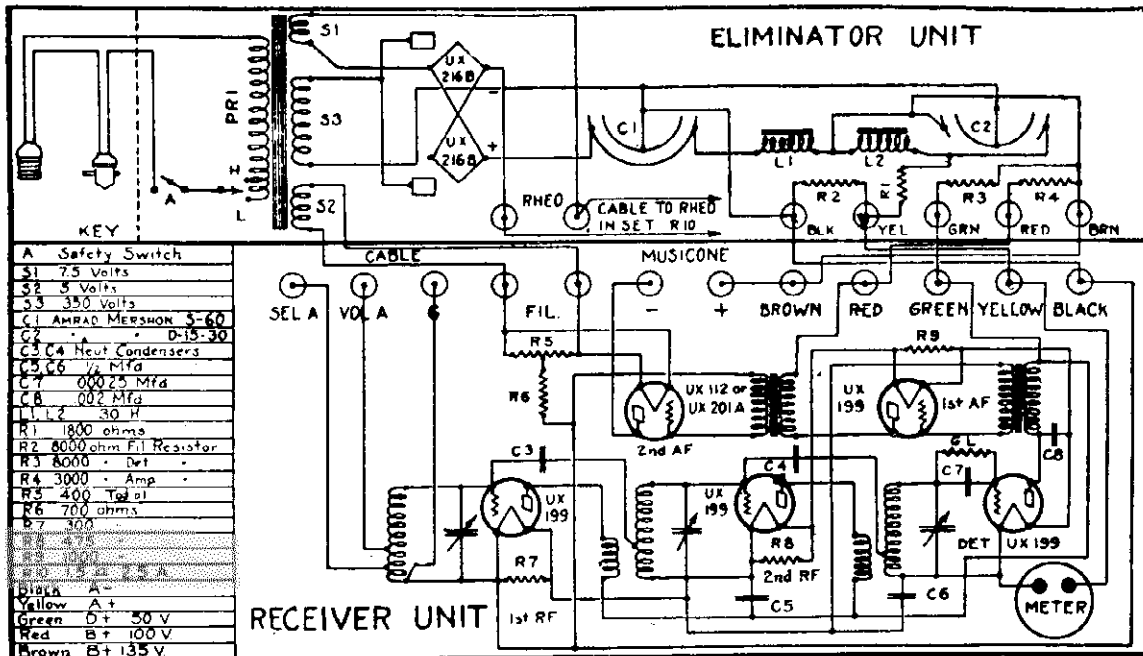
AMRAD CORPORATION

MODEL AC-7  
MODEL DC-7



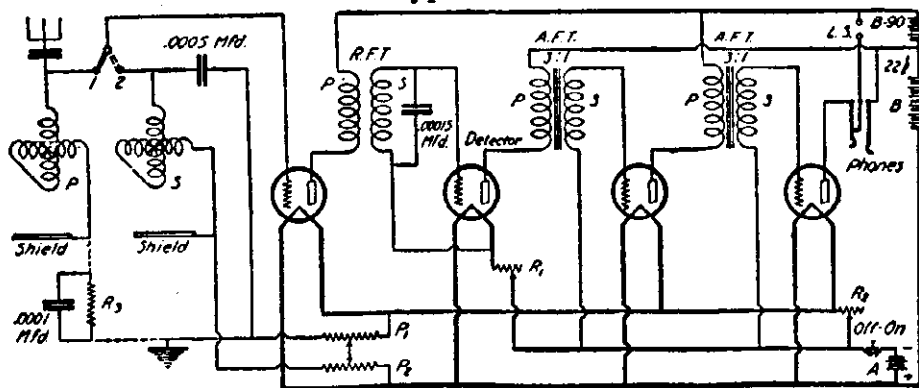
MODEL AC-5  
 MODEL 80,82,83  
 MODEL Inductrol

AMRAD CORPORATION

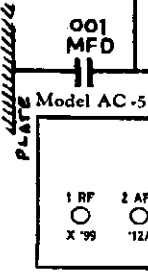
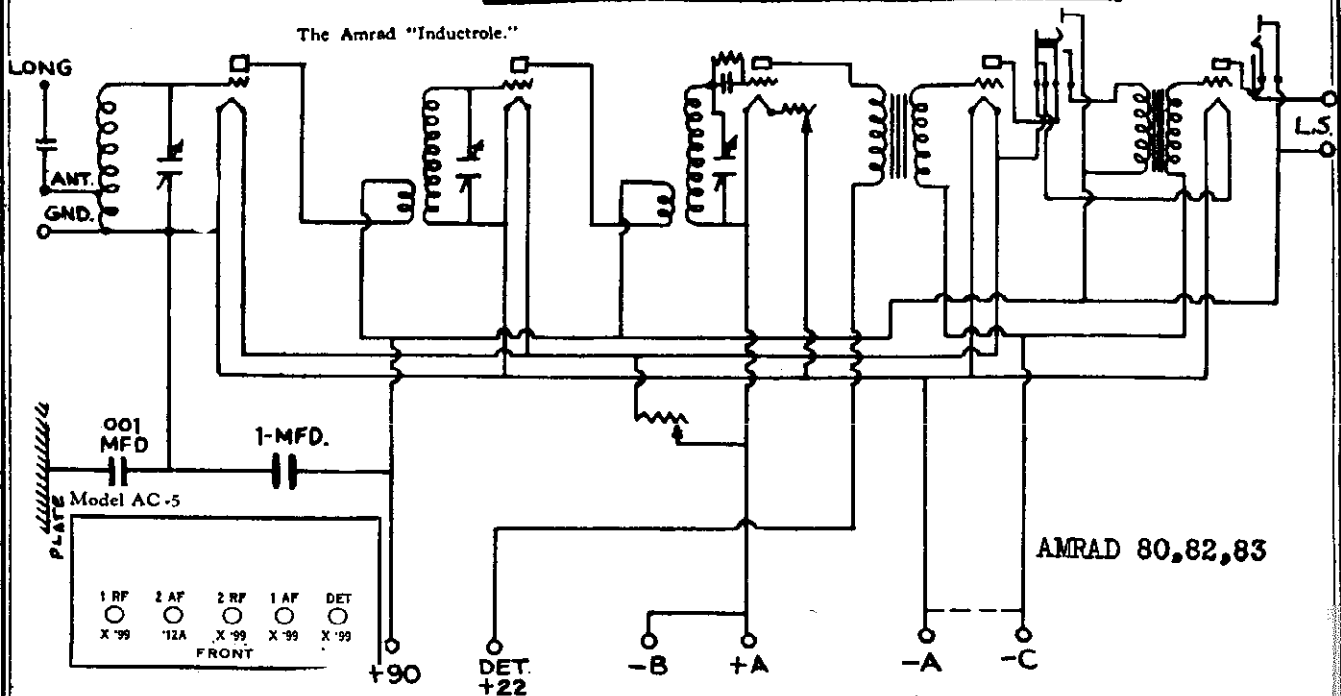


A	Safety Switch
S1	7.5 Volts
S2	5 Volts
S3	350 Volts
C1	AMRAD MERSON 3-60
C2	D-15-30
C3, C4	Neut. Condensers
C5, C6	1/2 Mfd
C7	0.0025 Mfd
C8	0.02 Mfd
L1, L2	30 H
R1	1800 ohms
R2	6000 ohm Fil Resistor
R3	8000 Det
R4	3000 Amp
R5	400 Tol 01
R6	700 ohms
R7	300
R8	300
R9	300
C1	AMRAD MERSON 3-60
C2	D-15-30
C3, C4	Neut. Condensers
C5, C6	1/2 Mfd
C7	0.0025 Mfd
C8	0.02 Mfd
L1, L2	30 H
R1	1800 ohms
R2	6000 ohm Fil Resistor
R3	8000 Det
R4	3000 Amp
R5	400 Tol 01
R6	700 ohms
R7	300
R8	300
R9	300

NEUTRODYNE. Type AC-5 and Power Unit.



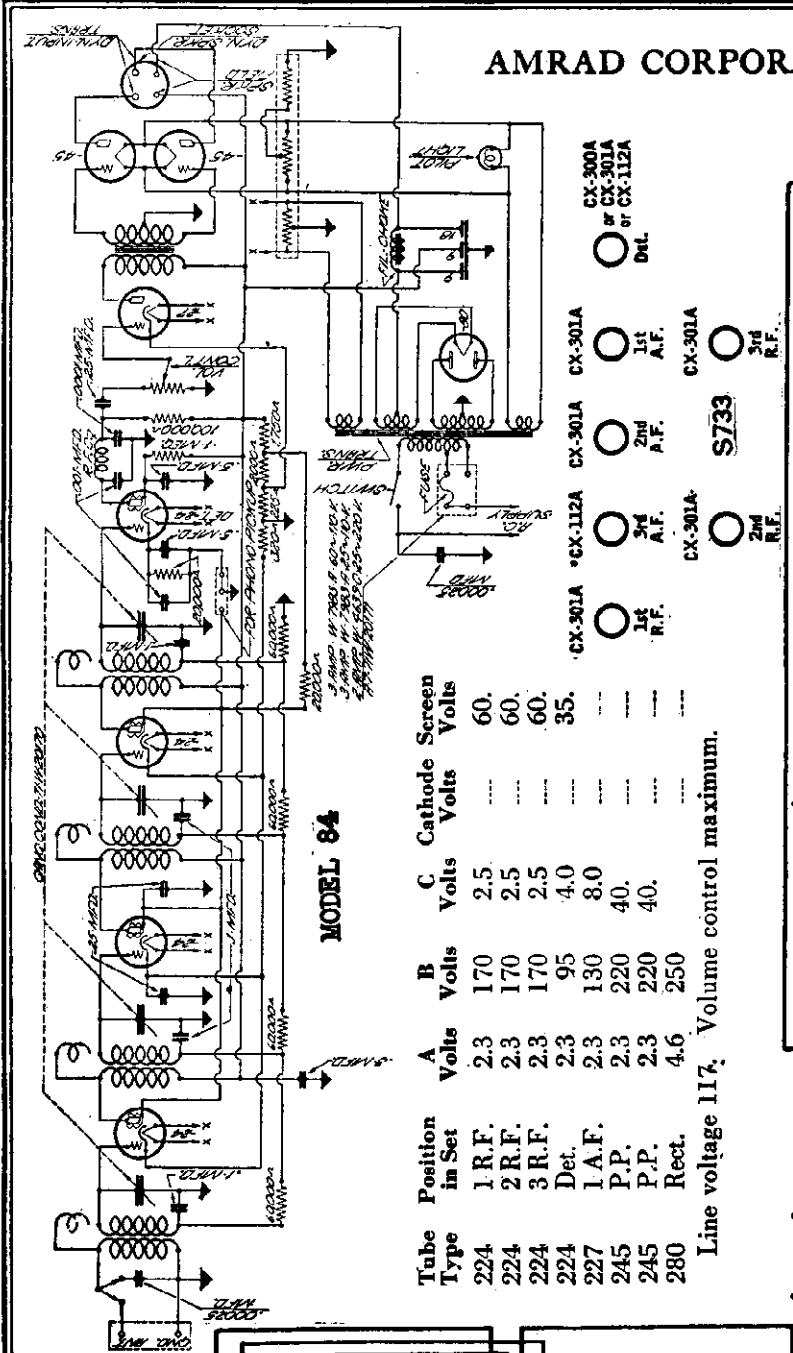
The Amrad "Inductrol."



AMRAD 80,82,83

AMRAD CORPORATION

MODEL 84  
MODEL S-733  
MODEL 3950

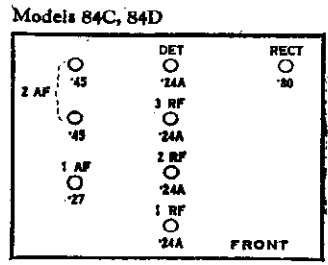
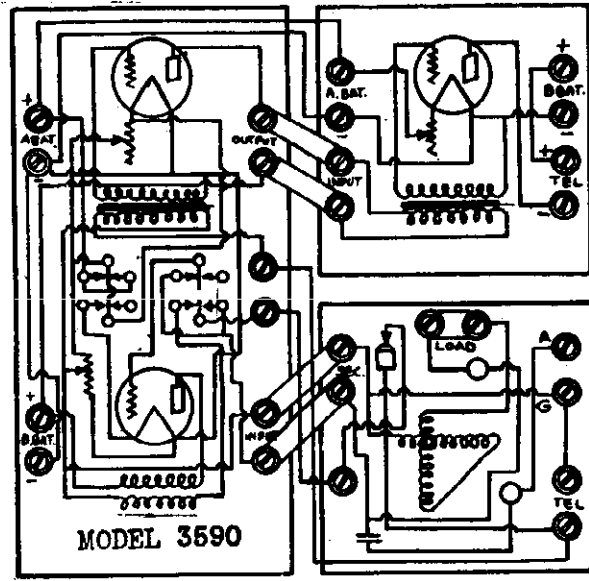
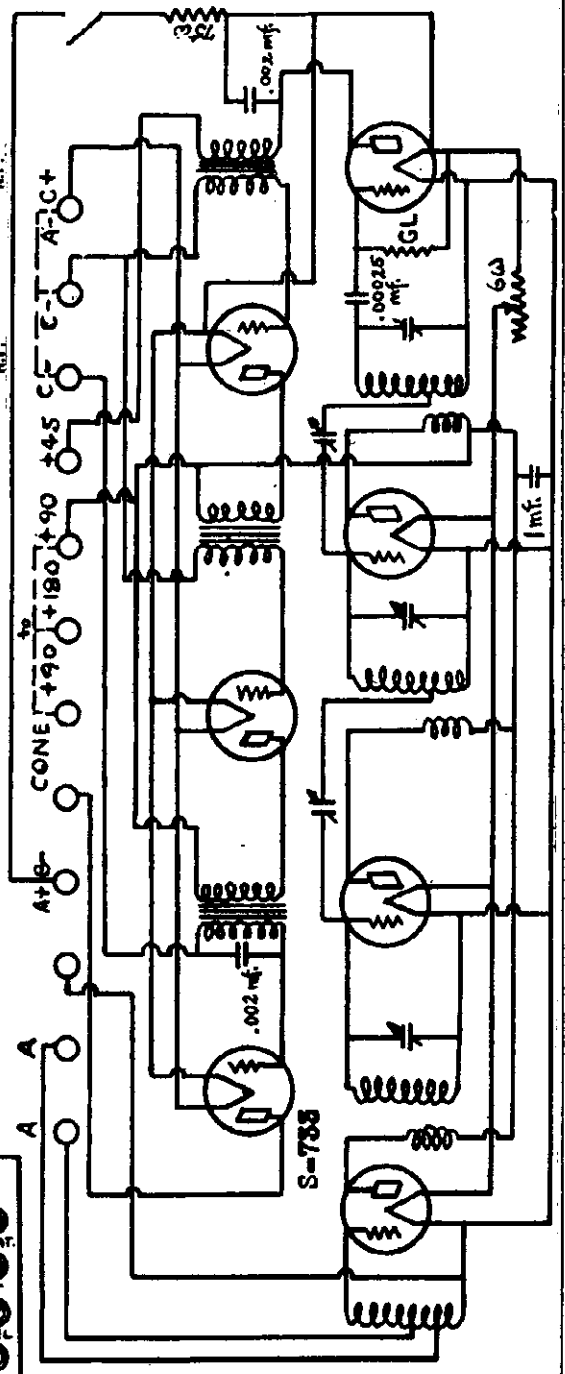


MODEL 84

Tube Type	Position in Set	A Volts	B Volts	C Volts	Screen Volts
224	1 R.F.	2.3	170	2.5	60.
224	2 R.F.	2.3	170	2.5	60.
224	3 R.F.	2.3	170	2.5	60.
224	Det.	2.3	95	4.0	35.
227	1 A.F.	2.3	130	8.0	---
245	P.P.	2.3	220	40.	---
245	P.P.	2.3	220	40.	---
280	Rect.	4.6	250	---	---

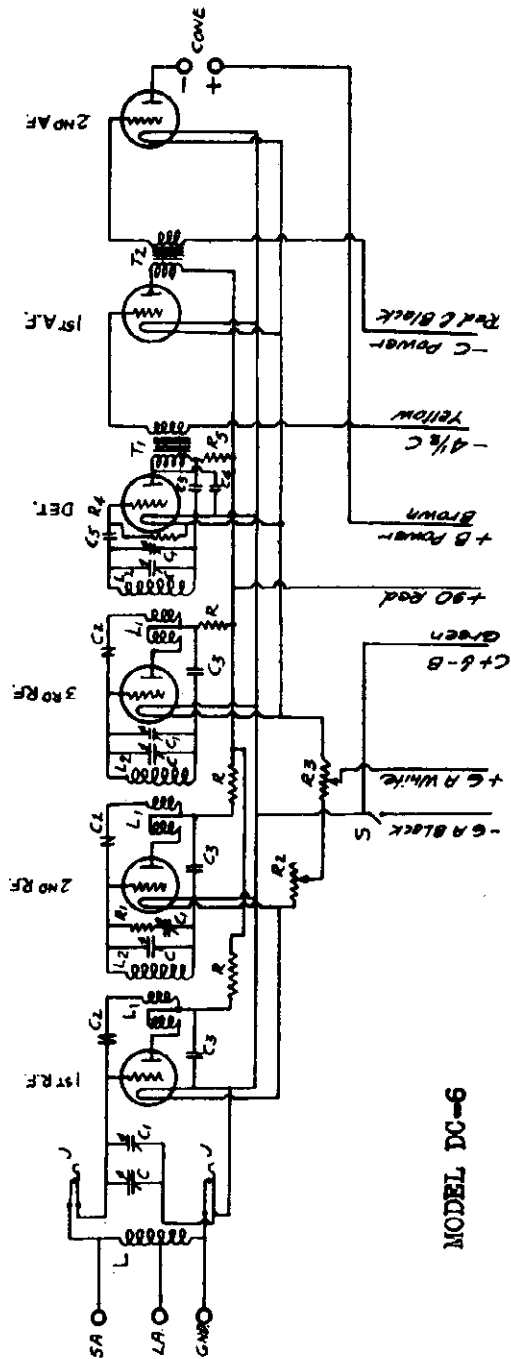
Line voltage 117. Volume control maximum.

- CX-300A or CX-301A or CX-112A Det.
- CX-301A 1st A.F.
- CX-301A 2nd A.F.
- CX-301A 3rd A.F.
- CX-301A 1st R.F.
- CX-301A 2nd R.F.
- CX-301A 3rd R.F.
- S733

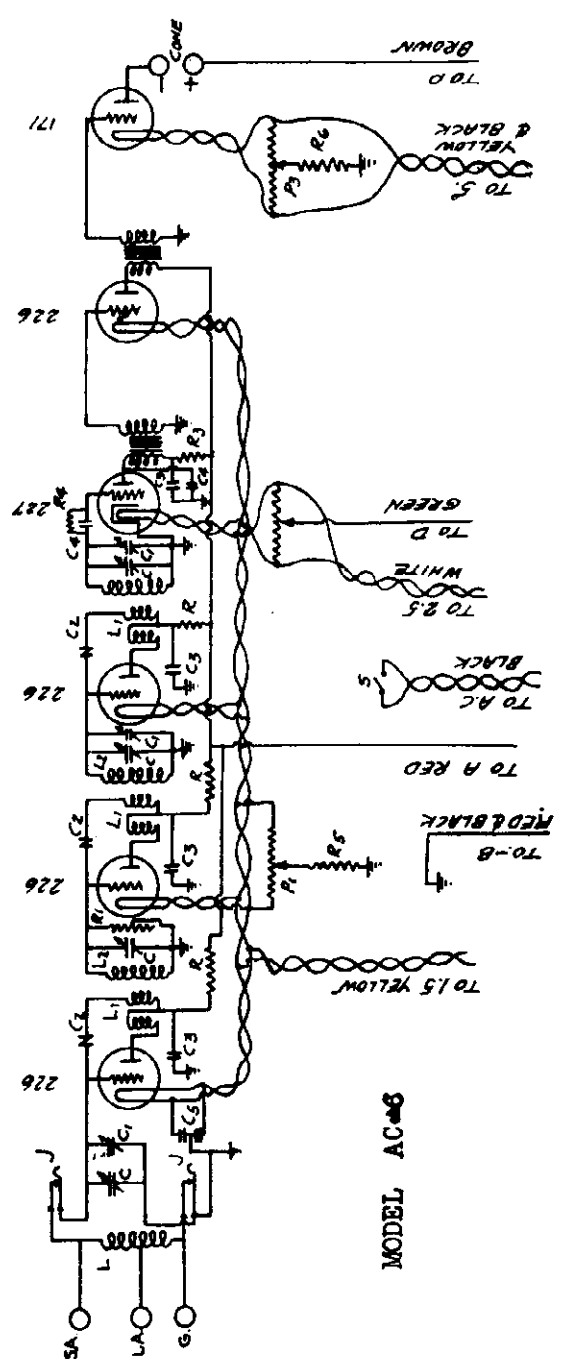


MODEL AC-6  
MODEL DC-6

AMRAD CORPORATION

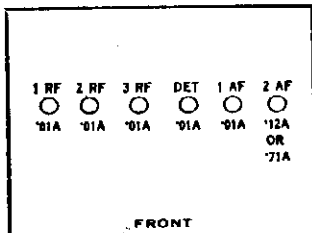


MODEL DC-6

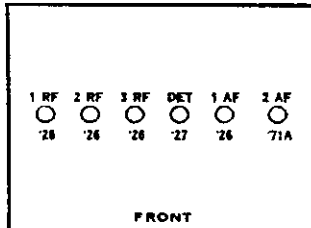


MODEL AC-6

Models DC-6, DC-6C

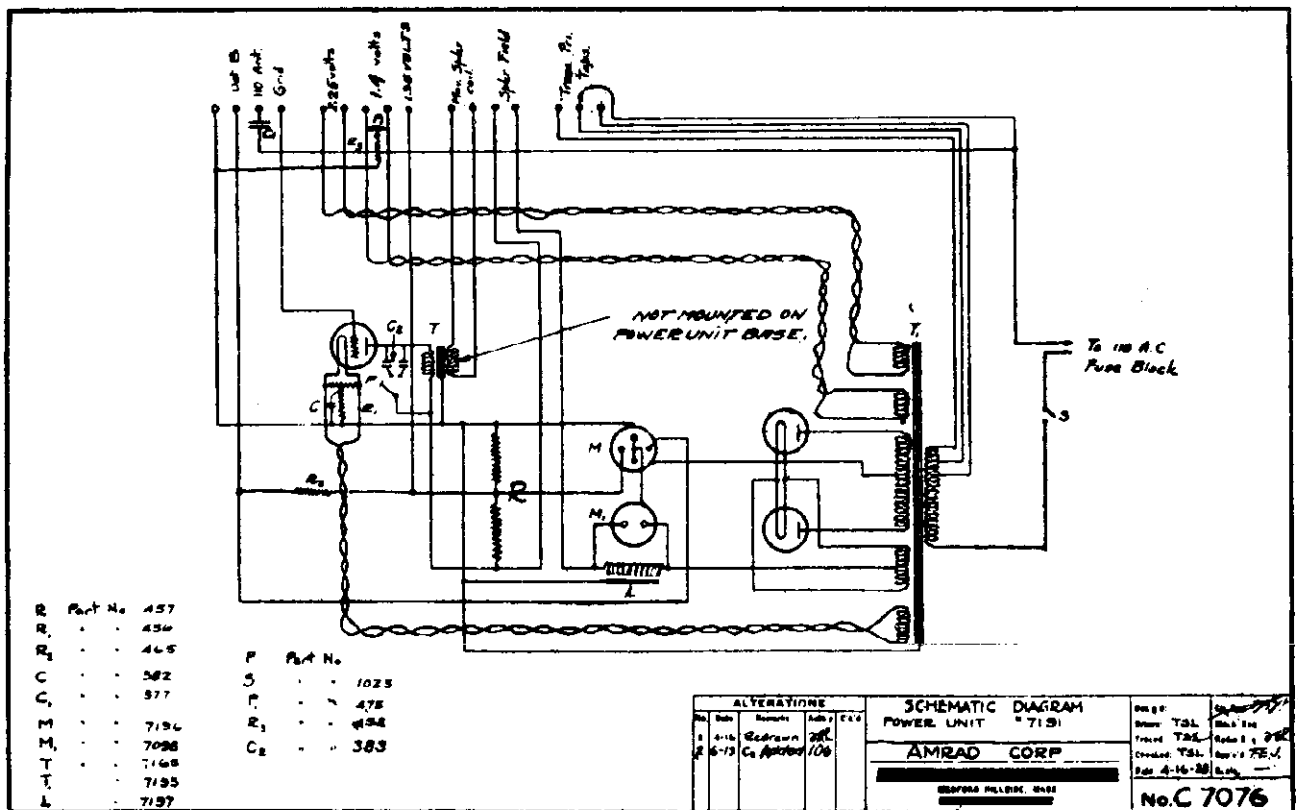
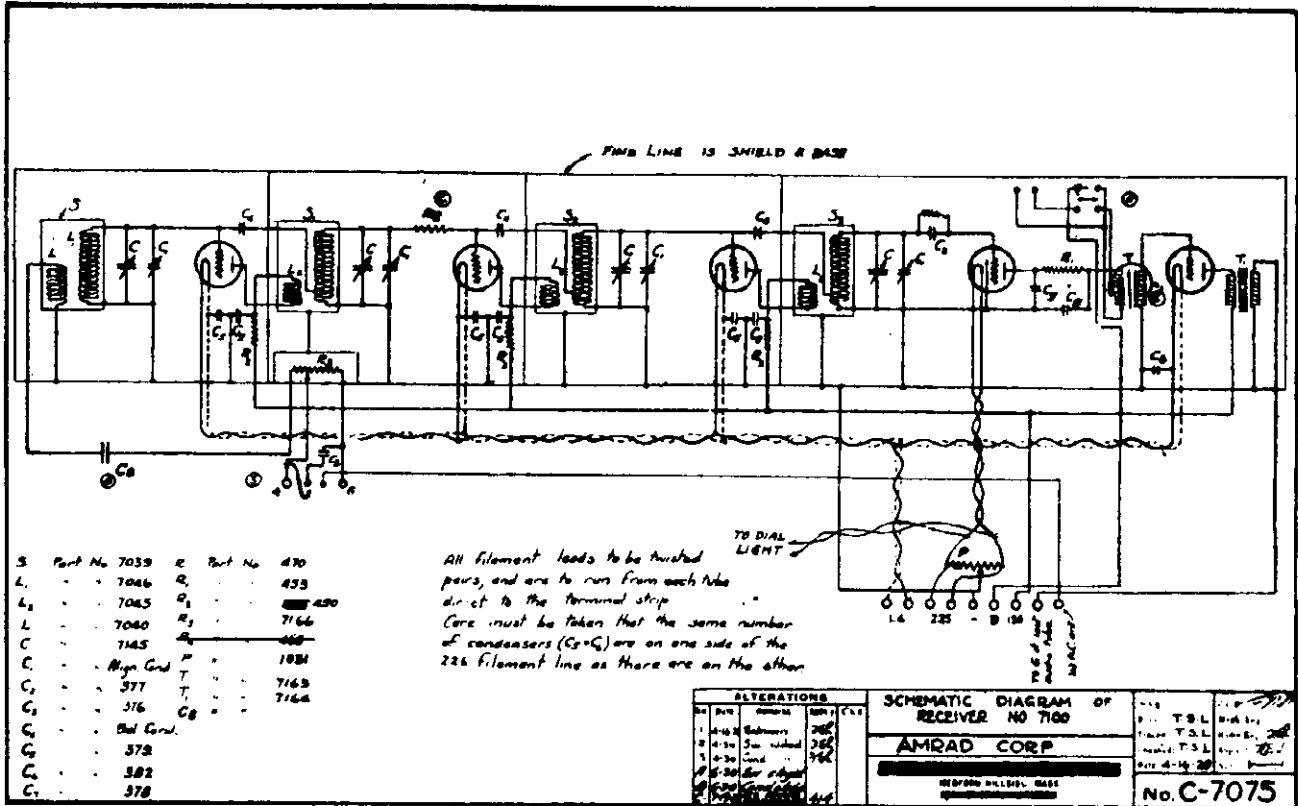


Models AC-6, AC-6C



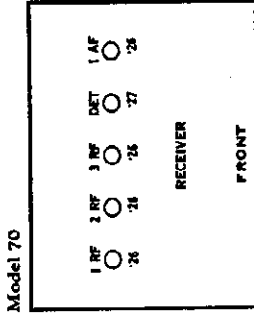
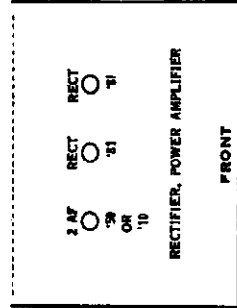
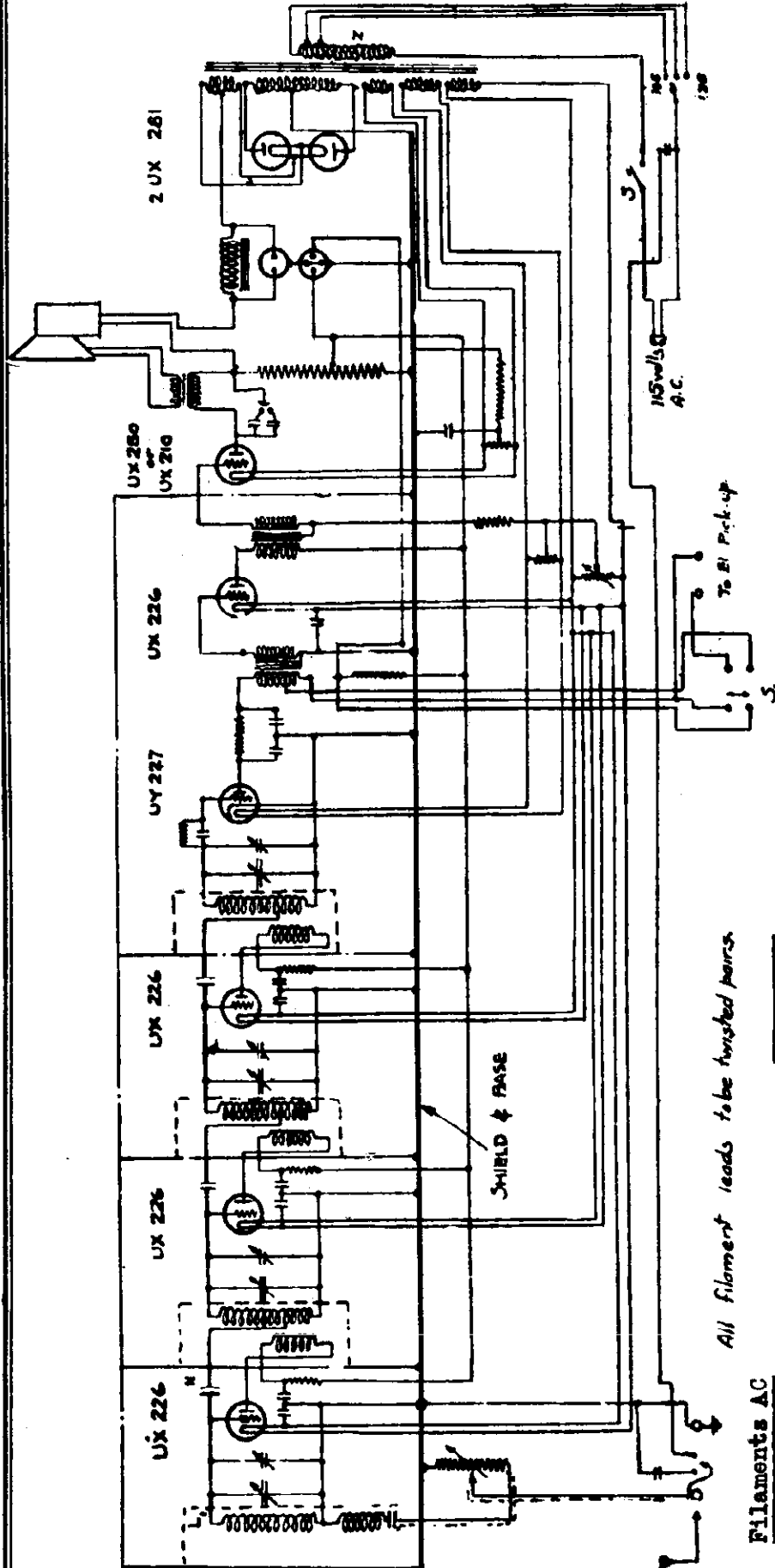
AMRAD CORPORATION

MODEL 7100 Receiver  
MODEL 7191 Power Unit



MODEL 70

AMRAD CORPORATION



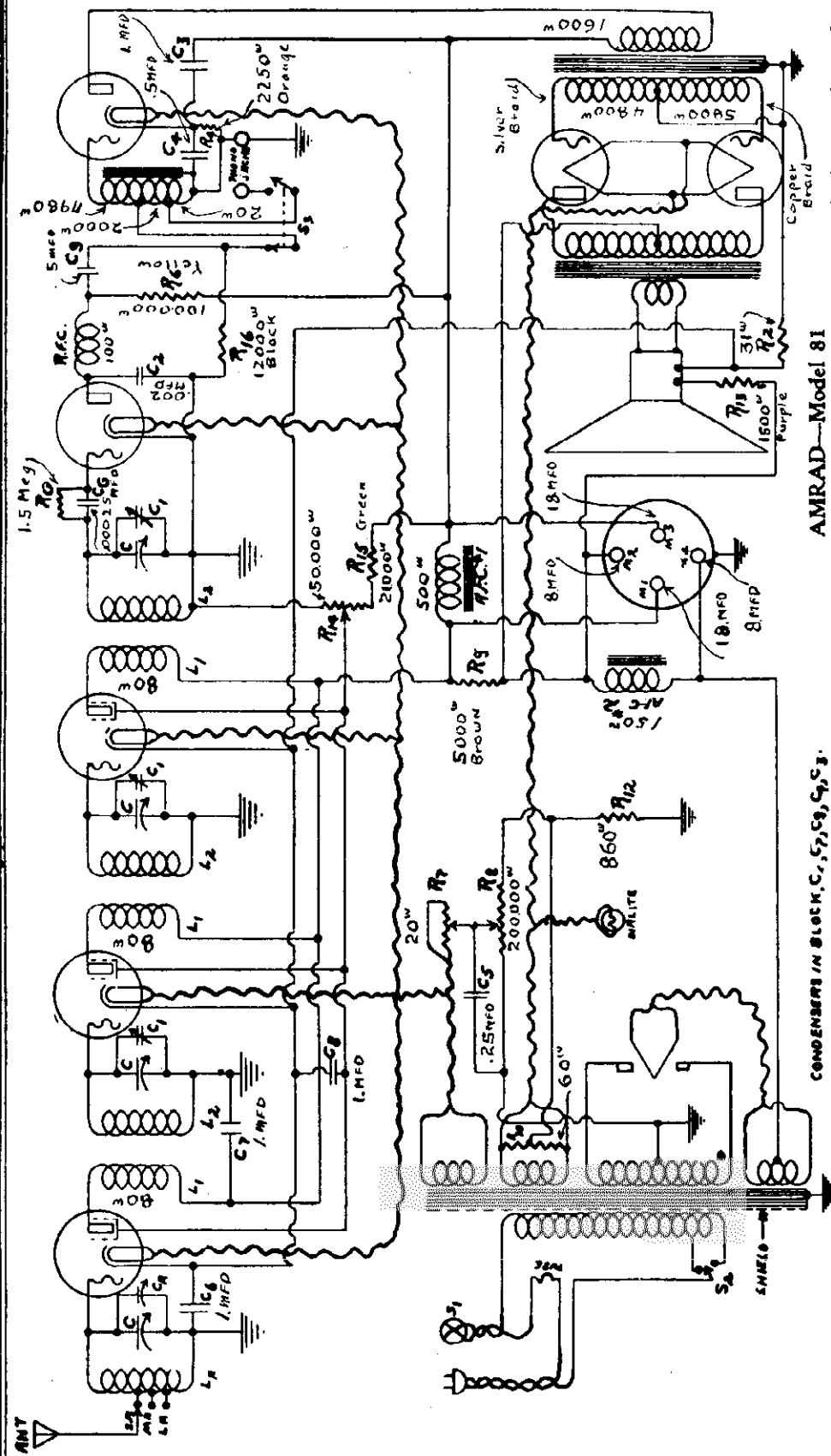
All filament leads to be twisted pairs.

Filaments AC		
UX-226	1.4 to 1.45	155 to 160
UX-227	2.2 to 2.3	20 to 30
UX-250	7.3 to 7.4	350 to 370
UX-281	7.3 to 7.4	
UX-210 is used in place of 250	7.3 to 7.4	400 to 425
<b>Bias</b>		
UX-226	9 to 11	
UX-250	60 to 70	



AMRAD CORPORATION

MODEL Bel-Canto 81.



**AMRAD—Model 81**  
 Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Full On  
 Note: To get the 10.5 V. reading (4-8) the hum control potentiometer must be turned to ground side.

TYPE	PART NO.	POSITION	TUNE OUT		C		TABLE IN TESTER		PLATE		BARKER
			VOLTS	PERCENT	VOLTS	PERCENT	VOLTS	PERCENT	VOLTS	PERCENT	
2 AF	27	1st AF	2.32	1.0	2.25	1.0	4	7.5	3.5	80	
2 AF	27	2nd AF	2.32	1.0	2.25	1.0	4	7.5	3.5	80	
2 AF	27	3rd AF	2.32	1.0	2.25	1.0	4	7.5	3.5	80	
1 AF	27	1st AF	2.32	1.0	2.25	1.0	4	7.5	3.5	80	
1 AF	27	2nd AF	2.32	1.0	2.25	1.0	4	7.5	3.5	80	
1 AF	27	3rd AF	2.32	1.0	2.25	1.0	4	7.5	3.5	80	
RECT	30	Rect.	500	50	2.25	850	50	28	32	4	
RECT	30	Rect.	500	50	2.25	850	50	28	32	4	

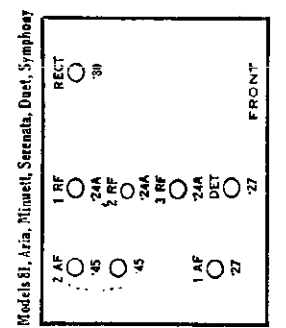
CONDENSERS IN BLOCK C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub>, C<sub>5</sub>.

RCA Speaker  
 0.8 Ohm  
 Secondary

410 Ohm Primary  
 7000 Ohm Field  
 Peerless Speaker  
 Single turn  
 Secondary  
 550 Ohm Primary

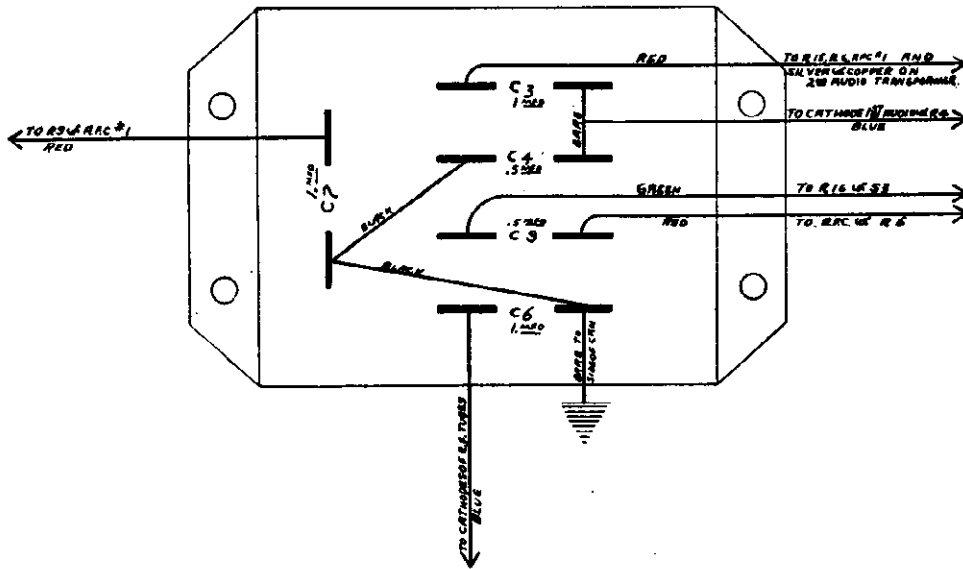
**BEL - CANTO SERIES**  
 Aria, Minuett  
 Serenata, Duet  
 Symphony

Condenser Data on next page.



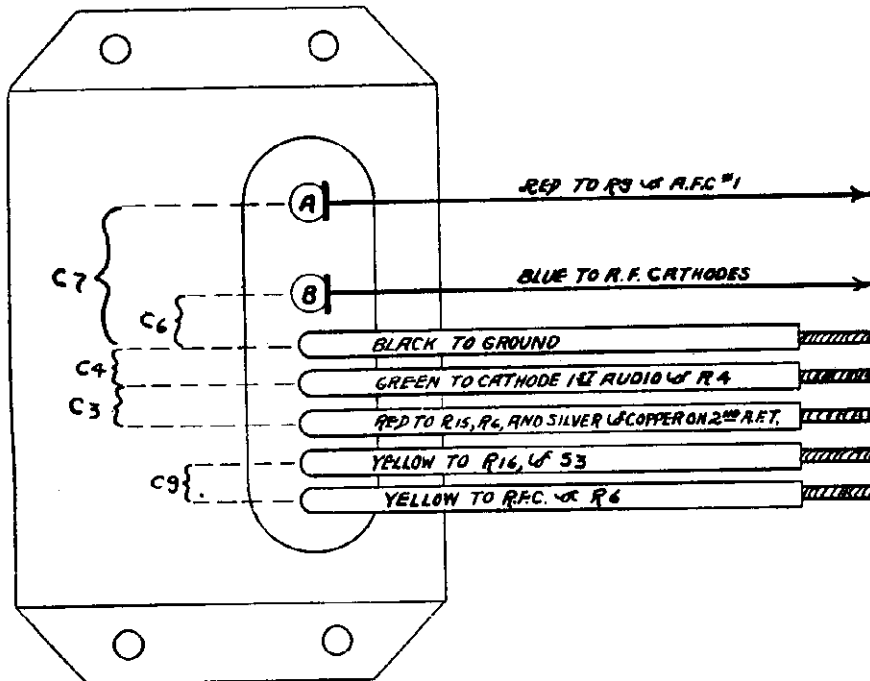
MODEL Bel-Canto 81  
Condenser Data

AMRAD CORPORATION



BY-PASS BLOCK CONDENSER, NO. 8113

"Lug Terminal" Style. This block contains Fixed Condensers, C3, C4, C6, C7, C9. The different units are indicated, with their connections to their respective circuits.

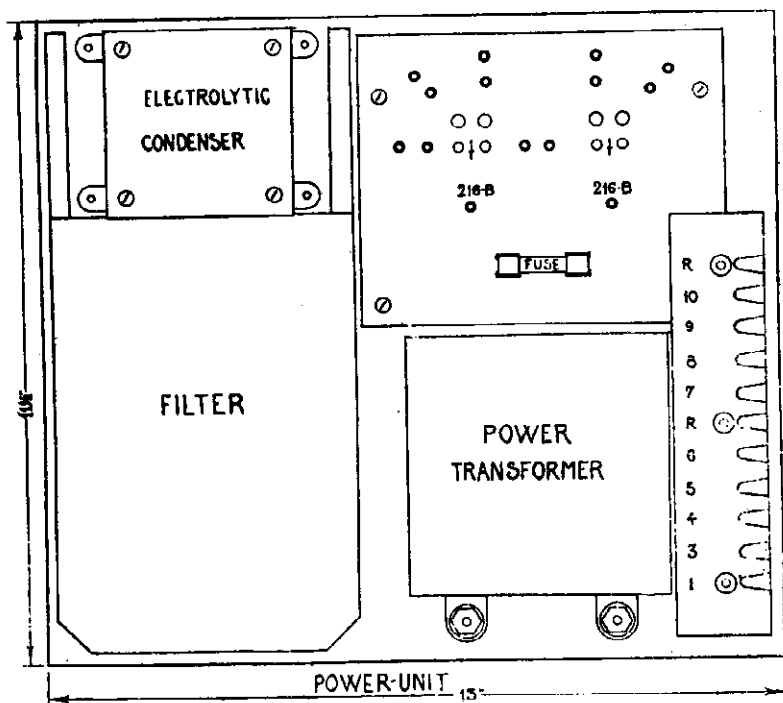
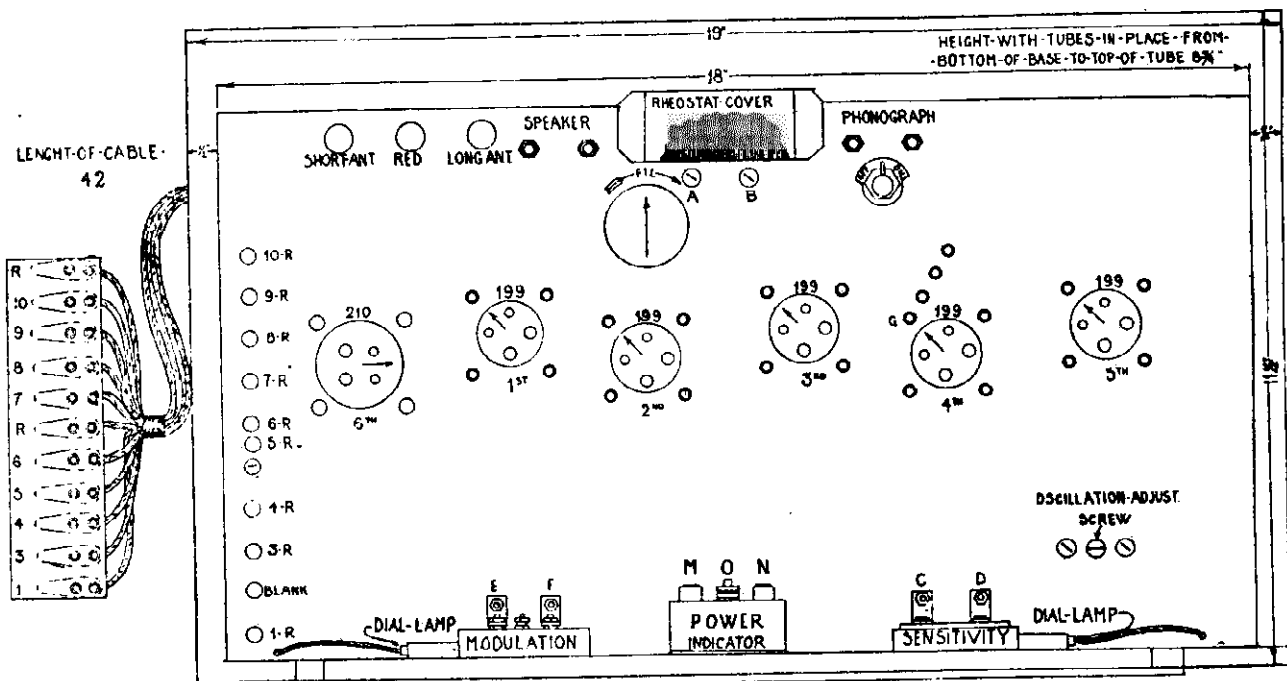


BY-PASS BLOCK CONDENSER, NO. 8113

"Wire Terminal" Style. This block contains the same units as does the No. 8113 "Lug Terminal" Style. To test for capacity, opens or shorts, it is necessary to disconnect at least one terminal of the unit from the circuit.



# ARGUS RADIO CORP.

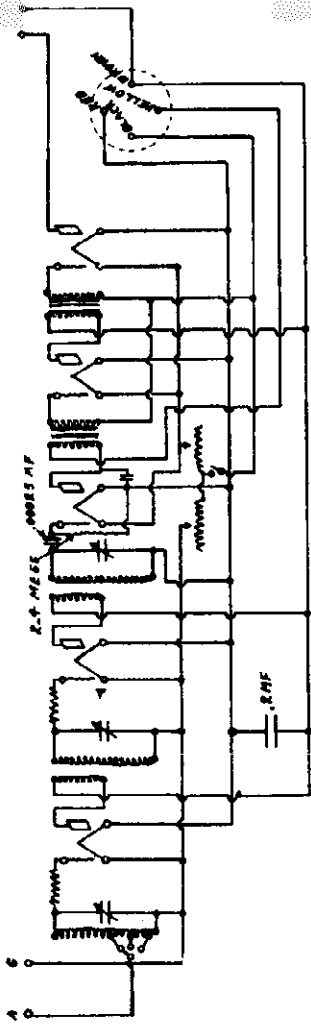
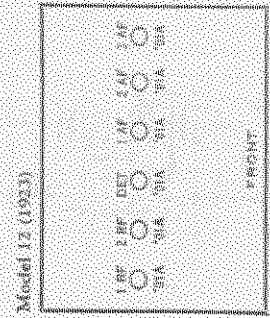
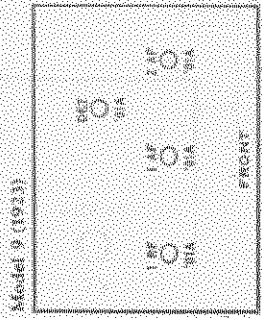
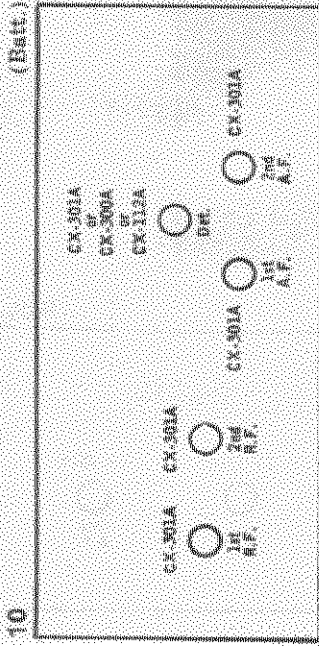


Inside view of ARGUS ELECTRIC RADIO RECEIVER, Model B195.

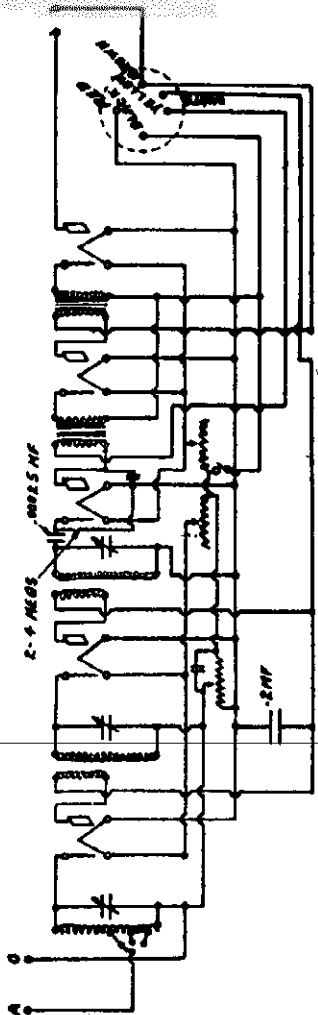
TWO-PIECE CHASSIS. Diagram shows location of connecting cables.

ATWATER KENT MFG. CO.

MODEL 10  
 MODEL 10-B  
 MODEL 12

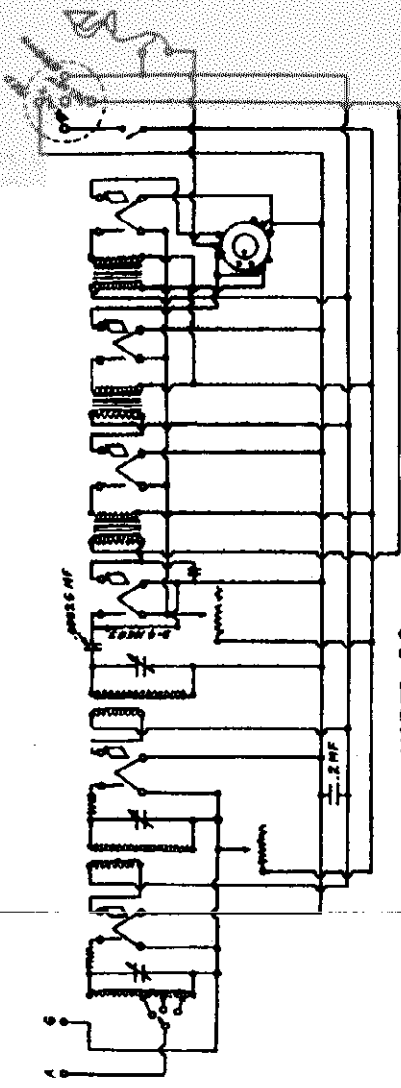


MODEL 10 No. 4700



MODEL 10-B

NOTE.—This set has two R.F. rheostats (one for each R.F. tube). —F1R connects to the slider lead of the 1st R.F. rheostat instead of to —F2R.

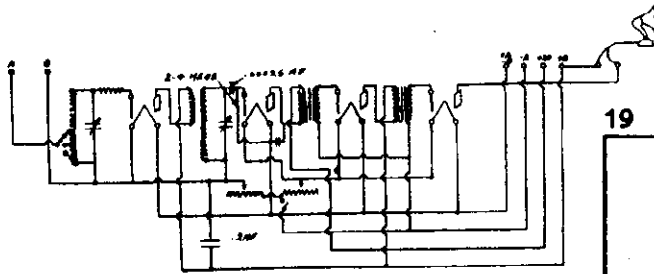


MODEL 12

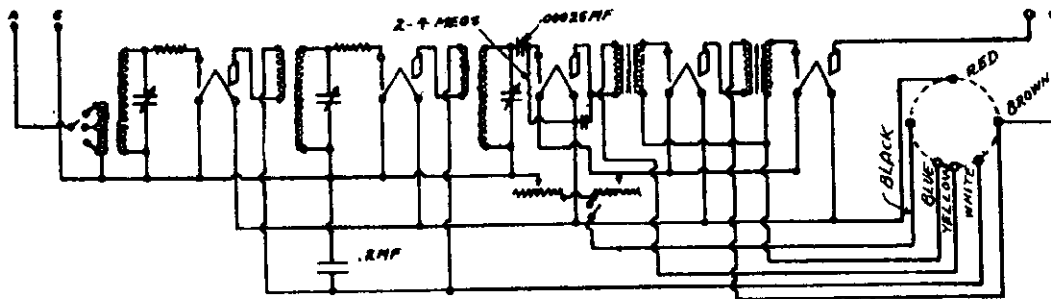
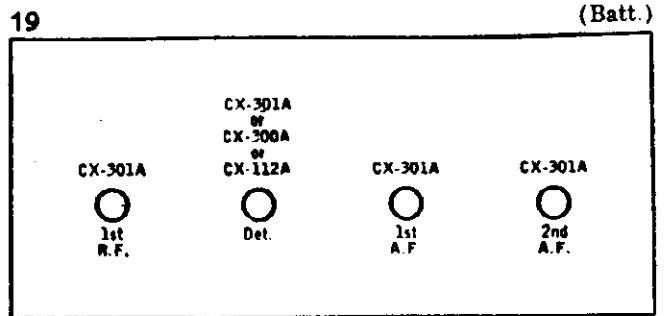
(Diagram shows one rheostat controlling detector and all three A.F. tubes. In actual set, rheostat controls detector and 1st audio only, 2nd and 3rd audio tubes being on separate fixed resistances.)

MODEL 19  
 MODEL 20 # 7570  
 MODEL 20 # 4640

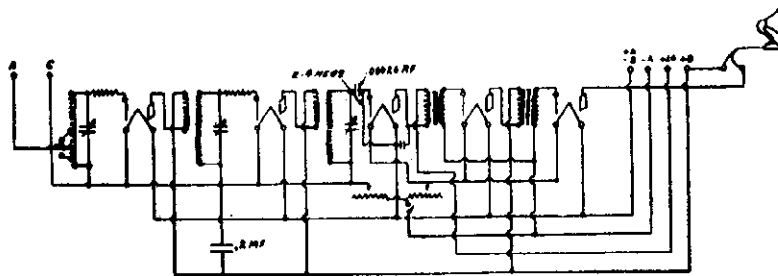
ATWATER KENT MFG. CO.



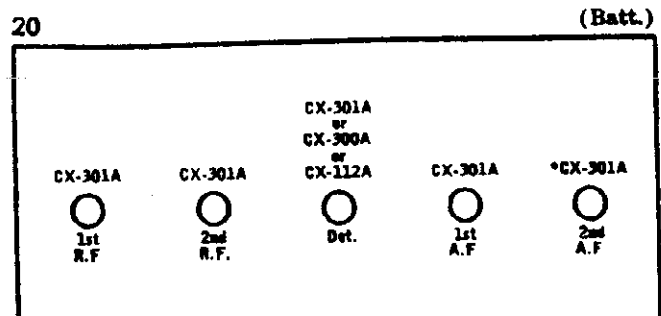
MODEL 19 SET No. 4880.



MODEL 20 COMPACT SET NO. 7570. WIRING DIAGRAM.



MODEL 20 SET No. 4640.

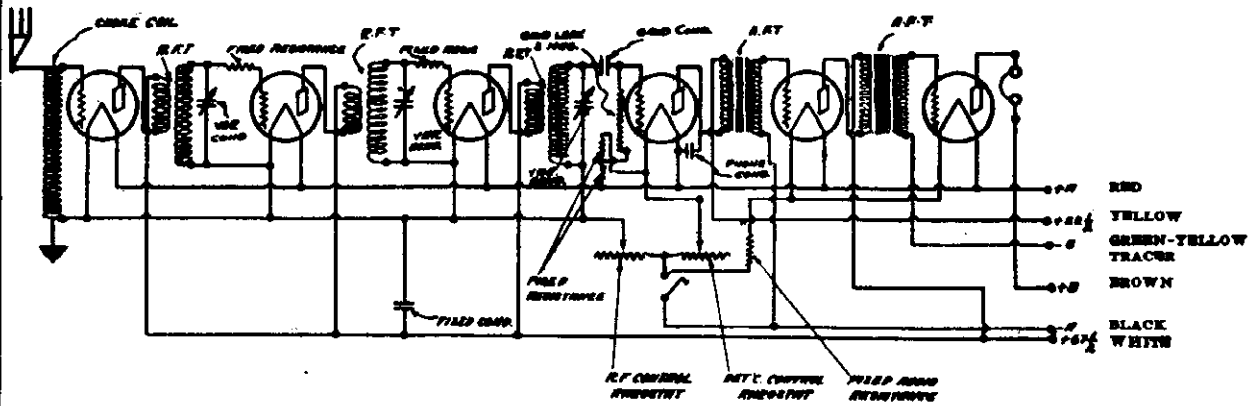


\* This tube is a CX-371A in Model 20 compact.

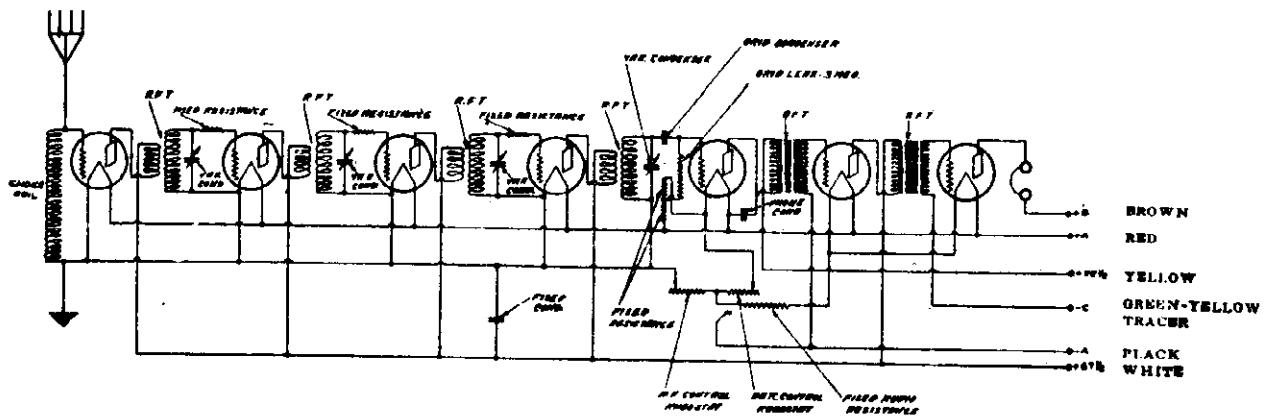


ATWATER KENT MFG. CO.

MODEL 30  
MODEL 32  
MODEL 35  
MODEL 48



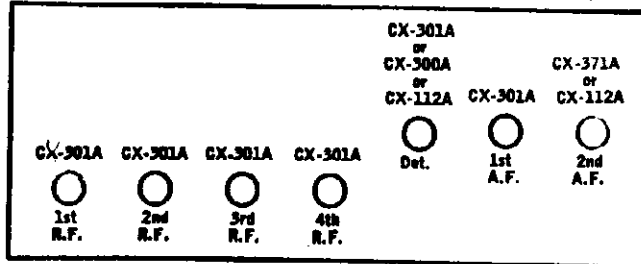
WIRING DIAGRAM OF MODELS 30, 35 AND 48. (In Model 35, one rheostat controls the three R.F. filaments and a fixed resistance is connected in series with the detector and two A.F. filaments.)



WIRING DIAGRAM OF MODEL 32.

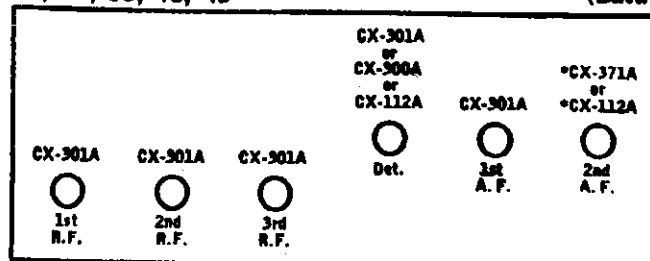
32

(Batt.)



30, 33, 35, 48, 49

(Batt.)





ATWATER KENT MFG. CO.

MODEL 33  
 MODEL 36 Early  
 MODEL 36 Late  
 MODEL 49

MODEL 36 ABOVE SERIAL No. 2,610,000

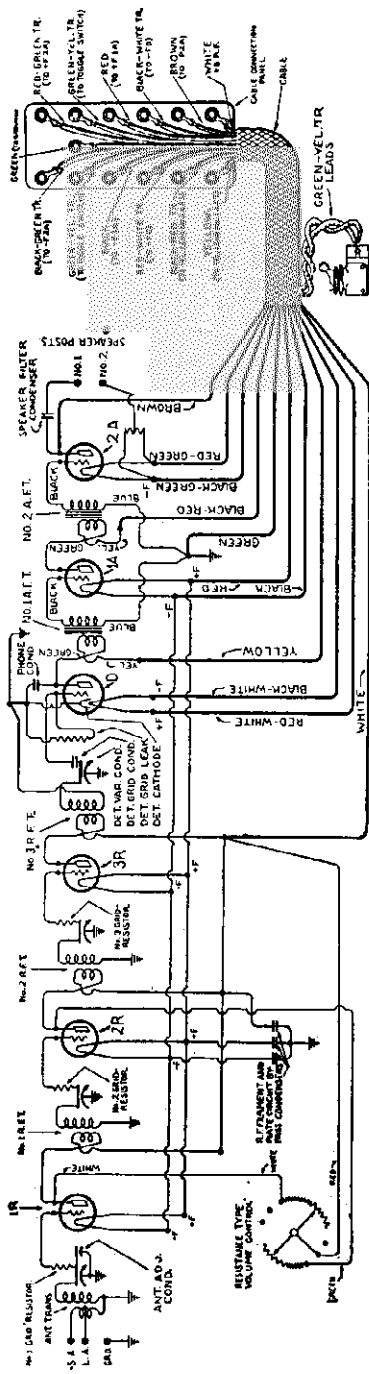
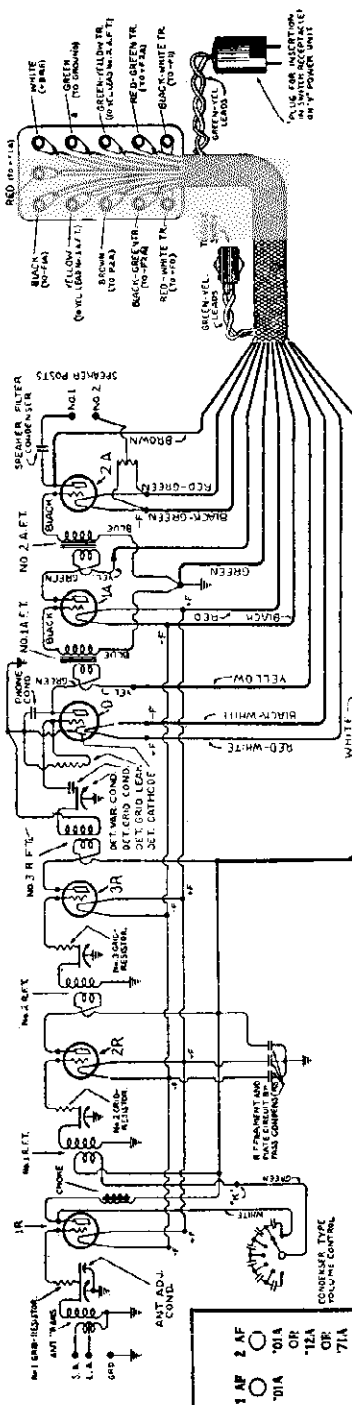


FIG. 70. WIRING DIAGRAM OF MODEL 36 WITH RESISTANCE-TYPE VOLUME CONTROL.

MODEL 36 BELOW SERIAL No. 2,610,000

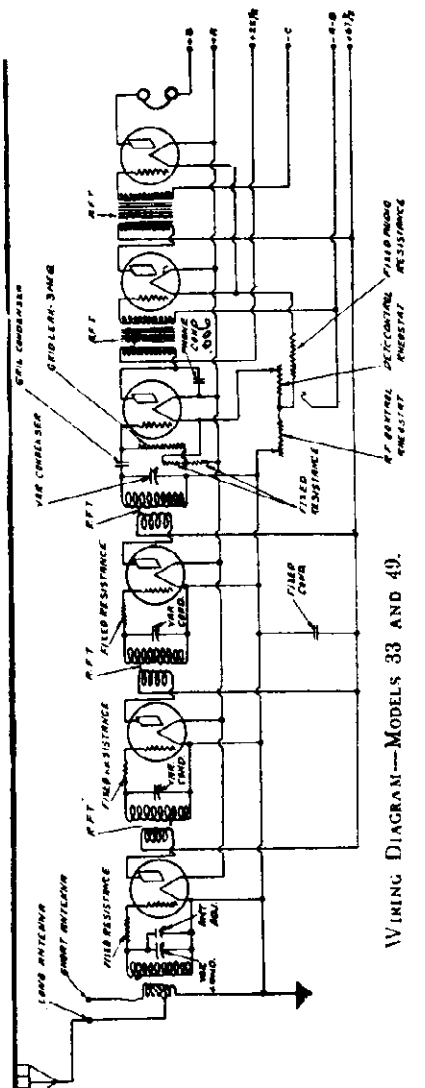


WIRING DIAGRAM OF MODEL 36 WITH CONDENSER-TYPE VOLUME CONTROL.

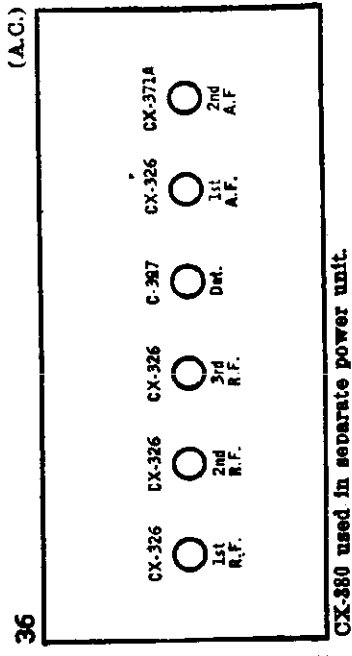
Model 33 (1927)

1 RF	2 AF	01A	OR	71A
2 RF	3 RF	01A	OR	71A
01A	01A	01A	OR	71A
01A	01A	01A	OR	71A

FRONT

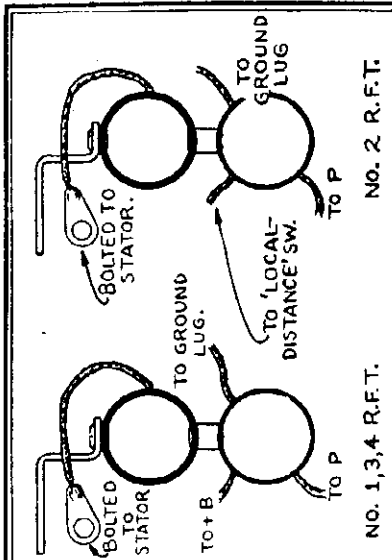


WIRING DIAGRAM—MODELS 33 AND 49.



CX-380 used in separate power unit.

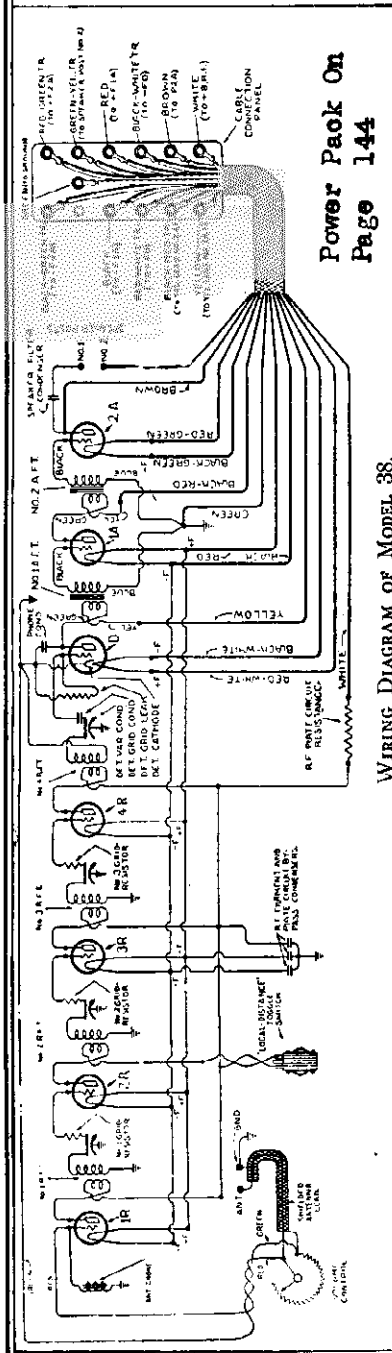




NO. 2 R.F.T.

NO. 1,3,4 R.F.T.

SKETCH SHOWING CONNECTIONS FROM R. F. TRANSFORMERS



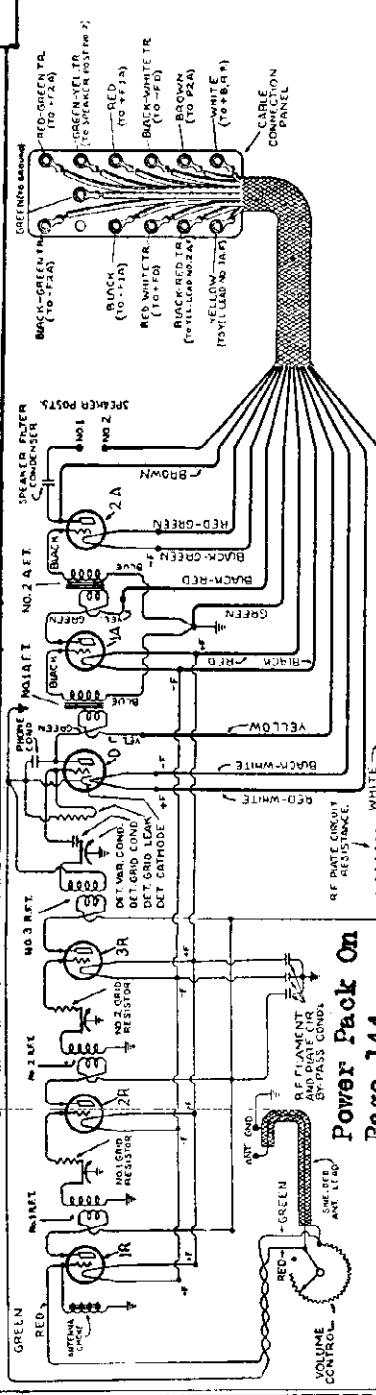
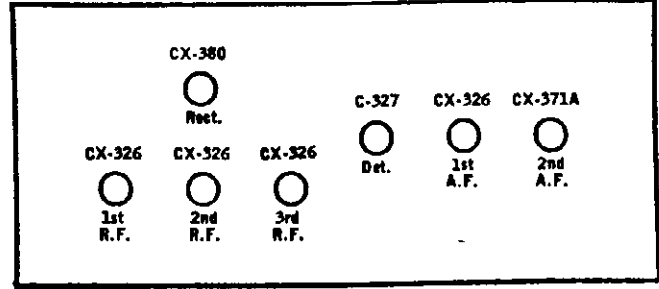
WIRING DIAGRAM OF MODEL 38.

A 2nd A. F. filament-shunt resistor is used before Serial No. 1,752,000 and the green-yellow tracer cable lead is not used. Connections for this resistor are shown in dotted lines in the diagram on page 61. A schematic diagram of the volume control is shown in Fig. 78.

ATWATER KENT MFG. CO.

MODEL 37  
MODEL 38  
(A.C.)

37



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

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

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

**ATWATER-KENT—Models 37-38**  
**Line Voltage 115—On Early Models "B" and "C"**  
**Voltages Are Lower Than Shown**

TYPE OF TUBE	POSITION OF TUBE IN SET	TYPE C		TYPE B		TYPE A		TYPE D		TYPE E		TYPE F		TYPE G		TYPE H	
		VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st R.F.	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5
225	2nd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st R.F.	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5
225	2nd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st R.F.	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5
225	2nd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st R.F.	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5
225	2nd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st R.F.	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5
225	2nd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st R.F.	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5	2.25	2.5
225	2nd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd R.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6
225	Del.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	1st A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	2nd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	3rd A.F.	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75	1.5	1.75
225	Rect.	4.8	5.6	4.8	5.6	4.8	5.6	4.8	5.6	4.							

**MODEL 37**  
**Power Pack**  
**Early and Late**  
**Data**

**ATWATER KENT MFG. CO.**

**Schematic**

**RESISTORS**

	Early	Late
Detector plate	100000 ohms #8919 Green paint	65000 ohms # 15592 1 watt black or bl. and gr.
1st a-f plate	12500 ohms #15941 red See late.	12500 ohms # 15941 red or purple and yellow or red.
R-f and 1st a-f bias	1100 ohms # 9691 elliptical	625 ohms # 13128 elliptical
2nd a-f bias	1750 ohms # 9692 elliptical	2200 ohms # 13289 elliptical
Filament shunt	20 ohms # 9434	20 ohms # 9434 flat, wire
Speaker choke	500 ohms	500 ohms
Filter chokes	1600 ohms total	1600 ohms total

**CONDENSERS**

See schematic  
 See Schematic. Condenser unit is # 13315. Also houses transformer.

**Special Note.**

A 1. mfd condenser is also contained in the transformer-condenser housing but this condenser is not connected in the model 37 power pack.

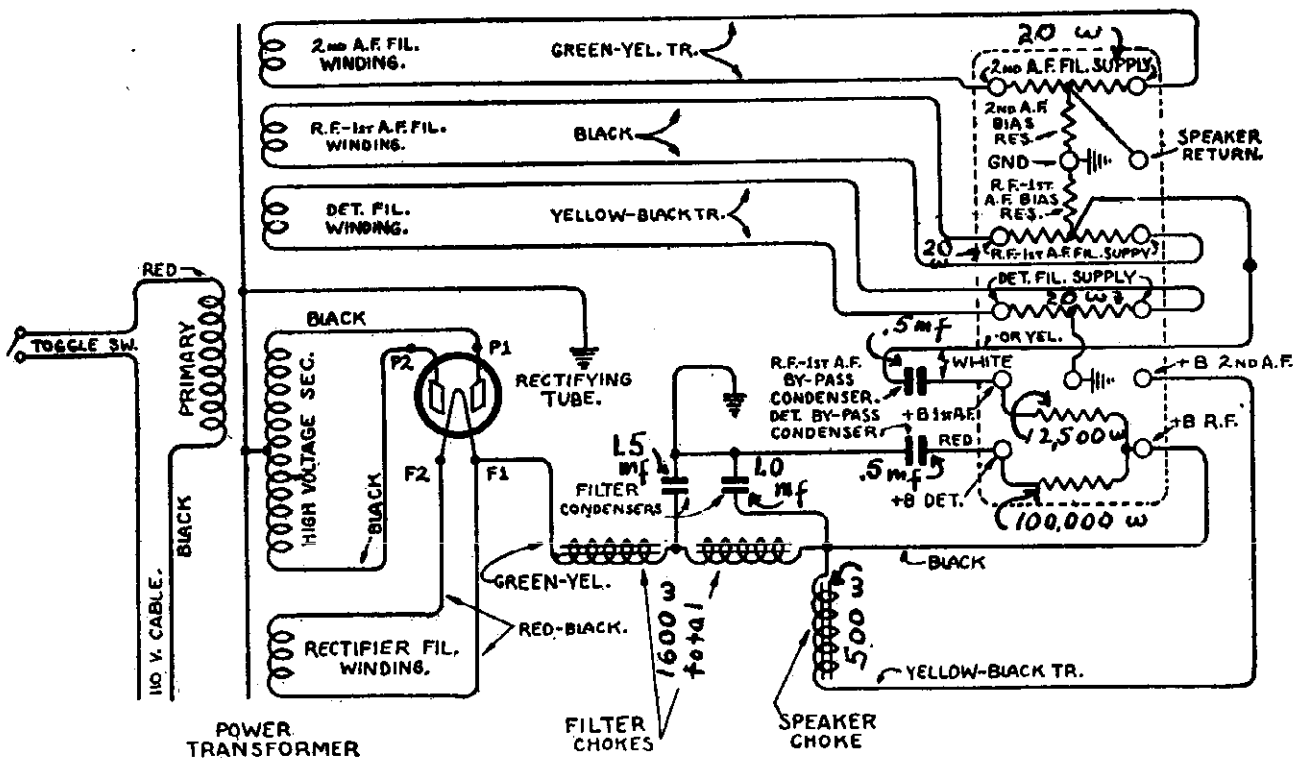


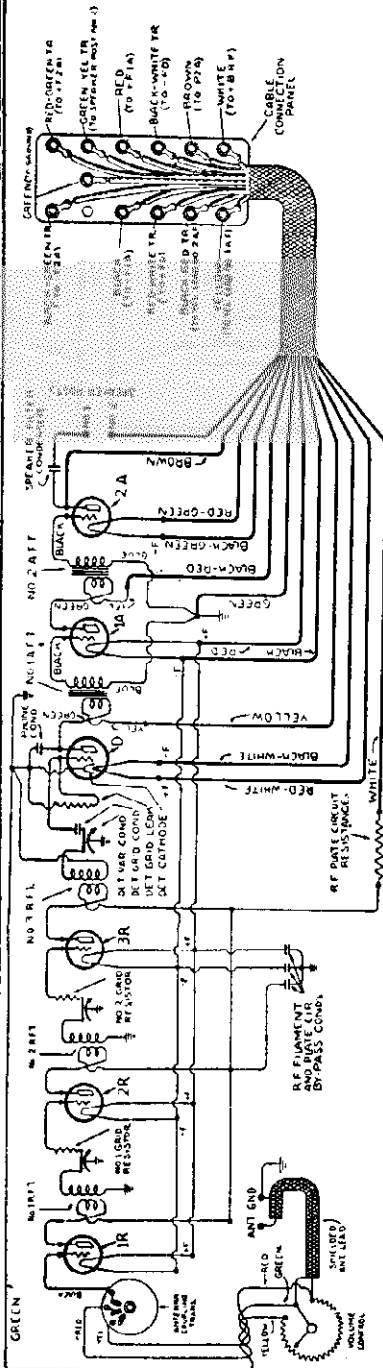
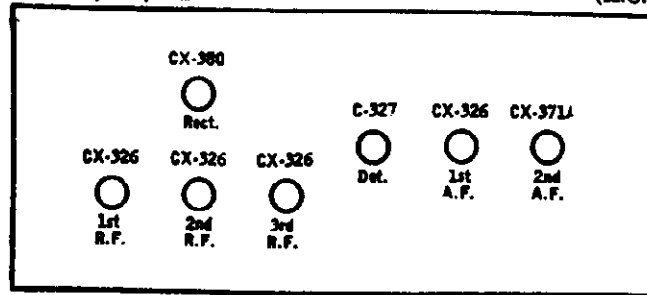
DIAGRAM OF POWER UNIT IN MODELS 37 AND 38

ATWATER KENT MFG. CO.

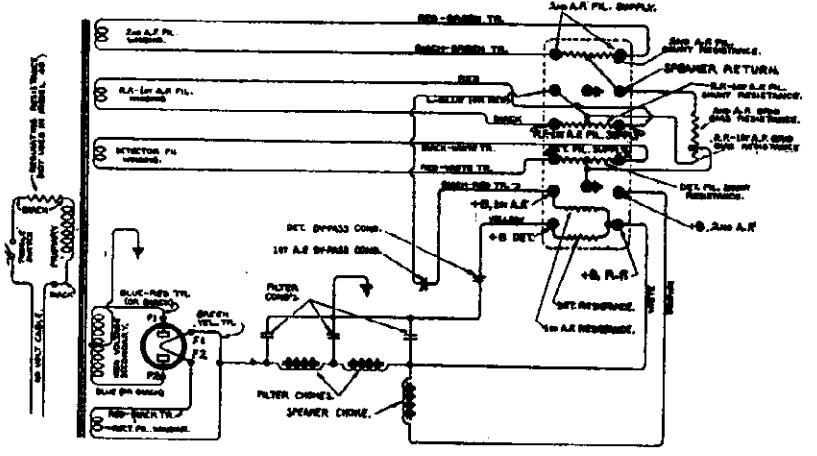
MODEL 40  
MODEL 42  
MODEL 52

40, 42, 52

(A.C.)



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



SCHEMATIC DIAGRAM OF POWER UNIT IN MODELS 40, 42, 44, 42, 56 AND 57. NOTE THAT COLORS AS NOW STANDARDIZED CORRESPOND WITH THE COLORS OF RT-CABLE LEADS.

ATWATER-KENT—Model 40  
Line Voltage 115

TYPE OF TUBE	TYPE OF TUBE	POSITION OF TUBE (1ST A.F. DET., ETC.)	READING PLUG IN SOCKET OF SET					NORMAL PLATE R.A. TEST	PLATE R.A. (OHMS)	PLATE R.A. (OHMS)	
			TUBE IN TESTER								
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS				
1	228	1st. R.F.	1.5	145	1.25	138	10	—	4.8	8.4	3.8
2	228	2nd. R.F.	1.5	145	1.25	138	10	—	4.8	8.4	3.8
3	228	3rd. R.F.	1.5	145	1.25	138	10	—	4.8	8.0	3.8
4	227	Detector	2.25	192	2.0	40	—	—	2.2	2.2	0.0
5	228	1st. A.F.	1.5	192	1.25	130	8	—	5.0	7.6	3.8
6	171A	2nd. A.F.	4.5	210	4.1	148	16	—	14.4	15.4	1.0
7	280	Rectifier	—	—	4.8	—	—	—	18.5	—	—

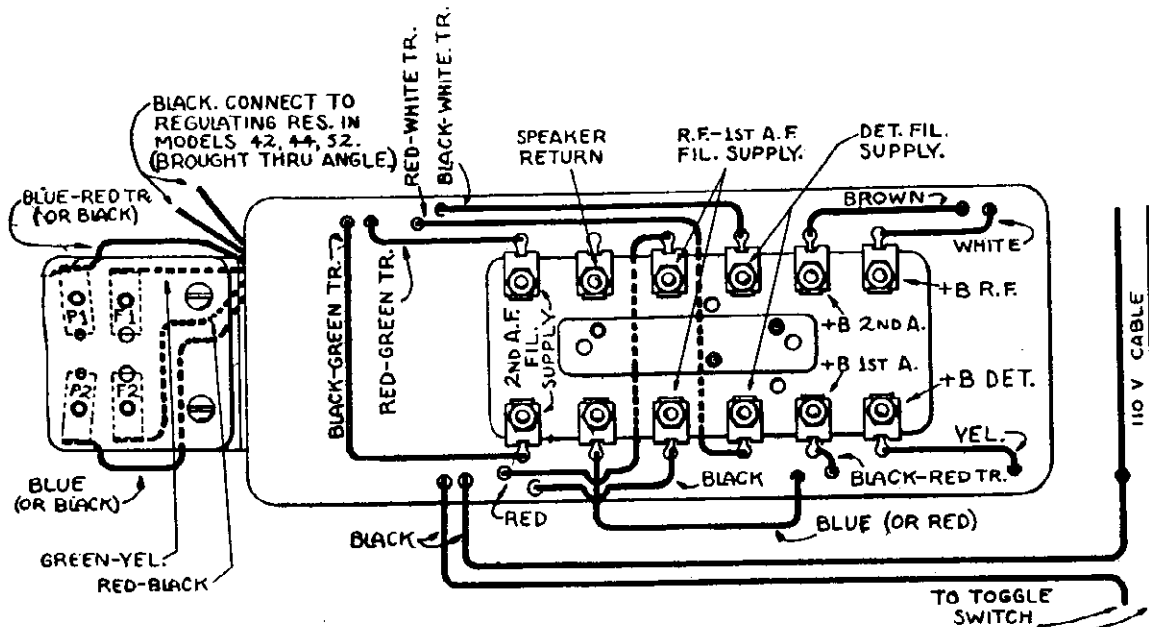
ATWATER-KENT—Models 42-44-52-56  
Line Voltage 115—4th R. F.—Tube in Model 44 Only

TYPE OF TUBE	TYPE OF TUBE	POSITION OF TUBE (1ST A.F. DET., ETC.)	READING PLUG IN SOCKET OF SET					NORMAL PLATE R.A. TEST	PLATE R.A. (OHMS)	PLATE R.A. (OHMS)	
			TUBE IN TESTER								
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS				
1	228	1st. R.F.	1.55	164	1.4	158	12	—	5.4	9.1	3.8
2	228	2nd. R.F.	1.55	164	1.4	152	12	—	5.7	9.2	3.8
3	228	3rd. R.F.	1.5	156	1.4	152	11.5	—	5.4	9.3	3.8
4	227	Det.	2.25	194	2.15	38	0	—	2.2	2.2	0.0
5	228	1st. A.F.	1.5	192	1.4	150	10.5	—	5.0	8.7	3.7
6	171A	2nd. A.F.	4.7	232	4.5	182	36	—	15.0	18.0	1.0
7	280	Rectifier	—	—	4.8	—	—	—	18.0	—	—

MODEL 40,42,44,52  
 Power Unit Layout  
 MODEL 40,45  
 2nd Type Power Unit

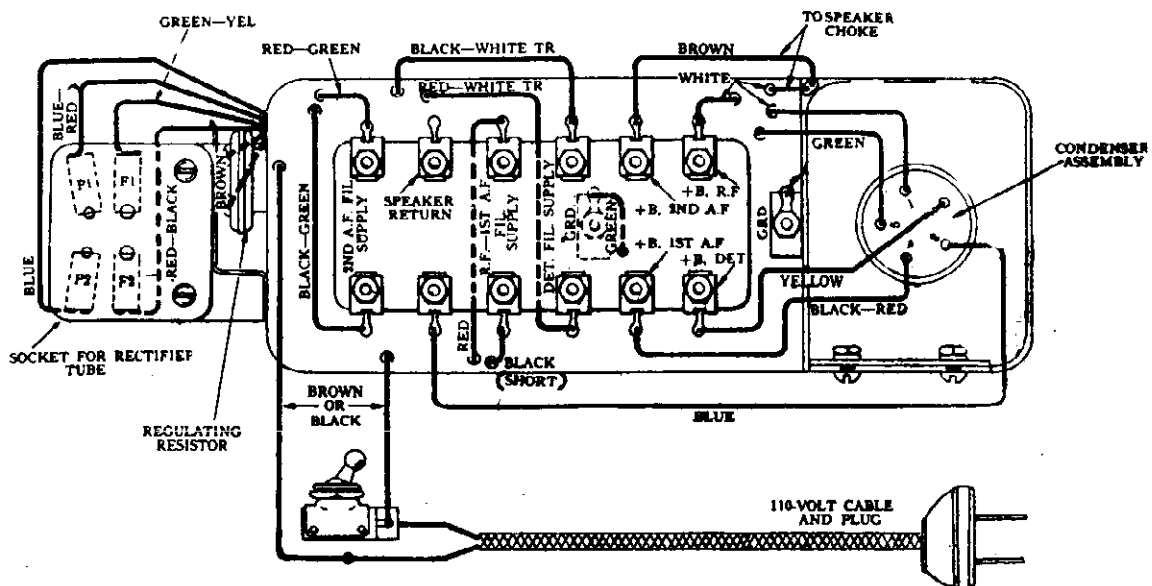
ATWATER KENT MFG. CO.

Schematic



POWER UNIT IN MODELS 40, 42, 44 AND 52, SHOWING CONNECTIONS FROM SEALED CONTAINER TO PANEL ASSEMBLY, RECTIFIER SOCKET AND REGULATING RESISTANCE

This view shows the approximate position of leads from sealed container. In Models 42, 44 and 59, a hole is cut in the rectifier-socket mounting angle and the two black leads are brought up through the hole and connect to the regulating resistance, which is mounted upright at the left-hand end of the sealed container.



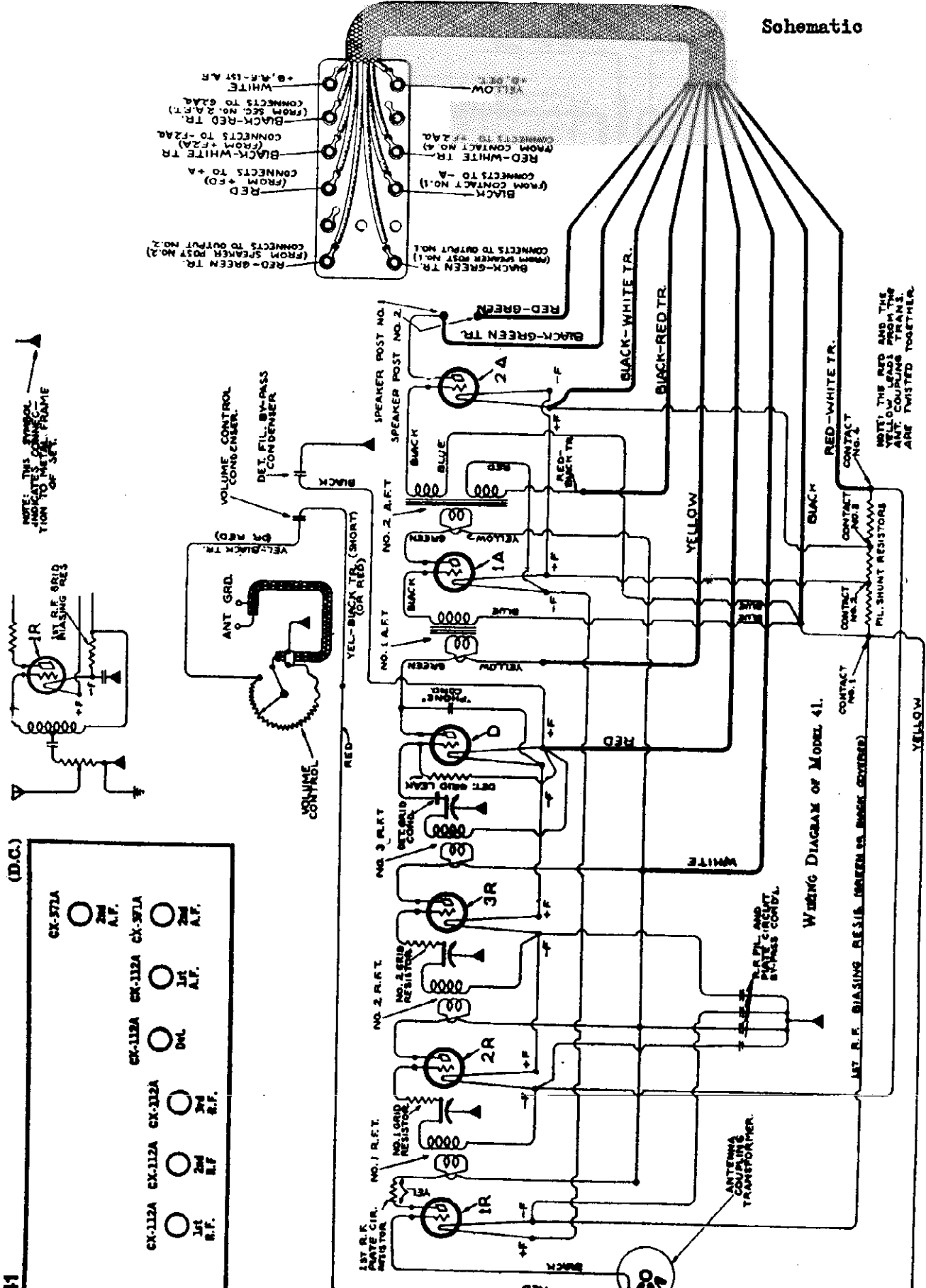
VIEW SHOWING CONNECTIONS IN 2ND TYPE OF POWER UNIT FOR MODELS 40 AND 45.

This view shows the panel assembly moved to left of normal position.  
 The regulating resistor is not used in these models.

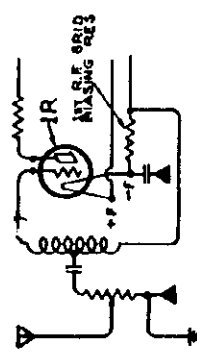
ATWATER KENT MFG. CO.

MODEL 41 DC

Schematic



NOTE: THIS SYMBOL INDICATES CONNECTION TO THE FRAME OF SET.



(D.C.)

CK-371A	2M A.F.	CK-371A	2M A.F.
CK-112A	1R A.F.	CK-112A	1R A.F.
CK-112A	2M R.F.	CK-112A	2M R.F.
CK-112A	1R R.F.	CK-112A	1R R.F.

Wiring Diagram of Model 41.

NOTE: THE RED AND THE YELLOW LEADS FROM THE ANT. COUPLING TRANS. ARE TWISTED TOGETHER.

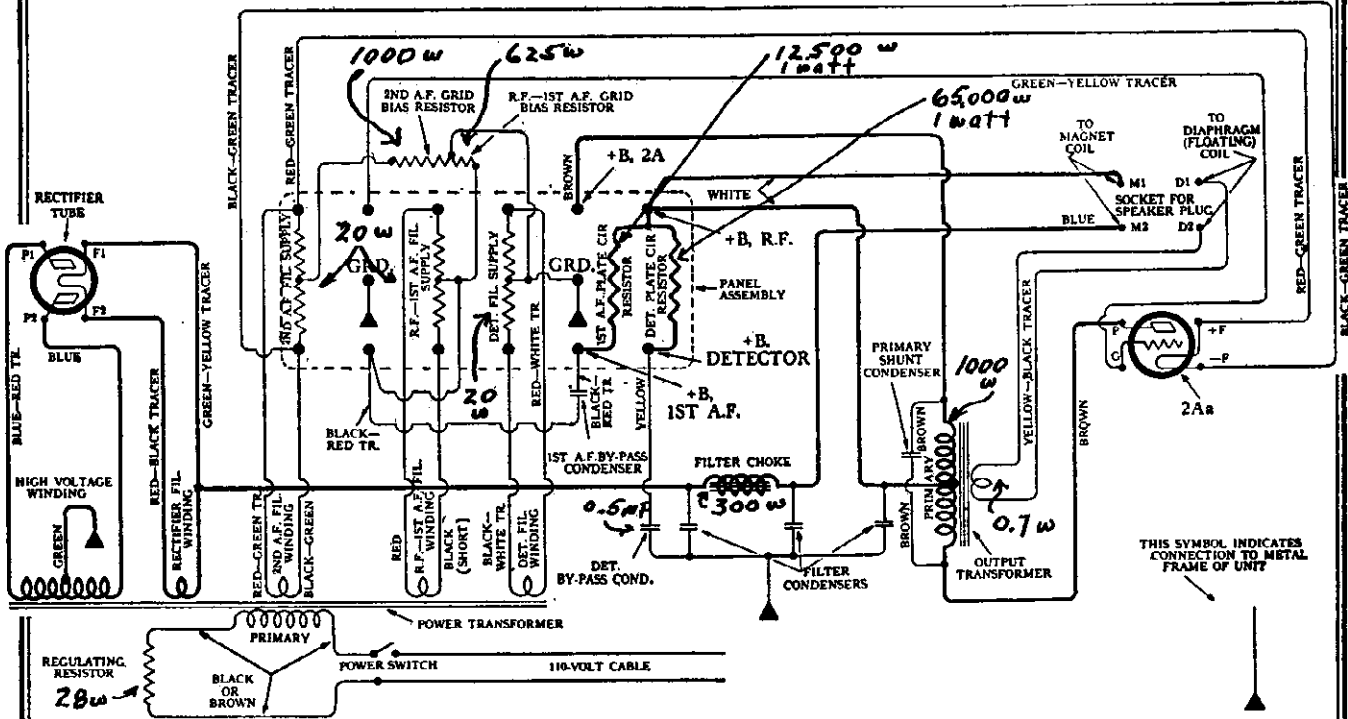




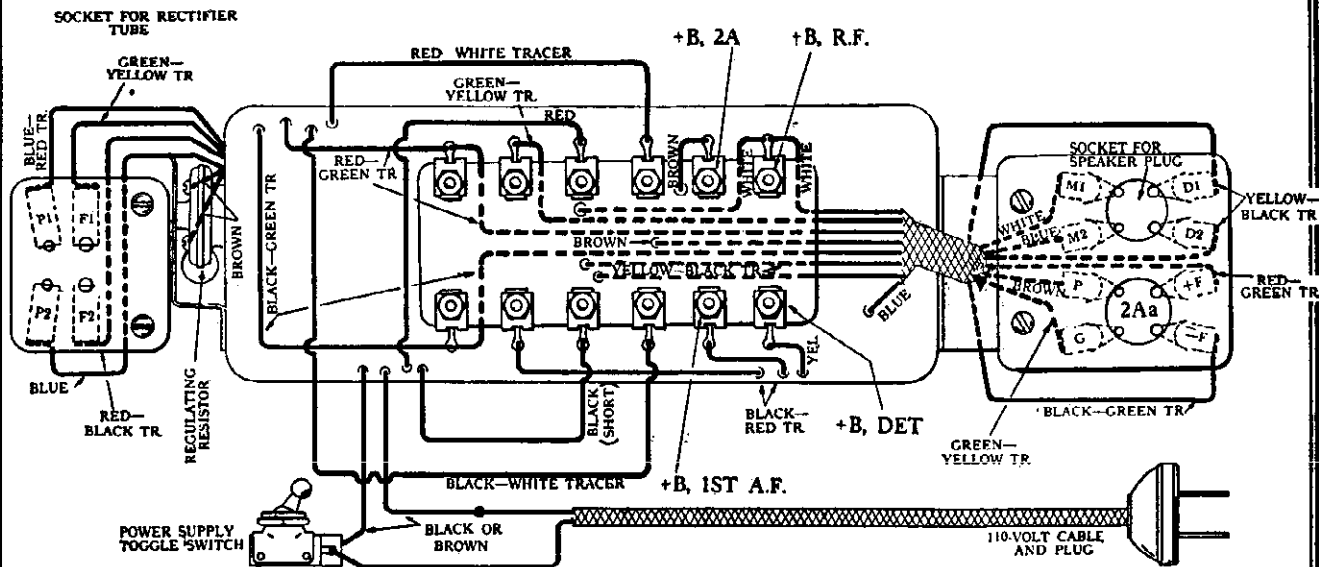


**MODEL 43**  
**Power Pack**  
**Schematic**

**ATWATER KENT MFG. CO.**



WIRING DIAGRAM OF POWER UNIT IN MODEL 43.



SHOWING CONNECTIONS AND APPROXIMATE POSITION OF LEADS FROM SEALED CONTAINER IN MODEL 43 POWER UNIT.  
 early type of power unit for Model 43, two brown leads from the primary-shunt condenser connect to the +B, 2A terminal and to the brown P2a lead respectively. In later models these connections are made internally.



MODEL 50

ATWATER KENT MFG. CO.

MODEL 50

Model 50

CONDENSERS

Detector grid	.00025 mfd	# 8593	500 volts
Detector phone	.002 mfd	# 8590	500 volts
Plate bypass	.3 mfd	# 14902	450 volts

RESISTORS

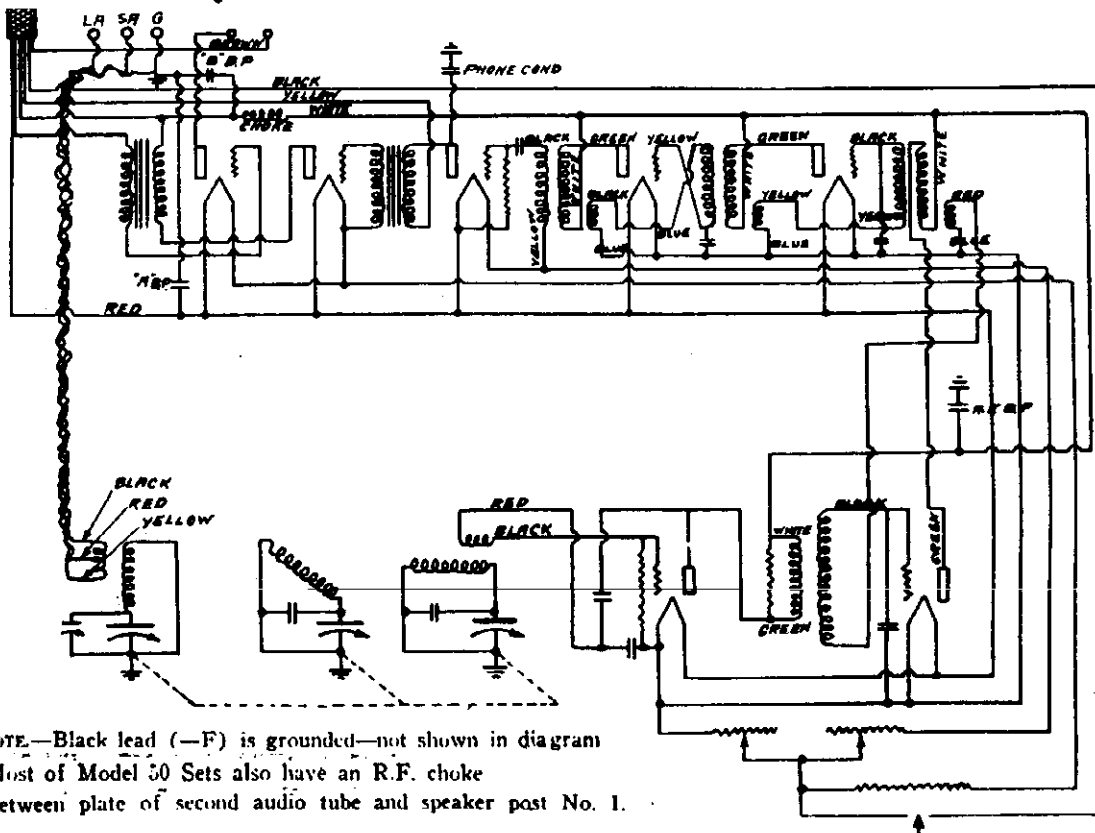
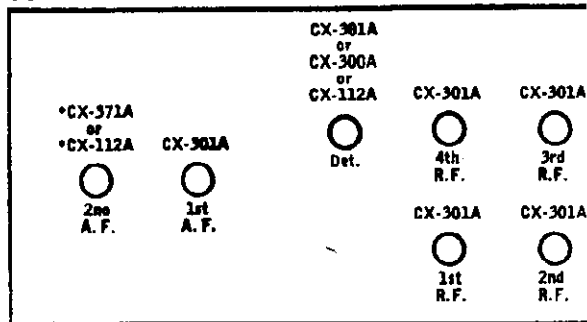
Detector grid leak	2.0 megs	# 15892 (8195)	1 watt
1st r-f plate	12500 ohms	# 8796	yellow glass
A-f filament	1.5 ohms	# 8627	black covered, flexible
Detector rheostat	20 ohms	# 8310	
R-f rheostat	5 ohms	# 8599	
R-f grid leak	2.0 megs	# 15892 (8195)	1 watt

CHOKES

A-f plate	35 ohms	# 8232
-----------	---------	--------

TRANSFORMERS

1st a-f primary	1000 ohms	# 8650
1st a-f secondary	7000 ohms	
2nd a-f primary	1400 ohms	# 8940
2nd a-f secondary	7000 ohms	



WIRING DIAGRAM OF MODEL 50.





# ATWATER KENT MFG. CO. MODEL 55 and 55-C Late Schematic Chassis

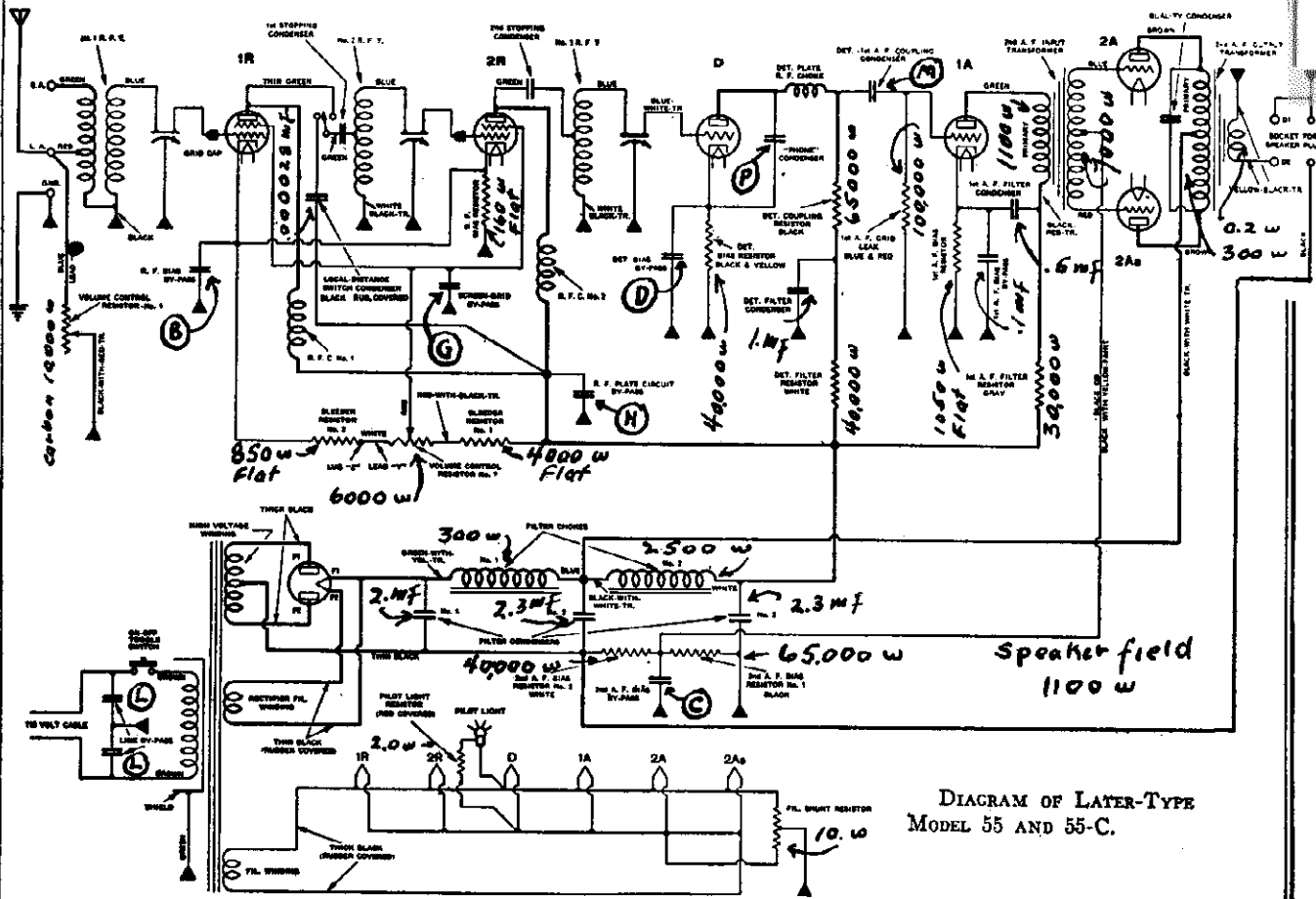
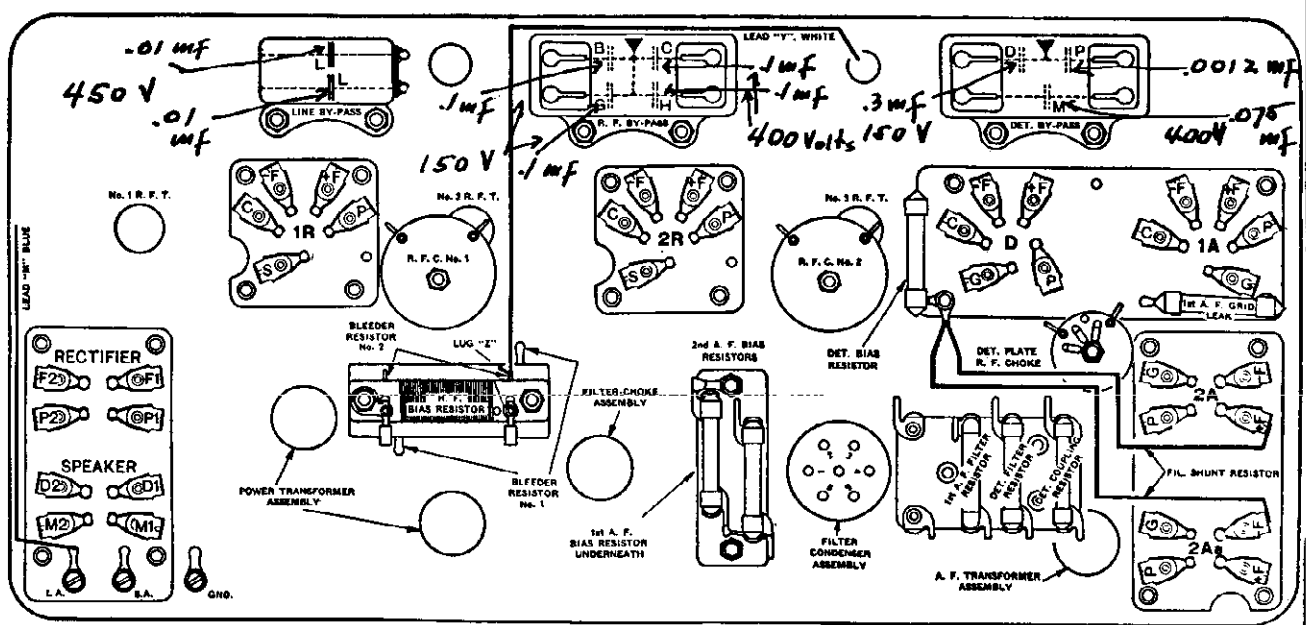


DIAGRAM OF LATER-TYPE  
MODEL 55 AND 55-C.



BOTTOM CHART OF LATER-TYPE MODEL 55 AND 55-C.

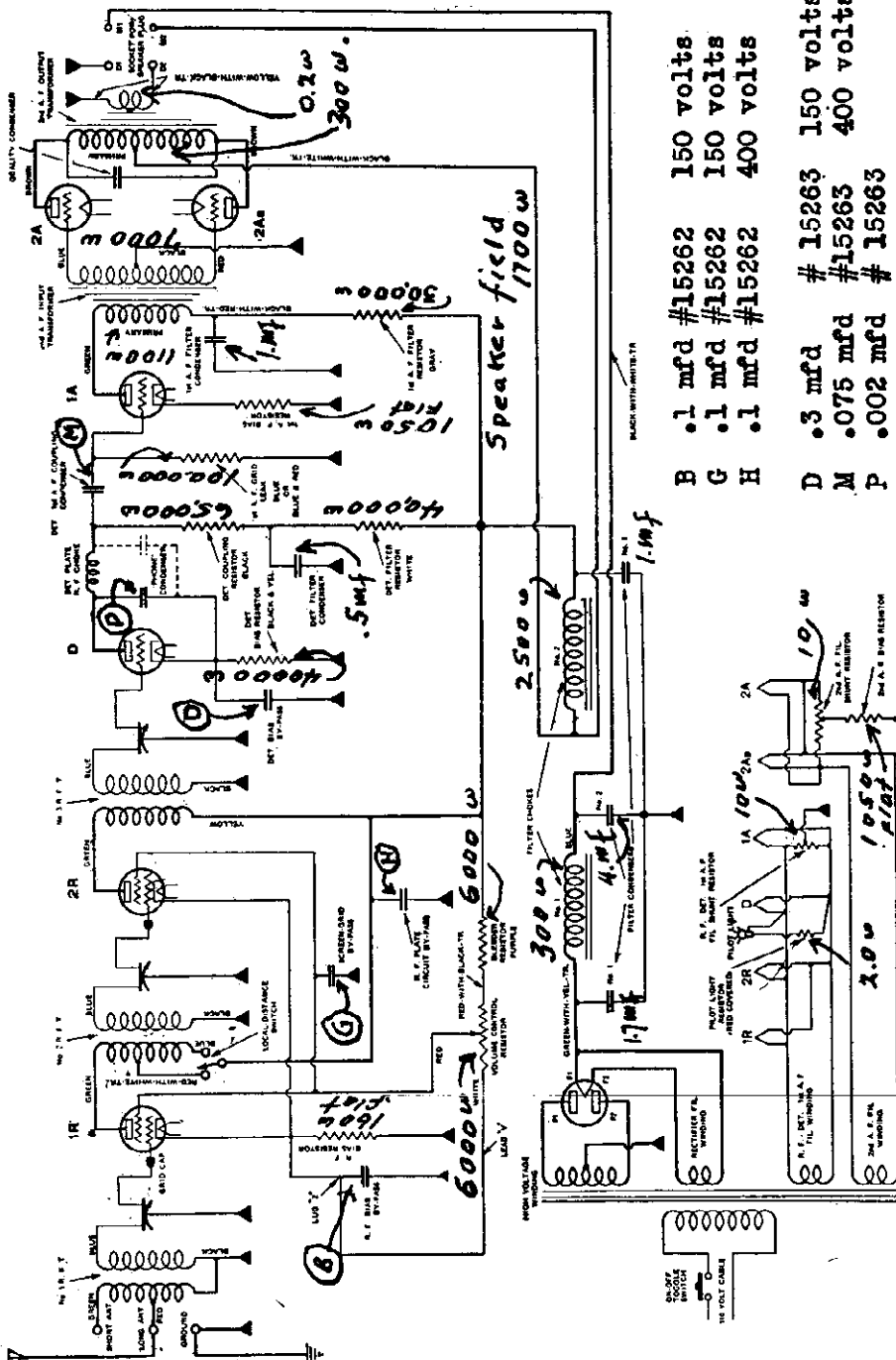
Condenser references on pages 1-17 and 1-18

**MODEL 55-F and 55-FC ATWATER KENT MFG. CO.**  
**Early**

**VOLTAGE TABLE**

Tube	Filament	Plate	Grid	Screen
R-F	2.2	160	3.7	96
Det	2.2	101	11.	
1st A-F	2.2	69	2.8*	
2nd A-F	4.5	174	41.	
Rect.	4.5			

\* Measured voltage, not operating voltage. Line voltage 110 V.



- B .1 mfd #15262 150 volts
- G .1 mfd #15262 150 volts
- H .1 mfd #15262 400 volts
- D .3 mfd # 15263 150 volts
- M .075 mfd #15263 400 volts
- P .002 mfd # 15263

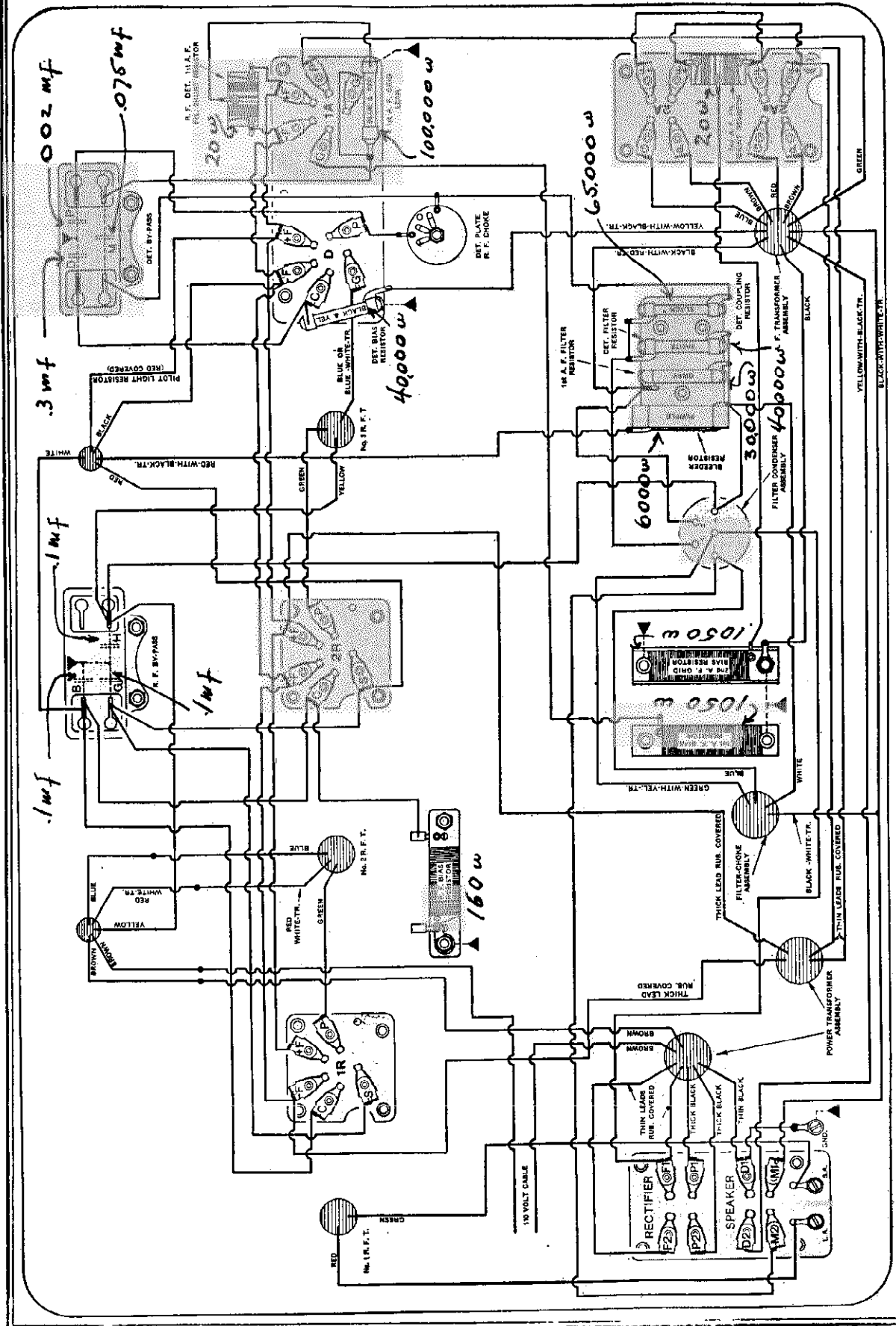
**FILTER CONDENSER CONNECTIONS.** (See chassis layout  
 The numbers and connections stated are marked upon the filter unit can and are  
 also shown on the chassis layout within the circles designating the filter con-  
 denser can.

- Filter #1 1.7 mfd connected between the center stud and can
- Filter #2 4.0 mfd connected between terminal (1) and can
- Filter #3 1.0 mfd connected between terminal (4) and can
- Detector filter .5 mfd connected between terminal (2) and can
- A-f filter 1.0 mfd connected between terminal (3) and can

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



# ATWATER KENT MFG. CO. MODEL 55-F and 55-FC Chassis Early



BOTTOM WIRING OF EARLY-TYPE MODEL 55-F AND 55-F-C.  
 Some of these sets had a combination resistor, No. 15274, which is superseded by two separate resistors, No. 16988 being used as R. F. bias resistor,  
 and No. 17077 as filament shunt resistor.





## ATWATER KENT MFG. CO.

MODEL 60 and 60-C

## VOLTAGE DATA FOR MODELS 60 and 60-C (1st and 2nd Types)

Line voltage 110. Tube	Filament	120 volt line is Plate	10 percent higher. Grid	Screen
R-F (1st)	2.2	160	7.3	119 119
R-F (2nd-3rd)	2.2	160	3.7	83
Det.	2.2	101	11.	
A-F (1st)	2.2	69	1.8*	
A-F (2nd)	2.2	230	44.	
Rect.	4.5			

\* Measured, not actual operating voltage.

## VOLTAGE DATA FOR MODEL 60 and 60-C (3rd Type)

Line voltage 110. Tube	Filament	Volume control at minimum. Plate	Grid	Screen
R-F	2.3	170	16.5*	142
Det.	2.3	119	1.5	
A-F (1st)	2.3	73	1.9**	
A-B (2nd)	2.3	224	36. ***	

\* local distance switch at distance

\*\* Measured, not actual operating voltage.

\*\*\* If 2nd A-F bias resistor #1 is open, bias will be about 85 v.

## Checking Sensitivity of Set

When checking the sensitivity of the set, it is necessary to use an oscillator, and a meter to indicate maximum output volume.

A local oscillator is necessary to ensure constancy of signal strength; signals from broadcast stations are not sufficiently constant for this work.

An output meter is necessary to ensure a reliable indication of output volume; the ear is not reliable enough for this purpose.

The oscillator feeds a weak signal into the receiver. The signal is amplified in the receiver and produces a reading on a meter which is connected to the output of the set. This meter indicates the strength of output volume. The reading on the output meter is greatest when all the tuned circuits

in the set are adjusted to the same frequency as the oscillator signal.

## 1. Oscillator.

The oscillator must provide modulated R. F. signals at four different frequencies in the broadcast range. These four frequencies should correspond to dial settings of 5, 45, 65 and 95 on the dial of a 3rd type Model 60-C which has the original factory synchronism.

Each of the four R. F. oscillators should have an adjustable pick-up so that the strength of each oscillator may be controlled independently of the other three.

## 2. Output Measuring Circuit.

The output measuring circuit is shown and described

## Adjusting Trimmer Condensers

1. Connect the common pick-up lead from the four R. F. oscillators to one end of a No. 8112 condenser. Connect the other end of this condenser to the Long-Antenna post. Connect the oscillator container to the Ground 5. post.
2. Put plug "A" of the output measuring circuit in the speaker-plug socket on the set. Plug an F-4 type speaker in socket "B." Throw switch "D" to the right.
3. Put all tubes in the set; power switch on; volume control at maximum; local-distance switch at distance. Break away the sealing wax on the trimmer-condenser screws
4. Tune set exactly to 5 on dial. Reduce or increase the

amount of pick-up from the 1st oscillator to secure a reading of about 20 on the output meter.

With a screw-driver, turn the pressure screw of the 4th trimmer condenser one way or the other, as necessary, to the point where the reading on the output meter is greatest. Repeat this process on the 3rd trimmer, then on the 2nd, and finally on the 1st. Reduce the pick-up from the 1st oscillator if necessary in order to keep the needle of the galvanometer near the centre of its scale.

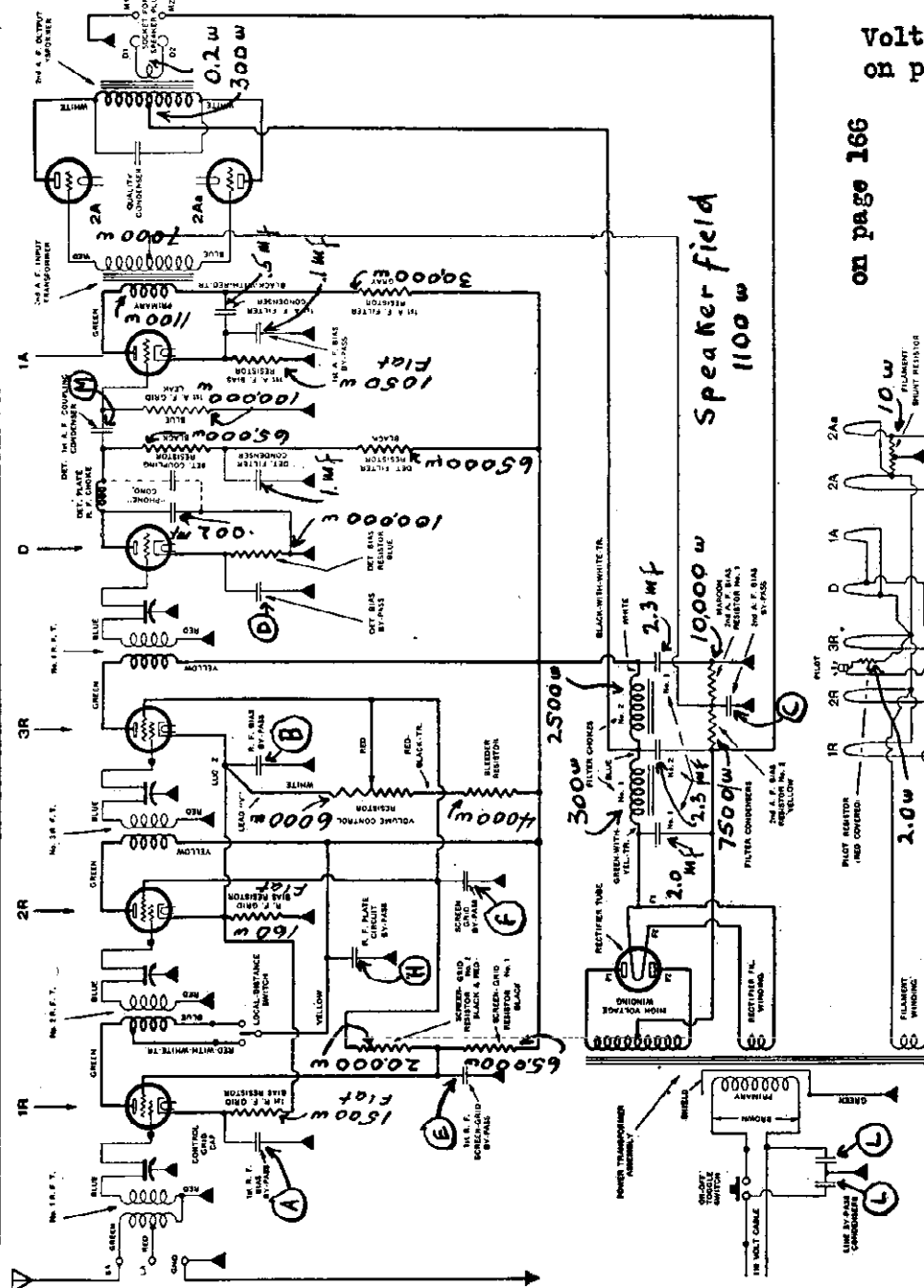
This adjustment of the trimmer-condenser screws is termed the CORRECT POSITION.

# ATWATER KENT MFG. CO. MODEL 60 and 60-C Early Schematic

**FILTER CONDENSER CONNECTIONS. See chassis layout Data**

The numbers listed as connections are marked upon the filter condenser unit and shown within the circle designating the condenser unit on the chassis layout.

1st a-f filter	.5 mfd	connected between center stud and terminal (3)
Detector filter	1. mfd	connected between terminal (4) and can
1st a-f bias	.5 mfd	connected between center stud and can
Filter #1	2.0 mfd	connected between terminals (1) and (4)
Filter #2	2.3 mfd	connected between terminals (2) and (4)
Filter #3	2.3 mfd	connected between terminals (6) and can



on page 166

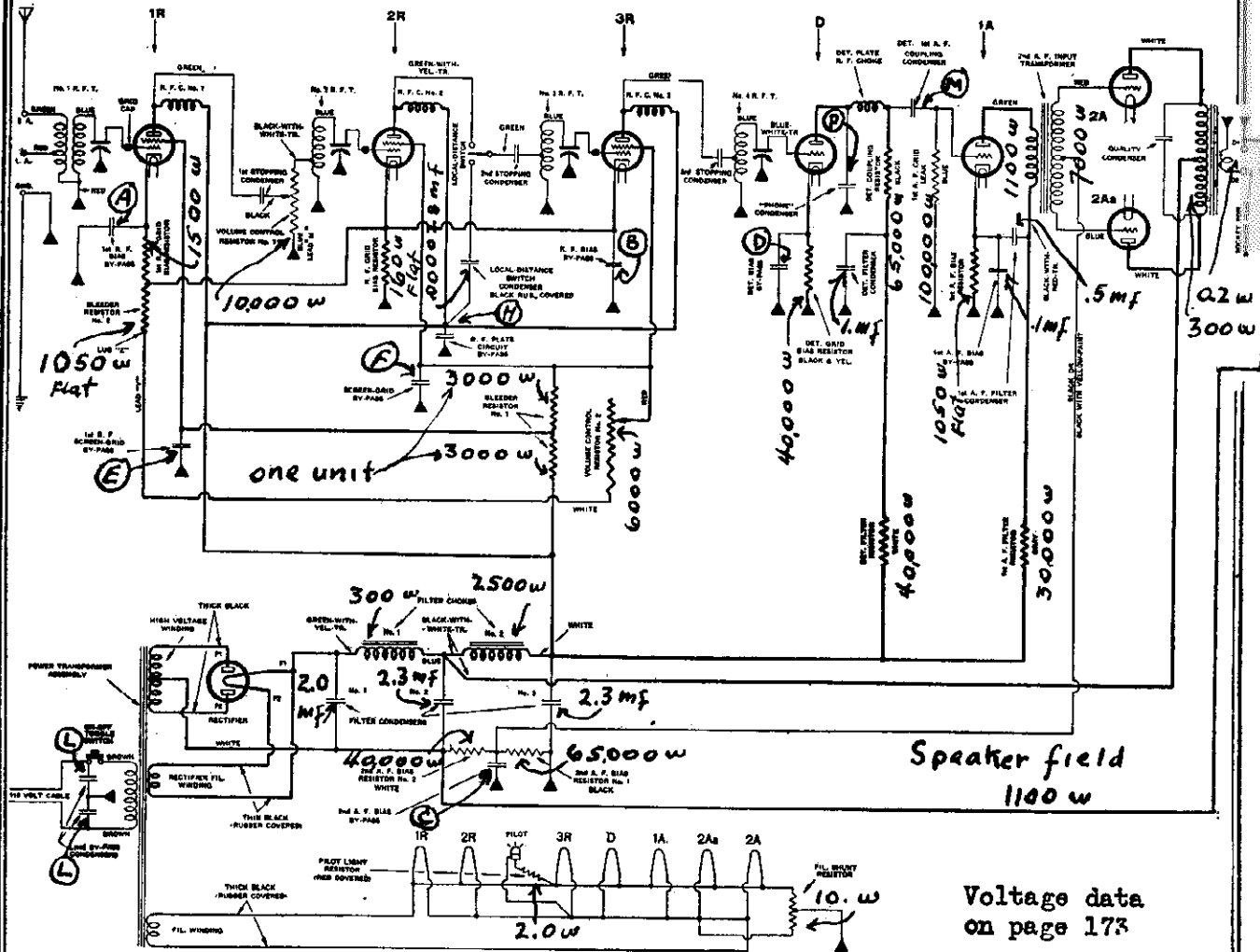
**BYPASS CONDENSER VALUES. The bypass condensers are designated by letters, exclusive of those within the filter condenser can. For bypass condensers, see schematic above and chassis layout**

RF Bypass # 1	A	.1 mfd	150 volts	E	.1 mfd	150 volts
RF Bypass # 2	F	.1 mfd	400 volts	H	.1 mfd	400 volts
Detector Bypass	B	.1 mfd	150 volts	C	.1 mfd	150 volts
	L	.01 mfd	400 volts	L	.01 mfd	400 volts
	D	.3 mfd	150 volts	M	.075 mfd	400 volts

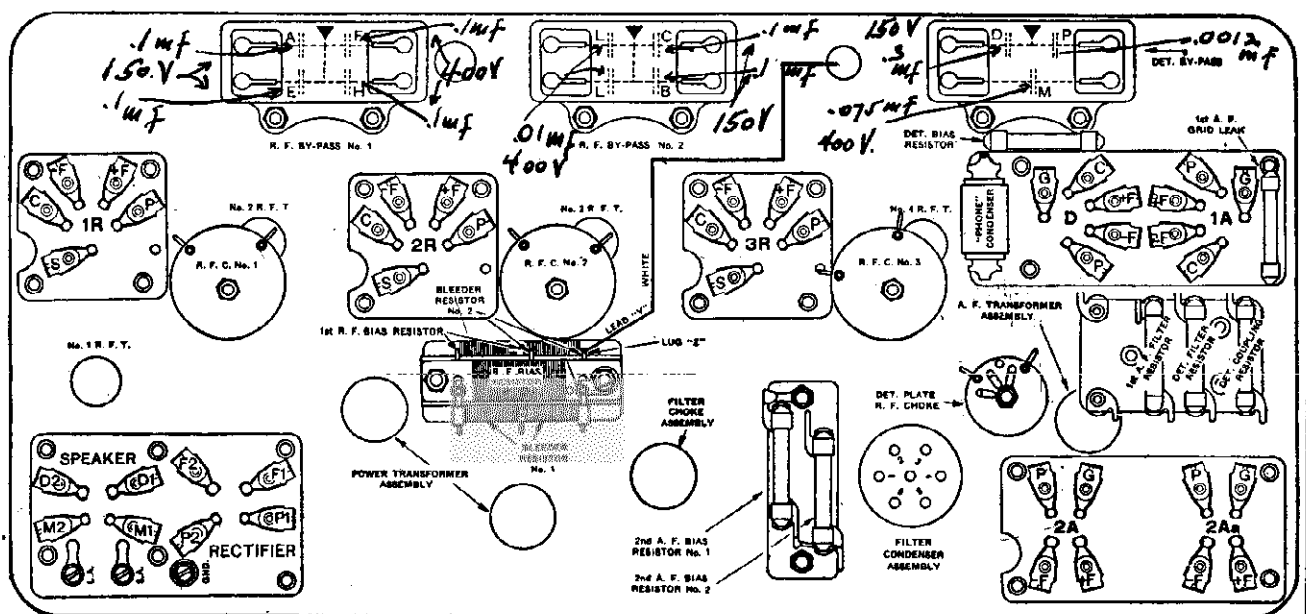
EARLY-TYPE MODEL 60 AND 60-C.



ATWATER KENT MFG. CO. MODEL 60 and 60-C  
Late Schematic



CIRCUIT OF LATER MODEL 60 AND 60-C.

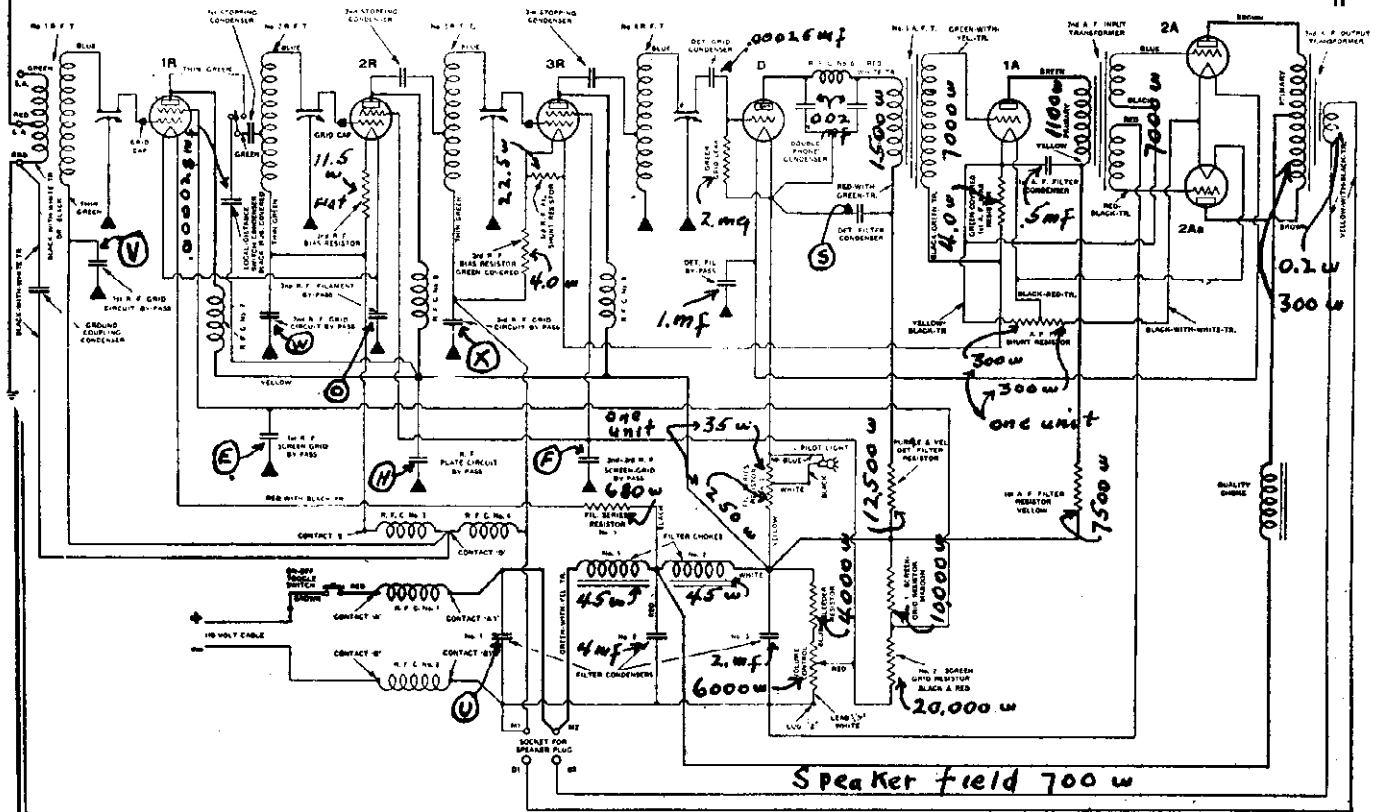


BOTTOM CHART OF LATER-TYPE MODEL 60 AND 60-C.

Voltage reference on page 1-24

MODEL 61-61-C  
Late Schematic

ATWATER KENT MFG. CO



SCHEMATIC DIAGRAM OF LATER MODEL 61 AND 61-C (DIRECT CURRENT).

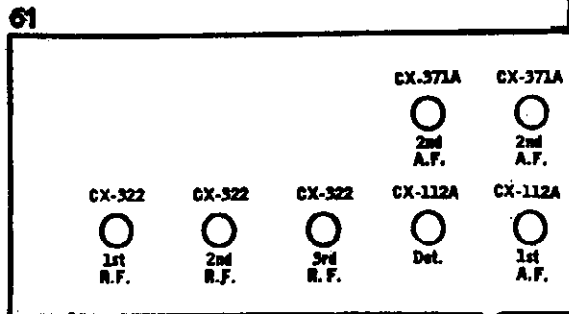
FILTER CONDENSER SPECIFICATIONS are shown on page 174.  
BYPASS CONDENSER designations shown upon wiring diagram also appear upon chassis layout on page 177. For BYPASS CONDENSER data refer only to page 177 and not to page 174.

	R-F	Det.	1st A-F	2nd A-F	61
Fil.	2.9	4.6	4.6	4.6	
Plate	78	32	50	80	
Grid	4.6*		1.4	9	
Screen	60**				

\* This voltage applies only to the 1st R-F stage. The 2nd R-F bias voltage is 1.4 volts and the 3rd R-F bias voltage is 0.9 volts.

\*\*The screen voltage quoted applies only to the third R-F tube. The other R-F tubes secure different values of screen voltage. R-F tube number 1 or rather the first R-F stage has 46 volts applied to its screen. Likewise the 2nd R-F stage has 46 volts applied to its screen.

The forementioned voltage measurements are made with the volume control adjusted to minimum.





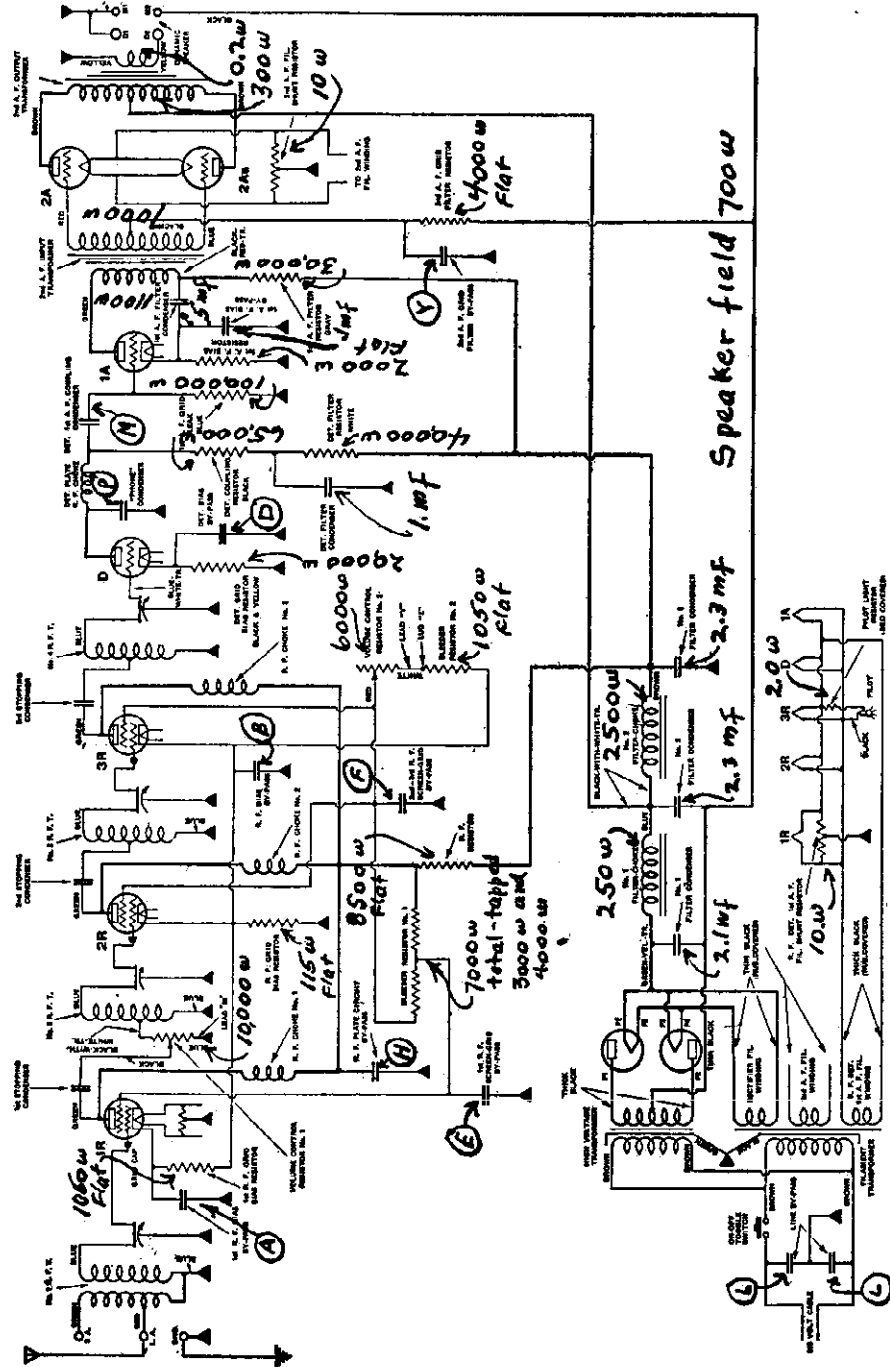


MODEL 66  
Schematic  
Data.

ATWATER KENT MFG. CO

**FILTER CONDENSER CONNECTIONS.** The following specifications should be used in conjunction with the schematic shown below and the chassis layout shown on **The numerals refer to the numbers marked upon the condenser can**

- Filter #1 2.1 mfd connected between terminals (1) and (4)
- Filter #2 2.3 mfd connected between terminals (2) and (4)
- Filter #3 2.3 mfd connected between terminal (6) and can
- Detector filter 1.0 mfd connected between terminal (5) and can
- 1st a-f filter 0.5 mfd connected between center stud and can
- 1st a-f bias 0.1 mfd connected between center stud and (3)



In some early Model 66, volume control resistor No. 1 is connected across the R. F. choke coil in the plate circuit of the 1st R. F. tube. The slider of this resistor is connected to a tap on No. 2 R. F. T. through a coupling condenser.

**BYPASS CONDENSER VALUES.** The letter designations given should be used in conjunction with the schematic wiring diagram above and the chassis layout

RF Bypass #1	A	.1 mfd	150 volts	F	.1 mfd	400 volts
	E	.1 mfd	150 volts	H	.1 mfd	400 volts
RF Bypass #2	B	.1 mfd	150 volts	L	.01 mfd	400 volts
	Y	.1 mfd	150 volts	L	.01 mfd	400 volts
Detector Bypass D	D	.3 mfd	150 volts	M	.075 mfd	400 volts
				P	.0012 mfd	400 volts

ATWATER KENT MFG. CO.

MODEL 67,67-C  
Early and Late  
Schematic

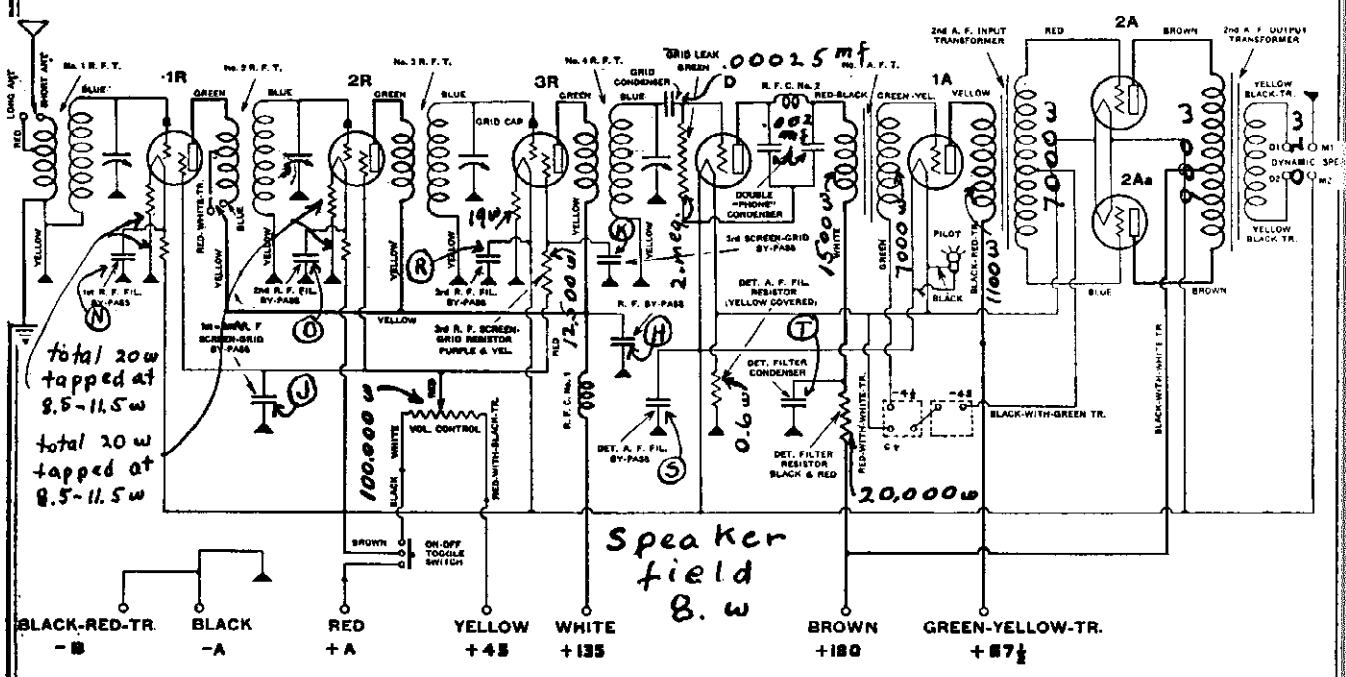


DIAGRAM OF EARLY MODEL 67 AND 67-C (BATTERY OPERATED).

Voltage data on page 180

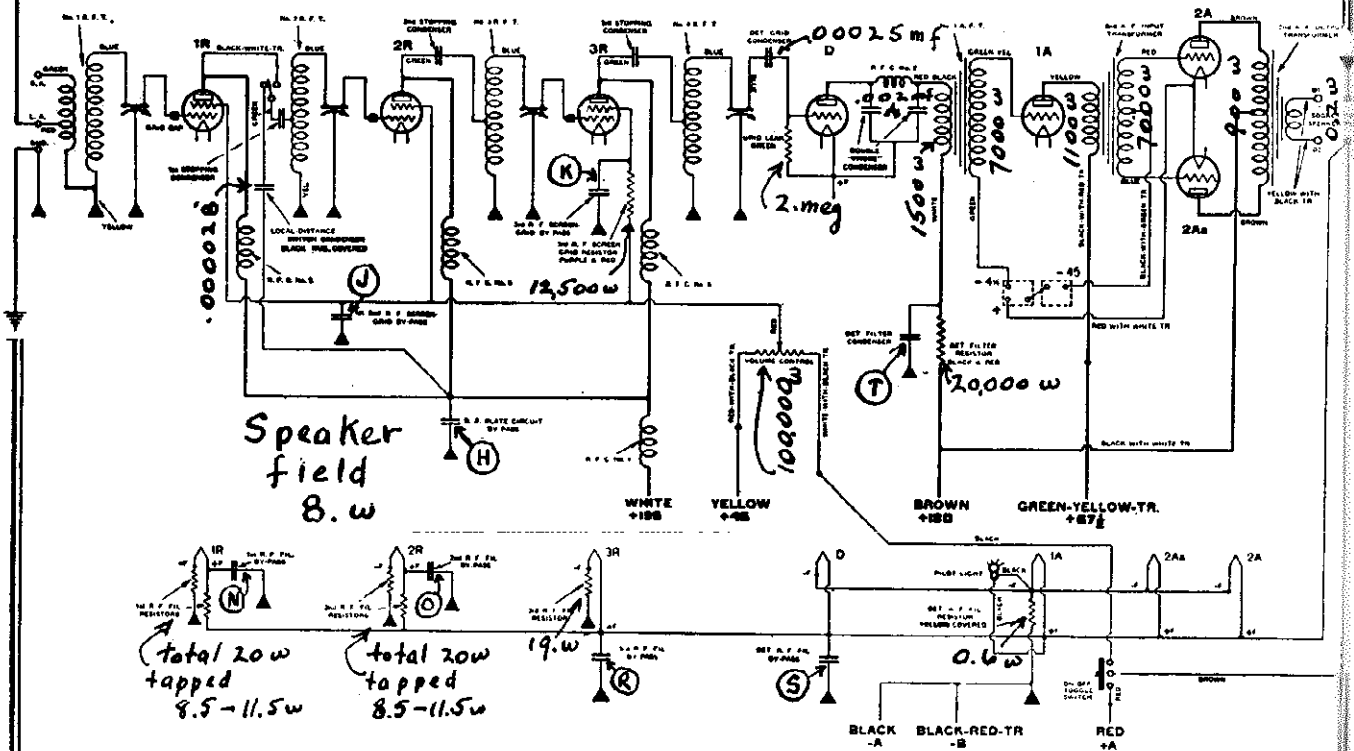


DIAGRAM OF LATER MODEL 67 AND 67-C (BATTERY OPERATED).

MODEL 66 Voltage  
MODEL 67 and 67-C  
Voltage

ATWATER KENT MFG. CO.

VOLTAGE DATA FOR MODEL 66

Line voltage 110. Line voltage of 120 volts increases voltage 10%.

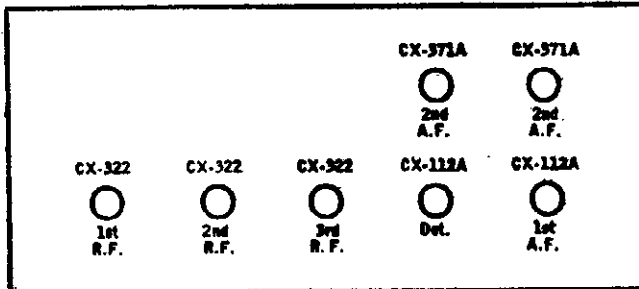
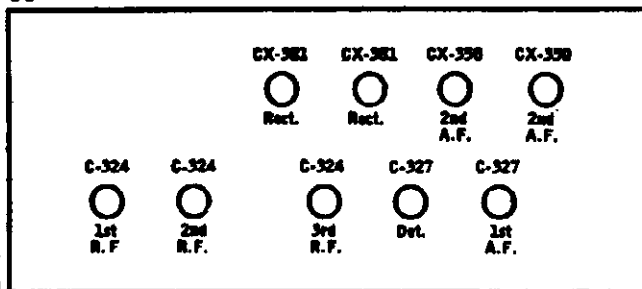
Tube	Filament	Plate	Grid	Screen
R-F (1st)	2.2	158	5.5	110
R-F (2nd-3rd)	2.2	160	2.8	78
Detector	2.2	206	23.	
A-F (1st)	2.2	137	2.8*	
A-F (2nd)	6.9	412	78.	

\* This is the measured voltage, not the actual operating voltage.

66

(A.C.) 67

(Batt.



VOLTAGE DATA FOR MODELS 67 and 67-C

These values apply when the total "B" voltage is 150 volts.

Tube	Filament	Plate	Grid	Screen
RF (1st-2nd)	3.3	110	1.5	30
R-F (3rd)	3.3	110	2.5	25
Det.	5.0	50	--	
A-F (1st)	5.0	55	4.5	
A-F (2nd)	5.0	150	45.	

These values apply when the total "B" voltage is 180 volts.

Tube	Filament	Plate	Grid	Screen
R-F (1st-2nd)	3.3	135	1.5	45
R-F (3rd)	3.3	135	2.5	40
Det.	5.0	60	--	
A-F (1st)	5.0	65	4.5	
A-F (2nd)	5.0	180	45.	







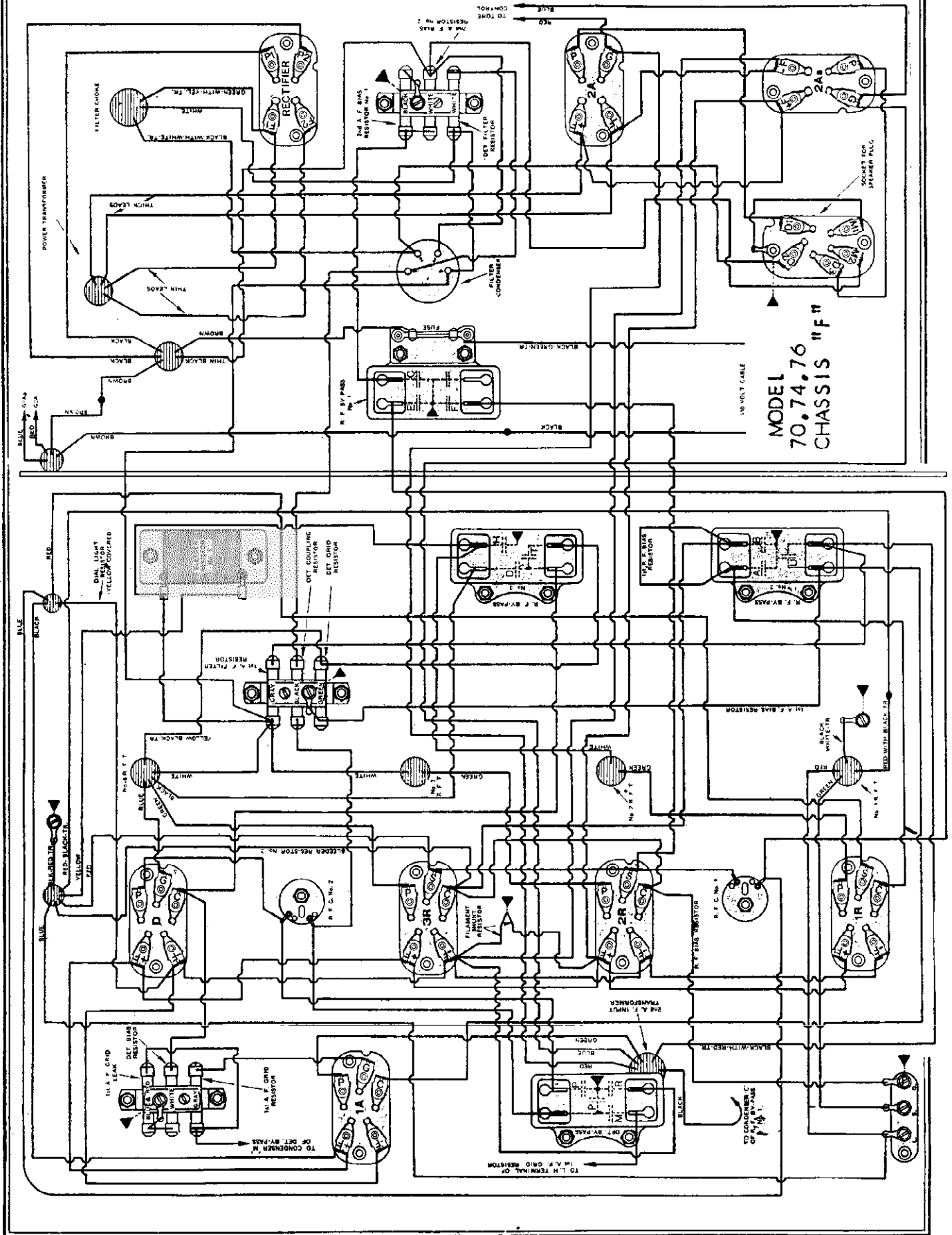




ATWATER KENT MFG. CO.

MODEL 70, 74 and 76  
Chassis "F"

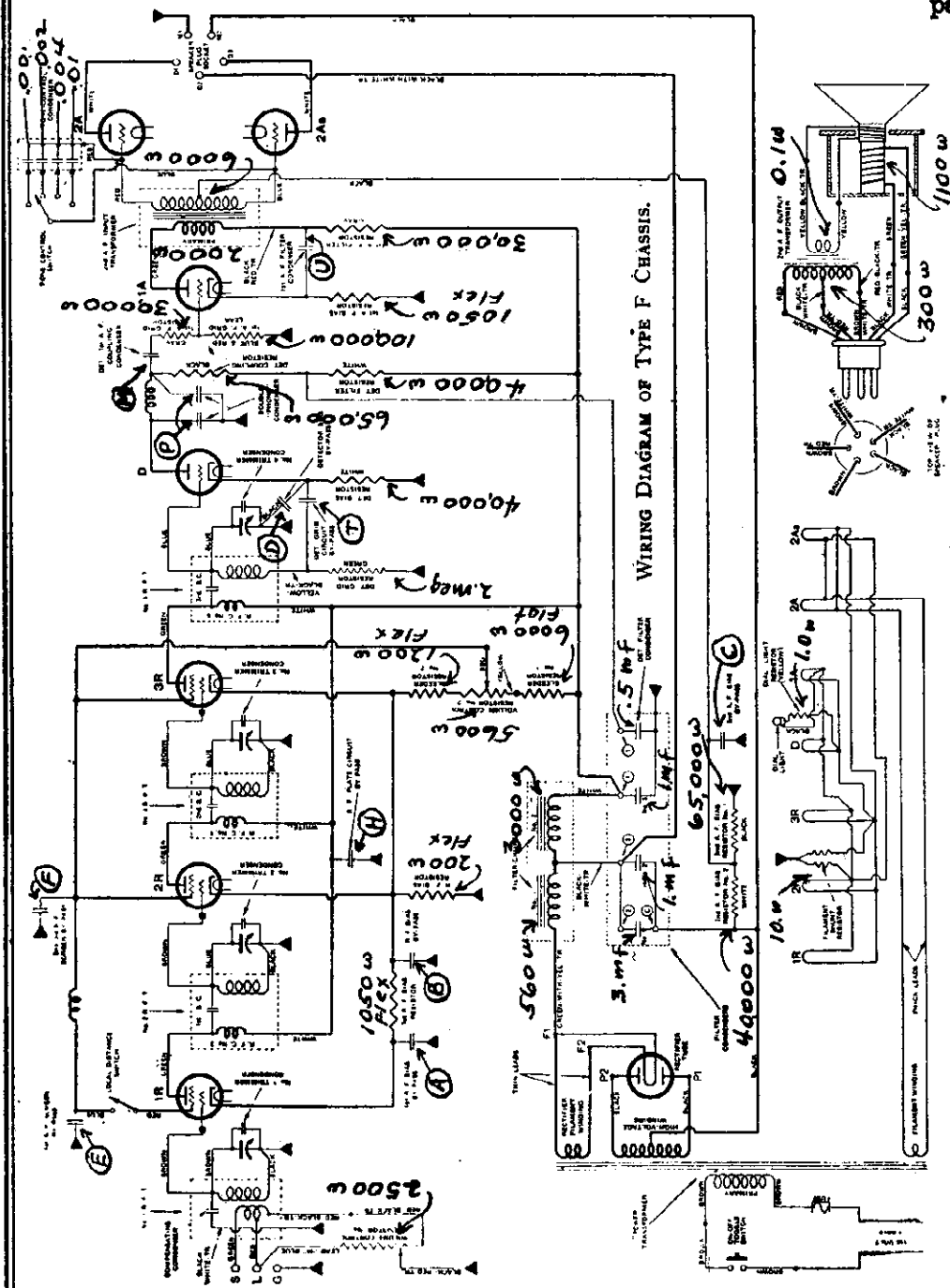
In some early Type F Chassis, a line by-pass condenser is used, and the 1st-A. F. grid resistor (gray) is omitted.



MODEL 70,74,76  
Chassis F

ATWATER KENT MFG. CO.

Voltage data on  
page 186



In some early-type F chassis, a line by-pass condenser is used and the 1st-A. F. grid resistor (gray) is omitted. In later-type F chassis, the filter condenser has only four contacts, A. F. grid leak is connected to the opposite end of the 1st-A. F. grid resistor.

**FILTER CONDENSER.** In early models, the filter condenser has five contacts as indicated by the numbers within circles in the diagram. For those shown there

Detector filter .5 mfd connected between terminal (1) and can  
 Filter #1 3.0 mfd connected between terminal (2) and center stud  
 Filter #2 1.0 mfd connected between terminal (3) and center stud  
 Filter #3 1.0 mfd connected between terminal (4) and can

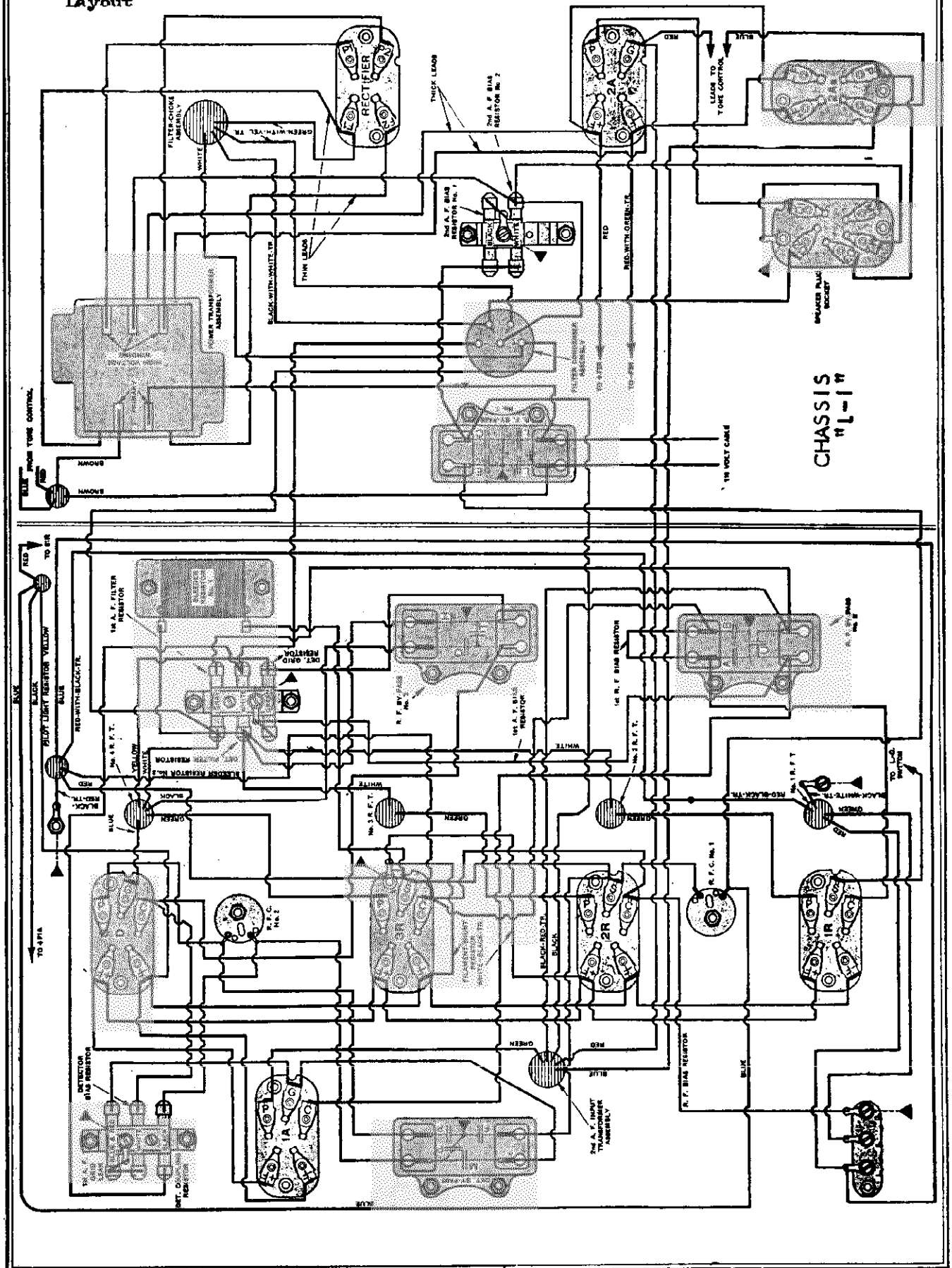
**BYPASS CONDENSERS.** The letters within the circles correspond with the designations within the bypass units shown in the chassis layout

RF Bypass #1	C	C	.1 mfd	400 volts	E	.1 mfd	400 volts	# 15790
		F	.01mfd	400 volts	( In very early F "F" is .1 mfd.)			
RF Bypass #2	A	A	.1 mfd	150 volts	U	.12 mfd	400 volts	# 15770
		B	.1 mfd	150 volts				
RF Bypass #3	D	D	.1 mfd	400 volts	H	.2 mfd	400 volts	# 15780
		T	.04 mfd	400 volts				
Detector Bypass	H	H	.1 mfd	400 volts	M	.075 mfd	400 volts	# 15640
	P	P	.0012 mfd	400 volts	P	.00025 mfd	400 volts	

Tone Control All condensers are rated at 100 volts

MODEL 70, 74, 76  
Chassis "L-1"  
Layout

ATWATER KENT MFG. CO.



MODEL 70, 74, 76  
Chassis L-1

ATWATER KENT MFG. CO.

**BYPASS CONDENSERS.** The letters within the circles designate the condensers within the multiple units shown on the chassis layout

RF Bypass #1	L	.01 mfd	400 volts	L	.01 mfd	400 volts	# 15790
	C	.1 mfd	400 volts	E	.1 mfd	400 volts	
RF Bypass #2	A	.1 mfd	150 volts	U	.12 mfd	400 volts	#15770
	B	.1 mfd	150 volts				
RF Bypass #3	D	.1 mfd	400 volts	H	.2 mfd	400 volts	# 15780
	T	.04 mfd	400 volts				
Detector Bypass	F	.1 mfd	400 volts	M	.075 mfd	400 volts	# 15640
	P	.0012 mfd	400 volts	P	.00025 mfd	400 volts	
Tone Control	All condensers rated at 100 volts						

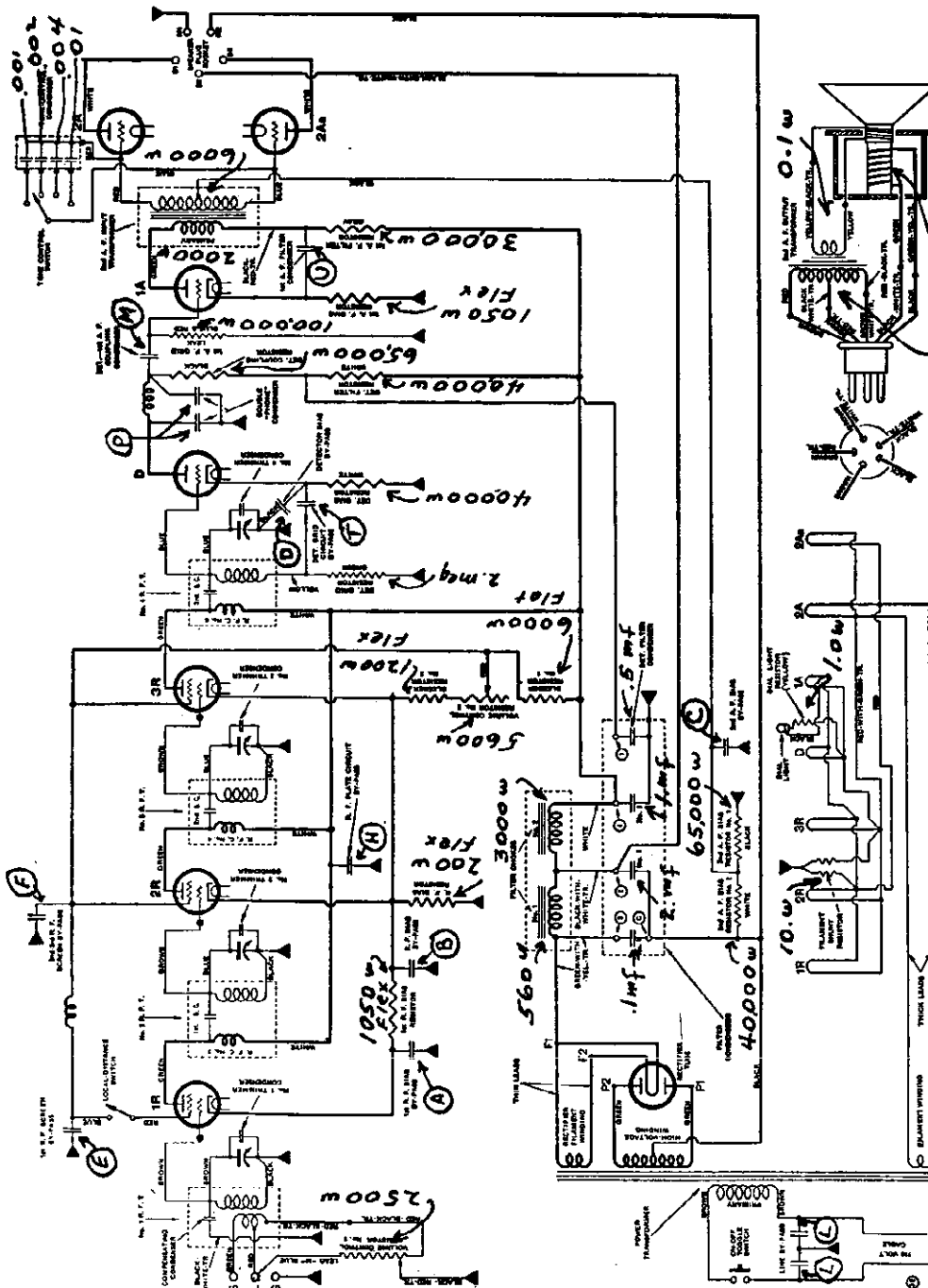


DIAGRAM OF L-1 CHASSIS.

**FILTER CONDENSERS**

Numerals within circles adjacent to filter condensers designate connections upon condenser can terminal block. These numbers are also shown upon the chassis layout

- Detector filter
  - Filter #1
  - Filter #2
  - Filter #3
- .5 mfd connected between terminal (1) and can
  - .1 mfd connected between terminal (3) and center stud
  - 2.0 mfd connected between terminal (2) and center stud
  - 1.0 mfd connected between terminal (4) and can



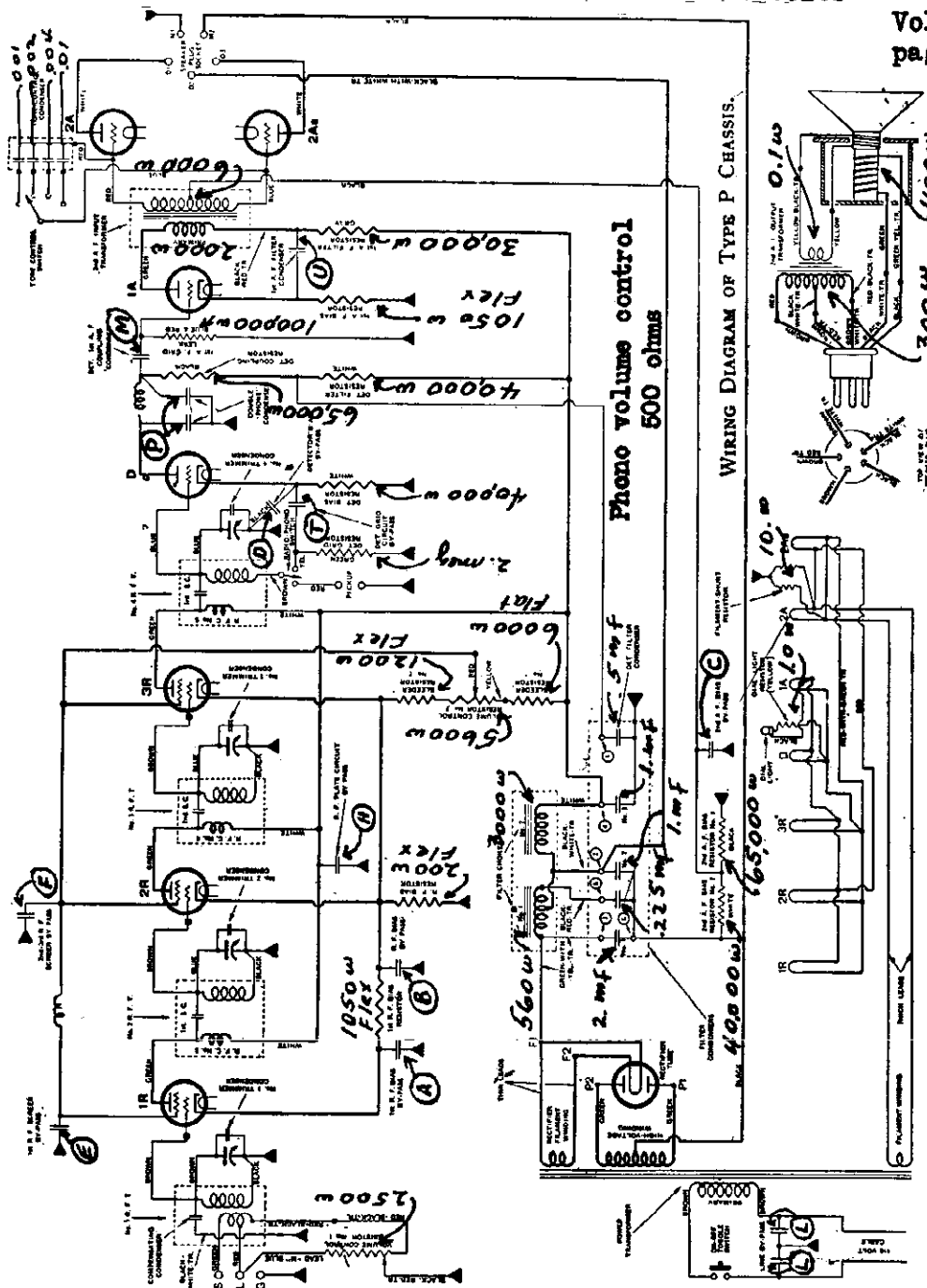


MODEL 76  
Chassis P

ATWATER KENT MFG. CO.

**BYPASS CONDENSERS.** The letters within circles designate the condensers within the multiple units shown on the chassis layout

RF Bypass #1	L	.01 mfd	400 volts	L	.01 mfd	400 volts # 15790
	C	.1 mfd	400 volts	E	.1 mfd	400 volts
RF Bypass #2	A	.1 mfd	150 volts	U	.12 mfd	400 volts # 15770
	B	.1 mfd	150 volts			
RF Bypass #3	D	.1 mfd	400 volts	H	.2 mfd	400 volts # 15780
	T	.04 mfd	400 volts			
Detector Bypass	F	.1 mfd	400 volts	M	.075 mfd	400 volts # 15640
	P	.0012 mfd	400 volts	P	.00025 mfd	400 volts
Tone Control	All condensers are rated at 100 volts					



**FILTER CONDENSERS.** Numerals in circles designate connections upon filter condenser terminal block.

- Detector filter .1 mfd connected between terminal (1) and can
- Filter #1 2.0 mfd connected between terminal (2) and center stud
- Filter #2 1.0 mfd connected between terminal (3) and center stud
- Filter #3 1.0 mfd connected between terminal (4) and can
- Resonant condenser .225 mfd connected between terminal (5) and center stud

MODEL 70, 74, 76

Chassis "L-2" - "P"

Voltage Data

Notes

VOLTAGE TABLE FOR TYPE L-2 AND P CHASSIS

ATWATER KENT MFG. CO.

Set in operation. Volume control at maximum.  
L-D (or 'phono) switch up.

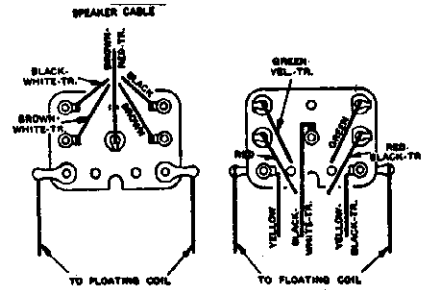
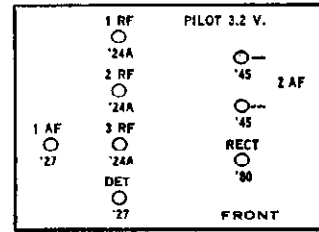
Use High Resistance D. C. Voltmeter (about 0-30-250) to Measure Plate and Grid Voltages.  
Use A. C. Voltmeter to Measure Filament Voltages.

APPROX. VOLTAGES, USING 120 V. LINE

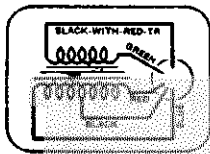
TUBE	FILAMENT VOLTAGE	PLATE VOLTAGE	CONTROL-GRID VOLTAGE	SCREEN VOLTAGE
1st-R.F.	2.4	180	5	85
2nd-R.F.	2.35	180	4.5	86
3rd-R.F.	2.35	180	4.5	86
Detector	2.35	110	14**	—
1st-A.F.	2.35	70	2	—
2A	2.45	250	55*	—
2Aa	2.45	250	55*	—
Rectifier	5.	—	—	—

\* Use 250-volt scale.  
\*\* This is the voltage across the detector bias resistor; when measuring from grid to cathode, the voltage reading is only 2.  
All readings made from cathode in heater-type tubes, and from -F in plain-filament-type tubes.

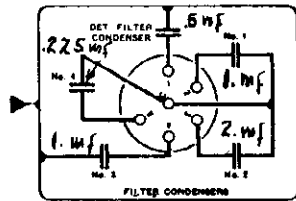
Models 75P, 70, 74, 76, 60 (3rd type) (1930)



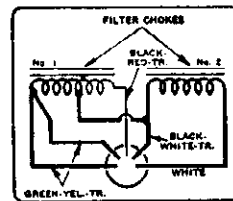
SPEAKER PANEL CONNECTIONS



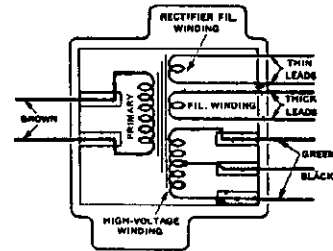
INPUT A. F. TRANSFORMER ASSEMBLY



FILTER CONDENSER ASSEMBLY

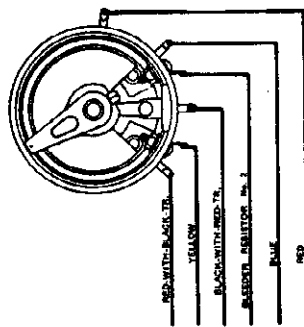


FILTER CHOKES ASSEMBLY



POWER TRANSFORMER ASSEMBLY

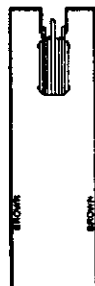
DUAL VOLUME CONTROL



LOCAL-DISTANCE SWITCH



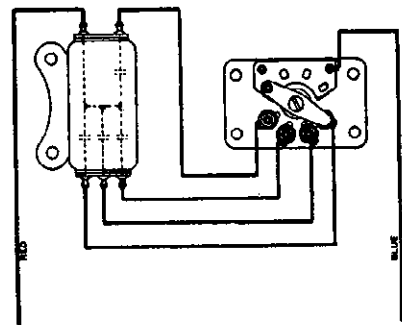
ON-OFF SWITCH



DIAL LIGHT



TONE CONTROL CONDENSER



Condensers in R.F. By-Pass No. 1

- L—Line by-pass.
- L—Line by-pass.
- C—2nd-A.F. bias by-pass.
- E—1st-R.F. screen by-pass.

Condensers in Detector By-Pass

- F—2nd-3rd R.F. screen by-pass.
- M—Detector-1st A.F. coupling condenser.
- P—Phone condenser.
- P—Phone condenser.

Condensers in R.F. By-Pass No. 2

- A—1st-R.F. bias by-pass.
- B—R.F. bias by-pass.
- U—1st-A.F. filter condenser.

Condensers in R.F. By-Pass No. 3

- D—Detector bias by-pass.
- H—R.F. plate-circuit by-pass.
- T—Detector grid-circuit by-pass.

CONNECTION OF UNITS IN TYPE L-2 CHASSIS, AND, AT RIGHT, CONNECTIONS TO TERMINAL PANEL OF TYPE N SPEAKER.

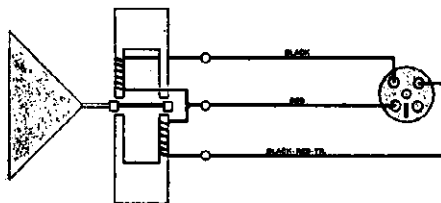


ATWATER KENT MFG. CO.

MODEL 70,76  
Chassis "Q"  
Voltage

Type Q Chassis (battery operated) has three stages of screen-grid R. F. amplification, grid detection, one stage of transformer-coupled audio, and a double-audio output stage.

An output filter choke and condenser are used in the Q-2 (above Serial No. 5704025), as shown in the diagram below. The Q-1 Chassis does not have these two parts.



CONNECTIONS OF INDUCTOR  
TYPE J SPEAKER.

VOLTAGE TABLE FOR TYPE Q CHASSIS

Set in operation. Volume control at maximum.  
L-D switch at distance.

Use High Resistance D. C. Voltmeter (about 0-50-250) to Measure Plate and Grid Voltages.  
Use A. C. Voltmeter to Measure Filament Voltages.

180 VOLTS "B" BATTERY

TUBE	FILAMENT VOLTAGE	PLATE VOLTAGE	CONTROL-GRID VOLTAGE	SCREEN VOLTAGE
1st-R.F.	3.3	135	1.5	45
2nd-R.F.	3.3	135	1.5	45
3rd-R.F.	3.3	135	2.5	45
Detector	5.0	70	—	—
1st-A.F.	5.0	67	45	—
2A	5.0	180	45	—
2Aa	5.0	180	45	—

R.F. By-Pass No. 1

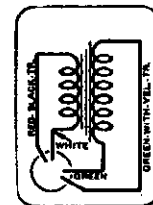
- G—R.F. screen by-pass.
- V—1st-R.F. grid-circuit by-pass.
- Y—Output filter condenser.
- N—1st-R.F. filament by-pass.

R.F. By-Pass No. 2\*

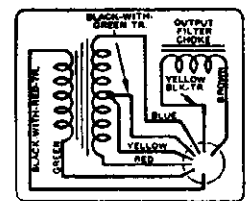
- H—R.F. plate-circuit by-pass.
- T—Detector filter condenser.
- P—"Phone" condenser.
- P—"Phone" condenser.

R.F. By-Pass No. 3

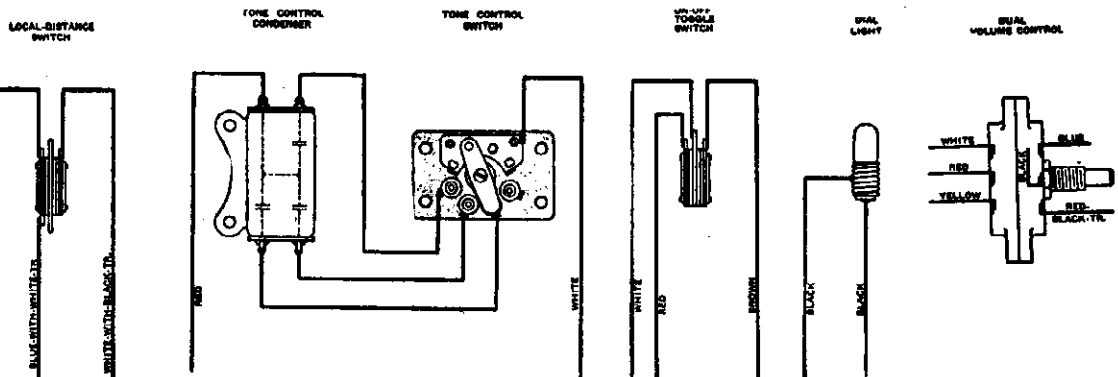
- S—Detector filament by-pass.
- R—3rd-R.F. filament by-pass.
- R—3rd-R.F. filament by-pass.
- O—2nd-R.F. filament by-pass.



NO. 1A.F.T.



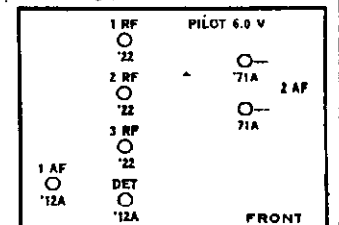
2ND A.F. INPUT TRANSFORMER



The output filter choke is not used in the Q-1 chassis.

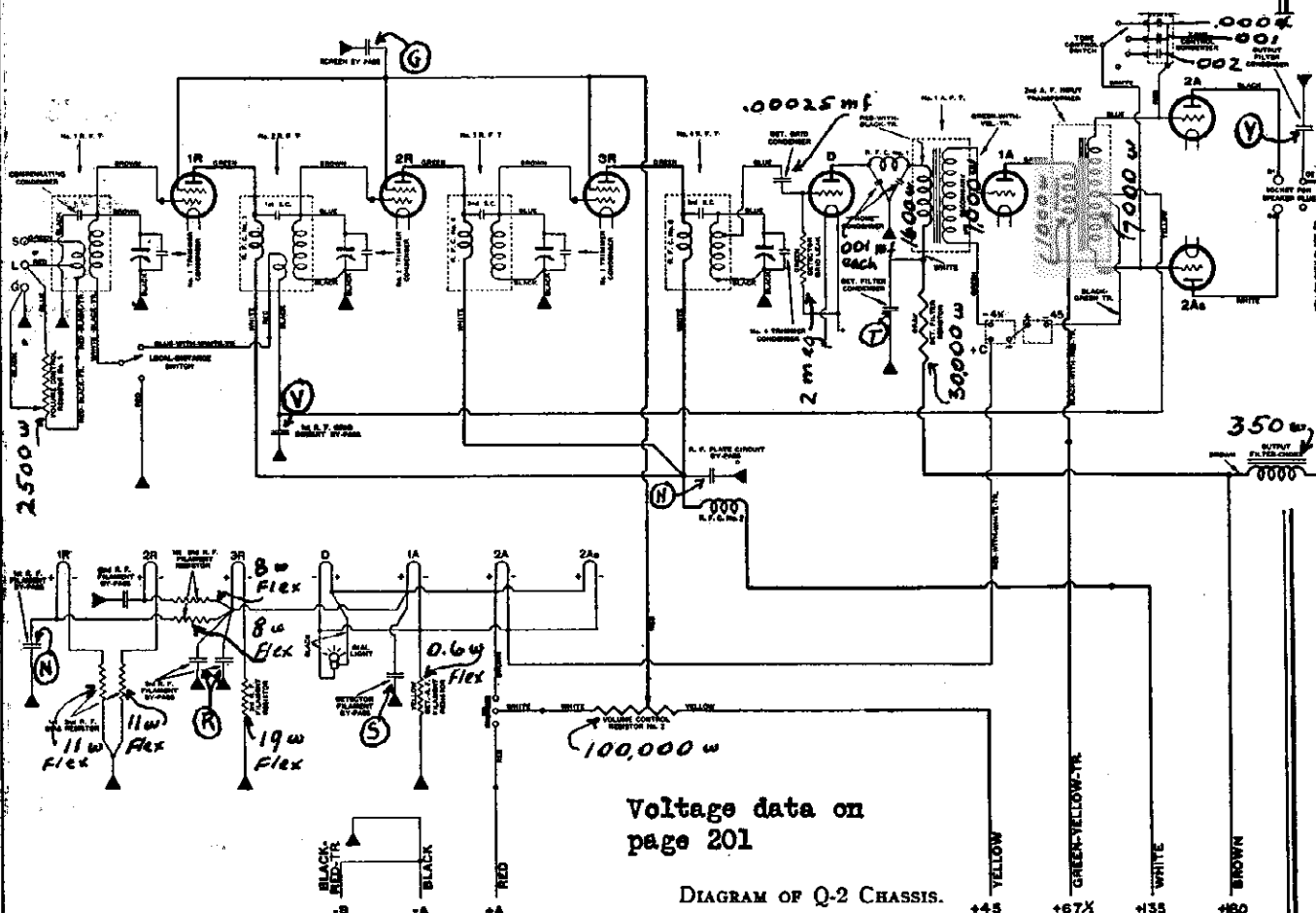
\*The connections shown for R. F by-pass No. 2 are correct when this part is No. 16060. However, if a No. 18350 (H-28) is used. "P" and "P" are at top and "H" and "T" are at bottom; therefore, the connections to this condenser are correspondingly changed

Models Q (Battery), D (DC) (1930)



MODEL 70,76  
Chassis Q

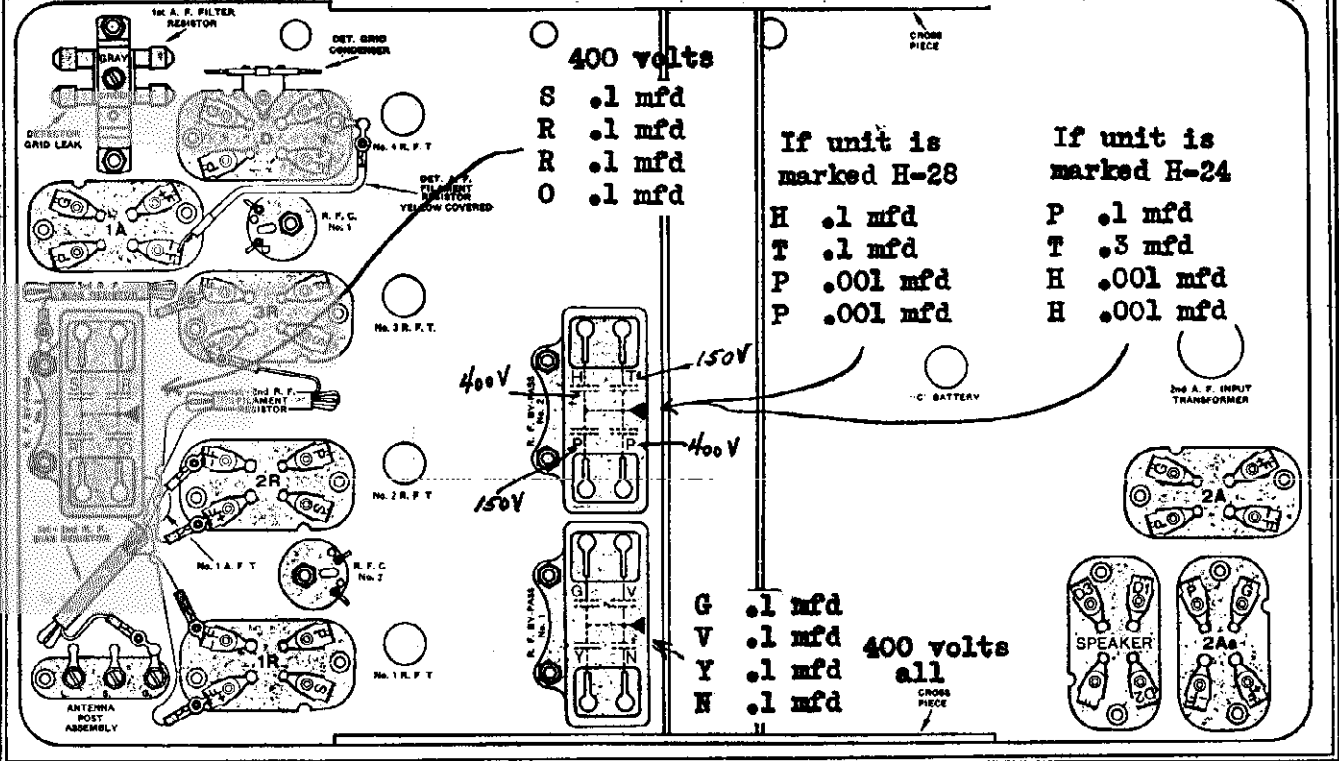
ATWATER KENT MFG. CO.



Voltage data on page 201

DIAGRAM OF Q-2 CHASSIS.

The output filter choke and filter condenser are used only in Type Q-2 Chassis. The choke is mounted in the 2nd-A. F. input transformer container. Type Q-1 Chassis may be converted to Q-2 by installing this unit (No. 18020) and connecting it as shown above

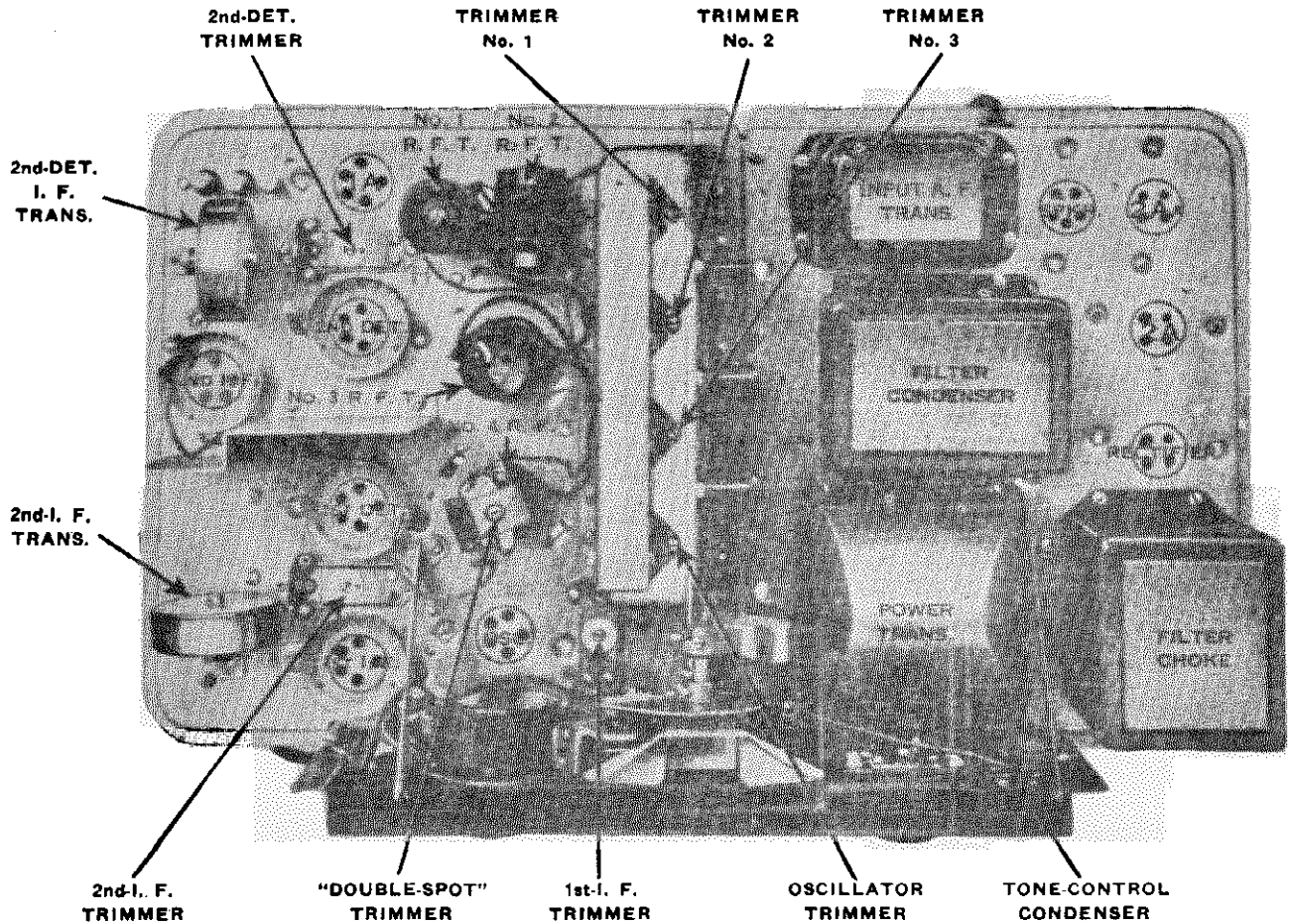




MODEL 72  
Chassis "H-1"  
Voltage

ATWATER KENT MFG. CO.

TYPE H-1, No. 16500, SUPER-HETERODYNE CHASSIS  
(Below Serial No. 5,855,201)



TOP VIEW OF ATWATER KENT TYPE H-1 SUPER-HETERODYNE CHASSIS

Tube	"A" Volts	"B" Volts	Control Grid	Screen
1st Det	2.4	150	3.	12.
Osc.	2.3	100	10.*	
1st IF	2.3	150	3.	75.
2nd IF	2.3	145	3.	85.
2nd Det	2.3	100	13.**	
1st AF	2.3	65	2.	
2nd AF PP	2.5	250	55.*	
2nd AF PP	2.5	250	55.*	
Rect.	4.7			

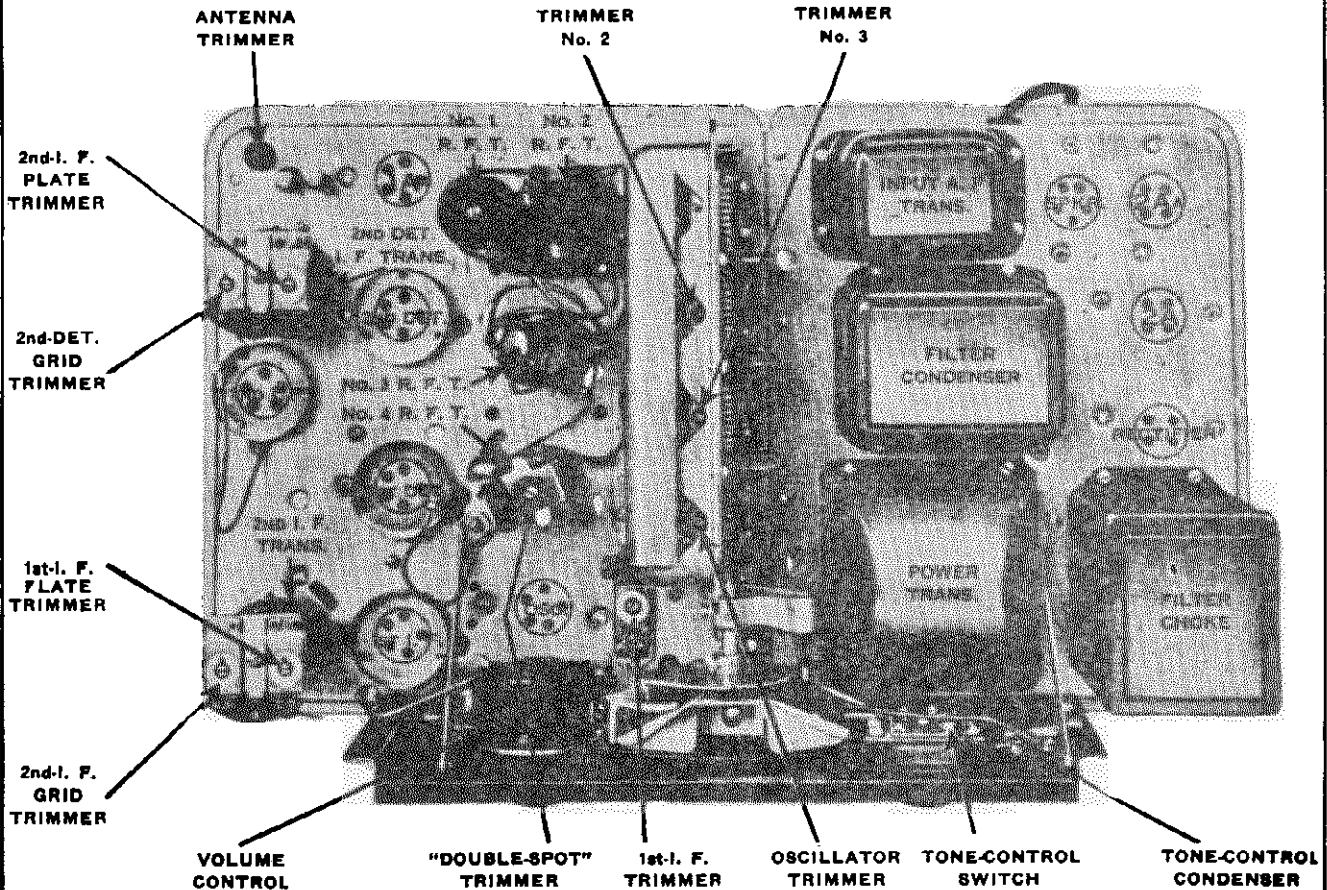
With volume control at minimum, the IF plate voltage is reduced to about 150 volts and screen voltage is reduced to about 10 volts. \* Use 250 volts scale of high resistance voltmeter. \*\* This is the voltage across the detector bias resistor.



MODEL 72  
Chassis "H-2"  
Voltage

ATWATER KENT MFG. CO.

TYPE H-2, No. 16500, SUPER-HETERODYNE CHASSIS  
(Above Serial No. 5,855,201)



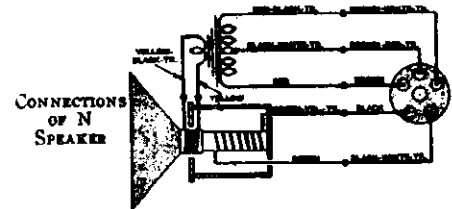
TOP VIEW OF ATWATER KENT TYPE H-2 SUPER-HETERODYNE CHASSIS  
Note that trimmer No. 1 is omitted. The antenna trimmer serves the same purpose

VOLTAGE TABLE FOR TYPE H-2 CHASSIS

Set in operation. Volume control at maximum

Tube	"A" Volts	"B" Volts	Control Grid	Screen
1st Det	2.3	150	4.	15.
Osc	2.5	130	10.*	
1st IF	2.3	150	3.5	100.
2nd IF	2.3	150	3.5	85.
2nd Det	2.3	100	14.**	
1st AF	2.3	70	2.	
2nd AF PP	2.5	250	55.*	
2nd AF PP	2.5	250	55.*	
Rect.	4.7			

With the volume control at minimum, the IF voltage is reduced to 15 volts. \* Use 250 volt scale of high resistance voltmeter. \*\* This is the voltage across the detector bias resistor; when measuring from grid to cathode, the voltage reading is only 2. All readings made from cathode in heater type tubes and -F in filament type tubes.



THE DOUBLE SPOT CIRCUIT

The double spot circuit is simultaneously tuned to two different frequencies. The complete circuit consists of #3 and #4 RF transformers and #3 variable condenser. A part of this circuit, #4 RFT, the double spot trimmer and #3 variable condenser is automatically tuned to 260 KC more than the desired frequency.



MODEL 72

Chassis H-2  
Above serial  
5,855,201

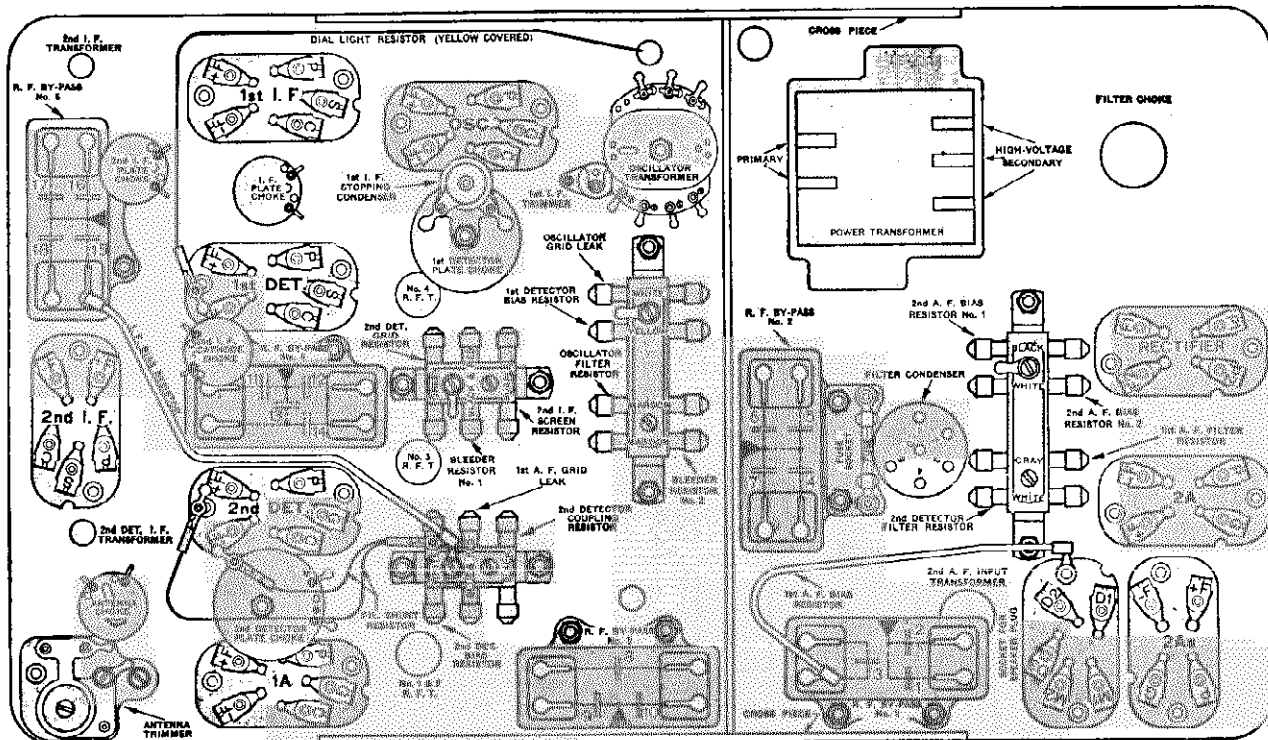
ATWATER KENT MFG. CO.

**FILTER CONDENSERS.** Numerals in circles shown on wiring diagram indicate connections upon filter condenser terminal block. These numbers are also shown upon the parts layout below. Also upon the chassis wiring diagram

Detector filter	.1 mfd	connected between terminal (1) and can
Filter #1	2.0 mfd	connected between terminal (2) and center stud
Filter #2	1.0 mfd	connected between terminal (3) and center stud
Filter #3	1.0 mfd	connected between terminal (4) and can
Resonant condenser	.225 mfd	connected between terminal (5) and center stud

**BYPASS CONDENSERS.** The small numerals adjacent to the various bypass condensers shown on the wiring diagram correspond with the designating numerals upon the parts layout below and the chassis

RF Bypass #1	1	.01 mfd	400 volts	2	.01 mfd	400 volts	# 17360
	3	.3 mfd	400 volts				
RF Bypass #2	4	.1 mfd	400 volts	5	.1 mfd	400 volts	# 15262
	6	.1 mfd	400 volts	7	.1 mfd	400 volts	
RF Bypass #3	8	.075 mfd	400 volts	9	.0012 mfd	400 volts	# 16745
	10	.3 mfd	150 volts				
RF Bypass #4	11	.1 mfd	400 volts	12	.00123 mfd	400 volts	# 17370
	13	.1 mfd	400 volts	14	.04 mfd	400 volts	
RF Bypass #5	15	.1 mfd	400 volts	16	.1 mfd	400 volts	# 15262
	17	.1 mfd	400 volts	18	.1 mfd	400 volts	



BOTTOM VIEW OF TYPE H-2 CHASSIS

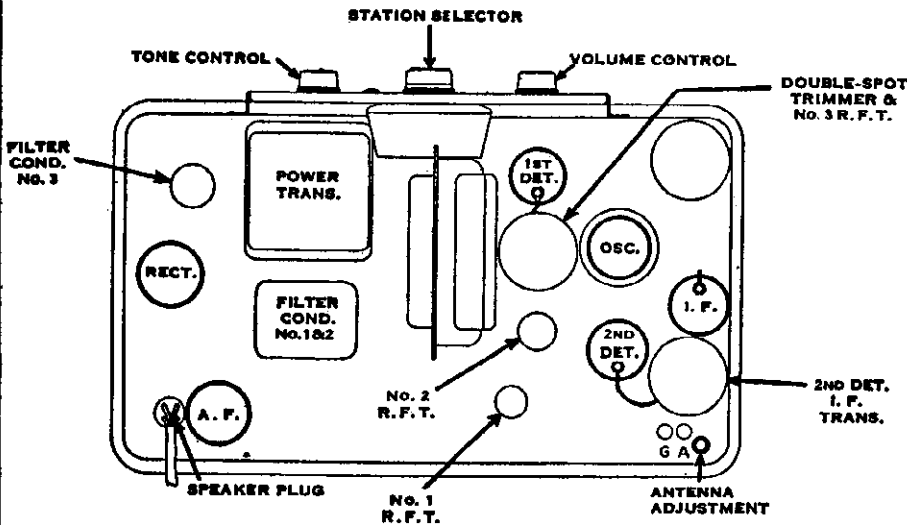
In this chart, the 2nd-I. F. screen resistor should be maroon instead of purple.





MODEL 80, 80-F  
83, 83-F

ATWATER KENT MFG. CO.



TOP VIEW OF MODEL 83, 83-F.

The circle in the upper right-hand corner is the shield that covers the coupling unit between the 1st-detector and the I. F. tubes.

Condensers in Multiple By-pass Model 80, 80-F, 83, 83-F

- 1—Tone-control condenser.
- 2—Tone-control condenser.
- 3—1st-detector—I. F. screen by-pass.
- 4—I. F. bias by-pass.
- 5—2nd-detector bias by-pass.
- 6—Phone condenser.
- 7—2nd-detector—A. F. coupling condenser.
- 8—2nd-detector screen by-pass.
- 9—Quality condenser.
- 10—1st-detector plate filter condenser.
- 11—A. F. bias by-pass.
- 12—1st-detector bias by-pass.

The numbers given above correspond with the numbers marked upon the multiple condenser unit.

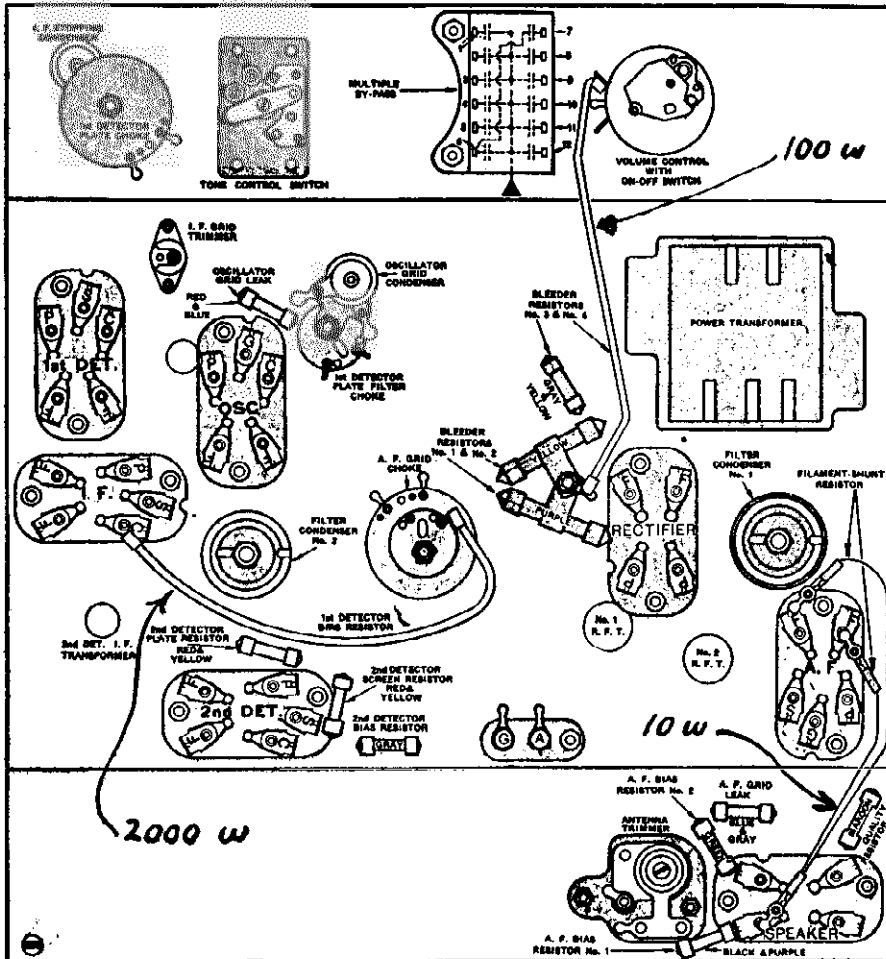


CHART OF MODEL 80, 80-F.

The parts on Model 83, 83-F are similar except that Model 83, 83-F has a filter condenser unit and only one electrolytic condenser.

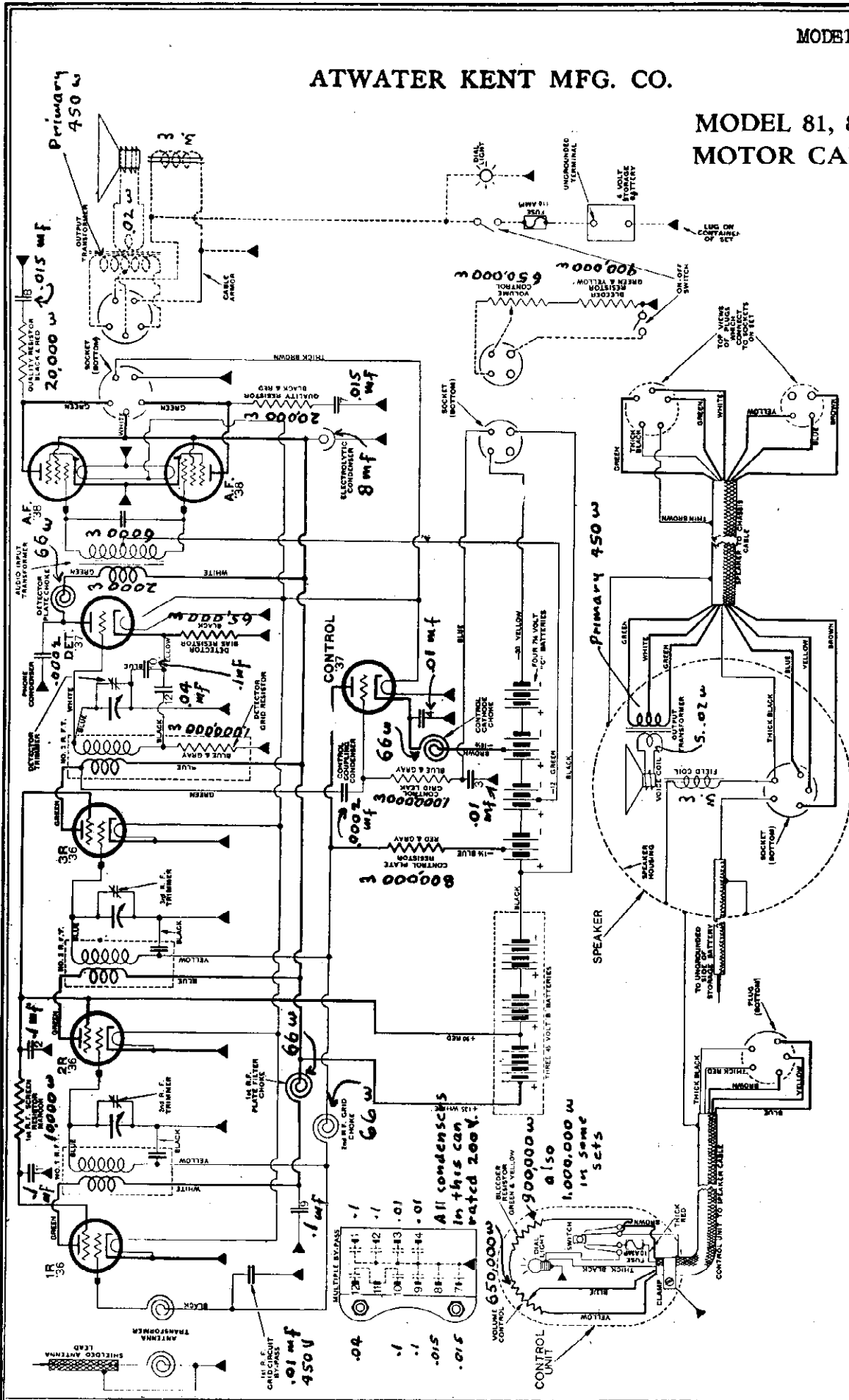
	VOLTAGE TABLE		
	Plate	Screen	Control
1st Det.	225	90	5*
I-F	230	95	2*
2nd Det	110	45	5*
1st A-F	230	240	4*
2nd A-F	100		*
Osc			

\* A variable depending upon several factors. Capacity of voltmeter leads may cause oscillator tube to cease functioning.

# ATWATER KENT MFG. CO.

MODEL 81  
81-B  
81-C

## MODEL 81, 81-B, 81-C MOTOR CAR RADIO



Voltage data on page 212

The small numerals adjacent to the bypass condensers correspond with the numerals marked upon the multiple bypass condenser unit.

Voltage reference on page I-56.

ATWATER KENT MFG. CO.

VOLTAGE TABLE

FOR MODEL 80, 81, 82, 82-D, 82-Q, 83, 84, 84-D, 84-Q, 85, 85-Q, 86, 87 and 89

The voltages listed in this table are only approximate, and are measured values, not actual operating values. Turn volume control to maximum.

Use 250-volt scale of a 1000-ohm-per-volt D. C. voltmeter.

All plate, screen and grid measurements are made from cathode in heater-type tube, and from —F in plain-filament-type tube.

When replacing a tubular resistor, use a resistor of the same color as the defective unit. However, if a resistor has been removed, or its identification destroyed, replace it with a resistor having the color that is specified in the diagram for that set.

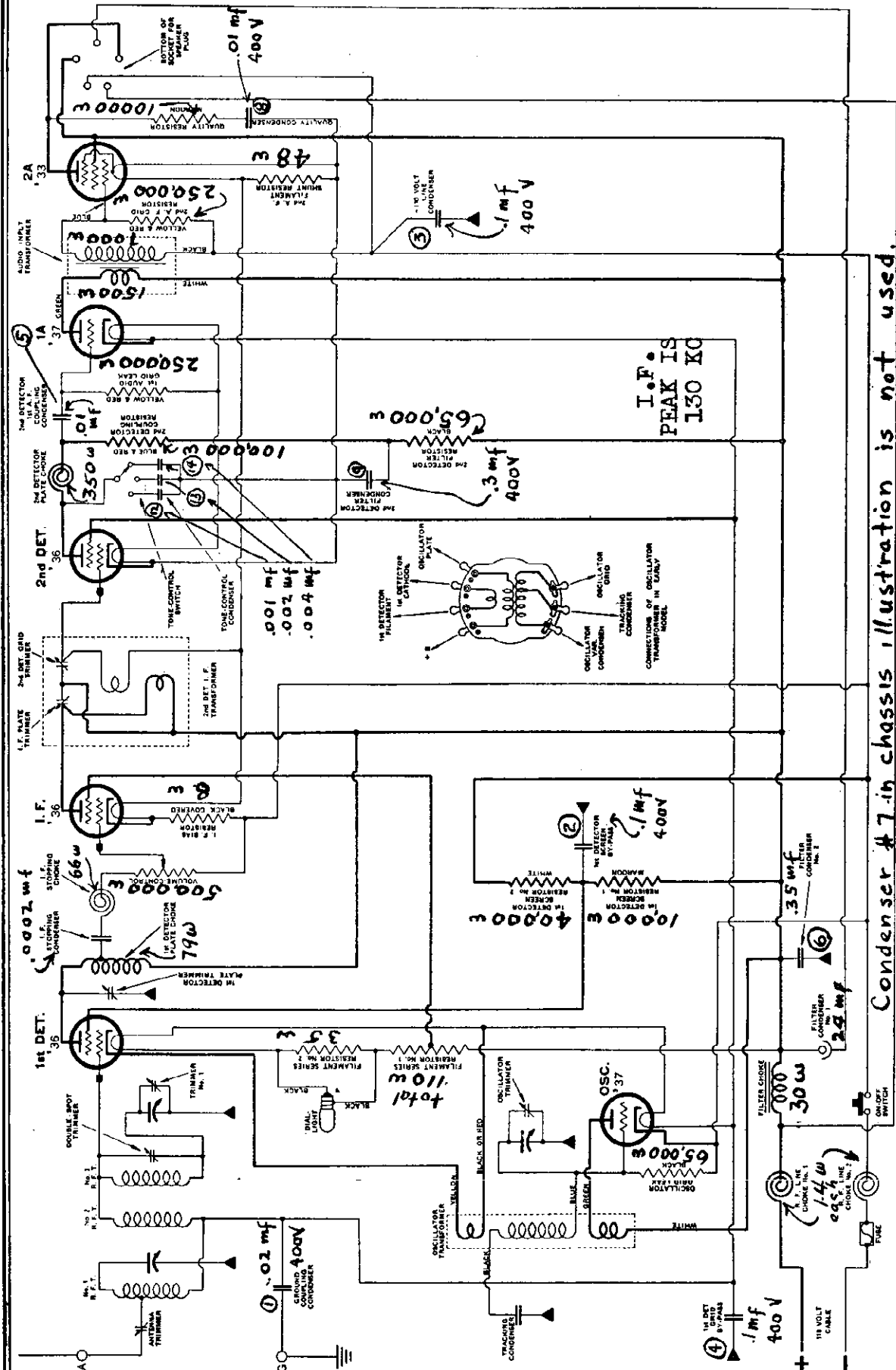
the same color as the defective unit. However, if a resistor has been removed, or its identification destroyed, replace it with a resistor having the color that is specified in the diagram for that set.

	MODEL 80	MODEL 81	MODEL 82	MODEL 82-D	MODEL 82-Q	MODEL 83	MODEL 84	MODEL 84-D	MODEL 84-Q	MODEL 85	MODEL 85-Q	MODEL 86	MODEL 87	MODEL 89
LINE VOLTAGE	110	110	110	112	110	110	110	120	110	110	110	115	110	110
TOTAL "B" VOLTAGE	125	125	125	125	125	125	125	125	125	125	125	125	125	125
FILAMENT	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
PLATE	125	125	125	125	125	125	125	125	125	125	125	125	125	125
SCREEN	75	75	75	75	75	75	75	75	75	75	75	75	75	75
GRID	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL
FILAMENT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PLATE	235	95	135	70	135	235	205	80	135	135	135	135	160	130
SCREEN	90	50	50	50	40	90	65	50	25	50	40	35	70	45
GRID	5	7	4	5	3	5	6	5	3	3	3	4	11	4
FILAMENT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PLATE	230	140	95	95	135	210	215	105	135	135	135	135	170	135
SCREEN	95	50	50	50	60	95	65	55	65	50	65	40	80	50
GRID	2	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL
FILAMENT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PLATE	110	105	55	45	110	110	90	55	60	100	40	95	90	130
SCREEN	45	65	10	35	45	45	45	10	35	65	25	60	—	—
GRID	5	8	2	3	5	5	6	1	3	7	3	8	SMALL	15
FILAMENT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PLATE	230	130	75	55	230	230	205	80	55	215	55	210	90	130
SCREEN	240	133	240	—	—	240	215	—	—	235	—	230	—	—
GRID	4	11	5	3	3	4	5	2.5	3	5	3	5	3	4
FILAMENT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PLATE	95	95	100	85	130	130	90	90	120	120	120	120	200	235
SCREEN	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GRID	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FILAMENT	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PLATE	95	95	100	95	60	100	70	110	60	100	40	95	85	100
SCREEN	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GRID	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FILAMENT	5.5	5.5	2.4	—	—	—	—	—	—	—	—	—	—	—
PLATE	—	—	15	—	—	—	—	—	—	—	—	—	—	—
SCREEN	—	—	8	—	—	—	—	—	—	—	—	—	—	—
GRID	—	—	4	—	—	—	—	—	—	—	—	—	—	—

\* The measured oscillator grid voltage will vary dependent on the capacity of the voltmeter leads. In some cases, the presence of the leads will stop oscillation and no reading will be secured for grid bias. In other cases, the reading will be only slight, or it may be as high as 10 volts.  
 \*\*This includes the 1st, 2nd and 3rd R. F. tubes in Model 81. †This is the detector tube in Model 81.

# ATWATER KENT MFG. CO.

## MODEL 82-D



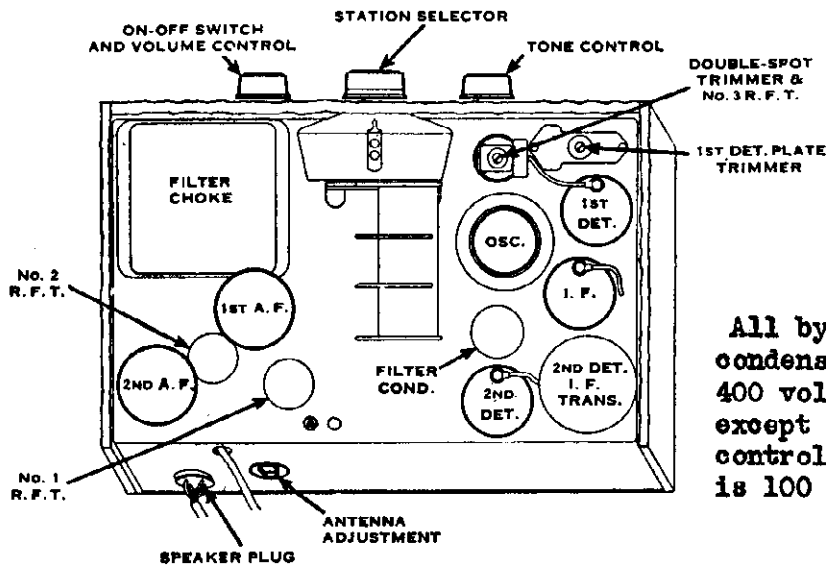
Condenser #7 in chassis illustration is not used.

Voltage data on page 212

MODEL 82-D

ATWATER KENT MFG. CO.

MODEL 82-D TOP VIEW AND CHART



All bypass condensers 400 volts except tone control which is 100 volts

The protective lamp (75 watts) is connected in series with the electrolytic filter condenser in the chassis. If the 110-volt D. C. supply plug is reversed, the lamp will light. When the 110-volt plug is properly inserted, the lamp does not light. This action is due to the fact that the electrolytic condenser passes current if the polarity of the applied D. C. voltage is not correct.

TOP VIEW OF MODEL 82-D.

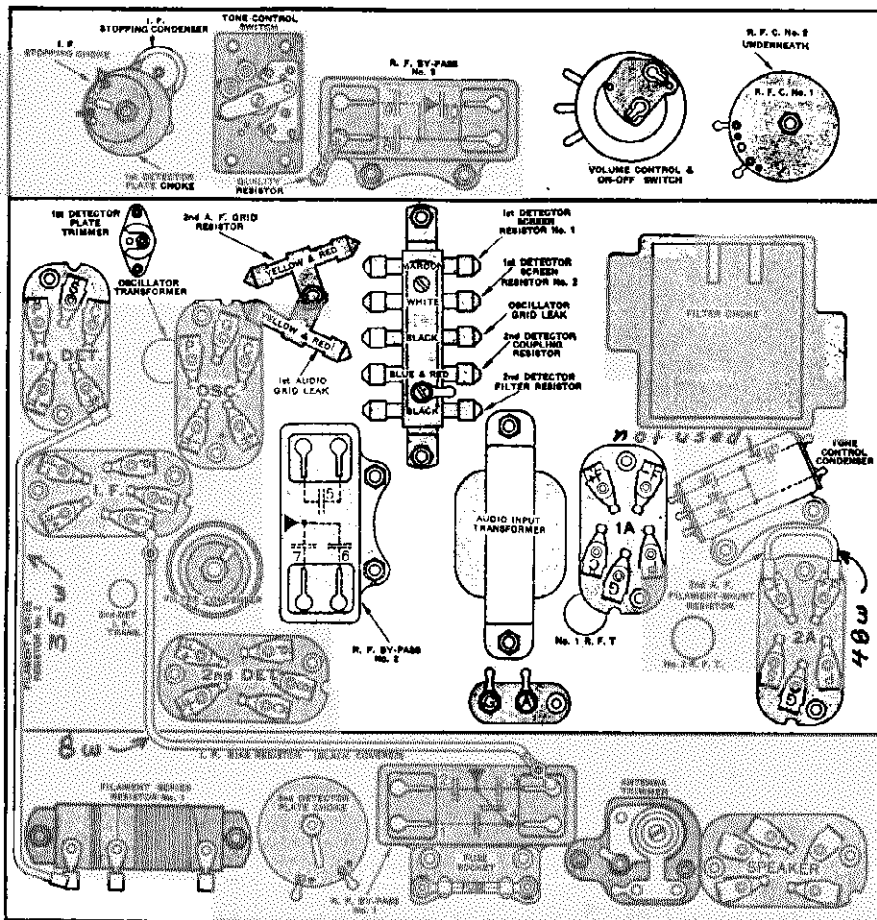
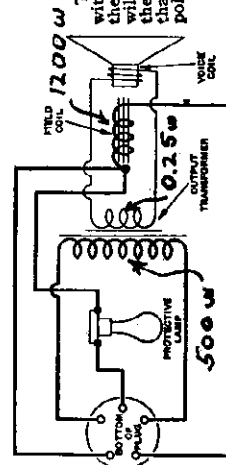


CHART OF MODEL 82-D.



CIRCUIT OF SPEAKER USED IN MODEL 82-D, 84-D.

By-pass Condensers in Model 82-D

R. F. By-pass No. 1

- 1—Ground coupling condenser.
- 2—1st-detector by-pass.
- 3—110-volt line condenser.
- 4—1st-detector grid by-pass.

R. F. By-pass No. 2

- 5—2nd-detector—1st-A.F. coupling condenser
- 6—Filter condenser No. 2.
- 7—Not used.

R. F. By-pass No. 3

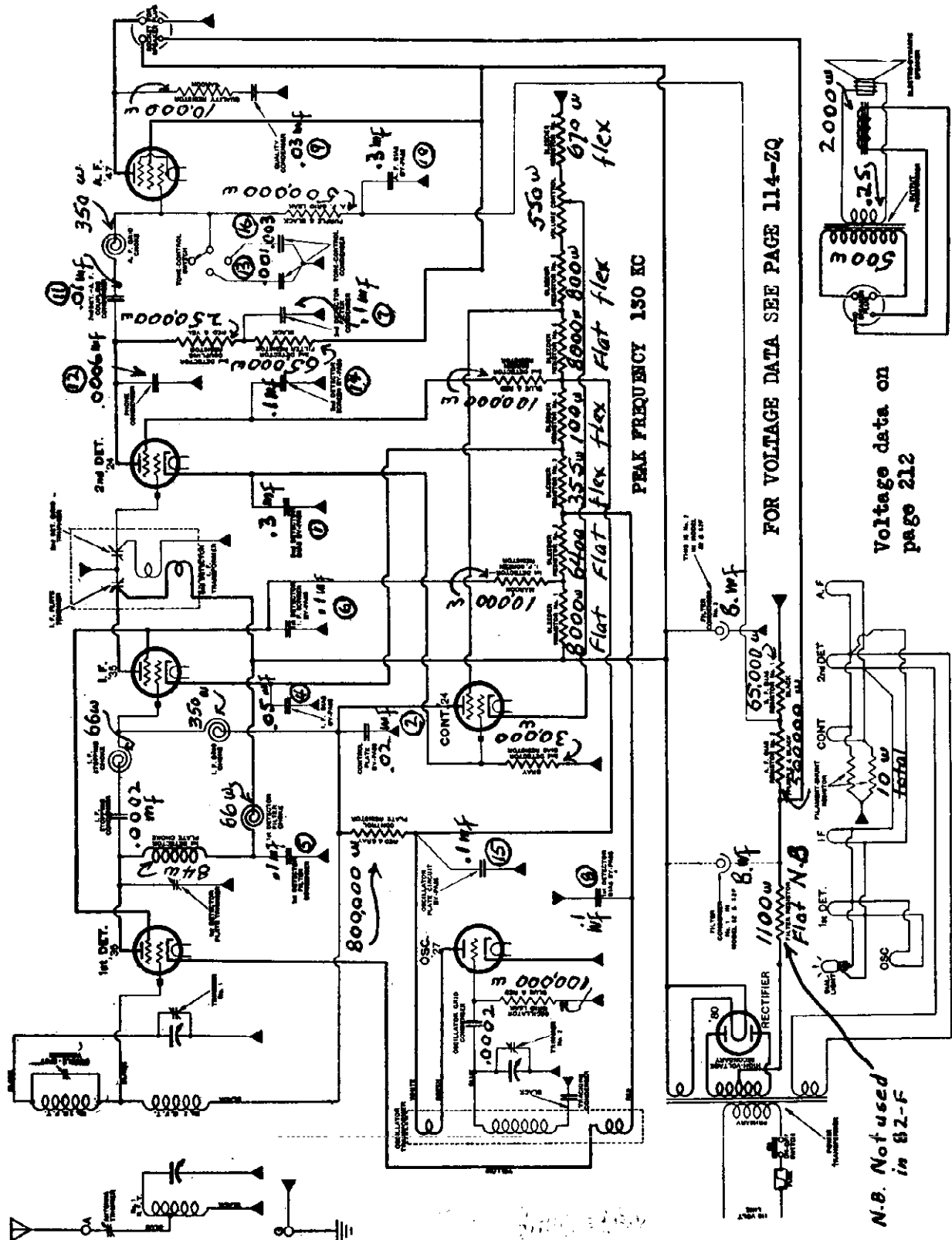
- 8—Quality condenser.
- 9—2nd-detector filter condenser.
- 10—110-volt line by-pass.

Tone-control Condenser

- 11—Not used.
- 12—Tone condenser.
- 13—Tone condenser.
- 14—Tone condenser.

ATWATER KENT MFG. CO.

MODEL 82, 82-F



FOR VOLTAGE DATA SEE PAGE 114-ZQ

Voltage data on page 212

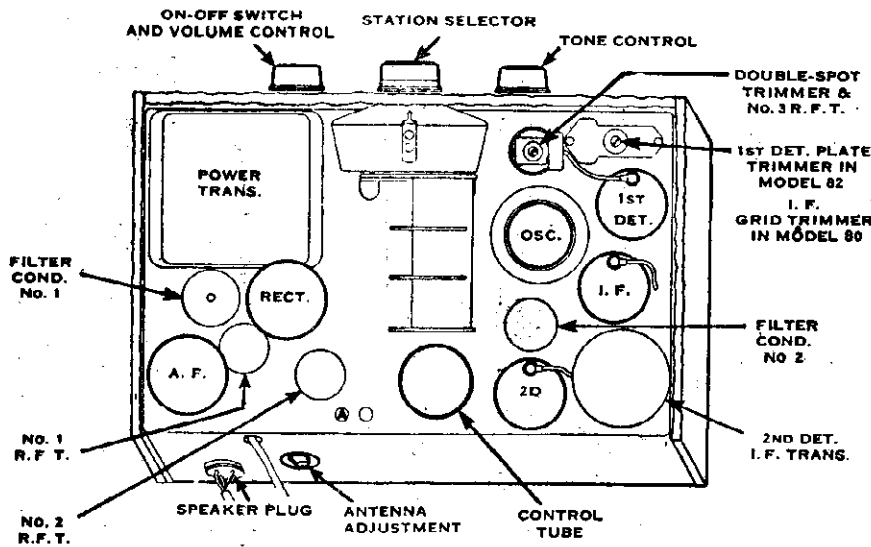
N.B. Not used in 82-F

Numerals adjacent to bypass condensers designate units shown upon parts layout on next page within multiple condensers. Condenser voltage ratings are shown upon next page.

Voltage reference on page 1-56.

MODEL 82, 82-F

ATWATER KENT MFG. CO.



TOP VIEW OF MODEL 82, 82-F.

The top view of Model 80, 80-F is similar except that it has no control tube and the position of No. 1 and No. 2 R. F. T. is interchanged.

CONDENSERS

RF Bypass # 1  
# 21180  
All 400 Volts

RF Bypass # 2  
# 15262  
5-6 150 volts  
7-8 400 volts

RF Bypass # 3  
# 21170  
All 400 volts

Tone Control  
# 20010  
All 100 volts

By-pass Condensers in Model 82, 82-F

R. F. By-pass No. 1

- 1—2nd-detector bias by-pass.
- 2—Control plate by-pass.
- 3—Not used.
- 4—I. F. bias by-pass.

R. F. By-pass No. 2

- 5—1st-detector filter condenser.
- 6—1st-detector—I. F. screen by-pass.
- 7—2nd-detector filter condenser.
- 8—1st-detector bias by-pass.

R. F. By-pass No. 3

- 9—Quality condenser.
- 10—A. F. bias by-pass.
- 11—2nd-detector—A. F. coupling condenser.
- 12—Phone condenser.

Tone-control Condenser

- 13—Tone condenser.
- 14—2nd-detector screen by-pass.
- 15—Oscillator plate-circuit by-pass.
- 16—Tone condenser.

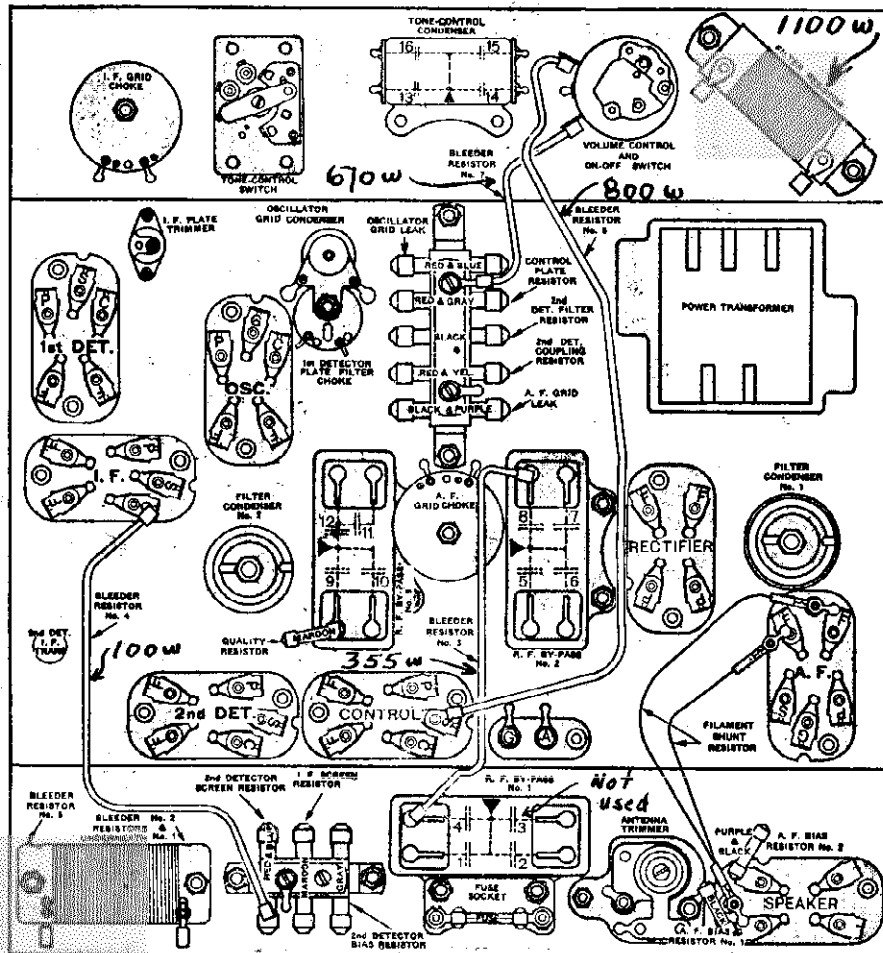


CHART OF MODEL 82, 82-F.

The filter resistor is not used in Model 82-F.



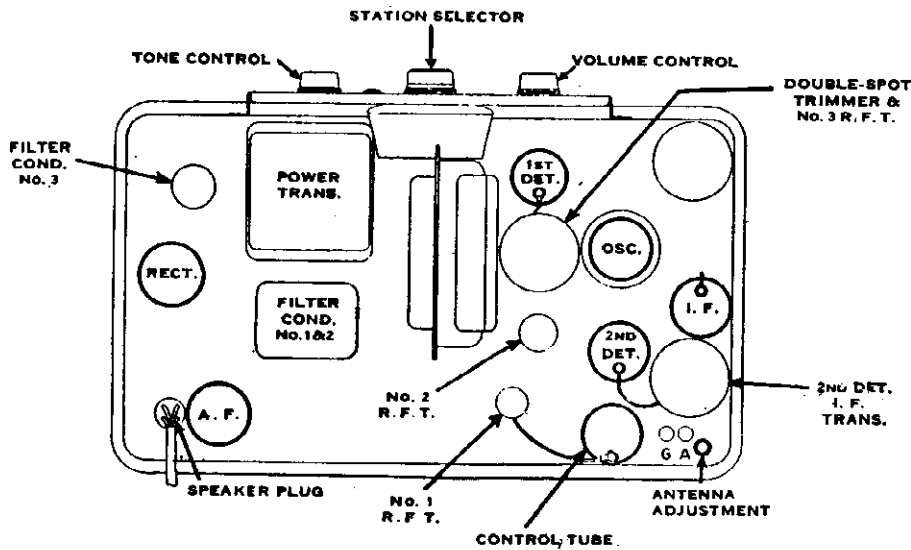






MODEL 85, 85-F

ATWATER KENT MFG. CO.



TOP VIEW OF MODEL 85, 85-F.

The circle in the top right corner represents the shield for the coupling unit between the 1st-detector and I.F. tubes.

See schematic

CONDENSERS

RF Bypass # 1  
# 19160 Early  
# 19980 Late  
All 400 volts

RF Bypass # 2  
# 19150 Early  
# 19990 Late  
All 400 volts

RF Bypass # 3  
# 15262  
All 400 volts  
Tone Control  
# 16490 Early  
# 20010 Late  
All 100 volts

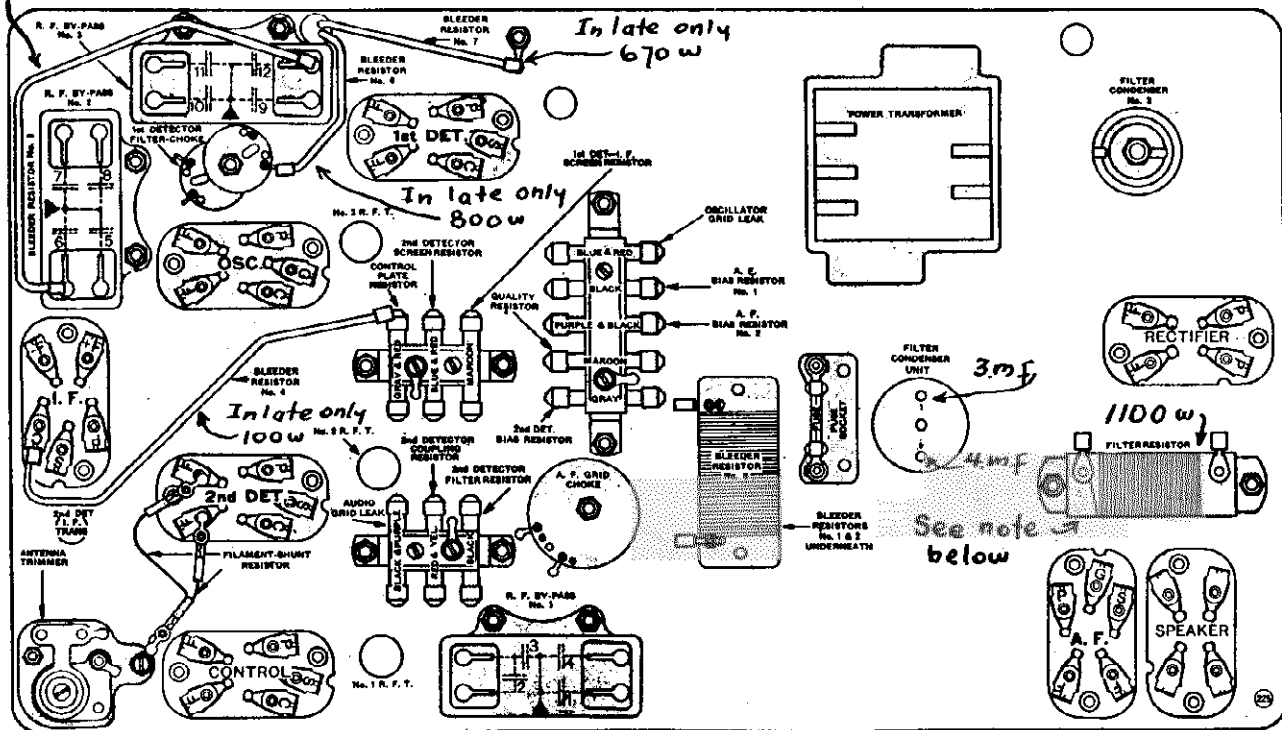


CHART OF MODEL 85, 85-F.

The filter resistor is not used in Model 85-F.

By-pass Condensers in Model 85, 85-F

R. F. By-pass No. 1

- 1—Quality condenser.
- 2—2nd-detector—A. F. coupling condenser.
- 3—Phone condenser.
- 4—2nd-detector bias by-pass.

R. F. By-pass No. 2

- 5—A. F. bias by-pass.
- 6—I. F. bias by-pass.
- 7—Tracking condenser.
- 8—Control-plate by-pass.

R. F. By-pass No. 3

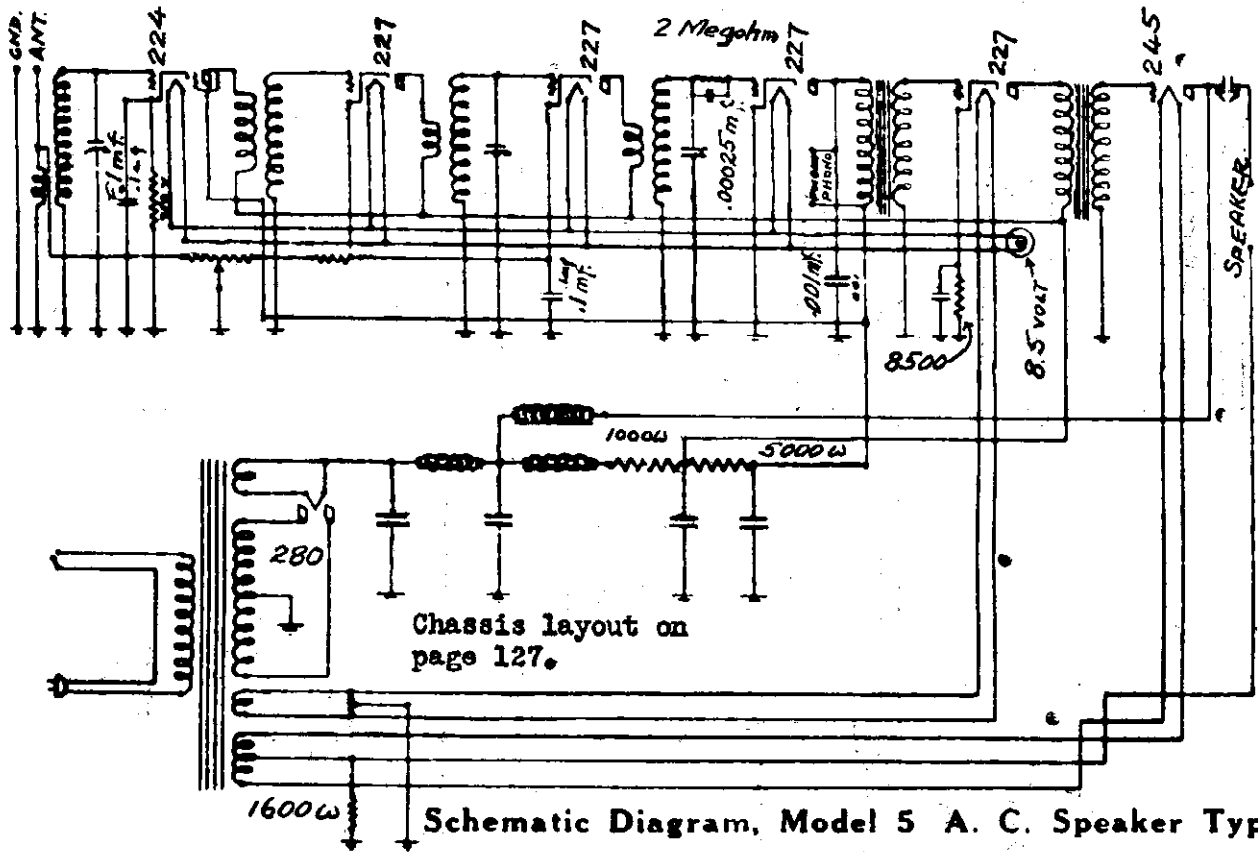
- 9—1st-detector—I. F. screen by-pass.
- 10—2nd-detector filter condenser.
- 11—1st-detector filter condenser
- 12—1st-detector bias by-pass.

Tone-control Condenser (on front panel)

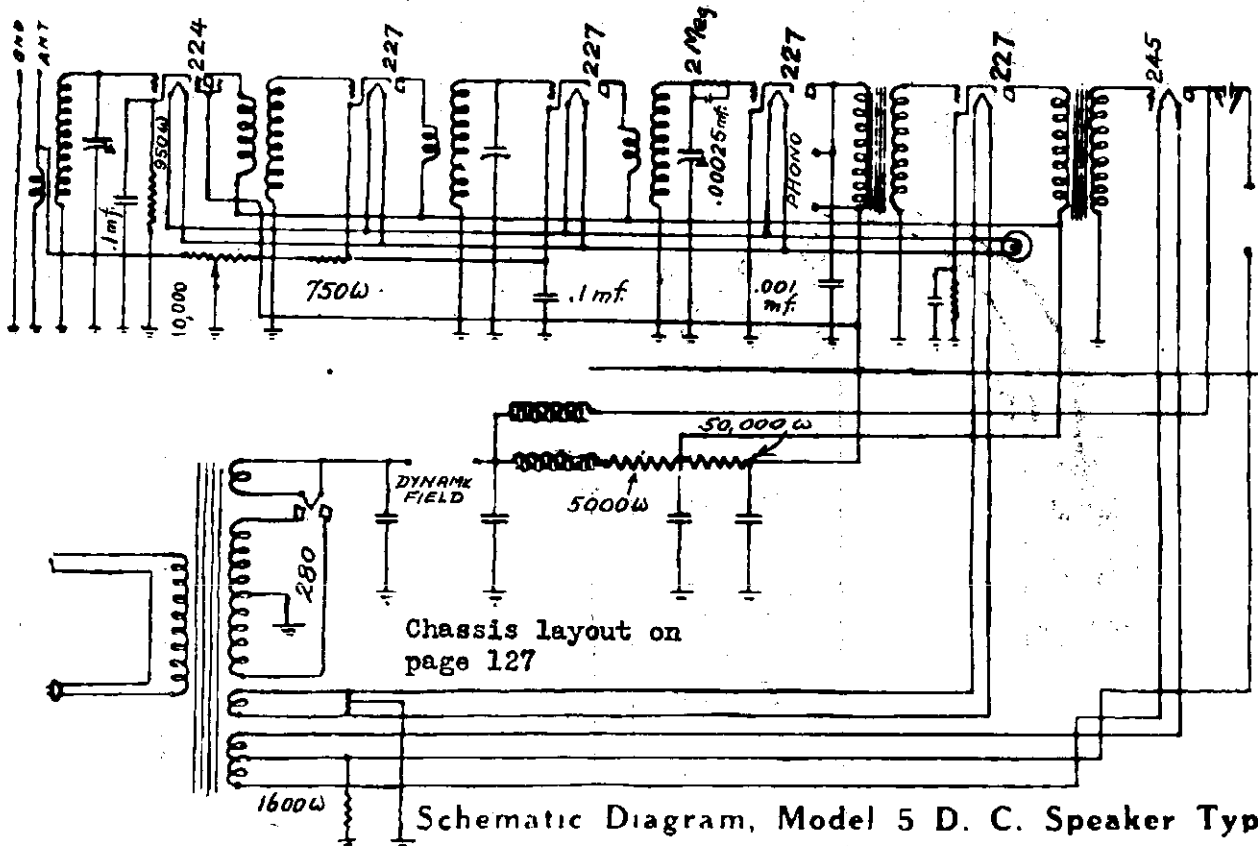
Two top contacts—2nd-detector screen by-pass and oscillator plate-circuit by-pass.  
Two bottom contacts—tone-control condensers.

ATCHISON RADIO MFG. CO.

MODEL 5 AC  
MODEL 5 DC



Schematic Diagram, Model 5 A. C. Speaker Type

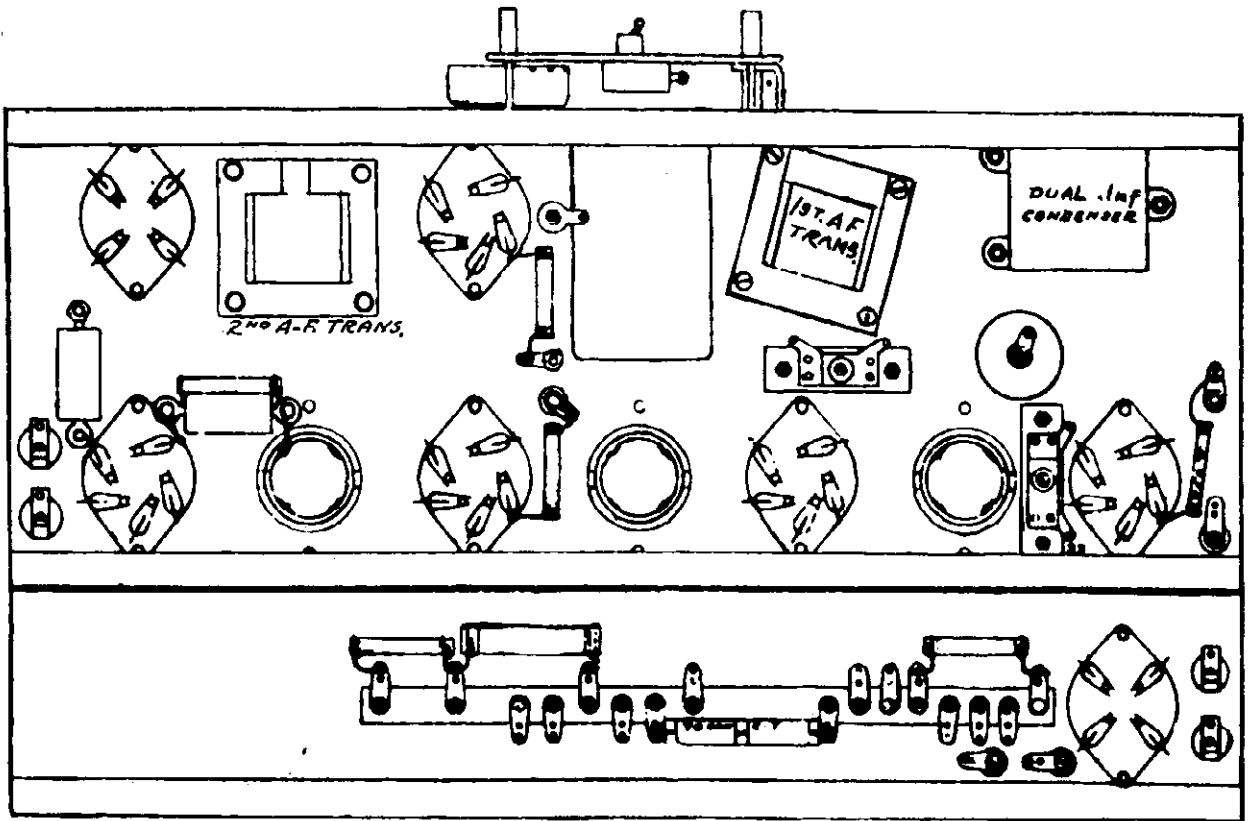


Schematic Diagram, Model 5 D. C. Speaker Type

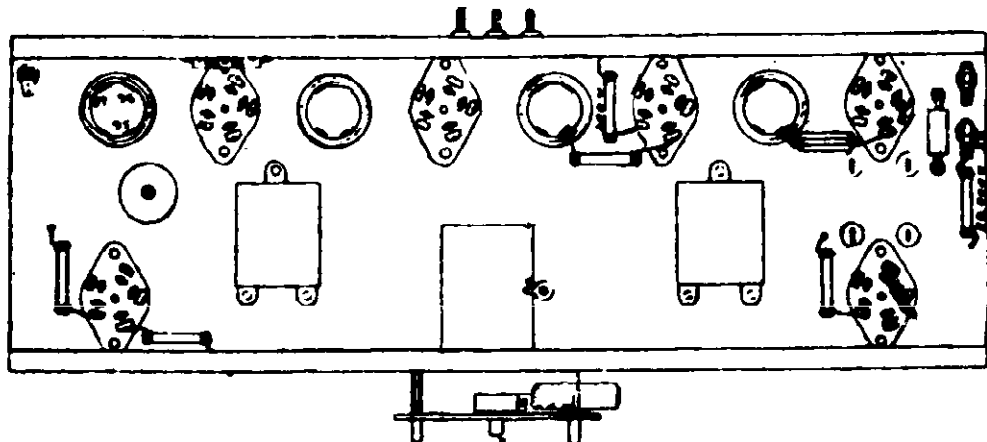


ATCHISON RADIO MFG. CO.

MODEL 5 Chassis  
MODEL 6 Chassis



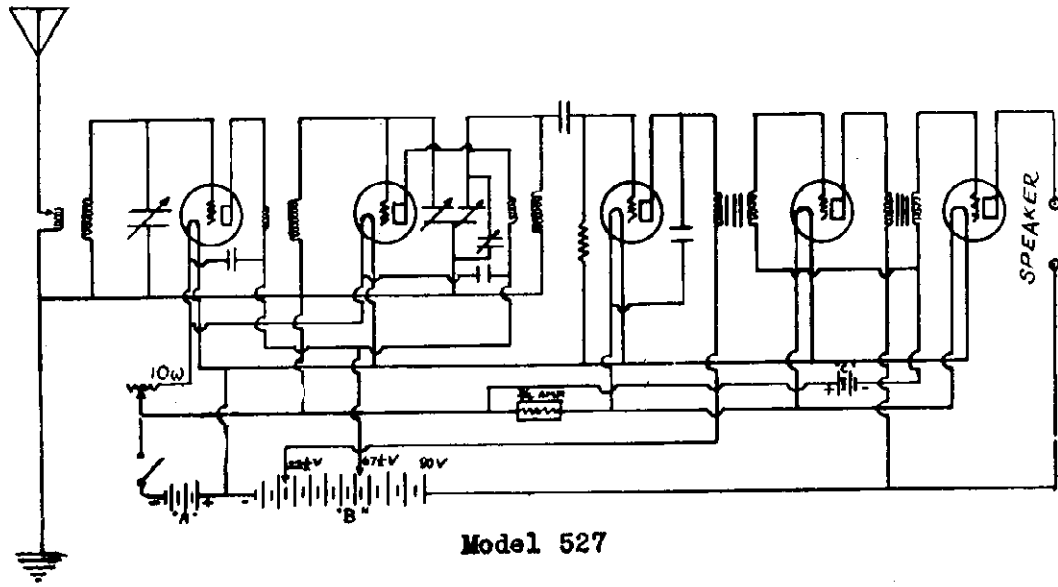
Model 5. Chassis Arrangement



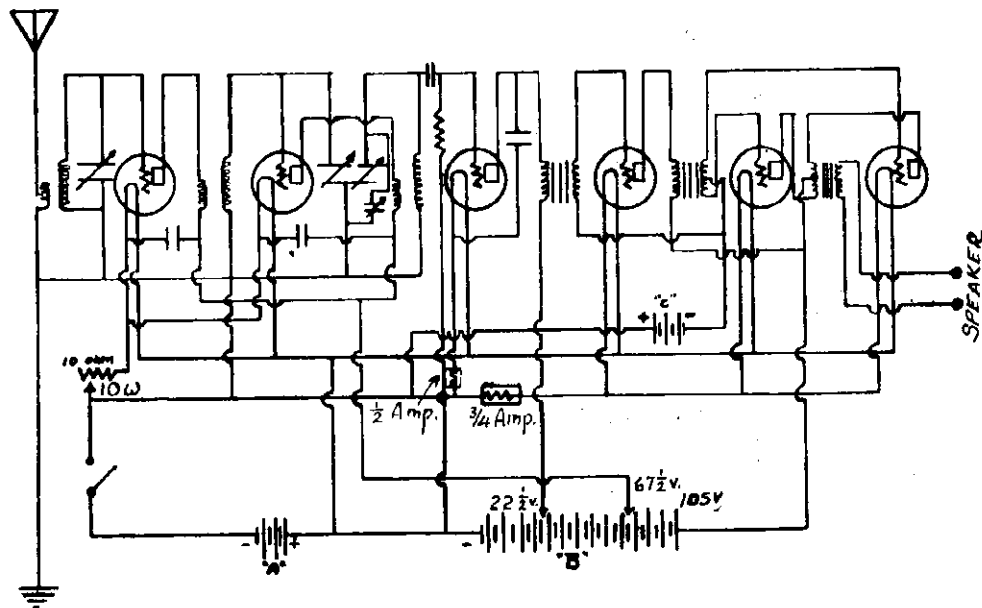
Model 6. Chassis Arrangement

AUDIOLA RADIO CO.

MODEL 527  
MODEL 627



Model 527

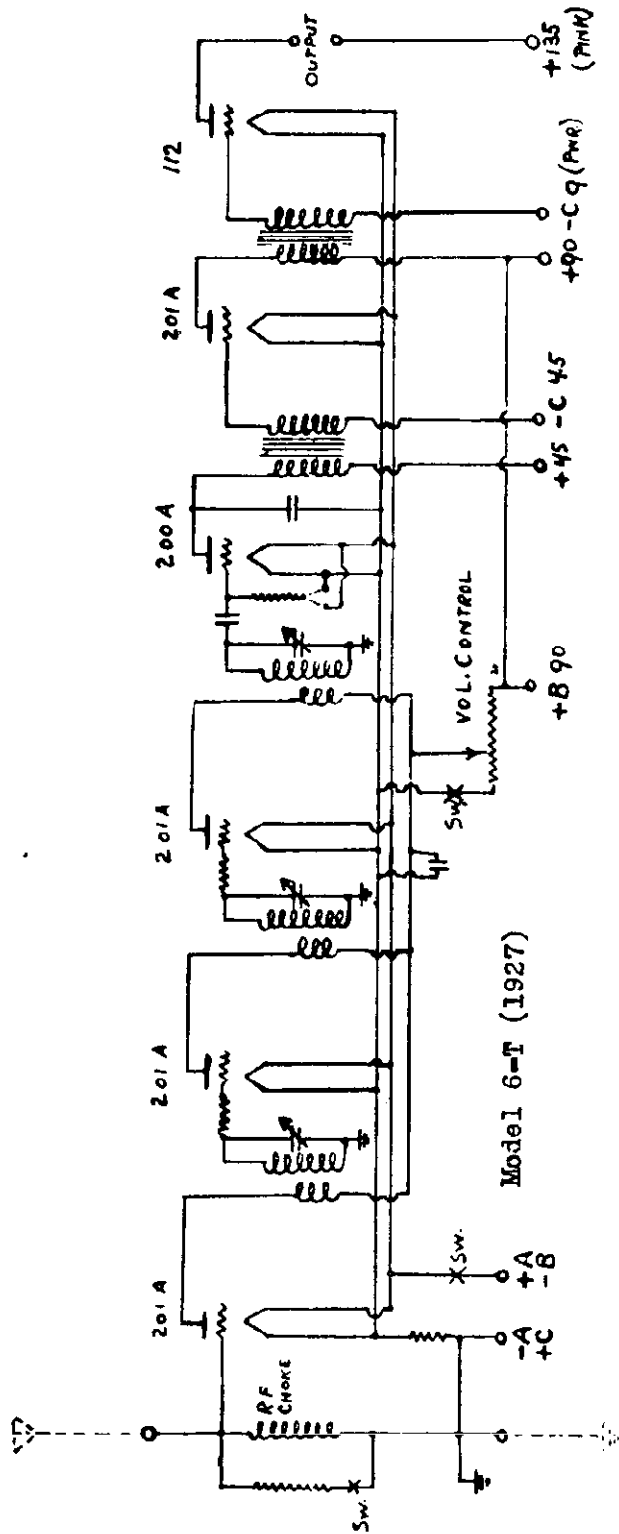


Model 627

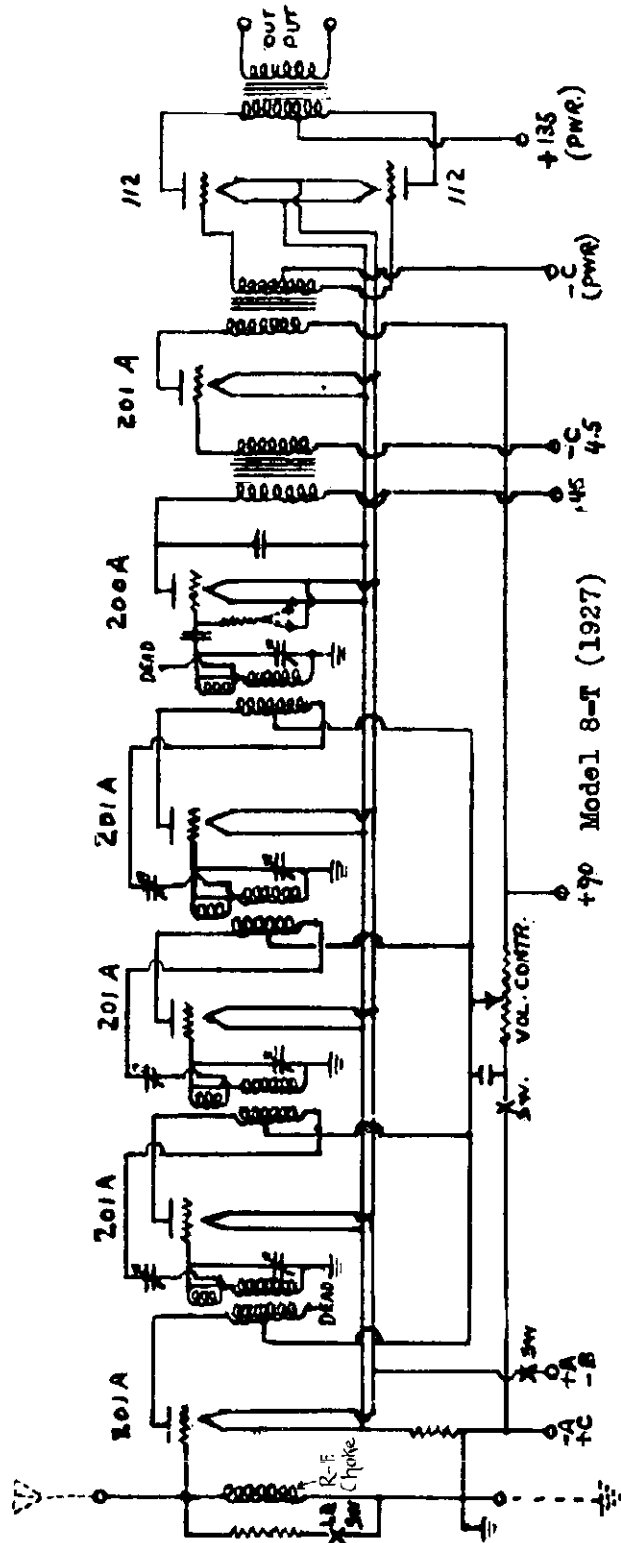


AUDIOLA RADIO CO.

MODEL 6-T (1927)  
 MODEL 8-T (1927)



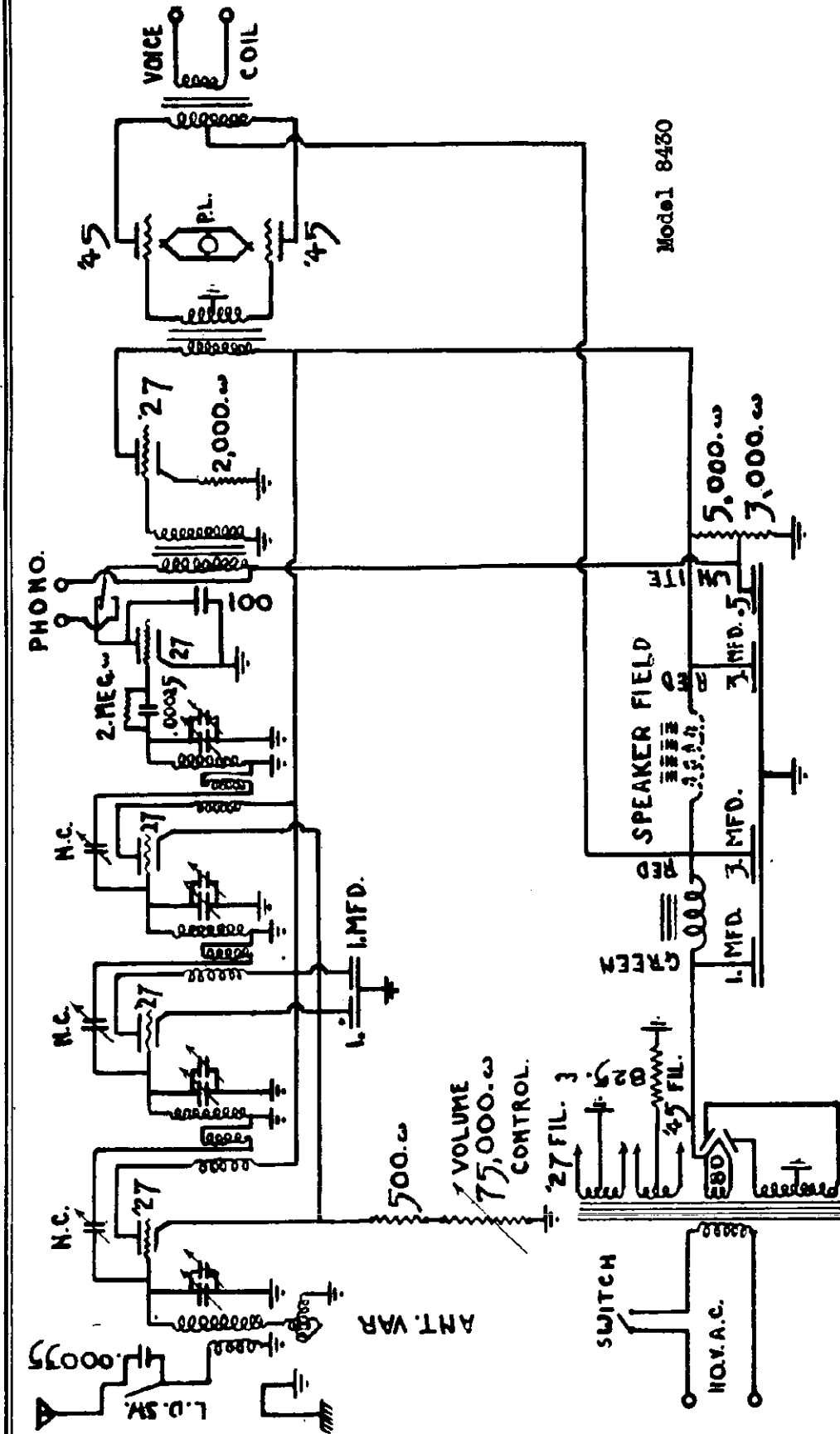
Model 6-T (1927)



Model 8-T (1927)

AUDIOLA RADIO CO.

MODEL 8430



Line Voltage 115 Volts. Volume control Maximum. Watts. 90-100.

	Plt. Crnt.
R-F	5. - 8. ma
Det.	2. - 4.
A-F (1st)	4. - 6.
A-F (2nd)	22. - 32.
Rect.	95. - 105.

	Grid
27	8-10
27	10-14
27	40-50

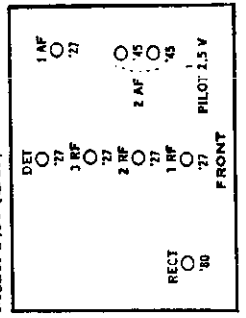
	Plate
27	135-150
27	80-80*
27	135-150
27	210-250

	Fil.
27	2.4
27	2.4
27	2.4
27	2.4
45	4.7-5.2

Voltage across field 80 - 100. Field current 40-50 ma.

Model 8430 (1929)

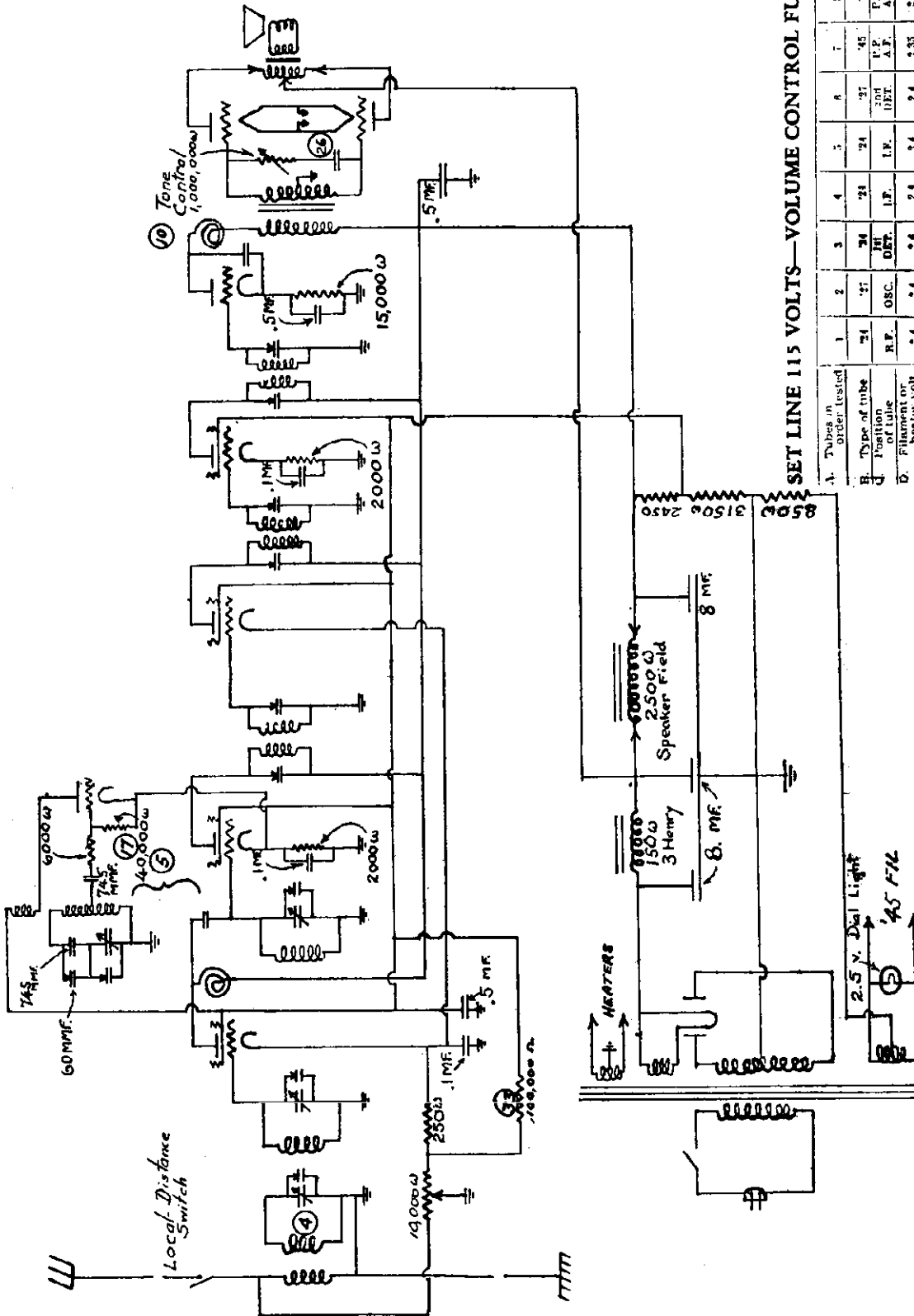






MODEL '31 Super

AUDIOLA RADIO CO.



SET LINE 115 VOLTS—VOLUME CONTROL FULL ON

A. Tubes in Order Listed	1	2	3	4	5	6	7	8	9
B. Type of tube	2A	25	25	25	25	25	25	25	25
C. Position of tube	R.F.	OSC.	I.F.	I.F.	I.F.	I.F.	I.F.	I.F.	RECT.
D. Filament or heater volt.	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.7
E. Plate voltage	100	80	100	100	100	100	100	100	200
F. Control grid voltage	2.5	...	5.0	5.5	1.9	1.9	1.9	1.9	...
G. Screen grid voltage	80	...	10	10	...	...	...	...	...
H. Cathode to heater	2.5	12.0	0.0	3.5	4.0	1.0	1.0	1.0	...
I. Plate current	4.0	97.0	3	3.0	2.0	1.0	1.0	1.0	5.0

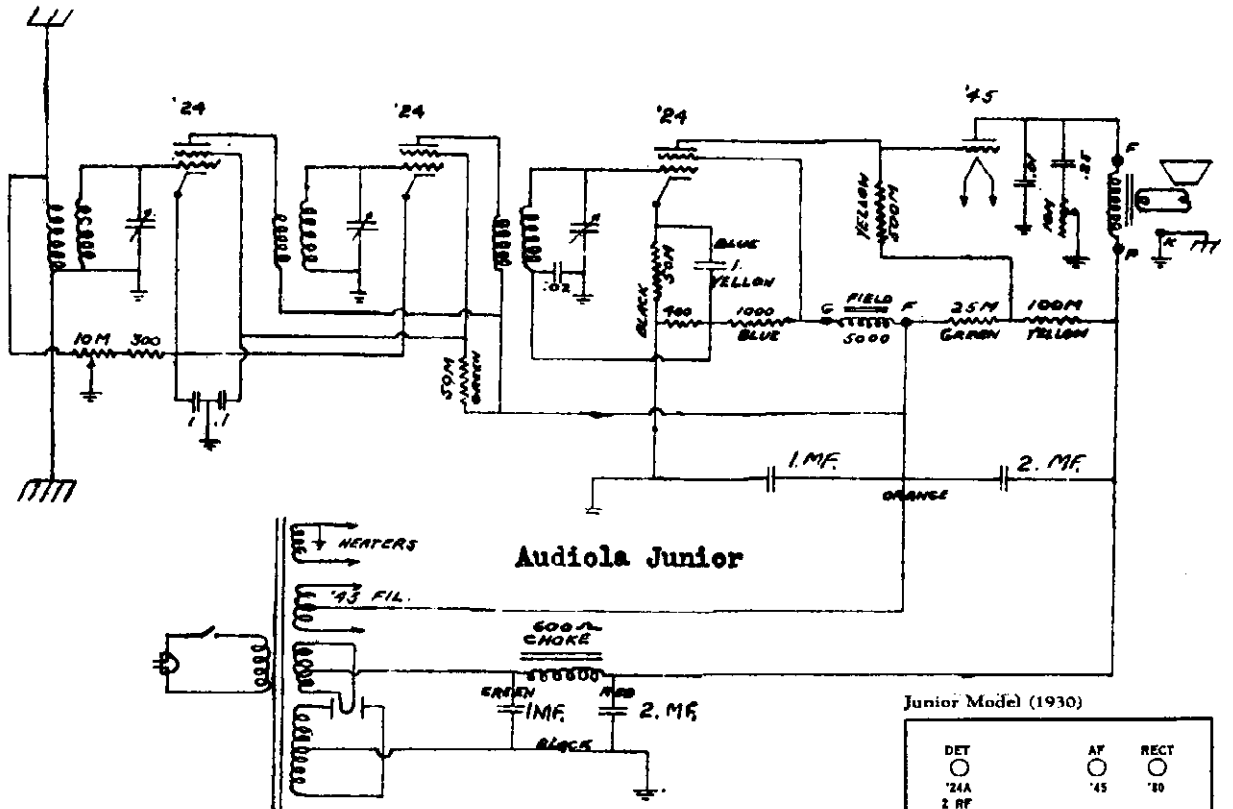
\*Non-Oscillating.

Model '31 Super

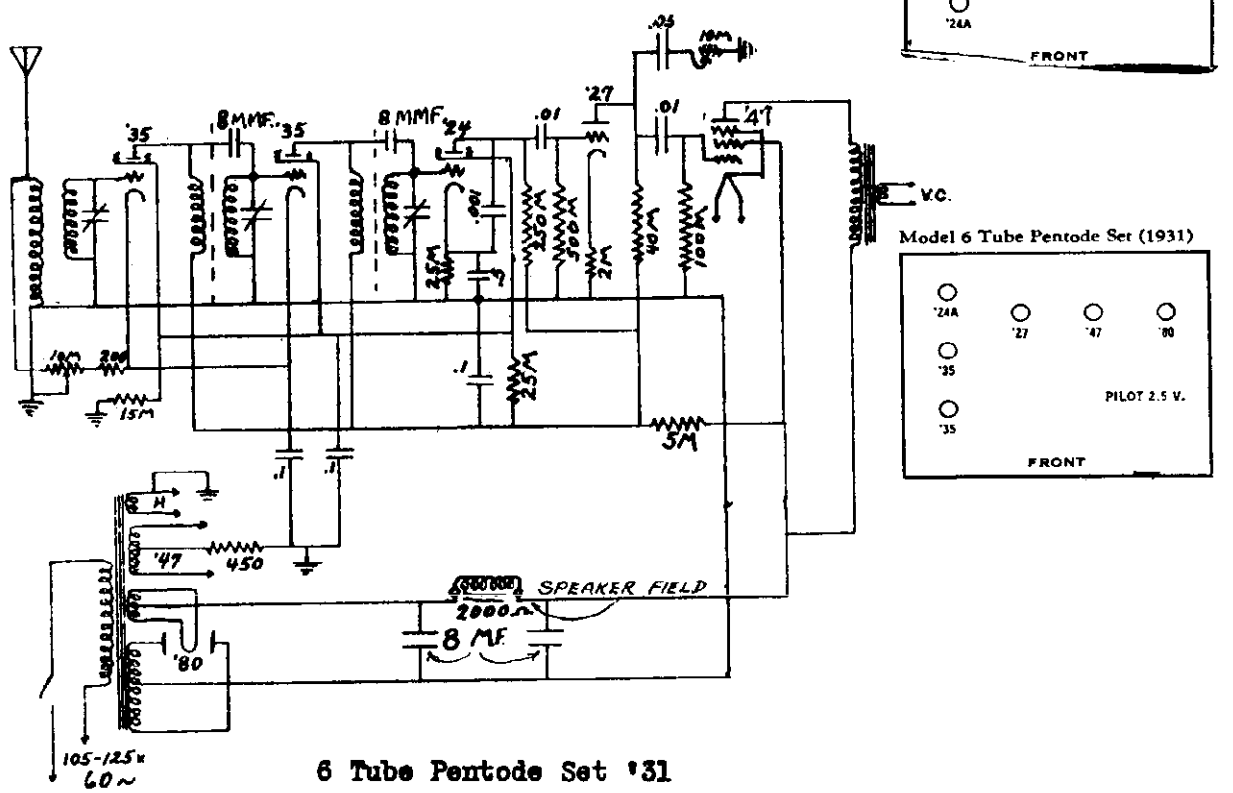
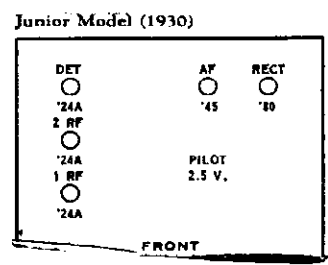
IF PEAK 175 KC

AUDIOLA RADIO CO.

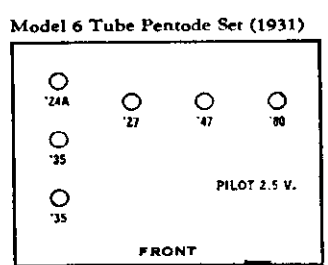
MODEL Audiola Jr.  
MODEL 6 Tube Pentode  
'31



Audiola Junior

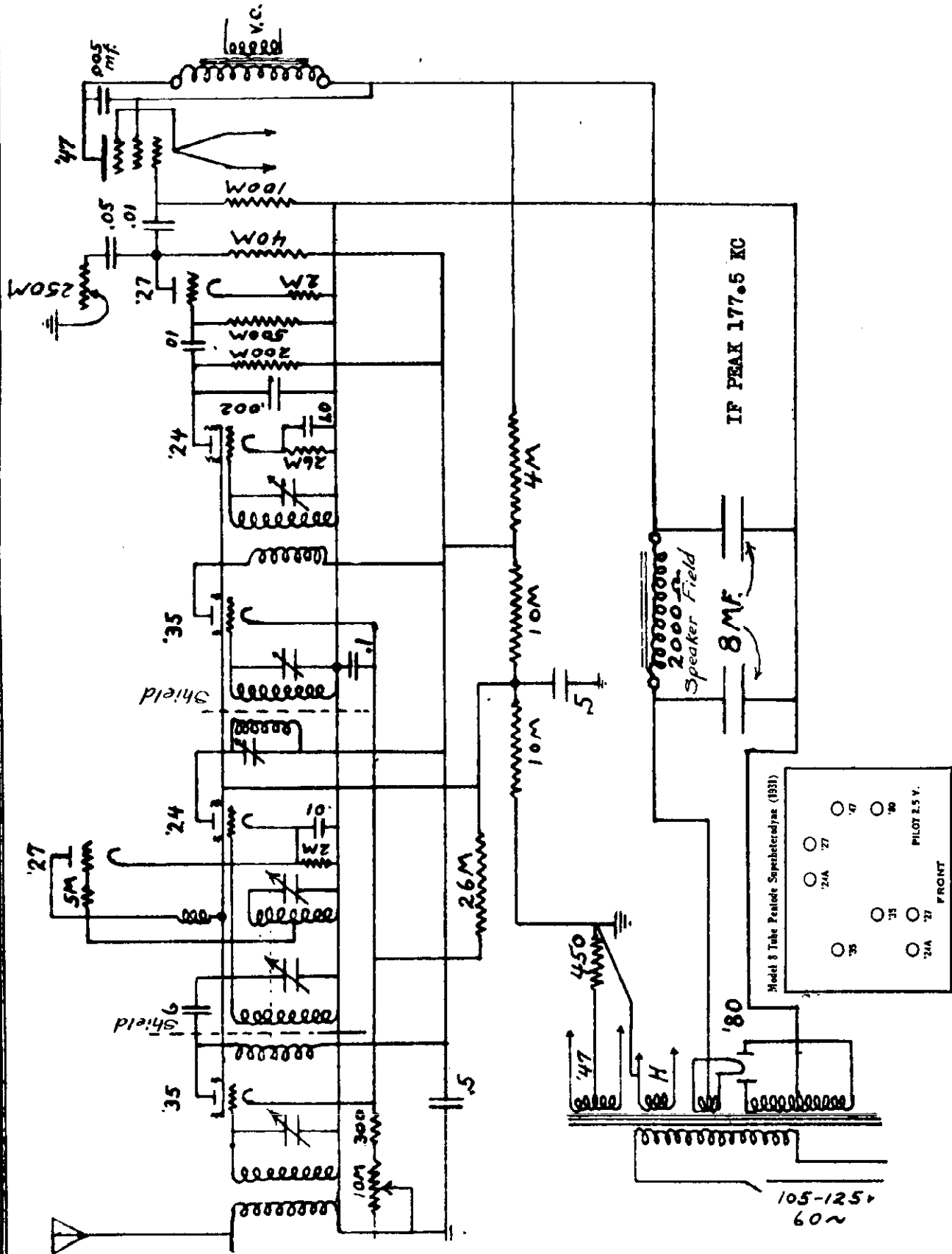


6 Tube Pentode Set '31



MODEL 8 Tube Super  
Pentode '31

AUDIOLA RADIO CO.



Model 8 Tube Pentode Superheterodyne (1931)

○ '24	○ '27	○ '30
○ '35	○ '37	○ PILOT 2.5 V.
○ '24	○ '27	FRONT

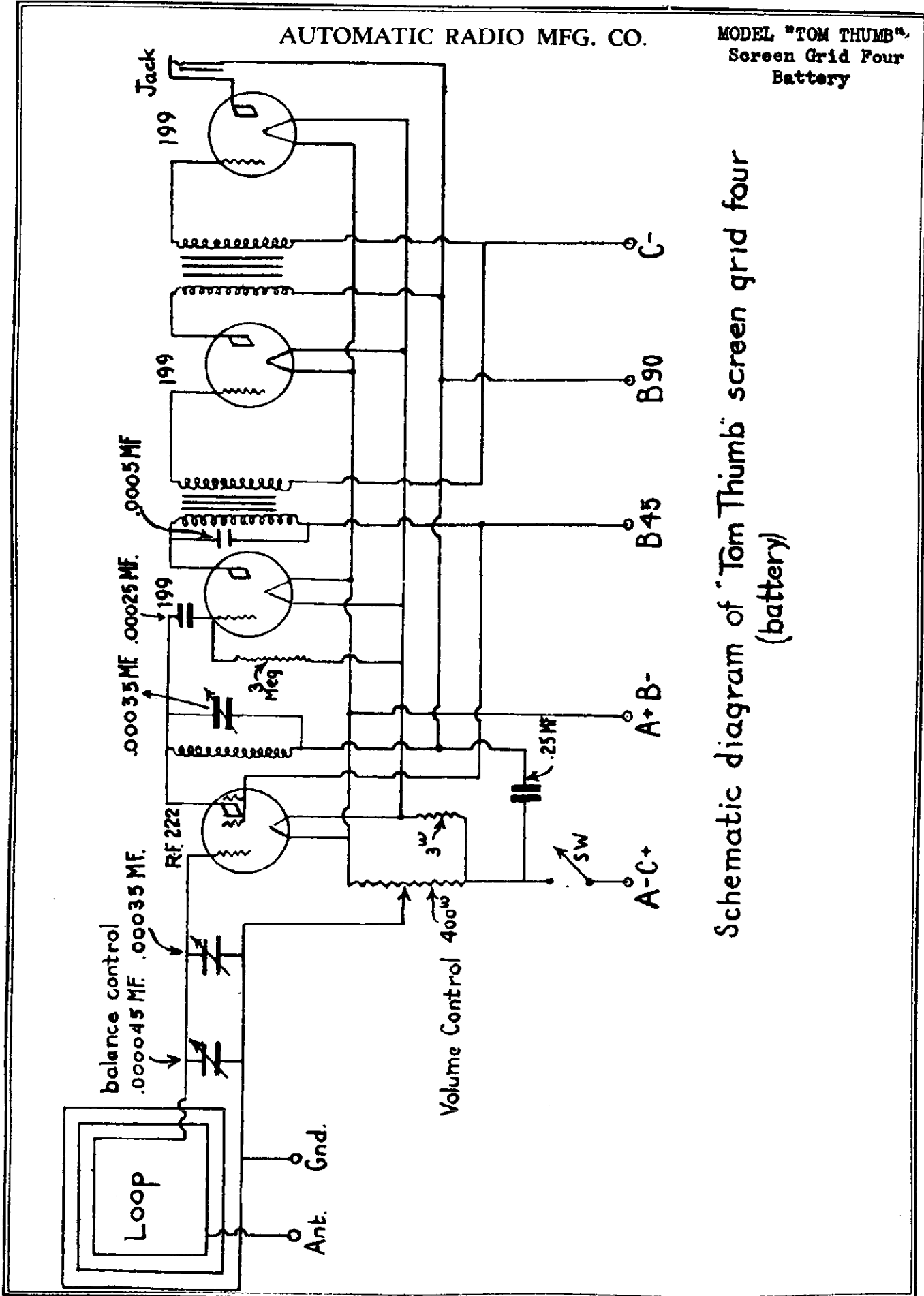






AUTOMATIC RADIO MFG. CO.

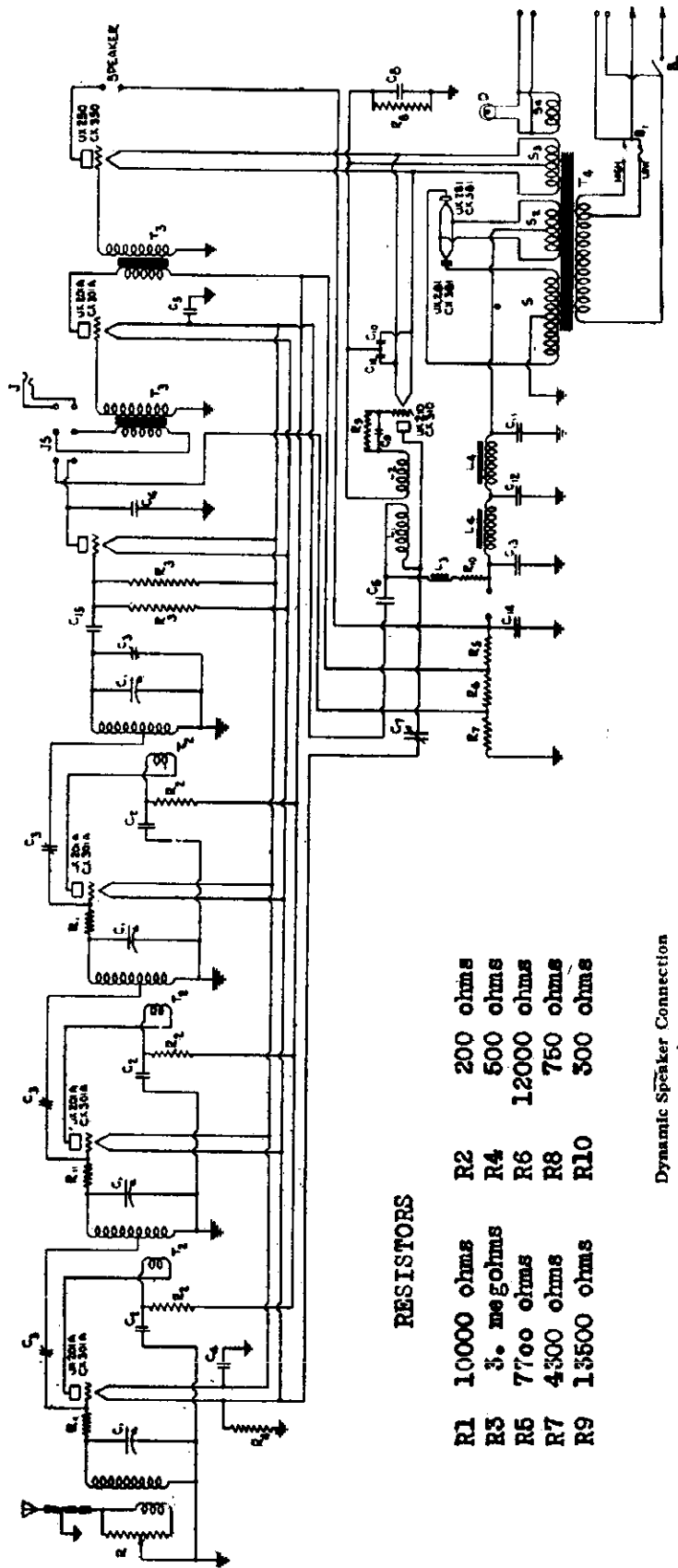
MODEL "TOM THUMB"  
Screen Grid Four  
Battery



Schematic diagram of "Tom Thumb" screen grid four  
(battery)

BALKEIT RADIO CO.

MODEL B-7 and B-9



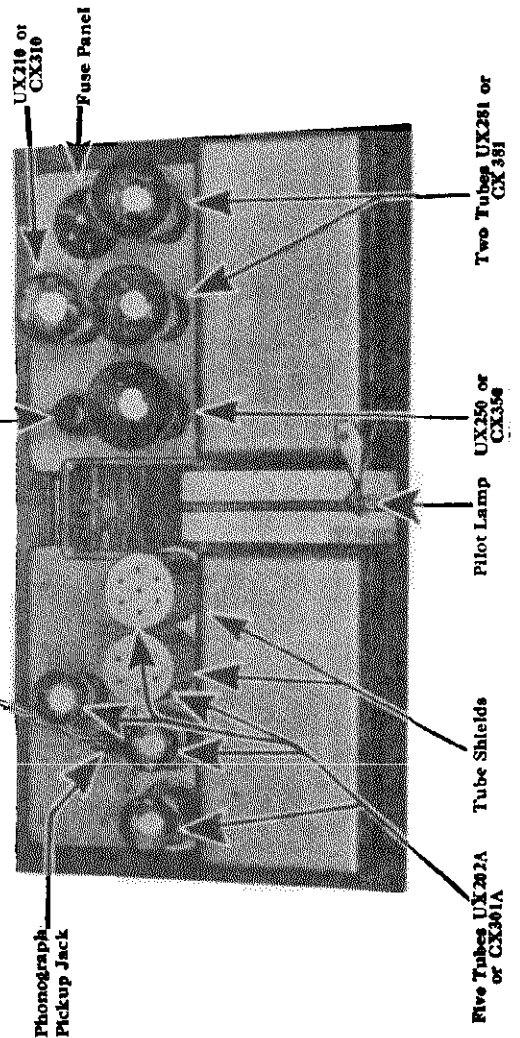
RESISTORS

- R1 10000 ohms
- R2 200 ohms
- R3 5. megohms
- R4 500 ohms
- R5 7700 ohms
- R6 12000 ohms
- R7 4300 ohms
- R8 750 ohms
- R9 13500 ohms
- R10 500 ohms

CONDENSERS

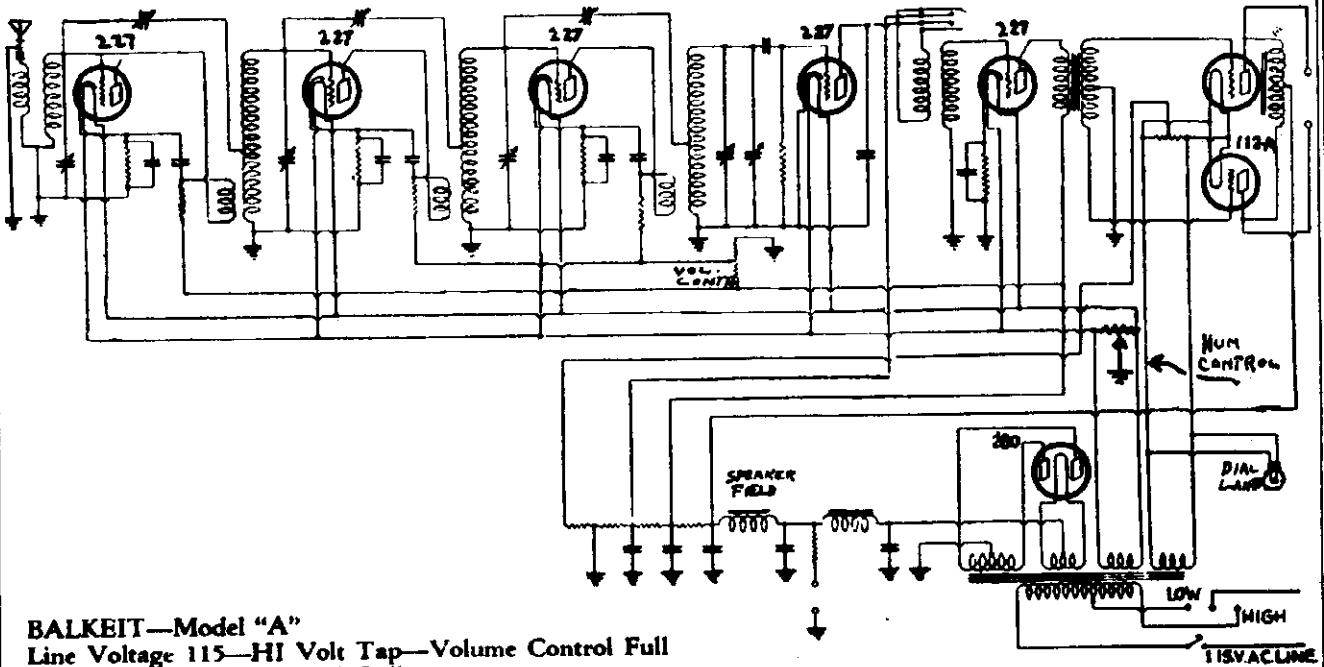
- C1 .00037 mfd
- C2 .1 mfd
- C3 .00002 mfd
- C4 .5 mfd
- C5 1. mfd
- C6 .006 mfd
- C7 .00025 mfd
- C8 2. mfd
- C9 .0025 mfd
- C10 .002 mfd
- C11 2. mfd
- C12 3. mfd
- C13 4. mfd
- C14 4. mfd
- C15 .00015 mfd

Dynamic Speaker Connection



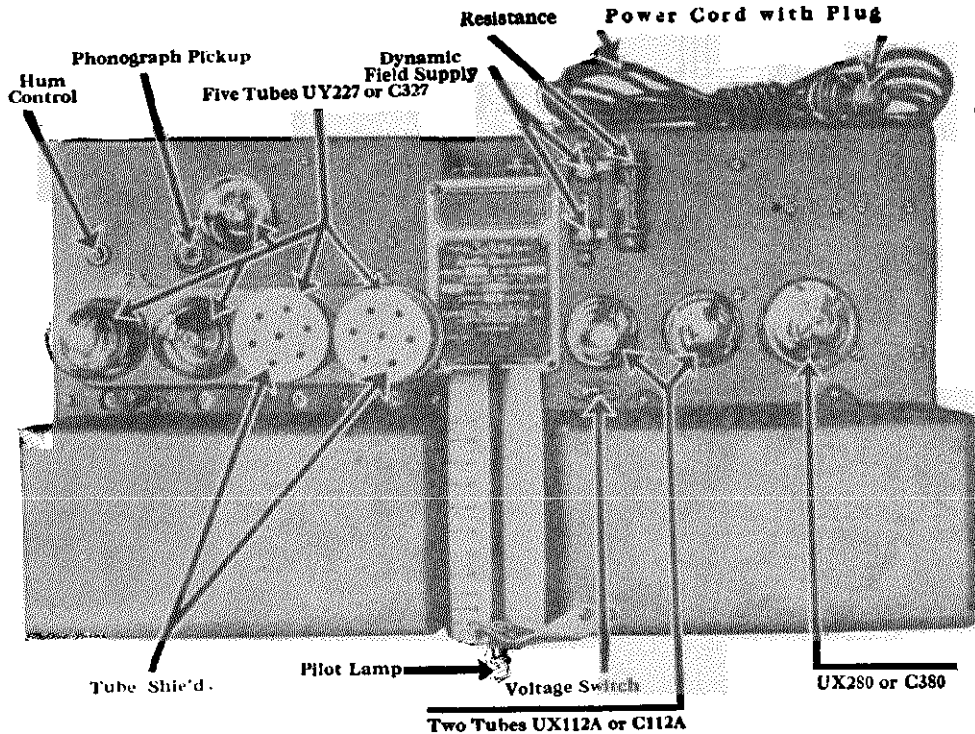
MODEL A-3, A-5, A-7

BALKEIT RADIO CO.



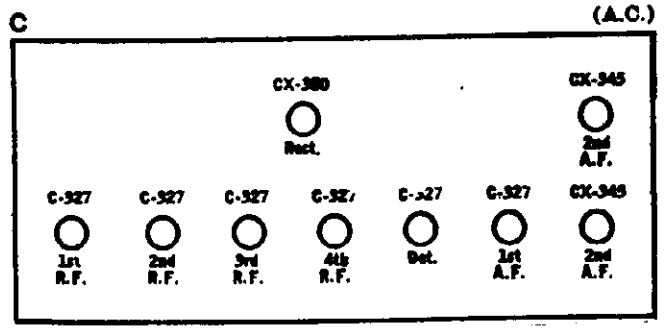
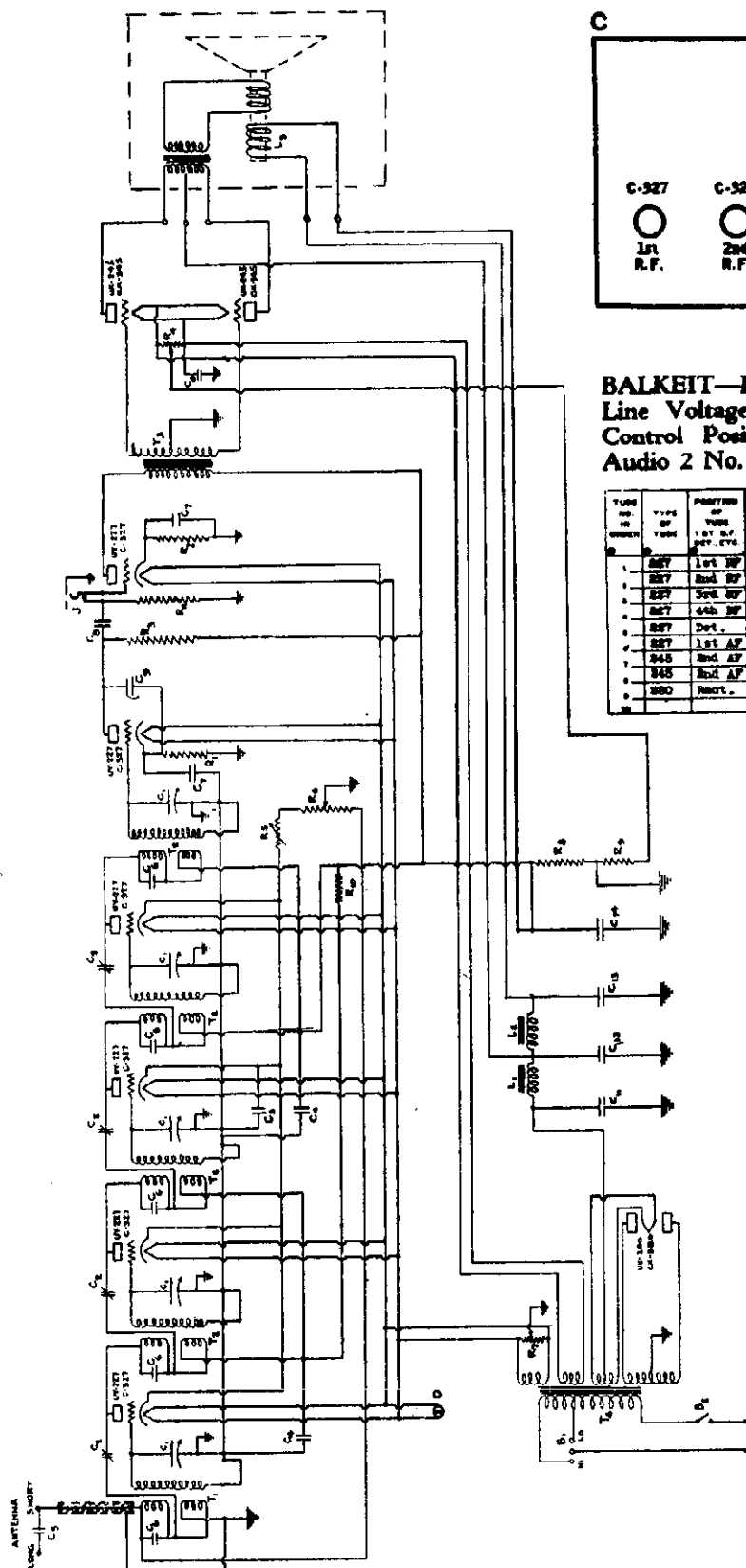
**BALKEIT—Model "A"**  
 Line Voltage 115—HI Volt Tap—Volume Control Full  
 2nd A. F.—Two Tubes Push Pull

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST, 2ND, DET., ETC.)	BENCHMANS PLUGS IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	D VOLTS	DIODE VOLTS	NORMAL PLATE VOLTAGE	PLATE P.A. SUPPLY TEST	PLATE P.A. SUPPLY
1	227	1st. A.F.	2.5	98	2.1	84	5	-	3.1	4.5	2.4	
1	227	2nd. A.F.	2.5	98	2.1	84	5	-	3.1	4.5	2.4	
1	227	3rd. A.F.	2.5	98	2.1	84	5	-	3.1	4.5	2.4	
1	227	Detector	2.5	46	2.1	50	0	-	2.2	2.4	0.2	
1	227	4th. A.F.	2.5	98	2.1	84	5	-	3.1	4.5	2.4	
1	112A	2nd. A.F.	4.7	142	4.5	132	9.5	-	9.0	15.8	4.8	
1	112A	2nd. A.F.	4.7	142	4.5	132	9.5	-	9.0	15.8	4.8	
1	280	Rectifier	-	-	4.5	-	-	-	32.0	-	-	



MODEL "C"

BALKEIT RADIO CO.



**BALKEIT—Model "C"**  
 Line Voltage 115—Set on High Volt Tap—Volume Control Position Full On—Use 120 V. Scale—2nd Audio 2 No. 245 in Parallel

TUBE NO. IN CHASSIS	TYPE OF TUBE	POSITION OF TUBE 1ST. SEC. SEC. CYC.	TUBE DATA					TUBE IN TESTER				
			A VOLTS	G VOLTS	B VOLTS	C VOLTS	D VOLTS	WARMUP VOLTS	OPERATING PLATE VOLTS	OPERATING PLATE CURR. MA.	OPERATING PLATE CURR. MA.	OPERATING PLATE CURR. MA.
1	6X7	1st RF	2.35	118	2.4	117	10	10	3.5	2.5	.5	-
2	6X7	2nd RF	2.35	118	2.4	117	10	10	3.5	2.5	.5	-
3	6X7	3rd RF	2.35	118	2.4	117	10	10	3.5	2.5	.5	-
4	6X7	4th RF	2.35	118	2.4	117	10	10	3.5	2.5	.5	-
5	6X7	Det.	2.35	68	2.4	68	8.5	8.5	0.2	0.2	.2	-
6	6X7	1st AF	2.35	118	2.4	117	8	7.5	4.5	0.2	1.0	-
7	6X5	2nd AF	2.4	-	2.3	225	41	-	84	20	4.	-
8	6X5	2nd AF	2.4	-	2.3	225	41	-	84	20	4.	-
9	6X0	Rect.	-	-	6.75	-	-	-	84	-	-	-

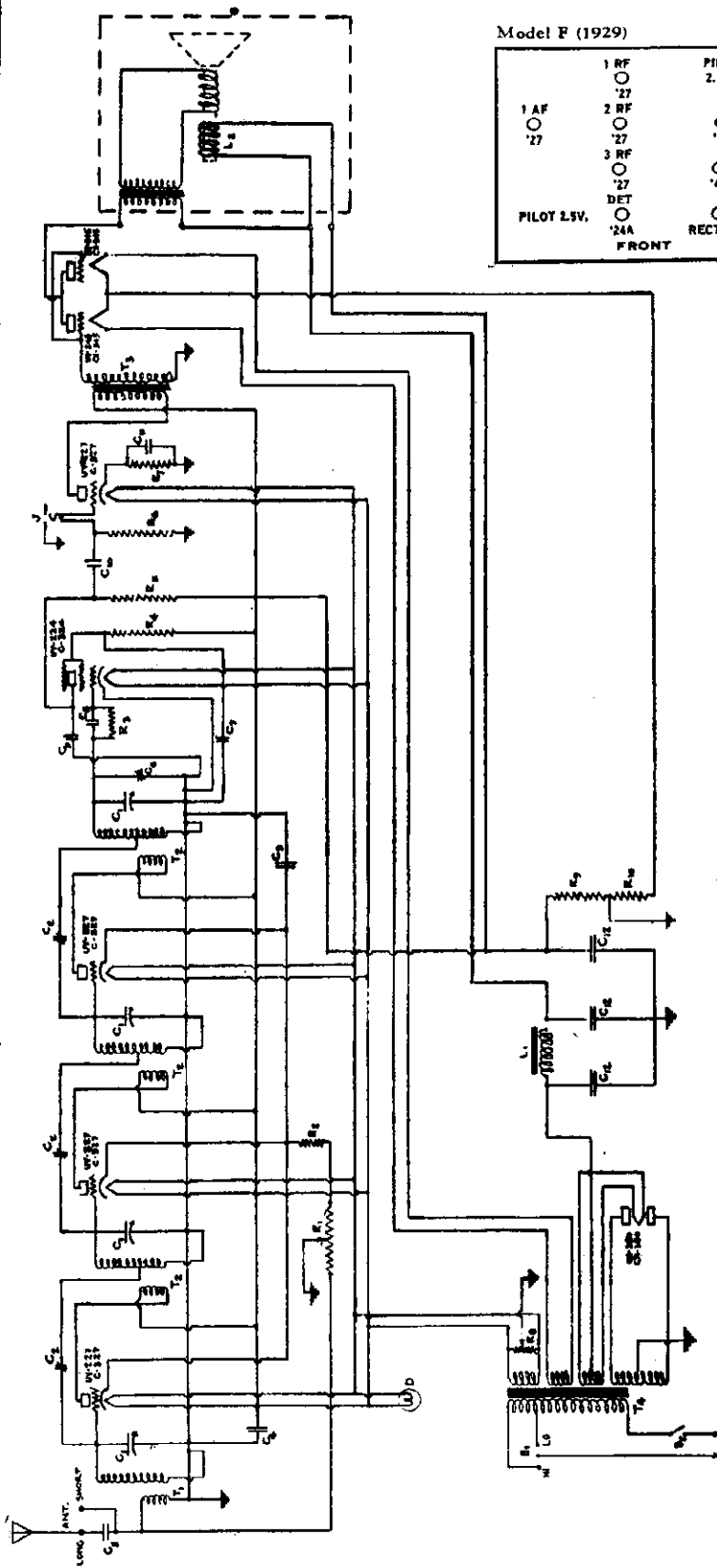
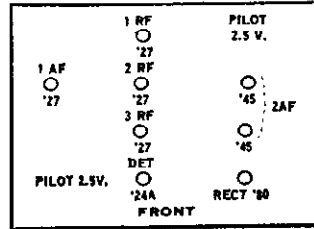
- C-1 Tuning Condenser
- C-2 Neutralizing Condenser
- C-3 R. F. Grid Bias Condenser .25 MF
- C-4 R. F. Plate By-Pass Condenser .25 MF
- C-5 Antenna Condenser .00025 MF
- C-6 Primary By-Pass Condenser .00025 MF
- C-7 Grid Bias Condenser 1.0 MF
- C-8 1st Audio Coupling Condenser 0.1 MF
- C-9 Detector Plate Condenser .002 MF
- C-10 By-Pass Condenser .25 MF
- C-11 Filter Condenser 2 MF
- C-12 Filter Condenser 2 MF
- C-13 Filter Condenser 2 MF
- C-14 Filter Condenser 1 MF
- J Phonograph Jack
- L-1 Filter Choke
- L-2 Filter Choke
- L-3 Speaker Field
- R-1 Detector Grid Bias Resistance 25,000 Ohms
- R-2 1st Audio Grid Bias Resistance 1,750 Ohms
- R-3 1st Audio Coupling Resistance .1 Megohm
- R-4 Mid-Tap Resistance 20 Ohms
- R-5 R. F. Grid Bias Resistance 2,000 Ohms
- R-6 Volume Control 15,000 Ohms
- R-7 Hum Control 20 Ohms
- R-8 Load Current Resistance 3,600 Ohms
- R-9 245 Grid Bias Resistance 770 Ohms
- R-10 R. F. Plate Resistance
- R-11 1st Audio Grid Resistance .5 Megohm
- T-1 Antenna Transformer
- T-2 R. F. Interstage Transformer
- T-3 Input Push-Pull Transformer
- T-4 Power Transformer
- B-1 HI-LO S.P.D.T. Toggle Switch
- B-2 S.P.S.T. Toggle Switch
- D Dial Lamp

Chassis layout on next page.

MODEL "F"

BALKEIT RADIO CO.

Model F (1929)



**BALKEIT—Model "F"**  
 Line Voltage 115—Set on High Volt Tap—Volume Control Position Full On Last Stage Is 2 No. 245 in Parallel

Tune Knob	Tune Knob	TUNE SET		TUNE IN TUNING		TUNE IN TUNING		TUNE IN TUNING	
		1st A.F.	2nd A.F.	1st A.F.	2nd A.F.	1st A.F.	2nd A.F.	1st A.F.	2nd A.F.
1	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
2	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
3	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
4	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
5	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
6	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
7	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
8	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
9	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
10	247	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

- C<sub>1</sub> Tuning Condenser.
- C<sub>2</sub> Neutralizing Condenser.
- C<sub>3</sub> R.F. Grid Bias Condenser .25 MF.
- C<sub>4</sub> R.F. Plate By-Pass Condenser .25 MF.
- C<sub>5</sub> Antenna Condenser .00025 MF.
- C<sub>6</sub> Det. Padding Condenser.
- C<sub>7</sub> Det. Screen Grid Bias Condenser .25 MF.
- C<sub>8</sub> Det. Control Grid Condenser .0001 MF.
- C<sub>9</sub> Det. Plate Condenser .0005 MF.
- C<sub>10</sub> 1st Audio Coupling Condenser 0.1 MF.
- C<sub>11</sub> 1st Audio Grid Condenser 0.5 MF.
- C<sub>12</sub> Filter Condensers 8.0 MF Each.
- L<sub>1</sub> Filter Choke.
- L<sub>2</sub> Speaker Field 2500 Ohms.
- J Phonograph Jack.
- D Dial Lamp.
- R<sub>1</sub> Volume Control 15,000 Ohms.
- R<sub>2</sub> R.F. Grid Bias Resistance 620 Ohms.
- R<sub>3</sub> Det. Control Grid Resistance .5 Megohm
- R<sub>4</sub> Det. Screen Grid Resistance .1 Megohm
- R<sub>5</sub> 1st Audio Coupling Resistance .1 Megohm.
- R<sub>6</sub> 1st Audio Grid Resistance .5 Megohm.
- R<sub>7</sub> 1st Audio Grid Bias Resistance 1750 Ohms.
- R<sub>8</sub> Hum Control 20 Ohms.
- R<sub>9</sub> Loss Current Resistance 4500 Ohms
- R<sub>10</sub> 245 Grid Bias Resistance 650 Ohms
- T<sub>1</sub> Antenna Transformer.
- T<sub>2</sub> R.F. Inter stage Transformer.
- T<sub>3</sub> Input Audio Transformer
- T<sub>4</sub> Power Transformer.
- B<sub>1</sub> Hi-Lo S.P.D.T. Toggle Switch.
- B<sub>2</sub> S.P.S.T. Toggle Switch.

Chassis layout on next page

BALKITE PRODUCTS CO.

SPECIFICATIONS

## Balkite Models and Specifications

### Current Models

#### Balkite AB 6-180, "A" and "B" Current Supply

	Max. Output	
"A"	6 volts	2 amperes
"B"	180	55 m.a.

B Voltages, 180, 135, 90, 67½, 45 or 22½

Consumption: watts 127  
Dimensions: 10¼" x 18½" x 7¾"

#### Balkite AB 6-135, "A" and "B" Current Supply.

	Max. Output	
"A"	6 volts	2 amperes
"B"	135	40 m.a.

B Voltages, 135, 90, 67½, 45 or 22½

Consumption: watts 117  
Dimensions: 10¼" x 18½" x 7¾"

#### Balkite A-6, "A" Current Supply.

	Output	
6 volts		2 amperes

Consumption: watts 100  
Dimensions: 6" x 10¾" x 8⅜"

#### Balkite B-180, "B" Current Supply.

	Output	
180 volts		55 m.a.

Voltages, 180, 135, 90, 67½ and 45 or 22½

Consumption: watts 27  
Dimensions 4½" x 12¾" x 8¾"

#### Balkite B-135, "B" Current Supply.

	Output	
135 volts		40 m.a.

Voltages, 135, 90, 67½ and 45 or 22½

Consumption: watts 17  
Dimensions: 4½" x 8¼" x 8⅝"

#### Balkite BW, "B" Current Supply.

	Output	
90 volts		18 m.a.

Voltage, 90 and 45 or 22½

Consumption: watts 6  
Dimensions: 3⅝" x 7⅝" x 8¾"

#### Balkite Model J Charger, Full Rate and Trickle Charger

Charging Rates

High Rate, 2½ amperes  
Low Rate, ½ ampere

Consumption: watts 60  
Dimensions: 5⅜" x 8½" x 7⅝"

#### Balkite Model N Trickle Charger, Trickle Charger

Charging Rates

High Rate, .8 ampere  
Low Rate, .5 ampere

Consumption: watts 20  
Dimensions: 4½" x 7½" x 6¼"

#### Balkite Model K Trickle Charger, Trickle Charger

Charging Rate, .5 ampere

Consumption: watts 15  
Dimensions: 2¾" x 5½" x 5¼"

### Previous Models

#### Balkite BY, "B" Current Supply.

Output

150 volts 40 milliamperes

Voltages, 150, 135, 90, 67½ and 45 or 22½

Consumption: watts 17  
Dimensions: 4½" x 12¾" x 8¾"

#### Balkite BX, "B" Current Supply.

Output

135 volts 30 milliamperes

Voltages, 135, 90, 67½ and 45 or 22½

Consumption: watts 12  
Dimensions: 4½" x 8¼" x 8⅝"

#### Balkite Combination, Model "KX", "B" Current Supply and Trickle Charger.

"B" Output

135 volts 30 milliamperes

"B" Voltages, 135, 90, 67½ and 45 or 22½

"A" Charging Rate, 0.5 ampere

Consumption: watts 17  
Dimensions: 13¼" x 4½" x 8⅝"

#### Balkite "B", Model D, "B" Current Supply.

Output

90 volts 20 milliamperes

Voltages, 90, 45 or 22½

Consumption: watts 7  
Dimensions: 3⅝" x 7⅝" x 8¾"

#### Balkite BII, "B" Current Supply.

Output

90 volts 40 milliamperes

Voltages, 90, 45, 22½

Consumption: watts 10

#### Balkite Model H Charger, High Rate Charger.

Charging Rate, 2½ amperes

Consumption: watts 60

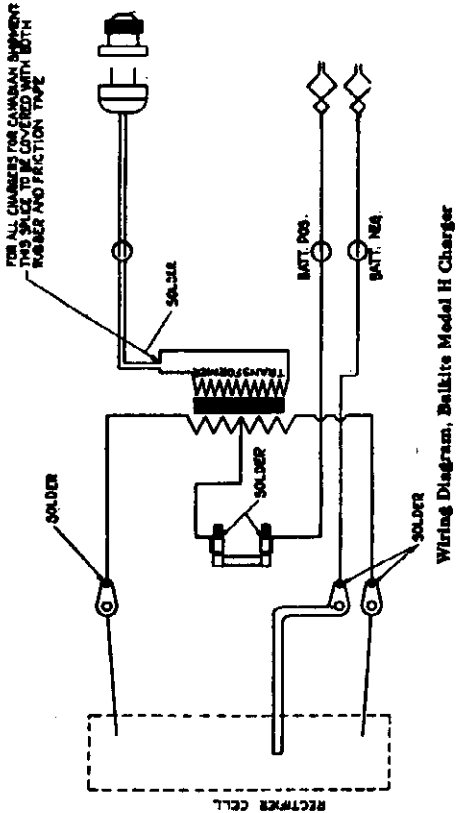
#### Balkite Model A Charger, High Rate Charger.

Charging Rate, 3 amperes

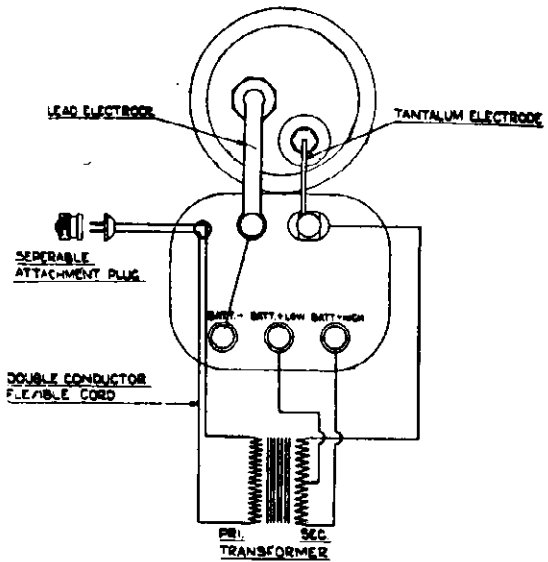
Consumption: watts 80

MODEL H - J Chargers  
 MODEL K - N Chargers

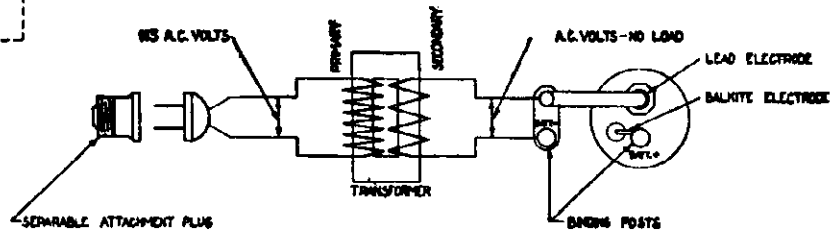
BALKITE PRODUCTS CO.



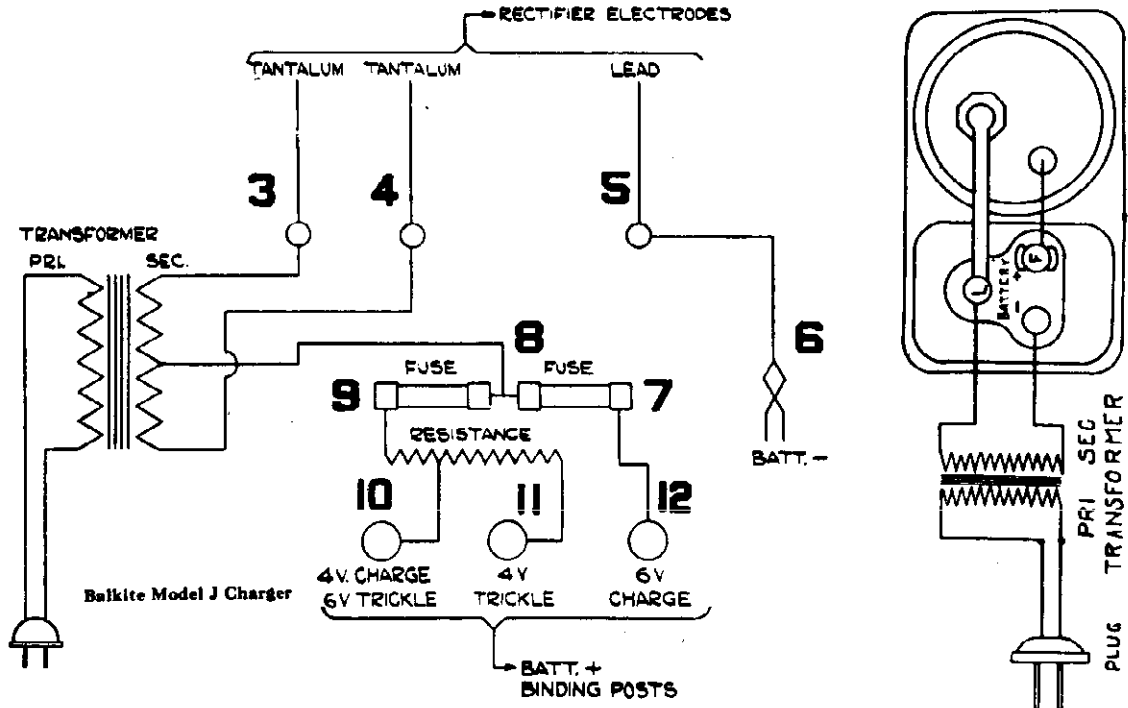
Wiring Diagram, Balkite Model H Charger



Wiring Diagram, Balkite Model N Charger



Wiring Diagram, Balkite Model K, Trickle Charger

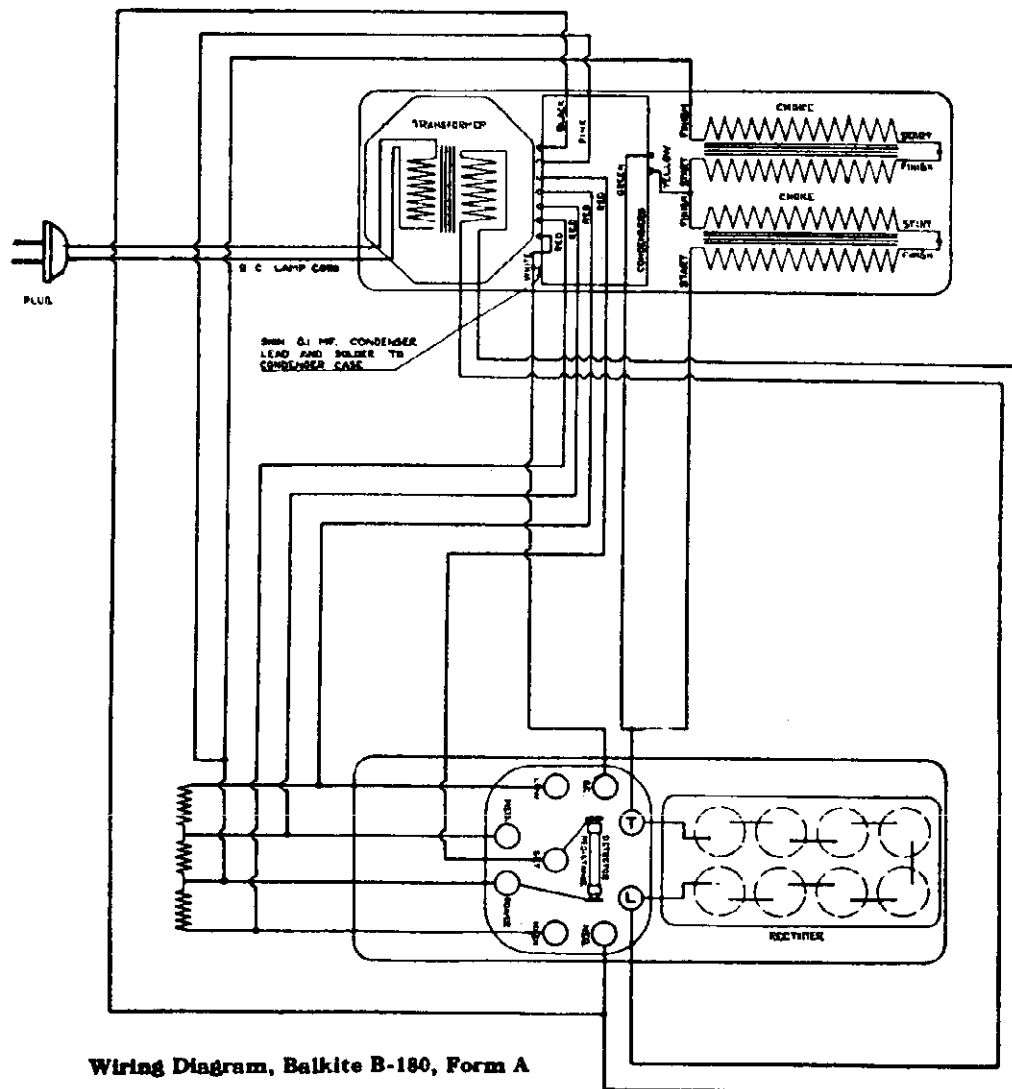
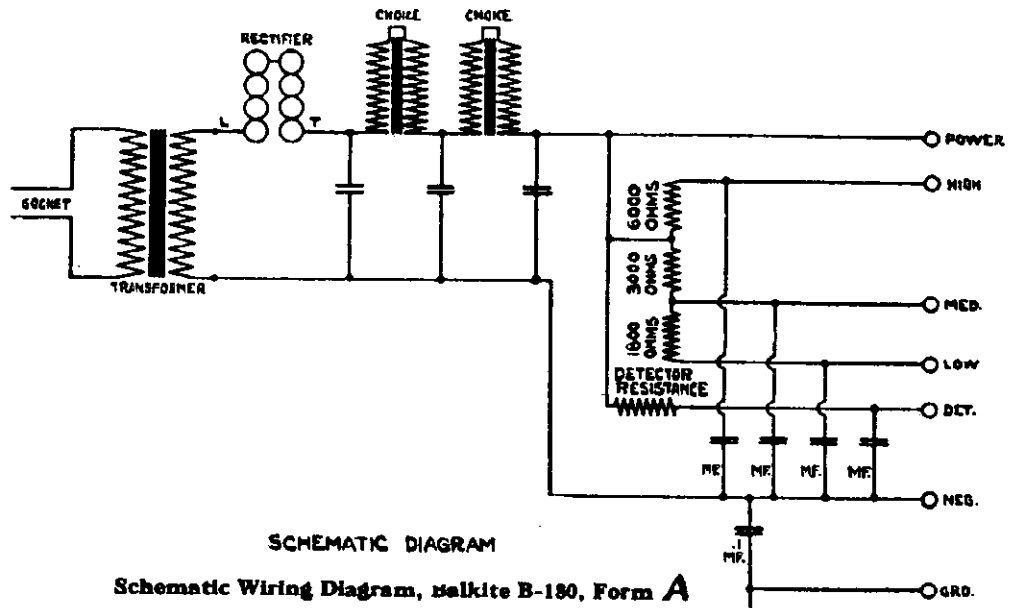


Wiring Diagram, Balkite Model J, Trickle Charger



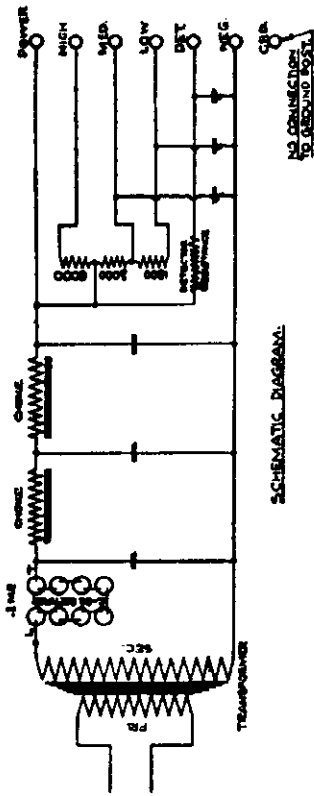
MODEL B-180 Form A

BALKITE PRODUCTS CO.



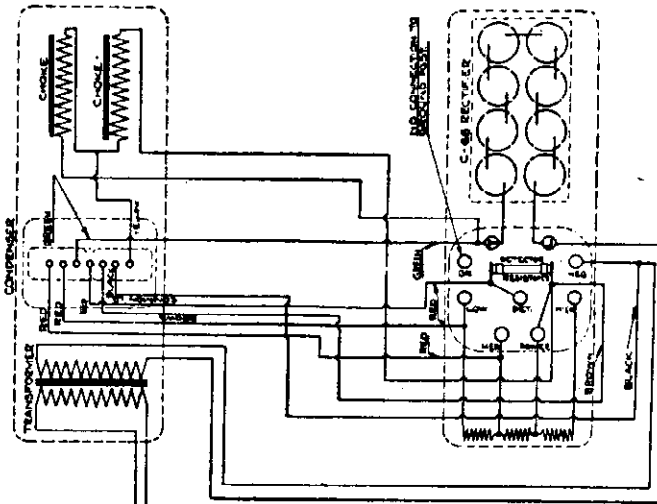
MODEL AB-6-180 Form A  
 MODEL B-180 Form B

BALKITE PRODUCTS CO.

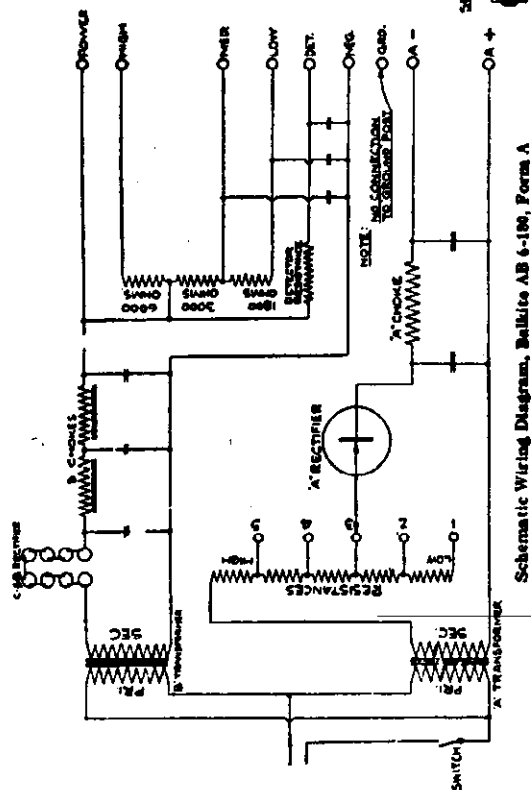


Schematic Diagram

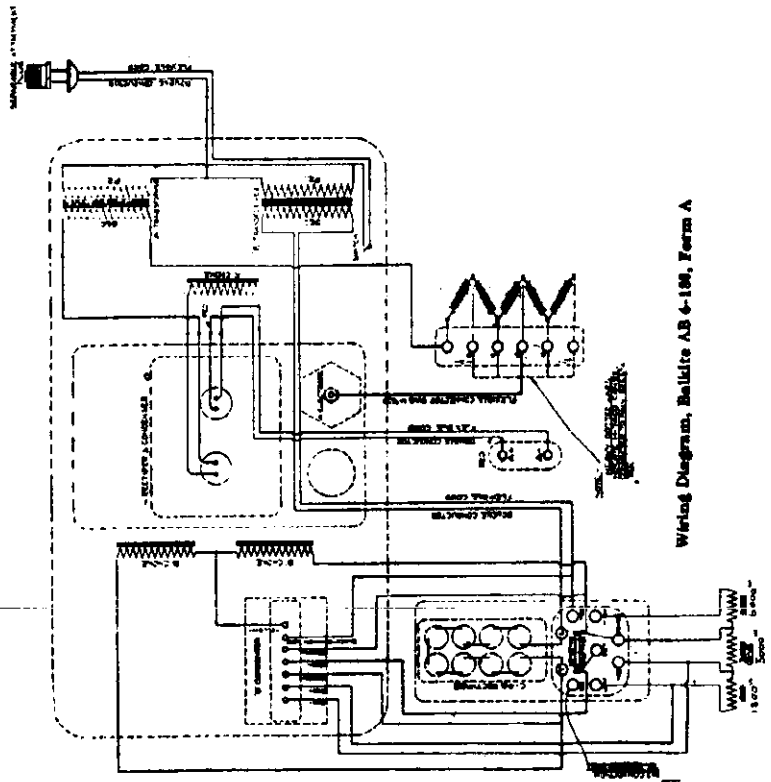
Schematic Wiring Diagram, Balkite B-180, Form B



Wiring Diagram, Balkite B-180, Form B



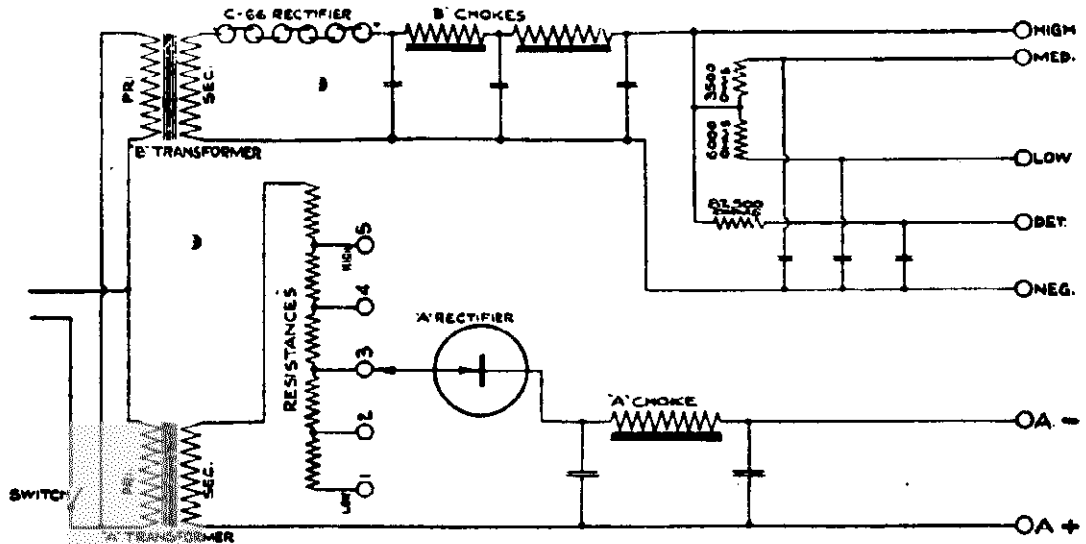
Schematic Wiring Diagram, Balkite AB 6-180, Form A



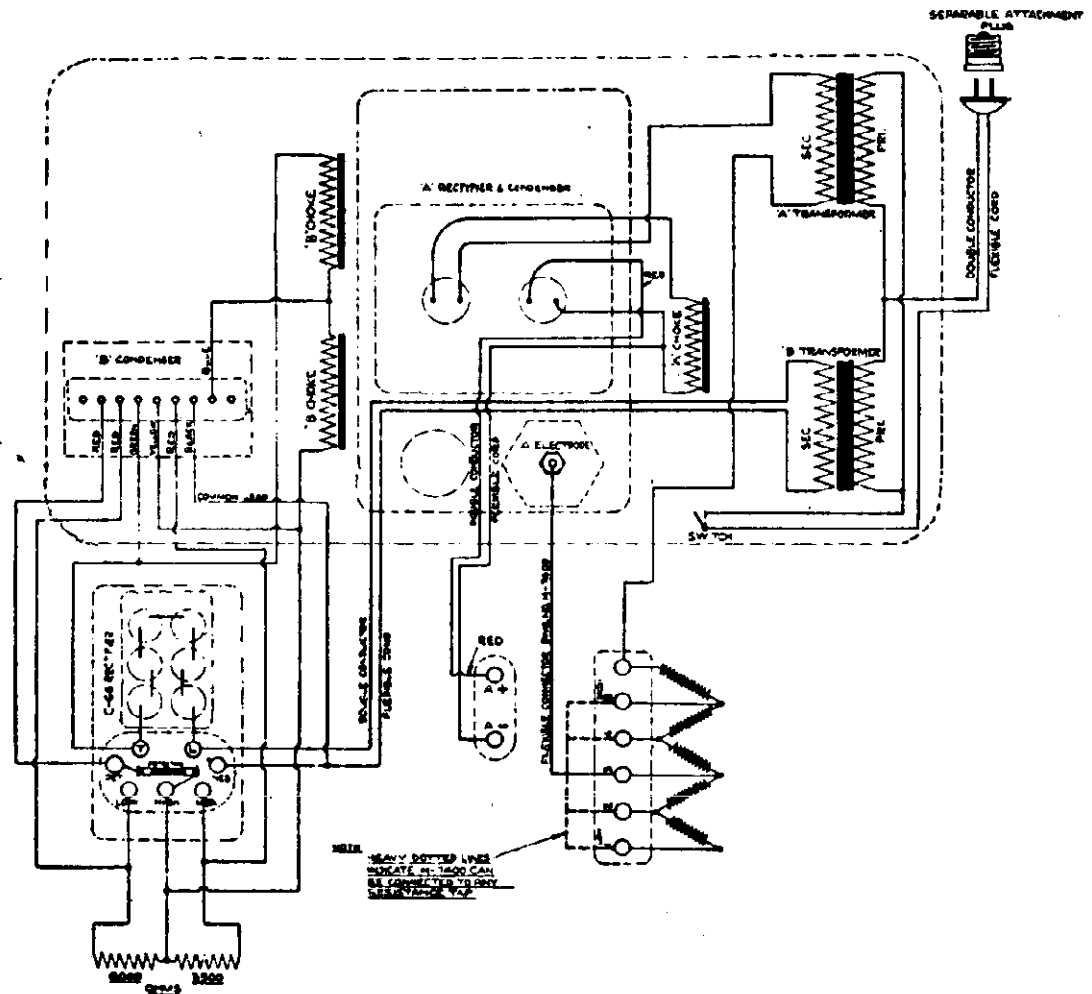
Wiring Diagram, Balkite AB 6-180, Form A

BALKITE PRODUCTS CO.

MODEL AB-6-135 Form A



Schematic Wiring Diagram, Balkite AB 6-135, Form A

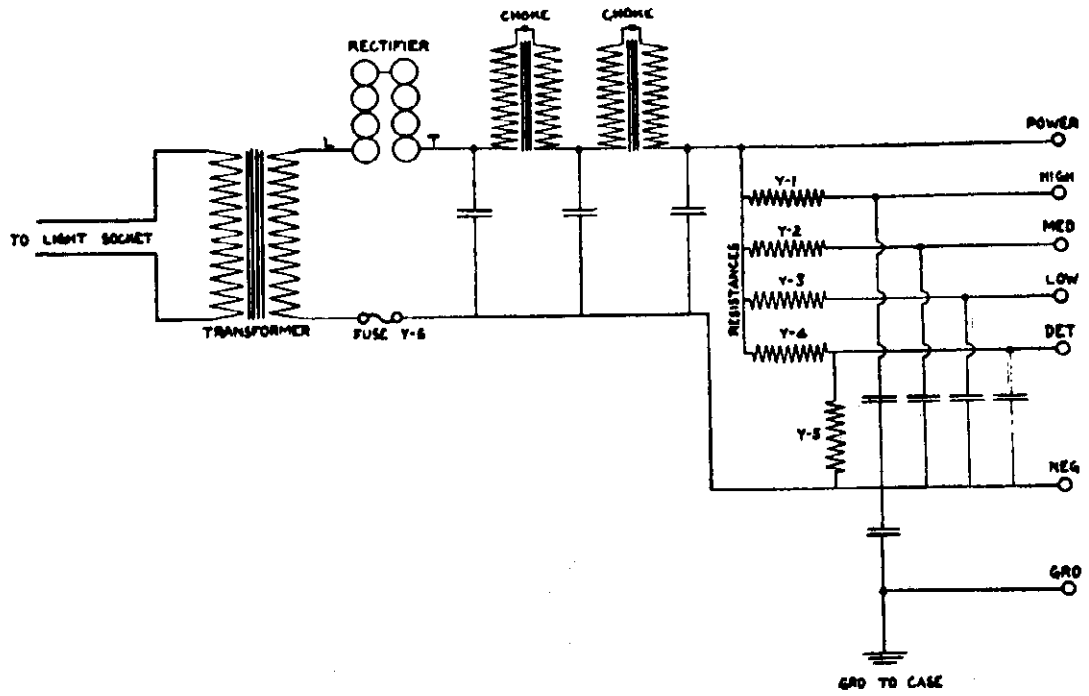


Wiring Diagram, Balkite AB 6-135, Form A

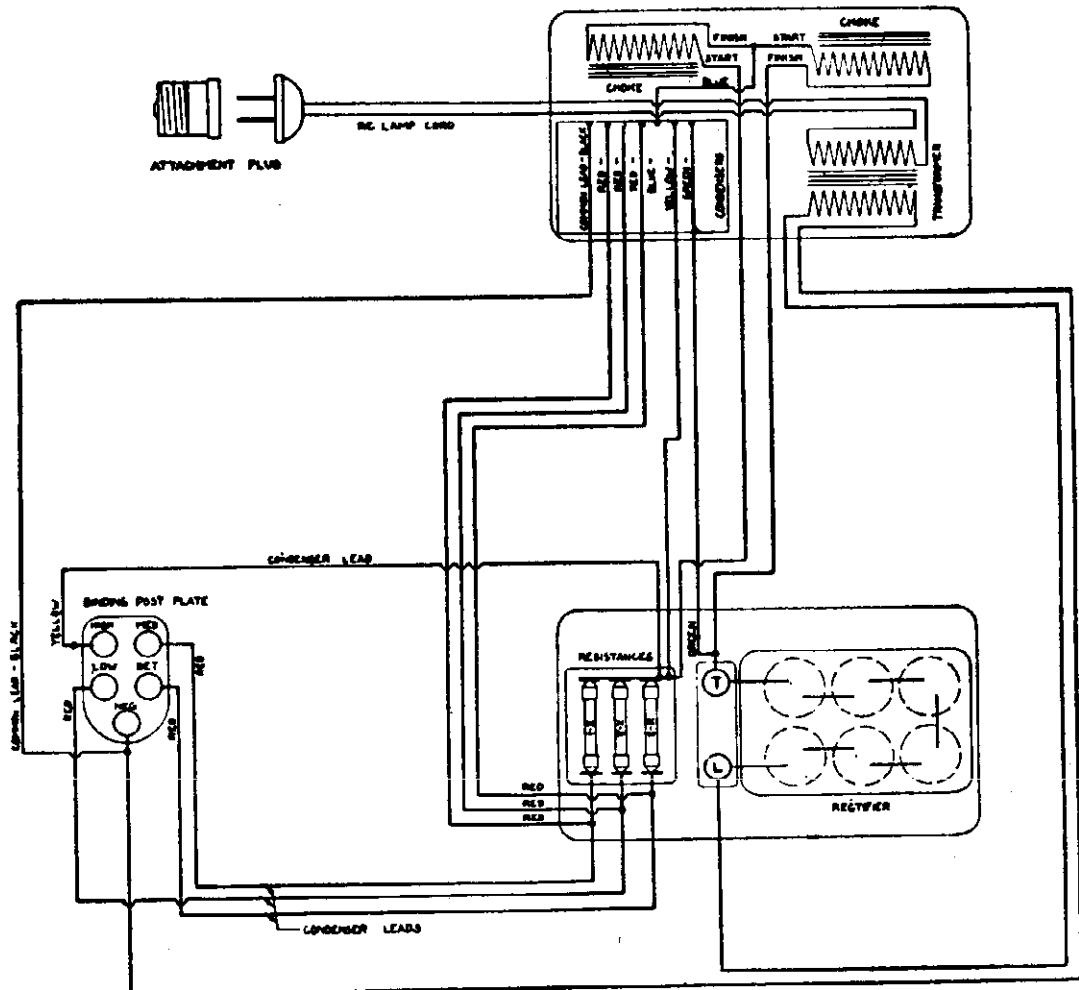


MODEL BY

BALKITE PRODUCTS CO.



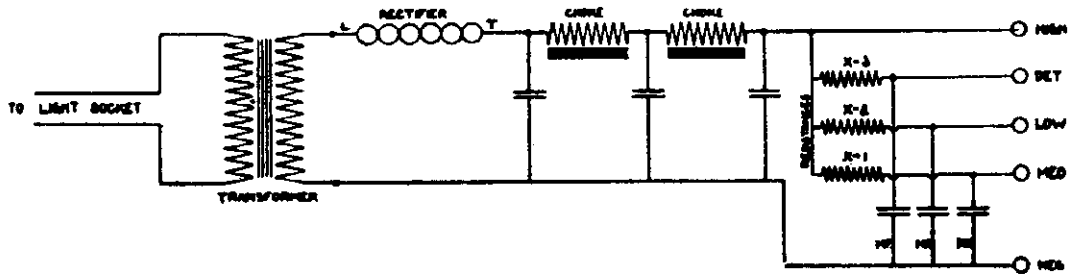
Schematic Wiring Diagram, Balkite BY



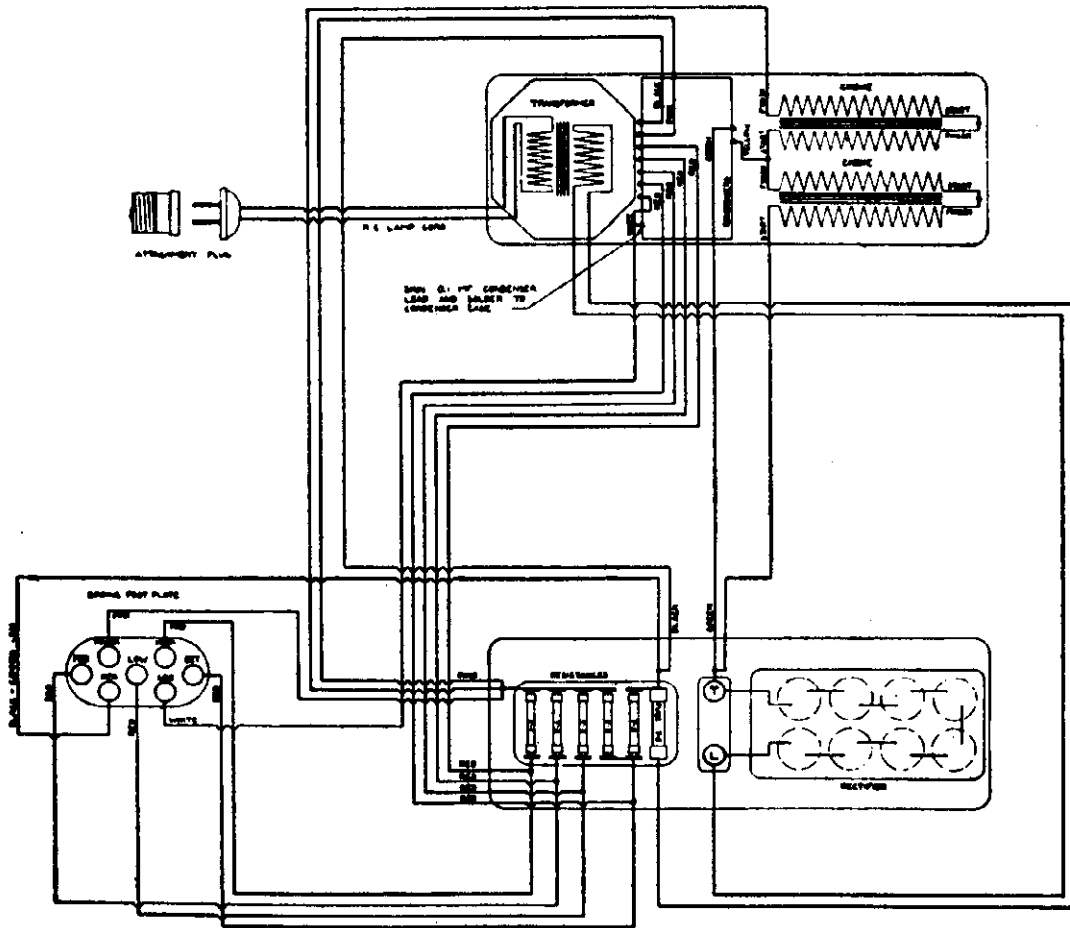
Wiring Diagram, Balkite BY

MODEL A-6  
 MODEL B-X

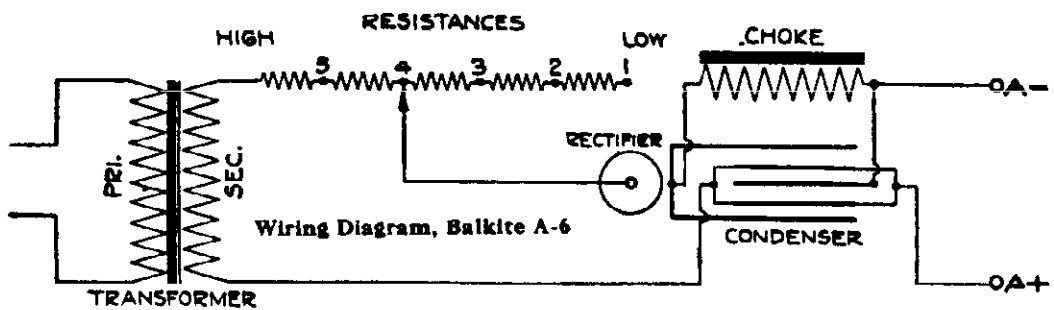
BALKITE PRODUCTS CO.



Schematic Wiring Diagram, Balkite BX



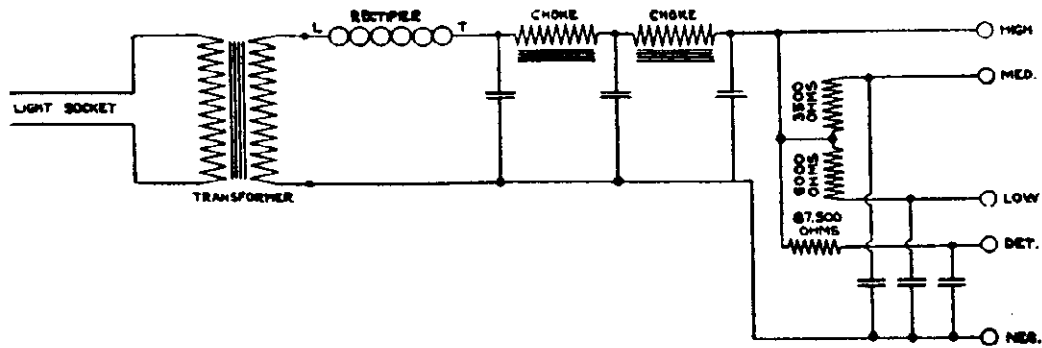
Wiring Diagram, Balkite BX



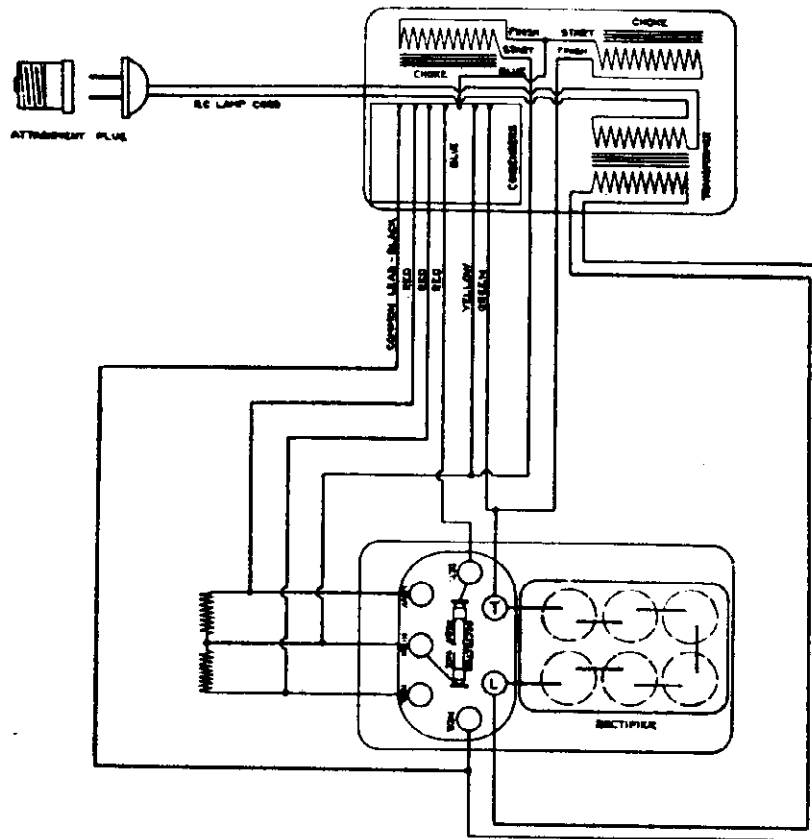
Wiring Diagram, Balkite A-6

BALKITE PRODUCTS CO.

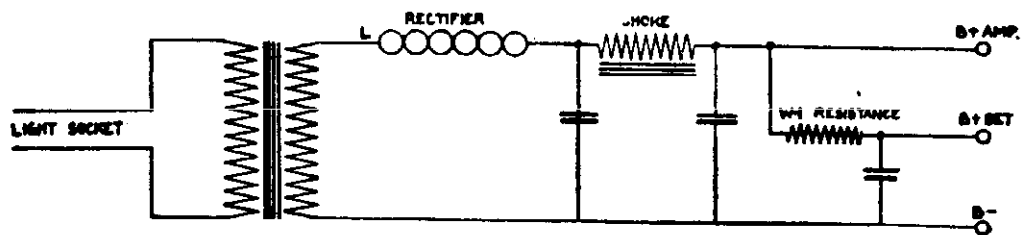
MODEL B-135 Form A  
MODEL B-W



Schematic Wiring Diagram, Balkite B-135



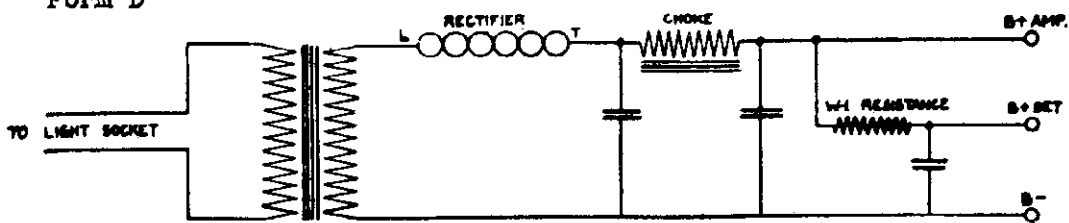
Wiring Diagram, Balkite B-135, Form A



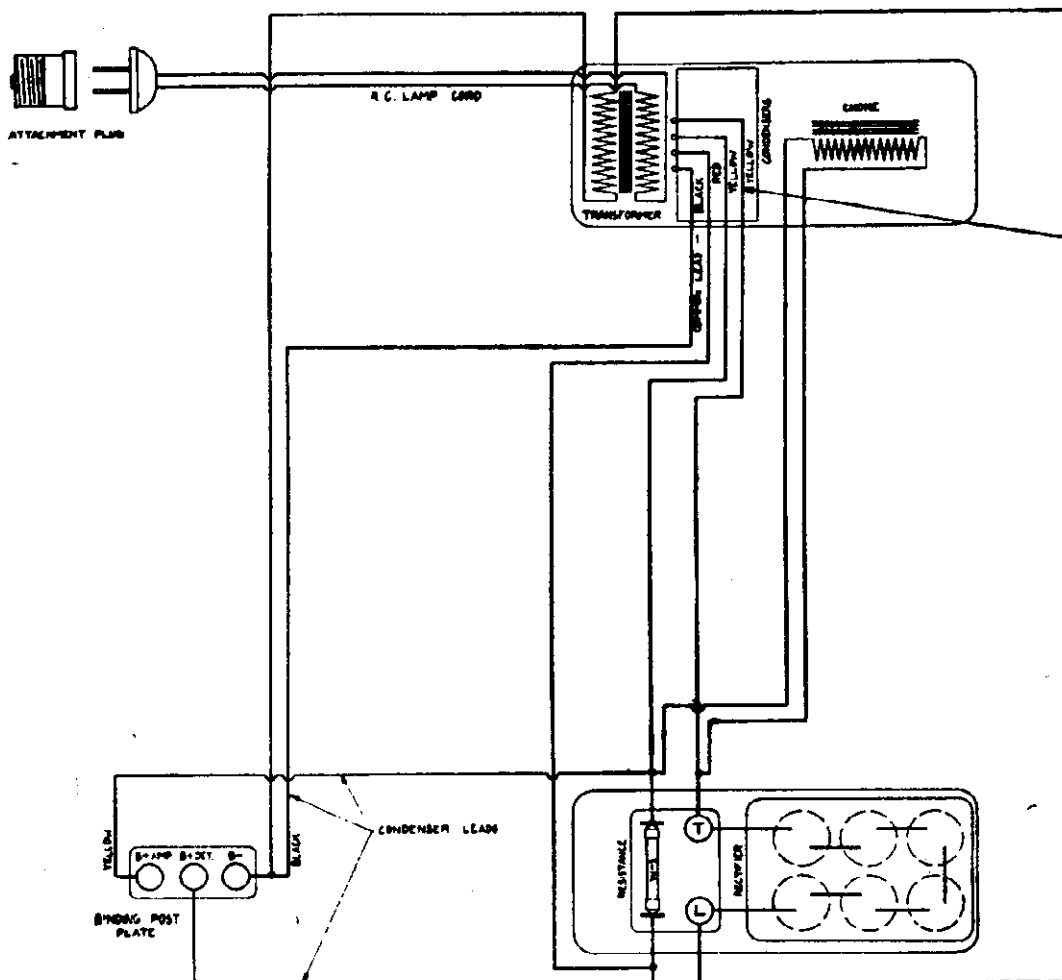
Wiring Diagram, Balkite BW

MODEL B-H  
 MODEL B-W Form D  
 MODEL B Form D

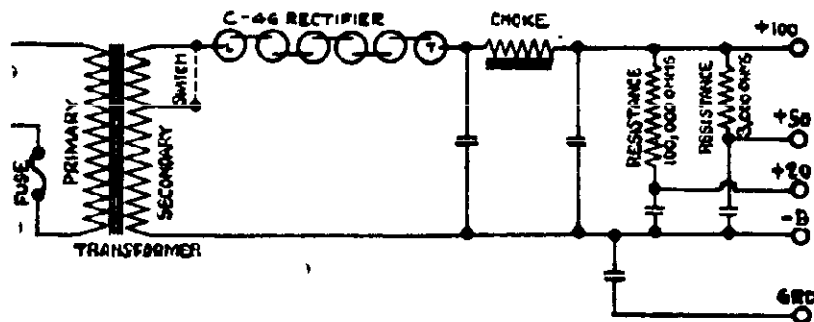
BALKITE PRODUCTS CO.



Schematic Wiring Diagram, Balkite BW or Balkite B, Model D



Wiring Diagram, Balkite BW or Balkite B, Model D

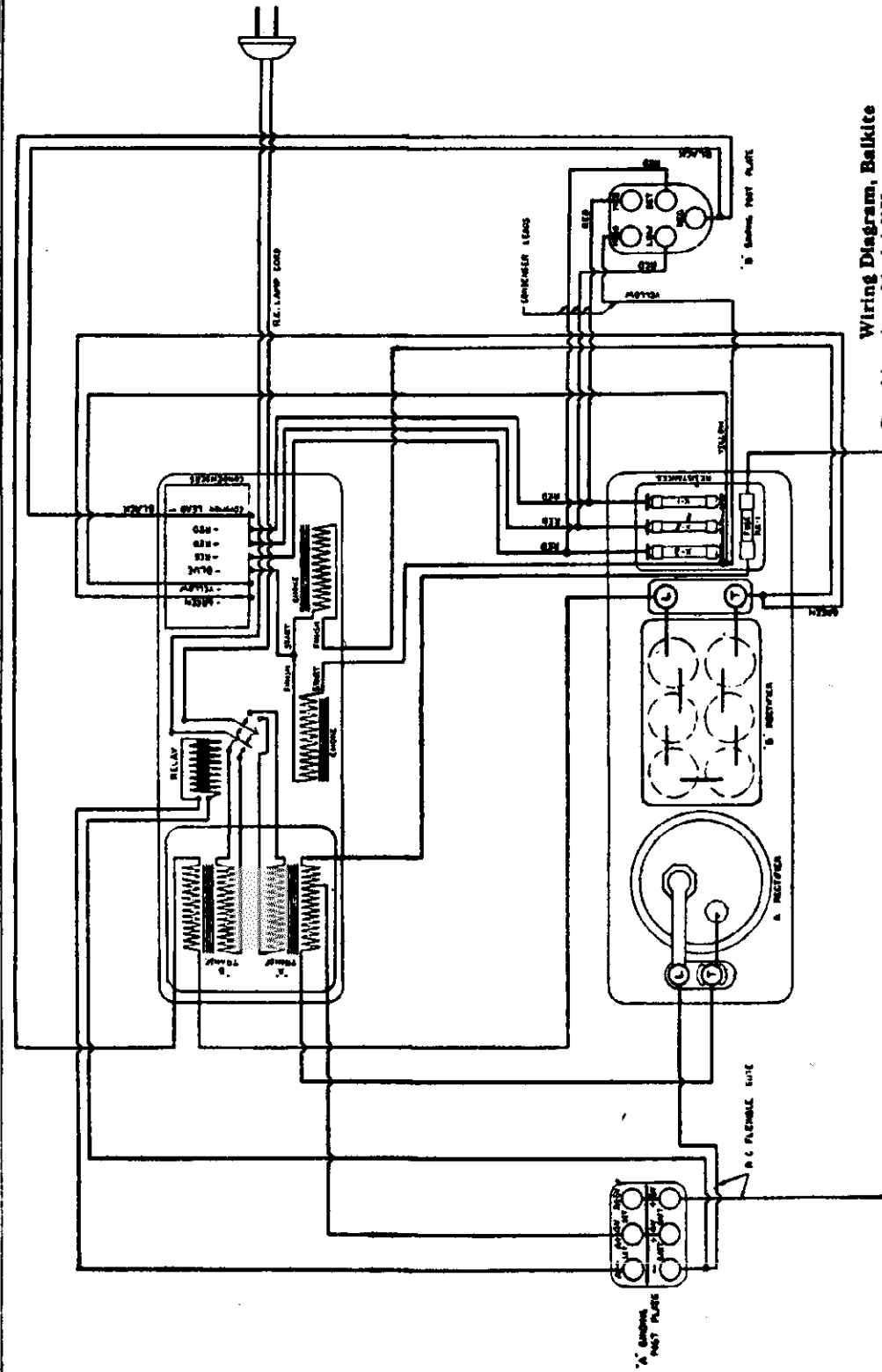


Wiring Diagram, Balkite B-H

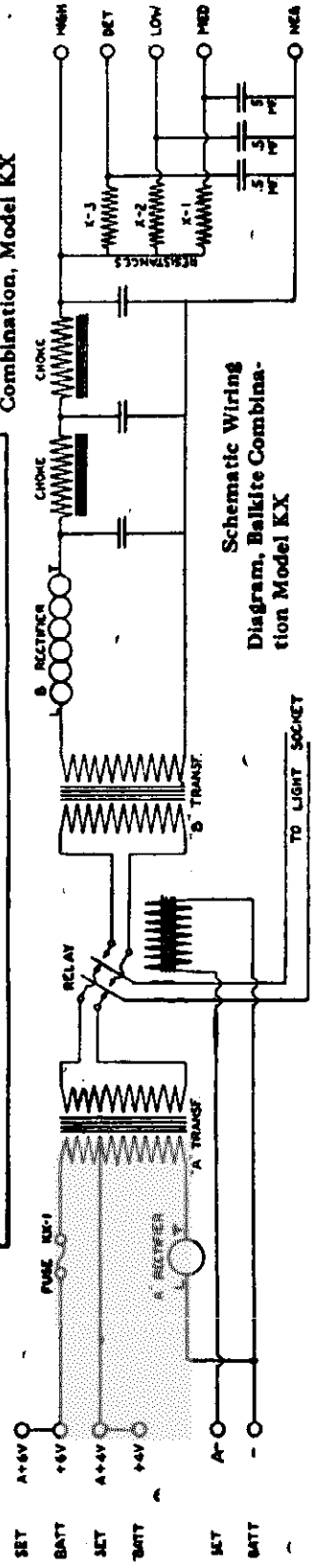


BALKITE PRODUCTS CO.

MODEL K-X



Wiring Diagram, Balkite Combination, Model KX



Schematic Wiring Diagram, Balkite Combination Model KX



MODEL B-10 -  
Voltage

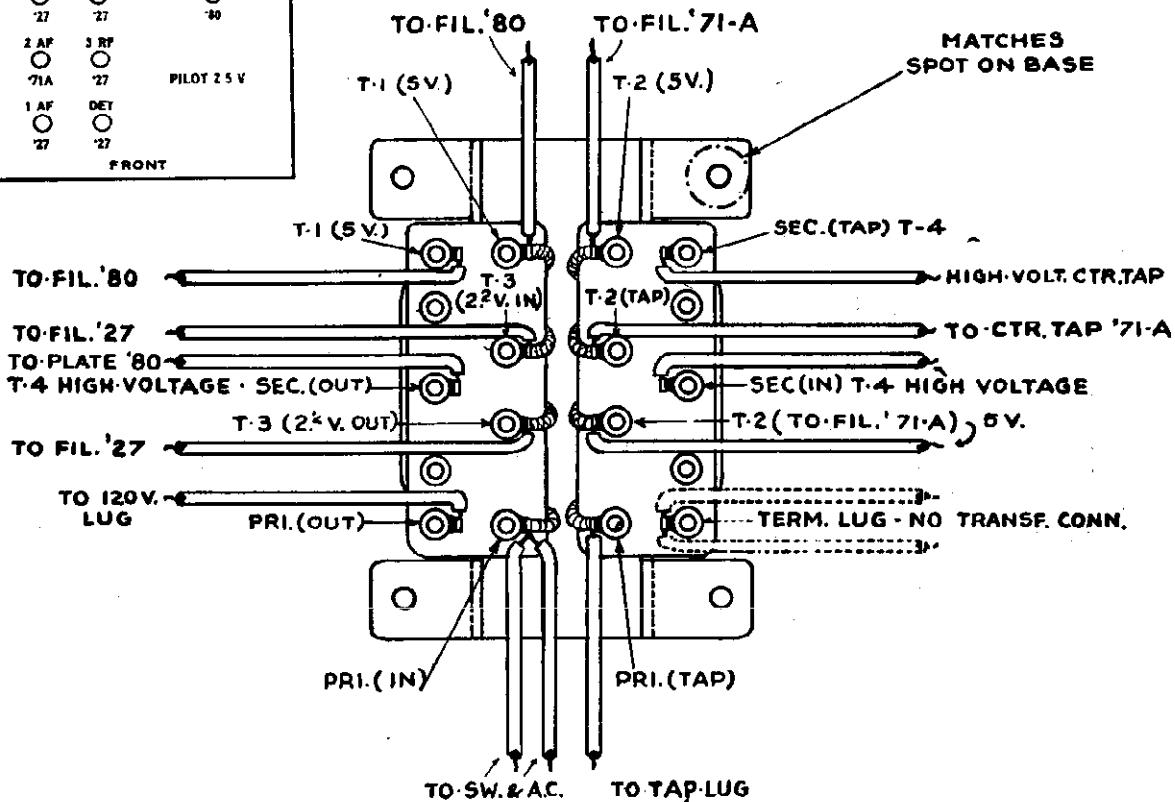
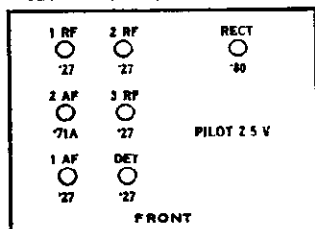
BRANDES PRODUCTS CORP.

Input Voltage 115			Switch 110-120 Side				
Tube No.	Type Tube	Position of Tube	A Volts	B Volts	C Volts	Normal Plate MA	Plate MA Grid Test
1	'27	1st R.F.	2	88	3	4.3	8.
2	'27	2nd R.F.	2	88	3	4.3	8.
3	'27	3rd R.F.	2	88	3	6.	9.2
4	'27	Detector	2	36	3	3.	3.1
5	'27	1st Audio	2	88	3	5.3	8.2
6	'71A	2nd Audio	5	164	35	20.	30
7	'80	Rectifier	5				

The above readings are the average and may vary due to differences in line voltage, variation in tube characteristics, etc.

The readings are given merely as a guide to work from.

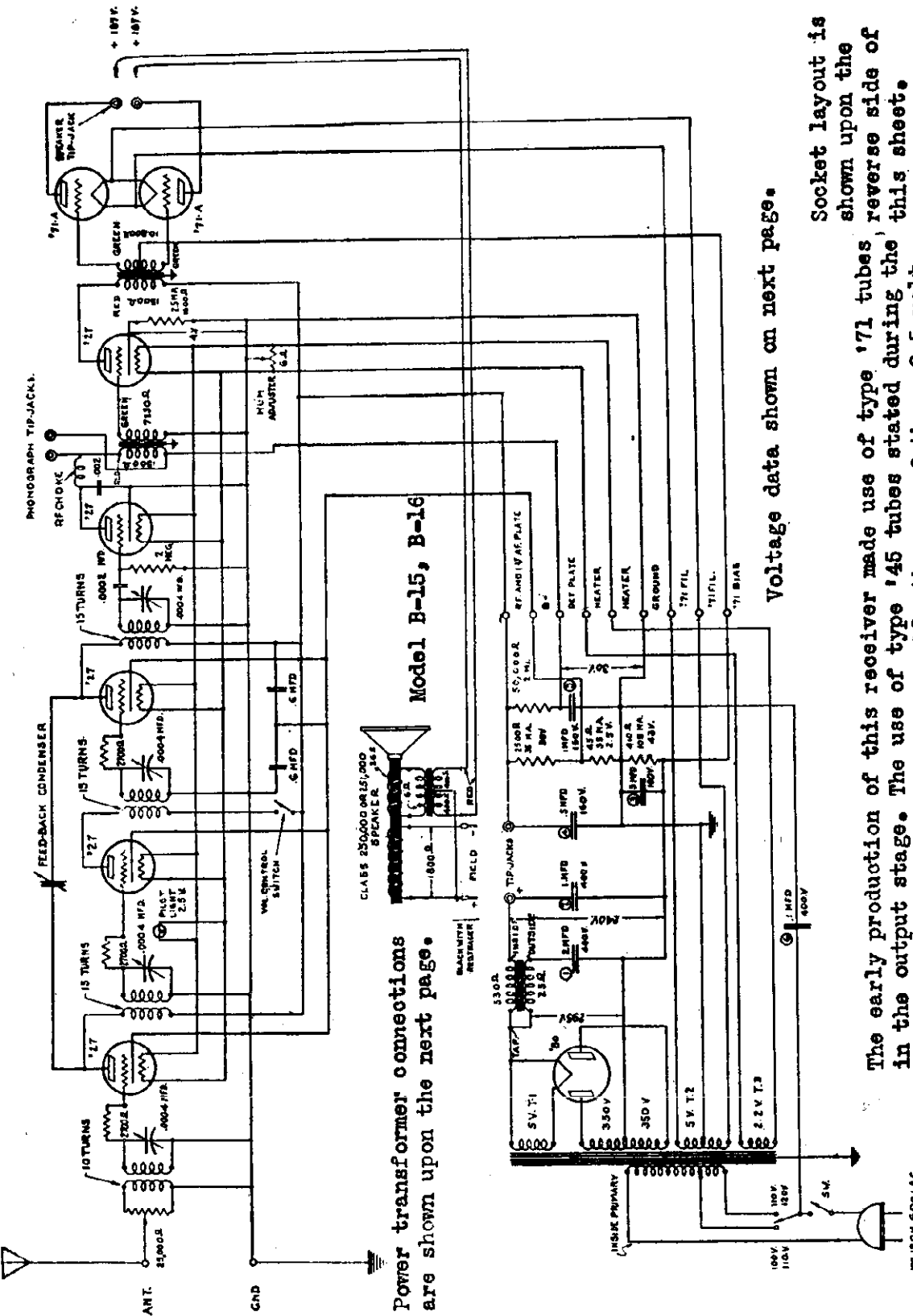
Models B10, B11, B12



POWER TRANSFORMER ASSEMBLY

MODEL B-15, B-16

BRANDES PRODUCTS CORP.



Power transformer connections are shown upon the next page.

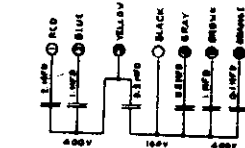
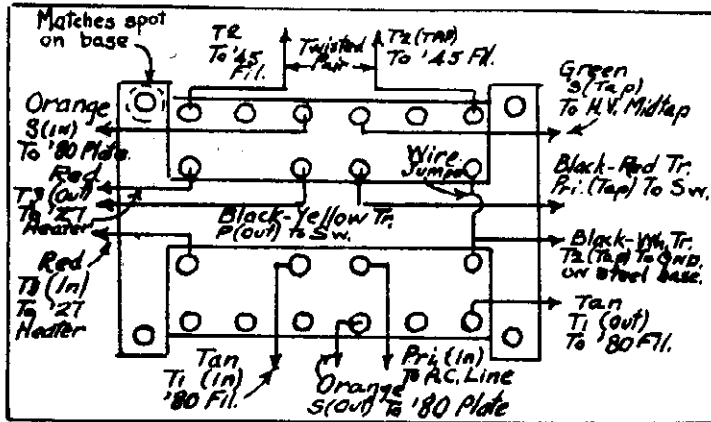
Voltage data shown on next page.

Socket layout is shown upon the reverse side of this sheet.

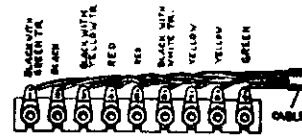
The early production of this receiver made use of type '71 tubes in the output stage. The use of type '45 tubes stated during the '35 later production. In order to enable the use of these 2.5 volt tubes, series resistors were employed in the '71 filament circuit. A resistor was inserted into each filament lead. The "B" and grid bias voltages remained the same for '71s and '45s.

BRANDES PRODUCTS CORP.

MODEL B-15, B-16  
Voltage and Data



Condenser Block



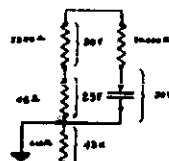
Terminal Strip

POWER TRANSFORMER CONNECTIONS  
FOR LATE MODELS

BRANDES—Models 15 and 16  
Line Voltage 112—Volume Control Position Max  
\*Grid leak not shorted.

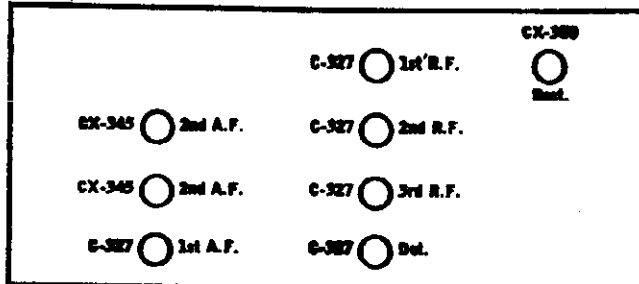
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1st, 2nd, 3rd, etc.	TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE HEATER VOLTS	NORMAL PLATE VOLTS	PLATE IN A GRID TEST	PLATE CHANGE IN MA	SCREEN GRID VOLTS
1	227	1st RF	2.5	94	2.2	90	2.5	—	5.6	10.0	4.4	—
2	227	2nd RF	2.5	98	2.2	90	2.5	—	5.6	10.0	4.4	—
3	227	3rd RF	2.5	94	2.2	90	2.5	—	5.6	10.0	4.4	—
4	227	Det.	2.5	80	2.2	24	0	—	1.3	1.3	—	—
5	227	1st A	2.5	95	2.2	85	5	—	3	4.2	1.2	—
6	245	2nd A	2.4	210	2.3	190	36	—	18	21	3	—
7	245	2nd A	2.4	210	2.3	190	36	—	18	21	3	—
8	200	—	5	—	—	—	—	—	100	—	—	—

The above voltage table shows '45 type tubes in the output stage. When '71s are used, the filament voltage without the tubes in the sockets is 4.5 and the plate voltage under similar conditions is 200. With the tubes in the sockets the filament voltage is about 4.5, the plate voltage about 187, grid bias, 36 volts and plate current about 20 ma.



Resistor Diagram

B-15, B-16

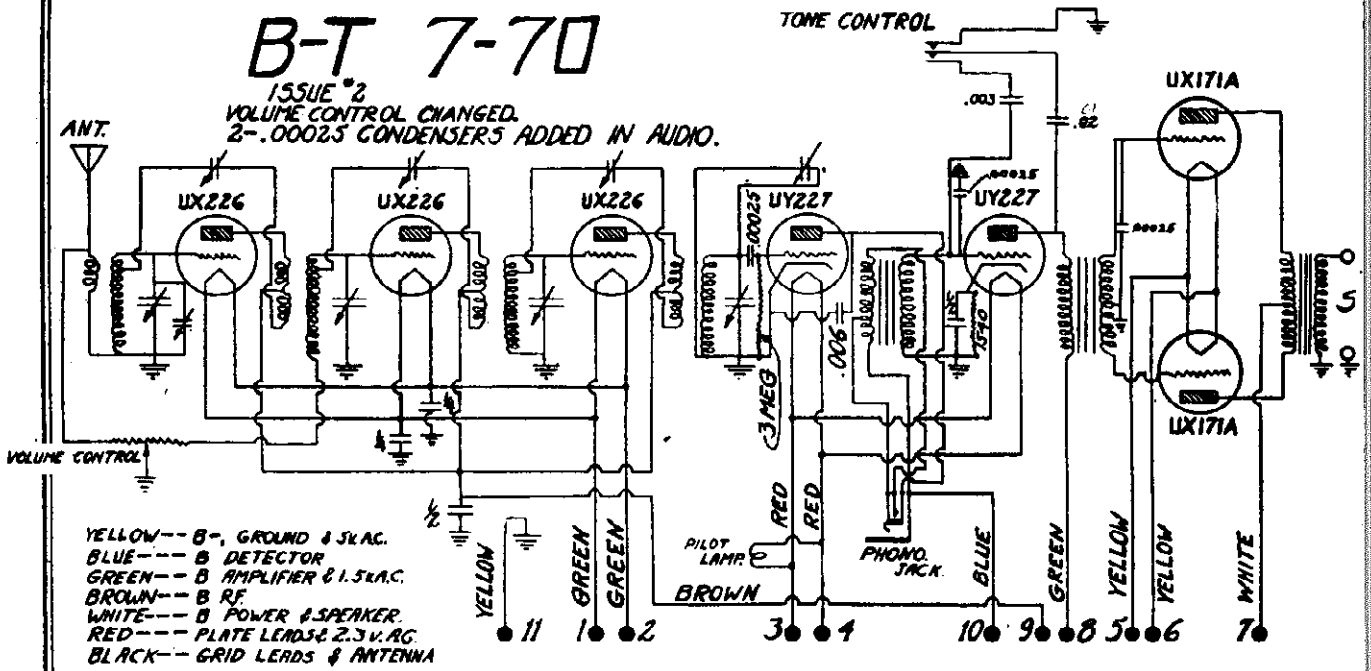


BREMER-TULLY MFG. CO

MODEL 7-70 Receiver

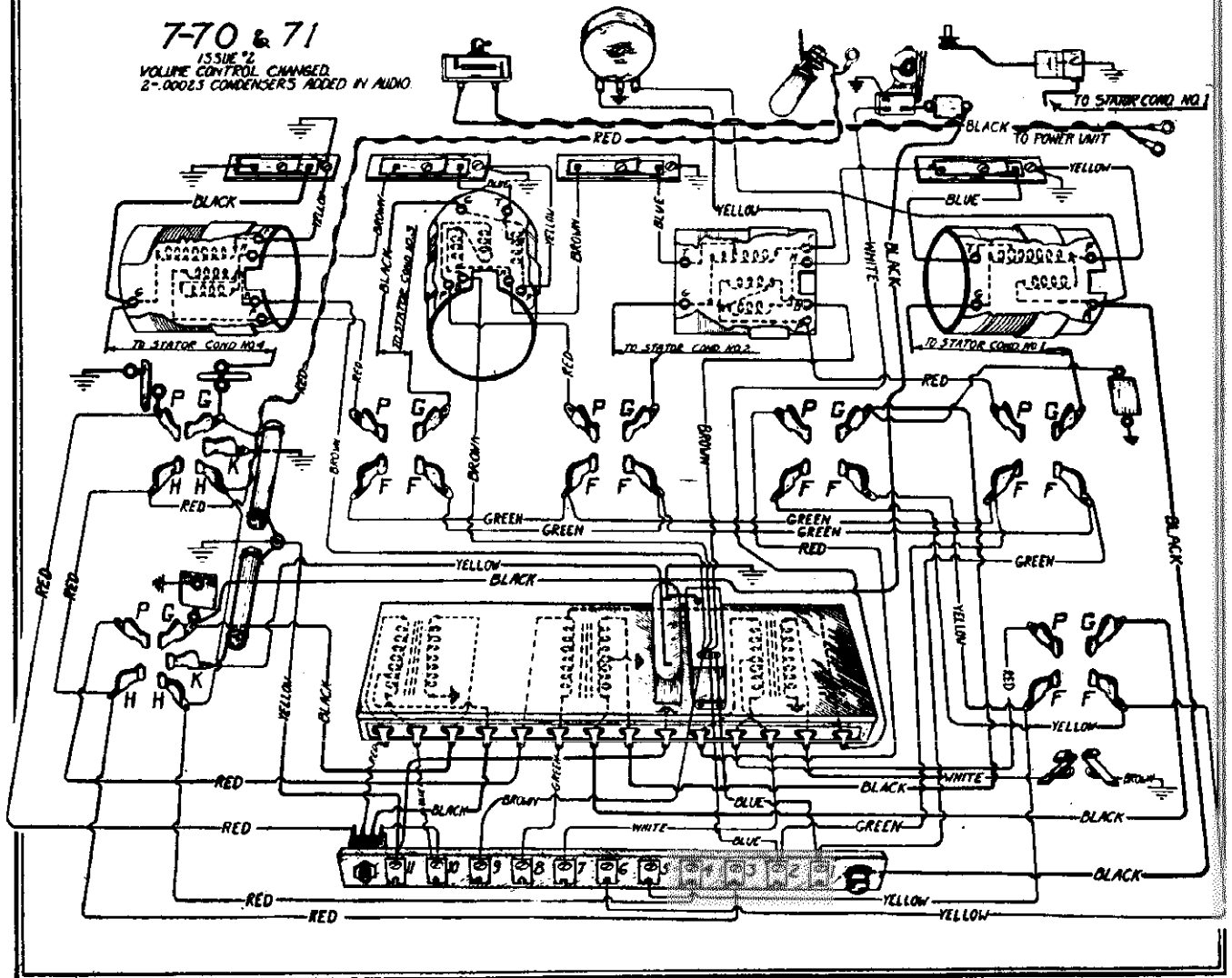
B-T 7-70

ISSUE #2  
VOLUME CONTROL CHANGED.  
2-.00025 CONDENSERS ADDED IN AUDIO.



7-70 & 71

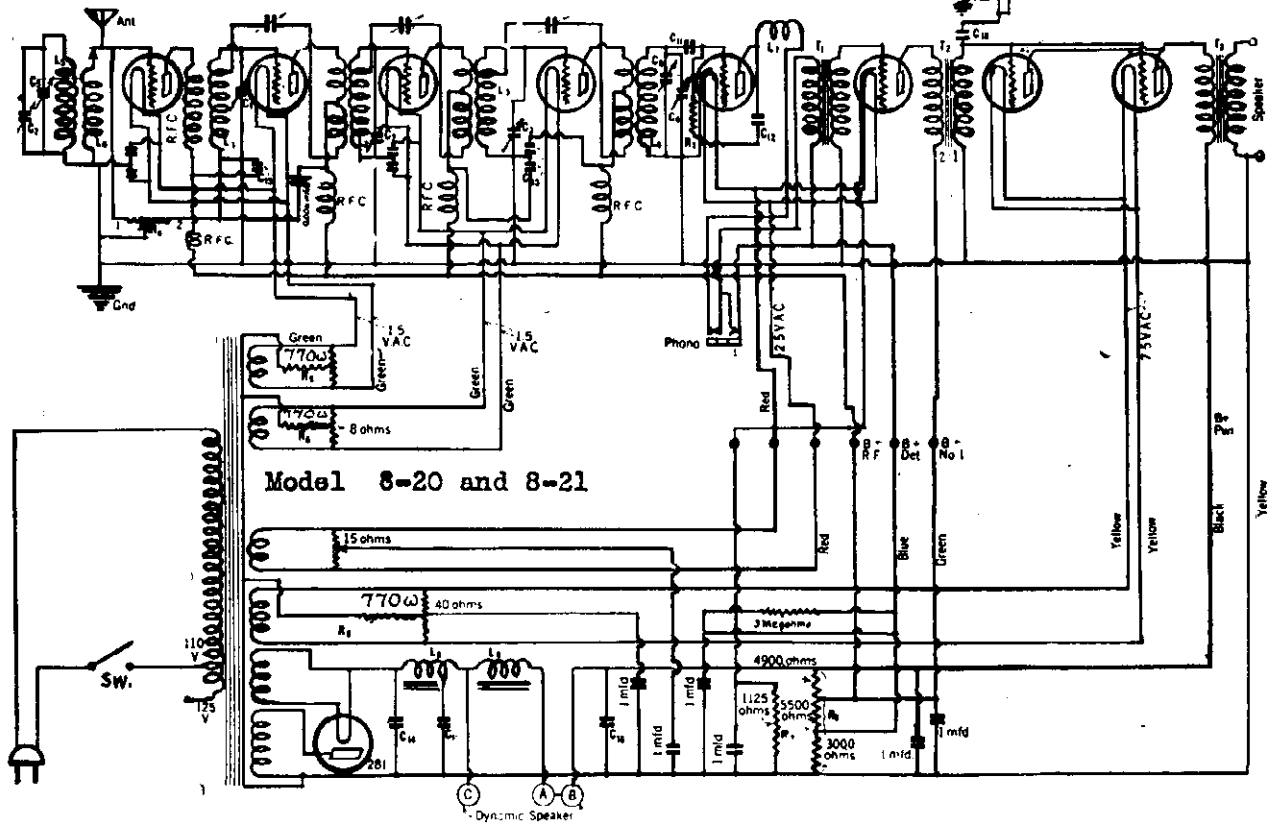
ISSUE #2  
VOLUME CONTROL CHANGED.  
2-.00025 CONDENSERS ADDED IN AUDIO.





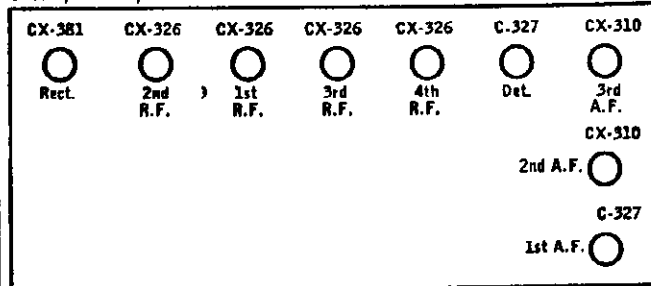
BREMER-TULLY MFG. CO

MODEL 8-20, 8-21  
MODEL 8  
Counterphase

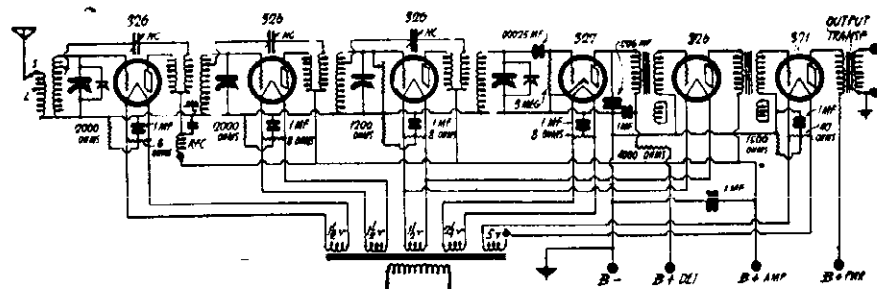


8-20, 8-21, 8-22

(A.C.) BREMER-TULLY—Models 8-20 and 8-21  
Line Voltage 115



TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE IN SET, ETC.	RECOMM. PLUG IN SOCKET OF SET						TUBE IN TESTER		
			VOLTS	WATTS	VOLTS	WATTS	WATTS	WATTS	CATHODE VOLTS	NORMAL PLATE W.A.	PLATE W.A. GRID TEST
1	226	1st. R.F.			1.4	150	10		5	10	5
2	226	Ant.			1.4	150	10		5	10	5
3	226	2nd. R.F.			1.4	150	10		5	10	5
4	226	3rd. R.F.			1.4	150	10		5	10	5
5	227	Detector			2.2	60	0		5	—	—
6	227	1st. A.F.			2.2	130	7		5	10	5
7	310	2nd. A.F.			7.5	350	18		20	50	30
8	310	3rd. A.F.			7.5	350	18		20	50	30



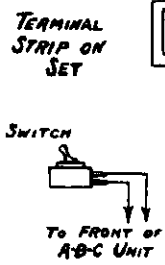
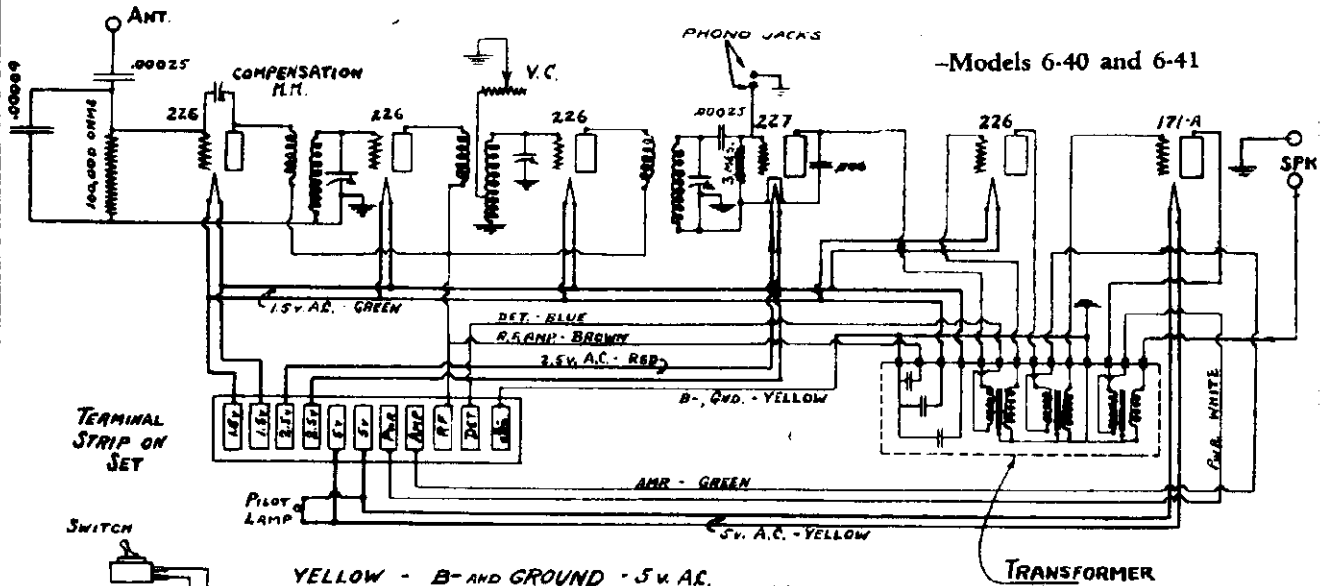
Model Counterphase "8"



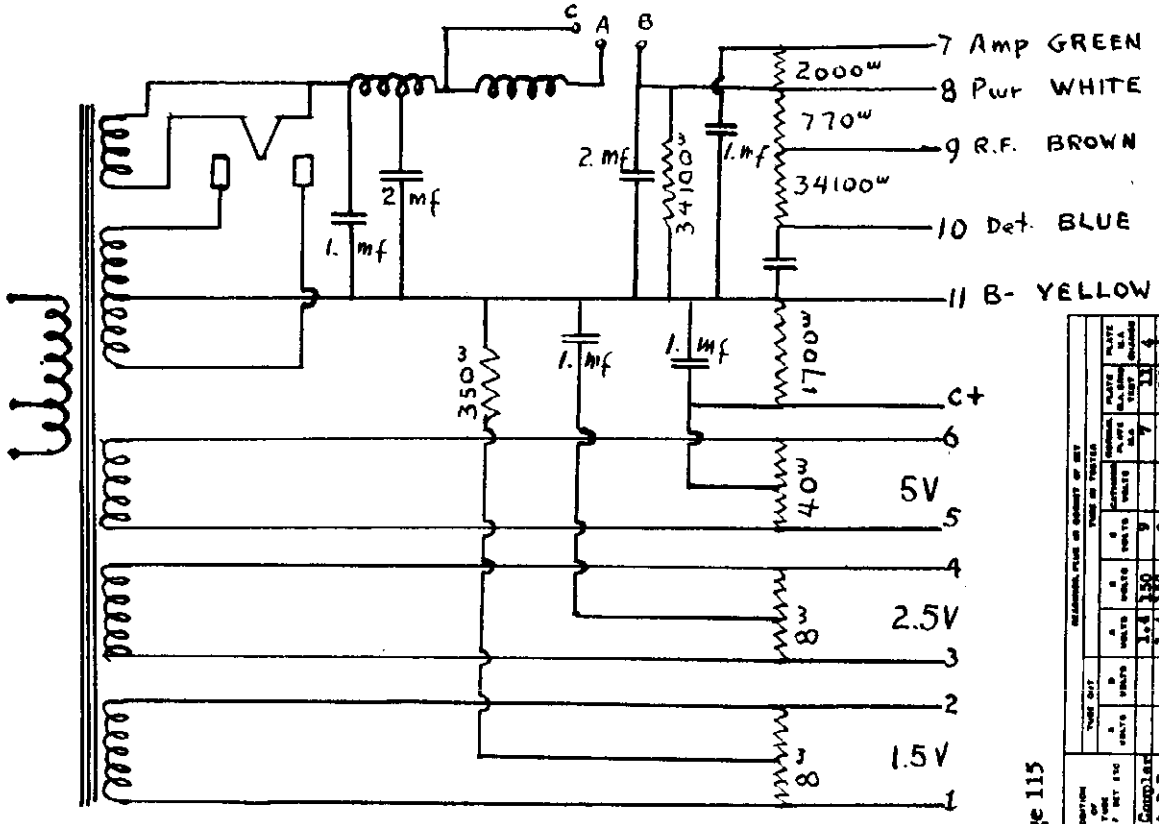
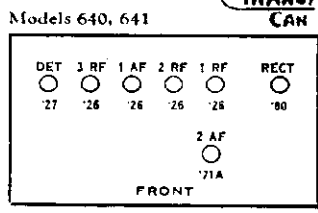
MODEL 6-40,6-41

BREMER-TULLY MFG. CO

-Models 6-40 and 6-41



- YELLOW - B- AND GROUND - 5 v. AC.
- BLUE - B. DET.
- GREEN - B. AMP - 1.5 v. A.C.
- BROWN - B. RF - ANT.
- WHITE - B. PWR - SPK.
- RED - PLATE LEADS - 2.5 v. AC.
- BLACK - GRID LEADS



Model 6-40 ABC Power Pack

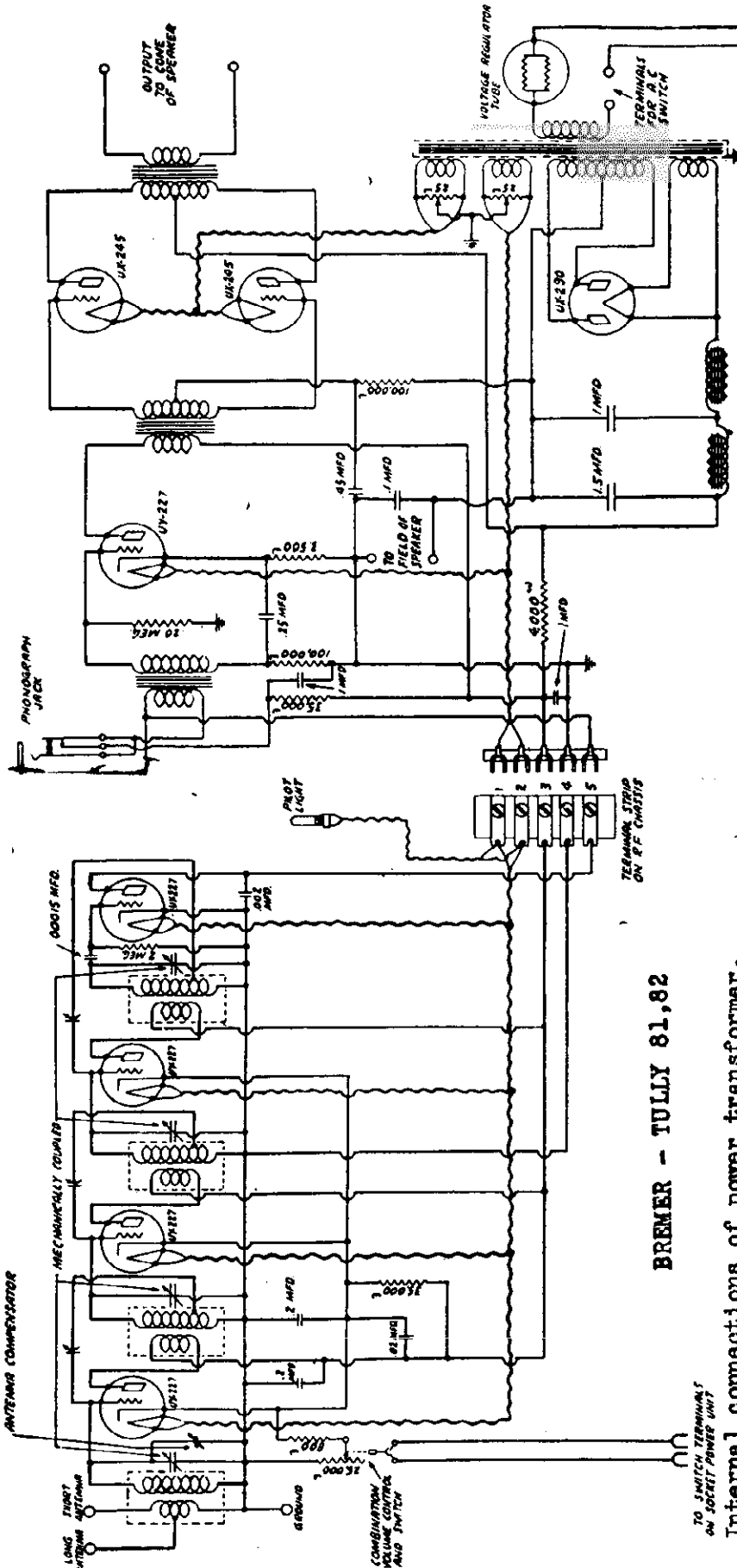
Line Voltage 115

TUBE	TYPE	POSITION	RESISTANCE VALUE IN OHMS OF SET		RESISTANCE VALUE IN OHMS OF SET		RESISTANCE VALUE IN OHMS OF SET		RESISTANCE VALUE IN OHMS OF SET	
			1.5V A.C.	2.5V A.C.	1.5V A.C.	2.5V A.C.	1.5V A.C.	2.5V A.C.	1.5V A.C.	2.5V A.C.
226	AMPL. COMPENSATOR	1	1.5	150	7	13	4	4	4	4
226	1st. R.F.	2	1.5	150	9	12	4	4	4	4
226	1st. A.M.P.	3	1.5	150	9	12	4	4	4	4
226	2nd. R.F.	4	1.5	150	9	12	4	4	4	4
227	Detector	5	1.5	150	9	12	4	4	4	4
171A	P.W.R.	6	1.5	150	9	12	4	4	4	4



MODEL 81, 82

BREMER-TULLY MFG. CO



**BREMER-TULLY—Models 81-82**  
 Line Voltage 120—Volume Control Position Max  
 Note: Do not remove rectifier tube before turning off set  
 as filament voltage is too high with rectifier tube out.

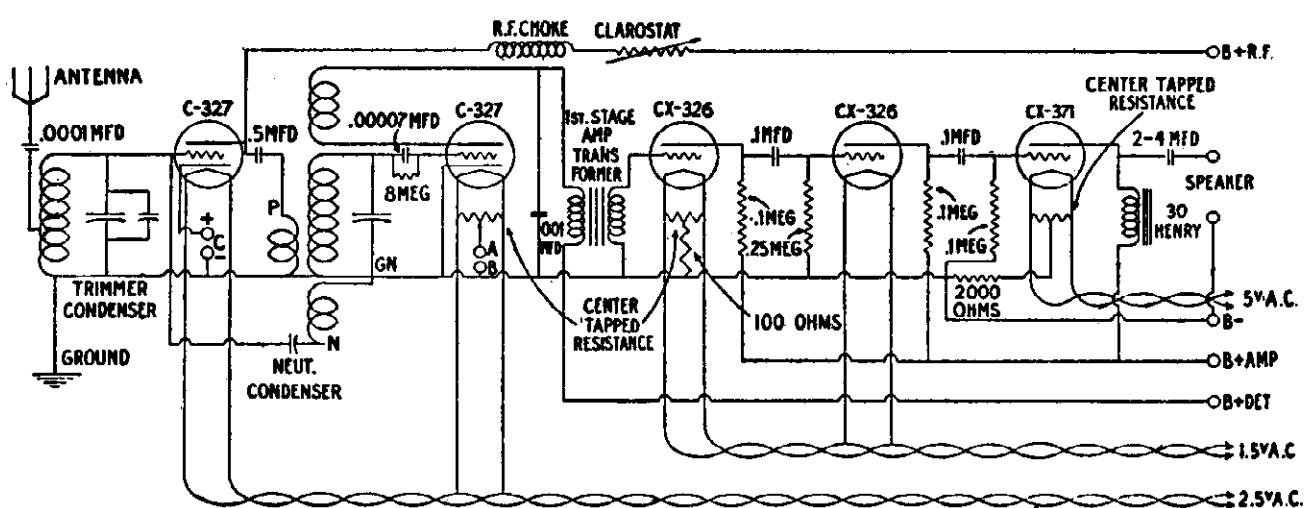
**AF and Power Unit**  
 Chassis layout is shown on the reverse side of this page.

TUBE NO.	TYPE	POSITION	TUBE OUT		TUBE IN TESTER		RESISTOR VALUE IN SOCKET OF SET		TUBE IN TESTER		SCREEN	
			Ω	VOLTS	Ω	VOLTS	Ω	VOLTS	Ω	VOLTS	Ω	VOLTS
6X27	1st AF	1	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X30	2nd AF	2	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X25	3rd AF	3	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	1st P.F.	4	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	2nd P.F.	5	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	3rd P.F.	6	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	4th P.F.	7	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	5th P.F.	8	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	6th P.F.	9	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	7th P.F.	10	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	8th P.F.	11	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	9th P.F.	12	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	10th P.F.	13	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	11th P.F.	14	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	12th P.F.	15	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	13th P.F.	16	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	14th P.F.	17	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	15th P.F.	18	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	16th P.F.	19	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	17th P.F.	20	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	18th P.F.	21	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	19th P.F.	22	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	20th P.F.	23	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	21st P.F.	24	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	22nd P.F.	25	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	23rd P.F.	26	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	24th P.F.	27	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	25th P.F.	28	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	26th P.F.	29	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	27th P.F.	30	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	28th P.F.	31	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	29th P.F.	32	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	30th P.F.	33	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	31st P.F.	34	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	32nd P.F.	35	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	33rd P.F.	36	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	34th P.F.	37	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	35th P.F.	38	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	36th P.F.	39	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	37th P.F.	40	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	38th P.F.	41	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	39th P.F.	42	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	40th P.F.	43	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	41st P.F.	44	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	42nd P.F.	45	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	43rd P.F.	46	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	44th P.F.	47	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	45th P.F.	48	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	46th P.F.	49	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	47th P.F.	50	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	48th P.F.	51	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	49th P.F.	52	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	50th P.F.	53	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	51st P.F.	54	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	52nd P.F.	55	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	53rd P.F.	56	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	54th P.F.	57	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	55th P.F.	58	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	56th P.F.	59	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	57th P.F.	60	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	58th P.F.	61	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	59th P.F.	62	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	60th P.F.	63	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	61st P.F.	64	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	62nd P.F.	65	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	63rd P.F.	66	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	64th P.F.	67	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	65th P.F.	68	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	66th P.F.	69	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	67th P.F.	70	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	68th P.F.	71	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	69th P.F.	72	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	70th P.F.	73	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	71st P.F.	74	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	72nd P.F.	75	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	73rd P.F.	76	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	74th P.F.	77	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	75th P.F.	78	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	76th P.F.	79	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	77th P.F.	80	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	78th P.F.	81	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	79th P.F.	82	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	80th P.F.	83	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	81st P.F.	84	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	82nd P.F.	85	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	83rd P.F.	86	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	84th P.F.	87	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	85th P.F.	88	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	86th P.F.	89	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	87th P.F.	90	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	88th P.F.	91	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	89th P.F.	92	100	2.5	100	2.5	100	2.5	100	2.5	100	2.5
6X27	90th P.F.	93	100	2.5	100	2.5	100	2.5				

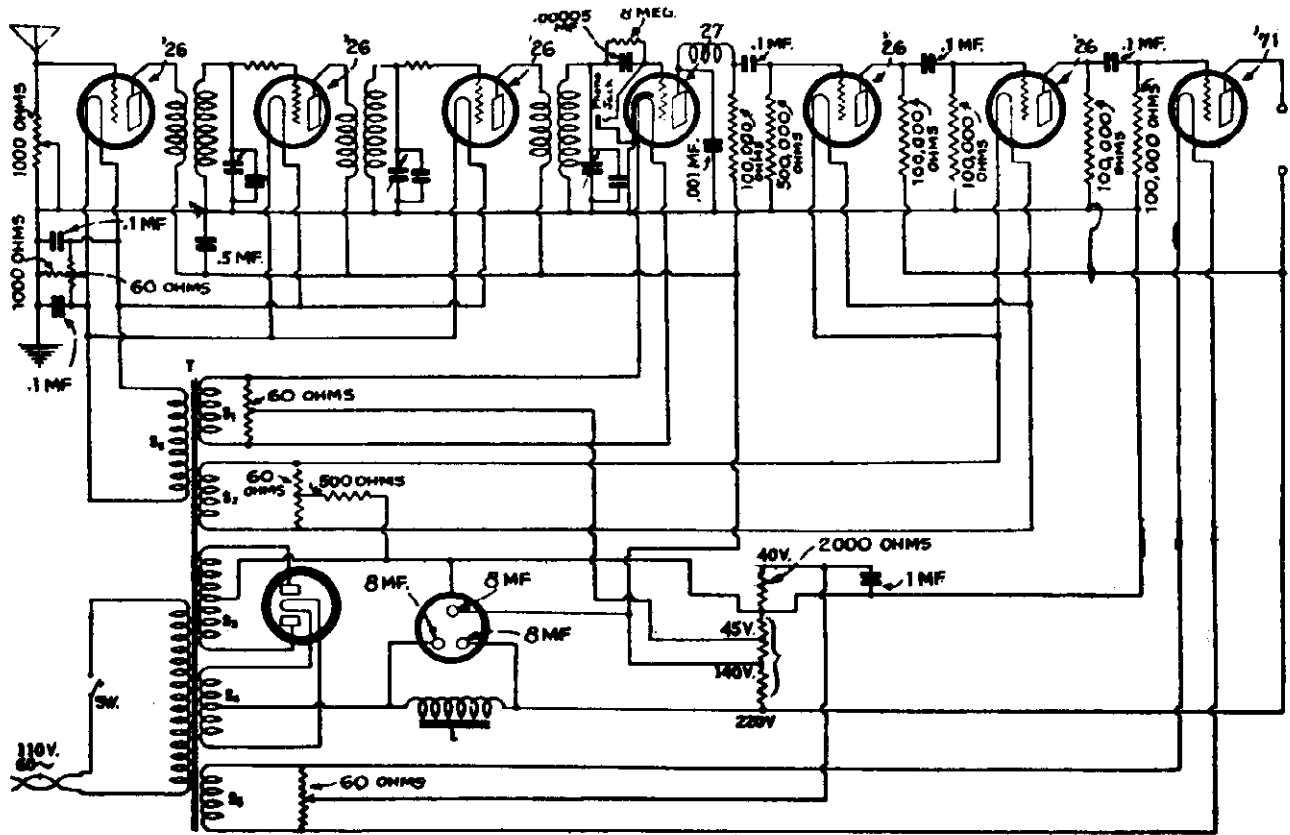


# BROWNING - DRAKE CORP.

MODEL 5 Tube AC Kit  
MODEL 34, 36, 38

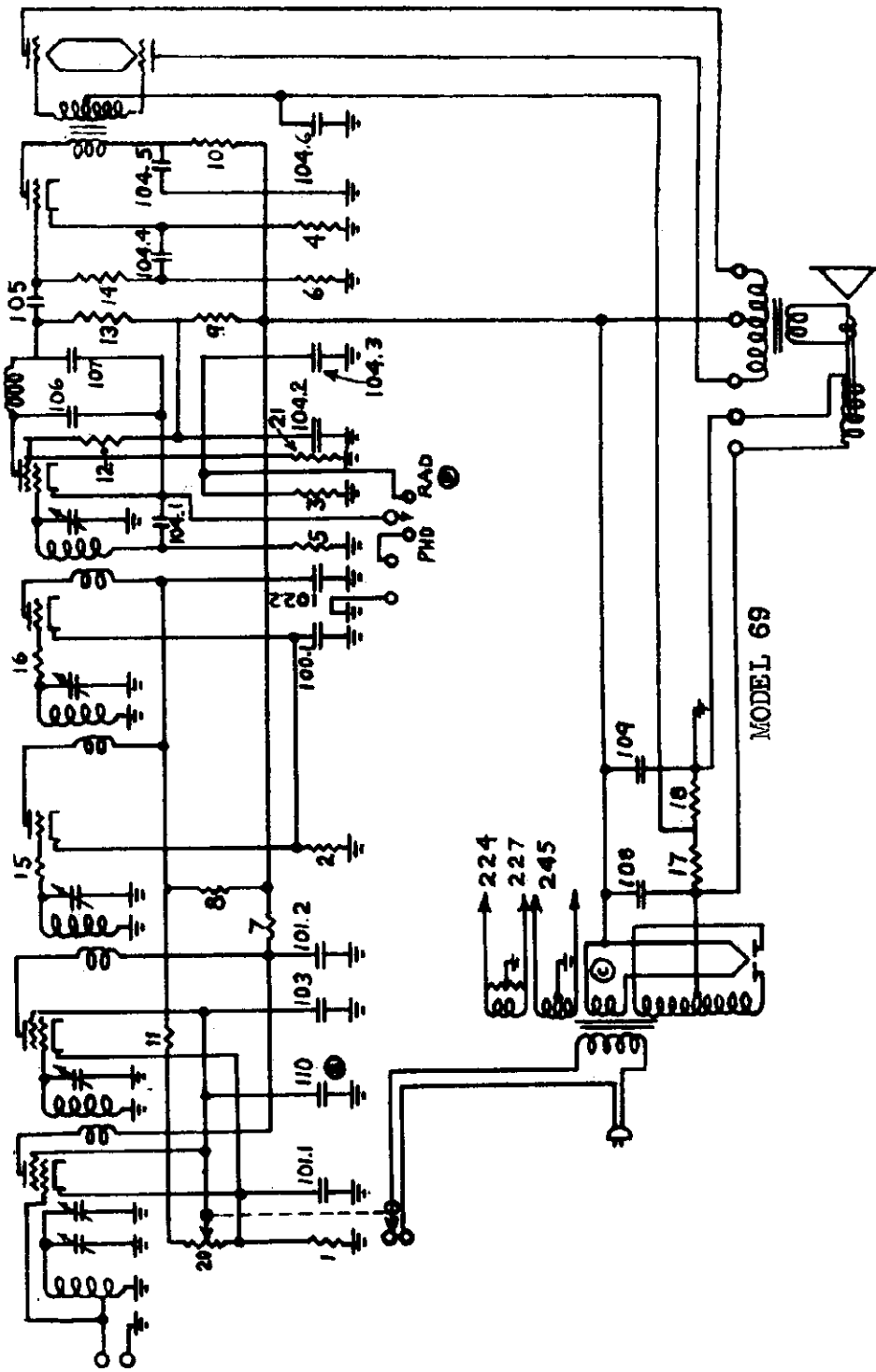


THE SCHEMATIC WIRING OF THE FIVE TUBE A-C



MODEL 69

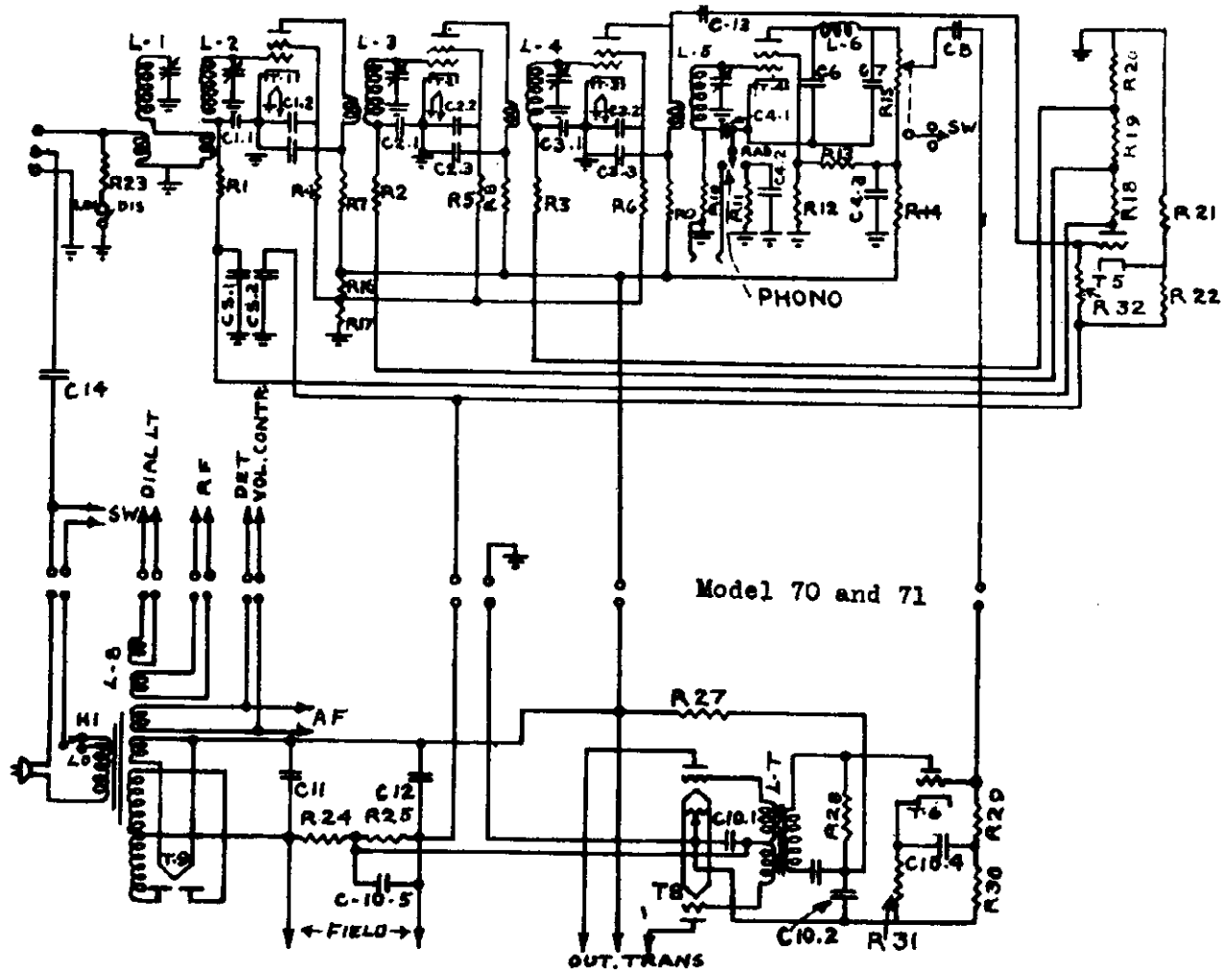
BROWNING - DRAKE CORP.



- 1. 400 ohms; 2. 600 ohms; 3. 50000 ohms; 4. 3000 ohms; 5. .5 megohm; 6. 1 megohm; 7. 45000 ohms;
- 8. 20000 ohms; 9. .25 megohm; 10. 60000 ohms; 11. 90 ohms; 12 and 13. .25 megohm; 14. 2 megohms
- 15. 2000 ohms; 16. 2000 ohms; 17 and 18. .25 megohms; 19. 30 ohms; 20. 10000 ohms; 21. .1 megohm
- 101.1 and 101.2 and 102.1 and 102.2 are .5 mfd. each. 103 is .1 mfd. 104.1 and 104.2 and 104.3 and
- 104.4 and 104.5 are .2 mfd.; 104.6 is .5 mfd.; 105. .01 mfd.; 106. .00025 mfd.; 107. .00025 mfd.;
- 108 and 109 are 8 mfd. and 110 is .01 mfd.

BROWNING - DRAKE CORP.

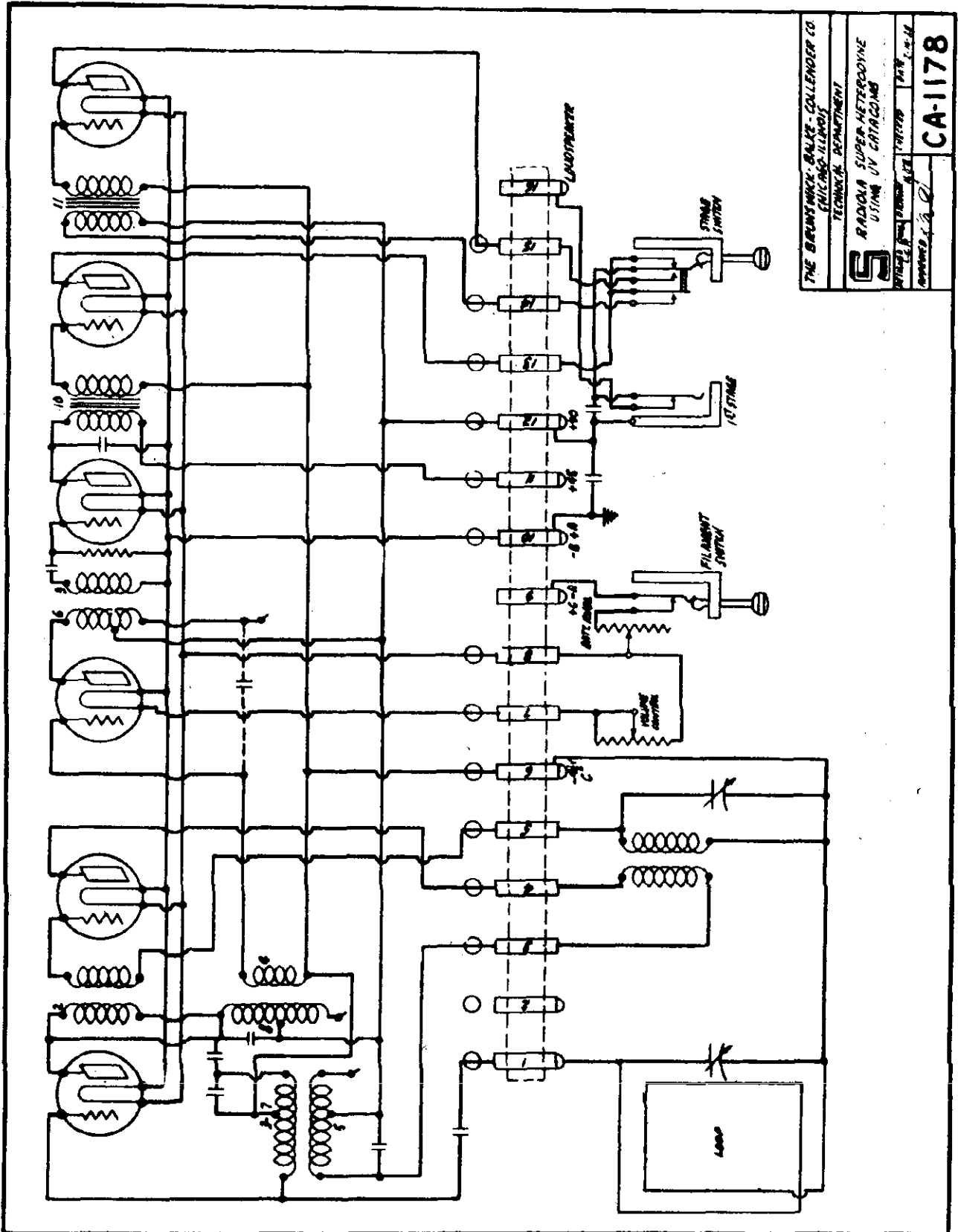
MODEL 70, 71



R1, R2, R3, R14, R15	.25 megohm	R28	20000 ohms
R4, R5, R6	10000 ohms	R30, R32	2 megohms
R7, R8, R9	20000 ohms	R31	2000 ohms
R10, R29	1 megohm	C1.1; C2.1; C3.1; C1.2; C2.2; C5.2	.1 mfd
R11, R18, R19	40000 ohms	C1.3; C2.3; C3.3	.1 mfd
R12	.1 megohm	C4.1; C4.2	.1 mfd.
R13	.25 megohm	C4.3	.25 mfd
R16	40000 ohms	C5.1; C5.2	1. mfd
R17	90000 ohms	C6, C7, C13	.00025 mfd
R20	200000 ohms	C8	.01 mfd.
R21	500 ohms	C10.1	.25 mfd
R22	45 ohms	C10.2	.5 mfd
R23, R26	20 ohms	C10.3	.1 mfd
R24	.5 megohm	C10.4	.2 mfd
R25	.15 megohm	C10.5	2. mfd
R27	10000 ohms	C14	.00025 mfd

BRUNSWICK RADIO CORPORATION

MODEL Radiola  
Superheterodyne  
with UV Catacomb



THE BRUNSWICK-BALKE-COLENDER CO.  
(MILWAUKEE, WISCONSIN)  
TECHNICAL DEPARTMENT

**S** RADIOLA SUPER HETERODYNE  
USING UV CATHODS

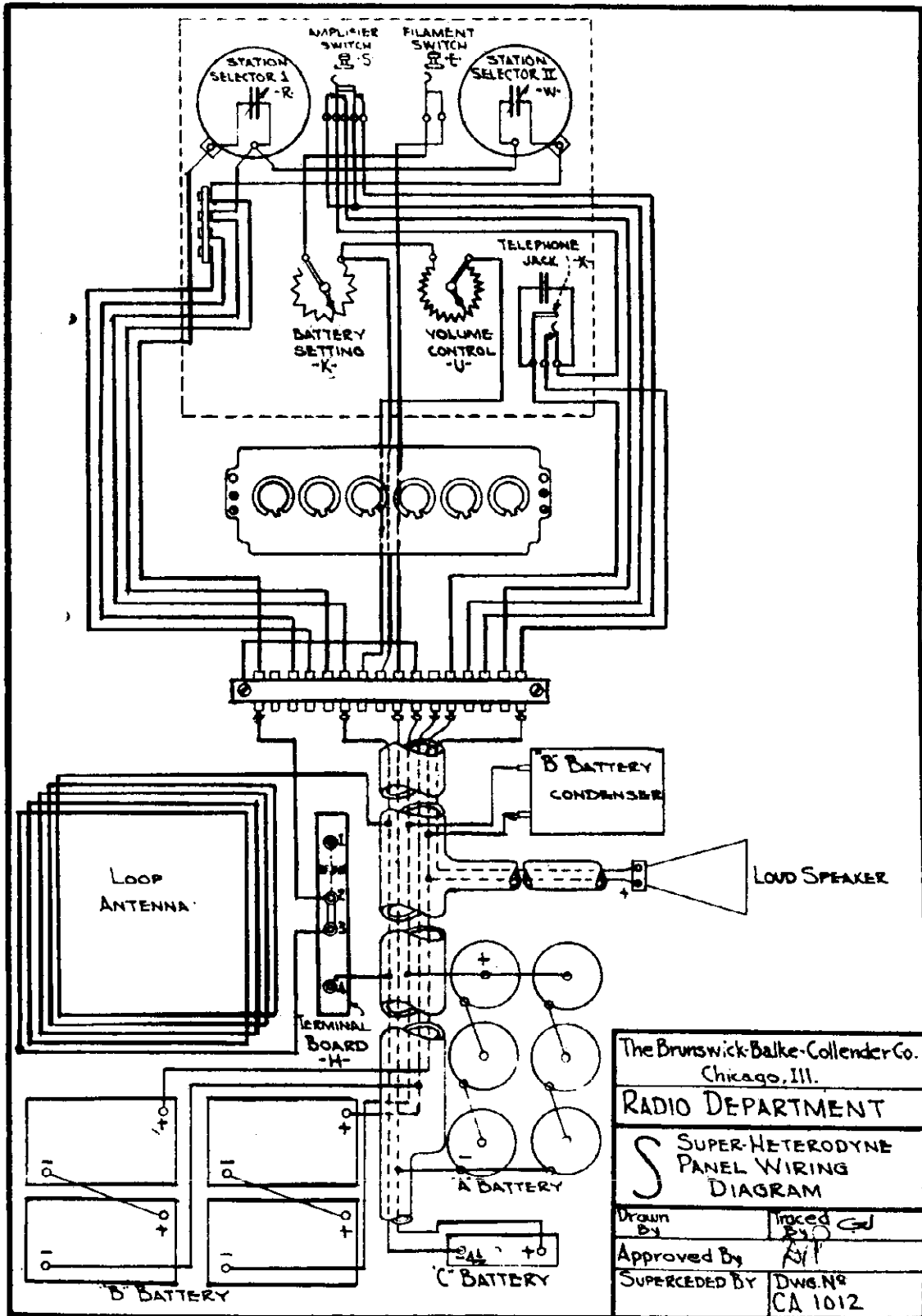
REVISED BY: [ ] DATE: [ ]

CA-1178



MODEL Superheterodyne  
Panel Wiring

BRUNSWICK RADIO CORPORATION



The Brunswick-Balke-Collender Co.  
Chicago, Ill.

RADIO DEPARTMENT

SUPER-HETERODYNE  
PANEL WIRING  
DIAGRAM

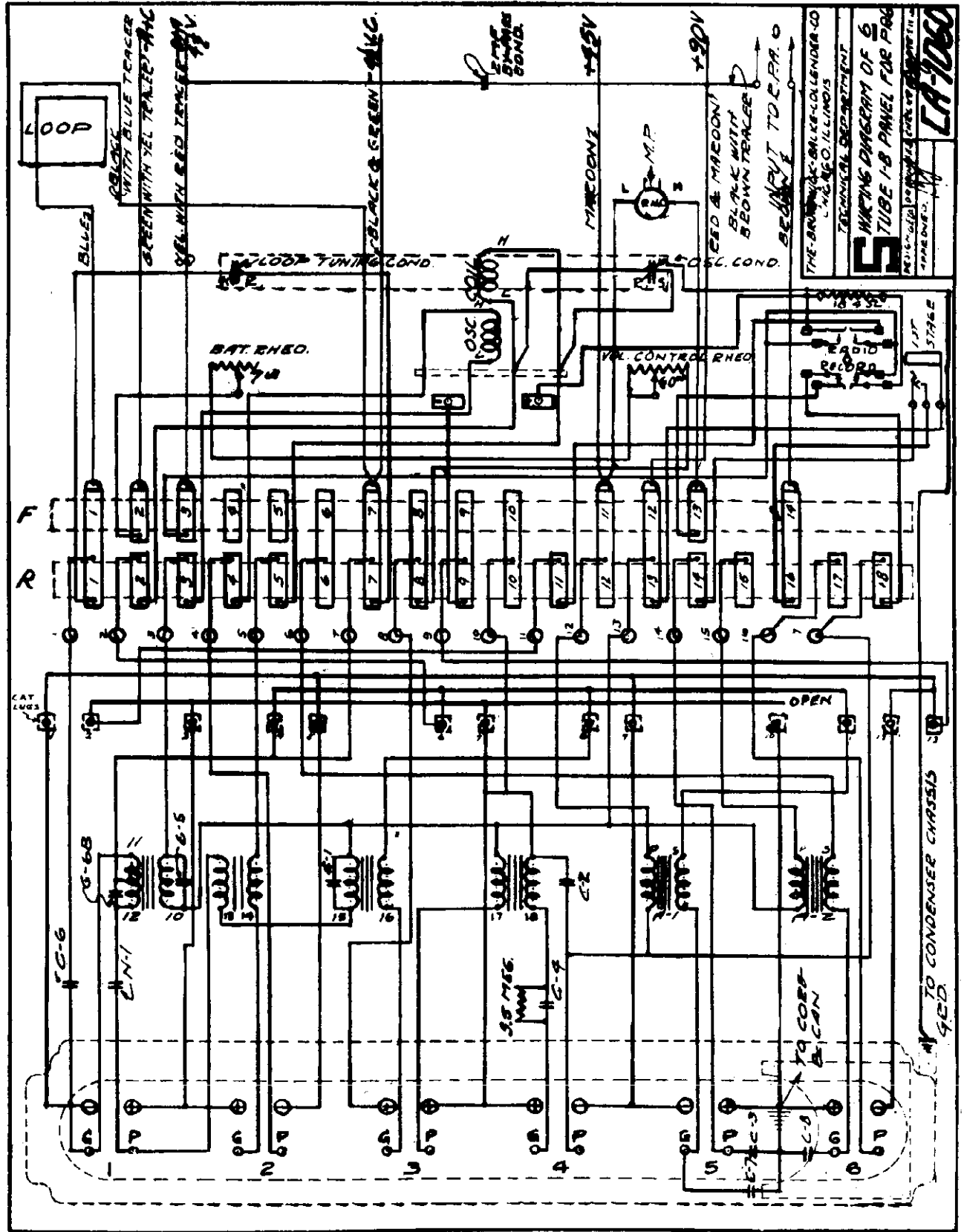
Drawn By *[Signature]* Traced By *[Signature]*

Approved By *[Signature]*

SUPERCEDED BY DWG. No. CA 1012

BRUNSWICK RADIO CORPORATION

MODEL PR-6  
6 Tube 1-B Panel



THE BRUNSWICK RADIO CORPORATION  
CHICAGO, ILLINOIS  
TECHNICAL DEPARTMENT

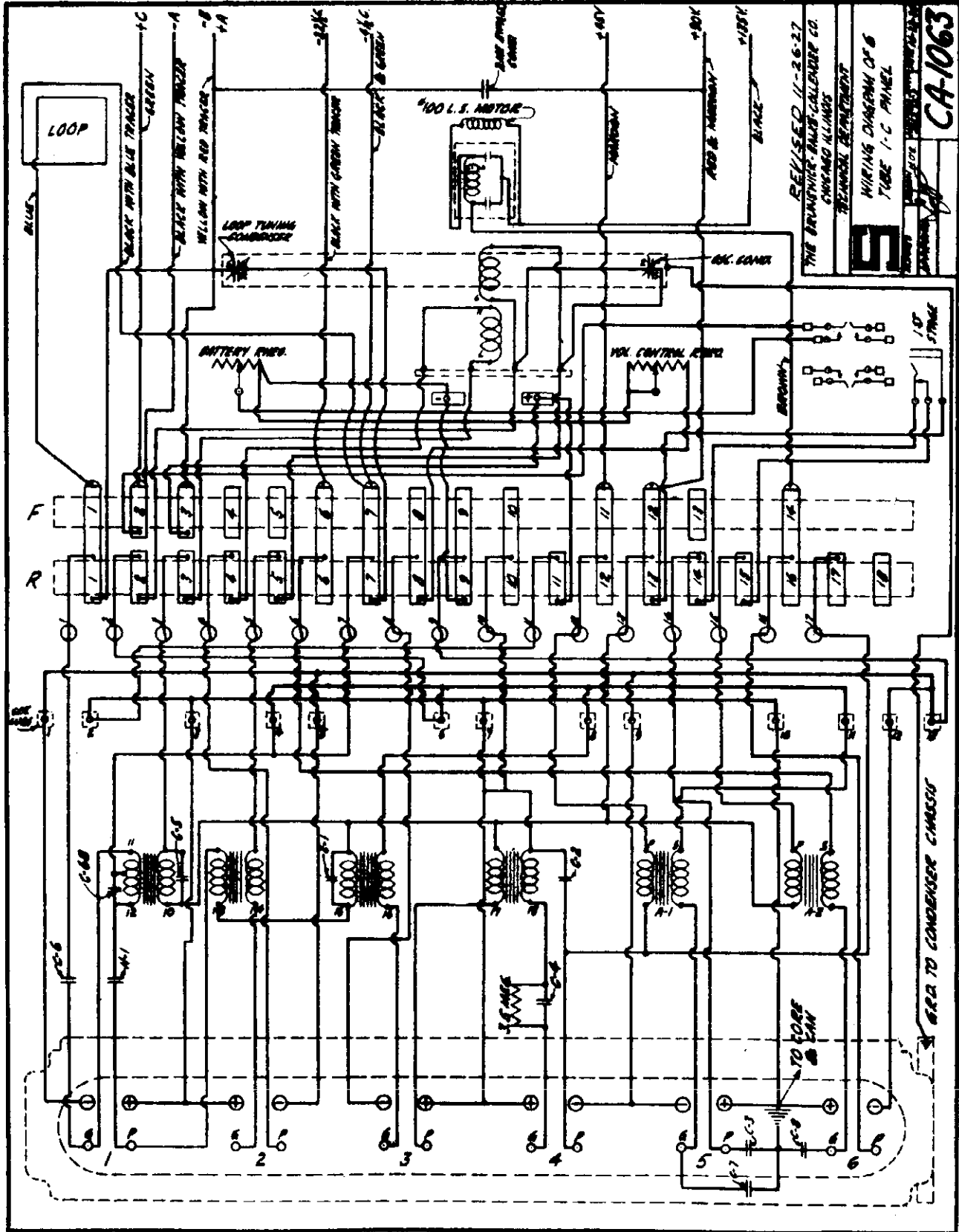
**5** WIRING DIAGRAM OF 6 TUBE 1-B PANEL FOR PR-6

REVISIONS TO THIS DIAGRAM ARE LISTED IN APPENDIX D.

CA-7060

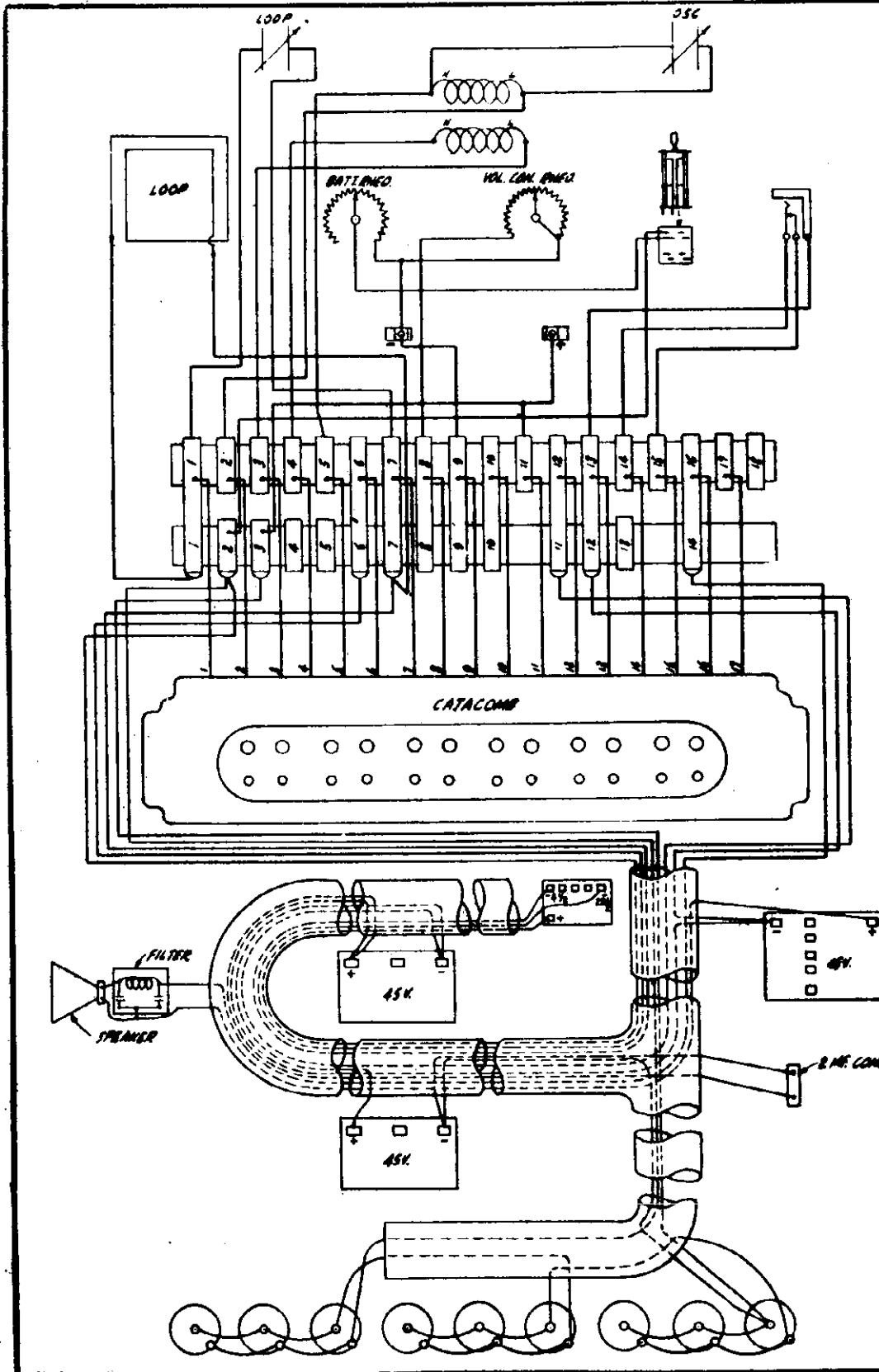
MODEL PR-6  
6 Tube 1-C  
Panel

BRUNSWICK RADIO CORPORATION



BRUNSWICK RADIO CORPORATION

MODEL 6 Tube  
Cordova



THE BRUNSWICK-WALTE-COLEMAN CO.  
 CHICAGO-ILLINOIS  
 TECHNICAL DEPARTMENT

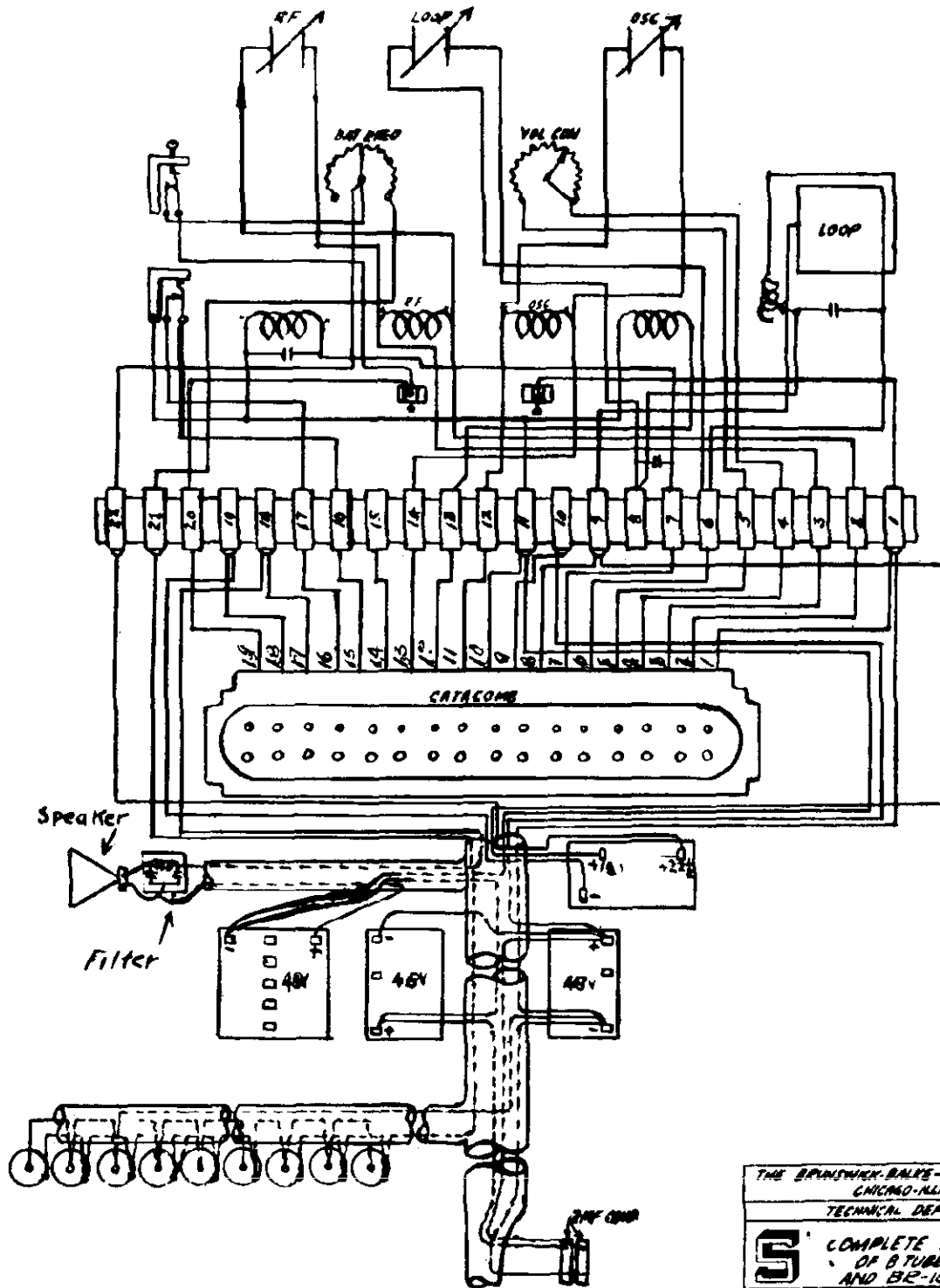
COMPLETE WIRING DIAGRAM  
 OF 6 TUBE CORDOVA

REVISED 4-28-37  
 J.L.S.

CA-1112

MODEL 8 Tube  
Cordova

BRUNSWICK RADIO CORPORATION



THE BRUNSWICK-BALKE-COLLIER CO.  
CHICAGO-ILLINOIS  
TECHNICAL DEPARTMENT

**S** COMPLETE WIRING DIAGRAM  
OF 8 TUBE CORDOVA  
AND BR-18 CABINETS.

DESIGNED BY [Signature] NOV 1921  
CHECKED BY [Signature] DEC 1921  
APPROVED BY [Signature] 1-10-22

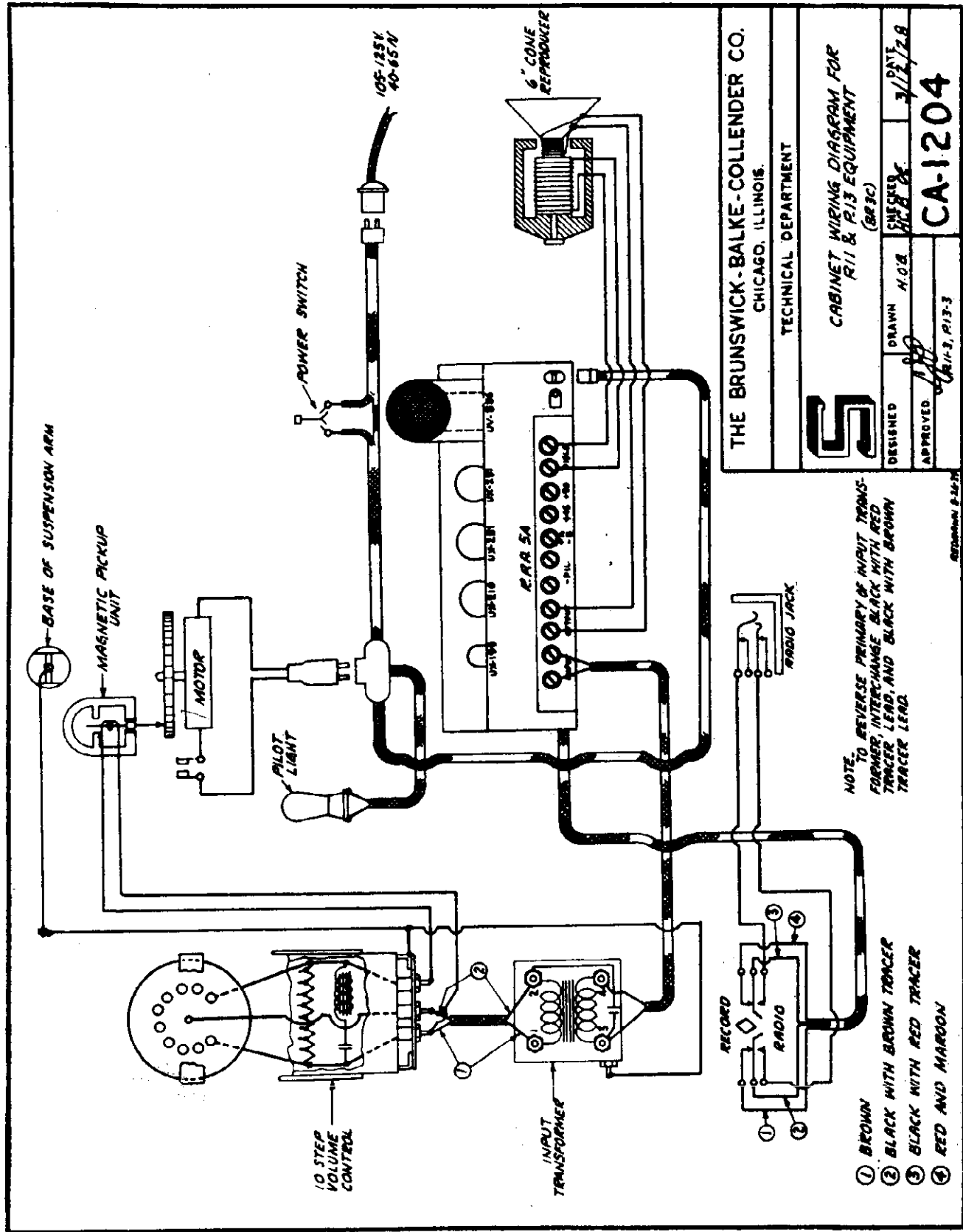
CA-1111





BRUNSWICK RADIO CORPORATION

MODEL P-11, P-13  
Cabinet Wiring



NOTE TO REVERSE PHASE OF INPUT TRANSFORMER, INTERCHANGE BLACK WITH RED TRACER LEAD, AND BLACK WITH BROWN TRACER LEAD.

- ① BROWN
- ② BLACK WITH BROWN TRACER
- ③ BLACK WITH RED TRACER
- ④ RED AND MAROON

THE BRUNSWICK-BALKE-COLLENDER CO.  
CHICAGO, ILLINOIS.

TECHNICAL DEPARTMENT

CABINET WIRING DIAGRAM FOR  
P-11 & P-13 EQUIPMENT  
(BR 9C)

DESIGNED	H.O.B.	DATE	3/12/28
APPROVED	<i>[Signature]</i>		

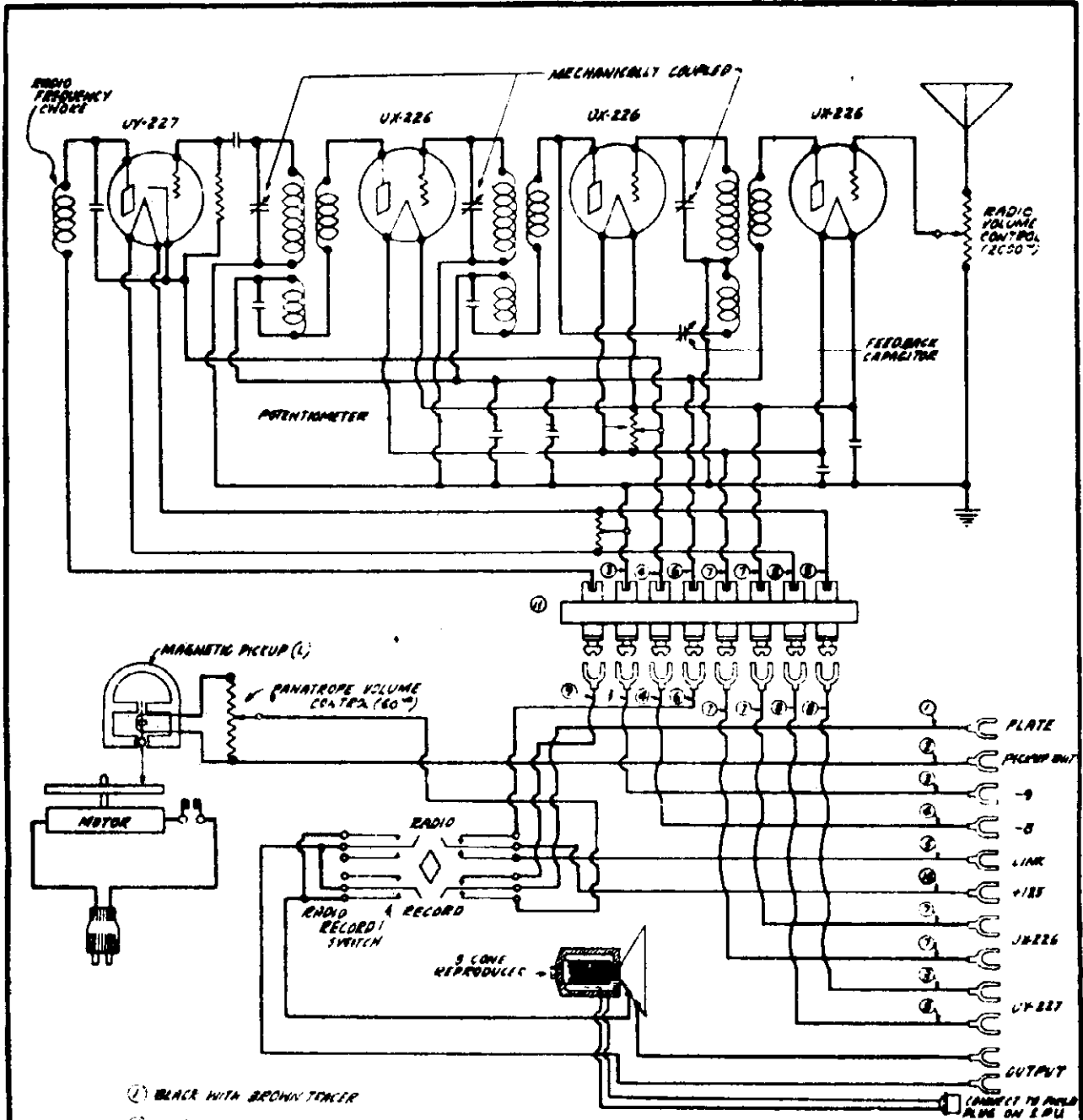
CA-1204

REVISION P-2574



MODEL 3 KR8  
RF Schematic

BRUNSWICK RADIO CORPORATION



- ① BLACK WITH BROWN TRACER
- ② BROWN
- ③ BLACK WITH GREEN TRACER
- ④ BLACK WITH RED TRACER
- ⑤ MAROON
- ⑥ RED AND MAROON
- ⑦ BLACK WITH YELLOW TRACER
- ⑧ BLUE
- ⑨ RED
- ⑩ BLACK
- ⑪ BROWN WITH WHITE TRACER

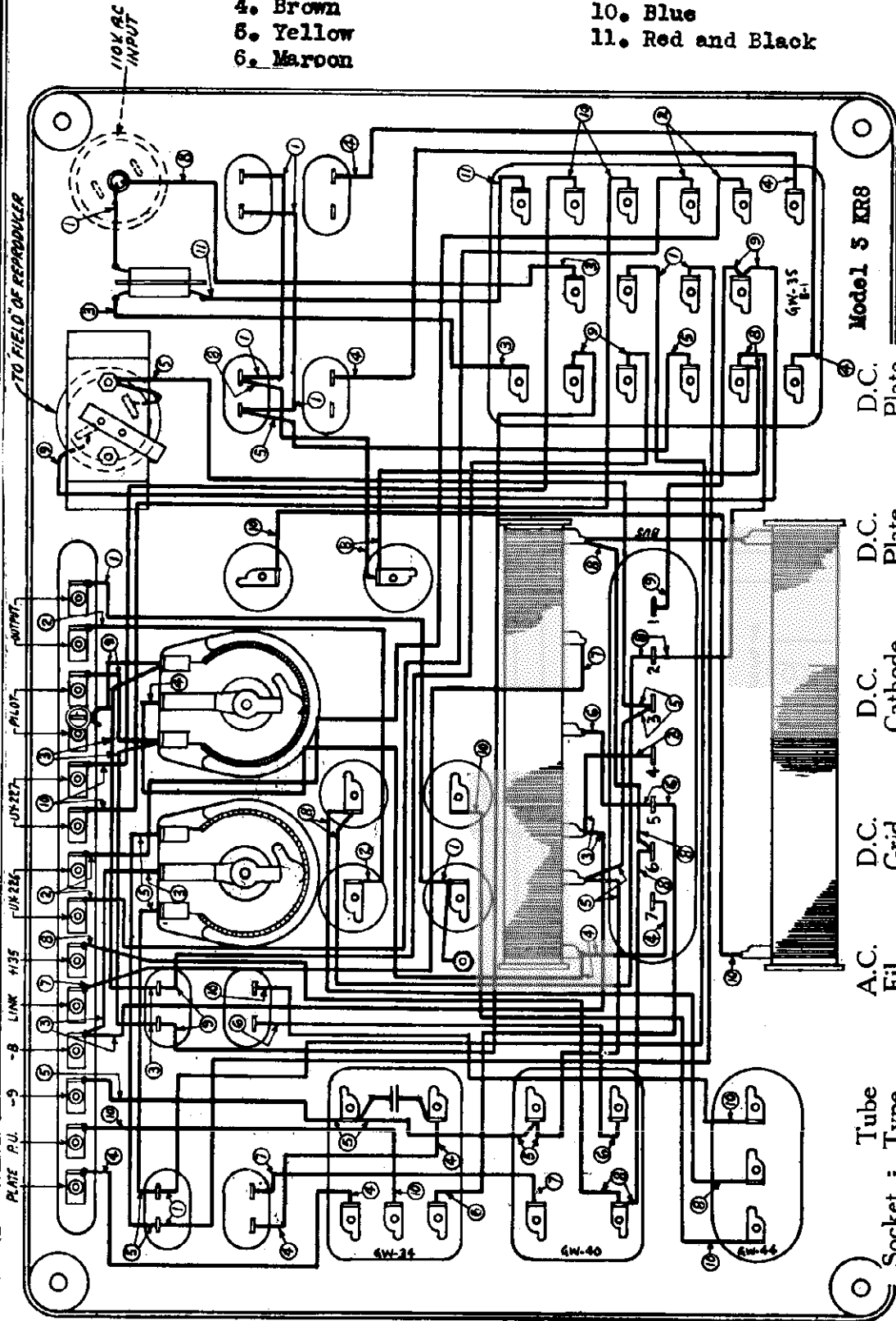
BRUNSWICK—Model 3KR8  
Line Voltage 115—Volume Control Minimum

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1-10 A-F DET STR	MEASURED PLUG IN SOCKET OF SET								
			TUBE OUT			TUBE IN TESTER					
			VOLTS	WATTS	WATTS	WATTS	WATTS	WATTS	WATTS	WATTS	
1	226	1st. A.F.	1.5	1.58	1.4	1.30	9	—	5	9.5	4.5
2	226	2nd. A.F.	1.5	1.58	1.4	1.30	9	—	5	9.5	4.5
3	226	3rd. A.F.	2.4	1.58	2.1	1.30	9	—	5	9.5	4.5
4	227	Detector	2.4	1.58	2.1	1.30	9	—	5	9.5	4.5
5	226	1st. A.F.	1.5	1.58	1.4	1.30	9	—	5	10.0	5.0
6	250	End. A.F.	7.0	500	6.6	450	70	—	50	55.0	5.0

MODEL 3 KR8  
SPU Chassis

BRUNSWICK RADIO CORP.

- 1. Black
- 2. Black with Yellow Tracer
- 3. Black with Red Tracer
- 4. Brown
- 5. Yellow
- 6. Maroon
- 7. Maroon and Red
- 8. Red
- 9. Green
- 10. Blue
- 11. Red and Black



THE BRUNSWICK-BALKE-COLLIER CO.  
CHICAGO-ALINDI  
TECHNICAL DIVISION  
ACTUAL WIRING DIAGRAM OF C.R.U.  
USED WITH 3KR8 EQUIPMENT  
REVISED 11-10-33  
DATE 11-5-33

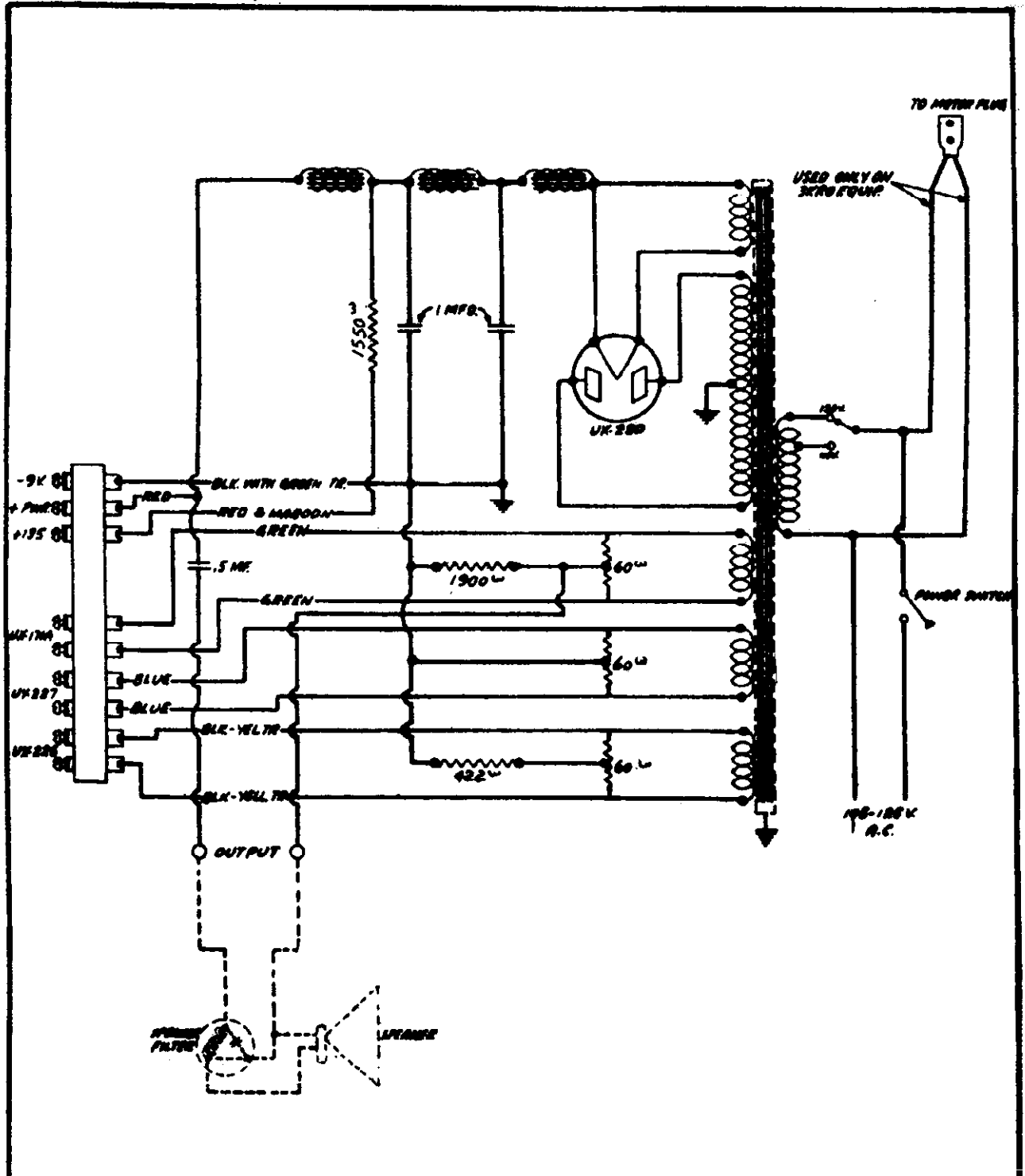
Model 3 KR8

Tube Socket : Type	A.C. Fil. Voltage	D.C. Grid Voltage	D.C. Cathode Voltage	D.C. Plate Voltage	D.C. Plate Current
1st R. F. UX-226	1.4	-9	None	130	4-6
2nd R. F. UX-226	1.4	-9	None	130	4-6
3rd R. F. UX-226	1.4	-9	None	130	4-6
Detector UY-227	2.1	None*	0	45	2-3



BRUNSWICK RADIO CORP.

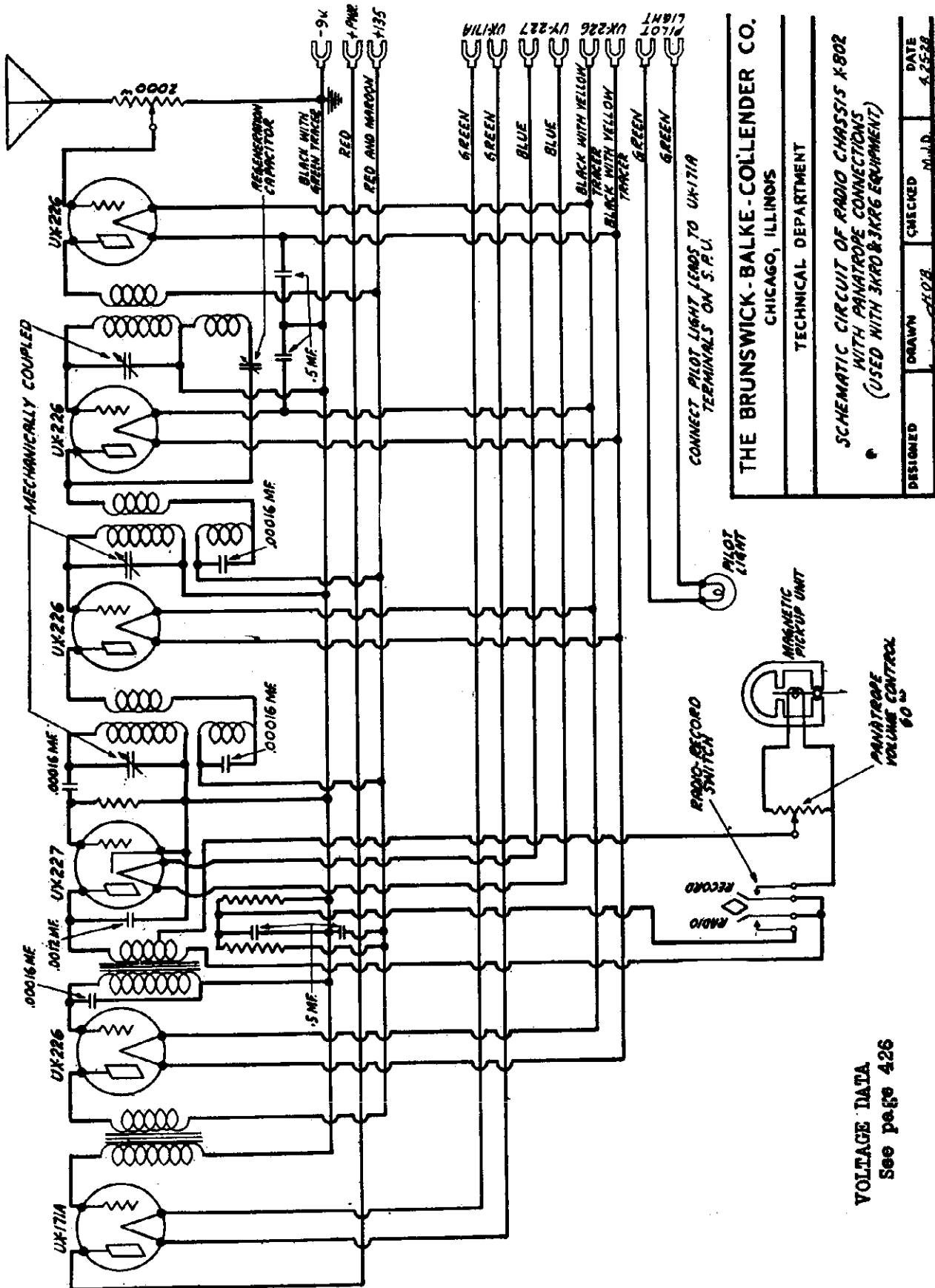
MODEL 5 KR, 5 KRO  
2 KRO, 3 KRO  
SPU Schematic



Model 5 KR, 5 KRO, 2 KRO, 3 KRO SPU.

MODEL 3 KRO, 3 KR6  
RF Schematic

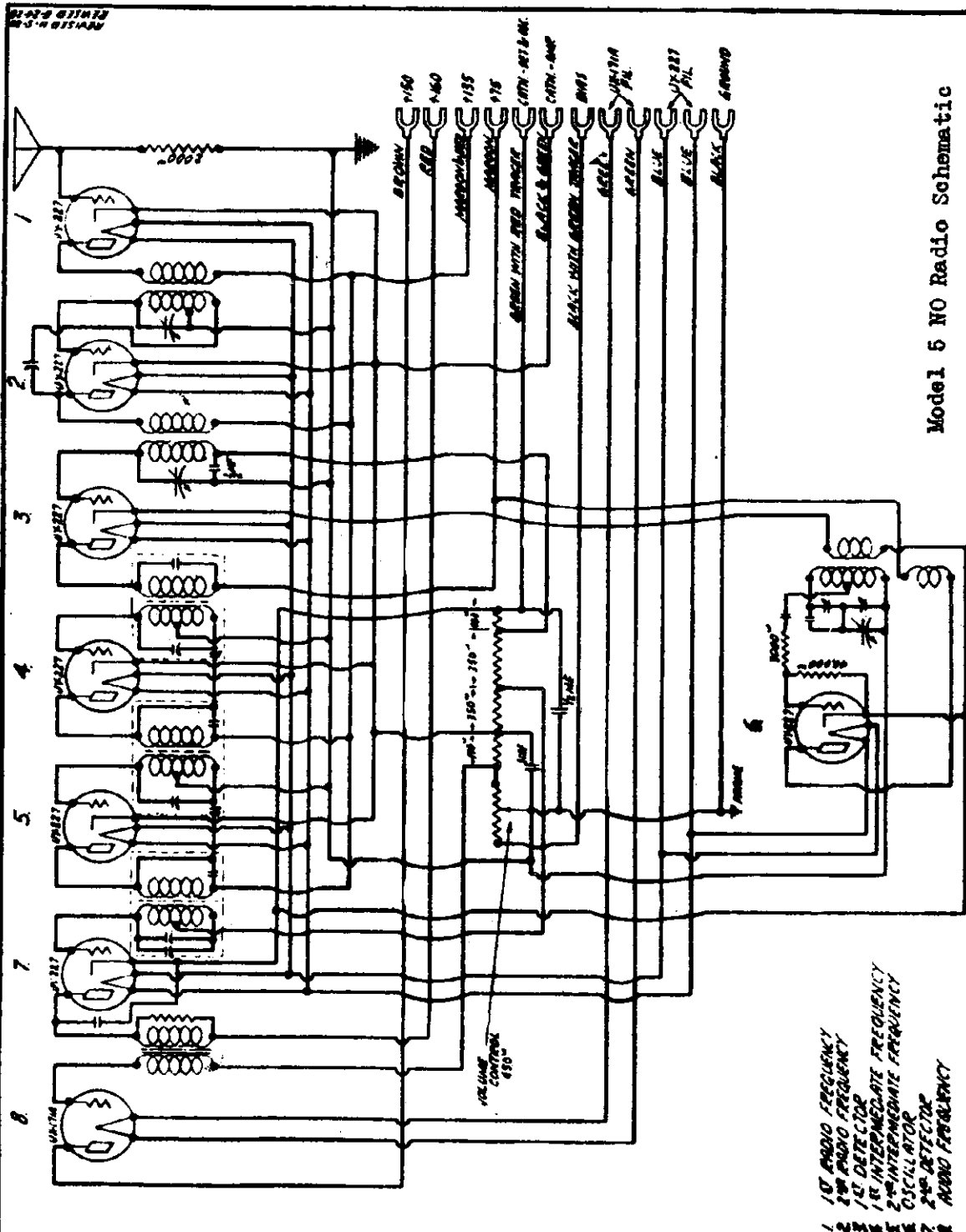
BRUNSWICK RADIO CORP.



VOLTAGE DATA  
See page 426

BRUNSWICK RADIO CORP.

MODEL 5 NO  
RF Schematic



Model 5 NO Radio Schematic

- 1 1ST AUDIO FREQUENCY
- 2 2ND AUDIO FREQUENCY
- 3 1ST DETECTOR
- 4 1ST INTERMEDIATE FREQUENCY
- 5 2ND INTERMEDIATE FREQUENCY
- 6 OSCILLATOR
- 7 2ND DETECTOR
- 8 AUDIO FREQUENCY

5NO (A.C.)

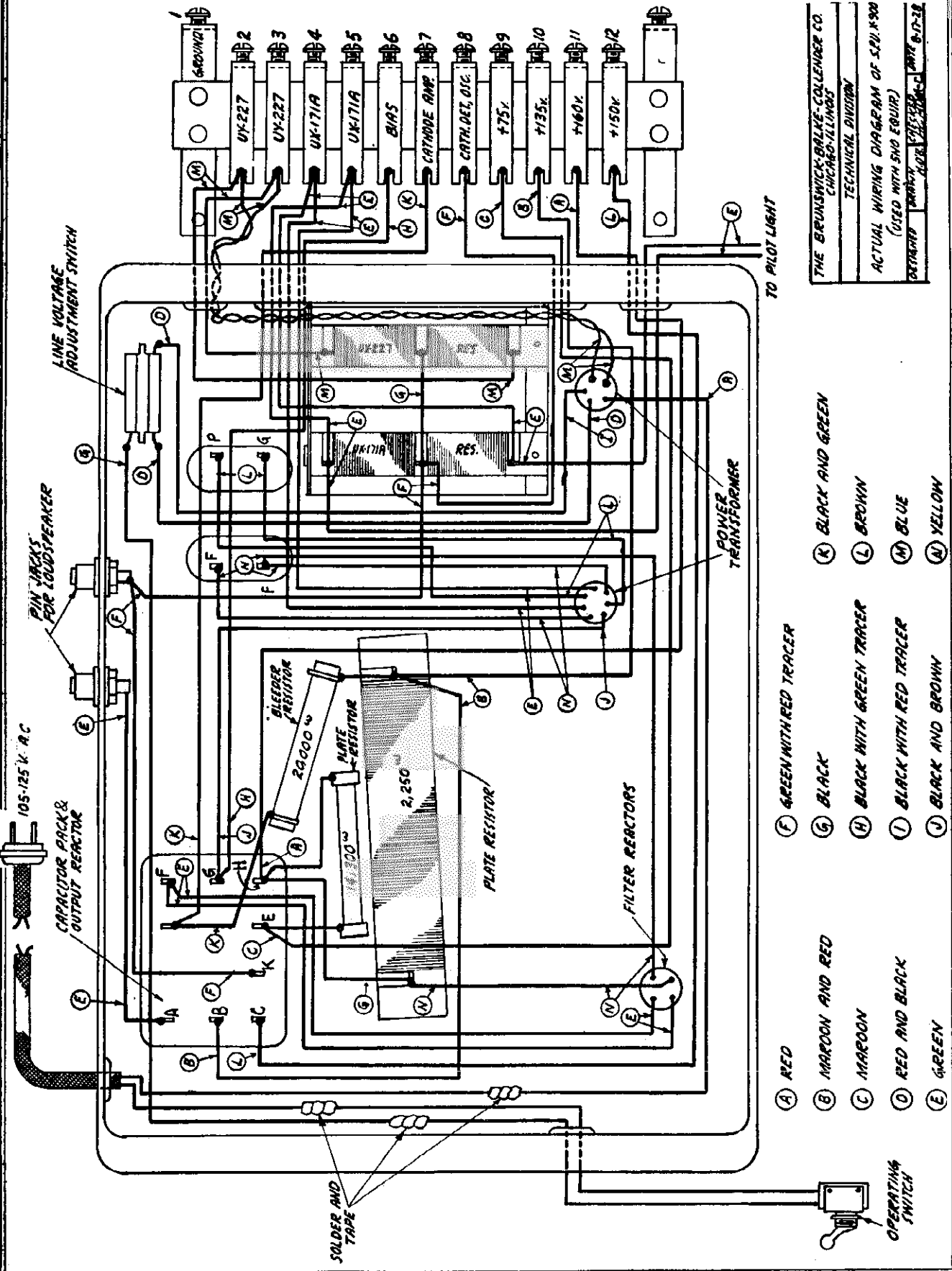
CK-971A	C-327	C-327	C-327	C-327	C-327	C-327	CX-380
A.F. AMP.	Power Out.	Oscillator	2nd I.F.	1st I.F.	1st Det.	2nd R.F.	Rect.
						C-327	
						1st R.F.	

BRUNSWICK—Model 5NO—  
Line Voltage 110—Volume Control Minimum

TUBE	TYPE	POSITION OF TUBE IN SET	TUBE DATA				RECOMMENDED PLATE SUPPLY				TUBE IN USE	
			W	A	B	C	VOLTS	MA	PLATE	GRID	PLATE	GRID
227	Ant. Coupler	2-35	170	2-35	180	24	27	1.0	2.0	1.0	2.0	
227	1st. R.F.	2-35	170	2-25	160	24	27	1.0	2.0	1.0	2.0	
227	1st. Det.	2-35	94	2-25	80	10	10	1.0	2.0	1.0	2.0	
227	1st. I.F.	2-35	170	2-25	160	24	27	1.0	2.0	1.0	2.0	
227	2nd. I.F.	2-35	170	2-25	160	24	27	1.0	2.0	1.0	2.0	
227	Oscillator	2-35	120	2-25	75	-	-	1.0	2.0	1.0	2.0	
227	2nd. Det.	2-35	170	2-25	160	15	-	1.0	2.0	1.0	2.0	
171A	Power	5-5	180	5.0	150	30	-	20.0	20.0	2.0	2.0	
280	Rectifier	-	-	5.0	-	-	-	20.0	-	-	-	

MODEL 5 NO  
SPU Chassis

BRUNSWICK RADIO CORP.



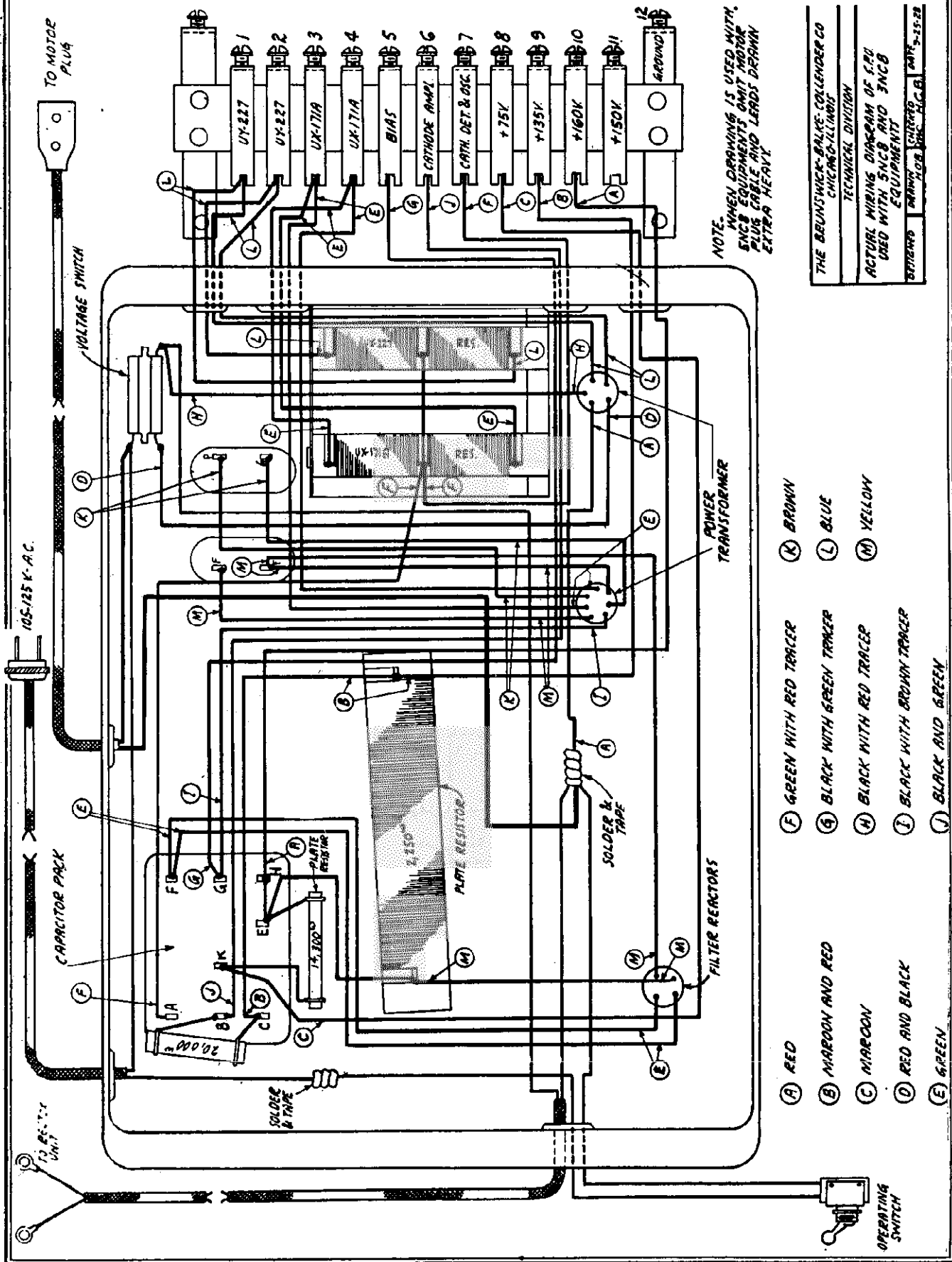
- (A) RED
- (B) MAROON AND RED
- (C) MAROON
- (D) RED AND BLACK
- (E) GREEN
- (F) GREEN WITH RED TRACER
- (G) BLACK
- (H) BLACK WITH GREEN TRACER
- (I) BLACK WITH RED TRACER
- (J) BLACK AND BROWN
- (K) BLACK AND GREEN
- (L) BROWN
- (M) BLUE
- (N) YELLOW





MODEL 3 NC8, 5 NC8  
Audio Chassis

BRUNSWICK RADIO CORP.



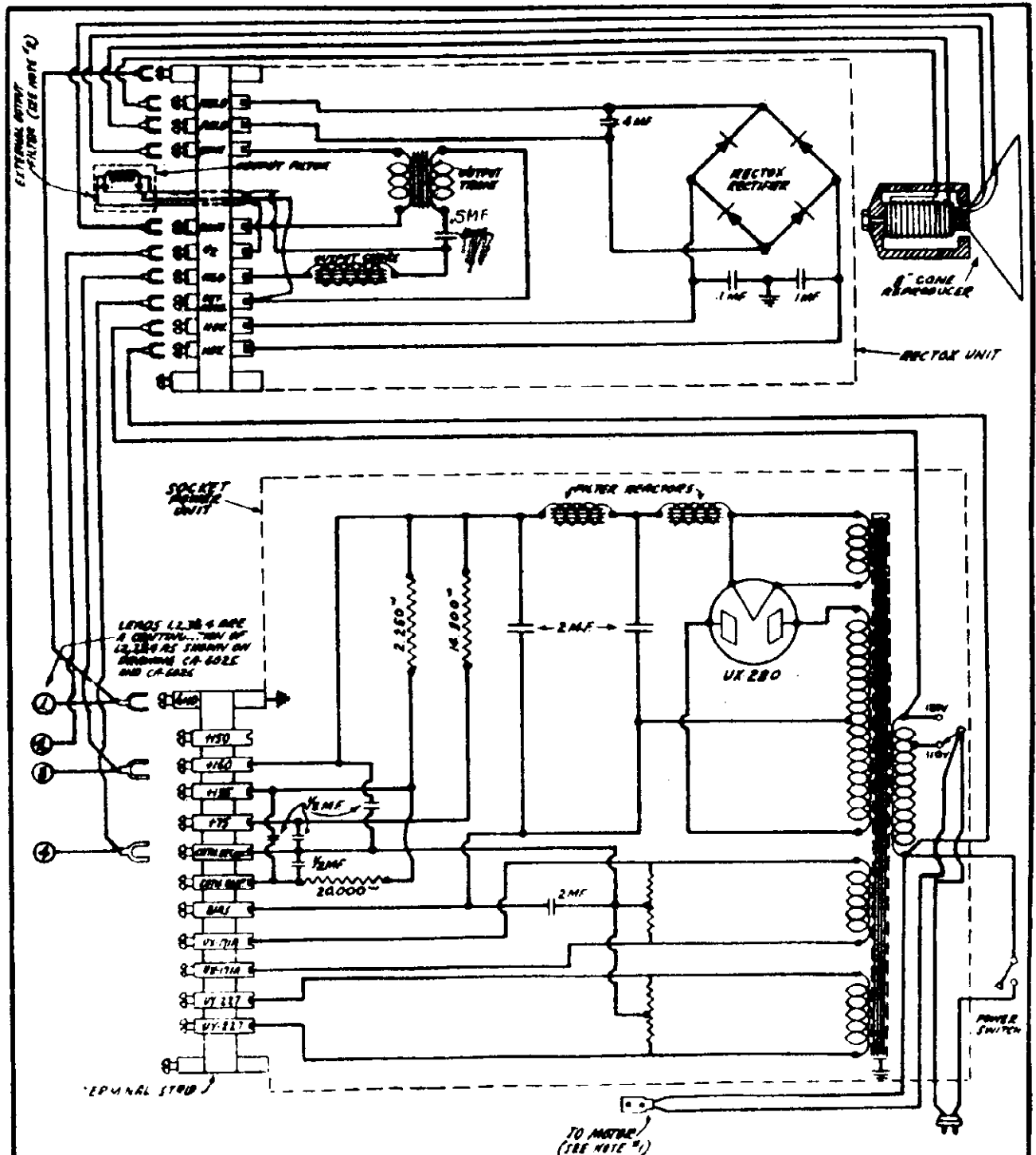
NOTE: WHEN DRAWING IS USED WITH ENCLOSURE EQUIPMENT OMIT MOTOR PLUG CABLE AND LEADS DRAWN EXTRA HEAVY

- (A) RED
- (B) MAROON AND RED
- (C) MAROON
- (D) RED AND BLACK
- (E) GREEN
- (F) GREEN WITH RED TRACER
- (G) BLACK WITH GREEN TRACER
- (H) BLACK WITH RED TRACER
- (I) BLACK WITH BROWN TRACER
- (J) BLACK AND GREEN
- (K) BROWN
- (L) BLUE
- (M) YELLOW

THE BRUNSWICK-BALKE-COLLENDER CO.			
CHICAGO-ILLINOIS			
TECHNICAL DIVISION			
ACTUAL WIRING DIAGRAM OF S.P. USED WITH 5NC8 AND 5NC8 EQUIPMENT			
BRUNSWICK	PART NO.	REV.	DATE
	408	1	5-15-28
			PAGE
			1

BRUNSWICK RADIO CORP.

MODEL 3 NCB, 5 NCB  
Audio Schematic

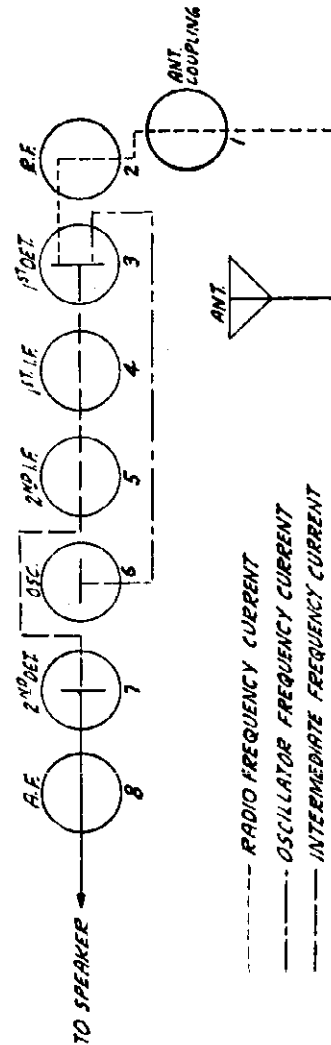
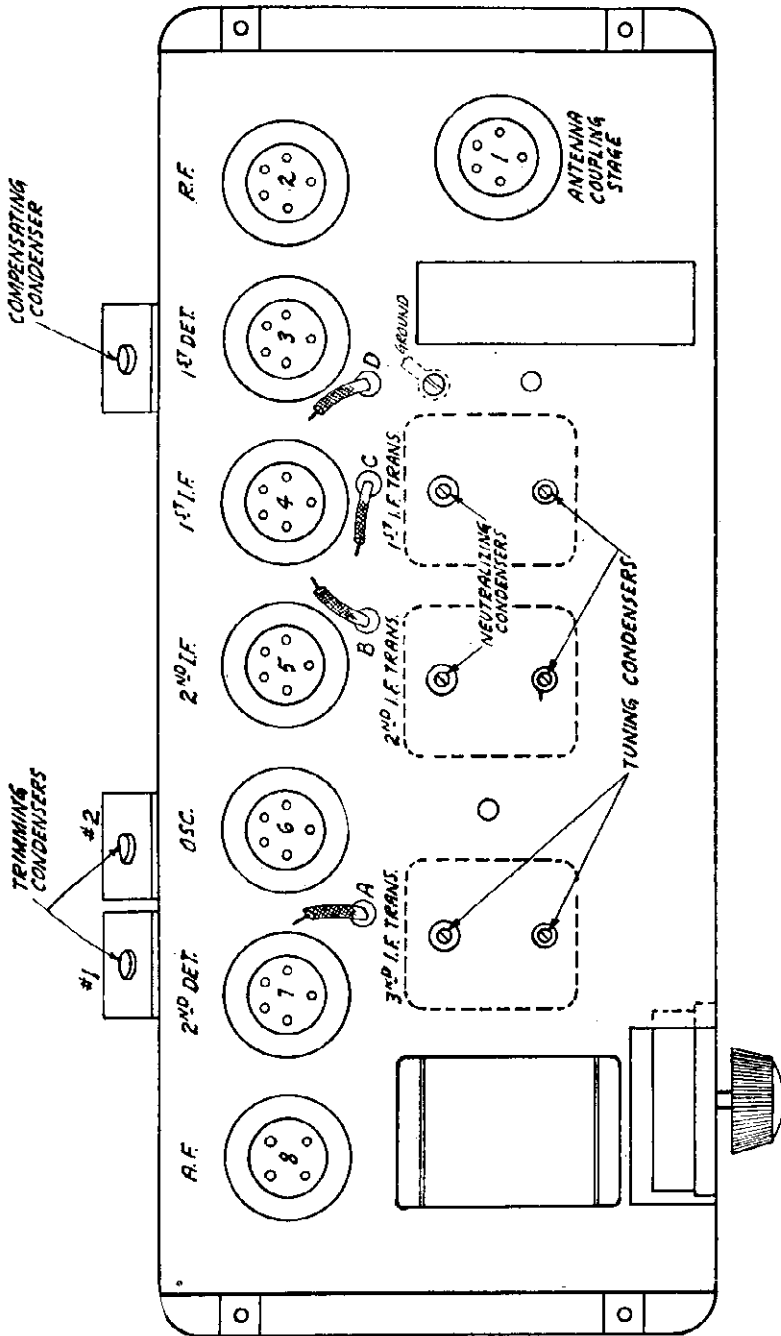


Model 3 NCB, 5 NCB Audio Schematic

- NOTE:
1. MOTOR PLUG AND LEADS NOT USED WITH S PU FOR SMCB EQUIPMENT
  2. EXTERNAL OUTPUT FILTER IS USED ONLY ON THE SMCB EQUIPMENTS

MODEL 5 NO. 5 NC8,  
3 NC8  
Trimmer Locations

BRUNSWICK RADIO CORP.



THE BRUNSWICK-BALKE-COLLENDER CO.  
CHICAGO ILLINOIS.  
TECHNICAL DEPARTMENT

LOCATION OF ADJUSTING CONDENSERS ON  
5NO. 5NC8 & 3NC8 EQUIPMENTS

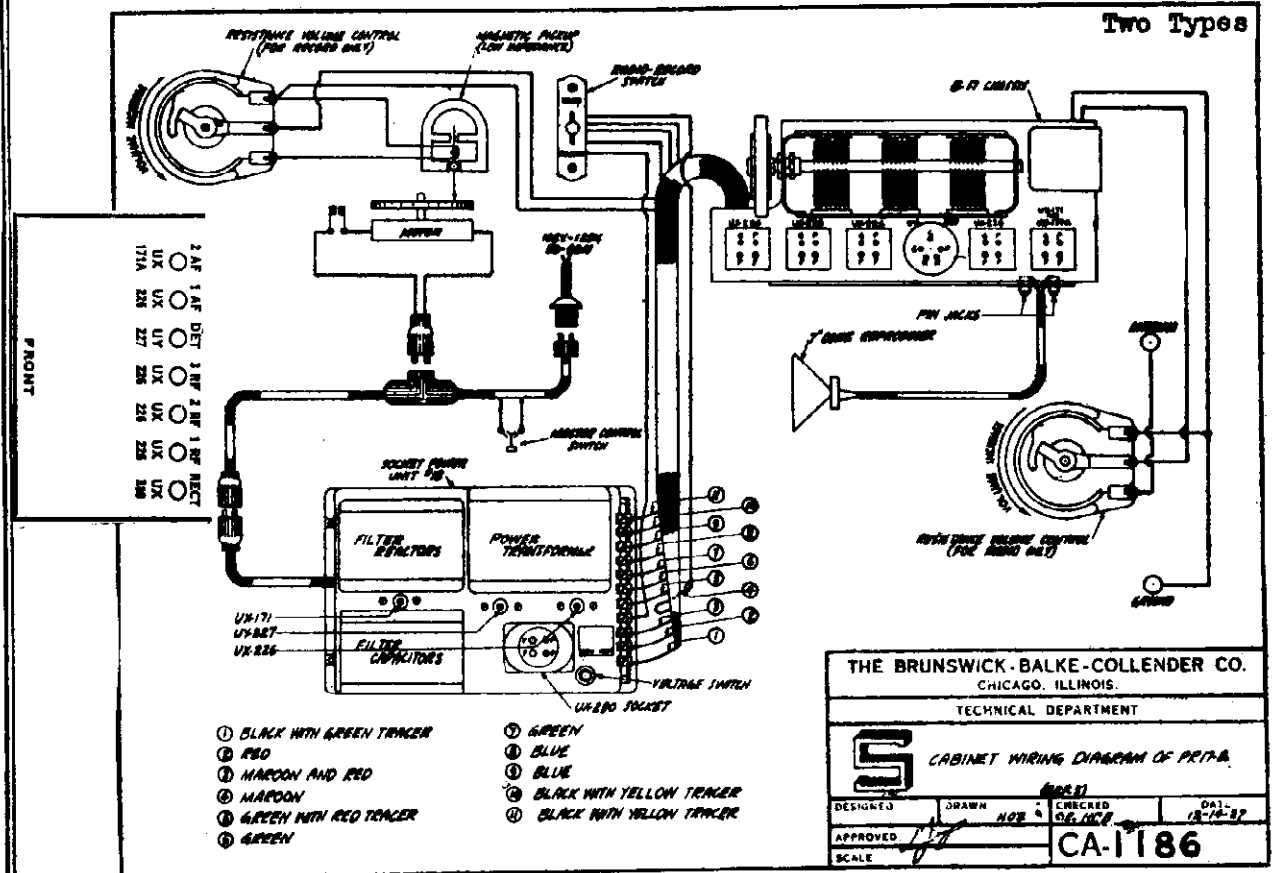
DESIGNED	DRAWN	CHECKED	DATE
	H.O.B.	H.C.D.	10-10-28
APPROVED:	SCALE		
	CA-6039		

REVISED 11-12-28  
REVISED 10-26-28

BRUNSWICK RADIO CORPORATION

MODEL PR-17-8.  
BRP-5

Two Types



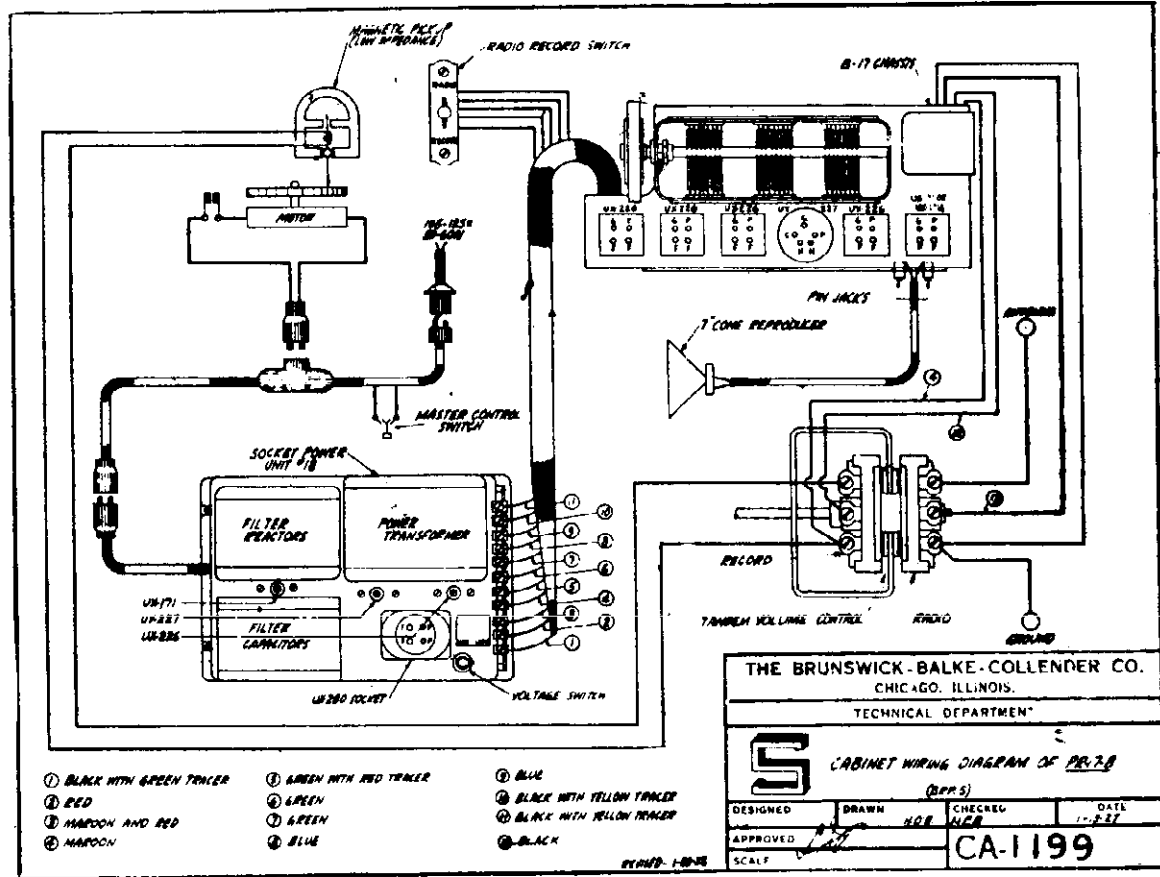
- ① BLACK WITH GREEN TRACER
- ② RED
- ③ MAROON AND RED
- ④ MAROON
- ⑤ GREEN WITH RED TRACER
- ⑥ GREEN
- ⑦ BLUE
- ⑧ BLUE
- ⑨ BLACK WITH YELLOW TRACER
- ⑩ BLACK WITH YELLOW TRACER

THE BRUNSWICK-BALKE-COLLENDER CO.  
CHICAGO, ILLINOIS.

TECHNICAL DEPARTMENT

**S** CABINET WIRING DIAGRAM OF PR-17-8  
(BRP-5)

DESIGNED	DRAWN	CHECKED	DATE
	HCB	GE, HCB	12-14-47
APPROVED	SCALE		CA-1186



- ① BLACK WITH GREEN TRACER
- ② RED
- ③ MAROON AND RED
- ④ MAROON
- ⑤ GREEN WITH RED TRACER
- ⑥ GREEN
- ⑦ BLUE
- ⑧ BLUE
- ⑨ BLACK WITH YELLOW TRACER
- ⑩ BLACK

THE BRUNSWICK-BALKE-COLLENDER CO.  
CHICAGO, ILLINOIS.

TECHNICAL DEPARTMENT

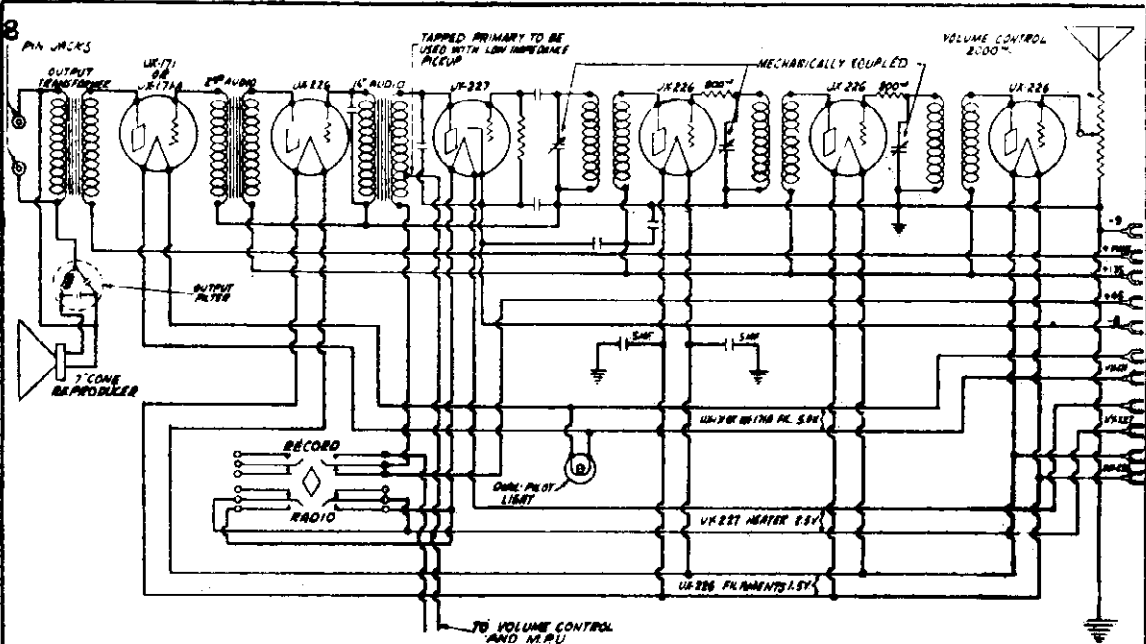
**S** CABINET WIRING DIAGRAM OF PR-17-8  
(BRP-5)

DESIGNED	DRAWN	CHECKED	DATE
	HCB	HCB	1-2-48
APPROVED	SCALE		CA-1199

MODEL B-17  
MODEL SFU 18

BRUNSWICK RADIO CORPORATION

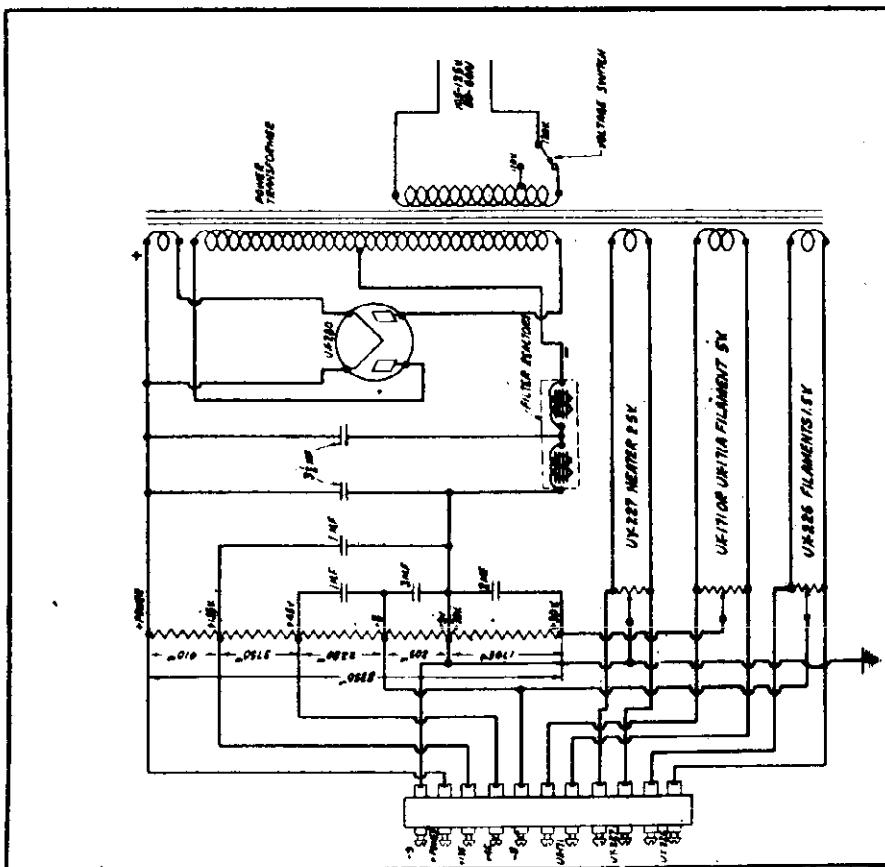
For  
PR-17-8



THE BRUNSWICK-BALKE-COLLENDER CO.  
CHICAGO, ILLINOIS.  
TECHNICAL DEPARTMENT

**S** SCHEMATIC WIRING DIAGRAM OF B-17 CHASSIS AS USED IN MODEL PR-17-8  
(OVER)

DESIGNED	DRAWN	CHECKED	DATE
	KOB	S.A. JCA	1-16-37
APPROVED	CA-1190		
SCALE			



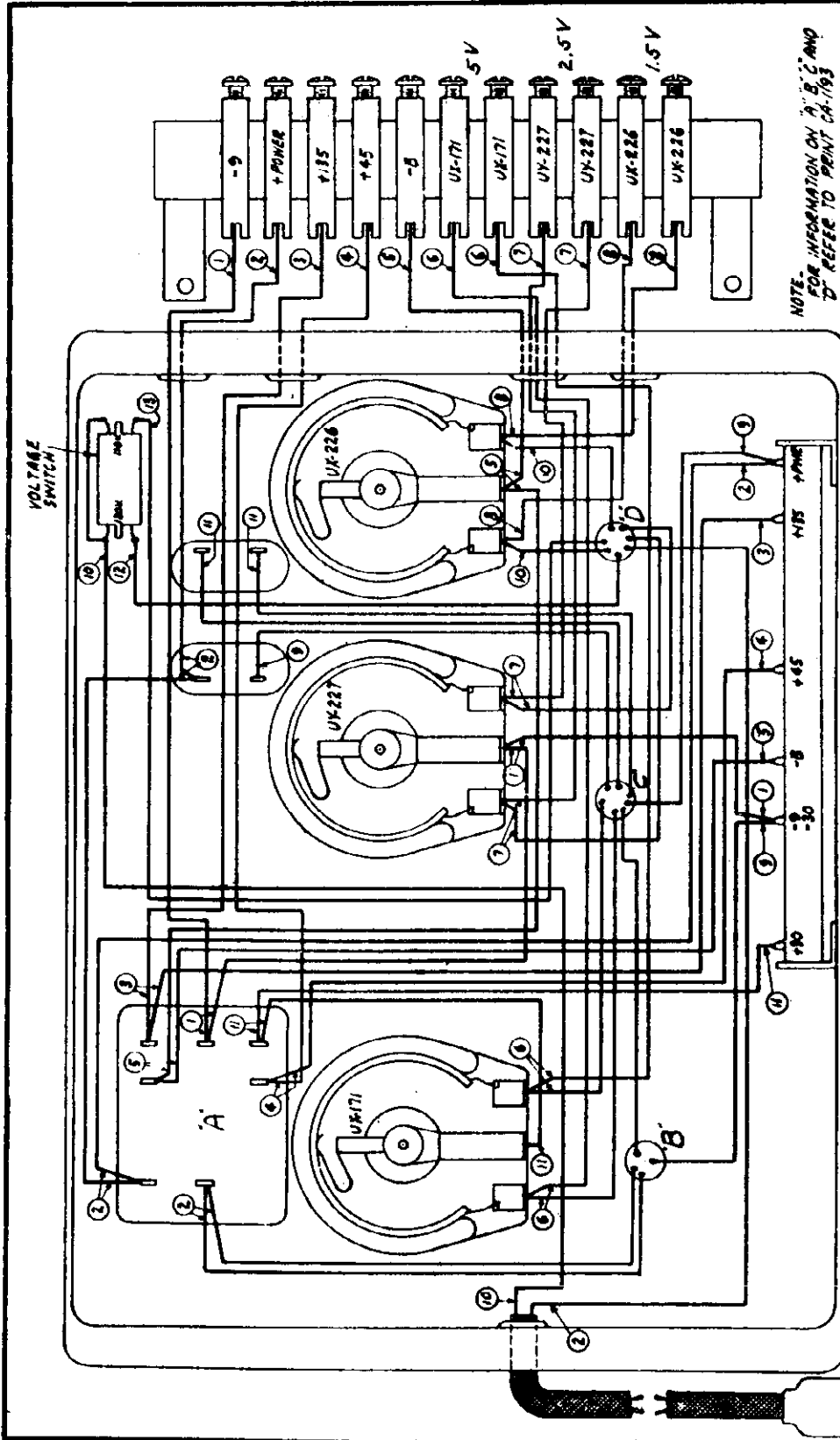
THE BRUNSWICK-BALKE-COLLENDER CO.  
CHICAGO, ILLINOIS  
TECHNICAL DEPARTMENT

**S** SCHEMATIC WIRING DIAGRAM OF S.F.U. 18 AS USED IN MODEL PR-17-8  
(OVER)

DESIGNED	DRAWN	CHECKED	DATE
	KOB	S.A. JCA	1-16-37
APPROVED	CA-1191		
SCALE			

BRUNSWICK RADIO CORPORATION

MODEL SPU-18  
Chassis for PR-17



NOTE FOR INFORMATION ON A, B, C AND D REFER TO PRINT CA-1192

- ① BLACK WITH GREEN TRACER
- ② RED
- ③ MAROON AND RED
- ④ MAROON
- ⑤ GREEN WITH RED TRACER
- ⑥ GREEN
- ⑦ BLUE
- ⑧ BLACK WITH YELLOW TRACER
- ⑨ YELLOW
- ⑩ BLACK
- ⑪ BROWN
- ⑫ RED AND BLACK
- ⑬ BLACK WITH RED TRACER
- ⑭ BLACK WITH BROWN TRACER

THE BRUNSWICK-GALKE-COLELINDER CO.  
CHICAGO, ILLINOIS

TECHNICAL DEPARTMENT

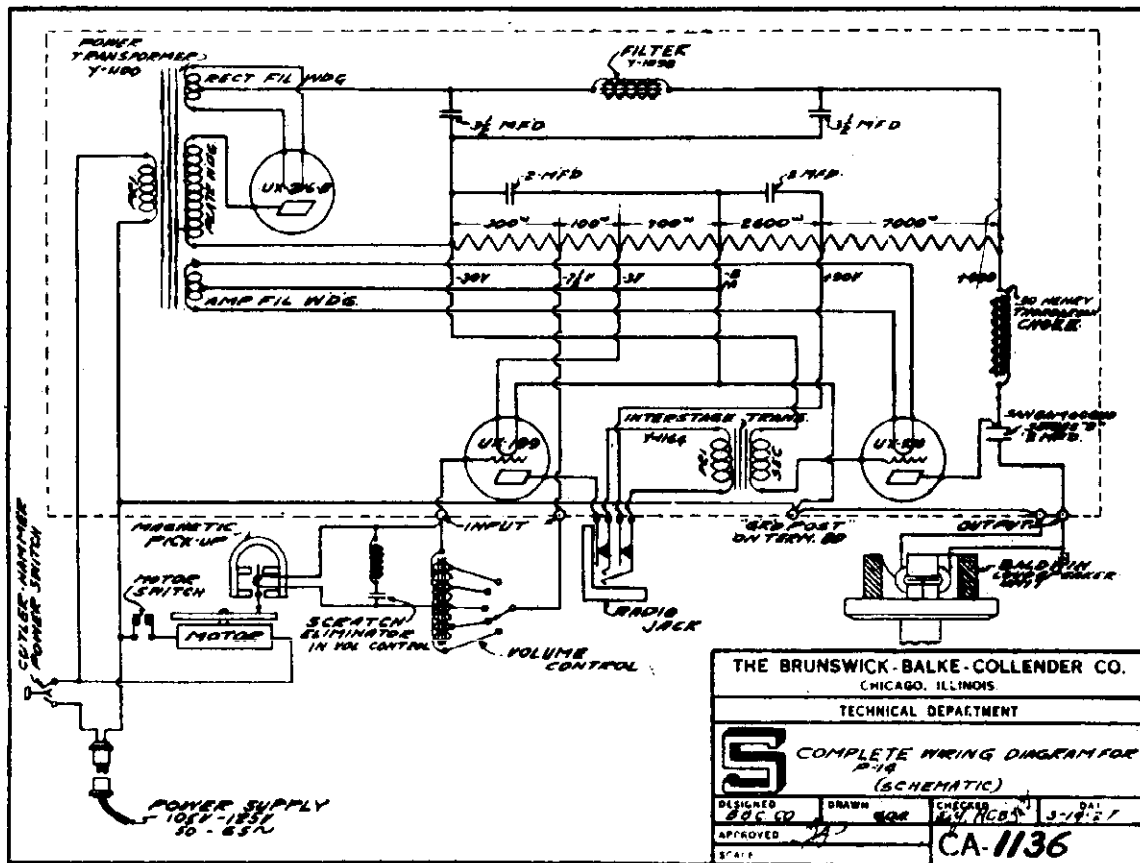
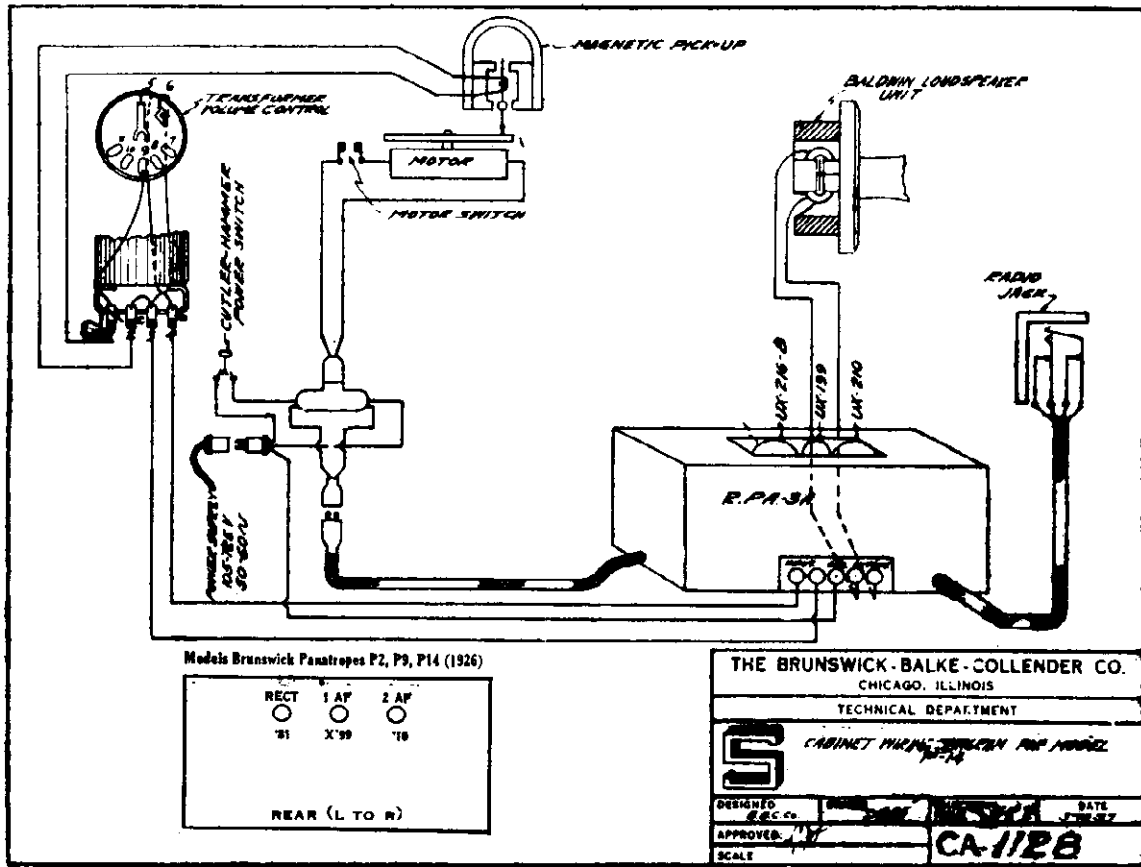
ACTUAL WIRING DIAGRAM OF  
SPU-18 AS USED IN PR-17

DATE: 1/25/50  
APPROVED: [Signature]  
DATE RE-FILED: [Signature]

CA-1192

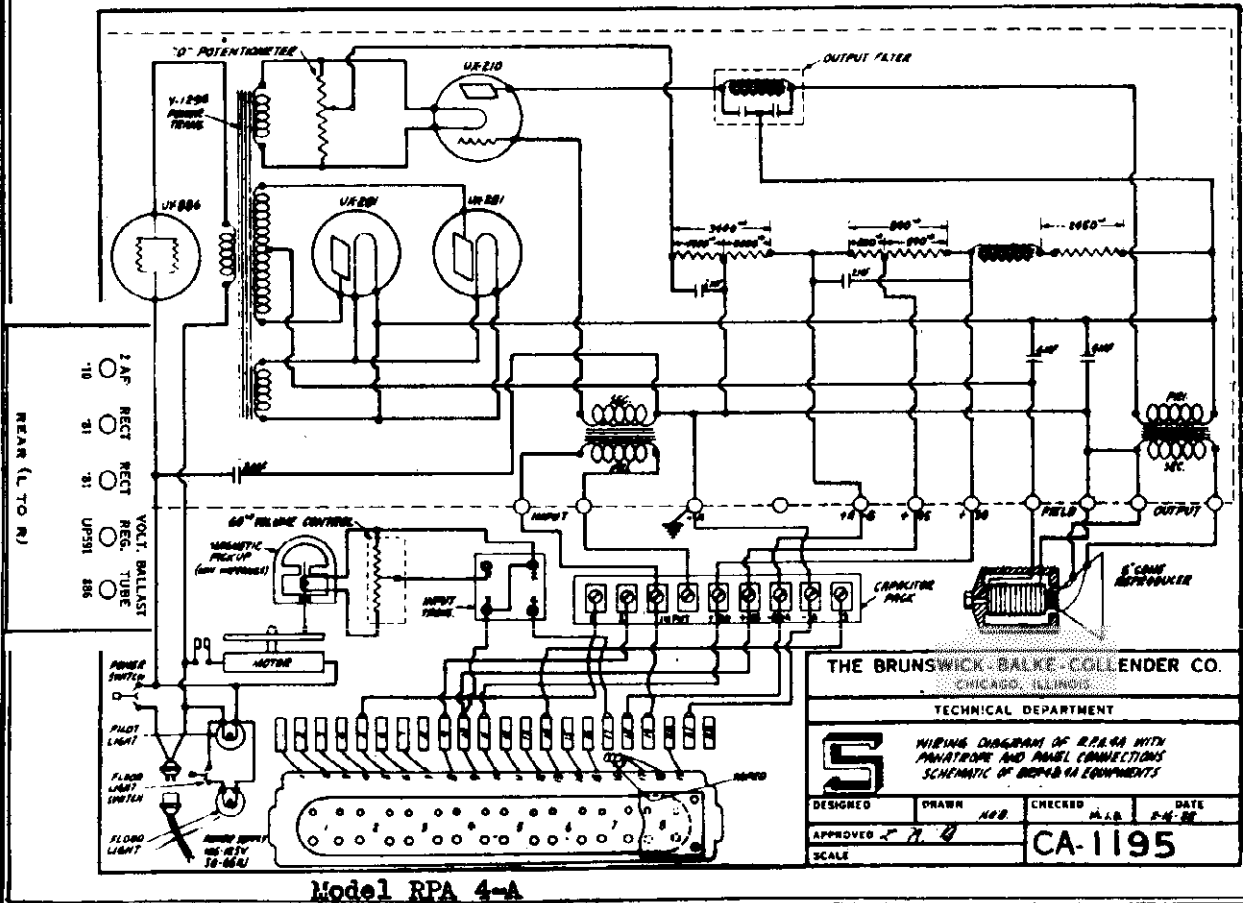
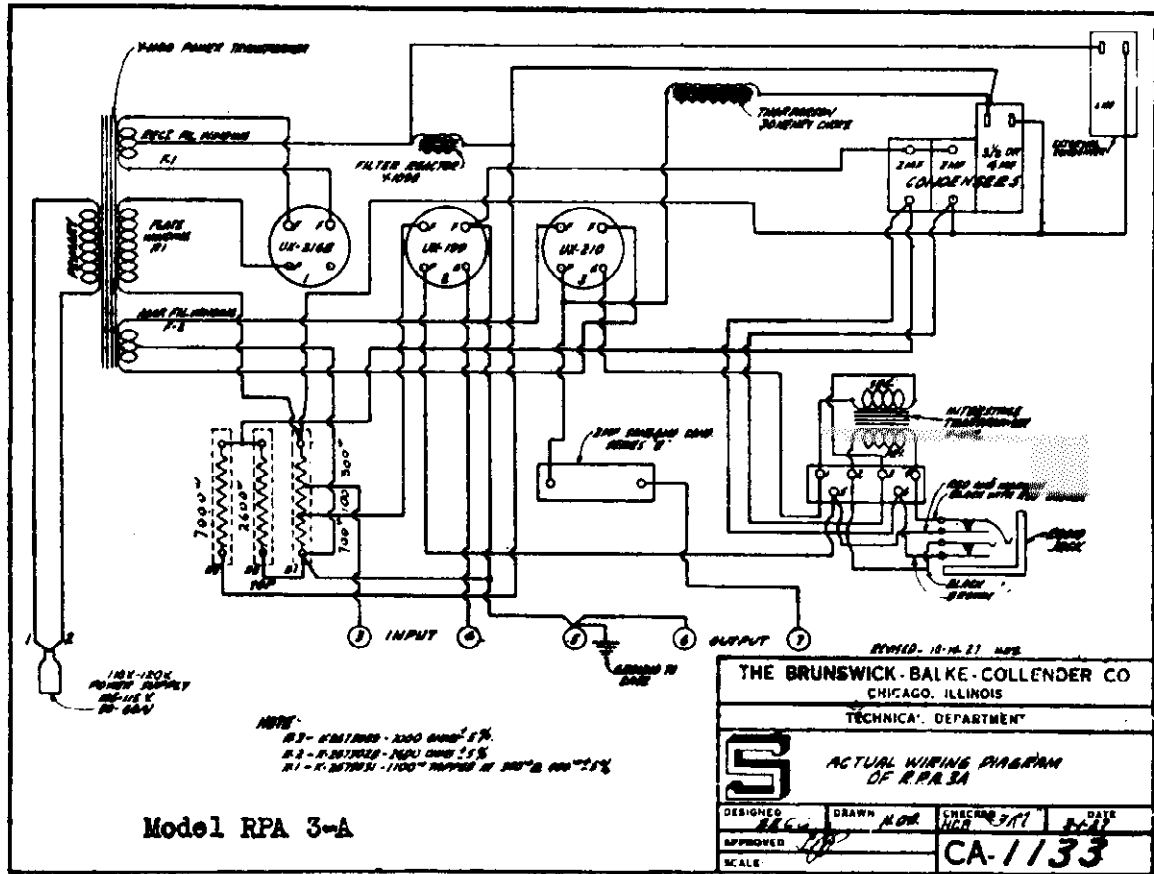
MODEL P-14

BRUNSWICK RADIO CORPORATION



BRUNSWICK RADIO CORPORATION

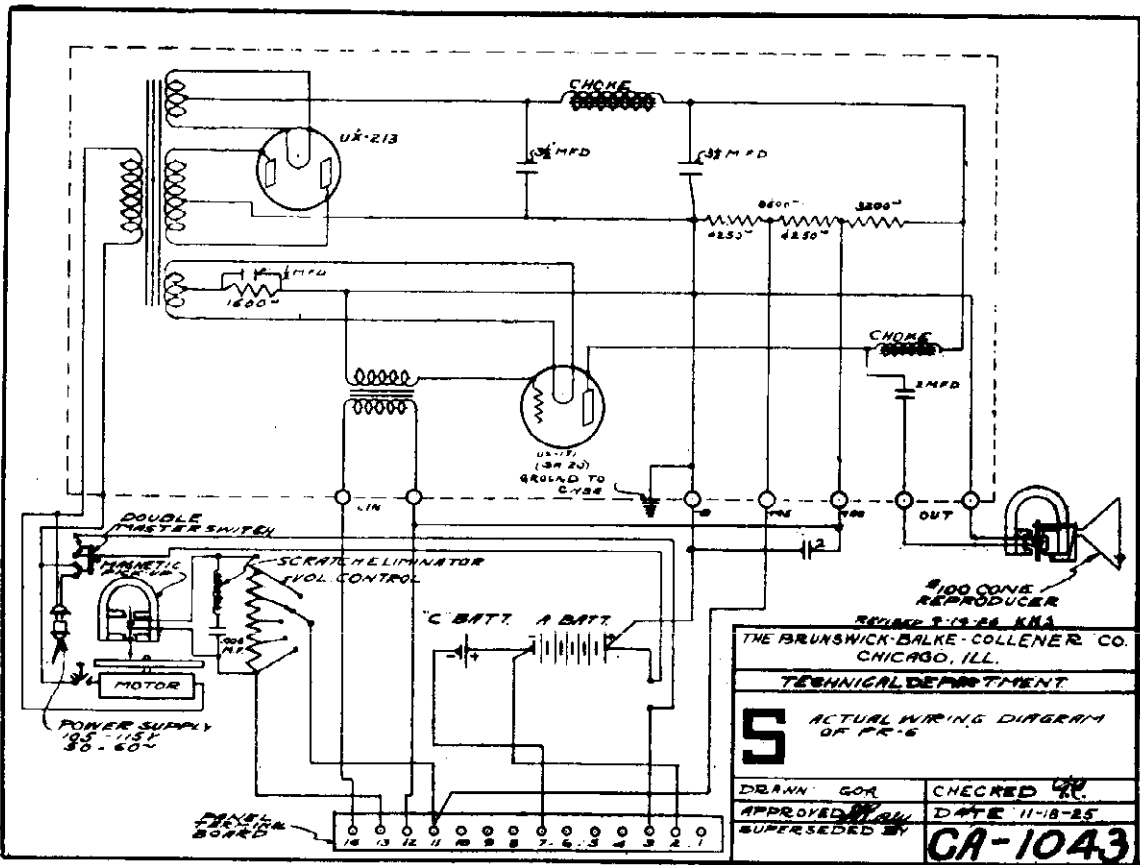
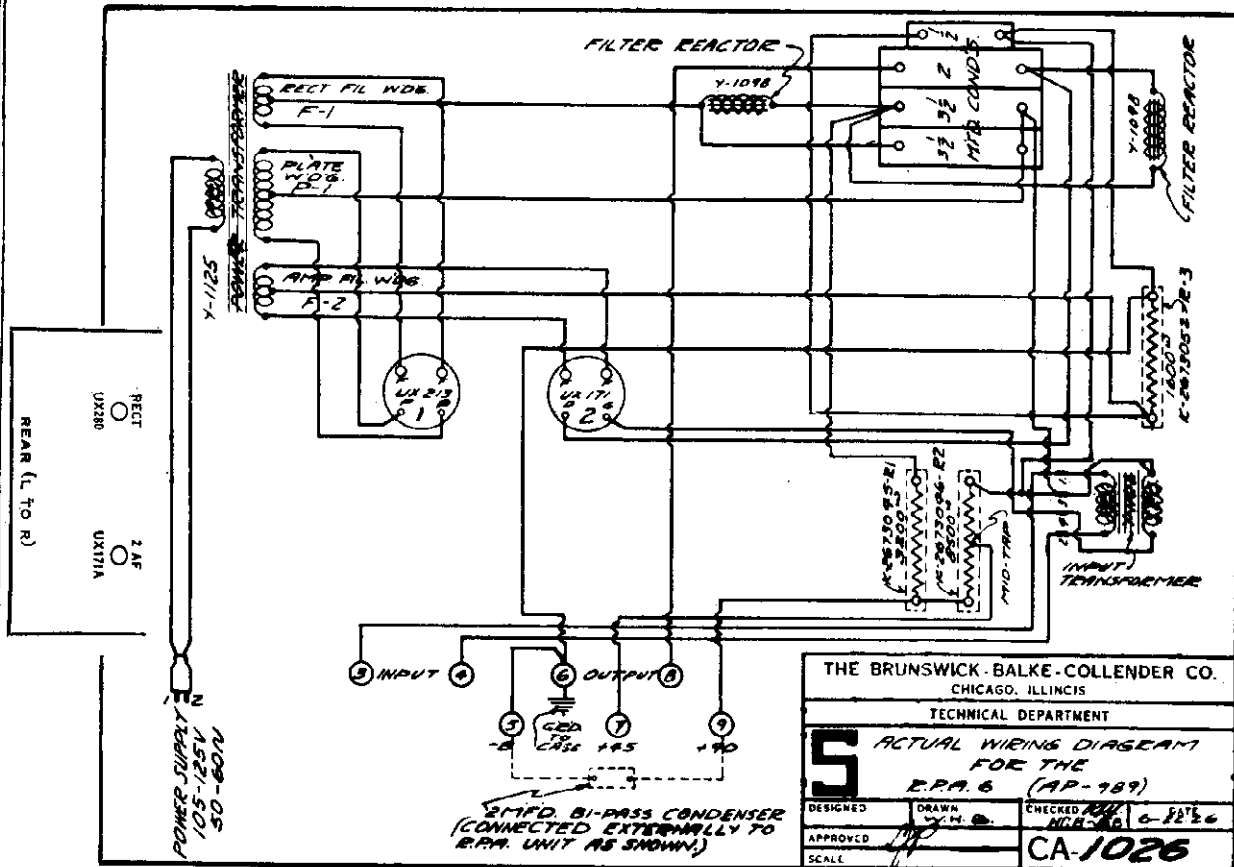
MODEL RPA-3A  
MODEL RPA-4A





MODEL RPA-6  
MODEL PR-6

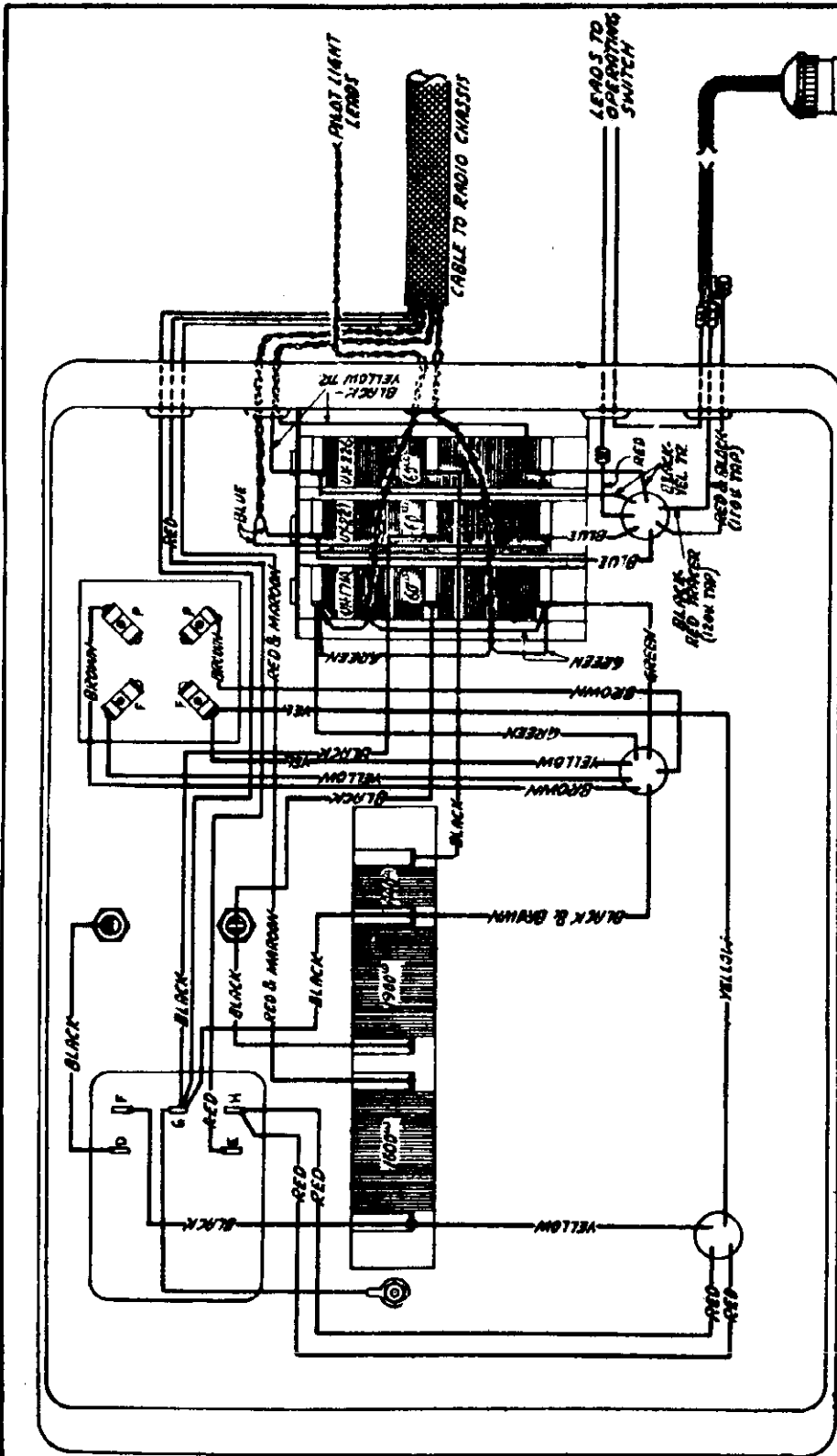
BRUNSWICK RADIO CORPORATION



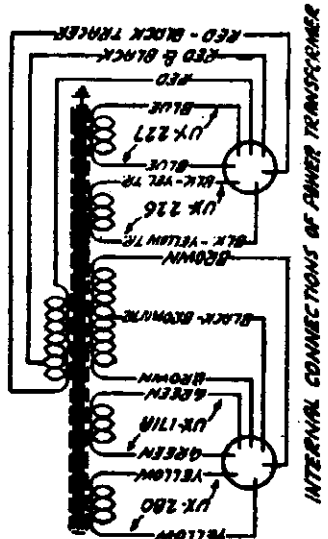


MODEL R-1  
Chassis

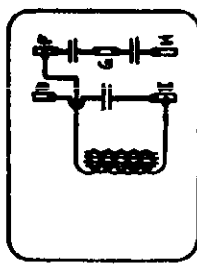
BRUNSWICK RADIO CORPORATION



THE BRUNSWICK-BALKE-COLLINDER CO. CHICAGO, ILLINOIS.		TECHNICAL DEPARTMENT	
ACTUAL WIRING DIAGRAM OF SOCKET POWER UNIT (USED IN R-1 EQUIPMENT)			
DESIGNED	DRAWN	CHECKED	DATE
	HOB	G.C.C. DRUG	1-24-29
APPROVED:	H.A.D.		SCALE:
			<b>CA-6060</b>



INTERNAL CONNECTIONS OF POWER TRANSFORMER

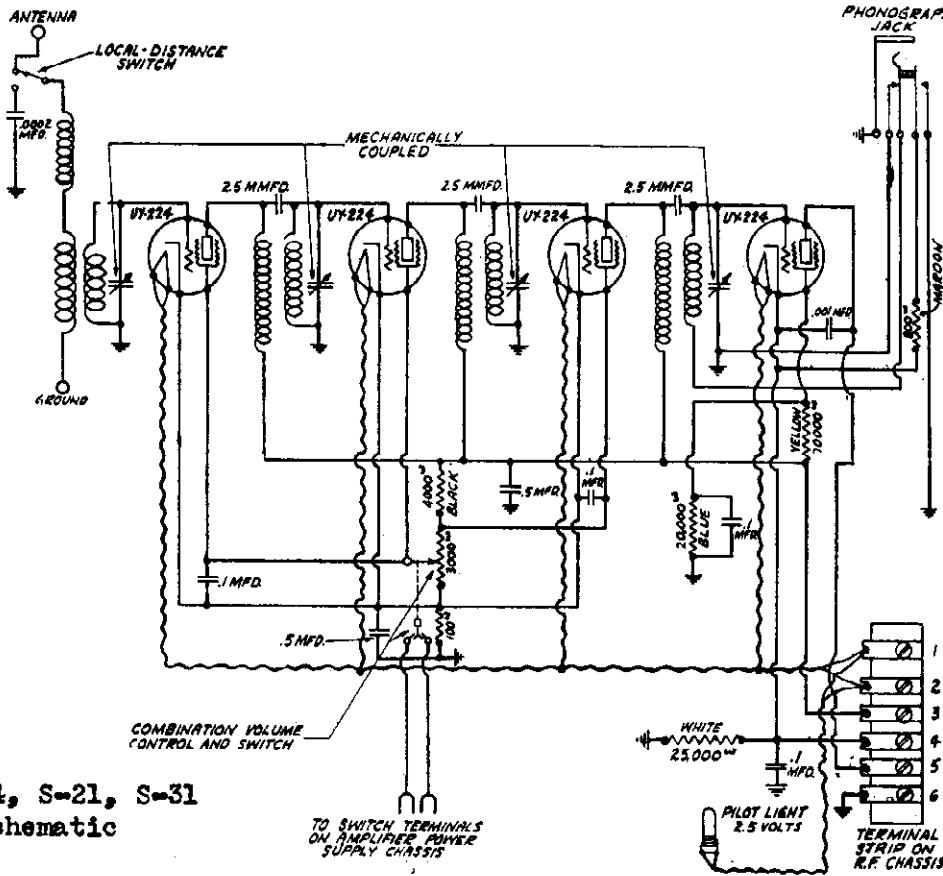


INTERNAL CONNECTIONS OF CONDENSER BANK

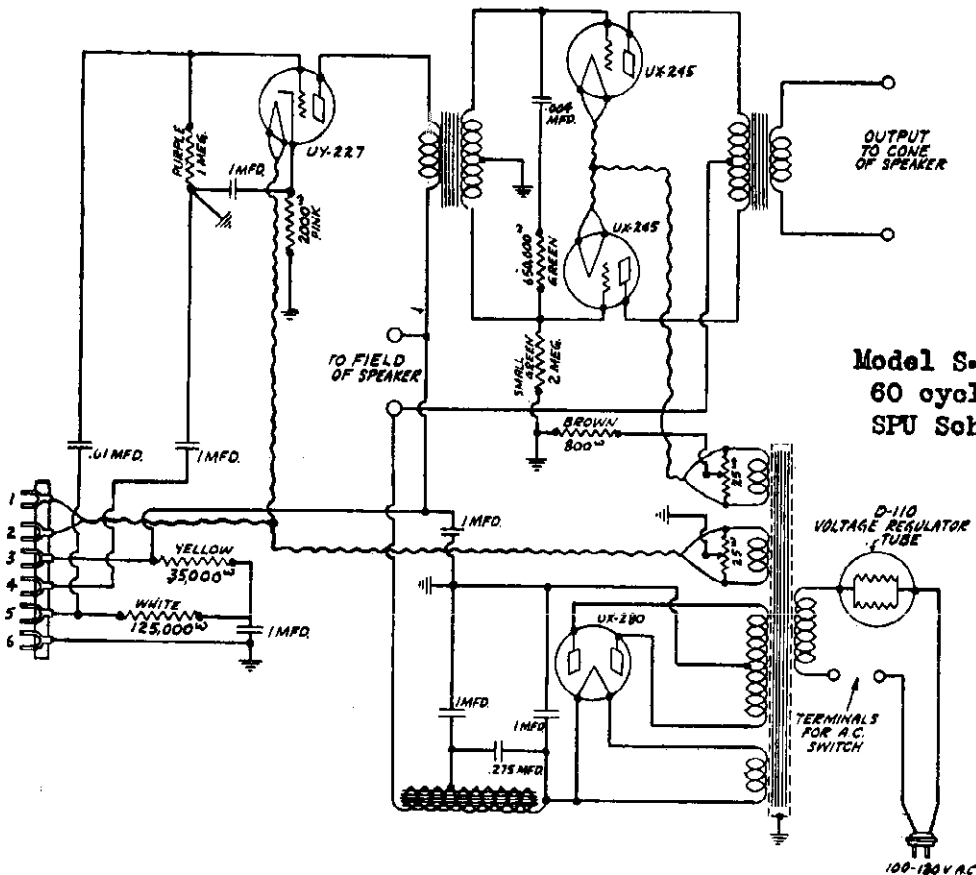
MODEL S-14, S-21,  
S-31, S-81, S-82 AC  
Radio  
Schematic

BRUNSWICK RADIO CORPORATION

MODEL S-14, S-21  
S-81 AF and  
SPU  
Schematic



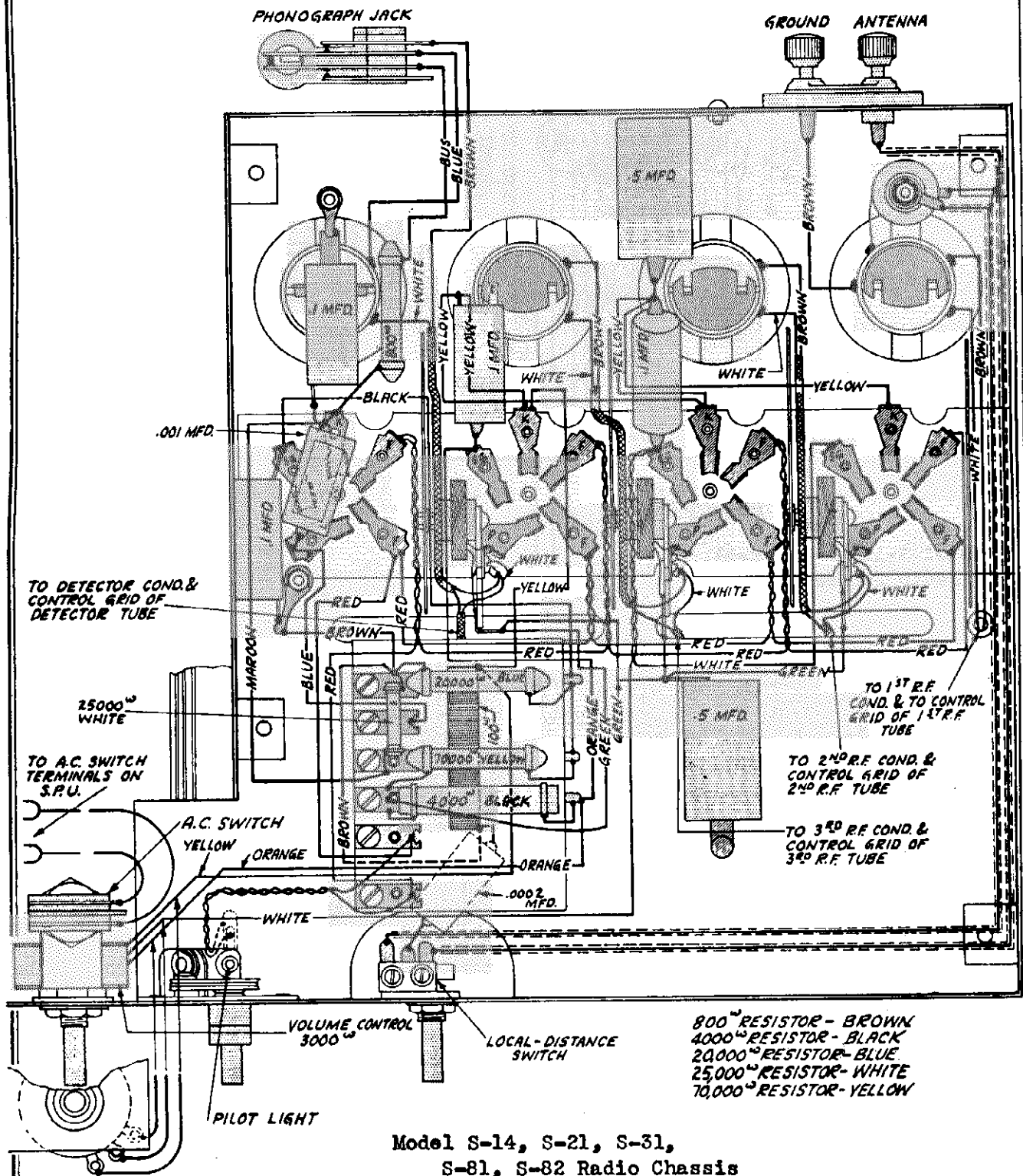
Model S-14, S-21, S-31  
Radio Schematic



Model S-14, S-21  
60 cycle AF and  
SPU Schematic

MODEL S-14, S-21, S-31  
S-81, S-82 Radio  
Chassis

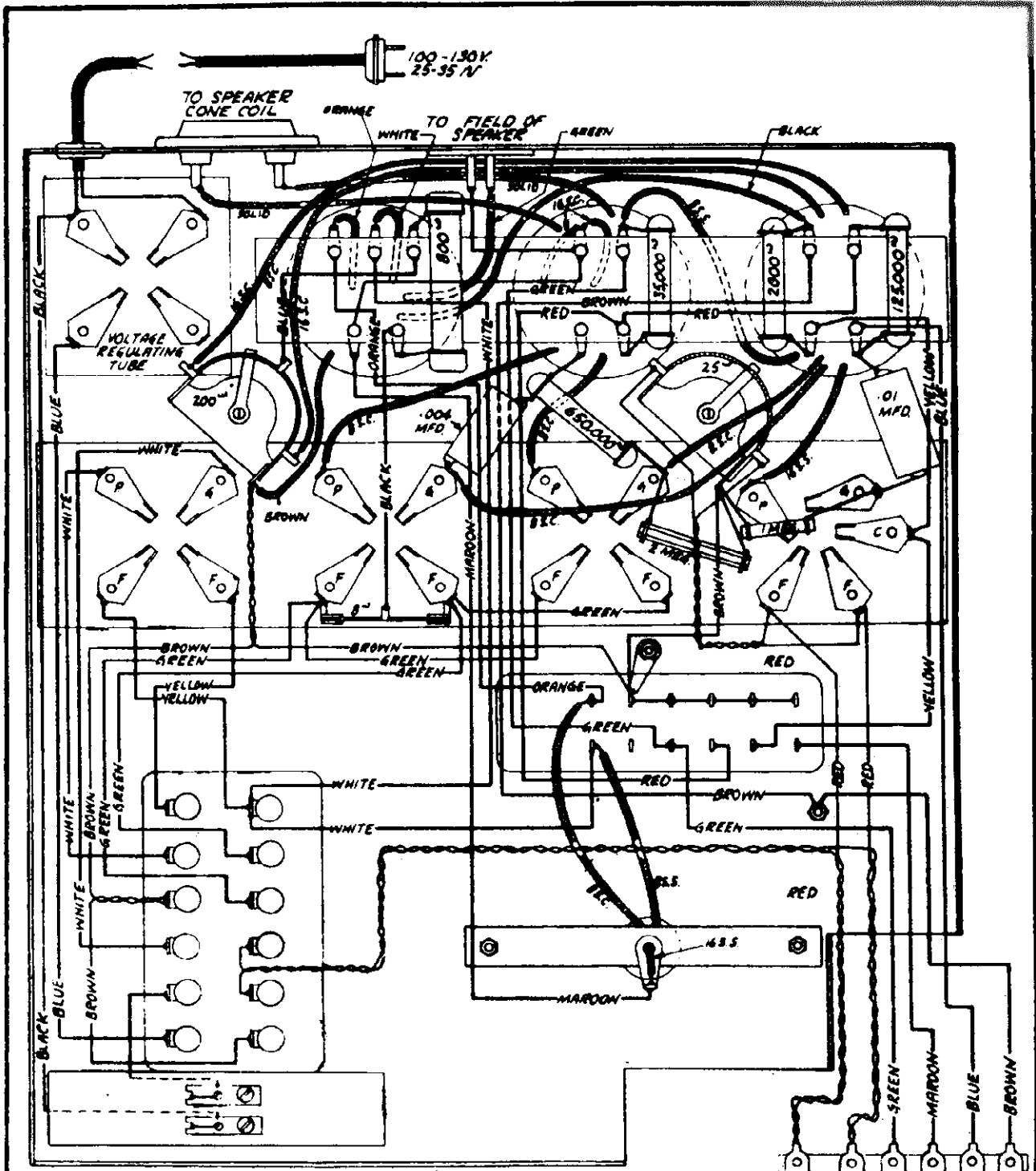
BRUNSWICK RADIO CORPORATION



SCHEMATIC CIRCUIT OF RADIO CHASSIS USING 6Y-224 TUBES

BRUNSWICK RADIO CORPORATION

MODEL S-14, S-21,  
S-81, S-82  
25 cycle AF  
Chassis

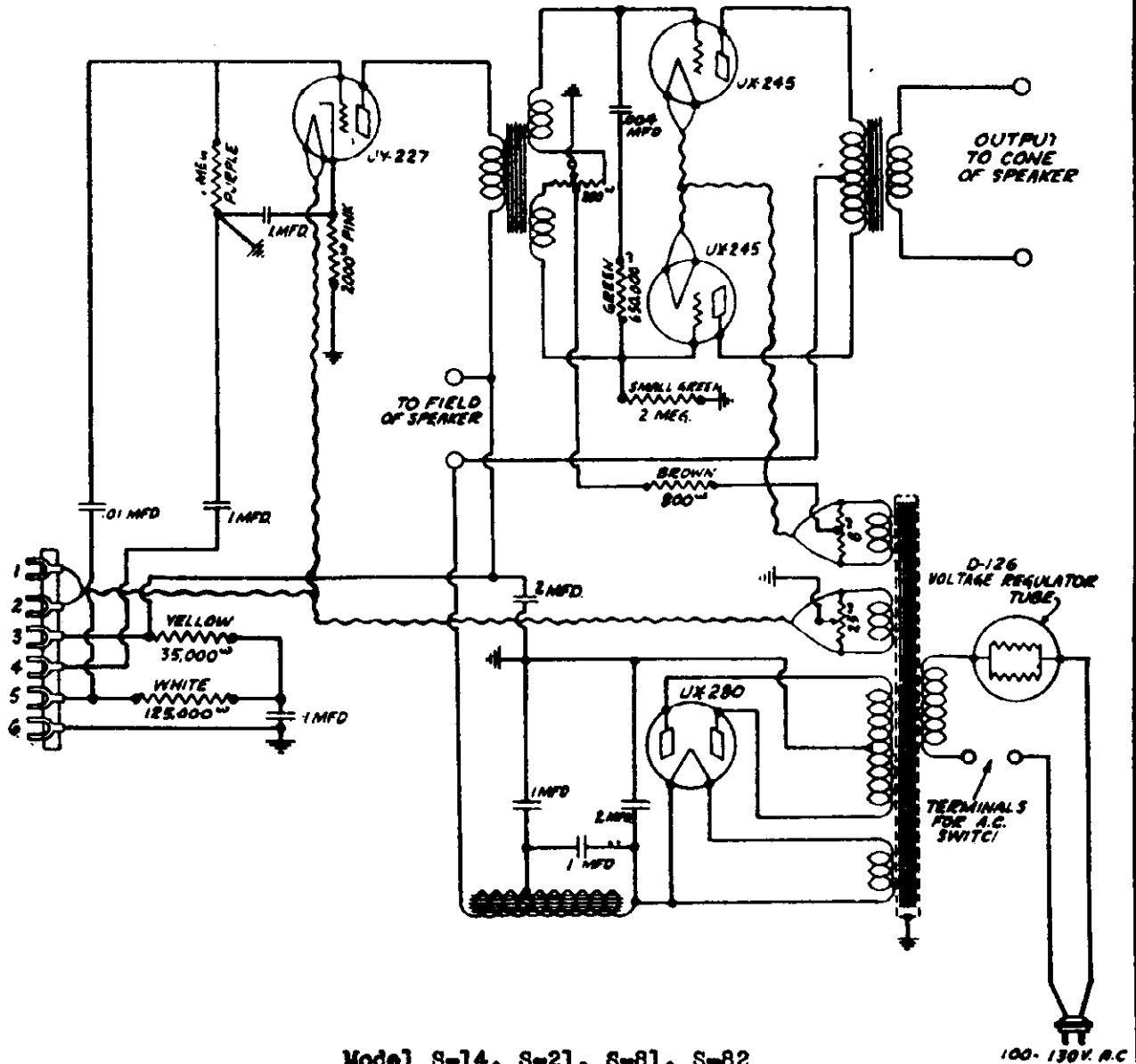


- 800<sup>Ω</sup> RESISTOR - BROWN
- 2000<sup>Ω</sup> RESISTOR - PINK
- 35000<sup>Ω</sup> RESISTOR - ORANGE
- 125000<sup>Ω</sup> RESISTOR - WHITE
- 650000<sup>Ω</sup> RESISTOR - GREEN
- 1MEG RESISTOR - PURPLE
- 2MEG RESISTOR - LIGHT GREEN

Model S-14, S-21, S-81, S-82 AF Chassis  
25 cycle

MODEL S-14, S-21  
 S-81, S-82 AC  
 25 cycle AF  
 Schematic

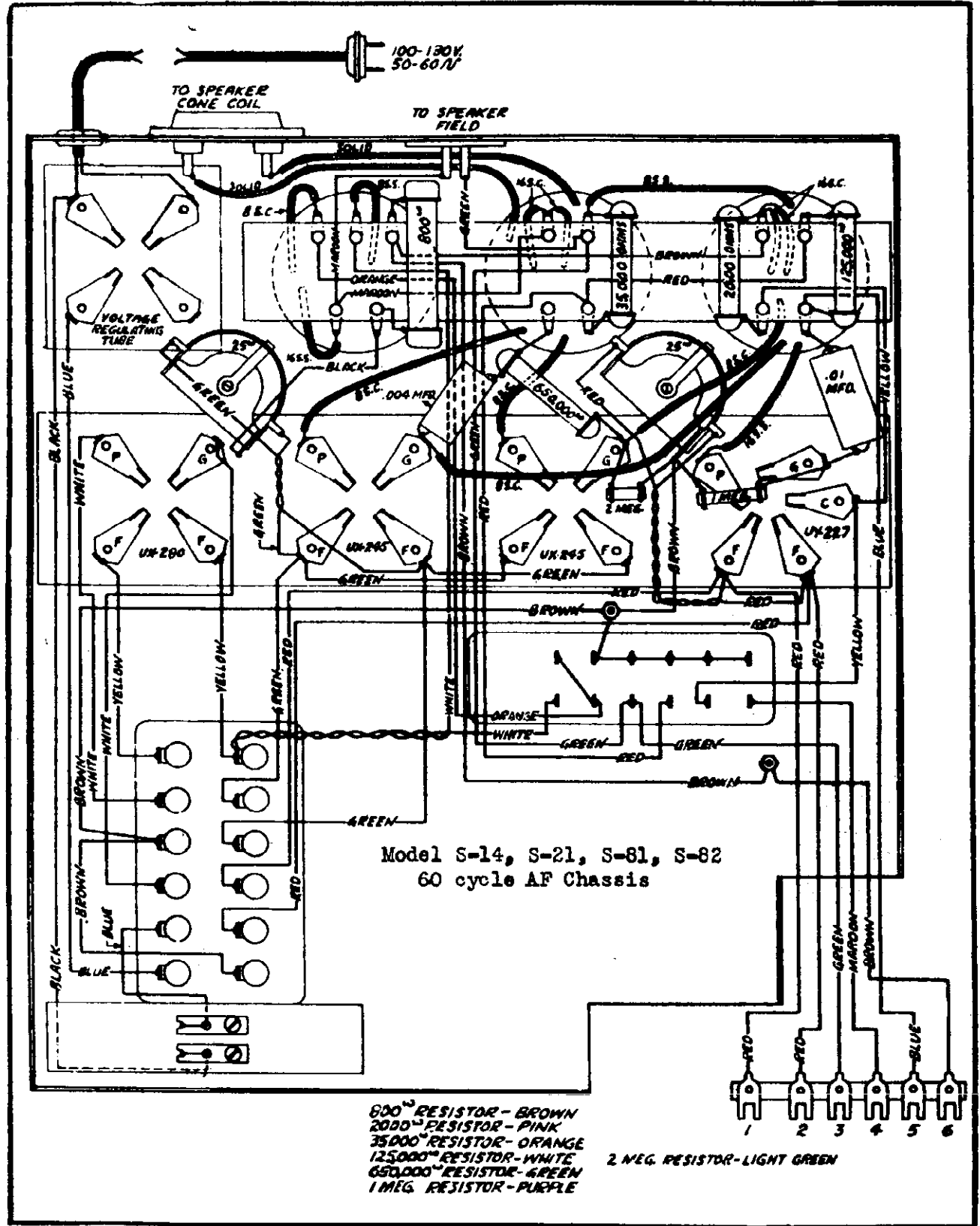
BRUNSWICK RADIO CORPORATION



Model S-14, S-21, S-81, S-82  
 25 cycle AF Schematic

BRUNSWICK RADIO CORPORATION

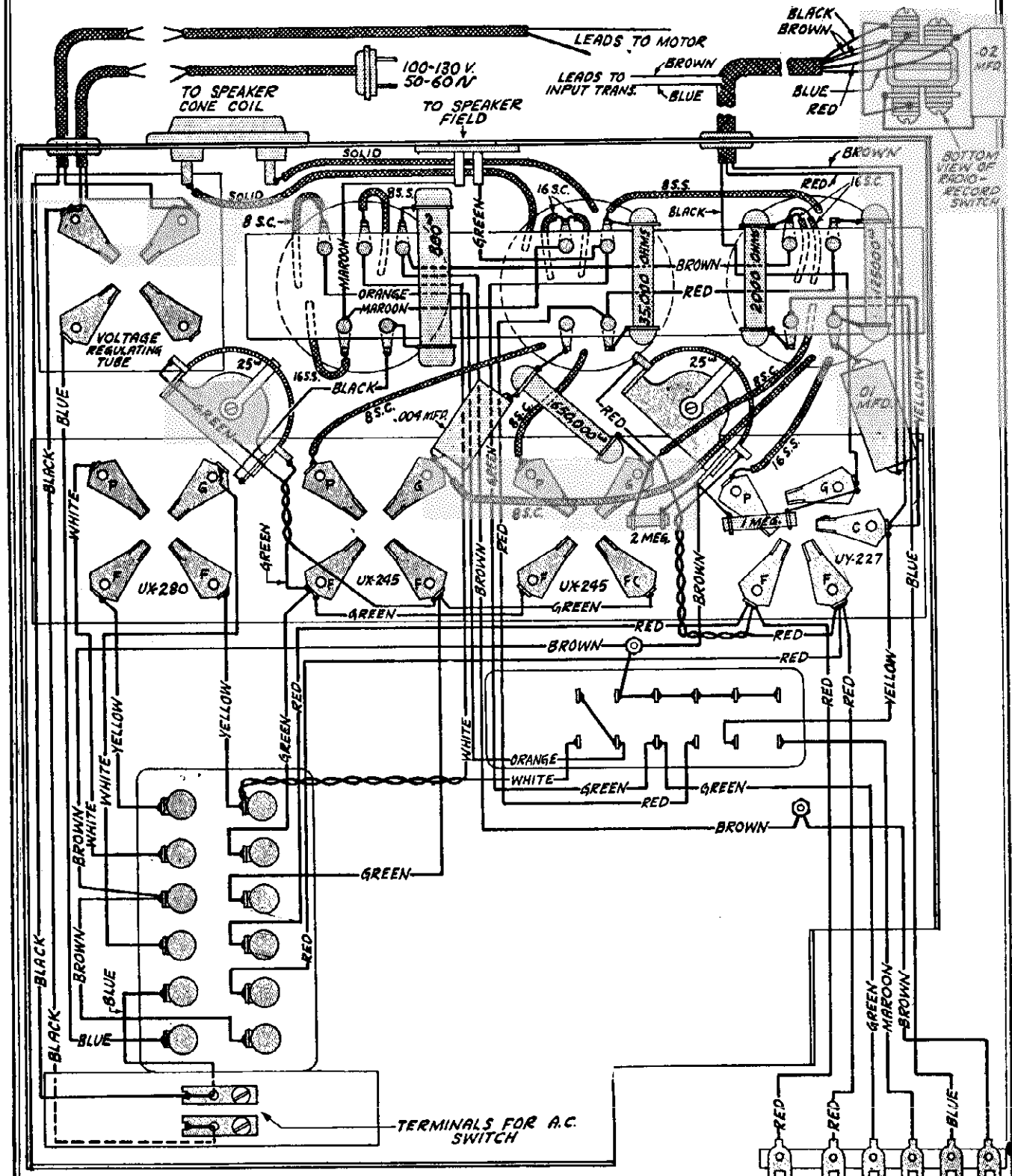
MODEL S-14, S-21  
S-81, S-82  
60 cycle AF  
Chassis





BRUNSWICK RADIO CORPORATION

MODEL S-31  
60 cycle AF  
Chassis

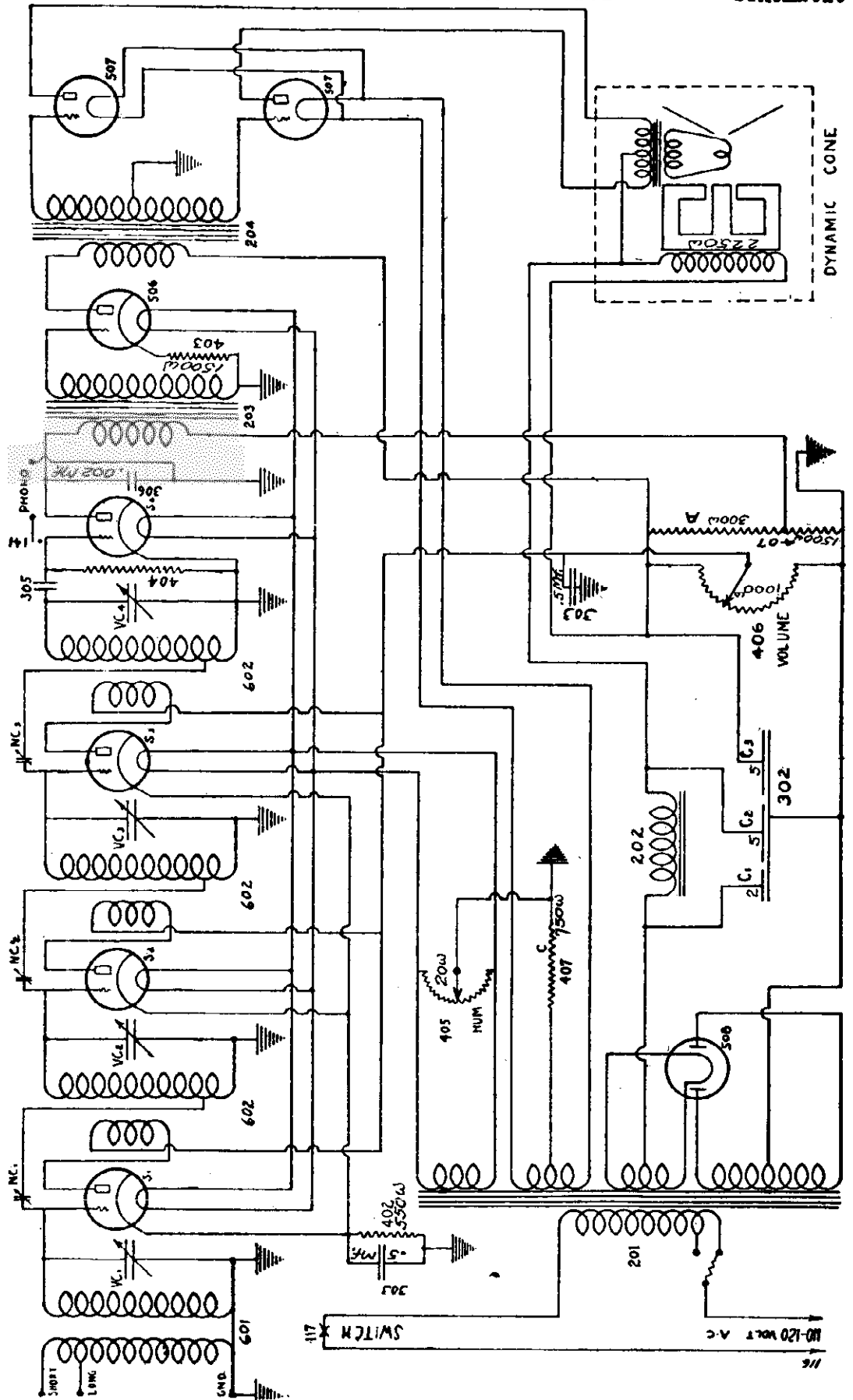


- 800<sup>Ω</sup> RESISTOR - BROWN  
 200<sup>Ω</sup> RESISTOR - PINK  
 3500<sup>Ω</sup> RESISTOR - ORANGE  
 125,000<sup>Ω</sup> RESISTOR - WHITE  
 650,000<sup>Ω</sup> RESISTOR - GREEN  
 1 MEG. RESISTOR - PURPLE  
 2 MEG. RESISTOR - GREEN
- \* 8 S.C. = # 8 STRAND COPPER WIRE  
 \* 8 S.S. = # 8 STRAND SILVER WIRE  
 \* 16 S.C. = # 16 STRAND COPPER WIRE  
 \* 16 S.S. = # 16 STRAND SILVER WIRE

ACTUAL WIRING DIAGRAM OF AUDIO AMPLIFIER POWER SUPPLY CHASSIS USED S-31 COMBINATION **6083**

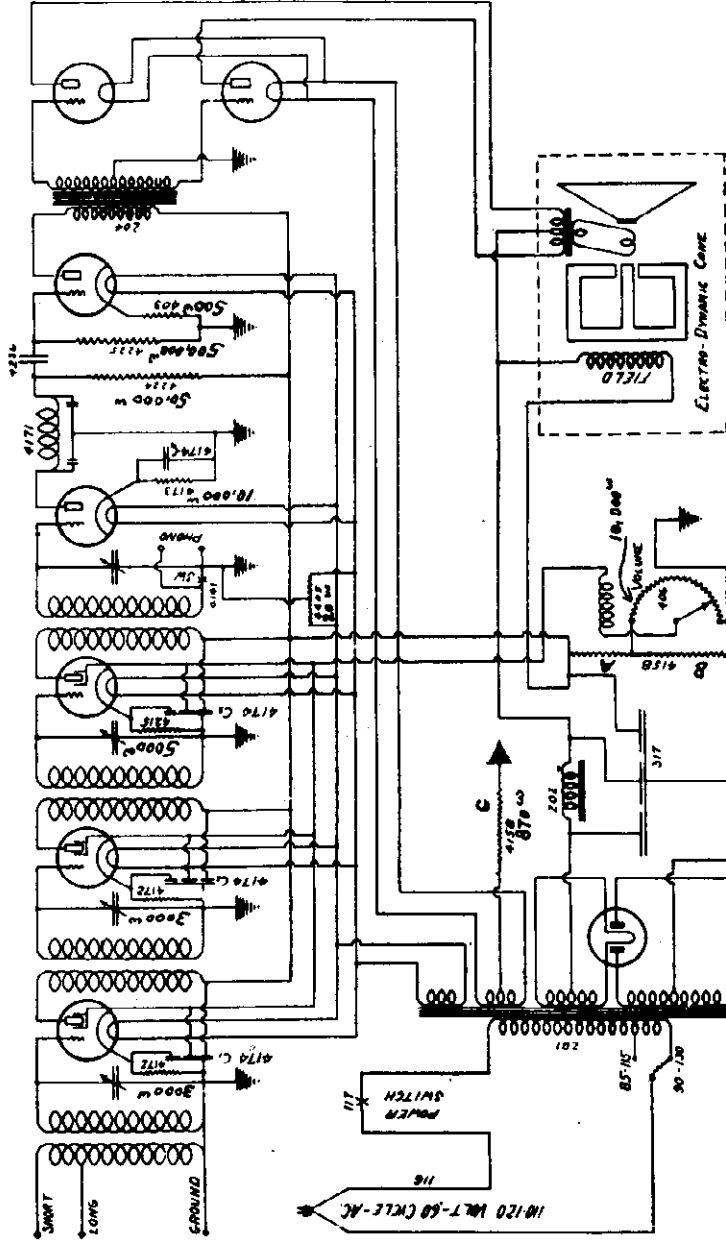
# BUSH & LANE PIANO COMPANY

## MODEL 10 Schematic



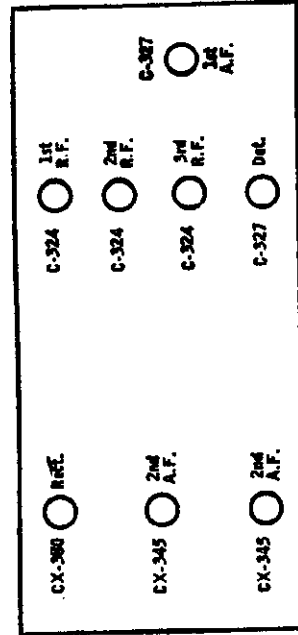
MODEL 12  
Schematic and  
Data

BUSH & LANE PIANO COMPANY



4188—Voltage Divider Resistor 5750 Ohms, Total.

No.12 Screen Grid

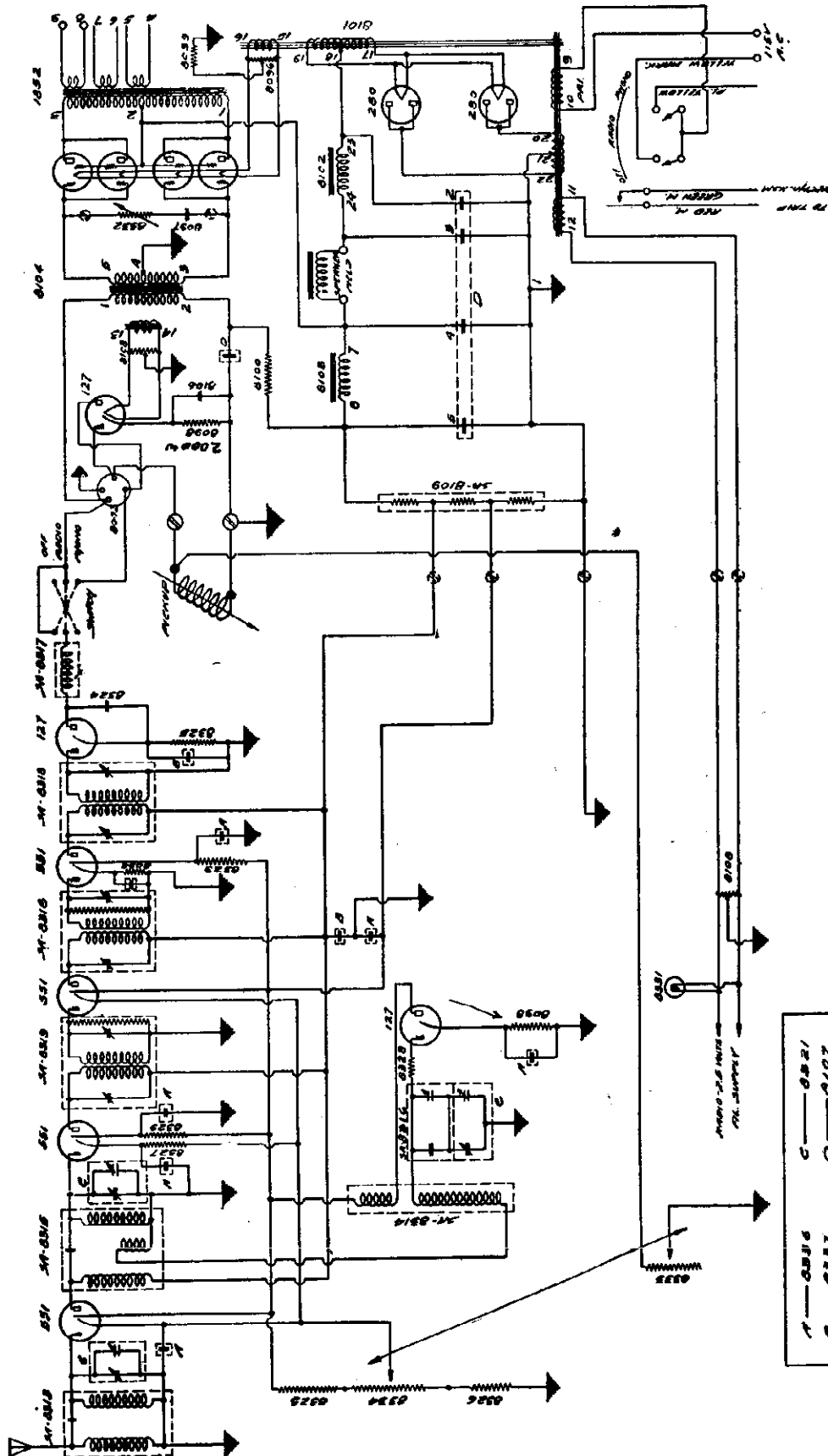


Line Voltage 112—Set on 120 Volt Tap

TYPE OF TUBE	POWER		TYPE OF TUBE		LINE VOLTAGE		TAP ON TRANSFORMER		PLATE CURRENT		PLATE VOLTAGE		SCREEN CURRENT		SCREEN VOLTAGE	
	WATT	PERCENT	TYPE	POWER	LINE VOLTAGE	TAP	PLATE CURRENT	PLATE VOLTAGE	SCREEN CURRENT	SCREEN VOLTAGE	SCREEN CURRENT	SCREEN VOLTAGE	SCREEN CURRENT	SCREEN VOLTAGE	SCREEN CURRENT	SCREEN VOLTAGE
1	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
2	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
3	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
4	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
5	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
6	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
7	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
8	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
9	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250
10	200	100%	200	100%	112	120	2.45	250	2.45	250	2.45	250	2.45	250	2.45	250

CAPEHART CORPORATION

MODEL 400, 401, 402  
Schematic



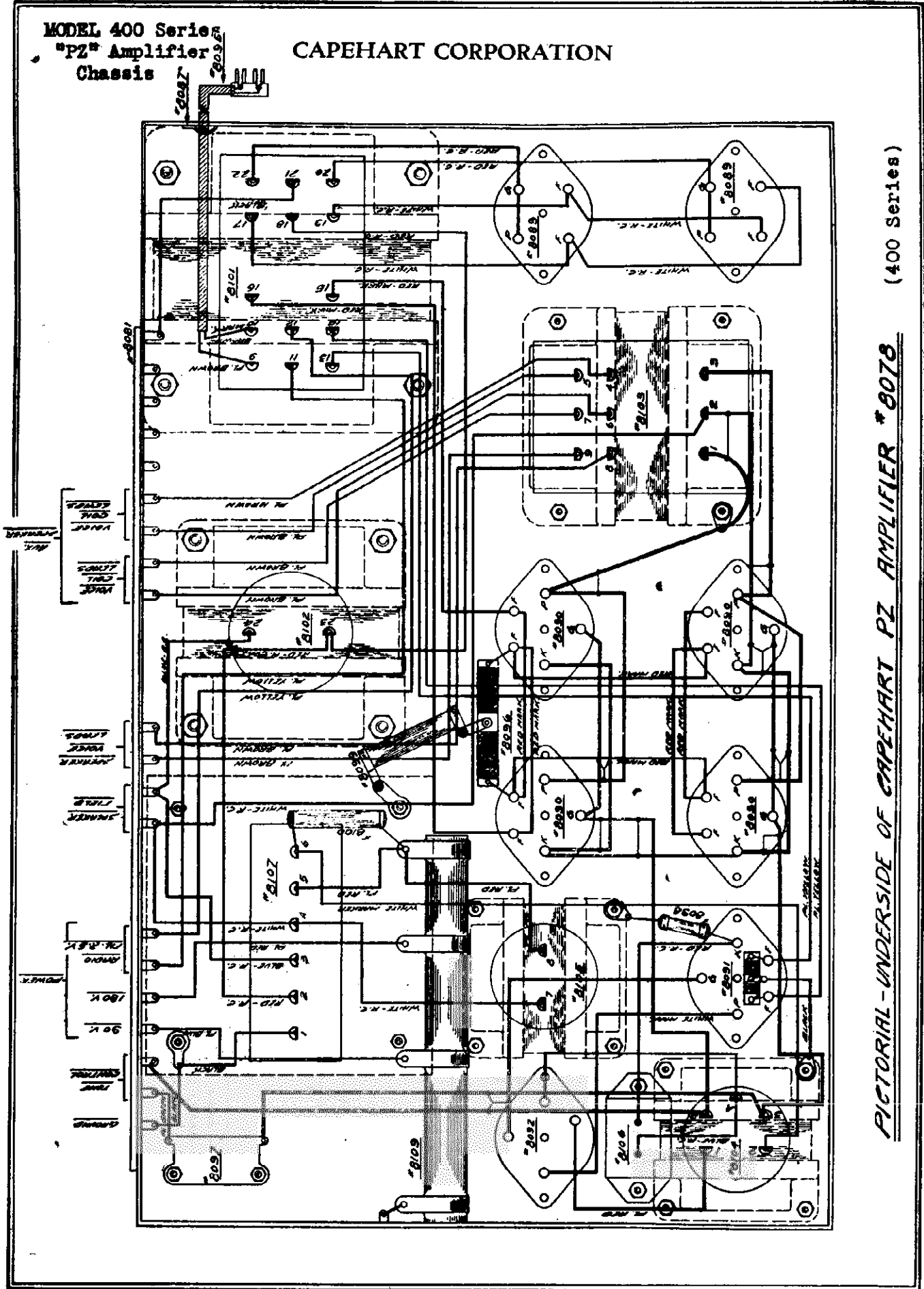
SCHEMATIC - CAPEHART TUNER & AMPLIFIER "400" - "401" - "402"

- |                        |                                   |                   |                       |
|------------------------|-----------------------------------|-------------------|-----------------------|
| 8096 - Large 10 ohm CT | 8100 - 11000 ohms                 | 8109 - 6250 ohms  | 8328 - 5000 ohms      |
| 8097 - .004 mfd        | 8108 - Small 10 ohm CT            | 8323 - 20 megohms | 8329 - 300 ohms       |
| 8098 - 2000 ohms       | 8106 - Pentode bias cond. 500 mfd | 8325 - 30000 ohms | 8330 - .0009 mfd      |
| 8099 - 105 ohms        | 8107 - 5 section cond. 24 mfd     | 8326 - 200 ohms   | 8331 - 2.5 volt lamps |
|                        |                                   | 8327 - 1800 ohms  |                       |



MODEL 400 Series  
"PZ" Amplifier  
Chassis

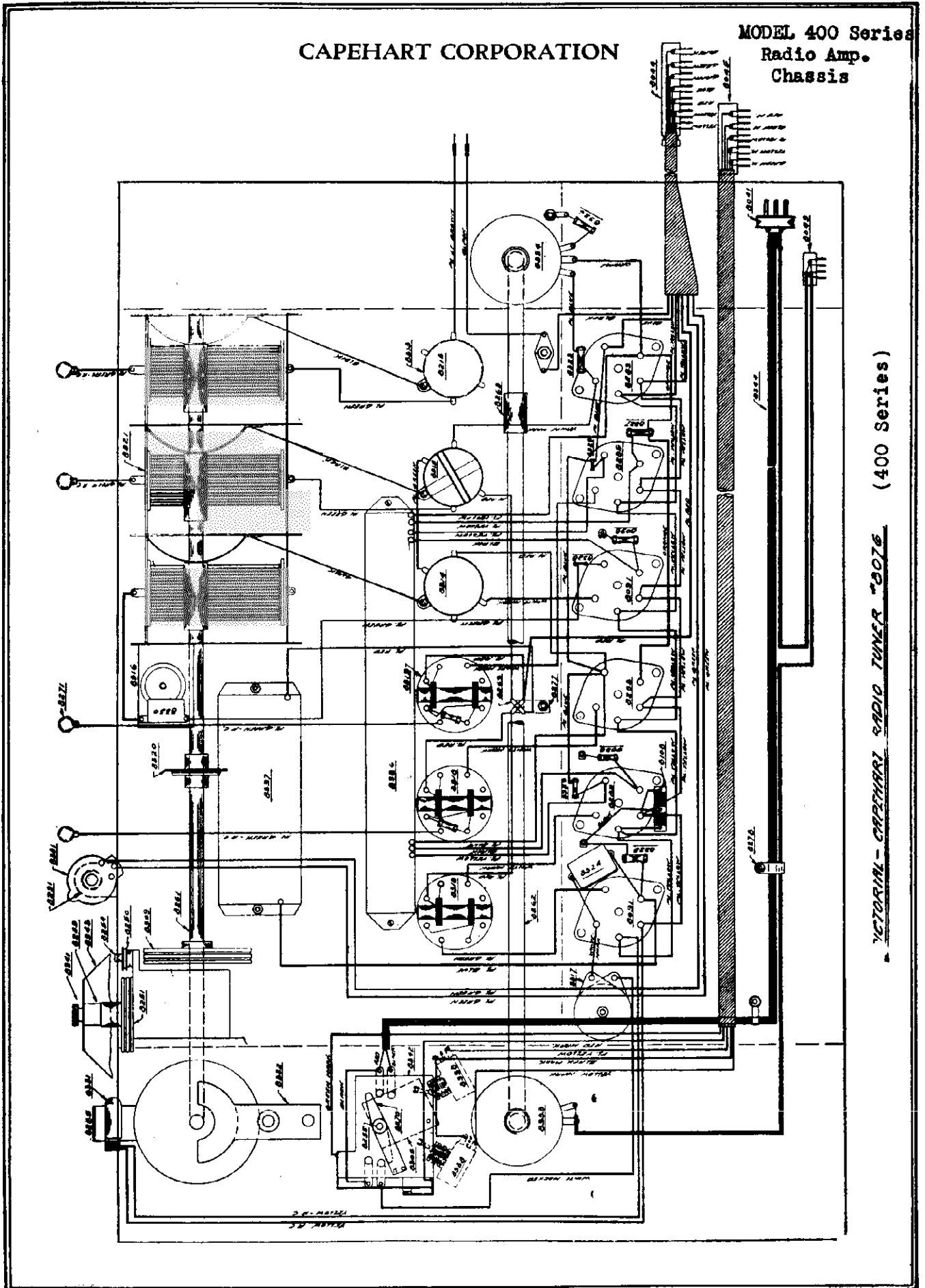
CAPEHART CORPORATION



PICTORIAL - UNDERSIDE OF CAPEHART PZ AMPLIFIER \*8078 (400 Series)

CAPEHART CORPORATION

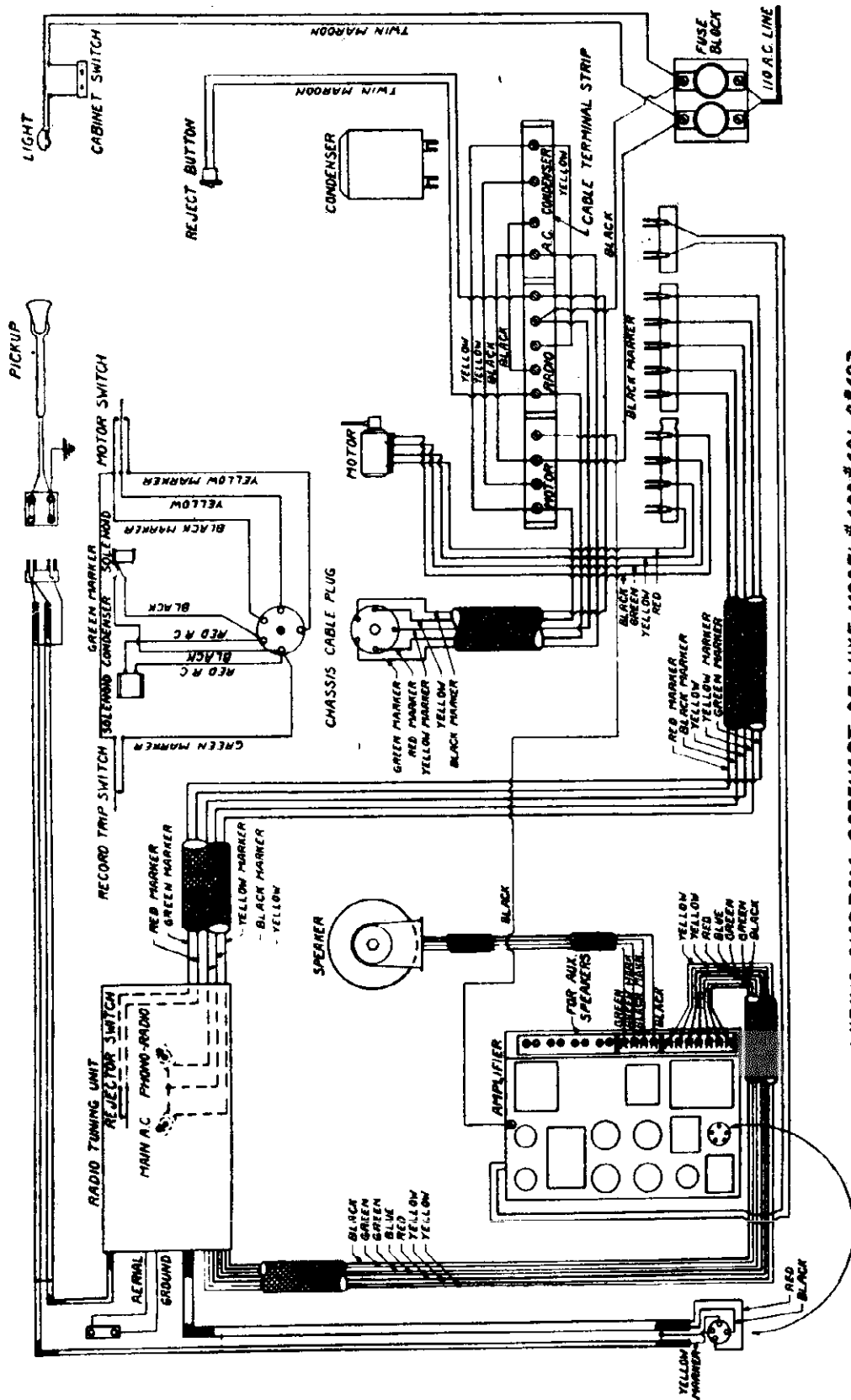
MODEL 400 Series  
Radio Amp.  
Chassis



VICTORIAN - CAPEHART RADIO TUNER "8076" (400 Series)

MODEL 400, 401, 402  
Complete Wiring

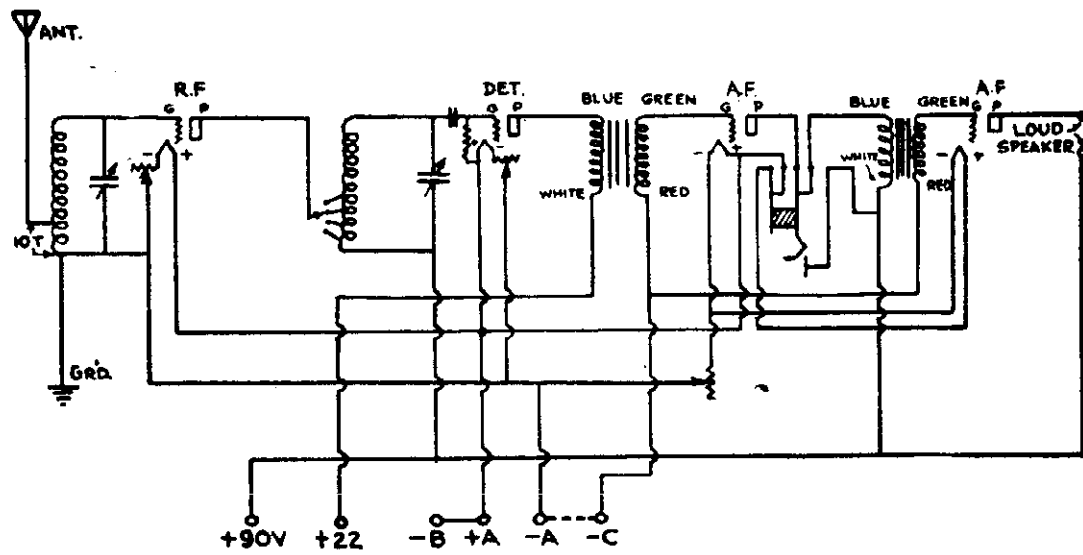
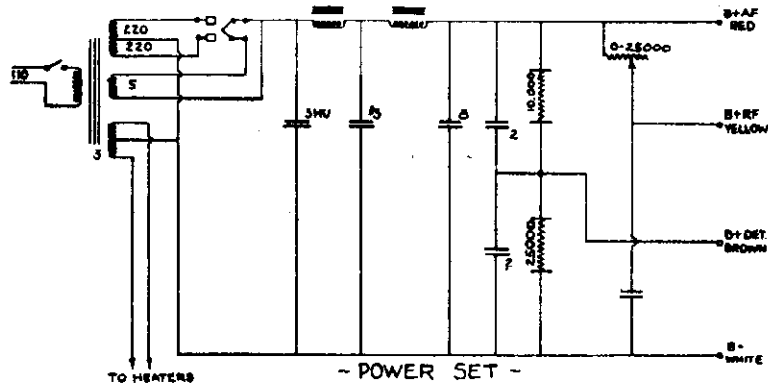
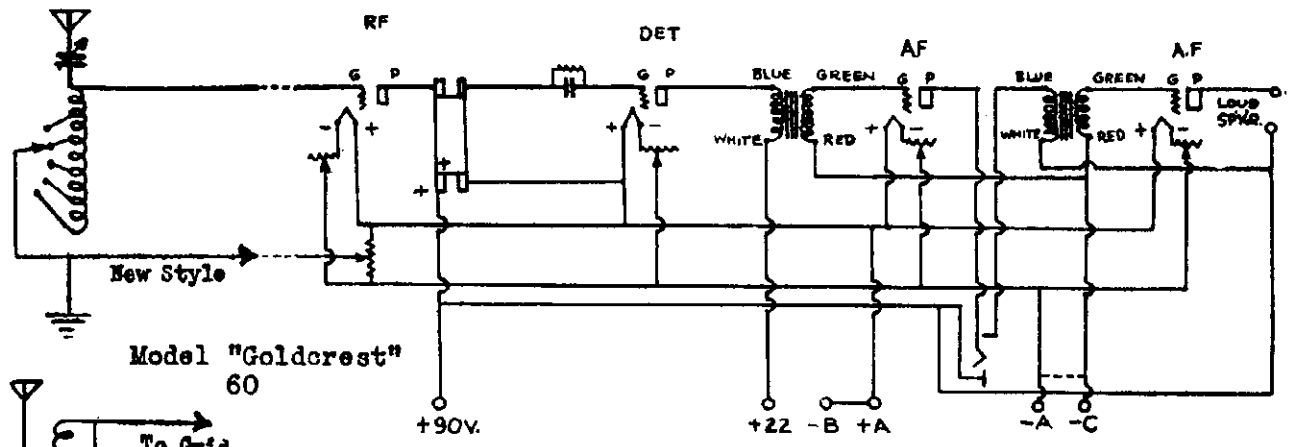
CAPEHART CORPORATION



WIRING DIAGRAM CAPEHART DE LUXE MODEL #400 #401 & #402

CLEARTONE RADIO CORPORATION

MODEL 60  
 Goldcrest  
 MODEL 70  
 Clearodyne

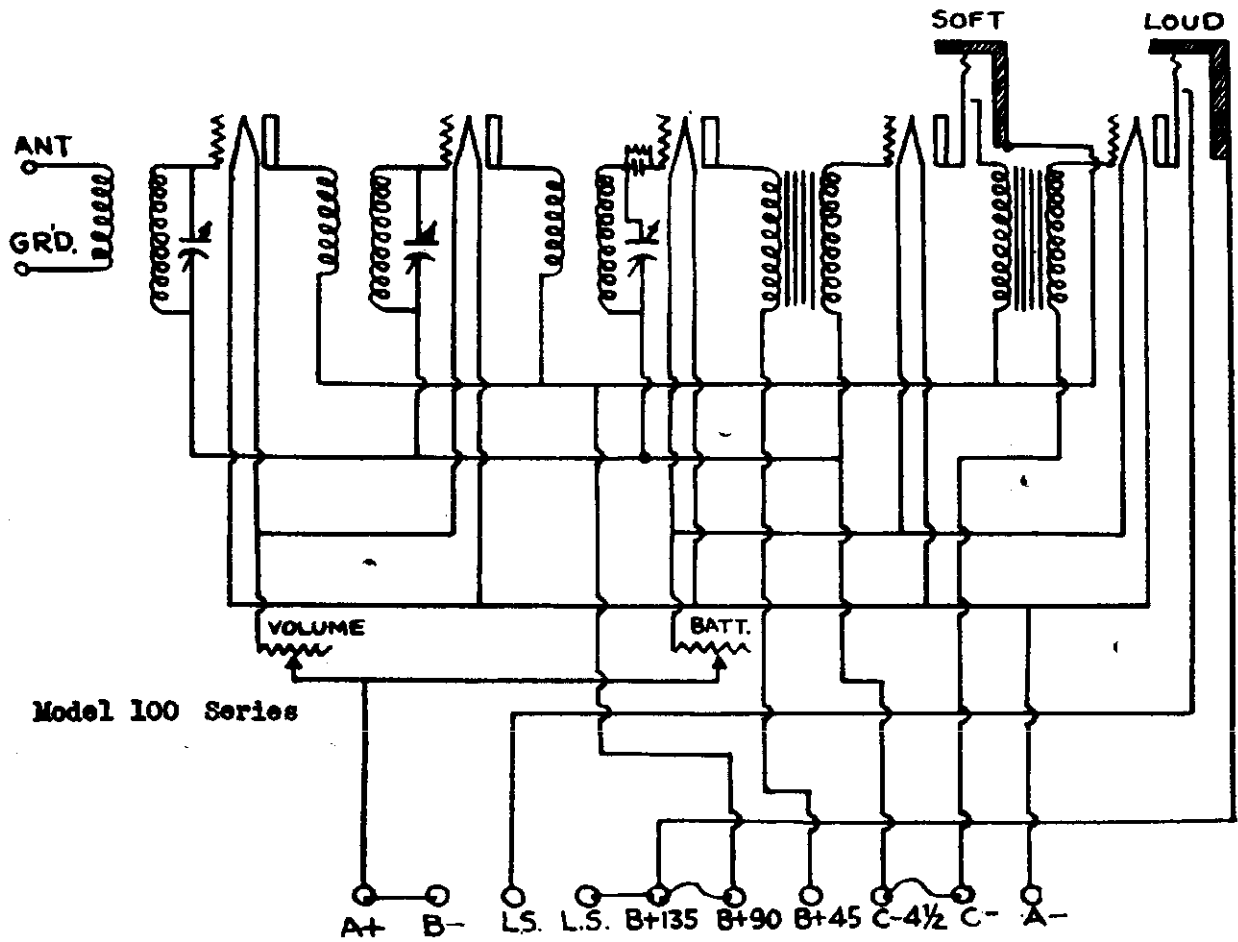
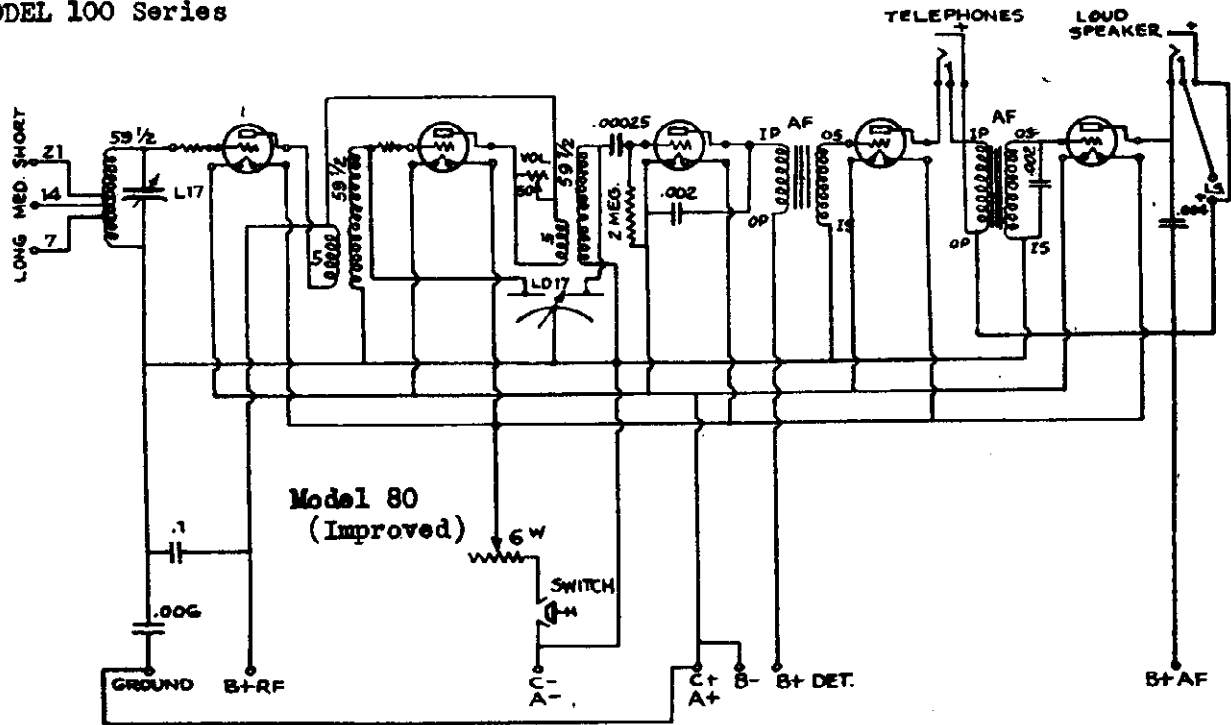


Model Clearodyne 70



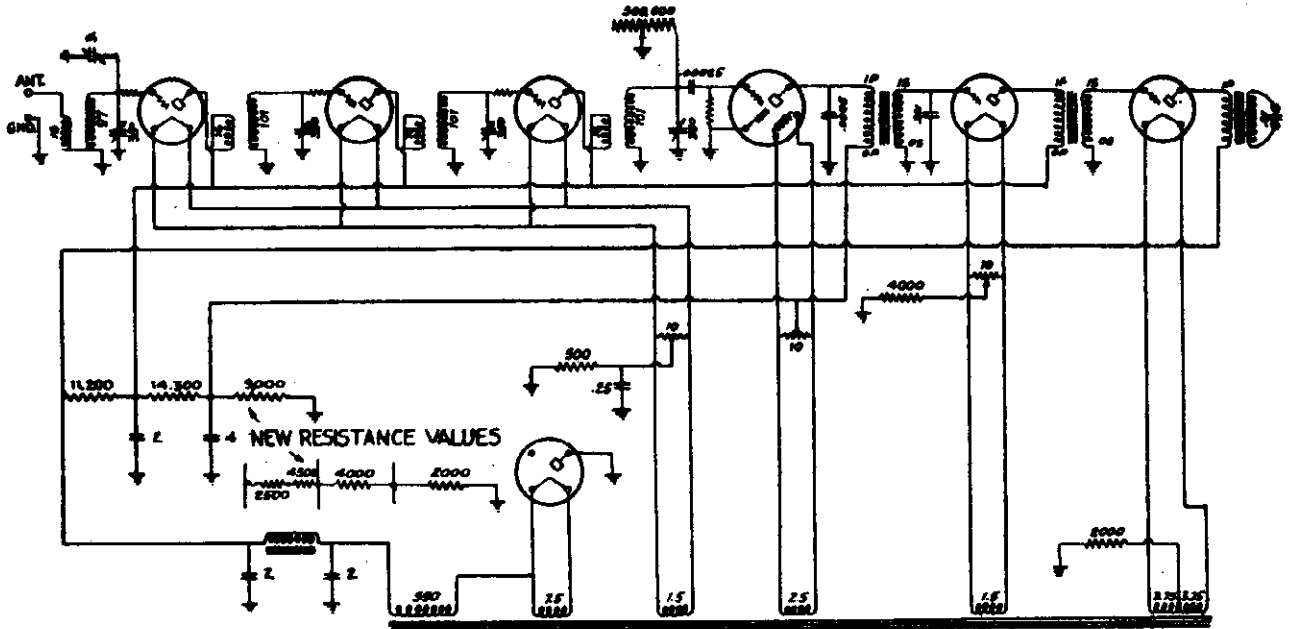
MODEL 80  
 (Improved)  
 MODEL 100 Series

CLEARSTONE RADIO CORPORATION

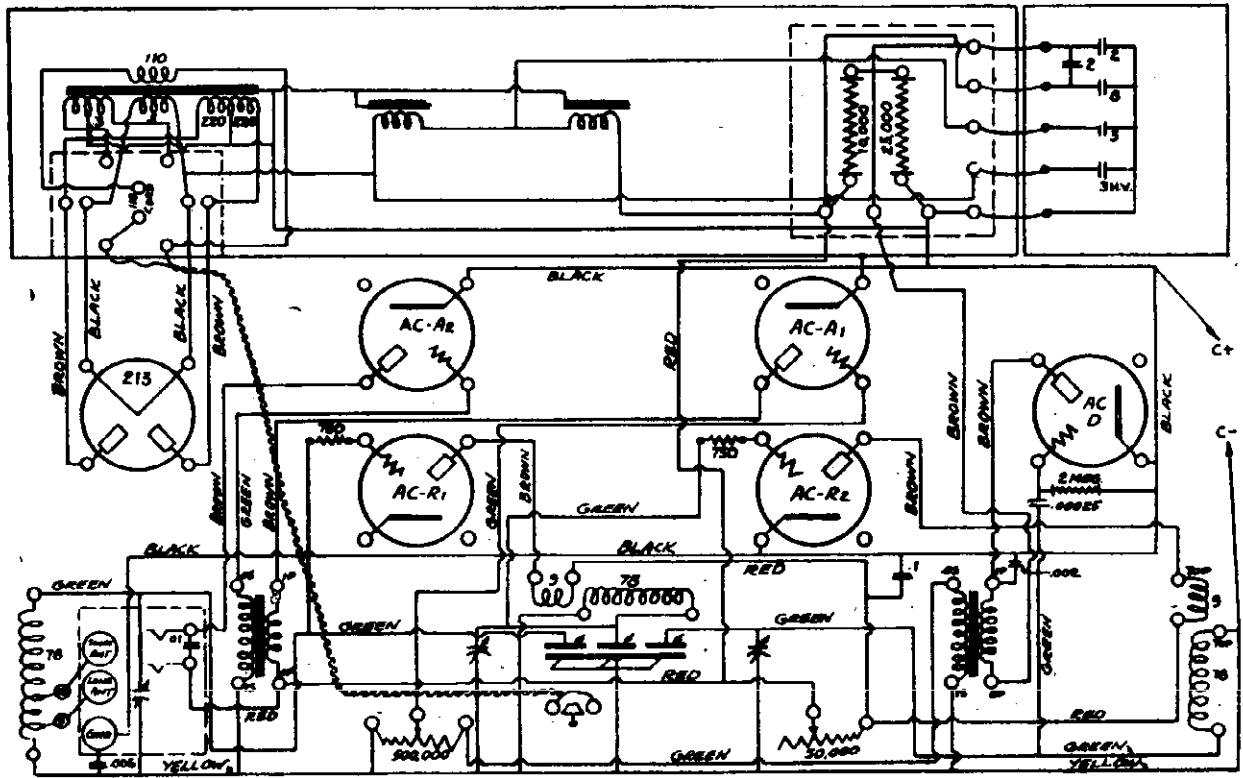


CLEARTONE RADIO CORPORATION

MODEL 110  
MODEL 112



Model Cleartone 112

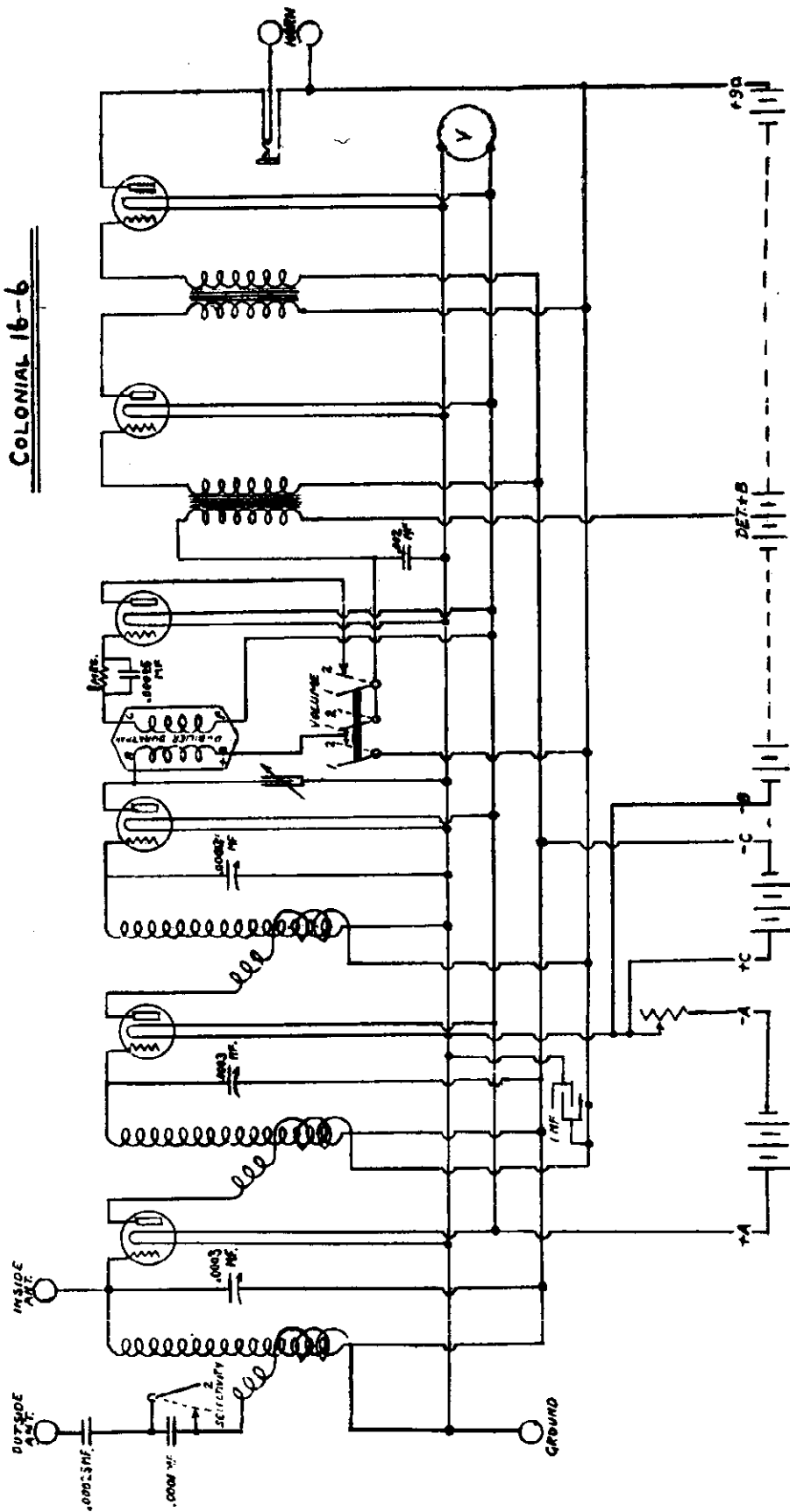


Model Cleartone 110

COLONIAL RADIO CORP.

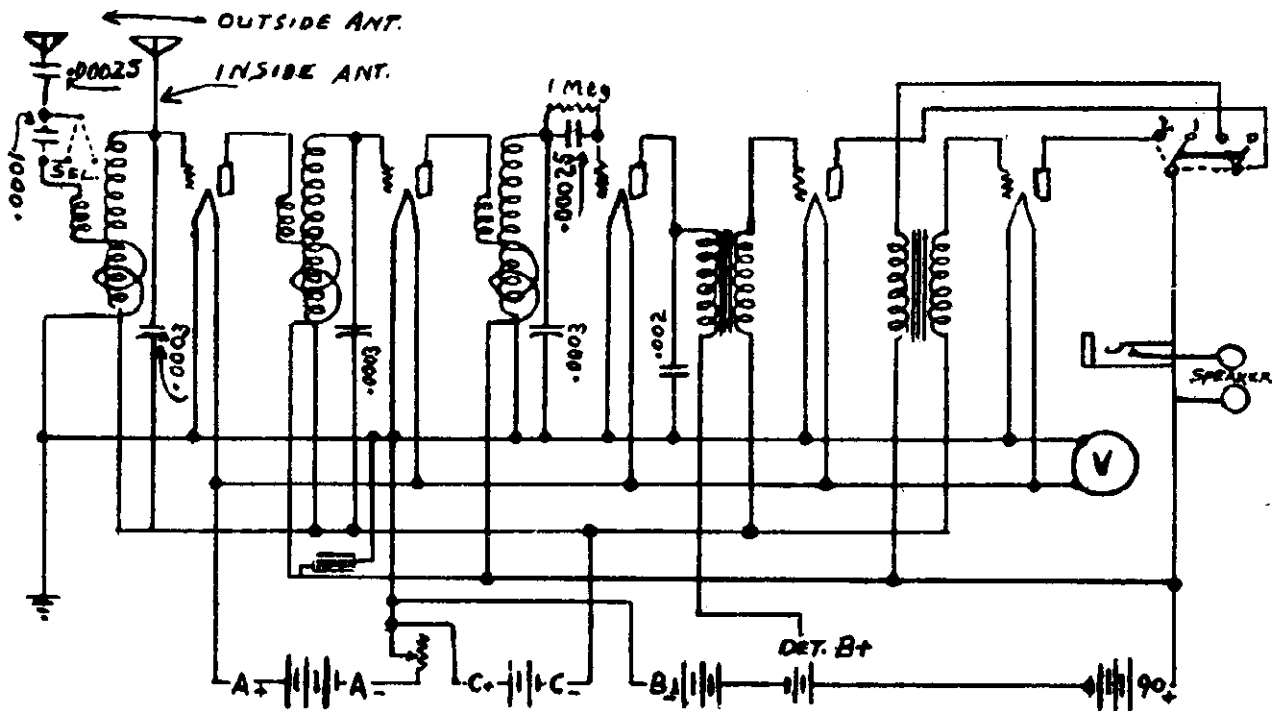
MODEL 16-6

COLONIAL 16-6

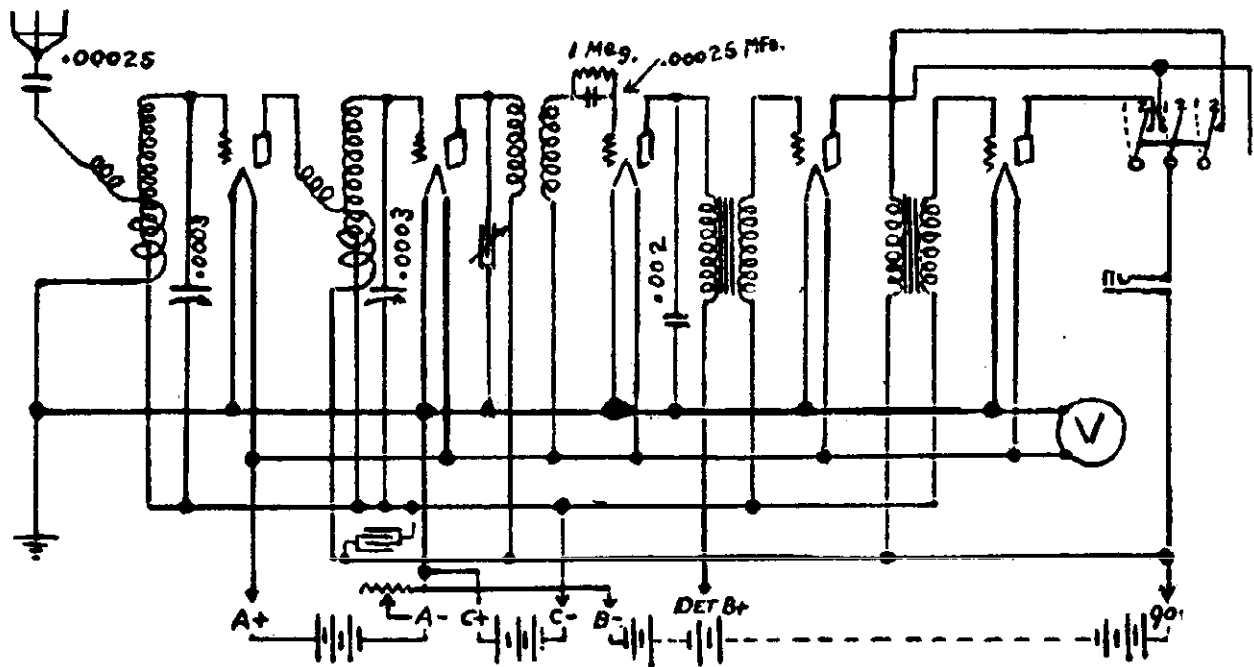


MODEL 16-5  
MODEL 17-5

COLONIAL RADIO CORP.



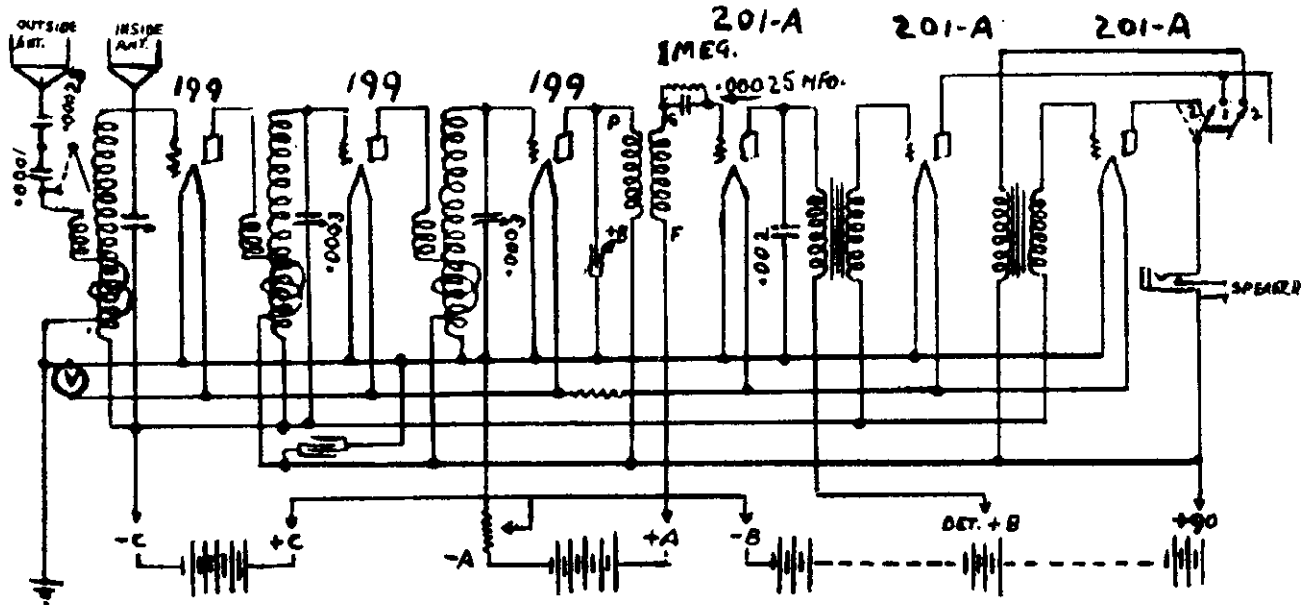
Model 16-5



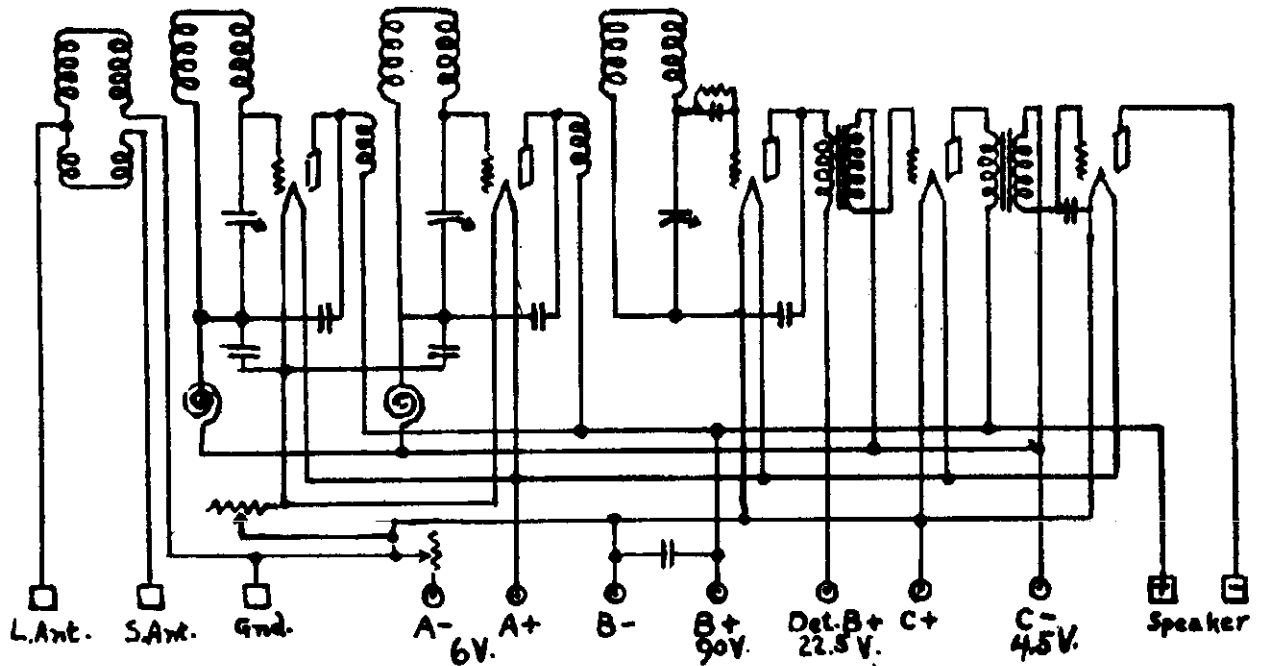
Model 17-5

COLONIAL RADIO CORP.

MODEL 20  
MODEL 21



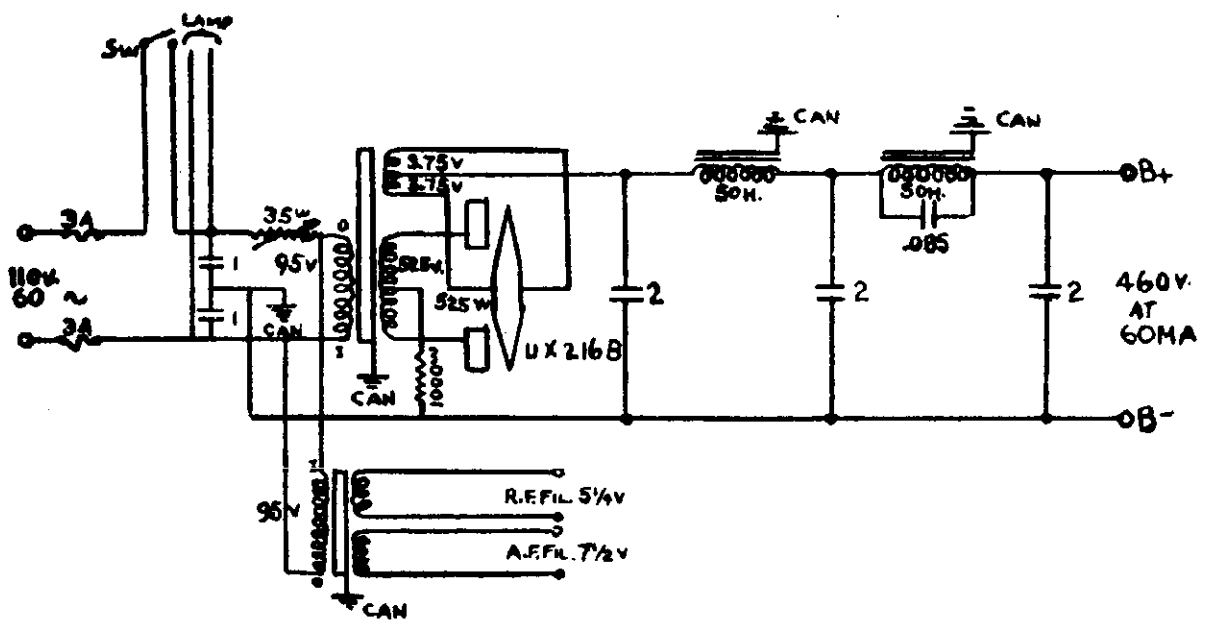
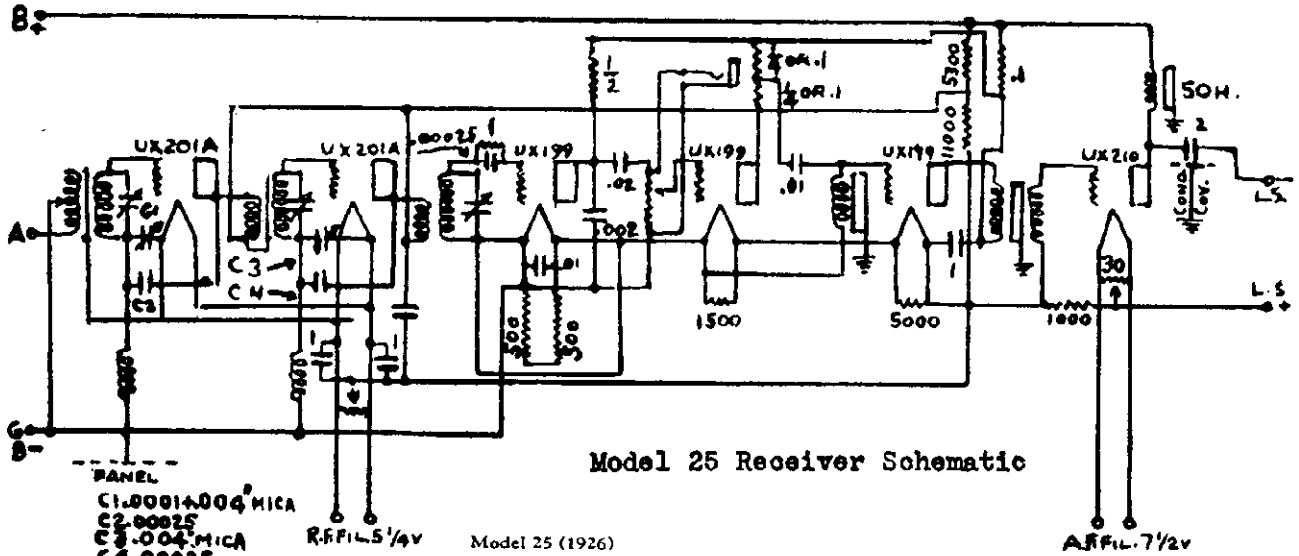
Model 20



Model 21

MODEL 25

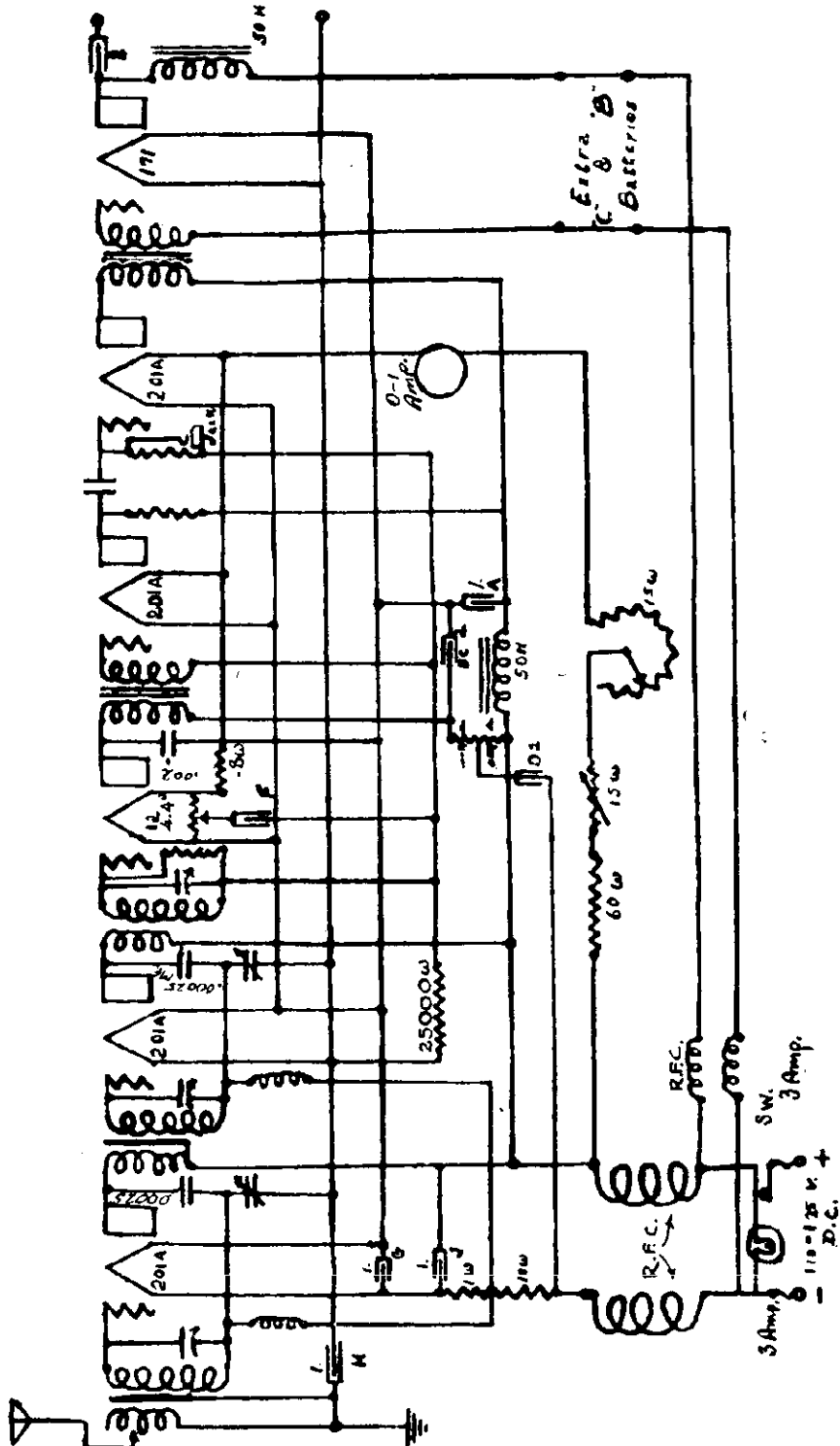
COLONIAL RADIO CORP



Model 25 Power Pack Schematic

COLONIAL RADIO CORP.

MODEL 26



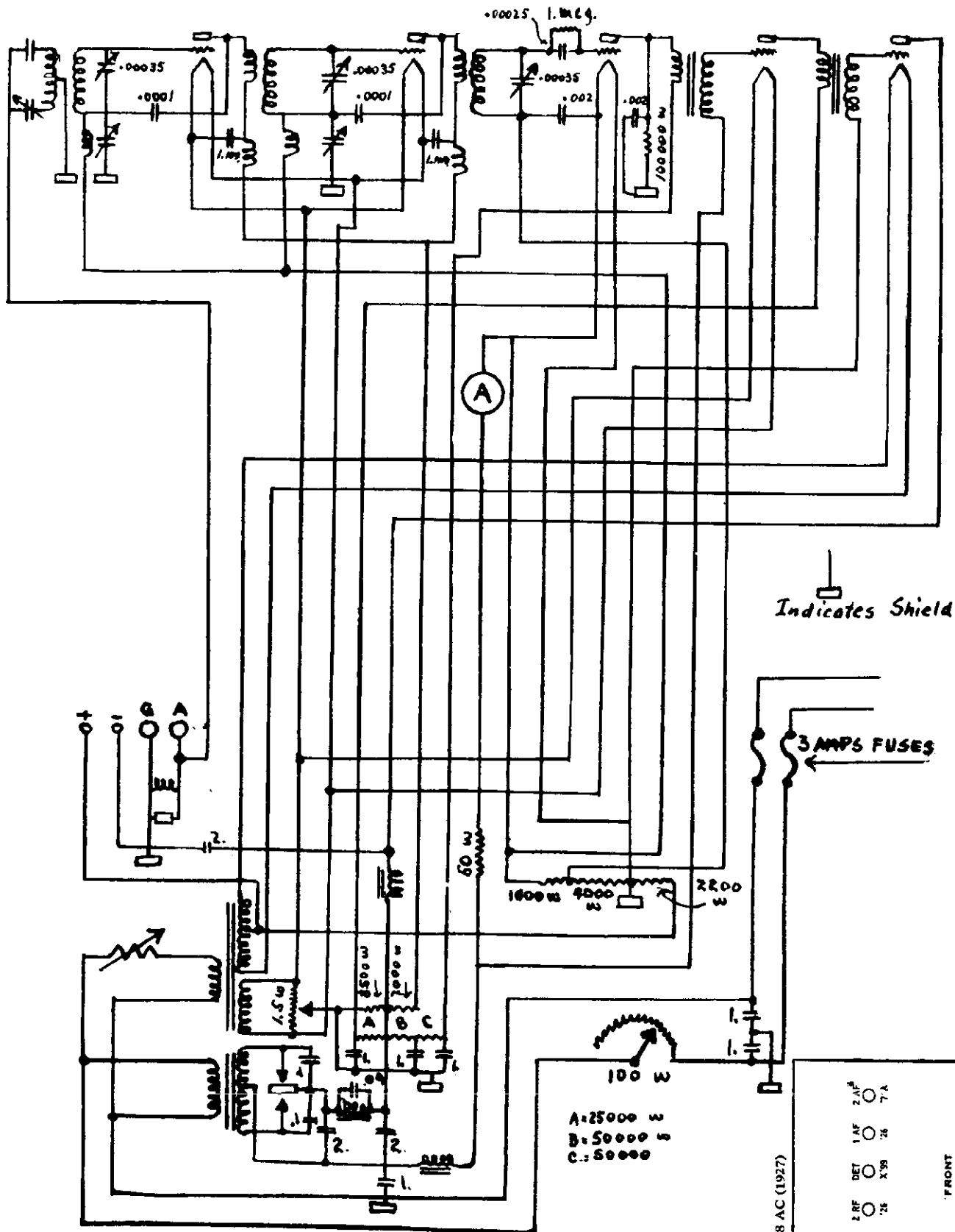
Model 26

(D.C.)

6X-500A	6X-371A	6X-301A	6X-300A	6X-301A	6X-12
1st A.F.	2nd A.F.	3rd A.F.	2nd A.F.	1st A.F.	Det.

COLONIAL RADIO CORP.

MODEL 28 AC



Indicates Shield

3 AMP FUSES

1600 W 4000 W 2200 W

100 W  
A: 2500 W  
B: 5000 W  
C: 5000 W

- 1 RF 26
- 2 RF 25
- DET X 35
- 1 AF 26
- 2 AF 7A

Model 28 AC Serial # 90,001

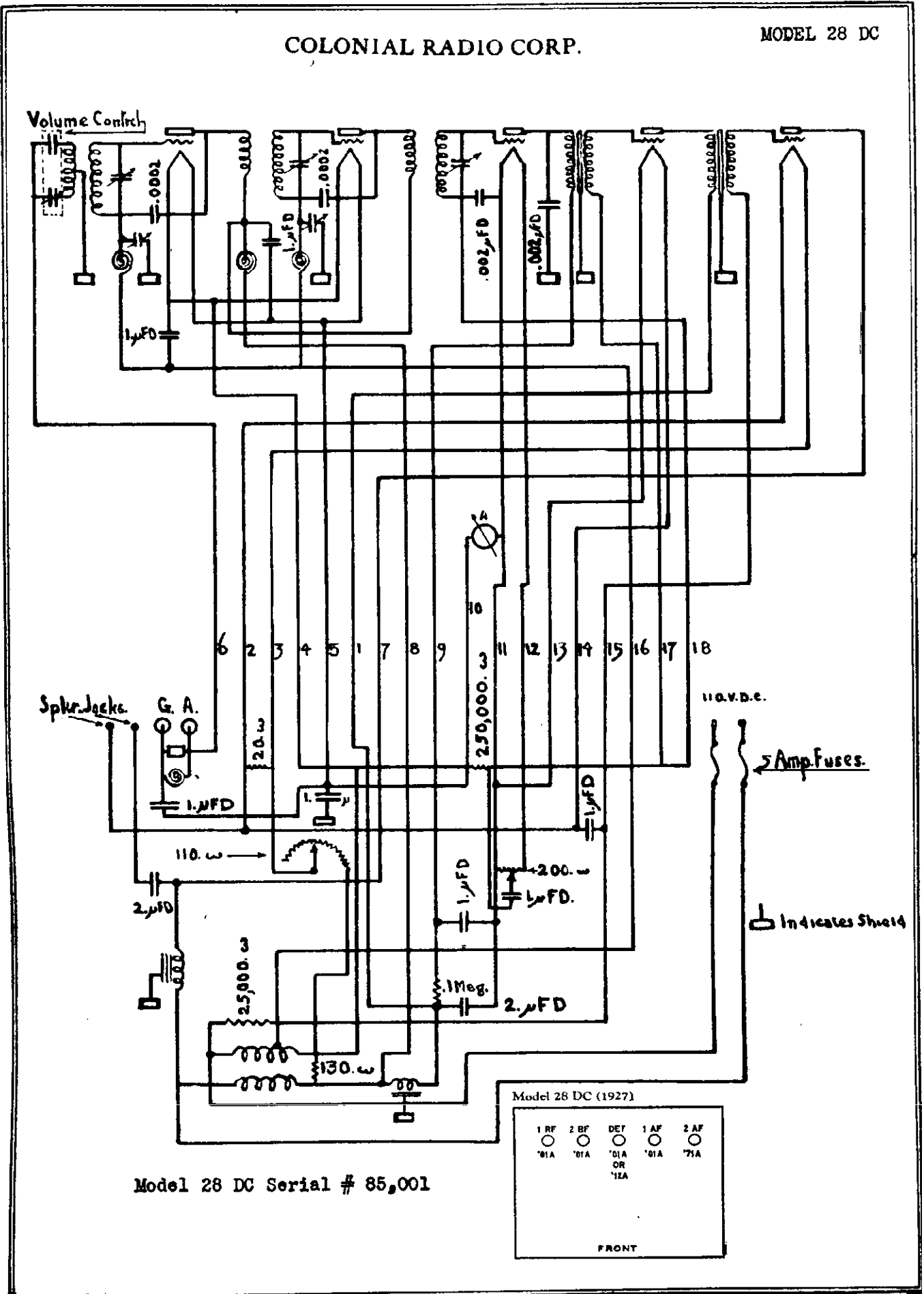
Model 28 AC (1927)

FRONT



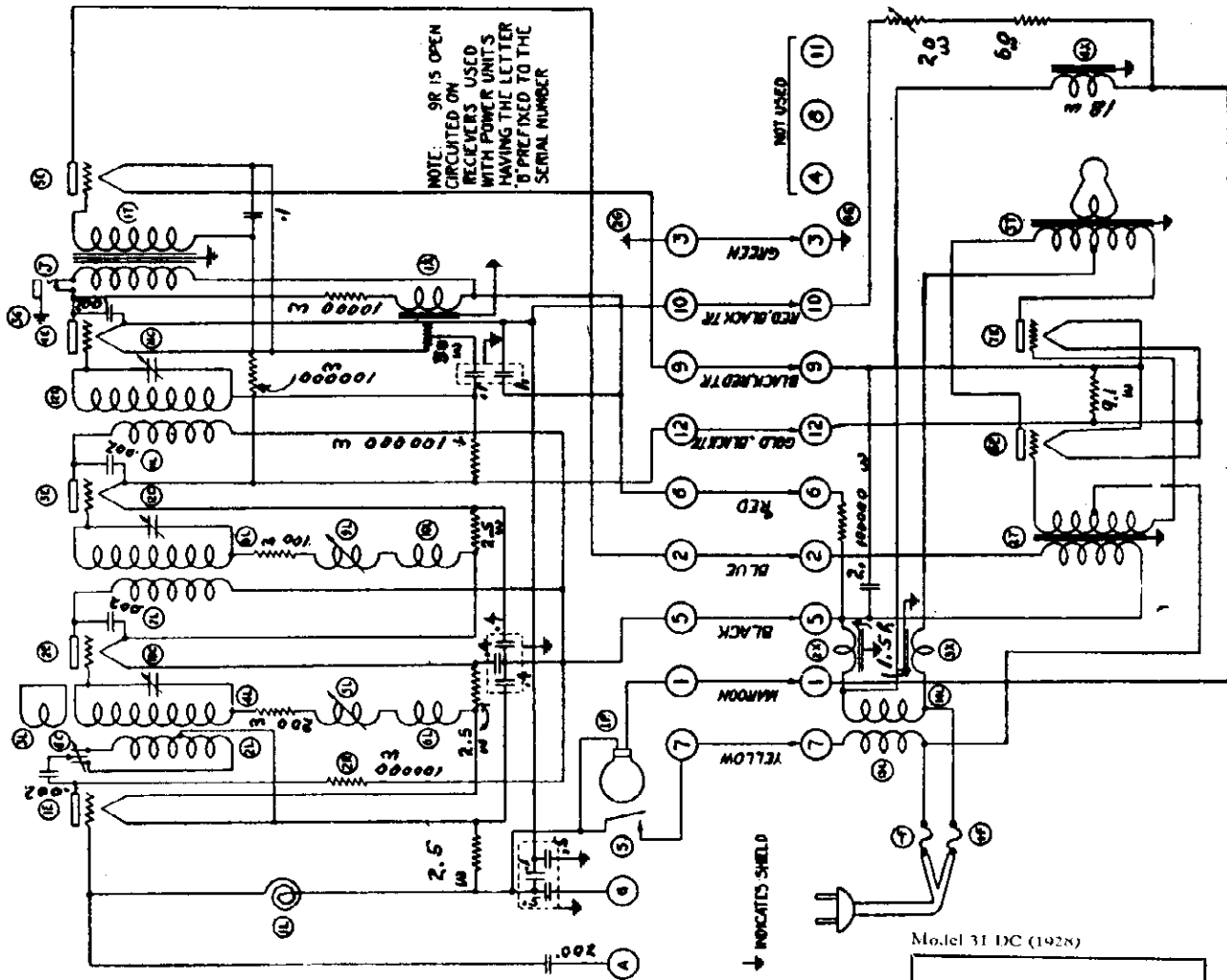
COLONIAL RADIO CORP.

MODEL 28 DC



MODEL 31 DC

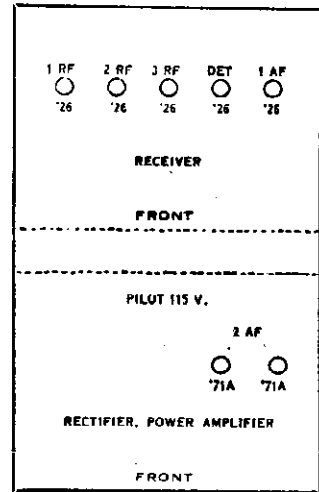
COLONIAL RADIO CORP.



Model 31 DC (1928)

STAGE	TUBE	GRID VOLTAGE		FILAMENT VOLTAGE		PLATE VOLTAGE		PLATE CURRENT	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
1 <sup>ST</sup> RF	CX 326 UX 226	2	4	1.4	1.6	50	90	2	5
2 <sup>ND</sup> RF	"	2	4	1.4	1.6	75	120	5	10
3 <sup>RD</sup> RF	"	2	4	1.4	1.6	75	115	5	10
DETECTOR	"	2	4	1.3	1.5	40	70	1	.5
1 <sup>ST</sup> AF	"	1.5	3	1.3	1.5	70	100	2.5	5.5
2 <sup>ND</sup> AF #1	UX 171A CX 371A	12	16	4.4	5.1	75	115	8	20
2 <sup>ND</sup> AF #2	"	12	16	4.4	5.1	75	115	8	20

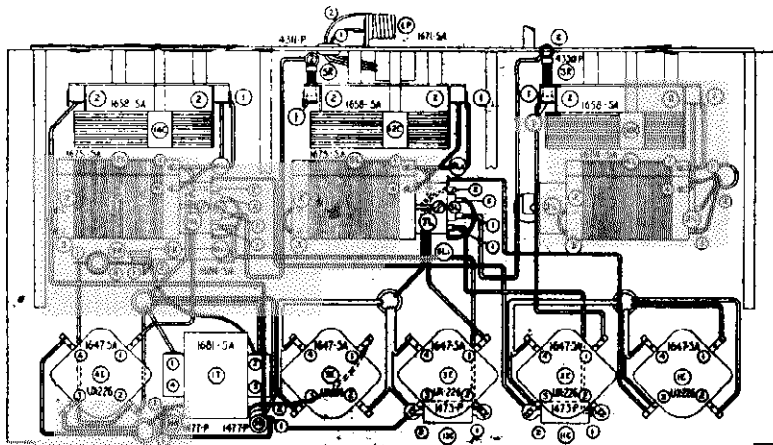
TUBE CURRENT AND VOLTAGE CHART  
Model 31 D. C. 50,010



CIRCUIT DIAGRAM  
MODEL 31 DC 50,001 - 48,801  
COLONIAL RADIO CORPORATION

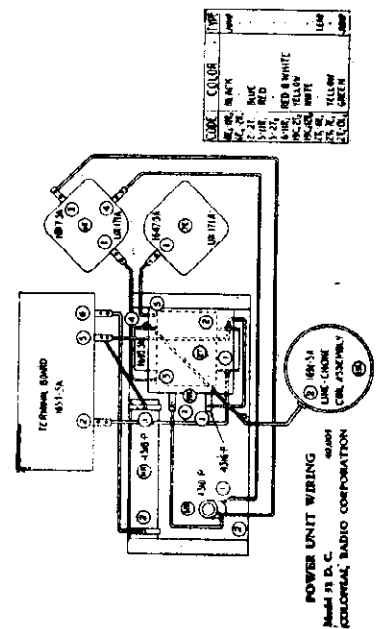
COLONIAL RADIO CORP.

MODEL 31 DC  
Data  
MODEL 31 AC  
Voltage

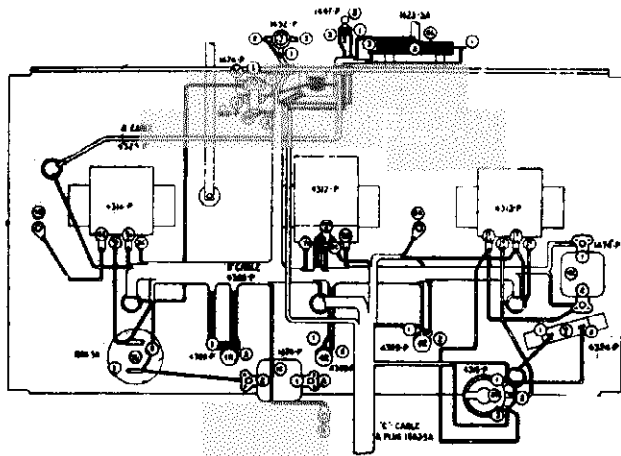


NOTE: 6X5 GREEN CONNECTED ON RECEIVERS USED WITH POWER UNITS HAVING THE LETTER 'B' PREFIXED TO THE SERIAL NUMBER.

TYPE	COLOR	TYPE	COLOR	TYPE	COLOR	TYPE	COLOR	TYPE	COLOR	TYPE	COLOR
6X4	BLACK	6AR5	RED	6AV6	GREEN	6BE6	RED & WHITE	6BE7	GREEN (BLACK SPINLED)	6X5	GREEN
6X5	RED & WHITE	6AR5	RED	6AV6	GREEN	6BE6	RED & WHITE	6BE7	YELLOW	6X5	YELLOW
6X6	BLUE	6AR5	RED	6AV6	GREEN	6BE6	BLACK	6BE7	GREEN OR RED	6X5	GREEN
6X7	WHITE	6AR5	RED	6AV6	GREEN	6BE6	BLACK	6BE7	GREEN	6X5	GREEN
6X8	NO WIRE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED	6X5	RED
6X9	WHITE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	WHITE	6X5	WHITE
6X10	BLUE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	BLUE	6X5	BLUE
6X11	WHITE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED	6X5	RED
6X12	GOLD BLACK TR	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED	6X5	RED
6X13	NO WIRE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED	6X5	RED



TOP VIEW OF RADIO SET WIRING  
Model 31 DC 30,002



TYPE	COLOR	TYPE	COLOR	TYPE	COLOR	TYPE	COLOR	TYPE	COLOR
6X4	BLACK	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	GREEN
6X5	RED & WHITE	6AR5	RED	6AV6	GREEN	6BE6	RED & WHITE	6BE7	YELLOW
6X6	BLUE	6AR5	RED	6AV6	GREEN	6BE6	BLACK	6BE7	GREEN OR RED
6X7	WHITE	6AR5	RED	6AV6	GREEN	6BE6	BLACK	6BE7	GREEN
6X8	NO WIRE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED
6X9	WHITE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	WHITE
6X10	BLUE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	BLUE
6X11	WHITE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED
6X12	GOLD BLACK TR	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED
6X13	NO WIRE	6AR5	RED	6AV6	GREEN	6BE6	RED	6BE7	RED

BOTTOM VIEW OF RADIO SET WIRING  
Model 31 DC 30,001  
COLONIAL RADIO CORPORATION

STAGE TUBE	GRID VOLTAGE		FILAMENT VOLTAGE		PLATE VOLTAGE		PLATE CURRENT			
	AT SOCKET	AT SOCKET	AT TRANSFORMER	AT SOCKET	AT SOCKET	AT SOCKET	AT SOCKET	MIN.	MAX.	
1 <sup>ST</sup> R.F. UX-226	-4.5	-6.1	1.53	1.77	1.35	1.55	95	125	6	9
2 <sup>ND</sup> R.F. UX-226	-4.5	-6.1	1.53	1.77	1.35	1.55	95	125	6	9
DETECTOR UY-227	0	0	1.98	2.42	1.75	2.15	30	40	2	3
1 <sup>ST</sup> A.F. UX-171A	-4.5	-6.1	1.98	2.42	1.75	2.15	80	110	3	4
2 <sup>ND</sup> A.F. UX-171A	-38	-52	4.6	5.10	4.55	5.05	160	220	15	21
3 <sup>RD</sup> A.F. UX-171A	-38	-52	4.6	5.10	4.55	5.05	160	220	15	21
RECTIFIER UX-280	-	-	4.6	5.10	4.55	5.05	-	-	42	58

TUBE CURRENT AND VOLTAGE CHART

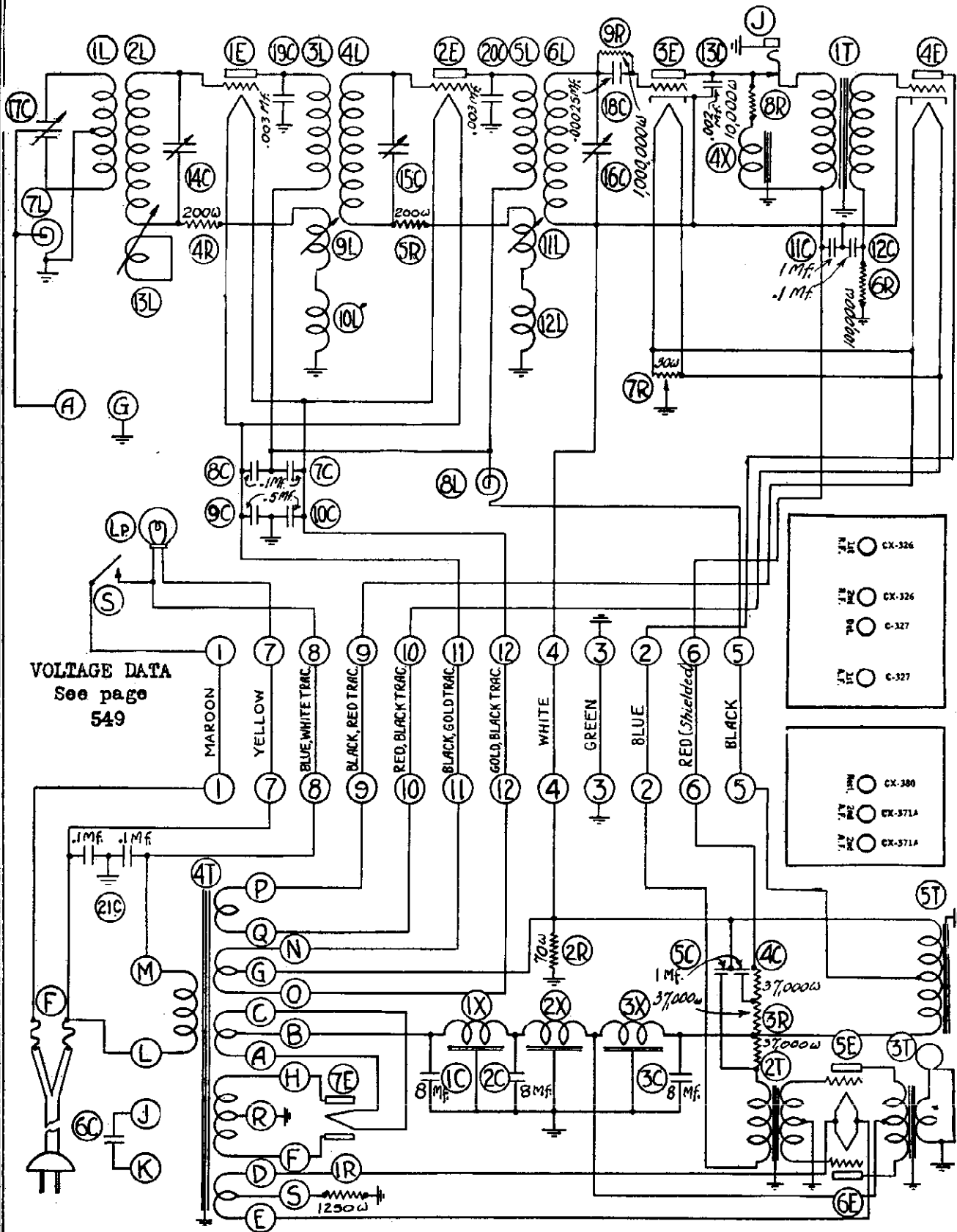
Model 31 AC 60001-5001

Model 31 DC 60001-5001

COLONIAL RADIO CORPORATION

MODEL 31 AC

COLONIAL RADIO CORP.



VOLTAGE DATA  
See page  
549

- 1 MAROON
- 7 YELLOW
- 8 BLUE, WHITE TRAC.
- 9 BLACK, RED TRAC.
- 10 RED, BLACK TRAC.
- 11 BLACK, GOLD TRAC.
- 12 GOLD, BLACK TRAC.
- 4 WHITE
- 3 GREEN
- 2 BLUE
- 6 RED (Shielded)
- 5 BLACK

1/2" 5T	CX-326
1/2" 4E	CX-326
1/2" 4D	C-327
1/2" 5C	C-327

1/2" 5T	CX-380
1/2" 4E	CX-571A
1/2" 4D	CX-571A

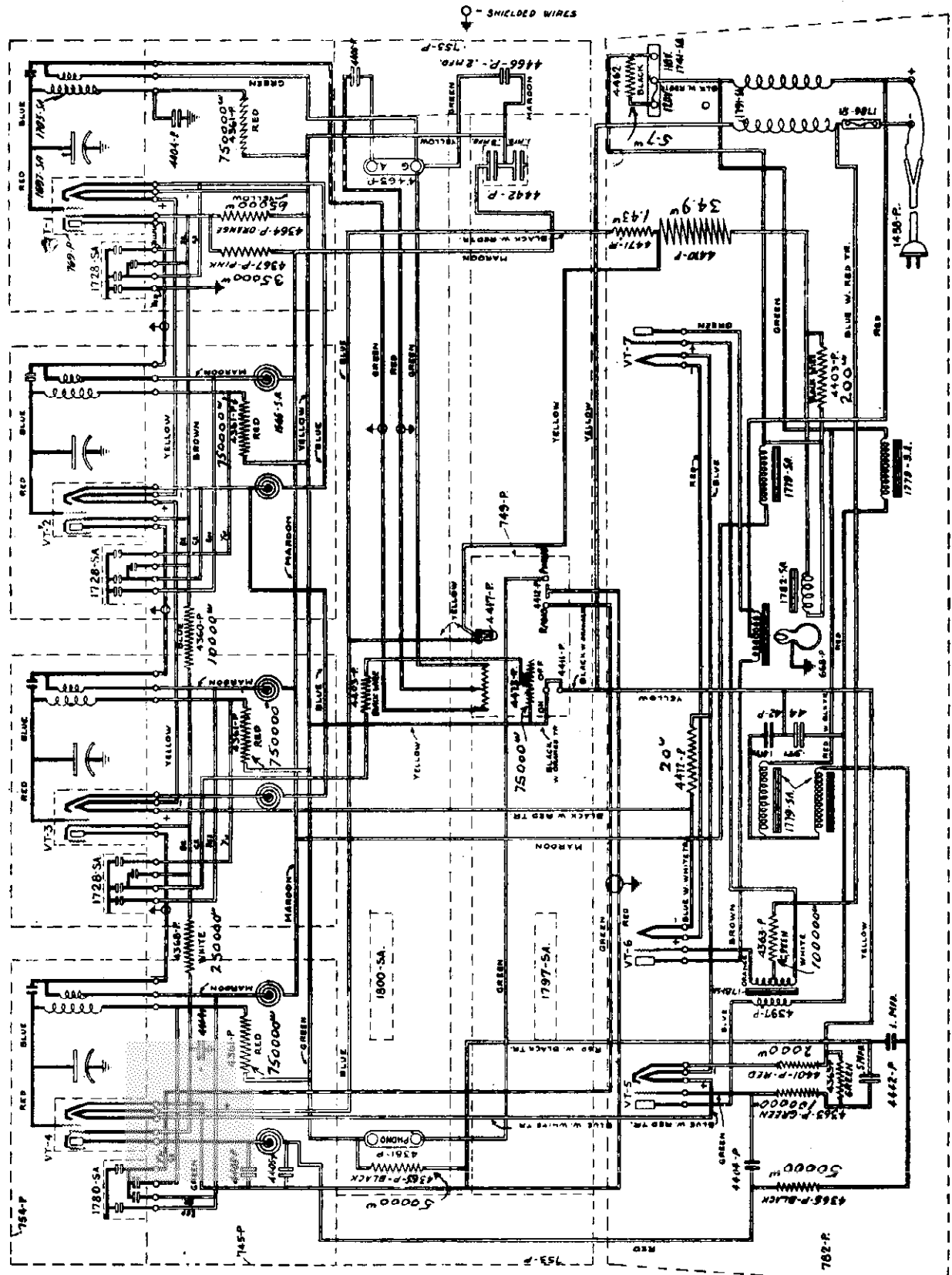
CIRCUIT DIAGRAM

MODEL 31 AC

60001-5001

# COLONIAL RADIO CORP.

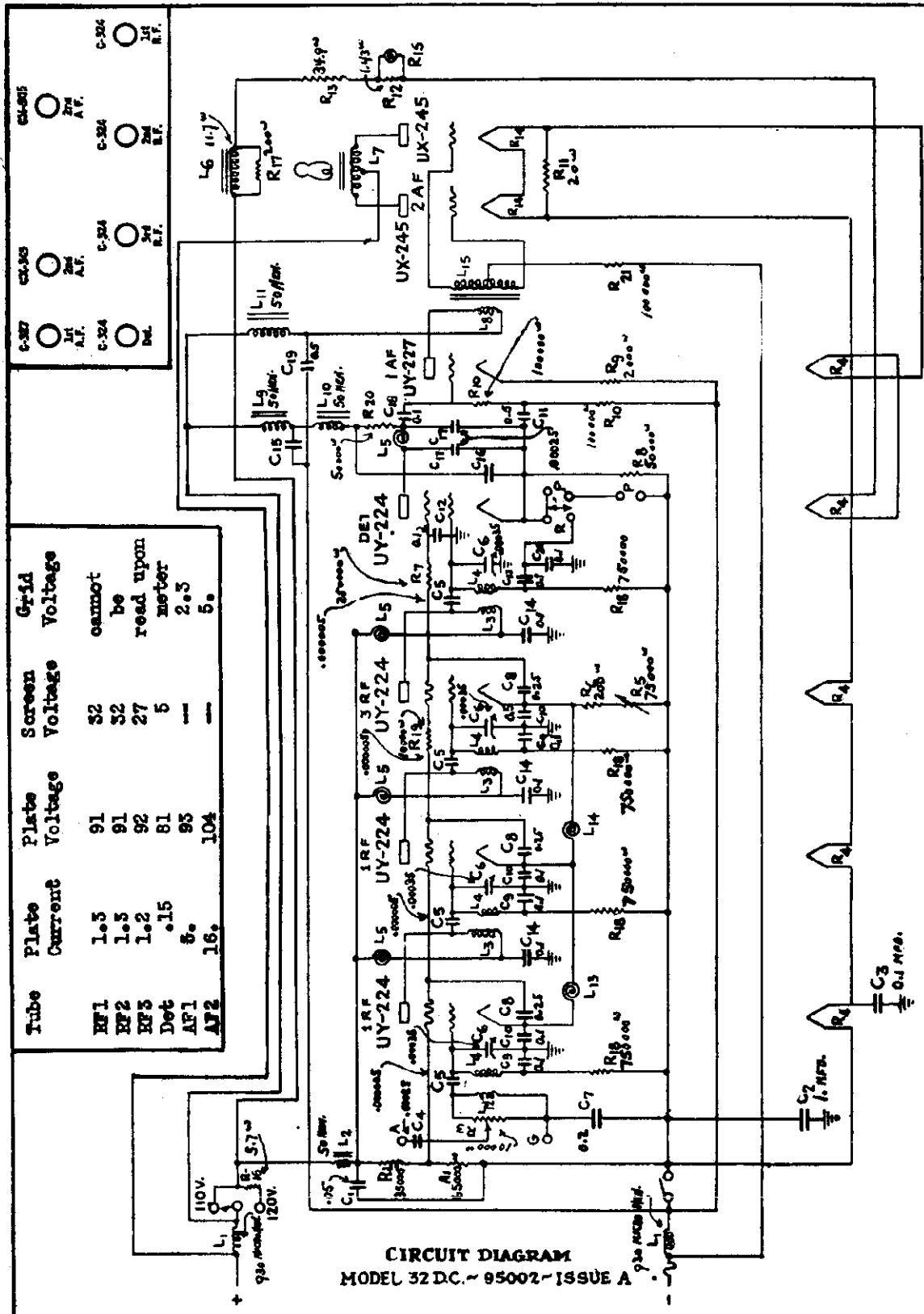
MODEL 32 DC  
Chassis



SCHMATIC DIAGRAM  
Model 32 D.C. ~ 95001 ~ Issue A

MODEL 32 DC

COLONIAL RADIO CORP.



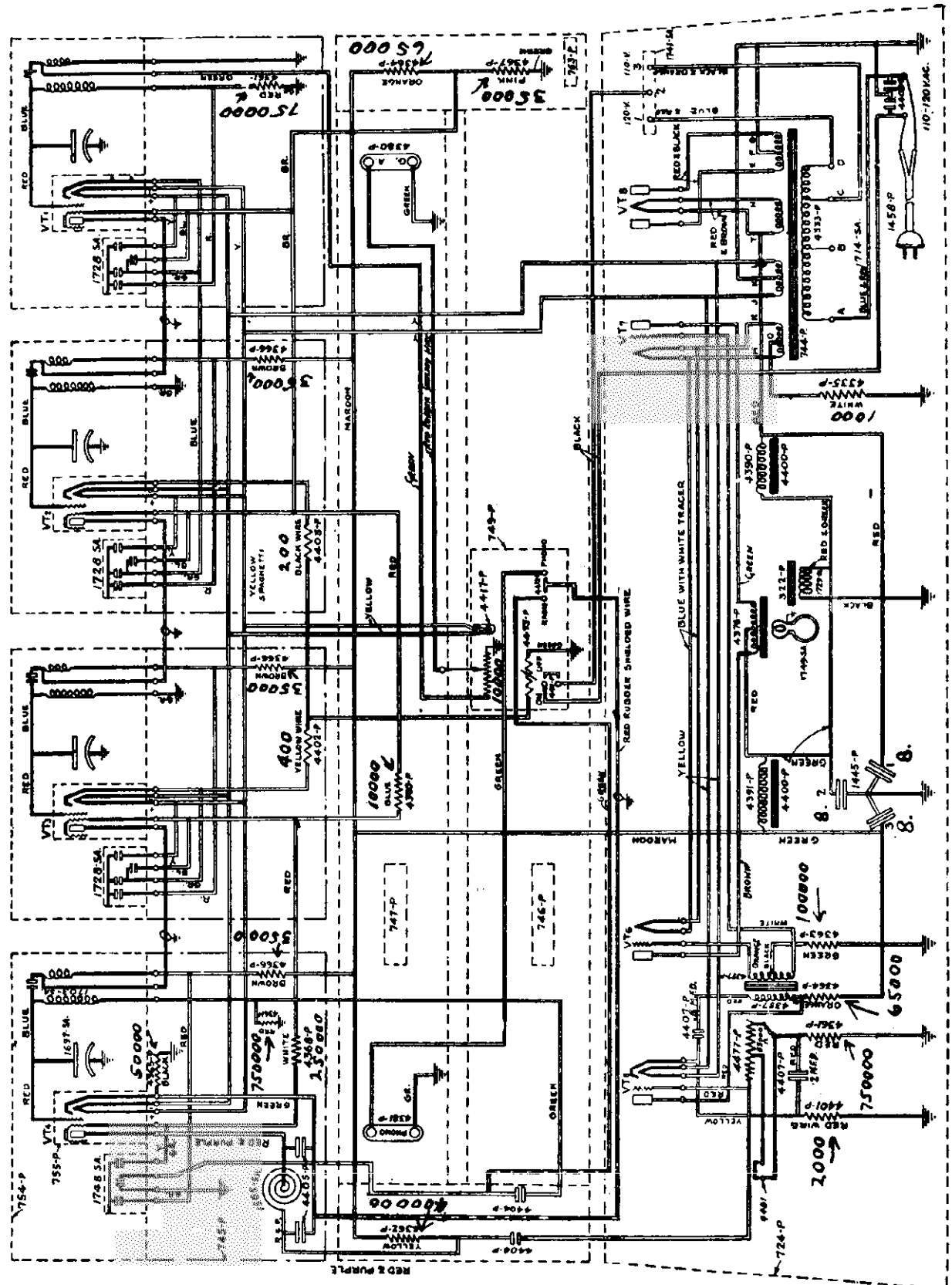
Tube	Plate Current	Plate Voltage	Screen Voltage	Grid Voltage
RF1	1.5	91	52	cannot be read upon meter
RF2	1.5	91	52	2.5
RF3	1.2	92	27	5.
Det	.15	81	5	—
AF1	6.	93	—	—
AF2	16.	104	—	—

CIRCUIT DIAGRAM  
MODEL 32 DC. - 95002 - ISSUE A

Chassis layout on next page.

# COLONIAL RADIO CORP.

## MODEL 32 AC Chassis

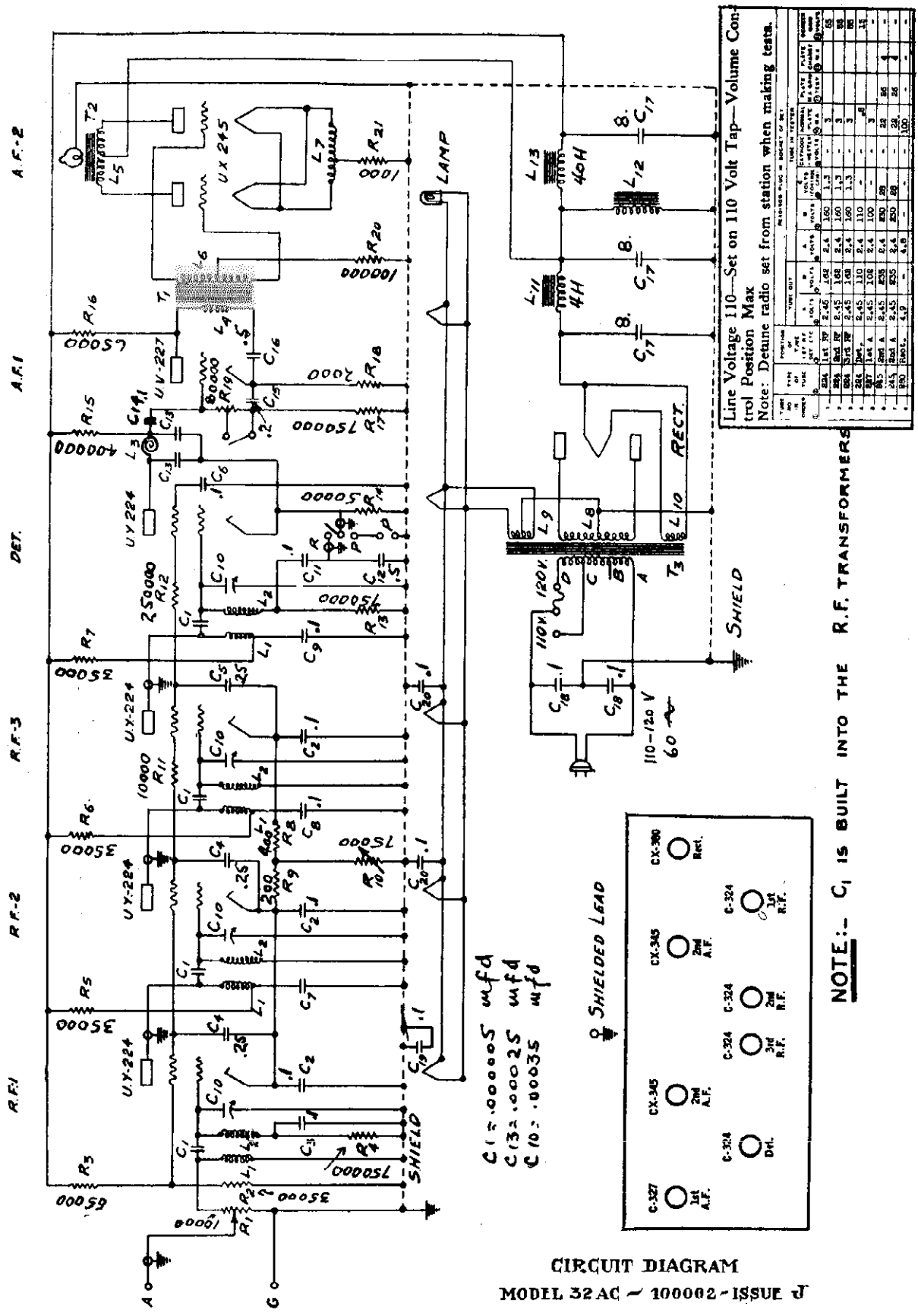


SCHMATIC DIAGRAM

Model 32 A.C. 100001-Issue-J

MODEL 32 AC  
Schematic

COLONIAL RADIO CORP.



Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max  
Note: Detune radio set from station when making tests.

TYPE	PART NO.	RATING	VOLTAGE		CURRENT		WATTAGE	REMARKS
			MIN.	MAX.	MIN.	MAX.		
1	224	125	100	125	1.5	1.5	3	50
2	224	125	100	125	1.5	1.5	3	50
3	224	125	100	125	1.5	1.5	3	50
4	224	125	100	125	1.5	1.5	3	50
5	224	125	100	125	1.5	1.5	3	50
6	224	125	100	125	1.5	1.5	3	50
7	224	125	100	125	1.5	1.5	3	50
8	224	125	100	125	1.5	1.5	3	50
9	224	125	100	125	1.5	1.5	3	50
10	224	125	100	125	1.5	1.5	3	50
11	224	125	100	125	1.5	1.5	3	50
12	224	125	100	125	1.5	1.5	3	50
13	224	125	100	125	1.5	1.5	3	50
14	224	125	100	125	1.5	1.5	3	50
15	224	125	100	125	1.5	1.5	3	50
16	224	125	100	125	1.5	1.5	3	50
17	224	125	100	125	1.5	1.5	3	50
18	224	125	100	125	1.5	1.5	3	50
19	224	125	100	125	1.5	1.5	3	50
20	224	125	100	125	1.5	1.5	3	50
21	224	125	100	125	1.5	1.5	3	50
22	224	125	100	125	1.5	1.5	3	50
23	224	125	100	125	1.5	1.5	3	50
24	224	125	100	125	1.5	1.5	3	50
25	224	125	100	125	1.5	1.5	3	50
26	224	125	100	125	1.5	1.5	3	50
27	224	125	100	125	1.5	1.5	3	50
28	224	125	100	125	1.5	1.5	3	50
29	224	125	100	125	1.5	1.5	3	50
30	224	125	100	125	1.5	1.5	3	50

NOTE:— C<sub>1</sub> IS BUILT INTO THE R.F. TRANSFORMERS

- SHIELDED LEAD
- CX-327 125 A.F.
  - CX-345 2M A.F.
  - CX-343 2M A.F.
  - C-324 3M R.F.
  - C-324 3M R.F.
  - C-324 3M R.F.
  - C-324 3M R.F.
  - CX-390 RET.
  - C-324 3M R.F.

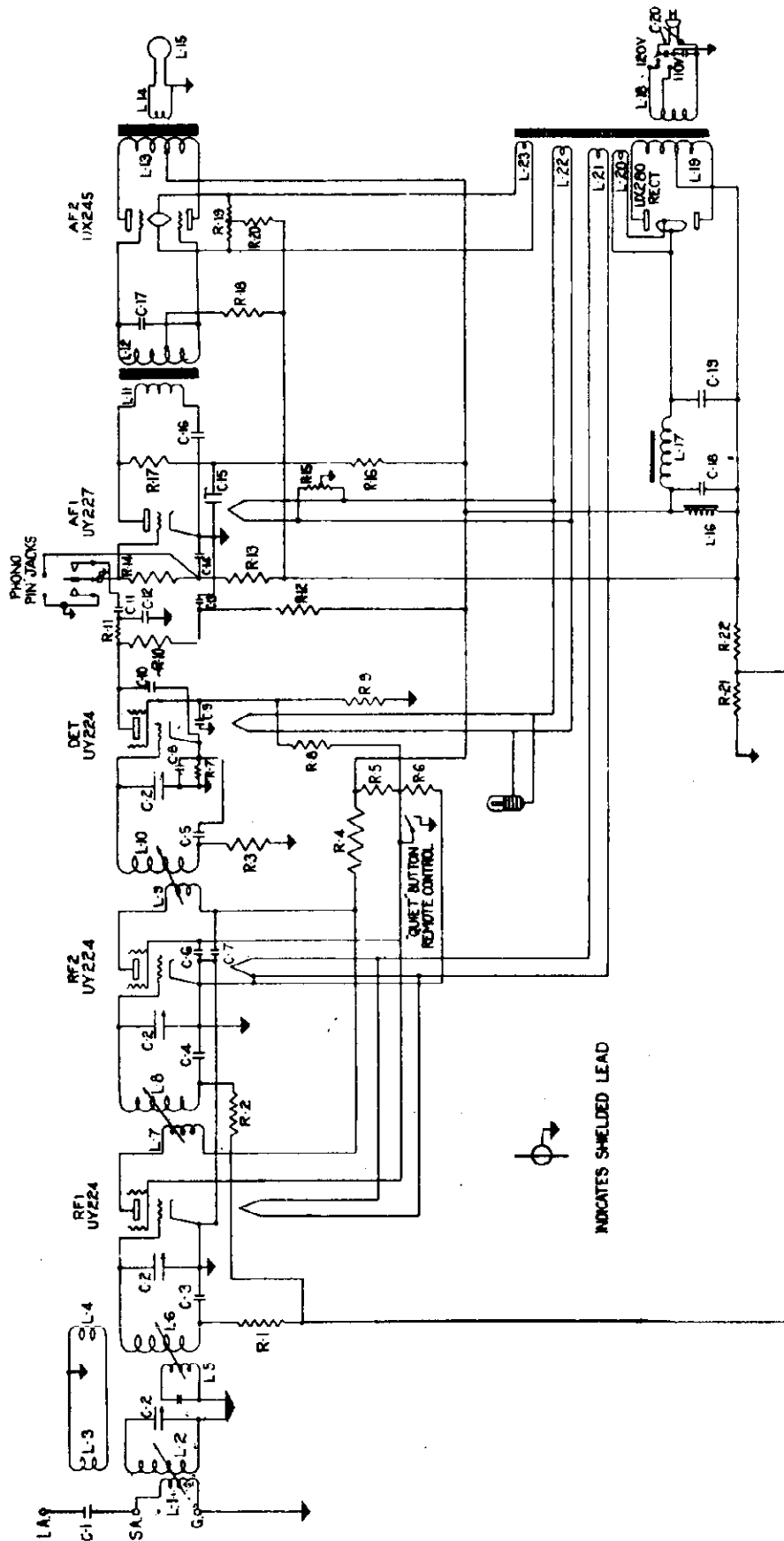
C<sub>1</sub> = .00005 mfd  
C<sub>2</sub> = .00025 mfd  
C<sub>10</sub> = .00035 mfd

CIRCUIT DIAGRAM  
MODEL 32 AC - 100002 - ISSUE J



COLONIAL RADIO CORP.

MODEL 33, 34, 35 AC  
Schematic



NOTE—In the 25 cycle models, R<sub>3</sub> is shorted out and there is an additional

1 mfd. condenser connected from the R.F. screen-grids to ground.

Socket layout on page 560

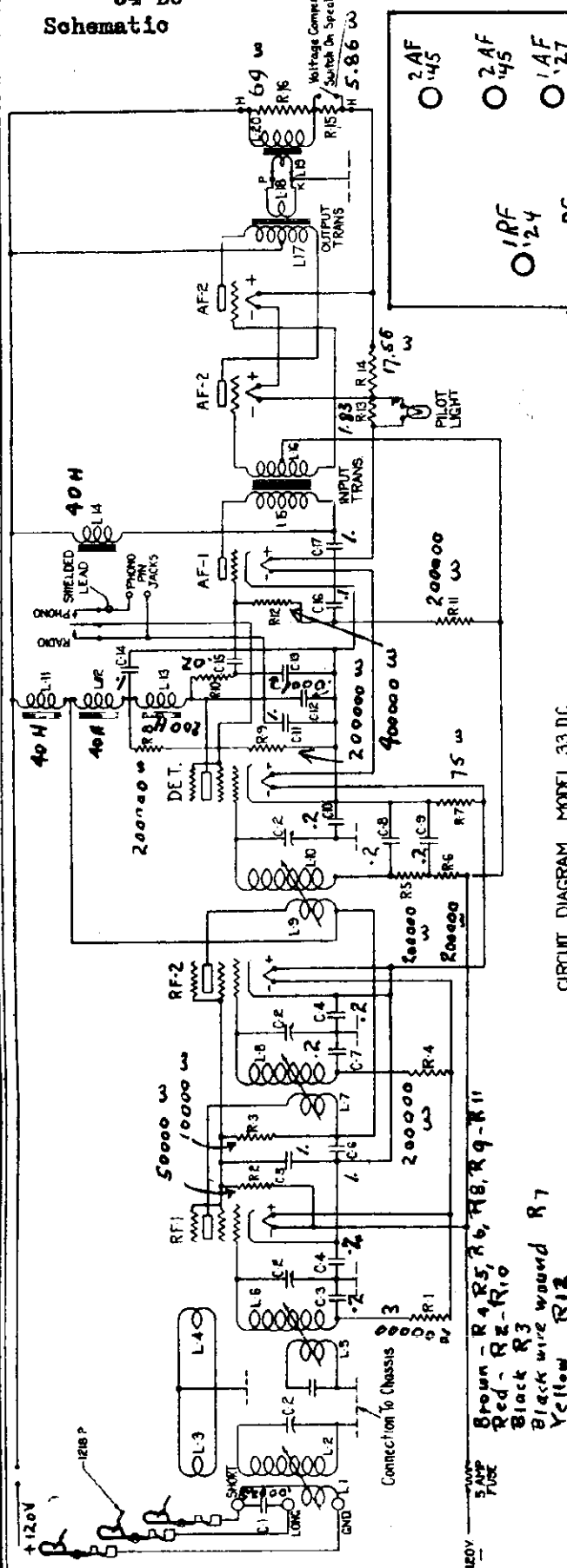
Remote Control tuning notes on page 560

Remote Control circuit on page 561

Electrical values on next page.

MODEL 33 DC  
34 DC  
Schematic

COLONIAL RADIO CORP.



CIRCUIT DIAGRAM MODEL 33 DC

**TUBE VOLTAGE AND CURRENT READINGS**

Actual Voltages Applied to Tubes

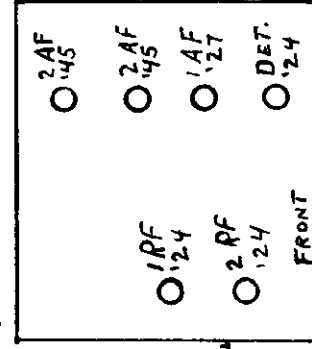
	RF1	RF2	Det.	AF1	AF2
Plate Voltage	110v.	110v.	105v.	110v.	110v.
Control-Grid Voltage	-2.3	-2.3	-4.8	-4.8	-13
Screen-Grid Voltage	72	72	40		
Plate Current	2.5 m.a.	2.5 m.a.	0.8 m.a.	4 m.a.	15 m.a.

**Voltages as Read on a 1000 OHMS Per Volt Meter**

	RF1	RF2	Det.	AF1	AF2
Plate Voltage	100 v.	100 v.	85 v.	100 v	100 v.
Control-Grid Voltage	-0.6	-0.6	-0.5	0.35	12
Screen-Grid Voltage	68	68	10		
Plate Current	2.5 m.a.	2.5 m.a.	0.8 m.a.	4 m.a.	15 m.a.

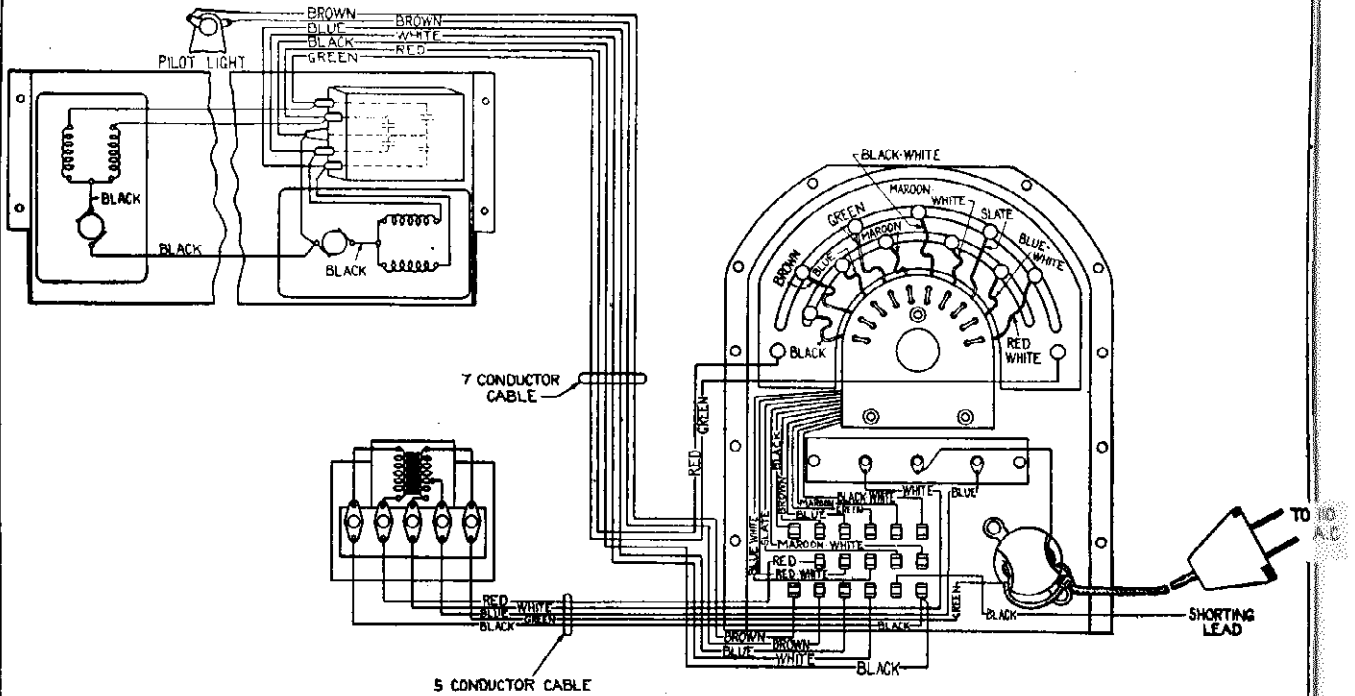
Plate Voltages on the 250 v. scale; Control-Grid Voltages on the 50 v. scale; Screen-Grid Voltages on the 100 v. scale

- Brown - R4, R5, R6, R8, R9, R11
- Red - R2, R10
- Black - R3
- Black wire wound - R7
- Yellow - R12



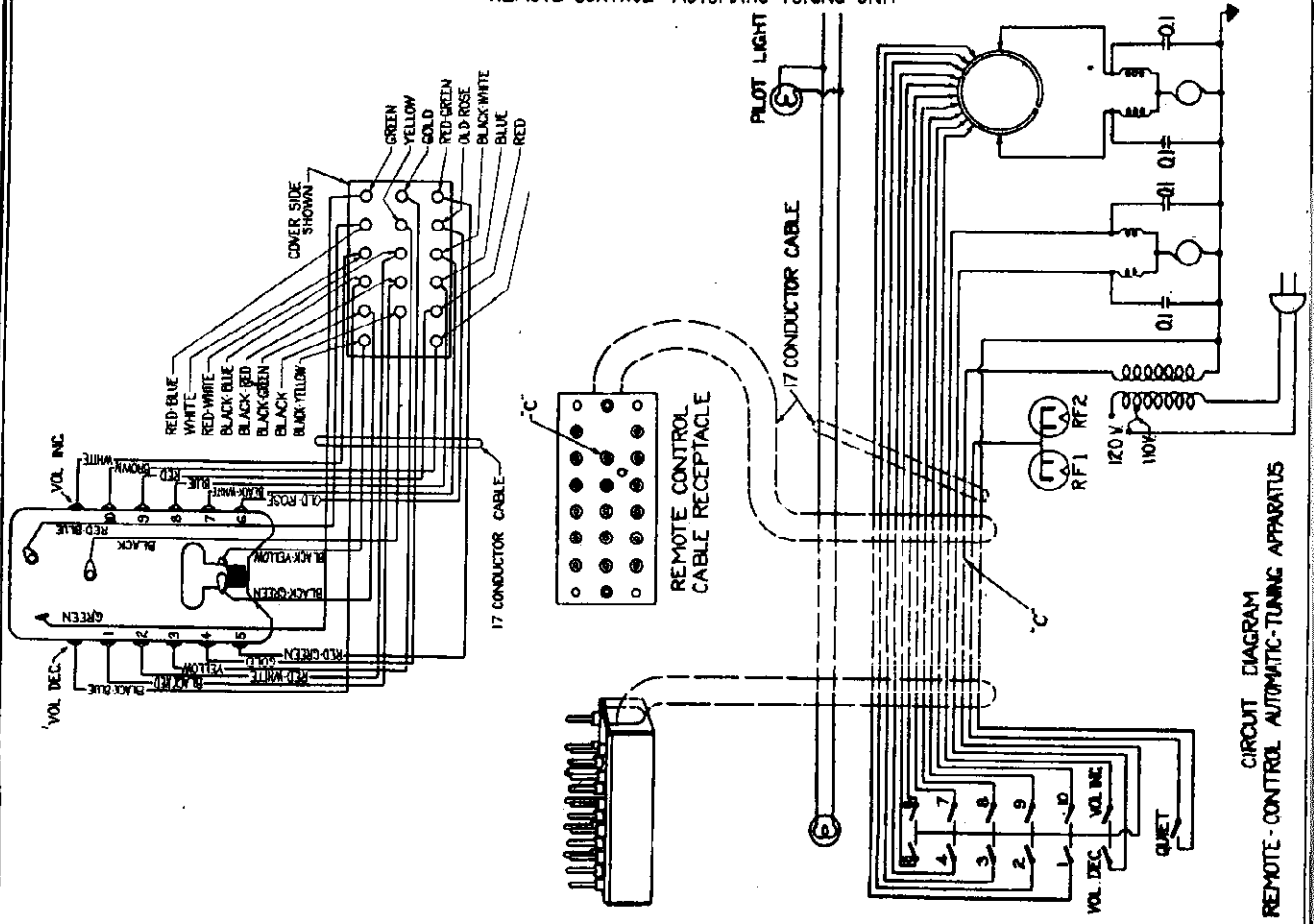
COLONIAL RADIO CORP.

MODEL 33,34,35 AC  
Remote Control  
Schematic



WIRING DIAGRAM

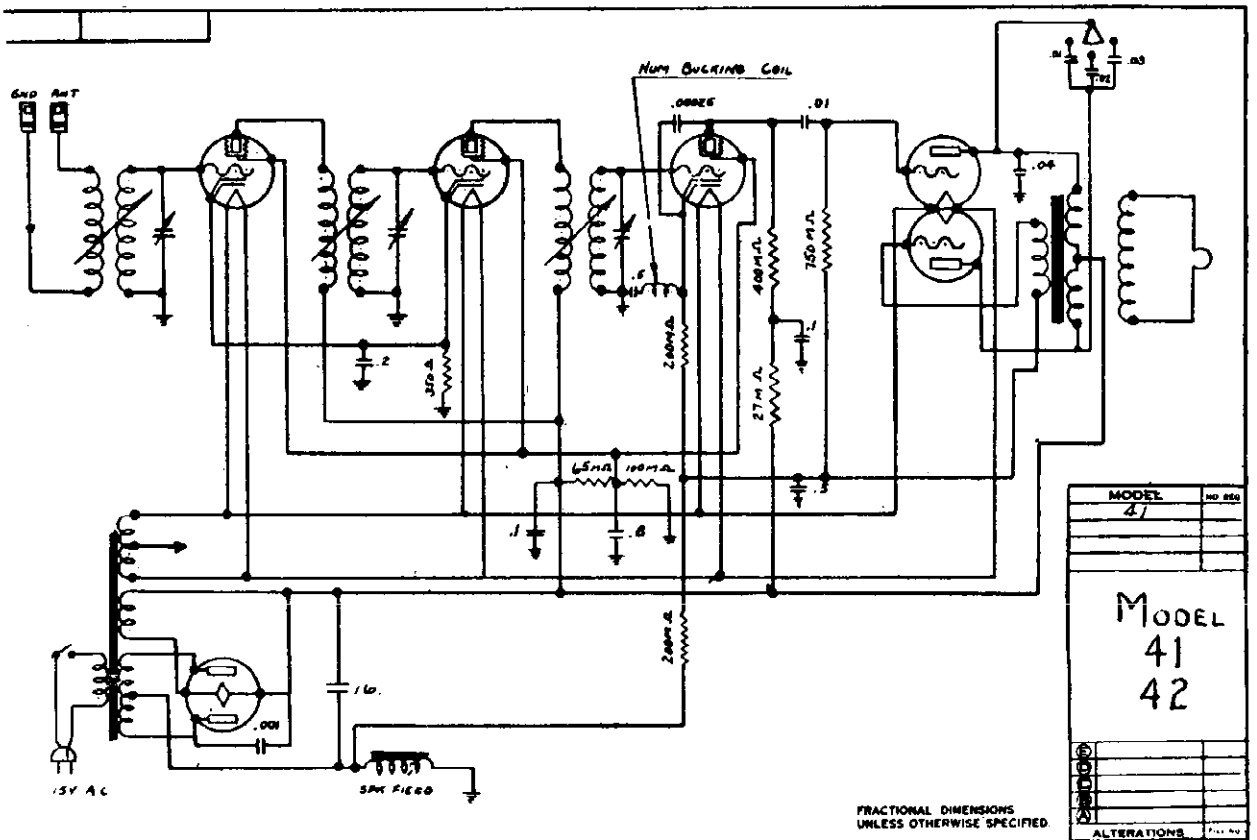
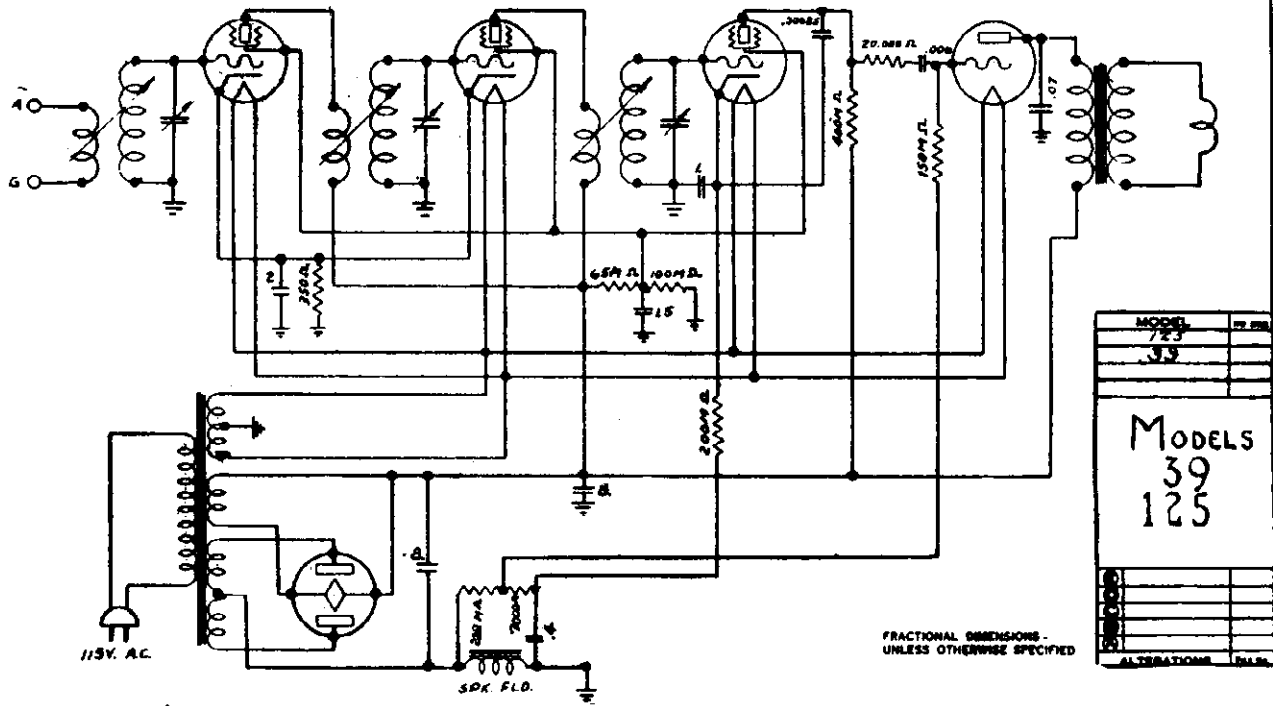
REMOTE-CONTROL AUTOMATIC-TUNING UNIT



CIRCUIT DIAGRAM  
REMOTE-CONTROL AUTOMATIC-TUNING APPARATUS

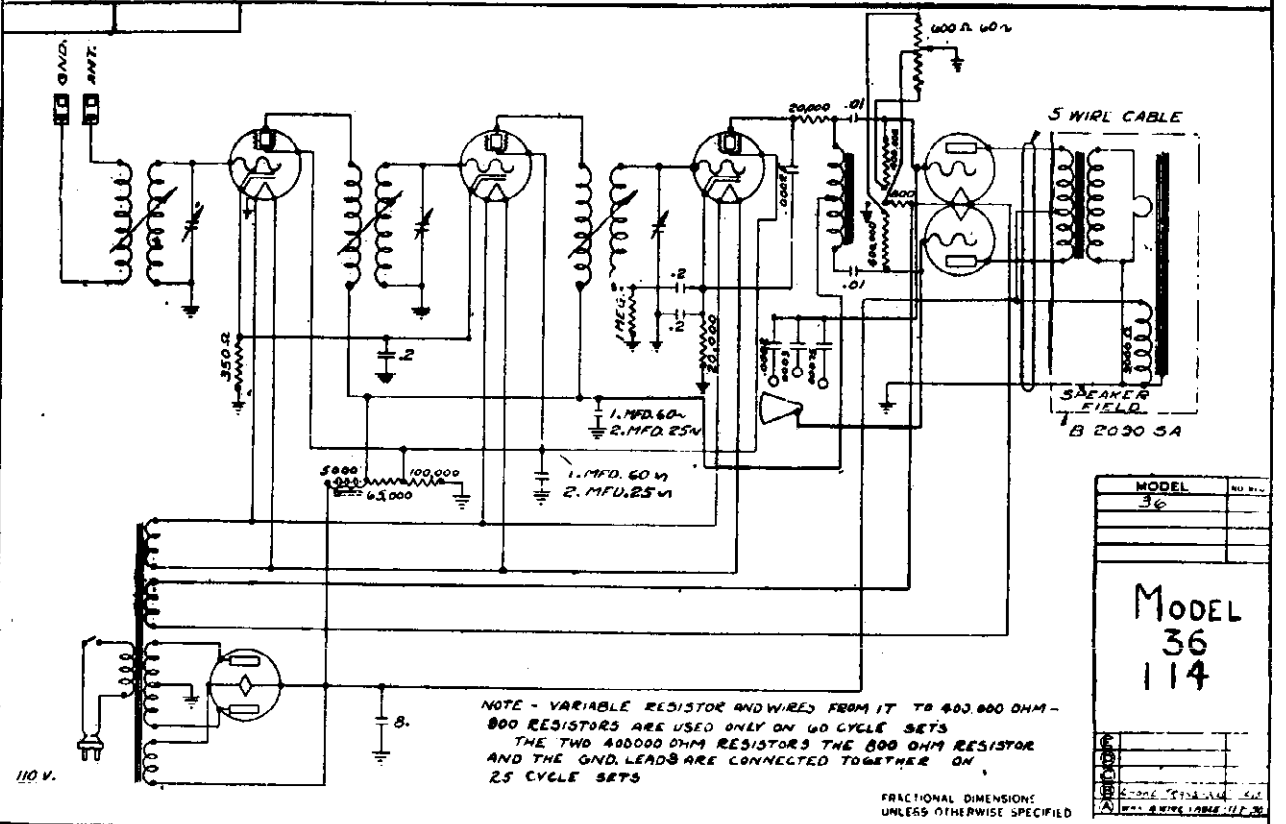
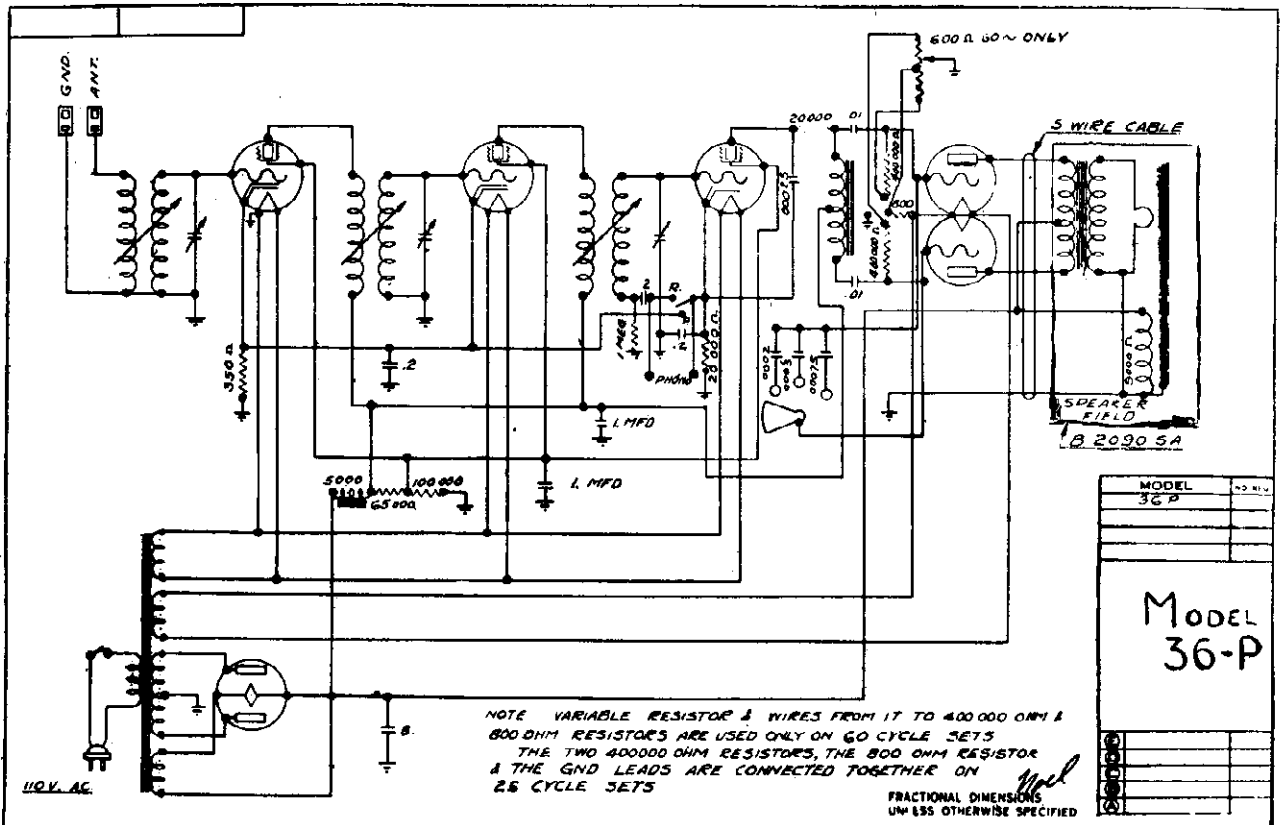
MODEL 39, 125  
 MODEL 41, 42  
 Schematics

COLONIAL RADIO CORP.



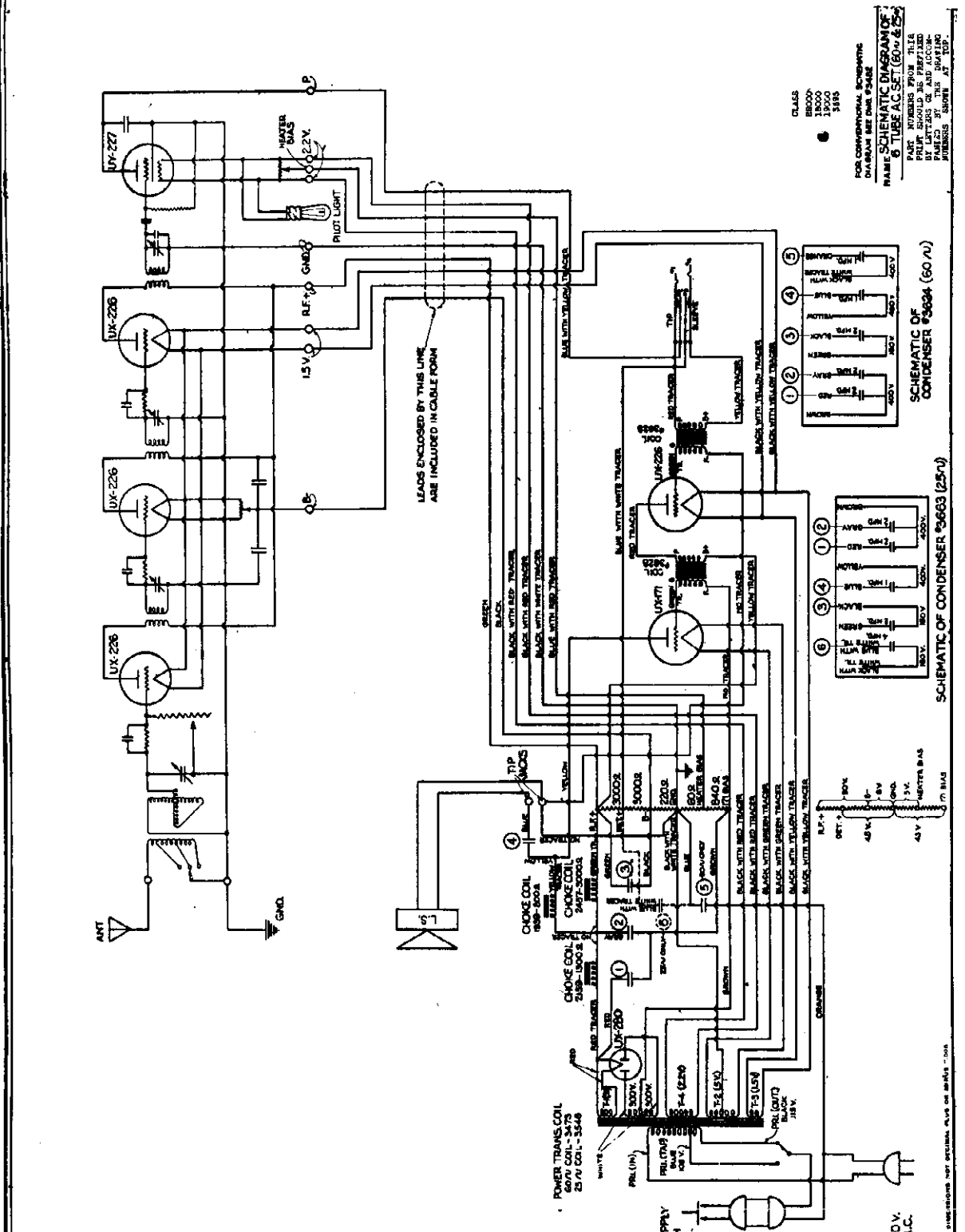
COLONIAL RADIO CORP.

MODEL 36  
MODEL 36-P  
MODEL 114



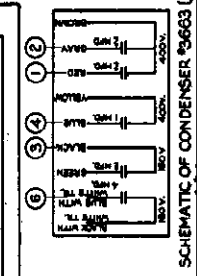
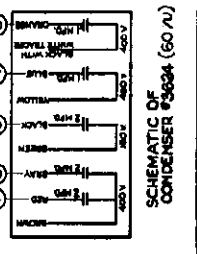
# COLUMBIA PHONOGRAPH COMPANY

MODEL C-1, C-3  
Schematic



FOR CONVENTIONAL SCHEMATIC DIAGRAM SEE THE FRAME SCHEMATIC DIAGRAM OF TUBE AC SET (60 AU) PART NUMBER 15885

CLASS  
1800  
1900  
19000  
1985

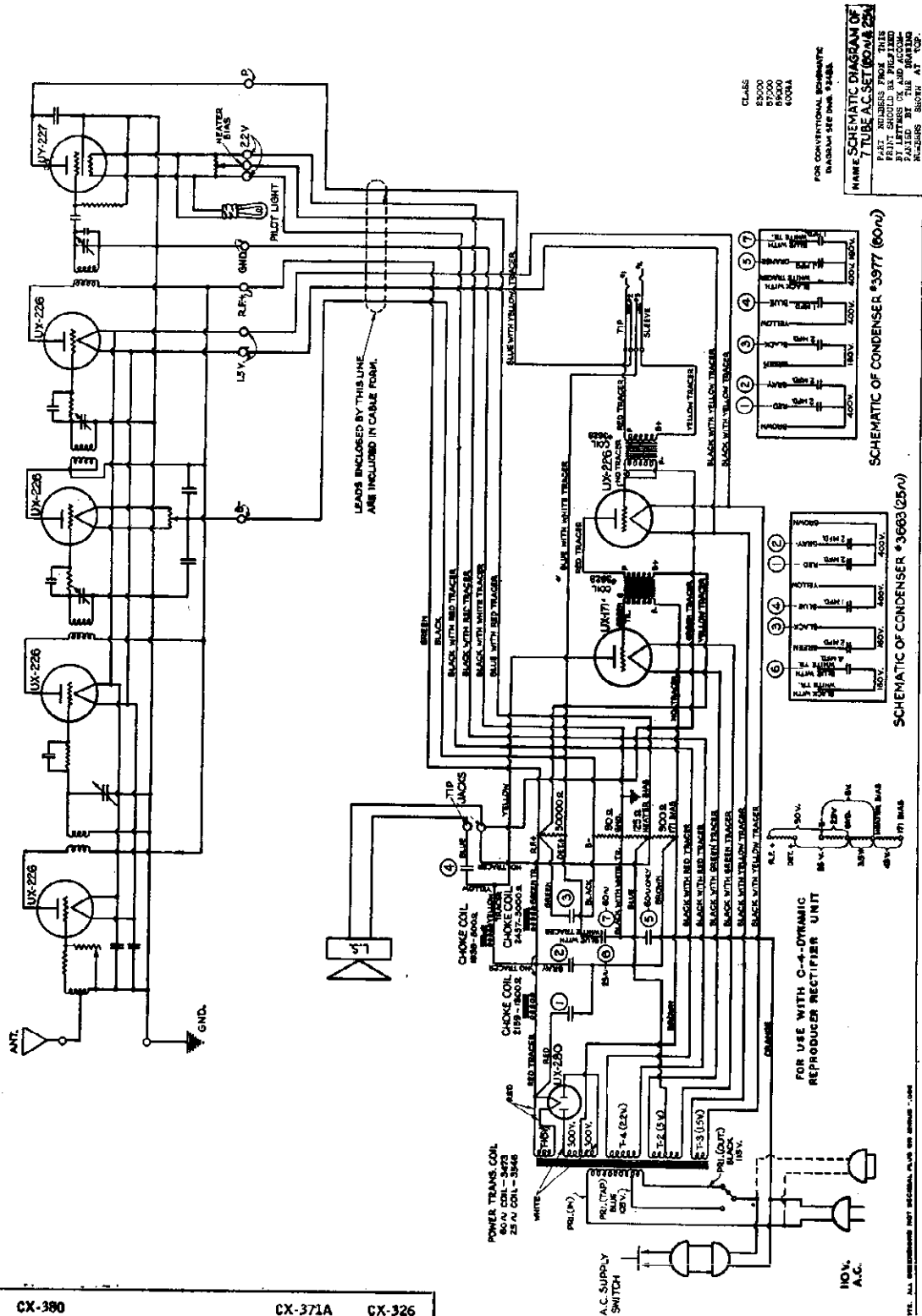


C-1, C-3			
CX-380 Rect.	CX-326 1st R.F.	CX-326 2nd R.F.	CX-326 3rd R.F.
CX-371A 2nd A.F.	C-327 Det.	CX-326 1st A.F.	

SEE ALL DIMENSIONS FOR DETAILS PLUS ON DRAWING 1018

MODEL C-2,C-4  
Schematic

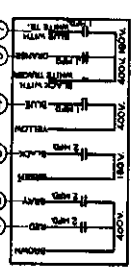
COLUMBIA PHONOGRAPH COMPANY



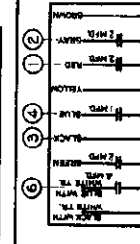
CLASS  
8700  
8750  
89000  
6081

FOR CONVENTIONAL SCHEMATIC  
DIAGRAMS SEE PAGE 1248A

NAME: **7 TUBE AL-SET (60A)**  
THIS SCHEMATIC DIAGRAM IS  
PRINTED IN THIS BOOK FOR  
EASE OF REFERENCE AND ACCORD-  
ING TO THE REQUIREMENTS OF  
AL-SET BOOK AT 120

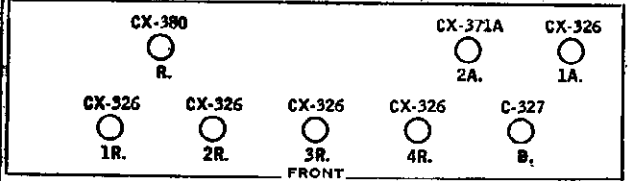


SCHEMATIC OF CONDENSER #3977 (60A)



SCHEMATIC OF CONDENSER #3663 (25V)

FOR USE WITH C-4-DYNAMIC  
REPRODUCER RECTIFIER UNIT

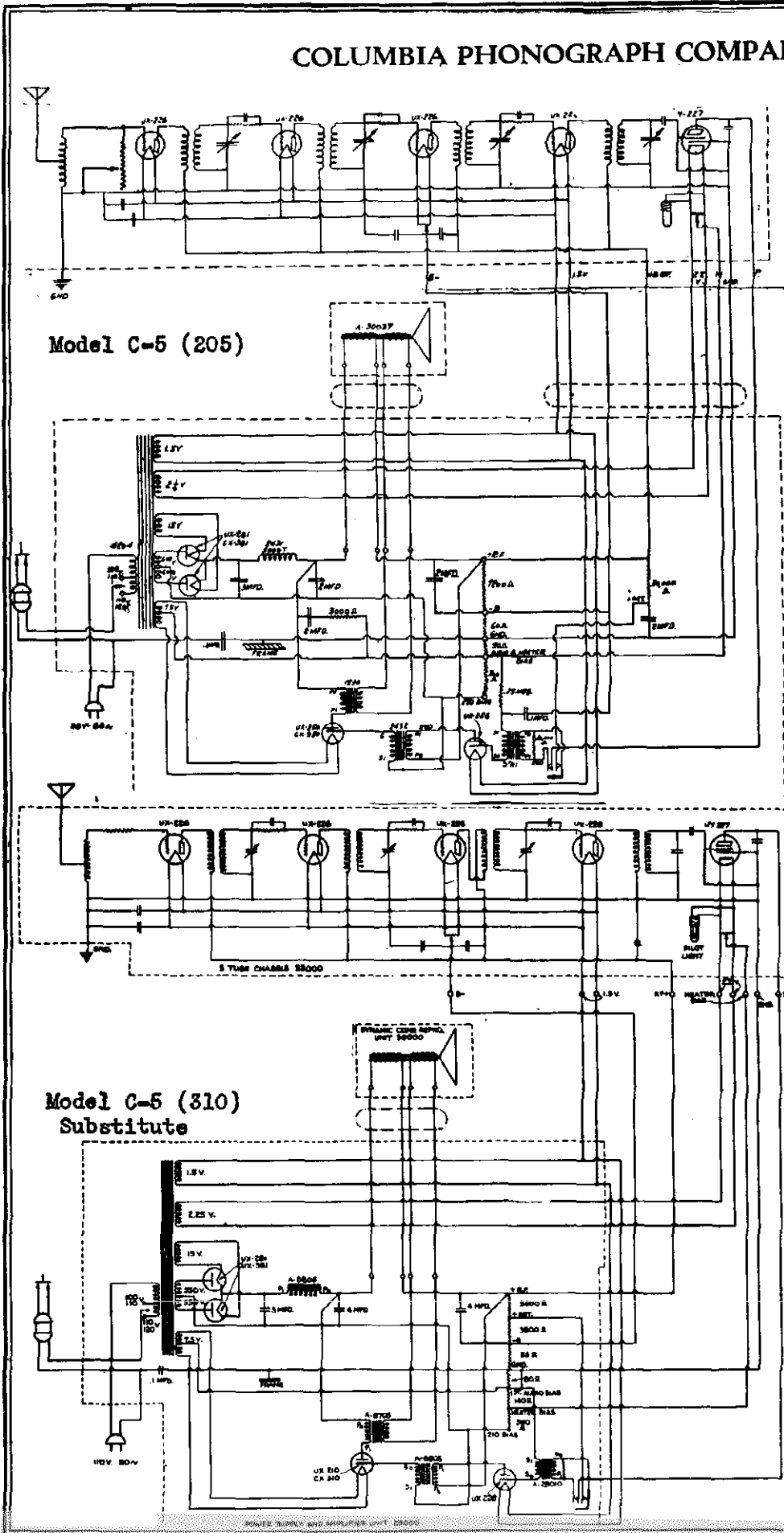


\*This Model Uses a CX-381 Also for the Dynamic  
Speaker Field Supply.

FIG. 1-11. (Continued from page 1-10) COLUMBIA PHONOGRAPH COMPANY

COLUMBIA PHONOGRAPH COMPANY

MODEL C-5 (205)  
 MODEL C-5 (310)  
 Schematic  
 Voltage  
 Socket

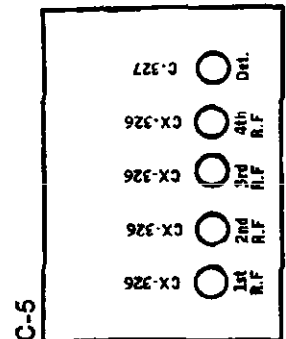
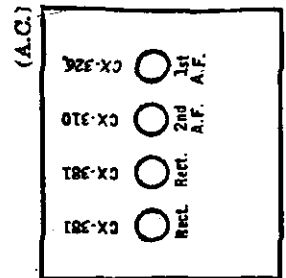


Model C-5 (205)

Model C-5 (310)  
 Substitute

Line Voltage 116

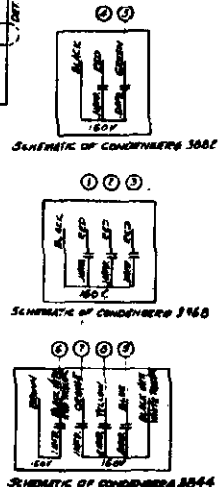
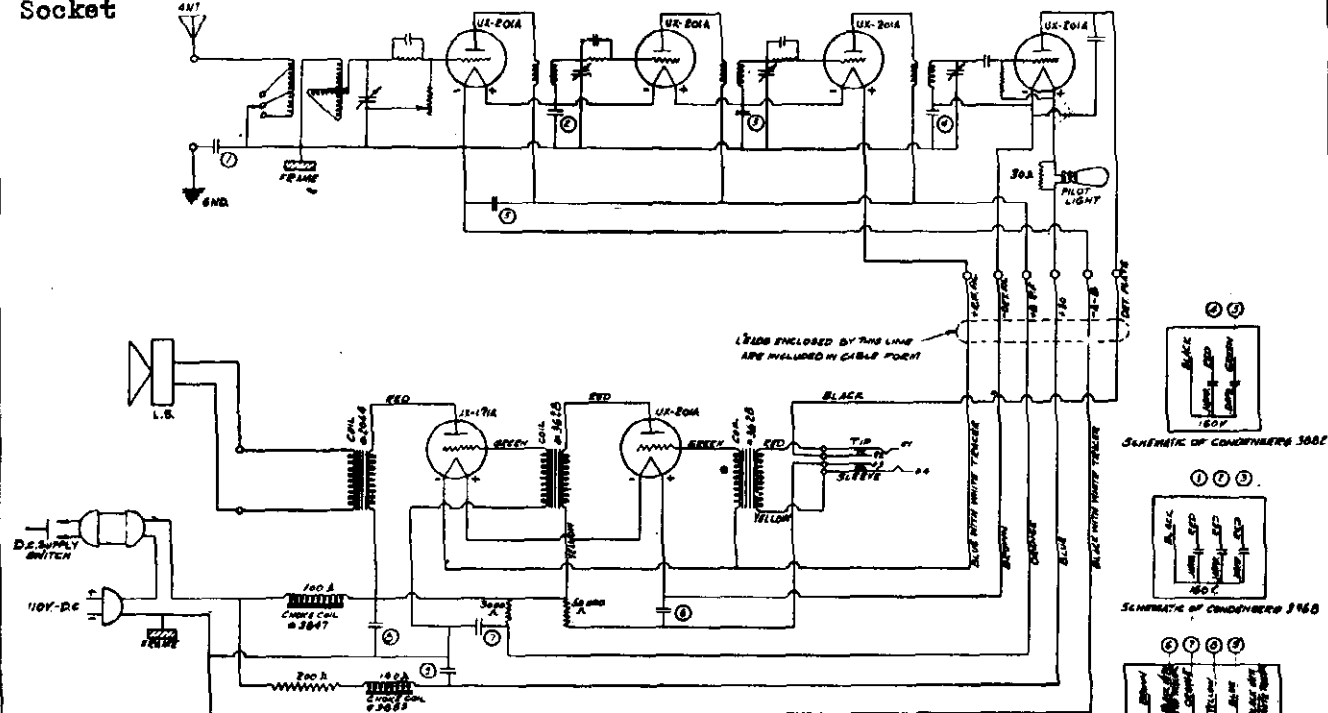
TYPE OF TUBE IN CHASSIS	RANGE OF LINE VOLTAGE	TUBE OUT		TUBE IN SOCKET OF SET		PLATE VOLTAGE (AC)	PLATE VOLTAGE (DC)
		VOLTS	WATTS	VOLTS	WATTS		
225	1st. R.F. 1.4-2.0	80	1.4	84	2.0	8.8	8.8
225	2nd. R.F. 1.4-2.0	80	1.4	84	2.0	8.8	8.8
225	3rd. R.F. 1.4-2.0	80	1.4	84	2.0	8.8	8.8
225	4th. R.F. 1.4-2.0	80	1.4	84	2.0	8.8	8.8
227	DET. 2.0-3.0	44	2.0	56	3.0	1.6	1.6
227	1st. A. 1.4-2.0	84	1.4	72	2.0	4.8	4.8
210	2nd. A. 7.0-12.0	312	7.4	430	32.0	24.0	24.0
281	Rect.	-	-	7.0	-	25.0	-
281	Rect.	-	-	7.0	-	25.0	-



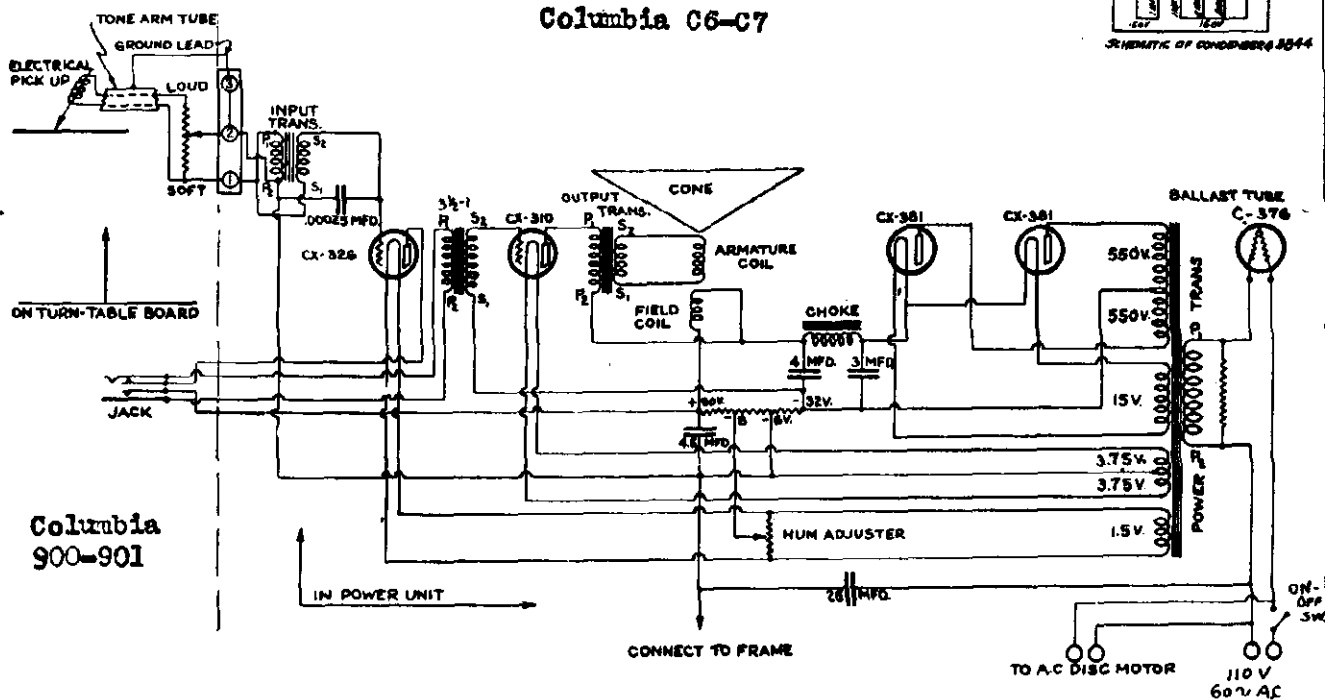


MODEL C-6, C-7  
 MODEL 900, 901  
 Schematic  
 Socket

COLUMBIA PHONOGRAPH COMPANY



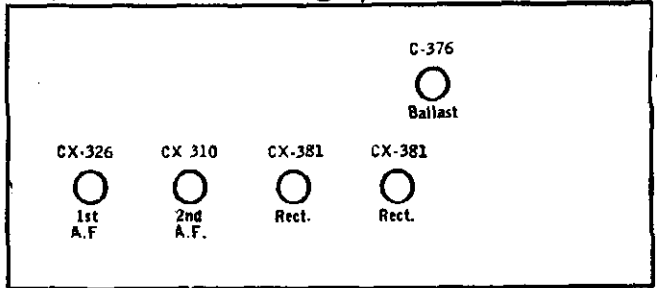
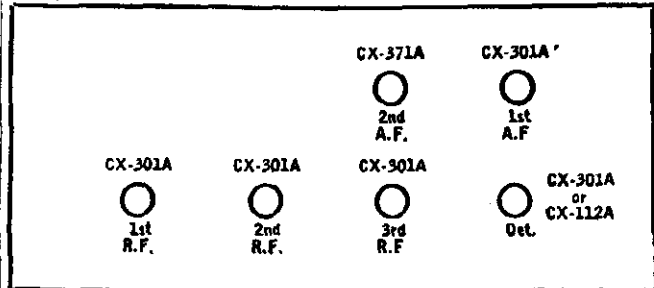
Columbia C6-C7



C-6, C-7

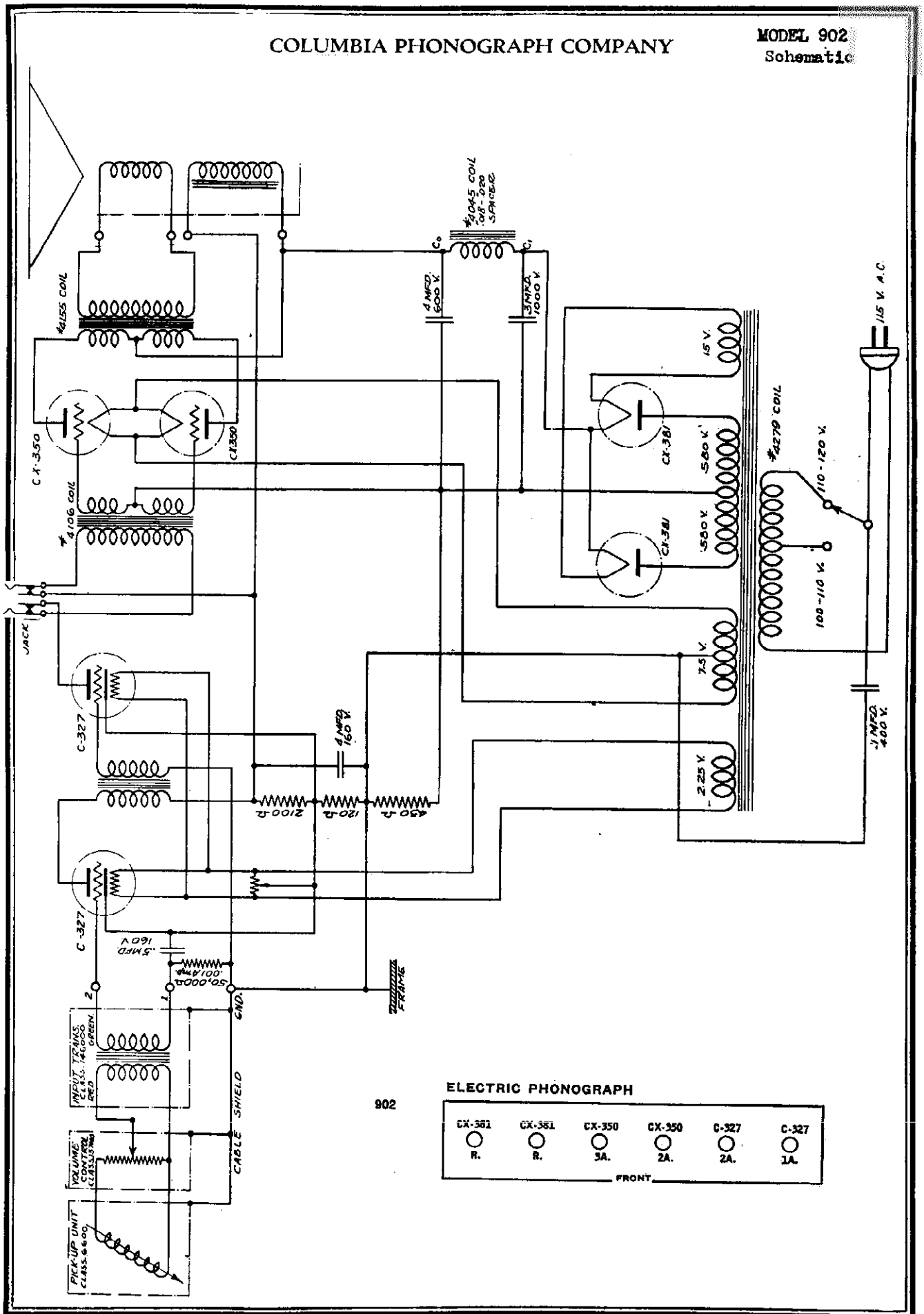
(D.C.) 900, 901 Electric Phonograph

(A.C.)



COLUMBIA PHONOGRAPH COMPANY

MODEL 902  
Schematic



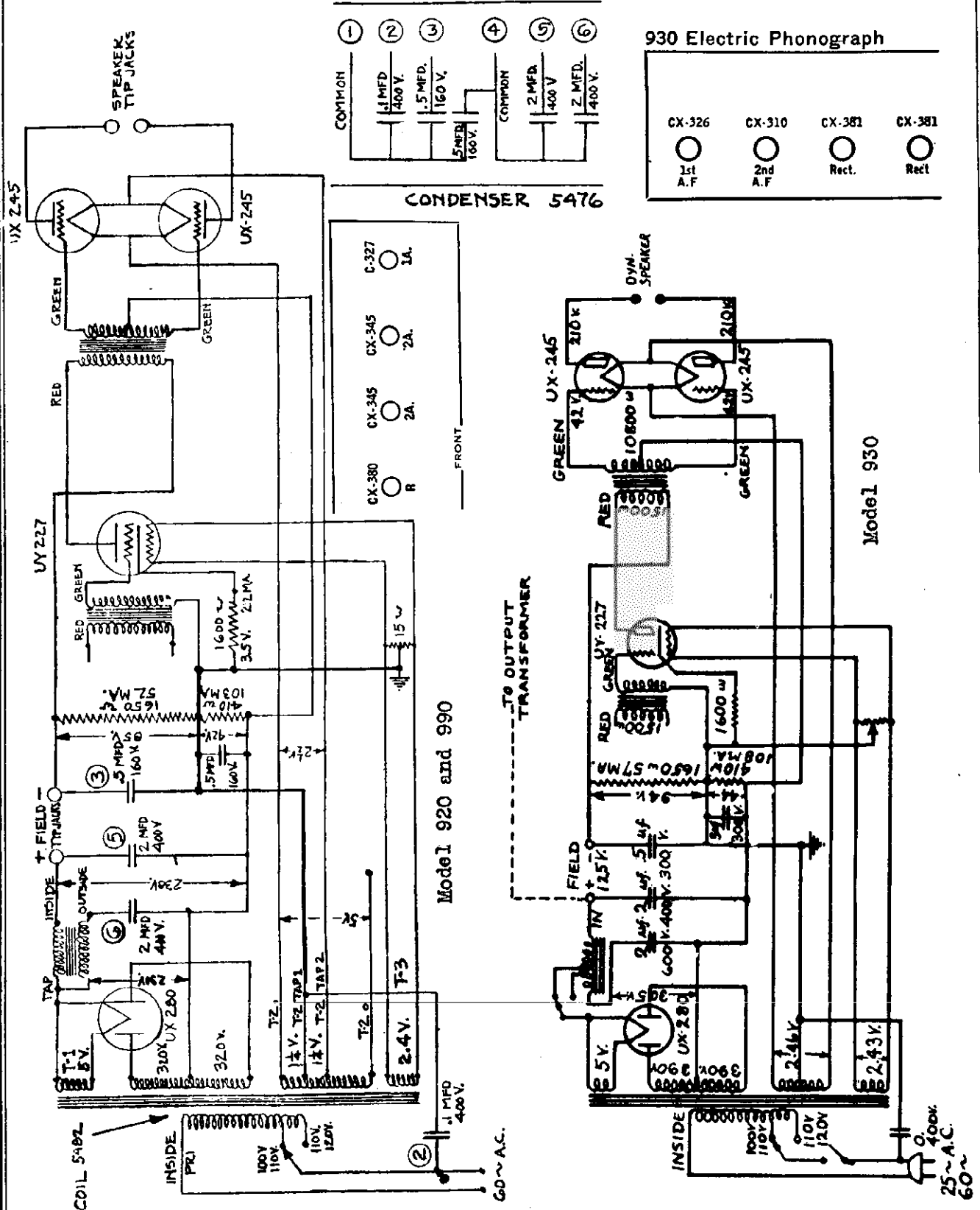
ELECTRIC PHONOGRAPH

CX-351	CX-351	CX-350	CX-350	C-327	C-327
R.	R.	5A.	2A.	2A.	1A.

FRONT

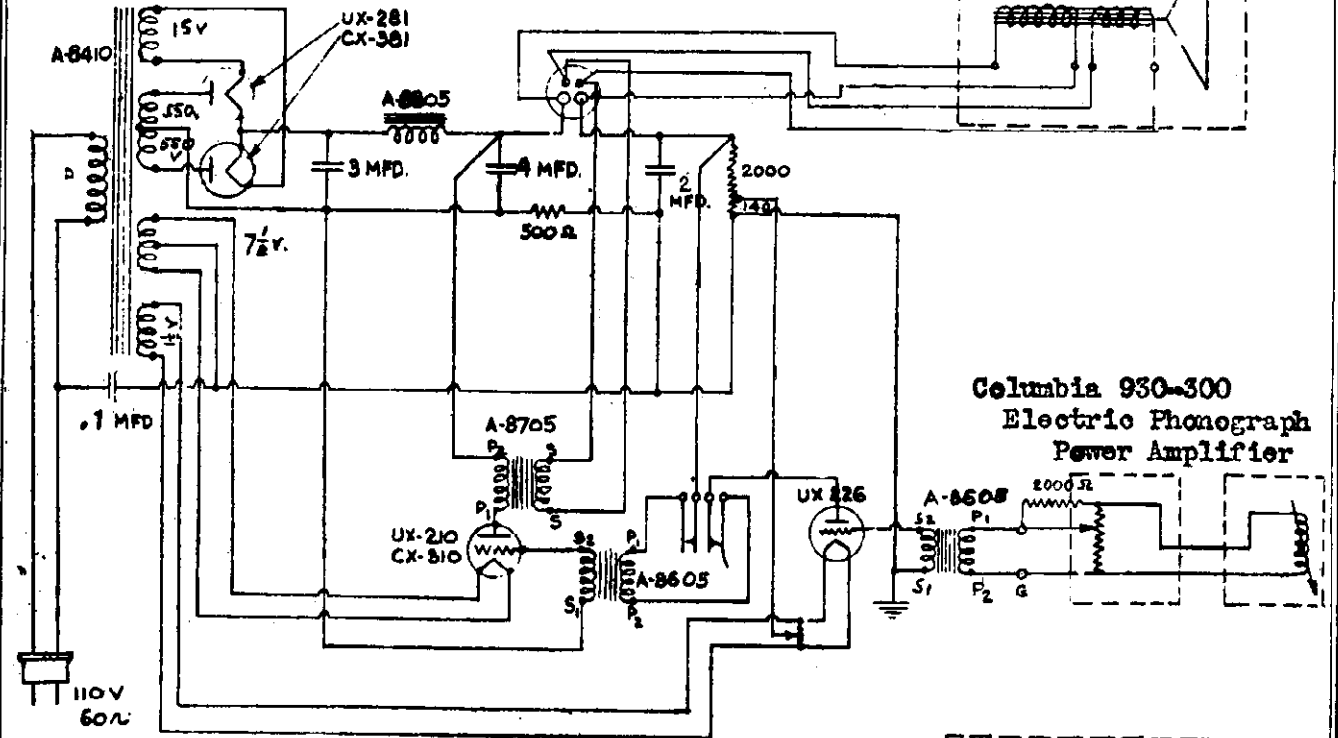
COLUMBIA PHONOGRAPH COMPANY

MODEL 920  
 MODEL 930  
 MODEL 990  
 Schematic

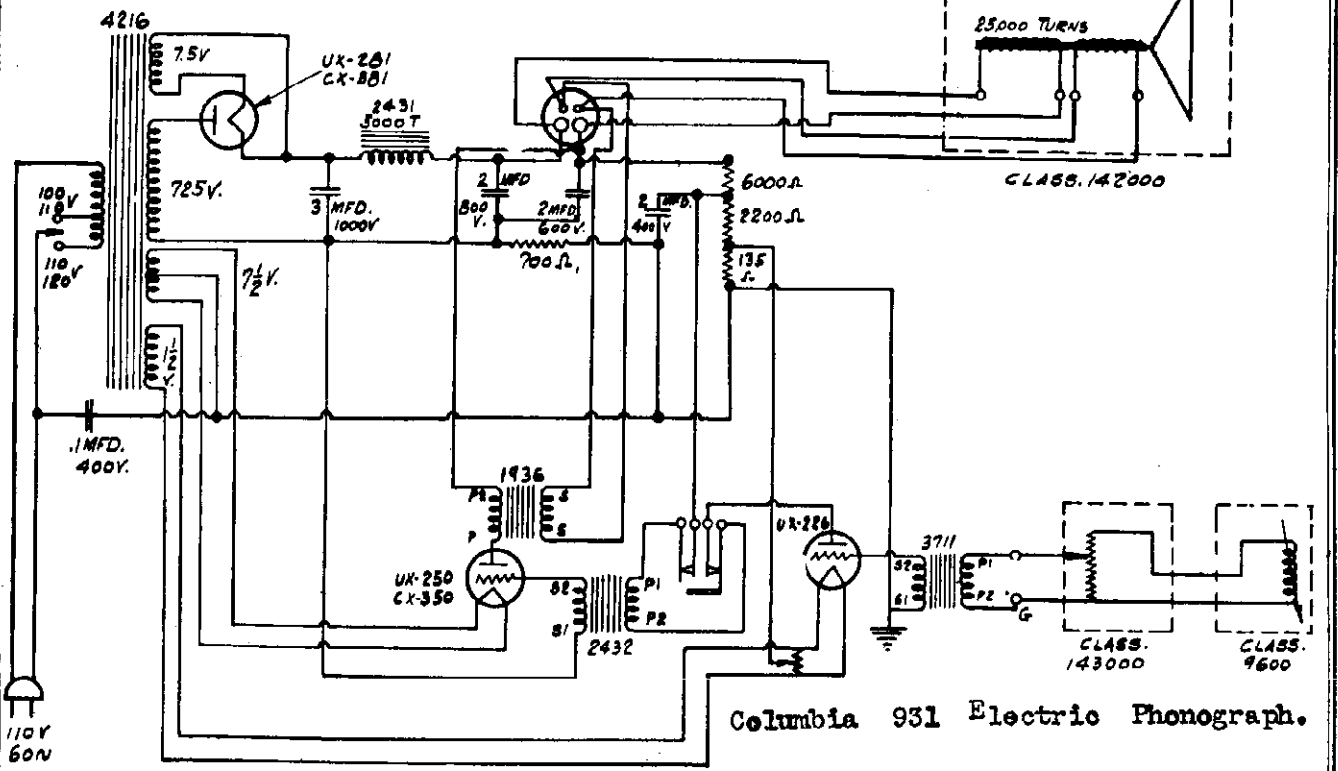


COLUMBIA PHONOGRAPH COMPANY MODEL 930-300

MODEL 931  
Schematic  
A-8137

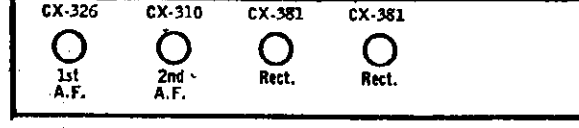


Columbia 930-300  
Electric Phonograph  
Power Amplifier

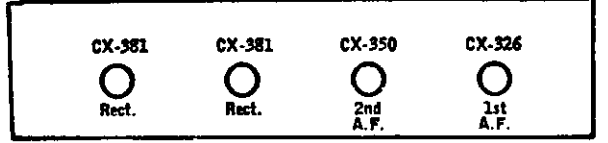


Columbia 931 Electric Phonograph.

930 Electric Phonograph (A.C.)

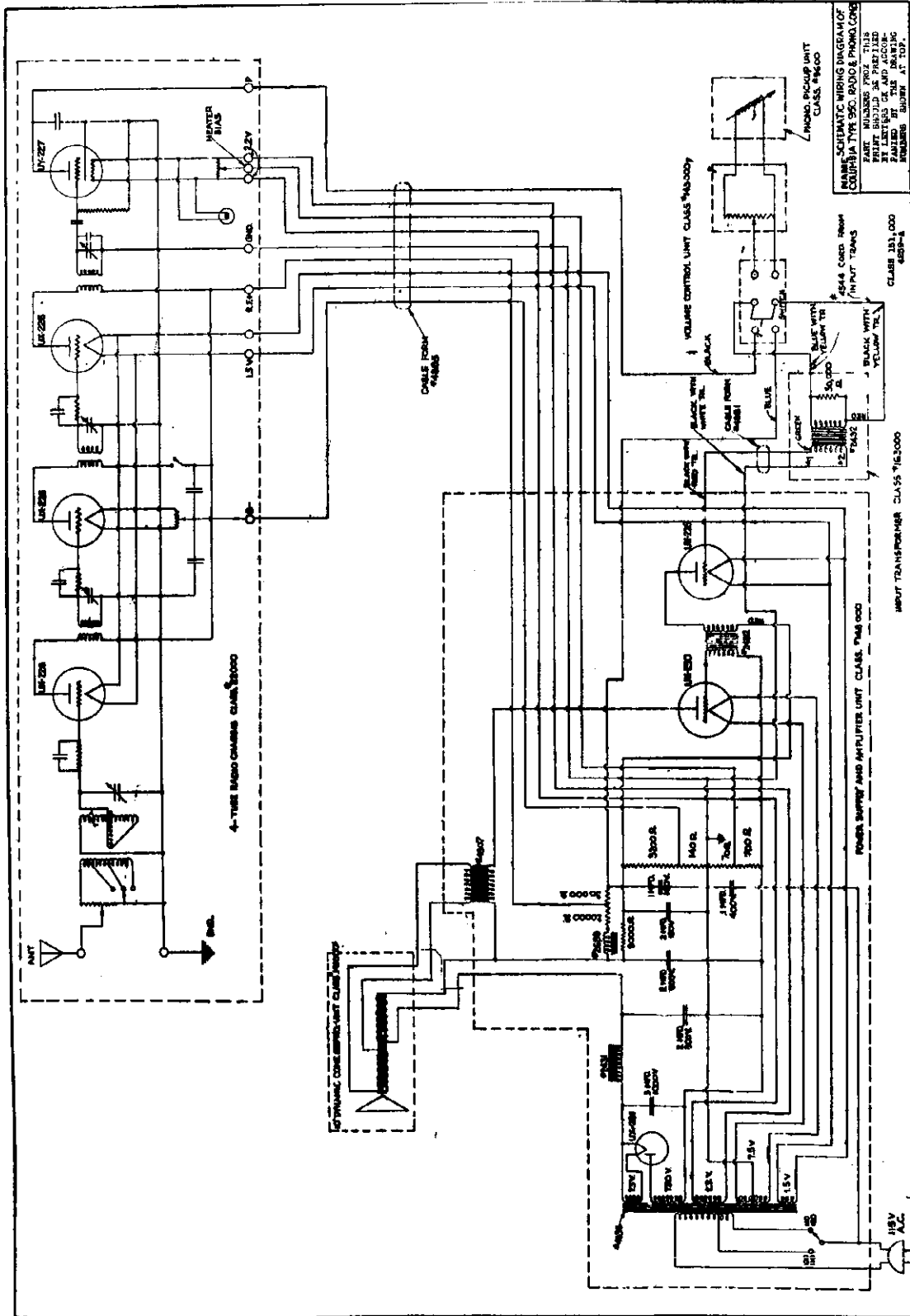


931 Electric Phonograph (A.C.)



COLUMBIA PHONOGRAPH COMPANY

MODEL 950  
Schematic



CX-381	950	CX-350	CX-326
R.		2A.	1A.
CX-326	CX-326	CX-326	C-327
1R.	2R.	3R.	D.

FRONT

MODEL 961

COLUMBIA PHONOGRAPH COMPANY

Chassis	CX-351	CX-351	CX-350	CX-326
CX-326	<input type="radio"/> 1st R.F.	<input type="radio"/> Rect.	<input type="radio"/> 2nd A.F.	<input type="radio"/> 1st A.F.
CX-326	<input type="radio"/> 2nd R.F.	<input type="radio"/> Rect.	<input type="radio"/> 2nd A.F.	<input type="radio"/> 1st A.F.
CX-326	<input type="radio"/> 3rd R.F.	<input type="radio"/> Rect.	<input type="radio"/> 2nd A.F.	<input type="radio"/> 1st A.F.
C-327	<input type="radio"/> Det.	<input type="radio"/> Rect.	<input type="radio"/> 2nd A.F.	<input type="radio"/> 1st A.F.

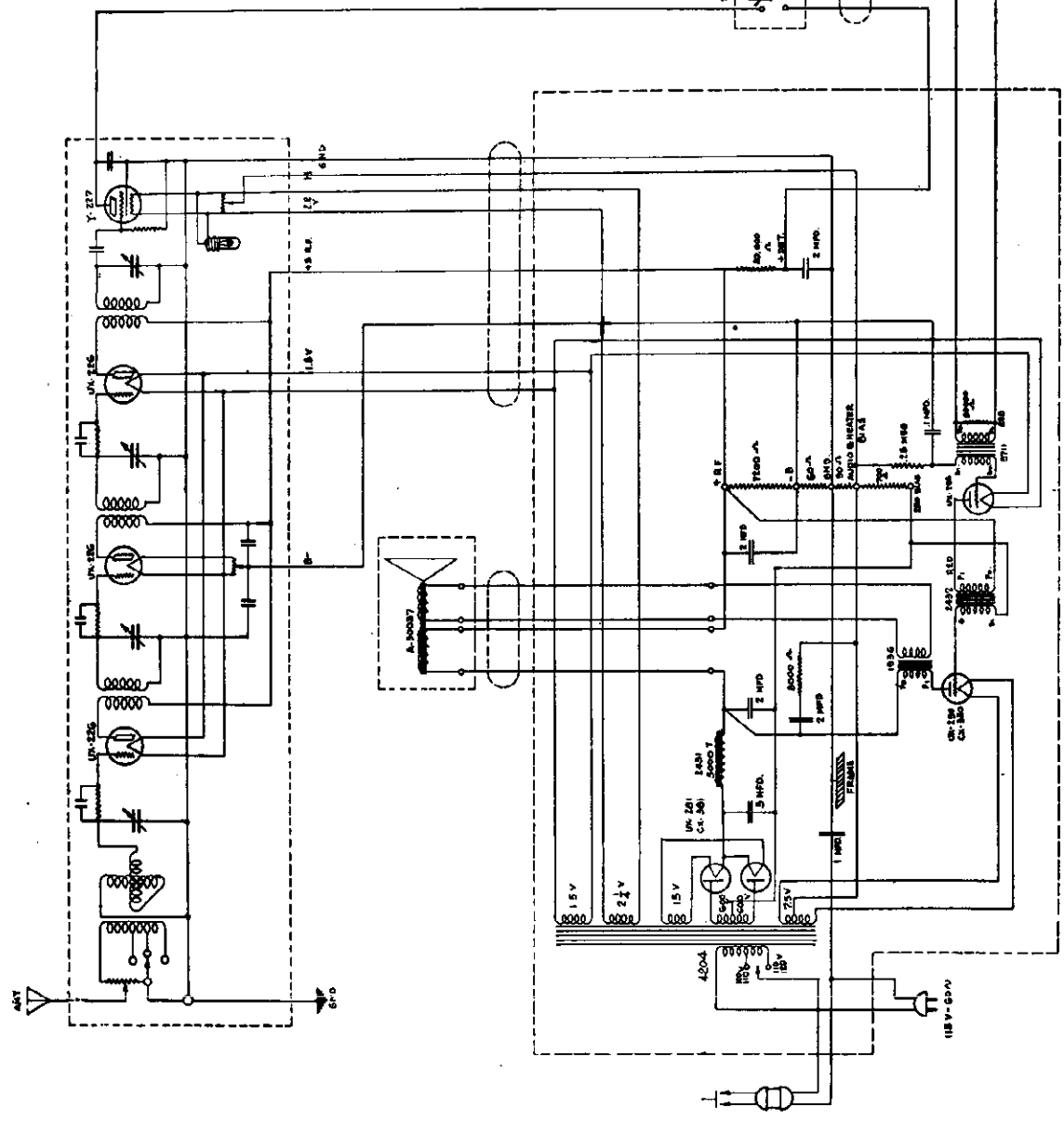
961

POWER UNIT CLASS 9600

VOLUME CONTROL CLASS 16000

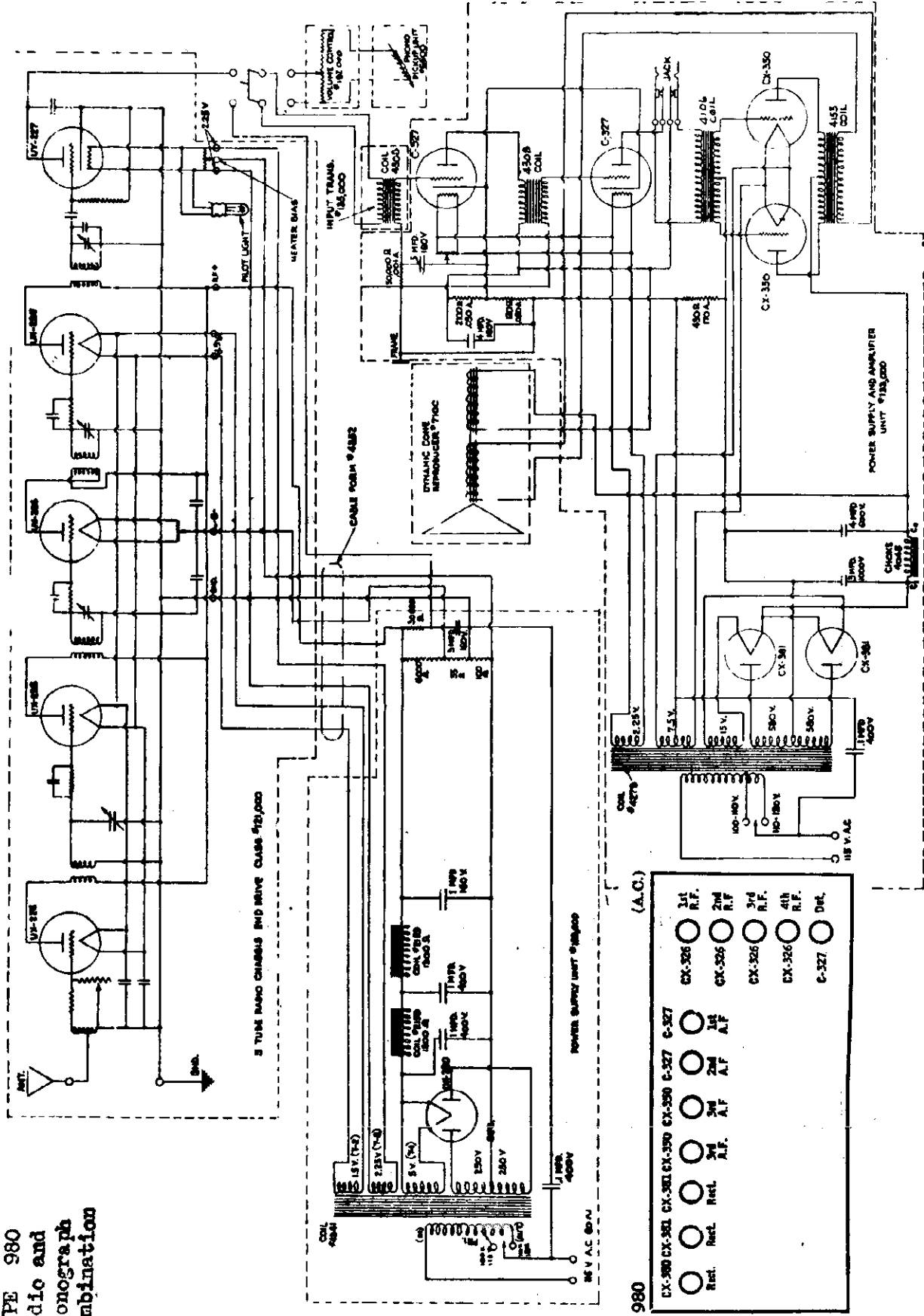
SWITCH

CLABS-147000  
4451



COLUMBIA PHONOGRAPH COMPANY

MODEL 980



TYPE 980 Radio and Phonograph Combination

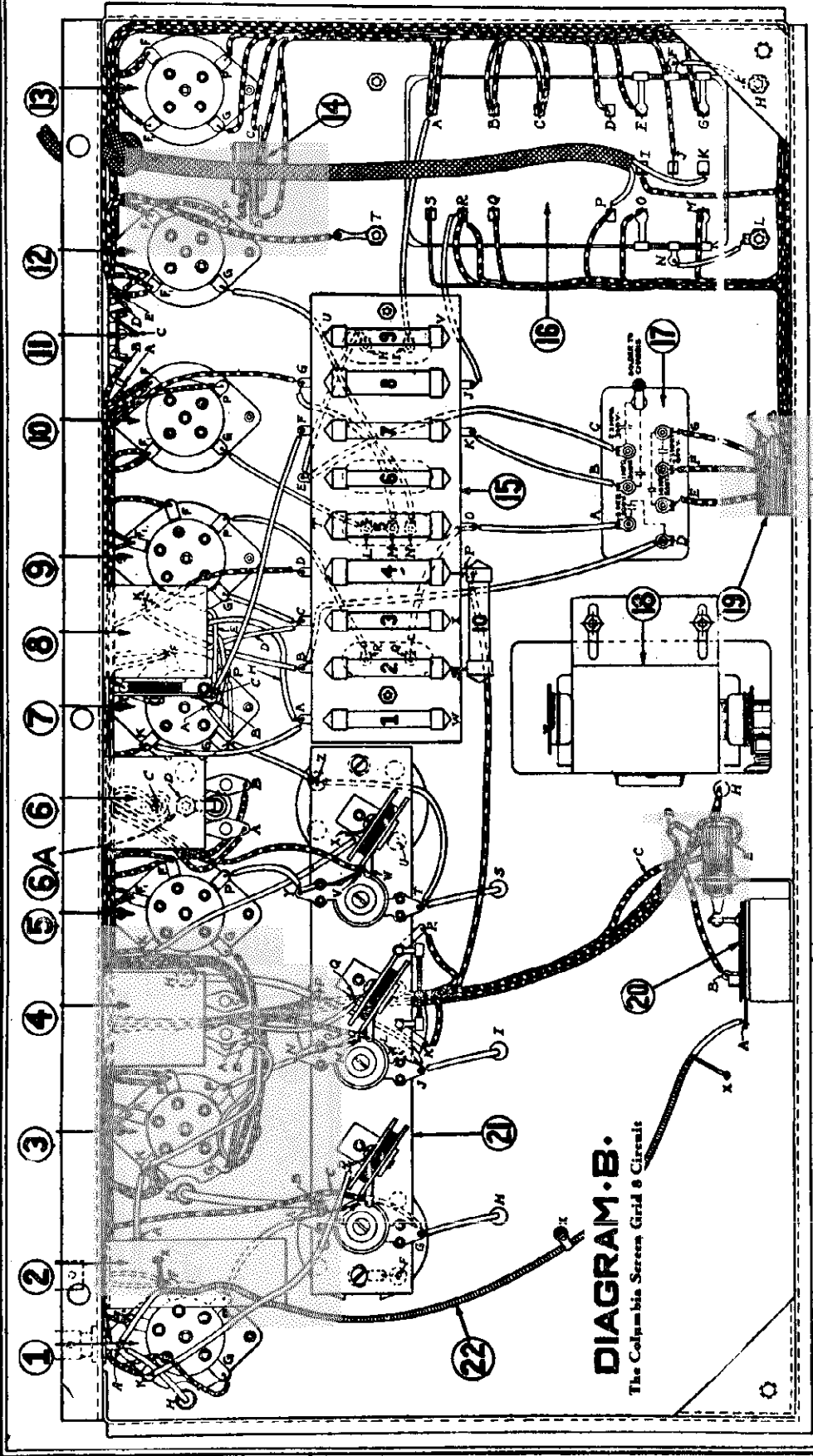
980 (A.C.)

1st R.F.	CX-306	1st R.F.	C-327
2nd R.F.	CX-306	2nd A.F.	
3rd A.F.	CX-326	3rd A.F.	
4th R.F.	CX-326	4th R.F.	
Dkt.	C-327		

COLUMBIA RADIO CORPORATION

MODEL SG-8  
Bottom View  
#1

MODEL SG-8 BOTTOM VIEW



**DIAGRAM B.**  
The Columbia Screen Grid & Circuits

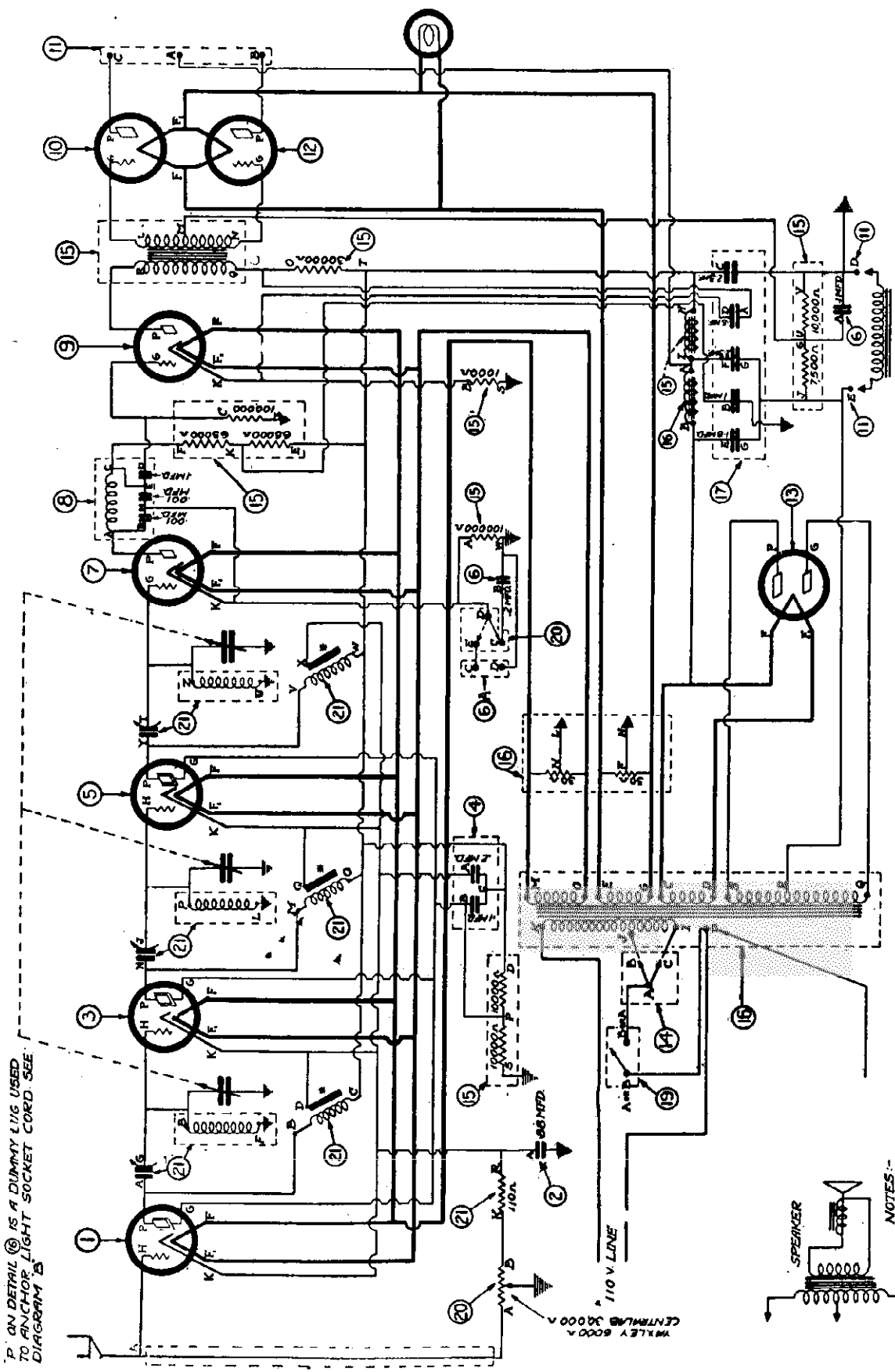
Tube No. In Order (1)	Type Of Tube (2)	Position of Tube 1st R.F. Det., Etc (3)	Tube Out		Readings, Plug In Socket Of Set							Tube In Tester		
			A Volts (4)	B Volts (5)	A Volts (6)	B Volts (7)	C Volts (Control) (8)	Cathode-Heater Volts (9)	Normal Plate M.A. (10)	Plate M.A. Test (11)	Plate M.A. Grid Test (12)	Plate Change M.A. (13)	Screen Grid Volts (14)	
1	224	1st R.F.	2.45	180	2.4	174	-1.5	1.5	4.5	6.7	2.2	80		
2	224	2nd R.F.	2.45	180	2.4	174	-1.5	1.5	4.5	6.7	2.2	80		
3	224	3rd R.F.	2.45	180	2.4	174	-1.5	1.5	4.5	6.7	2.2	80		
4	227	Det.	2.45	106	2.4	106	-14.5	14.5	.2	3.8	.6			
5	227	1st A.F.	2.45	162	2.4	68	-3.	3.	3.2	23	3.			
6	245	2nd A.F.	2.35	230	2.2	212	-3.8	3.8	20	22	3.			
7	245	2nd A.F.	2.35	230	2.2	212	-3.8	3.8	19	22	3.			

Line Voltage 115. Set on Low (1) Volt Tap. Volume Control Position Maximum



MODEL SG-8  
Schematic

COLUMBIA RADIO CORPORATION



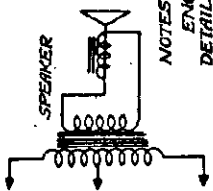
P. ON DETAIL (6) IS A DUMMY LIG USED TO ANCHOR LIGHT SOCKET CORD. SEE DIAGRAM B

- NOTES:-
- ENCIRCLED NUMBERS INDICATE DETAILS ON DIAGRAM B.
  - LETTERS INDICATE TERMINALS ON DETAILS.
  - \* INDICATES MOUNTING BRACKETS ON DETAIL (2)

MODEL SG-8 (1930)

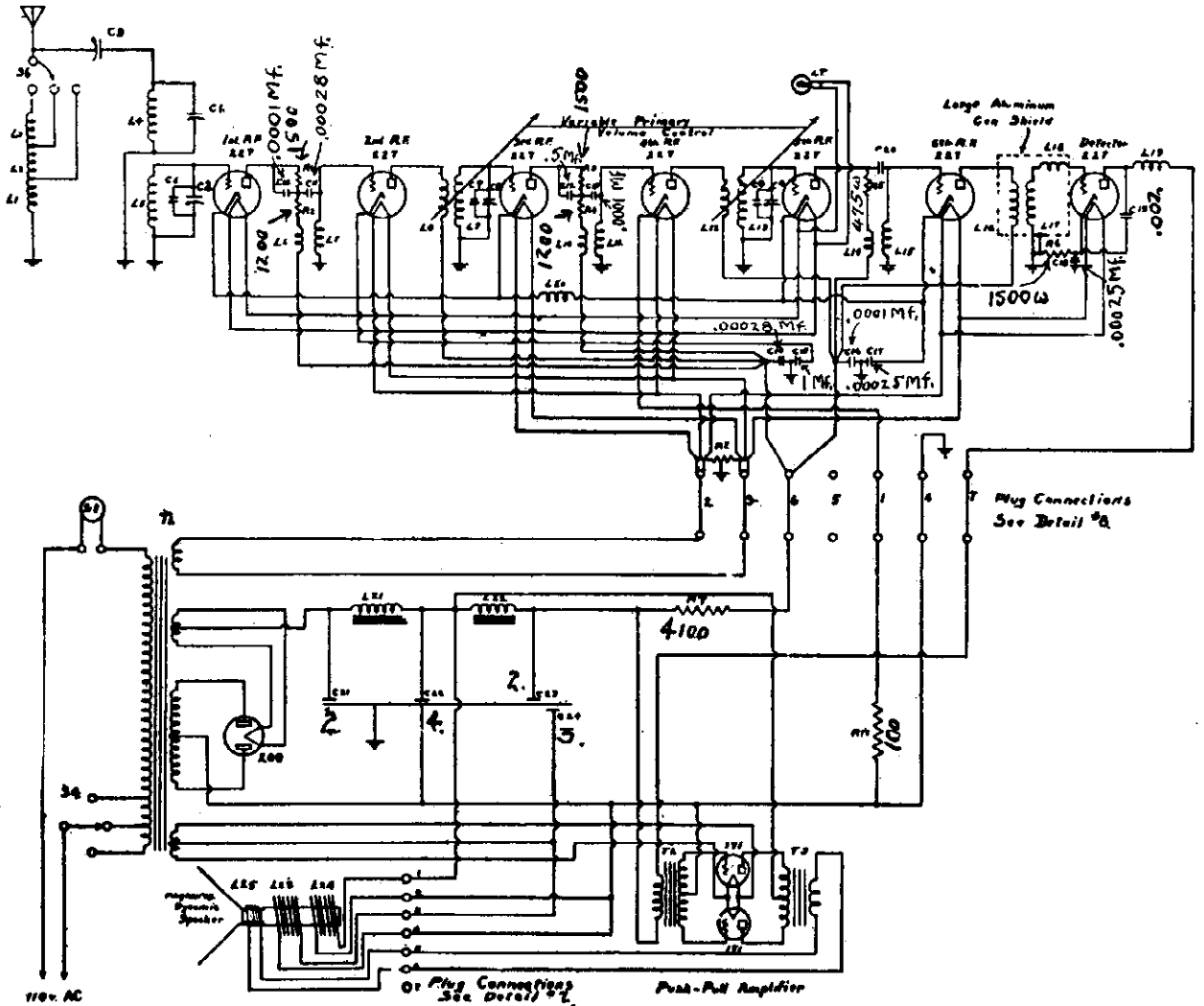
Detail 11 is the Loud-Speaker Socket. Terminals D and E are the speaker field winding, 1000 ohms.

VOLTAGE DATA ON NEXT PAGE

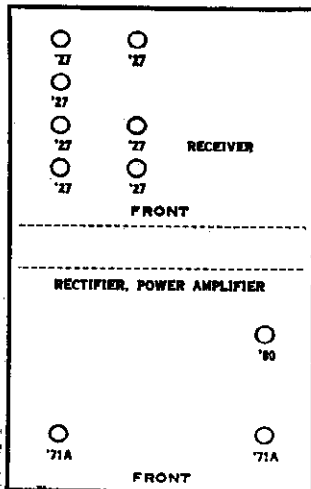


MODEL "Slagle" 9 with '71A's Schematic

MODEL "Slagle" 9 with '71A's Schematic



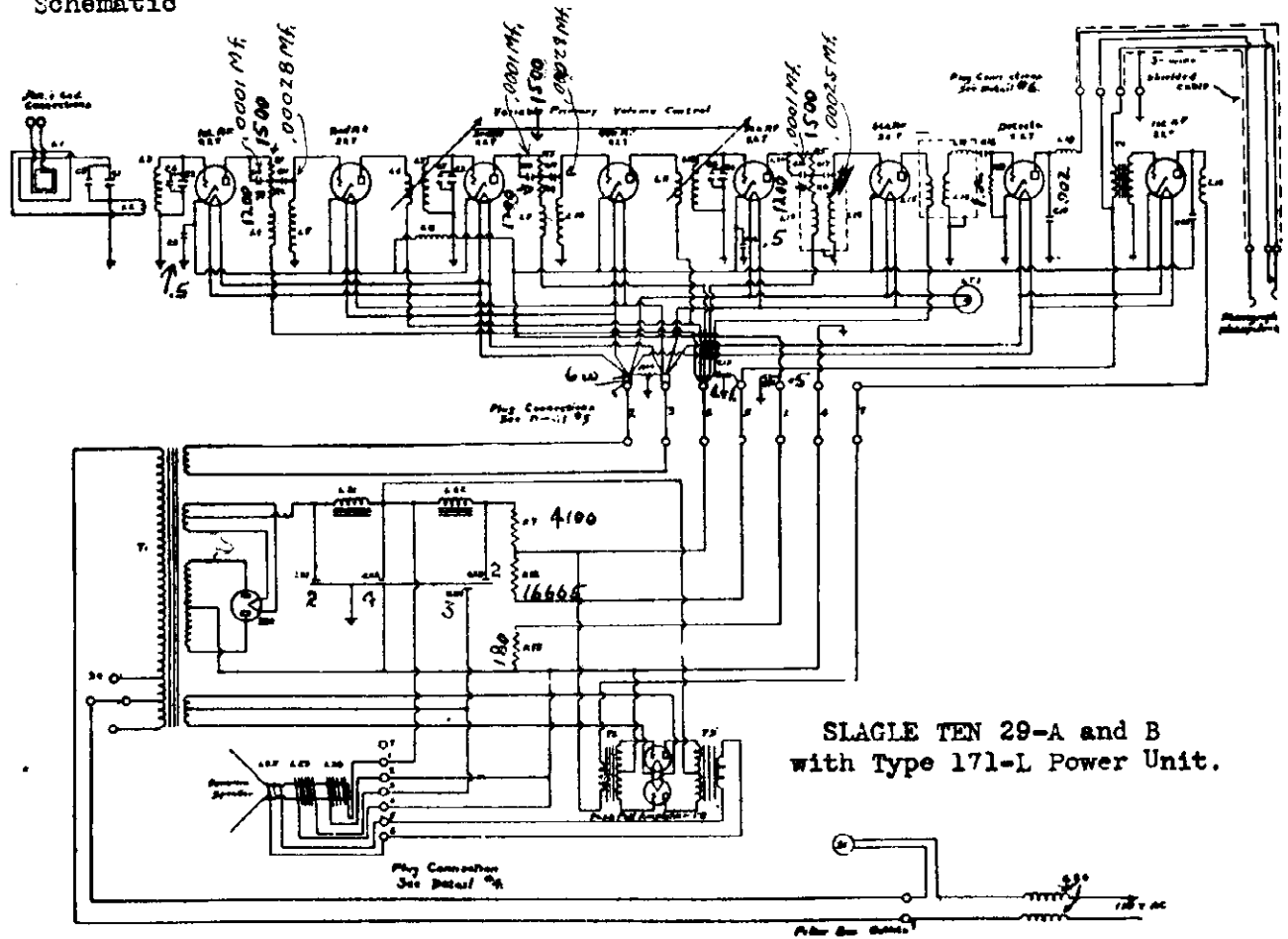
Model Slagle 9



Tube	Fil. Voltage	Plate Voltage	Plate Current	Grid Voltage	Cathode Plus
RF1	2.15	80	4.5ma	3.	3.
RF2	2.15	88	5.3	3.	3.
RF3	2.15	80	4.0	3.	3.
RF4	2.15	88	5.3	3.	3.
RF5	2.15	80	4.5	3.	3.
RF6	2.15	89	4.6	3.	3.
Det	2.15	180	1.	20.	
FP1	4.9	172	17.	37.	
FP2	4.9	172	17	37.	
Rec	4.5				

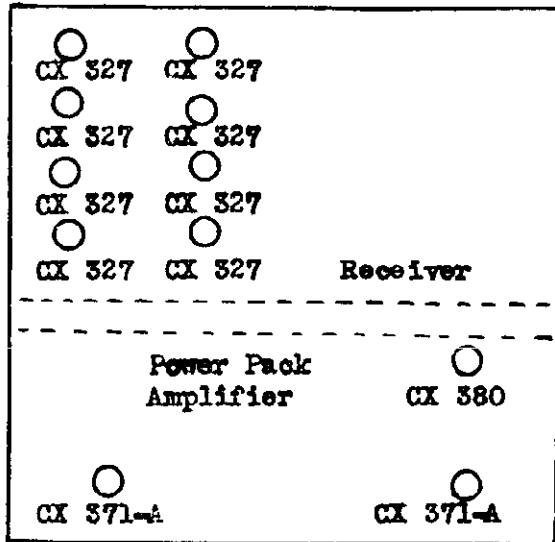
MODEL "Slagle"  
 10 29-A and  
 B with '71A  
 Power Pack.  
 Schematic

CONTINENTAL RADIO CORPORATION



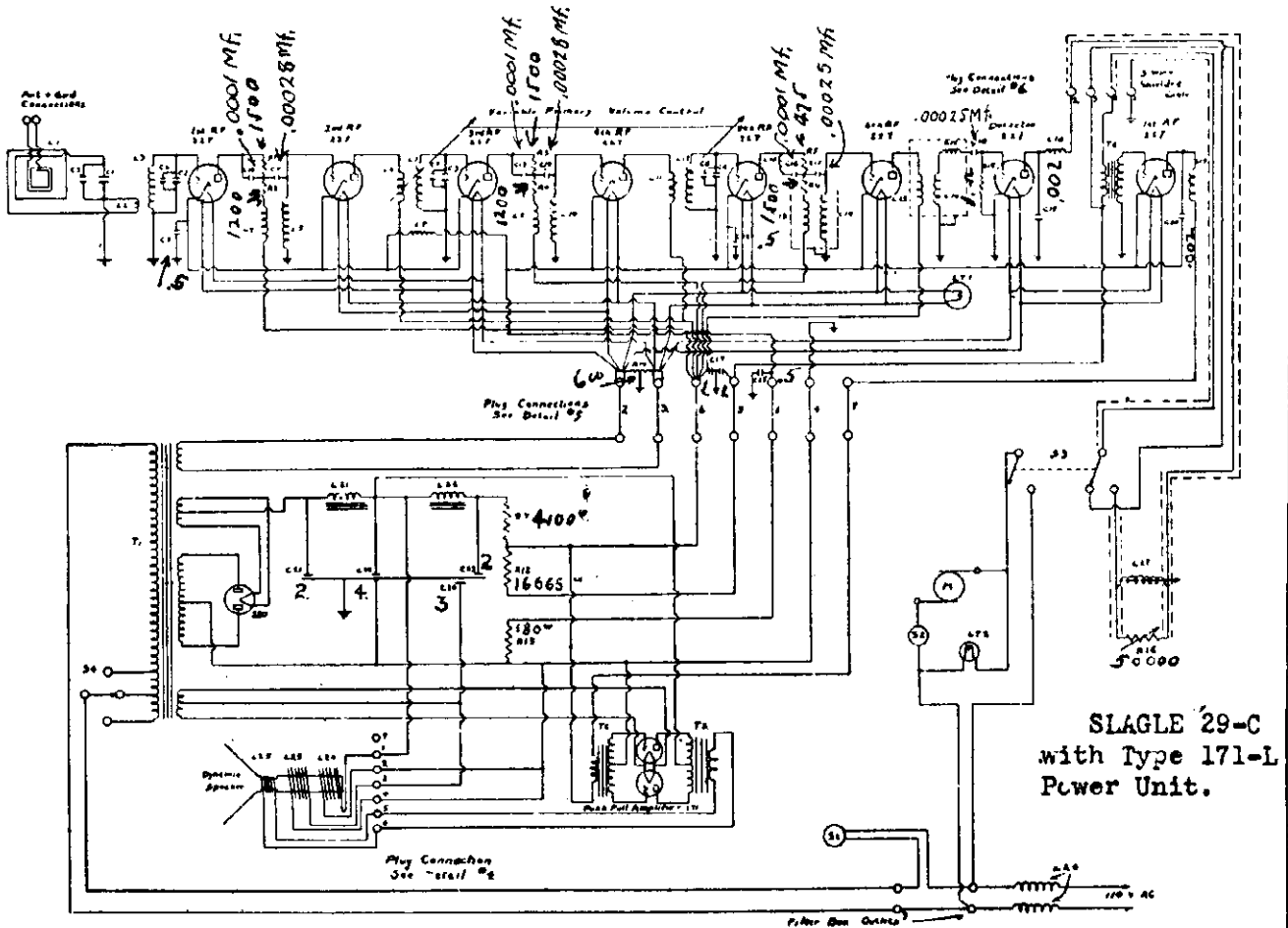
SLAGLE TEN 29-A and B  
 with Type 171-L Power Unit.

SLAGLE 29 A and B with '71 Pr.Pck.

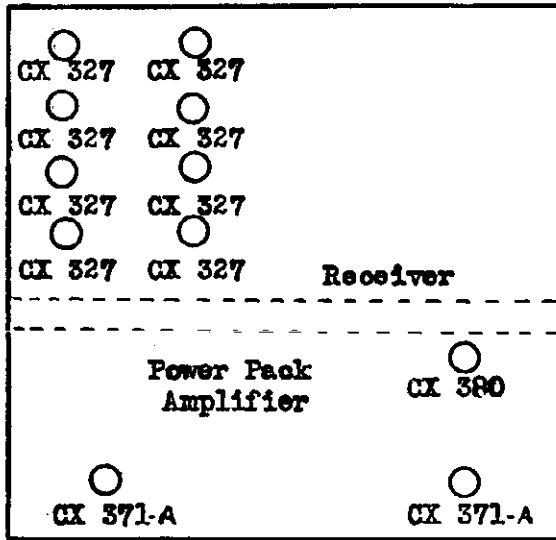


CONTINENTAL RADIO CORPORATION

MODEL "Slagle"  
29-C with '71A  
Power Pack.  
Schematic

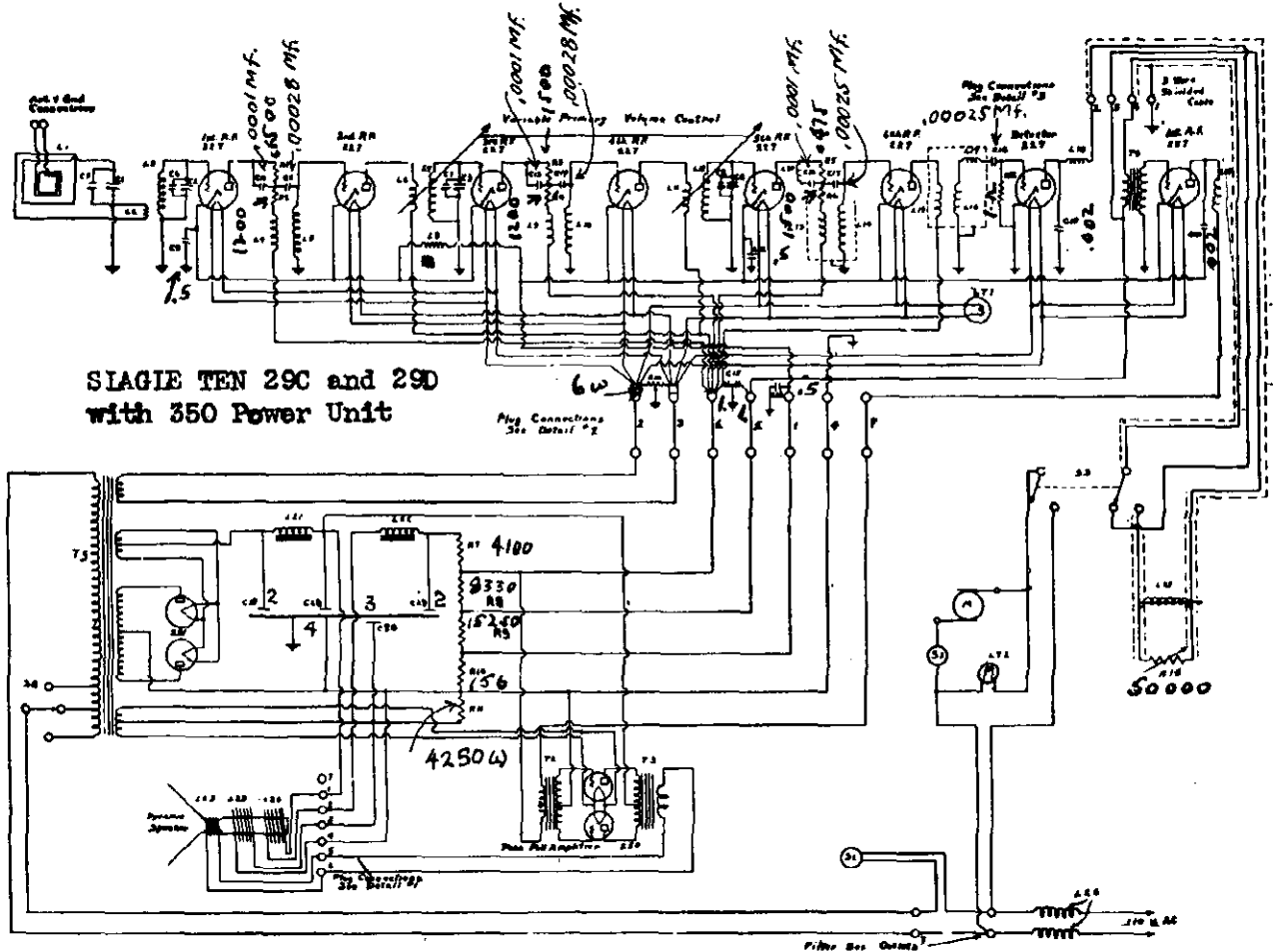


SLAGLE 29-C  
with Type 171-L  
Power Unit.

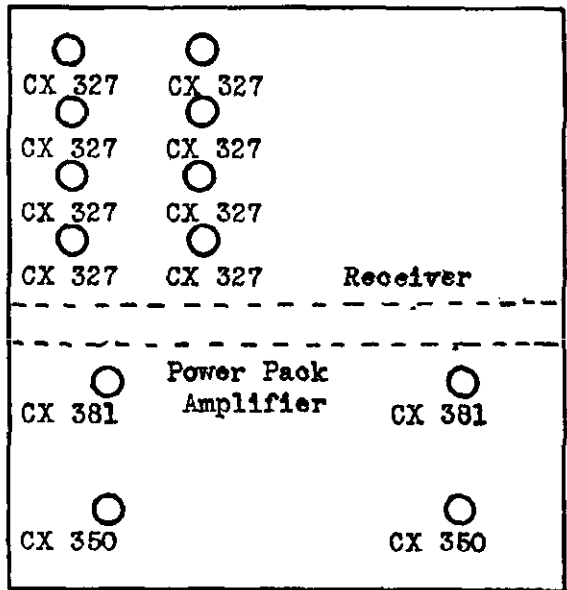


CONTINENTAL RADIO CORPORATION

MODEL "Slagle"  
 29-C and 29-D  
 with 150 Power  
 Pack.  
 Schematic

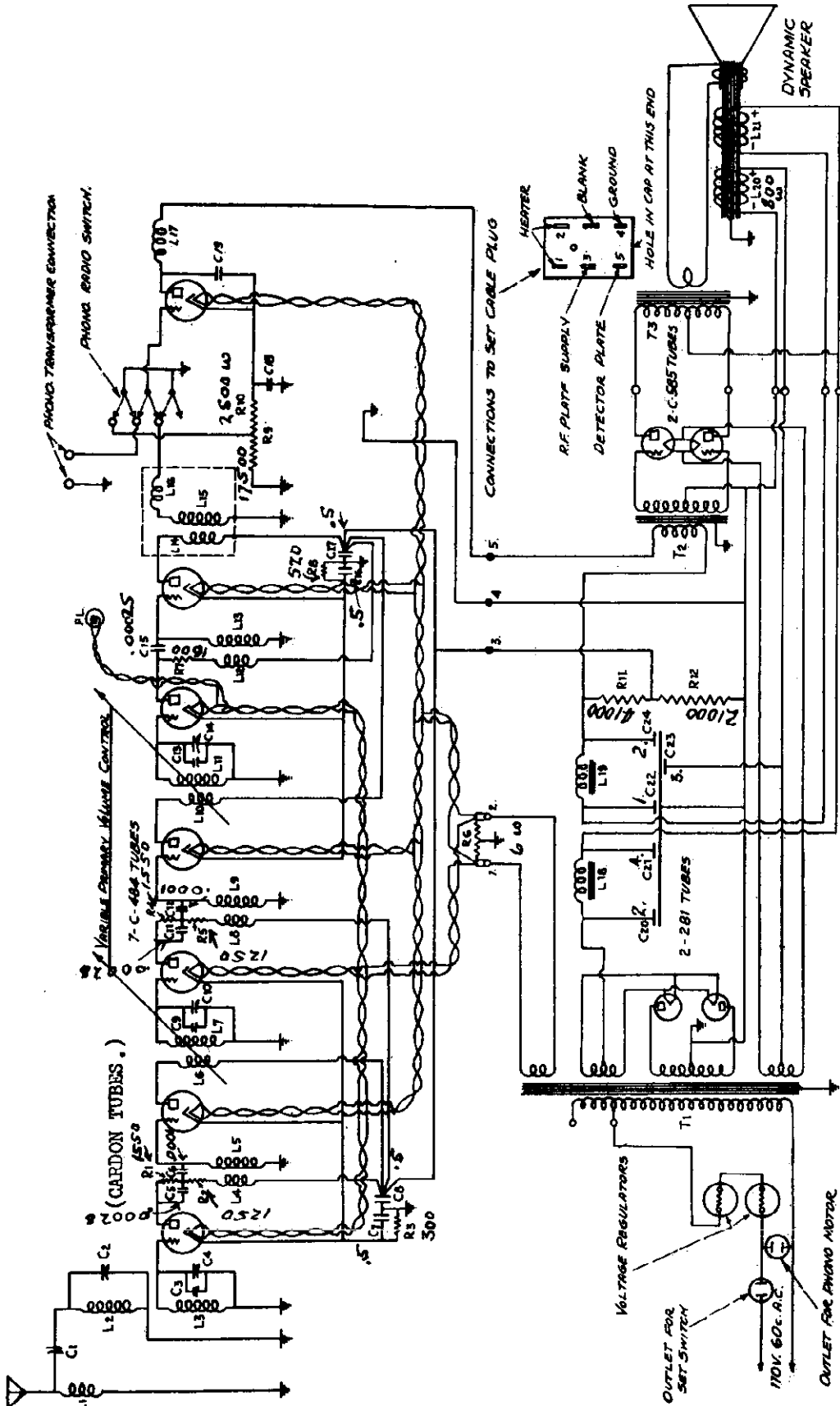


SLAGIE TEN 29C and 29D  
 with 350 Power Unit



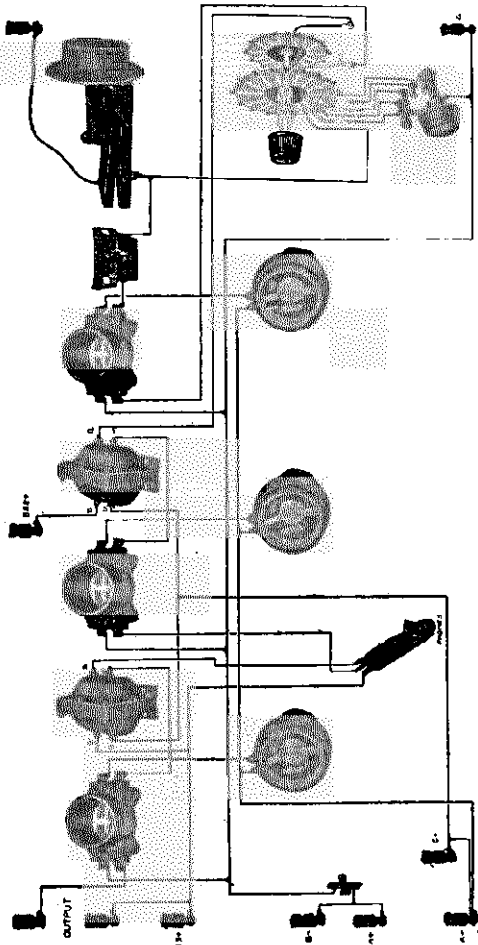
MODEL Star Raider  
R-20, R-30, R-40  
Schematic

CONTINENTAL RADIO CORPORATION

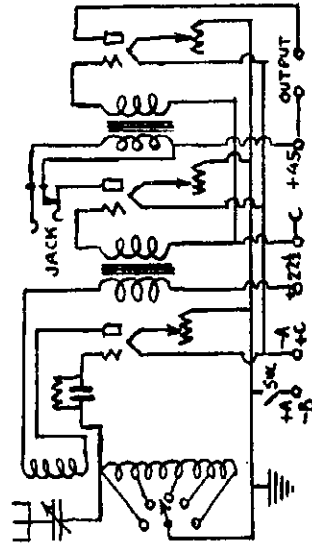


CROSELY RADIO CORP.

MODEL XJ, XL  
MODEL 3B, 3C  
Schematic



Crosley 3B or 3C Detector and Two-step Amplifier Receiver

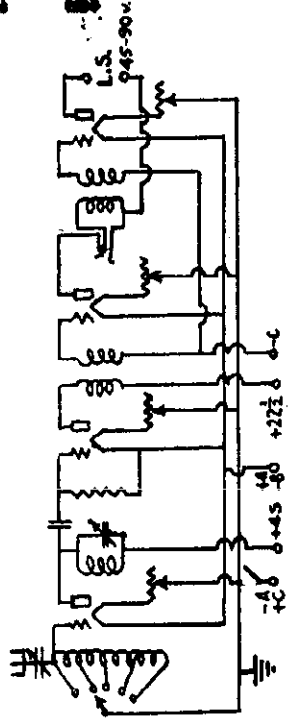


MODEL 3B or 3C

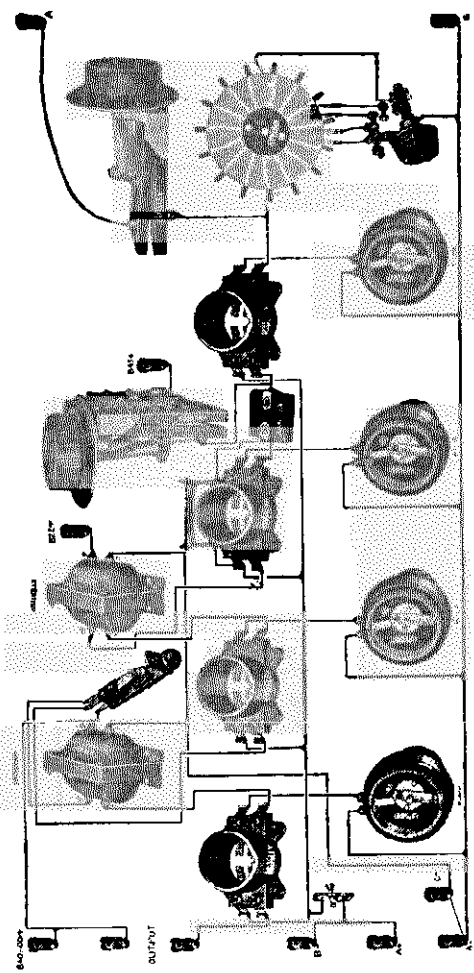
Model XJ

RF	01A	OR	X'95	OR	12
DET	01A	OR	X'95	OR	12
1 AF	01A	OR	X'95	OR	12
2 AF	01A	OR	X'95	OR	12

FRONT



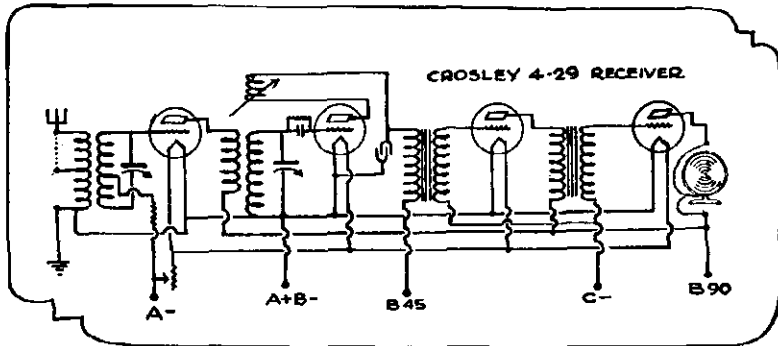
MODELS XJ and XL



Crosley Models XJ and XL Circuit

MODEL 4-29  
 MODEL RFL 60,75  
 Schematic

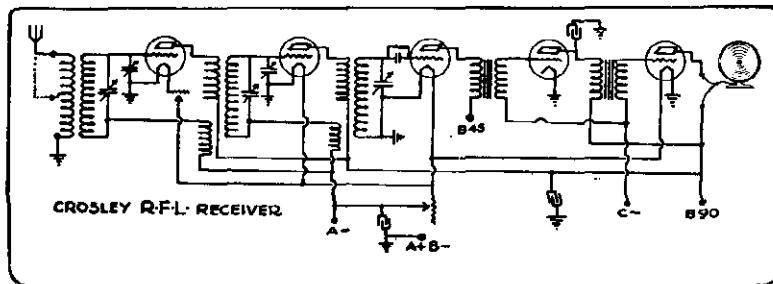
CROSLLEY RADIO CORP.



Model 4-29

RF	2 AF	1 AF	DET
○	○	○	○
'01A	'01A	'01A	'01A
OR	OR	OR	OR
X'99	X'99	X'99	X'99
OR	OR	OR	OR
12	12	12	12

FRONT



Models RFL60, 75

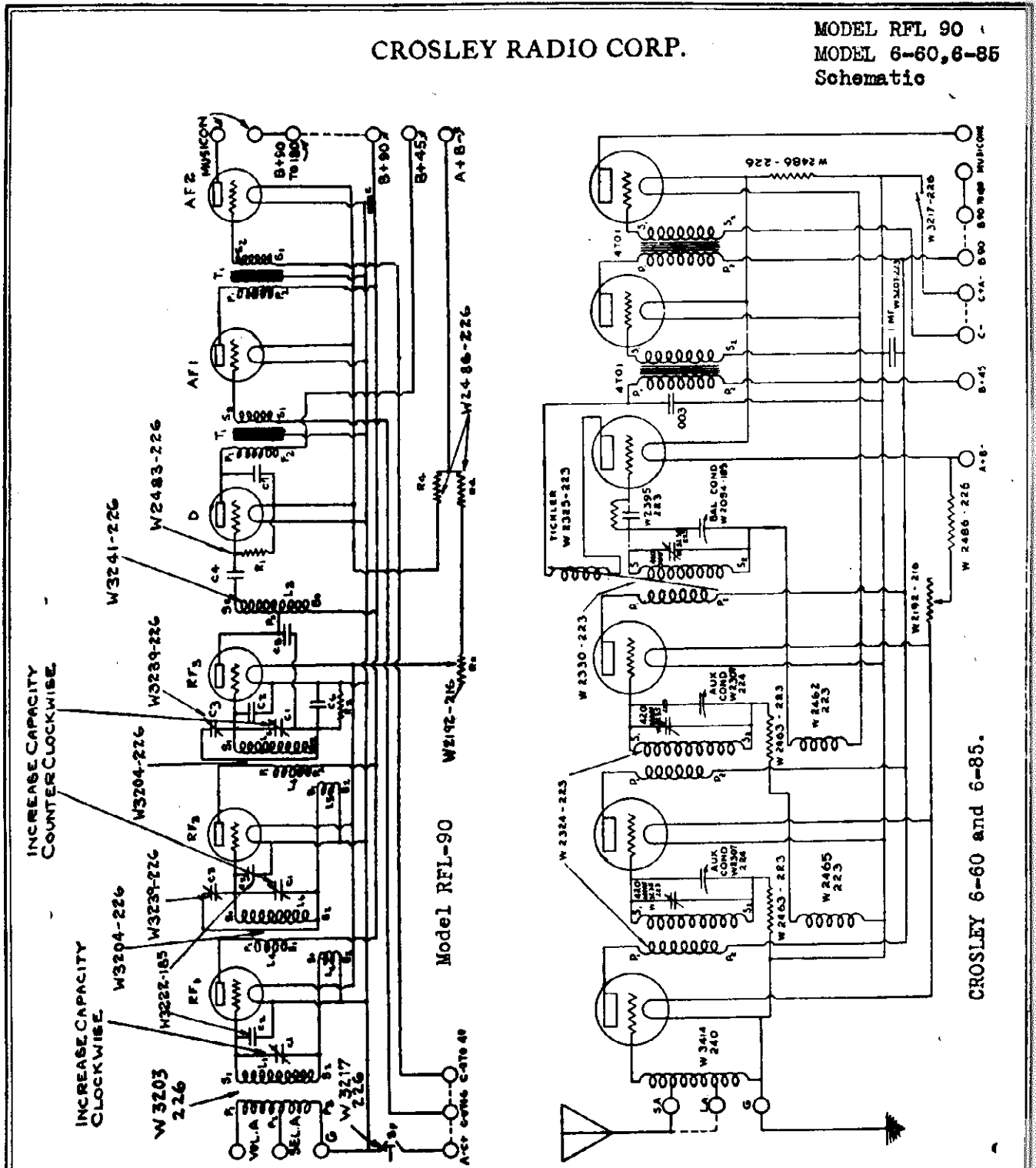
2 AF	1 AF	DET
○	○	○
'01A	'01A	'01A
1 RF	2 RF	
○	○	
'01A	'01A	

FRONT



CROSLY RADIO CORP.

MODEL RFL 90  
MODEL 6-60, 6-85  
Schematic



RFL 90

(Batt.) 6-60, 6-85

(Batt.)

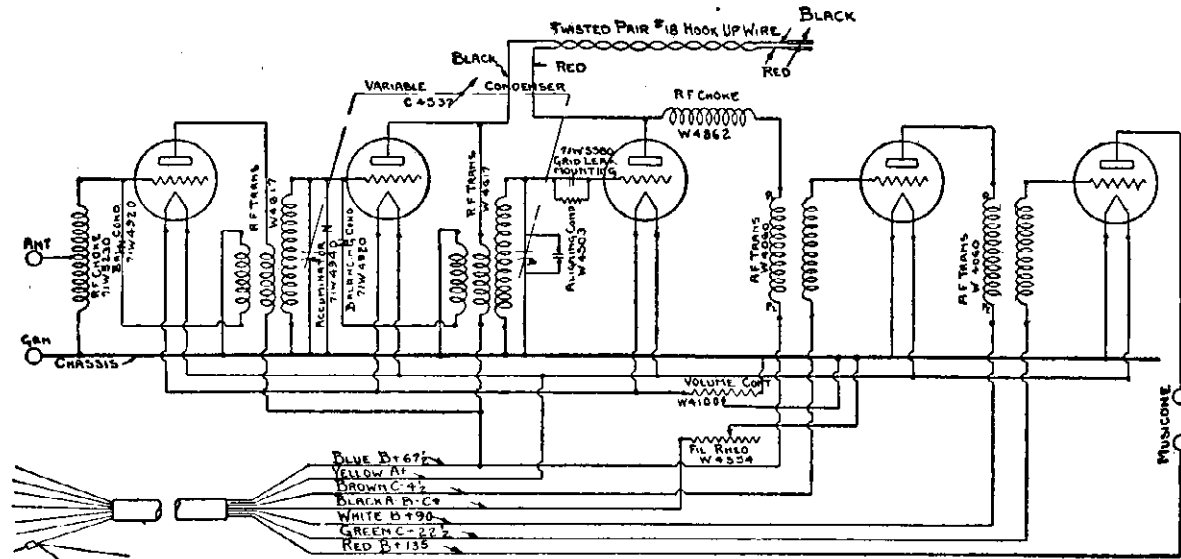
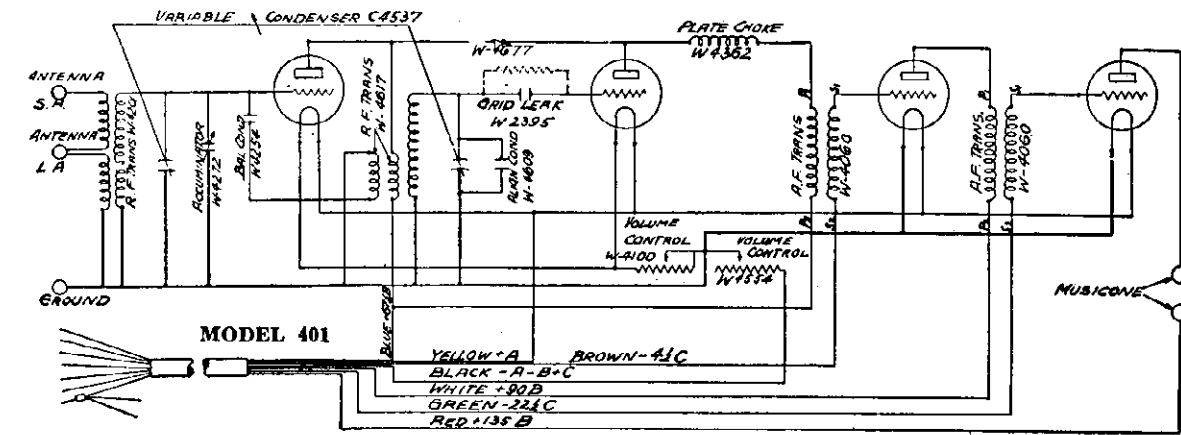
CX-301A or CX-112A	CX-301A	CX-300A	CX-301A	CX-301A or CX-300A or CX-112A
○	○	○	○	○
2nd A.F.	1st A.F.	2nd R.F.	3rd R.F.	Det.
CX-301A				
○				
1st R.F.				

CX-301A	*CX-112A or *CX-571A	CX-301A	CX-301A	CX-301A or CX-300A or CX-112A
○	○	○	○	○
1st R.F.	2nd A.F.	3rd R.F.	1st A.F.	Det.
	CX-301A			
	○			
	2nd R.F.			

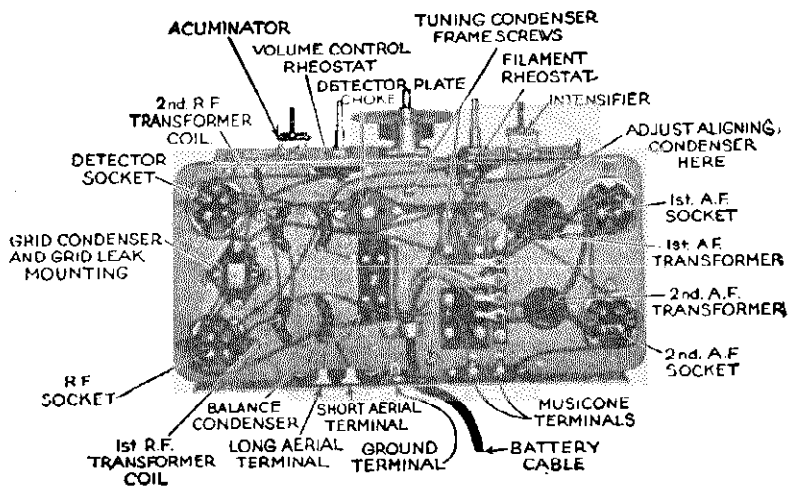
CROSLY 6-60 and 6-85.

MODEL 401  
MODEL 401-A  
Schematic

CROSLLEY RADIO CORP

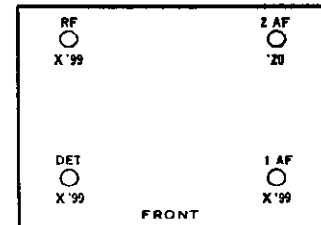


CIRCUIT, MODEL 401-A

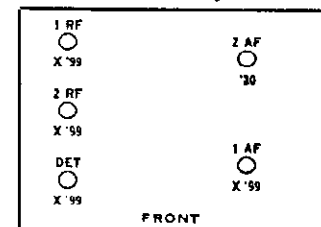


BOTTOM VIEW, MODEL 401 CHASSIS

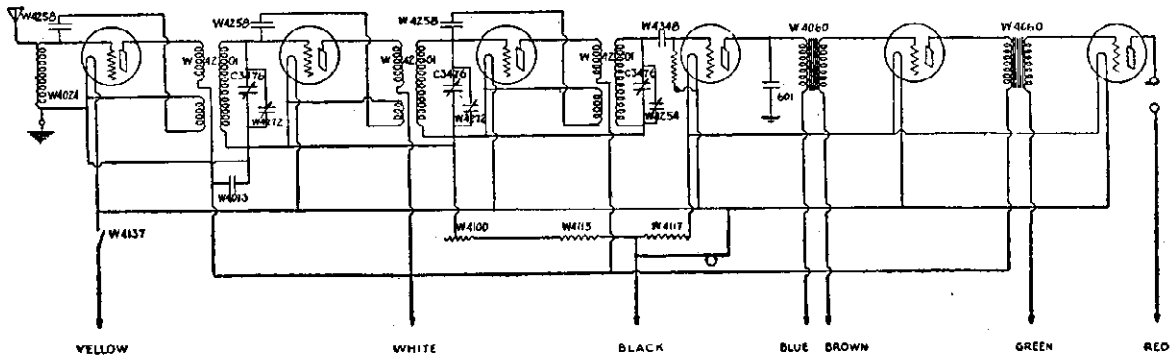
Model 401 Bandbox Jr.



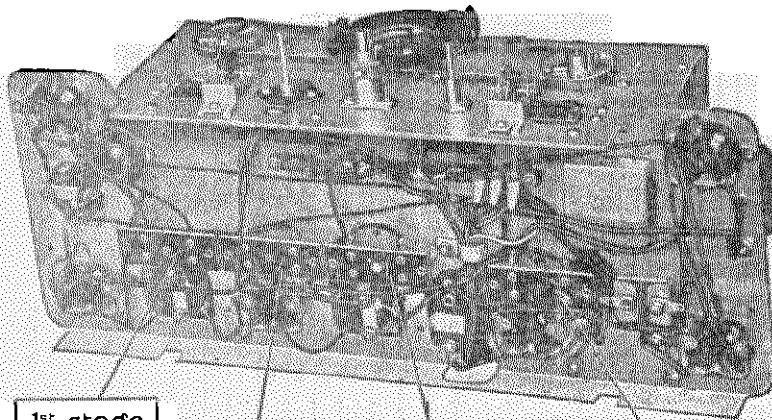
Model 401A Bandbox Jr.



# CROSLY RADIO CORP. MODEL 601 A-C. Power Unit for A.C.7 Schematic



CIRCUIT OF MODEL 601



1st stage  
Balance  
Condenser

2nd stage  
Balance  
Condenser

3rd stage  
Balance  
Condenser

Aligning  
Condenser

BOTTOM VIEW, MODEL 601 CHASSIS

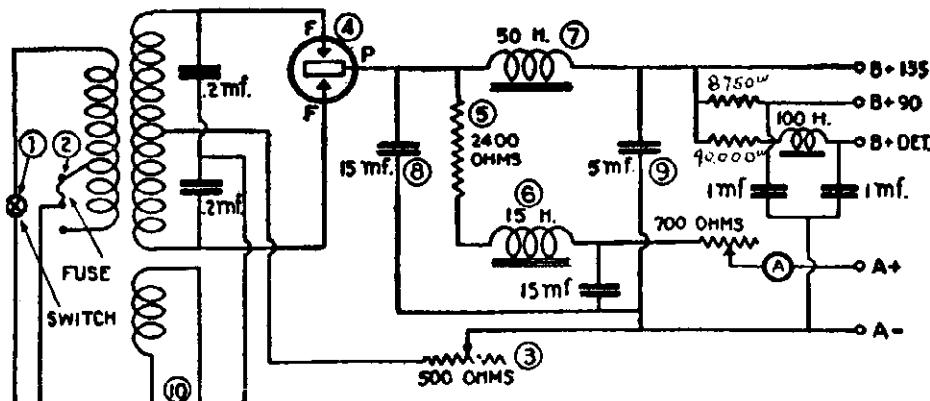
### Loudspeaker.

1. Any model Crosley Musicone may be used with Bandbox, Model 601.
2. If a 171 output tube is used with 180 volts on the plate, Crosley Dynacone, Type E, is recommended for greatest volume and highest quality of reproduction. Type E, Dynacone must be used—Type F cannot be operated with this set.

### Removing Indicator Dial And Replacing Belts.

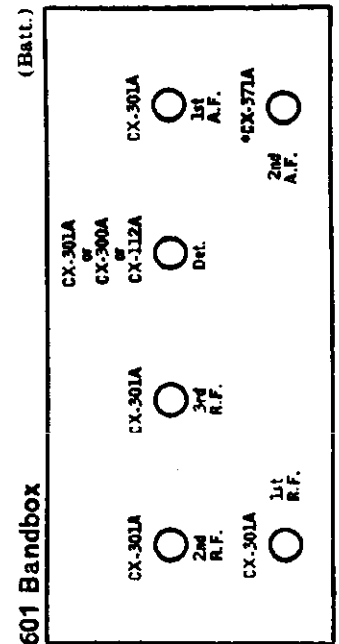
1. Take out three screws attaching indicator dial to center pulley and remove dial.
2. Loosen screws which control tension of belts and take off belts. If center tuning condenser is to be replaced, remove also center pulley.
3. Replace in reverse order, being sure to put belts on pulleys with pulley drive pins through belt holes.

### A.C. Power Unit for Model A.C.7 Receiver.



CROSLY—Model 601

TUBE IN ORDER	TYPE OF TUBE	POSITION OF TUBE (BY REF. DET. EYE)	TUBE DUTY					MEASUREMENTS IN SOCKET OF SET			
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE VOLTS	NORMAL PLATE W. A TEST	PLATE W. A TEST	PLATE W. A CAPACITOR
1.	201A	1st. R.F.	5.1	90	5	90	0.0	7.0	11.0	4.0	
2.	201A	2nd. R.F.	5.1	90	5	90	0.0	7.0	11.0	4.0	
3.	201	3rd. R.F.	5.1	90	5	90	0.0	7.0	11.0	4.0	
4.	201A	Detector	5.1	45	5	45	0.0	2.0	5.5	3.5	
5.	201A	1st. A.F.	5.1	90	5	90	4.5	5.0	7.0	2.0	
6.	171A	2nd. A.F.	5.1	135	5	135	22.5	20.0	26.0	6.0	

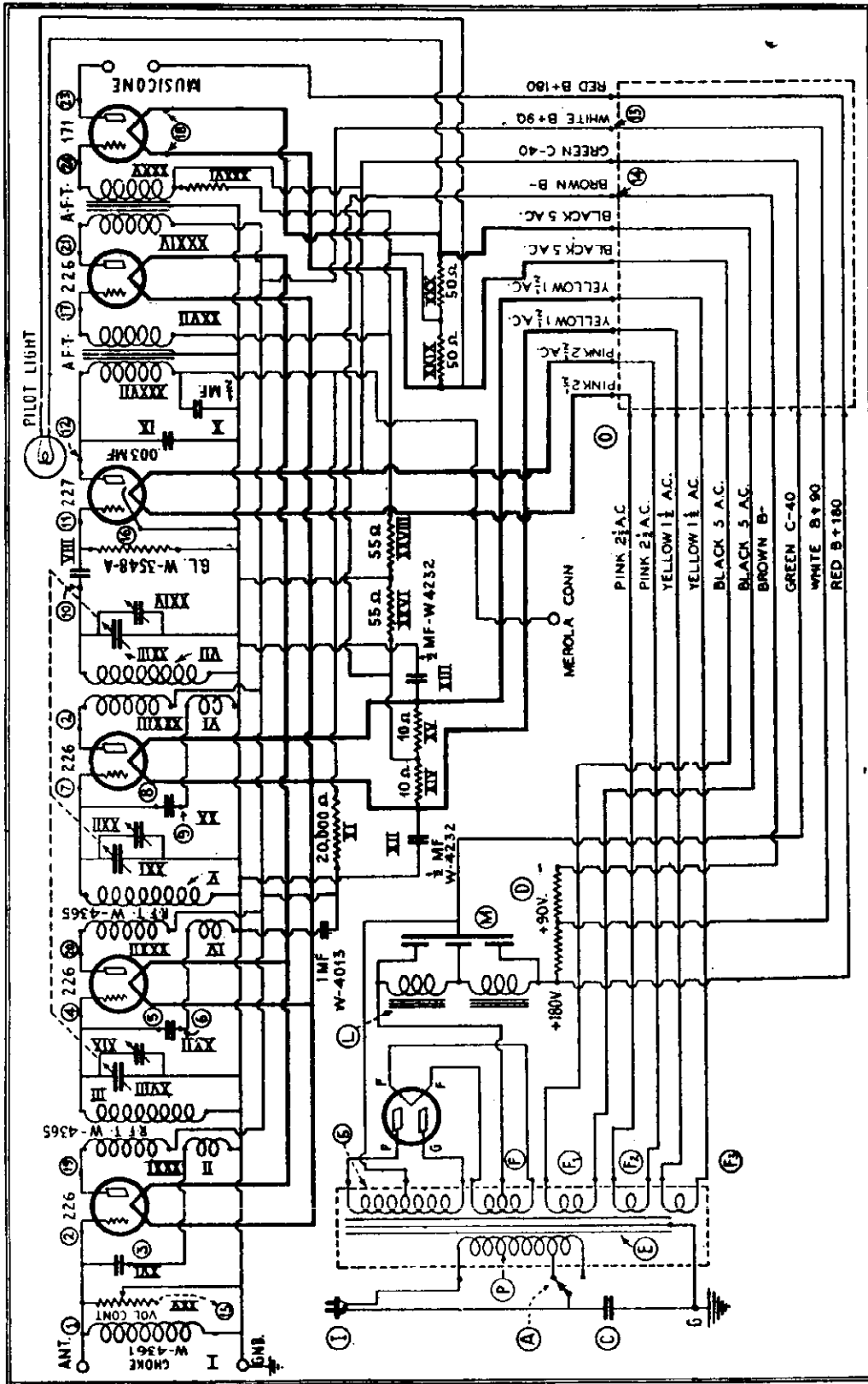


601 Bandbox

MODEL 602 A.C.  
Power Converter for  
MODELS 104,105,106  
Schematic

CROSLLEY RADIO CORP

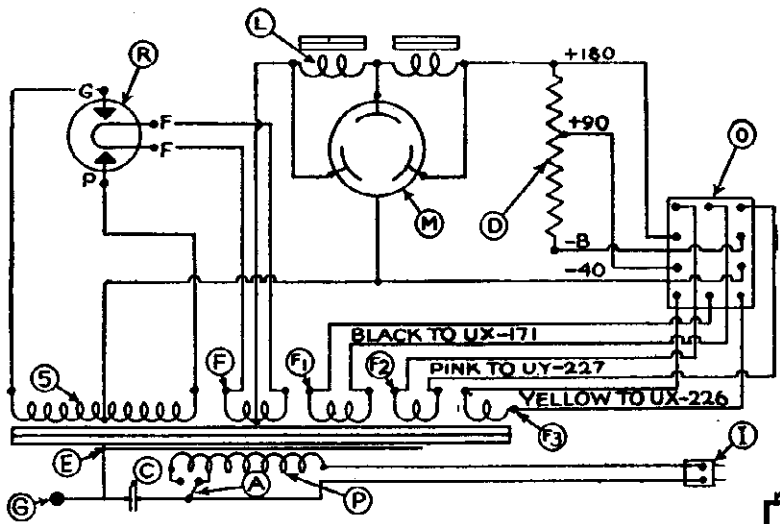
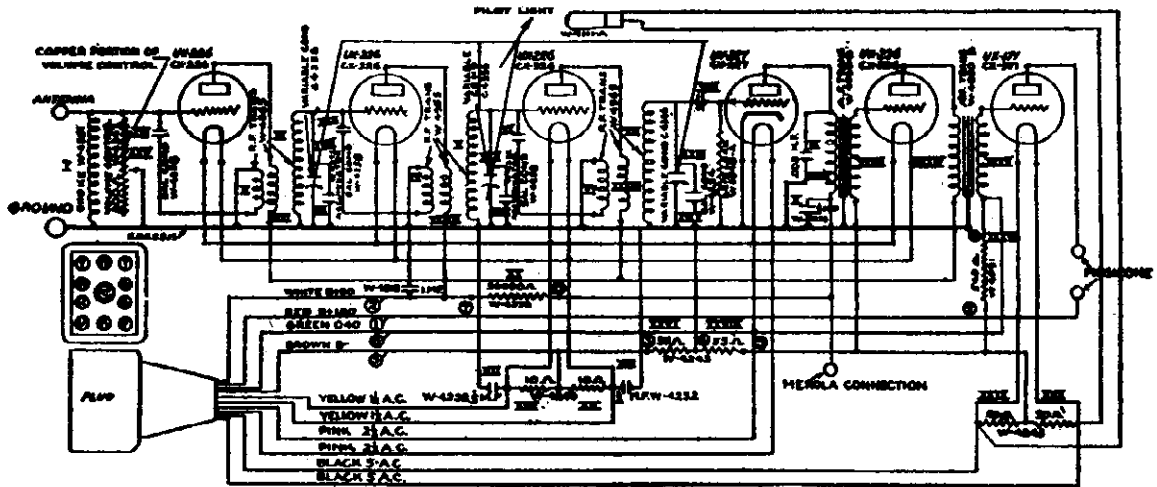
Circuits of the Crosley Model 602 A. C. Bandbox and Power Converter Models 104, 105 and 106. The dotted square at the lower right represents the plug by which the ten connections are made.



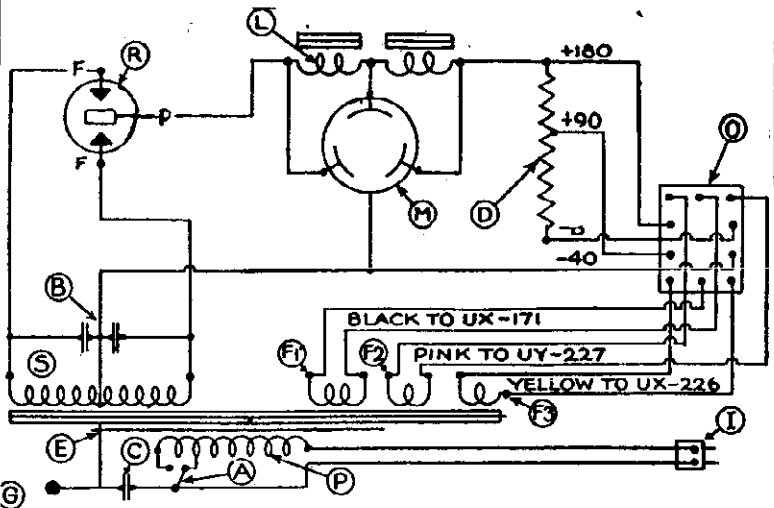
Values and Numbers Not Specified in Diagram.  
 Grid Leak—2 megohms.  
 VI-VII—R.F. Transformer, W4365.  
 X—By-Pass Condenser, W4233.  
 XI—Detector Plate Resistor, W4376.  
 XIV-XV—Center-Tap Resistor, W4240.  
 XVI-XVII-XX—Bypassing Condensers, W4258.  
 XIX-XXII—Acutinators, (Compensating Condensers) W4272.  
 XXIII-XXI-XXIII—Tuning Condensers.  
 XXIV—Balancing Condenser, W4254.  
 XXV—Volume Control, 300 ohms, W4247.  
 XXVII-XXXIV—A.F. Transformers, W4060B (A .0008-mf. by-pass condenser W4512 is shunted across the secondary XXXV).  
 XXXVI—"C" Bypass Resistor, 540 ohms, W4391.

CROSLY RADIO CORP

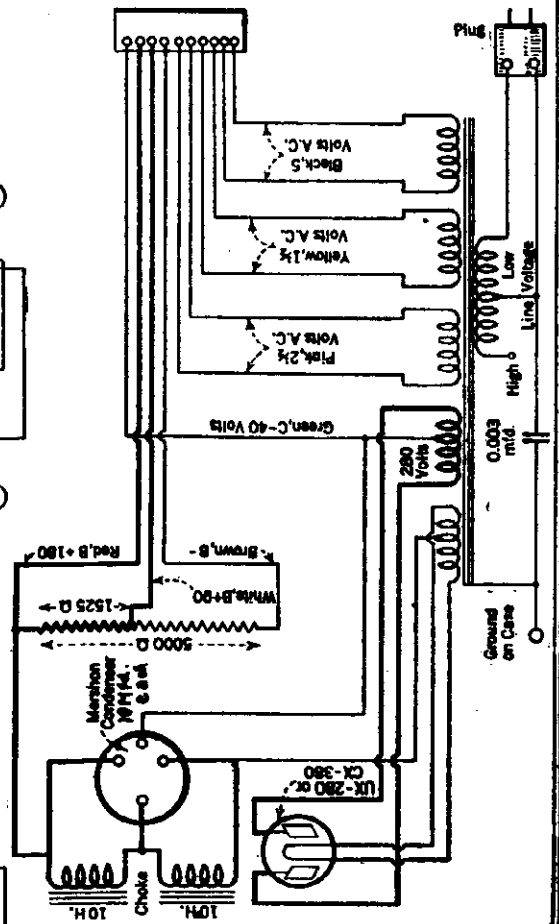
MODEL 602  
 MODEL 602 Power Unit  
 MODELS 104,105,106  
 MODELS 104R,105R



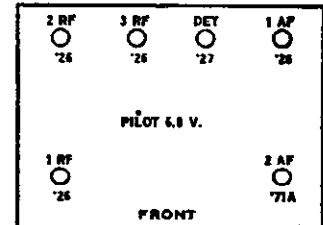
CIRCUIT DIAGRAM OF MODELS 104, 105, AND 106  
 POWER CONVERTER.



CIRCUIT DIAGRAM OF MODELS 104R AND 105R POWER CONVERTER.

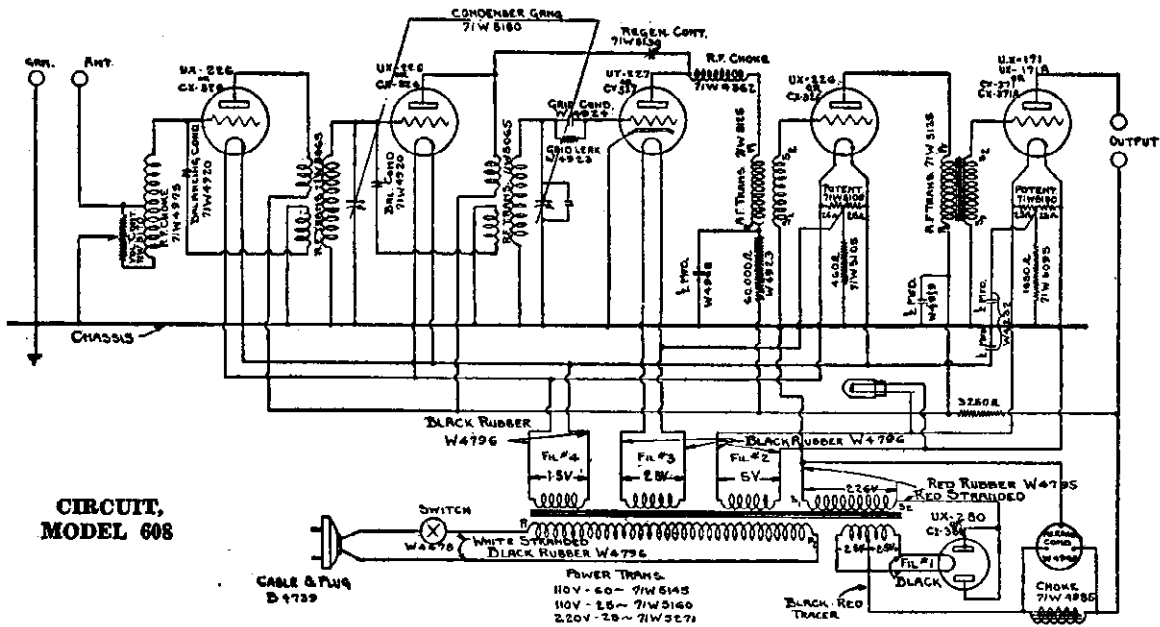


Model 602 (AC) Bandbox



MODEL 608  
Schematic  
Voltage, Bottom View

CROSLY RADIO CORP.

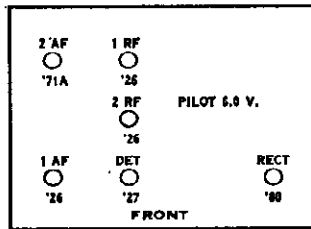


CIRCUIT,  
MODEL 608

CROSLY—Model 608

Line Voltage 115—227 Emitter Biased 7 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

Model 608 Gembox



TUBE NO. IN ORDER	TYPE OR TYPE OF TUBE	POSITION OF TUBE 1st R.F. DET. ETC.	READINGS PLUS IN SOCKET OF SET						TUBE IN TESTER		
			TUBE OUT		CATHODE VOLTS		PLATE M.A. GRID TEST		PLATE M.A. CHANGE		
A	B	A	B	C	D	E	F	G	H	I	J
226	1st. R.F.	1.55	120	1.45	115	7		5.5	9.0	3.5	
227	Detector	2.40	100	2.20	30	0		1.5	1.8	.3	
226	1st. A.F.	1.55	120	1.45	110	7		5.0	8.5	3.5	
171A	2nd. A.F.	5.2	210	5.00	135	25		15.0	17.0	2.0	
280	Rectifier	5.3		5.00							

Tuning Condensers.

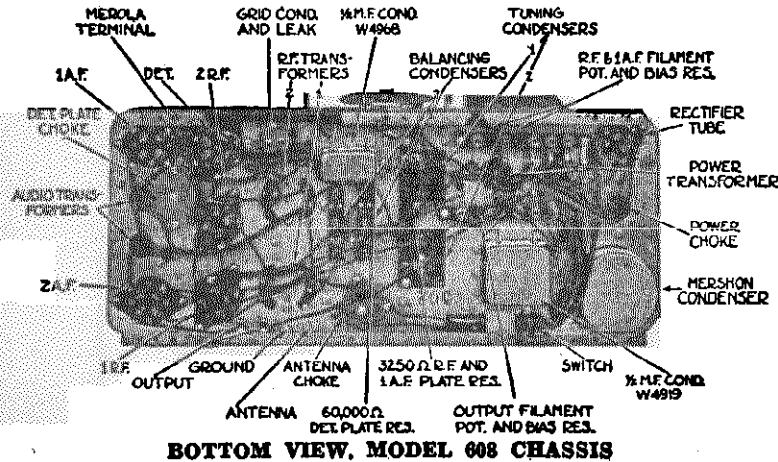
1. The complete condenser gang should be removed and replaced as a unit.
2. Take off station selector knob and remove leads from pilot light socket first. Then unsolder condenser leads and remove gang. Replace in reverse order.

Regeneration.

1. Regeneration is secured by means of a small variable condenser connecting the detector plate to the plate of the second r. f. tube. The amount of regeneration may be controlled by adjusting this condenser.

Alignment of Tuning Condensers

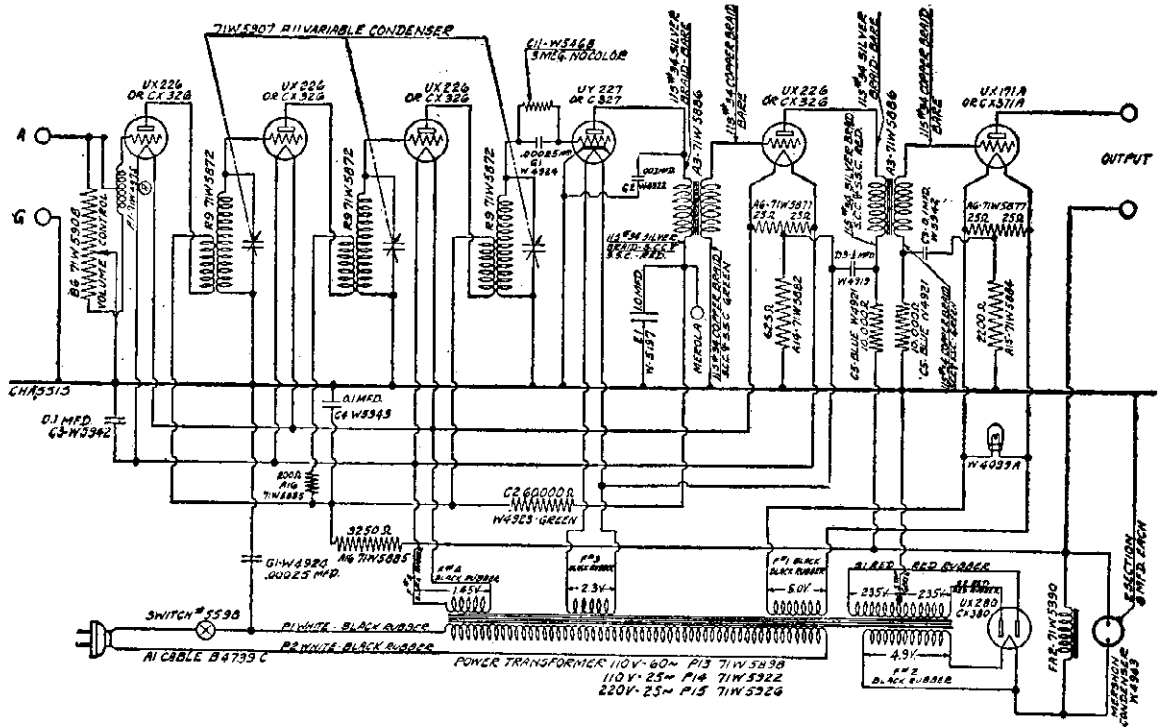
1. A small adjustable aligning condenser shunted across the detector-stage tuning condenser serves as a means of aligning the tuning condensers so that they track together properly.



BOTTOM VIEW, MODEL 608 CHASSIS

CROSLY RADIO CORP.

MODEL 610  
Schematic  
Voltage, Bottom View

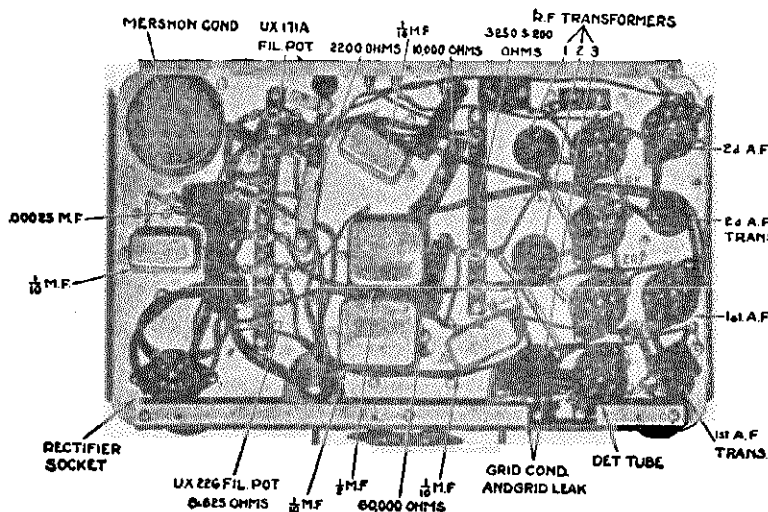
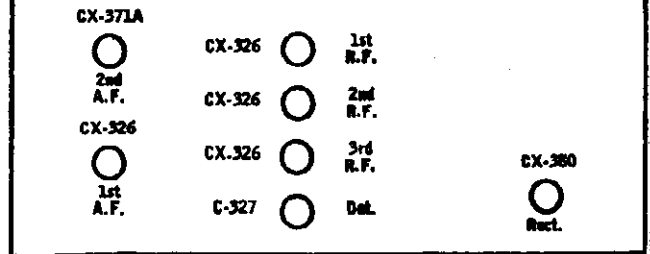


CROSLY—Models 610—  
Line Voltage 115—Volume Control Position Max

610 Gembox,

(A.C.)

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST AF, 2ND AF, DET, ETC.)	READINGS, PLUS IN SOCKET OF SET													
			TUBE OUT		TUBE IN TESTER		HEATER		CATHODE		NORMAL PLATE		SCREEN GRID			
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS	Ω VOLTS
1	226	1st RF	1.55	165	1.45	160	15.0	-	5.0	5.0	3.0	-	-	-	-	-
2	226	2nd RF	1.55	165	1.45	160	15.0	-	5.0	5.0	3.0	-	-	-	-	-
3	226	3rd RF	1.55	165	1.45	160	15.0	-	5.0	5.0	3.0	-	-	-	-	-
4	227	Det.	2.50	180	2.30	30	-	15.0	2.5	2.9	0.4	-	-	-	-	-
5	226	1st AF	1.55	165	1.45	175	15.0	-	5.0	5.0	3.0	-	-	-	-	-
6	171A	2nd AF	6.3	185	5.00	170	40.0	-	80.0	85.0	3.0	-	-	-	-	-
7	280	Rect.	5.4	-	5.00	-	-	-	30	-	-	-	-	-	-	-



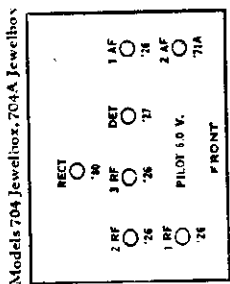
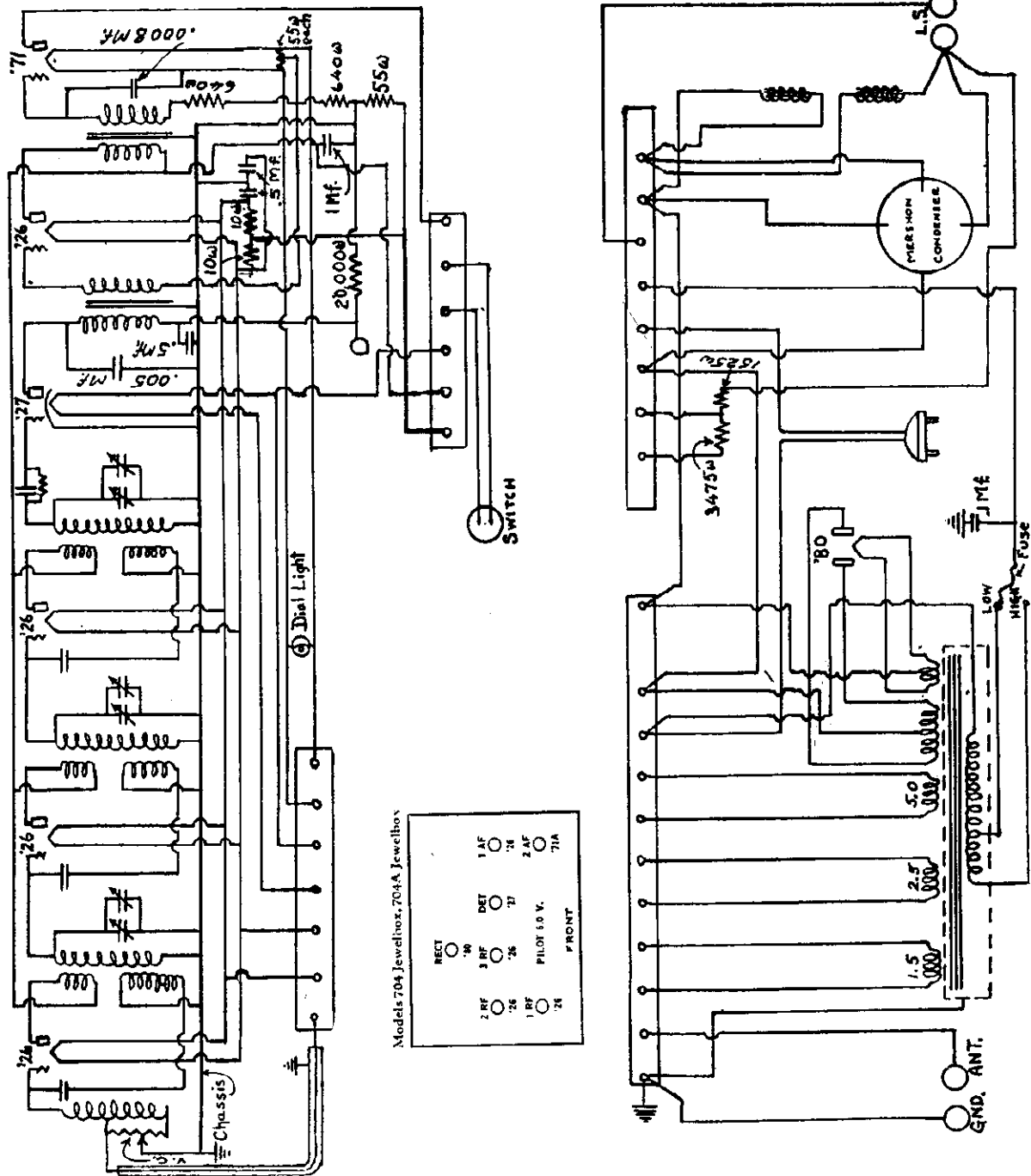
Balancing.

With the set in operation, slightly adjust the angles of the radio-frequency coils until the set does not oscillate at any point in its wave length range or until the sensitivity is improved. The first coil toward the front of the set is the most critical to this adjusting operation, the second coil next,, while the third coil seldom needs to be touched.

In making these adjustments, always replace the lid before checking the operation.

MODEL 704  
 MODEL 704 Power Unit  
 Schematic  
 MODEL 704-A Voltage

CROSLLEY RADIO CORP.



Tube	Fil. Vol.	Plate Vol.	Grid Bias.	Plate Cur.
RF1	1.3	98	3.	7. ma
RF2	1.3	98	3.	7.
RF3	1.3	98	3.	7.
Det	1.7	42	-	2.5
AF1	1.3	96	5.	3.2
AF2	4.8	159	35.	17.
Rec.	4.5.			

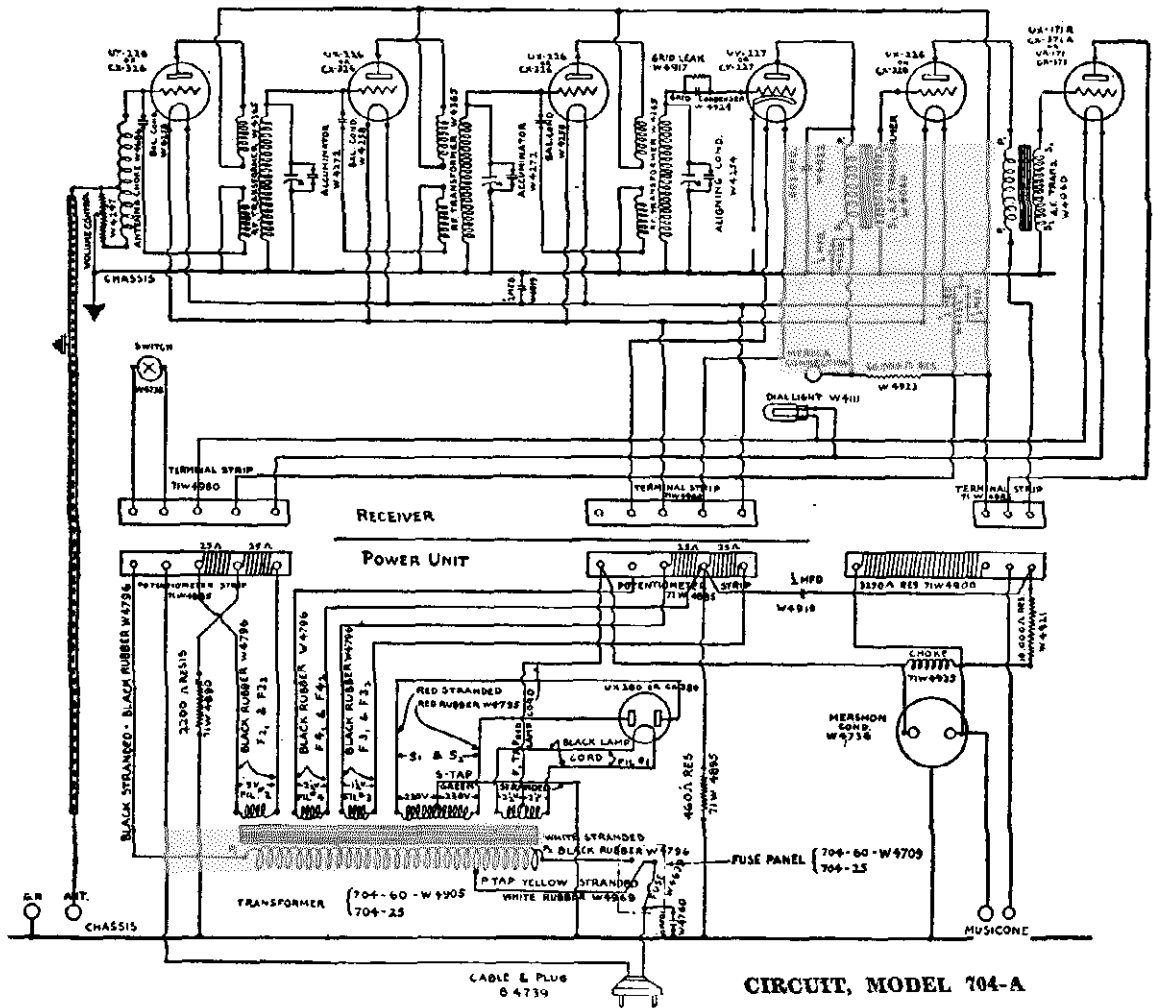
Voltage Data For Crosley 704-A



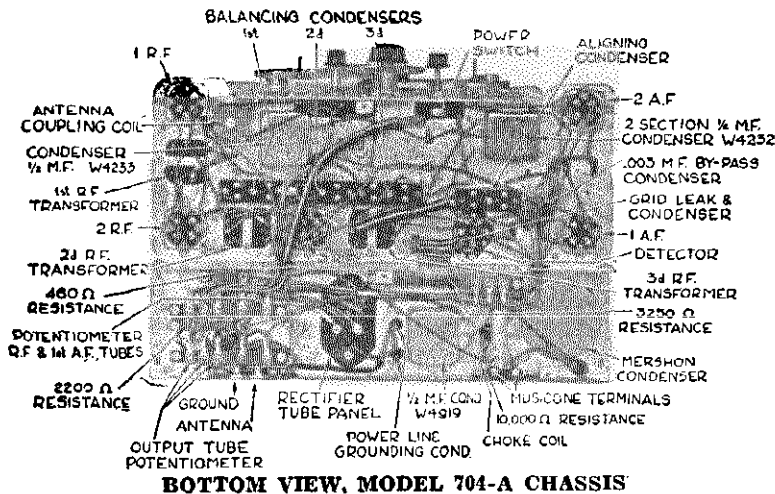
CROSLY RADIO CORP

MODEL 704-A

Schematic, Bottom View



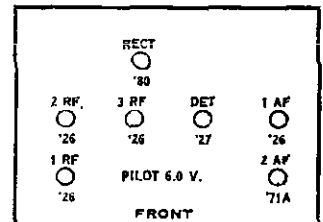
CIRCUIT, MODEL 704-A



BOTTOM VIEW, MODEL 704-A CHASSIS

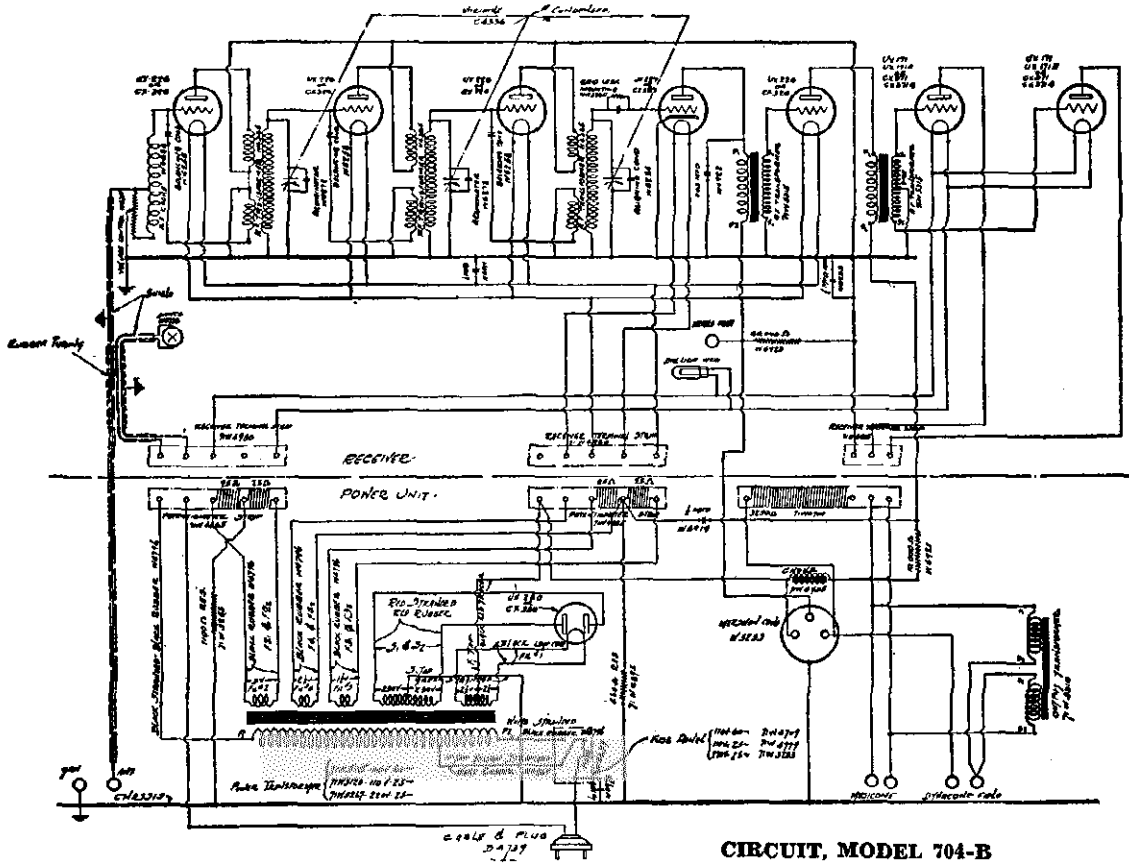
NOTE:—This service sheet applies to all Jewelbox Model 704 sets having seven tubes, including rectifier (single output tube only) numbered from GJD 16,000 to 21,000.

Models 704 Jewelbox, 704A Jewelbox

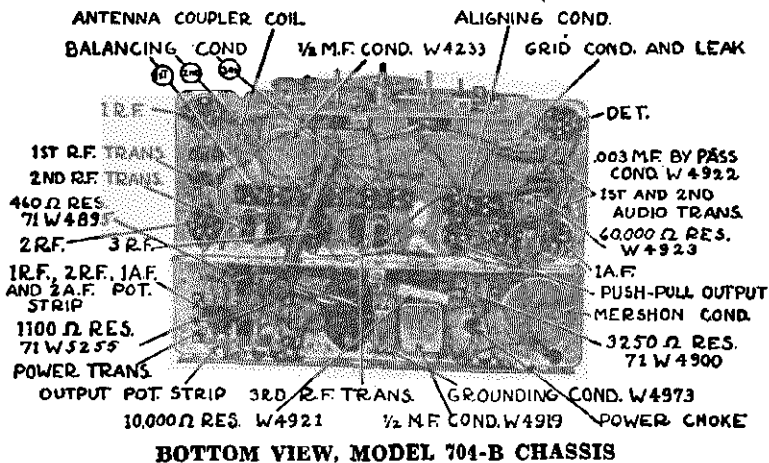


MODEL 704-B  
Schematic, Bottom View  
Voltage

CROSLLEY RADIO CORP.



CIRCUIT, MODEL 704-B

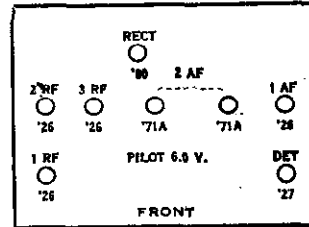


BOTTOM VIEW, MODEL 704-B CHASSIS

Alignment of Tuning Condensers.

1. A small auxiliary variable condenser shunted across the detector tuning condenser serves as a means of aligning the tuning condensers so that they "track" together.

Model 704B Jewelbox

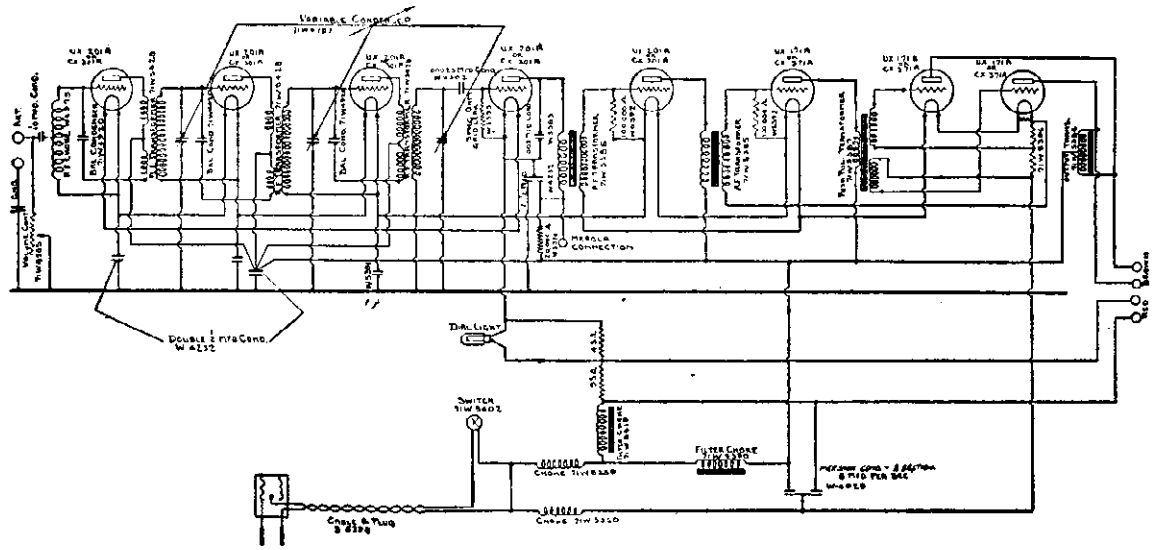


Line Voltage 117.5—227 Emitter Based 11 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

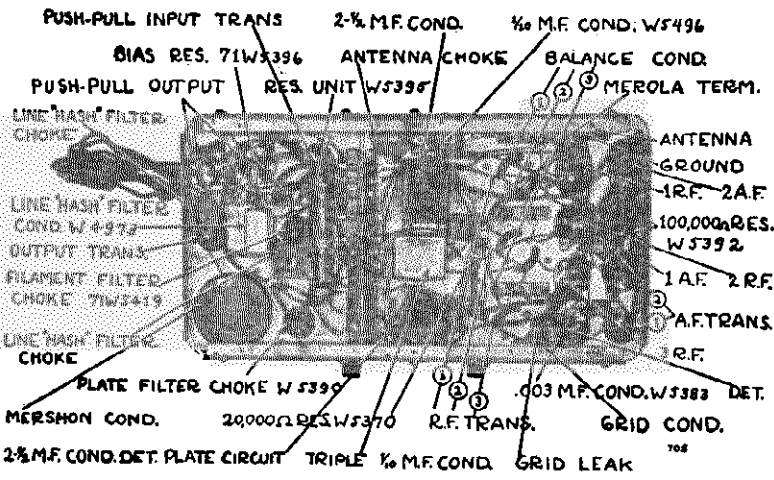
TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE (1ST, 2ND, 3RD, 4TH, 5TH, 6TH)	READINGS GIVEN IN SOCKET BY TESTER								
			TUBE OUT				TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE VOLTAGE	PLATE (R.A. 0-100) TEST	PLATE (R.A. 0-100) CHANGE
1	226	1ST R.F.	1.6	160	1.5	150	11.0		6.5	12.0	5.5
2	226	2ND R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
3	226	3RD R.F.	1.6	160	1.5	150	11.0		6.5	25.4	6.9
4	227	Detector	2.80	190	2.25	30	0.0		2.2	2.75	5.5
5	226	1st A.F.	1.6	220	1.5	120	9.0		6.2	8.0	1.8
6	171A	2nd A.F.	5.3	185	5.0	170	37.5		20.0	23.0	3.0
7	171A	2nd A.F.	5.3	185	5.0	170	37.5		20.0	23.0	3.0
8	280	Rectifier	5.3		4.9						

CROSLY RADIO CORP.

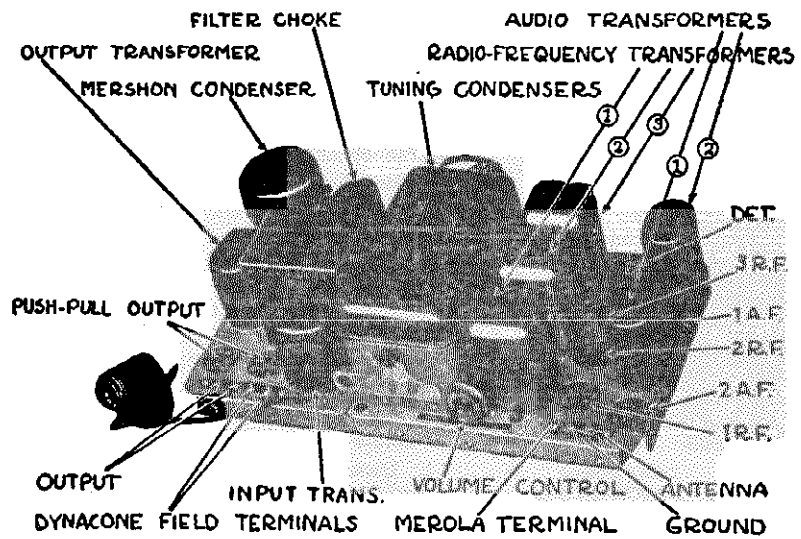
MODEL 705  
Schematic,  
Bottom and Rear View



CIRCUIT, MODEL 705

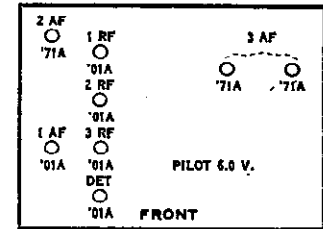


BOTTOM VIEW, MODEL 705 CHASSIS



REAR VIEW, MODEL 705 CHASSIS

Models 705 Showbox (DC), 61, 62



Repairing and Replacing Parts  
Replacing Parts.

1. In replacing parts on Model 705 the bottom must be removed.

Tuning Condensers.

1. The complete condenser gang should be removed and replaced as a unit.

2. Take off knobs and remove leads from pilot light socket and volume control first. Next remove tuning condenser leads and remove assembly. Replace in reverse order.

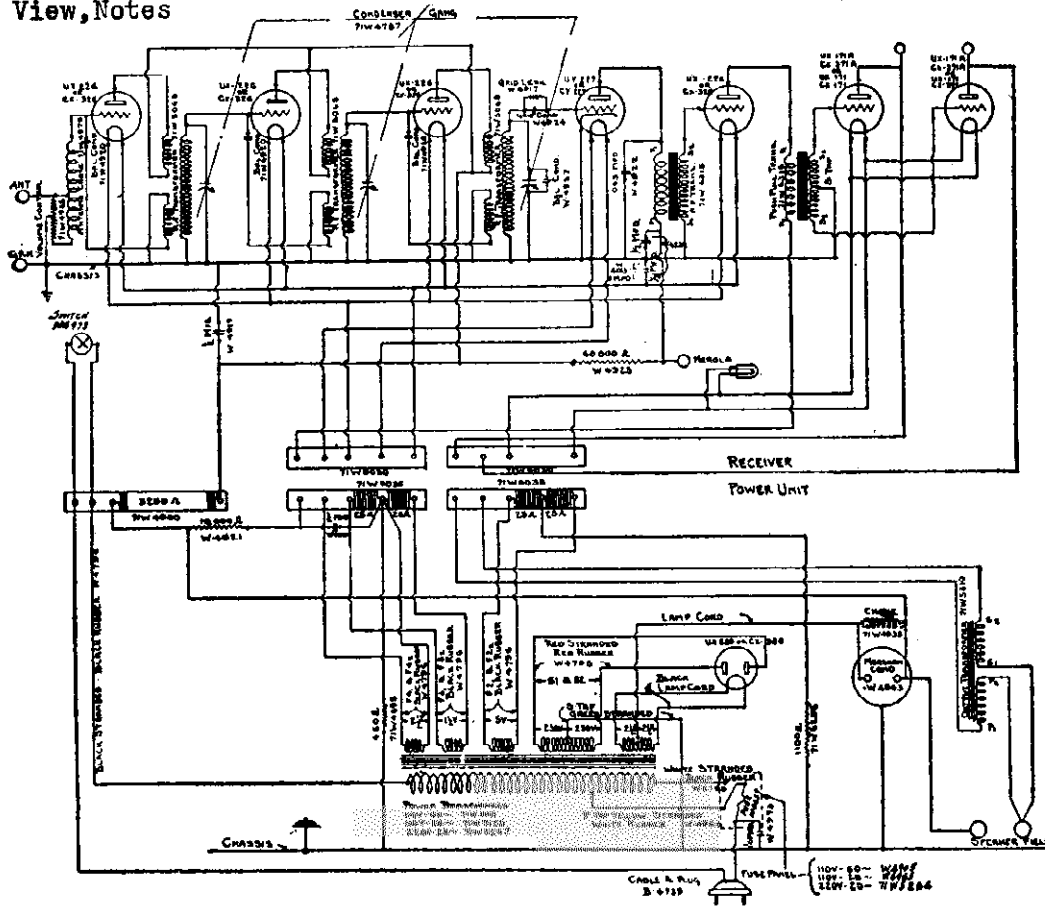
Radio-Frequency Transformers.

1. Unsolder leads first. Then remove shield can. Finally take off transformer colls. Replace in reverse order.

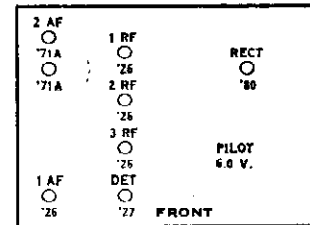
2. Mark all leads and terminals.

MODEL 706  
Schematic, Voltage  
Bottom View, Notes

CROSLLEY RADIO CORP.



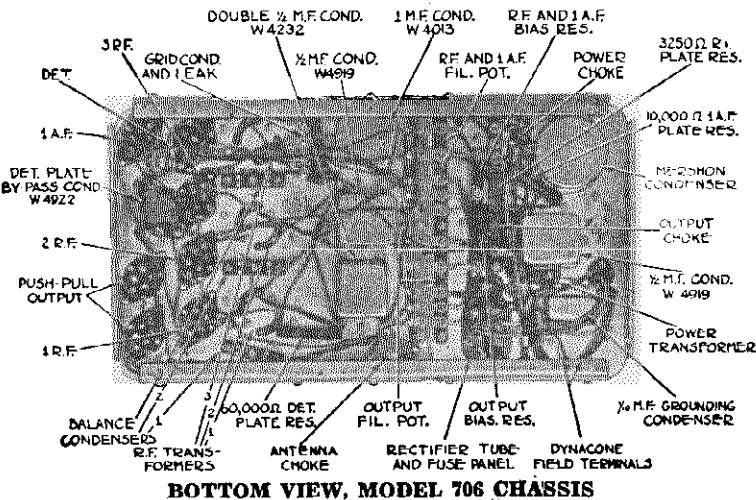
Models 706 Showbox.



CROSLLEY- 706

Line Voltage 117.5—227 Emitter Based 11 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (BY REF. DET. STD.)	READINGS PLUS IN SOCKET OF SET						TUBE IN TESTER		
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE RES.	PLATE RES. WITH TEST	PLATE RES. WITH CHANGE
1	226	1st. R.F.	1.6	150	1.5	150	11.0	6.5	12.0	5.5	
2	226	2nd. R.F.	1.6	160	1.5	150	11.0	6.5	13.4	6.9	
3	226	3rd. R.F.	1.6	150	1.5	150	11.0	6.5	13.4	6.9	
4	227	Detector	2.50	150	2.25	30	0.0	2.2	2.75	5.5	
5	226	1st. A.F.	1.6	220	1.5	120	9.0	6.2	8.0	1.8	
6	171A	2nd. A.F.	5.3	185	5.0	170	37.5	20.0	23.0	3.0	
7	171A	2nd. A.F.	5.3	185	5.0	170	37.5	20.0	23.0	3.0	
8	280	Rectifier	5.3		4.9						



Audio-Frequency Transformers.

- Both audio transformers are mounted in a single can. They must be removed as a single unit.
- Unsolder leads. Remove nuts holding assembly in position and take off transformers. Replace in reverse order.

Tuning Condensers.

- The complete condenser gang should be removed and replaced as a unit.
- Take off knobs and remove leads from pilot light socket and volume control first. Next remove switch from holder. Then unsolder condenser leads and remove assembly. Replace in reverse order.

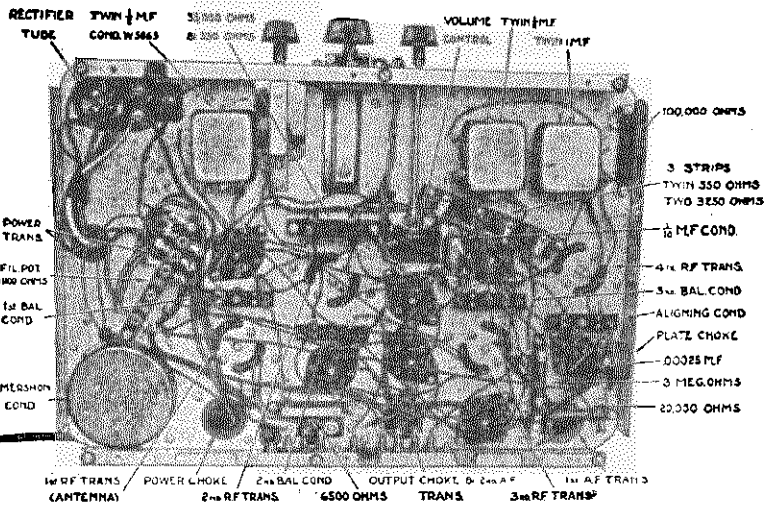
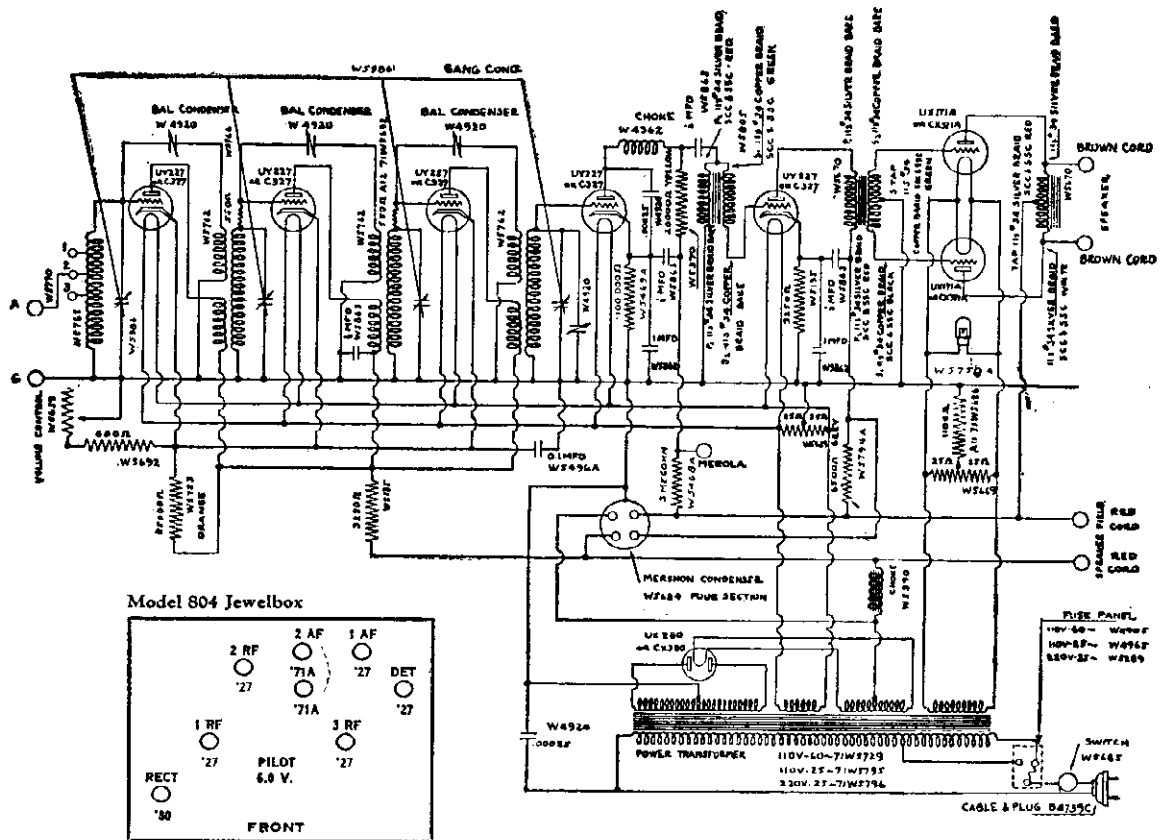
Radio-Frequency Transformers.

- Unsolder leads first. Then remove shield can. Finally take off transformer coils. Replace in reverse order.

BOTTOM VIEW, MODEL 706 CHASSIS

# CROSLY RADIO CORP.

MODEL 804  
Schematic, Voltage  
Bottom View, Notes



**Alignment and Balancing.**

1. A small, adjustable, aligning condenser is shunted across the detector stage tuning condenser for aligning the tuning condensers controlled by the station selector.
2. Small, adjustable neodyne condensers are provided for balancing. Follow the instructions for balancing given on page 4, "Crosley Service Manual." Insulate one of the heater prongs, not the emitter. Do not use headphones.

**Connections.**

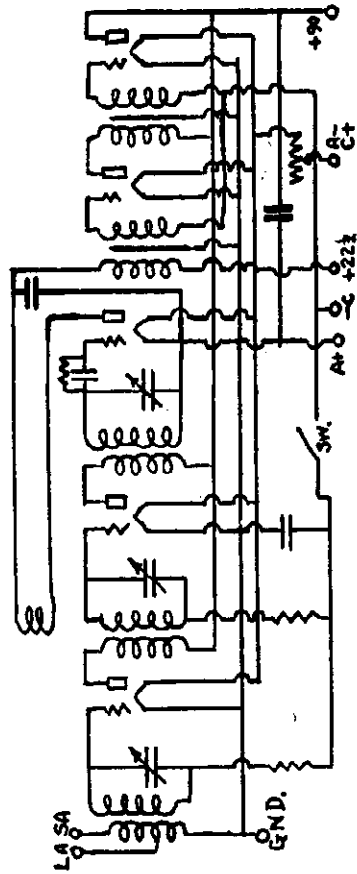
1. Follow the connection diagram shown herewith. A small lead near the antenna terminal is provided in order to adjust the set for best operation with different types of aerials. For average operation with an average antenna, this lead should be inserted in terminal "2" at the rear of the chassis. For greatest sensitivity, insert the lead in terminal "1", and for greatest selectivity in terminal "3".

**CROSLY—Model 804**  
Line Voltage 117.5—Set on High Volt Tap—Volume Control Position Max

TUBE NO. IN CHASSIS	TYPE OF TUBE	POSITION OF TUBE 1ST & 2ND DET. ETC.	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER		TUBE IN TESTER		TUBE IN TESTER		TUBE IN TESTER	
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	VOLTS CONTROL	CATHODE VOLTS	NORMAL PLATE VOLTS	PLATE M.A. 500	PLATE M.A. 500 CHANGE	SCREEN GRID VOLTS
6Z7	1st RF		2.45	1.88	2.20	1.75	12	12	5.2	8.0	3.0	-
6X4	2nd RF		2.45	1.85	2.20	1.75	12	12	5.2	8.0	3.0	-
6AV6	3rd RF		2.45	1.88	2.20	1.75	12	12	5.2	8.0	3.0	-
6BE6	Det.		2.45	1.50	2.20	1.60	22	18	0.2	0.25	0.05	-
6BE7	1st AF		2.45	2.25	2.20	1.84	13	12	5.2	8.0	3.0	-
6BE8	2nd AF		5.2	800	5.10	180	40	-	18	25	7.0	-
6BE9	3rd AF		5.2	800	5.10	180	40	-	18	25	7.0	-
6BE0	Rect.		5.0	-	4.80	-	-	-	80	-	-	-

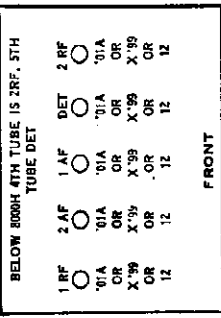
MODEL TRIRDYN  
 MODEL 51  
 MODEL 5-38  
 Schematic

CROSLY RADIO CORP.

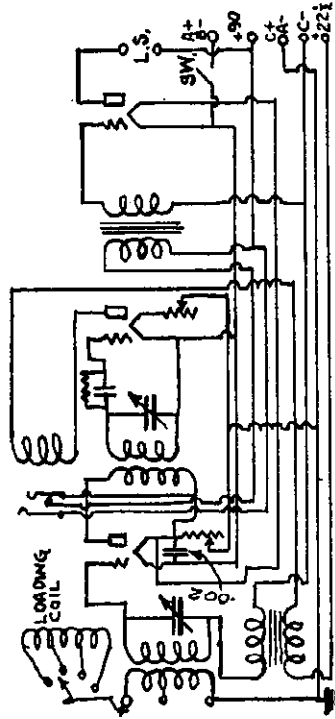
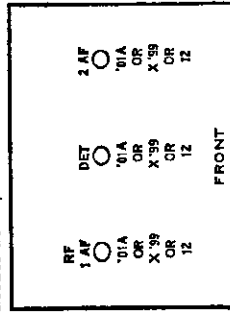


MODEL 5-38

Model 5-38, Series 2 (Serial No. 8000H & Above)

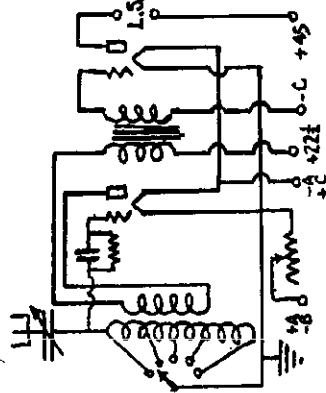
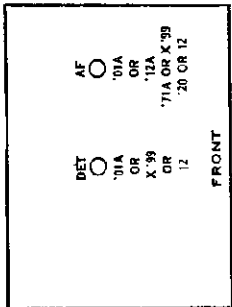


Model Trirdyn

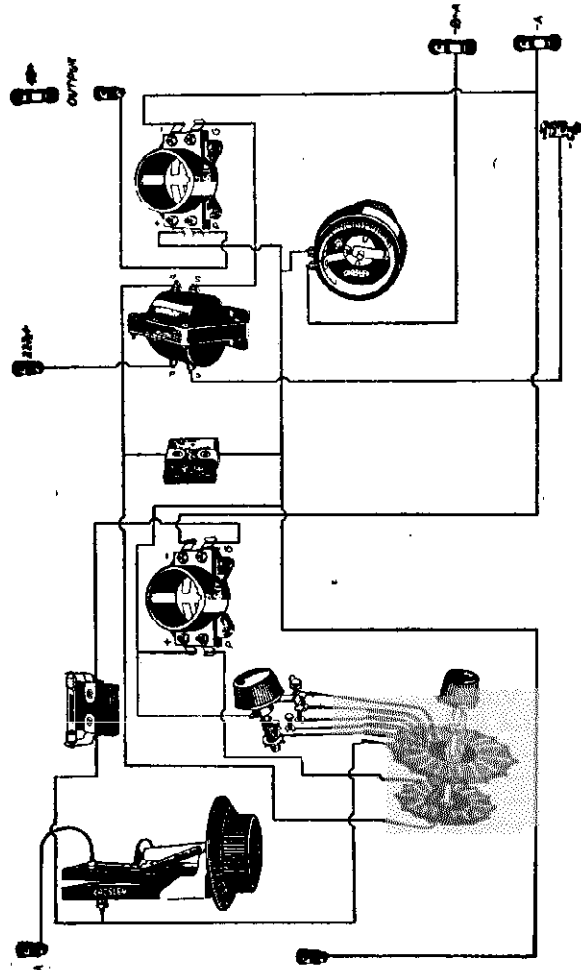


MODEL TRIRDYN

Model 51



MODEL 51



Crosley Model 51 Circuit

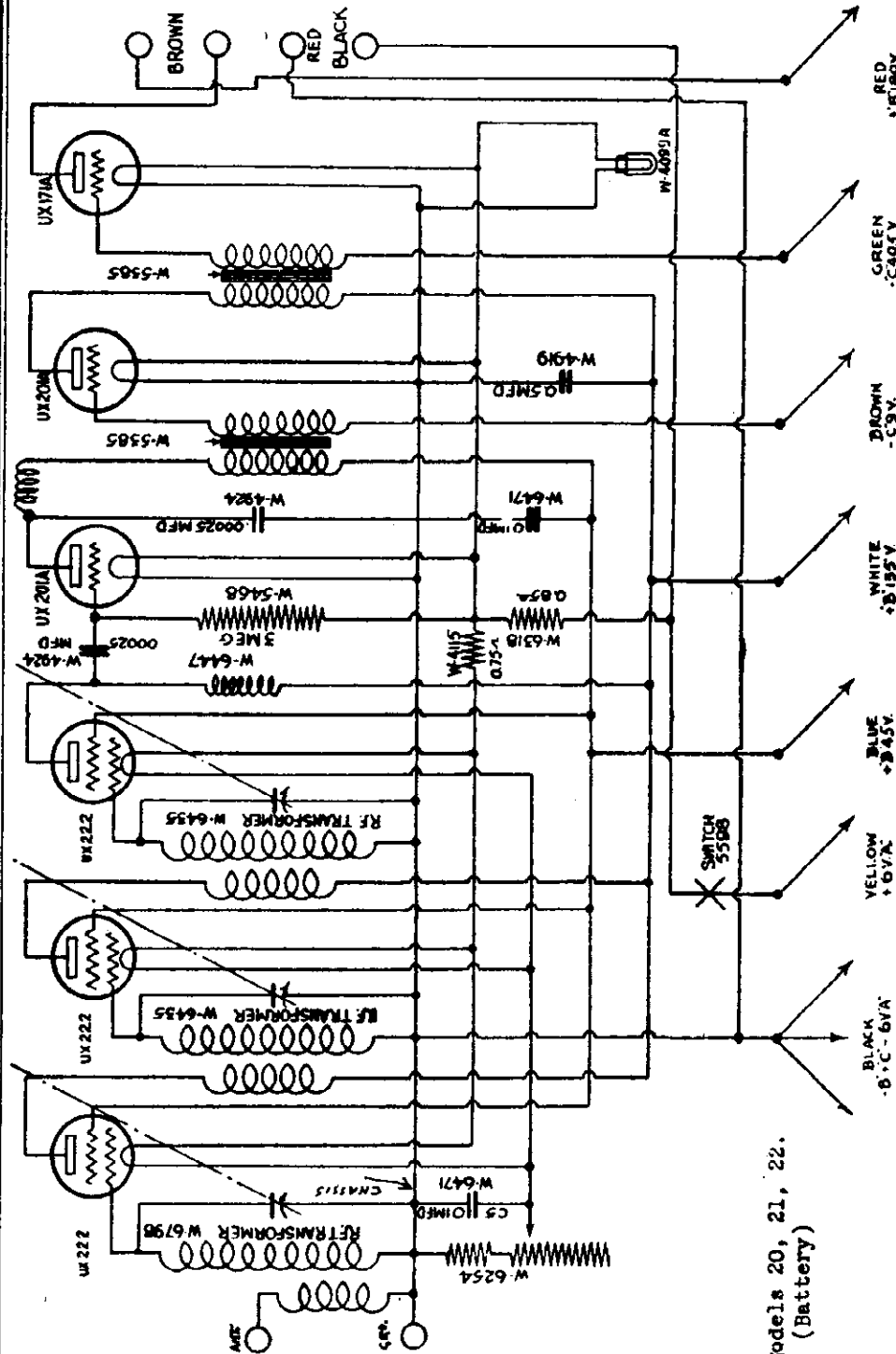






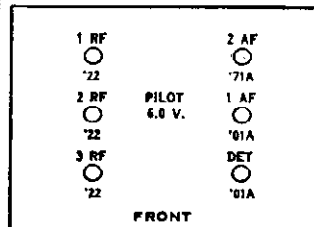
CROSLLEY RADIO CORP

MODELS 20, 21, 22  
Schematic, Data  
MODELS 21, 22  
Voltage Data



Models 20, 21, 22.  
(Battery)

Models 20, 21, 22



CROSLLEY—Models 21-22  
Line Voltage 115—Volume Control Position Max  
Note: Battery operated.

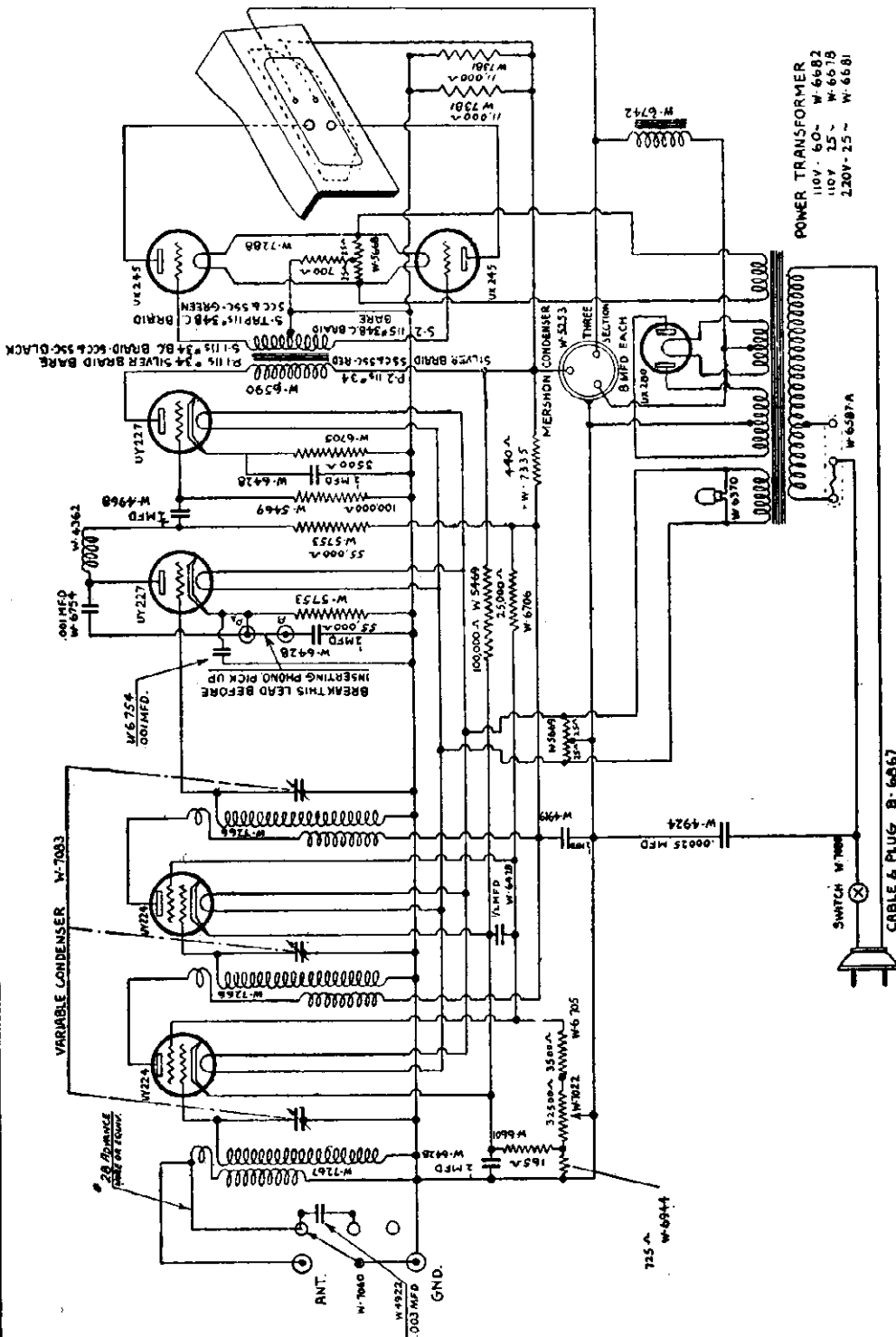
TYPE OF POWER	TYPE OF TUBE	POSITION OF TUBE	TUBE DATA					HEATER PLUG IN SOCKET OF SET					TUBE IN TESTER	
			VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	WATTS	WATTS	WATTS			
EEB	1A5	1A5	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	2A5	2A5	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X4	6X4	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X5	6X5	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X6	6X6	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X7	6X7	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X8	6X8	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X9	6X9	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X10	6X10	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X11	6X11	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X12	6X12	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X13	6X13	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X14	6X14	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X15	6X15	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X16	6X16	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X17	6X17	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X18	6X18	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X19	6X19	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X20	6X20	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X21	6X21	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X22	6X22	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X23	6X23	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X24	6X24	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X25	6X25	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X26	6X26	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X27	6X27	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X28	6X28	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X29	6X29	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0
EEB	6X30	6X30	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0	5.0	1.0

1. The original chassis were built for use with Type E Dynacone. When the type C Dynacone (with separately excited field coils) was introduced, two terminals (Red and Black) were added to the chassis for supplying the field of the "C" type speaker with current direct from the storage battery, or "A" supply. 2. For a short time the yellow and black filament terminals were connected to the points shown by the dotted lines marked "2Y" and "2B"

on the circuit diagram. 3. In recent changes the 3 megohm resistor W5468 in the detector grid circuit is replaced by an A-2 radio-frequency choke, the 0.85 ohm resistor is moved to the negative filament lead, and the detector grid resistor is connected to the negative side of the 0.85 ohm resistor. See the changes marked "3" on the circuit diagram.

MODELS 30S, 31S, 33S, 34S  
Schematic, Voltage, Notes

CROSLLEY RADIO CORP.



ampere cartridge type automobile light fuse (two ampere fuses are also used on recent chassis of the 40S series)

Installation of Model 30S Unitrad chassis, which is the chassis with front panel only for console mounting, is similar to that described on page 29 for Model 40S. Model 31S is in a metal, table type case. Model 33S and 34S are mounted in wooden consoles, with built-in speakers

The line voltage should be checked and the chassis fuse inserted in the proper clips as described on page 29 in connection with the 40S series of receivers. If the owner of the receiver complains of tubes burning out too often check the line voltage and see that the fuse is inserted in its proper clips.

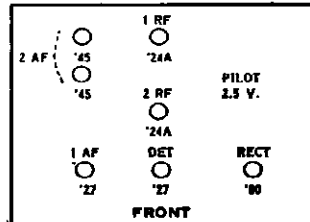
If the dial light burns out, replace it with a 2 1/2 volt Mazda miniature base bulb No. 41. If the fuse requires to be replaced use a two

Installation  
These receivers are designed for operation with Type M Dynacoil speakers. The chassis is equipped with a socket into which a plug on the end of the speaker cord fits. Although not shown on page 29, the more recently built chassis of the 40S series are equipped with sockets for Type M Dynacoil speakers instead of with terminals for Type M Dynacoils.

CROSLLEY—63 Chassis  
Models 30S, 31S, 33S, 34S and Playmate.

TUBE NO. IN CHASSIS (TYPE)	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET.									
			OPERATING VOLTAGES					MILLIAMPERES				
(1)	(2)	(3)	FILAMENT OR HEATER (4) (5) (6)	PLATE OR ANODE (7)	CONTROL GRID (8) (9)	SCREEN GRID (10) (11)	CATHODE (12)	BIASING (13) (14) (15)	PLATE (16) (17) (18)	TUBE CURRENT (19)	PLATE CURRENT (20)	
224	1 R.F.	8,43	153	-1.4	65	1.2	-	2,95	6	3.03		
224	2 R.F.	8,43	153	-1.4	65	1.2	-	2,85	5,85	8,4		
227	Det.	2,4	114	-	-10,9	11,8	-	.3	.39	.9		
227	1 A.F.	2,45	140	-	-4	10	-	2,85	3,6	.75		
245	2 A.F.	2,35	224	-	-42,5	-	-	30	33,6	4,6		
245	2 A.F.	2,35	224	-	-42,5	-	-	30	33,6	4,6		
280	Rect.	5,1	-	-	-	-	55	-	-	-		

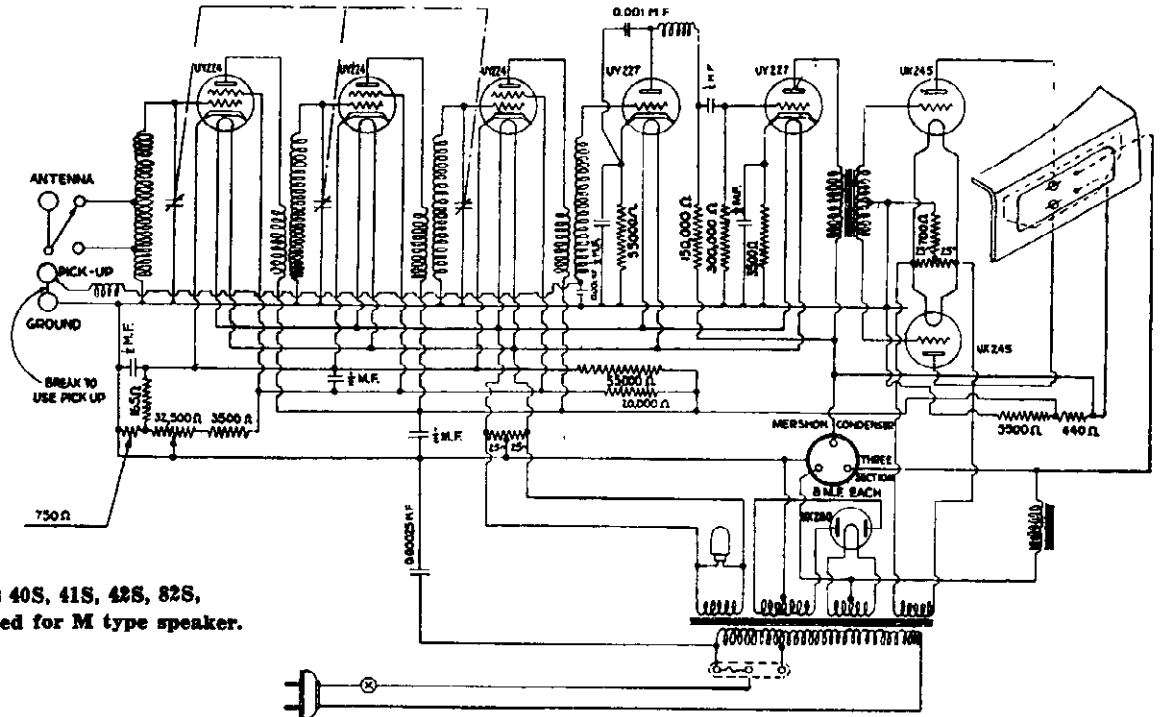
Models 30-S, 31-S, 33-S, 34-S



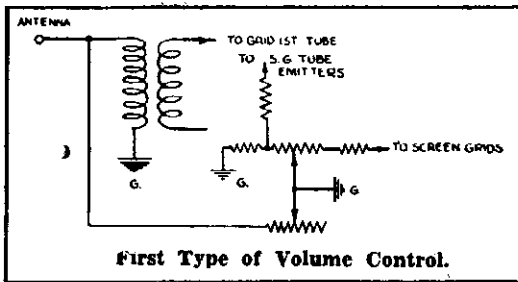
CROSLLEY RADIO CORP.

MODELS 40S, 41S, 42S, 82S  
Schematic, Voltage

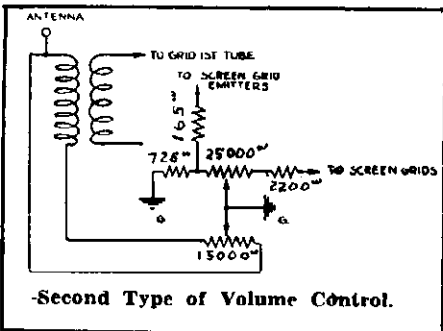
For model 41S receiver, a Dynacoil speaker type J, model 244, is required.



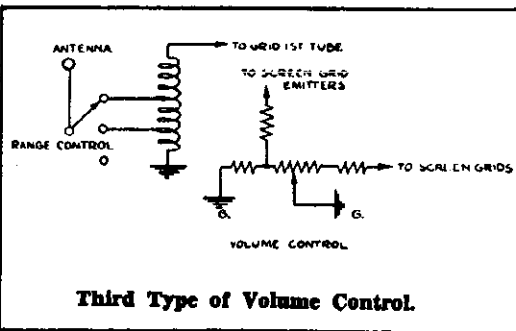
Models 40S, 41S, 42S, 82S,  
arranged for M type speaker.



First Type of Volume Control.



Second Type of Volume Control.

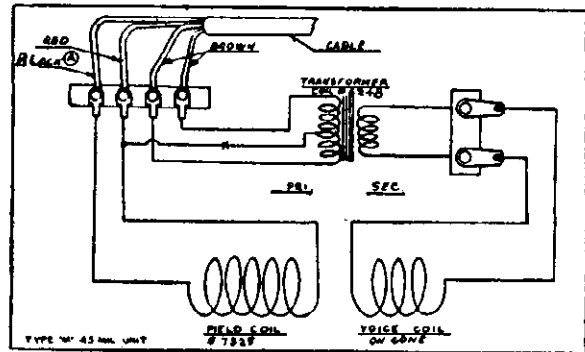


Third Type of Volume Control.

CROSLLEY-73 Chassis—Models 40S-41S-42S-82S  
Line Voltage 117.5—Set on High Volt Tap—Volume  
Control Position Max

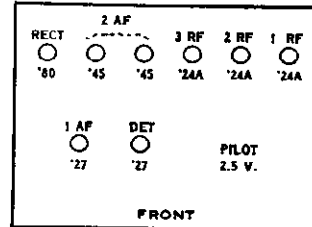
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET. AVC	TUBE DATA		HEATING PLUG IN SOCKET OF SET									
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CONTROL VOLTS	CATHODE HEATER VOLTS	NORMAL PLATE VOLTS	PLATE CHARGE M.A.	SCREEN CHARGE M.A.	SCREEN SUPPLY VOLTS	
284	1st RF		2.60	160	2.40	178	1.5	1.5	1.5	1.5	4.0	2.5	70	
284	2nd RF		2.60	160	2.40	178	1.5	1.5	1.5	4.0	2.5	70		
287	3rd RF		2.60	160	2.40	178	1.5	1.5	1.5	4.0	2.5	70		
287	DET.		2.60	160	2.45	180	1.5	1.5	1.5	4.0	2.5	70		
287	1st AF		2.65	180	2.45	180	1.5	1.5	1.5	4.0	2.5	70		
245	2nd AF		2.55	265	2.30	240	4.0	-	36	50	4.0	-		
245	2nd AF		2.55	265	2.30	240	4.0	-	36	50	4.0	-		
280	Rect.		5.60	-	5.00	-	-	-	100	-	-	-		

Models 42S and 82S are equipped with Dynacoil speakers, type J, model 255.



For model 40S receiver, Dynacoil type J, model 254 is supplied.

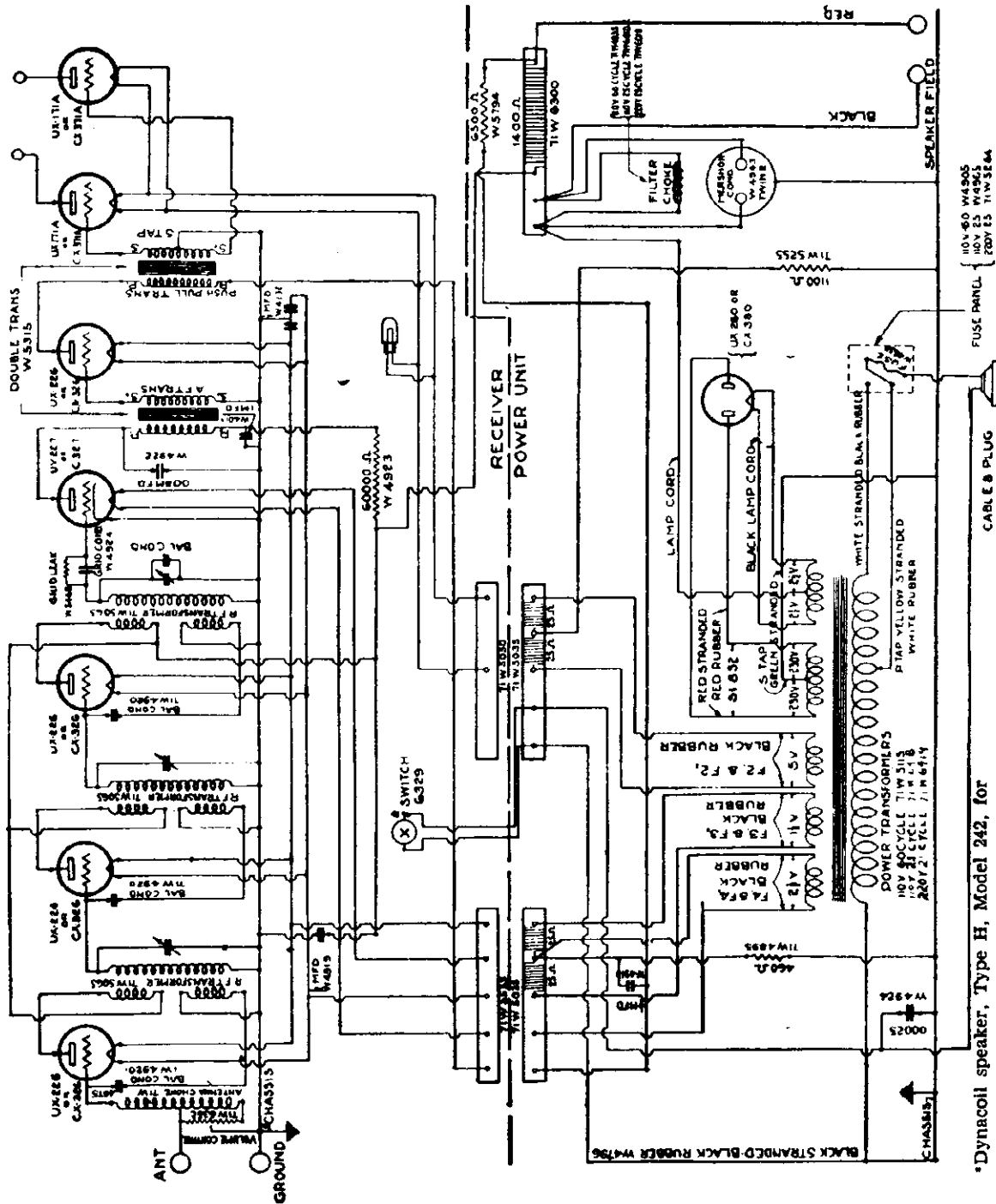
Models 40-S, 41-S, 42-S, 82-S



(ABOVE)  
Connections for Dynacoils Types G, H, J, M  
Red and Black leads to field coil. Brown leads to speaker output transformer.

MODELS 41, 41A, 42  
Schematic, Voltage

CROSLLEY RADIO CORP.



FUSE PANEL  
10V 40 W4905  
10V 25 W4961  
10V 15 W4964

\*Dynacoil speaker, Type H, Model 242, for Model 41A receiver Model 42 receiver is equipped with built-in Dynacoil speaker, Type H, Model 243.

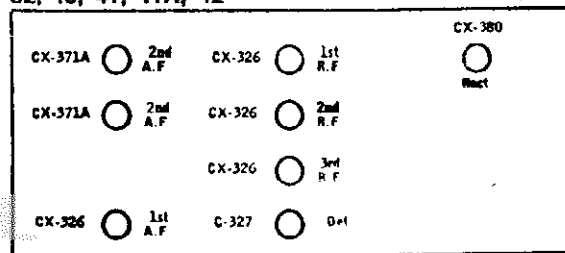
\*Note—Merphon Condenser in set will probably be ruined if speaker field circuit is opened while set is in operation.

CROSLLEY—Models 41-41A-42-704-706  
Line Voltage 117.5—227 Emitter Based 11 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

TUBE NO.	TYPE OF TUBE	POSITION IN SET	RECOMMENDED PLATE VOLTAGES (V)					TUBE IN TESTER		
			A	B	C	CATHODE	HEATING	PLATE	SCREEN	CONTROL
226	1st. A.F.	1st. A.F.	1.6	160	1.5	150	11.0	6.5	12.0	6.5
226	2nd. R.F.	2nd. R.F.	1.6	160	1.5	150	11.0	6.5	13.4	6.9
226	3rd. A.F.	3rd. A.F.	1.6	160	1.5	150	11.0	6.5	13.4	6.9
227	Detector	Detector	2.80	150	2.25	30	0.0	2.2	2.7	.95
226	1st. A.F.	1st. A.F.	1.6	160	1.5	150	11.0	6.5	12.0	6.5
41A	2nd. A.F.	2nd. A.F.	5.3	185	5.0	170	37.5	2.2	2.7	.95
280	Rectifier	Rectifier	5.3	185	5.0	170	37.5	2.2	2.7	.95

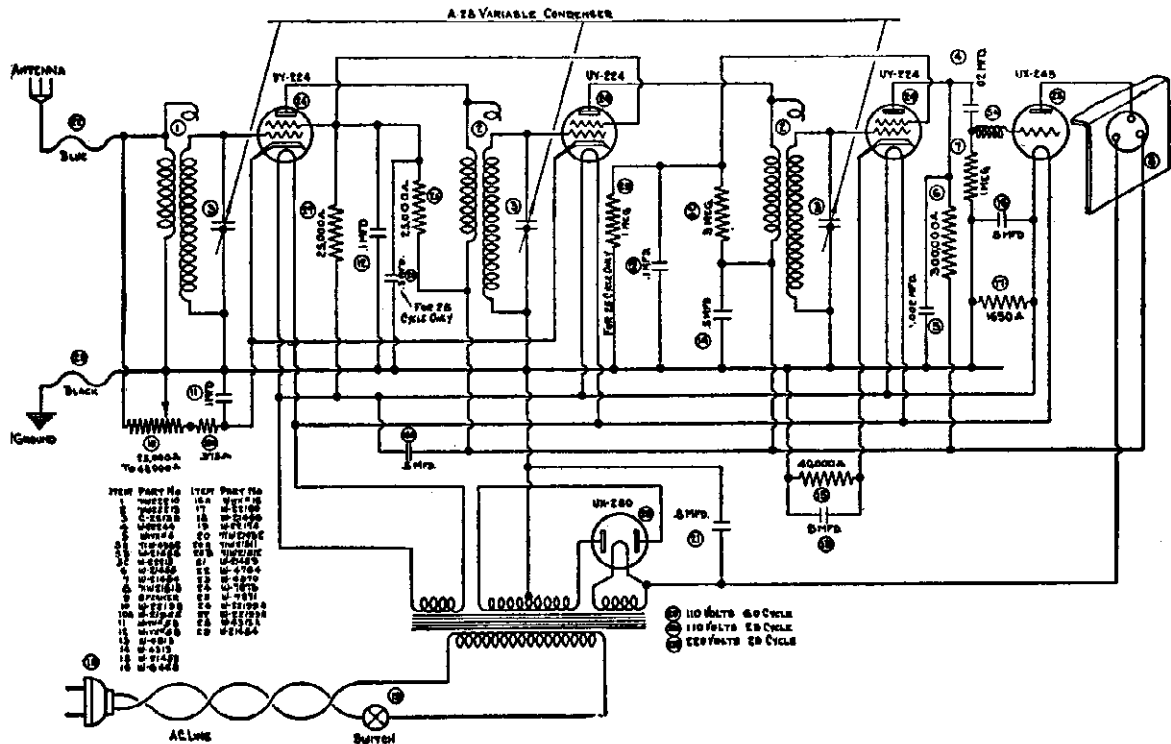
32, 40, 41, 41A, 42

(A.C.)



CROSLY RADIO CORP.

MODEL 48  
Schematic, Voltage



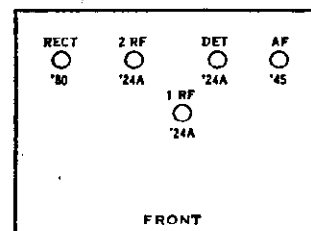
Circuit Diagram Model 48

Voltage Limits

To be measured with tubes in place, speaker connected, and line voltage of 117½ (235 for 220 volt receivers. Measure plate and grid voltages with a high-resistance D. C. volt-meter (600 ohms or more per volt) from plate or grid socket contact to emitter contact. Use a low-range A. C. meter to measure filament voltages.

Filament Voltages	
All tubes but rectifier .....	2.3 to 2.5
Rectifier tube .....	4.6 to 4.8
Plate Voltages	
R. F. amplifier tubes .....	160 to 190
Detector tube .....	105 to 125
A. F. amplifier tube .....	125 to 155
Rectifier tube .....	220 A. C.
Screen Grid Voltages	
R. F. amplifier tubes .....	80 to 90
Detector tube .....	40 to 50
Control Grid Voltages	
R. F. amplifier tubes .....	2.5 to 3.1
Detector tube .....	6.0 to 7.0
A. F. amplifier tube .....	25 to 35

Model 48



Installation Notes

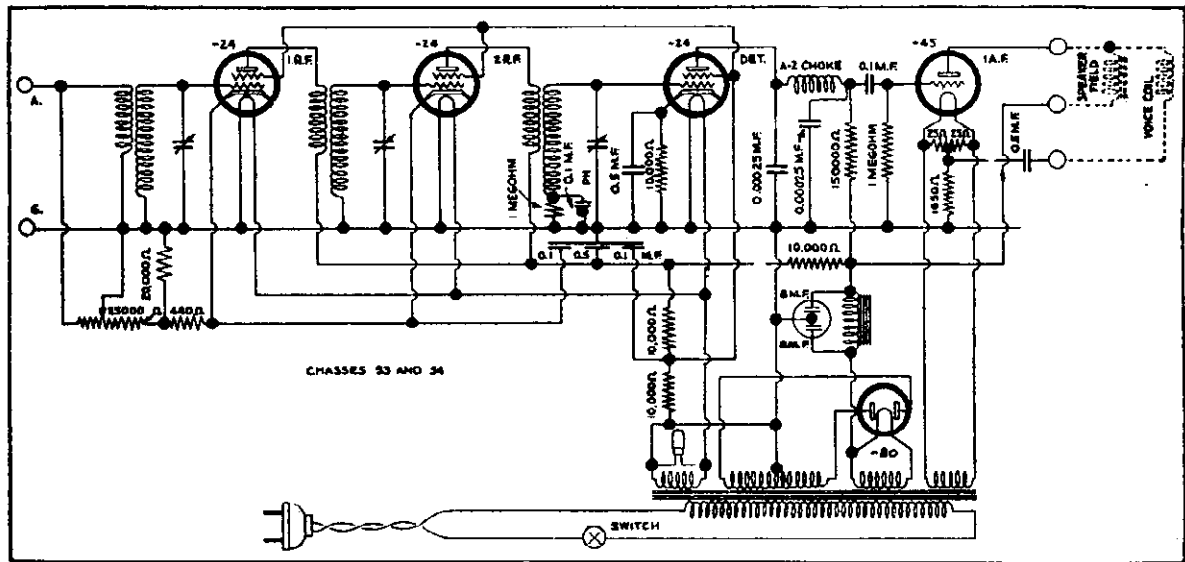
Because of the low sensitivity of this chassis it is better to use a comparatively large aerial with it if possible. A good ground should, of course, be used.

One must be careful in inserting the speaker plug not to force it in when the prongs are improperly lined up with the socket holes.

This model employs the following tubes: two -24 screen grid amplifiers, a -24 screen grid detector, a -45 power output amplifier, and a -80 rectifier.

MODEL 53,54,57  
Schematic, Voltage

CROSLEY RADIO CORP.



Circuit Model 53 (see note below regarding Models 54 and 57)

### Circuit, Models 54 and 57

Model 54 circuit differs from that shown in the diagram in the following particulars: The "PH" terminals are between the r. f. transformer coil and the 0.1 m. f. condenser, instead of between this condenser and ground, as shown. The triple unit condenser near the center of the diagram has values, from right to left, of 0.1, 0.1, 0.5 microfarads, instead of those shown. There is no dial light on Model 54.

Model 57 differs in circuit from the above description in the following particulars: An additional condenser of 0.25 m. f. capacity is shunted across the filter choke. The primary of the speaker output transformer is connected in the position in which the speaker field is shown in the above diagram. Instead of being connected to the 1650 ohm resistor through a condenser, as shown in the above diagram, the bottom speaker terminal is connected to ground. The speaker field is connected from this grounded terminal to the middle speaker terminal on the diagram, so that current from the positive "B" circuit flows through the speaker field to ground. A fixed condenser is shunted across the 1650 ohm output biasing resistor.

### Voltage Limits

#### Filament Voltages

R. F. and Detector Tubes.....	2.1 to 2.3
A. F. Tube.....	2.2 to 2.4
Rectifier Tube.....	4.1 to 4.3

#### Plate Voltages

R. F. Tubes.....	160 to 180
Detector Tube.....	215 to 245
A. F. Tube.....	230 to 260
Rectifier Tube (A. C. Voltage).....	340 to 370 each plate

#### Control Grid Voltages

R. F. Tubes.....	3.1 to 3.5
Detector Tube.....	9.0 to 10.0
A. F. Tube.....	45.0 to 50.0

#### Screen Grid Voltages

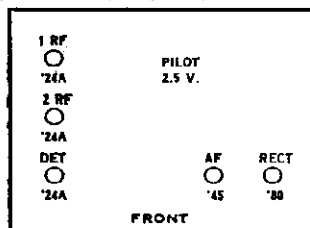
R. F. and Detector Tubes.....	.85 to .95
-------------------------------	------------

#### Approximate Plate Current Values

R. F. Tubes .....	0.0032
Detector Tube .....	0.00035
A. F. Tube .....	0.0335
Rectifier Tube .....	0.045

To be measured with speaker connected, tubes in place, and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position or of 107½ (215 for 220 volt receivers) with fuse in "Low" position. Measure plate and grid voltages with a high-resistance D. C. voltmeter (600 ohms or more per volt) from plate or grid tube contact to emitter contact, except in the case of the grid voltages of the detector and audio tubes, which should be measured from the emitters to the chassis. The filaments of the output and rectifier tubes serve as the emitters, while the other tubes have heaters and separate emitters. Measure filament voltages with a low-range A. C. voltmeter.

Models 53E, 53F, 53M, 57V

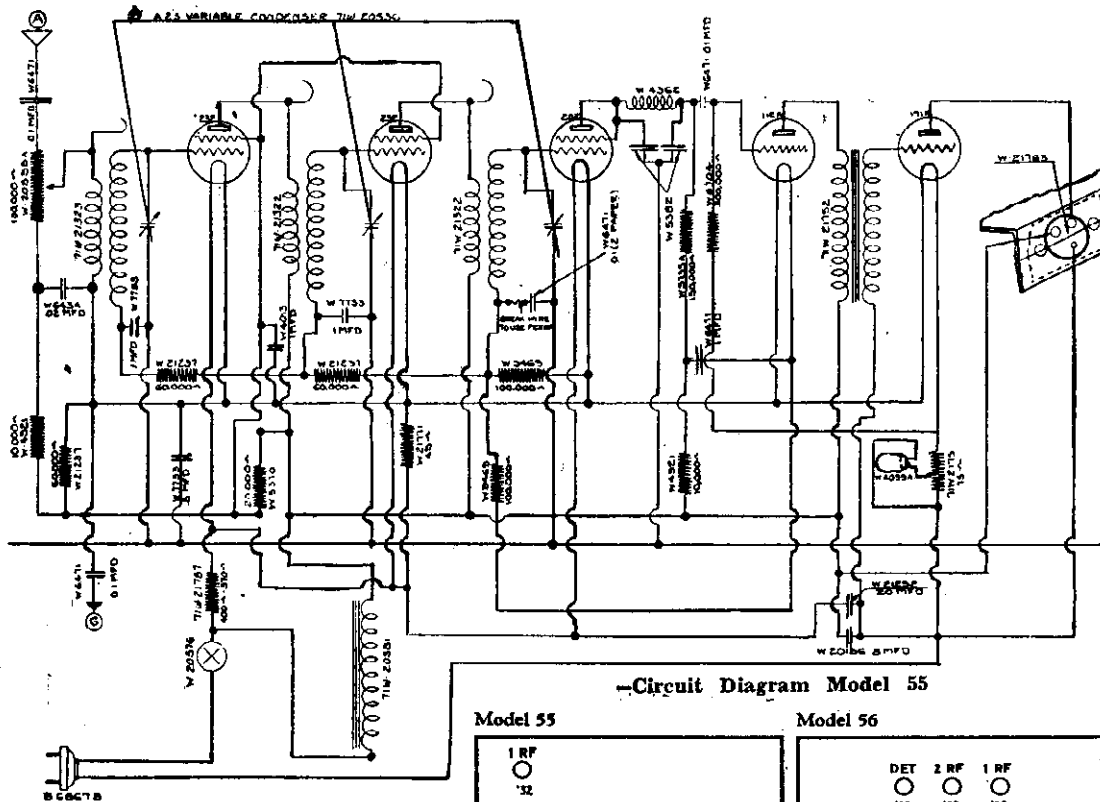


Black .....	0	Orange .....	3	Violet .....	7
Brown .....	1	Yellow .....	4	Gray .....	8
Red .....	2	Green .....	5	White .....	9
		Blue .....	6		

For example, a resistor with orange body color, green end color, and a red dot has a resistance of 3500 ohms.

CROSLY RADIO CORP.

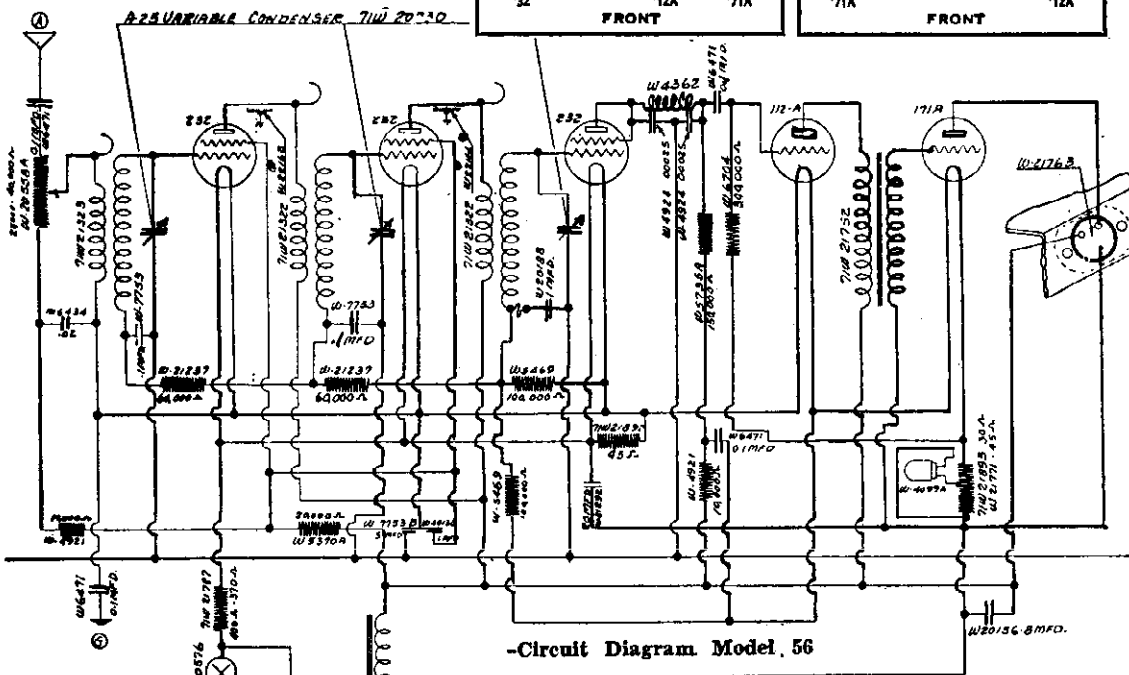
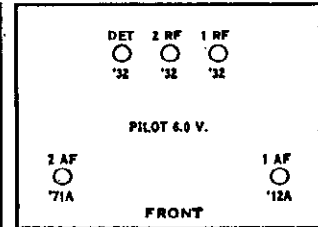
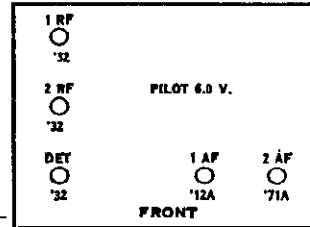
MODEL 55  
MODEL 56  
Schematic  
Voltage



-Circuit Diagram Model 55

Model 55

Model 56



-Circuit Diagram Model 56

Screen Grid Voltages (Volume Control On)

R.F. <del>Detector</del> Tube	.....	40 to 55
Detector Tube	.....	20 to 30

Plate Voltages

R. F. Tubes	.....	80 to 90
Detector Tube	.....	20 to 30
1st A. F. Tube	.....	75 to 90
Output Tube	.....	85 to 100

Control Grid Voltages

R. F. and Detector Tubes	.....	1.2 to 1.8
1st A. F. Tube	.....	4.0 to 5.0
Output Tube	.....	10.0 to 15.0

Filament Voltages

R. F. and Detector Tubes	.....	1.5 to 2.0
A. F. Tubes	.....	4.2 to 5.0

MODEL 55  
MODEL 56  
Parts Lists

CROSLLEY RADIO CORP.

Parts List Model 55

INSTRUCTIONS FOR ORDERING—Give part number, description of part, and serial number of receiver on which part is to be used. If article wanted is not listed separately, then that part of complete assembly containing this article should be ordered. Goods shipped on open account to Crosley Wholesale Distributors only. Cash must accompany Dealer and Consumer orders. Prices are subject to the usual trade discounts.

Qty.	Part No.	Description	List Price Each	Qty.	Part No.	Description	List Price Each
1	D-21761	Chassis	2.00	2	W-5382	0.00025 Mfd. Fixed Condenser	.35
5	W-7871	Socket (4 Prong)	.25	1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
5	W-7874	Socket Guide	.10	1	W-5469	Resistor 100,000 ohms (brown, black, yellow spot)	.60
2	W-21322	R. F. Transformer	2.50	2	W-21237	Resistor 60,000 ohm	.60
1	W-21323	R. F. Transformer (Ant.)	2.50	1	W-6434	0.02 Mfd. Fixed Condenser	.60
3	W-21739	Grid Connectors	.25	1	W-20940	Resistor Assembly	1.00
3	B-21174	R. F. Coil Shield	.50	1	W-5713	Mounting Strip	.25
1	W-20658	Volume Control	1.75	1	W-4921	Resistor 10,000 ohms	.60
1	W-20630	Variable condenser gang	18.00	1	W-4362	Plate Choke	.50
1	W-20981	Spider	.30	1	W-7753	0.1-0.5-0.1 Mfd. Fixed Condenser	2.00
1	W-7154	Dial Gear	.15	1	W-4013	1. Mfd. Fixed Condenser (2 paper)	1.35
1	W-5596	Set Screw	.05	1	W-6471	0.1 Mfd. Fixed Condenser	1.00
1	W-5354D	Dial Indicator	.25	1	W-21754	Resistor Assembly	3.13
1	W-4899	Pinion	.35	1	W-21771	Mounting Strip & Resistance (45 ohm)	.45
1	W-20594	Pinion Bracket (inner)	.15	1	W-5735	Resistor 150,000 ohms (brown, green, yellow spot)	.60
1	W-20595	Pinion Bracket (outer)	.15	1	W-4921	Resistor 10,000 ohms (brown, black, orange spot)	.60
1	W-4907	Spring Washer	.05	1	W-5469	Resistor 100,000 ohms (brown, black, yellow spot)	.60
1	W-20722	Dial Light Bracket	.25	1	W-6704	Resistor 300,000 ohms (orange black, yellow spot)	.60
1	W-20578	Power Switch	.75	1	W-20630	Bottom Bracket	.10
1	B-21762	Chassis Plate	.15	1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-20150	8 Mfd. Condenser	5.00	1	W-21751	Resistance Assembly (45-30 ohms)	.40
1	W-21760	Filament drop resistor (400-370 ohms)	1.00	1	W-21798	Junction Block	.10
1	W-21770	Filament drop resistor bracket	.10	1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
2	W-4435	Asbestos Washer	.05	1	W-20853	Terminal (A. G. & P. H.)	.50
1	W-20381	Filter Choke	3.25	1	W-21763	Speaker Terminal Socket	.40
1	W-21292	Electrolytic Condenser (20 mfd.)	2.00	1	B-8967	Cable	1.50
1	W-21752	A. F. Transformer	5.00	1	C-21581	R. F. Shield Assembly	1.25
<b>PARTS UNDER CHASSIS</b>				1	C-20838	Chassis Bottom	.50
1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00	1	W-20167	Knob (large)	.40
1	W-21109	Resistor Assembly	1.00	2	W-20482	Knob (small)	.35
1	W-5713	Mounting Strip	.25				
1	W-5370	Resistor 20,000 ohms (red, black, orange spot)	.60				
1	W-21237	Resistor 60,000 ohms (blue, black, orange spot)	.60				

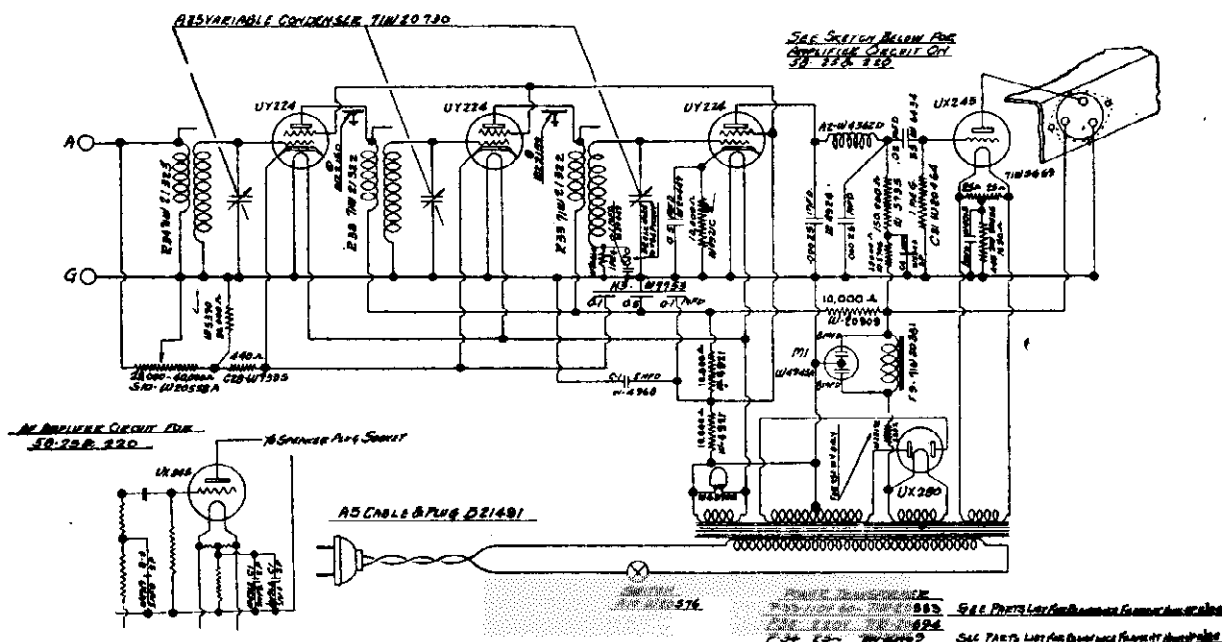
Parts List Model 56

Qty.	Part No.	Description	List Price Each	Qty.	Part No.	Description	List Price Each
1	C-21900	Chassis	1.75	1	W-6434	0.02 Mfd. Fixed Condenser	.60
5	W-7871	Socket (4 prong)	.25	1	W-7753	0.1-0.5-0.1 Mfd. Fixed Condenser	2.00
5	W-7874	Socket Guide	.10	1	W-4013	1. Mfd. Fixed Condenser (2 paper)	1.35
1	W-20658	Volume Control	1.75	1	W-21237	Resistor (60,000 ohms) Blue, black, orange	.60
1	W-21752	A. F. Transformer	5.50	1	W-5469	Resistor 100,000 ohms Brown, black, yellow	.60
1	W-21760	Filament Drop Resistor (400-370 ohms)	1.00	1	W-21237	Resistor (60,000 ohms)	.60
1	W-21770	Filament Drop Resistor Bracket	.10	3	W-21127	Stiffened Sleeving (3-8"x2")	.65
2	W-4435	Asbestos Washer	.05	1	W-20873	Bottom Bracket	.10
1	W-20730	Variable Condenser Gang	18.00	2	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-20681	Spider	.30	1	W-21895	Fixed Resistance Assembly	2.50
1	W-22093	Dial	.25	1	W-21771	Resistance and mounting strip (45 ohms)	.45
1	W-22094	Dial Strip	.25	1	W-5735	Resistor 150,000 ohms (Brown, green, yellow)	.60
1	W-20977	Dial Band	.20	1	W-6704	Resistor 300,000 ohms (Orange, black, yellow)	.60
2	W-21322	R. F. Transformers	2.50	1	W-4921	Resistor 10,000 ohms (Brown, black, orange)	.60
1	W-21251	R. F. Transformers (antenna)	2.50	1	W-21894	Resistance Assembly	2.35
3	W-21739	Grid Connectors	.25	1	W-6028	Mounting Strip	.30
3	W-21257	R. F. Coil Shields	.50	1	W-4921	Resistor (10,000 ohm Brown, black, orange)	.60
1	C-20871	R. F. Shield	1.25	1	W-5469	Resistor (100,000 ohm) Brown, black, yellow	.60
1	W-20578	Power Switch	.75	1	W-5370	Resistor (20,000 ohm) Red, black, orange	.60
1	W-22090	Dial Light Bracket	.25	1	W-21292	20 Mfd. Condenser	2.00
1	W-21901	Chassis Plate	.15	1	B-21491	Cable	1.50
1	W-20381	Filter Choke	3.25	1	C-20872	Chassis Bottom	.50
1	W-20156	Condenser (8 Mfd. 2 paper)	5.00	2	W-20482	Knob (Small)	.35
1	W-21763	Speaker Terminal	.40				
1	W-20883	Terminal A. G. & P. H.	.50				
<b>PARTS UNDER CHASSIS</b>							
1	W-21893	Fixed Resistance (30 ohm)	.40				
1	W-21892	Fixed Resistance (45 ohm)	.40				
1	W-20188	0.1 Mfd. Fixed Condenser	.60				
1	W-4362	Plate Choke	.50				
2	W-4924	0.00025 Mfd. Fixed Condenser	.35				
2	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00				

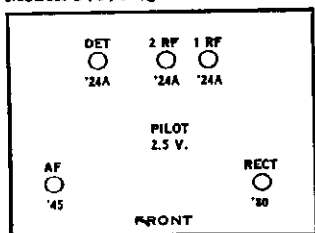


# CROSLY RADIO CORP.

MODEL 58  
Schematic  
Parts List



Models 54G, 58Q \*



Circuit Diagram Model 58

For Voltage Data See Model 54

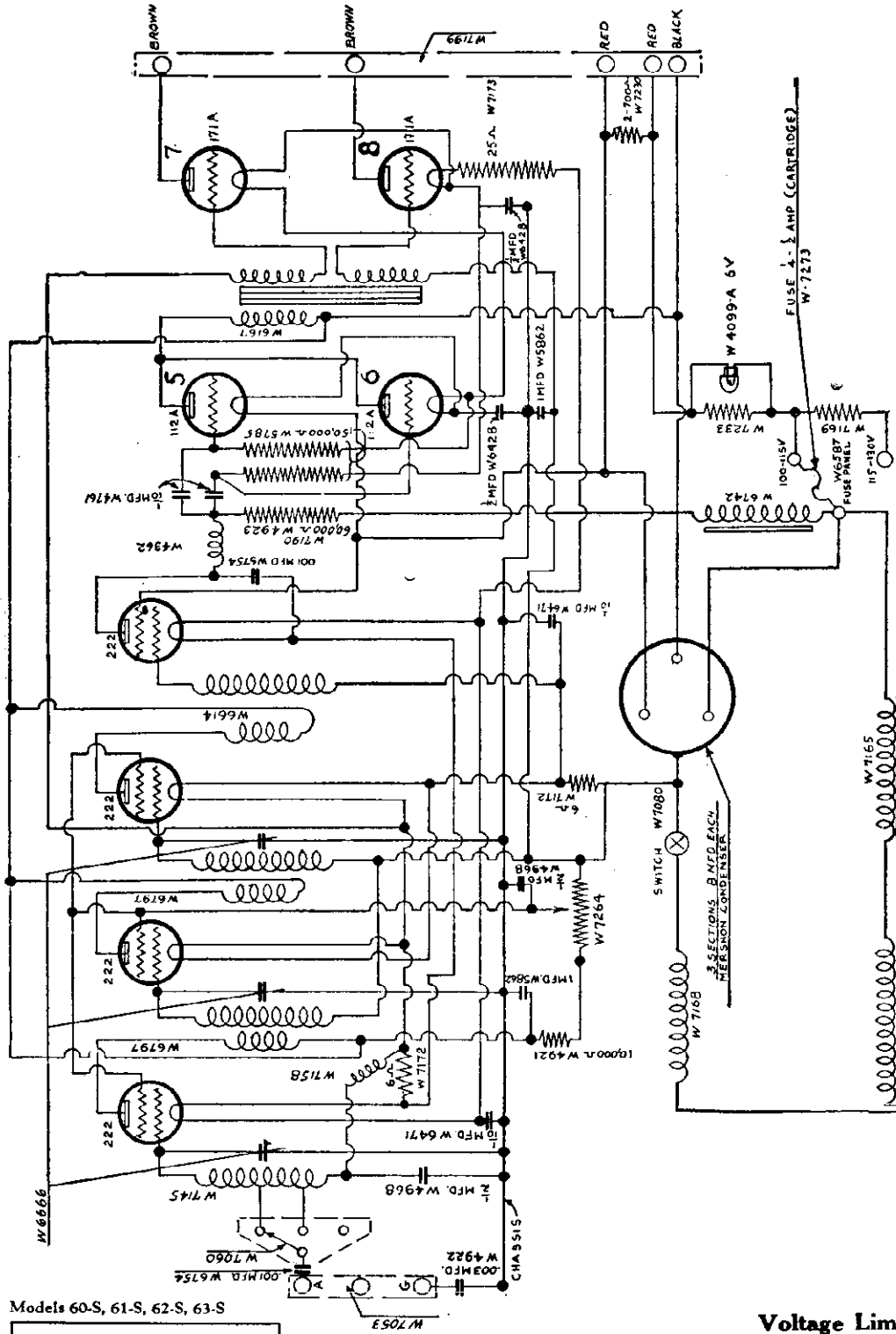
## Parts List—Model 58

**INSTRUCTIONS FOR ORDERING**—Give part number, description of part, and serial number of receiver on which part is to be used. If article wanted is not listed separately, then that part of complete assembly containing this article should be ordered. Goods shipped on open account to Crosley Wholesale Distributors only. Cash must accompany Dealer and Consumer orders. Prices are subject to the usual trade discounts.

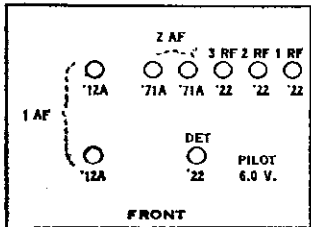
Qty.	Part No.	Description	List Price Each	Qty.	Part No.	Description	List Price Each				
1	W-21509	Chassis	1.75	<b>PARTS UNDER CHASSIS</b>							
3	W-7873	Socket (5 Prong)	.30					1	W-5069	25 -25 ohm Resistance	.40
2	W-7871	Socket (4 Prong)	.25					1	W-20656	1950 ohm Resistance	.35
1	W-21518	Speaker Socket	.40					1	W-5943	.1 Mfd. Fixed Condenser	1.10
4	W-7874	Socket Guide	.10					2	W-4924	.00025 Mfd. Fixed Condenser	.35
1	W-21297	Socket Guide (280)	.10					1	W-4962	Plate Choke	.50
1	W-20683	Terminal Board (A. G. & Ph.)	.50					1	W-6434	.02 mfd. Fixed Condenser	.60
1	W-20658	Volume Control	1.75					1	W-4013	1. mfd. Fixed Condenser	1.35
1	W-20381	Filter Choke	3.25					1	W-20440	.5 - .1 mfd. Fixed Condenser	1.25
1	W-4943	Merchon Condenser	4.25					1	W-7753	.1 - .5 - .1 mfd. Fixed Condenser	2.00
2	W-5083	Condenser Clamp	.15	1	W-4968	.5 mfd. Fixed Condenser	1.20				
1	W-4946	Condenser Cap	.25	1	W-21955	3250 ohm Candohm Resistance (2 Section)	.80				
1	W-20730	Variable Condenser Gang	18.00	1	W-21956	3160 ohm Candohm Resistance	.30				
1	W-22090	Dial Light Bracket Assembly	.40	1	W-22043	Mounted Resistor Assembly	2.35				
1	W-22095	Dial Drum Assembly	.80	1	W-20000	Mounting Strip	.30				
1	W-22094	Dial Indicator Cover	.25	1	W-3735	150,000 ohm Resistor	.60				
2	W-20977	Dial Band	.20	1	W-5370	20,000 ohm Resistor	.60				
1	W-21322	R. F. Transformer	2.50	1	W-6706	25,000 ohm Resistor	.60				
2	W-21323	R. F. Transformer (Antenna)	2.50	1	W-22062	Mounted Resistor Assembly	3.00				
3	W-21739	Grid Connector	.25	1	W-20090	Mounting Strip	.30				
3	W-21257	R. F. Coil Shield	.50	1	W-4921	10,000 ohm Resistor	.60				
1	W-20676	Power Switch	.75	2	W-20464	1 Meg. Resistor	.60				
1	W-22025	Power Transformer (110 V. 60 Cycle)	13.00	1	W-7335	440 Ohm Resistor	.60				
2	W-21567	Tie Straps	.10	1	B-21491	Cable	1.50				
1	C-20671	R. F. Shield	1.25	1	C-20672	Chassis Bottom	.50				
				1	W-20873	Bottom Bracket	.10				
				2	W-20462	Knob	.35				
					W-7947	Knob Spring	.06				

MODELS 60S, 61S, 62S, 63S  
Schematic, Voltage

CROSLLEY RADIO CORP.



Models 60-S, 61-S, 62-S, 63-S



Control Grid Voltages	
R. F. Tubes	1.4 to 2.3
Detector tube	4.0 to 5.5
112A A. F. tubes (measured to low side of grid resistor)	4.2 to 5.5
Output tubes	14.0 to 19.0
Screen Grid Voltages	
1st R. F. tube	47 to 67
2nd and 3rd R. F. tubes	50 to 70
Detector	14 to 34

Plate Voltages	
1st R. F. tube	90 to 100
2nd R. F. tube	93 to 103
3rd R. F. tube	95 to 105
Detector tube	64 to 74
A. F. Tube No. 5 (see circuit diagram for this and following tube numbers)	66 to 76
A. F. tube No. 6	72 to 82
Output tube, No. 7	77 to 87
Output tube, No. 8	81 to 91

Voltage Limits

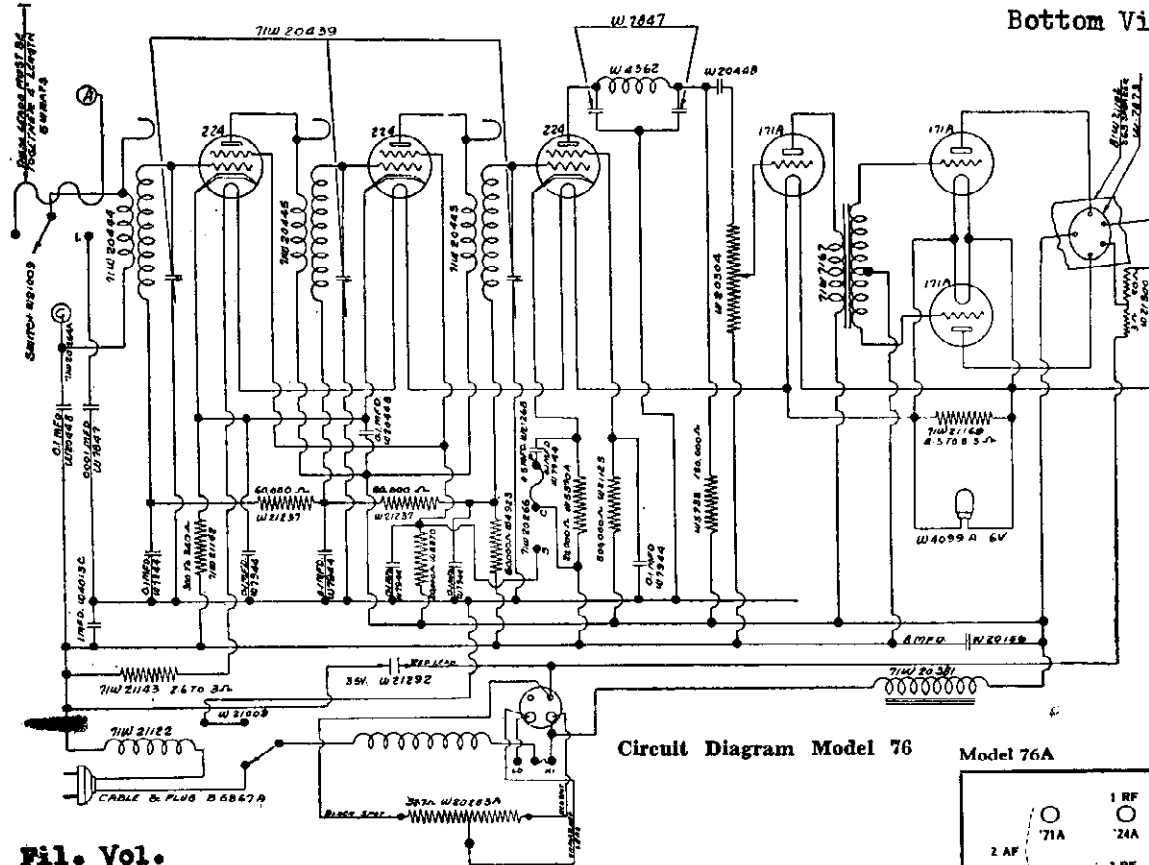
Filament Voltages	
R. F. and Detector tubes	2.6 to 3.4
All A. F. tubes	4.2 to 5.5

Volume Control on Full	
1st R. F. tube	90 to 100
2nd R. F. tube	93 to 103
3rd R. F. tube	95 to 105
Detector tube	64 to 74
A. F. Tube No. 5 (see circuit diagram for this and following tube numbers)	66 to 76
A. F. tube No. 6	72 to 82
Output tube, No. 7	77 to 87
Output tube, No. 8	81 to 91

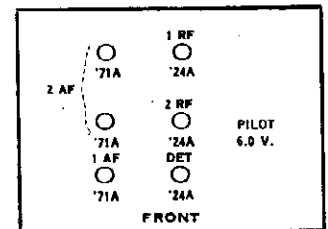
CROSLY RADIO CORP.

MODEL 76  
Schematic, Voltage  
Bottom View



Circuit Diagram Model 76

Model 76A

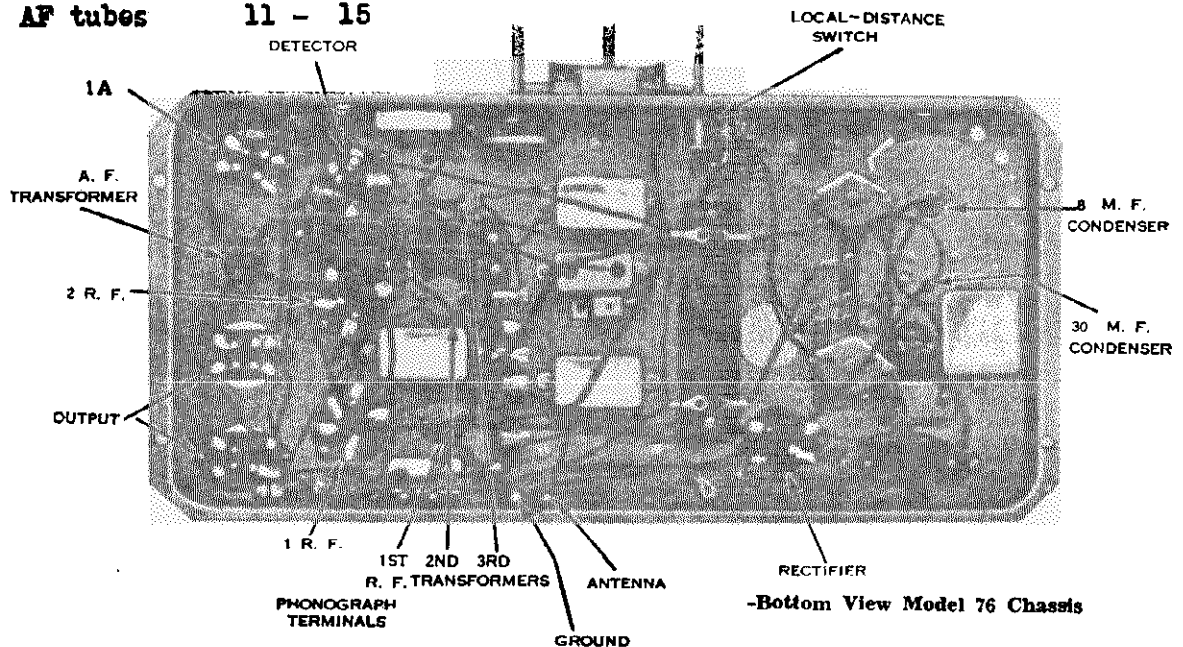


fil. Vol.

RF and Det	2.3- 2.6
AF tubes	4.6- 5.2
Plate Vol.	
RF tubes	90 - 110
Det	60 - 70
AF tubes	80 - 100
Control Grid	
RF tubes	2 - 3.0
Det	3 - 3.5
AF tubes	11 - 15

Screen Grid	
RF tubes	60 - 80
Det	9 - 11

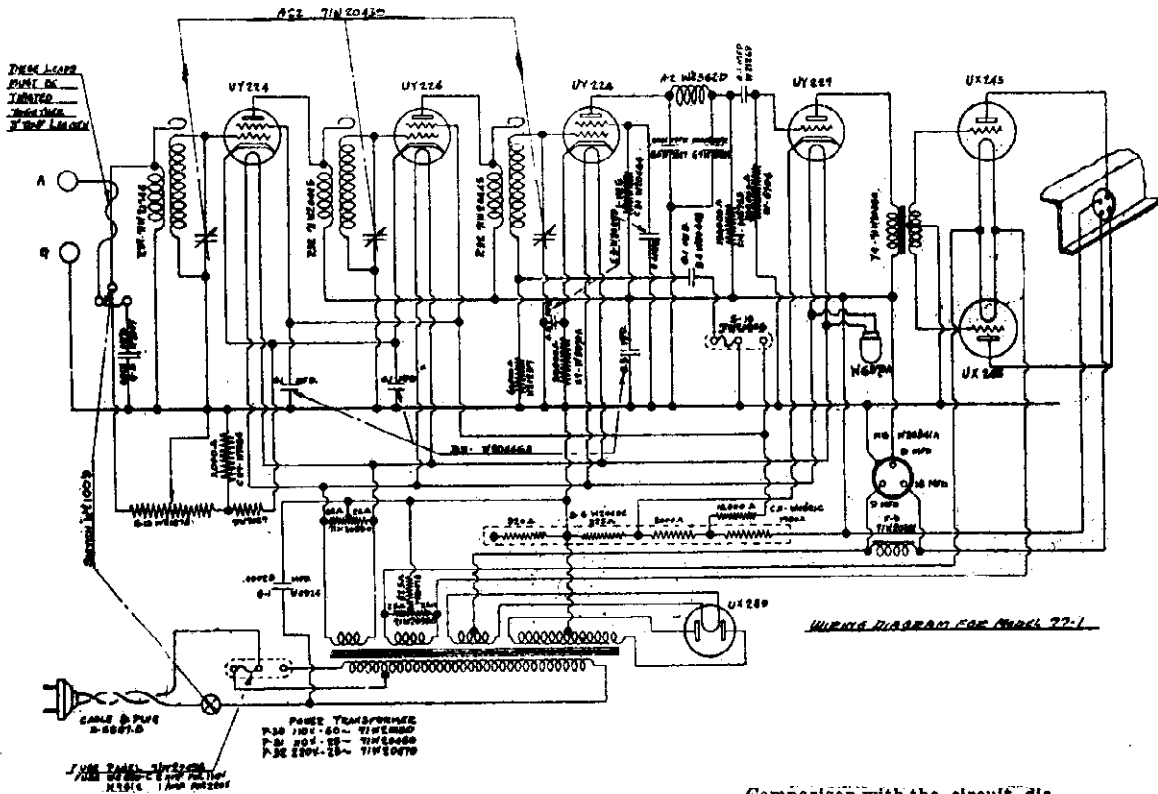
To be measured with speaker in circuit. Fuse in "high" for 117.5 line voltage and in "low" position for 107.5 line voltage.



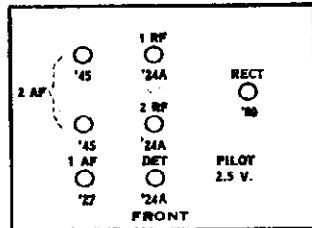
-Bottom View Model 76 Chassis

MODEL 77-1  
Schematic  
Bottom View, Notes

CROSLLEY RADIO CORP.

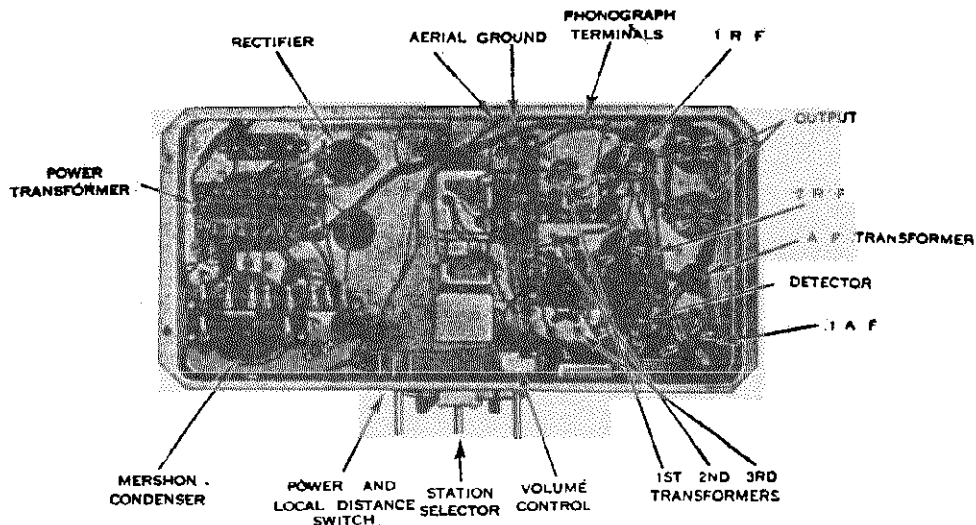


Models 77A, 77B, 77L



Comparison with the circuit diagram of Model 77.

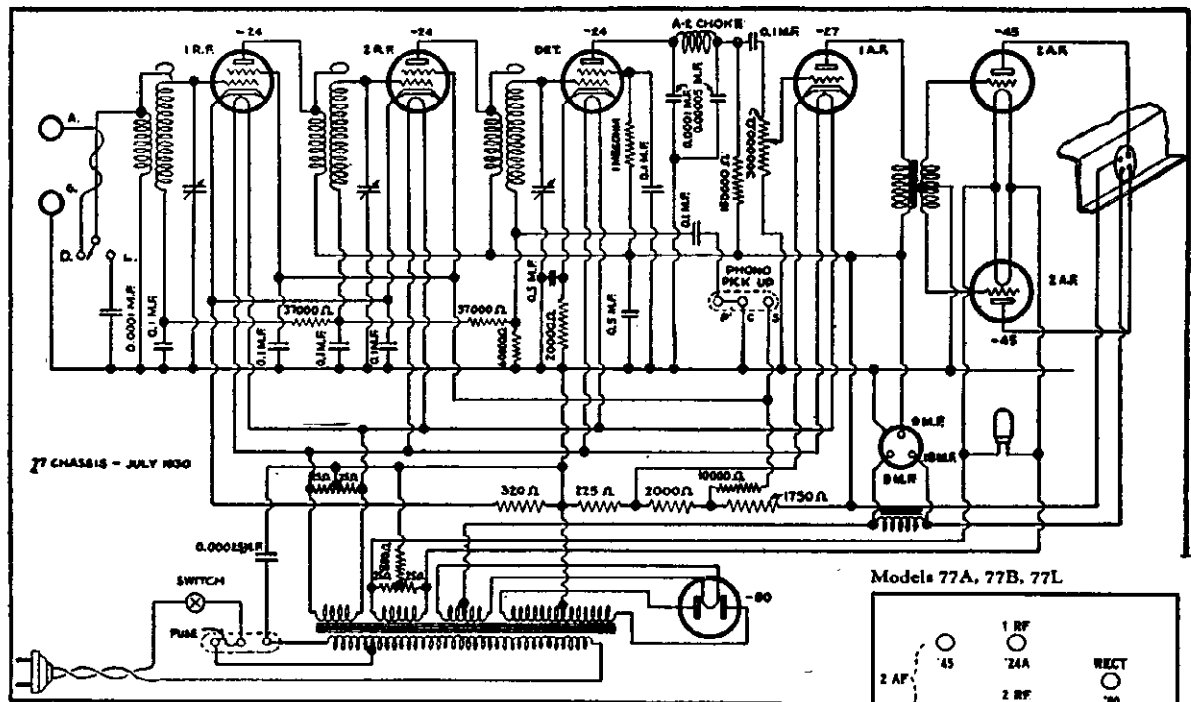
will show that the 37,000 ohm and 16,000 ohm isolating resistors, and the 0.1 micro-farad isolating condensers have been removed from the radio-frequency circuit. In addition a new type of volume control is used, located in the first stage r. f. instead of in the audio frequency circuit. The antenna coil has a low-impedance primary, and is not interchangeable with that on Model 77. These are the essential differences.



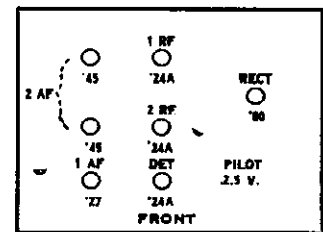
-Bottom View Model 77-1

CROSLEY RADIO CORP.

MODELS 77A, 77B, 77L  
Schematic, Voltage



Models 77A, 77B, 77L



Voltage Limits

<b>Filament Voltages</b>	
All tubes but rectifier .....	2.3 to 2.6
Rectifier tube .....	4.6 to 5.2
<b>Plate Voltages</b>	
R. F. tubes .....	140 to 160
Detector tube .....	85 to 110
1st Audio tubes .....	125 to 150
Output tubes .....	230 to 260
Rectifier tube (A. C. Voltage) .....	250 to 280 each plate
<b>Control Grid Voltages</b>	
R. F. tubes .....	1.6 to 3.2
Detector tube .....	2.0 to 3.2
1st Audio tube .....	8.0 to 10.0
Output tubes .....	45. to 65.
<b>Screen Grid Voltages</b>	
R. F. tubes .....	75 to 90
Detector tube .....	35 to 55

To be measured with speaker connected and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position or of 107½ (215 for 220 volt receivers) with fuse in "Low" position. Measure plate and grid voltages with a high-resistance, D. C. voltmeter (600 ohms or more per volt) from plate or grid tube contact to emitter contact, except in the case of the grid voltage of the first audio tube, which should be measured from the emitter to the chassis. The filaments of the output and rectifier tubes serve as the emitters, while the other tubes have heaters and separate emitters. Measure filament voltages with a low-range, A. C. voltmeter.

All voltage readings are to be taken with the speaker connected and the tubes in place.

Installation Notes

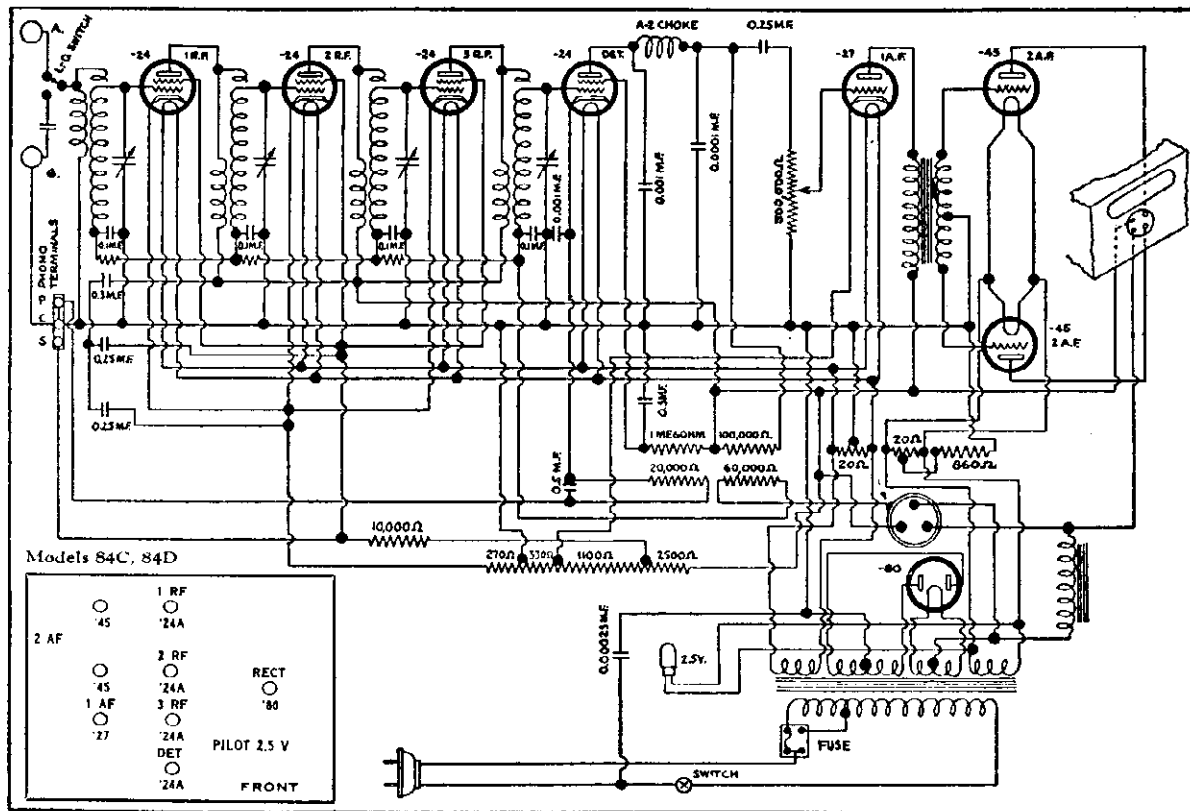
Recommended aerial length: 50 feet or more for outdoor aerial, 20 to 50 feet for indoor aerial.

There are three terminals at the rear of the chassis, marked "P", "C", and "S", for phonograph pick up devices. Instructions for connecting these in Crosley phono-radio combinations will be found in the instruction books accompanying the receivers. To connect other types of phonograph pick up, a single-pole double-throw switch is required. Cut the wire between terminals "P" and "C". Connect the center pole of the switch to terminal "C". Connect the end poles of the switch to terminals "P" and "S". Connect the two leads from the phonograph pick up to the switch poles which are connected to "P" and "C" (terminal "C" is grounded to the chassis). For phonograph reproduction, throw the switch so that the terminals "C" and "S" are connected together. For radio reproduction, throw the switch so that the terminals "P" and "C" are connected together. The volume of phonograph reproduction may be controlled by the volume control on the radio receiver.

If the phonograph attachment is disconnected from the receiver at any time and it is desired to obtain radio reception, it will be necessary to connect a wire from "P" to "C."

MODELS 84C, 84D  
Schematic, Voltage  
Notes

CROSLLEY RADIO CORP.



INSTALLATION NOTES

Recommended aerial length, 50 feet or more for outdoor installations; 20 feet or more for indoor installations.

Terminals are provided for phonograph pick-up devices. When such a device is connected, the wire between terminals "P" and "C" must be out. If the pick-up device is afterwards disconnected, a wire must be connected between "P" and "C" before the receiver may be operated.

To connect a phonograph pick-up a double throw, single-pole switch must be used. Connect the middle pole of the switch to terminal "C" and the end poles to terminals "P" and "S". Connect the pick-up to the switch poles which are connected to "P" and "C", and cut the wire between "P" and "C", as described above. Throw switch toward "P" pole for radio reproduction or toward "S" pole for phonograph reproduction.

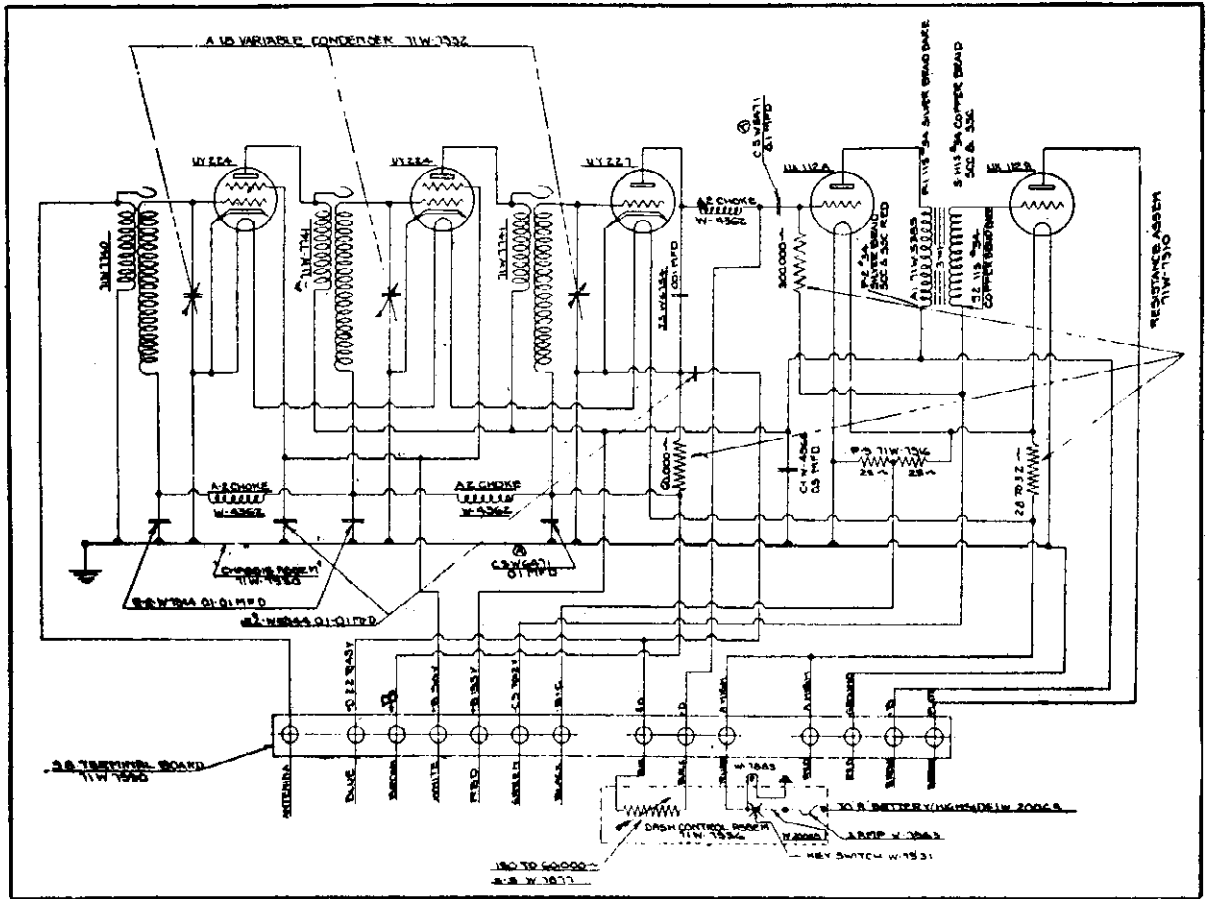
Voltage Limits

Filament Voltages	
All tubes but rectifier .....	2.3 to 2.6
Rectifier tube .....	4.6 to 5.2
Plate Voltages	
R. F. tubes .....	170 to 190
Detector tube .....	95 to 105
1st Audio tube .....	130 to 150
Output tubes .....	220 to 250
Rectifier tube (A. C. voltage) .....	250 to 280 each plate
Control Grid Voltages	
R. F. tubes .....	2.5 to 3.5
Detector tube .....	4.0 to 7.0
1st Audio tube .....	8.0 to 11.0
Output tubes .....	40.0 to 50.0
Screen Grid Voltages	
R. F. tubes .....	60 to 75
Detector tube .....	35 to 55

To be measured with speaker connected and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position or of 107½ (215 for 220 volt receivers) with fuse in "Low" position. Measure plate and grid voltages with a high-resistance, D. C. voltmeter (600 ohms or more per volt) from plate or grid tube contact to emitter contact, except in the case of the grid voltage of the first audio tube, which should be measured from the emitter to the chassis.

CROSLY RADIO CORP.

MODEL 90 AUTO  
Schematic, Voltage



Filament Voltages

R. F. and Detector Tubes.....	2.0
A. F. Tubes.....	4.7

Plate Voltages

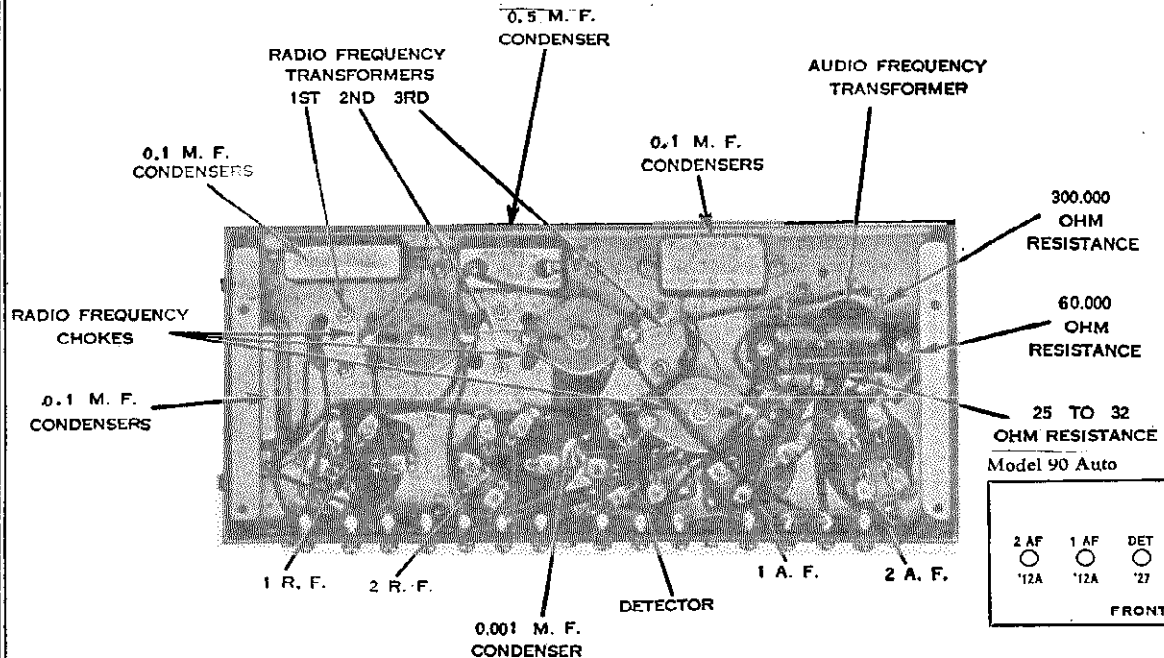
All Tubes but Detector.....	135
Detector Tube.....	22½

Control Grid Voltages

R. F. Tubes.....	2.5
Detector Tube.....	3.0
A. F. Tubes.....	12.0

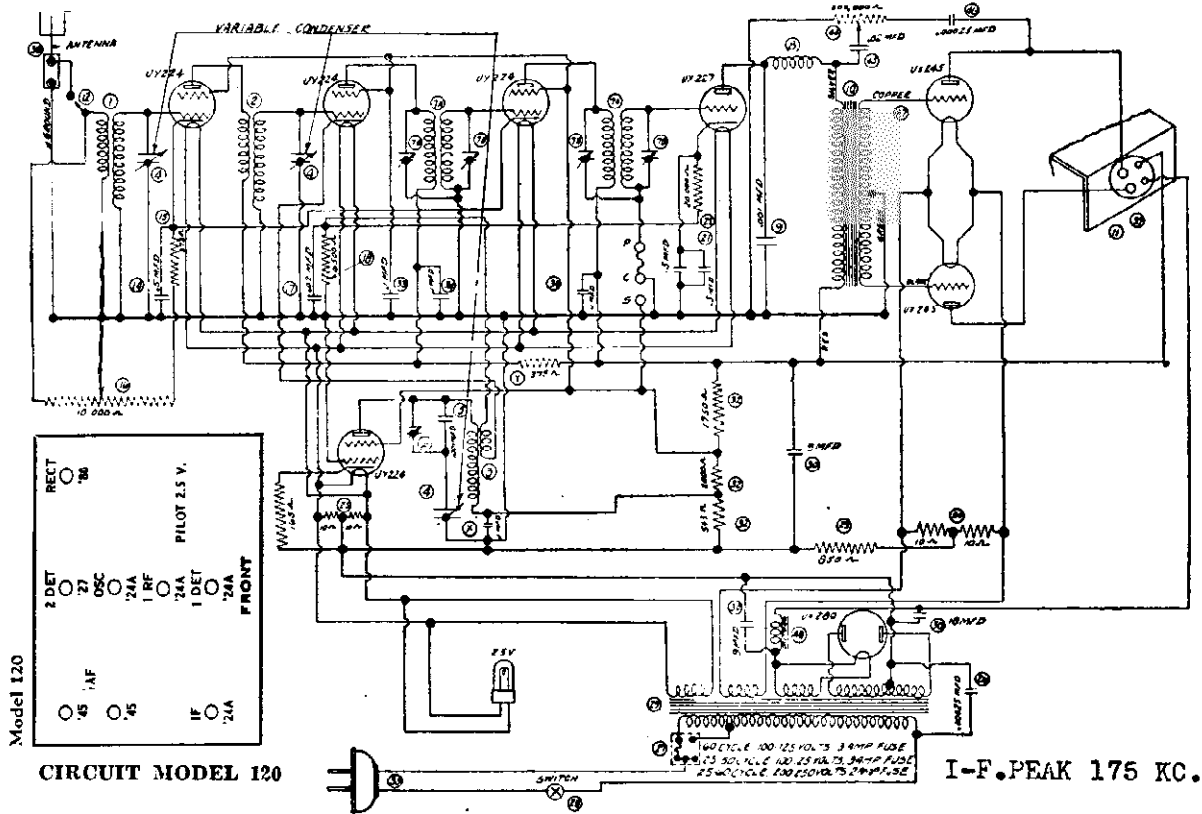
Screen Grid Voltages

R. F. Tubes.....	90
------------------	----



MODEL 120  
Schematic  
Voltage, Notes

CROSLLEY RADIO CORP.



CIRCUIT MODEL 120

Voltage Limits

<b>Filament Voltages</b>	
All tubes but output and rectifier ..	2.4 to 2.6
Output tubes .....	2.3 to 2.5
Rectifier tube .....	2.8 to 5.2
<b>Plate Voltages</b>	
1st R. F. and Intermediate Amplifiers ..	150 to 170
Oscillator .....	16 to 25
1st Detector .....	145 to 165
2nd Detector .....	135 to 155
Output .....	245 to 275
Rectifier (A. C. voltage) .....	260 to 290 each plate
<b>Screen Grid Voltages</b>	
All screen grid tubes .....	85 to 95
<b>Control Grid Voltages</b>	
1st R. F. and Intermediate Amplifiers ..	2.5 to 3.5
Oscillator .....	0.5 to 1.5
1st Detector .....	6.0 to 8.0
2nd Detector .....	13.0 to 17.0
Output tubes .....	50 to 58.0

To be measured with speaker connected, volume control on full, and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position, or of 107½ (215 for 220 volt receivers) with fuse in "Low" position.

To Compensate For Long Aerial  
With 120 Chassis

Model 120 is so sensitive that a long aerial may give undesirably great pick-up. To reduce the pick-up, connect a 0.0025 mfd. condenser from the antenna terminal to the ground terminal of the receiver, and a 0.00005 mfd. condenser in the antenna lead.

Changes In 120 Chassis

Service Bulletin No. A1 of March 15th covers the A. B. J. A. series of the 120 Chassis. Sets having serial prefix letters A. B. J. B. contain the following changes. Prices of parts remain the same.

W-22017 I. F. Transformer Assembly is replaced by W-22017-E I. F. Transformer Assembly.

W-21989 Coil Assembly is replaced by W-21989-B Coil Assembly.

W-21295 I. F. Transformer Assembly is replaced by W-21295-B I. F. Transformer Assembly.

W-21964 Flexible Resistor (165 ohms) is omitted.

W-21965 Flexible Resistor (375 ohms) is added.

W-21995 R. F. Transformer (oscillator) (Rear) is replaced by W-22589 R. F. Transformer (oscillator).

New type I. F. Coil Assemblies are marked with a dot of red paint.

New type R. F. Transformer (oscillator), W-22589, has five connections instead of four

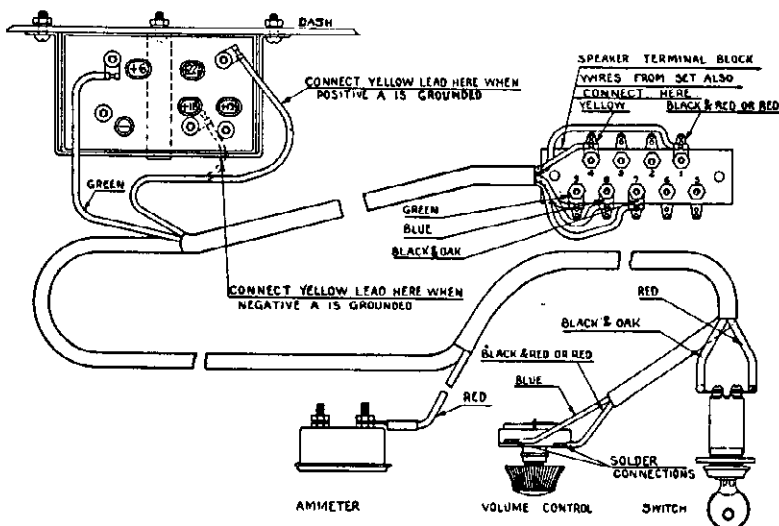




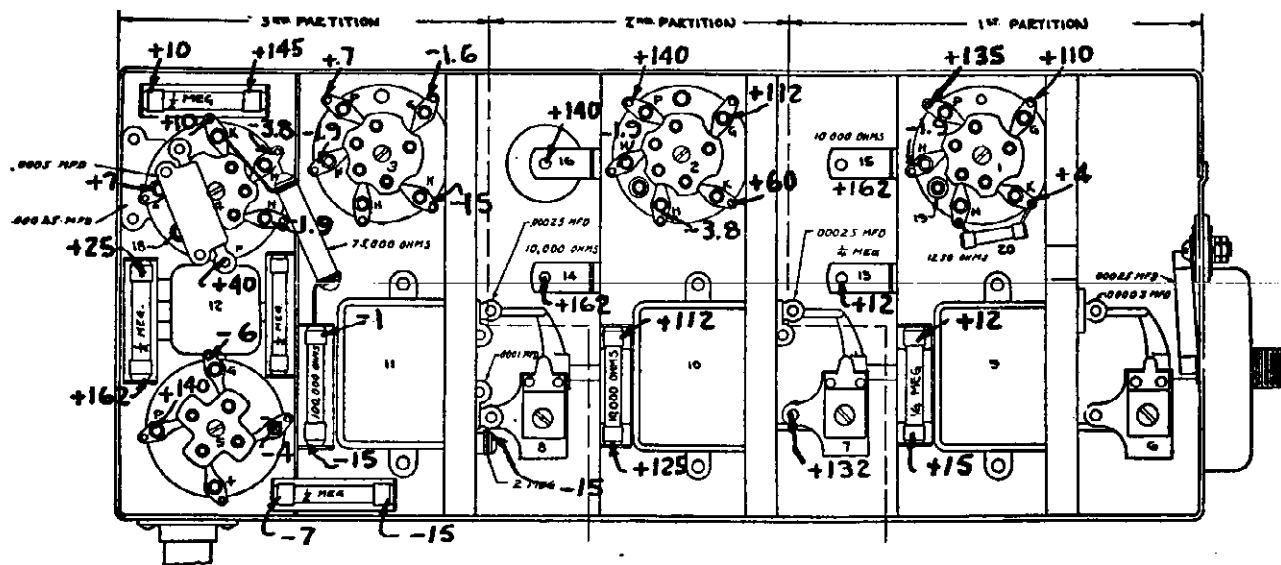
MODEL 3002  
Notes  
Parts Layout

DELCO RADIO CORP

After the set is in operation on a powerful signal, it will be necessary to tune the antenna circuit so that weaker signals will be received with the maximum volume. The best way to do this is to connect a milliammeter, with a zero to ten milliamper scale, in series with the B Plus 67.5 volt maroon lead. (Connect positive side of meter to set.) Insert a small screw driver in the hole in the bottom of the receiver located nearest the antenna terminal and adjust the large screw on the first balancing condenser. This is located about two inches above the hole. Adjustments should be made by turning the screw until the minimum reading on the meter is obtained. While this adjustment is being made, the station selector should be turned slightly in either way to determine whether or not the reading can be further decreased. This adjustment is a very delicate operation and requires only a slight movement in either direction, not to exceed one full turn. If a meter is not available, a weaker signal should be selected and the set adjusted to maximum volume by varying the position of the screw. Care should be taken not to apply excessive pressure in making this adjustment. While it will do no damage to ground the screw driver to the set while adjusting the screw, the signals will be cut out whenever the screw driver touches the case. A little tape wound around the screw driver will prevent this. It is impossible to receive a shock while making this adjustment. Make above adjustment only through the hole located nearest the aerial connection. After installation is complete, check all connections for correct locations and tightness.



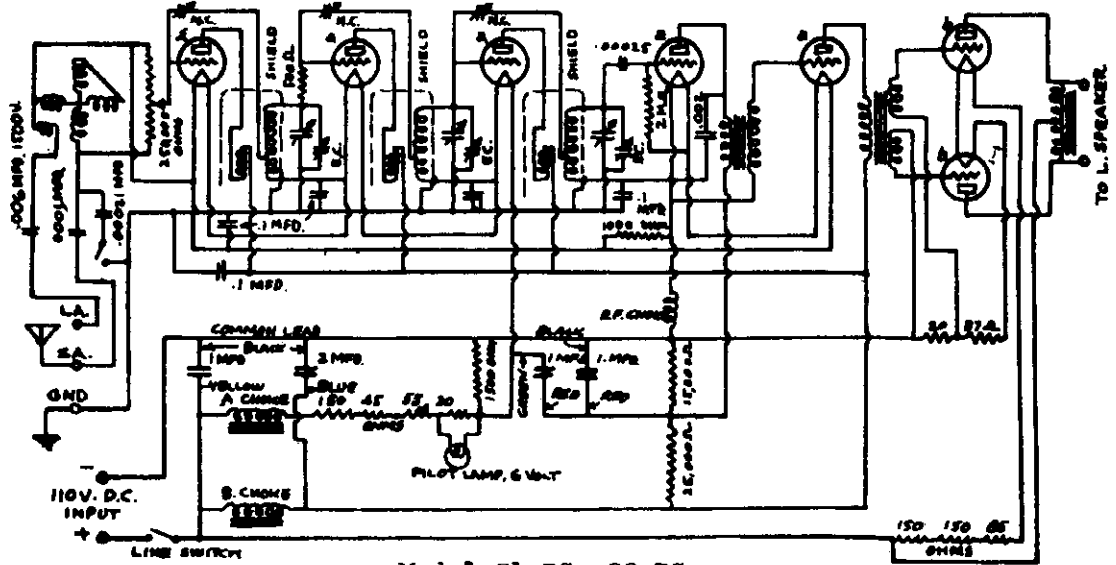
-Control Wiring Harness Connections.



EARL RADIO CORP.

MODEL 21 DC, 22 DC  
MODEL 121

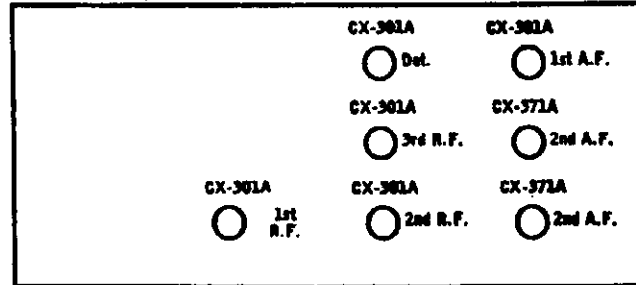
B = CX-301-A OR UX-201-A  
b = CX-371-A OR UX-171-A



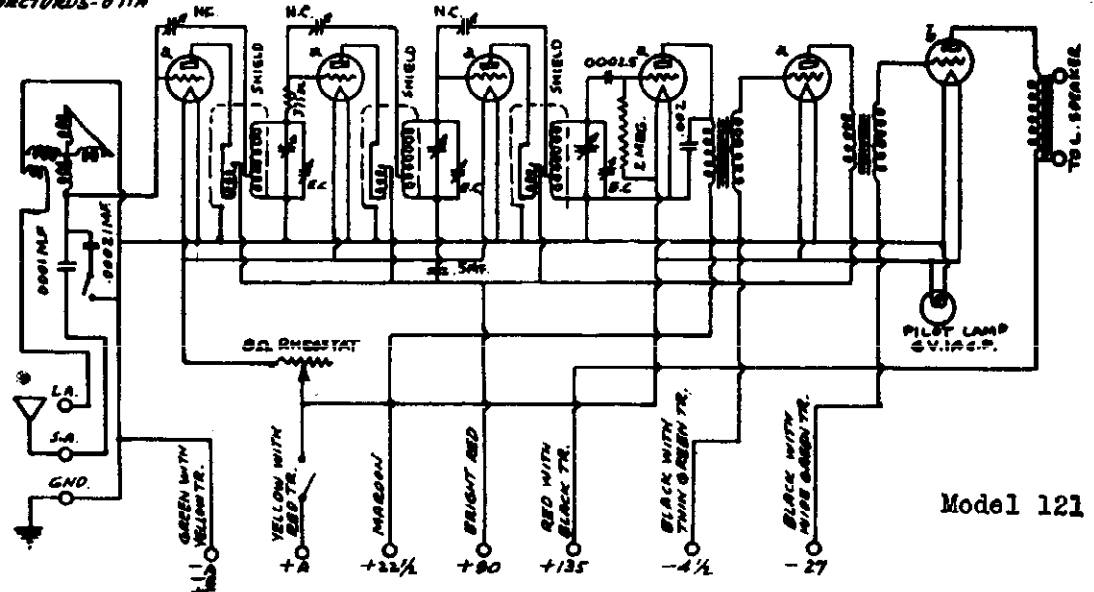
Model 21 DC, 22 DC

Earl 21DC, 22DC

(D.C.)



B: ARCTURUS -101A.  
b: ARCTURUS-071A

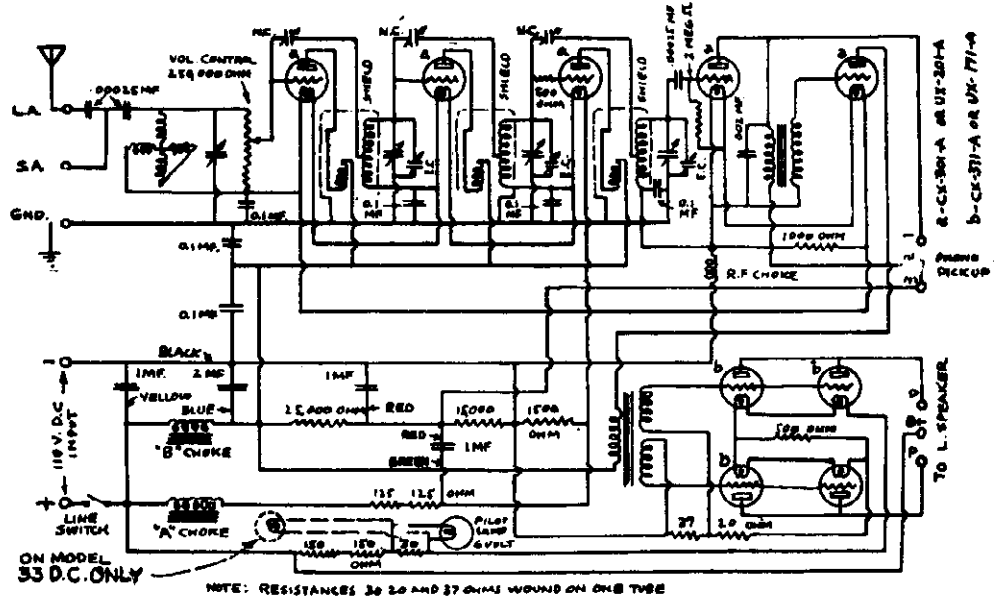


Model 121



MODEL 24 DC  
 MODEL 31 DC, 32 DC  
 MODEL 33-S AC  
 Schematic

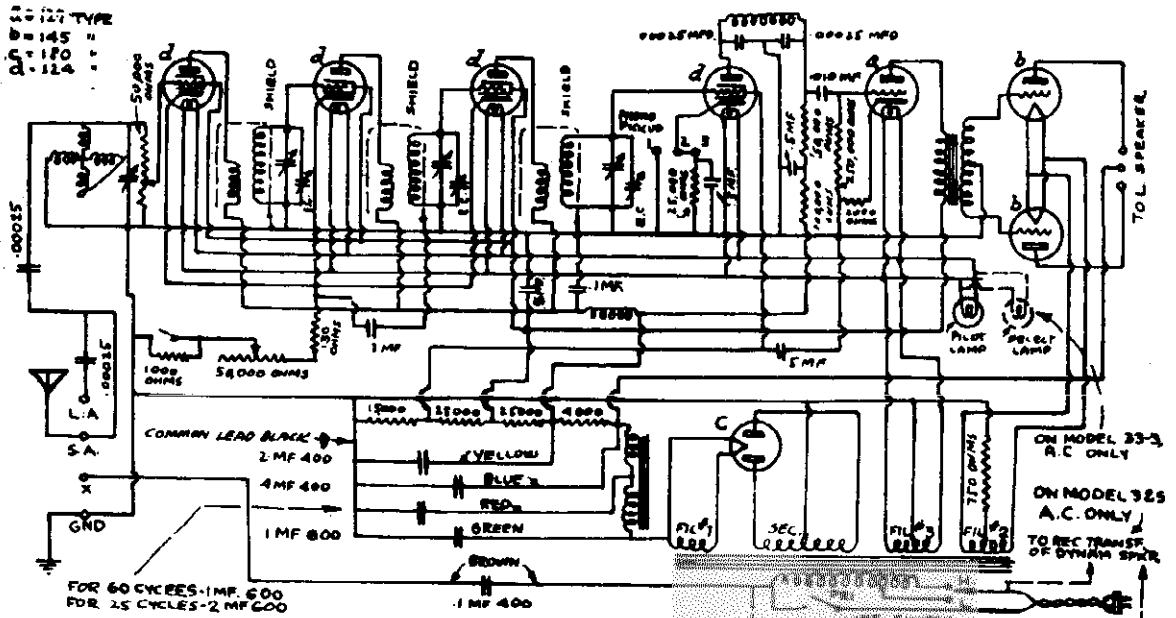
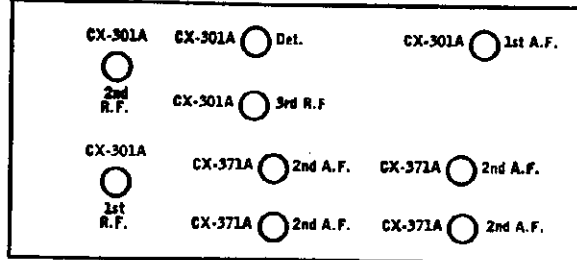
EARL RADIO CORP.



Model 24 DC, 31 DC, 32 DC

31DC, 32DC

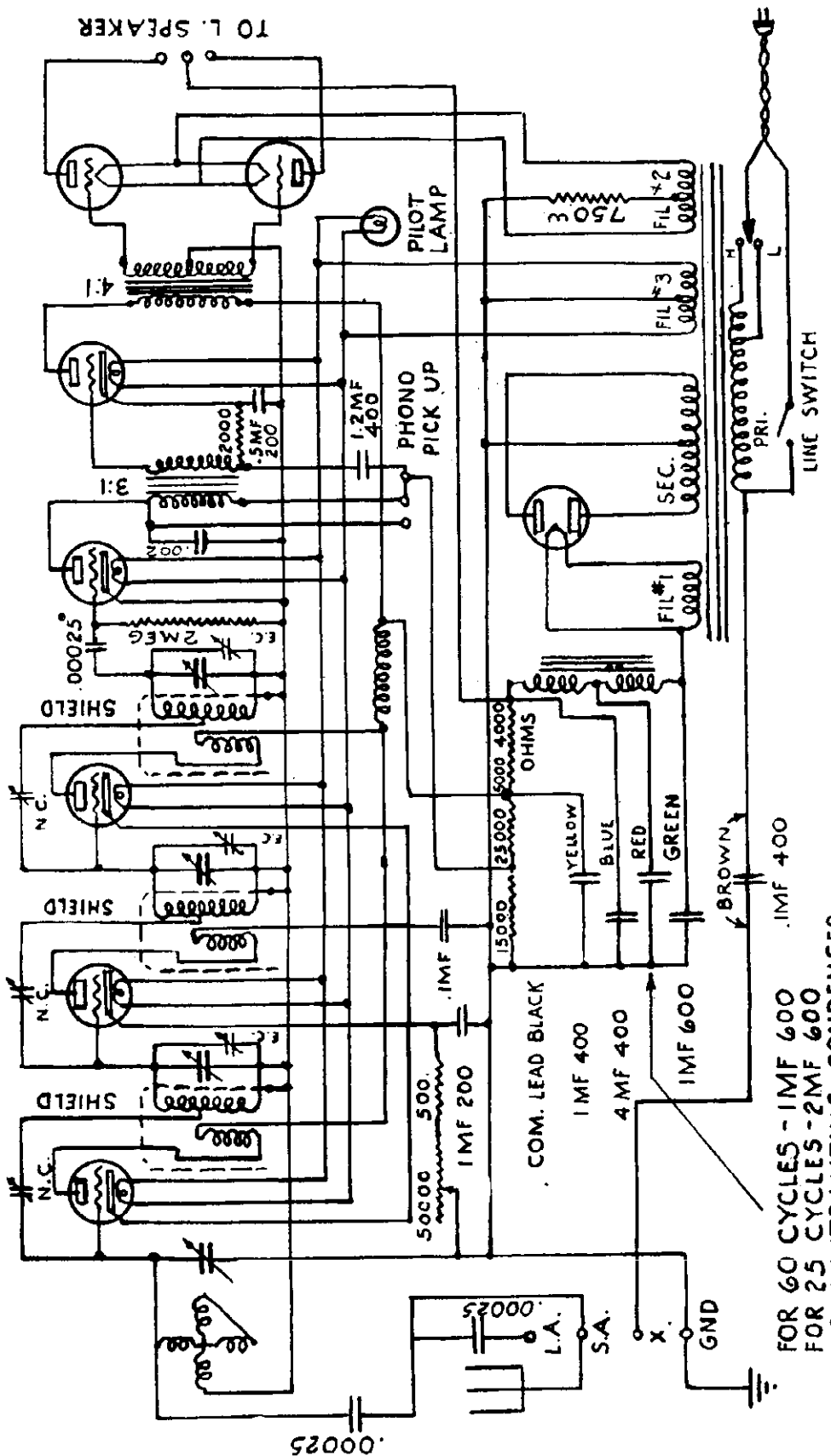
(D.C.)



Model 33-S AC

MODEL 31, 32 AC  
Schematic

EARL RADIO CORP.



FRESHMAN—Earl—Model 31-32  
Line Voltage 116—Set on High Volt Tap—Volume  
Control Position On

EARL MODELS 31 and 32

FOR 60 CYCLES - 1MF 600  
FOR 25 CYCLES - 2MF 600  
NC - NEUTRALIZING CONDENSER  
EC - EQUALIZING CONDENSER (A.C.)

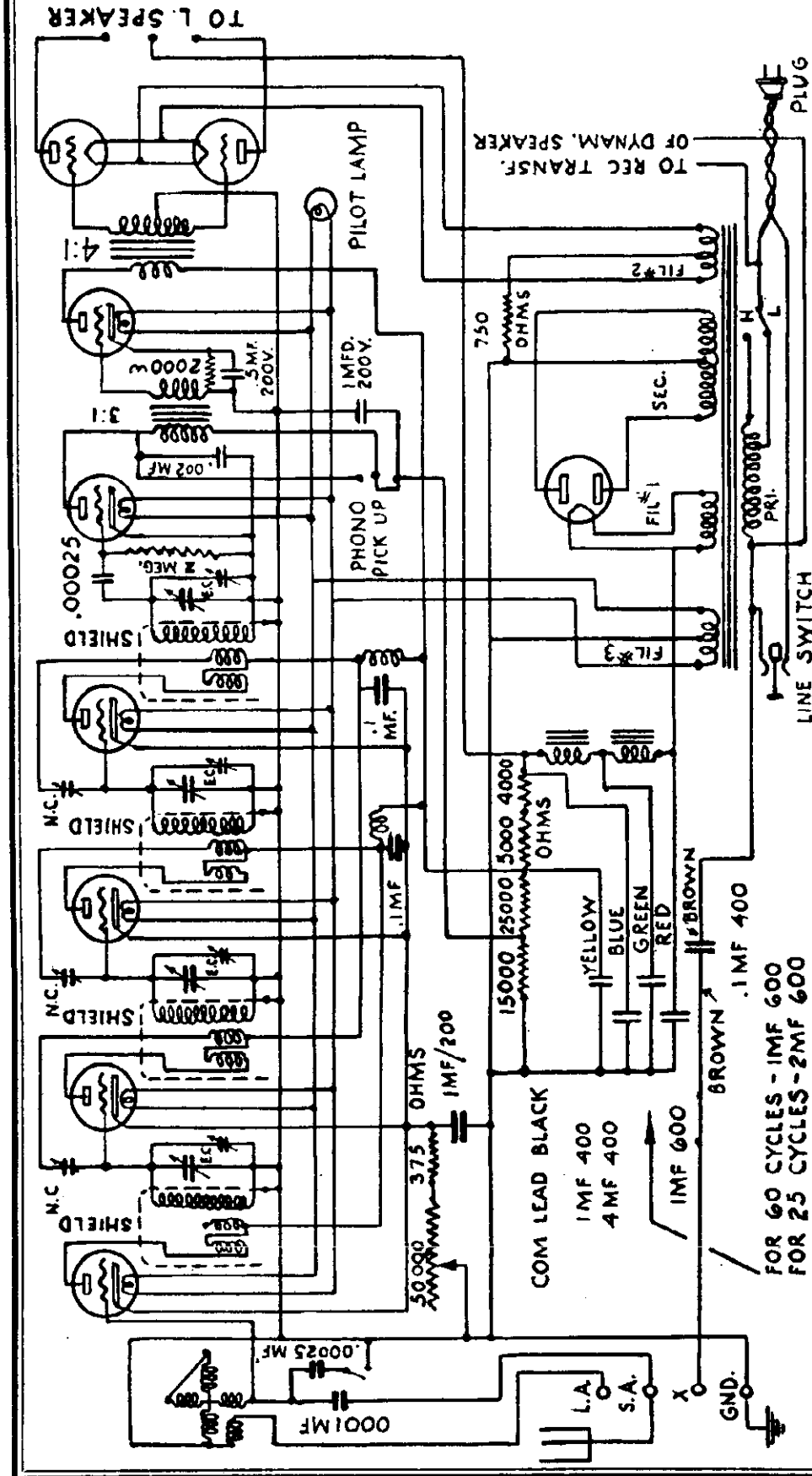
TYPE	PART NO.	RESISTANCE VALUE IN OHMS (1% TOL.)		TURNS ON ROTARY		WATTAGE IN WATTS	
		RESISTANCE	WATTAGE	POSITION	WATTAGE		
1	R-5	1500	500	1	1.0	2.0	0.25
2	R-6	2500	500	2	2.0	2.0	0.25
3	R-7	5000	500	3	3.0	2.0	0.25
4	R-8	2500	1000	4	4.0	2.0	0.25
5	R-9	5000	1000	5	5.0	2.0	0.25
6	R-10	10000	1000	6	6.0	2.0	0.25
7	R-11	20000	1000	7	7.0	2.0	0.25
8	R-12	30000	1000	8	8.0	2.0	0.25
9	R-13	40000	1000	9	9.0	2.0	0.25
10	R-14	50000	1000	10	10.0	2.0	0.25
11	R-15	60000	1000	11	11.0	2.0	0.25
12	R-16	75000	1000	12	12.0	2.0	0.25
13	R-17	90000	1000	13	13.0	2.0	0.25
14	R-18	100000	1000	14	14.0	2.0	0.25
15	R-19	120000	1000	15	15.0	2.0	0.25
16	R-20	150000	1000	16	15.0	2.0	0.25
17	R-21	200000	1000	17	15.0	2.0	0.25
18	R-22	250000	1000	18	15.0	2.0	0.25
19	R-23	300000	1000	19	15.0	2.0	0.25
20	R-24	400000	1000	20	15.0	2.0	0.25
21	R-25	500000	1000	21	15.0	2.0	0.25
22	R-26	600000	1000	22	15.0	2.0	0.25
23	R-27	750000	1000	23	15.0	2.0	0.25
24	R-28	900000	1000	24	15.0	2.0	0.25
25	R-29	1000000	1000	25	15.0	2.0	0.25
26	R-30	1500000	1000	26	15.0	2.0	0.25
27	R-31	2000000	1000	27	15.0	2.0	0.25
28	R-32	3000000	1000	28	15.0	2.0	0.25
29	R-33	4000000	1000	29	15.0	2.0	0.25
30	R-34	5000000	1000	30	15.0	2.0	0.25
31	R-35	7500000	1000	31	15.0	2.0	0.25
32	R-36	10000000	1000	32	15.0	2.0	0.25

Earl 31, 32

- C-327  1st R.F.
- C-327  2nd R.F.
- C-327  2nd R.F.
- C-327  2nd R.F.
- C-327  2nd A.F.
- C-327  2nd A.F.
- C-327  2nd A.F.
- C-327  2nd A.F.
- CX-380  Rect.
- CX-345  2nd A.F.
- CX-345  2nd A.F.
- C-327  1st A.F.

EARL RADIO CORP.

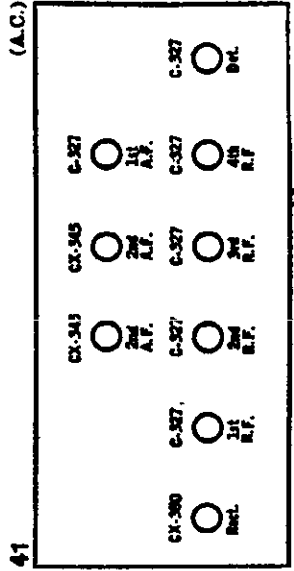
MODEL 41, 42 AC Schematic



FRESHMAN—Earl—Model 41  
Line Voltage 116—Set on High Volt Tap—Volume Control Position On

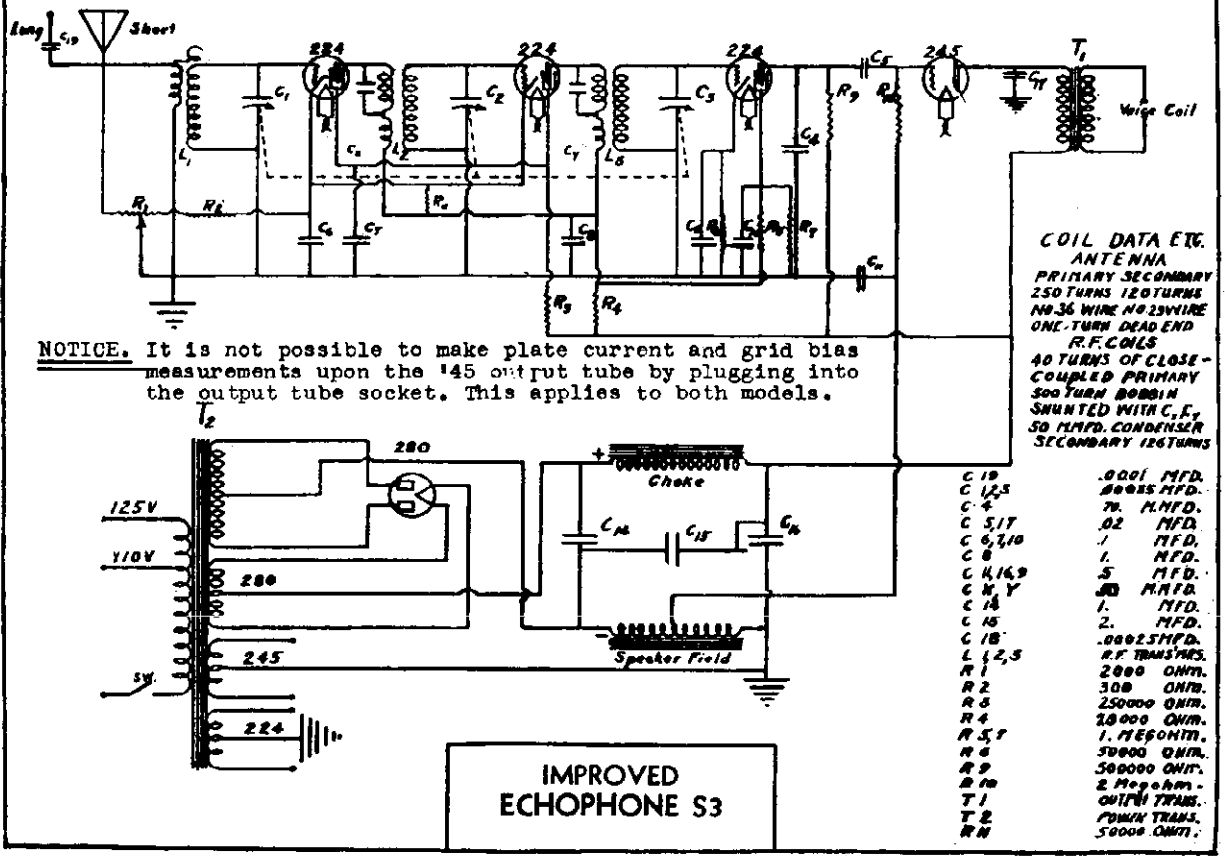
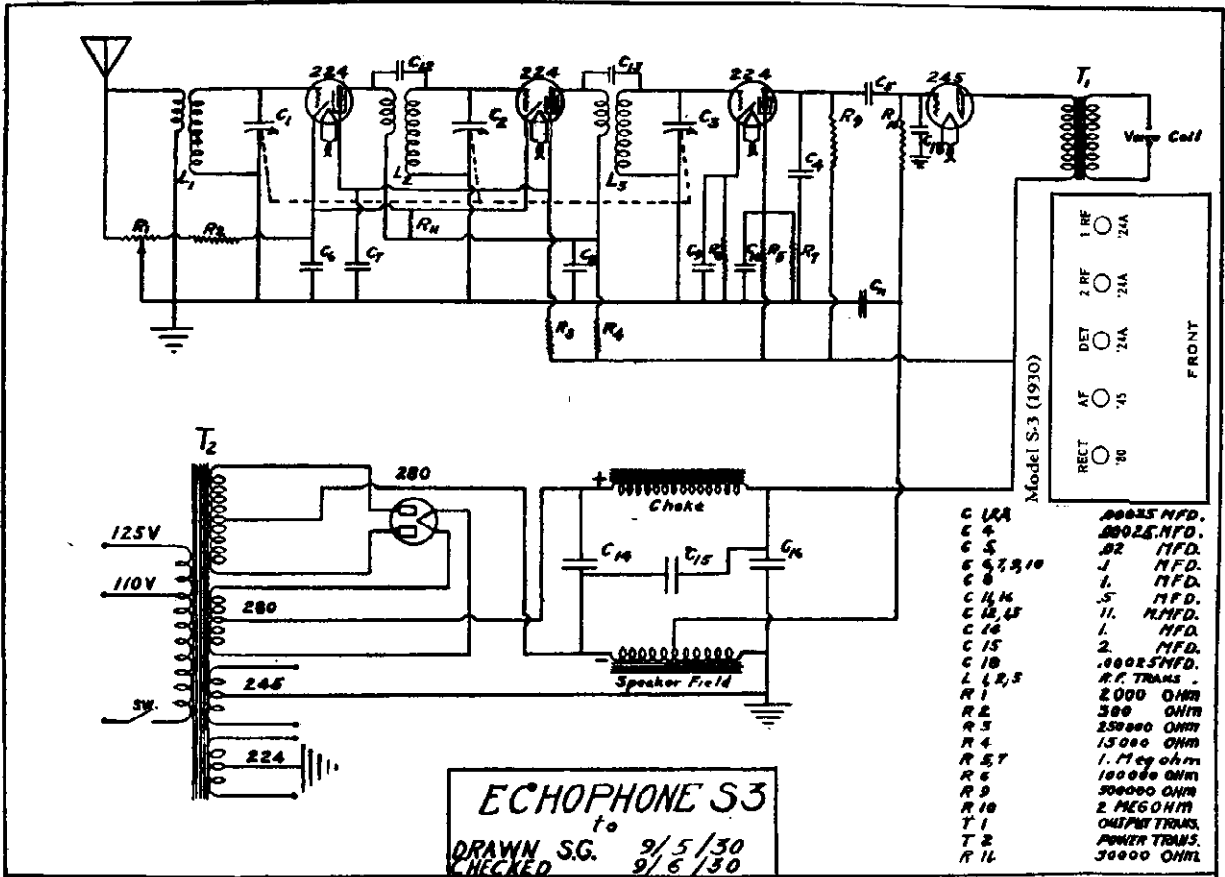
TUBE	TYPE	RESISTANCE PLUS IN SOCKET OF SET	TIME IN TESTER		RESISTANCE PLUS IN SOCKET OF SET	
			MIN.	MAX.	MIN.	MAX.
1	5Y4	1000	1.5	2.0	1000	1000
2	6X4	1000	1.5	2.0	1000	1000
3	6X4	1000	1.5	2.0	1000	1000
4	6X4	1000	1.5	2.0	1000	1000
5	6X4	1000	1.5	2.0	1000	1000
6	6X4	1000	1.5	2.0	1000	1000
7	6X4	1000	1.5	2.0	1000	1000
8	6X4	1000	1.5	2.0	1000	1000
9	6X4	1000	1.5	2.0	1000	1000
10	6X4	1000	1.5	2.0	1000	1000
11	6X4	1000	1.5	2.0	1000	1000
12	6X4	1000	1.5	2.0	1000	1000
13	6X4	1000	1.5	2.0	1000	1000
14	6X4	1000	1.5	2.0	1000	1000
15	6X4	1000	1.5	2.0	1000	1000
16	6X4	1000	1.5	2.0	1000	1000
17	6X4	1000	1.5	2.0	1000	1000
18	6X4	1000	1.5	2.0	1000	1000
19	6X4	1000	1.5	2.0	1000	1000
20	6X4	1000	1.5	2.0	1000	1000

(A.C.)



ECHOPHONE RADIO MFG. CO.

MODEL S-3  
 MODEL S-3 (Rev.)  
 Schematic



**NOTICE.** It is not possible to make plate current and grid bias measurements upon the '45 output tube by plugging into the output tube socket. This applies to both models.

**COIL DATA ETC.**  
 ANTENNA  
 PRIMARY SECONDARY  
 250 TURNS 120 TURNS  
 NO. 36 WIRE NO. 25 WIRE  
 ONE-TURN DEAD END  
 R.F. COILS  
 40 TURNS OF CLOSE-  
 COUPLED PRIMARY  
 500 TURN BOBBIN  
 SHUNTED WITH C, E,  
 50 MFD. CONDENSER  
 SECONDARY 126 TURNS

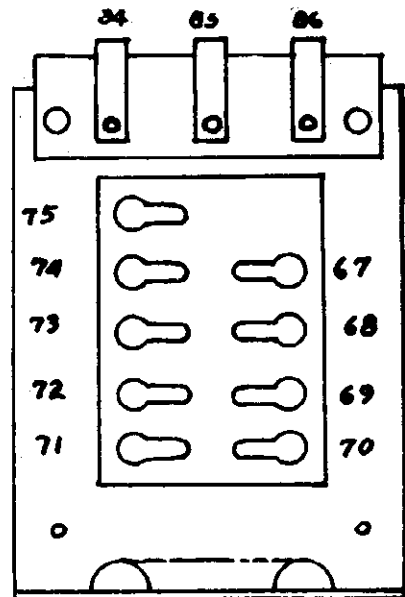
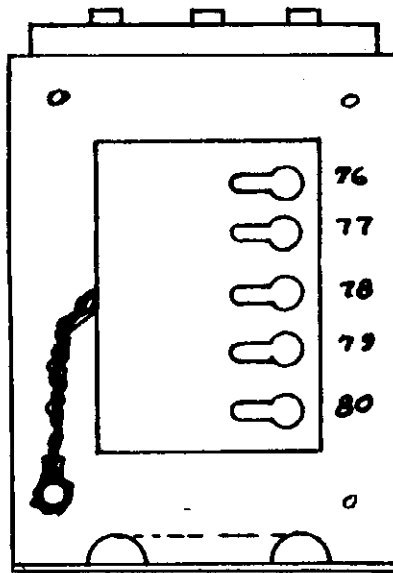


ECHOPHONE RADIO MFG. CO.

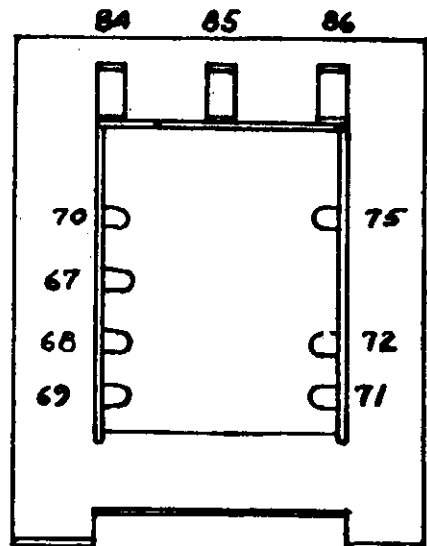
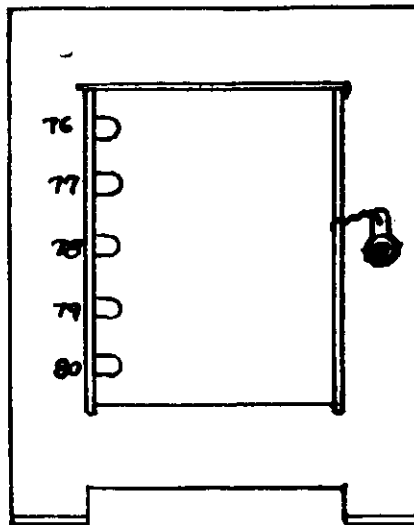
MODEL S-3  
Voltage  
Notes

Model S-3

1. Plate of 245 Tube  
#5 to ground  
Normal ..... 250 volts  
Low ..... 235 volts  
High ..... 275 volts
2. R. F. Plate  
#25 to ground  
Normal ..... 140 volts  
Low ..... 120 volts  
High ..... 160 volts
3. R. F. Screen  
#14 to ground  
Normal ..... 60 volts  
Low ..... 50 volts  
High ..... 75 volts
4. Detector Plate  
#13 to ground  
Normal ..... 80 volts  
Low ..... 70 volts  
High ..... 90 volts
5. Detector Screen  
#9 to ground  
Normal ..... 25 volts  
Low ..... 20 volts  
High ..... 30 volts
6. Detector Cathode  
#10 to ground  
..... 5 to 10 volts
7. R. F. Cathode  
#15 to ground  
..... 1.5 to 2.5 volts
8. 245 Bias  
#48 to ground  
Normal ..... 50 volts  
Low ..... 40 volts  
High ..... 55 volts

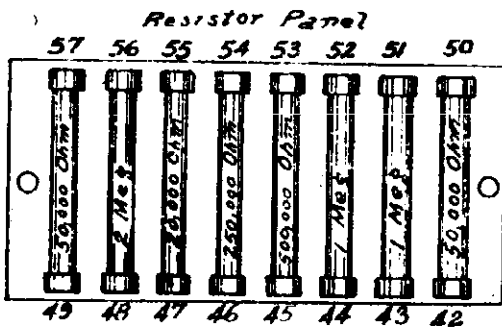


TYPE HA



TYPE JE

Drawing showing corresponding terminal positions on two types of power transformers used on S-3.

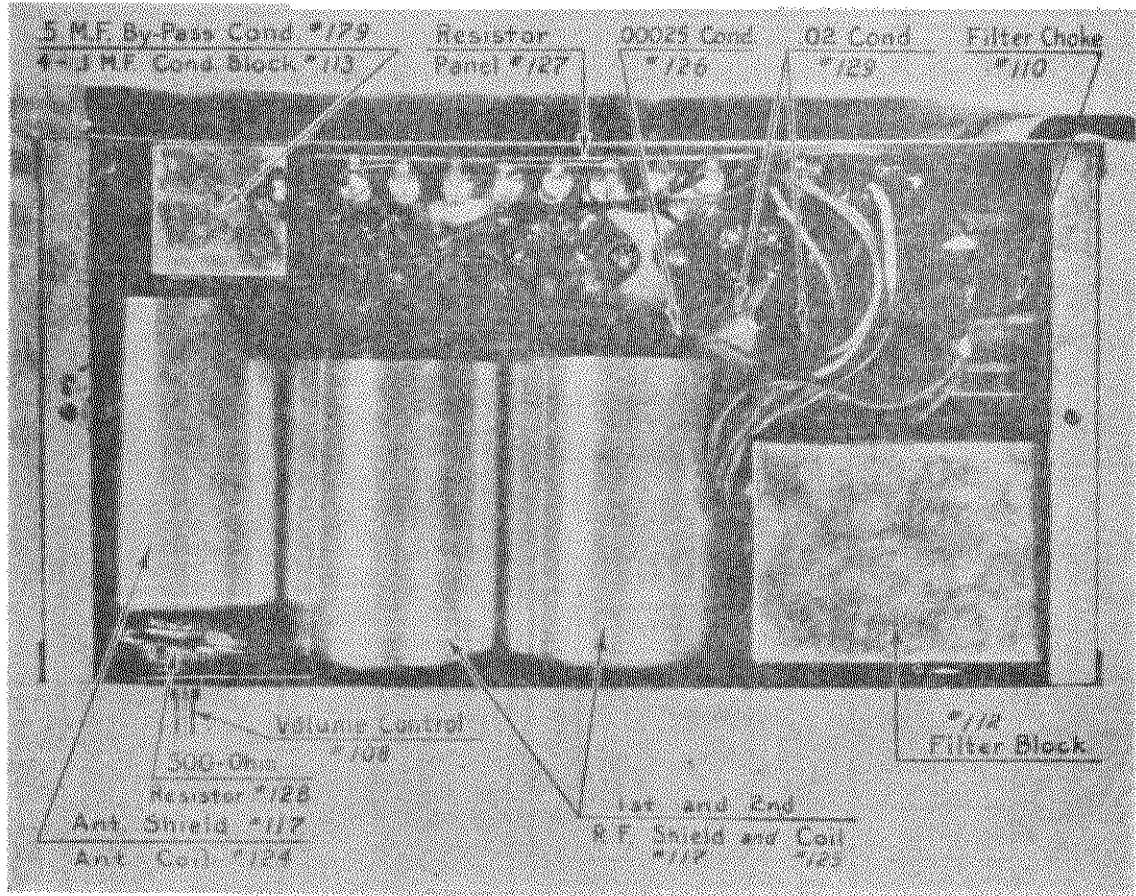


Power Transformer

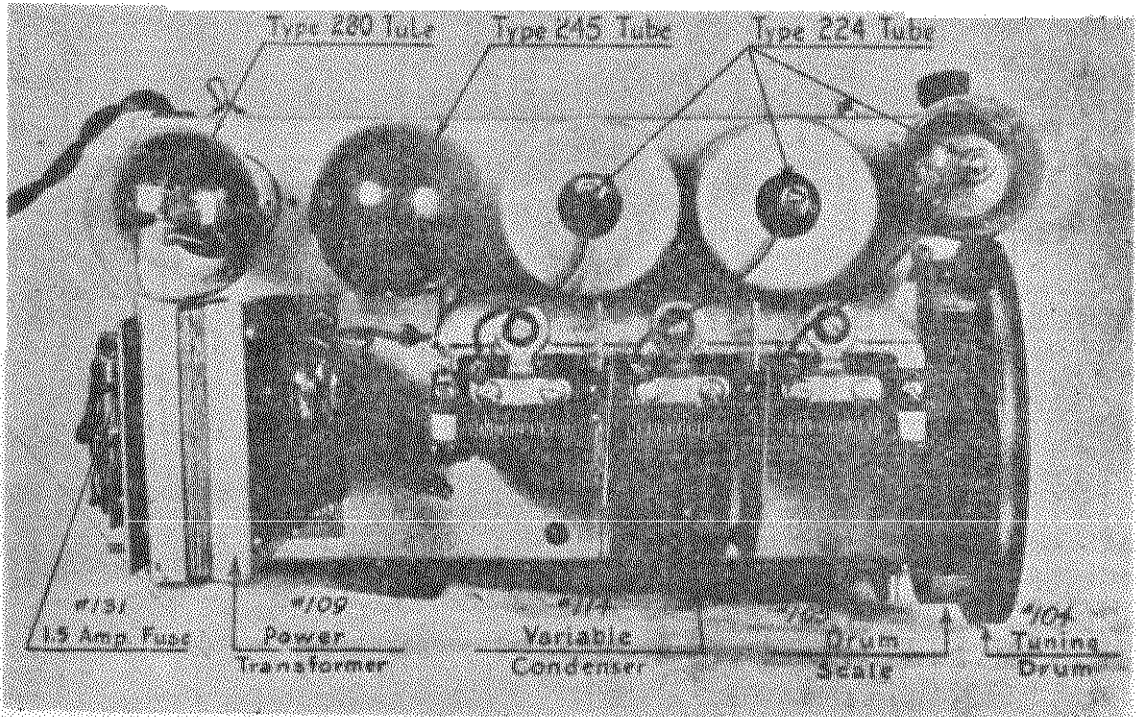
- 75-73 Pri. winding 74 low voltage tap.
- 72-71 Fil. winding 280 tube 70 center tap.
- 69-67 High voltage Sec. 68 center tap.
- 76-80 Fil. winding for 224 tubes.
- 77-79 Fil. winding for 245 tube 78 center tap.

ECHOPHONE RADIO MFG. CO.

MODEL S-3  
Chassis



ECHOPHONE -- Model S-3



ECHOPHONE -- Model S-3

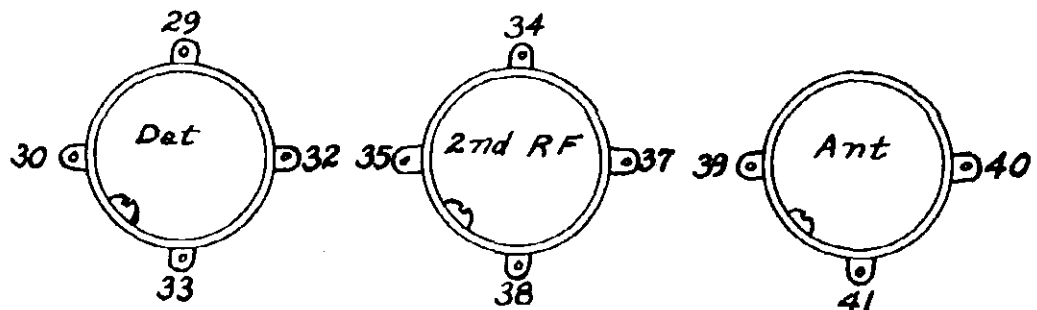


ECHOPHONE RADIO MFG. CO.

MODEL S-4  
Voltage  
Data

The Antenna coil has a bobbin primary and also a single close-coupled incomplete turn around grid end of secondary coil. The R. F. coils have a bobbin primary and also a close-coupled primary. A .00005 condenser is connected across the bobbin primary.

In some of the later S-4 models bank-wound "Litz" wire coils are used. These R. F. coils have a small honey-comb primary coil mounted in the ground end of the secondary coil and a capacitor across the plate and grid terminals of the coil. The "Litz" antenna coil has a tight-coupled primary wound over the ground end of the secondary coil.



Continuity Chart For  
Litz Wire Bank Wound Coils  
Echophone  
Model - S4

1. Plate of 245 Tube.

#5 to ground  
Normal—225 volts  
Low— 200 volts  
High— 250 volts

2. R. F. Plate.

#25 to ground  
Normal—110 volts  
Low— 100 volts  
High— 120 volts

3. R. F. Screen.

#14 to ground  
Normal—50 volts  
Low— 40 volts  
High— 60 volts

4. Detector Plate.

#13 to ground  
Normal—30 volts  
Low— 25 volts  
High— 50 volts

5. Detector Screen.

#9 to ground  
Normal—20 volts  
Low— 15 volts  
High— 30 volts

6. Detector Cathode

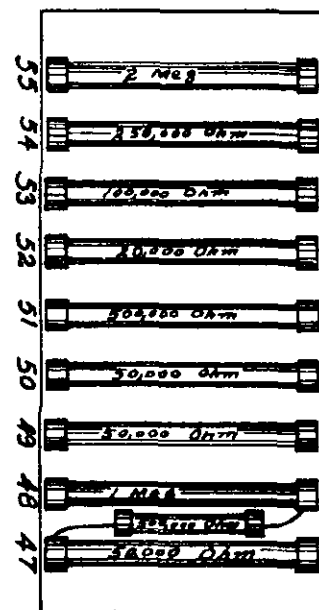
#10 to ground  
3 to 6 volts

7. R. F. Cathode.

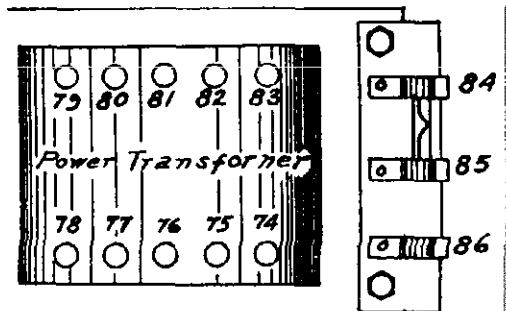
#15 to ground  
1.5 to 2.5 volts

8. 245 Bias.

#48 to ground  
Normal—50 volts  
Low— 40 volts  
High— 55 volts

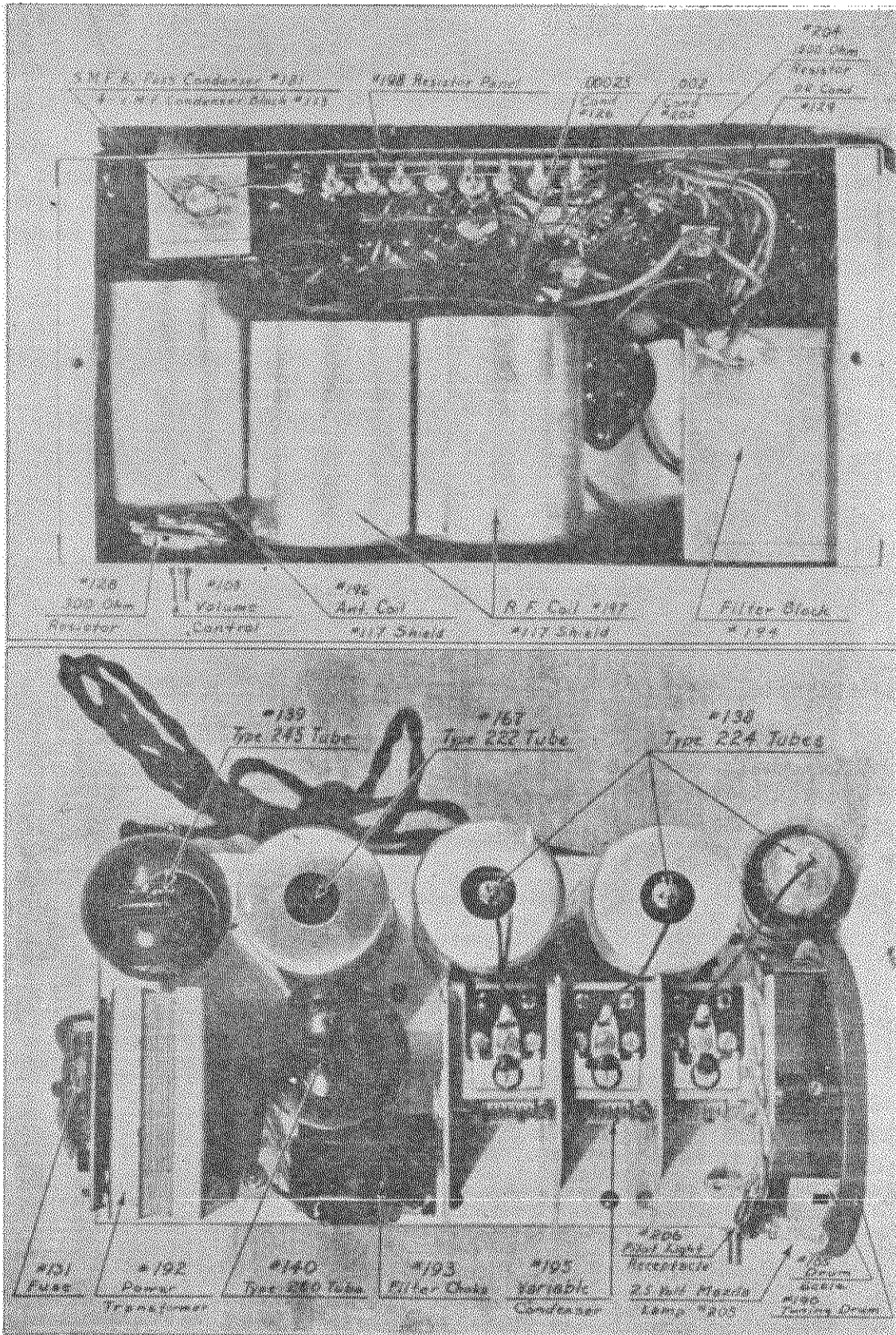


Resistor Panel



MODEL S-4  
Chassis

ECHOPHONE RADIO MFG. CO.



ECHOPHONE Model S-4

**ECHOPHONE RADIO MFG. CO.**

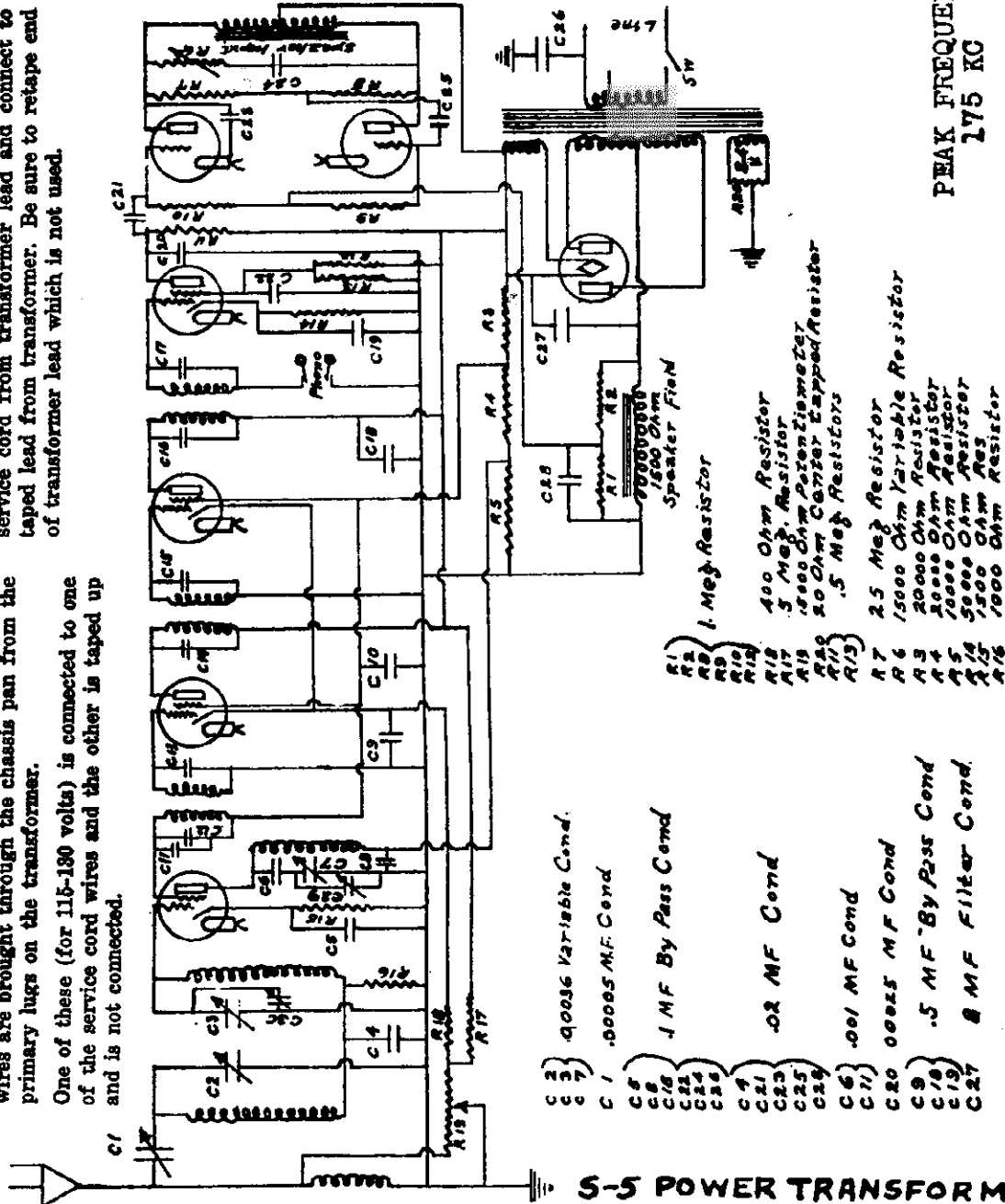
**MODEL S-5**  
(Dynatron)  
**Schematic**

**PEAK FREQUENCY**  
**175 KC**

To change set for 100 to 115 volts, disconnect the service cord from transformer lead and connect to taped lead from transformer. Be sure to retape end of transformer lead which is not used.

On all sets having serial numbers above 100050, two wires are brought through the chassis pan from the primary lugs on the transformer.

One of these (for 115-180 volts) is connected to one of the service cord wires and the other is taped up and is not connected.

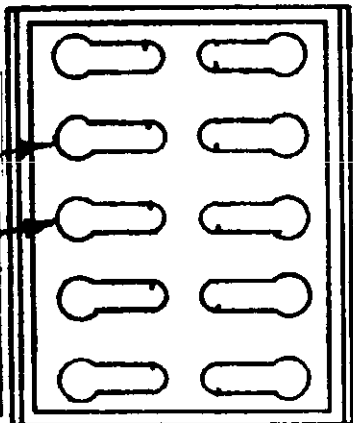


- C 2 } .0005 Variable Cond.
- C 3 } .0005 M.F. Cond
- C 4 } 1 MF By Pass Cond
- C 5 } .02 MF Cond
- C 6 } .001 MF Cond
- C 7 } .0005 M.F. Cond
- C 8 } .5 MF By Pass Cond
- C 9 } 8 MF Filter Cond.
- C 10 } .0005 M.F. Cond
- C 11 } .0005 M.F. Cond
- C 12 } .0005 M.F. Cond
- C 13 } .0005 M.F. Cond
- C 14 } .0005 M.F. Cond
- C 15 } .0005 M.F. Cond
- C 16 } .0005 M.F. Cond
- C 17 } .0005 M.F. Cond
- C 18 } .0005 M.F. Cond
- C 19 } .0005 M.F. Cond
- C 20 } .0005 M.F. Cond
- C 21 } .0005 M.F. Cond
- C 22 } .0005 M.F. Cond
- C 23 } .0005 M.F. Cond
- C 24 } .0005 M.F. Cond
- C 25 } .0005 M.F. Cond
- C 26 } .0005 M.F. Cond
- C 27 } .0005 M.F. Cond
- R 1 } 1 Meg. Resistor
- R 2 } 1 Meg. Resistor
- R 3 } 1 Meg. Resistor
- R 4 } 1 Meg. Resistor
- R 5 } 1 Meg. Resistor
- R 6 } 1 Meg. Resistor
- R 7 } 1 Meg. Resistor
- R 8 } 1 Meg. Resistor
- R 9 } 1 Meg. Resistor
- R 10 } 1 Meg. Resistor
- R 11 } 1 Meg. Resistor
- R 12 } 1 Meg. Resistor
- R 13 } 1 Meg. Resistor
- R 14 } 1 Meg. Resistor
- R 15 } 1 Meg. Resistor
- R 16 } 1 Meg. Resistor
- R 17 } 1 Meg. Resistor
- R 18 } 1 Meg. Resistor
- R 19 } 1 Meg. Resistor
- R 20 } 1 Meg. Resistor
- R 21 } 1 Meg. Resistor
- R 22 } 1 Meg. Resistor
- R 23 } 1 Meg. Resistor
- R 24 } 1 Meg. Resistor
- R 25 } 1 Meg. Resistor
- R 26 } 1 Meg. Resistor
- R 27 } 1 Meg. Resistor
- R 28 } 1 Meg. Resistor
- R 29 } 1 Meg. Resistor
- R 30 } 1 Meg. Resistor
- R 31 } 1 Meg. Resistor
- R 32 } 1 Meg. Resistor
- R 33 } 1 Meg. Resistor
- R 34 } 1 Meg. Resistor
- R 35 } 1 Meg. Resistor
- R 36 } 1 Meg. Resistor
- R 37 } 1 Meg. Resistor
- R 38 } 1 Meg. Resistor
- R 39 } 1 Meg. Resistor
- R 40 } 1 Meg. Resistor
- R 41 } 1 Meg. Resistor
- R 42 } 1 Meg. Resistor
- R 43 } 1 Meg. Resistor
- R 44 } 1 Meg. Resistor
- R 45 } 1 Meg. Resistor
- R 46 } 1 Meg. Resistor
- R 47 } 1 Meg. Resistor
- R 48 } 1 Meg. Resistor
- R 49 } 1 Meg. Resistor
- R 50 } 1 Meg. Resistor
- R 51 } 1 Meg. Resistor
- R 52 } 1 Meg. Resistor
- R 53 } 1 Meg. Resistor
- R 54 } 1 Meg. Resistor
- R 55 } 1 Meg. Resistor
- R 56 } 1 Meg. Resistor
- R 57 } 1 Meg. Resistor
- R 58 } 1 Meg. Resistor
- R 59 } 1 Meg. Resistor
- R 60 } 1 Meg. Resistor
- R 61 } 1 Meg. Resistor
- R 62 } 1 Meg. Resistor
- R 63 } 1 Meg. Resistor
- R 64 } 1 Meg. Resistor
- R 65 } 1 Meg. Resistor
- R 66 } 1 Meg. Resistor
- R 67 } 1 Meg. Resistor
- R 68 } 1 Meg. Resistor
- R 69 } 1 Meg. Resistor
- R 70 } 1 Meg. Resistor
- R 71 } 1 Meg. Resistor
- R 72 } 1 Meg. Resistor
- R 73 } 1 Meg. Resistor
- R 74 } 1 Meg. Resistor
- R 75 } 1 Meg. Resistor
- R 76 } 1 Meg. Resistor
- R 77 } 1 Meg. Resistor
- R 78 } 1 Meg. Resistor
- R 79 } 1 Meg. Resistor
- R 80 } 1 Meg. Resistor
- R 81 } 1 Meg. Resistor
- R 82 } 1 Meg. Resistor
- R 83 } 1 Meg. Resistor
- R 84 } 1 Meg. Resistor
- R 85 } 1 Meg. Resistor
- R 86 } 1 Meg. Resistor
- R 87 } 1 Meg. Resistor
- R 88 } 1 Meg. Resistor
- R 89 } 1 Meg. Resistor
- R 90 } 1 Meg. Resistor
- R 91 } 1 Meg. Resistor
- R 92 } 1 Meg. Resistor
- R 93 } 1 Meg. Resistor
- R 94 } 1 Meg. Resistor
- R 95 } 1 Meg. Resistor
- R 96 } 1 Meg. Resistor
- R 97 } 1 Meg. Resistor
- R 98 } 1 Meg. Resistor
- R 99 } 1 Meg. Resistor
- R 100 } 1 Meg. Resistor
- R 101 } 1 Meg. Resistor
- R 102 } 1 Meg. Resistor
- R 103 } 1 Meg. Resistor
- R 104 } 1 Meg. Resistor
- R 105 } 1 Meg. Resistor
- R 106 } 1 Meg. Resistor
- R 107 } 1 Meg. Resistor
- R 108 } 1 Meg. Resistor
- R 109 } 1 Meg. Resistor
- R 110 } 1 Meg. Resistor
- R 111 } 1 Meg. Resistor
- R 112 } 1 Meg. Resistor
- R 113 } 1 Meg. Resistor
- R 114 } 1 Meg. Resistor
- R 115 } 1 Meg. Resistor
- R 116 } 1 Meg. Resistor
- R 117 } 1 Meg. Resistor
- R 118 } 1 Meg. Resistor
- R 119 } 1 Meg. Resistor
- R 120 } 1 Meg. Resistor
- R 121 } 1 Meg. Resistor
- R 122 } 1 Meg. Resistor
- R 123 } 1 Meg. Resistor
- R 124 } 1 Meg. Resistor
- R 125 } 1 Meg. Resistor
- R 126 } 1 Meg. Resistor
- R 127 } 1 Meg. Resistor
- R 128 } 1 Meg. Resistor
- R 129 } 1 Meg. Resistor
- R 130 } 1 Meg. Resistor
- R 131 } 1 Meg. Resistor
- R 132 } 1 Meg. Resistor
- R 133 } 1 Meg. Resistor
- R 134 } 1 Meg. Resistor
- R 135 } 1 Meg. Resistor
- R 136 } 1 Meg. Resistor
- R 137 } 1 Meg. Resistor
- R 138 } 1 Meg. Resistor
- R 139 } 1 Meg. Resistor
- R 140 } 1 Meg. Resistor
- R 141 } 1 Meg. Resistor
- R 142 } 1 Meg. Resistor
- R 143 } 1 Meg. Resistor
- R 144 } 1 Meg. Resistor
- R 145 } 1 Meg. Resistor
- R 146 } 1 Meg. Resistor
- R 147 } 1 Meg. Resistor
- R 148 } 1 Meg. Resistor
- R 149 } 1 Meg. Resistor
- R 150 } 1 Meg. Resistor
- R 151 } 1 Meg. Resistor
- R 152 } 1 Meg. Resistor
- R 153 } 1 Meg. Resistor
- R 154 } 1 Meg. Resistor
- R 155 } 1 Meg. Resistor
- R 156 } 1 Meg. Resistor
- R 157 } 1 Meg. Resistor
- R 158 } 1 Meg. Resistor
- R 159 } 1 Meg. Resistor
- R 160 } 1 Meg. Resistor
- R 161 } 1 Meg. Resistor
- R 162 } 1 Meg. Resistor
- R 163 } 1 Meg. Resistor
- R 164 } 1 Meg. Resistor
- R 165 } 1 Meg. Resistor
- R 166 } 1 Meg. Resistor
- R 167 } 1 Meg. Resistor
- R 168 } 1 Meg. Resistor
- R 169 } 1 Meg. Resistor
- R 170 } 1 Meg. Resistor
- R 171 } 1 Meg. Resistor
- R 172 } 1 Meg. Resistor
- R 173 } 1 Meg. Resistor
- R 174 } 1 Meg. Resistor
- R 175 } 1 Meg. Resistor
- R 176 } 1 Meg. Resistor
- R 177 } 1 Meg. Resistor
- R 178 } 1 Meg. Resistor
- R 179 } 1 Meg. Resistor
- R 180 } 1 Meg. Resistor
- R 181 } 1 Meg. Resistor
- R 182 } 1 Meg. Resistor
- R 183 } 1 Meg. Resistor
- R 184 } 1 Meg. Resistor
- R 185 } 1 Meg. Resistor
- R 186 } 1 Meg. Resistor
- R 187 } 1 Meg. Resistor
- R 188 } 1 Meg. Resistor
- R 189 } 1 Meg. Resistor
- R 190 } 1 Meg. Resistor
- R 191 } 1 Meg. Resistor
- R 192 } 1 Meg. Resistor
- R 193 } 1 Meg. Resistor
- R 194 } 1 Meg. Resistor
- R 195 } 1 Meg. Resistor
- R 196 } 1 Meg. Resistor
- R 197 } 1 Meg. Resistor
- R 198 } 1 Meg. Resistor
- R 199 } 1 Meg. Resistor
- R 200 } 1 Meg. Resistor

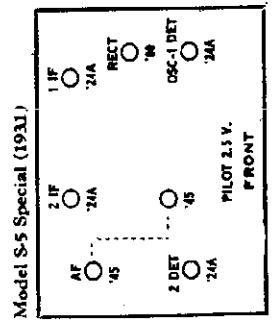
**ECHOPHONE SUPERHETERODYNE S-5—CIRCUIT DIAGRAM**

**With DYNATRON Oscillator**

**2.5 VOLT FILAMENT**  
FOR 100 TO 115 VOLT LINE  
REMOVE WIRE FROM  
**THIS TERMINAL**  
AND CONNECT TO  
**THIS TERMINAL**  
**BEGINNING PRIMARY**  
**2.5 VOLT FILAMENT**

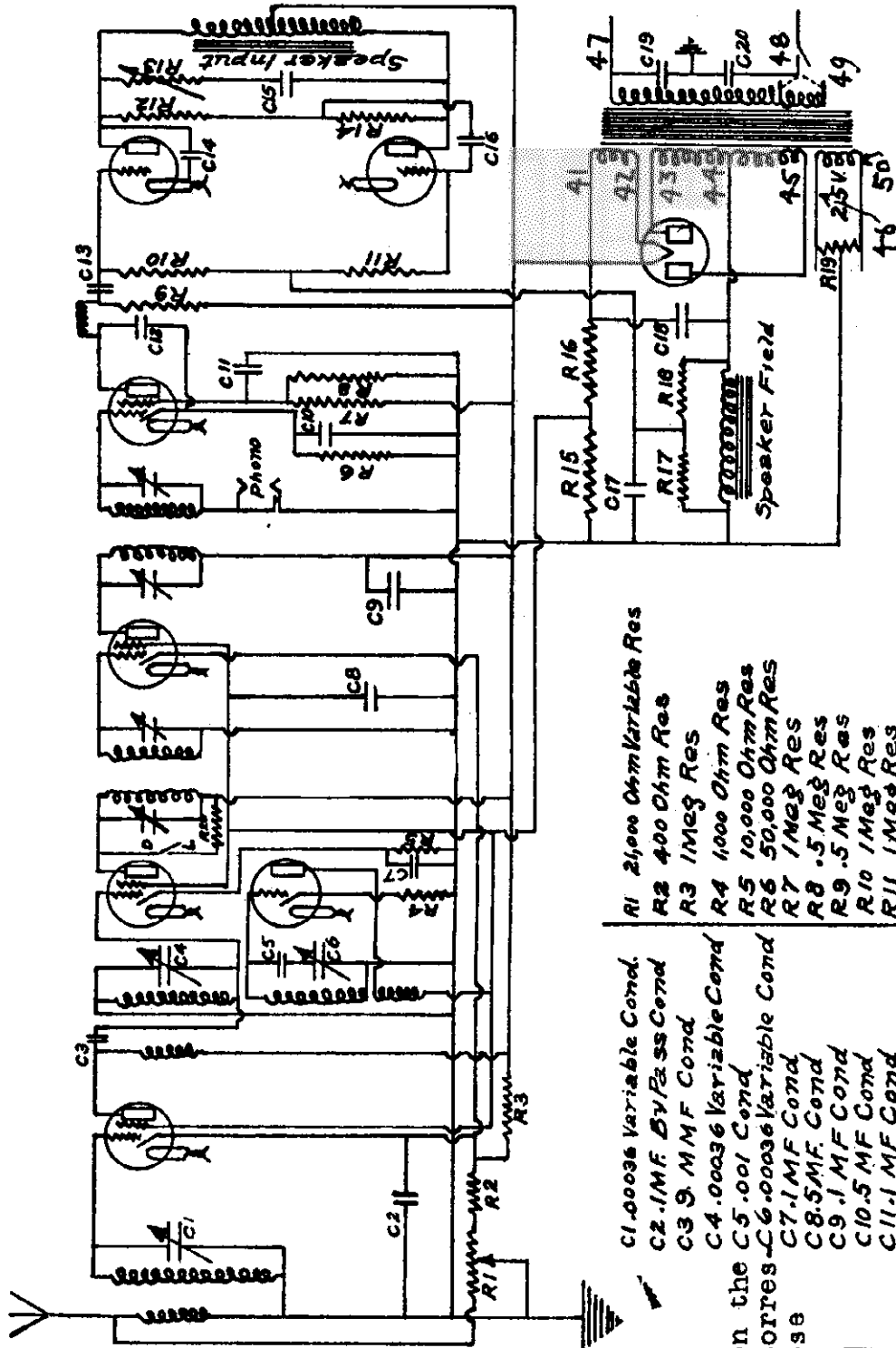


**HIGH VOLTAGE**  
**C.T. HIGH VOLTAGE**  
**HIGH VOLTAGE**  
**280 FILAMENT**  
**280 FILAMENT**



MODEL S-5 (Rev.)  
Schematic

ECHOPHONE RADIO MFG. CO.



Echophone Superheterodyne  
Model S-5  
CIRCUIT DIAGRAM

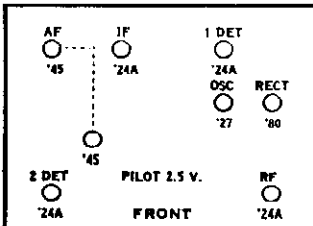
R1 2,000 Ohm Variable Res  
R2 400 Ohm Res  
R3 1Meg Res  
R4 1000 Ohm Res  
R5 10,000 Ohm Res  
R6 50,000 Ohm Res  
R7 1Meg Res  
R8 .5 Meg Res  
R9 .5 Meg Res  
R10 1Meg Res  
R11 1Meg Res  
R12 .25 Meg Res  
R13 15,000 Ohm Variable Res  
R14 1Meg Res  
R15 50,000 Ohm Res  
R16 20,000 Ohm Res  
R17 1 Meg Res  
R18 1 Meg Res  
R19 20 Ohm Center Tapped Res  
R20 5,000 Ohm Res.

C1 .00036 Variable Cond.  
C2 .1MF Bypass Cond  
C3 9. MMF Cond  
C4 .00036 Variable Cond  
C5 .001 Cond  
C6 .00036 Variable Cond  
C7 .1MF Cond  
C8 .5MF Cond  
C9 .1MF Cond  
C10 .5 MF Cond  
C11 .1 MF Cond  
C12 .00025 Cond  
C13 .02 MF Cond  
C14 .02 MF Cond  
C15 .1 MF Cond  
C16 .02 MF Cond  
C17 .02 MF Cond  
C18 .8. MF Cond  
C19 .05 MF Cond  
C20 .05 MF Cond

The numbers on the Pwr. Trans. correspond with those shown below.

04	460
02	470
03	480
04	490
05	500
Power Transformer	

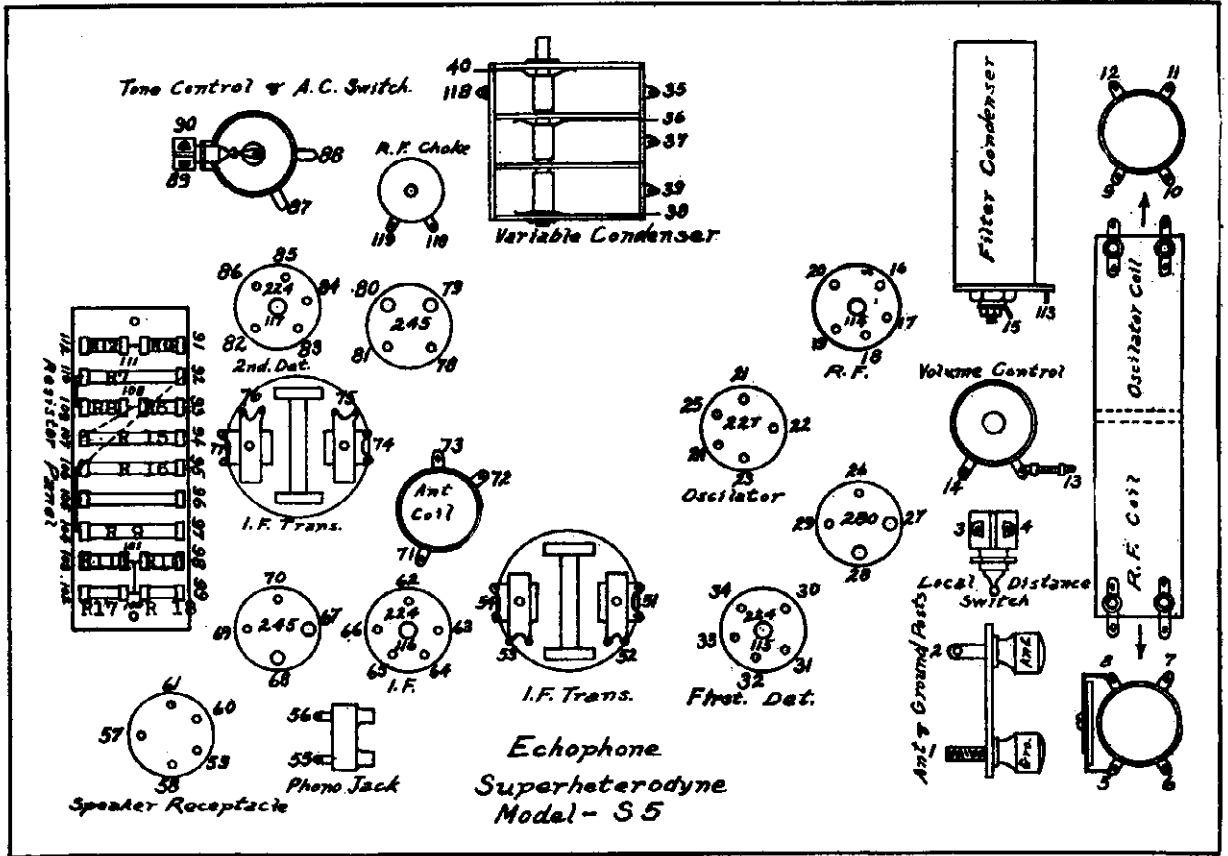
Model S-5 (1931)



PEAK  
FREQUENCY  
175 KC

ECHOPHONE RADIO MFG. CO.

MODEL S-5  
Voltage  
Data



Model S-5

VOLTAGE TESTS

Voltages given are tested on 250-volt scale of 1000 ohms, per volt meter.

All voltage tests were made with volume control on full and tone control in off position, no signal in receiver, line voltage 115 volts with A. C. line connected to terminals 47-49 on power transformer.

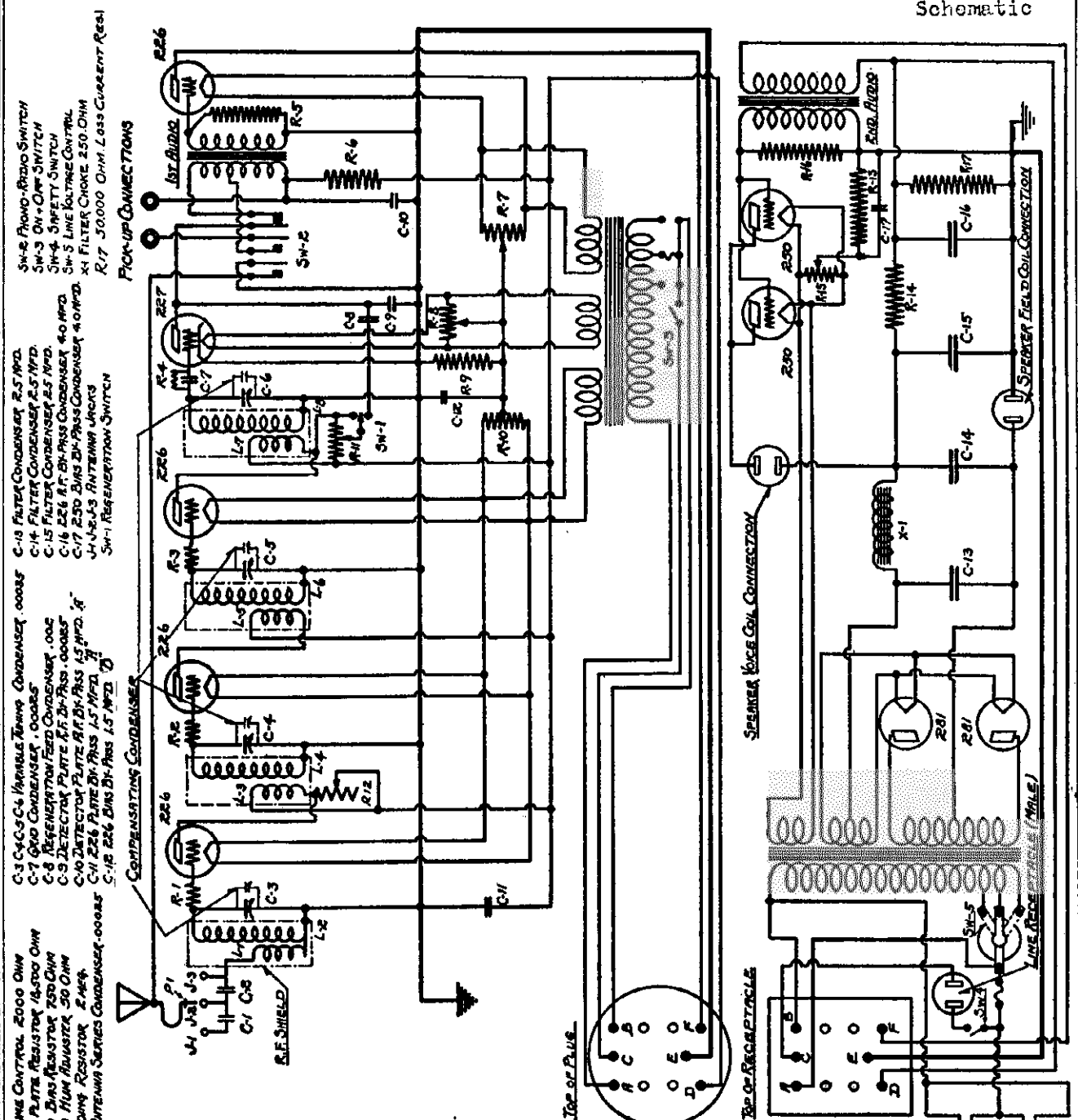
Speaker must be connected to receiver.

R. F. Plate #19 to ground	Low ..... 210 volts Normal ..... 220 volts High ..... 230 volts	First Detector Screen #80 to ground	Low ..... 75 volts Normal ..... 80 volts High ..... 90 volts
R. F. Screen #20 to ground	Low ..... 75 volts Normal ..... 80 volts High ..... 90 volts	First Detector Cathode #81 to ground	5 to 7 volts
R. F. Cathode #16 to ground	1.5 to 3 volts	Second Detector Plate #88 to ground	60 to 80 volts
Oscillator Plate #21 to ground	Low ..... 75 volts Normal ..... 80 volts High ..... 90 volts	Second Detector Screen #82 to ground	Low ..... 25 volts Normal ..... 30 volts High ..... 35 volts
Oscillator Cathode #23 to ground	4 to 6 volts	Second Detector Cathode #86 to ground	5 to 7 volts
I. F. Plate #66 to ground	Low ..... 210 volts Normal ..... 220 volts High ..... 230 volts	245 Plates #61-58 to ground	Low ..... 210 volts Normal ..... 220 volts High ..... 230 volts
I. F. Screen #62 to ground	Low ..... 75 volts Normal ..... 80 volts High ..... 90 volts	245 Bias #101 to ground	Neg. 20 to 40 volts
I. F. Cathode #68 to ground	1.5 to 3 volts	Speaker Field Voltage Drop #60-59	Low ..... 90 volts Normal ..... 100 volts High ..... 110 volts
First Detector Plate #84 to ground	Low ..... 210 volts Normal ..... 220 volts High ..... 230 volts	280 Filament #27-28	4.5 to 5.2 volts
		Filaments for All 2.5 Volt Tubes #87-88	2.2 to 2.5 volts



THOMAS A. EDISON, INC.

MODEL C-1  
CHASSIS SC  
Schematic



- PICK-UP CONNECTIONS**
- SW-2 PHONO-RADIO SWITCH
  - SW-3 ON-OFF SWITCH
  - SW-4 SAFETY SWITCH
  - SW-5 LINE VOLTAGE CONTROL
  - X1 FILTER CHOKE 250 OHM
  - R17 50,000 OHM LOSS CURRENT RES.

- COMPENSATING CONDENSERS**
- C3 C-4 C-5 C-6 VARIABLE TUNING CONDENSER .0005
  - C-7 600 CONDENSER .0005
  - C-8 REFLECTION FEED CONDENSER .002
  - C-9 DETECTOR PLATE R.F. IN-PASS CONDENSER .0005
  - C-10 DETECTOR PLATE R.F. IN-PASS .0005
  - C-11 250 DIAS IN-PASS 15 MFD. 2"
  - C-12 226 DIAS IN-PASS 15 MFD. 2"
  - C-13 FILTER CONDENSER 2.5 MFD.
  - C-14 FILTER CONDENSER 2.5 MFD.
  - C-15 FILTER CONDENSER 2.5 MFD.
  - C-16 226 R.F. IN-PASS CONDENSER 40 MFD.
  - C-17 250 DIAS IN-PASS CONDENSER 40 MFD.
  - X1-X2-X3 ANTENNA WINDINGS
  - SW-1 REGENERATION SWITCH

- RESISTORS**
- R18 VOLUME CONTROL 2000 OHM
  - R-4 226 PLATE RESISTOR 14,500 OHM
  - R-3 250 DIAS RESISTOR 750 OHM
  - R-5 250 DIAS RESISTOR 50 OHM
  - R-6 DETECTOR PLATE RESISTOR 50,000 OHM
  - R-7 20 OHM RESISTOR 1ST A.F.
  - R-8 20 OHM RESISTOR (DETECTOR)
  - R-9 226 DIAS RESISTOR 600 OHM
  - R-10 R.F. FILAMENT CENTER TAP RESISTOR 12 OHM
  - R-11 REGENERATION CONTROL 5000 OHM
  - R-12 226 DIAS IN-PASS 15 MFD. 2"
  - R-13 226 DIAS IN-PASS 15 MFD. 2"
  - R-14 226 DIAS IN-PASS 15 MFD. 2"
  - R-15 250 DIAS IN-PASS 15 MFD. 2"
  - R-16 250 DIAS IN-PASS 15 MFD. 2"
  - R-17 50,000 OHM LOSS CURRENT RES.

- INDUCTORS**
- L1 ANTENNA WINDING
  - L2 20 OHM RESISTOR (DETECTOR)
  - L3 226 DIAS IN-PASS 15 MFD. 2"
  - L4 226 DIAS IN-PASS 15 MFD. 2"
  - L5 250 DIAS IN-PASS 15 MFD. 2"
  - L6 250 DIAS IN-PASS 15 MFD. 2"
  - L7 250 DIAS IN-PASS 15 MFD. 2"

- CAPACITORS**
- C1 50 OHM RESISTOR (DETECTOR)
  - C2 226 DIAS IN-PASS 15 MFD. 2"
  - C3 C-4 C-5 C-6 VARIABLE TUNING CONDENSER .0005
  - C-7 600 CONDENSER .0005
  - C-8 REFLECTION FEED CONDENSER .002
  - C-9 DETECTOR PLATE R.F. IN-PASS CONDENSER .0005
  - C-10 DETECTOR PLATE R.F. IN-PASS .0005
  - C-11 250 DIAS IN-PASS 15 MFD. 2"
  - C-12 226 DIAS IN-PASS 15 MFD. 2"
  - C-13 FILTER CONDENSER 2.5 MFD.
  - C-14 FILTER CONDENSER 2.5 MFD.
  - C-15 FILTER CONDENSER 2.5 MFD.
  - C-16 226 R.F. IN-PASS CONDENSER 40 MFD.
  - C-17 250 DIAS IN-PASS CONDENSER 40 MFD.

EDISON, Inc.—Phonograph Combination C-1  
Line Voltage 102—Set on 102.5 Volt Tap  
Volume Control Position Max

TUBE	TYPE	RESISTANCE PLUG IN POSITION OF KEY		TUBE METER	
		RESISTANCE	PLUG VALUE	RESISTANCE	PLUG VALUE
226	1 R.F.	1.49	180	9.5	3.5
226	2 R.F.	1.49	180	9.5	3.5
226	3 R.F.	1.49	180	9.5	3.5
227	PHS.	2.1	35	9.5	3.5
286	1 A.F.	1.4	118	9	3
250	2 A.F.	1.25	405	70	95
250	2 A.F.	1.25	405	70	95
501	PHS.	7.8	-	-	125
501	PHS.	7.8	-	-	125

**EDISON RADIO MODEL C-1  
CHASSIS SC.**

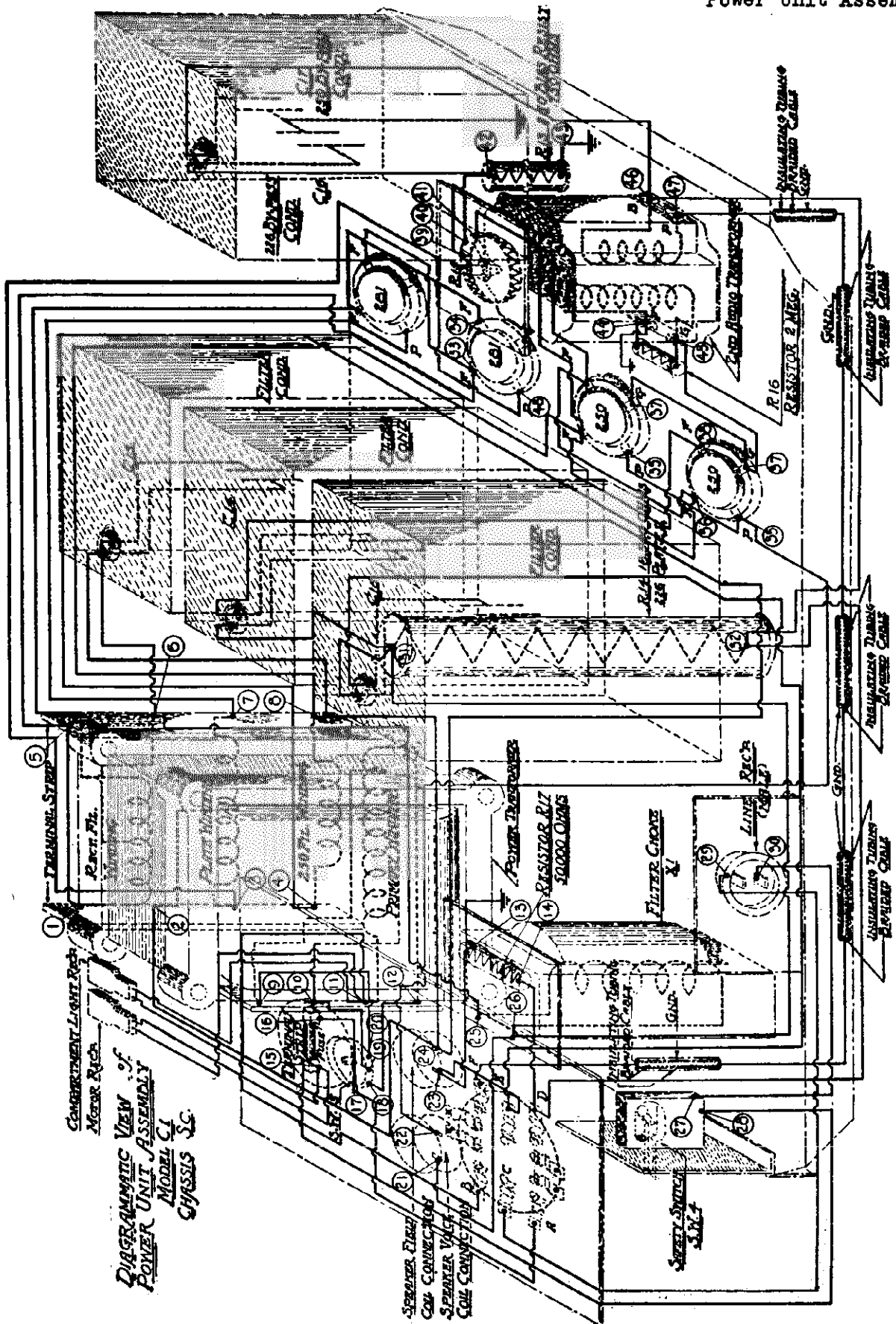
Also  
C-1 Model Splitdorf M-6 (A.C.)

CX-326 1st A.F.	CX-326 2nd R.F.	CX-350 2nd A.F.
C-127 Del.	CX-326 3rd R.F.	CX-381 Rect.
		CX-381 Rect.

MOTOR RECT.  
COMPARTMENT LIGHT RECEPTACLE

THOMAS A. EDISON, INC.

MODEL C-1  
CHASSIS SC  
Power Unit Assembly



DIAGRAMMATIC VIEW OF  
POWER UNIT ASSEMBLY  
MODEL C-1  
CHASSIS SC

COMPARTMENT LIGHT RECH  
MOTOR RECH

SPEAKER ELECTRICAL  
CONNECTIONS  
SPEAKER VOLT  
COIL CONNECTIONS

SAFETY SWITCH  
S.W. #

INSULATING TUBING  
ELECTRIC CABLE

INSULATING TUBING  
ELECTRIC CABLE

INSULATING TUBING  
ELECTRIC CABLE

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

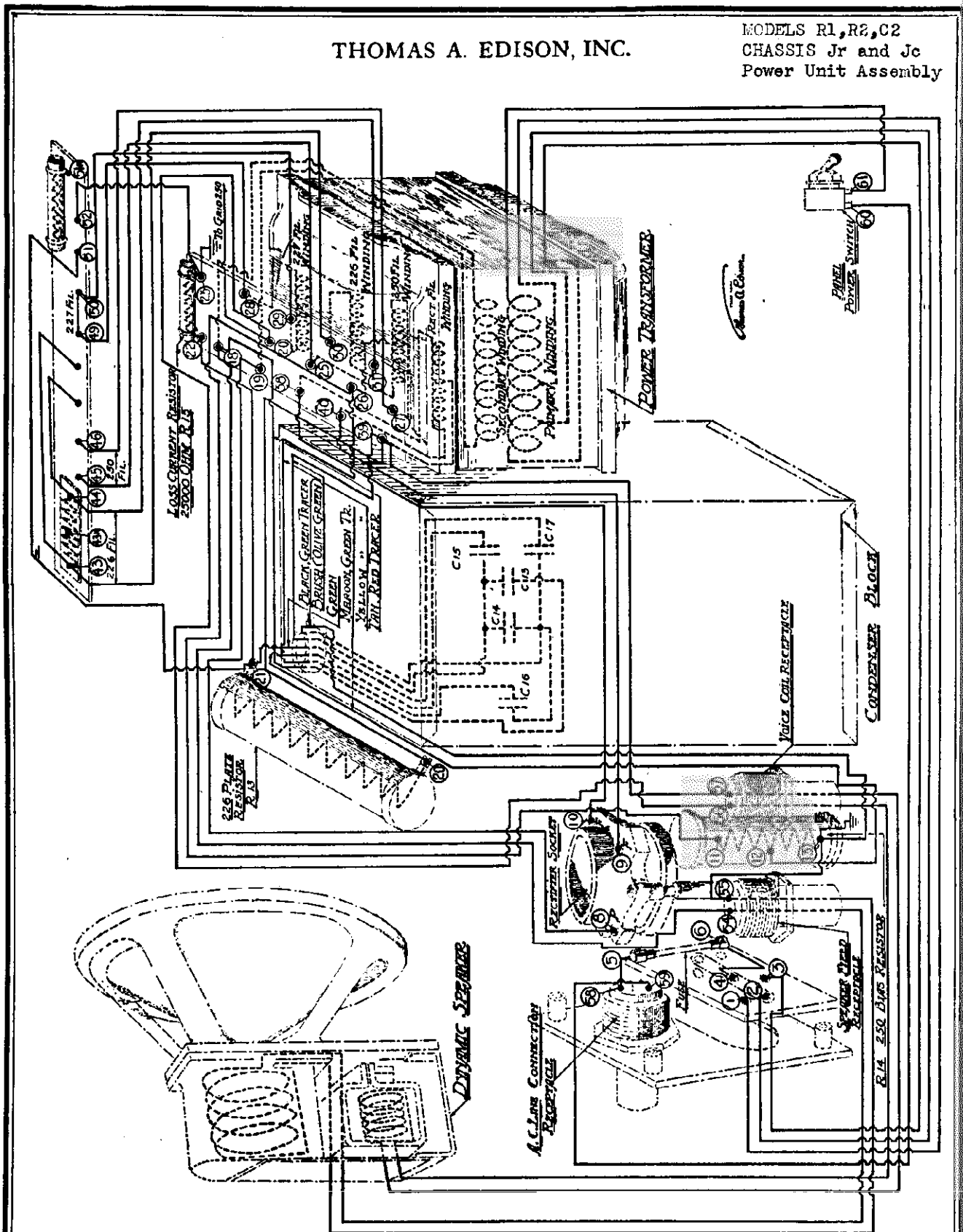
98

99

100

THOMAS A. EDISON, INC.

MODELS R1, R2, C2  
CHASSIS Jr and Jc  
Power Unit Assembly

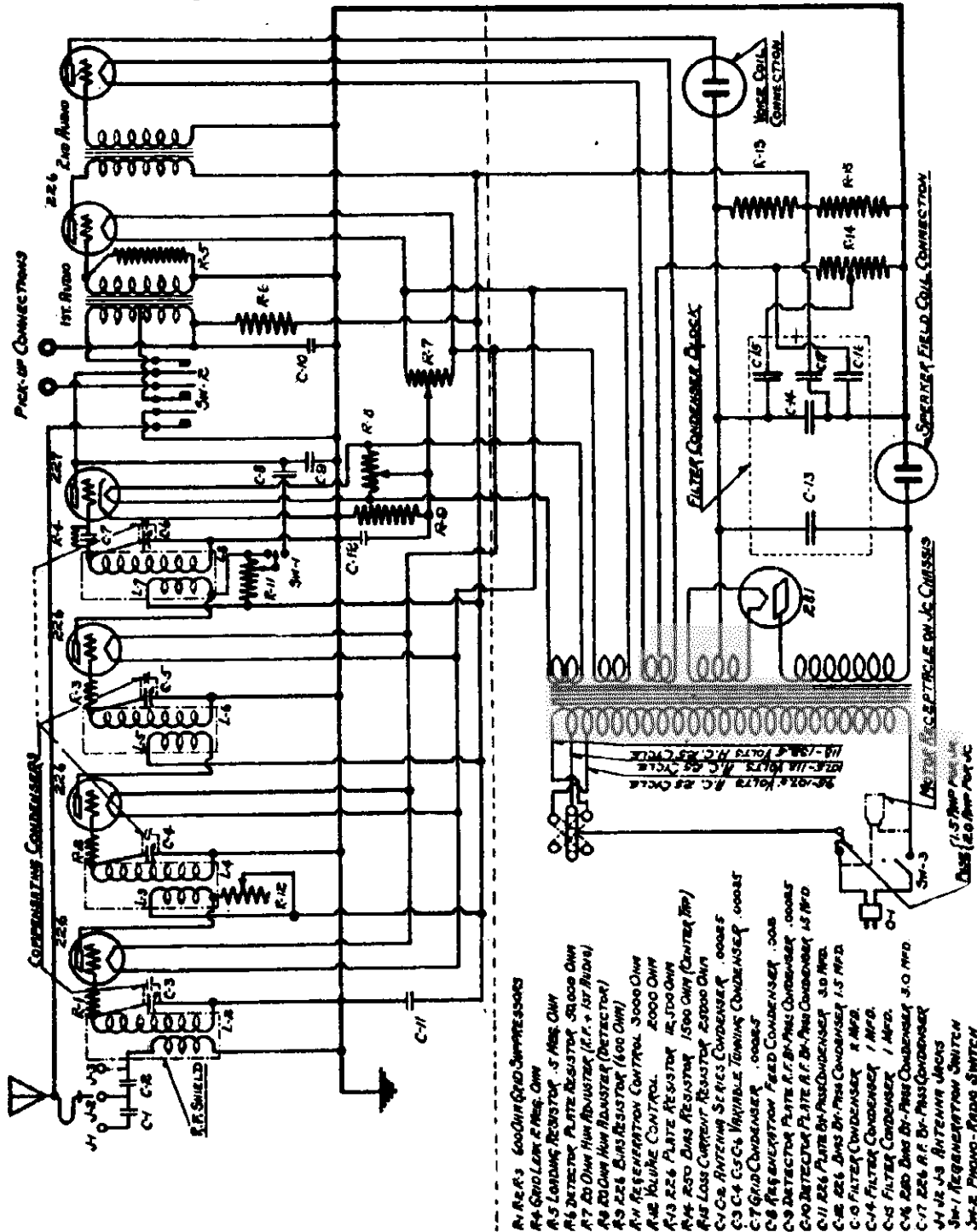


DIAGRAMMATIC VIEW OF POWER UNIT, DYNAMIC SPEAKER CONNECTED.

MODELS R1, R2 AND C2  
CHASSIS JR AND JC  
25 CYCLE

MODELS R1, R2, C2  
CHASSIS Jr and Jc  
Schematic Voltage

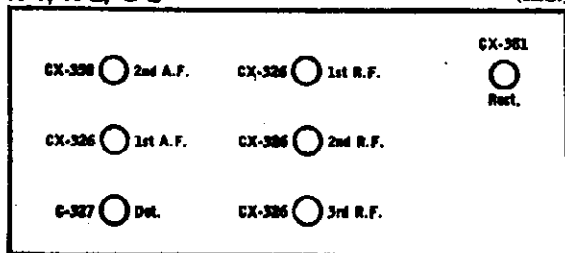
THOMAS A. EDISON, INC.



EDISON R1, R2 and C2  
Chassis Jr and Jc (25 cycle)

- R1 R.F. 3 600 Ohm 50 Ohm Impedance
- R2 Grid Leak 2 Meg. Ohm
- R3 Loading Resistor .5 Meg. Ohm
- R4 Detector Plate Resistor 50,000 Ohm
- R5 50 Ohm Hum Inductor (A.C. + 1st Filter)
- R6 20 Ohm Hum Inductor (Detector)
- R7 225 Ohm Resistor (500 Ohm)
- R8 Regeneration Control 3,000 Ohm
- R9 Volume Control 2,000 Ohm
- R10 225 Ohm Plate Resistor 2,000 Ohm
- R11 250 Ohm Bias Resistor 1,500 Ohm (Center Tap)
- R12 Loss Current Resistor 2,500 Ohm
- R13 Antenna Series Condenser .0005
- R14 50 Ohm Variable Tuning Condenser .0005
- R15 50 Ohm Resistor .0005
- R16 Regeneration Feed Condenser .005
- R17 Detector Plate R.F. Di-Pass Condenser .0005
- R18 225 Ohm Plate R.F. Di-Pass Condenser 15 MFD
- R19 225 Ohm Bias Di-Pass Condenser 3.0 MFD
- R20 225 Ohm Di-Pass Condenser 1.5 MFD
- R21 Filter Condenser 1 MFD
- R22 225 Ohm Di-Pass Condenser 3.0 MFD
- R23 225 Ohm R.F. Di-Pass Condenser
- R24 Regeneration Switch
- R25 Power-Audio Switch
- R26 On + Off Switch
- R27 Line Receptacle (Ph. U.S.)

R-1, R-2, C-2

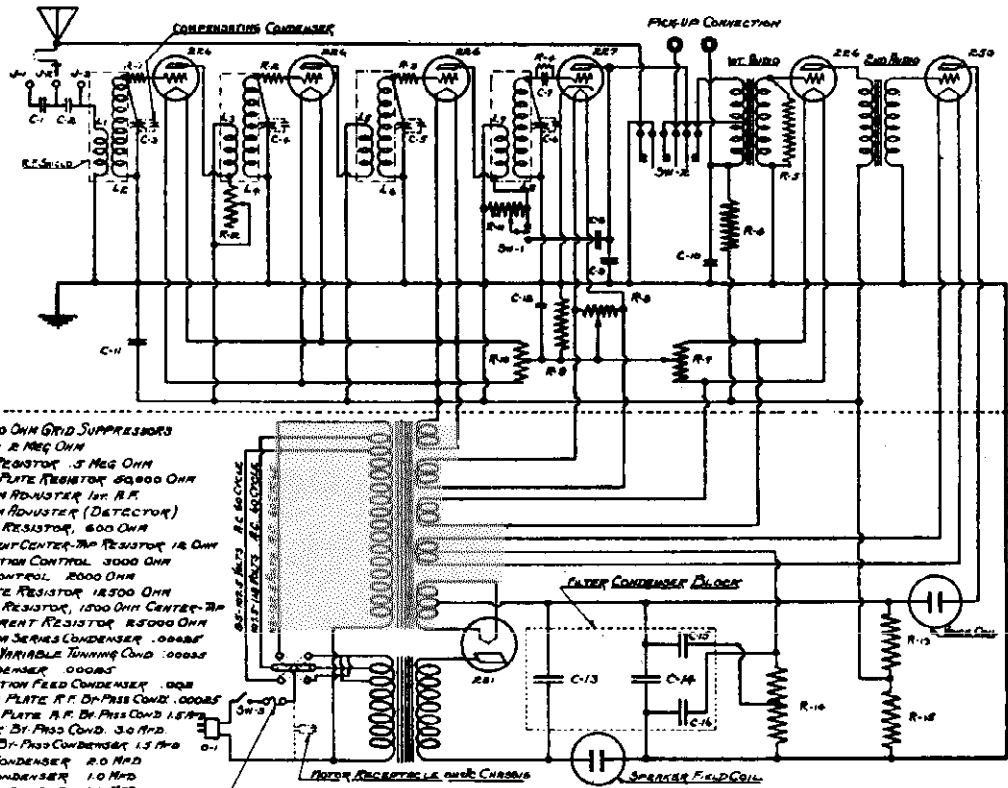
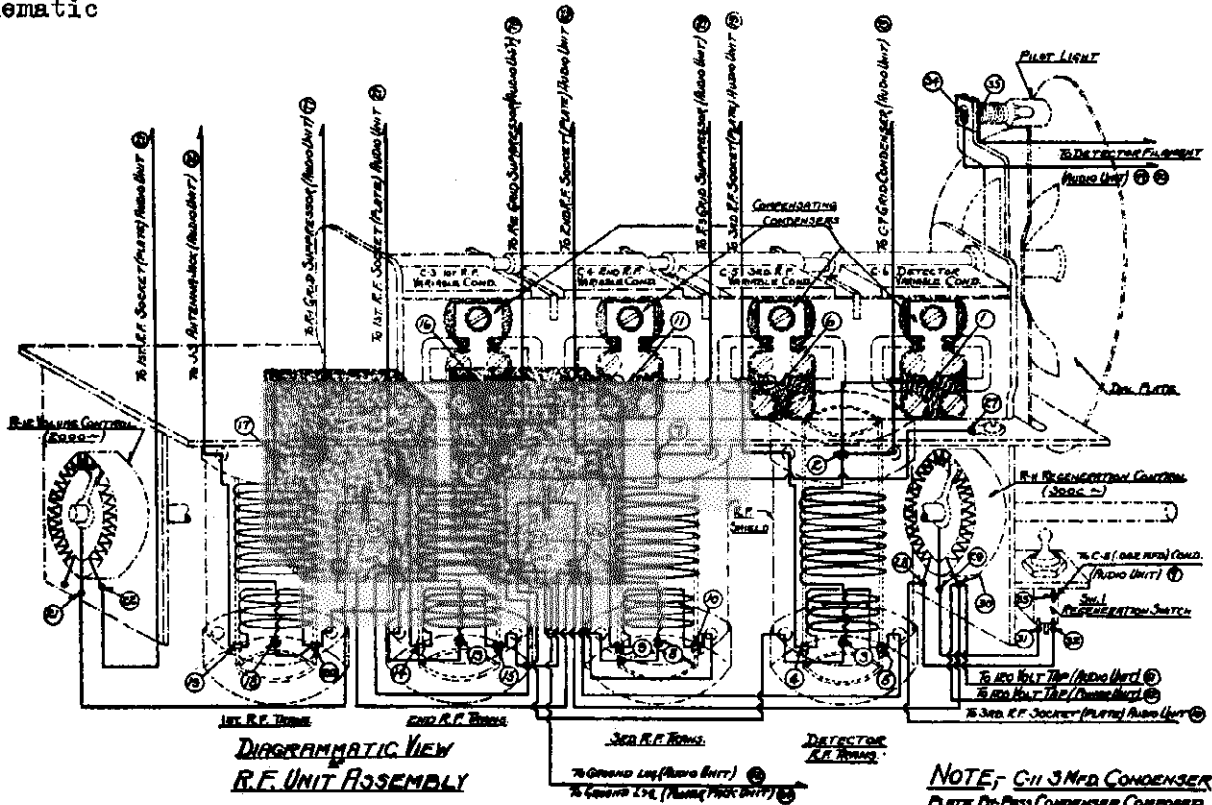


(A.C.)

EDISON, Inc.—Models R-1, R-2 and Edison Radio  
Phonograph Combination C-2  
Line Voltage 102—Set on 102.5  
Volume Control Position Max

TYPE	TUBE	POSITION	RECEPTOR PLUG IN ORDER OF SET											
			1ST	2ND	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH		
1	225	1 R.F.	-	-	1.45	1.80	2.0	-	3.5	10	6.5	-	-	-
2	225	2 R.F.	-	-	1.45	1.80	2.0	-	3.5	10	6.5	-	-	
3	225	3 R.F.	-	-	1.45	1.80	2.0	-	3.5	10	6.5	-	-	
4	227	Det.	-	-	1.2	1.5	1.5	-	1.5	-	-	-	-	
5	225	1 A.F.	-	-	1.35	1.15	0.6	-	2.0	10	7.5	-	-	
6	225	2 A.F.	-	-	1.2	1.50	0.6	-	3.0	10	6.5	-	-	
7	221	Rect.	-	-	7.4	-	-	-	100	-	-	-	-	

MODELS R1,R2,C2(60 cyc.) THOMAS A. EDISON, INC.  
 Diagram Schematic



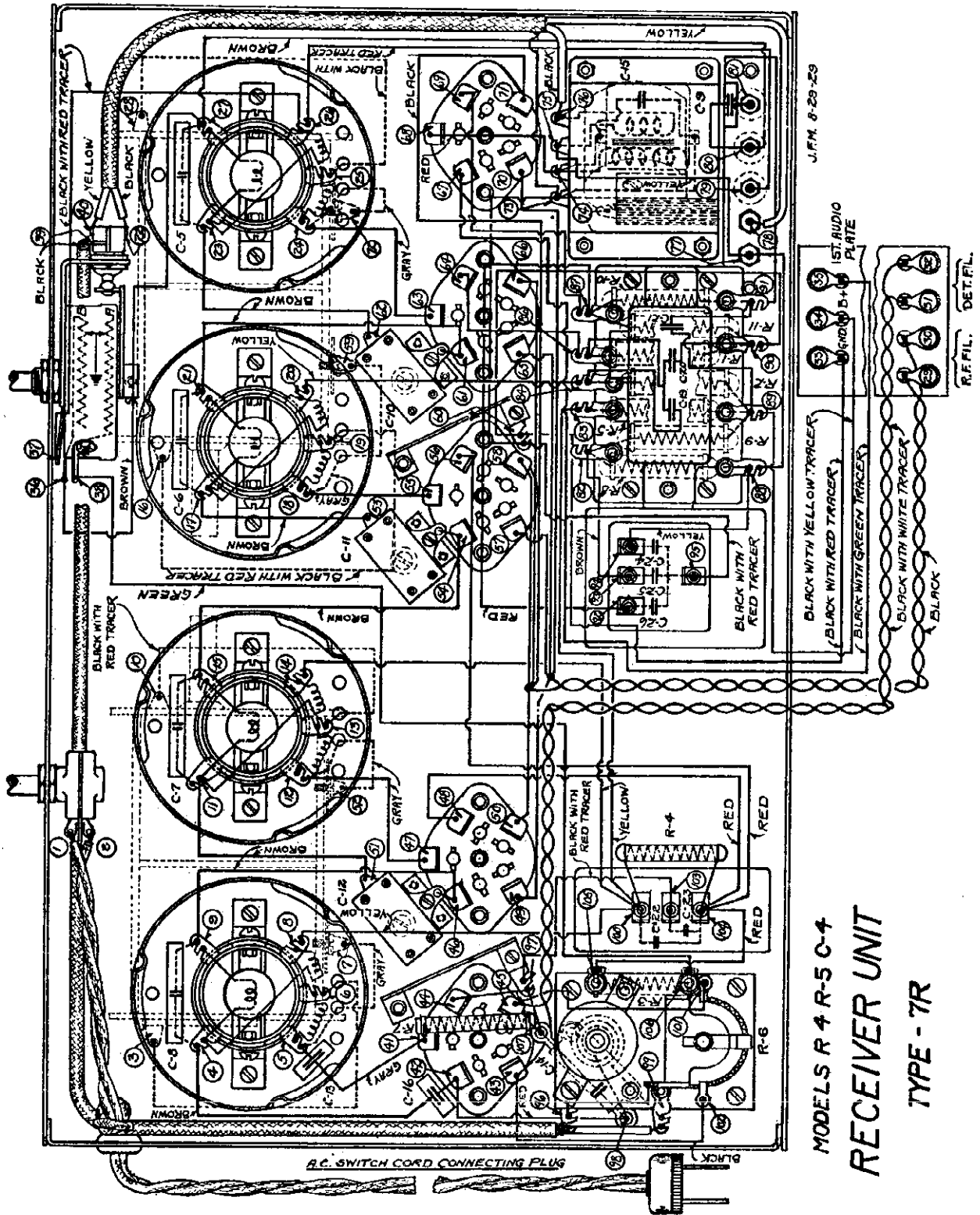
- R1, R2, R3 600 OHM GRID SUPPRESSORS
- R4 GRID LEAK 2 MEG OHM
- R5 LOADING RESISTOR .5 MEG OHM
- R6 DETECTOR PLATE RESISTOR 25000 OHM
- R7 200 OHM VAR ADJUSTER 1st A.F.
- R8 200 OHM VAR ADJUSTER (DETECTOR)
- R9 200 OHM BIAS RESISTOR, 600 OHM
- R10 R.F. FILAMENT CENTER-TAP RESISTOR 12 OHM
- R11 REGENERATION CONTROL 3000 OHM
- R12 VOLUME CONTROL 2000 OHM
- R13 200 OHM PLATE RESISTOR 12500 OHM
- R14 200 OHM RESISTOR, 1500 OHM CENTER-TAP
- R15 LOAD CURRENT RESISTOR 25000 OHM
- C-1 ANTENNA SERIES CONDENSER .0005
- C-2 C-3 C-4 VARIABLE TUNING COND .0005
- C-5 REGENERATION FIELD CONDENSER .002
- C-6 DETECTOR PLATE R.F. BY-PASS COND. 0.0005
- C-7 DETECTOR PLATE A.F. BY-PASS COND 15 MFD
- C-8 30 MFD B-1 PASS COND. 3.0 MFD
- C-9 20 MFD B-2 PASS CONDENSER 1.5 MFD
- C-10 FILTER CONDENSER 2.0 MFD
- C-11 FILTER CONDENSER 1.0 MFD
- C-12 FILTER CONDENSER 1.0 MFD
- C-13 250 OHM BY-PASS CONDENSER 3.0 MFD
- J1-J3 5'S HYDRA JACKS
- SW-1 REGENERATION SWITCH
- SW-2 PHONO-REC'D SWITCH
- SW-3 1/2-ON SWITCH
- SW-4 LINE RECEPTACLE (MONEY)

Also  
 Model Splitdorf M-5

MODELS R4, R5, C4

Receiver Chassis Wiring

THOMAS A. EDISON, INC.



J.F.M. 8-29-29

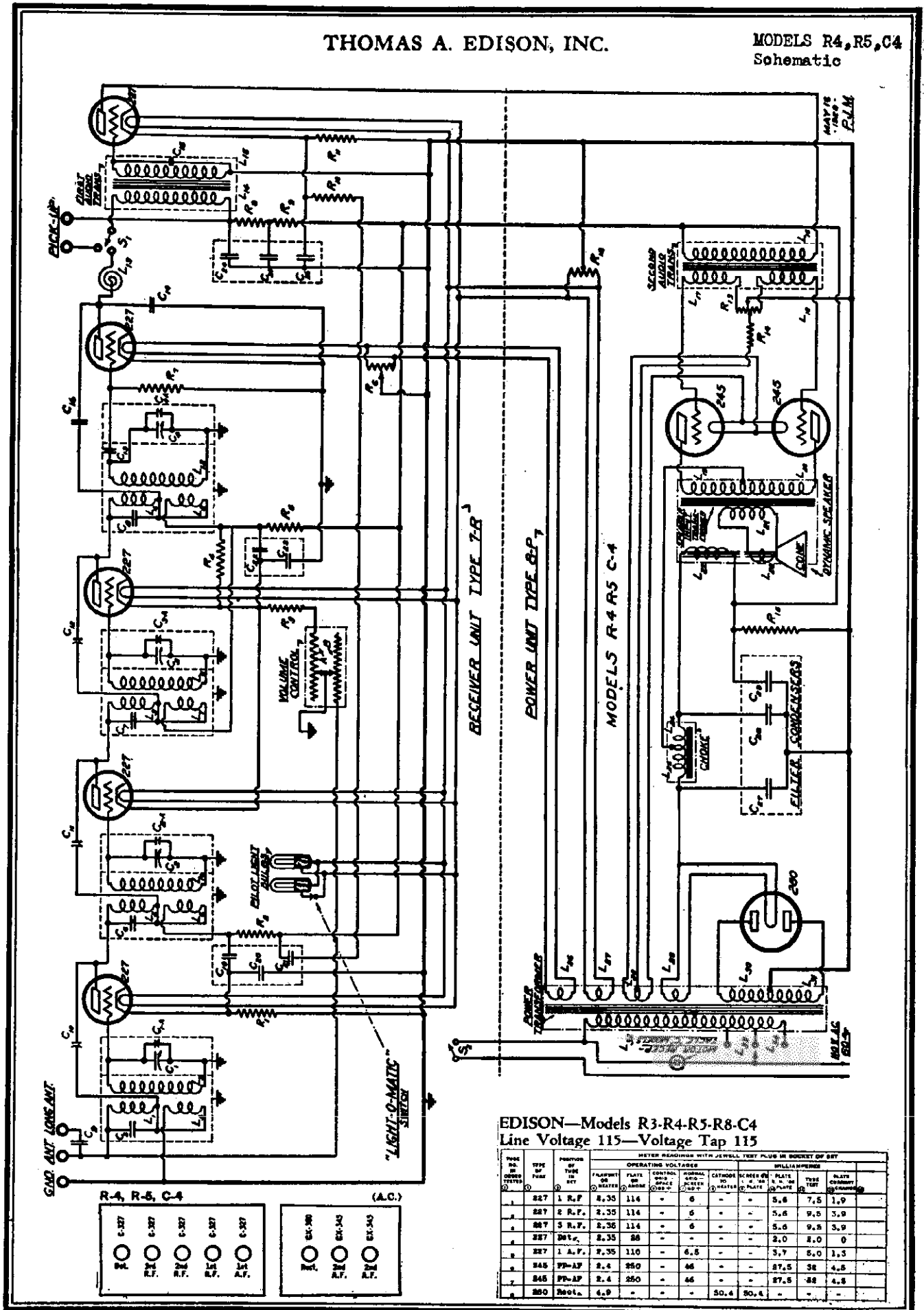
MODELS R4 R5 C4  
RECEIVER UNIT  
TYPE - 7R

A.C. SWITCH CORD CONNECTING PLUG

1ST AUDIO PLATE  
BLACK WITH YELLOW TRACER  
BLACK WITH RED TRACER  
BLACK WITH GREEN TRACER  
BLACK WITH WHITE TRACER  
BLACK  
R.F. FIL. DET. FIL.

THOMAS A. EDISON, INC.

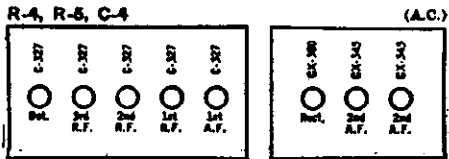
MODELS R4, R5, C4  
Schematic



EDISON—Models R3-R4-R5-R8-C4  
Line Voltage 115—Voltage Tap 115

METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET

TUBE NO. OR ORDER TEST	TYPE OF TUBE	POSITION OF TUBE IN SET	OPERATING VOLTAGES				MILLIAMPERES			
			PLATE OR HEATER	CONTROL GRID OR SPACE	SCREEN AND BIAS	CATHOD. TO HEATER	SCREEN OR PLATE	PLATE	TYPE TEST	PLATE CURRENT
1	2B7	1 R.F.	2.35	114	-	6	-	5.6	7.5	1.9
2	2B7	2 R.F.	2.35	114	-	6	-	5.6	9.5	3.9
3	2B7	3 R.F.	2.35	114	-	6	-	5.6	9.8	3.9
4	2B7	DET.	2.35	86	-	-	-	2.0	8.0	0
5	2B7	1 A.F.	2.35	110	-	6.5	-	3.7	5.0	1.3
6	2A5	PP-AP	2.4	250	-	46	-	27.5	38	4.5
7	2A5	PP-AP	2.4	250	-	46	-	27.5	38	4.5
8	200	Rect.	4.9	-	-	50.4	50.4	-	-	-



MODELS R4, R5, C4  
Parts List

THOMAS A. EDISON, INC.

IDENTIFICATION OF PARTS (Continued)

NO.	NAME AND FUNCTION	ELECTRICAL VALUE
R-10	Hum balance resistor (1st a. f.)	6,000 ohm resistance, 1 watt.
R-11	Bias resistor, 1st a. f. stage.	2,000 ohm resistance, 1 watt.
R-12	R. f. and a. f. heater center tapped resistor.	20 ohm fixed center-tapped resistance.
R-13	Push-pull balancing resistor.	200 ohm center-tapped potentiometer.
R-14	Bias resistor, 2nd a. f. stage.	780 ohm, 5 watt resistance.
R-15	Power supply loss current resistor.	10,000 ohm, 5 watt resistance.
L-1	Long wave primary, 1st r. f. transformer.	Each a 500 microhenry coil.
L-2	Long wave primary, 2nd r. f. transformer.	
L-3	Long wave primary, 3rd r. f. transformer.	
L-4	Long wave primary, detector input transformer.	
L-5	Short wave primary, 1st r. f. transformer.	Each a 7/8 turn coil.
L-6	Short wave primary, 2nd r. f. transformer.	
L-7	Short wave primary, 3rd r. f. transformer.	
L-8	Short wave primary, detector input transformer.	
L-9	Secondary, 1st r. f. transformer.	Each a 245 microhenry coil, (measured in shield).
L-10	Secondary, 2nd r. f. transformer.	
L-11	Secondary, 3rd r. f. transformer.	
L-12	Secondary, detector input transformer.	
L-13	Detector plate r. f. choke.	50 to 65 millihenry choke.
L-14	Primary, 1st a. f. transformer.	4:1 ratio a. f. transformer.
L-15	Secondary, 1st a. f. transformer.	
L-16	Primary, 2nd a. f. transformer.	5:1 ratio a. f. transformer with separate secondaries connected in series by variable resistance R-13.
L-17	Secondary, 2nd a. f. transformer.	
L-18	Secondary, 2nd a. f. transformer.	Speaker input transformer, mounted in speaker frame, utilizing center tapped primary.
L-19	Half primary, speaker input transformer.	
L-20	Half primary, speaker input transformer.	4,500 ohm field coil.
L-21	Secondary, speaker input transformer.	
L-22	Field coil, dynamic speaker.	20 henry, 375 ohm choke.
L-23	Voice coil, dynamic speaker.	
L-24	Inside third of filter choke.	Power transformer.
L-25	Outside two-thirds of filter choke.	
L-26	Detector heater secondary winding.	Power transformer.
L-27	R. f. and a. f. heater secondary winding.	
L-28	and a. f. fil. secondary winding.	
L-29	Rectifier fil. secondary winding.	
L-30	Half high voltage secondary winding.	
L-31	Half high voltage secondary winding.	
L-32	Low line voltage primary winding.	
L-33	Additional section of primary winding for medium voltage.	
L-34	Additional section of primary winding for high line voltage.	
S-1	Radio-phonos. switch.	
S-2	Line switch.	S. P. S. T. toggle switch.
	Light-O-Matic Switch.	Located in dial mechanism, operating Light-O-Matic pilot light.
	Motor Receptacle (Brown).	This plug provides 110 volts A. C. for operation of phonograph motor in radio phonograph combination model.
	Volume Control	{ A—Wire wound, 5,000 ohms. B—Graphite, 10,000 ohms.

IDENTIFICATION OF PARTS  
TO ACCOMPANY PLATE No. 1-A  
'LIGHT-O-MATIC' MODELS R-4, R-5 and C-4

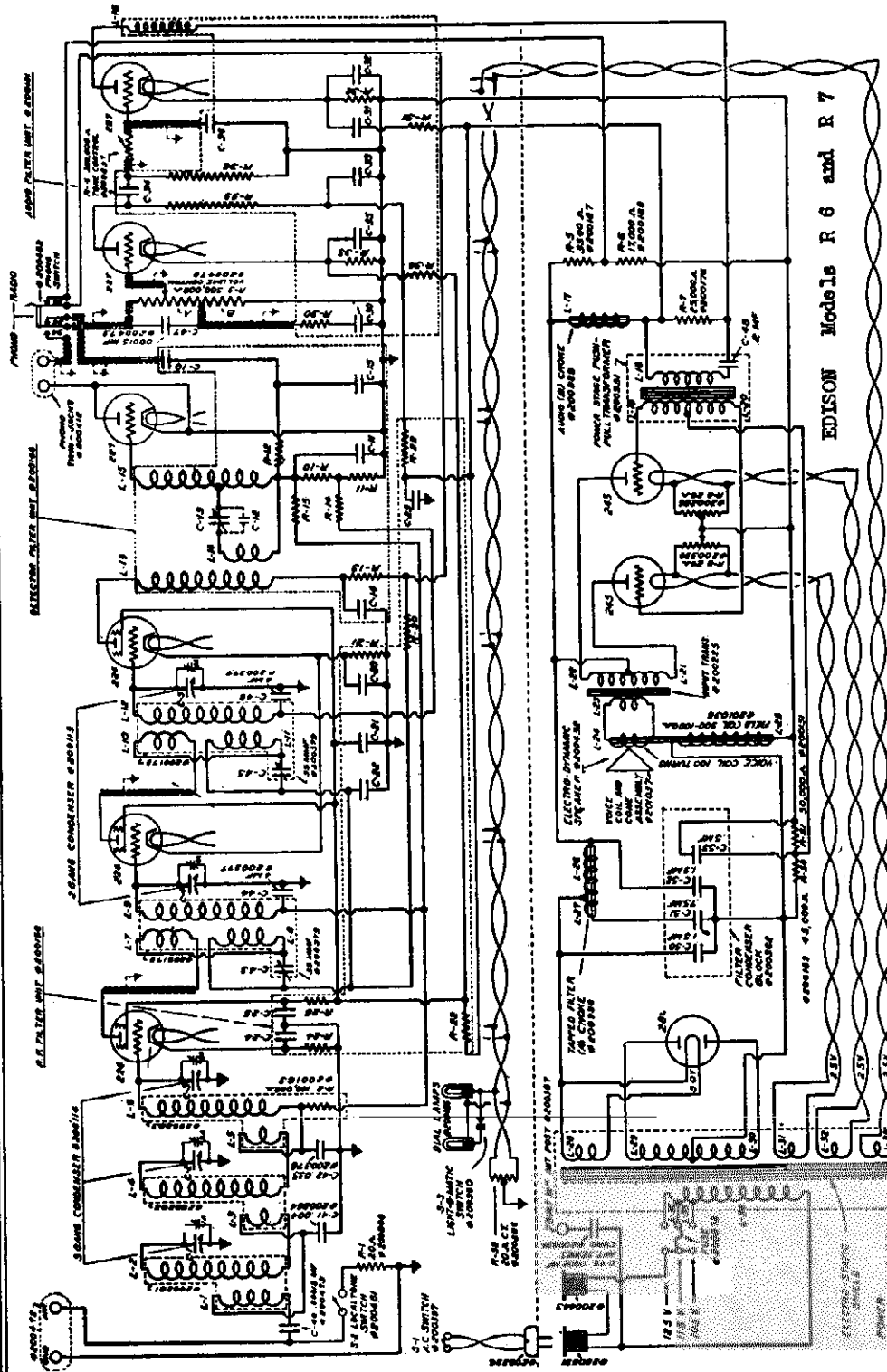
NO.	NAME AND FUNCTION	ELECTRICAL VALUE
C-1	Tuning condenser, 1st r. f. stage.	{ 2-gang variable condenser, maximum capacity. each section 355 mmfd.
C-2	Tuning condenser, 2nd r. f. stage.	
C-3	Tuning condenser, 3rd r. f. stage.	{ 2-gang variable condenser, maximum capacity. each section 355 mmfd.
C-4	Tuning condenser, detector stage.	
C-5	Each a fixed condenser tuning the long wave primary circuit of the associated transformer to approximately 450 kilocycles.	{ Each a .00025 mfd. fixed moulded mica condenser.
C-6		
C-7		{ Each an adjustable condenser, 40 to 80 mmfd.
C-8		
C-9	Long antenna series condenser.	.000125 mfd. fixed moulded mica condenser.
C-10	Neutralizing condensers, 1st, 2nd and 3rd r. f. stages, respectively.	{ Each an adjustable condenser, 40 to 80 mmfd.
C-11		
C-12		.0001 mfd. fixed moulded mica condenser.
C-13	Detector grid condenser.	
C-14	Detector plate condenser.	.001 mfd. fixed moulded mica condenser.
C-15	High frequency cut-off condenser.	.00045 mfd. fixed moulded mica condenser.
C-16	Detector Neutralizing Condenser	.000125 Mfd. fixed condenser.
C-19	Plate by-pass condenser, 1st r. f. stage.	.1 mfd. 300v. paper condenser. .1 mfd. 300v. paper condenser. .16 mfd. 300v. paper condenser. (C-19, 20 and 21 in same can.)
C-20	Bias by-pass condenser, 1st r. f. stage.	
C-21	Hum balance condenser (1st a. f.)	
C-22	Plate by-pass condenser, 2nd and 3rd r. f.	.1 mfd. 300v. paper condenser. .1 mfd. 150v. paper condenser. (C-22 and 23 in same can.)
C-23	Bias by-pass condenser, 2nd and 3rd r. f.	
C-24	A. f. by-pass condenser, detector plate.	.1 mfd. 300v. paper condenser. .5 mfd. 300v. paper condenser. .1 mfd. 150v. paper condenser. (C-24, 25 and 26 in same can.)
C-25	Filter condenser, detector plate supply	
C-26	Bias by-pass condenser, 1st a. f. stage.	
C-27	1st filter condenser.	2. mfd. 600v. paper condenser. 2. mfd. 600v. paper condenser. 1. mfd. 300v. paper condenser. (C-27, 28 and 29 in same can.)
C-28	2nd filter condenser.	
C-29	3rd filter condenser.	
C-1A	Tuning compensator, 1st r. f.	{ Each an adjustable air and mica dielectric condenser mounted on side of variable condenser section which it abuts.
C-2A	Tuning compensator, 2nd r. f.	
C-3A	Tuning compensator, 3rd r. f.	
C-4A	Tuning compensator, detector.	
R-1	Bias resistor, 1st r. f. stage.	1,000 ohm resistance, 1 watt.
R-2	Isolating resistor, 1st r. f.	1,000 ohm resistance, 1 watt.
R-3	Minimum bias resistor, 2nd and 3rd r. f.	400 ohm resistance, 1 watt.
R-4	Bleeder resistor.	40,000 ohm resistance, 1 watt.
R-5	Isolating resistor, 2nd and 3rd r. f.	400 ohm resistance, 1 watt.
R-6	Detector heater hum adjuster.	20 ohm potentiometer.
R-7	Detector grid leak.	1.5 megohm resistance, 1 watt.
R-8	2nd section detector filter resistor.	25,000 ohm resistance, 1 watt.
R-9	1st section detector filter resistor.	25,000 ohm resistance, 1 watt.



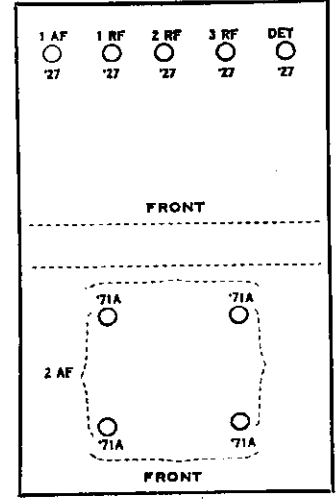


THOMAS A. EDISON, INC.

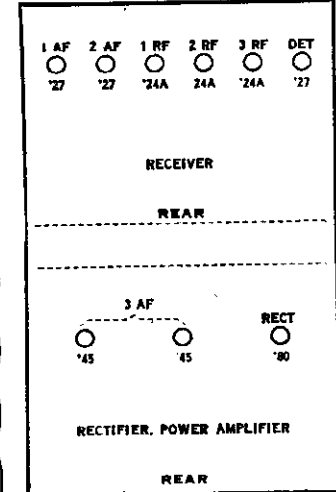
MODELS R6, R7  
Schematic



Models Edisons R4, R5 (DC)



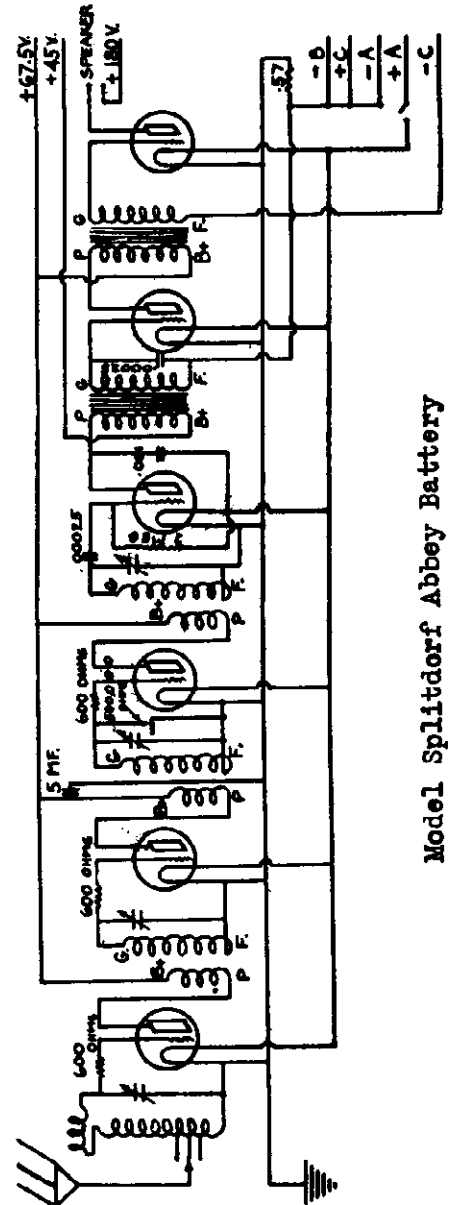
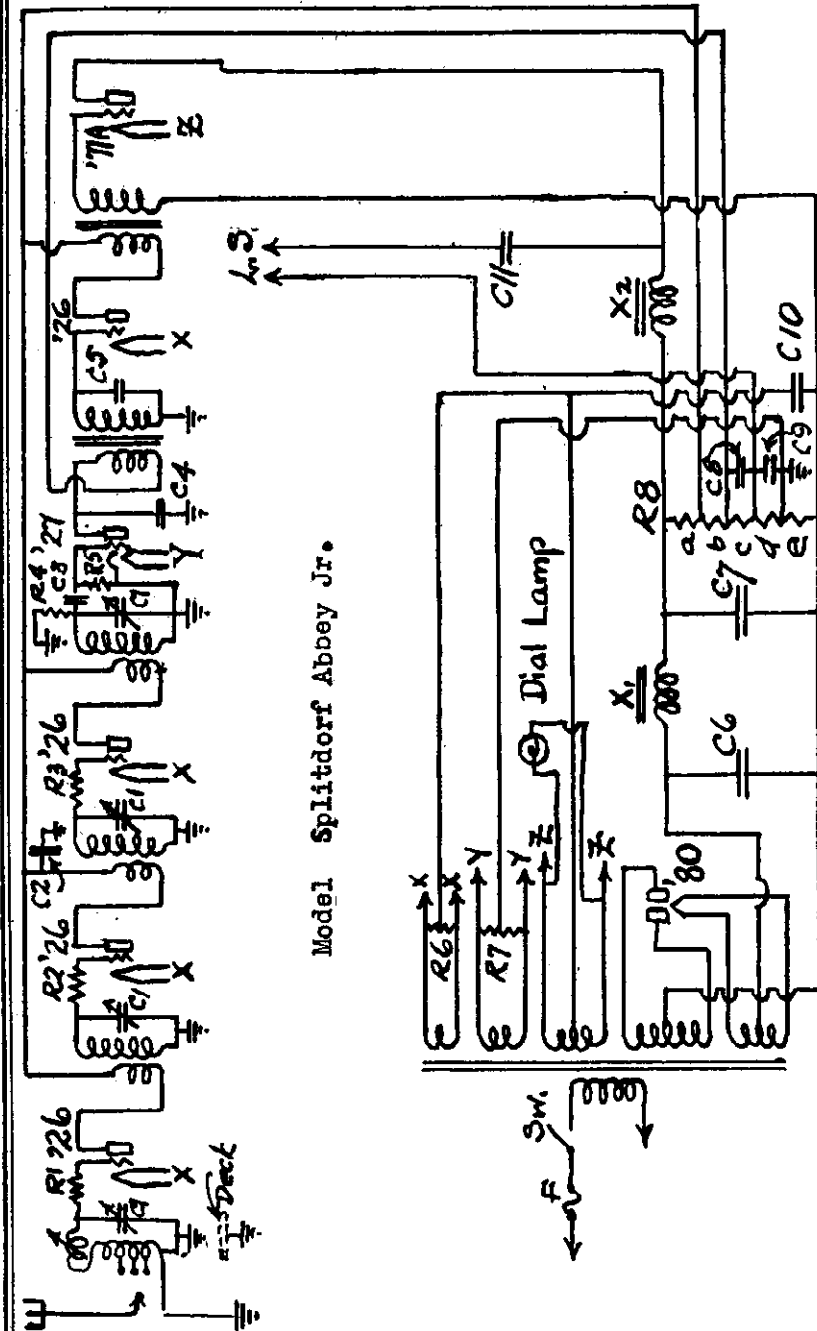
Models Edisons R6, R7



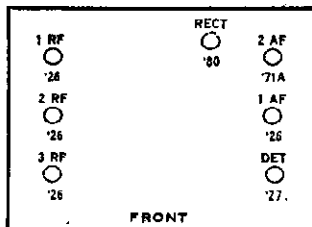
EDISON—Models R6 and R7  
Line Voltage 115—Voltage Tap 115  
\*Grid Vols 8-10 on Strong Signal  
†Volume Control Minimum 2.5—Maximum .5

Model	1 AF	2 AF	3 AF	4 AF	5 AF	6 AF	DET
R4	27	27	27	27	27	27	27
R5	27	27	27	27	27	27	27
R6	27	24A	24A	24A	24A	24A	27
R7	27	24A	24A	24A	24A	24A	27

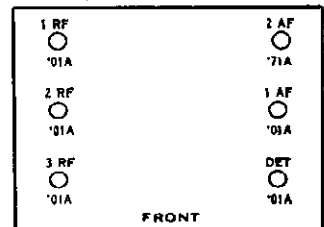
THOMAS A. EDISON, INC. MODEL Splitdorf Abbey Jr. MODEL Splitdorf Abbey Bat Schematic



Model Splitdorf Abbey Jr.

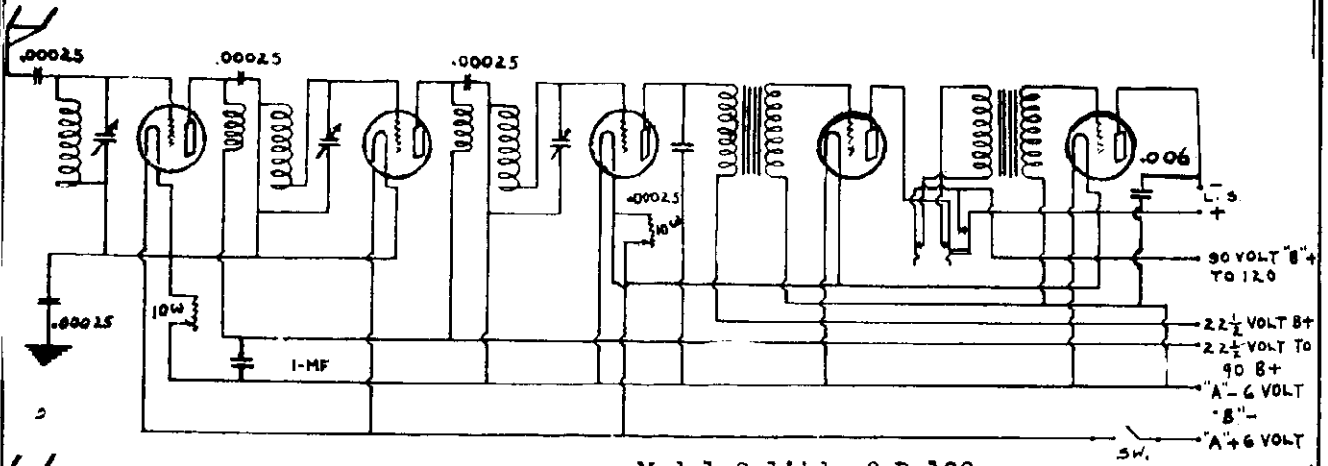


Model Splitdorf Abbey—Battery

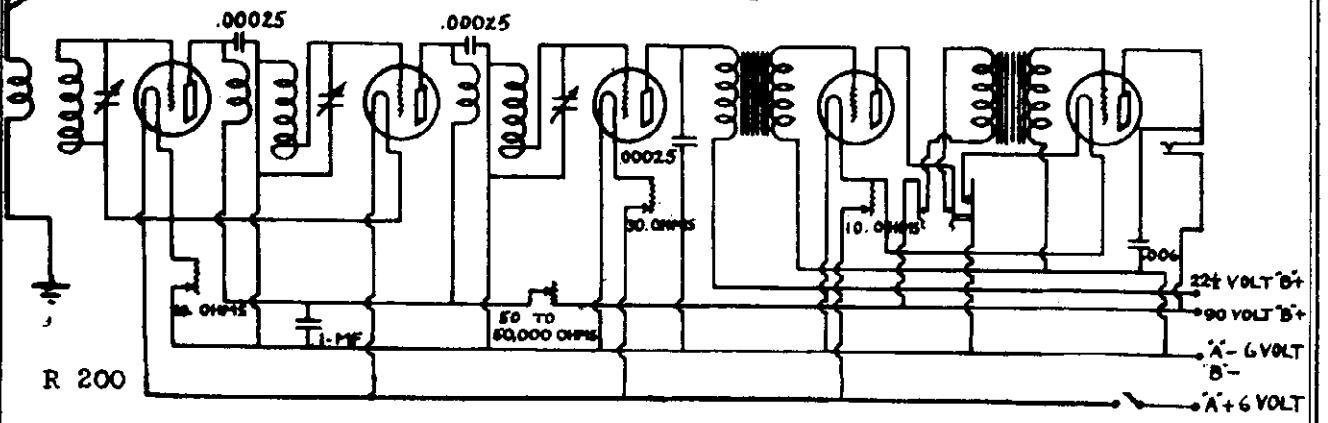


MODEL Splitdorf R-100  
 MODEL Splitdorf R-200  
 MODEL Splitdorf RV-695  
 Schematic

THOMAS A. EDISON, INC.



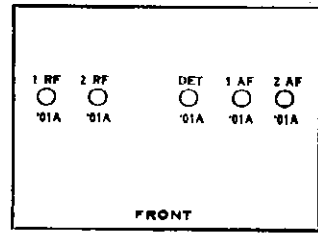
Model Splitdorf R-100



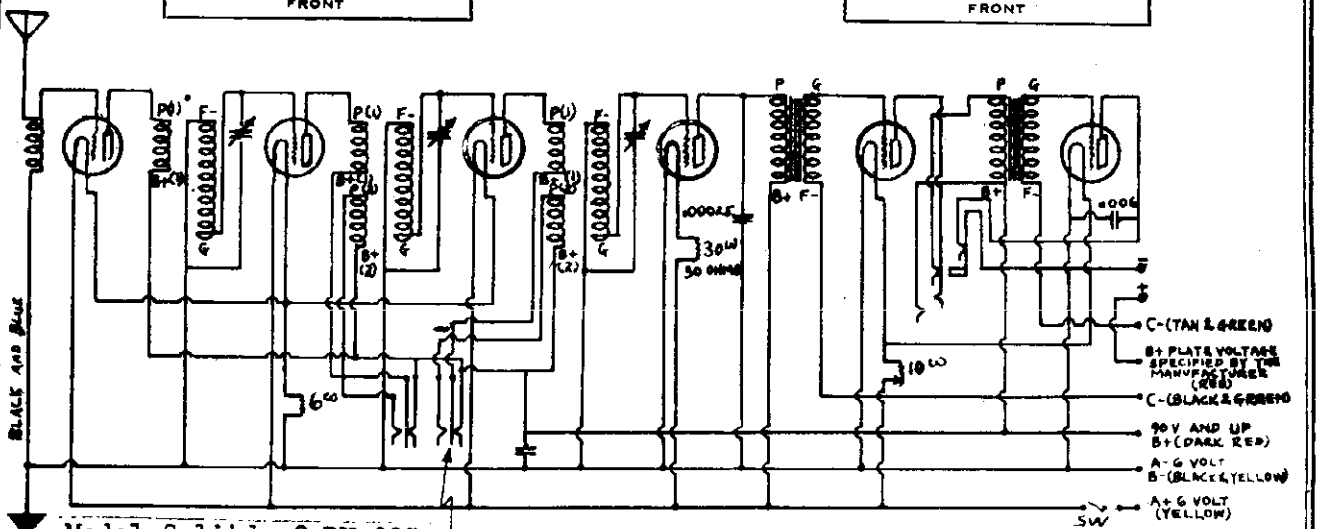
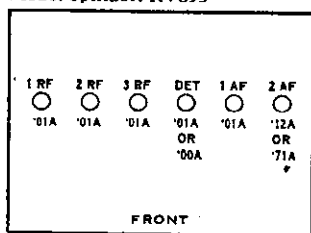
R 200

Model Splitdorf R-200

Models Splitdorf R100, R200.



Model Splitdorf RV695



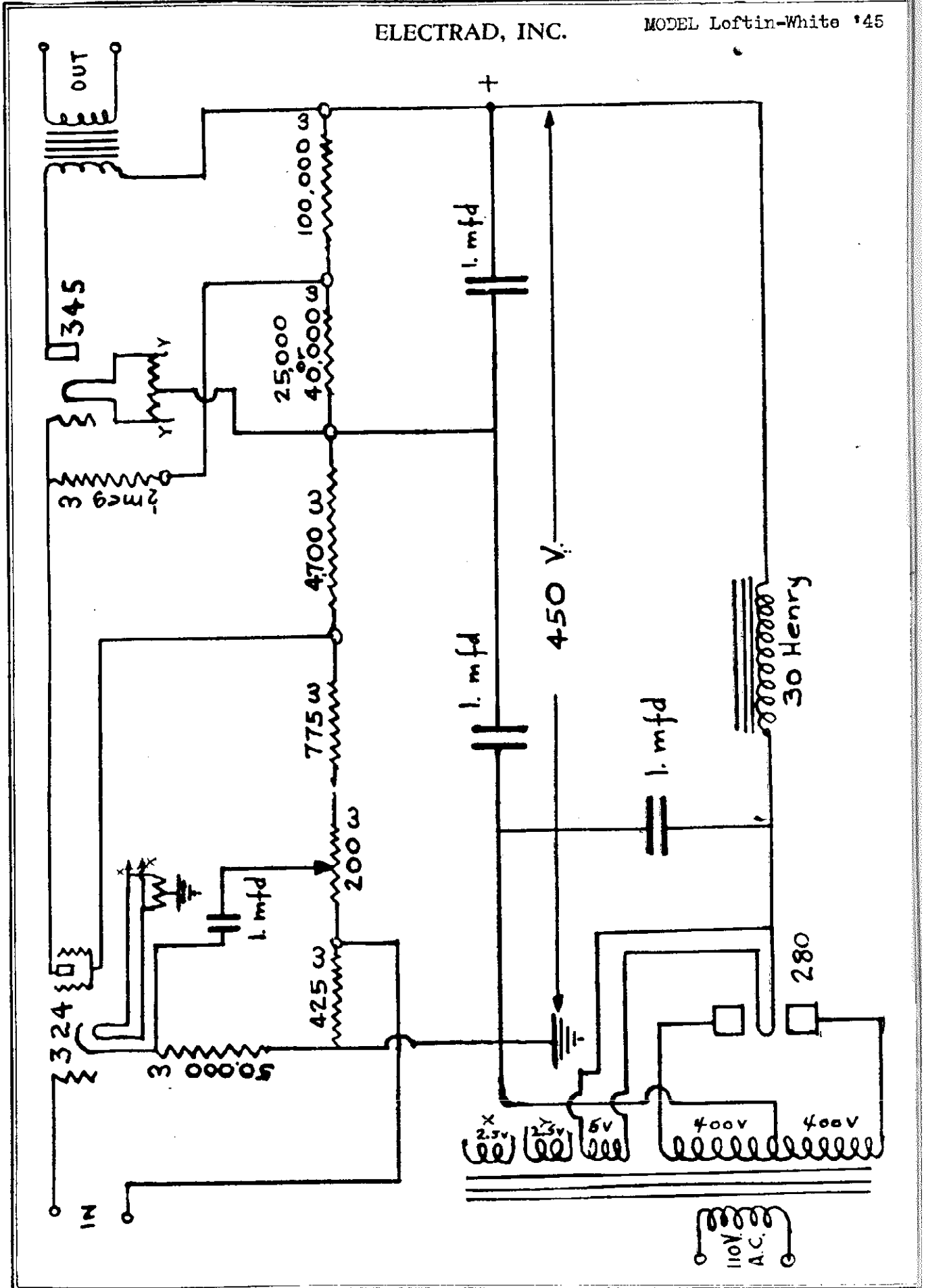
Model Splitdorf RV-695

3 LOWER BLADES IN JACK SWITCH



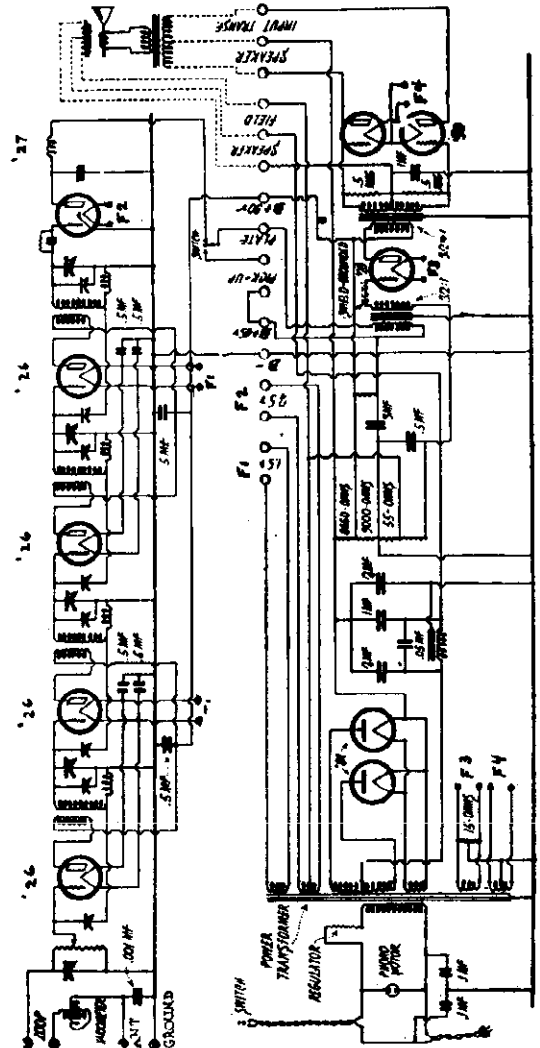
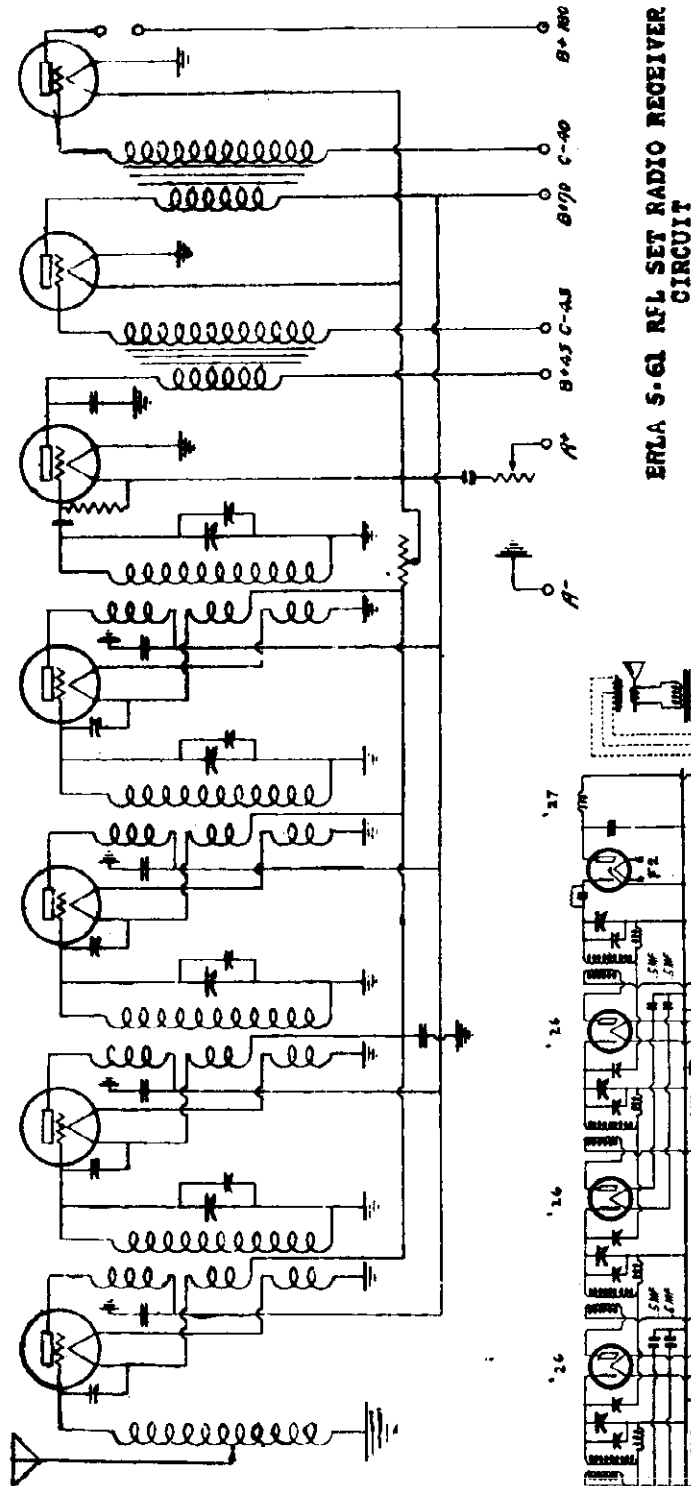
ELECTRAD, INC.

MODEL Loftin-White '45

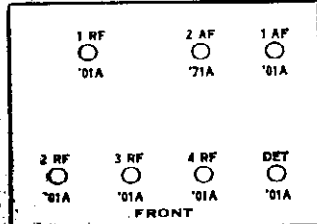


ELECTRICAL  
RESEARCH LABORATORIES, Inc.

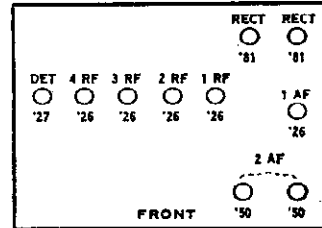
MODEL S-61  
MODEL R-1  
Schematic



Model Eria S61 (1927)



Model Eria R1-A (1928)



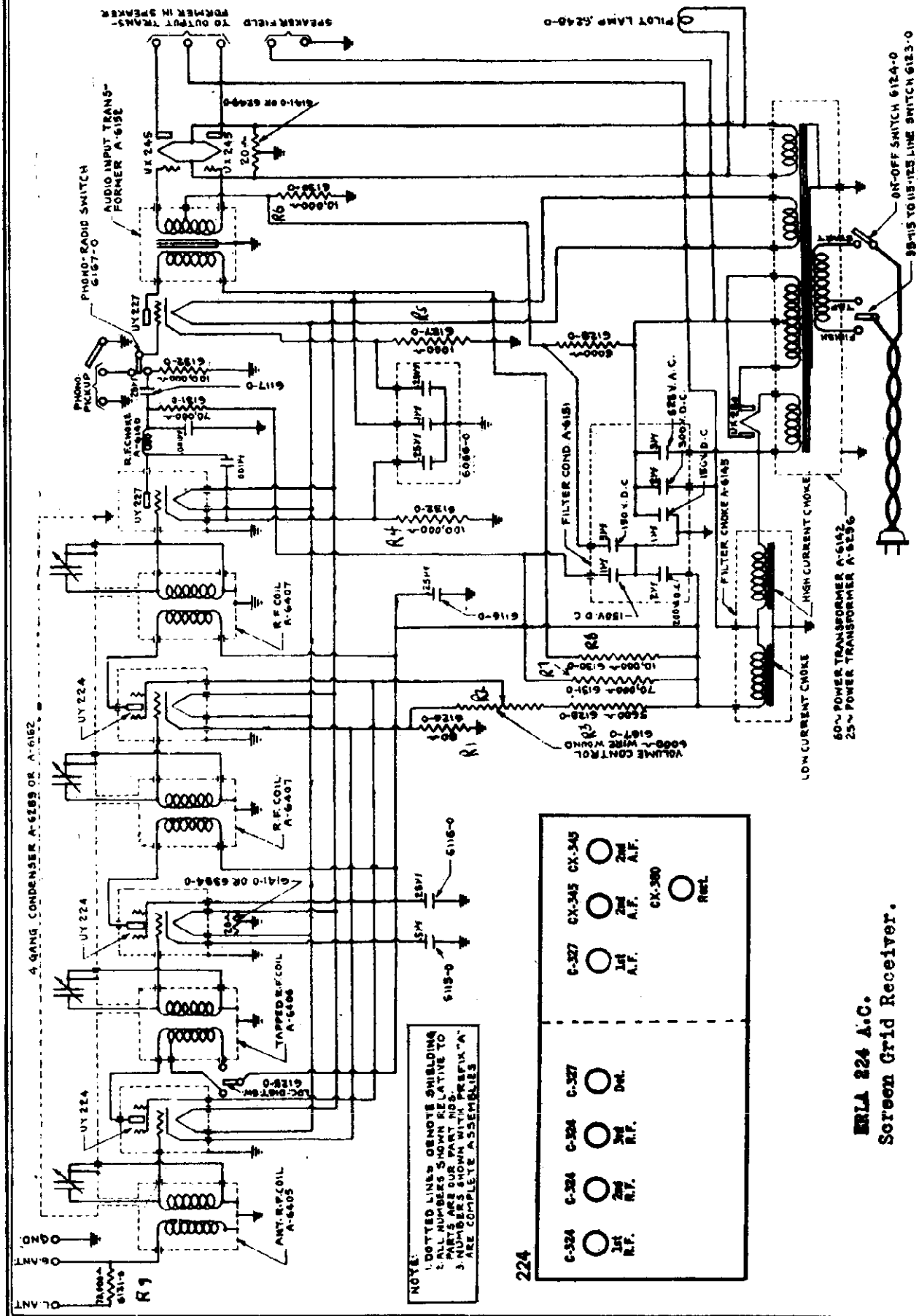
ERLA Model R-1 and Model A Power Unit





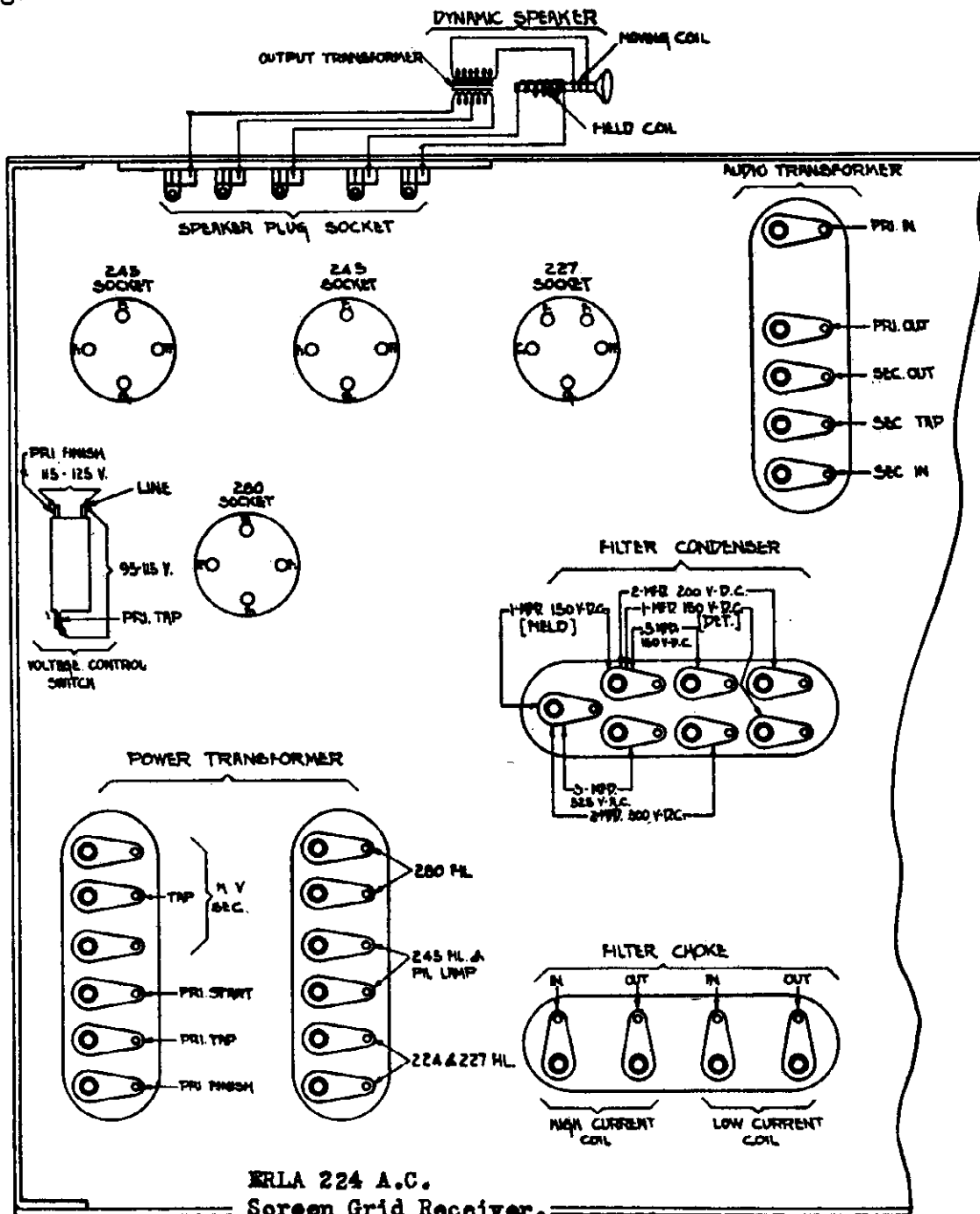
# ELECTRICAL RESEARCH LABORATORIES, Inc.

MODEL 224 AC  
Schematic



MODEL 224 AC  
Chassis  
Voltage

ELECTRICAL  
RESEARCH LABORATORIES, Inc.



ERLA 224 A.C. Screen Grid Receiver. Details of Power Supply Terminal Connections

Tube	Fil.	Screen Grid to cathode	Plate to cathode	Ground to cathode	Grid to Filament
280	4.8 to 5v AC		340 to 360v DC		
245	2.4 to 2.5v AC		240 to 250v DC		
Audio 227	2.35 to 2.4v AC		90 to 100v DC	4.5v DC	
DET. 227	2.35 to 2.4v AC		60 to 75v DC	6 to 7.5v DC	45 to 50v DC
224	2.35 to 2.4v AC	75 to 80v DC	160 to 170v DC	1.5 to 2v DC	

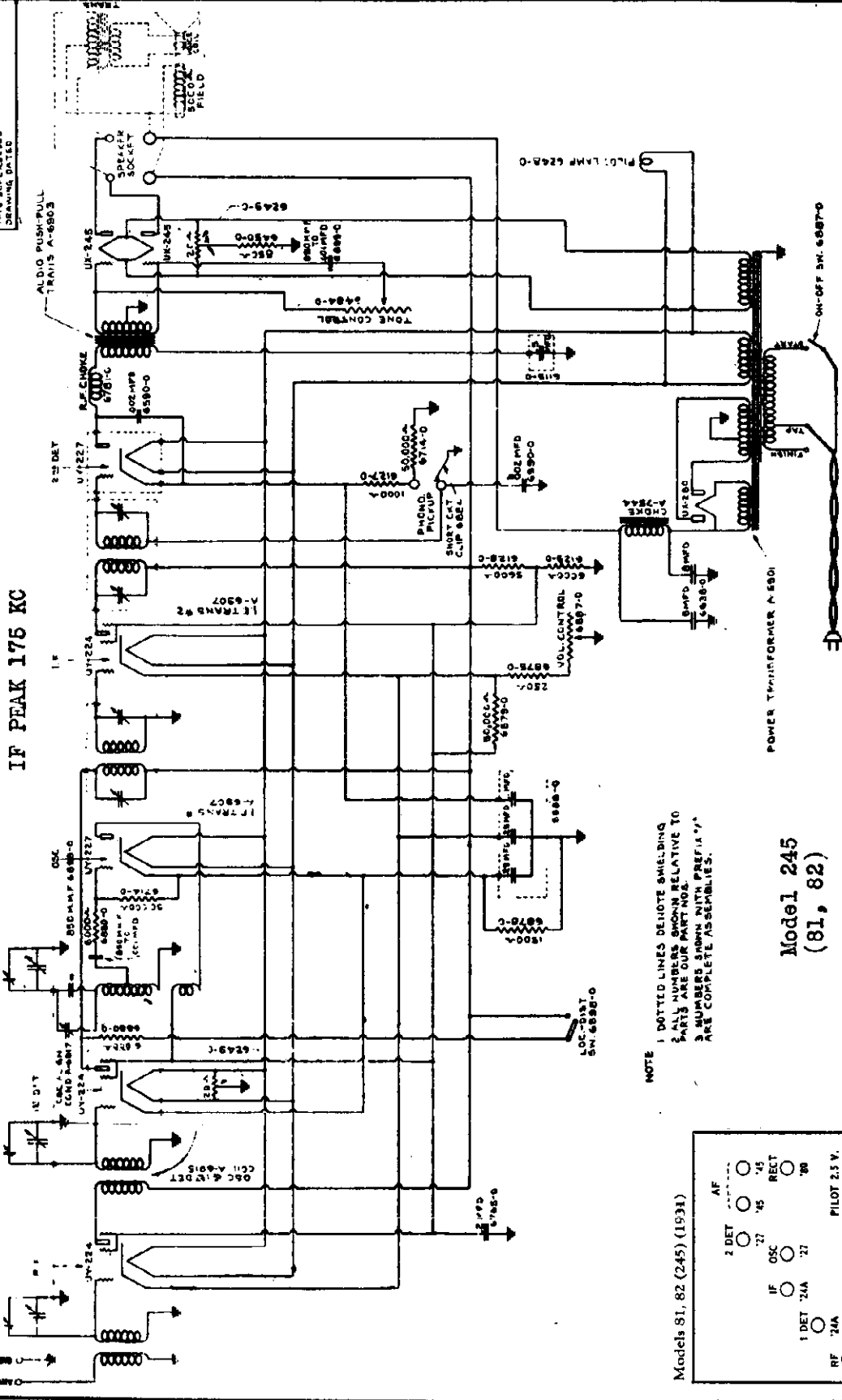
(The above are based on line voltage of 110 volts and the switch in the 95-115 position.)

(Volume control set to full volume position.)

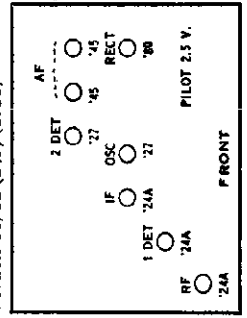
ELECTRICAL  
RESEARCH LABORATORIES, Inc.

MODEL 81, 82 (245)  
Schematic

PART NO. 20026  
DATE 2-28-37  
REVISION  
DRAWING OFFICE



NOTE: 1. DOTTED LINES DENOTE SHIELDING  
2. ALL NUMBERS SHOWN RELATIVE TO  
3. NUMBERS SHOWN WITH PREFIX "A"  
ARE COMPLETE ASSEMBLIES.



Models 81, 82 (245) (1531)

Model 245  
(81, 82)

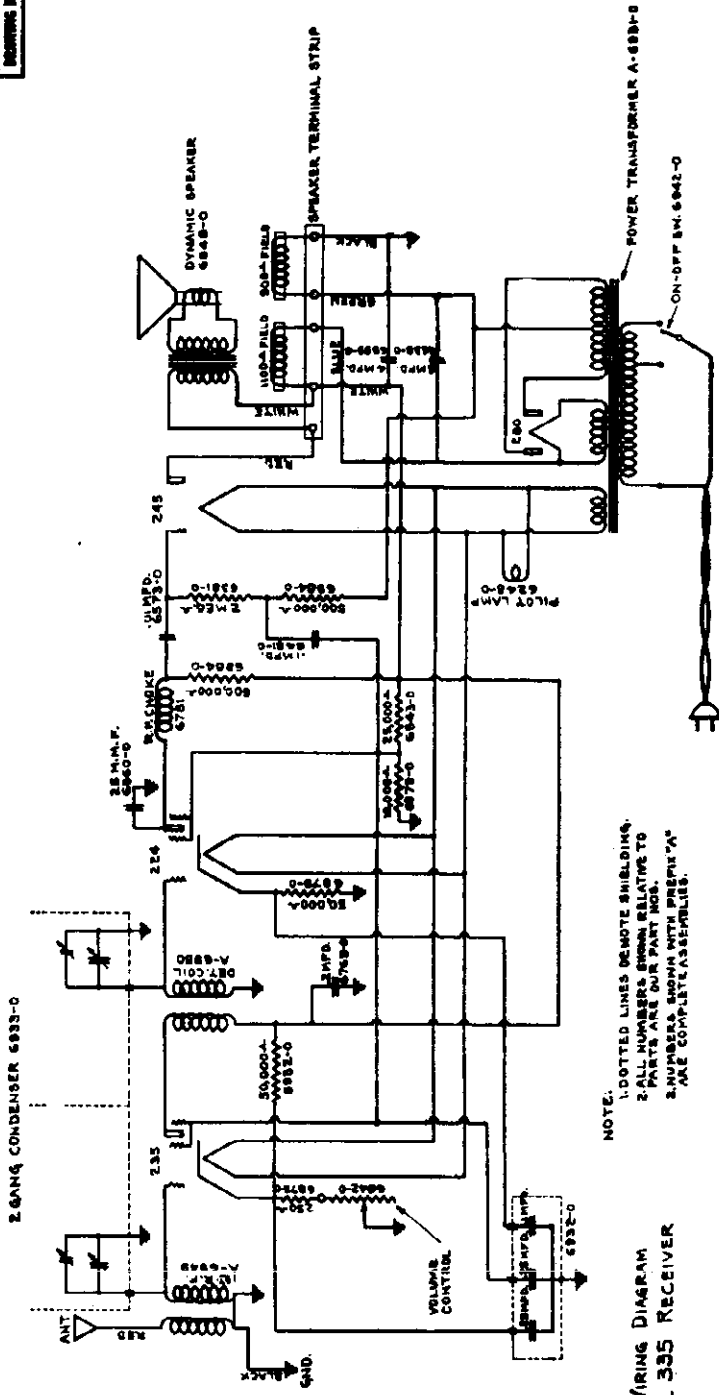
# ELECTRICAL RESEARCH LABORATORIES, Inc.

MODEL 335  
Schematic

<b>PART No.</b> 20027	<b>DATE</b> 4-8-31
THIS SUPERSEDES PREVIOUS EDITIONS	

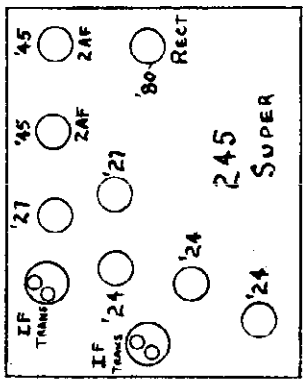
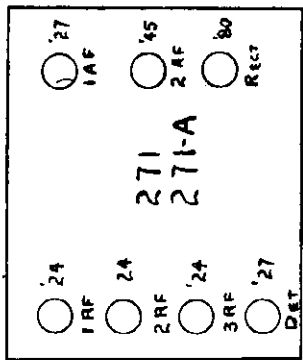
**NAME-**

CHANGES	DATE



**NOTE:**  
1. DOTTED LINES DENOTE SHIELDING.  
2. ALL NUMBERS SHOWN RELATIVE TO PARTS ARE OUR PART NOS.  
3. NUMBERS SHOWN WITH PREFIX "A" ARE COMPLETE ASSEMBLIES.

**WIRING DIAGRAM  
MODEL 335 RECEIVER**



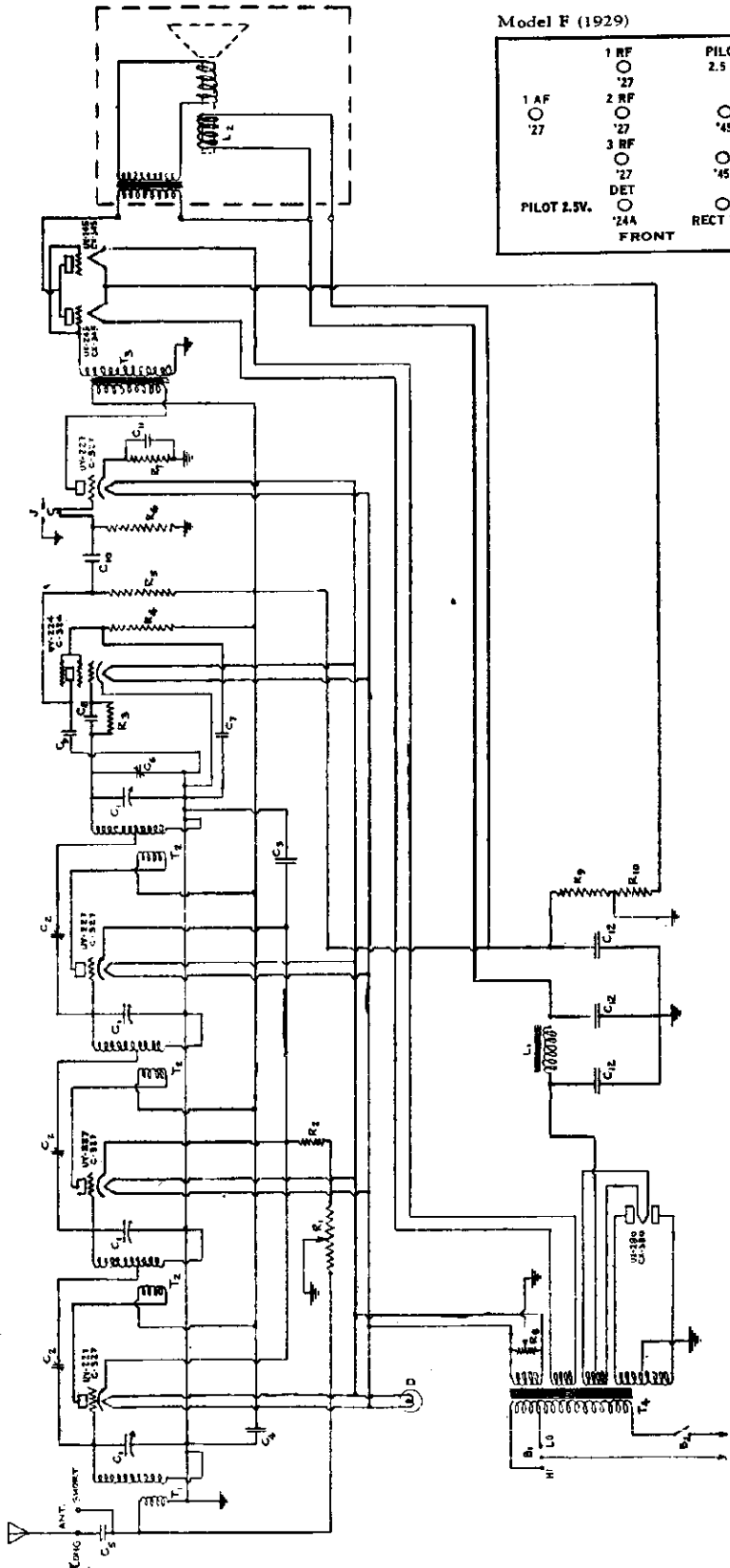
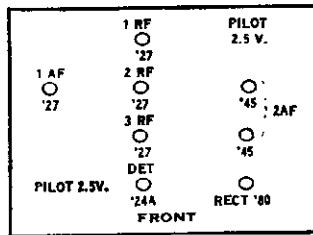
**DO NOT SCALE THIS DRAWING WORK TO DIMENSIONS SHOWN**

<b>DIMENSION TOLERANCES</b>	<b>MATERIAL</b>
FINISHES AND SURF. A TOL. OF .001 HOLE DRILLS AND A TOL. OF .001 REAMERS AND TAPS AND A TOL. OF .001 REAMERS AND TAPS AND A TOL. OF .001 REAMERS AND TAPS AND A TOL. OF .001 REAMERS AND TAPS AND A TOL. OF .001	USED ON FINISH
ERLA ELECTRICAL RESEARCH LABORATORIES, INC. CHICAGO	SCALE CHECKED BY DATE

**MODEL F**  
Schematic  
Data

**EMERSON RADIO AND PHONOGRAPH**  
**CORPORATION**

Model F (1929)



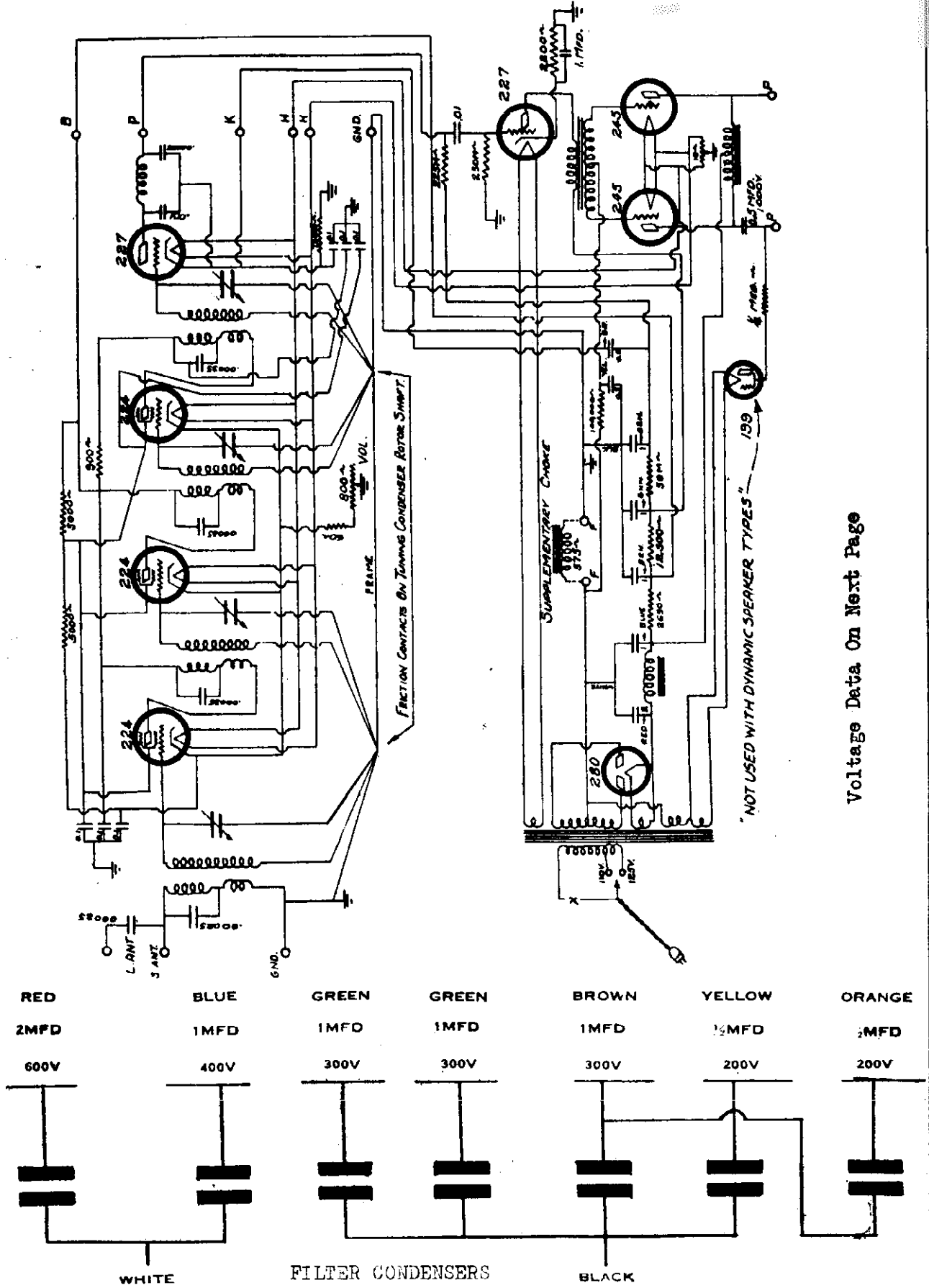
**Model "F"**  
**Line Voltage 115—Set on High Volt Tap—Volume Control Position Full On \*Last Stage Is 2 No. 245 in Parallel**

Type of Tube	Type of Tube	Type of Tube	MEASURED DATA IN NORMAL USE				MEASURED DATA IN NORMAL USE				
			A	B	C	D	A	B	C	D	
227	1B1	6X4	2.4	119	2.3	115	7	7	5.6	4.6	.0
227	1B1	6X4	2.4	119	2.3	115	7	7	5.6	4.6	.0
227	1B1	6X4	2.4	119	2.3	115	7	7	5.6	4.6	.0
227	1B1	6X4	2.4	119	2.3	115	7	7	5.6	4.6	.0
227	1B1	6X4	2.4	119	2.3	115	7	7	5.6	4.6	.0
245	5B6	5B6	5.8	290	8.4	175	31	31	30	30	5
245	5B6	5B6	5.8	290	8.4	175	31	31	30	30	5

- C<sub>1</sub> Tuning Condenser.
- C<sub>2</sub> Neutralizing Condenser.
- C<sub>3</sub> R.F. Grid Bias Condenser .25 MF.
- C<sub>4</sub> R.F. Plate By-Pass Condenser .25 MF.
- C<sub>5</sub> Antenna Condenser .00025 MF.
- C<sub>6</sub> Det. Padding Condenser.
- C<sub>7</sub> Det. Screen Grid Bias Condenser .25 MF.
- C<sub>8</sub> Det. Control Grid Condenser .0001 MF.
- C<sub>9</sub> Det. Plate Condenser .0005 MF.
- C<sub>10</sub> 1st Audio Coupling Condenser 0.1 MF.
- C<sub>11</sub> 1st Audio Grid Condenser 0.5 MF.
- C<sub>12</sub> Filter Condensers 8.0 MF Each.
- L<sub>1</sub> Filter Choke.
- L<sub>2</sub> Speaker Field 2500 Ohms.
- J Phonograph Jack.
- D Dial Lamp.
- R<sub>1</sub> Volume Control 15,000 Ohms.
- R<sub>2</sub> R.F. Grid Bias Resistance 620 Ohms.
- R<sub>3</sub> Det. Control Grid Resistance .5 Megohm.
- R<sub>4</sub> Det. Screen Grid Resistance .5 Megohm.
- R<sub>5</sub> 1st Audio Coupling Resistance .1 Megohm.
- R<sub>6</sub> 1st Audio Grid Resistance .5 Megohm.
- R<sub>7</sub> 1st Audio Grid Bias Resistance 1750 Ohms.
- R<sub>8</sub> Hum Control 20 Ohms.
- R<sub>9</sub> Loss Current Resistance 4500 Ohms.
- R<sub>10</sub> 245 Grid Bias Resistance 650 Ohms.
- T<sub>1</sub> Antenna Transformer.
- T<sub>2</sub> R.F. Inter stage Transformer.
- T<sub>3</sub> Input Audio Transformer.
- T<sub>4</sub> Power Transformer.
- B<sub>1</sub> Hi-Lo S.P.D.T. Toggle Switch.
- B<sub>2</sub> S.P.S.T. Toggle Switch.

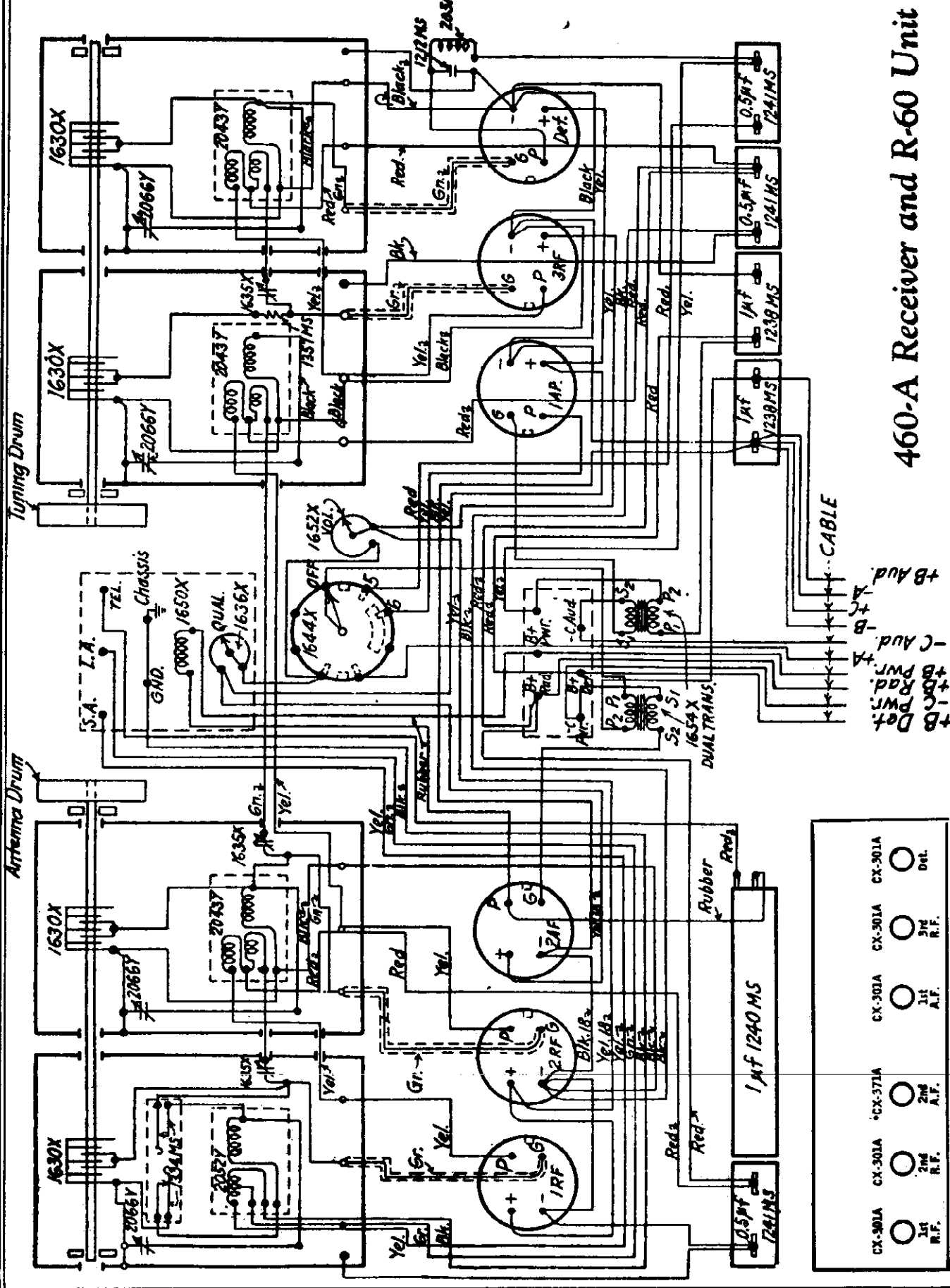
MODEL 65  
Schematic

EMERSON RADIO AND PHONOGRAPH  
CORPORATION



Voltage Data On Next Page

FADA RADIO & ELECTRIC CORP. MODEL 460-A Receiver R-60 Unit



460-A Receiver and R-60 Unit

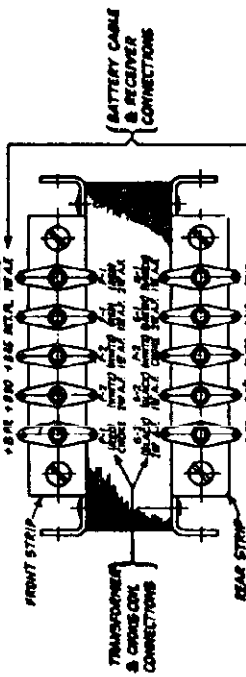
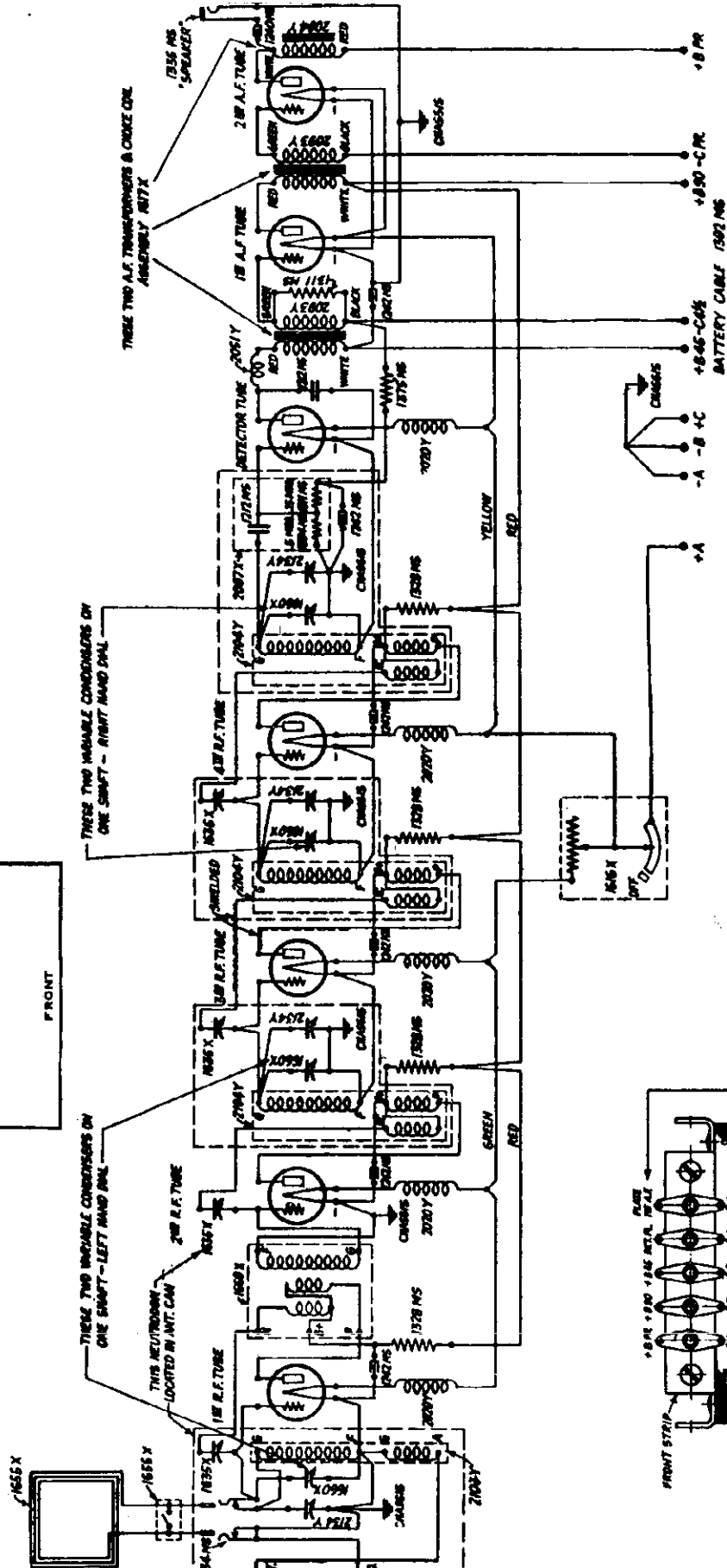
CX-301A	CX-301A	CX-301A	CX-301A	CX-301A	CX-301A
1st R.F.	2nd R.F.	1st A.F.	2nd A.F.	5th R.F.	Det.

**MODEL 475-A**  
**SF 45/75**  
**Schematic**

**FADA RADIO & ELECTRIC CORP**

Models Fada's 475A, 45-75A

- 1.0F 30V 30F 2.0F 1.0F 1.0F DET
- 0.01A 0.01A 0.01A 0.01A 0.01A 0.01A



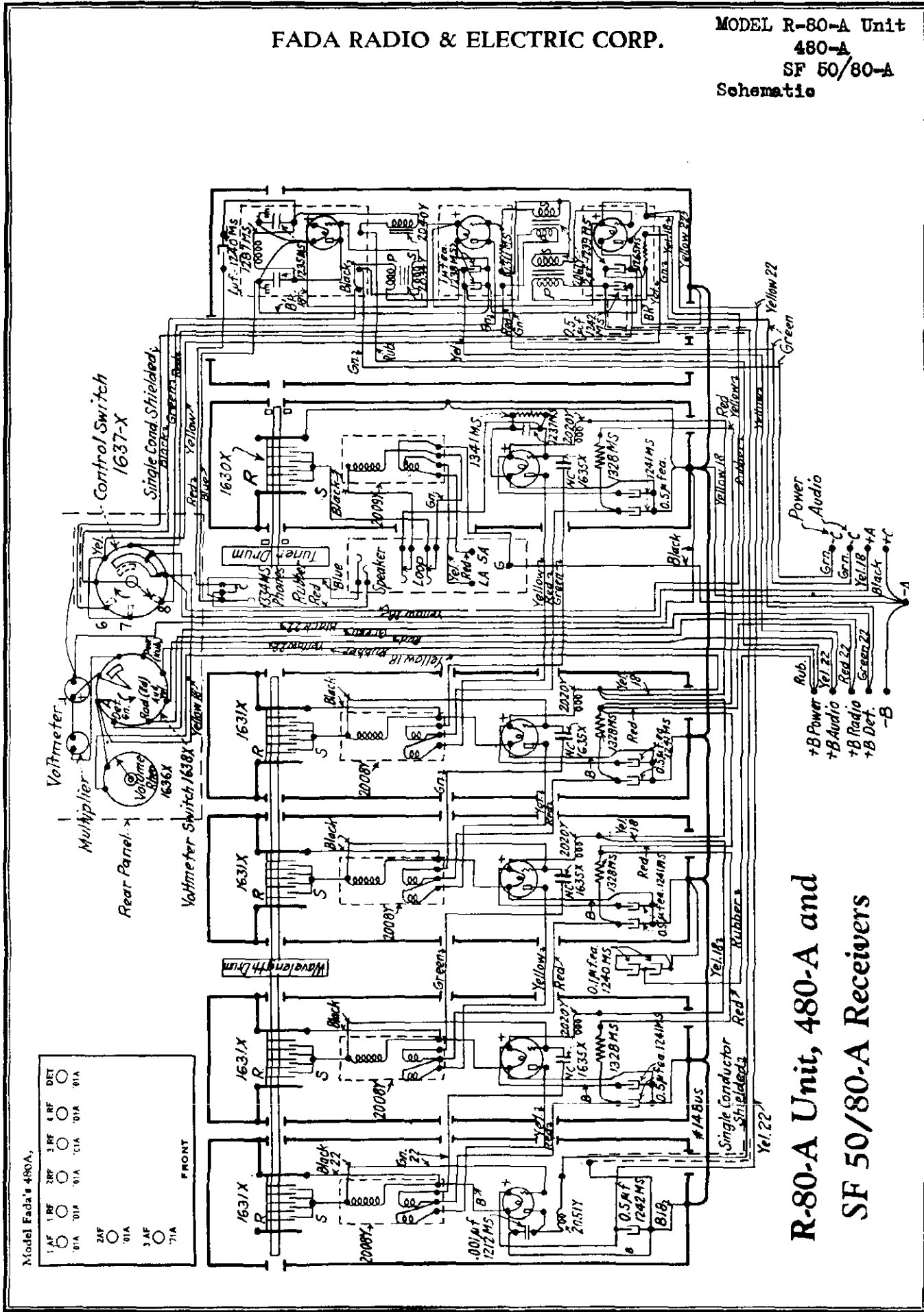
**475-A and SF 45/75 Receivers**

TRANSFORMER TERMINAL STRIP CONNECTIONS



FADA RADIO & ELECTRIC CORP.

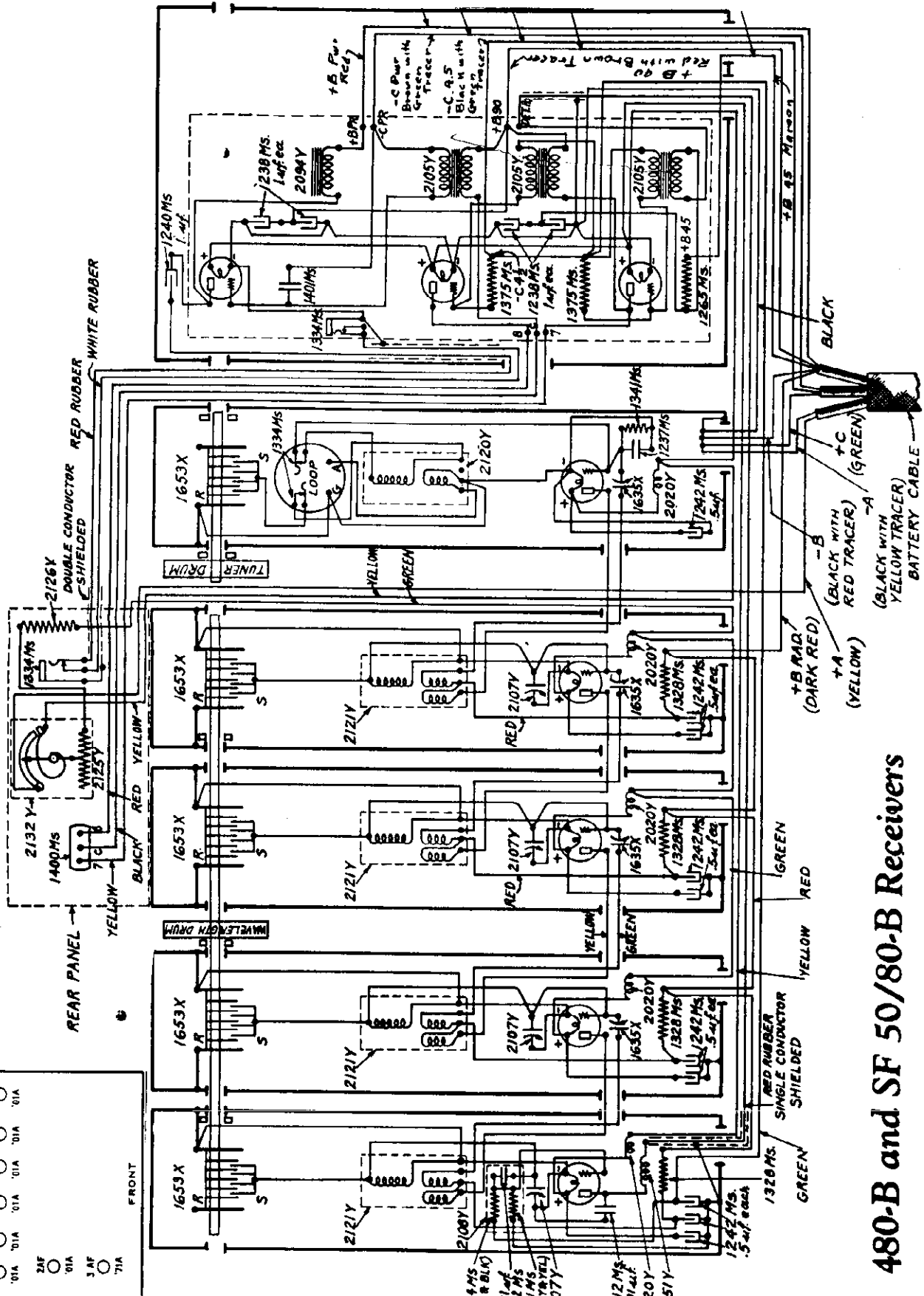
MODEL R-80-A Unit  
480-A  
SF 50/80-A  
Schematic



R-80-A Unit, 480-A and  
SF 50/80-A Receivers

MODEL 480-B  
SF 50/80-B  
Schematic

FADA RADIO & ELECTRIC CORP.



480-B and SF 50/80-B Receivers

Model Fada 480B

1 AF	2 RF	3 RF	4 RF	5 RF	6 RF
7 AF	8 AF	9 AF	10 AF	11 AF	12 AF
13 AF	14 AF	15 AF	16 AF	17 AF	18 AF
19 AF	20 AF	21 AF	22 AF	23 AF	24 AF
25 AF	26 AF	27 AF	28 AF	29 AF	30 AF

FRONT

FADA RADIO & ELECTRIC CORP.

MODEL 475UA  
472UA  
475CA  
472CA

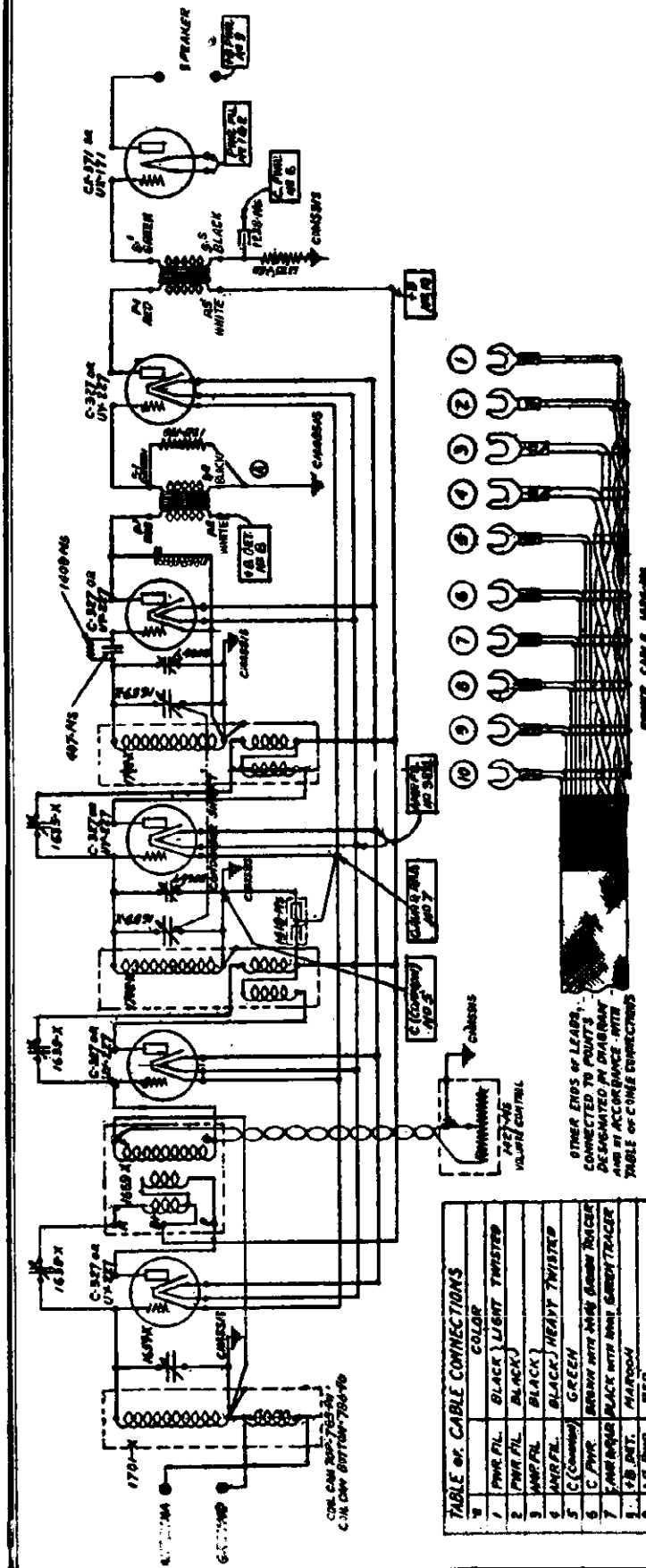


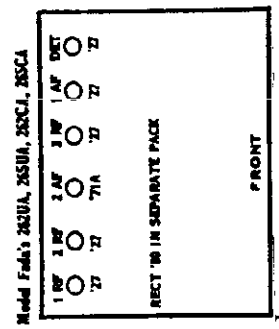
TABLE OF CABLE CONNECTIONS

NO	POWER FIL.	COLOR
1	BLACK LIGHT TWISTED	
2	BLACK	
3	BLACK	
4	BLACK HEAVY TWISTED	
5	GREEN	
6	BROWN WITH WIRE BINDER TRACER	
7	BLACK WITH WIRE BINDER TRACER	
8	HAZARD	
9	RED	
10	RED WITH WIRE BINDER TRACER	

"Special" A, C, Receiver 265-UA or CA and RP-65-UA or CA  
262-UA or CA and RP-62-UA or CA

- 1212-Ms Condenser - Detector filter - .001 mfd
- 1288-Ms Condenser - By-pass - 1.0 mfd - 200 Volts (small)
- 1242-Ms Condenser - By-pass - 0.5 mfd - 200 Volts (small)
- 1311-Ms Resistance - carbon - 250,000 ohms (yellow)
- 1378-Ms Resistance - carbon - 125,000 ohms (grey)
- 1407-Ms Grid Condenser - .000125 mfd
- 1408-Ms Grid Leak - 2 meg
- 1418-Ms Condenser - By-pass - 0.25 - 0.25 mfd 200-400V.
- 1341-Ms Resistance - carbon (green) 20,000 ohms
- 1410-Ms Main filter condenser block - 10 1/2 mfd
- 1414-Ms Resistance - W.W. (yellow & white) - 250 ohms
- 1416-Ms Resistance - W.W. (green & white) 2,000 ohms
- 1416-Ms Resistance - W.W. (white & white) 3,000 ohms
- 1417-Ms Resistance - carbon (blue) - 50,000 ohms
- 1419-Ms Condenser (line buffer) - 0.5 mfd - 400 volts

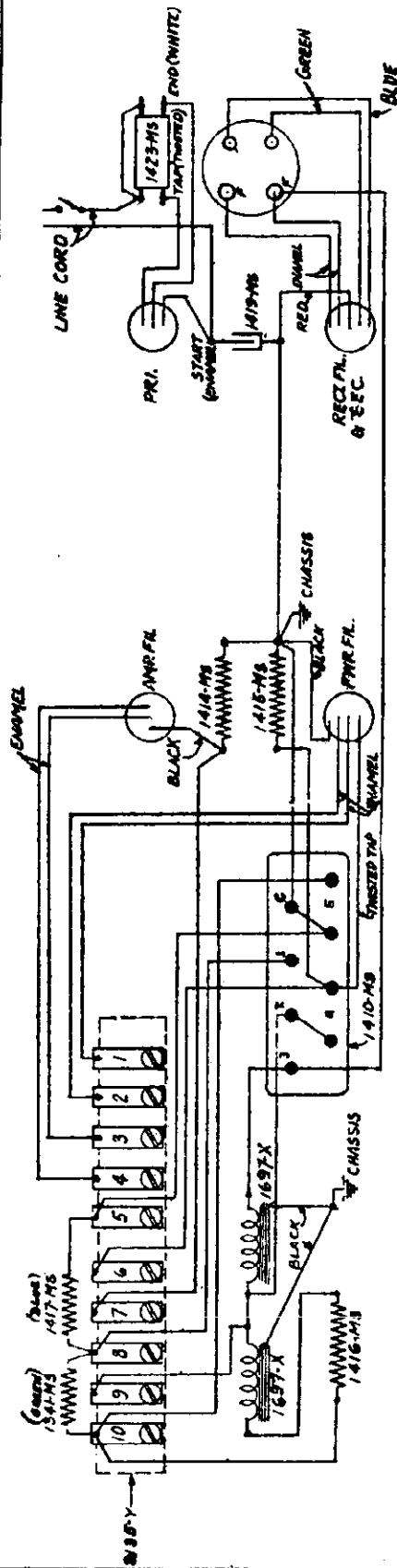
For Power Unit See Model "C"





FADA RADIO & ELECTRIC CORP.

MODEL "C" Electric Unit

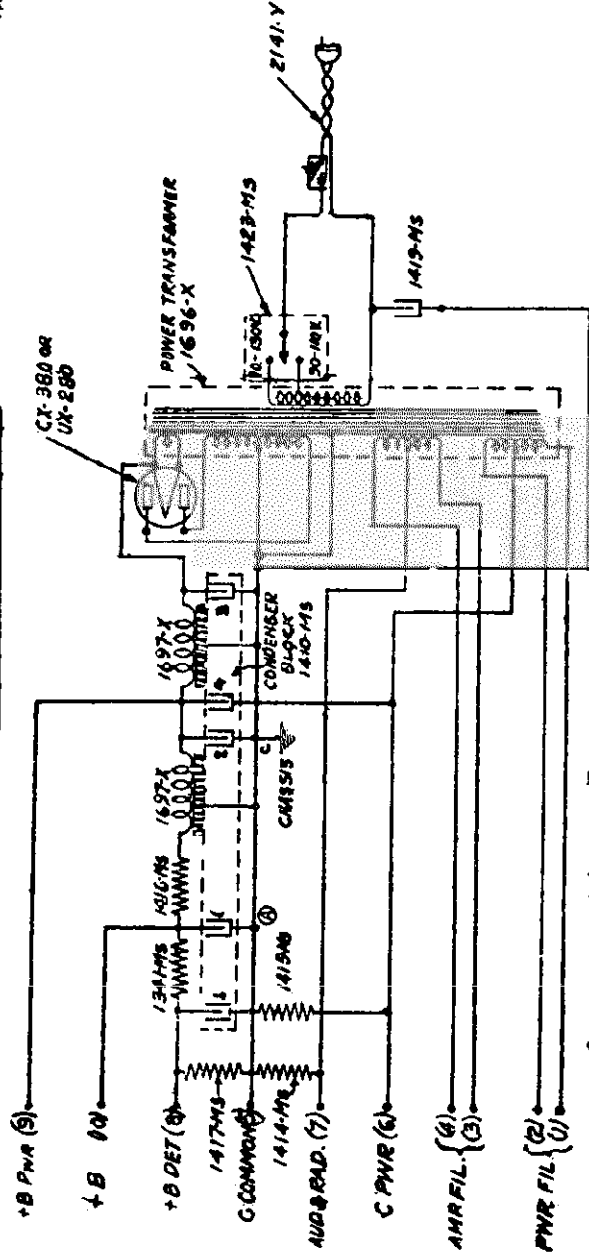


ACTUAL WIRING DIAGRAM

TABLE OF CABLE CONNECTIONS

- 1 } POWER FILAMENT
- 2 }
- 3 } AMP FILAMENT
- 4 }
5. C. COMMON
6. C. PWR
7. C. AUD. & RAD.
8. +B DET.
9. +B PWR
10. +B

Type "J" unit for 25 cycle current is similar, except that a 1706X power transformer is used instead of the 1696X transformer as indicated on the type "C" unit for 60 cycles.



SCHEMATIC WIRING DIAGRAM

1341 Ms	Carbon	20,000 ohms	red and green or green only
1414 Ms	Wire	250 ohms	yellow and white
1415 Ms	Wire	2,000 ohms	green and white
1416 Ms	Wire	3,000 ohms	white and white
1417 Ms	Carbon	50,000 ohms	blue

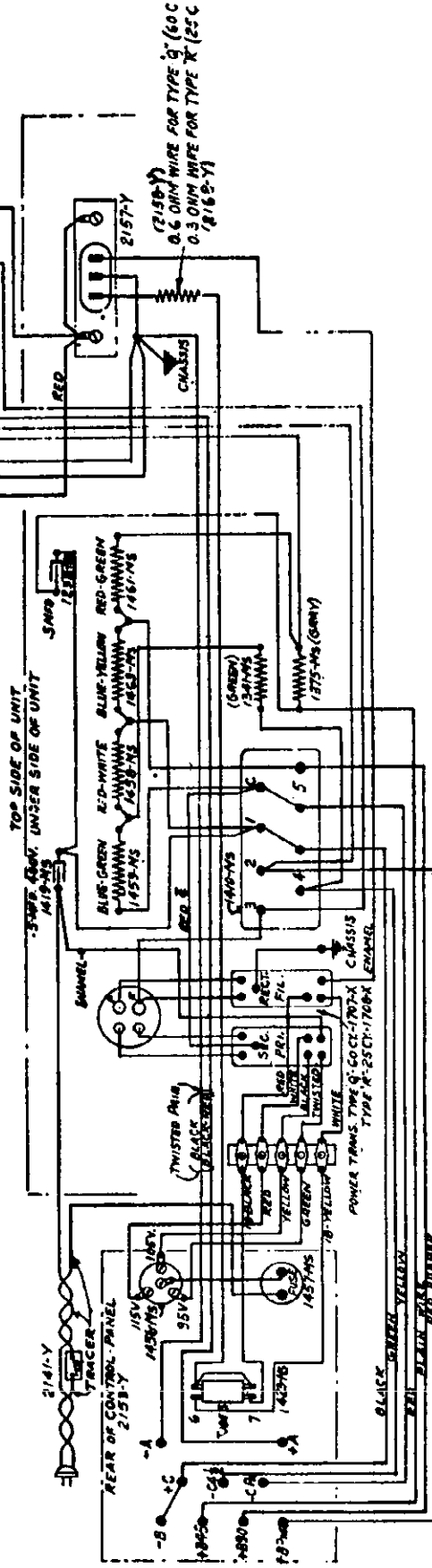
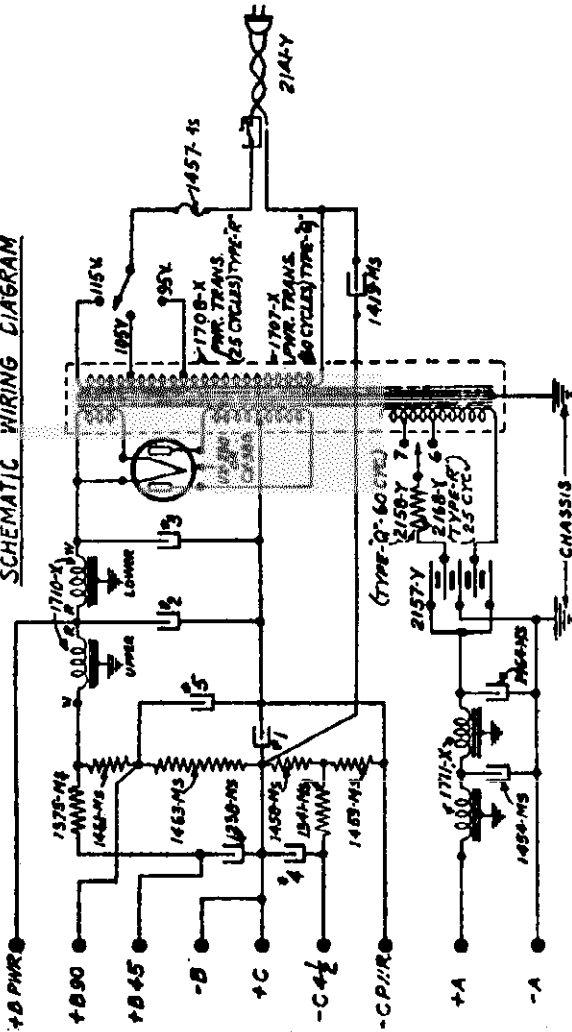
Type "C" Electric Unit, used with "Special" and "7" AC Receivers

MODEL ABC S.P.U.  
66-Q, 62-R

FADA RADIO & ELECTRIC CORP.

- 1375 Ms Grey 125,000 ohms
- 1341 Ms Green 20,000 ohms
- 1458 Ms Red-White 75 ohms
- 1459 Ms Blue-Green 500 ohms
- 1461 Ms Red-Green 750 ohms
- 1463 Ms Blue-Yellow 10,000 ohms

**SCHEMATIC WIRING DIAGRAM**

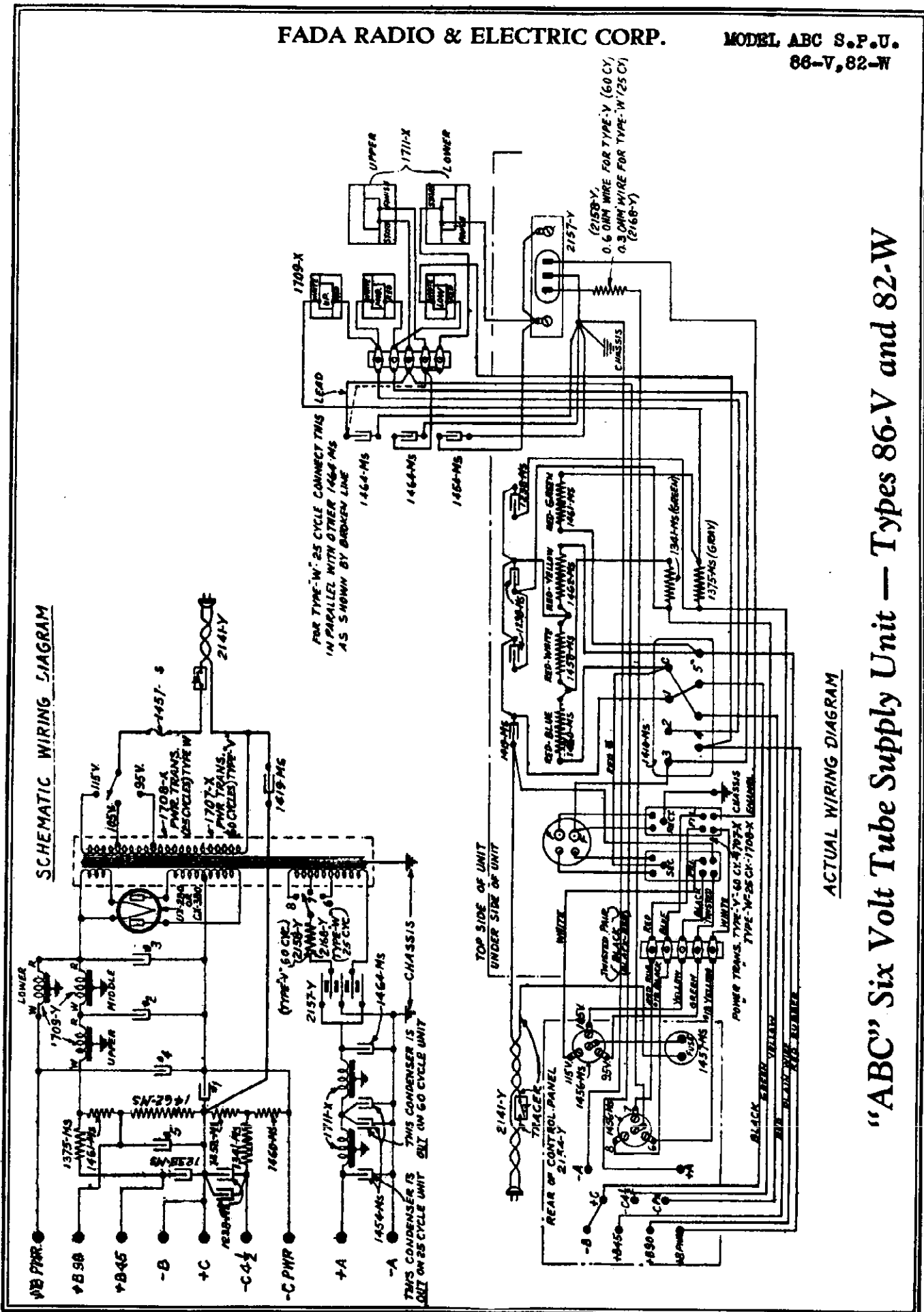


**ACTUAL WIRING DIAGRAM**

“ABC” Six Volt Tube Supply Unit — Types 66-Q and 62-R

FADA RADIO & ELECTRIC CORP.

MODEL ABC S.P.U.  
86-V, 82-W



"ABC" Six Volt Tube Supply Unit — Types 86-V and 82-W

MODEL 10, 11, 30, 31  
 MODEL 10Z, 11Z, 30Z, 31Z FADA RADIO & ELECTRIC CORP.  
 Schematic

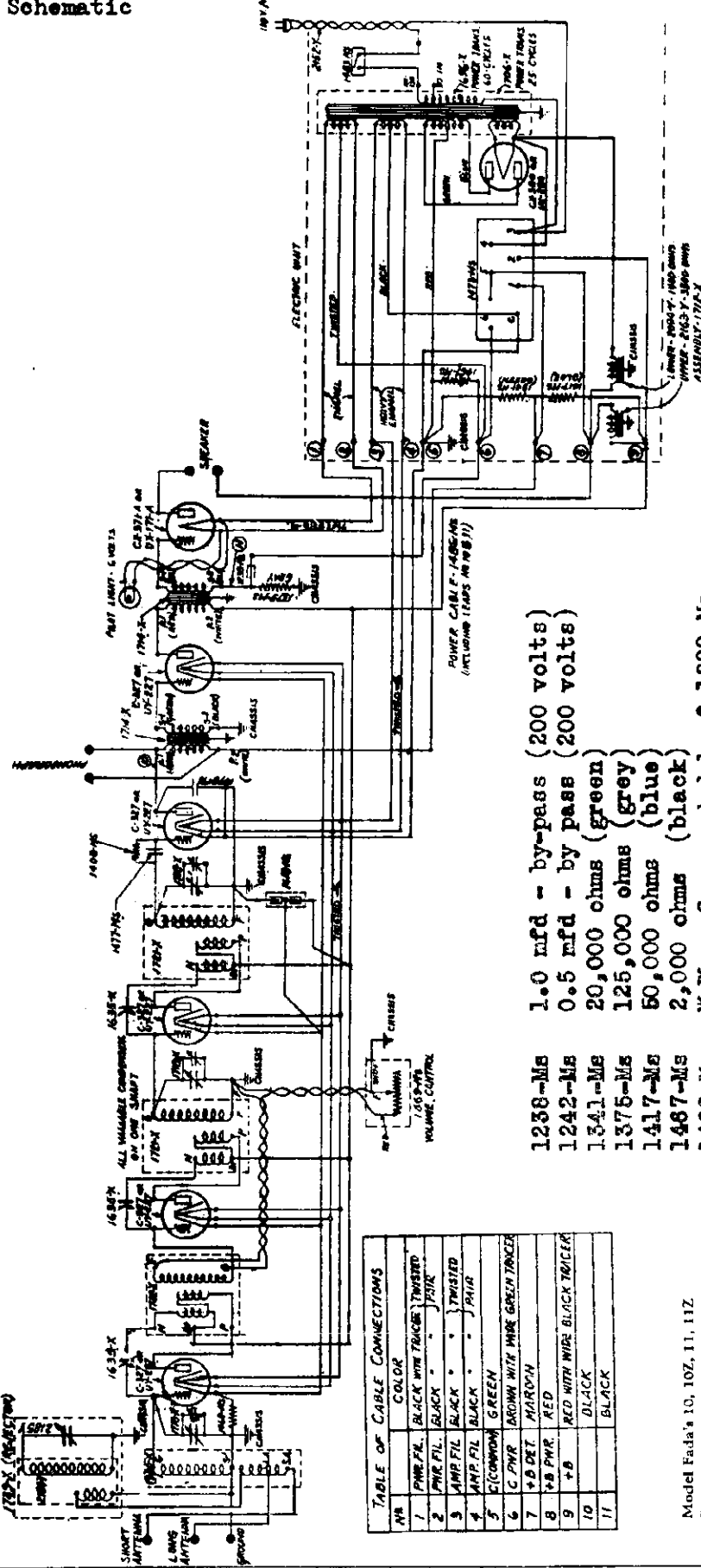
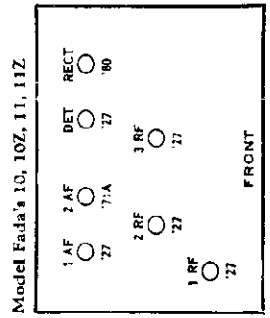


TABLE OF CABLE CONNECTIONS

NO	COLOR
1	1631-X
2	1632-X
3	1633-X
4	1634-X
5	1635-X
6	1636-X
7	1637-X
8	1638-X
9	1639-X
10	1640-X
11	1641-X

- 1238-MS 1.0 mfd - by-pass (200 volts)
- 1242-MS 0.5 mfd - by pass (200 volts)
- 1341-MS 20,000 ohms (green)
- 1375-MS 125,000 ohms (grey)
- 1417-MS 50,000 ohms (blue)
- 1467-MS 2,000 ohms (black)
- 1468-MS W.W. - Superseded by 2-1299-MS
- 1469-MS Volume control - 20,000 ohms
- 1477-MS .000125 mfd moulded mica (green dot)
- 1478-MS Condenser - .001 mfd moulded mica (yellow)
- 1485-MS Pilot lamp - 6 volts (orange)
- 2-1299-MS Resistor - 250 ohms (light brown)
- 2094-Y Choke - 1,400 ohms
- 2165-Y Choke - 3,500 ohms

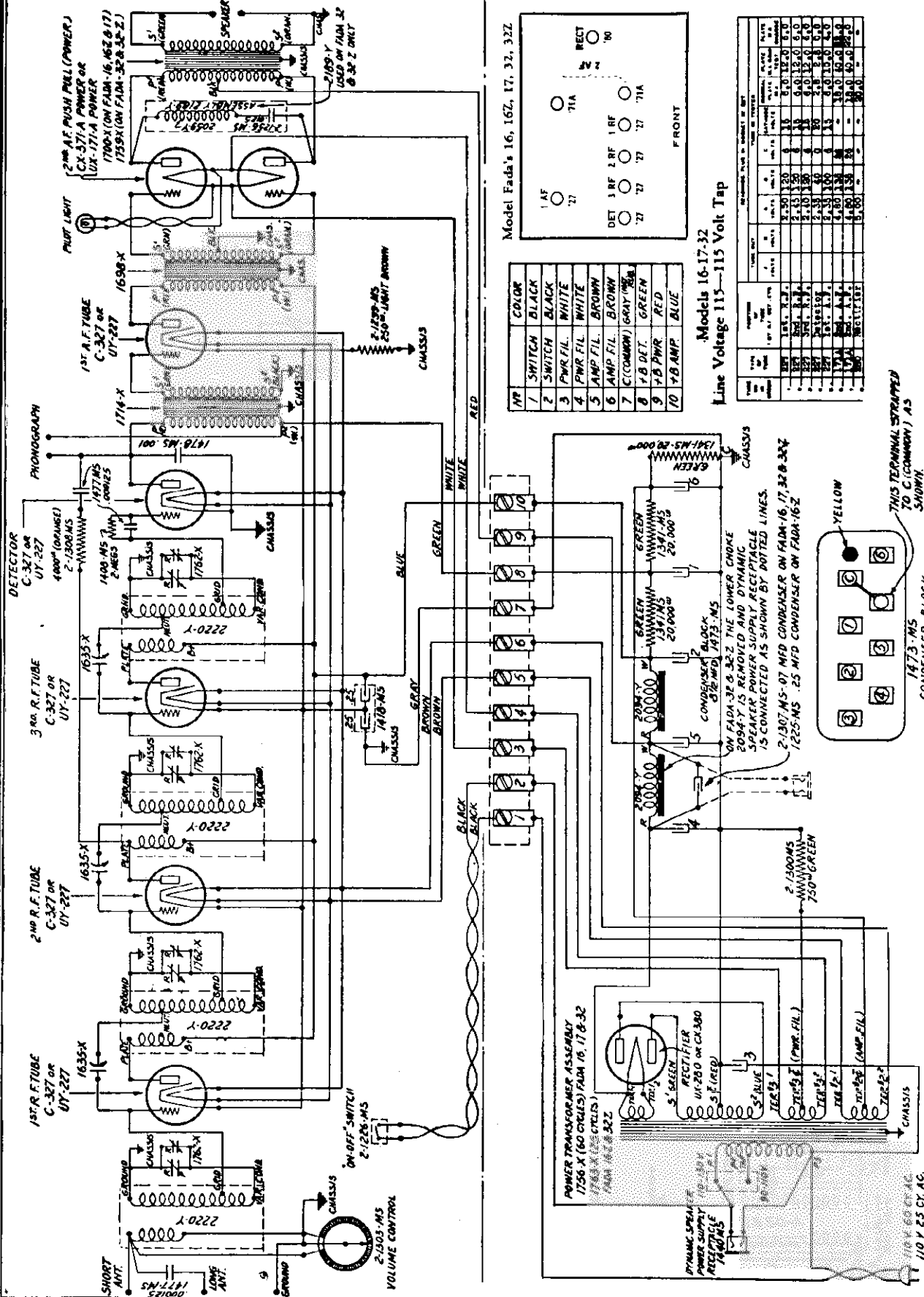


10, 11, 30 and 31 Receivers—60 cycles  
 10Z, 11Z, 30Z and 31Z Receivers—25 cycles



**MODEL 16,17,32  
MODEL 16Z,32Z  
Schematic**

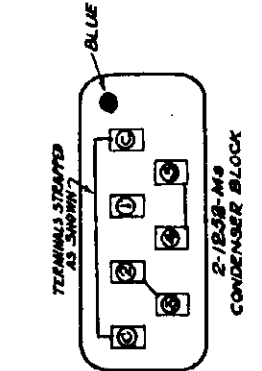
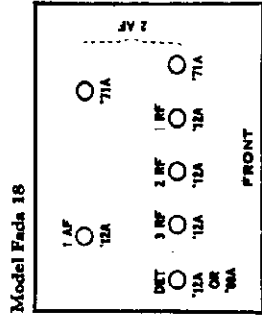
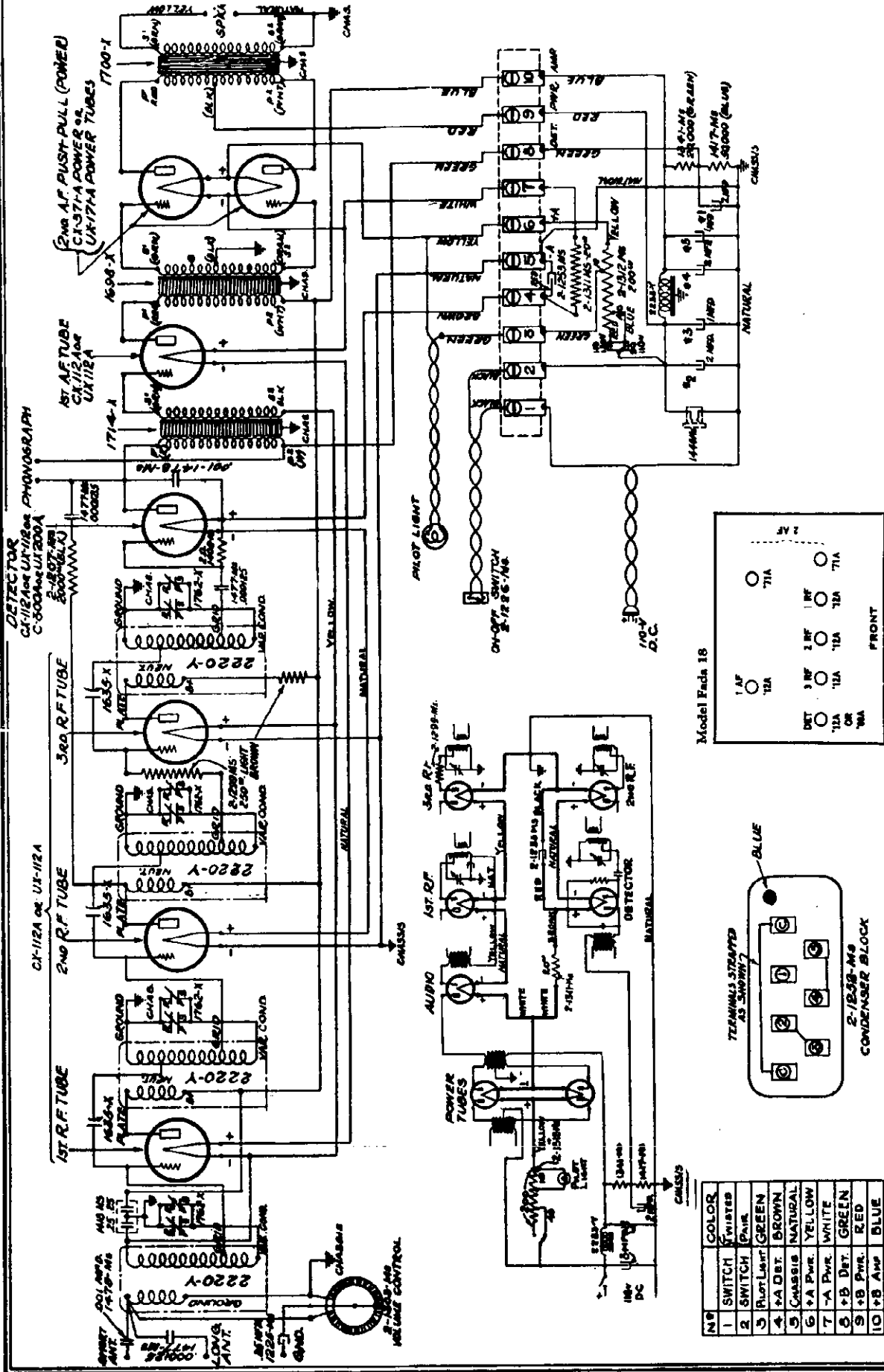
**FADA RADIO & ELECTRIC CORP.**



16, 17 and 32 Receivers - 60 cycles 16-Z and 32-Z Receivers - 25 cycles

**MODEL 18 DC**  
**Schematic**

**FADA RADIO & ELECTRIC CORP.**

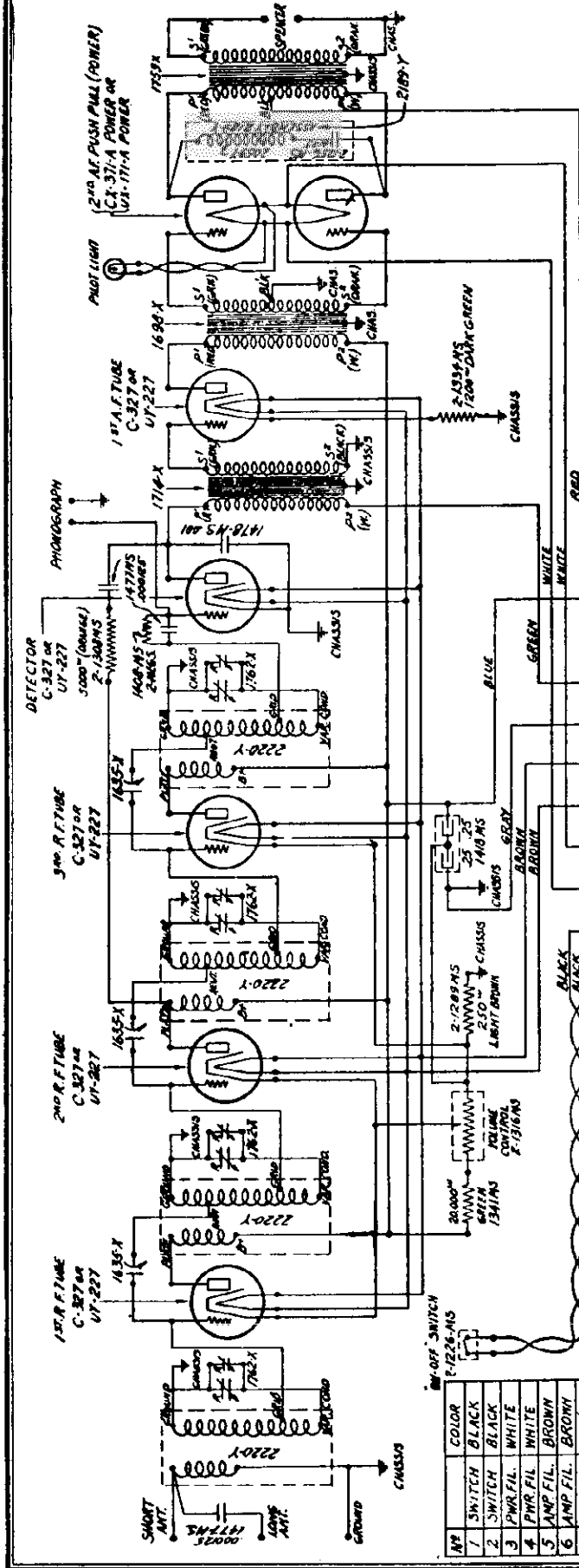


NO	COLOR
1	SWITCH (twisted)
2	SWITCH (Pair)
3	PILOT LIGHT GREEN
4	2A DET. BROWN
5	CHASSIS NATURAL
6	2A PWR. YELLOW
7	1A PWR. WHITE
8	2B DET. GREEN
9	2B PWR. RED
10	2B Amp. BLUE

**18 DC Receiver**  
*for use with direct current only*

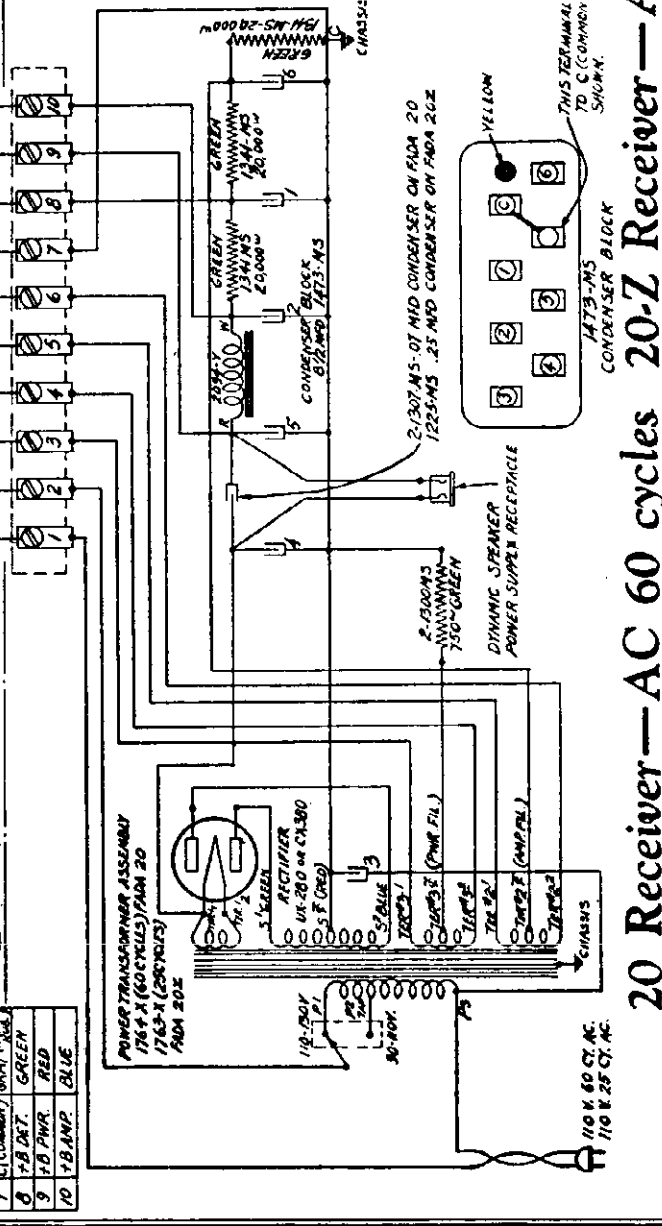
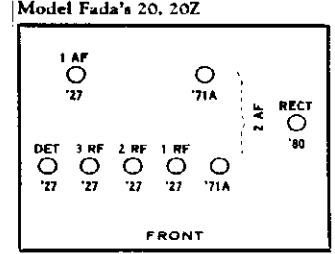
FADA RADIO & ELECTRIC CORP.

MODEL 20,  
MODEL 20Z  
Schematic



Line Voltage 115—Set on High Voltage—Volume Control Position Max

TUBE NO	TYPE	POSITION OF TUBE IN SET OR SET ETC.	TUBE DATA					REARINGS PLUG IN SOCKET OF SET					
			A VOLTS	G VOLTS	B VOLTS	C VOLTS	D VOLTS	CATHODE HEATER VOLTS	NO. OF TUBES	PLATE CHARGE	SCREEN CHARGE	SCREEN SUPPLY	
1	327	1st AF	2.5	14.8	2.4	140	7	18	6.8	11.0	4.8	-	-
2	327	2nd AF	2.5	14.8	2.4	140	7	18	6.8	11.0	4.8	-	-
3	327	3rd AF	2.5	14.8	2.4	140	7	18	6.8	11.0	4.8	-	-
4	327	4th AF	2.5	14.8	2.4	140	7	18	6.8	11.0	4.8	-	-
5	327	DET.	2.5	4.6	2.4	46	0	21	5.4	8.0	1.6	-	-
6	327	1st AF	2.5	14.8	2.4	140	7	18	5.0	8.7	1.7	-	-
7	371	2nd AF	5.1	186	5.0	184	53	-	80.0	85.0	5.8	-	-
8	371	3rd AF	5.1	186	5.0	184	53	-	80.0	85.0	5.8	-	-
9	380	Rect.	5.1	-	5.0	-	-	-	84	-	-	-	-



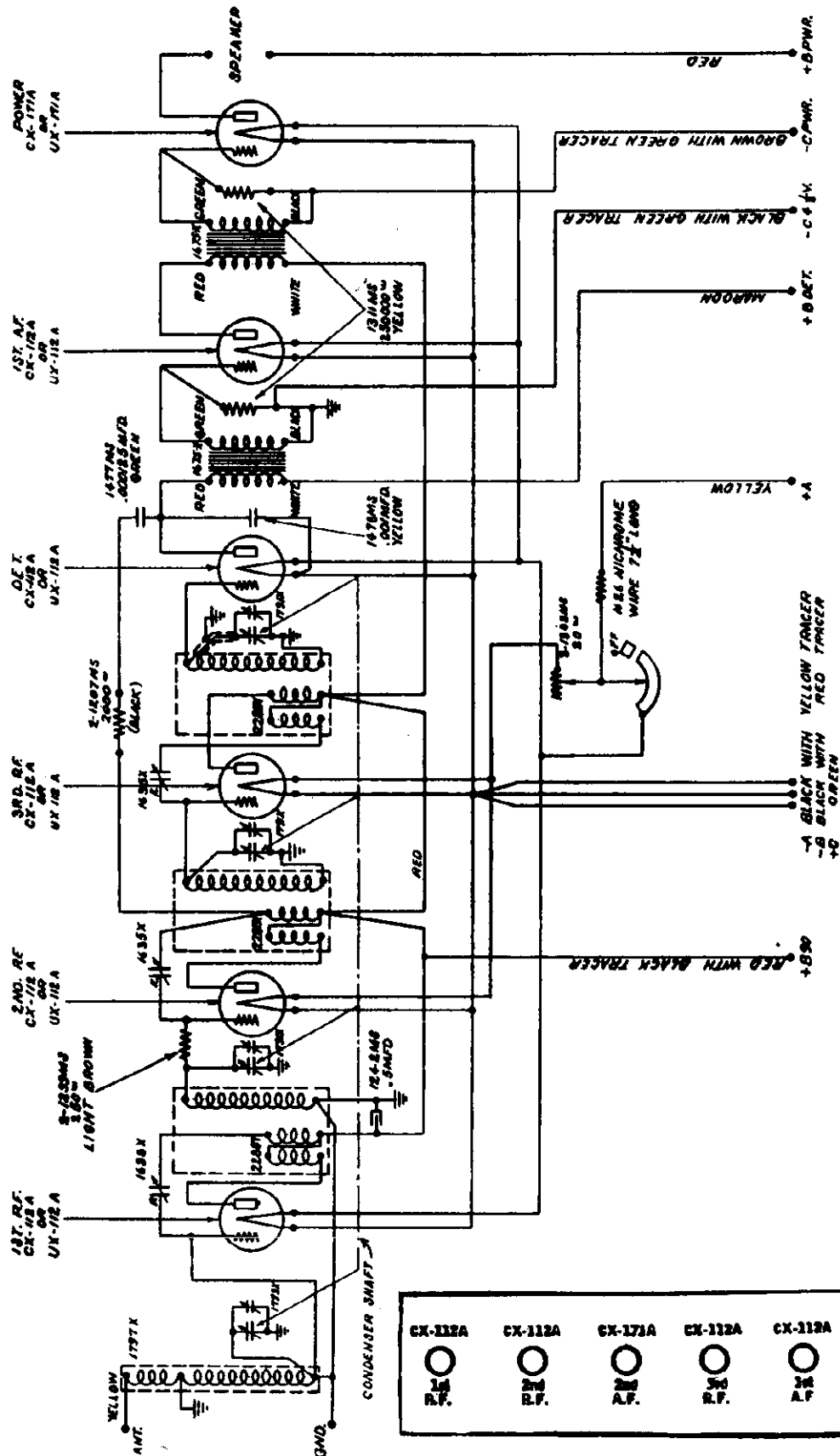
20 Receiver—AC 60 cycles 20-Z Receiver—AC 25 cycles

NO	COLOR
1	SWITCH BLACK
2	SWITCH BLACK
3	PWR. FIL. WHITE
4	PWR. FIL. WHITE
5	AMP. FIL. BROWN
6	AMP. FIL. BROWN
7	C (COMMON) GRAY (RES)
8	P.B. DRT. GREEN
9	P.B. PWR. RED
10	P.B. AMP. BLUE

110 V. 50 CY. AC.  
110 V. 25 CY. AC.

**MODEL 22 Battery Schematic**

FADA RADIO & ELECTRIC CORP.



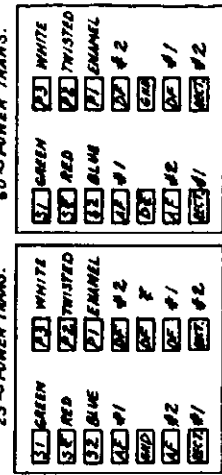
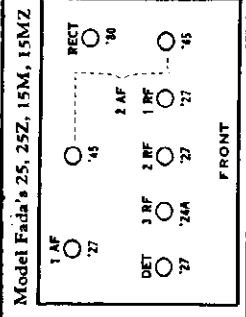
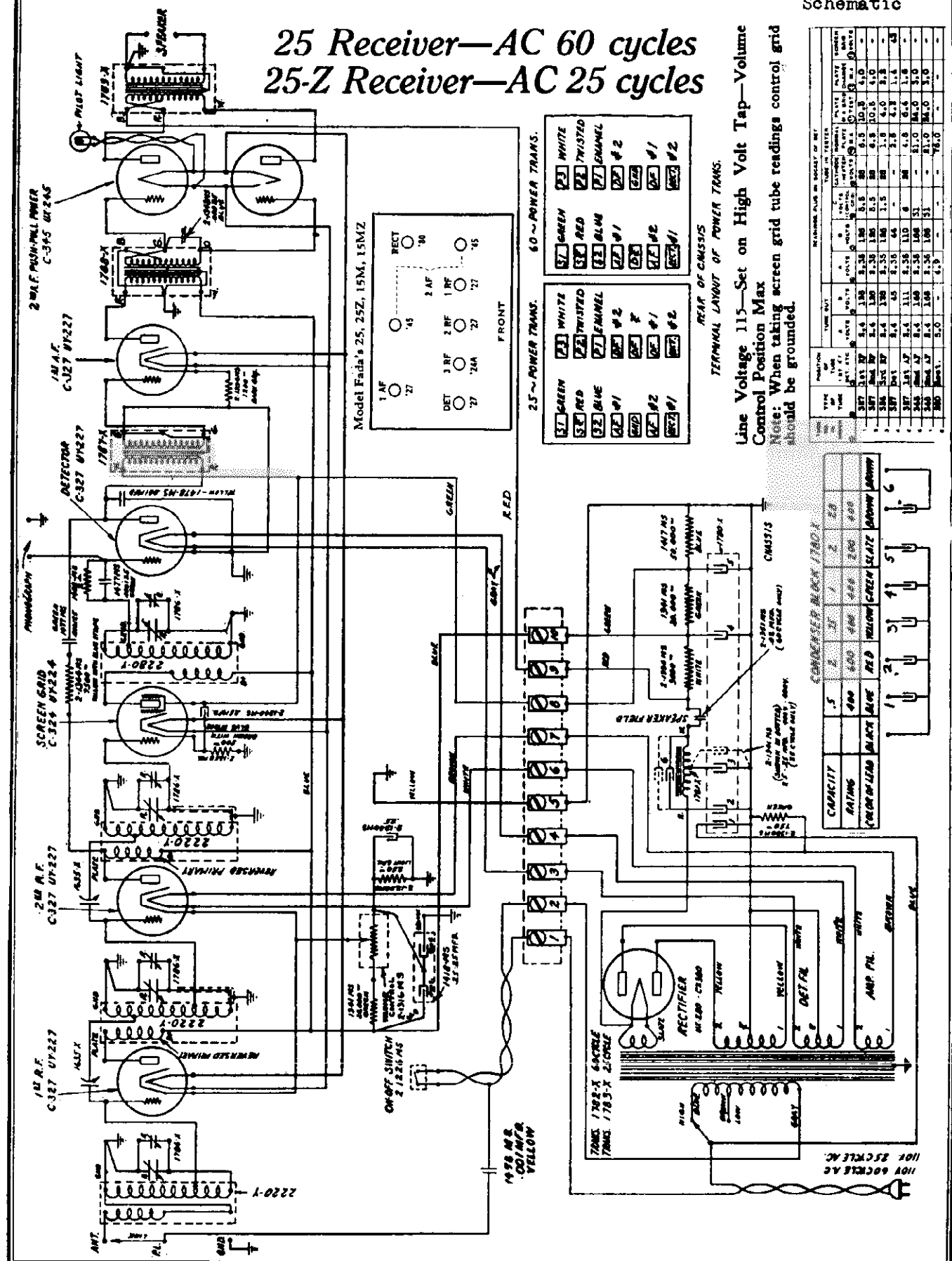
BATTERY CABLE 2090Y

**22 Battery Model Receiver**

FADA RADIO & ELECTRIC CORP.

MODEL 25  
MODEL 25Z  
Schematic

25 Receiver—AC 60 cycles  
25-Z Receiver—AC 25 cycles



TERMINAL LAYOUT OF POWER TRANS.  
REAR OF CHASSIS

Line Voltage 115—Set on High Volt Tap—Volume Control Position Max  
Note: When taking screen grid tube readings control grid should be grounded.

TUBE	TYPE	POSITION	SCREEN GRID VOLTAGE (V)	SCREEN GRID CURRENT (MA)	CONTROL GRID VOLTAGE (V)	CONTROL GRID CURRENT (MA)	PLATE VOLTAGE (V)	PLATE CURRENT (MA)	ANODE LOAD RESISTANCE (Ω)	ANODE RESISTANCE (Ω)
1	1A1	1	150	2.0	0	0	250	1.0	1000	100000
2	1A2	2	150	2.0	0	0	250	1.0	1000	100000
3	1A3	3	150	2.0	0	0	250	1.0	1000	100000
4	1A4	4	150	2.0	0	0	250	1.0	1000	100000
5	1A5	5	150	2.0	0	0	250	1.0	1000	100000

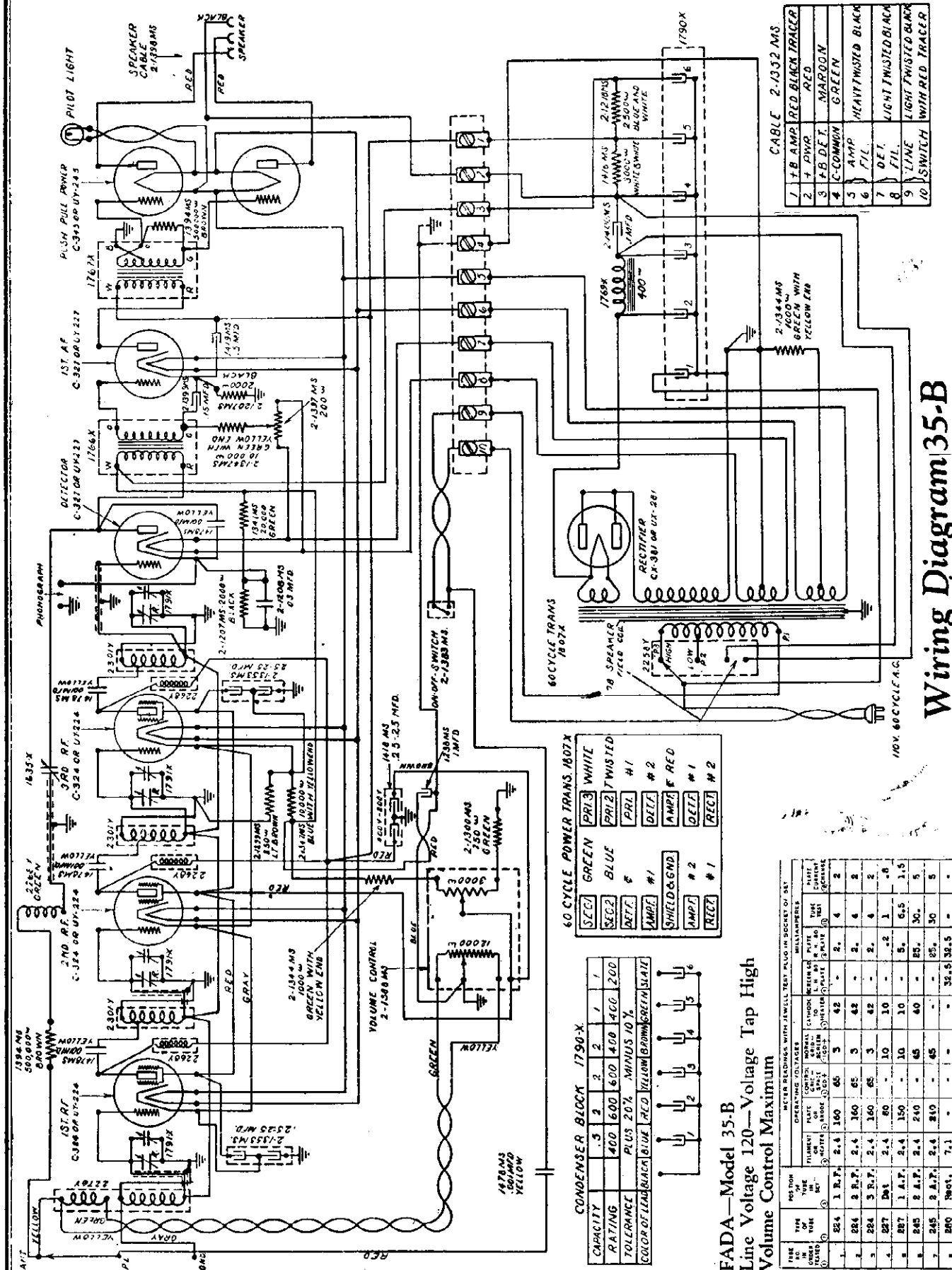
CONDENSER BLOCK (TAP)

CAPACITY	1	2	3	4	5	6
RATING	0.005	0.01	0.02	0.05	0.1	0.2
COLOR OF LEAD	BLACK	BLUE	RED	YELLOW	GREEN	SLATE



FADA RADIO & ELECTRIC CORP.

MODEL 35-B  
Schematic, Voltage



CABLE 2-1332 MS

1	1/8 AMP	RED	BLACK TRACER
2	1/8 AMP	RED	RED
3	1/8 DET	MAROON	GREEN
4	C-COMMON	GREEN	GREEN
5	AMP	HEAVY TWISTED BLACK	HEAVY TWISTED BLACK
6	FILE	HEAVY TWISTED BLACK	HEAVY TWISTED BLACK
7	DET	LIGHT TWISTED BLACK	LIGHT TWISTED BLACK
8	FILE	LIGHT TWISTED BLACK	LIGHT TWISTED BLACK
9	LINE	LIGHT TWISTED BLACK	LIGHT TWISTED BLACK
10	SWITCH	WITH RED TRACER	WITH RED TRACER

60 CYCLE POWER TRANS. 1807X

SECTA	GREEN	PR1	3	WHITE
SECTB	BLUE	PR2	1	TWISTED
DETA	PR1	#1		
AMPT	#1	DELTA	#2	
SHIELD & GND	AMP	#1	DELTA	#1
RECTA	#2	DELTA	#2	

CONDENSER BLOCK 1790-X

CAPACITY	5	2	2	2	1	1
RATING	400	600	600	400	400	200
TOLERANCE	PLUS 20% MINUS 10%					
COLOR OF LEAD	BLACK	BLUE	RED	YELLOW	BROWN	GREEN

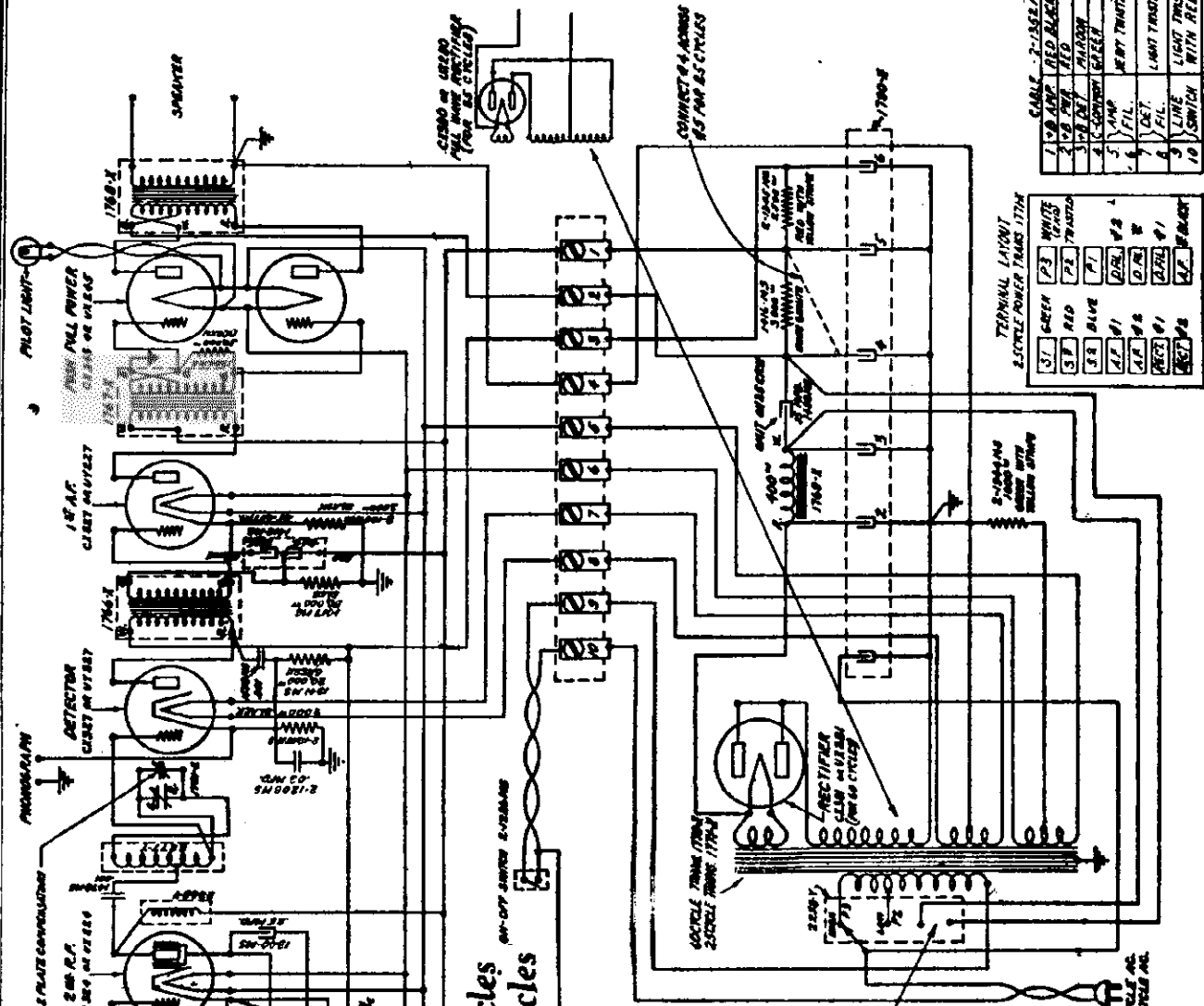
FADA—Model 35-B  
Line Voltage 120—Voltage Tap High  
Volume Control Maximum

TUBE	TYPE	POS. IN TUBE	OPERATING VOLTAGE		HEATER VOLTAGE		MILLIAMPERES				
			①	②	③	④	⑤	⑥			
1	584	1 R.P.F.	2.4	160	65	5	42	-	2	4	2
2	284	5 R.P.F.	2.4	160	65	5	42	-	2	4	2
3	284	5 R.P.F.	2.4	160	65	5	42	-	2	4	2
4	287	D-1	2.4	80	10	10	-	2.2	1	20	5
5	287	1 A.P.F.	2.4	150	-	10	10	-	5	6.5	1.5
6	245	2 A.P.F.	2.4	240	-	45	40	-	85	30	5
7	245	2 A.P.F.	2.4	210	-	45	-	-	25	30	5
8	280	Rect.	7-1	-	-	-	-	-	35-5	35-5	-

Wiring Diagram 35-B

MODEL 35  
MODEL 35Z  
Schematic

FADA RADIO & ELECTRIC CORP.

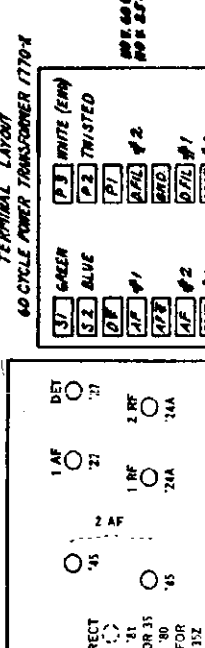


35 Receiver—AC 60 cycles  
35-Z Receiver—AC 25 cycles

Line Voltage 115—Set on High Volt Tap—Volume Control Position Max  
Note: When taking screen grid tube readings ground control grid.

TUBE NO.	TYPE	BY	POSITION	RESISTANCE	VOLTS	WATTAGE	REMARKS
1	12A6	DET	1	500K	0.1	100	Screen grid
2	12A7	AF	2	100K	0.1	100	Screen grid
3	12A8	AF	3	100K	0.1	100	Screen grid
4	12A9	AF	4	100K	0.1	100	Screen grid
5	12A5	RECT	5	100K	0.1	100	Screen grid
6	12A1	50CY	6	100K	0.1	100	Screen grid

CAPACITANCE	RESISTANCE	COLOR OF LEAD
5	500K	BLACK
100	100K	BLUE
1000	10K	RED
10000	1K	YELLOW
100000	100	BROWN
1000000	10	GREEN
10000000	1	ORANGE



TERMINAL LAYOUT  
60-CYCLE POWER TRANSFORMER 1770-X

1	GREEN	P3	WHITE
2	RED	P2	BROWN
3	BLUE	P1	BLACK
4	ORANGE	P4	GRAY
5	YELLOW	P5	RED-TINTED BLACK
6	BROWN	P6	LIGHT TINTED BLUE
7	BLACK	P7	FIL.
8	BLACK	P8	SW.
9	BLACK	P9	LINE
10	BLACK	P10	SWITCH WITH RED TAPPER

CABLE - 7-135213

1	1.0 AMP	RED BLACK TRACK
2	2.0 AMP	RED
3	3.0 AMP	BROWN
4	4.0 AMP	GREEN
5	5.0 AMP	GRAY TINTED BLACK
6	6.0 AMP	LIGHT TINTED BLUE
7	7.0 AMP	FIL.
8	8.0 AMP	SW.
9	9.0 AMP	LINE
10	10.0 AMP	SWITCH WITH RED TAPPER

Model Fada's 35, 35Z

FRONT

RECT  
1 21  
21 17  
80 2A  
45 21A  
17 24A  
15 24A

1 AF 2 RF  
1 BF 24A

1 DET 17  
21 17  
24A 24A

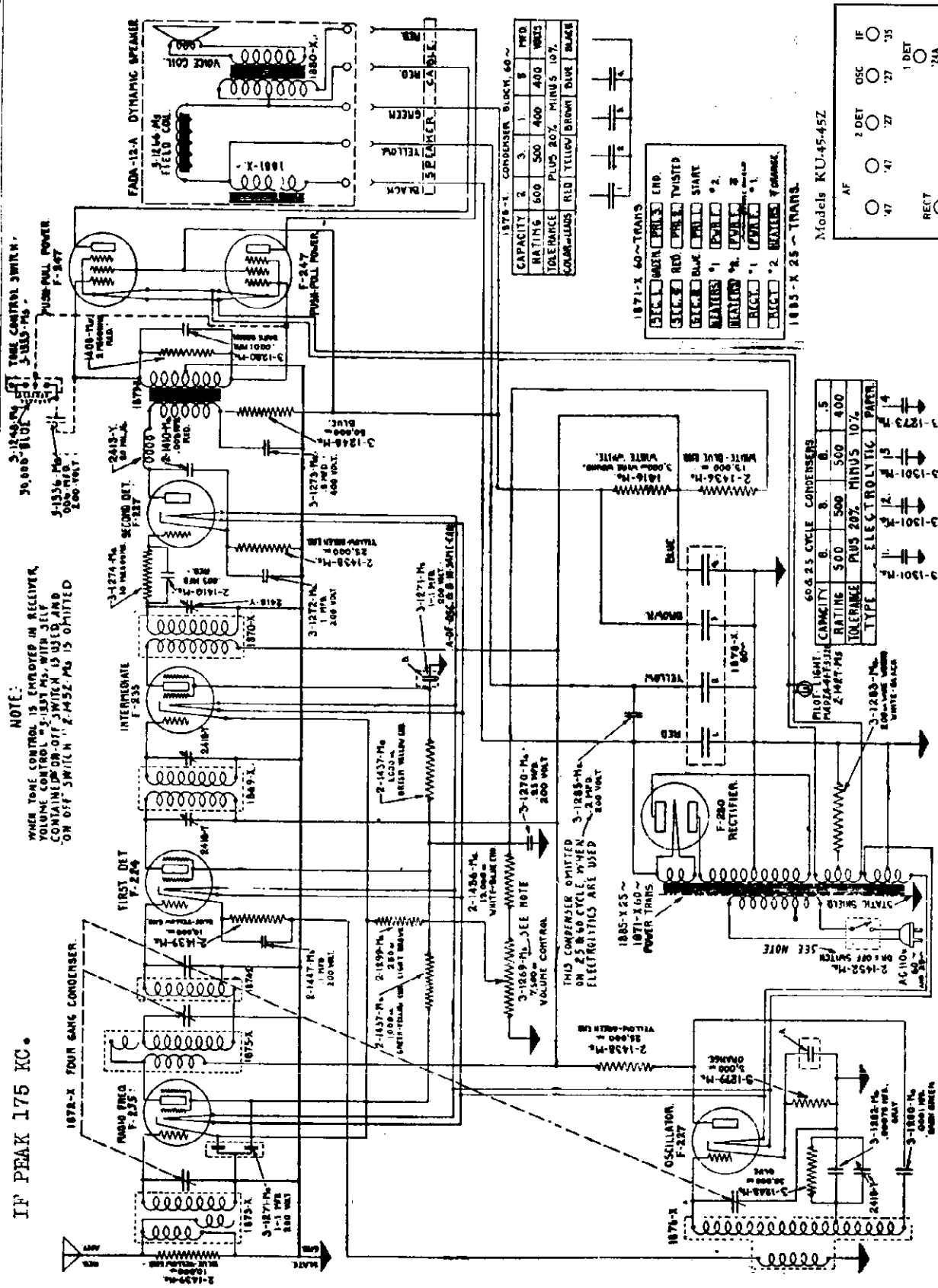








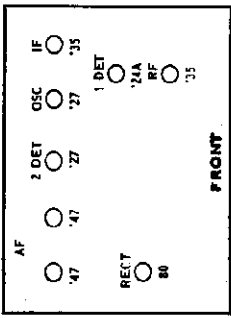
# MODEL 45, 45-Z (KU) FADA RADIO & ELECTRIC CORP. Schematic



187K-X CONDENSER BLOCK 60	
CAPACITY	2 3 1 5 PFD
RATING	600 400 400 400 WETS
TOLERANCE	PLUS 20% MINUS 10%
COLOR-CODING	RED YELLOW BROWN BLUE BLACK

187L-X 60-25 CYCLE CONDENSERS	
TYPE	WATER PULL END.
TYPE	RED PINK TWISTED
TYPE	BLUE WHITE START
TYPE	BROWN 1 PINK 2
TYPE	BROWN 2 PINK 1
TYPE	RECT 1 PINK 2
TYPE	RECT 2 BROWN 1

60-25 CYCLE CONDENSERS	
CAPACITY	500 500 400 400
RATING	500 500 400 400
TOLERANCE	PLUS 20% MINUS 10%
TYPE	ELECTROLYTIC PAPER



**NOTE:**  
WHEN TONE CONTROL IS EMPLOYED IN RECEIVER, VOLUME CONTROL IS 5-187A, WITH SELF CONTAINING ON-OFF SWITCH IS USED AND ON OFF SWITCH 2-1452 PG IS OMITTED

THIS COMPENSER OMITTED ON 25 RC 60 CYCLE WHEN ELECTROLYTICS ARE USED

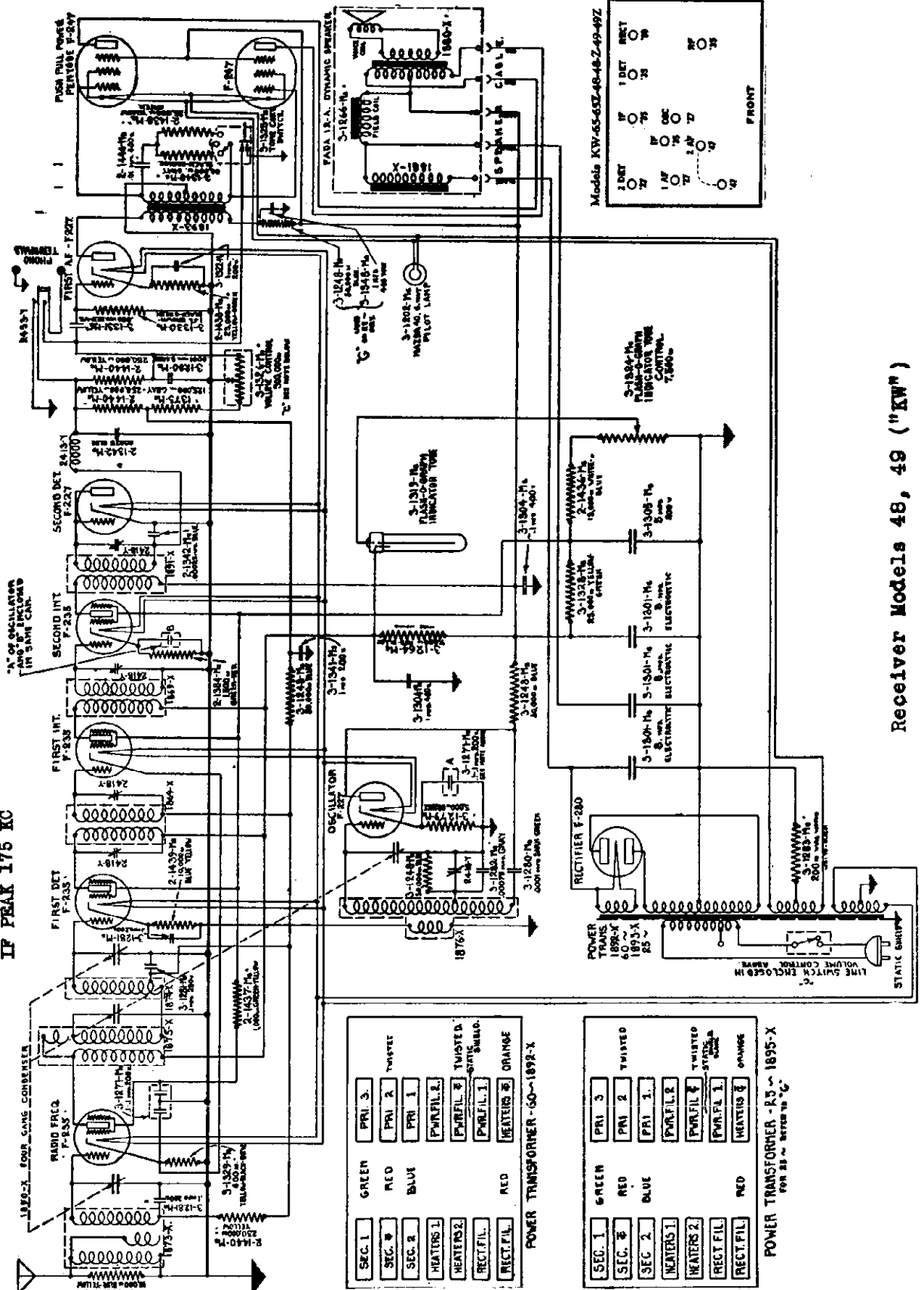
Receiver Model 45 ("KU")

Adjustment notes on next page.

FADA RADIO & ELECTRIC CORP

MODEL 48,49 (KW)  
Schematic

IF PEAK 175 KC



Receiver Models 48, 49 ("KW")

POWER TRANSFORMER - 60-1892-X

SEC. 1	GREEN	PRI. 3	TRAYET
SEC. 2	RED	PRI. 2	TRAYET
SEC. 3	BLUE	PRI. 1	TRAYET
HEATERS 1		PWR.FIL. 2	TWISTED
HEATERS 2		PWR.FIL. 1	TWISTED
RECT.FIL.		HEATERS 3	ORANGE

POWER TRANSFORMER - R5 ~ 1895-X  
FOR 25 ~ across 70 °C.

SEC. 1	GREEN	PRI. 3	TWISTED
SEC. 2	RED	PRI. 2	TWISTED
SEC. 3	BLUE	PRI. 1	TWISTED
HEATERS 1		PWR.FIL. 2	TWISTED
HEATERS 2		PWR.FIL. 1	TWISTED
RECT.FIL.		HEATERS 3	ORANGE

MODEL 45,48,49  
Service Notes

## FADA RADIO & ELECTRIC CORP.

### SPECIAL DATA FOR MODELS 45, 48 and 49 RECEIVERS

Trimmer adjustment frequencies are 175 KC, 600 KC and 1400 KC. The trimmer condensers on the model 45 receiver are located in the rear right hand corner of the chassis looking at the chassis from the front. Two of the IF trimmers are on the right hand side, near the rear and the third trimmer condenser (IF) is that most distant from the right hand rear corner of the chassis. The trimmer upon the rear of the chassis, near the right hand corner is the oscillator series condenser.

In the models 48 and 49, the oscillator series condenser control is accessible from the top of the chassis, on the left end of the chassis to the left of the shields. The four IF trimmers are accessible through the rear of the chassis, one the left end, looking at the chassis from the front.

The suggested output meter is of the type suitable for connection across the speaker voice coil. The 1st detector control grid must be disconnected for the IF trimmer adjustments and the oscillator "A" lead is connected to the 1st detector control grid cap upon the tube.

The variable gang condenser compensators for the model 45 are located on top of their respective tuning condenser sections. They can be adjusted with a screw driver. The compensator adjusting screws are at ground potential. The adjustment is made at 1400 KC without disturbing the main tuning sections. The suggestion is made to connect the antenna circuit of the receiver through a dummy antenna or a 250 mmfd condenser. The oscillator series condenser is adjusted at 600 KC

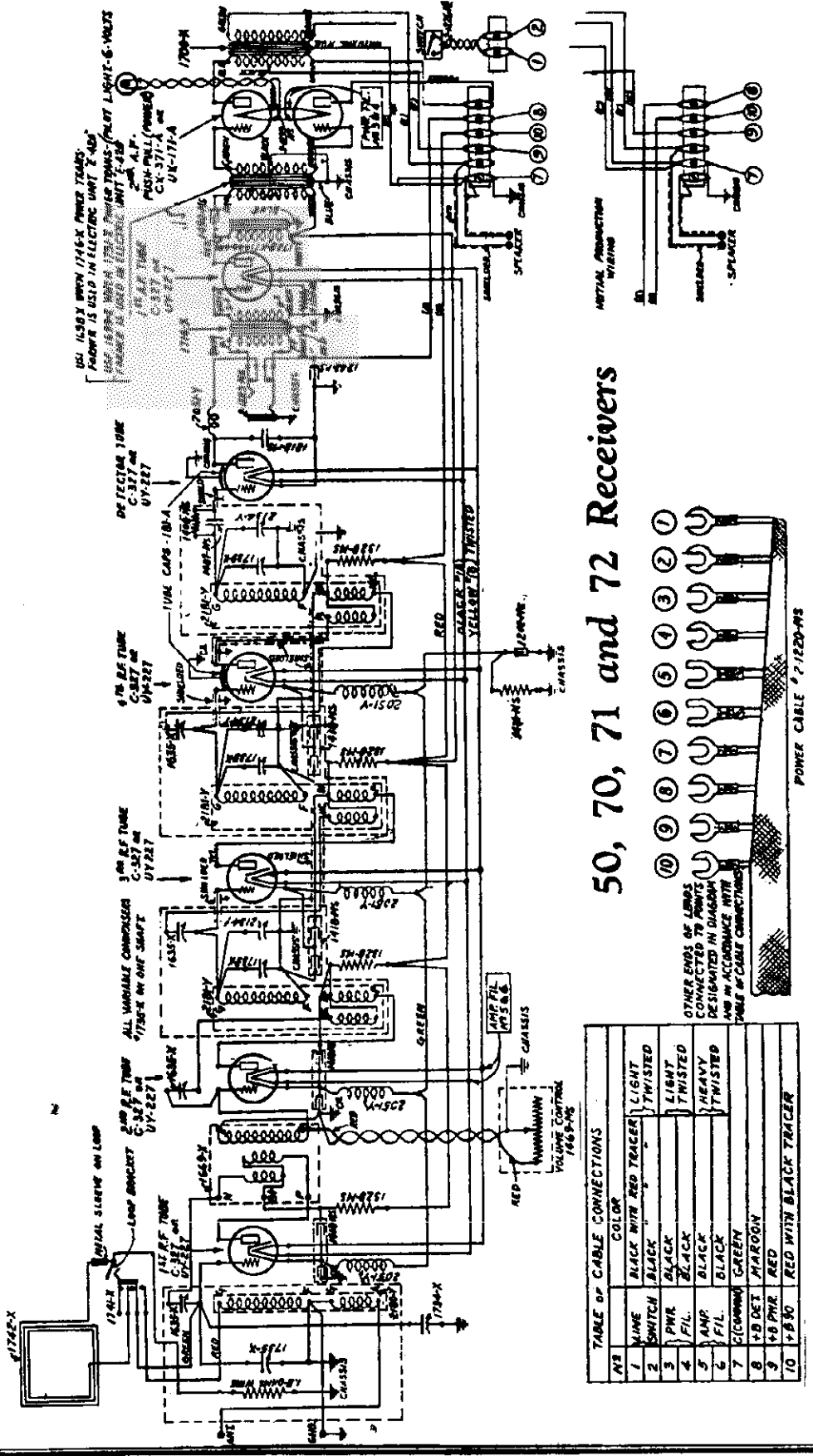
The main tuning condenser compensators are located at the top of their main tuning sections in the 48 and 49 models. They can be adjusted with a screw driver and since the screws are at ground potential and insulated screw driver is not required. There are four holes in the overall condenser and tube housing cover. The screw driver is inserted through these holes.

The tuning condenser compensators are adjusted at 1400 KC. The oscillator series condenser is adjusted at 600 KC. The intermediate trimmers are adjusted at 175 KC. Due to the physical location of the oscillator series condenser it is permissible to remove the overall condenser and tube shield housing cover to permit the insertion of the standard #4 socket wrench for adjustment purposes.

The suggestion is made to check the 175 KC adjustment of the test oscillator by beating that signal against one of its harmonics represented by the carrier frequency of a broadcasting station of correct frequency which is tuned in with the receiver operated in normal manner. Some of the harmonics of a 175 KC signal are 1400 KC., 1225 KC., 1050 KC., 875 KC., and 700 KC.

FADA RADIO & ELECTRIC CORP.

MODEL 50, 70, 71, 72  
50-2, 70-2  
Schematic  
Voltage

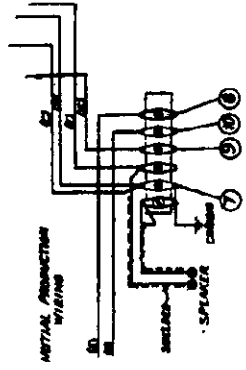


50, 70, 71 and 72 Receivers

TABLE OF CABLE CONNECTIONS

NO	NAME	COLOR
1	SWITCH	BLACK WITH RED TRACER
2	SWITCH	BLACK TWISTED
3	PWR	BLACK
4	FIL.	BLACK
5	AMP.	BLACK
6	FIL.	BLACK
7	GROUND	GREEN
8	+B DET.	MAROON
9	+B PWR.	RED
10	+B 50	RED WITH BLACK TRACER

OTHER ENDS OF LEADS CONNECTED TO POINTS DESIGNATED IN DIAGRAM AND IN ACCORDANCE WITH TABLE OF CABLE CONNECTIONS

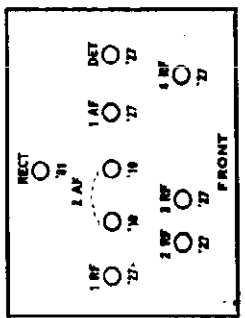


Model E-180, E-180Z  
E-420, E-420Z  
power packs  
are shown on  
pages follow-  
ing.

FADA—Models 50-70 with E-180 Electric Unit  
Line Voltage 120—110-130 Volt Tap

Model Fada's 50, 70, 71, 72, (E-420)

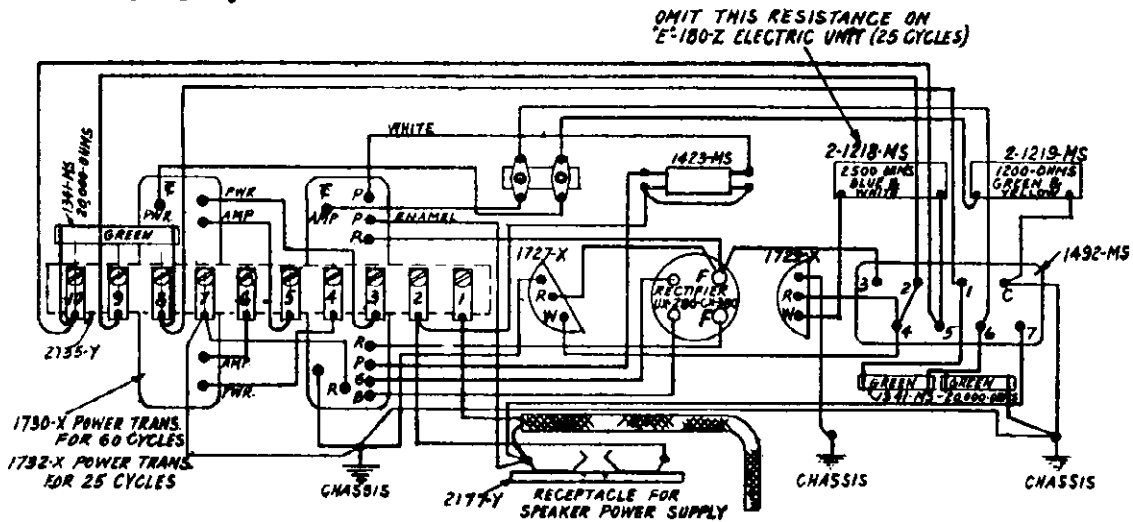
Model Fada's 50, 70, 50Z, 70Z, (E-180)



REAR PANEL PLUG IN POINTS TO TESTED

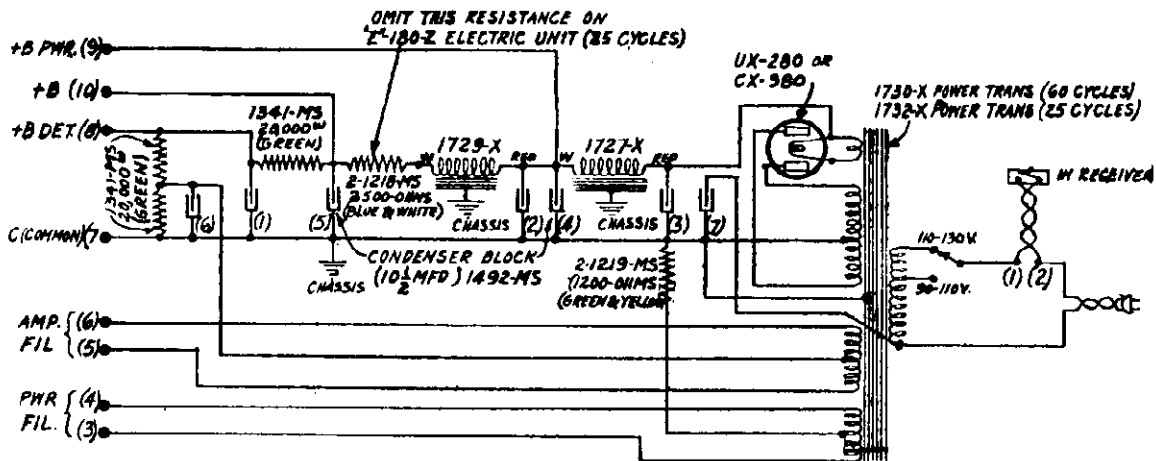
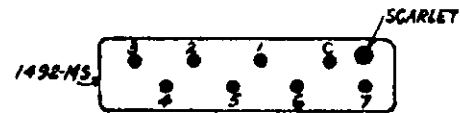
PLUG NO.	TESTED	PLUG NO.	TESTED	PLUG NO.	TESTED	PLUG NO.	TESTED
1		11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	
11		21		31		41	
12		22		32		42	
13		23		33		43	
14		24		34		44	
15		25		35		45	
16		26		36		46	
17		27		37		47	
18		28		38		48	
19		29		39		49	
20		30		40		50	
21		31		41		51	
22		32		42		52	
23		33		43		53	
24		34		44		54	
25		35		45		55	
26		36		46		56	
27		37		47		57	
28		38		48		58	
29		39		49		59	
30		40		50		60	
31		41		51		61	
32		42		52		62	
33		43		53		63	
34		44		54		64	
35		45		55		65	
36		46		56		66	
37		47		57		67	
38		48		58		68	
39		49		59		69	
40		50		60		70	
41		51		61		71	
42		52		62		72	
43		53		63		73	
44		54		64		74	
45		55		65		75	
46		56		66		76	
47		57		67		77	
48		58		68		78	
49		59		69		79	
50		60		70		80	
51		61		71		81	
52		62		72		82	
53		63		73		83	
54		64		74		84	
55		65		75		85	
56		66		76		86	
57		67		77		87	
58		68		78		88	
59		69		79		89	
60		70		80		90	
61		71		81		91	
62		72		82		92	
63		73		83		93	
64		74		84		94	
65		75		85		95	
66		76		86		96	
67		77		87		97	
68		78		88		98	
69		79		89		99	
70		80		90		100	

MODEL E-180, E-180Z  
 Electric Unit FADA RADIO & ELECTRIC CORP.  
 for 50, 70, 71, 72



ACTUAL WIRING DIAGRAM OF E-180 & E-180Z ELECTRIC UNIT

Nor should it be a difficult matter to keep in mind that all "E-180" sets can be identified by their having two round cans in the "rear row" (the power pack). This immediately identifies the set as requiring a 280 rectifier tube and type 171-A amplifier tubes.



SCHEMATIC WIRING DIAGRAM OF E-180 & E-180Z ELECTRIC UNIT

ELECTRICAL VALUES

ELECTRIC UNIT TYPE E-180

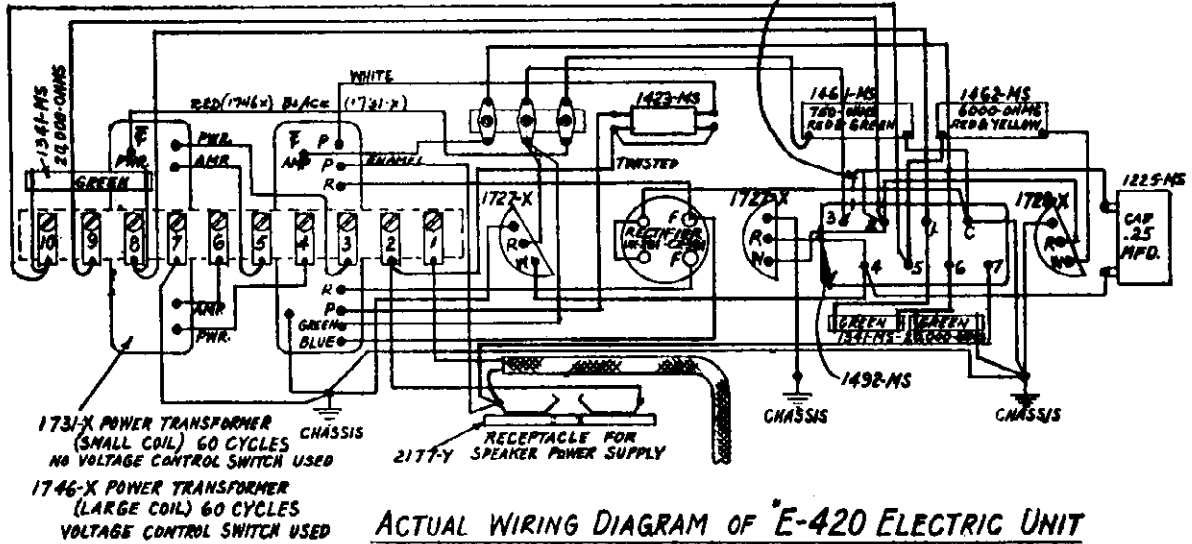
- 1225-MS .25 mfd 400 volts
- 1341-MS carbon 20,000 ohms (green)
- 1461-MS wire 750 ohms red-green
- 1462-MS wire 6000 ohms red-yellow
- 1492-MS condenser block 10.5 mfd
- 2-1218-MS wire 2500 ohms blue-white
- 2-1219-MS wire 1200 ohms green-yellow
- 1727-X choke 600 ohms
- 1729-X choke 3500 ohms



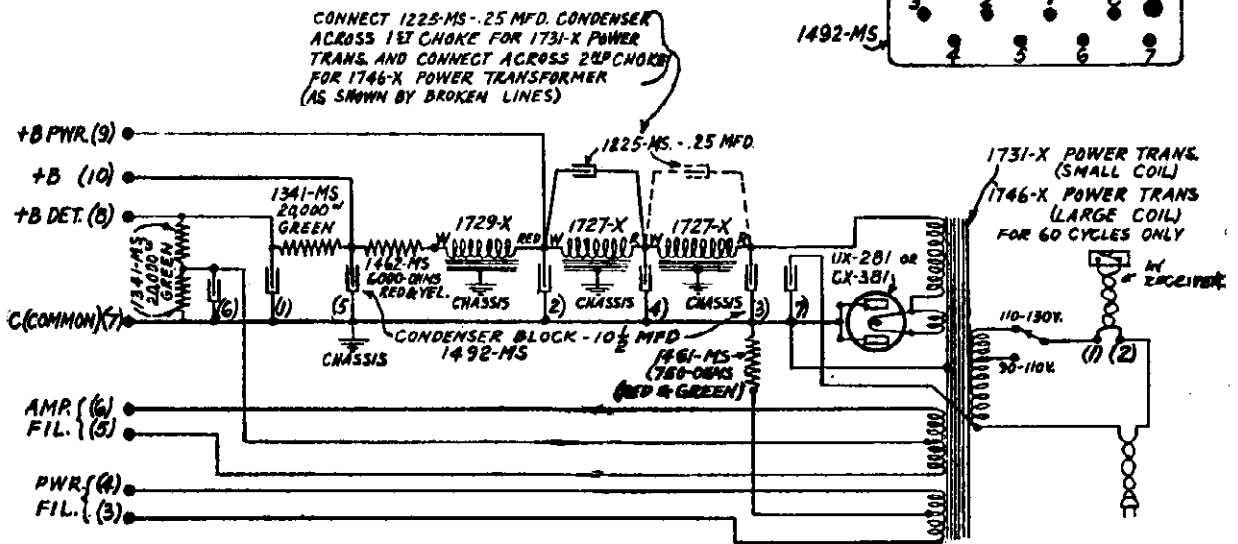
FADA RADIO & ELECTRIC CORP.

MODEL E-420, E-420Z  
Electric Unit  
for 50, 60, 71, 72

CONNECT \*1225-MS .25 MFD. CONDENSER TO \*3 LUG FOR 1731-X POWER TRANS, AND CONNECT \*1225-MS TO \*2 LUG FOR 1746-X POWER TRANSFORMER.



Now it should not be a difficult matter to keep in mind that all "E-420" sets can be identified by their having three round cans in the "rear row" (the power pack). This immediately identifies the set as requiring a 281 rectifier tube and type 210 amplifier tubes.

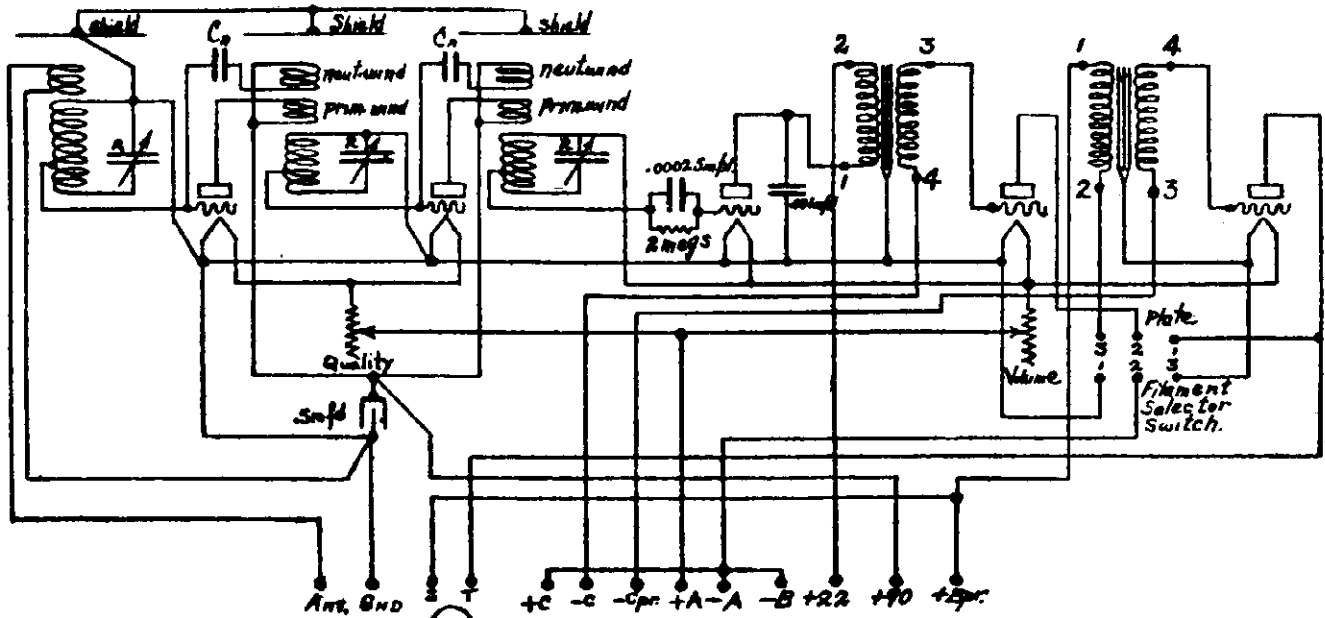


ELECTRICAL VALUES  
ELECTRIC UNIT TYPE E-420

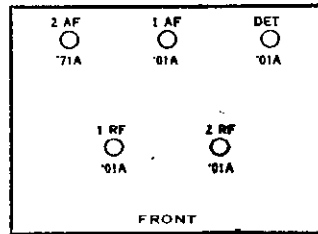
1225-MS	.25 mfd 400 volts	2-1218-MS	wire 2500 ohms blue-white
1341-MS	carbon 20,000 ohms green	2-1219-MS	wire 1200 ohms green-yellow
1461-MS	wire 750 ohms red-green	1727-X	choke 600 ohms
1462-MS	wire 8000 ohms red-yellow	1729-X	choke 3500 ohms
1492-MS	condenser block 10.5 mfd		

MODEL 192-A Receiver  
 192-S  
 192-BS Units  
 MODEL 160 Neutrodyne

FADA RADIO & ELECTRIC CORP.

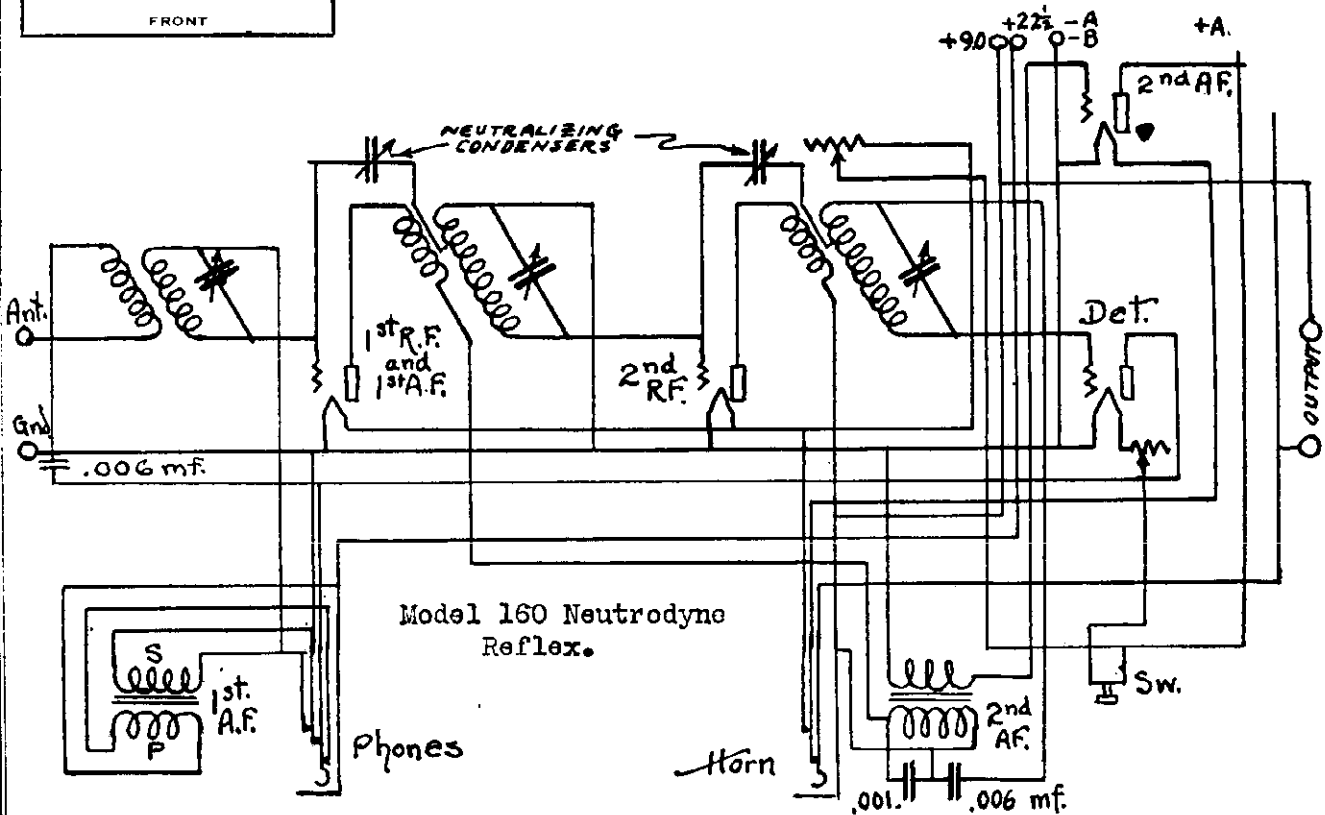


Model Fada's 170A, 192A



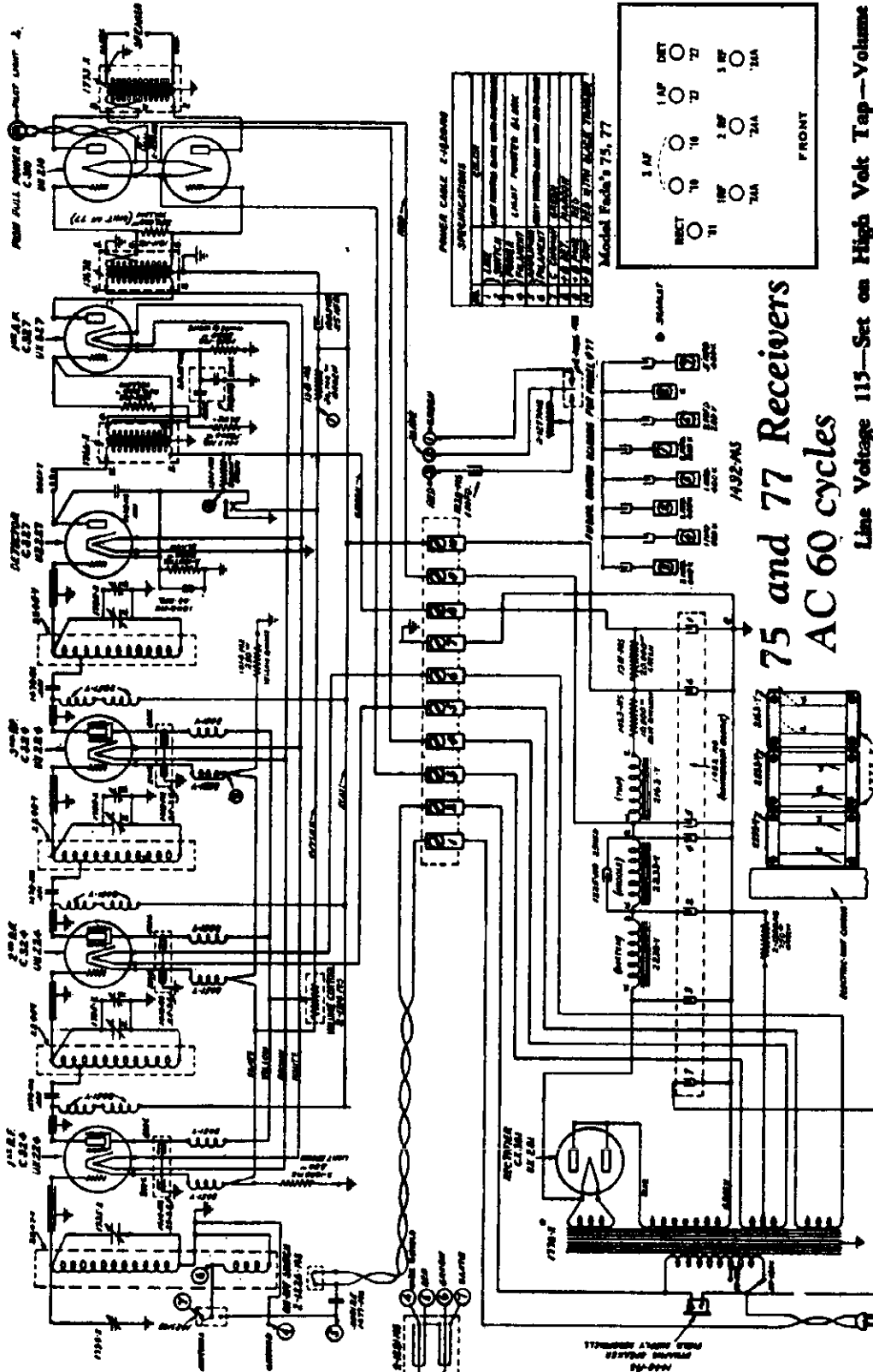
(Note S = Sleeve  
 T = Tip  
 connections to jack) 192-A Receiver, 192-S and 192 BS Units

Model 192-A Receiver, 192-S and 192-BS Units



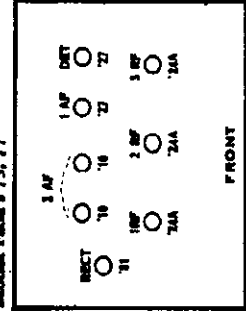
# FADA RADIO & ELECTRIC CORP.

**MODEL 75, 77**  
Schematic  
Voltage  
Notes



POWER CABLE CONNECTIONS  
SPECIFICATIONS

NO.	TYPE	WIRE	DIAGRAM
1	LINE	1170	1170V
2	NEUTRAL	1170	1170V
3	GROUND	1170	1170V
4	GROUND	1170	1170V
5	GROUND	1170	1170V
6	GROUND	1170	1170V
7	GROUND	1170	1170V
8	GROUND	1170	1170V
9	GROUND	1170	1170V
10	GROUND	1170	1170V
11	GROUND	1170	1170V
12	GROUND	1170	1170V
13	GROUND	1170	1170V
14	GROUND	1170	1170V
15	GROUND	1170	1170V
16	GROUND	1170	1170V
17	GROUND	1170	1170V
18	GROUND	1170	1170V
19	GROUND	1170	1170V
20	GROUND	1170	1170V



## 75 and 77 Receivers AC 60 cycles

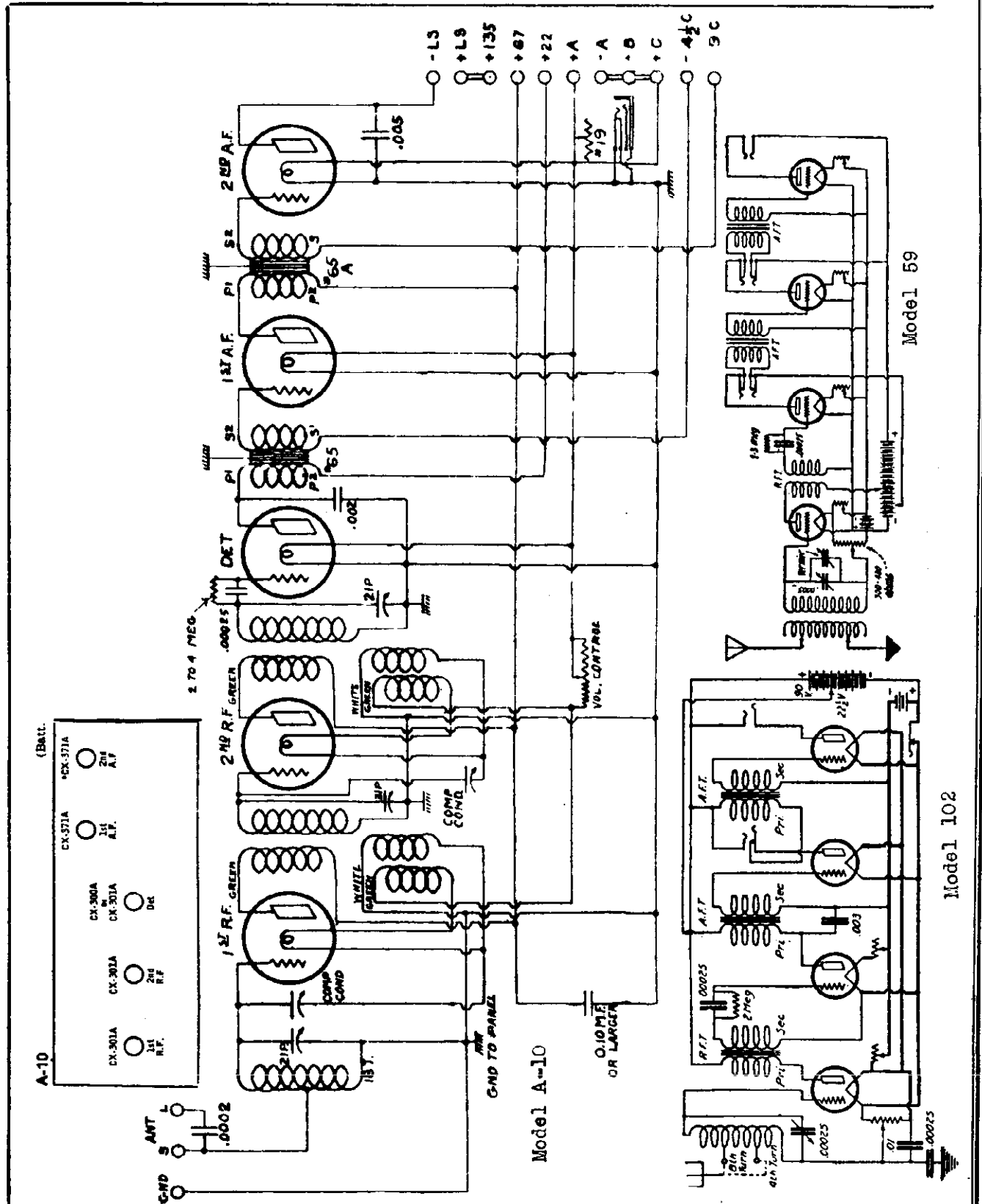
Line Voltage 115—Set on High Volt Tap—Volume Control Position Max  
Note: When taking screen grid tube readings control grid should be grounded.

TUBE NO.	TYPE	SCREEN GRID	SCREEN GRID TUBE READING IN VOLTS		
			100V	115V	130V
1	6X4	115	1.0	1.0	1.0
2	6X4	115	1.0	1.0	1.0
3	6X4	115	1.0	1.0	1.0
4	6X4	115	1.0	1.0	1.0
5	6X4	115	1.0	1.0	1.0
6	6X4	115	1.0	1.0	1.0
7	6X4	115	1.0	1.0	1.0
8	6X4	115	1.0	1.0	1.0
9	6X4	115	1.0	1.0	1.0
10	6X4	115	1.0	1.0	1.0
11	6X4	115	1.0	1.0	1.0
12	6X4	115	1.0	1.0	1.0
13	6X4	115	1.0	1.0	1.0
14	6X4	115	1.0	1.0	1.0
15	6X4	115	1.0	1.0	1.0
16	6X4	115	1.0	1.0	1.0
17	6X4	115	1.0	1.0	1.0
18	6X4	115	1.0	1.0	1.0
19	6X4	115	1.0	1.0	1.0
20	6X4	115	1.0	1.0	1.0

**COMPENSATING INSTRUCTIONS FOR MODELS 75 AND 77**  
The compensating condenser is located beneath the small hole in the left side of each RF shield can (facing the front of the set) and may be adjusted with a screw driver. There is no compensating condenser in the shield can to the extreme left; its function being performed by the antenna vernier.

FEDERAL RADIO CORP.

MODELS A-10, 59, 102  
Schematic





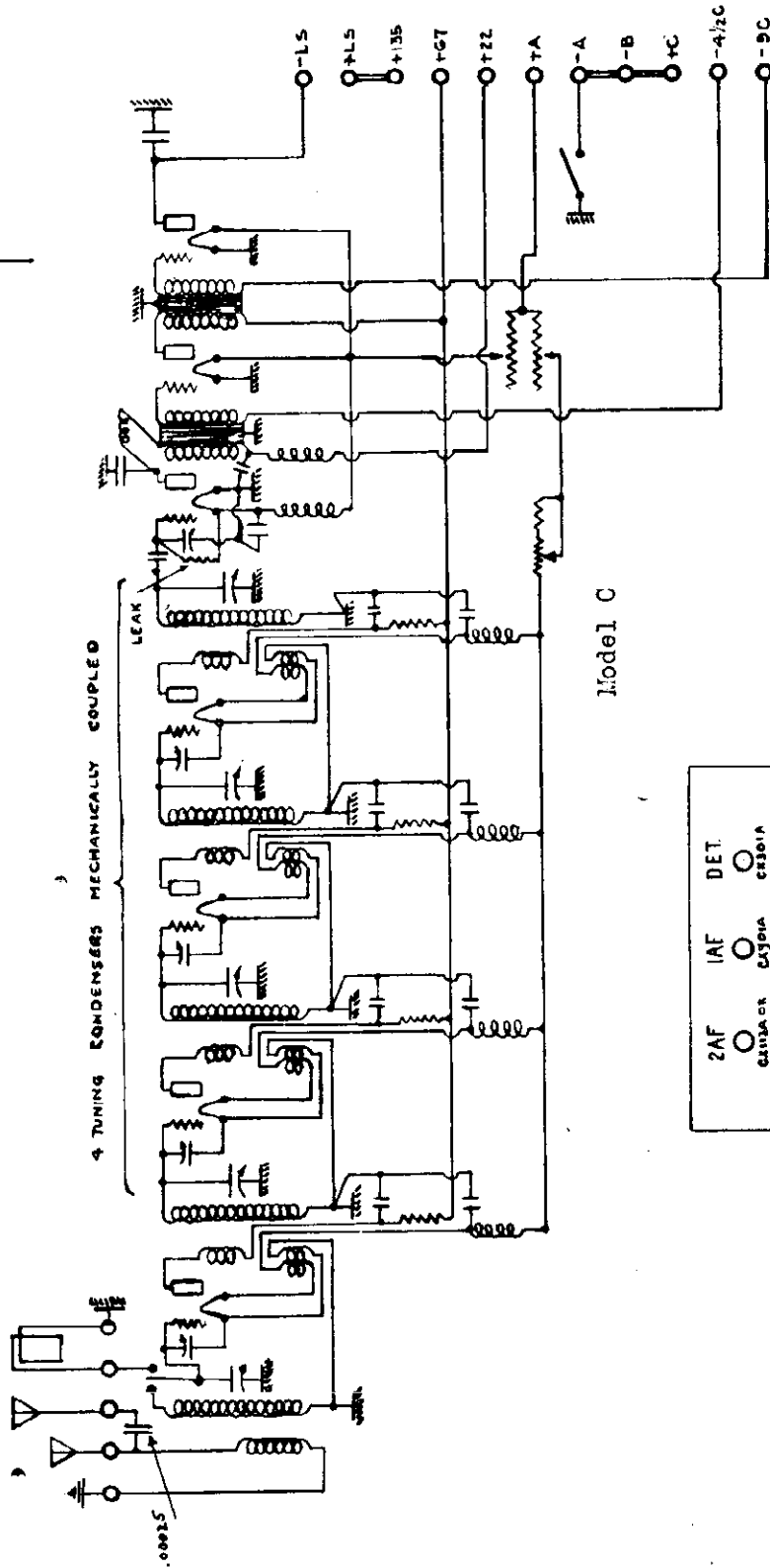




FEDERAL RADIO CORP.

MODEL C  
Schematic

CHANGE RECORD  
ISSUE 2 12-11-25  
ADDED 7 CHOKE COILS  
ADDED 4 RESISTORS  
ADDED 1/10 M.F. CONDENSEK  
RELOCATED GRID LEAK \*  
ISSUE 3 4-14-16



4 TUNING CONDENSERS MECHANICALLY COUPLED

Model C

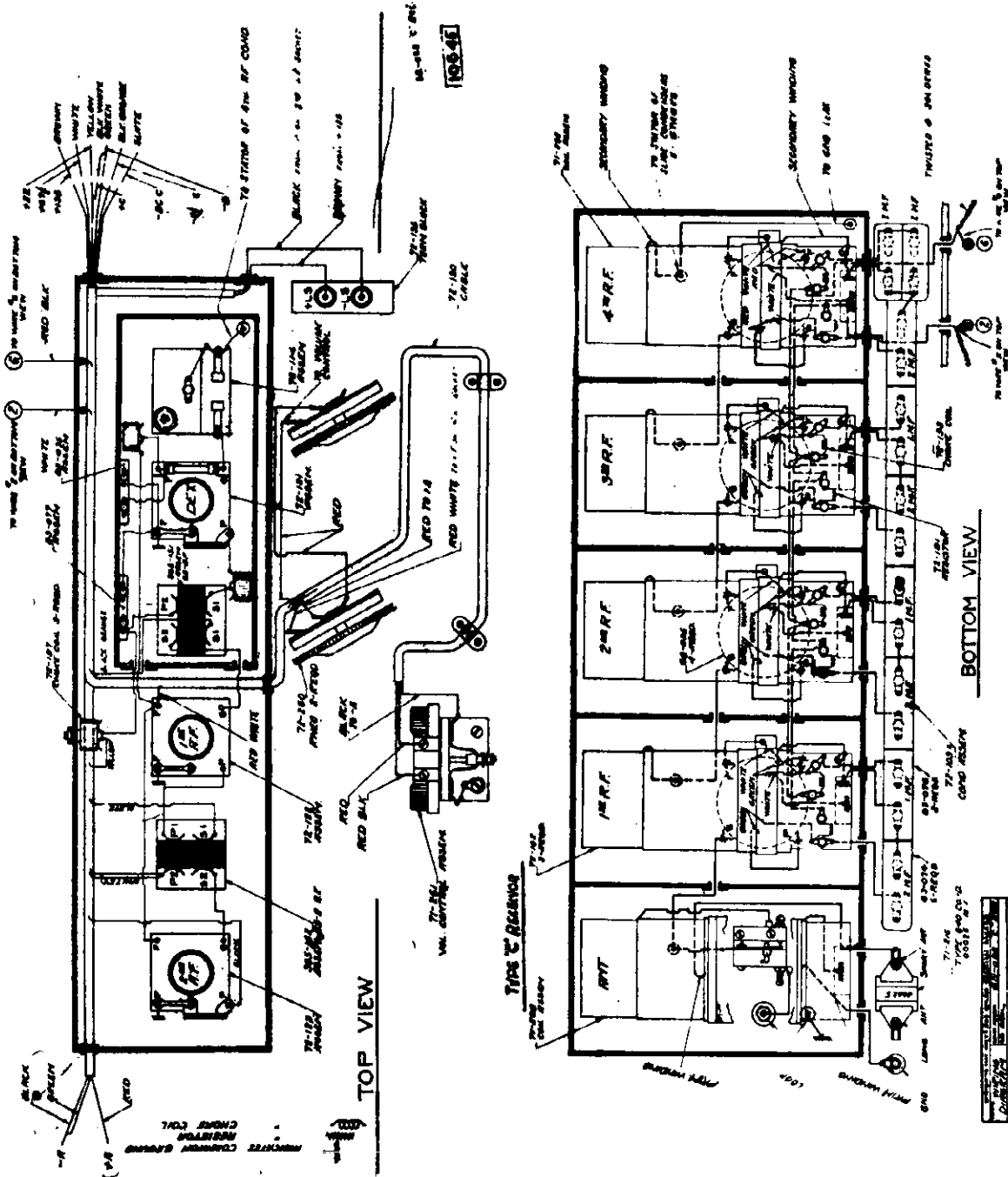
- |                       |               |                |               |
|-----------------------|---------------|----------------|---------------|
| 2AF<br>cayola<br>c371 | 1AF<br>cayola | DET.<br>cayola | 4RF<br>cayola |
| 1RF<br>cayola         | 2RF<br>cayola | 3RF<br>cayola  |               |

SUPERSEDES DMG 3954 DATED 10-19-25



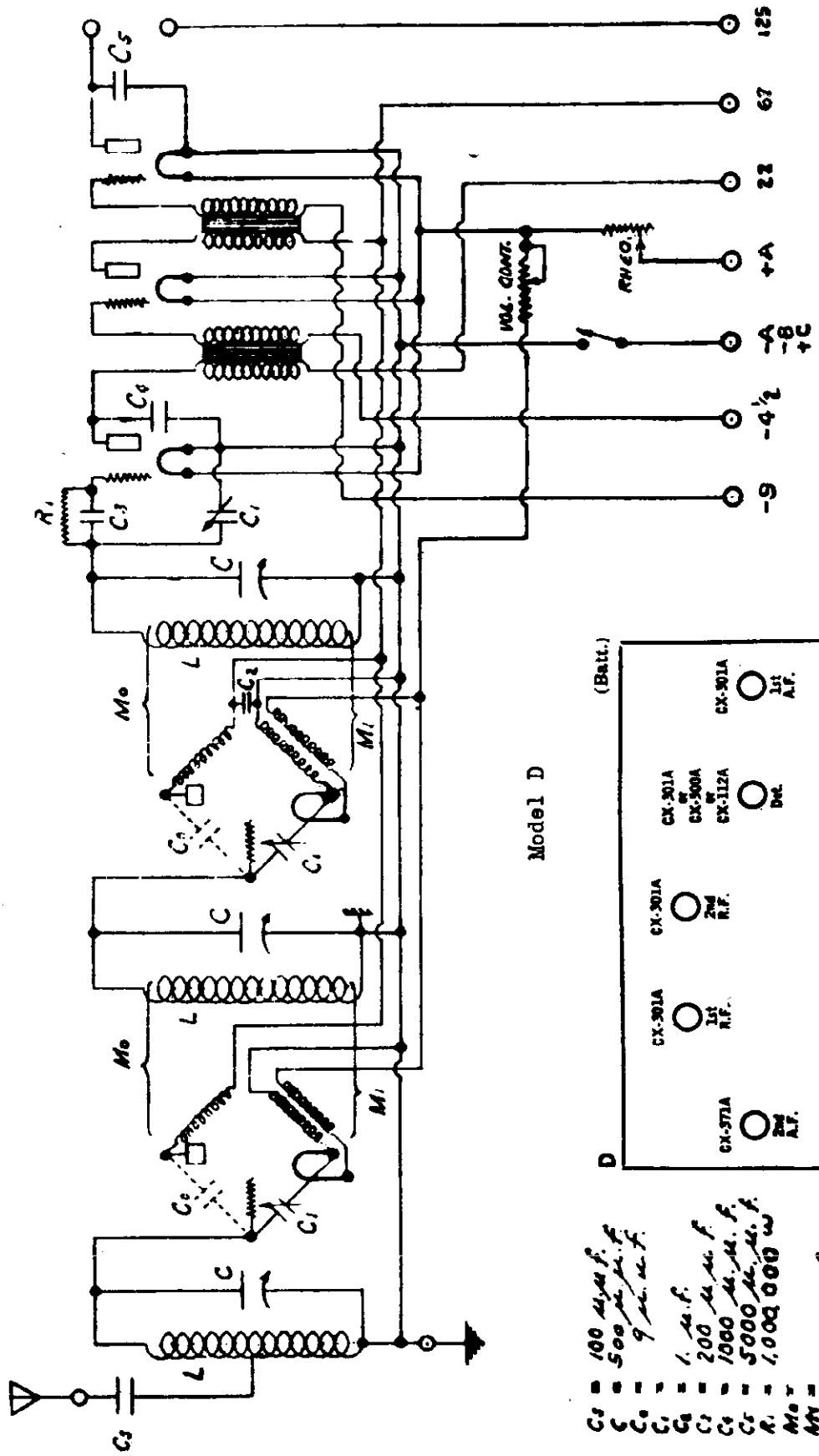
MODEL C  
Wiring Diagram

FEDERAL RADIO CORP.

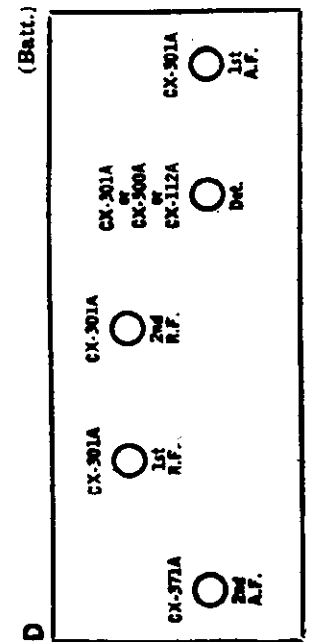


FEDERAL RADIO CORP.

MODEL D, CODE 68-070  
Schematic



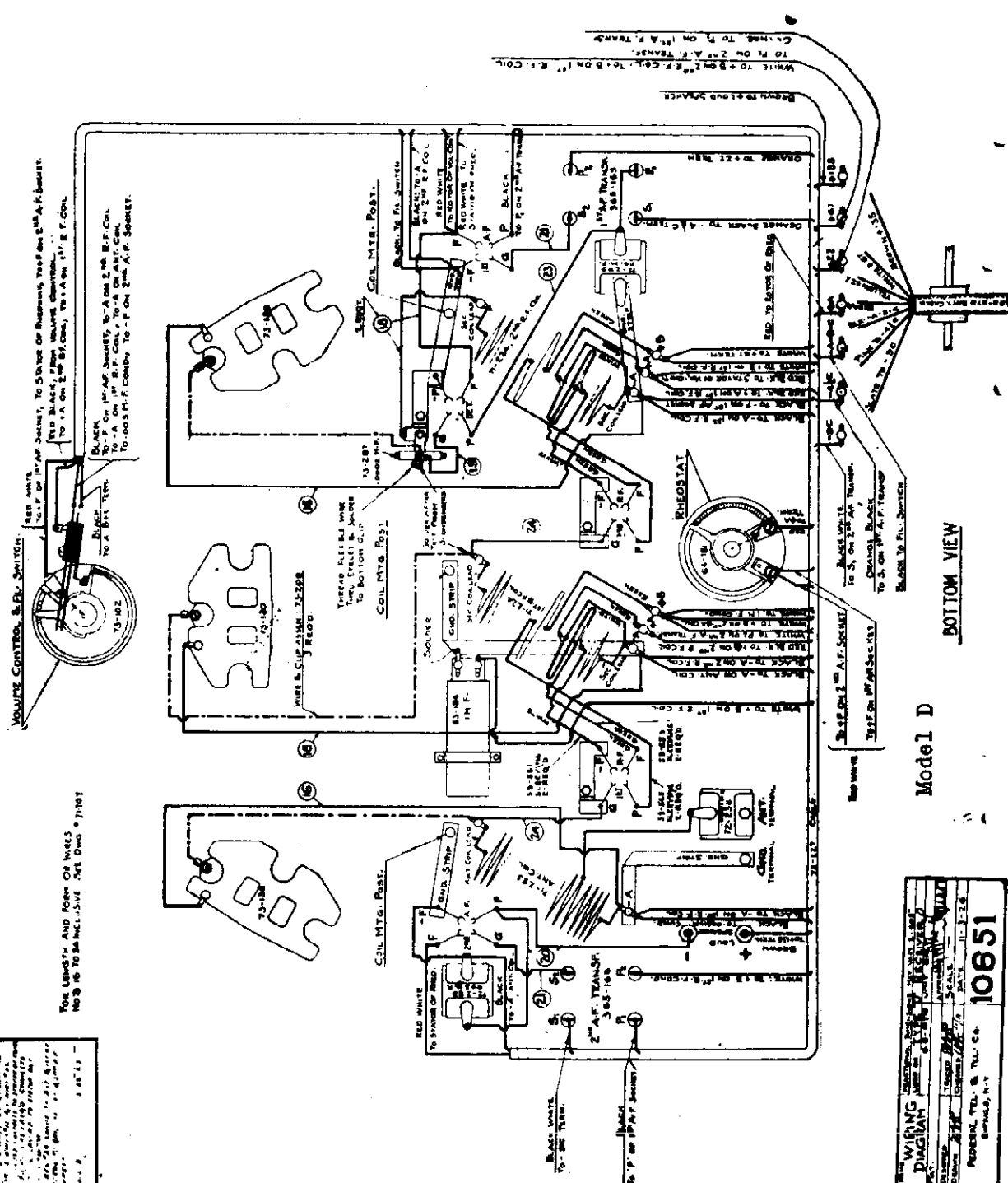
Model D



- C1 = 100  $\mu$ m. f.
- C2 = 500  $\mu$ m. f.
- C3 = 9  $\mu$ m. f.
- C4 = 1  $\mu$ m. f.
- C5 = 200  $\mu$ m. f.
- C6 = 1000  $\mu$ m. f.
- R1 = 5000  $\mu$ m. f.
- R2 = 1,000,000  $\omega$ .
- M1 =
- M2 = 165  $\mu$ m. f.

MODEL D, Battery  
Wiring Diagram

FEDERAL RADIO CORP.



WIRING DIAGRAM	NO. 10651
DATE	11-1-38
SCALE	1:1
DESIGNED BY	W. J. WILSON
CHECKED BY	W. J. WILSON
APPROVED BY	W. J. WILSON
FEDERAL RADIO CORP.	10651
BRIDGE, N.Y.	

Model D

BOTTOM VIEW

CHANGE RECORD

NO. 10651 INCLUSIVE - NET DATES 7/10/37

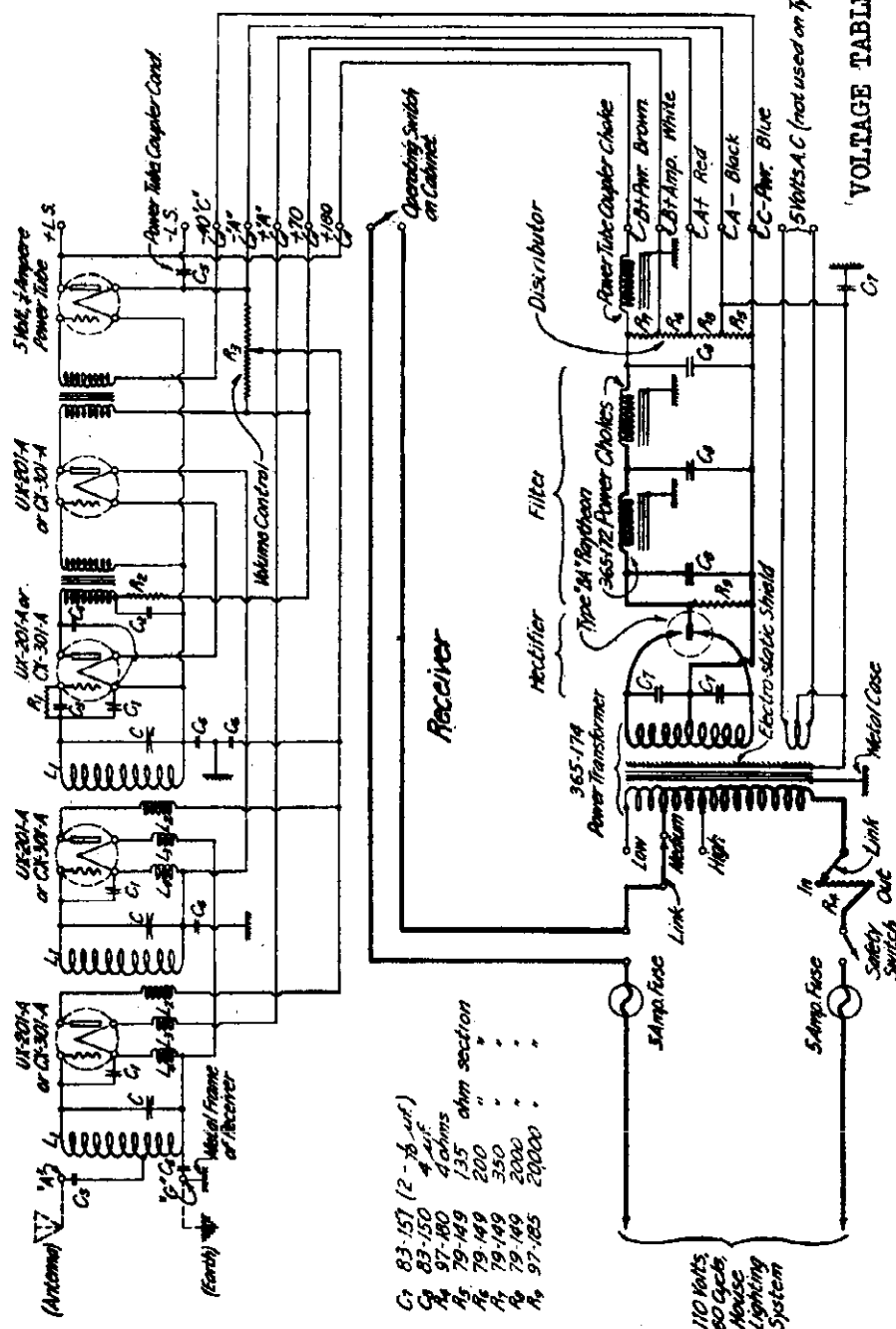
FOR LENGTHS AND FORM OF WIRES

NO. 10651 INCLUSIVE - NET DATES 7/10/37

FEDERAL RADIO CORP.

MODEL D CODE 79-070  
Schematic

- 73-130 Balance Cond
- 83-184 1/2" Luf
- 73-287 .0002 uf
- 72-299 .001 "
- 83-195 1/2" Luf
- 83-189 and 83-190 5 uf. each.
- 72-238 .0001 uf.
- 1 Meg ohm (not shown on 10667)
- 97-116 160,000 ohms.
- 79-155 50,000 ohms.
- 71-223 and 79-124
- Plate Coil (Green, Single Winding)
- 1-F Coil (Green, Double Winding)
- 1-F Coil (White, Double Winding)



- C1 83-157 (2 - 1/2 uf.)
- C2 83-150 4 uf.
- A4 97-180 4 ohms
- A5 79-149 135 ohm section
- A6 79-149 200 "
- A7 79-149 350 "
- A8 79-149 2000 "
- A9 97-185 20000 "

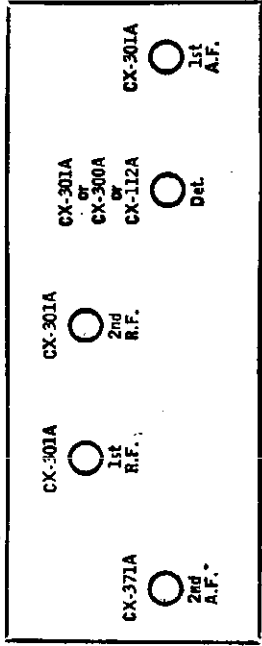
VOLTAGE TABLE

Plate voltages are measured between -F and the tube elements.

- 1st RF Plate 60 volts
  - 2nd RF Plate 65 volts
  - Detector Plate 21\*volts
  - 1st AF Plate 70 volts
  - Output Plate 187 volts
- Measured with low resistance voltmeter. When high resistance meter is used, voltage may be 50 volts.

Model D

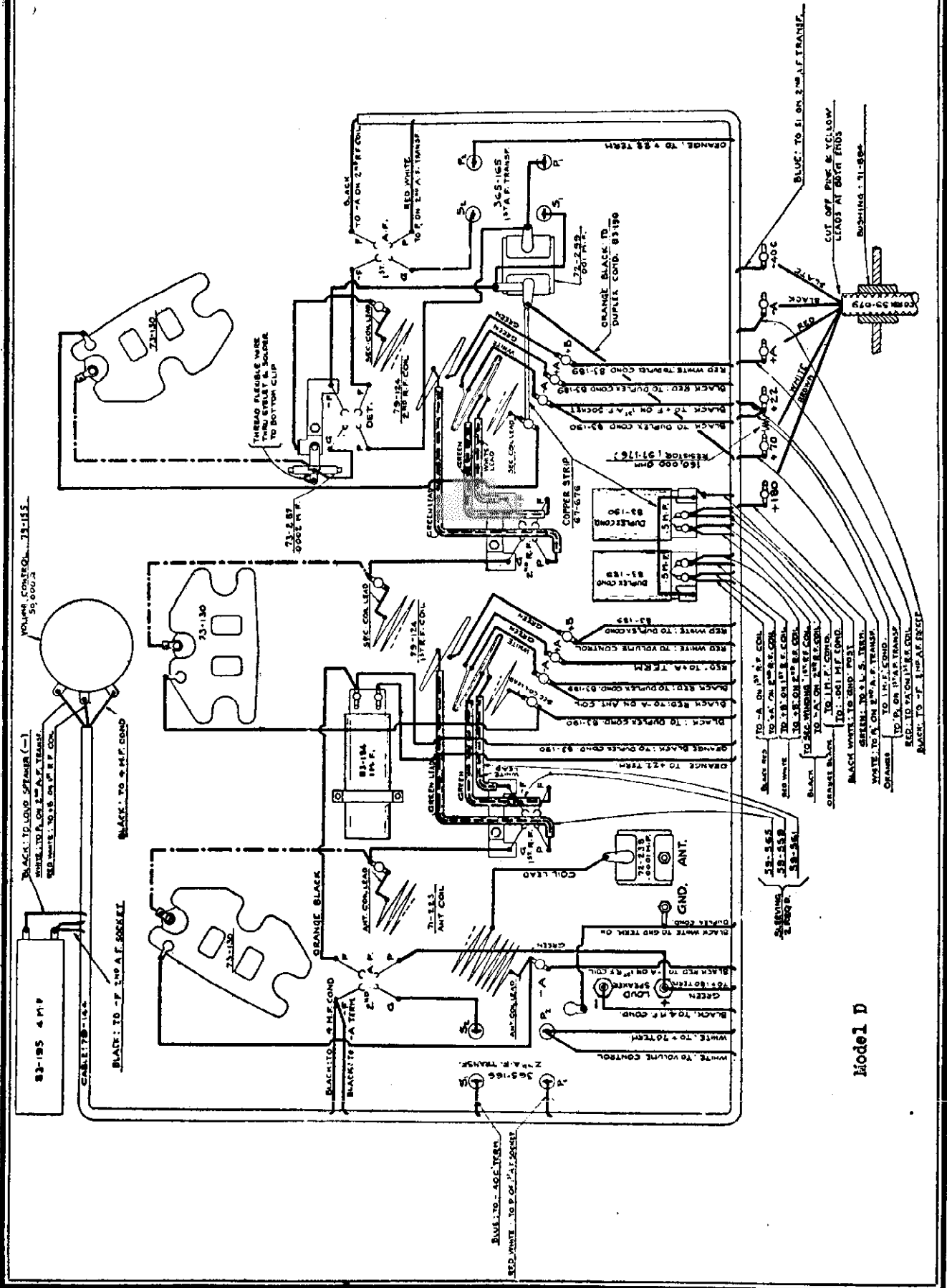
D-10-60, D-40-60



60 Cycle Power Supply Unit, Code 79-001

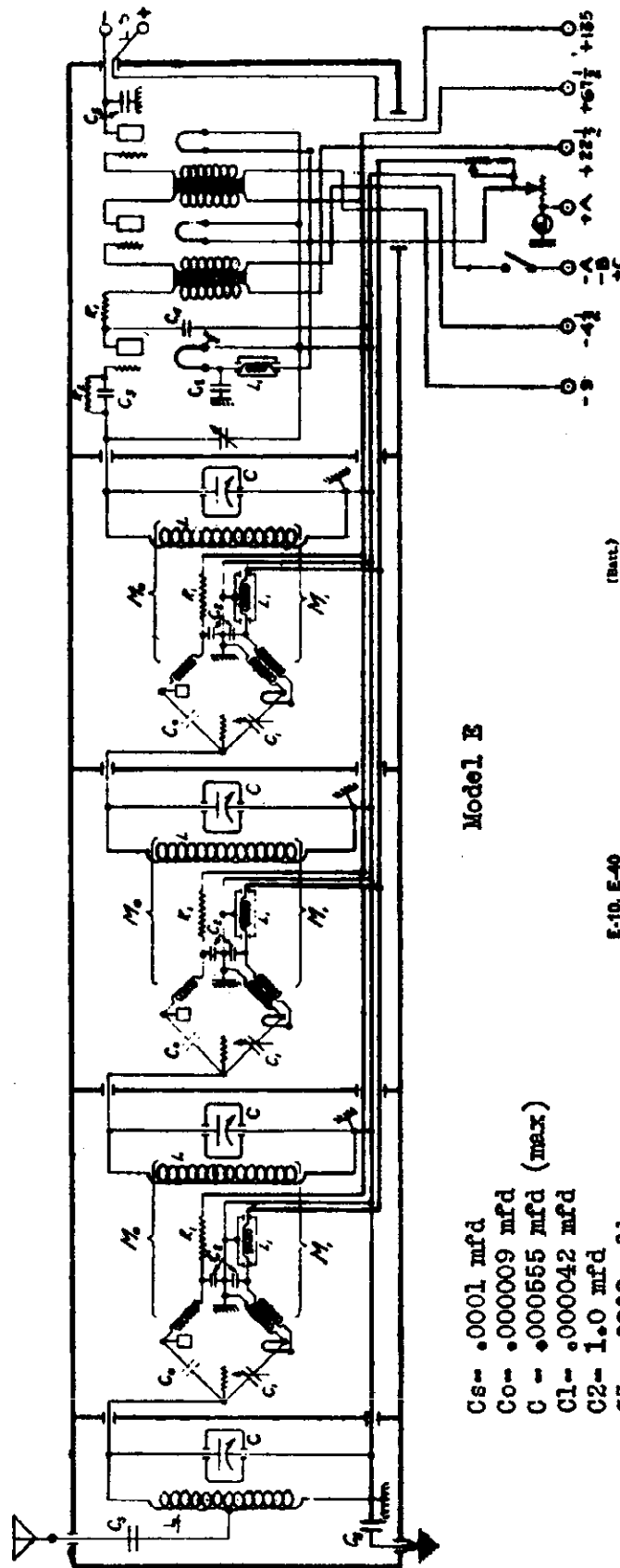
MODEL D (60 Cycle)  
Receiver Chassis

FEDERAL RADIO CORP.



FEDERAL RADIO CORP.

MODEL E CODE 68-060  
Schematic



Model E

- Cs = .0001 mfd
- Co = .000009 mfd
- C = .000555 mfd (max)
- C1 = .000042 mfd
- C2 = 1.0 mfd
- C3 = .0002 mfd
- C4 = .001 mfd
- C5 = .005 mfd
- M0 = 25.5 microhenrys
- M1 = 5.25 microhenrys
- R1 = 200 ohms (low capacity)
- R2 = 1.0 megohm
- L = 100 microhenry
- L1 = 360 microhenry

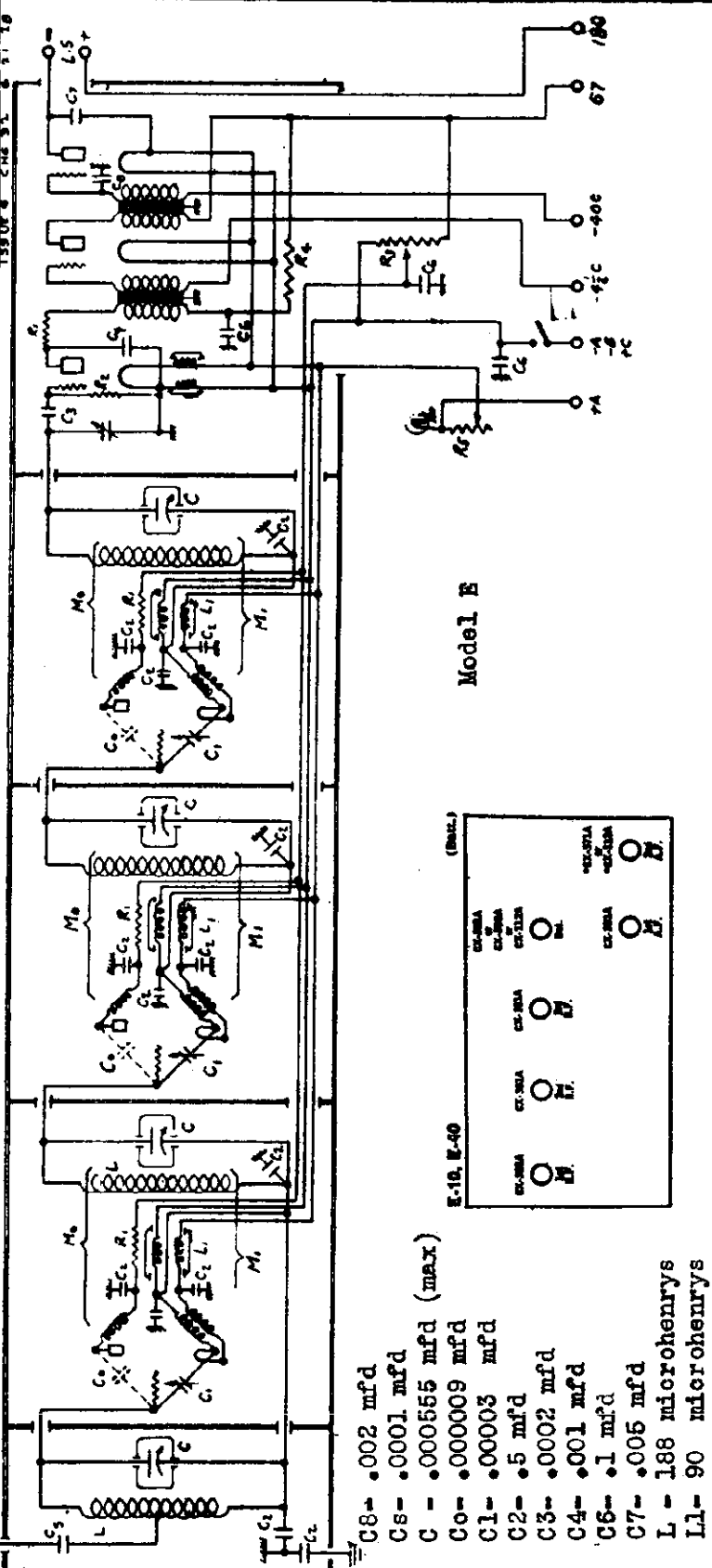
(Batt.)

EX-301A	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A
EX-301B	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A
EX-301C	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A
EX-301D	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A	EX-301A

MODEL E DC  
Schematic

FEDERAL RADIO CORP.

CHANGE RECORD  
 ISSUE 1 9-11-27  
 ISSUE 2 10-00-28  
 ISSUE 3 10-00-28  
 ISSUE 4 10-00-28  
 ISSUE 5 10-00-28  
 ISSUE 6 10-00-28  
 ISSUE 7 10-00-28  
 ISSUE 8 10-00-28  
 ISSUE 9 10-00-28  
 ISSUE 10 10-00-28



Model E

E-10, E-40 (INCHES)

CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001
CS-0001	CS-0001	CS-0001	CS-0001

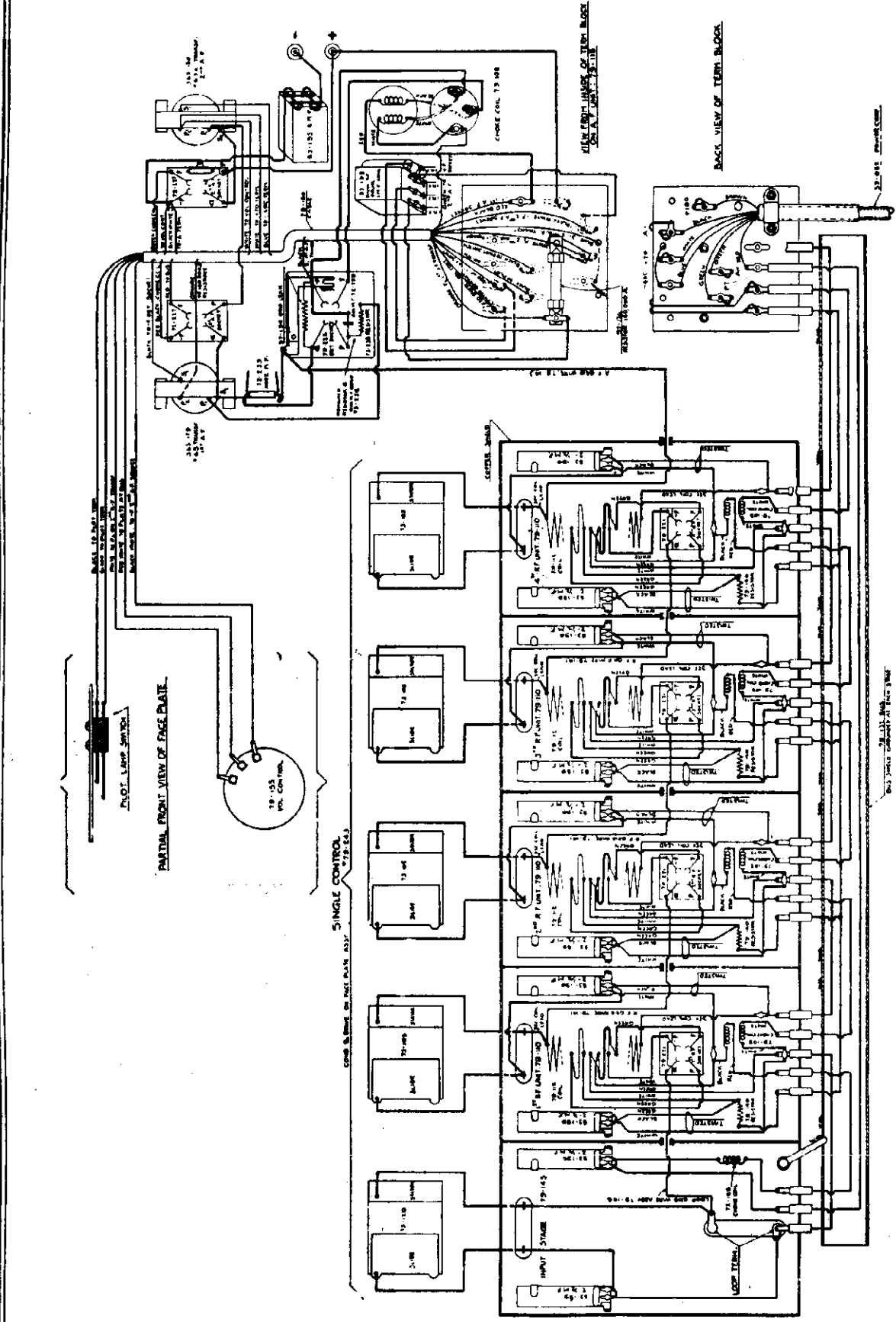
- C8- .002 mfd
- C5- .0001 mfd
- C - .000555 mfd (max)
- C0- .000009 mfd
- C1- .00003 mfd
- C2- .5 mfd
- C3- .0002 mfd
- C4- .001 mfd
- C6- .1 mfd
- C7- .005 mfd
- L - 188 microhenrys
- L1- 90 microhenrys
- R1- 200 ohms
- R2- 1.0 megohm
- R3- 50,000 ohms
- R4- 20,000 ohms for dynamic
- R4- 50,000 ohms for magnetic

3978

NAME: SCHEMATIC 1927 E-DC  
 MAT. NO. 60-092  
 DRAWN BY: [Signature]  
 TRACED BY: [Signature]  
 APPROVED BY: [Signature]  
 FEDERAL TEL. MFG. CO.  
 BUFFA O. N. Y.  
 3978

# FEDERAL RADIO CORP.

## MODEL F, CODE 79-080 Receiver Chassis



Model F Receiver View

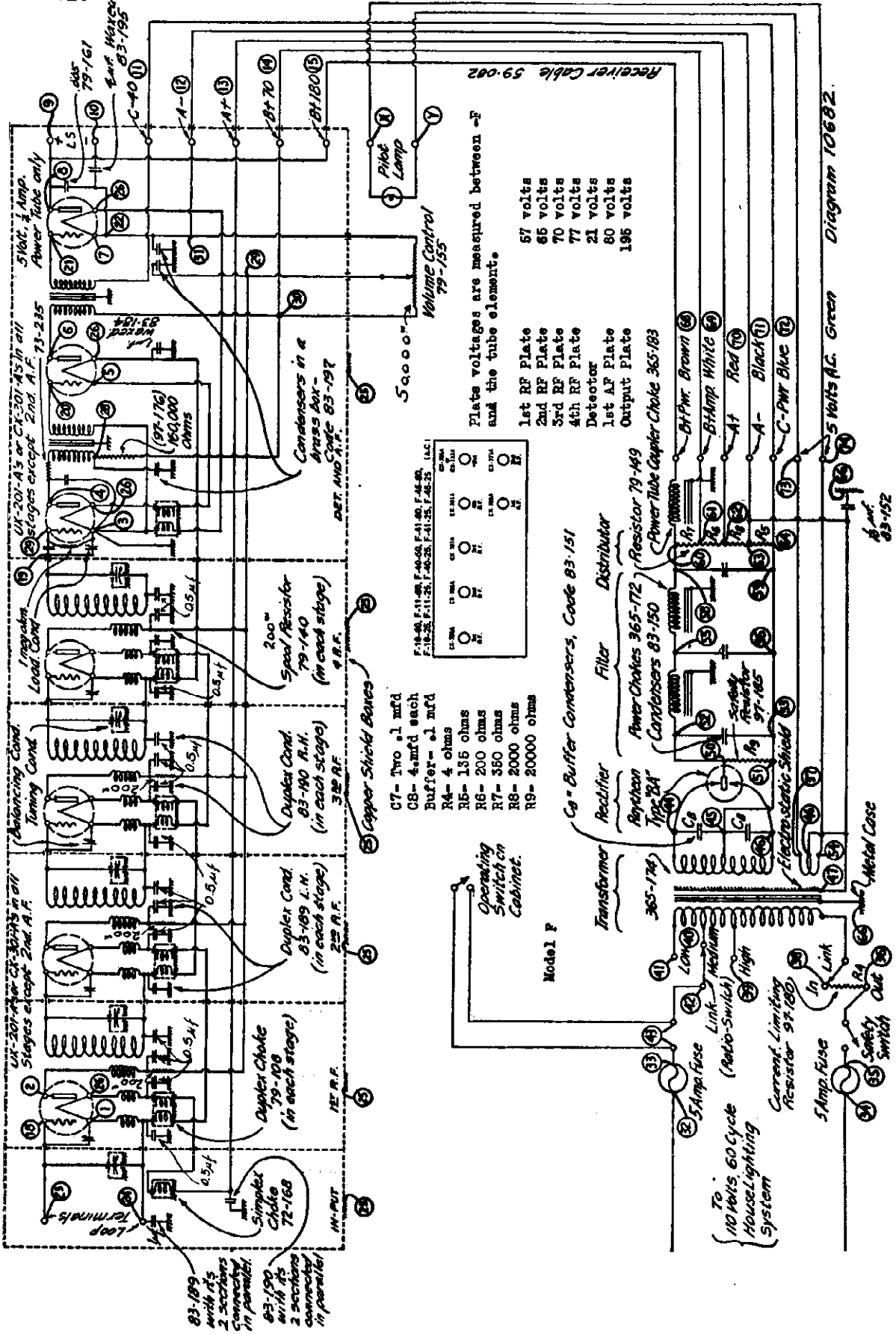
For Power Unit Chassis Wiring  
See Index

GROUND TO FRAME



MODEL F, CODE 79-080  
Schematic

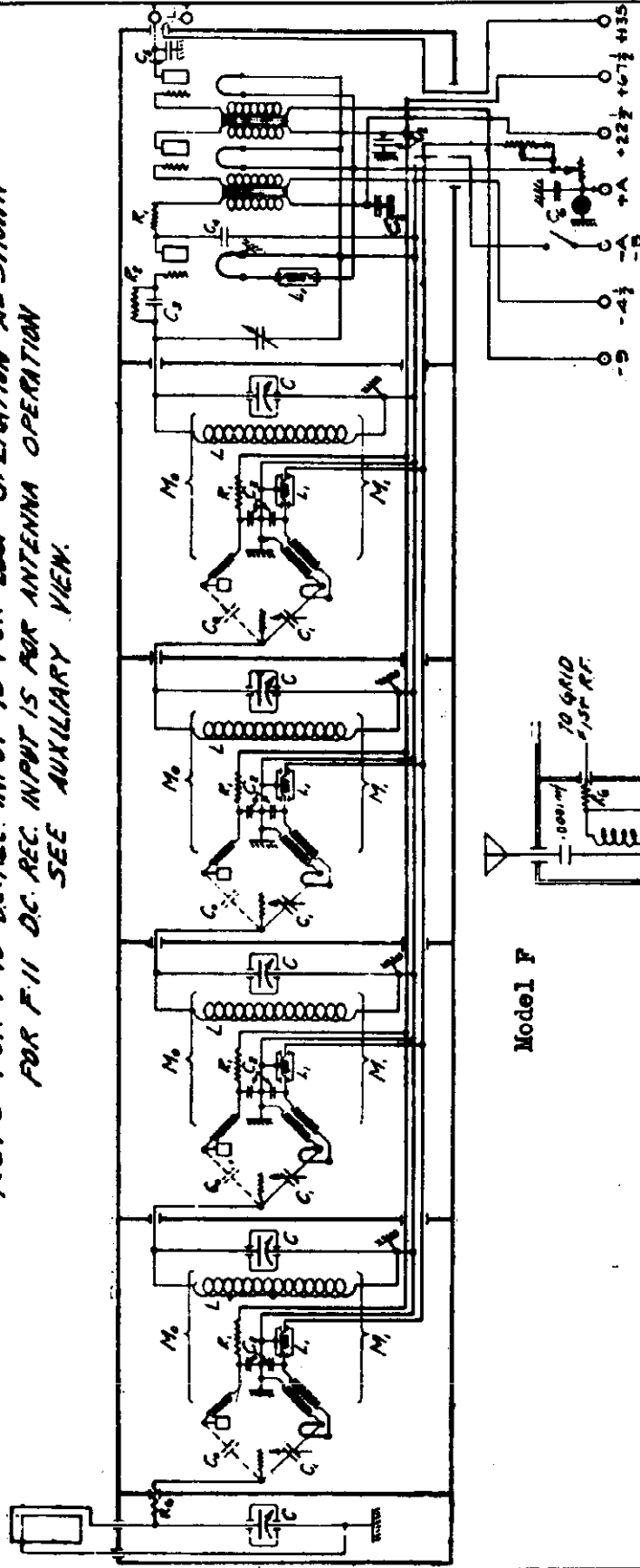
FEDERAL RADIO CORP.



FEDERAL RADIO CORP.

MODEL F-10 DC  
F-11 DC

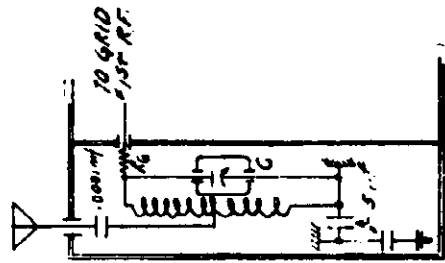
NOTE FOR F-10 DC REC. INPUT IS FOR LOOP OPERATION AS SHOWN  
FOR F-11 DC REC. INPUT IS FOR ANTENNA OPERATION  
SEE AUXILIARY VIEW.



F-10, F-11, F-40 (Batt.)

6X300A	6X300A	6X300A	6X300A	6X300A	6X300A
6X300A	6X300A	6X300A	6X300A	6X300A	6X300A
6X300A	6X300A	6X300A	6X300A	6X300A	6X300A
6X300A	6X300A	6X300A	6X300A	6X300A	6X300A

6X300 tubes with a 6X300 in socket No. 7 may be used from storage battery or eliminator operation is not practical.



Model F

- L = 100 μH
- C1 = 500 pF (MAX)
- C2 = 5 "
- C3 = 45 "
- M0 = 86.5 μH
- M1 = 5.25 μH
- C4 = 1 μF
- R1 = 200 Ω (VERY LOW CONDUCT)
- R2 = 1,000 Ω
- C5 = 500 pF
- C6 = 1,000 μF
- C7 = 5,000 μF
- L1 = 200 μH
- C8 = 2 μF
- R3 = 500 Ω

1.2.10.4 10-3 CB  
AMP. UNIT ADDED FOR F-11  
MODEL-2 8-21-28  
ADDED 86 TO LOOP STAGE  
MODEL-2 8-18-26  
C. TRANSFORMER FROM  
F-10 (10-28) (lead 1/2 in.)

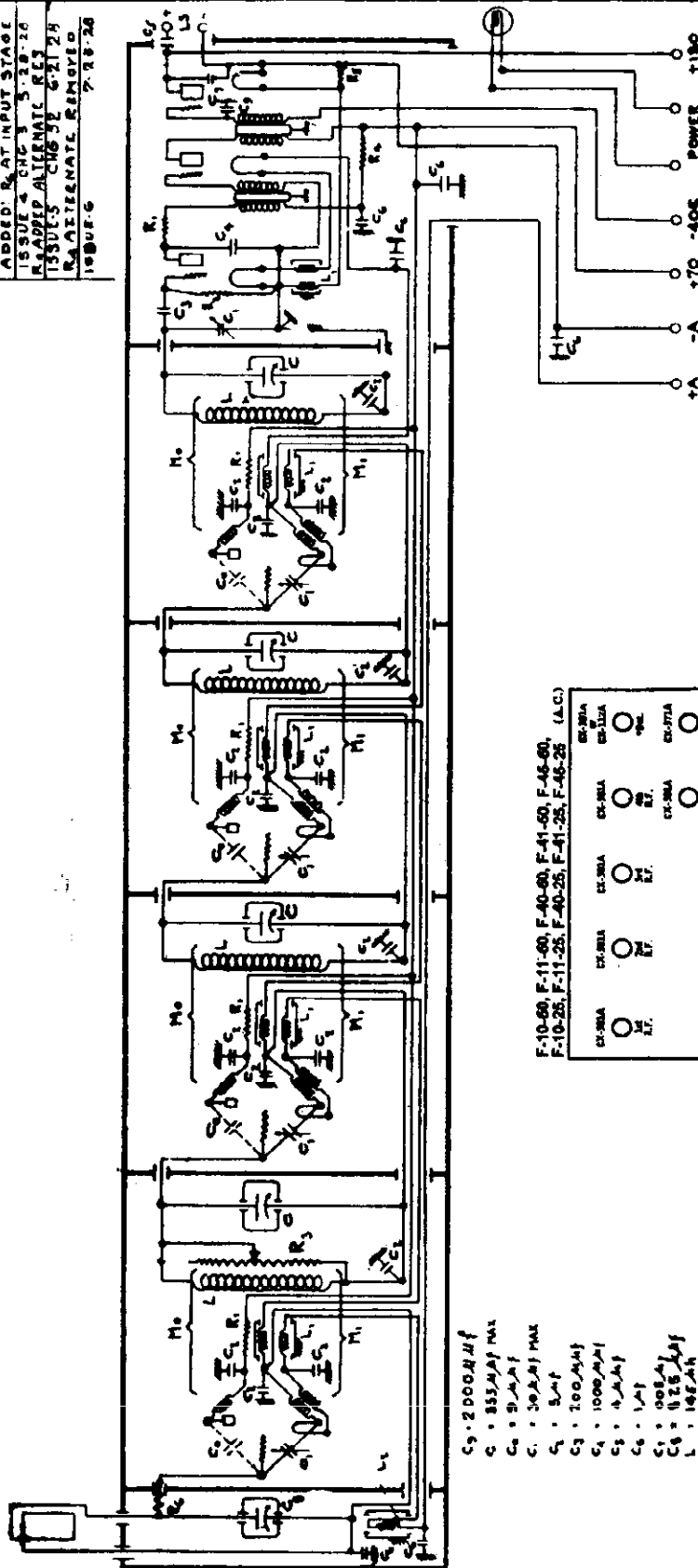
3964

MODEL F (25 Cycle)

FEDERAL RADIO CORP.

**CHANGE RECORD**

ISSUE 1	10-18-37
C <sub>9</sub>	(2000 μmf) ADDED
ISSUE 2	2-12-38
R <sub>4</sub>	WAS 150,000 Ω
ISSUE 3	8-9-38
Grid Amps (12-4)	Added 2500 Ω
ADDED S <sub>1</sub>	AT INPUT STAGE
ISSUE 4	CHG 3-5-39-26
REMOVED ALTERNATE R <sub>2</sub>	
ISSUE 5	CHG 9-6-21-29
REMOVED ALTERNATE R <sub>2</sub>	
ISSUE 6	7-23-26



F-10-60, F-11-60, F-40-60, F-41-60, F-45-60, F-46-60,  
F-10-25, F-11-25, F-40-25, F-41-25, F-45-25, F-46-25 (A.C.)

CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A
CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A
CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A	CR-30A

- C<sub>9</sub> = 2000 μmf
- C<sub>1</sub> = 833 μmf MAX
- C<sub>2</sub> = 2 μmf
- C<sub>3</sub> = 30 μmf MAX
- C<sub>4</sub> = 5 μmf
- C<sub>5</sub> = 100 μmf
- C<sub>6</sub> = 1000 μmf
- C<sub>7</sub> = 4 μmf
- C<sub>8</sub> = 1 μmf
- C<sub>1</sub> = 0.05 μmf
- C<sub>8</sub> = 0.25 μmf
- L = 148 μh
- L<sub>1</sub> = 300 μh AT 1000 ~
- L<sub>2</sub> = 300 μh AT 1000 ~
- M<sub>1</sub> & M<sub>2</sub> = 25 μh AT R.F.
- R<sub>1</sub> = 100 Ω
- R<sub>2</sub> = 1,000,000 Ω
- R<sub>3</sub> = 500,000 Ω
- M<sub>3</sub> = 20,000 Ω
- R<sub>4</sub> = 100 Ω
- R<sub>5</sub> = 900 Ω

DESIGNED FOR

**SCHEMATIC TYPE F REC. SUB ASSY**

SCALE

DRAWN BY *WBS* 10/10

CHECKED BY *WBS*

TRACED BY *WBS* 7/28/37

APPROVED BY *WBS*

FEDERAL TEL. MFG. CO.  
BUFFALO, N.Y.

**3982**

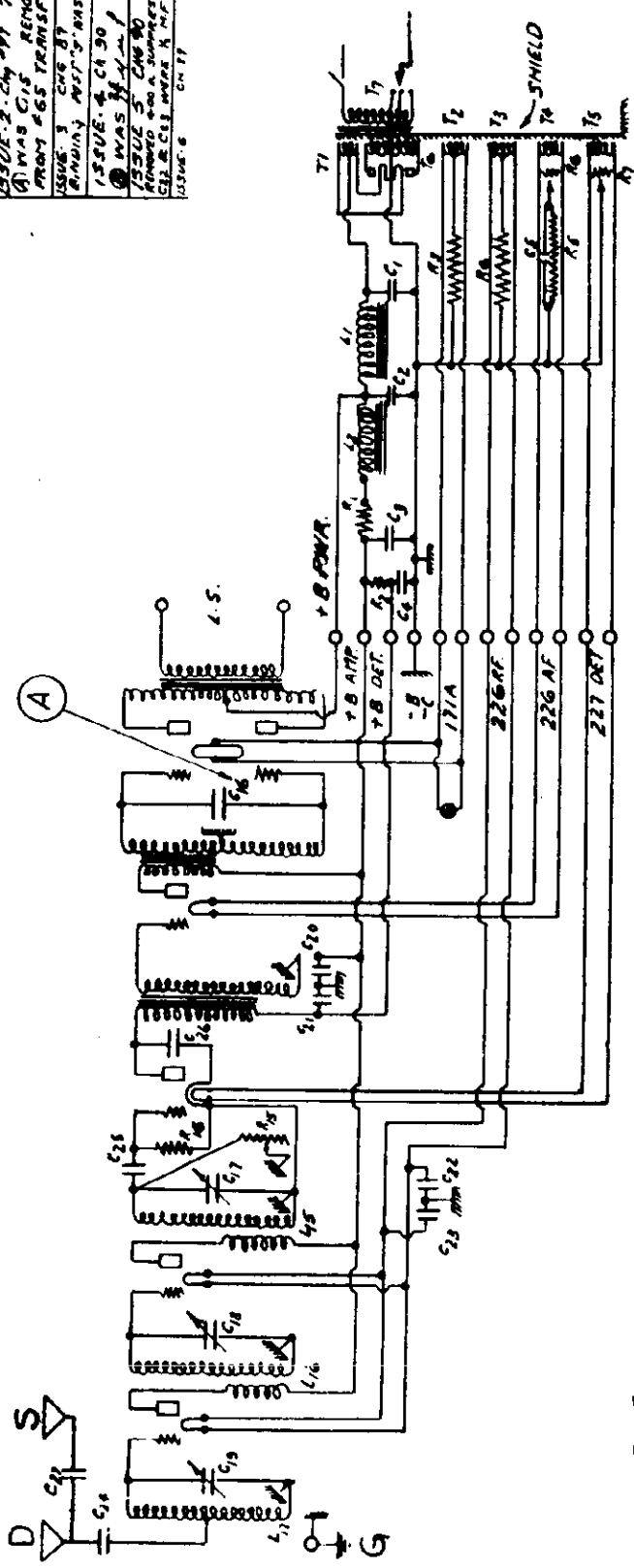
Model F

FEDERAL RADIO CORP.

MODEL G (25 Cycle)

**CHANGE RECORD**  
 15505-1 6-29-28  
 15505-2 6-29-28  
 15505-3 6-29-28  
 15505-4 6-29-28  
 15505-5 6-29-28  
 15505-6 6-29-28

MAKE NO CHANGES. REPORT ALL ERRORS  
 FRACTIONAL DIMENSIONS MAY VARY .005  
 UNLESS OTHERWISE NOTED



- PARTS LIST FOR RECEIVER**
- C16 = .0002 MF
  - C17 = .0003 MF
  - C18 = .0003 MF
  - C19 = .0003 MF
  - C20 = 1/2 MF
  - C21 = 1/2 MF
  - C22 = 1/10 MF
  - C23 = 1/10 MF
  - C24 = .0001 MF
  - C25 = .0002 MF
  - C26 = .001 MF
  - C27 = 50 MF
- PARTS LIST FOR POWER UNIT**
- R1 = 3800
  - R2 = 13000
  - R3 = 1300
  - R4 = 1400
  - R5 = 2500
  - R6 = 40
  - R7 = 40
- TAP POSITIONS**
- T2 = 1000
  - T3 = 10
  - T4 = 10
  - T5 = 16
  - T6 = 3860 TAP 1600
  - T7 = 727 TAPS 668, 610

Model G

**SCHEMATIC**

DESIGNED FOR REC. & PWR. UNIT  
 DATE: 6-29-28  
 CHECKED: [Signature]  
 APPROVED: [Signature]  
 TRACED: [Signature]

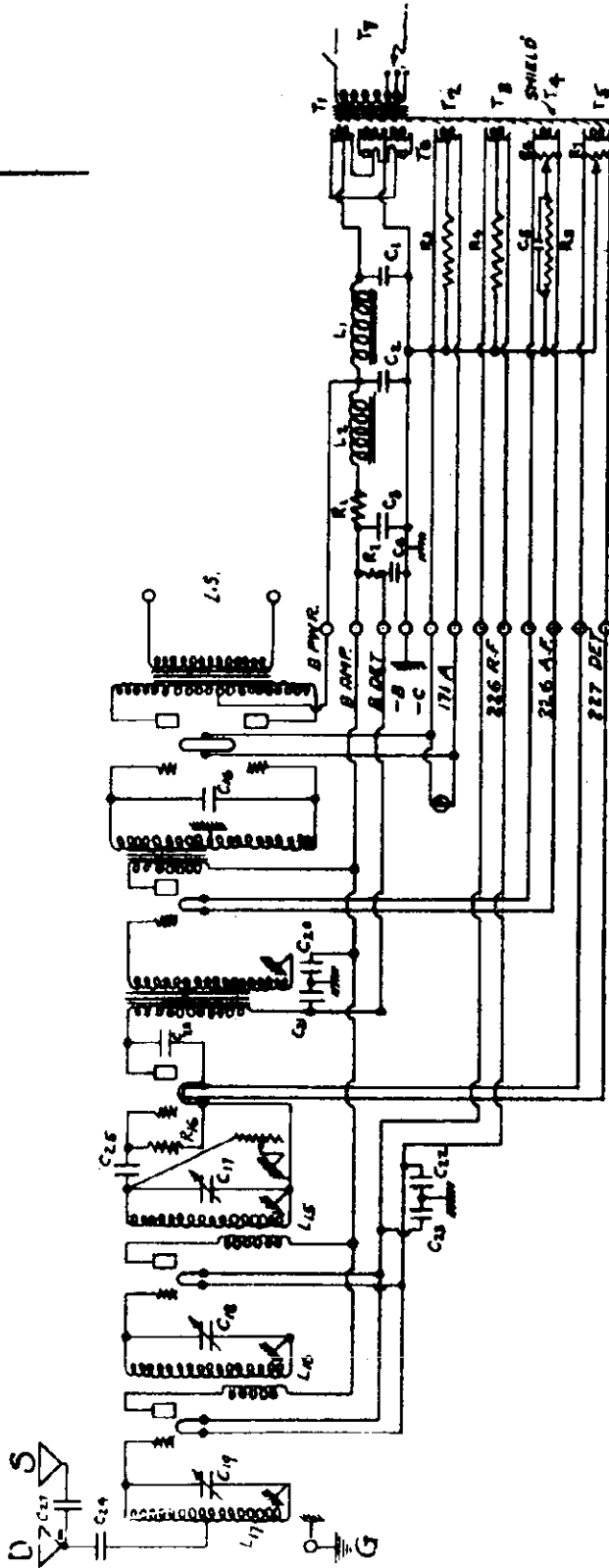
SCALE: 1/8" = 1"

FEDERAL TEL. MFG. CO.  
 BUFFALO, N. Y.

**3985**

- PARTS LIST FOR RECEIVER**
- L16 = 262 MF
  - L17 = 262 MF
  - L18 = 262 MF TAPPED 50 TURNS FROM GND.
  - R15 = 609000 OHM
  - R16 = 2 MF
- EX-30**
- EX-30
  - EX-31
  - EX-32
  - EX-33
  - EX-34
  - EX-35
  - EX-36
  - EX-37
  - EX-38
  - EX-39
  - EX-40
  - EX-41
  - EX-42
  - EX-43
  - EX-44
  - EX-45
  - EX-46
  - EX-47
  - EX-48
  - EX-49
  - EX-50

CHANGE RECORD  
1330E-1 8-17-32



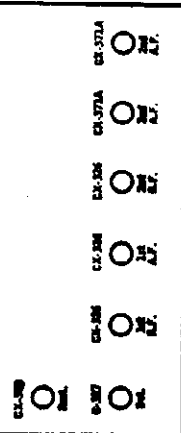
- PARTS LIST FOR POWER UNIT**
- R1 = 3500 Ω
  - R2 = 15k-285 Ω
  - R3 = 13,000 Ω
  - R4 = 1400 Ω
  - R5 = 1300 Ω
  - R6 = 40 Ω
  - R7 = 40 Ω
  - L1 = 15h-285 Ω
  - L2 = 55h-1600 Ω
  - L3 = 1400 Ω
  - L4 = 2800 Ω
  - C1 = 1 μf
  - C2 = 1 μf
  - C3 = 2 μf
  - C4 = 1 μf
  - C5 = 1/2 μf
  - T1 = 24
  - T2 = 24
  - T3 = 8
  - T4 = 12
  - T5 = 2590
  - T6 = 573
- VOLTAGES**

Plate voltages are measured between the chassis and the respective tube plates.

- 1st RF Plate 125 volts
- 2nd RF Plate 125 volts
- Detector Plate 62 volts
- 1st AF Plate 125 volts
- Output Plates 190 volts
- Grids and Cathodes 0 volts
- 1st RF Fil. 1.45 volts
- 2nd RF Fil. 1.45 volts
- Detector Fil 2.25 volts
- 1st AF Fil. 1.45 volts
- Output Fil. 5.1 volts

- PARTS LIST FOR REC.**
- C16 = .0002 μf
  - C17 = .0003 μf
  - C18 = .0003 μf
  - C19 = .0003 μf
  - C20 = 1/2 μf
  - C21 = 1/2 μf
  - C22 = 1/2 μf
  - C23 = 1/2 μf
  - C24 = .0001 μf
  - C25 = .0002 μf
  - C26 = .001 μf
  - C27 = 50 μf
  - L6 = 262 μh
  - L7 = 162 μh
  - L8 = 802 μh
  - R8 = 500,000 Ω
  - R9 = 2 MΩ

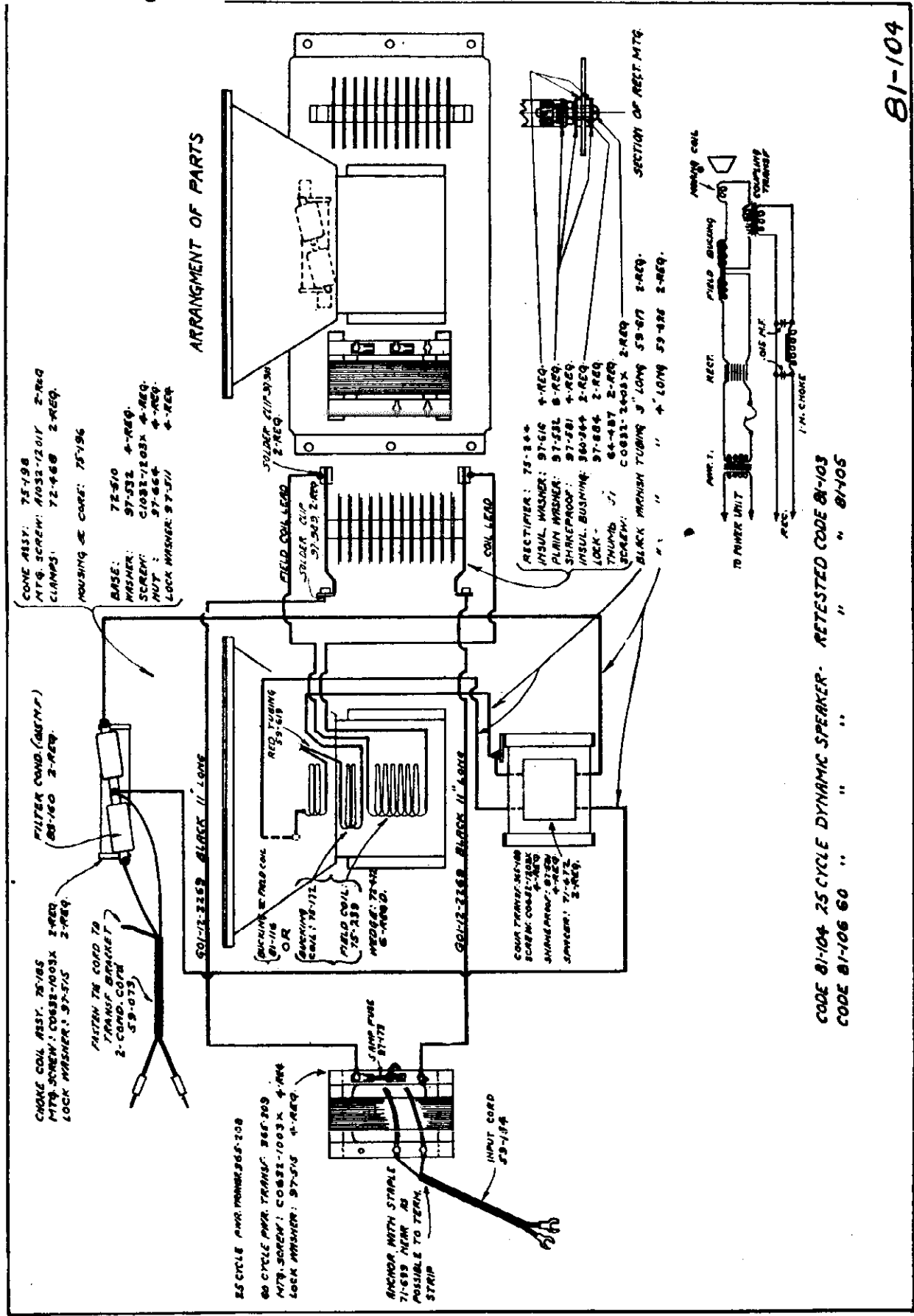
M-10-G1, M-40-G1, M-41-G1,  
M-10-25, M-40-25, M-41-25





MODEL H Power Unit  
Chassis Wiring

FEDERAL RADIO CORP.



CONE ASST. 75-196  
MFG. SCREW: A1032-12011 2-REQ  
CLAMPS: 72-468 2-REQ  
HOUSING & CAPS: 75-196

BASE: 72-510  
WASHER: 97-532 4-REQ  
SCREWS: C1083-1003X 4-REQ  
NUT: 97-664 4-REQ  
LOCK WASHER: 97-571 4-REQ

RECTIFIER: 75-364  
INSUL. WASHER: 97-616 4-REQ  
PLAIN WASHER: 97-532 8-REQ  
SHAKEPROOF: 97-781 4-REQ  
INSUL. BUSHING: 960-264 2-REQ  
LOCK: 97-884 2-REQ  
TUBING: 64-437 2-REQ  
SCREWS: C1083-2403X 2-REQ  
BLACK WASHING TUBING 3' LONG 59-817 2-REQ  
" " " " 4' LONG 59-426 2-REQ

CHOKER COIL ASST. 75-185  
MFG. SCREW: C1083-1003X 2-REQ  
LOCK WASHER: 97-575 2-REQ

FASTEN IN CORD TO  
TRANSF. BRACKET  
2-COND. CORE  
59-073

FILTER COND. (MILF)  
80-160 2-REQ

SOLENOID BLACK 11-601E  
FIELD COIL  
MAGNETIC FIELD COIL  
81-116  
OR  
WASHER: 75-172  
FIELD COIL  
75-539  
WASHER: 75-442  
6-REQ

COIL LEAD

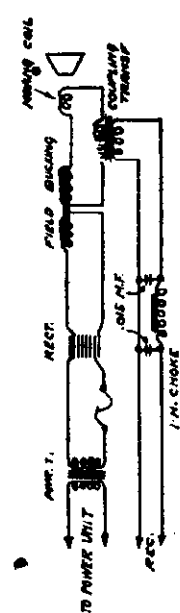
SOLENOID BLACK 11-601E  
COIL TRANSFORMER  
SCREW: C1083-1003X 4-REQ  
SHAKEPROOF: 97-781 4-REQ  
SPEAKER: 75-572  
2-REQ

60 CYCLE PWR. TRANSF. 86F-209  
MFG. SCREW: C1083-1003X 4-REQ  
LOCK WASHER: 97-575 4-REQ

ANCHOR WITH STABLE  
71-699 NEAR AS  
POSSIBLE TO TERN.  
STRIP

JUMP FUSE  
97-178

INPUT CORD  
59-184

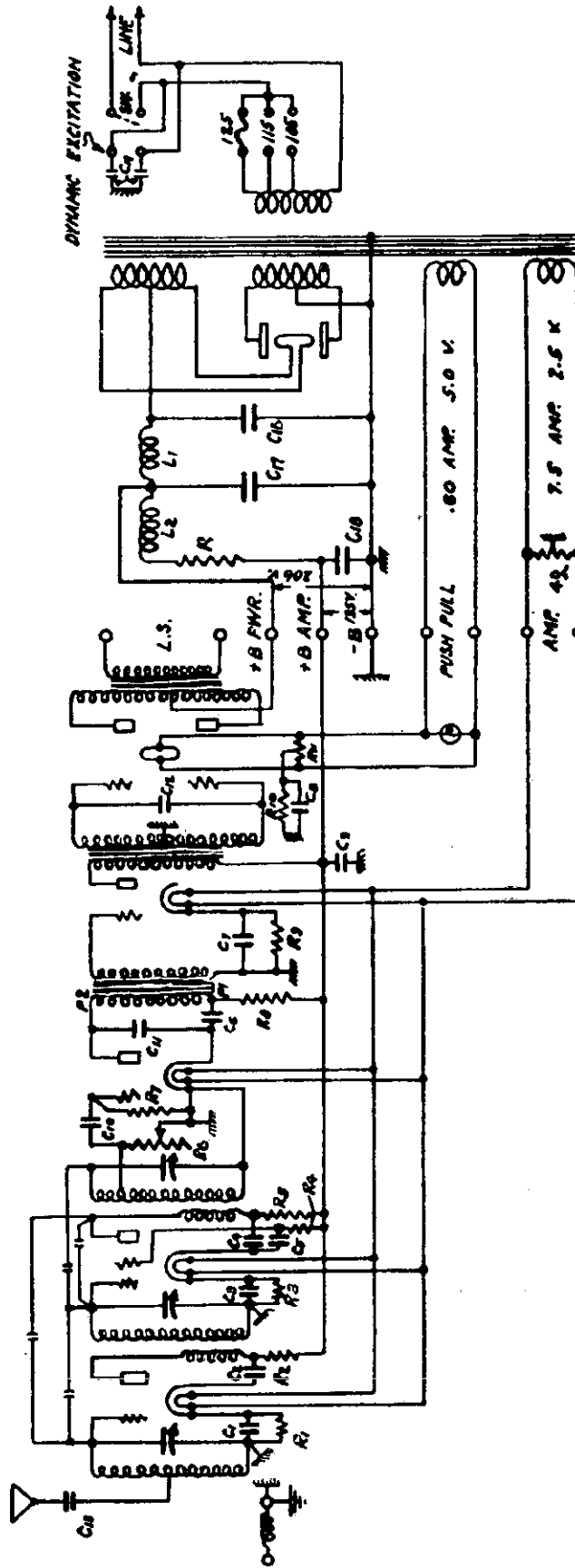


CODE 81-104 25 CYCLE DYNAMIC SPEAKER - RETESTED CODE 81-103  
CODE 81-106 60 " " " " " " 81-105

81-104

FEDERAL RADIO CORP.

MODEL K



Model K

25 CYCLE		60 CYCLE	
R	1500 Ω	R	1500 Ω
L1	1000 Ω	L1	1000 Ω
L2	1000 Ω	L2	1000 Ω
C1	1000 Ω	C1	1000 Ω
C2	1000 Ω	C2	1000 Ω
C3	1000 Ω	C3	1000 Ω
C4	1000 Ω	C4	1000 Ω
C5	1000 Ω	C5	1000 Ω
C6	1000 Ω	C6	1000 Ω
C7	1000 Ω	C7	1000 Ω
C8	1000 Ω	C8	1000 Ω
C9	1000 Ω	C9	1000 Ω
C10	1000 Ω	C10	1000 Ω

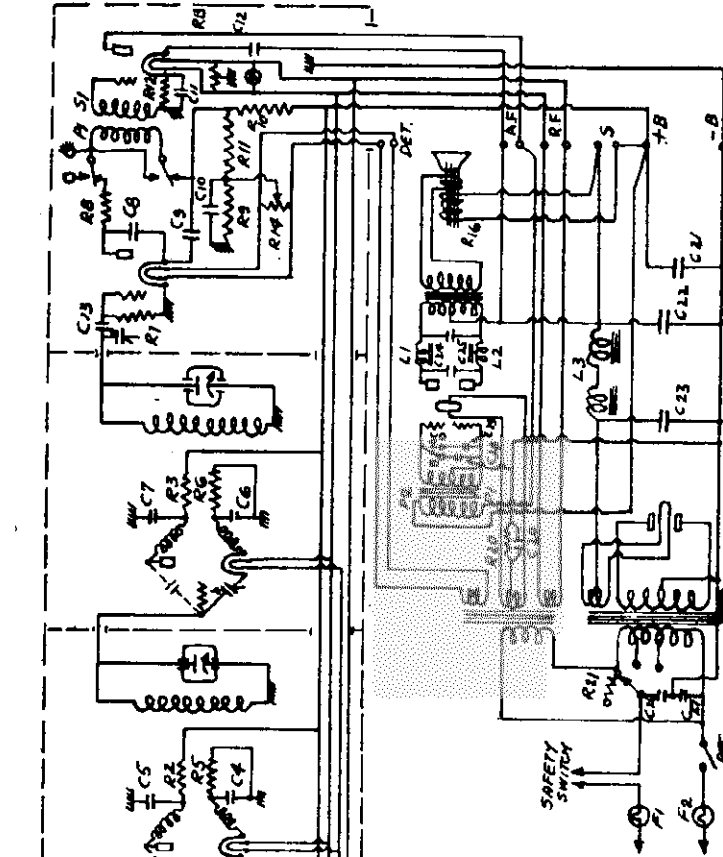
  

Model K (A.C.)	
CX-380	Rect.
C-324	2nd A.F.
C-327	1st A.F.
CX-371A	2nd A.F.
C-327	1st A.F.
C-327	Det.



MODEL M

FEDERAL RADIO CORP.

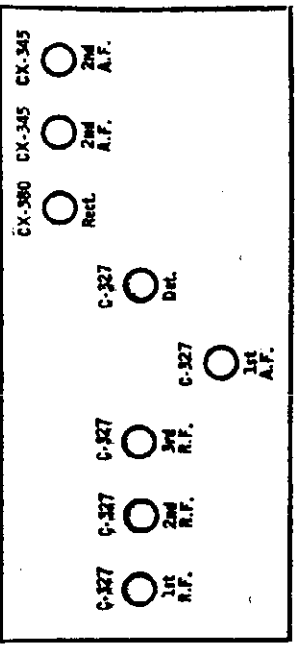


Type M

FEDERAL—Type M  
Line Voltage 113—Set on 113 Volt Tap—Volume Control Position Off

- REC. PARTS
- | UNIT CAP | DIELECTR | RODING | DC VOLT |
|----------|----------|--------|---------|
| C        | RESIST   | RESIST | RESIST  |
| C1       | .25      | "      | 200     |
| C2       | .25      | "      | 400     |
| C3       | .25      | "      | 400     |
| C4       | .25      | "      | 400     |
| C5       | .25      | "      | 400     |
| C6       | .25      | "      | 400     |
| C7       | .25      | "      | 400     |
| C8       | .25      | "      | 400     |
| C9       | .25      | "      | 400     |
| C10      | .25      | "      | 400     |
| C11      | .25      | "      | 400     |
| C12      | .25      | "      | 400     |
| C13      | .25      | "      | 400     |
- 
- | RESIST | RESIST   | RESIST |          |
|--------|----------|--------|----------|
| R      | R        | R      |          |
| R1     | 200 OHMS | R18    | 500 OHMS |
| R2     | 200      | R19    | 500      |
| R3     | 200      | R20    | 500      |
| R4     | 1500     | R21    | 500      |
| R5     | 1500     | R22    | 500      |
| R6     | 1500     | R23    | 500      |
| R7     | 1500     | R24    | 500      |
| R8     | 1500     | R25    | 500      |
| R9     | 1500     | R26    | 500      |
| R10    | 1500     | R27    | 500      |
| R11    | 1500     | R28    | 500      |
| R12    | 1500     | R29    | 500      |
| R13    | 1500     | R30    | 500      |
| R14    | 1500     | R31    | 500      |
| R15    | 1500     | R32    | 500      |
- 
- | POWER UNIT PARTS |     |
|------------------|-----|
| C20              | 1.0 |
| C21              | 1.0 |
| C22              | 1.0 |
| C23              | 1.0 |
| C24              | 1.0 |
| C25              | 1.0 |
| C26              | 1.0 |
| C27              | 1.0 |
| C28              | 1.0 |

M-35-60, M-40-60, M-41-60, M-45-60, M-46-60, M-35-25, M-40-25, M-41-25, M-45-25, M-46-25 (A.C.)



TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TIME IN TEST				
												TYPE	TYPE	TYPE		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

MODEL 35, 40

Data

MODEL "Cathedral Tone"

Schematic

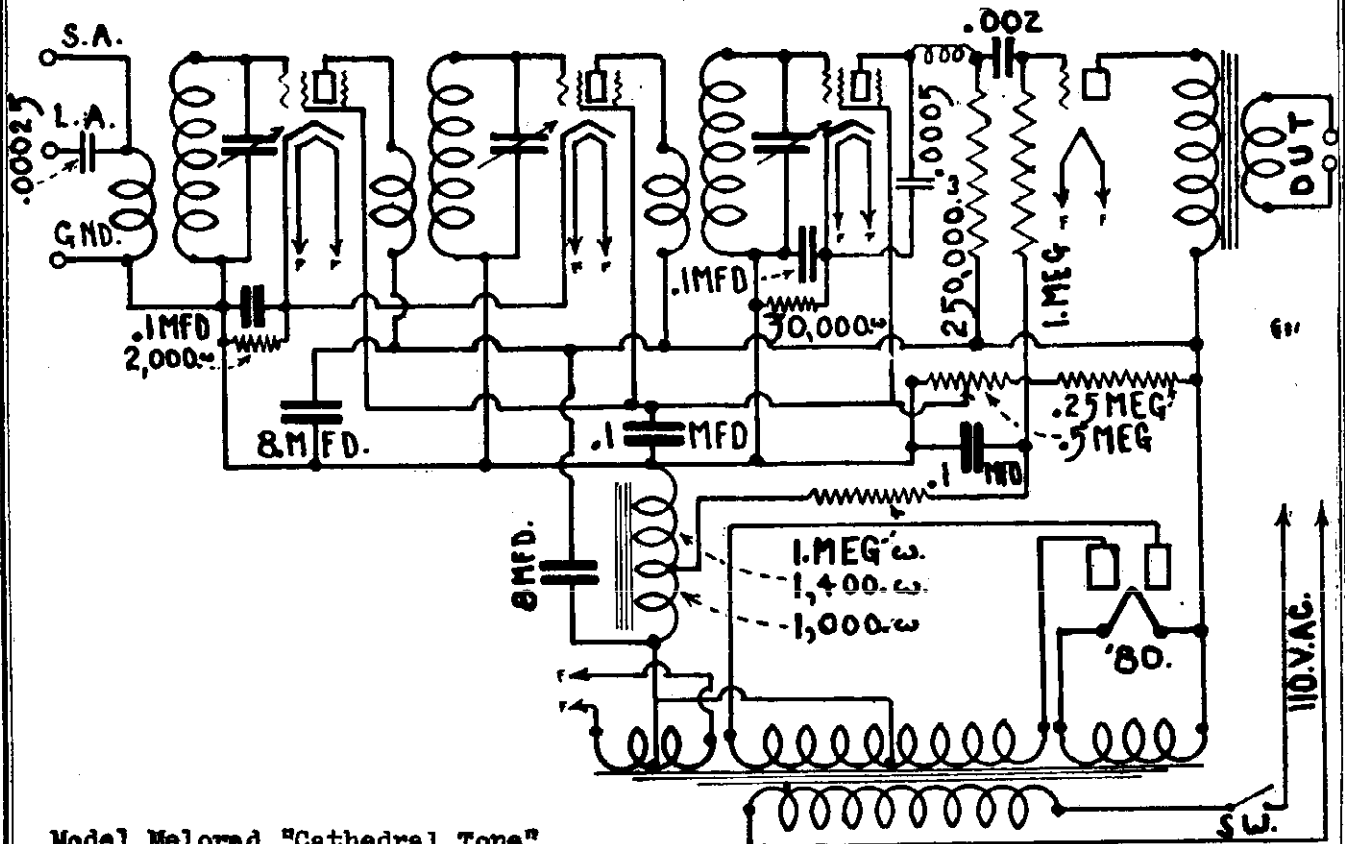
## FEDERATED PURCHASER

## Model 35, 40

**ADJUSTMENTS** The 175 kc. oscillator must be accurately tuned to 175 kc. and only 175 kc. If this precaution is not observed it will be impossible to align the oscillator to the rest of the set and the set will not operate correctly as the oscillator is designed for exact 175 kc. operation.

The second intermediate frequency amplifier transformer shield can be removed and one side of the small variator condenser is disconnected from the primary coil. This coil is connected so that it still is in the plate circuit of the tube but the tuning condenser is not connected in the circuit. Now remove the grid cap from the intermediate amplifier tube and connect a 3 megohm resistor from the control grid to ground. Now connect the output from the 175 kc. oscillator to the grid of the intermediate frequency amplifier tube and tune the secondary for maximum deflection of the output meter. (Low voltage alternating current meter, 0 to 3 volts, connected across the voice coil of speaker). Now remove the shield can and connect the small tuning condenser that was previously removed back across the primary coil. With the 175 kc. oscillator connected the same as before, tune the primary for a maximum deflection of the output meter. (Caution: Do not under any circumstances try to retune the secondary after having tuned the primary. This is important.) After having tuned this stage proceed to the next intermediate frequency:

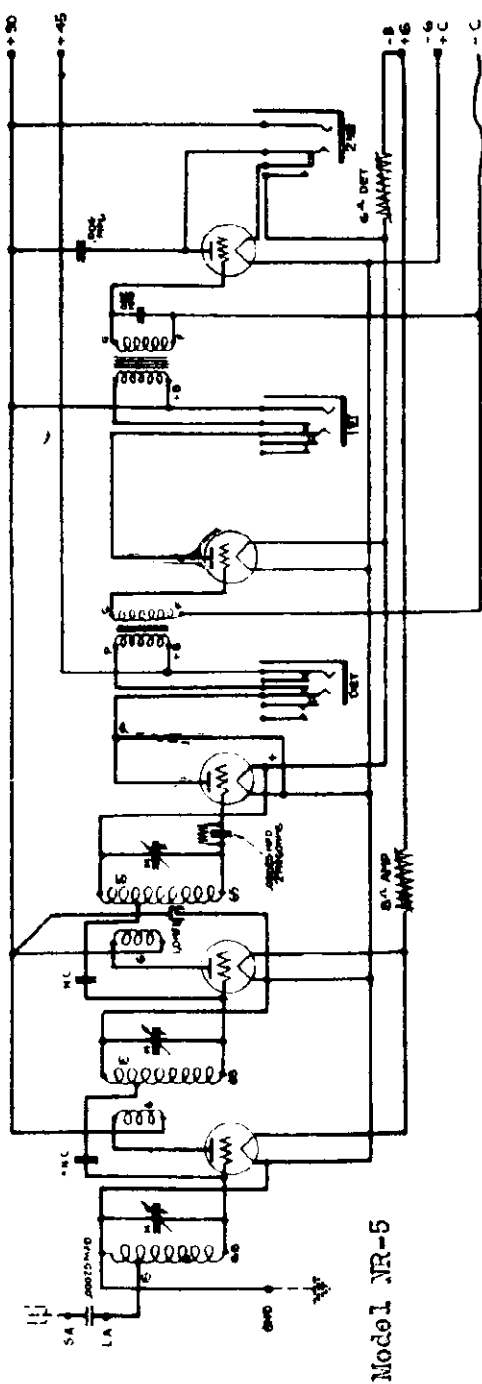
(b) Replace the grid cap on the intermediate frequency amplifier and proceed to the first detector tube. Remove this tube cap and connect the 175 kc. oscillator as before, being sure to connect the 3 megohm resistor from control grid to ground. Now proceed to tune the intermediate frequency transformer by tuning the secondary first for maximum deflection of the output meter and then tuning the primary for maximum deflection. Tuning this transformer must be done very carefully as the selectivity of the whole receiver depends entirely on the tuning of this transformer.



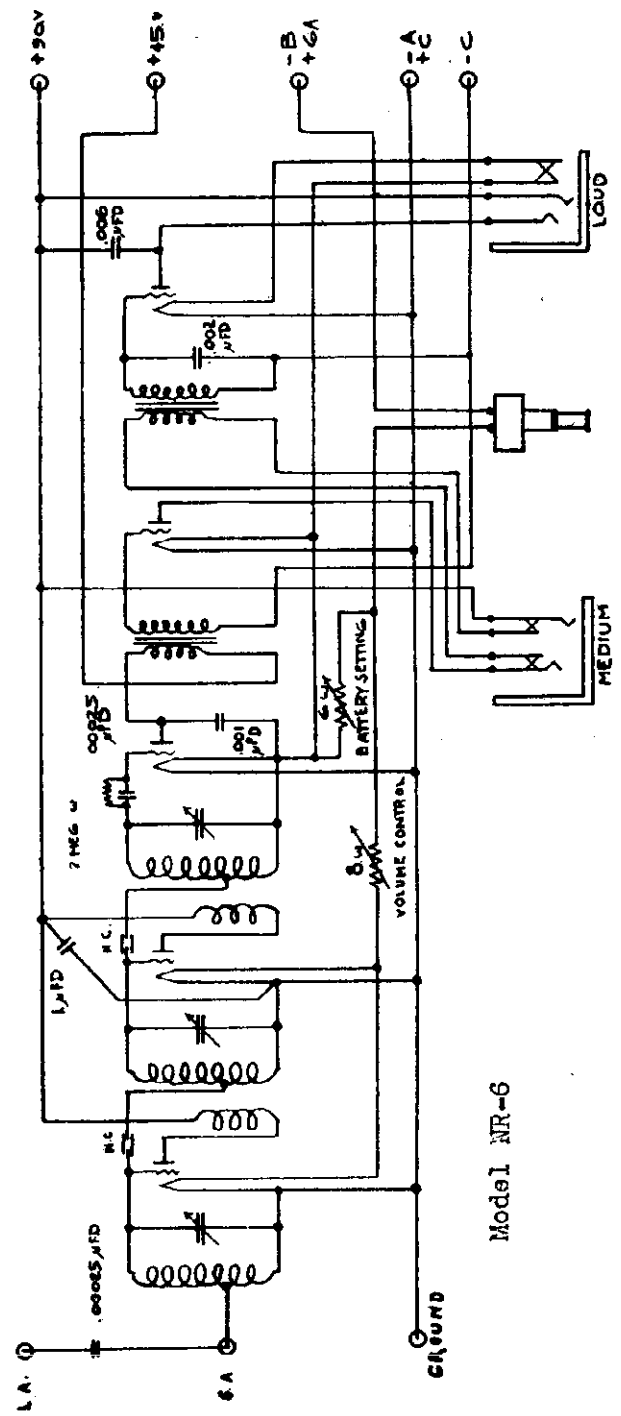
Model Melorad "Cathedral Tone"

FREED RADIO AND TELEVISION CORP.

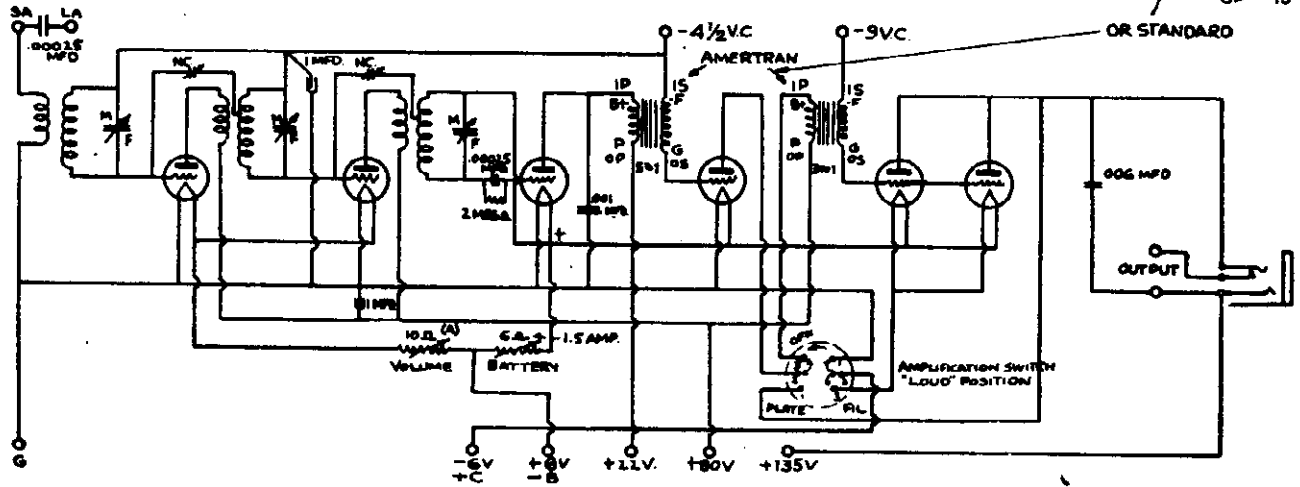
MODEL NR-5  
MODEL NR-6



ALTERNATION TABLE		REVISIONS	DATE
NO.	DESCRIPTION	BY	DATE
1	REVISION	U.S.	
2	REVISION	U.S.	
3	REVISION	U.S.	
4	REVISION	U.S.	
5	REVISION	U.S.	
6	REVISION	U.S.	
7	REVISION	U.S.	
8	REVISION	U.S.	
9	REVISION	U.S.	
10	REVISION	U.S.	



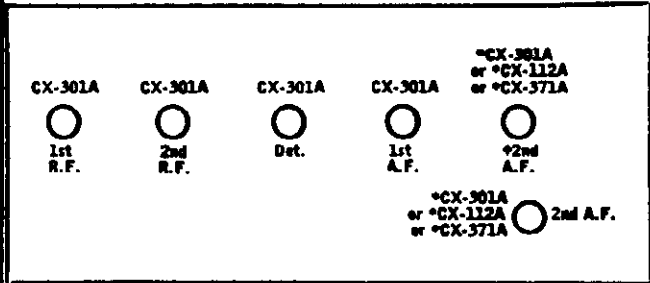
MODEL NR-7  
 MODEL NR-8, NR-8A FREED RADIO AND TELEVISION CORP.



Model NR-7

NR-7

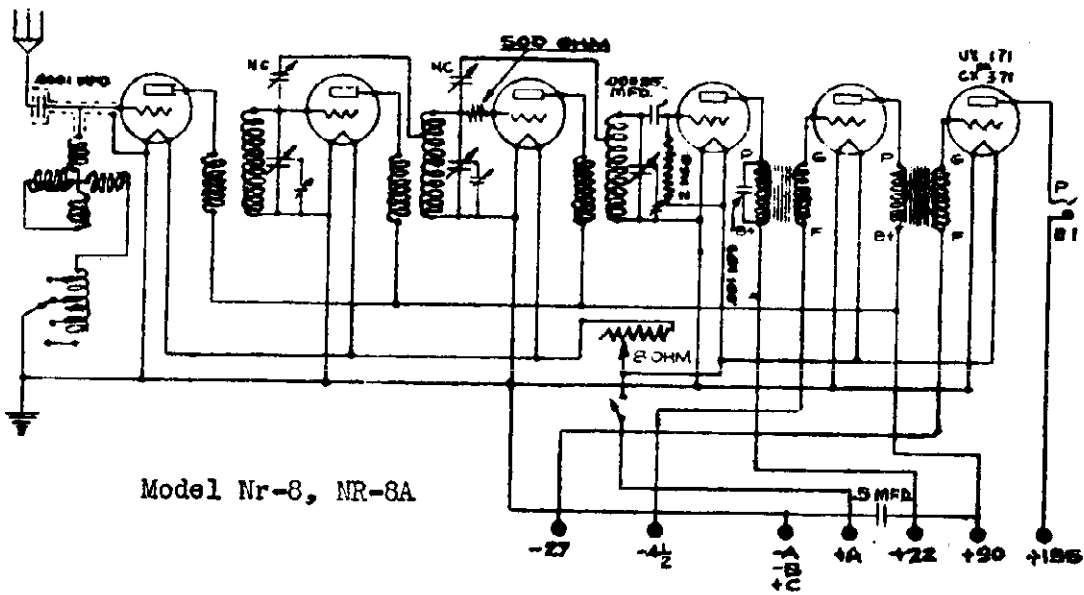
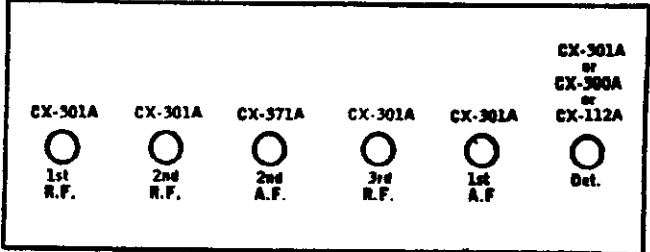
(Batt.)



† If CX-301A's are used, use both stages in parallel. If power tubes are used, one tube in either 2nd A. F. socket is sufficient.

NR-8,

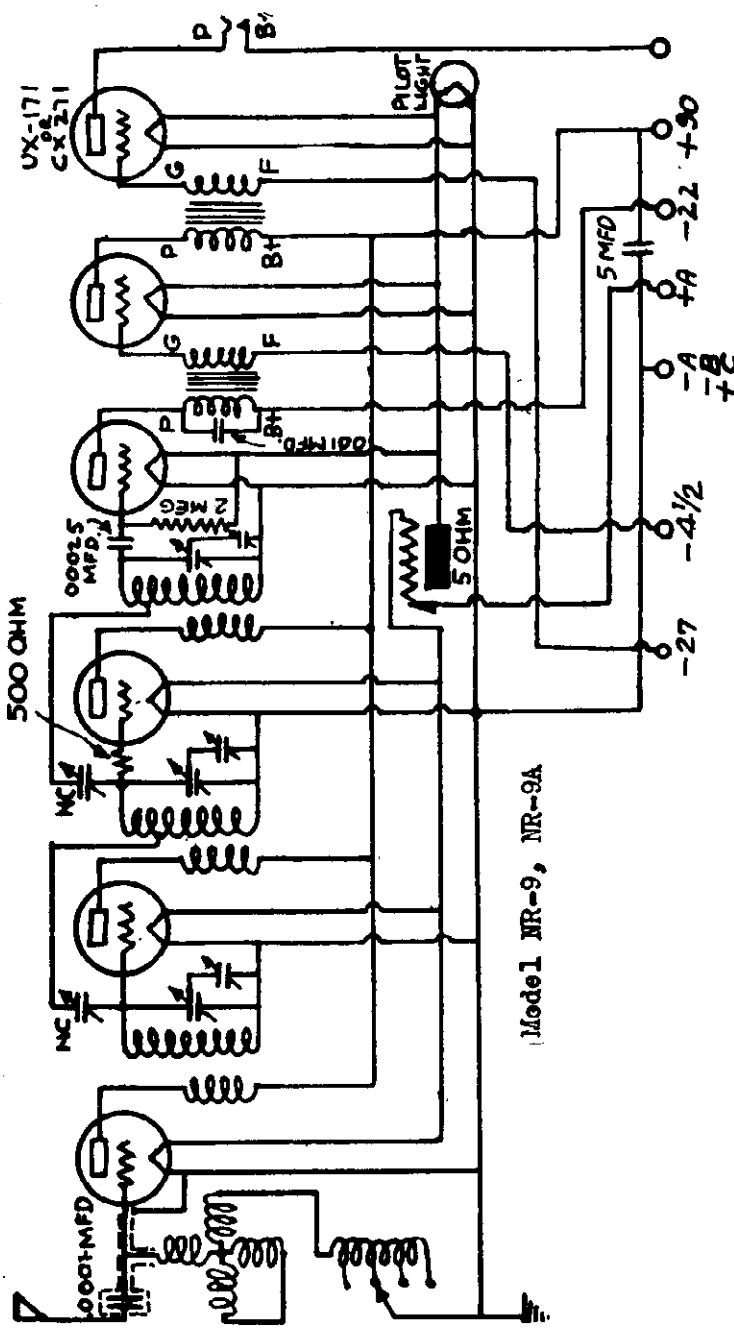
(Batt.)



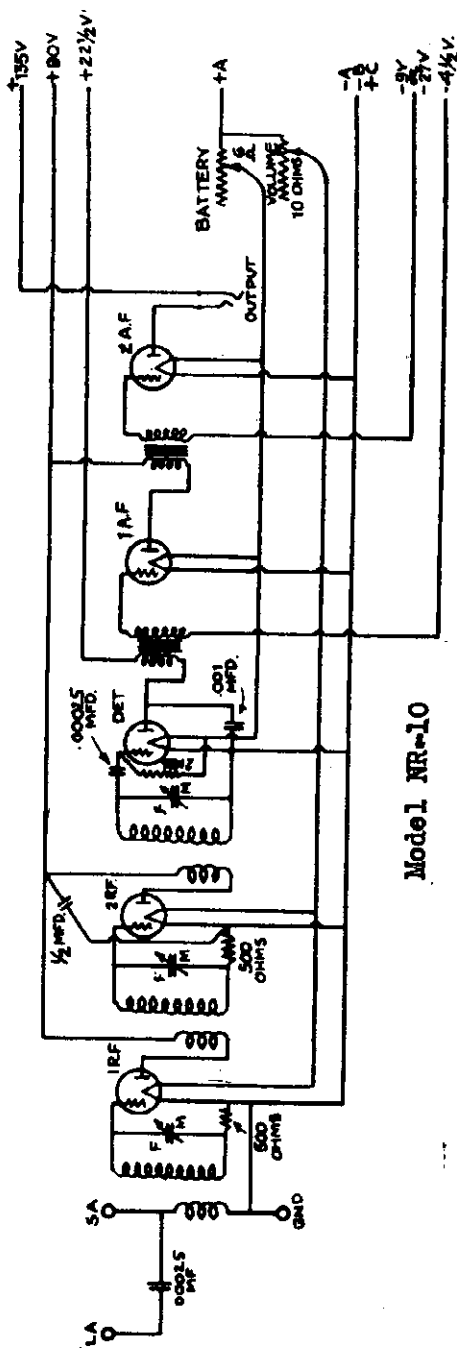
Model Nr-8, NR-8A

FREED RADIO AND TELEVISION CORP.

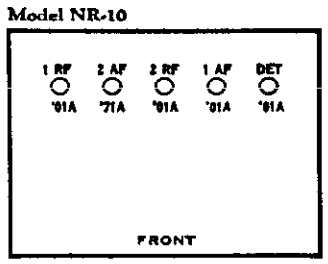
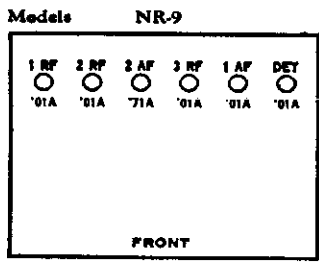
MODEL NR-9, NR-9A  
MODEL NR-10



Model NR-9, NR-9A

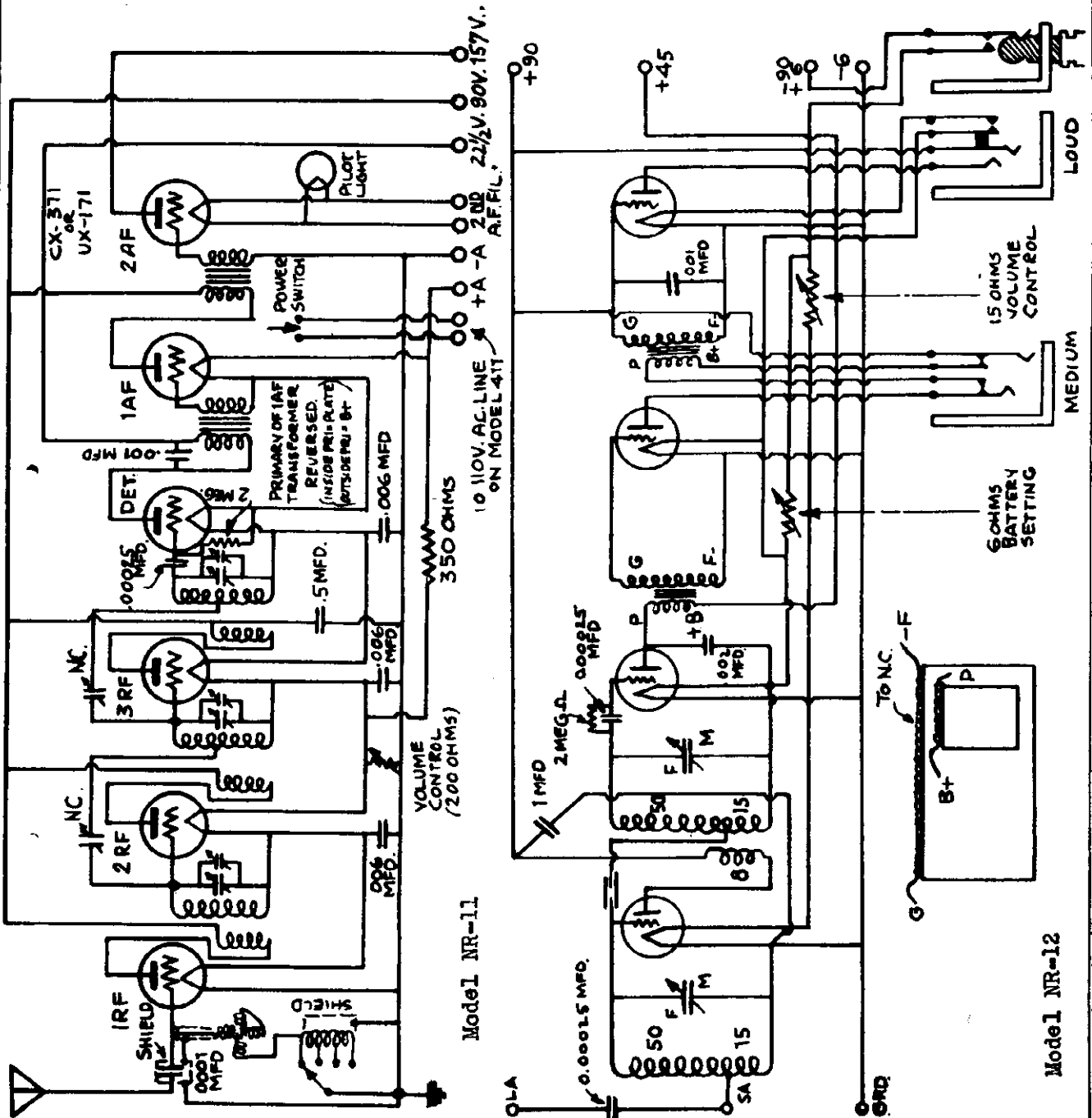


Model NR-10



MODEL NR-11  
MODEL NR-12

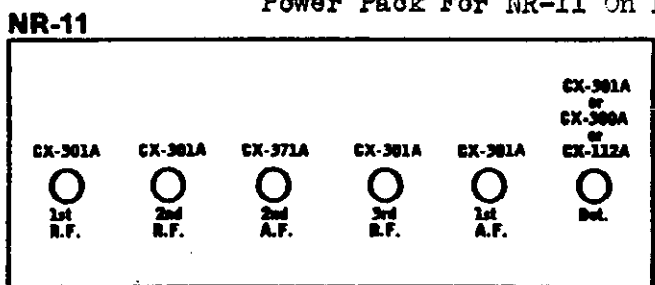
FREED RADIO AND TELEVISION CORP.



Model NR-11

Model NR-12

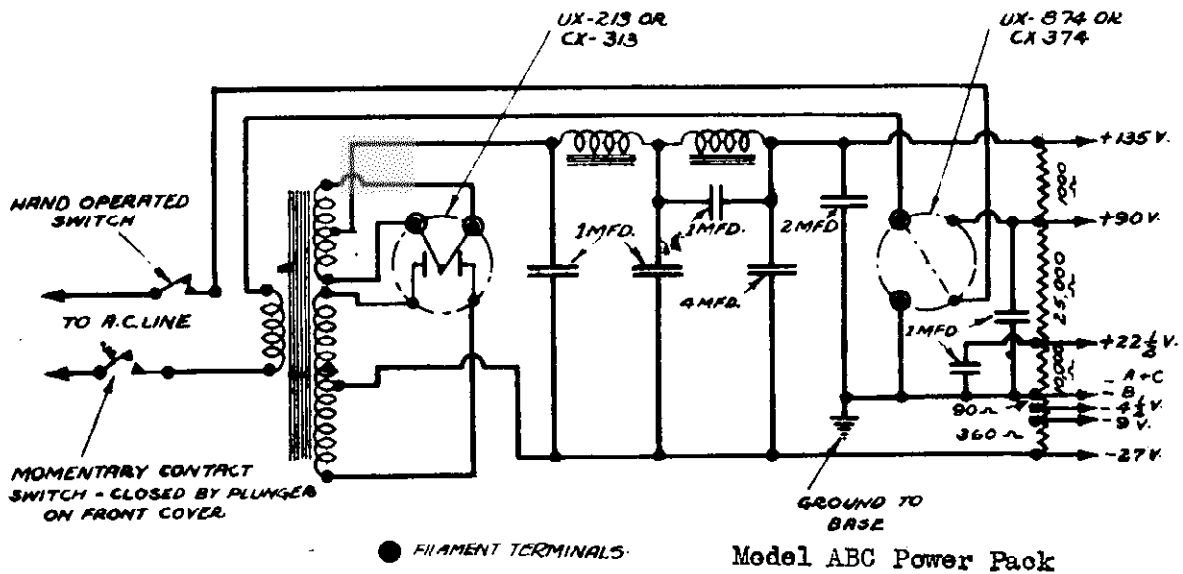
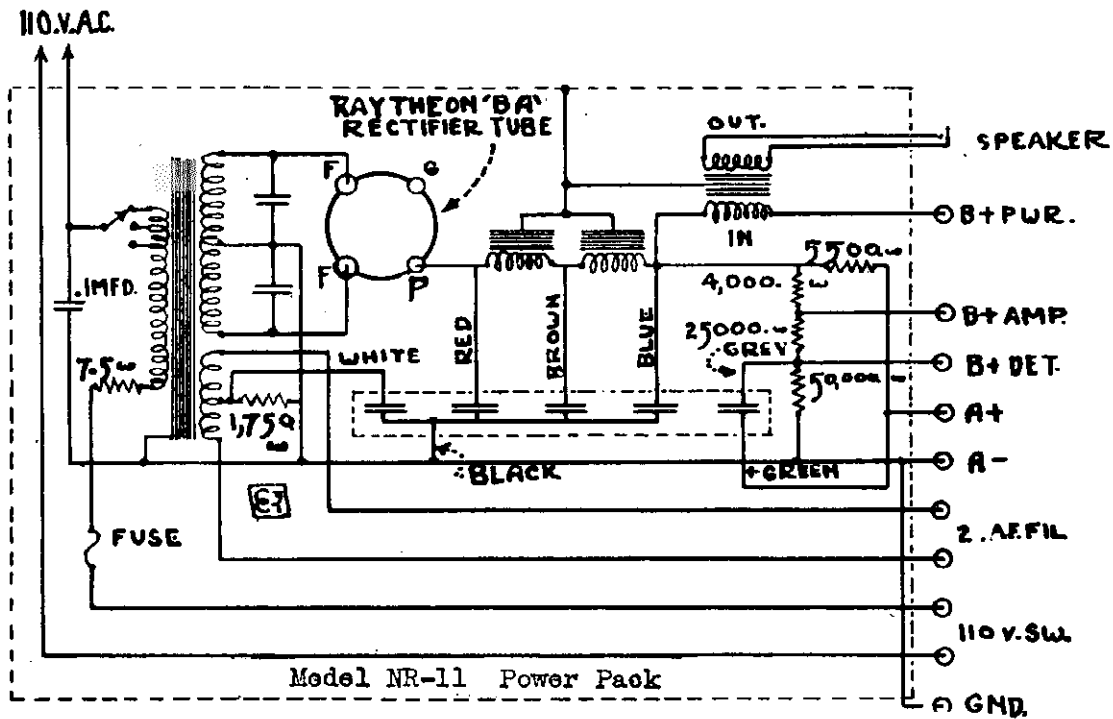
Power Pack For NR-11 On Next Page



This is an A.C. series filament receiver. All tubes except the 2nd A.F. stage tube must be 1/4 ampere tubes.

FREED RADIO AND TELEVISION CORP.

MODEL NR-11  
Power Pack  
MODEL ABC  
Power Pack



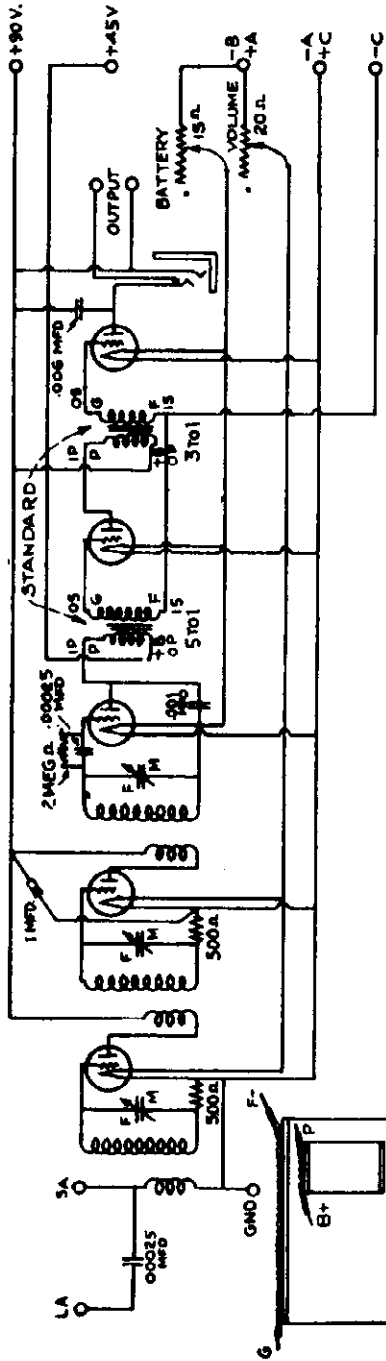
ALTERATION TABLE					DEFINATOR
ALT. LIST	REMARKS	DATE	BY	APP'D	J. L.
C	ADD	10-4	J. I.	J. I.	TRACER
					CHECKER
					APPROVAL
					DATE 10/14/41
					CHIEF ENGINEER

*Freed-Cisemann*  
SPERRY BUILDING BROOKLYN NEW YORK

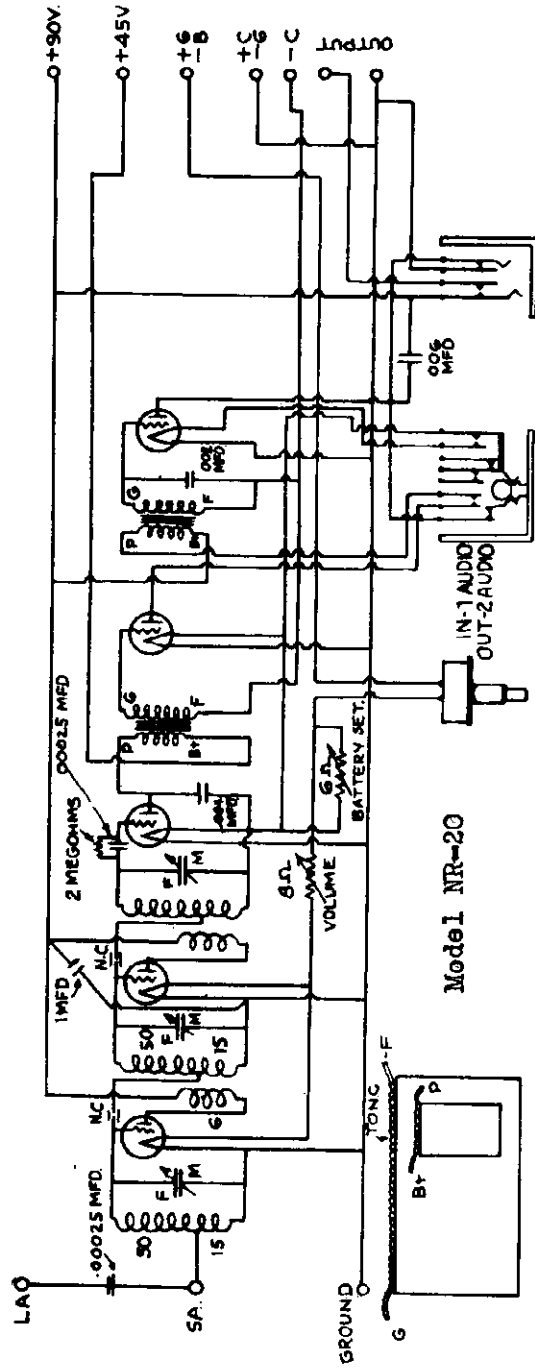
**SCHMATIC CIRCUIT DIAGRAM**  
OF  
B' AND 'C' ELIMINATOR  
SCALE DATE 4-12-27

FREED RADIO AND TELEVISION CORP.

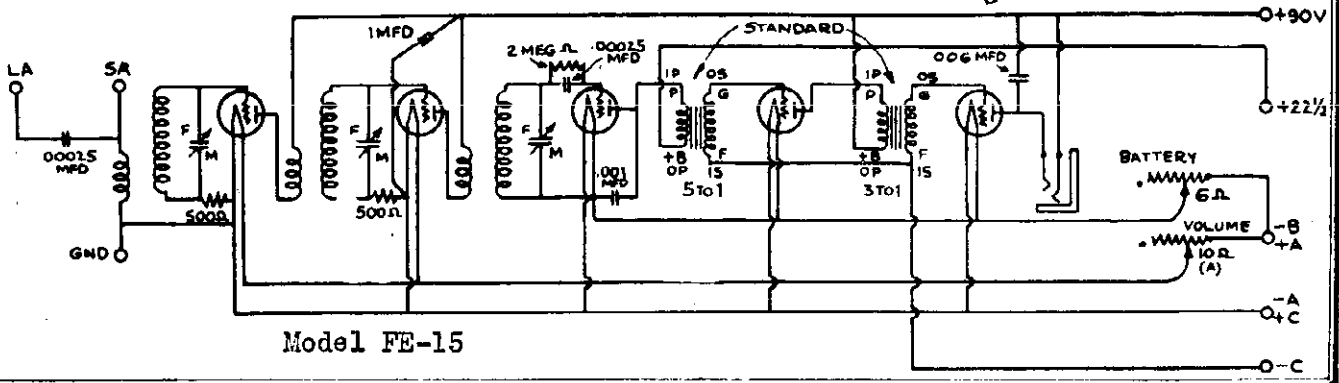
MODEL FE-15  
 MODEL FE-18  
 MODEL NR-20



Model FE-18



Model NR-20

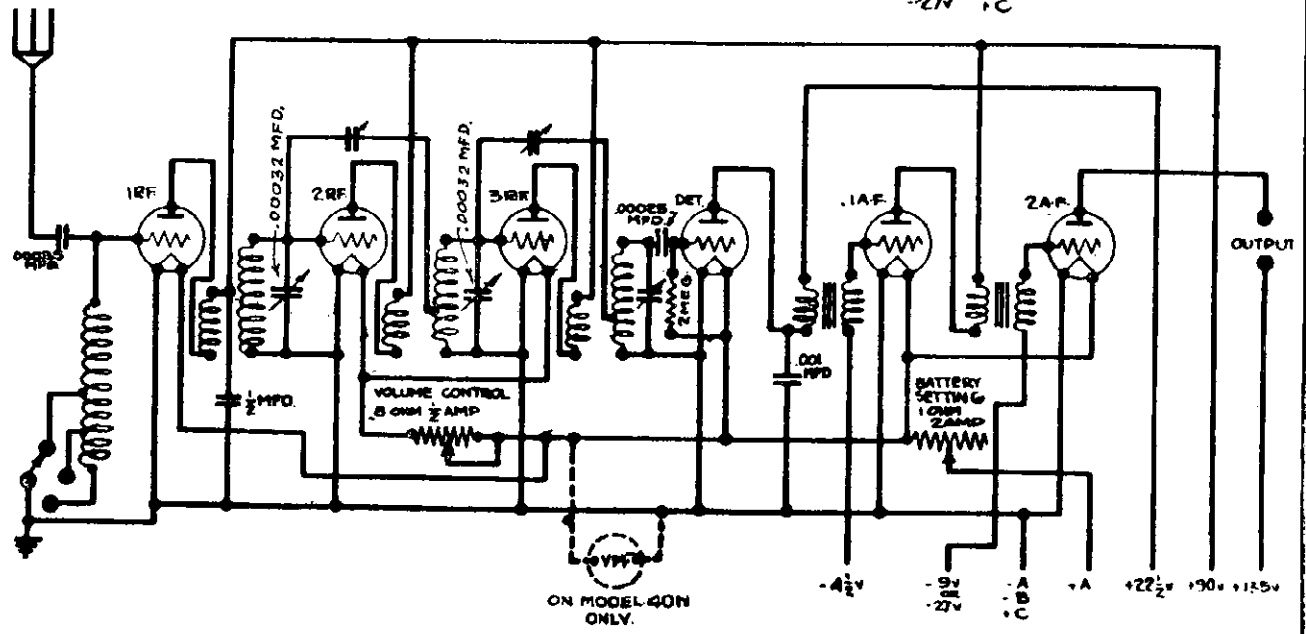
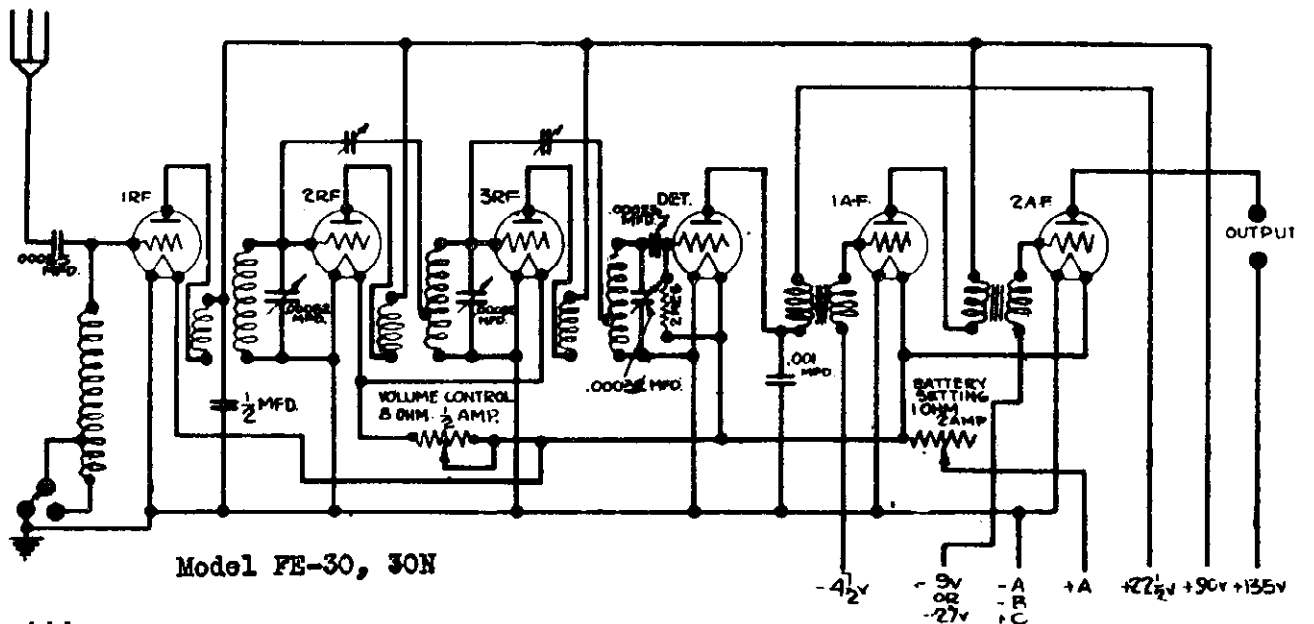


Model FE-15



FREED - EISEMANN RADIO CORP.

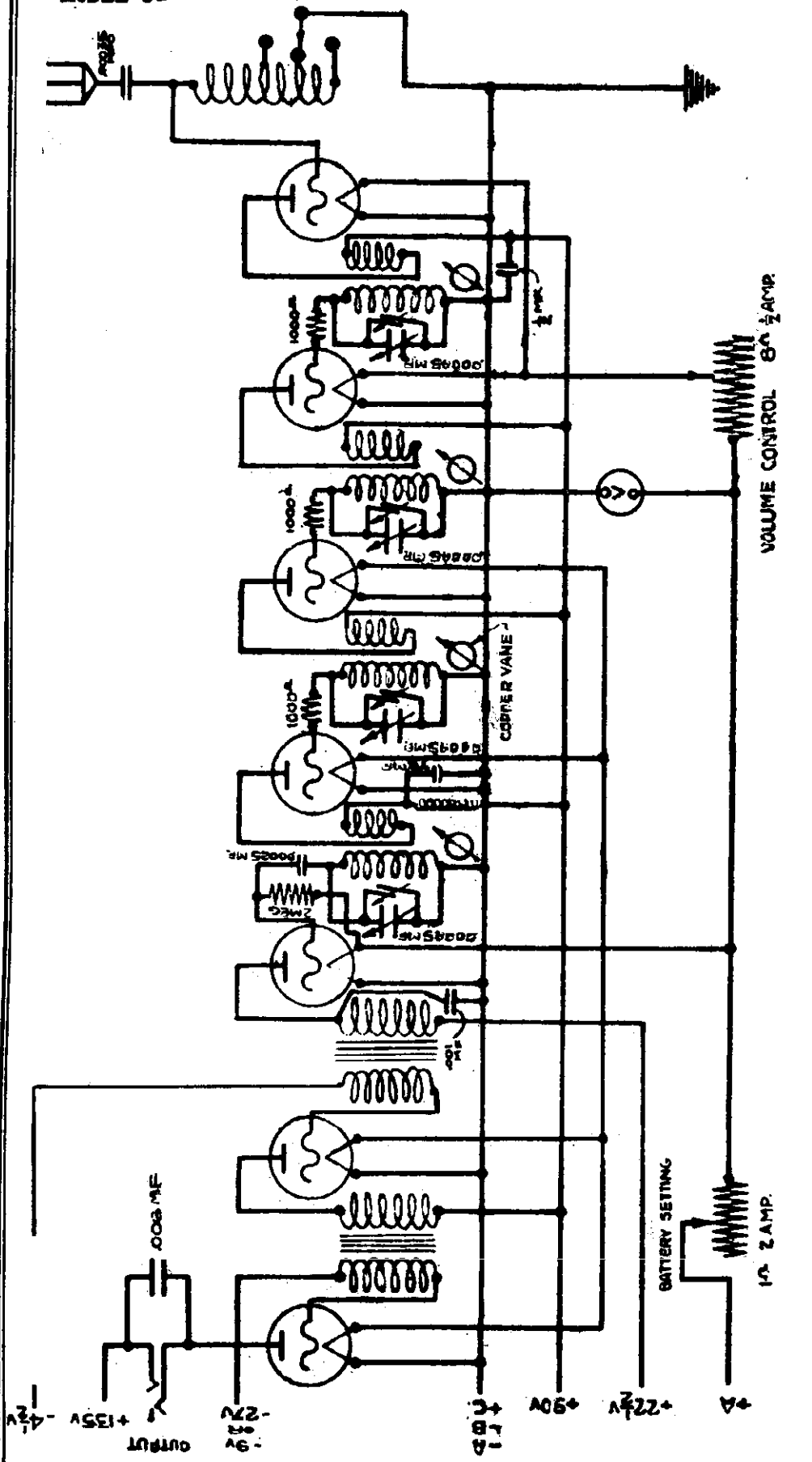
MODEL FE-30, 30N  
MODEL 40N, 48N



Model 40N, 48N

FREED RADIO AND TELEVISION CORP.

MODEL 50



*Freed-Euromann*  
 SPERRY BUILDING BROOKLYN NEW YORK  
**MODEL 50 RECEIVER**  
**SCHEMATIC WIRING**  
 DATE: 4-15-27  
 SCALE

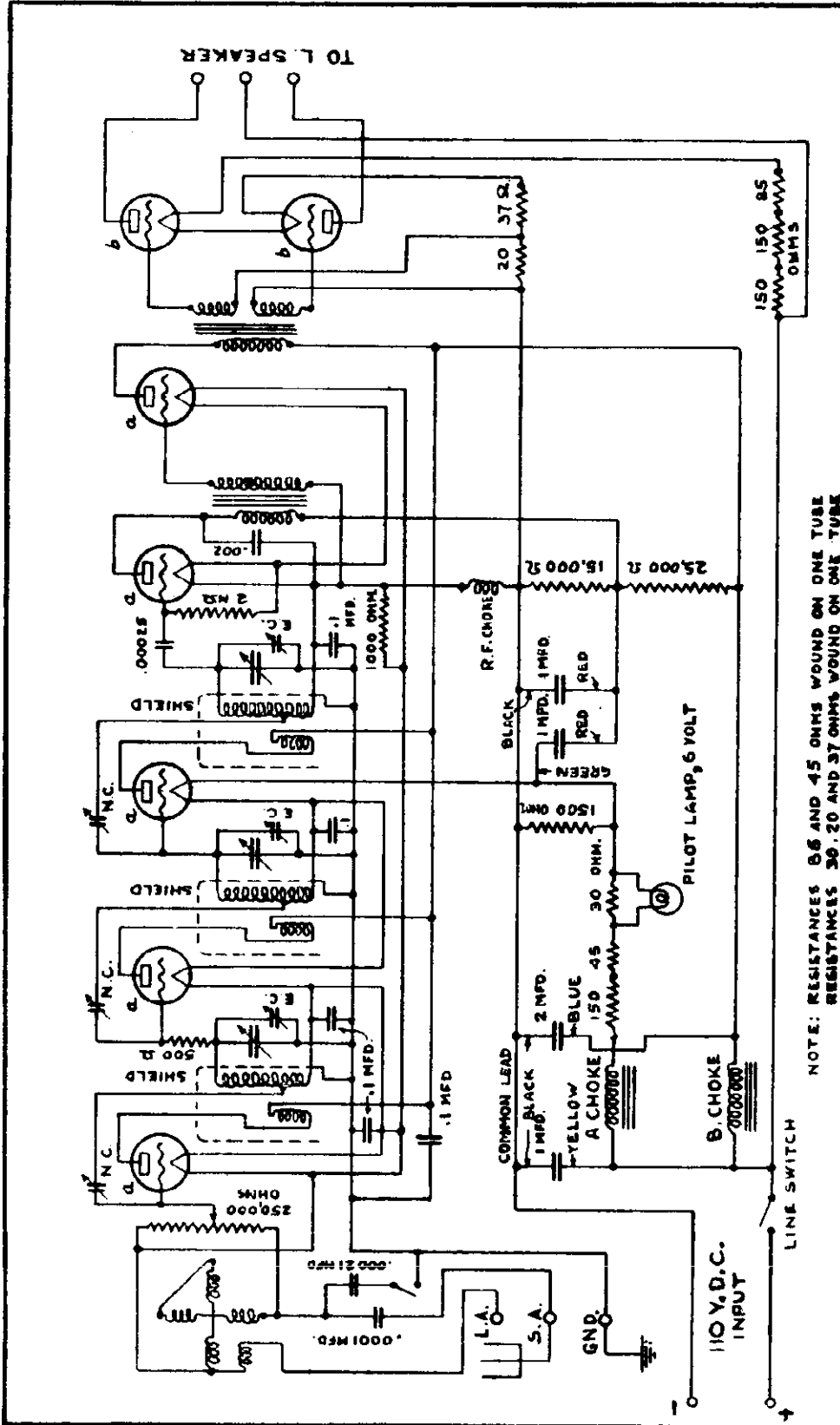
ALTERATION TABLE			
ALY LET.	REMARKS	DATE	BY

INITIATOR	W
TRACER	
CHECKER	
APPROVAL	
DATE: 4/15/27	
CHIEF ENGINEER	

FREED RADIO AND TELEVISION CORP.

MODEL NR-55 DC



*Freed-Ciemann*  
PASSAIC N.J.

**SCHMATIC WIRING DIAGRAM**  
TYPE NR-55 D.C.

SCALE DATE 5-6-29

NOTE: RESISTANCES 86 AND 45 OHMS WOUND ON ONE TUBE  
RESISTANCES 36, 20 AND 37 OHMS WOUND ON ONE TUBE

(D.) ORATION TABLE

DELINATOR	5.5.
TRACER	
CHECKER	
APPROVAL	<i>[Signature]</i>
DATE	
CHIEF ENGINEER	<i>[Signature]</i>

NR-55DC, NR-56DC	CX-301A	Del.	CX-301A	1st A.F.
	CX-301A	3rd R.F.	CX-371A	2nd A.F.
	CX-301A	2nd R.F.	CX-371A	2nd A.F.
	CX-301A	1st R.F.		

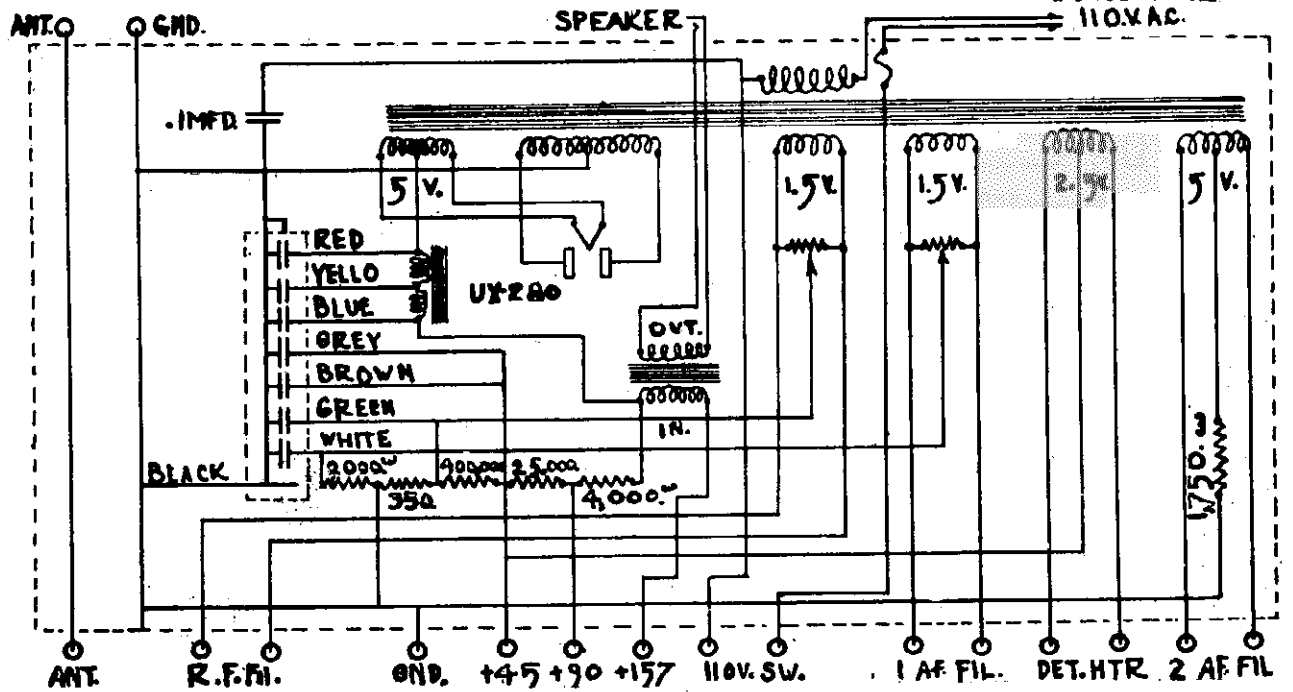




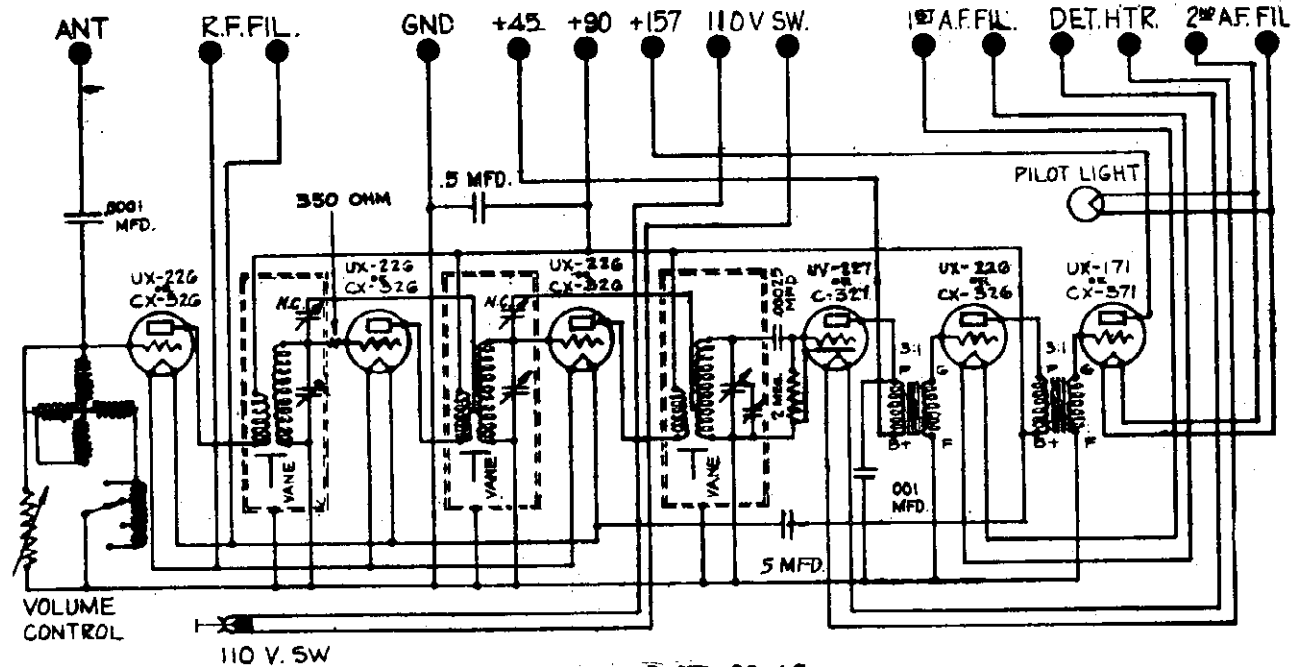


FREED RADIO AND TELEVISION CORP.

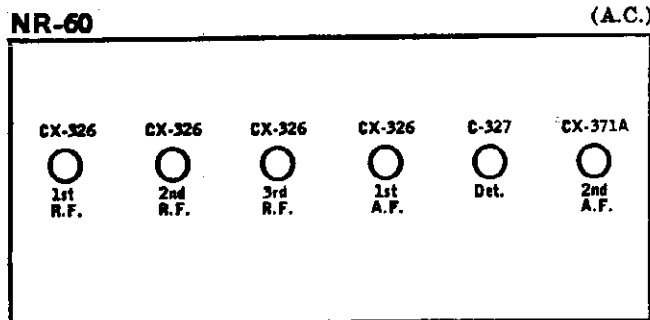
MODEL NR-60 AC  
Schematic  
MODEL NR-460 AC  
Power Pack  
110V AC.



Model NR-460 AC.

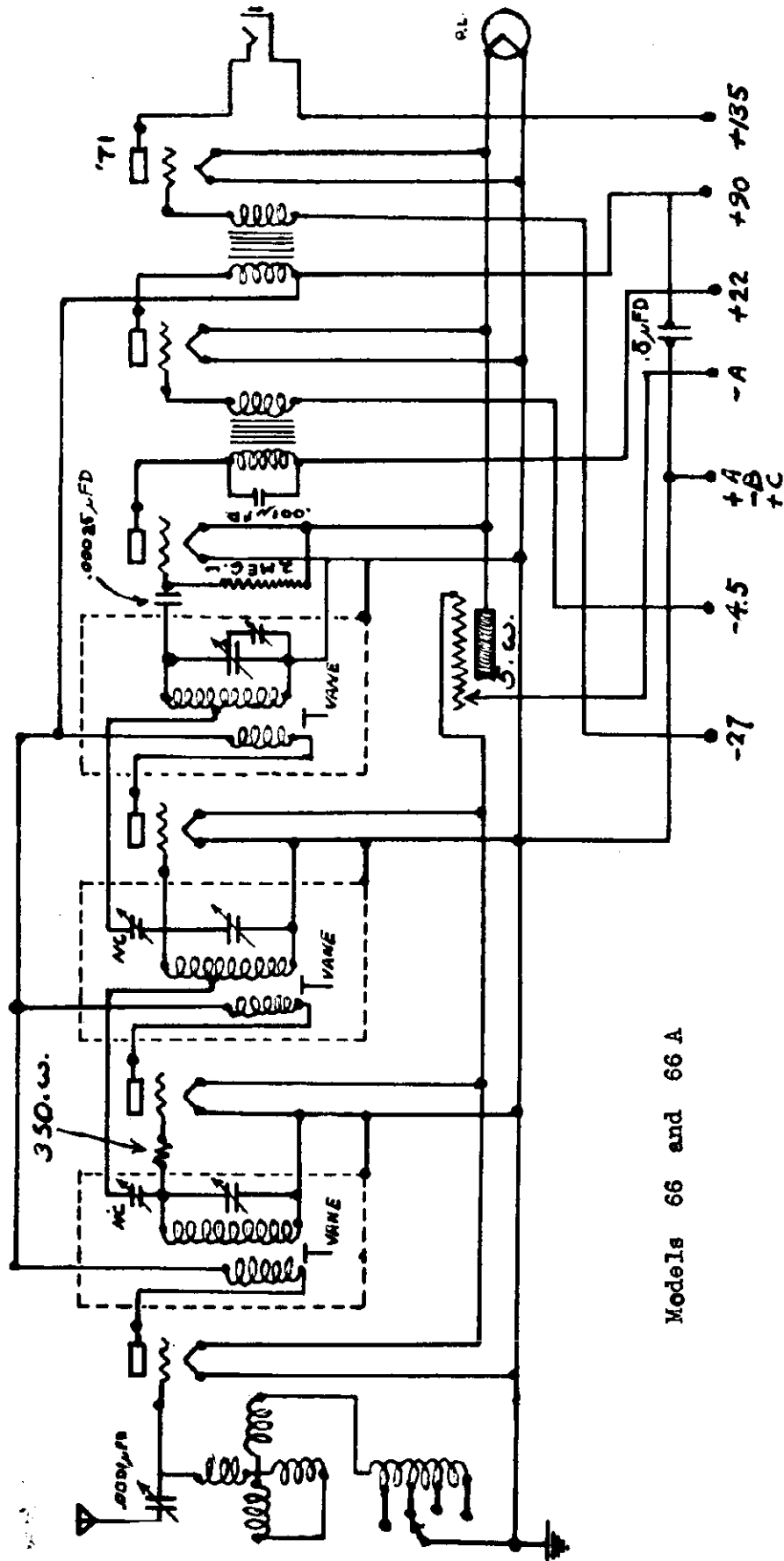


Model NR-60 AC

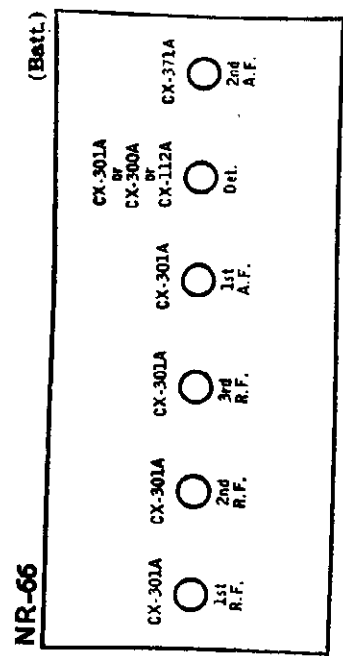


MODEL NR-66, 66A

FREED RADIO AND TELEVISION CORP.



Models 66 and 66 A

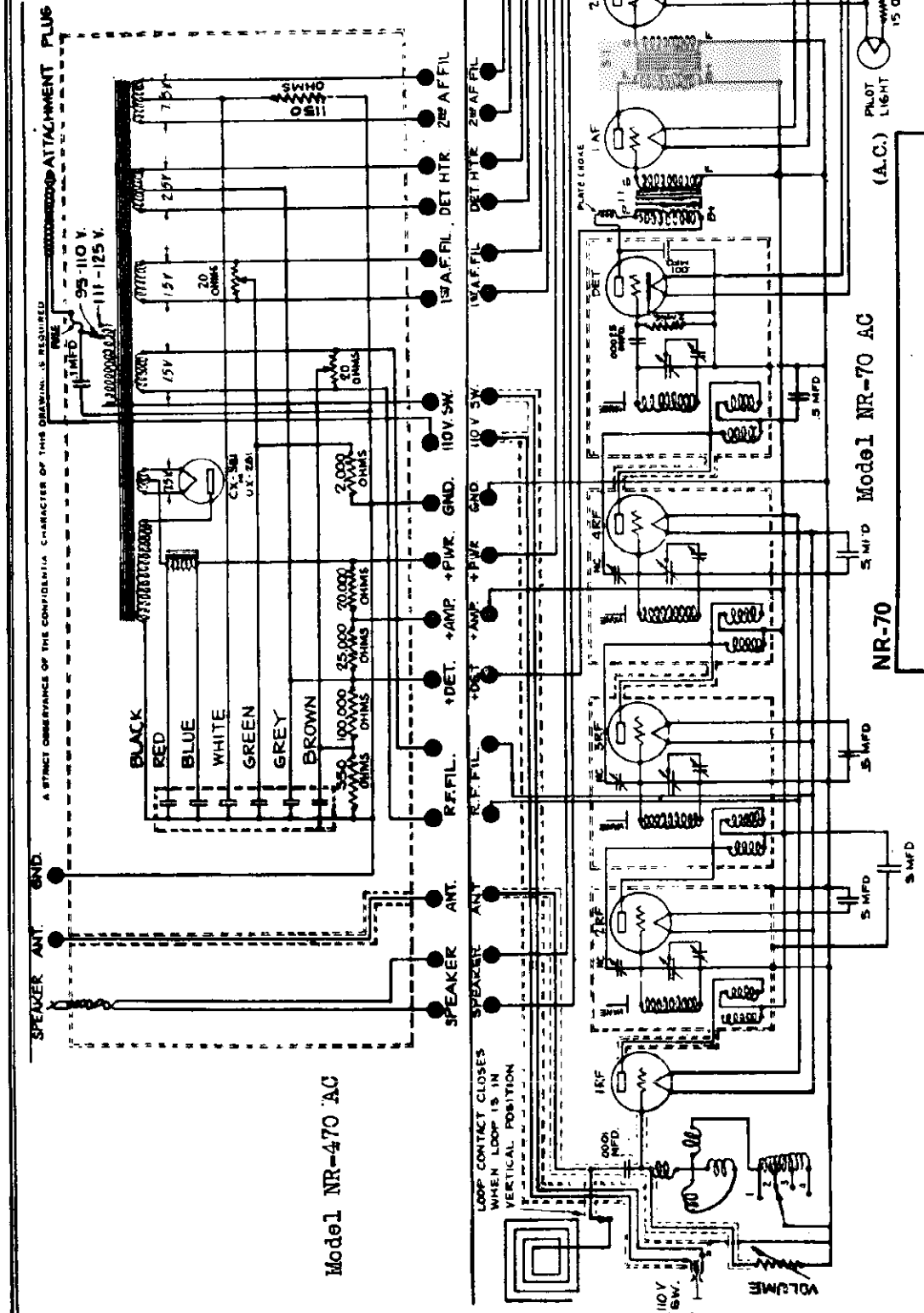




FREED RADIO AND TELEVISION CORP.

MODEL NR-70 AC  
Receiver  
MODEL NR-470 AC  
Power Pack

NOTE:-  
1,000, 500 & 1/100 OHM  
RESISTANCES WOUND  
ON SAME TUBE.  
20,000 OHM RESISTANCE  
COMPOSED OF 2-10,000  
OHM RESISTANCES  
CONNECTED IN SERIES



A STRICT OBSERVANCE OF THE CONFIDENTIAL CHARACTER OF THIS DRAWING IS REQUIRED

MODEL NR-470 AC

Model NR-470 AC

- CX-326 2nd R.F.
- CX-326 3rd R.F.
- CX-326 1st R.F.
- CX-310 2nd A.F.
- CX-326 1st A.F.
- CX-326 4th R.F.
- CX-326 Det.
- C-327 Det.

CX-381 used in Power Pack Can.

NR-70 Model NR-70 AC

(A.C.) PLUG LIGHT 15 OHMS

VOLUME

110V SW.

LOOP CONTACT CLOSING WHEN LOOP IS IN VERTICAL POSITION

SPEAKER ANT.

10V SW.

110V SW.

110V SW.

110V SW.

110V SW.

110V SW.

110V SW.

SPEAKER ANT.

10V SW.

110V SW.

110V SW.

110V SW.

110V SW.

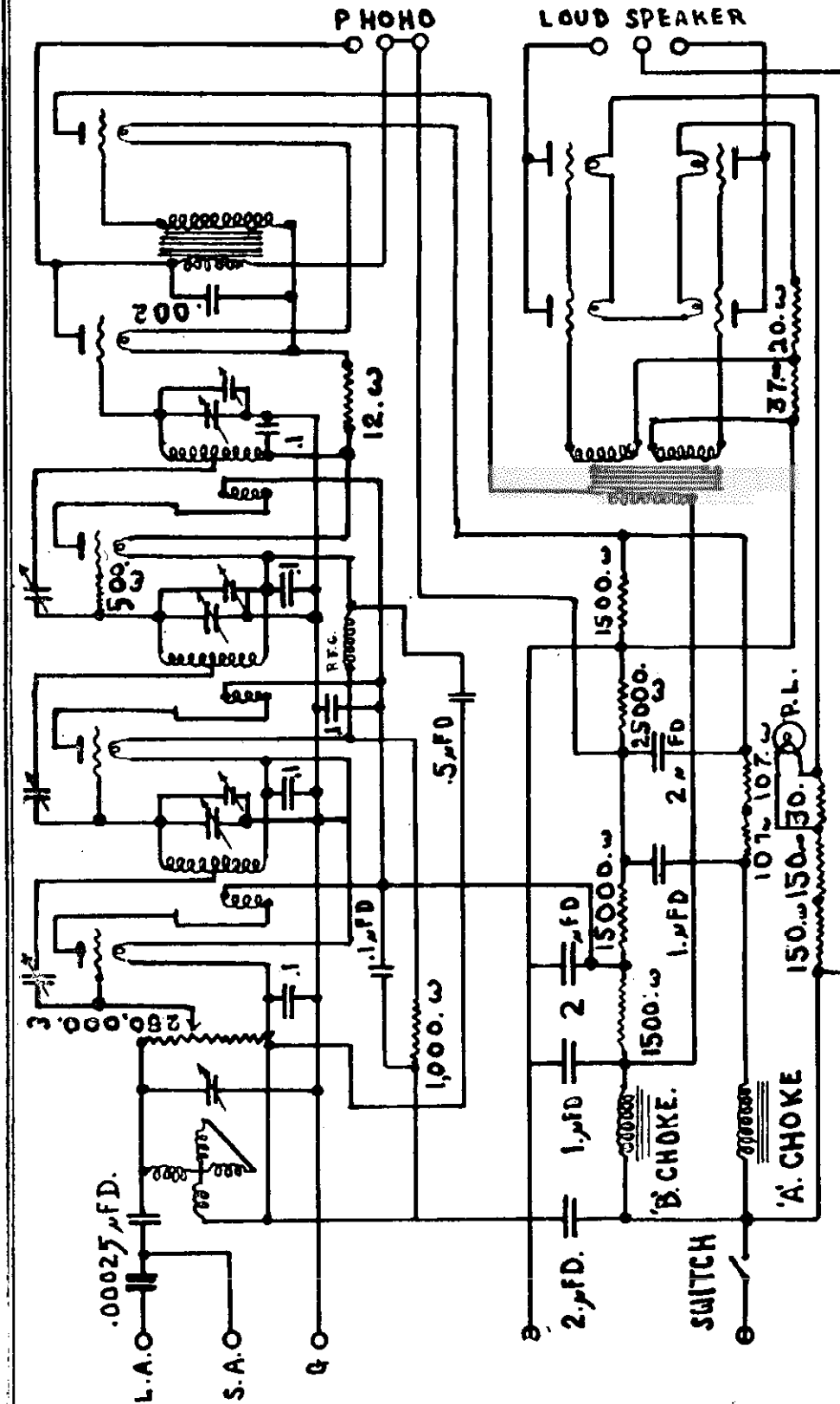
110V SW.

110V SW.



FREED RADIO AND TELEVISION CORP.

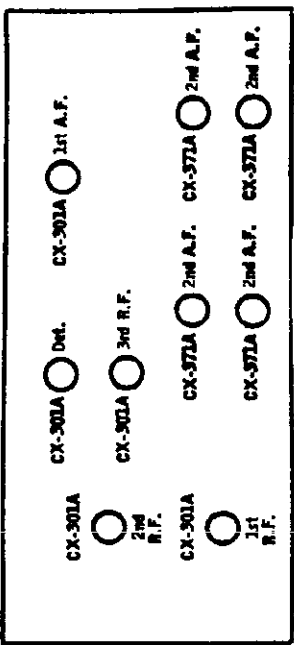
MODEL NR-78 DC  
NR-79 DC



FREED-EISEMANN—Model 78 D. C.  
Line Voltage 110 D. C.—Set on D. C. Volt Tap—Volume Control Position Full On

TUBE NO. (CHECK)	TYPE OF TUBE	POSITION OF TUBE		TUBE CHY	TUBE IN TESTER					
		1st R.F.	2nd R.F.		VOLTS ACROSS TAP	VOLTS ACROSS TAP	MA	OHMS		
1	201A	1st R.F.	2nd R.F.	1500	4.5	75	4.5	3.7	4.0	2.5
2	201A	2nd R.F.	2nd R.F.	1500	4.5	75	4.2	3.7	4.0	2.5
3	201A	2nd R.F.	2nd R.F.	1500	4.5	75	4.2	3.7	4.0	2.5
4	201A	2nd R.F.	2nd R.F.	1500	4.5	75	4.2	3.7	4.0	2.5
5	171A	2nd A.	2nd A.	1500	4.5	75	15	5.0	24	18.0
6	171A	2nd A.	2nd A.	1500	4.5	75	15	5.0	24	18.0
7	171A	2nd A.	2nd A.	1500	4.5	75	15	5.0	24	18.0
8	171A	2nd A.	2nd A.	1500	4.5	75	15	5.0	24	18.0

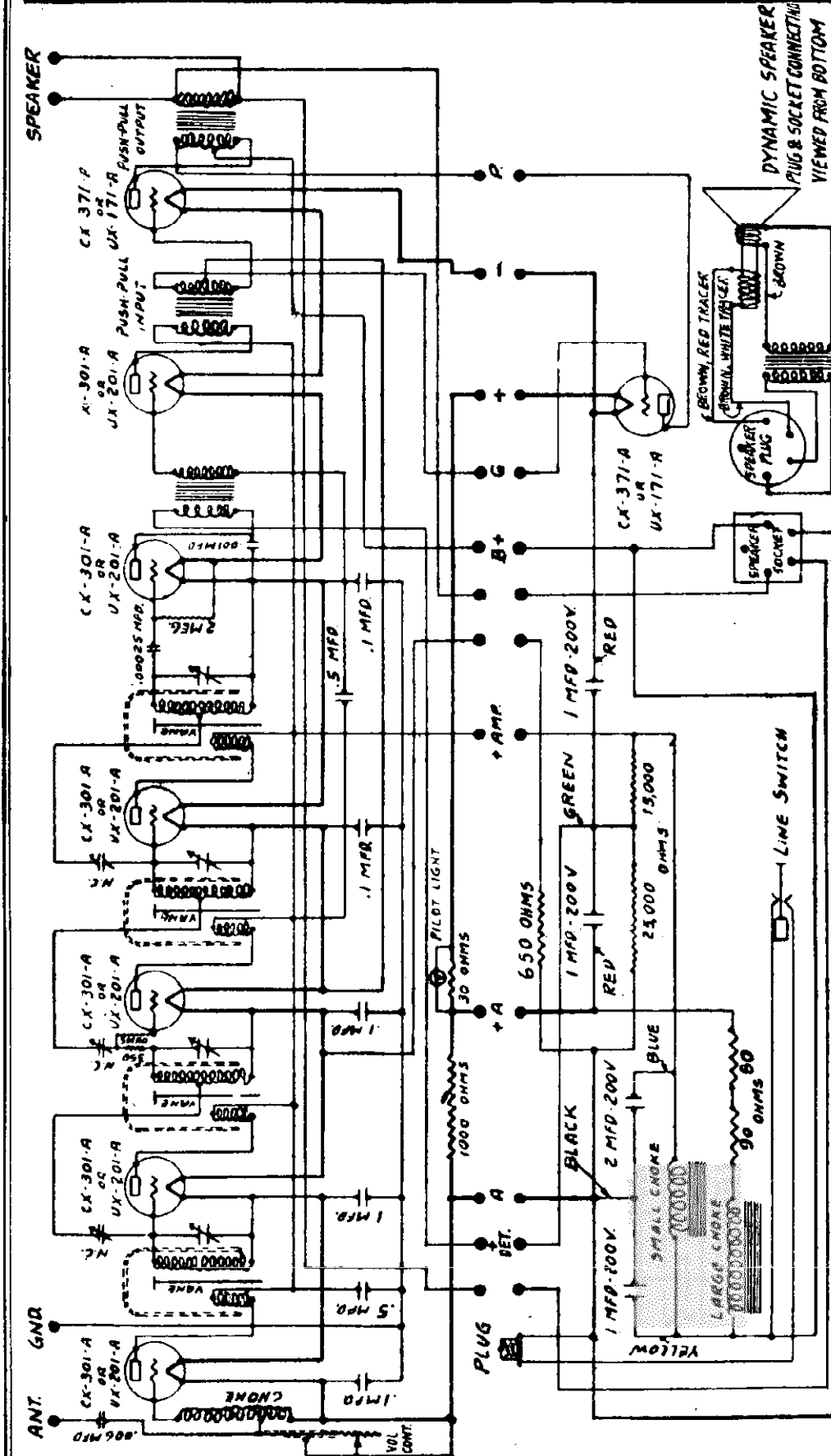
NR-78DC, NR-79DC (D.C.)





FREED RADIO AND TELEVISION CORP.

MODEL NR-80 DC



*Freed-Oivemann*  
 JUNIUS ST. B. LIBERTY AVE. BROOKLYN NEW YORK  
**SCHEMATIC WIRING DIAGRAM**  
**NR-80 D.C. TYPE**  
 SCALE DATE 6-20-20

ON TABLE		DELINATOR	
DATE	BY	TRACER	CHECKED
6-20-20	SAP		
7-14-20	ETP		
6-6-20	RP		
7-7-20	TH		
7-21-20	TH		

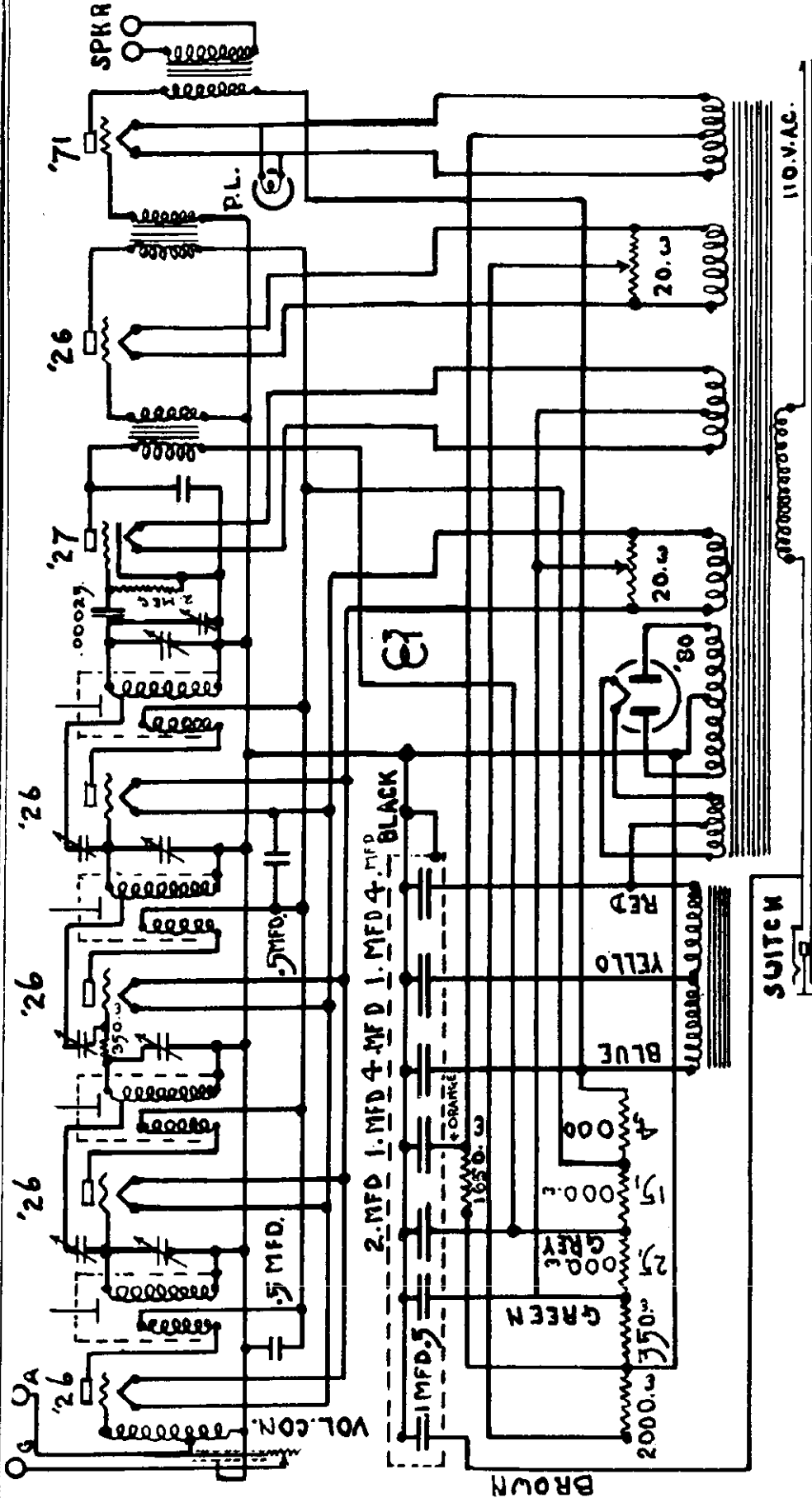
APPROVAL: [Signature]  
 DATE: [Blank]  
 CHIEF ENGINEER: [Blank]

NR-80DC (D.C.)

CX-301A	<input type="radio"/>	CX-301A	<input type="radio"/>
CX-371A	<input type="radio"/>	CX-301A	<input type="radio"/>
	<input type="radio"/>	CX-112A	<input type="radio"/>
	<input type="radio"/>	DEL.	<input type="radio"/>
	<input type="radio"/>	1st A.F.	<input type="radio"/>
	<input type="radio"/>	2nd A.F.	<input type="radio"/>
	<input type="radio"/>	3rd A.F.	<input type="radio"/>
	<input type="radio"/>	4th A.F.	<input type="radio"/>
	<input type="radio"/>	1st R.F.	<input type="radio"/>
	<input type="radio"/>	2nd R.F.	<input type="radio"/>
	<input type="radio"/>	3rd R.F.	<input type="radio"/>
	<input type="radio"/>	4th R.F.	<input type="radio"/>
	<input type="radio"/>	1st A.F.	<input type="radio"/>
	<input type="radio"/>	2nd A.F.	<input type="radio"/>

MODEL NR-80 AC

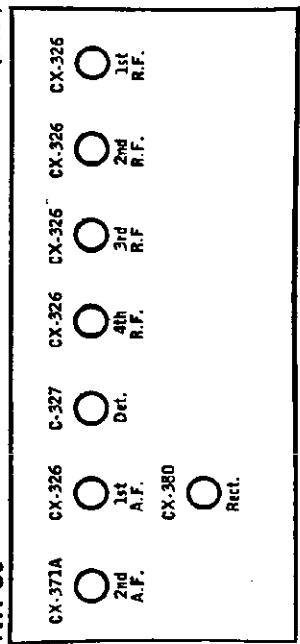
FREED RADIO AND TELEVISION CORP.



FREED-EISEMANN—Model NR-80  
Line Voltage 120

TYPE NO. OF TUBES	TYPE OF TUBE	PARTS LIST REF. NO.	TUNE SW.		DET.		A.F.		A.F.		A.F.		A.F.		MAX. TEST CURRENT
			A	B	A	B	A	B	A	B	A	B			
226	1st A.F.	1.5	105	1.45	50	5.0	—	—	—	—	—	—	—	—	—
226	2nd A.F.	1.5	105	1.45	50	5.0	—	—	—	—	—	—	—	—	—
226	3rd R.F.	1.5	105	1.45	50	5.0	—	—	—	—	—	—	—	—	—
226	4th R.F.	1.5	105	1.45	50	5.0	—	—	—	—	—	—	—	—	—
227	Detector	2.25	60	2.10	45	0.0	—	—	—	—	—	—	—	—	—
226	1st A.F.	1.5	105	1.45	50	5.0	—	—	—	—	—	—	—	—	—
171	2nd A.F.	5.2	150	1.50	150	30.0	—	—	—	—	—	—	—	—	—
226	Rectifier	5.2	—	—	—	—	—	—	—	—	—	—	—	—	—

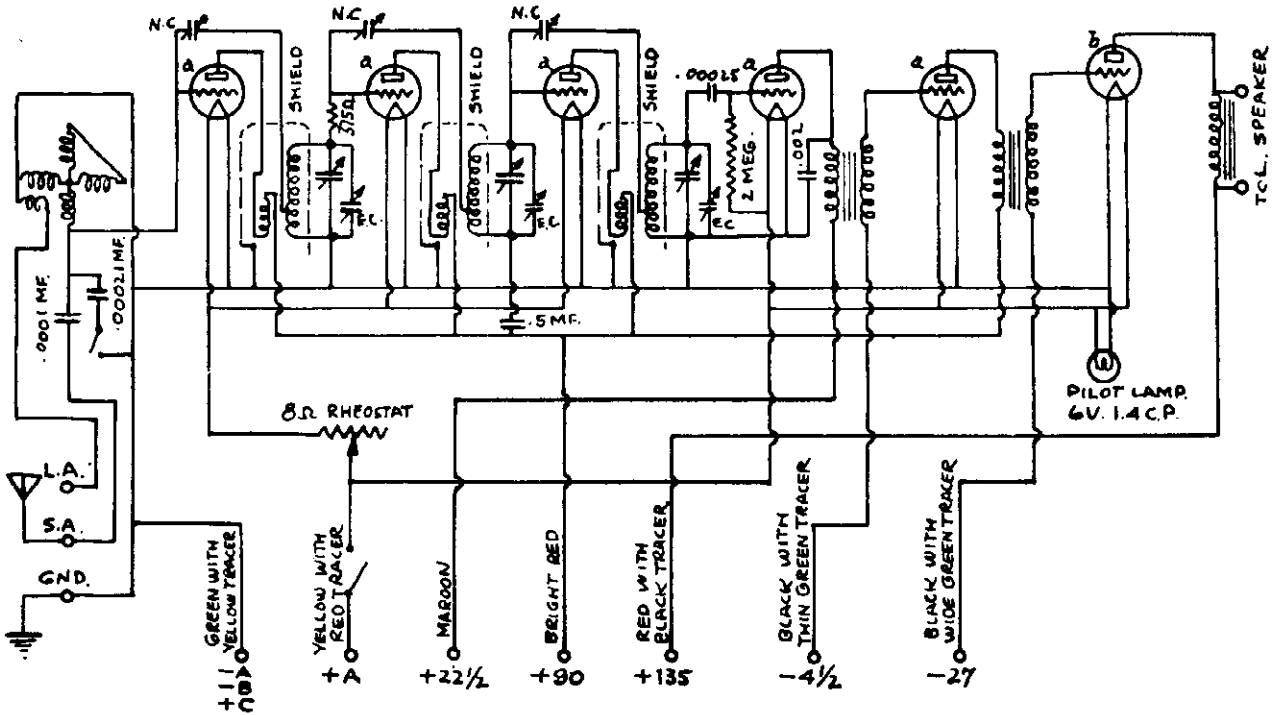
NR-80 (A.C.)



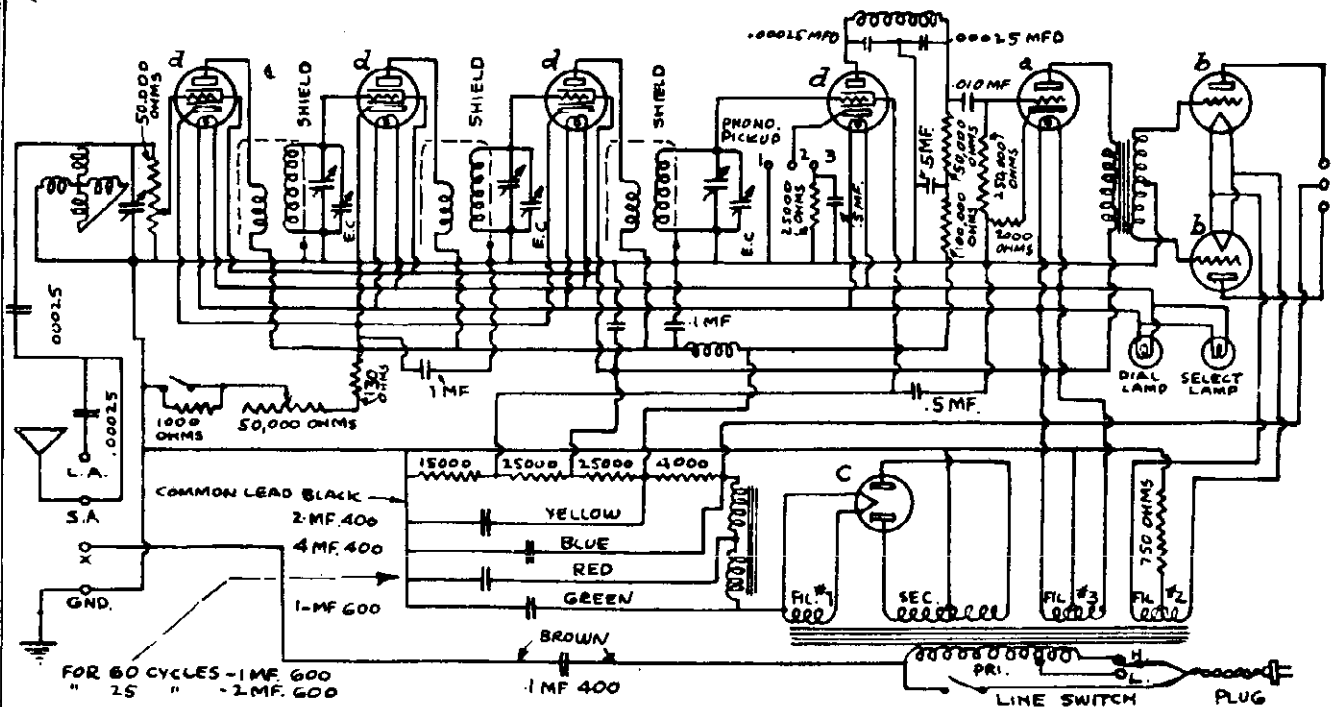


MODEL NR-53  
MODEL NR-90-S

FREED RADIO AND TELEVISION CORP.



Model NR-53

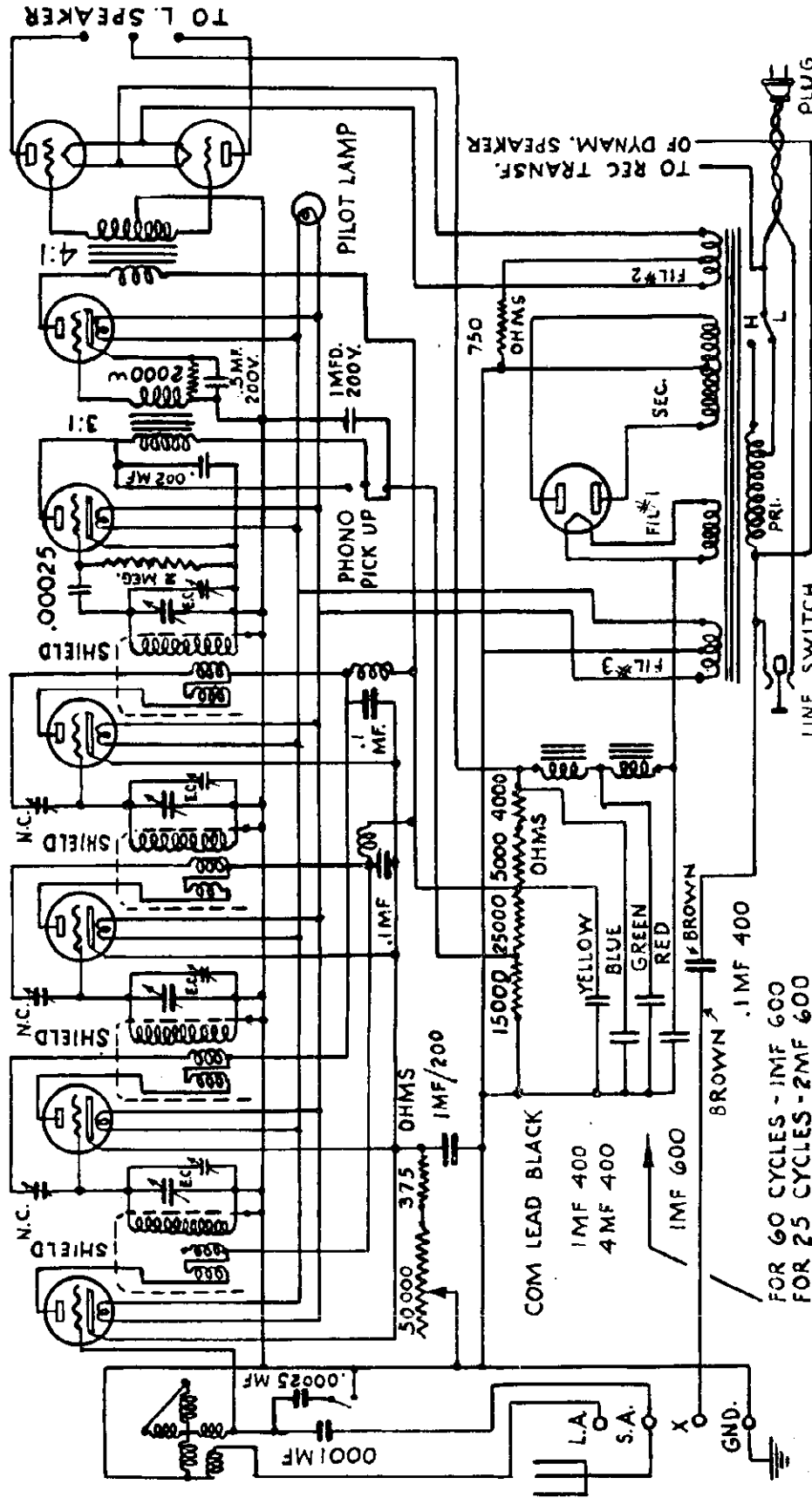


Model NR-90-S



FREED RADIO AND TELEVISION CORP.

MODEL NR-95 AC



NR-95  
FREED-EISEMANN—Model 95  
Line Voltage 116—Set on High Volt Tap—Volume Control Position Full On

TUBE NO	TYPE OF TUBE	POSITION OF TUBE IN SOCKET	TUBE IN TESTER				REWRINDER PLUG IN SOCKET OF SET				
			1ST	2ND	3RD	4TH	A	B	C	D	
1	227	1st RF	2.40	76	2.25	71	4	5	2.8	5.6	2.8
2	227	2nd RF	2.40	76	2.25	71	4	5	2.8	5.6	2.8
3	227	3rd RF	2.40	75	2.25	71	4	5	2.9	5.6	2.9
4	227	4th RF	2.40	75	2.25	71	4	5	2.8	5.6	2.8
5	227	1st A	2.40	82	2.25	75	1.5	4	3.0	1.7	2.7
6	227	2nd A	2.40	82	2.25	75	1.5	4	2.8	4.8	2.4
7	285	2nd A	2.57	209	2.37	185	35	-	22	25	4
8	285	2nd A	2.57	208	2.37	185	35	-	22	25	4
9	250	Rect.	5.5	-	4.8	-	-	-	64	-	-

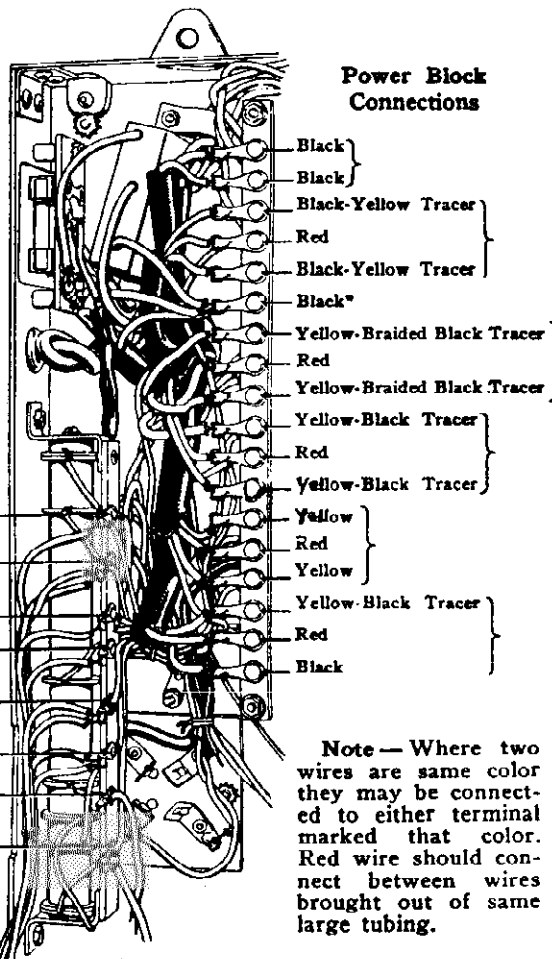
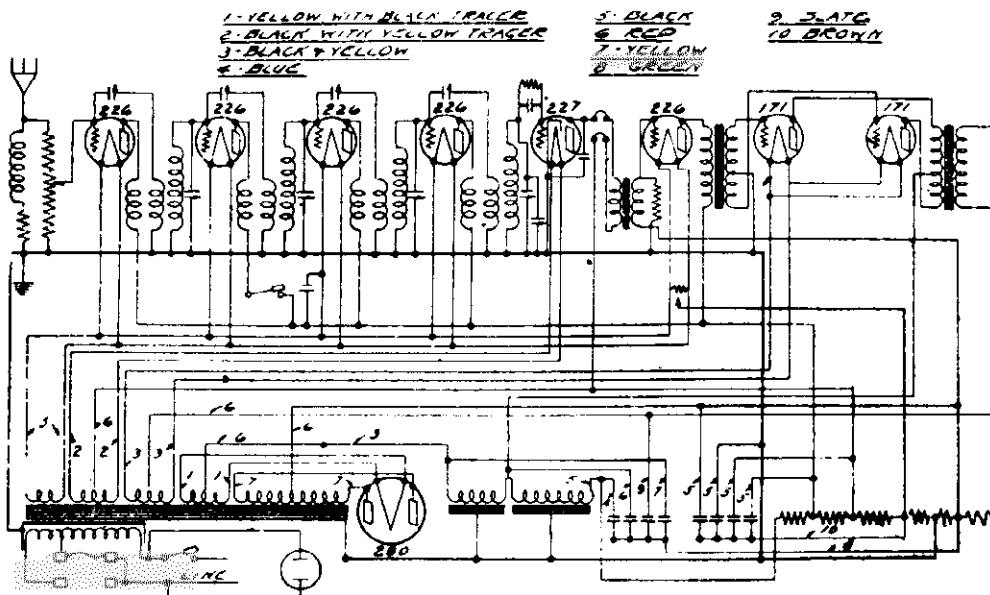
NR-95 (A.C.)

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

FOR 60 CYCLES - 1MF 600  
FOR 25 CYCLES - 2MF 600

JESSE FRENCH & SONS PIANO CO.

MODEL 8 Tube AC



JESSE FRENCH

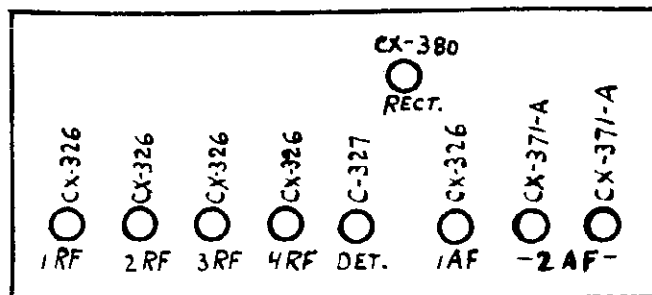
8 - A.C. Power Set.

Line Voltage 116—2nd A. F. Stage—2 Tubes Push Pull

TUBE NO OR ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RT DET ETC	TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	OUTHOOD VOLTS	NORMAL PLATE MA GRID TEST	PLATE MA GRID TEST	PLATE MA CHARGE	
226	1st. R.F.		1.55	117	1.5	110	5.5	-	6.5	10.5	4.0	
226	2nd. R.F.		1.55	117	1.5	110	5.5	-	6.5	10.5	4.0	
226	3rd. R.F.		1.55	117	1.5	110	5.5	-	6.5	10.5	4.0	
226	4th. R.F.		1.55	117	1.5	110	5.5	-	6.5	10.5	4.0	
2-7	Detector		2.40	125	2.2	25	45	-	1.4	1.4	0.0	
226	1st. A.F.		1.55	107	1.5	100	7.5	-	3.5	7.0	3.5	
171A	2nd. A.F.		5.30	170	5.0	158	33	-	18.0	21.0	3.0	
171A	2nd. A.F.		5.30	170	5.0	158	33	-	18.0	21.0	3.0	

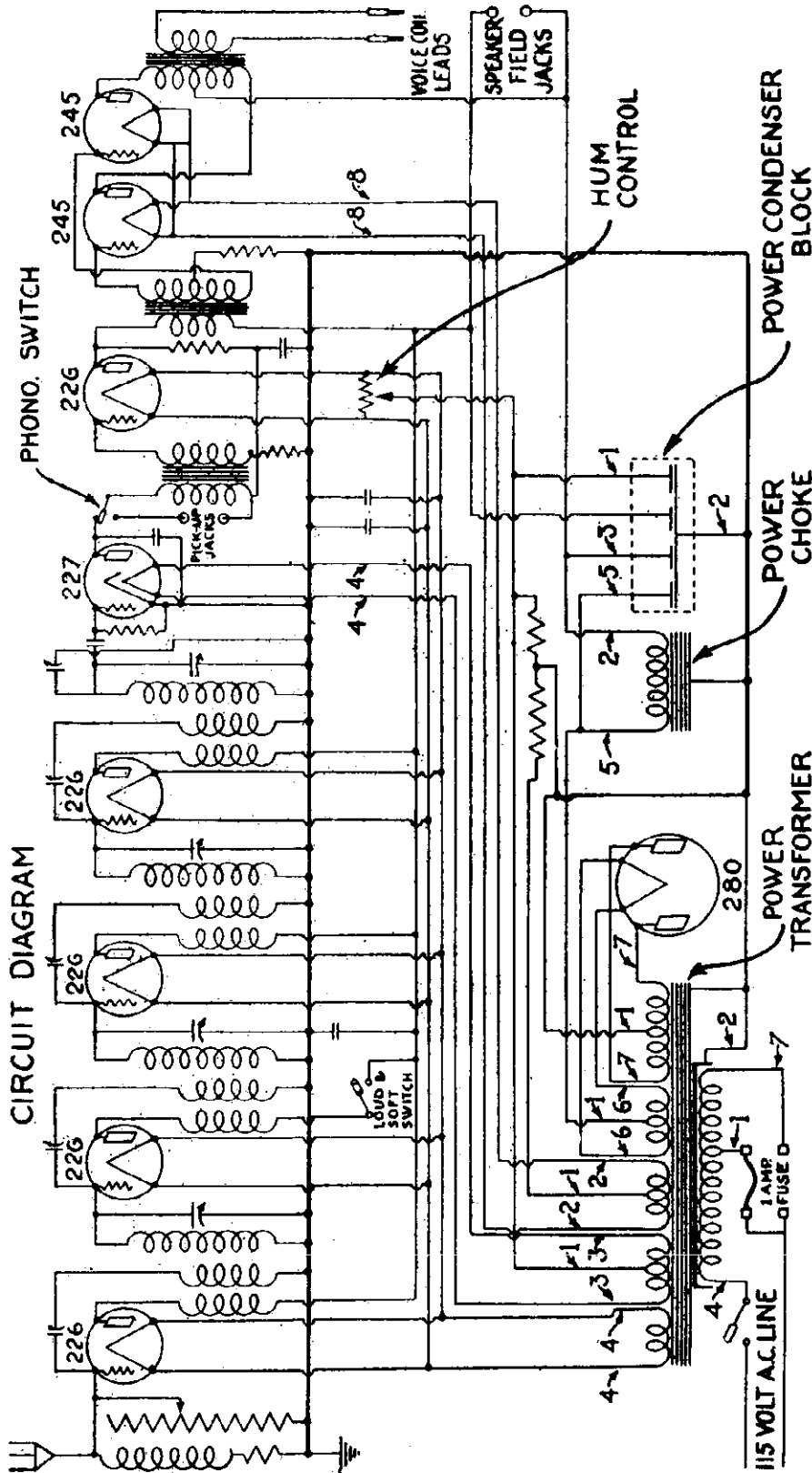
Page 4 Sec. 6

Note—Where two wires are same color they may be connected to either terminal marked that color. Red wire should connect between wires brought out of same large tubing.



JESSE FRENCH & SONS PIANO CO.

MODEL 5-093



JESSE FRENCH  
Model 5-093

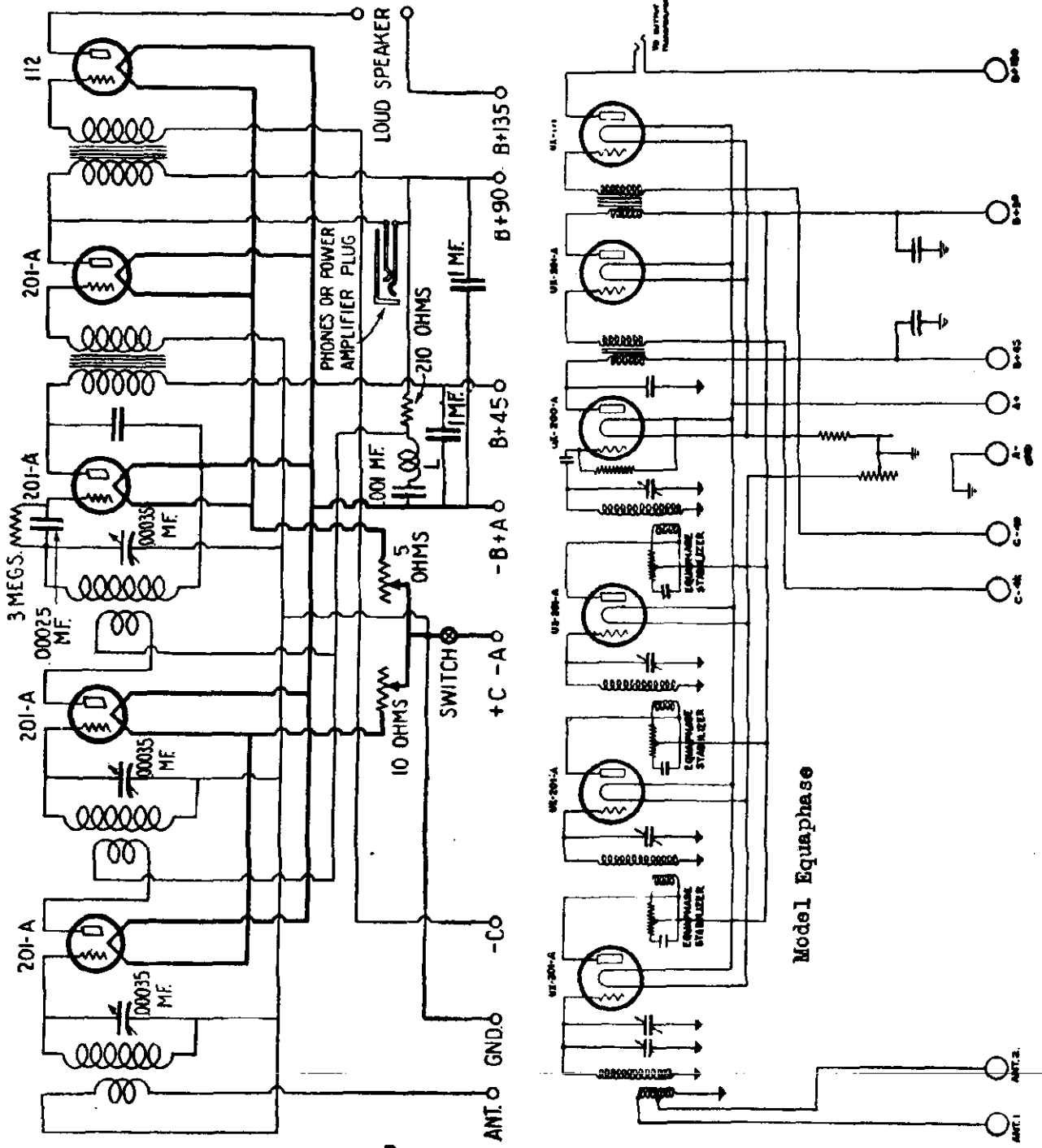
CX-326	1st A.F.	CX-345	2nd A.F.
CX-326	2nd R.F.	CX-326	CX-345
CX-326	3rd R.F.	CX-326	CX-345
CX-326	4th R.F.	CX-326	CX-345
C-327	D.P.L.	CX-326	1st R.F.
		CX-326	2nd R.F.
		CX-326	3rd R.F.
		CX-326	4th R.F.
		CX-380	Rect.

Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max  
Note: "C" Bias Voltage Reading on Audio tubes is low due to the current draw of the set tester and high resistances in the set.

TUBE NO.	TYPE	POSITION	TUBE OUT		TUBE IN TESTER		NORMAL PLATE VOLTAGE (V)	NORMAL GRID VOLTAGE (V)	NORMAL SCREEN VOLTAGE (V)	NORMAL BIAS VOLTAGE (V)	SOCKET
			1	2	1	2					
1	226	1st AF	1.5	1.0	1.5	10	0	0	0	0	9
2	226	2nd AF	1.5	1.0	1.5	10	0	0	0	0	9
3	226	3rd AF	1.5	1.0	1.5	10	0	0	0	0	9
4	226	4th AF	1.5	1.0	1.5	10	0	0	0	0	9
5	227	Det.	1.5	1.0	1.5	10	0	0	0	0	9
6	245	1st AF	1.5	1.0	1.5	10	0	0	0	0	9
7	245	2nd AF	1.5	1.0	1.5	10	0	0	0	0	9
8	280	Rect.	1.5	1.0	1.5	10	0	0	0	0	9

CHARLES FRESHMAN CO., INC.

MODEL Masterpiece  
MODEL Equaphase

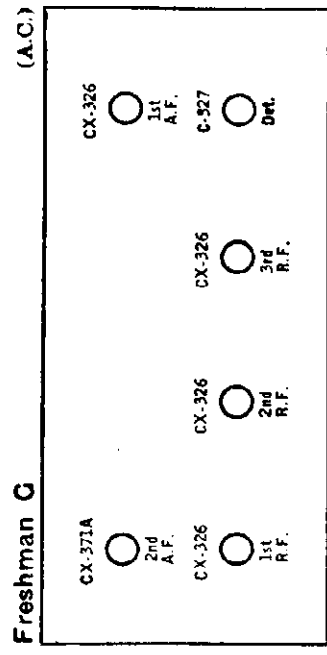
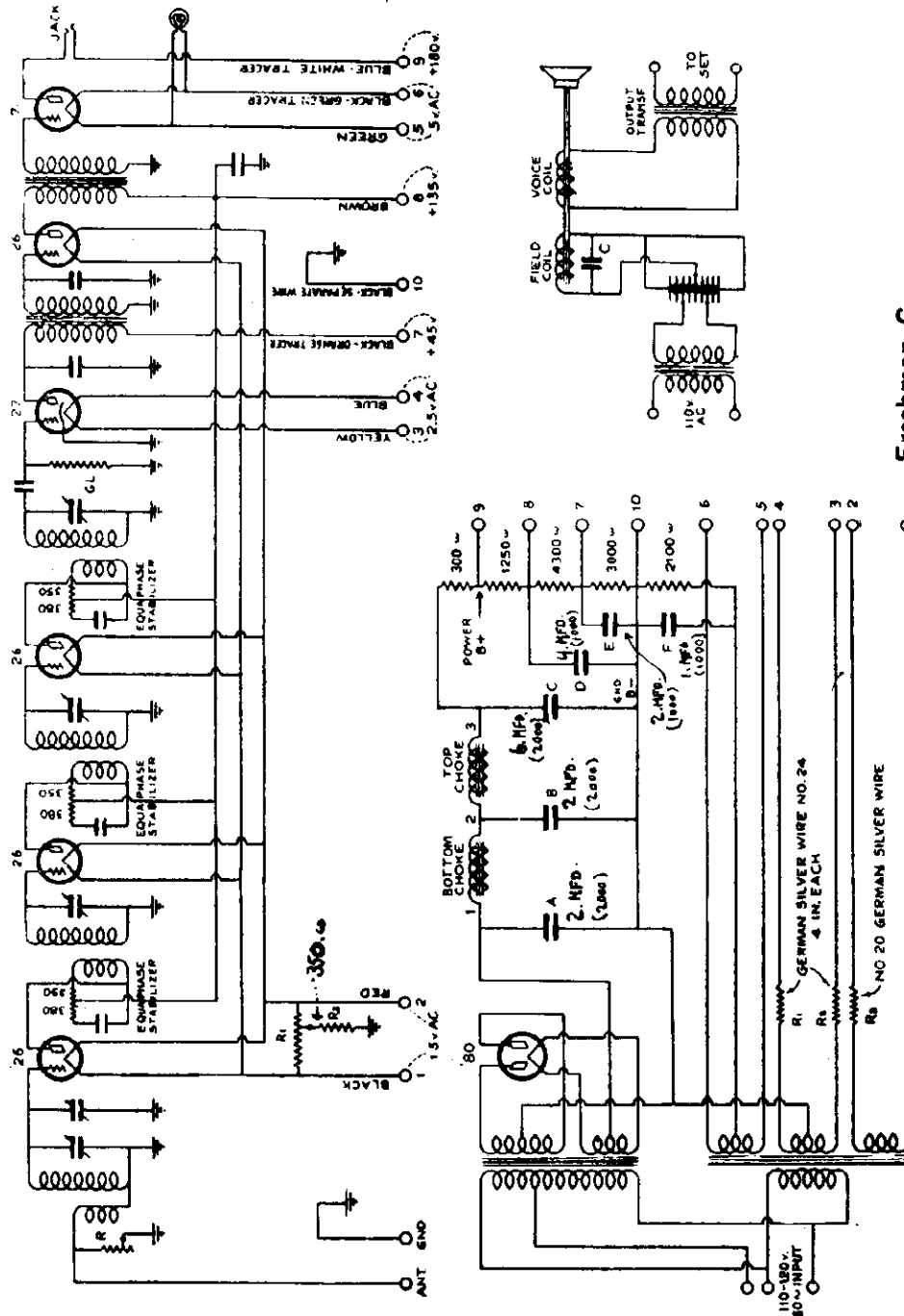


Model  
Masterpiece

Model Equaphase

MODEL G

CHARLES FRESHMAN CO., INC.



**Freshman G** (A.C.)

CX-371A  
 ○ 2nd A.F.  
 ○ 1st R.F.

CX-326  
 ○ 2nd R.F.  
 ○ 3rd R.F.

CX-326  
 ○ 1st A.F.  
 ○ 2nd A.F.

C-527  
 ○ Dnt.

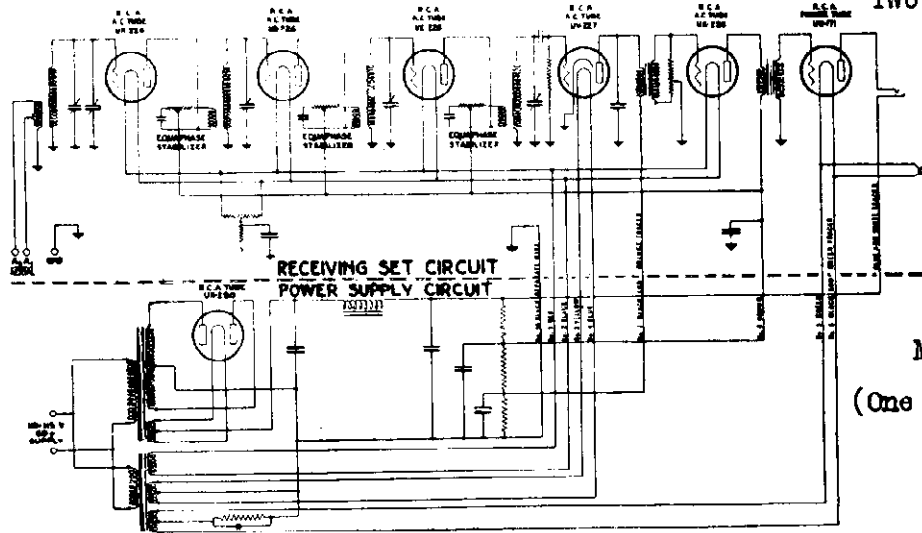
A. C. operated. To be used with model 9-60-5 Power Supply Unit using a CX-380.

TYPE NO. OF SOCKET	APPLY TO	TUNE OUT			TUNE IN TUNERS			CATHODE RESISTOR VALUE	PLATE RESISTOR VALUE
		1ST A.F. ETC.	VOLTS	WOLFS	WOLFS	VOLTS	WOLFS		
1	226	1st R.F.	1.45	140	1.35	135	9	5	0
2	226	2nd R.F.	1.45	140	1.35	135	9	5	0
3	226	3rd R.F.	1.45	140	1.35	135	9	5	0
4	226	Detector	2.5	140	2.00	80	0	3	5.1
5	227	1st A.F.	1.45	140	1.35	135	9	5	0
6	171A	2nd A.F.	5.5	200	5.10	175	87	16.0	16.0
7	250	Rectifier	-	5.20	-	-	-	80	-

FRESHMAN—Model "G"  
 Line Voltage 120—120 Volt Tap

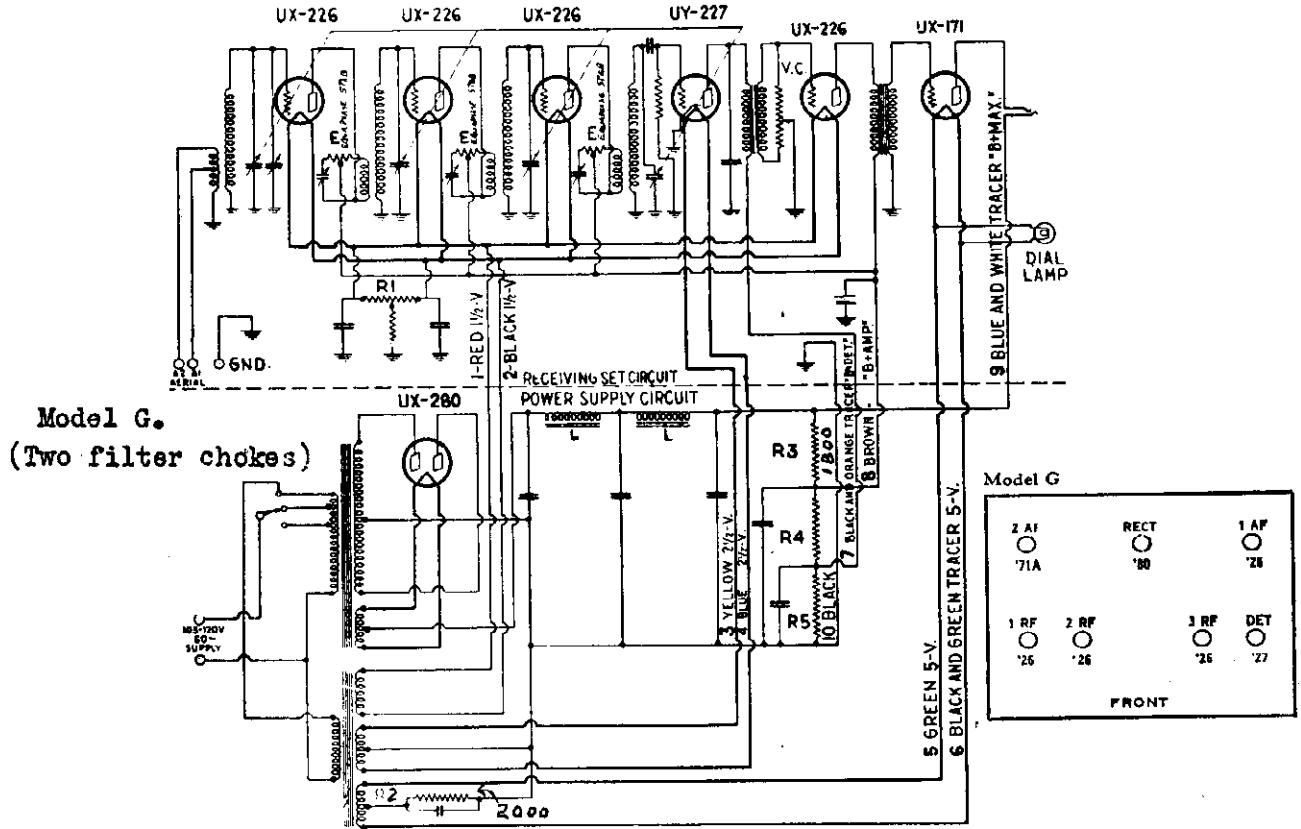
CHARLES FRESHMAN CO., INC.

MODEL G, with  
G-60-S Power Unit  
Two Types.



Model G.  
(One filter choke)

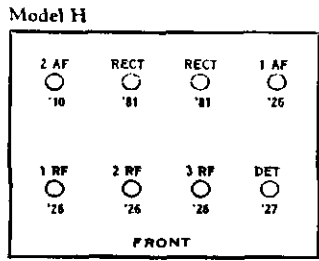
Schematic diagram of Model "G" Chassis and Model G-60-S Power Supply.  
Note the one choke coil in Power Supply Circuit.



Circuits of the Freshman "Model G" Equophase and the "Model G-60-S" Power Supply Unit.

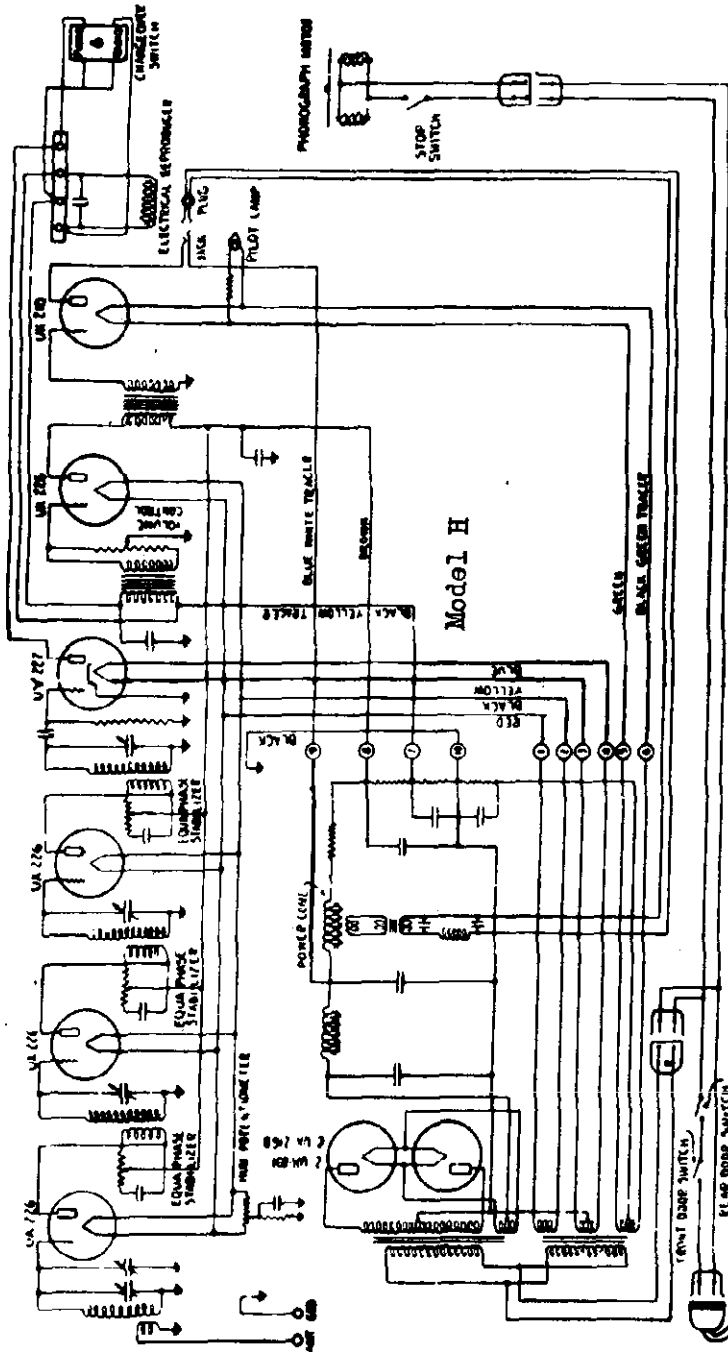
Tube	Fil. Voltage.	Plate Voltage.	Grid Voltage
RF1	1.5	130	7.
RF2	1.5	130	7.
RF3	1.5	130	7.
Det.	2.5	50	0.
AF1	1.5	130	7.
AF2	5.0	180	40.

MODEL H  
 MODEL ABC Power Unit CHARLES FRESHMAN CO., INC.

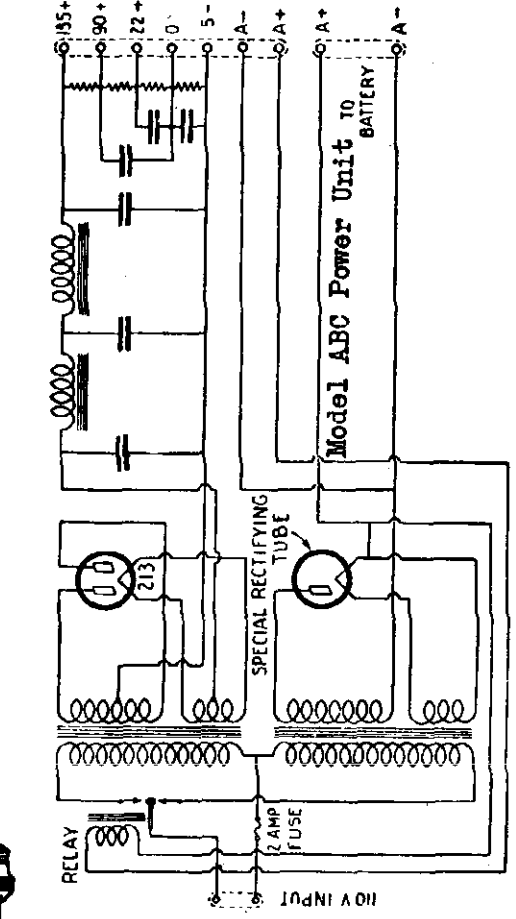


FRESHMAN—Model "H"  
 Line Voltage 120—120 Volt Tap

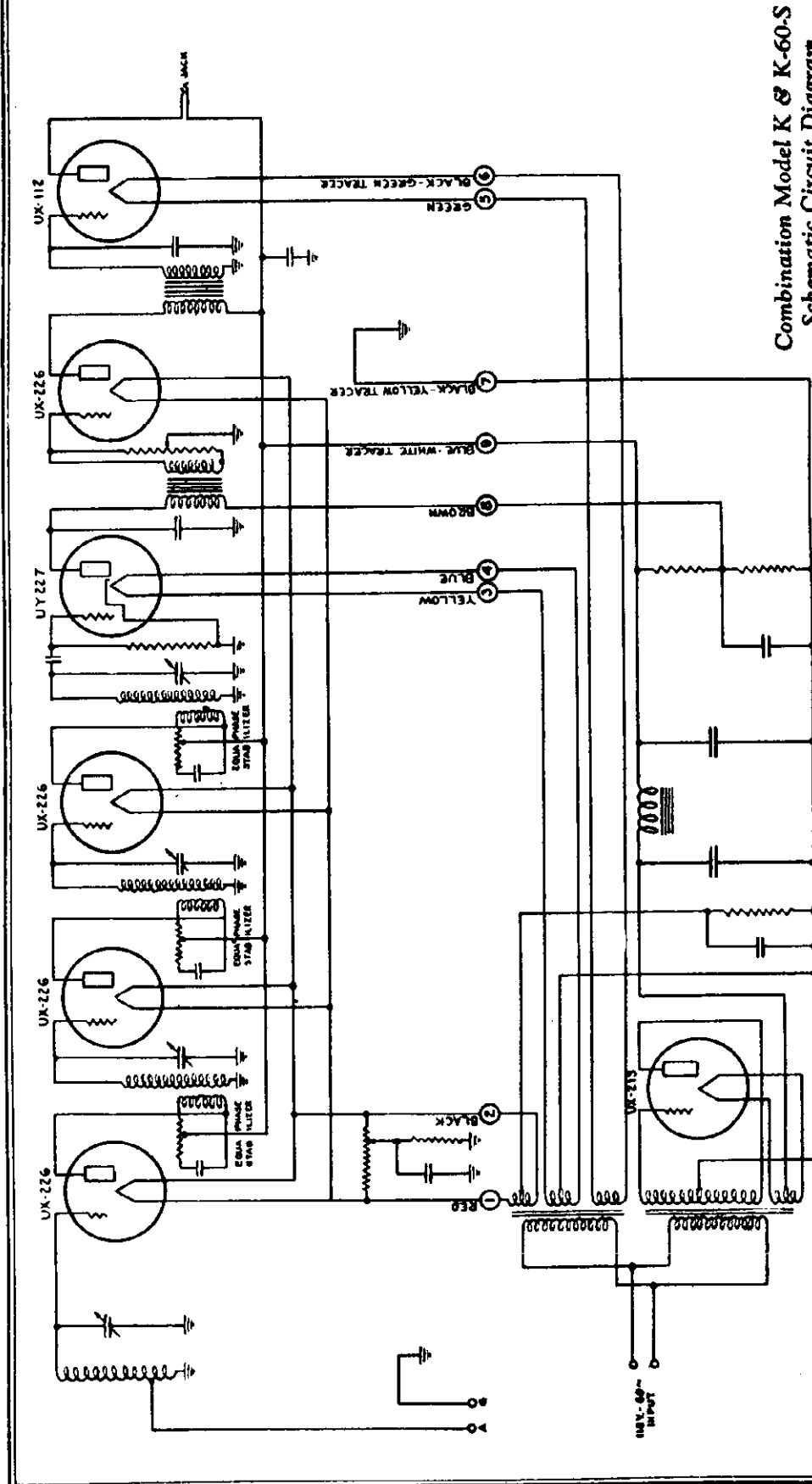
TYPE OF TUBE	POSITION	TUBE DATA		RESISTANCE VALUE IN MODEL OF SET		TUBE IF FILTER		PLATE		
		1ST A.P. RES. (K)	2ND A.P. RES. (K)	RES. (K)	RES. (K)	RES. (K)	RES. (K)	RES. (K)	RES. (K)	
225	1B1, R.F.	1.45	1.48	1.35	1.40	10	—	5.3	9.6	4.3
226	2nd. R.F.	1.45	1.48	1.35	1.40	10	—	5.3	9.6	4.3
226	3rd. R.F.	1.45	1.48	1.35	1.40	10	—	5.3	9.6	4.3
227	DETECT.	2.35	1.40	2.00	50	10	—	2.75	2.75	0.0
228	1st. A.P.	1.45	1.48	1.35	1.40	10	—	5.3	9.6	4.3
210	2nd. A.P.	1.45	1.48	1.35	1.40	35	—	2.35	2.35	5.0
221	RECTIFIER	—	—	—	—	—	—	—	—	—



H-60 5 POWER SUPPLY UNIT



CHARLES FRESHMAN CO., INC.



Combination Model K & K-60-S  
Schematic Circuit Diagram.

FRESHMAN—Model "K"  
Line Voltage 120—120 Volt Tap

TUBE NO.	TYPE	VOLTAGE	FILAMENT		A.F. SECTION		A.F. SECTION		A.F. SECTION		A.F. SECTION	
			1ST A.F. SEC.	2ND A.F. SEC.	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS	VOLTS	WATTS
226	125A	125	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	250A	250	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	375A	375	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	500A	500	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	125A	125	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	250A	250	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	375A	375	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
226	500A	500	1.45	1.45	1.35	1.40	9	—	5.2	0.4	4.2	—
250	REGULATOR	—	—	—	—	—	—	—	—	—	—	—

(A.C.)

Freshman K

CX-112A    2nd A.F.

CX-326    1st R.F.

CX-326    2nd R.F.

CX-326    3rd R.F.

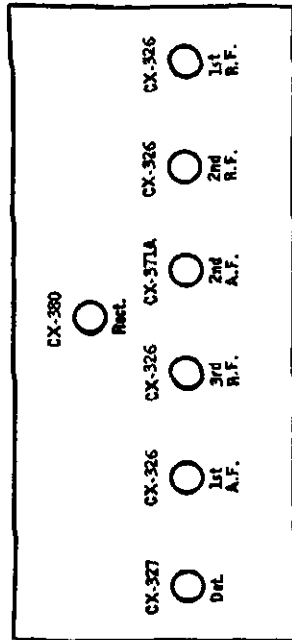
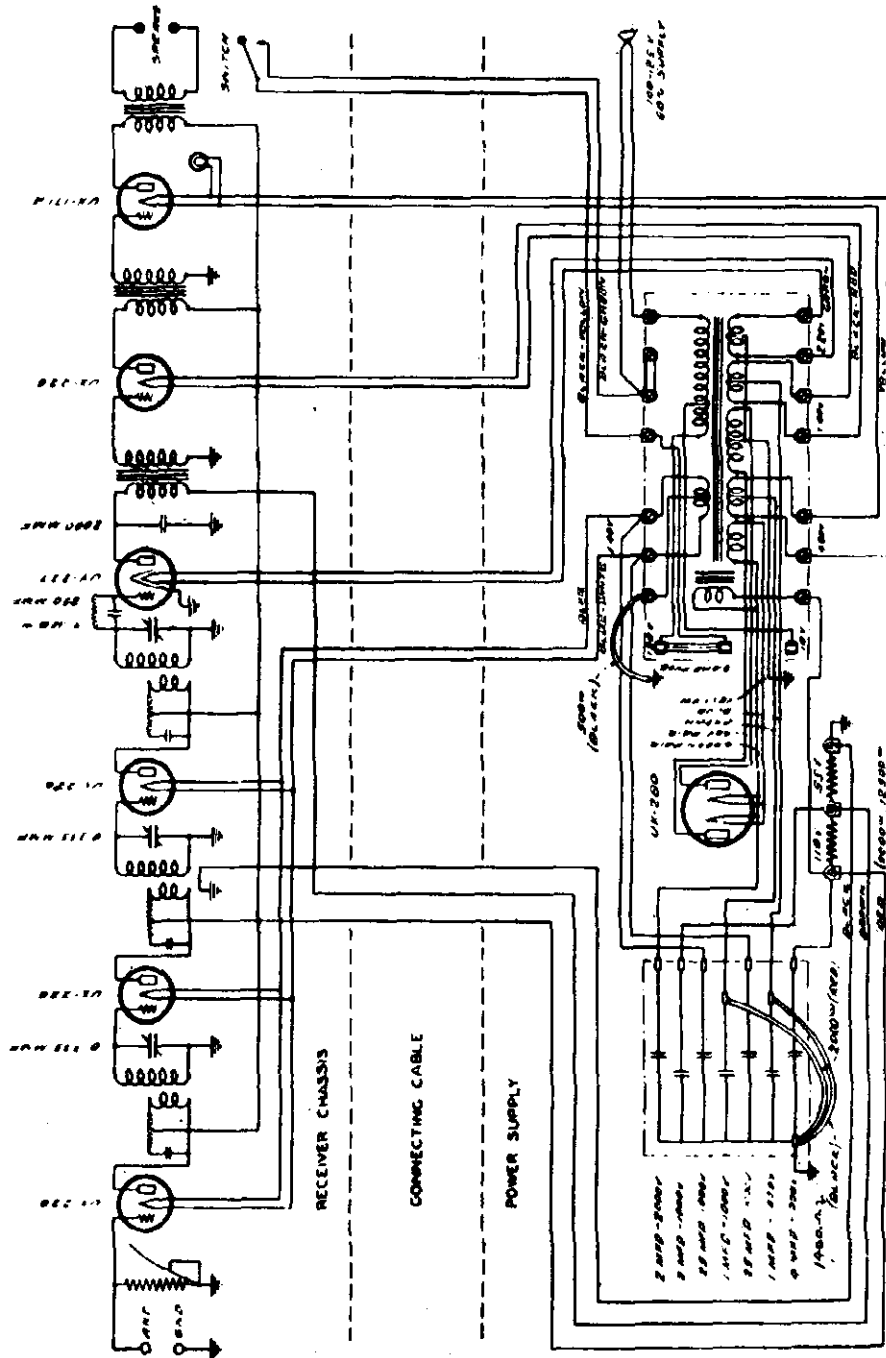
CX-336    1st A.F.

C-527    Det.



MODEL M

CHARLES FRESHMAN CO., INC.

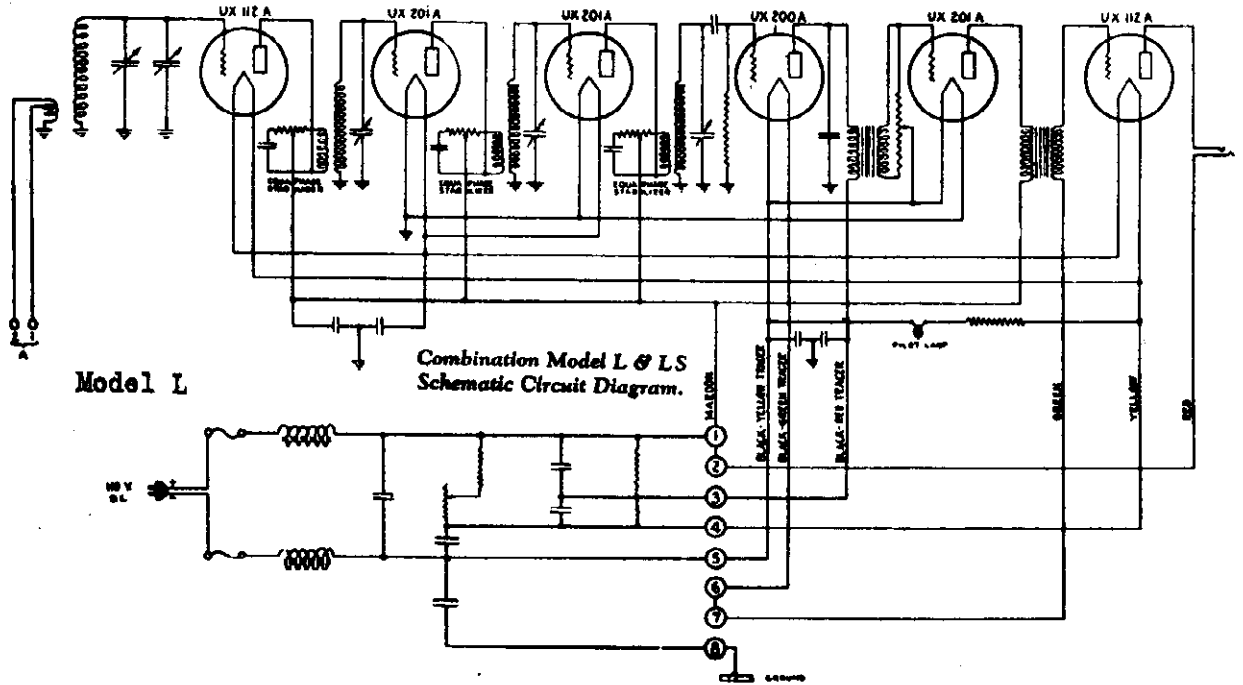


FRESHMAN—Model "M"  
Line Voltage 120—120 Volt Tap

TUBE TYPE	POSITION IN SET	TYPICAL VOLTAGE	TYPICAL PLATE VOLTAGE				PLATE RESISTANCE
			1ST A.F.	2ND A.F.	3RD A.F.	RECT.	
6X-327	Diode	100-150	1.45	1.58	1.35	150	12
6X-326	1st A.F.	100-150	1.45	1.58	1.35	150	12
6X-326	2nd R.F.	100-150	1.45	1.58	1.35	150	12
6X-326	3rd R.F.	100-150	1.45	1.58	1.35	150	12
6X-326	Rect.	100-150	1.45	1.58	1.35	150	12
6X-371A	2nd A.F.	100-150	1.45	1.58	1.35	150	12
6X-326	1st R.F.	100-150	1.45	1.58	1.35	150	12
6X-380	Rectifier	100-150	1.45	1.58	1.35	150	12

CHARLES FRESHMAN CO., INC.

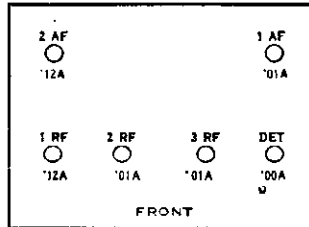
MODEL L  
MODEL N



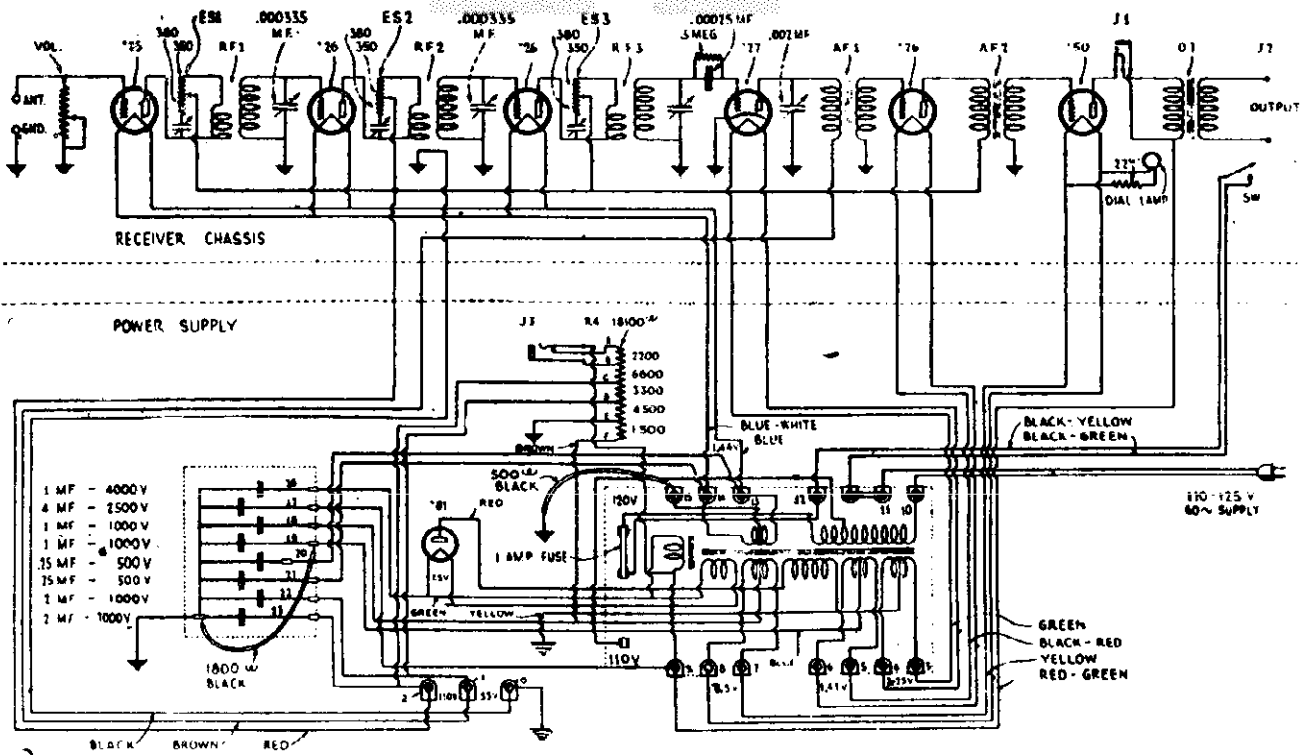
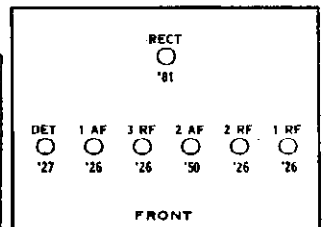
Model L

FRESHMAN—Model "N"  
Line Voltage 119—120 Volt Tap

Model N



TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE (BY R.F. DET., ETC.)	TUBE DATA					RECOMMENDED PLATE IN SOCKET OF SET			TUBE IN TEST		
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	OUTER VOLTS	NORMAL PLATE CURR. MA	PLATE CURR. TEST MA	PLATE CURR. MAX. CHORDS MA		
1	226	1st. R.F.	1.45	100	1.35	90	6	—	3.2	7.4	4.2		
2	226	2nd. R.F.	1.45	100	1.35	90	6	—	3.2	7.4	4.2		
3	226	3rd. R.F.	1.45	100	1.35	90	6	—	3.2	7.4	4.2		
4	227	Detector	2.40	100	2.55	50	0	—	2.2	2.2	0.0		
5	226	1st. A.F.	1.45	100	1.35	90	6	—	3.2	7.4	4.2		
6	250	2nd. A.F.	1.45	100	1.35	90	6	—	3.2	7.4	4.2		
7	881	Rectifier	—	—	—	—	—	—	36.0	45.5	7.8		
									48.0	—	—		

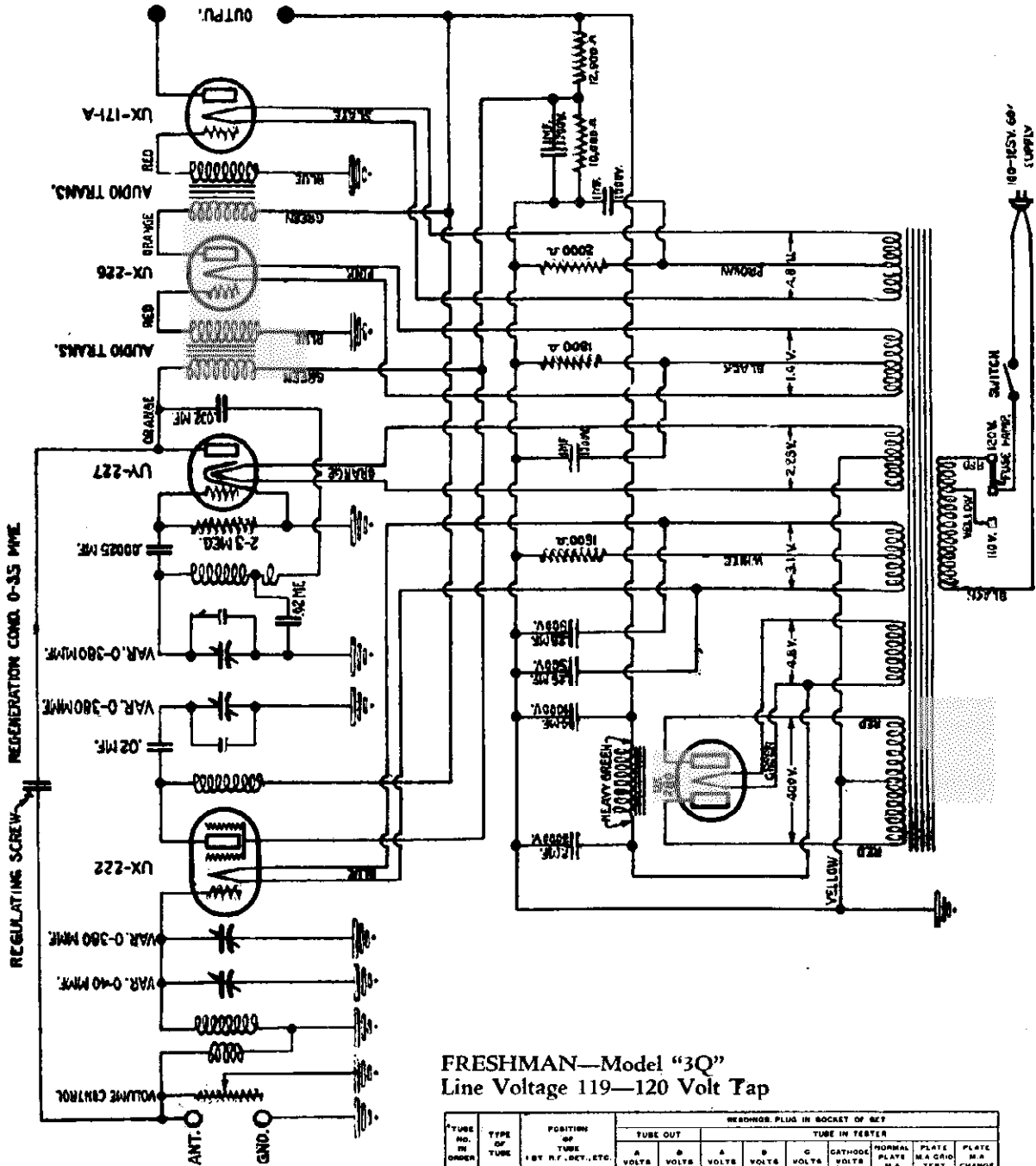






MODEL 3-Q-15  
3-Q-16

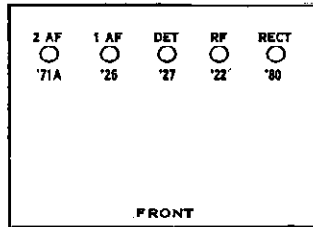
CHARLES FRESHMAN CO., INC.



FRESHMAN—Model "3Q"  
Line Voltage 119—120 Volt Tap

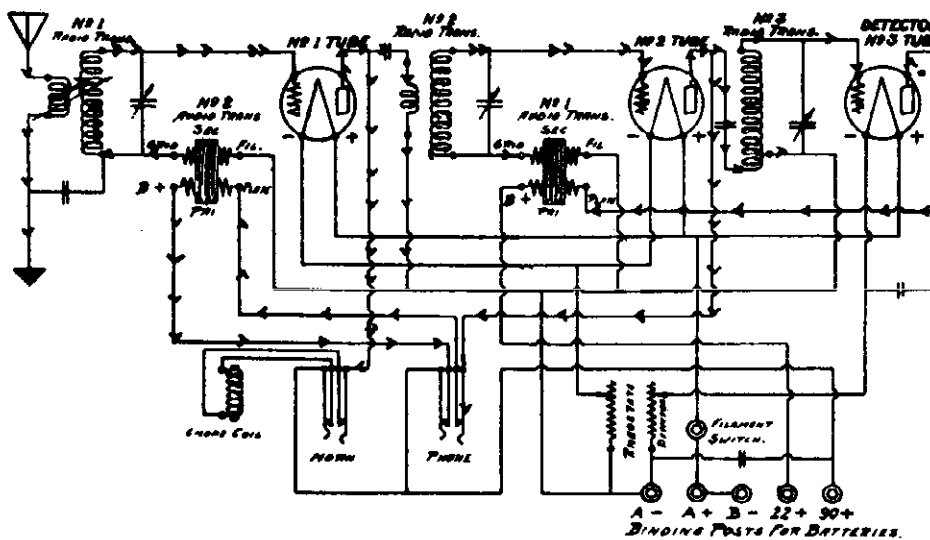
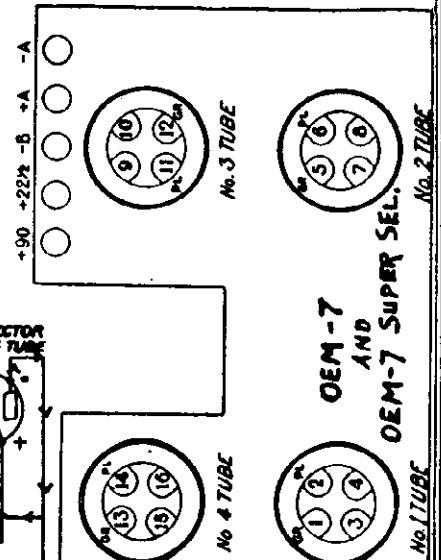
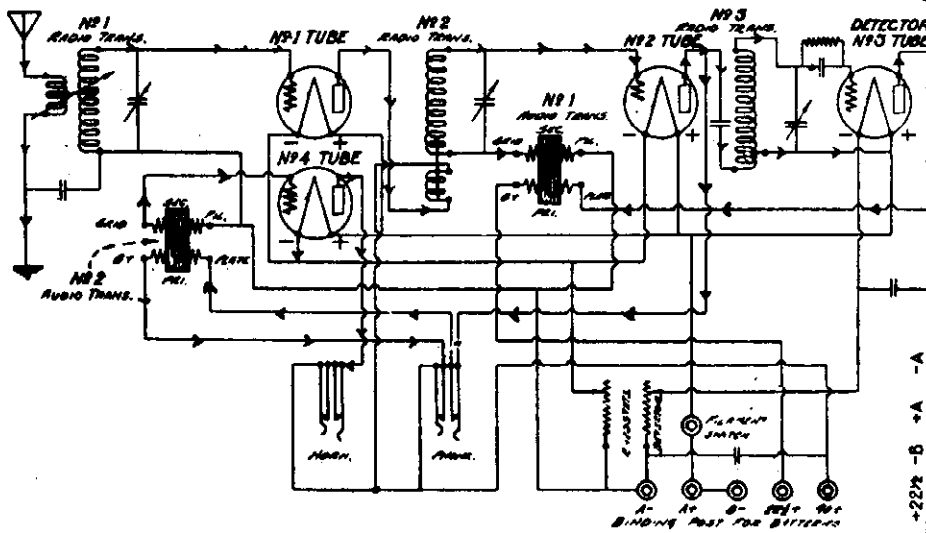
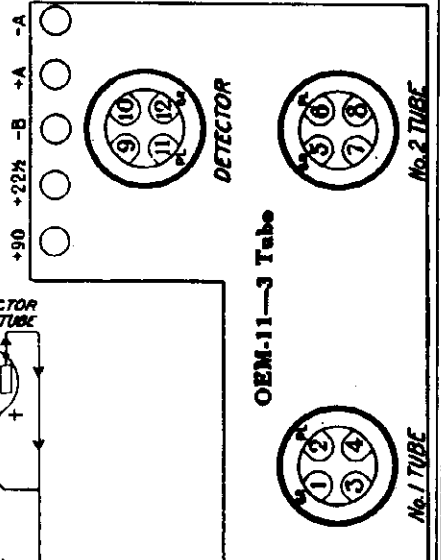
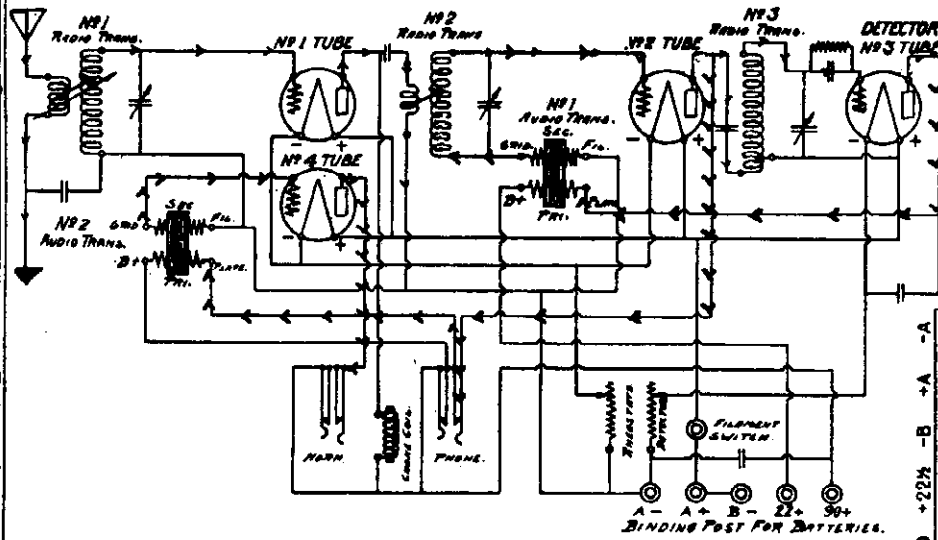
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (BY R.F., DET., ETC.)	WINDING PLUG IN SOCKET OF SET					TUBE IN TESTER			
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE VOLTS	NORMAL PLATE M.A. TEST	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
1	222	1st. R.F.	3.10	162	3.00	150	5.0				
2	227	Detector	2.35	150	2.10	50	0.0				
3	226	1st. A.F.	1.45	150	1.36	140	10		4.2	8.6	4.4
4	171A	2nd. A.F.	4.90	140	4.60	125	25		16.5	18.0	1.5
5	280	Rectifier	-	-	4.60	-	-		24.0	-	-

Model Q



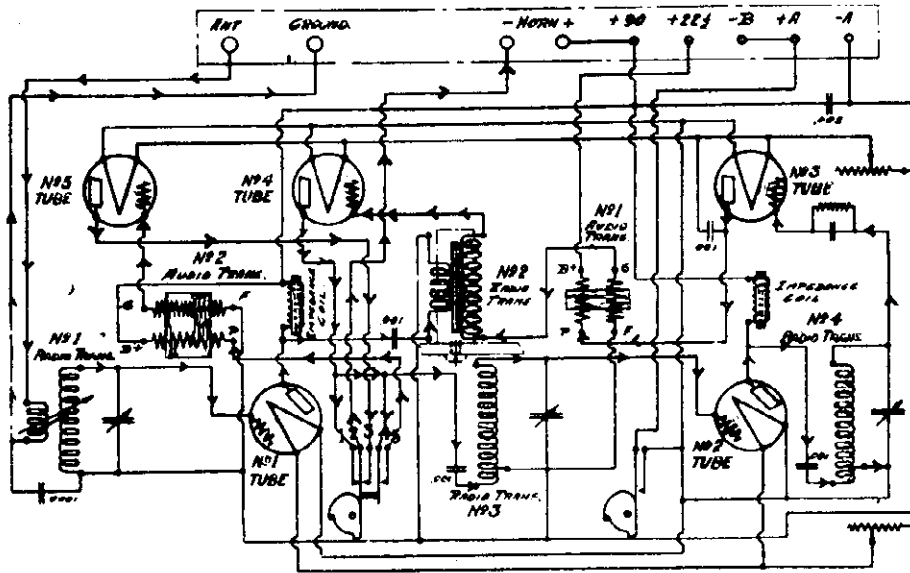


GENERAL MOTORS RADIO CORP. MODEL OEM-7 4 Tube  
 MODEL OEM-7 Super-SEL.  
 MODEL OEM-11 3 Tube



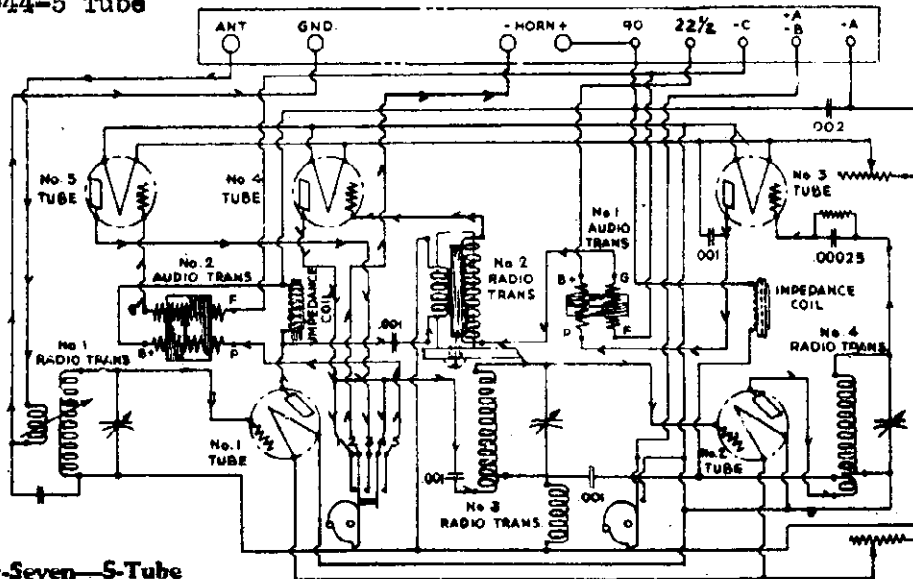
MODEL 5044-5 Tube  
MODEL 527-5 Tube

GENERAL MOTORS RADIO CORP.

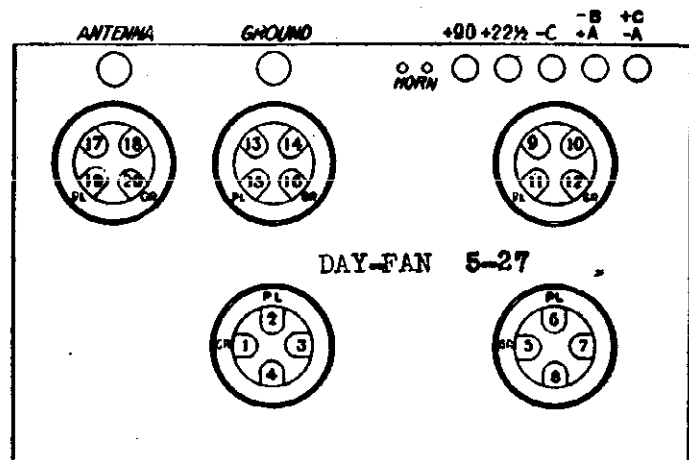
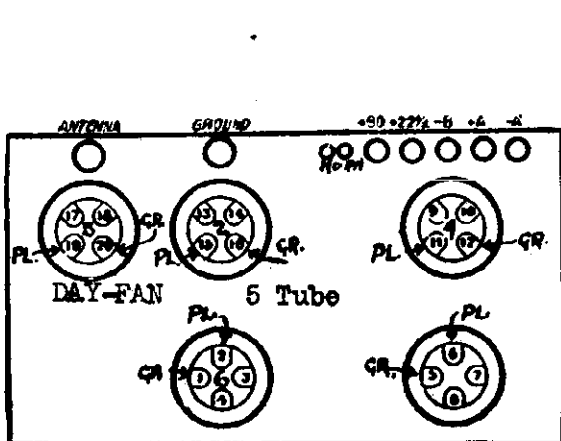


DAY-FAN FIVE

Model 5044-5 Tube



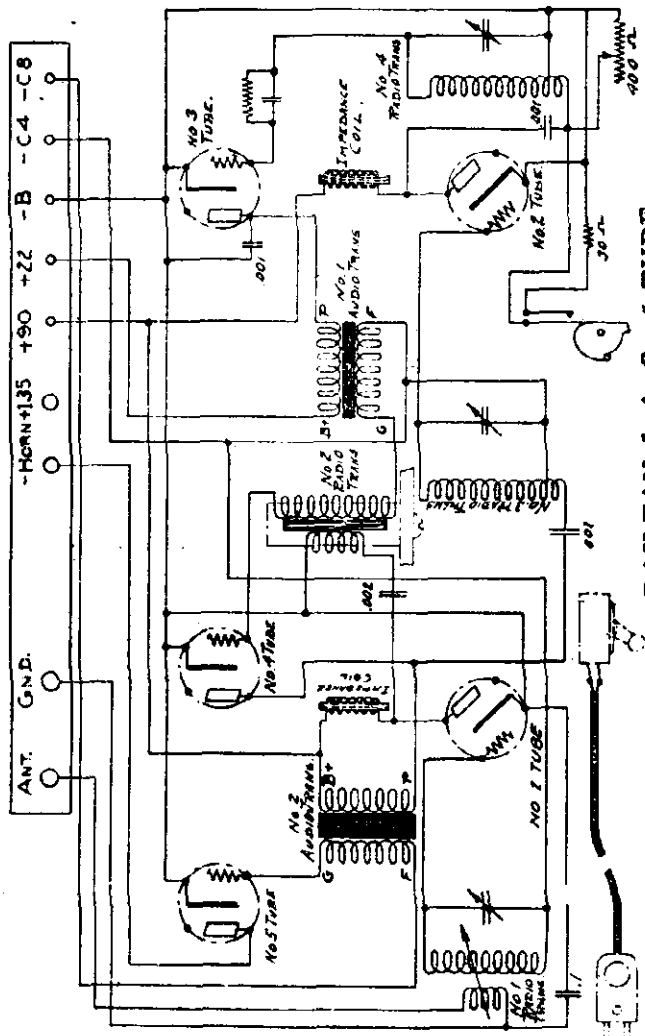
Day-Fan Five Twenty-Seven—5-Tube



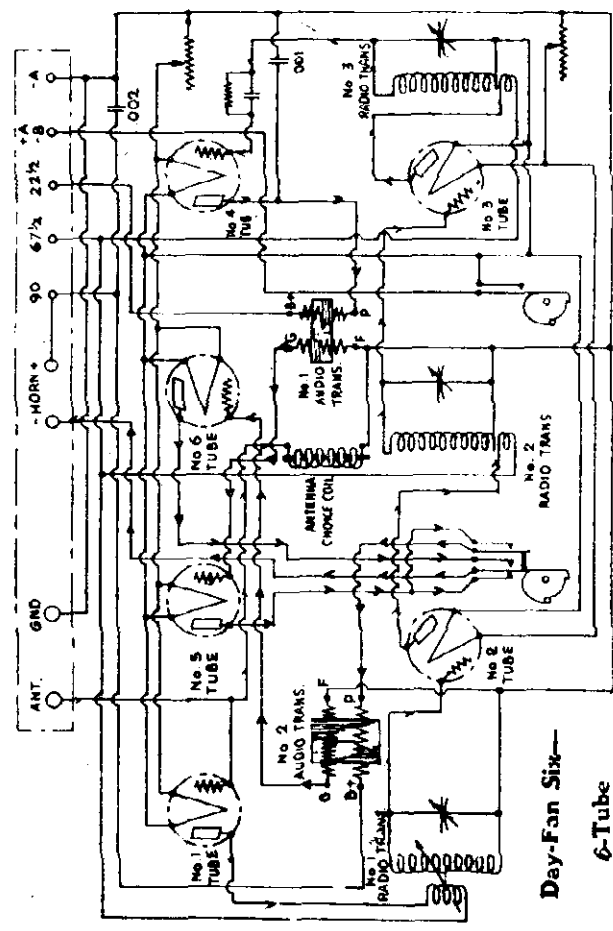


GENERAL MOTORS RADIO CORP.

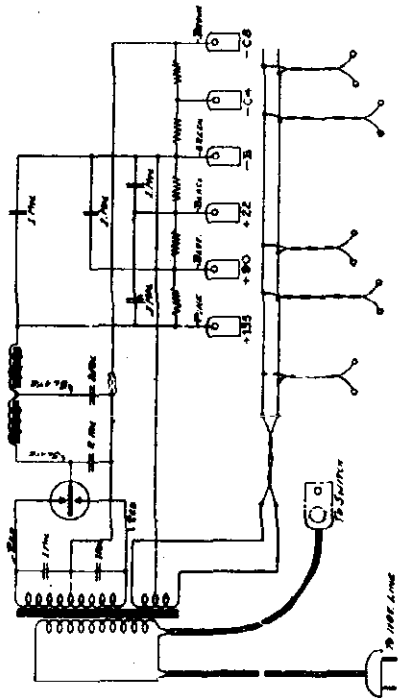
MODEL Day-Fan 5-AC  
 MODEL Day-Fan 5  
 MODEL Day-Fan 5-AC SPU



DAY-FAN 5 A. C. 5 TUBE



Day-Fan Six—  
6-Tube

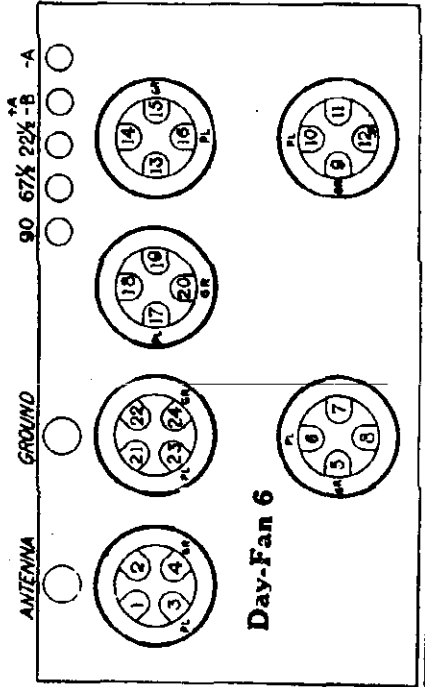


POWER SUPPLY FOR 5 TUBE A. C. SET

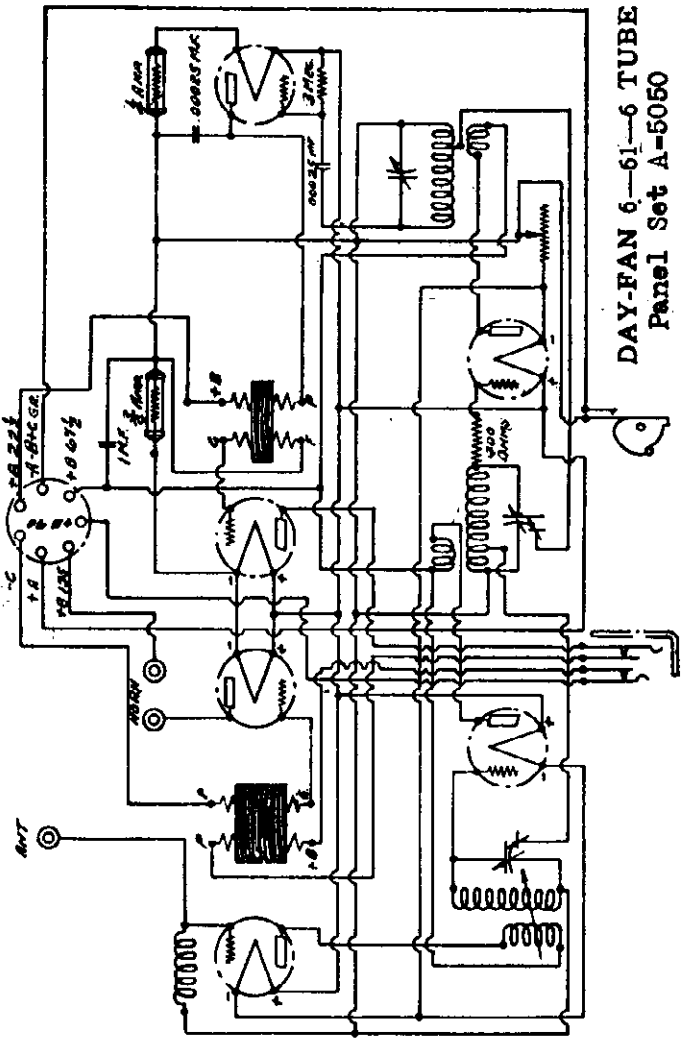
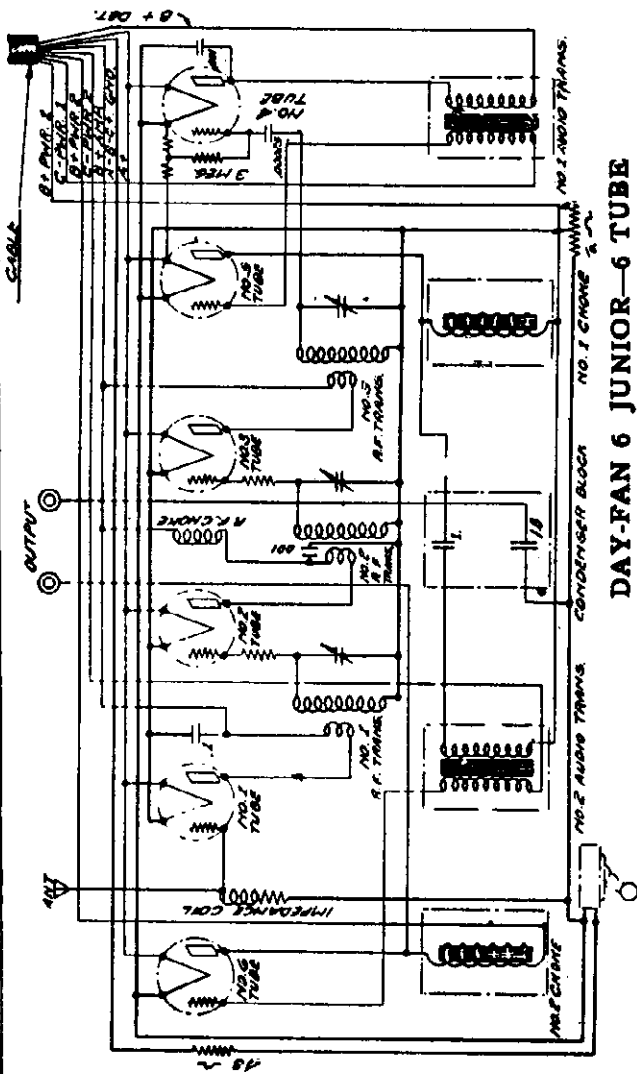
SUB-PANEL OF DAY-FAN 5 TUBE A. C.

**CABLE COLOR CODE**

Terminal	Wire Color	Power
Horn +	Red	135
No. 1	Maroon	90
No. 2	Red and Black	22
No. 3	Black	B + C
No. 4	Yellow and Black	C4
No. 5	Yellow Solid	C8

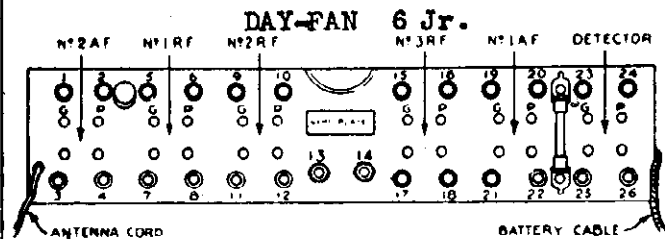


MODEL Day-Fan 6 Jr. GENERAL MOTORS RADIO CORP.  
 MODEL Day-Fan 6-61  
 (5050)



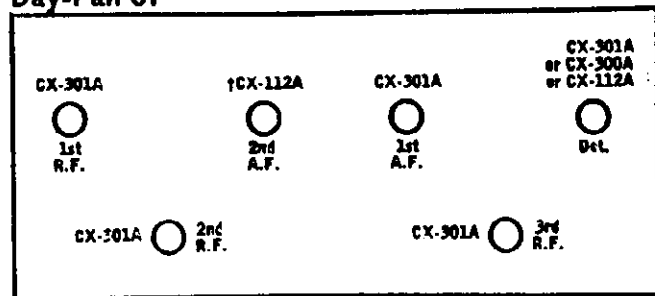
STANDARD, BATTERY CABLE CONNECTIONS

Color of Wire	(DAY-FAN 6 Jr.)	N. E. M. A. Rating
Red	-----	B + Pwr. 2.
Red and White	-----	B + Pwr. 1.
Red and Maroon	-----	B + Amp.
Maroon	-----	B + Det.
Yellow	-----	A +
Green with Red and Yellow tracers	-----	B -, A -, C +.
Black and Green	-----	C - Pwr. 1.
Black and White	-----	C - Pwr. 2.



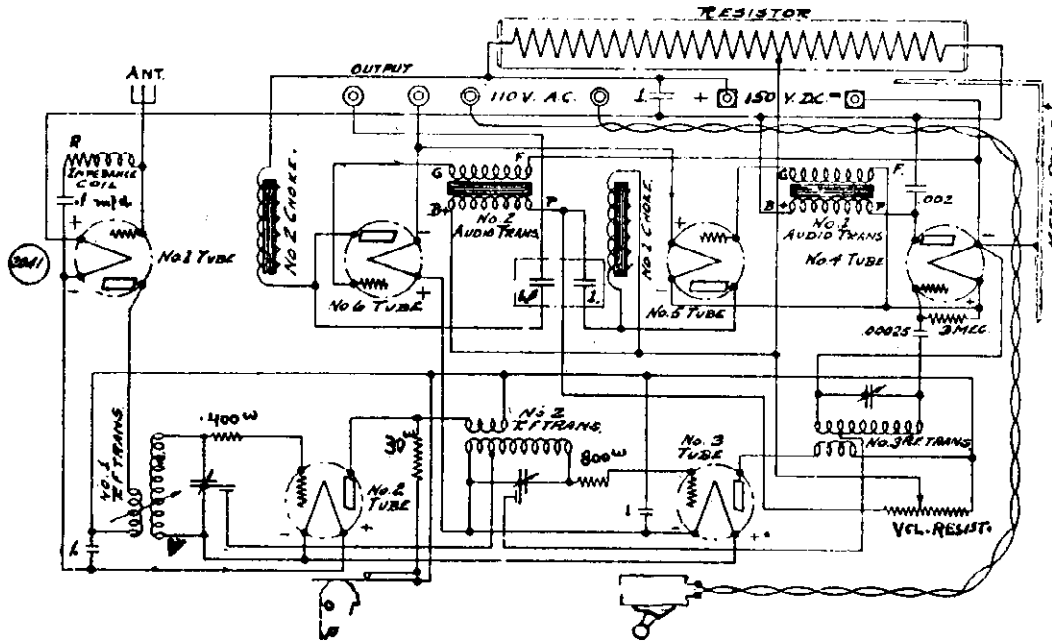
Day-Fan 61

(Batt.)

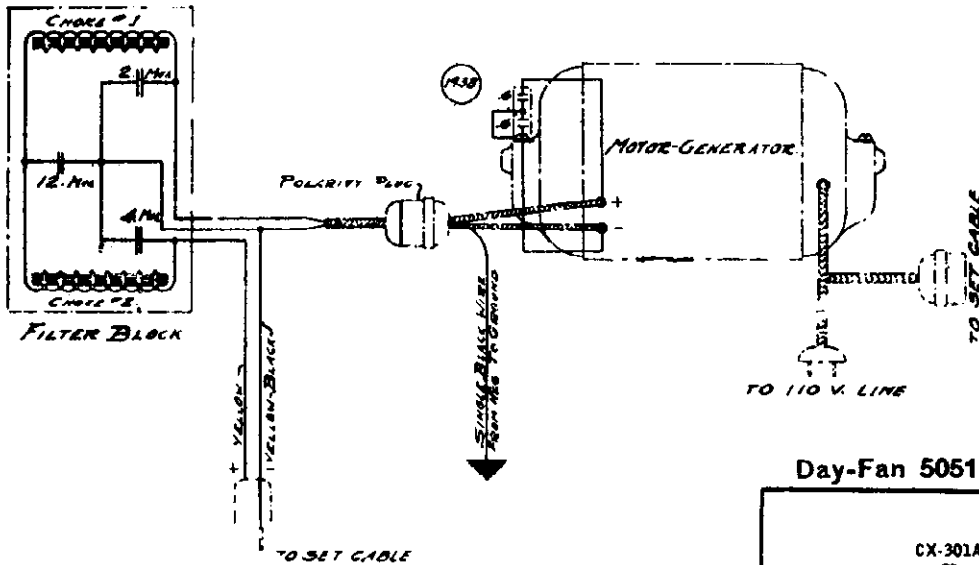


GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5051  
(MG Set)  
Motor-Generator

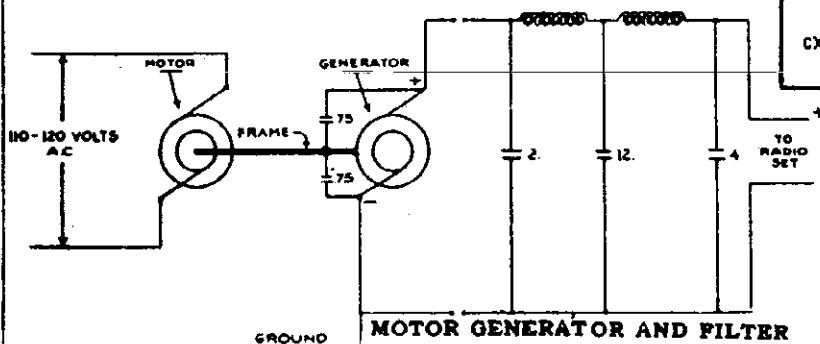
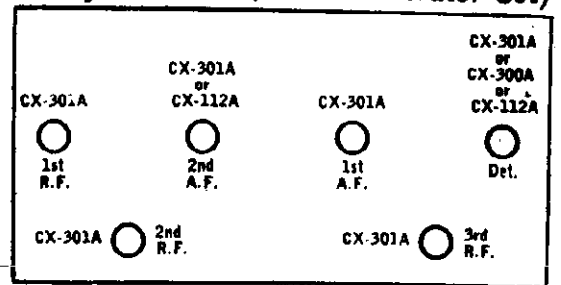


MOTOR GENERATOR SET—6 TUBE



MOTOR GENERATOR AND FILTER

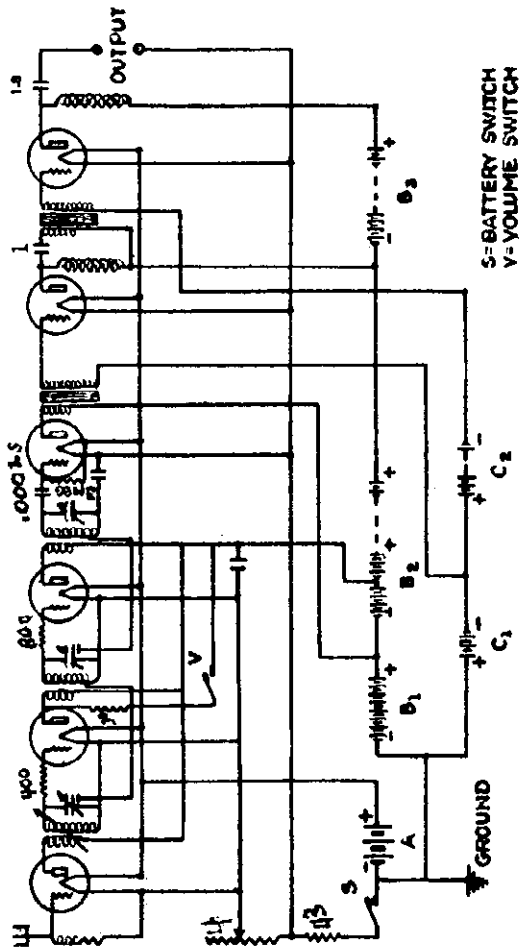
Day-Fan 5051 (Motor Generator Set)



MOTOR GENERATOR AND FILTER

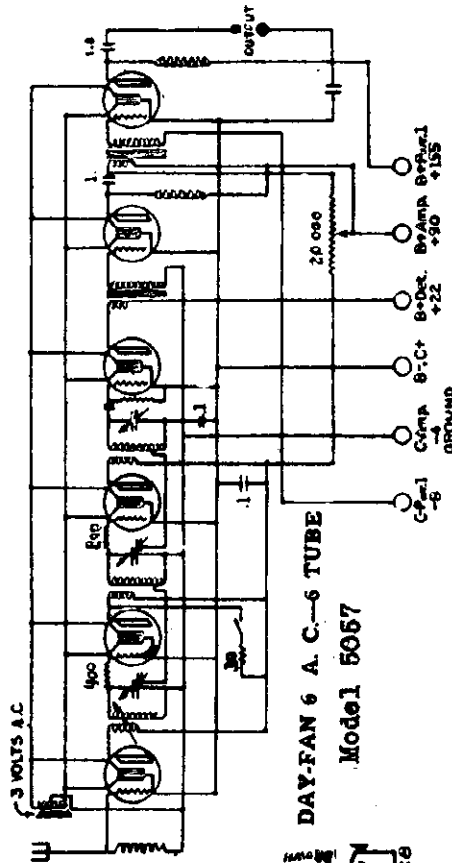
MODEL Day-Fan 5053.  
 MODEL Day-Fan 5057  
 MODEL Day-Fan 5057SPU

GENERAL MOTORS RADIO CORP.



S=BATTERY SWITCH  
 V=VOLUME SWITCH

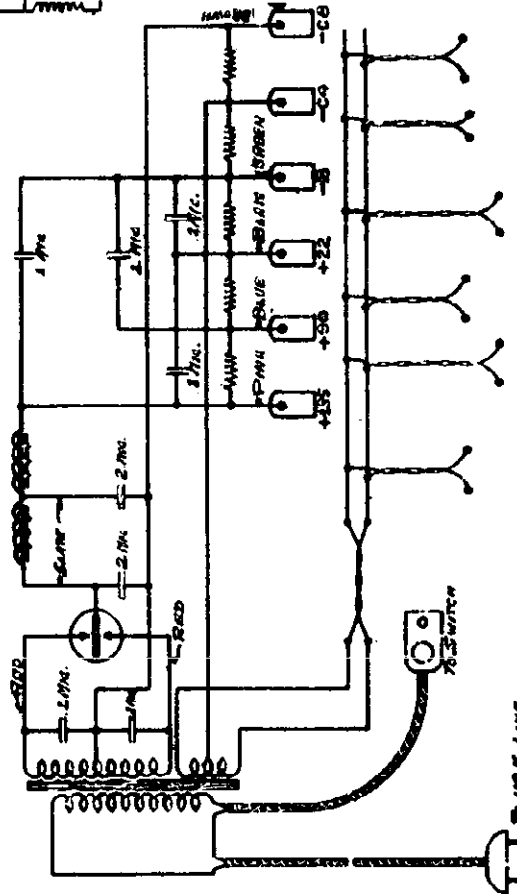
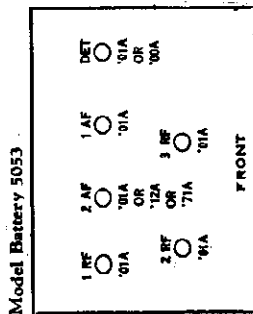
DAY-FAN 6 B-6 TUBE Model 5053



DAY-FAN 6 A. C.-6 TUBE Model 5057

POWER CABLE COLOR CODE

Color of Wire	N. E. M. A. Rating
Red and White	B + Pwr. 1
Red and Maroon	B + Amp.
Maroon	B + Det.
Green with Red and Yellow	B - C +
Black and Green	B - C -
Black and White	C - Amp. and Ground
	C - Pwr. 1

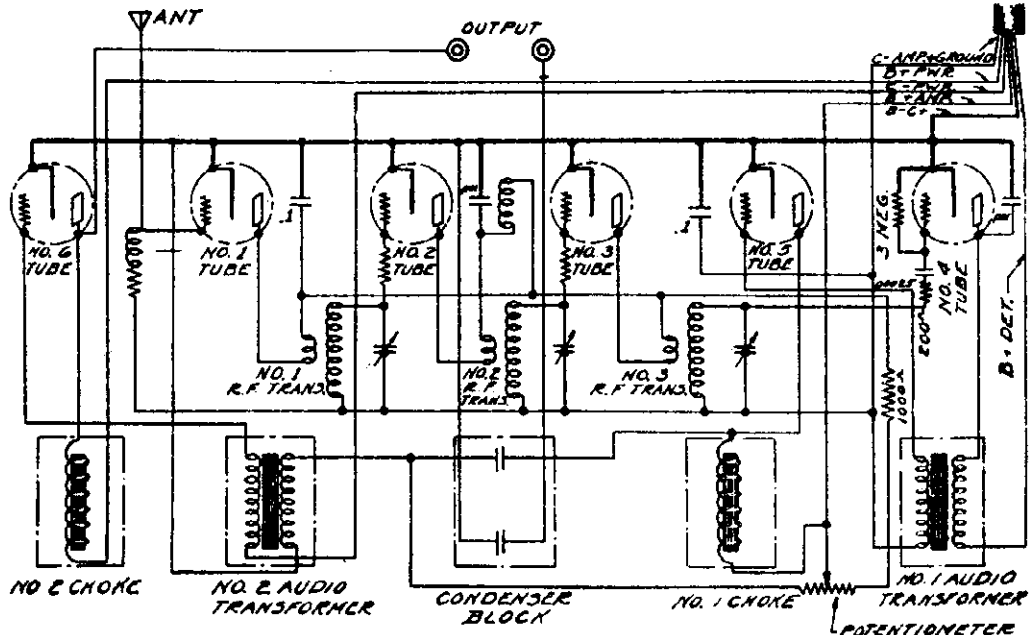


POWER SUPPLY FOR 6 TUBE A. C. SET Model 5057

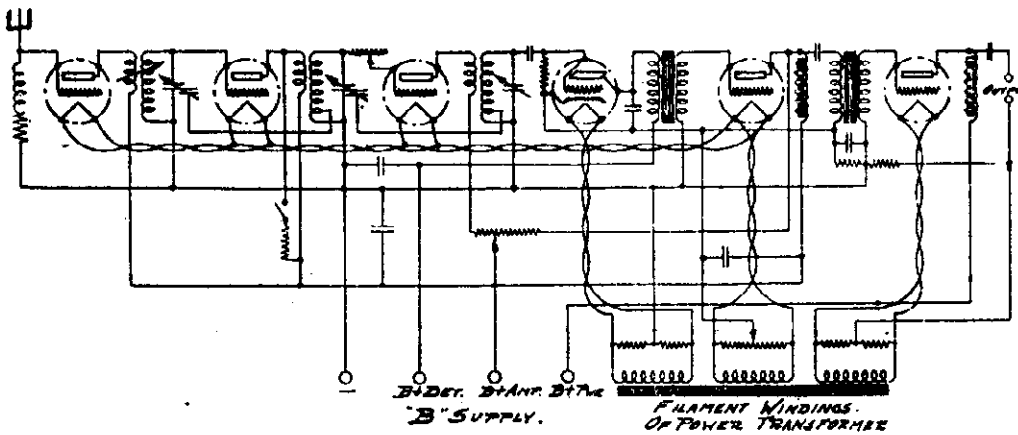
75 110 P. LONG

GENERAL MOTORS RADIO CORP.

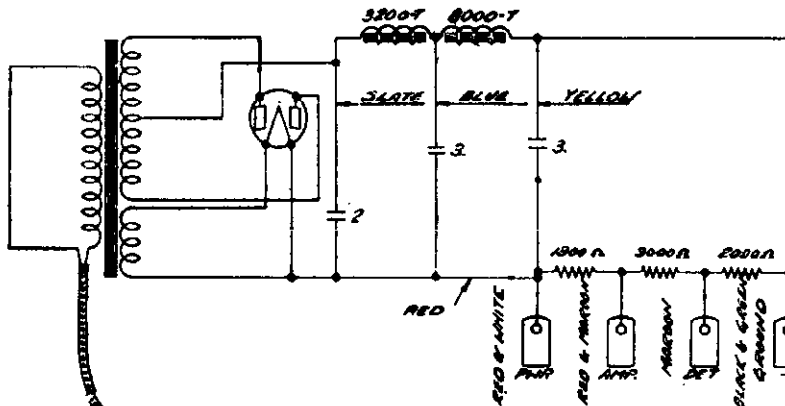
MODEL Day-Fan 5068  
 MODEL Day-Fan 5065  
 MODEL 5524, 5525,  
 SPU For 5065



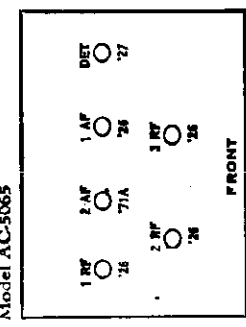
DAY-FAN 6 JUNIOR A C POWER SET  
 Model 5066



DAY-FAN 6 A. C. (R. C. A. TUBE) POWER SET Model 5065



Radio "B" Power Supply - Model Nos. 5524 and 5525.  
 (For 6 tube (R.C.A.) A.C. Set.)



**POWER CABLE COLOR CODE: Model 5066**

N. E. M. A. Rating	B + Power	Color of Wire	Red and White
	B + Amp.		Red and Maroon
	B + Det.		Maroon
	B - C +		Green with Red and Yellow Tracers
	B - Amp., and Gr.		Black and Green
	C - Power		Black and White

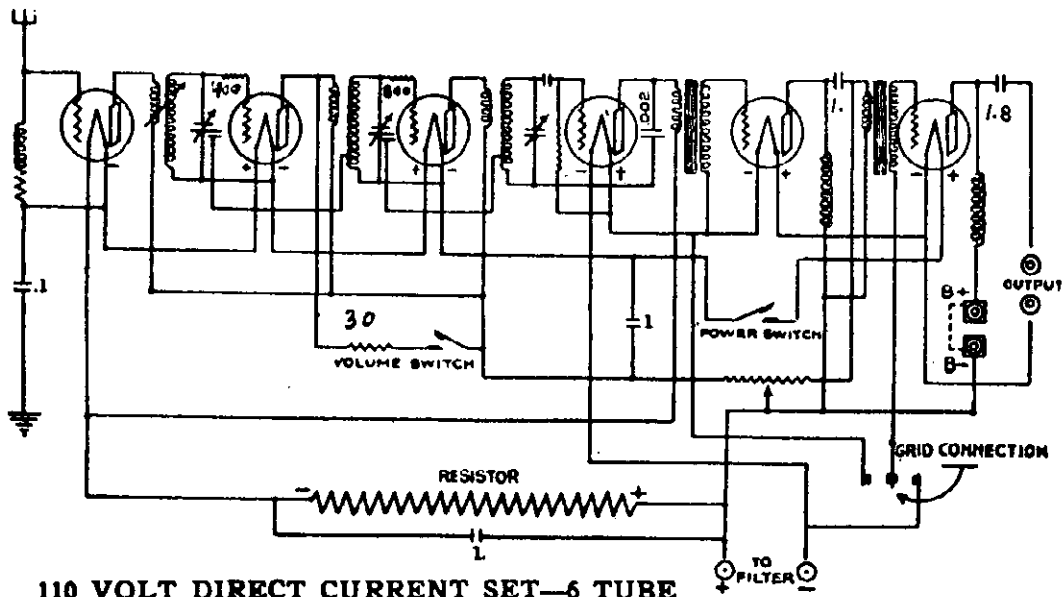
  

**POWER CABLE COLOR CODE: Model 5065**

N. E. M. A. Rating	B + Power	Color of Wire	Red and White
	B + Amp.		Red and Maroon
	B + Det.		Maroon
	B - and Ground		Black with Green tracer

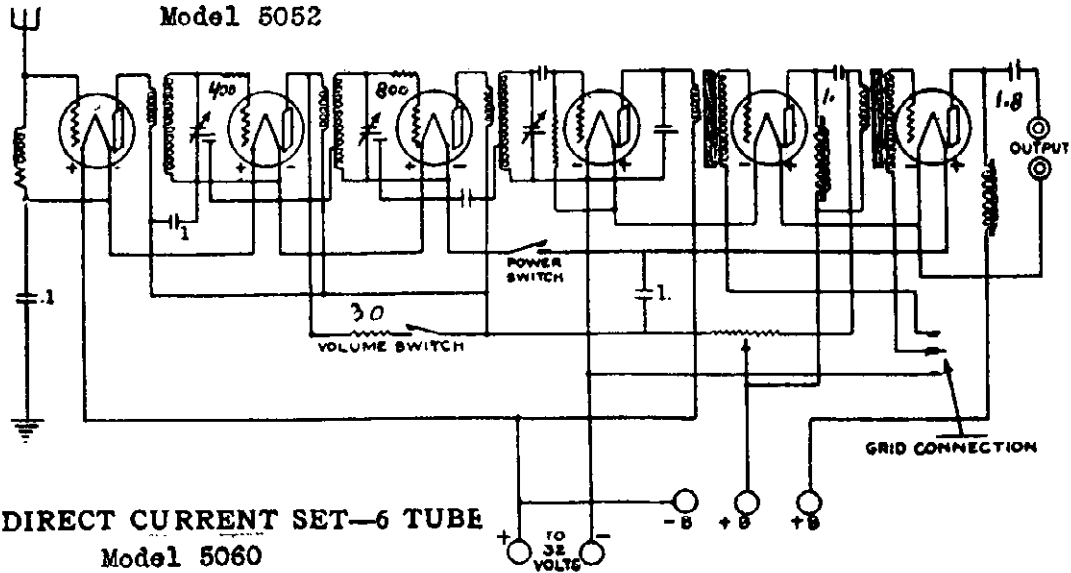
GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5052  
 MODEL Day-Fan 5060



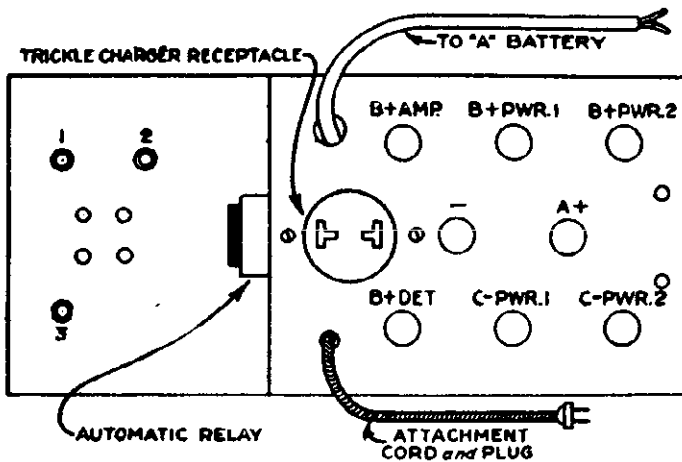
110 VOLT DIRECT CURRENT SET—6 TUBE

Model 5052



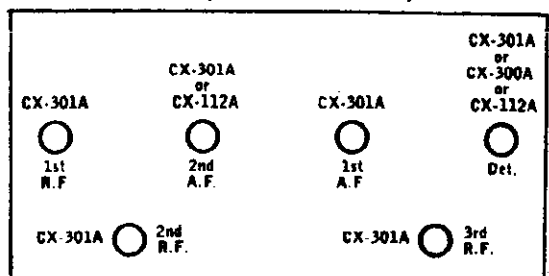
32 VOLT DIRECT CURRENT SET—6 TUBE

Model 5060



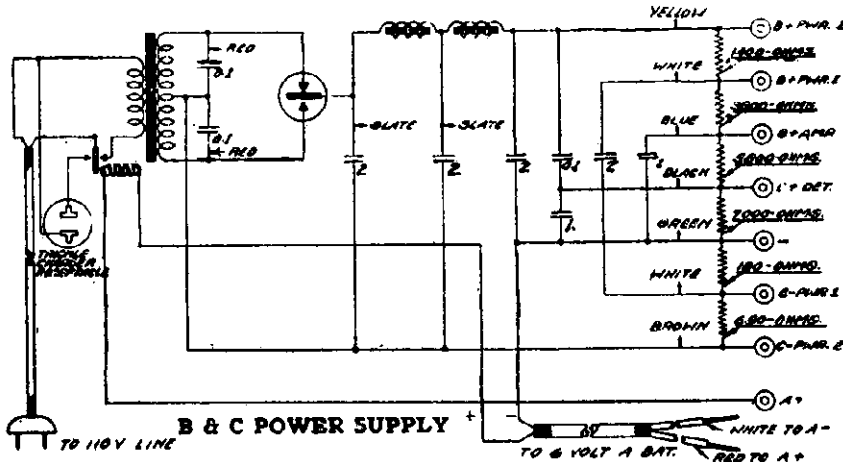
B & C POWER SUPPLY

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



GENERAL MOTORS RADIO CORP.

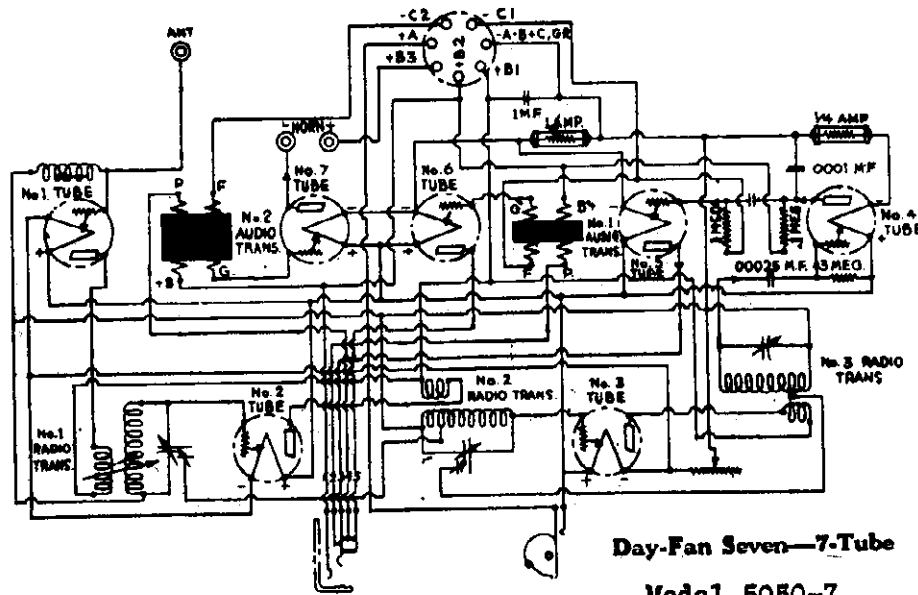
MODEL Day-Fan 5050-7  
MODEL "B & C" SPU



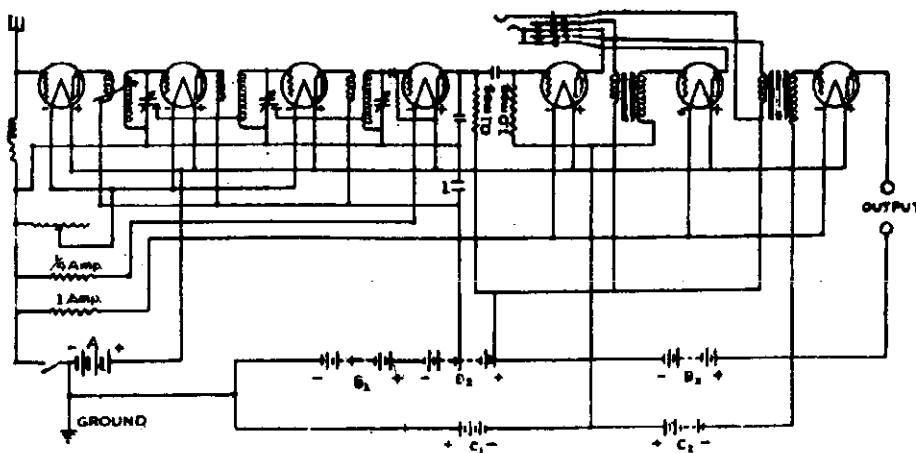
B & C POWER SUPPLY

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



Day-Fan Seven—7-Tube  
Model 5050-7



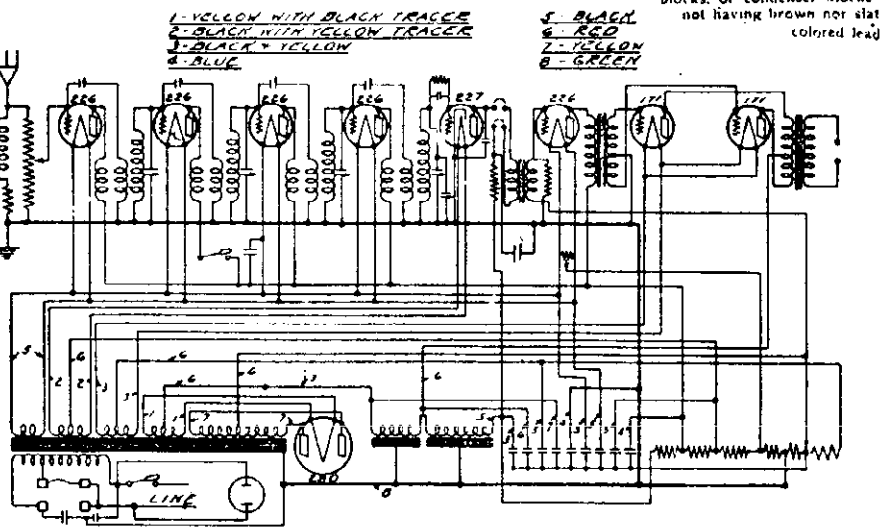
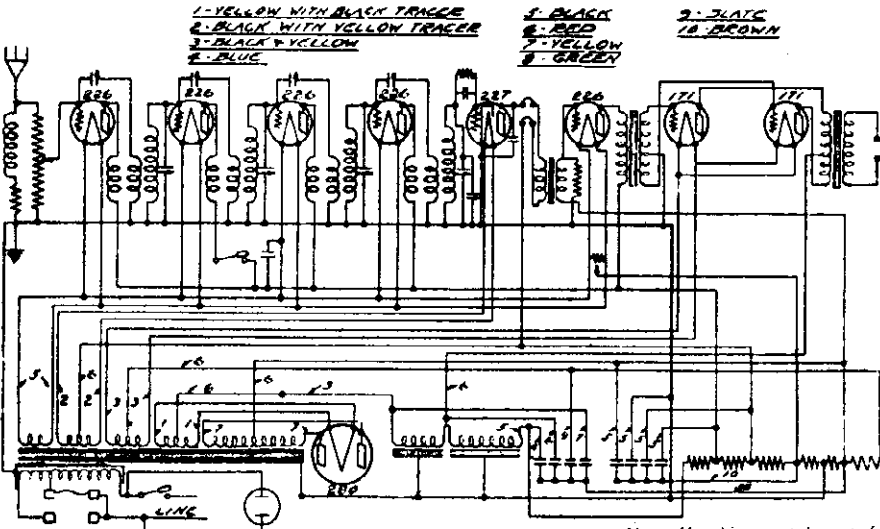
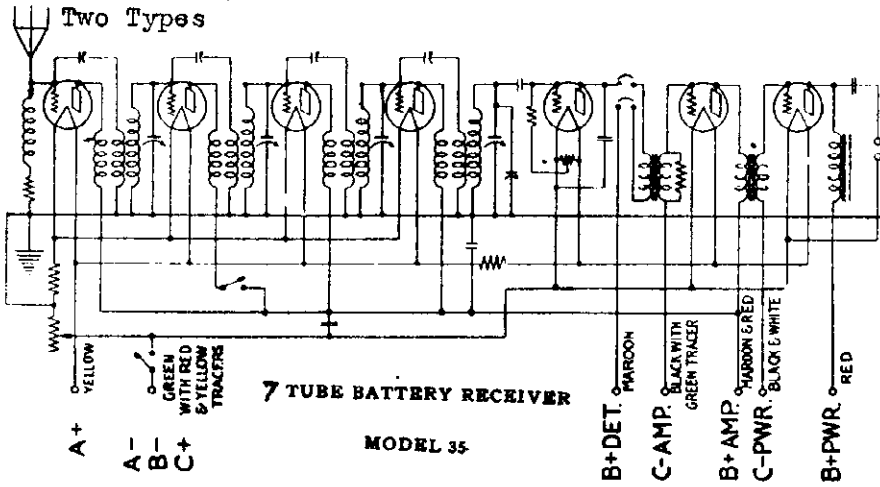
DAY-FAN 7—7 TUBE  
Model 5050

(Batt.)  
Day-Fan 5050

CX-301A or CX-300A	CX-301A	CX-301A	CX-301A	CX-301A	CX-301A
CX-340	CX-301A	CX-301A	CX-301A	CX-301A	CX-301A
Def.	111 A.F.	2M A.F.	3/4 A.F.	3/4 R.F.	2M R.F.
	111 R.F.				

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

GENERAL MOTORS RADIO CORP.

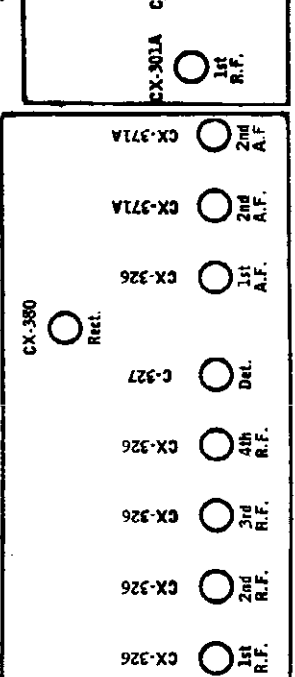


Note—Use this circuit diagram for receivers equipped with sealed power blocks, or condenser blocks not having brown nor slate colored leads.

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

TUBE NO. (BY MANUFACTURER)	TYPE OF TUBE (BY DET. ETC.)	TUBE OUT		TUBE IN CENTER		TUBE IN		PLATE VOLTAGE	MESH VOLTAGE	SCREEN VOLTAGE	CATHODE VOLTAGE	MESH RESISTANCE	SCREEN RESISTANCE	CATHODE RESISTANCE
		VOLTS	BY DET. ETC.	VOLTS	VOLTS	VOLTS	VOLTS							
226	1st. R.F.	1.55	117	1.5	110	5.5	—	6.5	10.6	4.0	—	—	—	—
226	2nd. R.F.	1.55	117	1.5	110	5.5	—	6.5	10.6	4.0	—	—	—	—
226	3rd. R.F.	1.55	117	1.5	110	5.5	—	6.5	10.6	4.0	—	—	—	—
226	4th. R.F.	1.55	117	1.5	110	5.5	—	6.5	10.6	4.0	—	—	—	—
227	Detector	2.40	124	2.2	110	5.5	—	1.4	1.4	10.0	—	—	—	—
226	1st. A.F.	1.55	117	1.5	110	7.5	—	2.5	7.0	5.0	—	—	—	—
127A	2nd. A.F.	5.30	170	5.0	158	33	—	18.0	21.0	3.0	—	—	—	—
127A	2nd. A.F.	5.30	170	5.0	158	33	—	18.0	21.0	3.0	—	—	—	—

MODEL 35

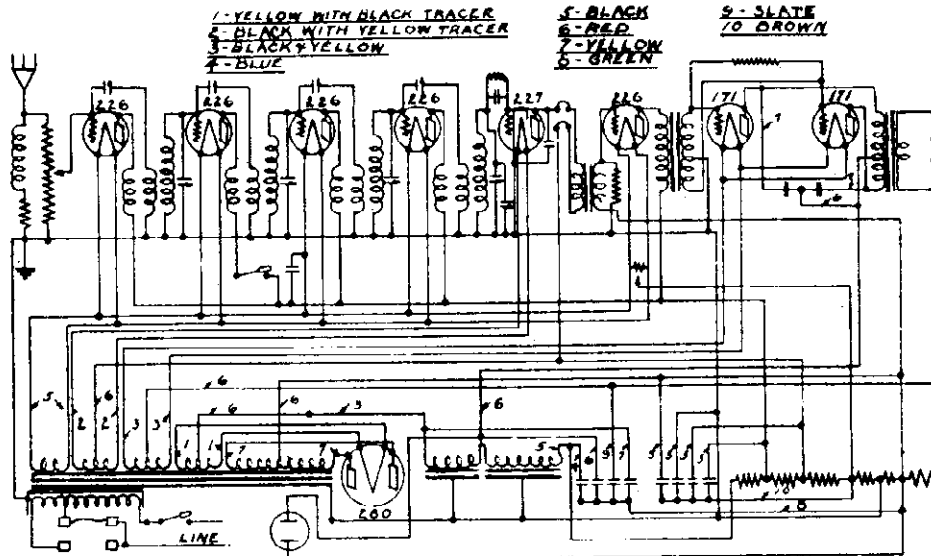


8-AC. MODELS-25, 26, 27, 28, 43, 48

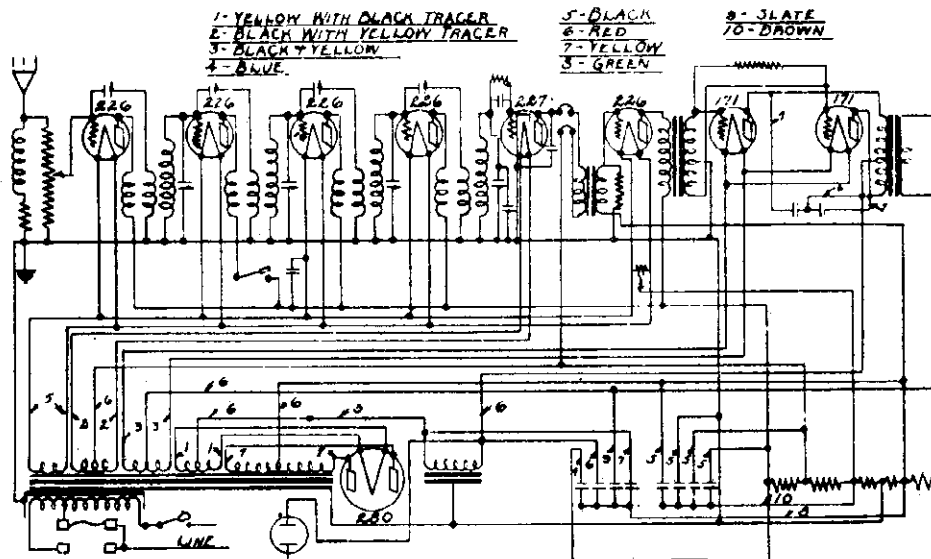


GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5077  
MODEL Day-Fan 5080



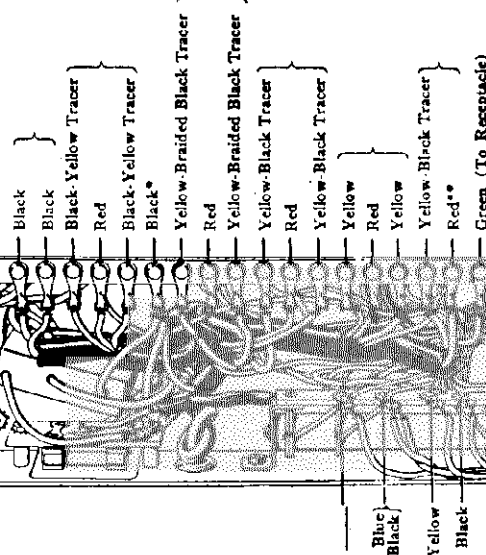
DAY-FAN 8-TUBE — MODEL 5077  
(For Use with 200-Volt D. C. Dynamic Speaker)



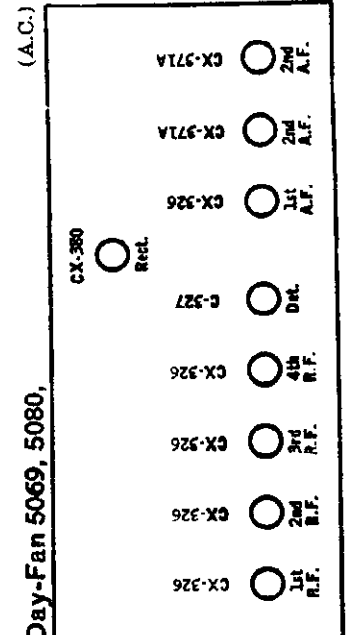
DAY-FAN 8-TUBE — MODEL 5080  
(For Use with 110-Volt D. C. Dynamic Speaker)

MODEL 5080

Power Block Connections



Note — Where two wires are same color they may be connected to either terminal marked that color. Red wire should connect between wires brought out of same large tubing.



Day-Fan 5069, 5080, (A.C.)

Tube	File 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
AD1	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.



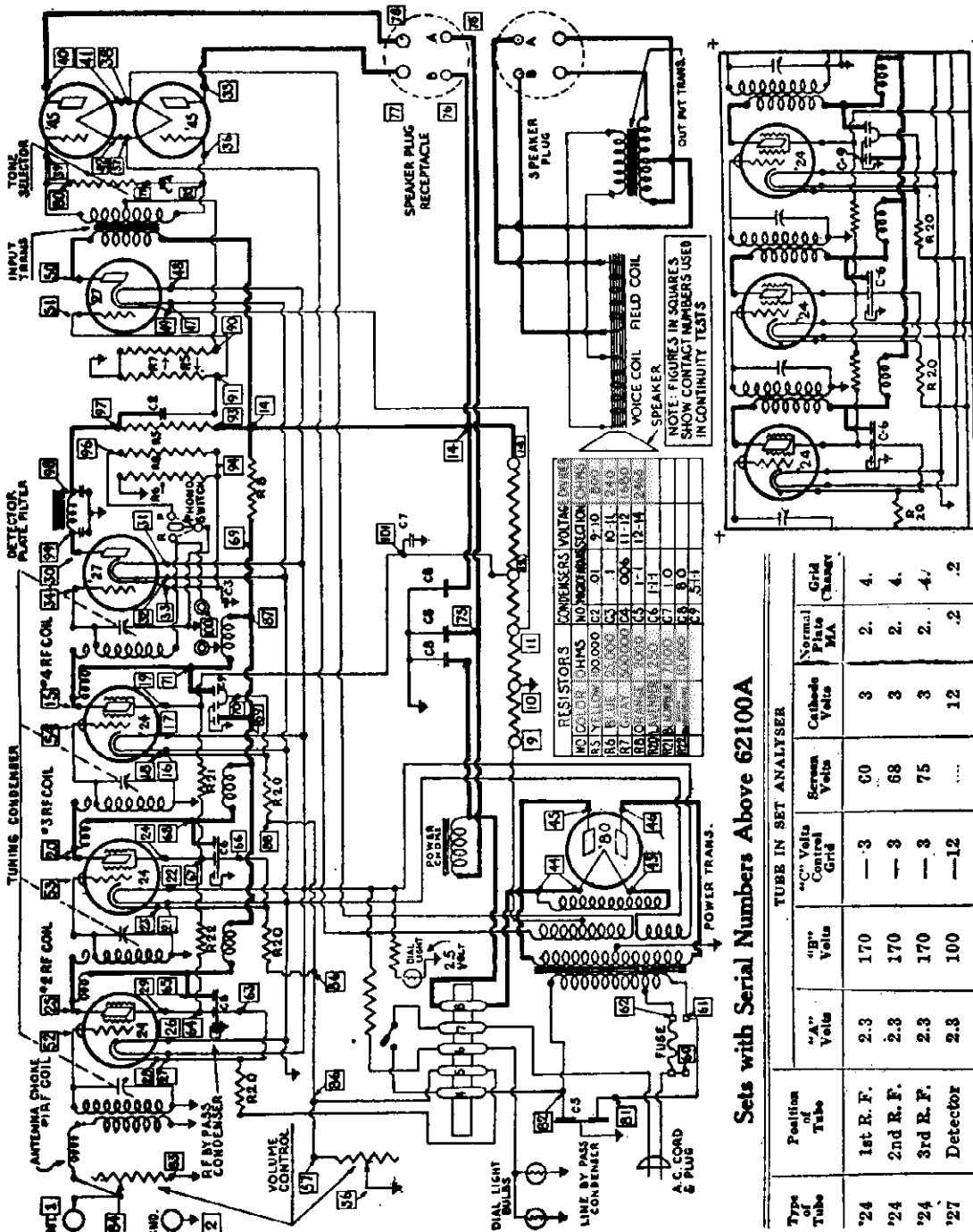






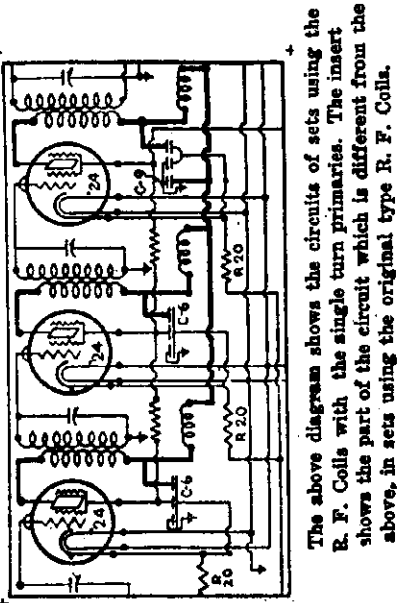
MODEL 120,130,140  
Above Serial  
62100A-1964B

GENERAL MOTORS RADIO CORP.



RESISTORS CONVERSION TABLE

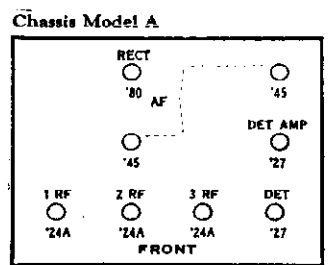
NO. COILS	OHMS	NO. METERS	SCALE
R1	50000	50	1-10
R2	50000	50	1-10
R3	50000	50	1-10
R4	50000	50	1-10
R5	50000	50	1-10
R6	50000	50	1-10
R7	50000	50	1-10
R8	50000	50	1-10
R9	50000	50	1-10
R10	50000	50	1-10
R11	50000	50	1-10
R12	50000	50	1-10
R13	50000	50	1-10
R14	50000	50	1-10
R15	50000	50	1-10
R16	50000	50	1-10
R17	50000	50	1-10
R18	50000	50	1-10
R19	50000	50	1-10
R20	50000	50	1-10
R21	50000	50	1-10
R22	50000	50	1-10
R23	50000	50	1-10
R24	50000	50	1-10
R25	50000	50	1-10
R26	50000	50	1-10
R27	50000	50	1-10
R28	50000	50	1-10
R29	50000	50	1-10
R30	50000	50	1-10
R31	50000	50	1-10
R32	50000	50	1-10
R33	50000	50	1-10
R34	50000	50	1-10
R35	50000	50	1-10
R36	50000	50	1-10
R37	50000	50	1-10
R38	50000	50	1-10
R39	50000	50	1-10
R40	50000	50	1-10
R41	50000	50	1-10
R42	50000	50	1-10
R43	50000	50	1-10
R44	50000	50	1-10
R45	50000	50	1-10
R46	50000	50	1-10
R47	50000	50	1-10
R48	50000	50	1-10
R49	50000	50	1-10
R50	50000	50	1-10



The above diagram shows the circuits of sets using the R. F. Coils with the single turn primaries. The insert shows the part of the circuit which is different from the above, in sets using the original type R. F. Coils.

Sets with Serial Numbers Above 62100A

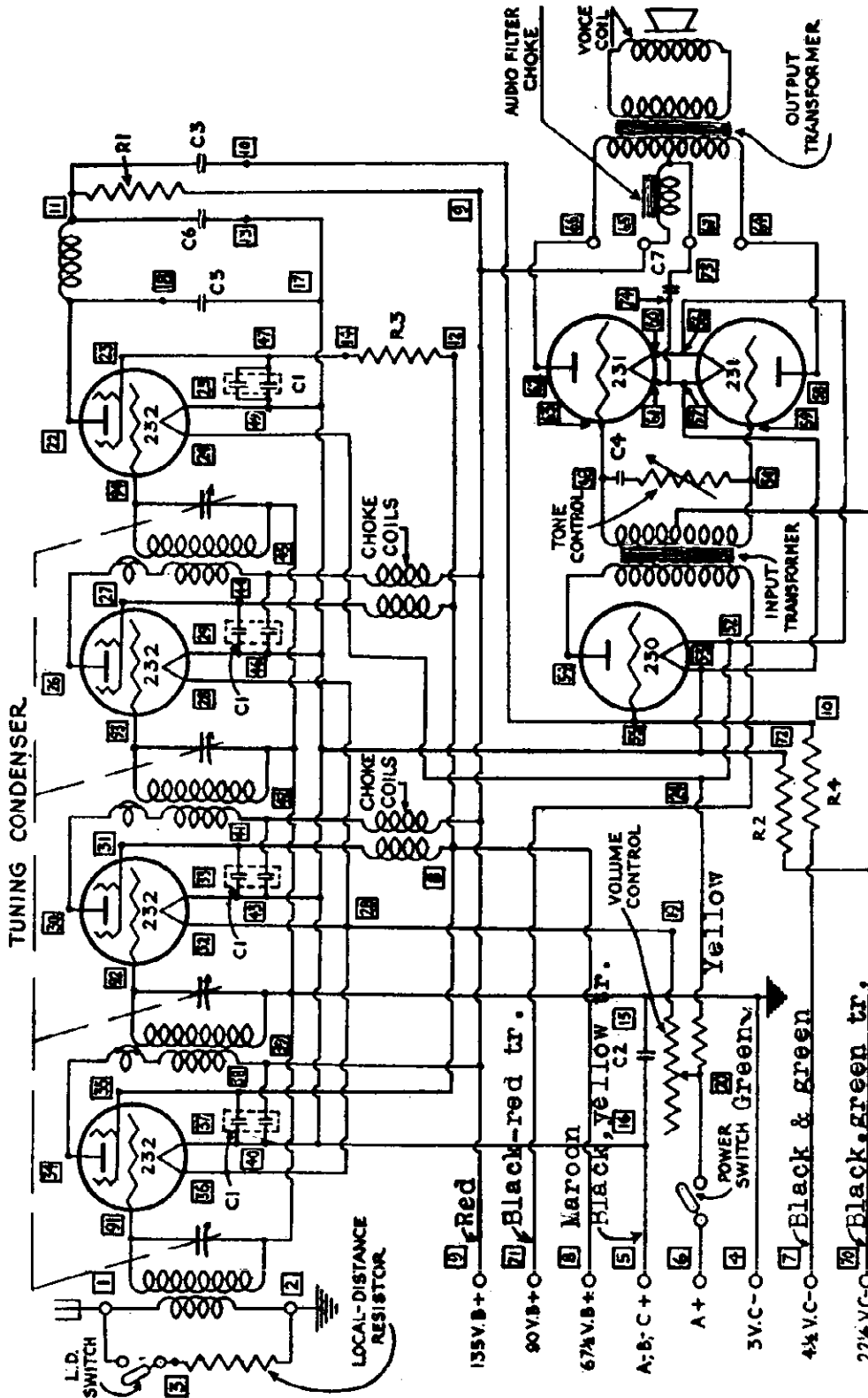
Type of Tube	Position of Tube	TUBE IN SET ANALYSER					Line Voltage	Volume Control on Full
		"A" Volts	"B" Volts	"C" Volts Control Grid	Screen Volts	Cathode Volts		
'24	1st R. F.	2.3	170	-3	60	3	2.	4.
'24	2nd R. F.	2.3	170	-3	68	3	2.	4.
'24	3rd R. F.	2.3	170	-3	75	3	2.	4.
'27	Detector	2.3	100	-12	...	12	.2	.2
'27	1st A. F.	2.3	165	-3	...	12	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.	...



Models 120, 130 & 140  
(Chassis Models "A" and "B")  
Circuit Diagram of Chassis with Serial  
Numbers Above 62100A and 1964B.

GENERAL MOTORS RADIO CORP.

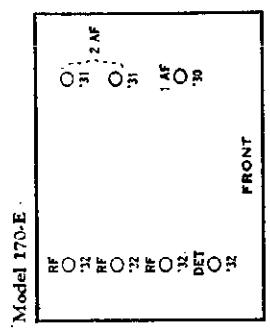
MODEL 170-(E)  
Schematic



Tube	Fil	Plate	Screen	Plate Crrt.
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	.0003
					C6	.0001
					C7	1.0

Model 170, Battery Powered Receiver  
(Chassis Model E)



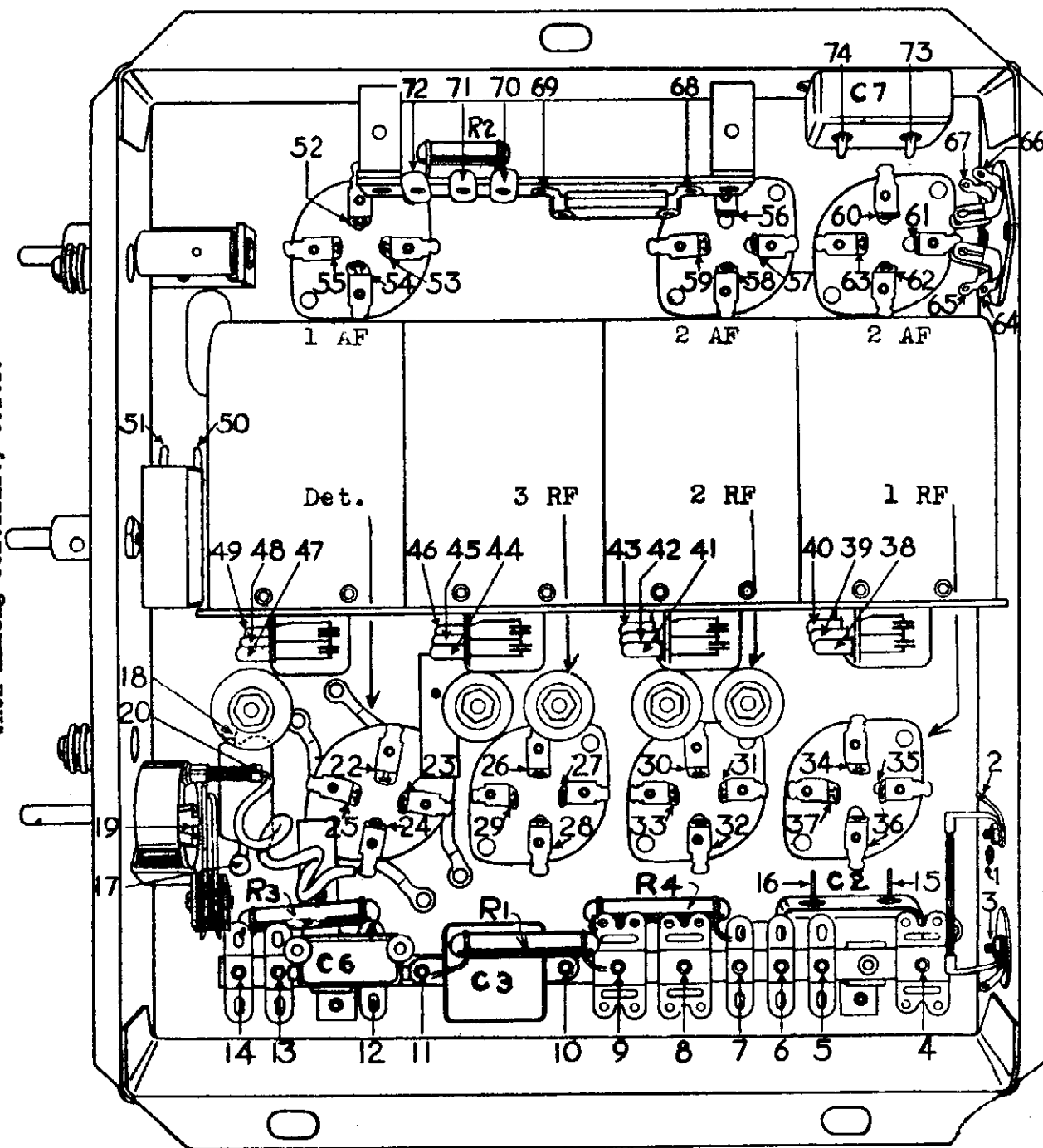
Model 170-E

FRONT

MODEL 170-(E)  
Chassis

GENERAL MOTORS RADIO CORP.

Chart showing contact numbers used when making continuity tests.



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

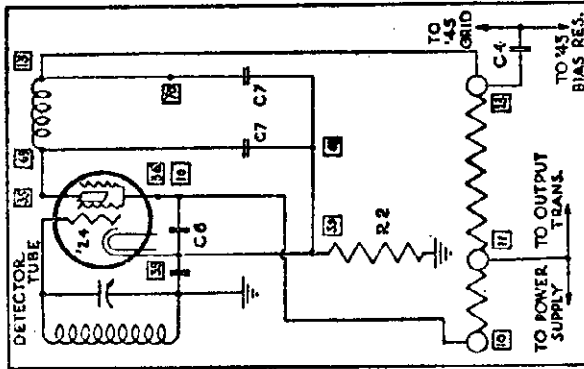
Filter Units, Part No. 1202735, have been supplied to the field with instructions for installation on Model "E" Chassis with Serial Nos. below 3205-E only. All receivers above 3205-E have the Filter Units incorporated in the chassis and speaker. These parts include the Audio Filter Choke which is mounted 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.



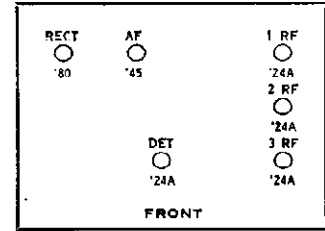
GENERAL MOTORS RADIO CORP.

MODEL 110,180,190  
Little General

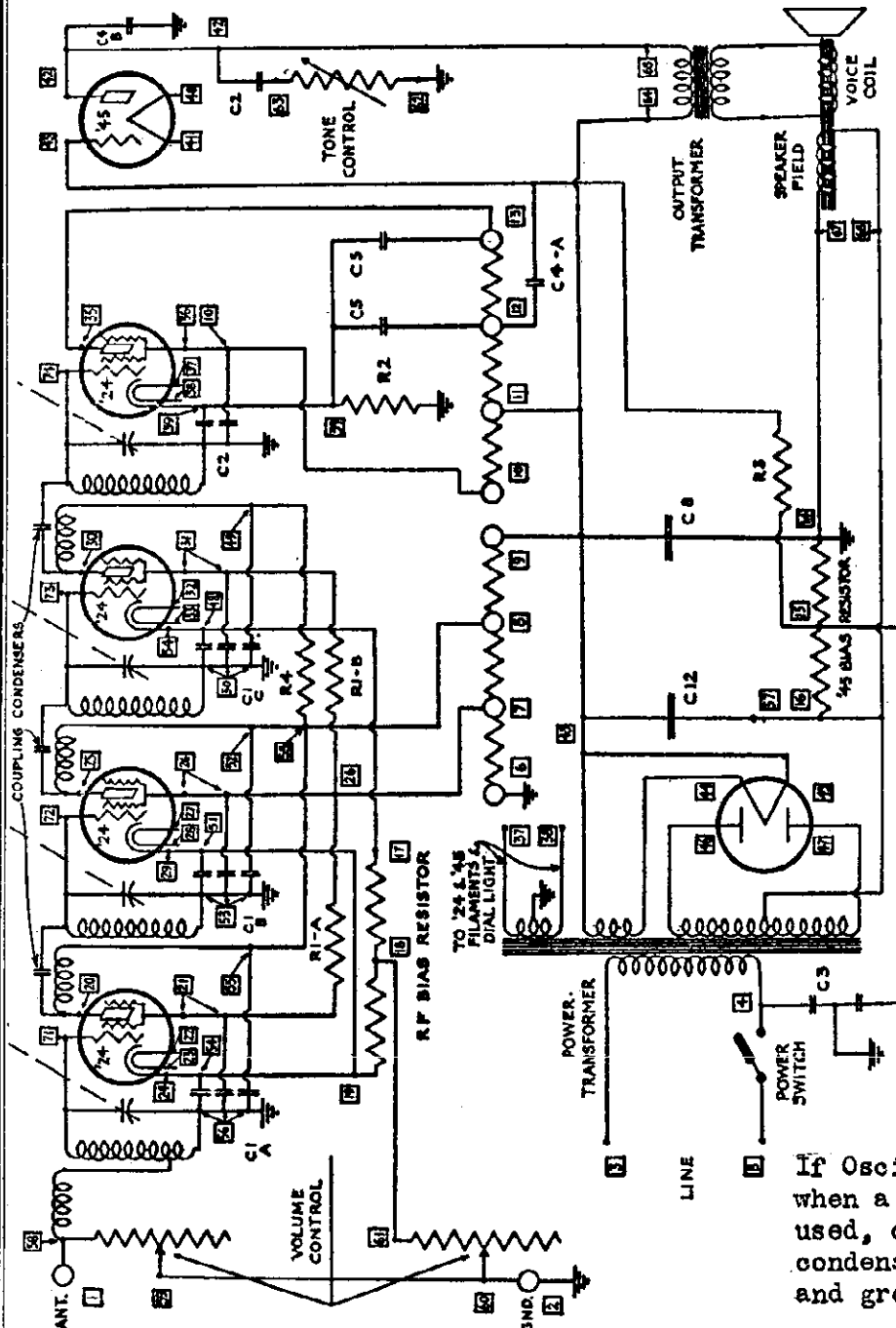
Models 110, 180, 190



The above insert shows a part of the Detector Circuit for Chassis with serial numbers above 23156 M A and 1611 M B — 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 M A and 1611 M B, 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 NO.	CAPACITY	SINGLE FIXED RESISTORS NO.	OHMS	COLOR	VARIABLE RESISTORS SECTION RESISTANCE	RESISTANCE BODY END DOT	SELECTION RESISTANCE	SELECTION RESISTANCE
C-1	1-1 Mfd.	R-1	12,000	Brown	20,000 Ohms	100	100	100
C-2	2-1-22 Mfd.	R-2	25,000	Red	50,000 Ohms	100	100	100
C-3	2-1 Mfd.	R-3	500,000	Green	250,000 Ohms	100	100	100
C-4	0.1 Mfd.	R-4	1,000	Uninsulated	10,000 Ohms	100	100	100
C-5	0.0027 Mfd.				10,000 Ohms	100	100	100
C-6	5-5 Mfd.				10,000 Ohms	100	100	100
C-7	0.001 Mfd.				10,000 Ohms	100	100	100
C-8	80 Mfd.				10,000 Ohms	100	100	100
C-12	120 Mfd.				10,000 Ohms	100	100	100

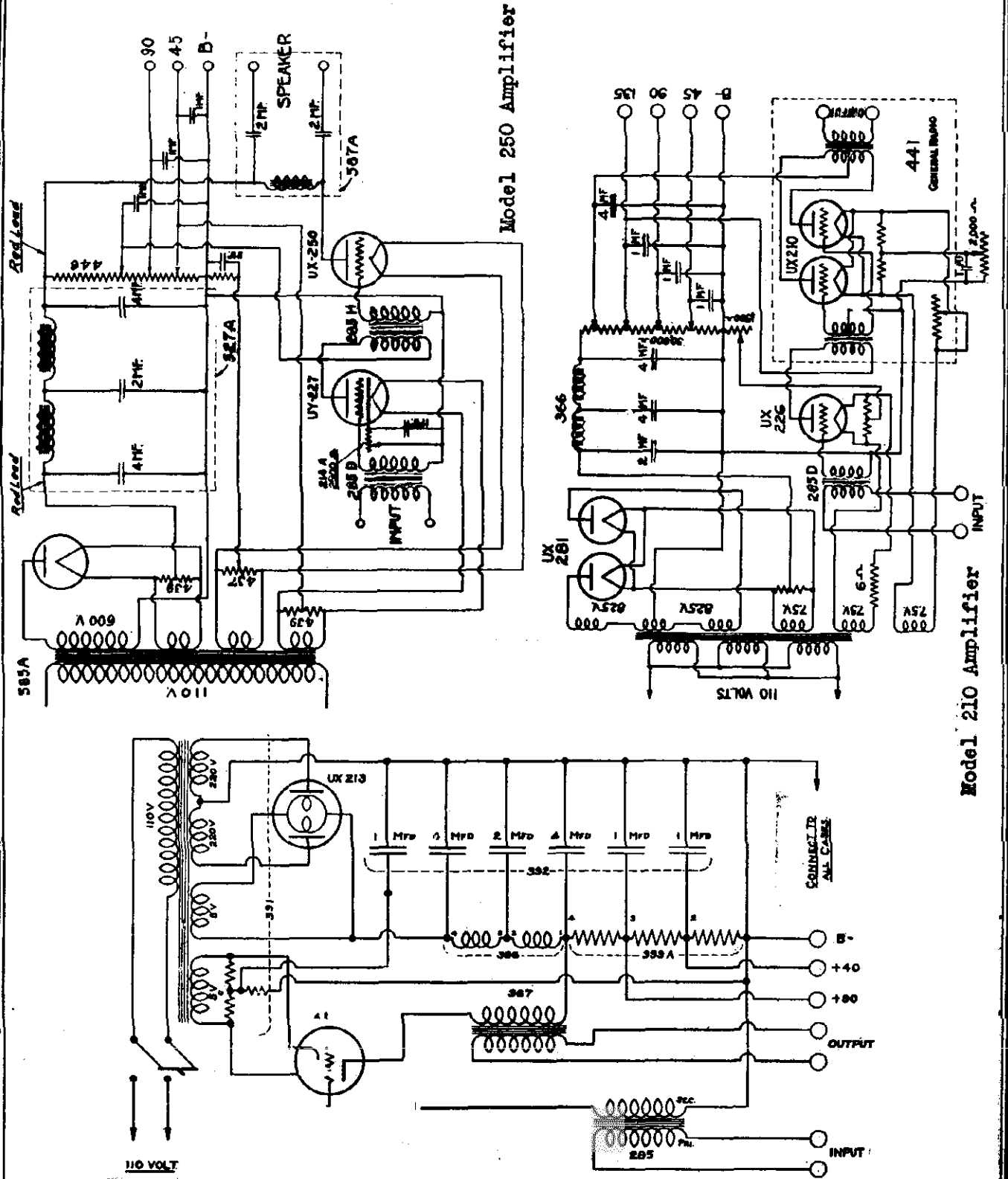
  

TUBE TYPE	FIL.	PLATE	CON.	GRID	S.GRID	CATHODE	NORMAL	MA.	GRID CHANGE
124	1R5	2-4	165	3-1	80	3	2.5	2.5	2.5
124	2R5	2-4	165	3-1	92	3	2.5	2.5	2.5
124	3R5	2-4	160	3-1	82	3	2.5	2.5	2.5
124	DET	2-5	100	6-5	12	10	.2	.2	.1
145	1A5	2-4	225	3-0		20			40
180	RECT	4-5	360						20

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

GENERAL RADIO CO

MODEL 250 Amplifier  
 MODEL 210 Amplifier  
 MODEL 390 Eliminator



(Showing the schematic diagram of the Type 390 Rectron "B" Eliminator and Power Amplifier)

MODEL 403-C  
MODEL 361-B

GENERAL RADIO CO

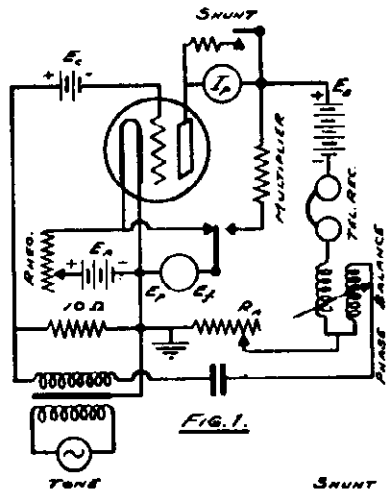
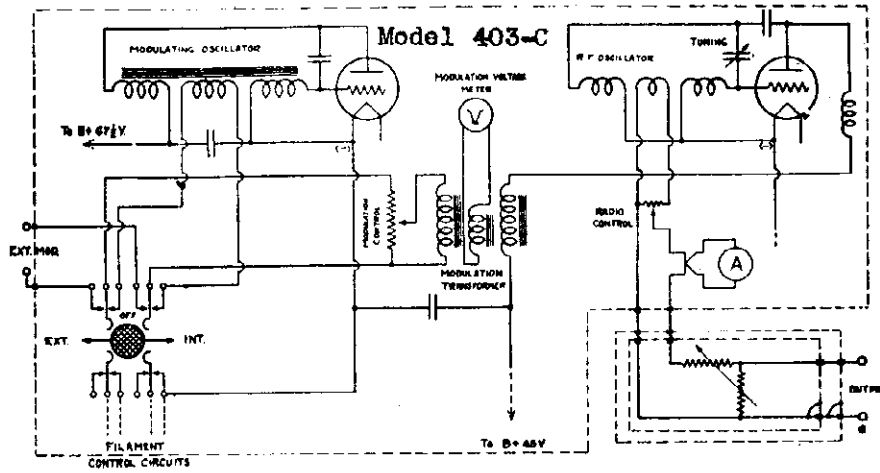


FIG. 1.

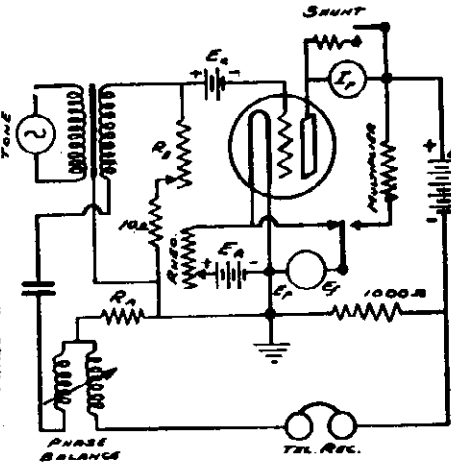


FIG. 2.

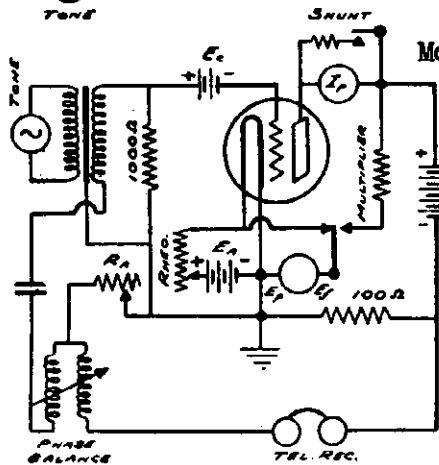


FIG. 3.

Model 361-B

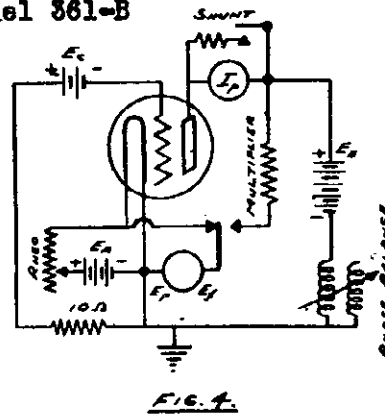


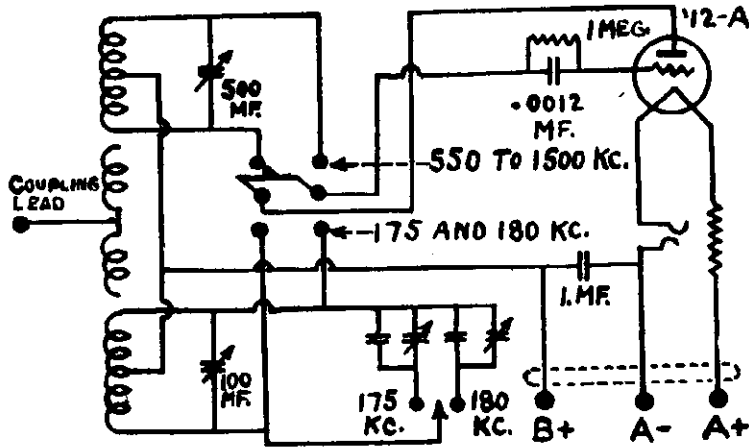
FIG. 4.

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

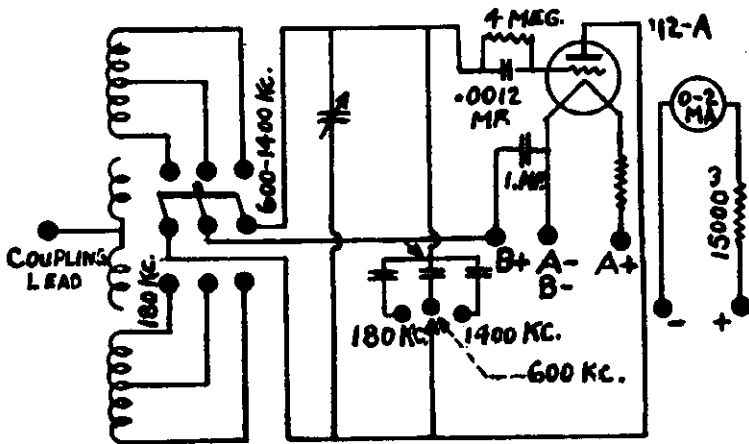
Special adaptors are available for conversion and application of the 361-B bridge to AC tubes.

GENERAL RADIO CO

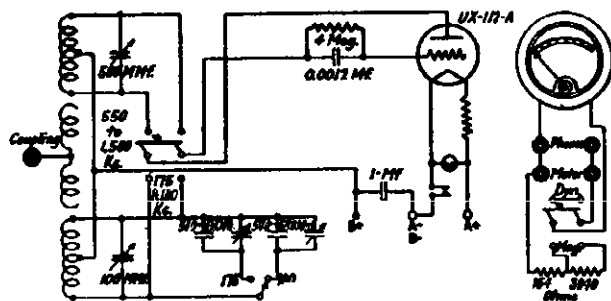
MODEL 360 Oscillator  
 MODEL 360-A Oscillator  
 MODEL 320 Oscillator



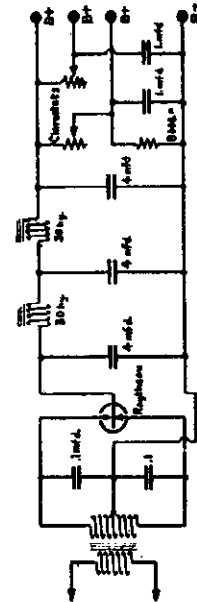
Model 360 Oscillator



Model 320 Oscillator



Model 360-A Oscillator

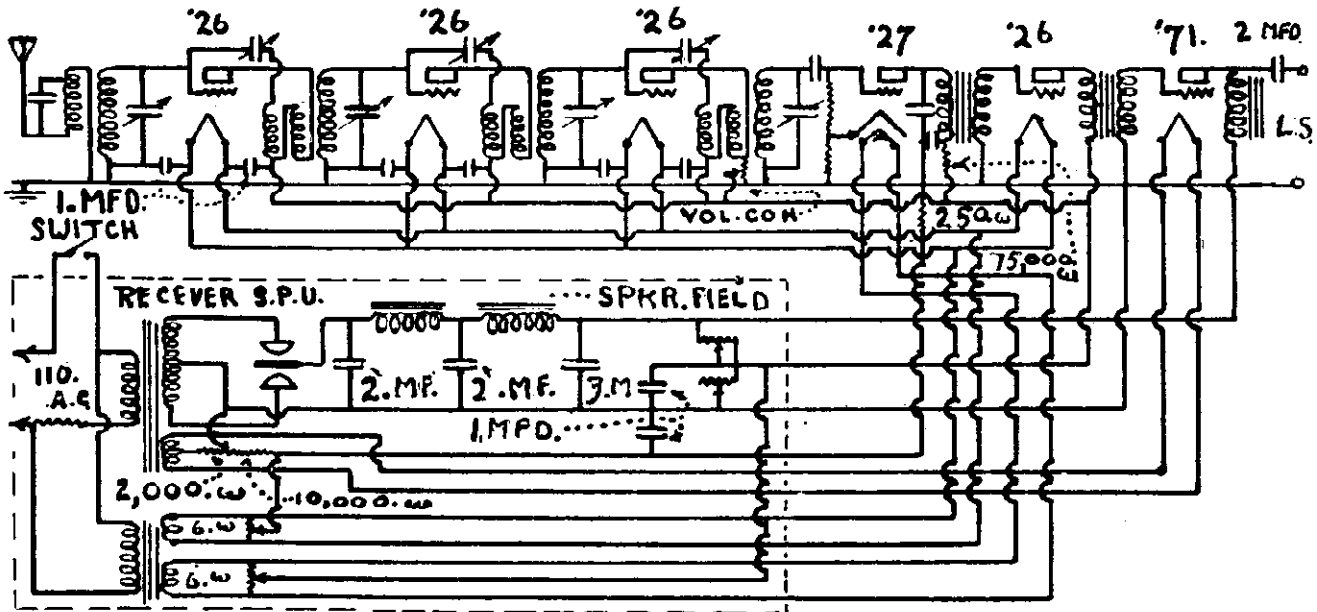


GENERAL RADIO ELIMINATOR

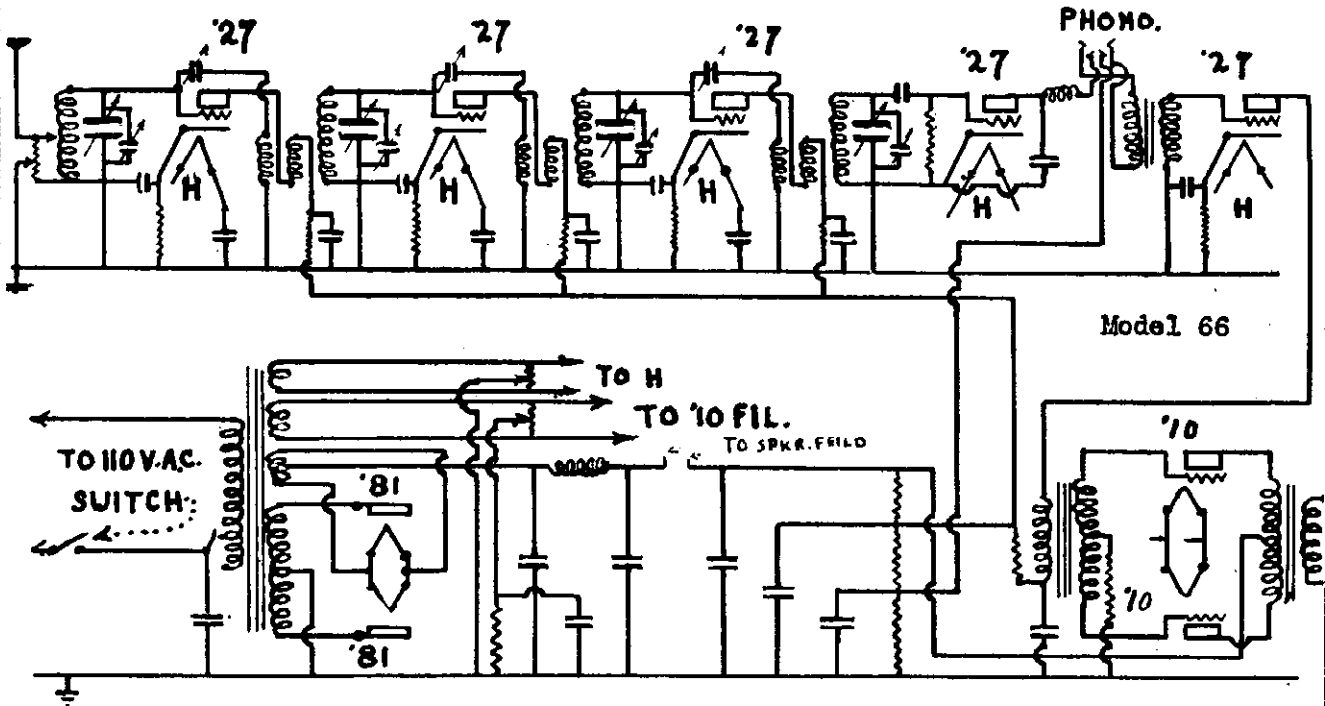


MODEL 60  
MODEL 66

GILFILLAN BROS.

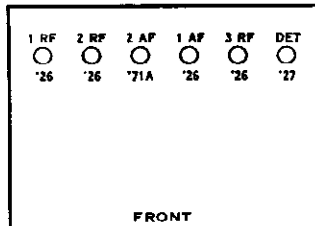


Model 60

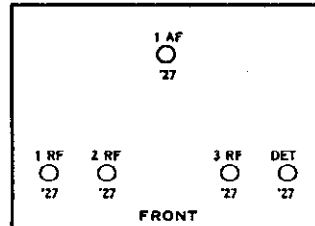


Model 66

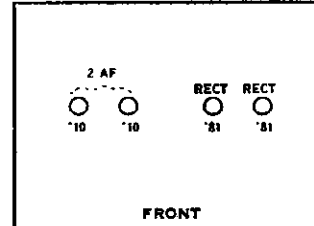
Models 55, 60, 65, 70



Model 66 Chassis

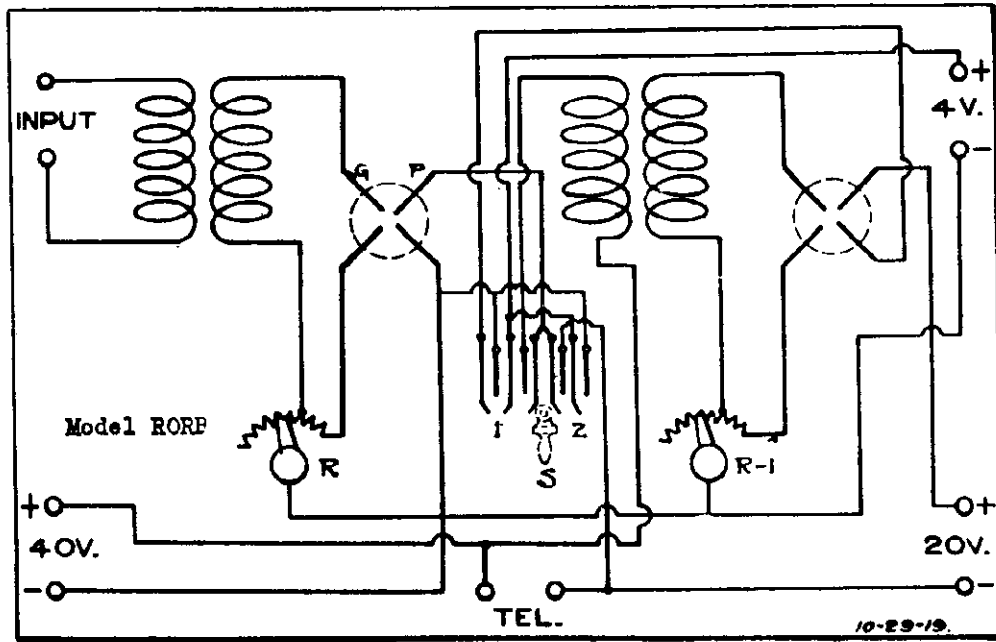


Model 66 Pack

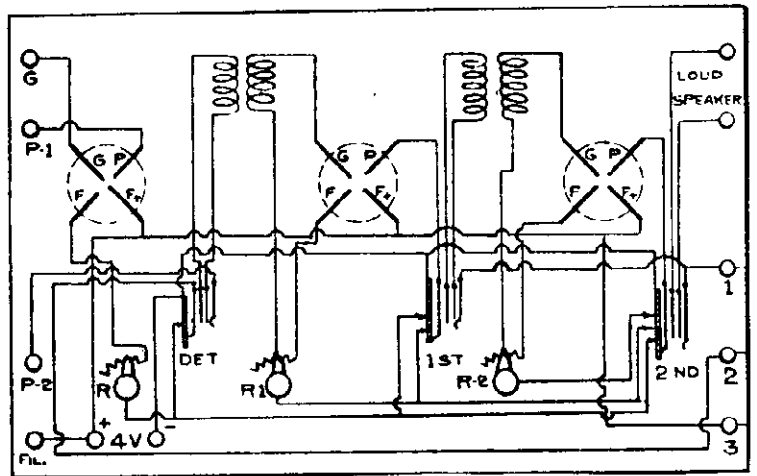
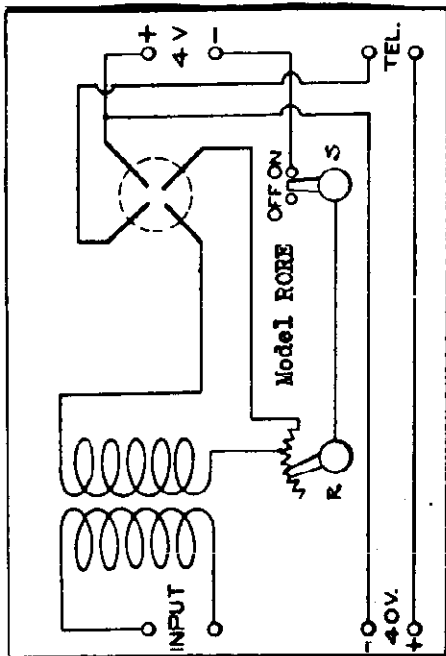


A. H. GREBE & CO.

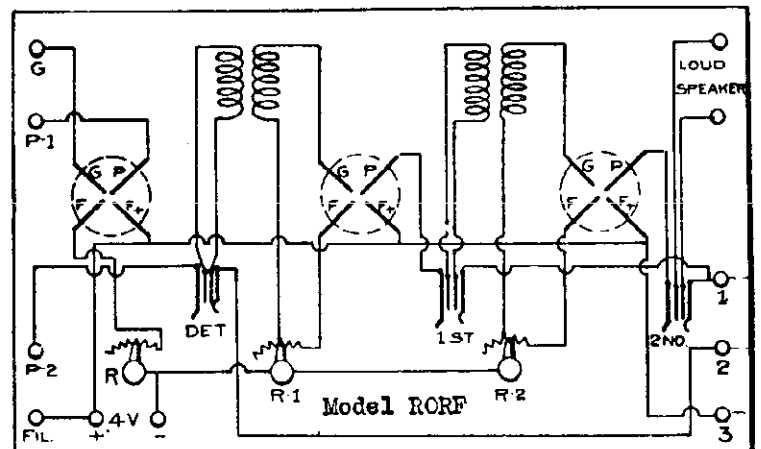
MODEL RORF  
 MODEL RORD  
 MODEL RORE  
 MODEL ROEF



10-29-19.



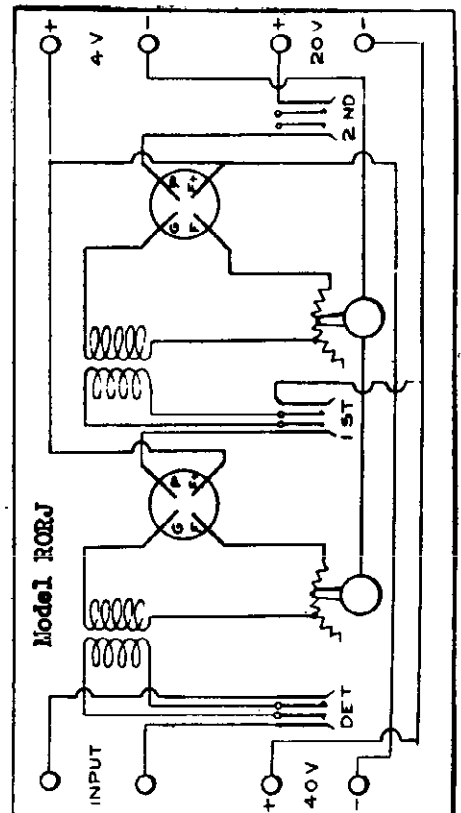
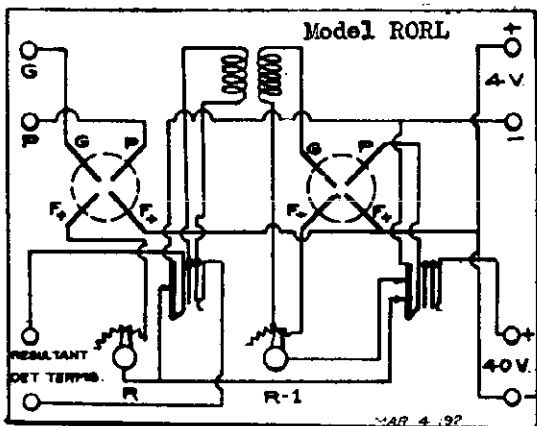
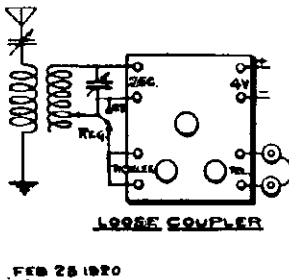
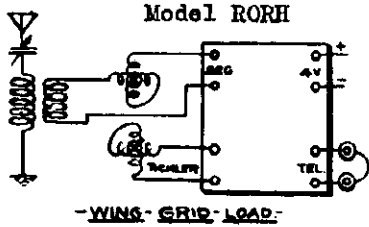
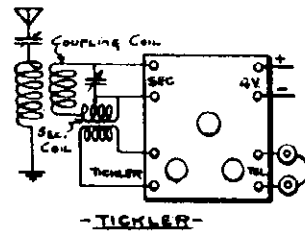
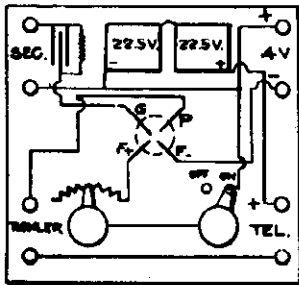
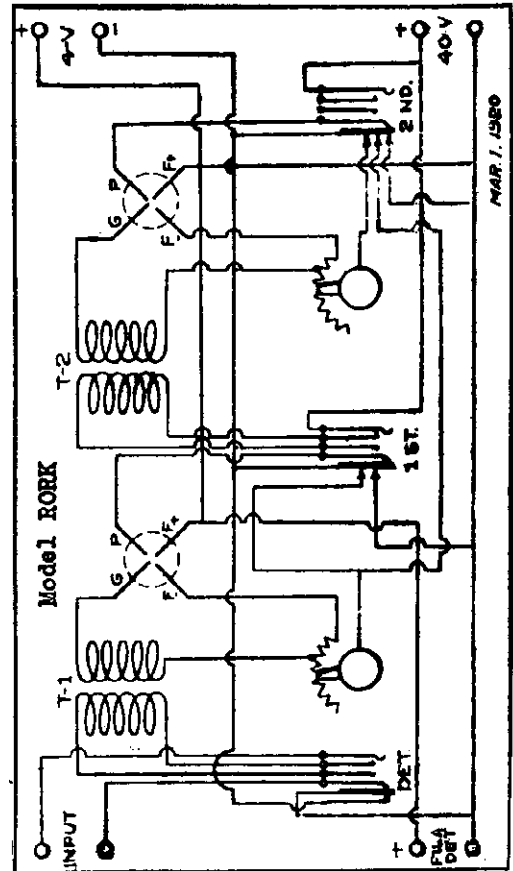
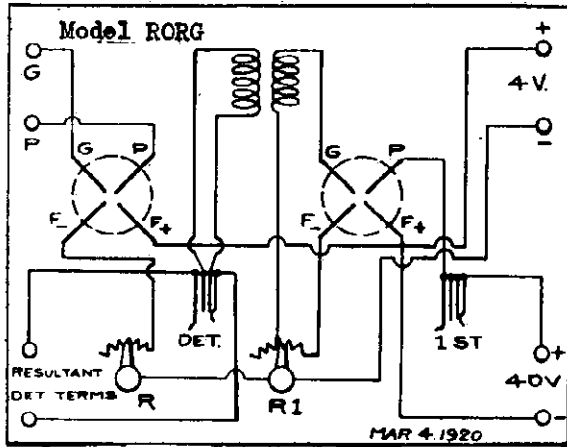
Model RORD



Model ROEF

MODEL RORG  
 MODEL RORH  
 MODEL RORJ  
 MODEL RORK  
 MODEL RORL

A. H. GREBE & CO.

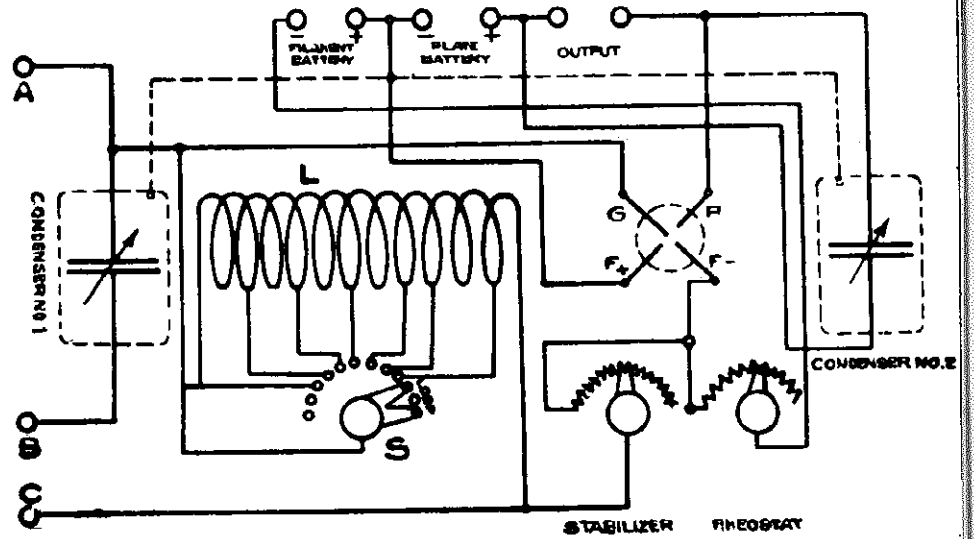




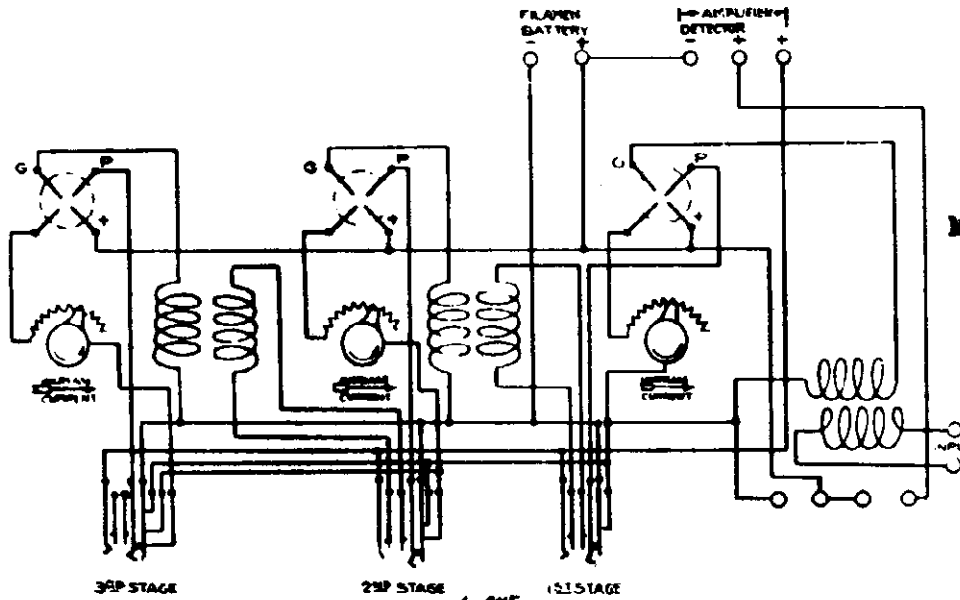
A. H. GREBE & CO.

MODEL RORN  
 MODEL RORO  
 MODEL RORQ

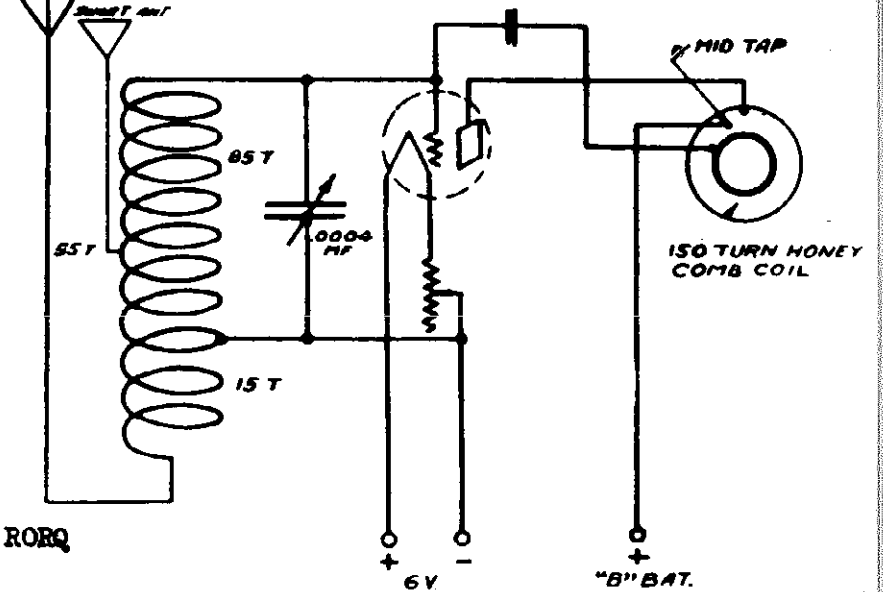
Model RORN



Model RORO



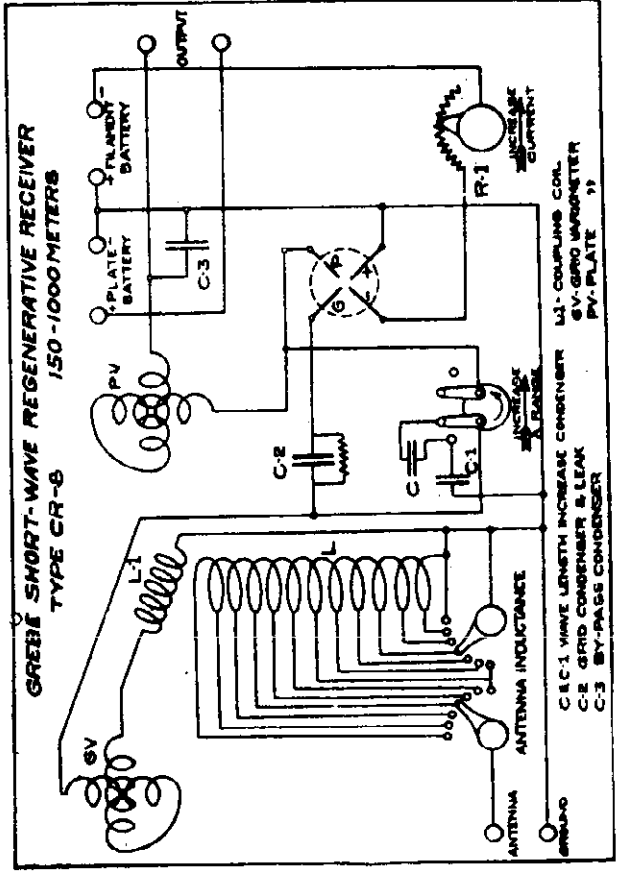
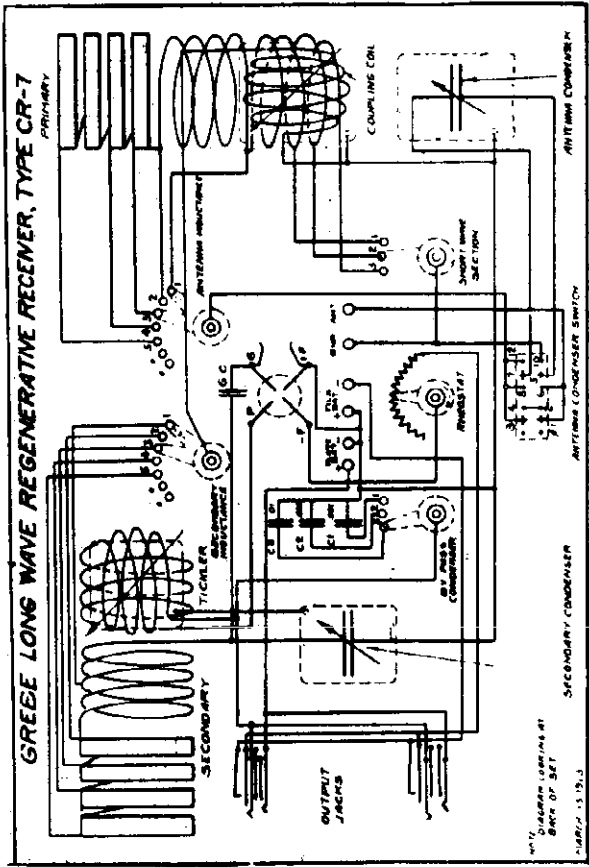
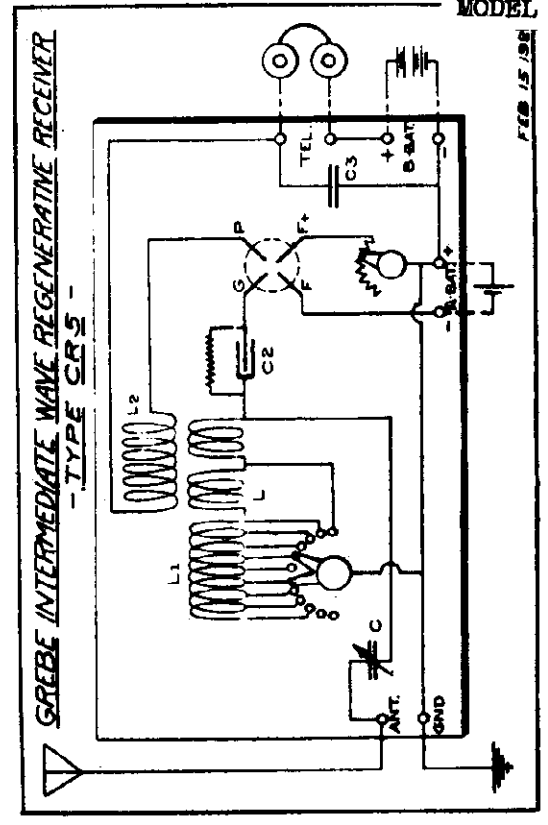
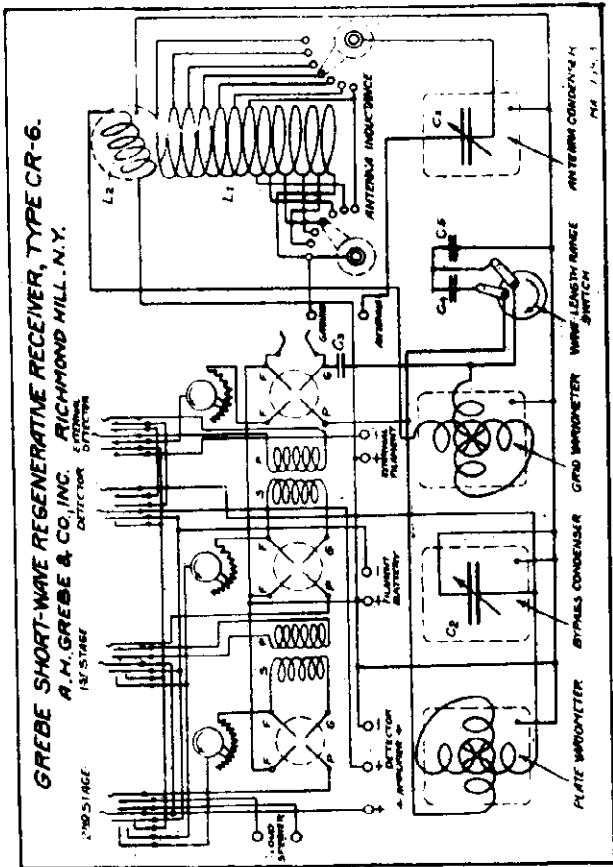
Model RORQ





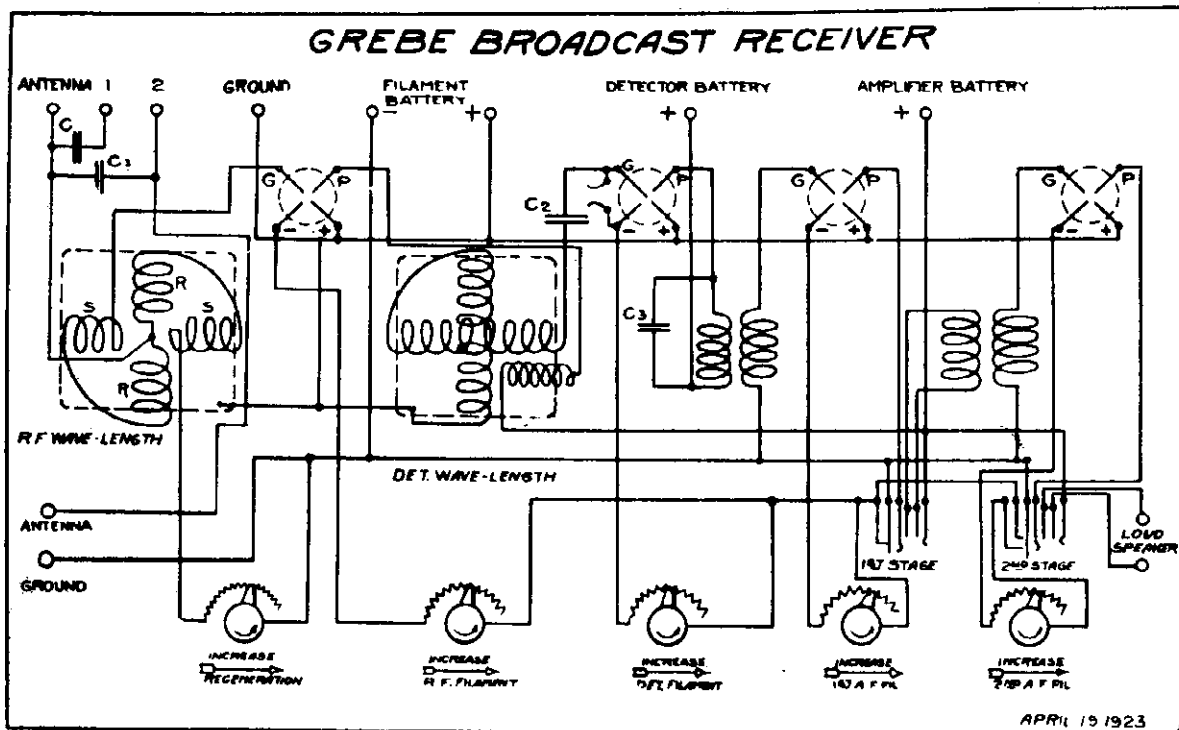
A. H. GREBE & CO.

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

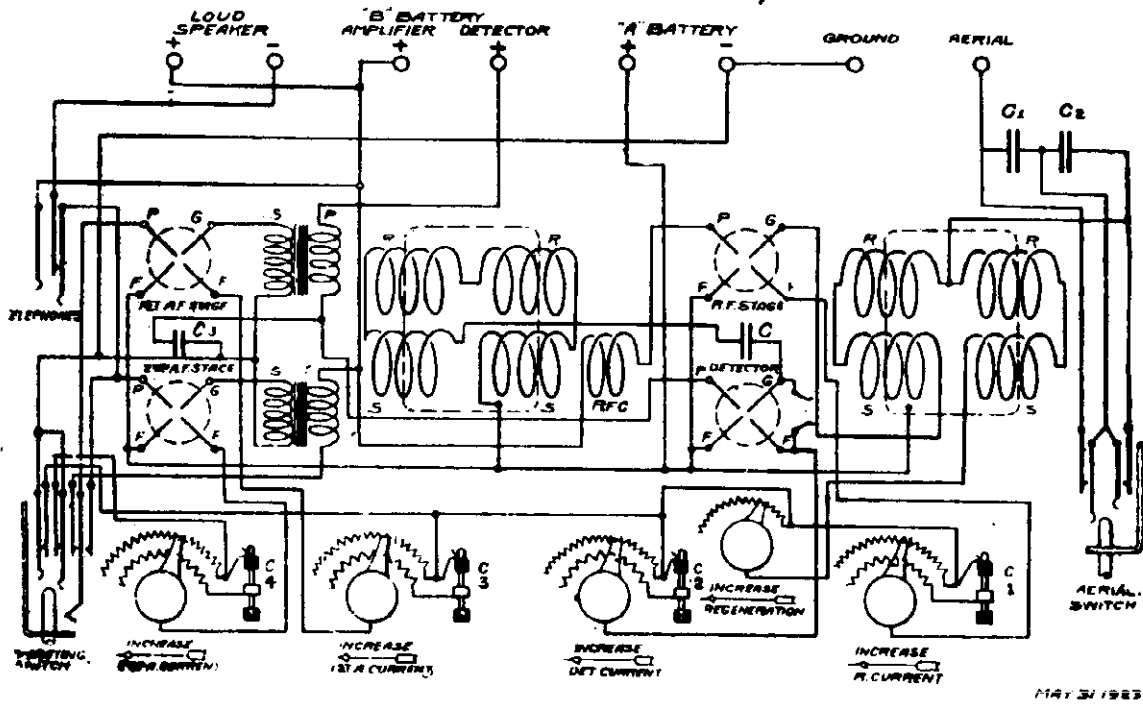


NOT: DIAGRAM LOCATIONS AT BACK OF SET  
 MAR 2 1936

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



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



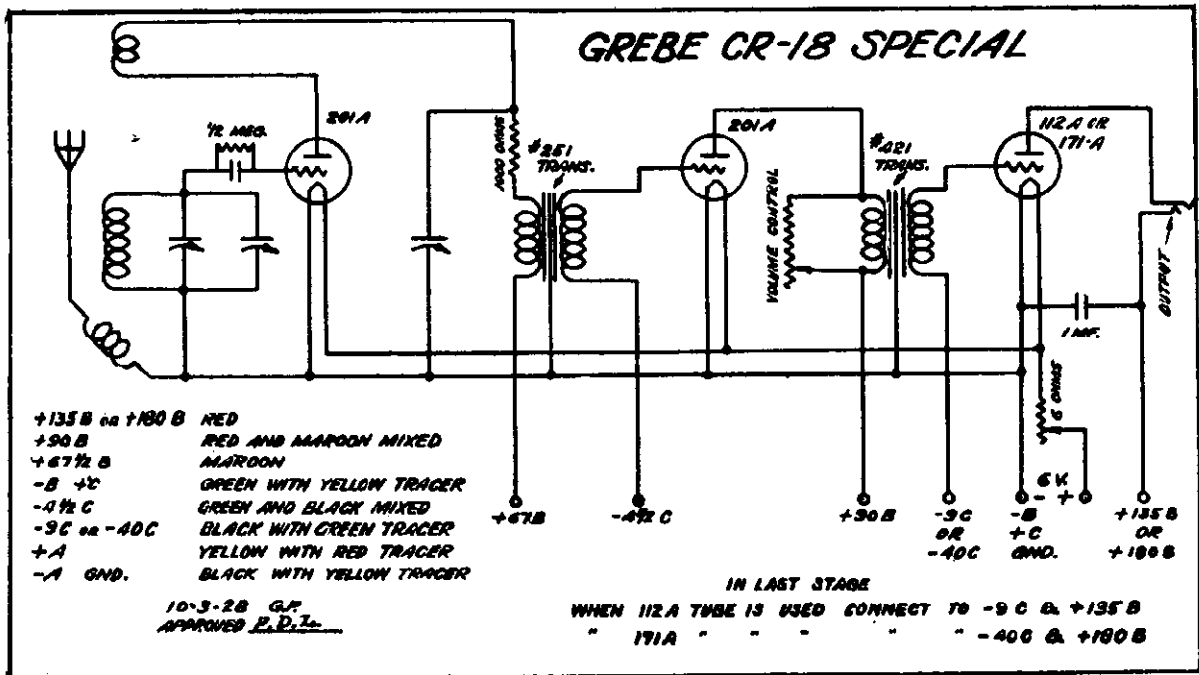
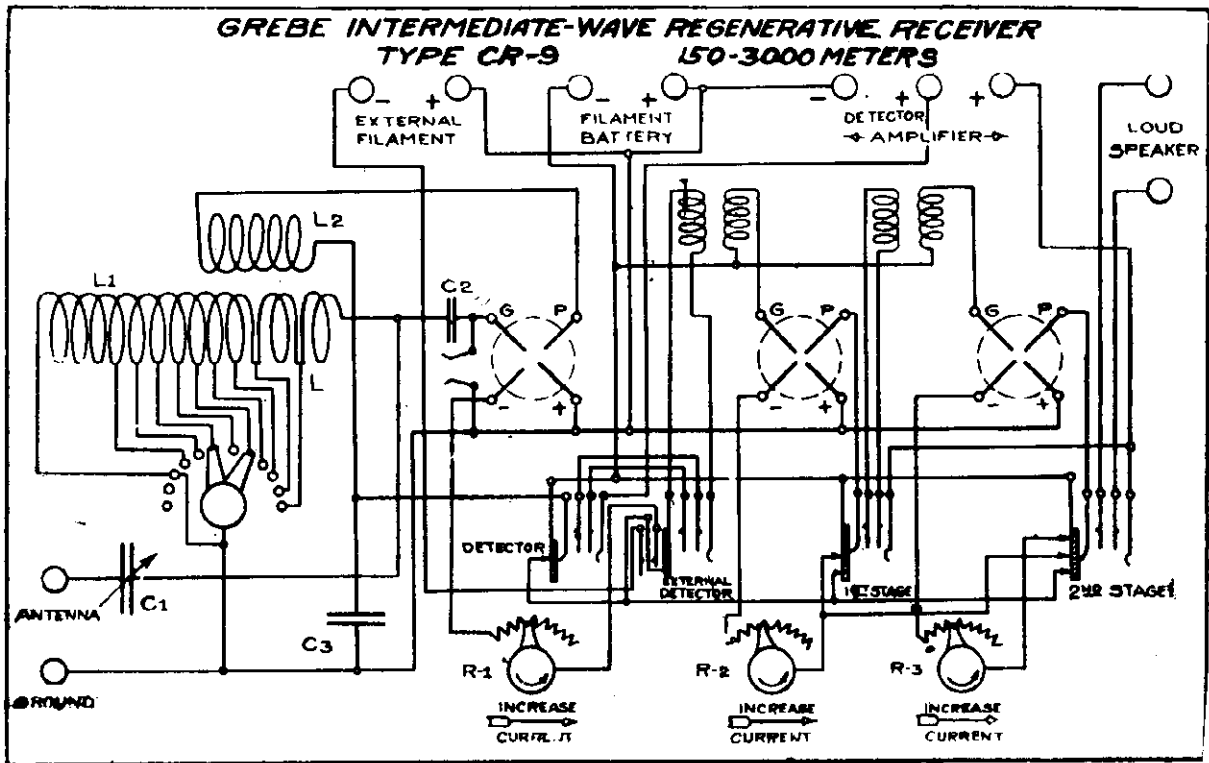
CR-12

(Batt.)

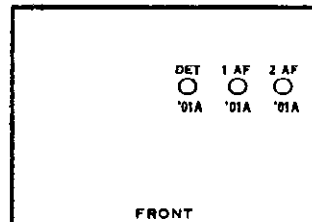
<p>*CX-301A or *CX-299 ○ 1st R.F.</p> <p>*CX-301A or *CX-300A or *CX-299 ○ Det.</p>	<p>*CX-301A or *CX-299 ○ 1st A.F.</p> <p>*CX-301A or *CX-312A or *CX-299 ○ 2nd A.F.</p>
---	---

A. H. GREBE & CO.

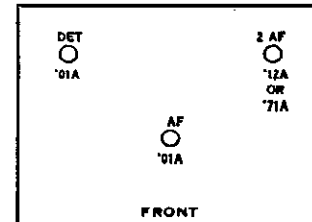
MODEL CR-9  
MODEL CR-18(Special)



Model CR9



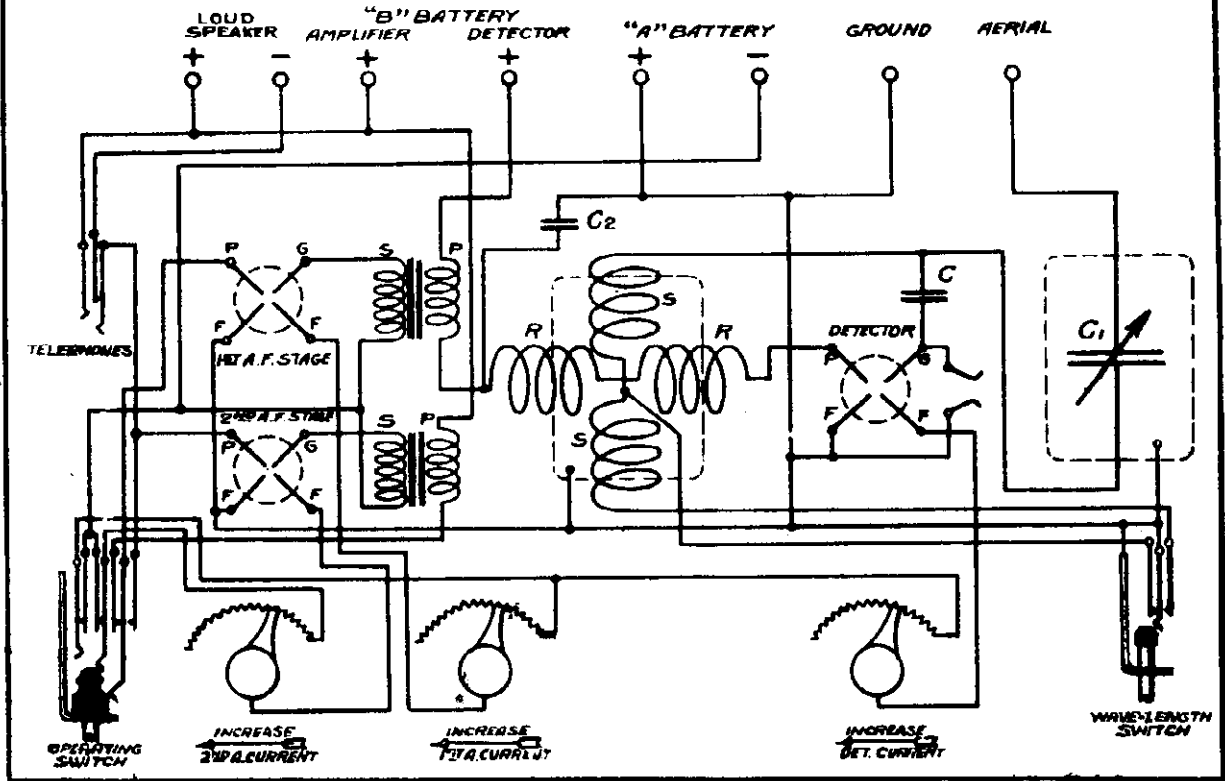
Model CR18 Special



MODEL CR-13  
MODEL CR-14

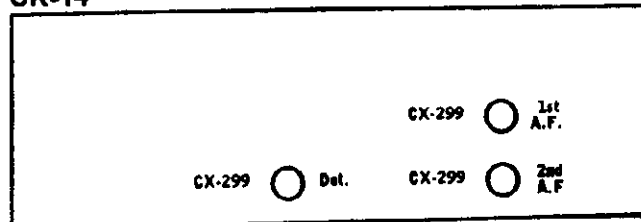
• A. H. GREBE & CO.,

**GREBE BROADCAST RECEIVER, TYPE CR-14.**



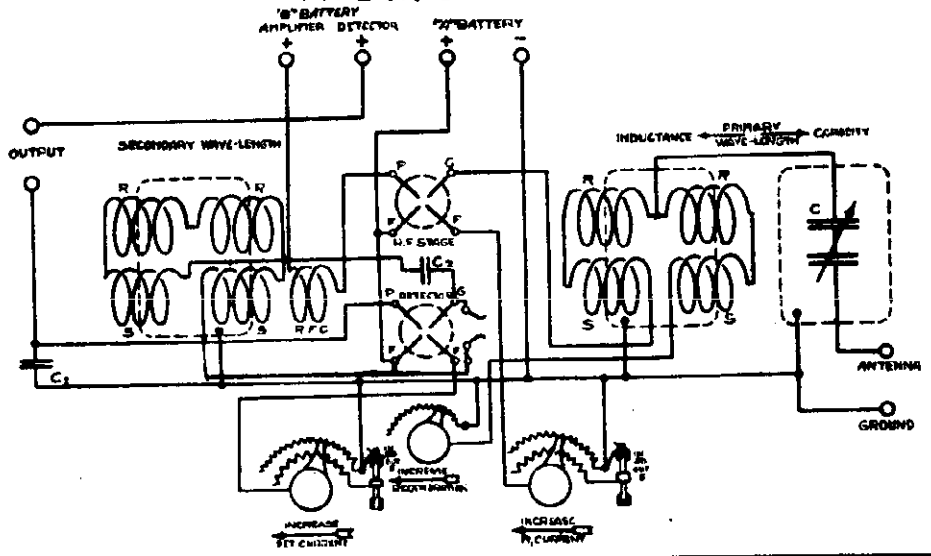
CR-14

(Batt.)



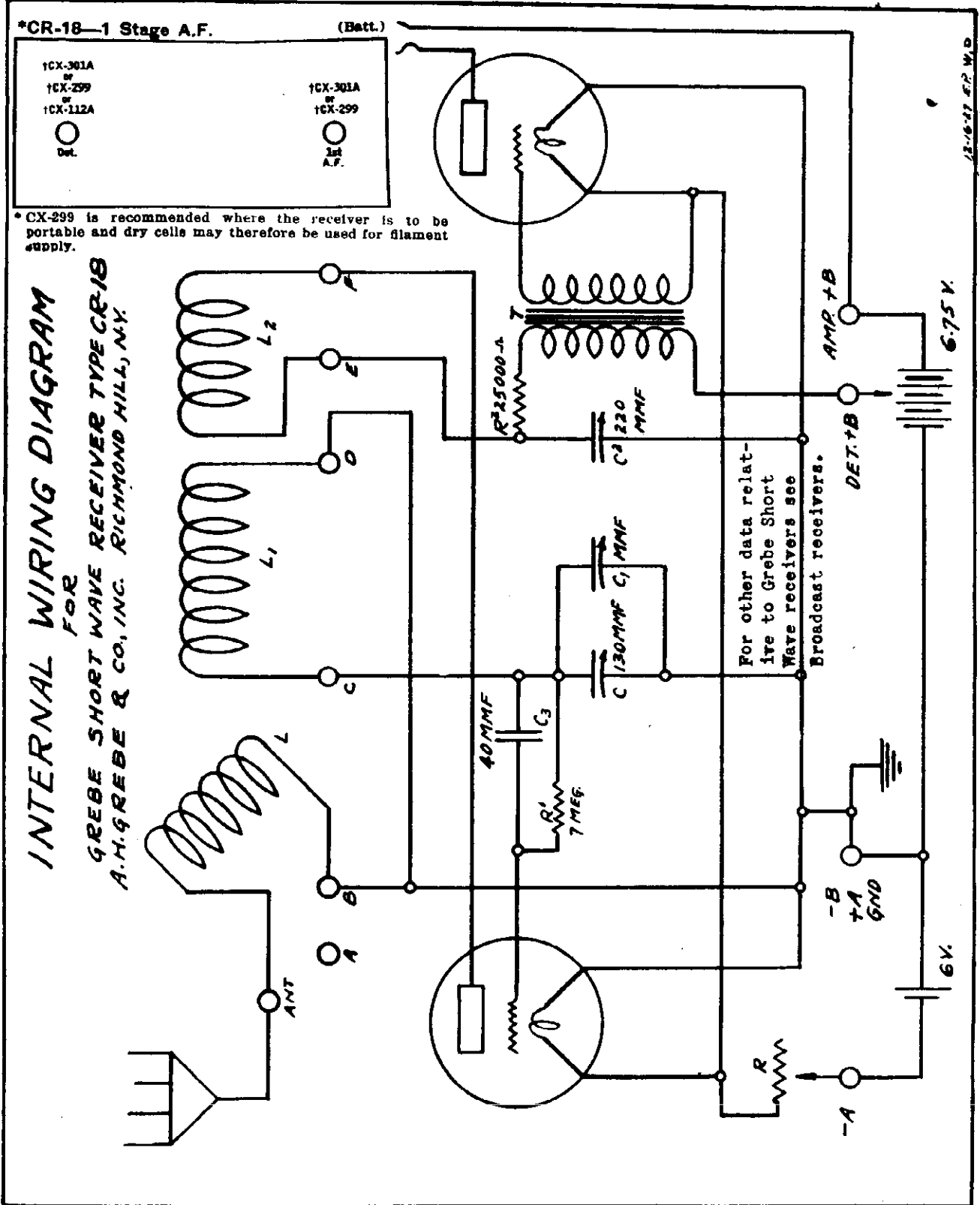
**GREBE "13" REGENERATIVE RECEIVER, 80 TO 300M.**

TYPE CR-13



A. H. GREBE & CO.

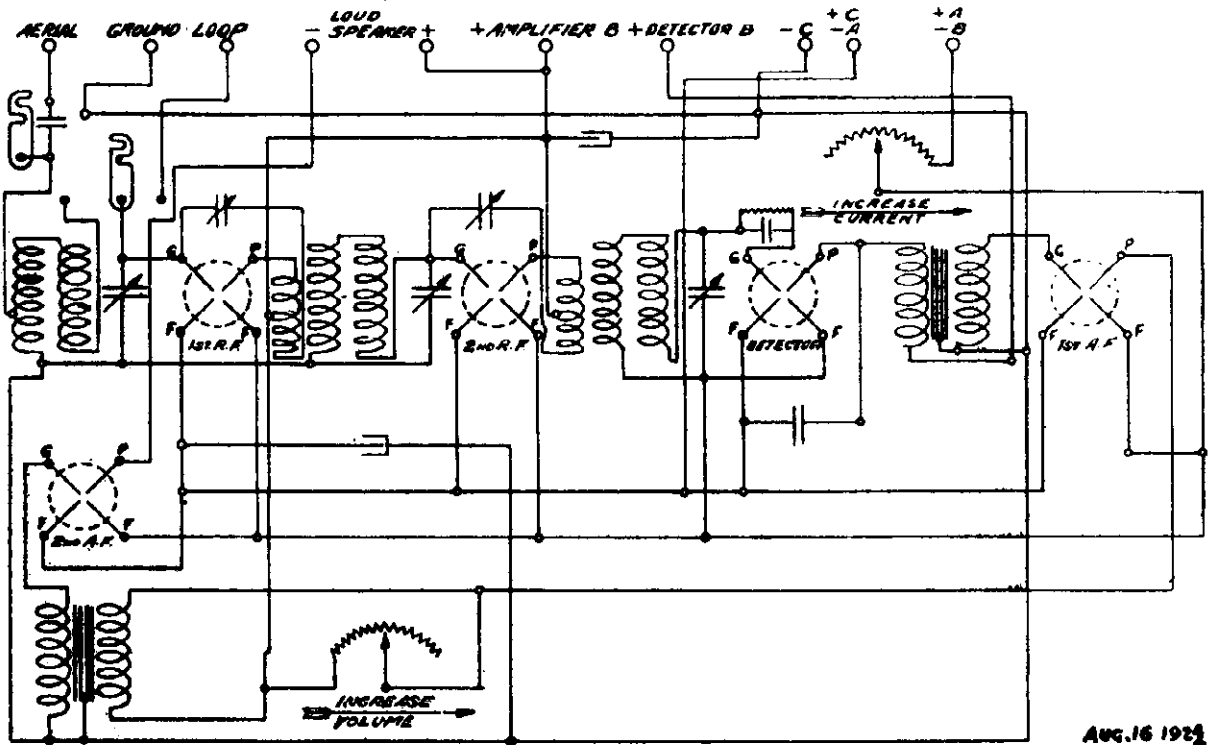
MODEL CR-18



MODEL Synchrophase 5  
With 671 Socket Power

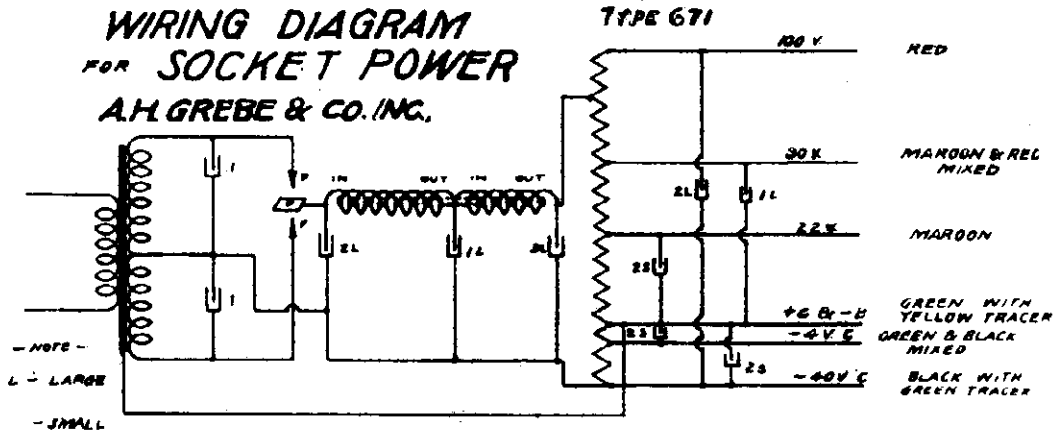
A. H. GREBE & CO.,

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



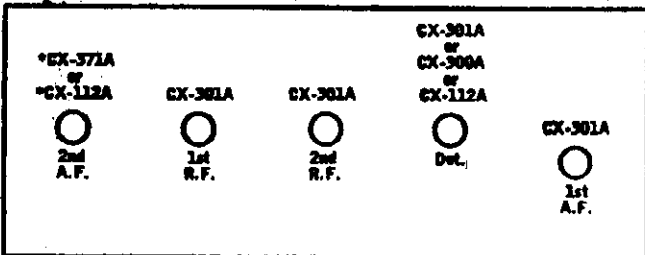
AUG. 16 1925

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



**SYNCHROPHASE "5"**

(Batt.)



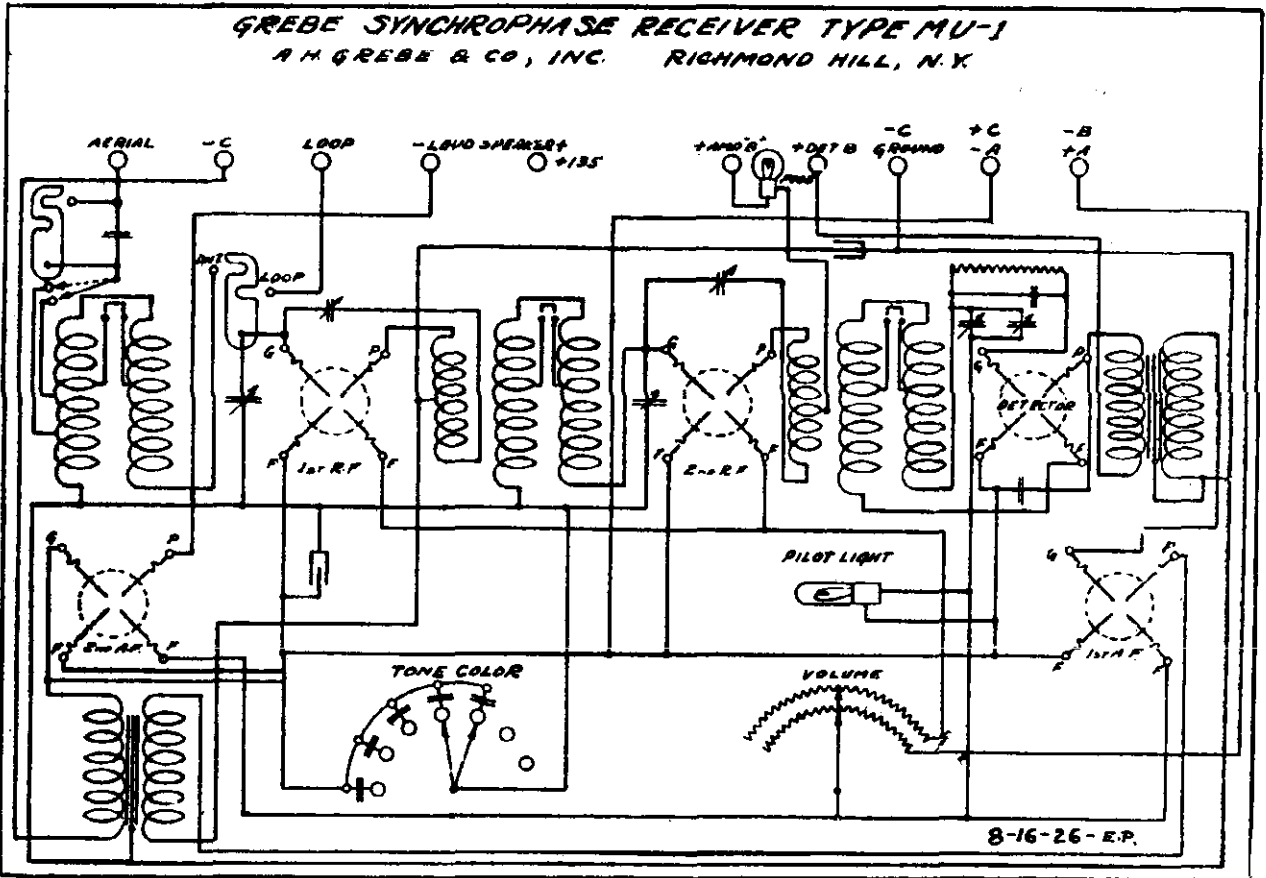
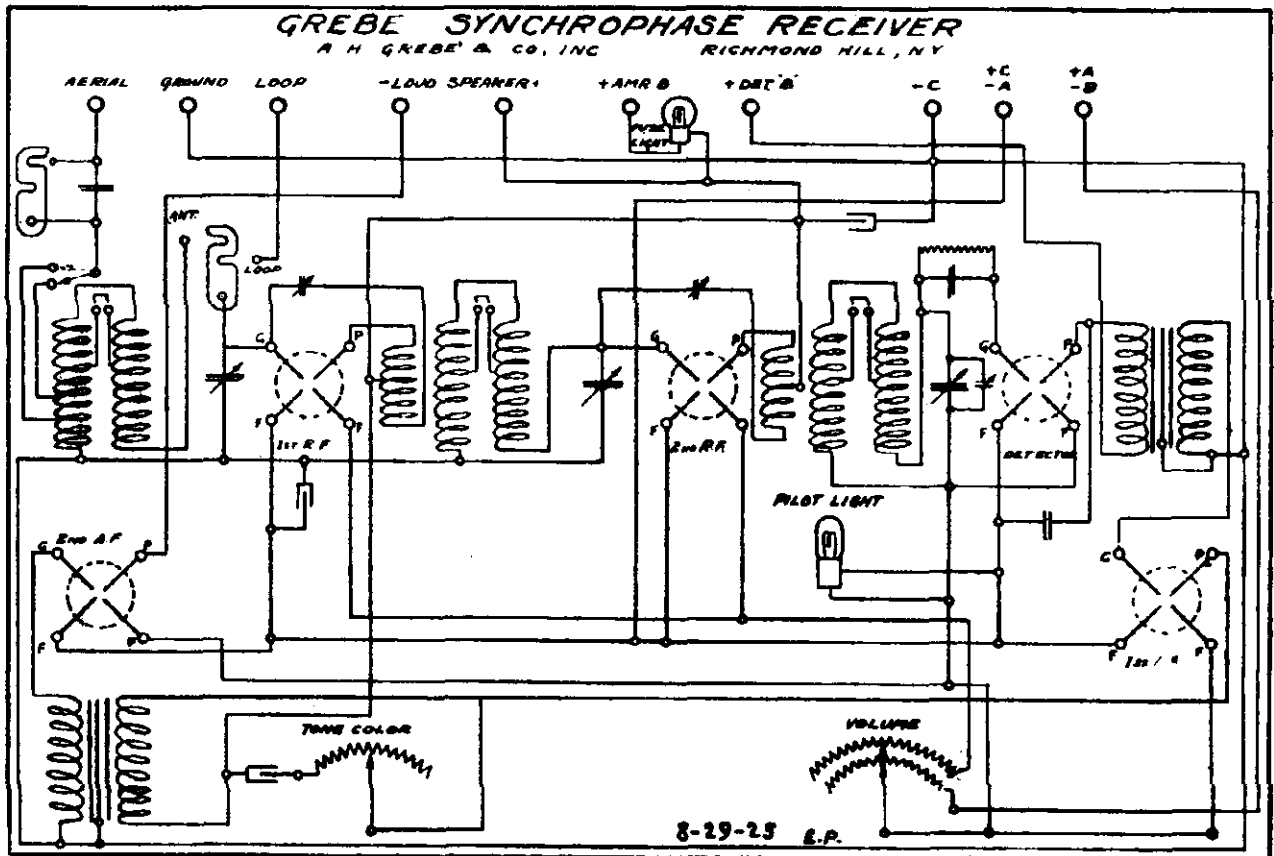
**GREBE SYNCHROPHASE "5" with 671 Socket Power**

TUBE NO.	TYPE OF TUBE	NUMBER OF PINNACLES	TUBE OUT					TUBE IN TESTER			
			1ST. PL.	2ND. PL.	3RD. PL.	4TH. PL.	5TH. PL.	CATHODE VOLTS	GRID PLATE VOLTS	PLATE VOLTS	PLATE RES. OHMS
1	201A	1st. R.F.	0	115	0	105	0		7.0		
2	201A	2nd. R.F.	0	115	0	105	0		7.0		
3	201A	Detector	0	40	0	28	0				
4	201A	1st. A.F.	0	115	0	105	0				
5	171A	2nd. A.F.	0	200	0	180	40				



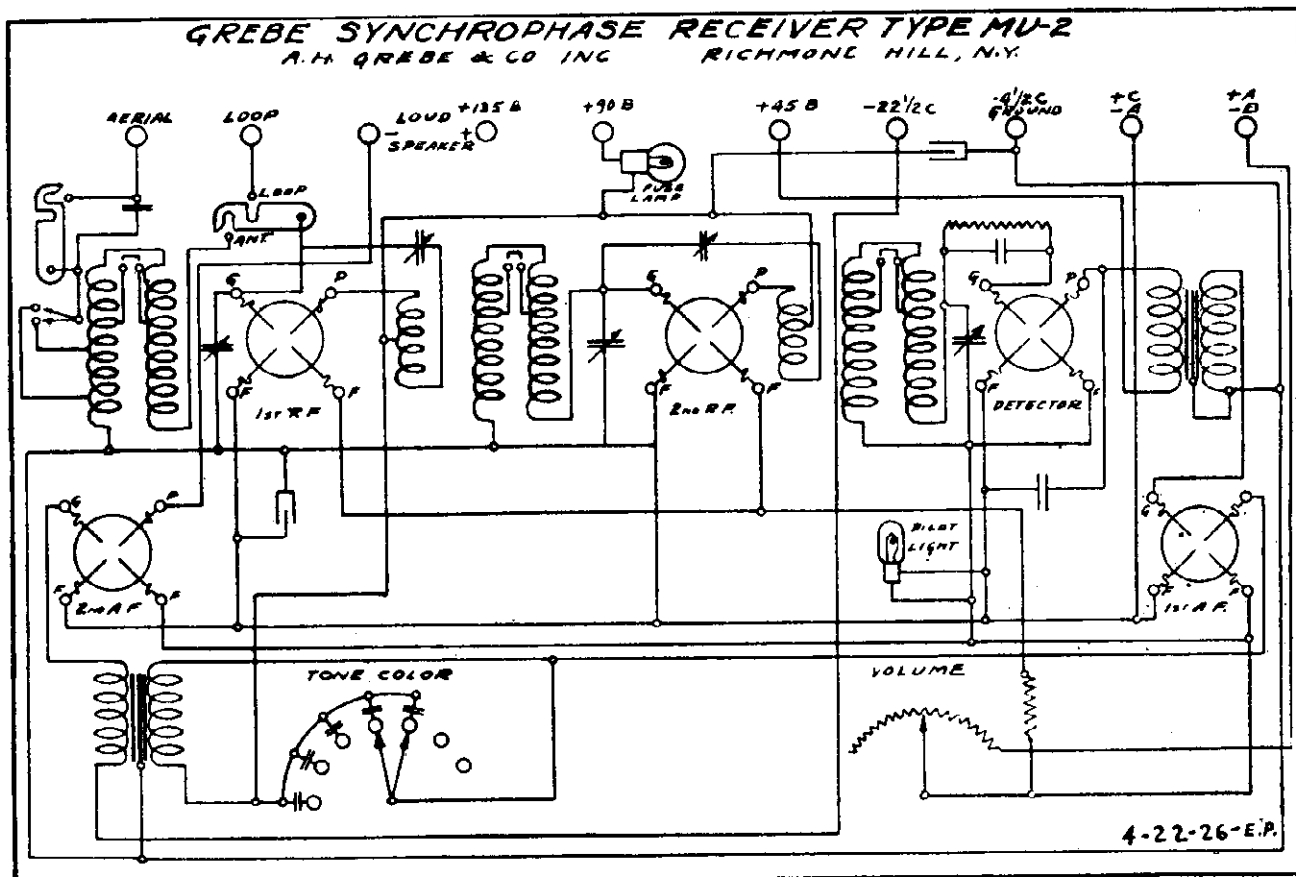
A. H. GREBE & CO., Inc.

MODEL Synchrophase 1925  
MODEL Synchrophase MU-1



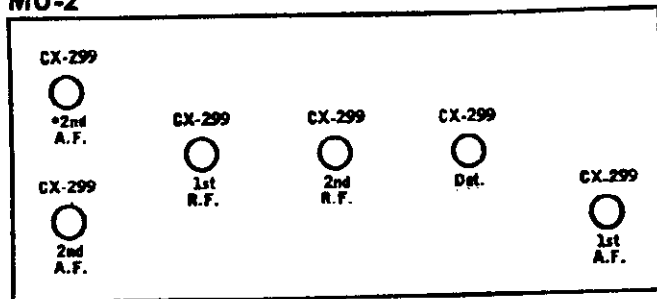
MODEL Synchrophase MU-2

A. H. GREBE & CO., Inc.



MU-2

(Batt.)



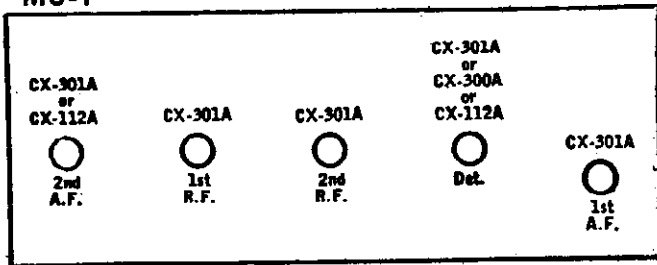
\* 2nd Audio Frequency tubes are in parallel.

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.	TUBE DATA					TUBE IN TESTER			
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. TEST	PLATE M.A. OUTSIDE
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	4.5
7	271A	2nd. A.F.	6	200	5	180	40		20.0	26.0	6.0



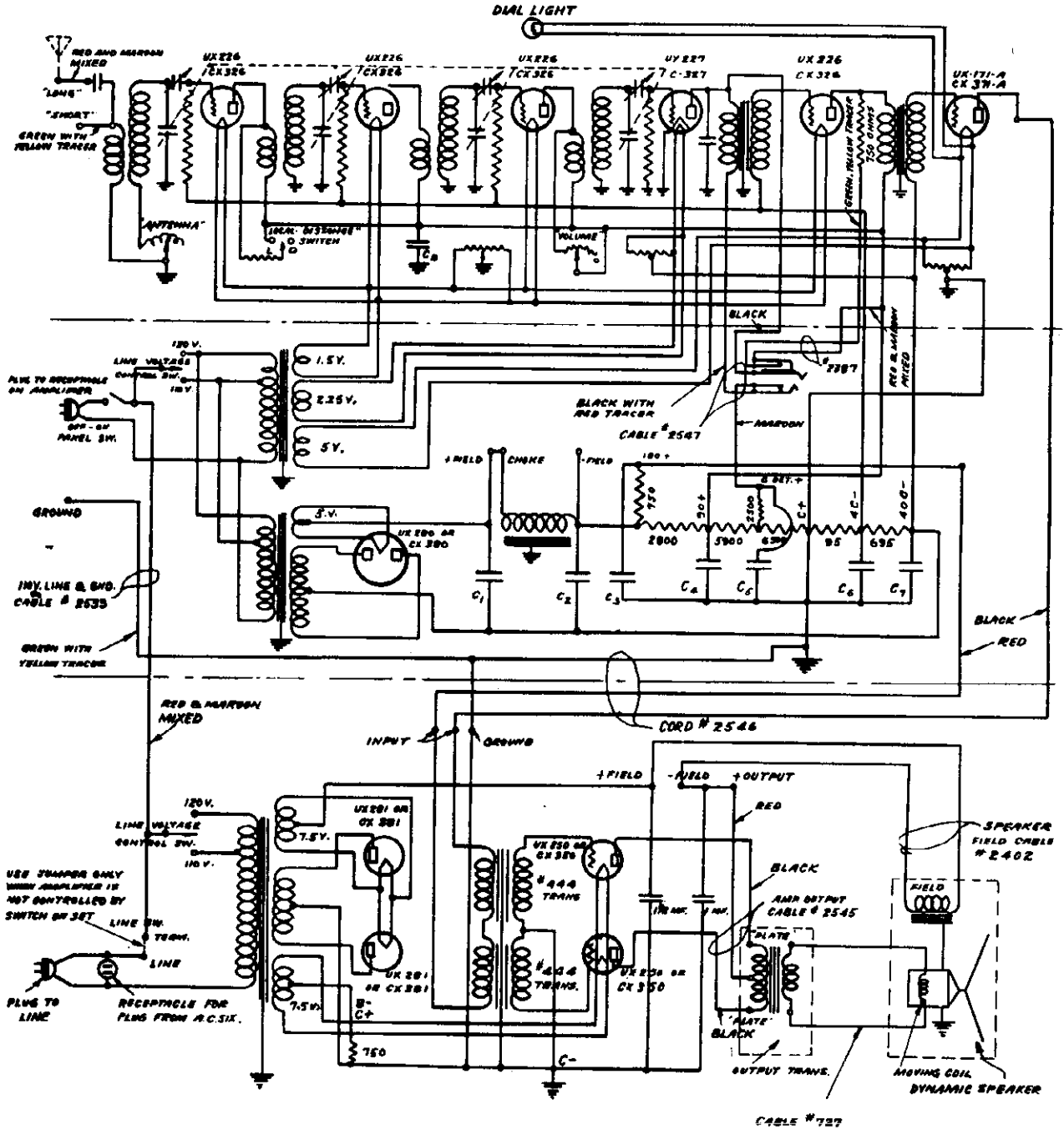
MODEL 428  
DeLux Console

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

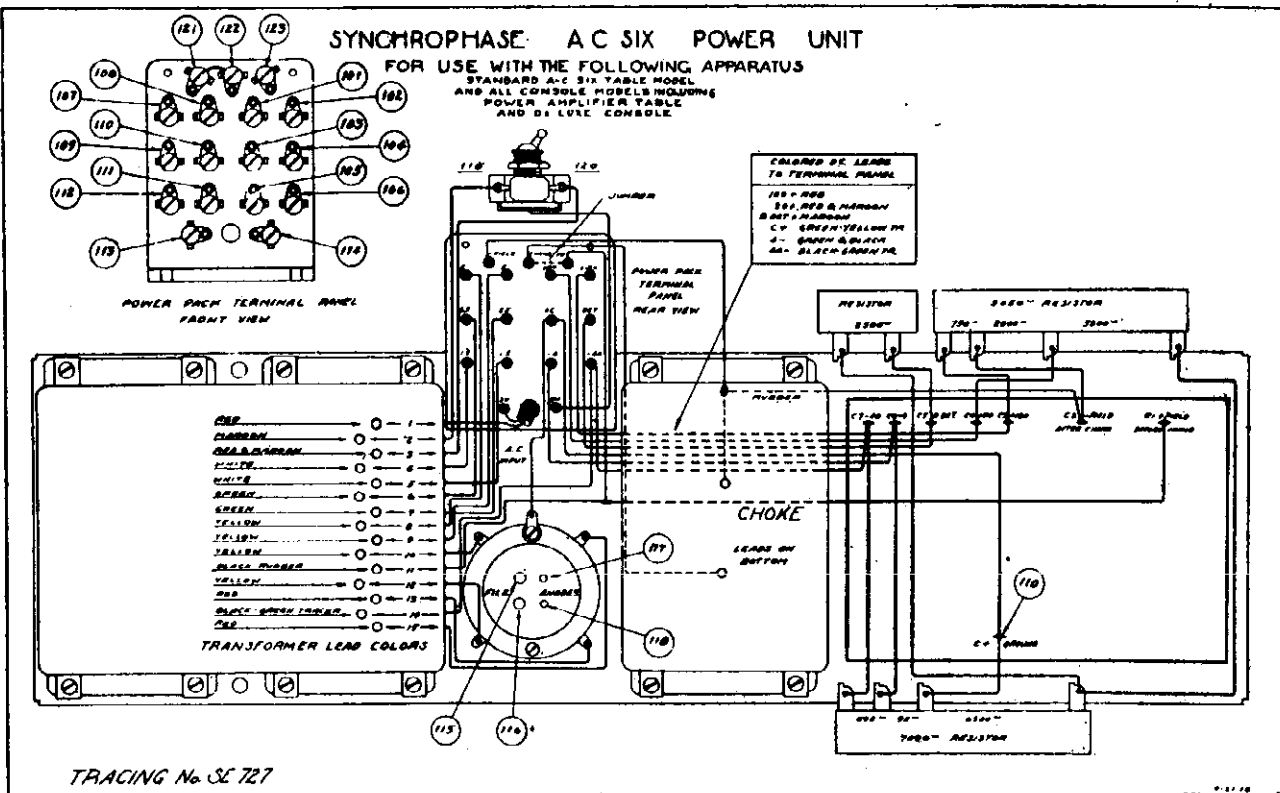
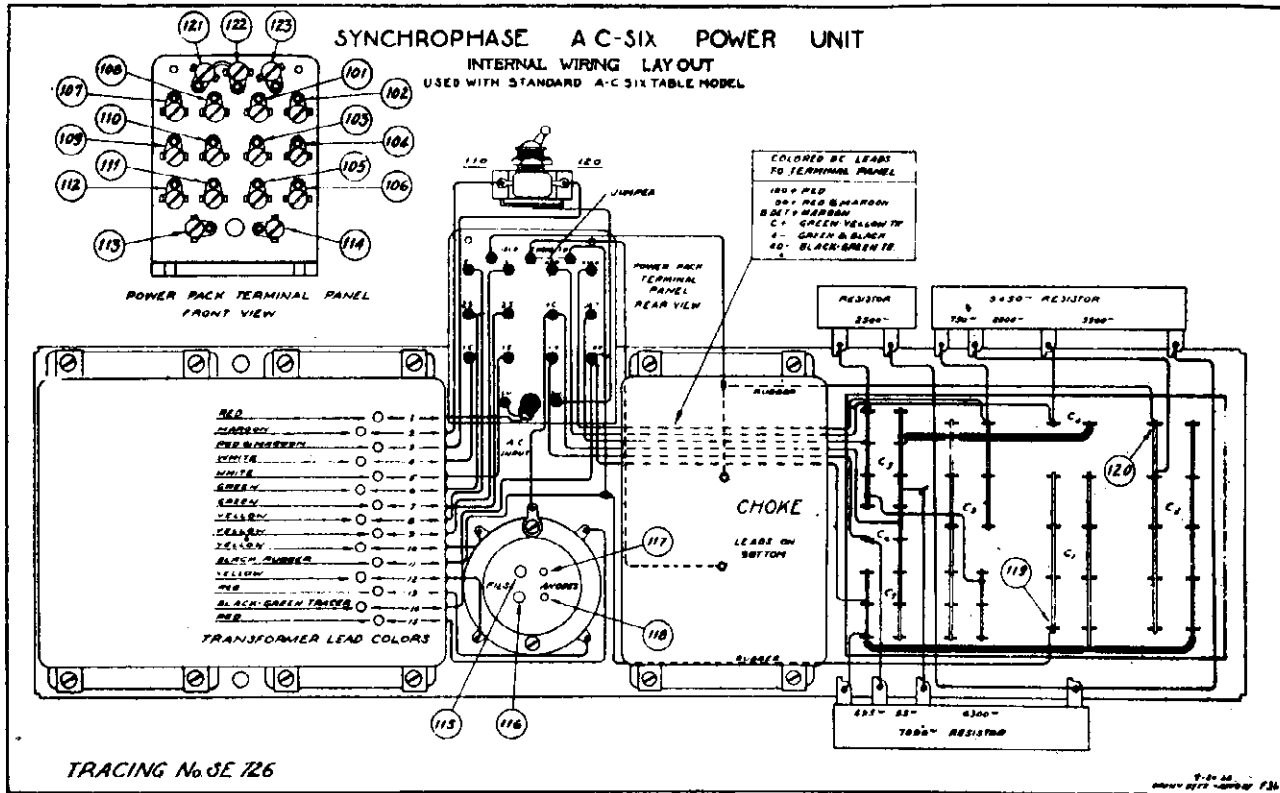
A.H.GREBE & CO., INC.  
RICHMOND HILL, N.Y.





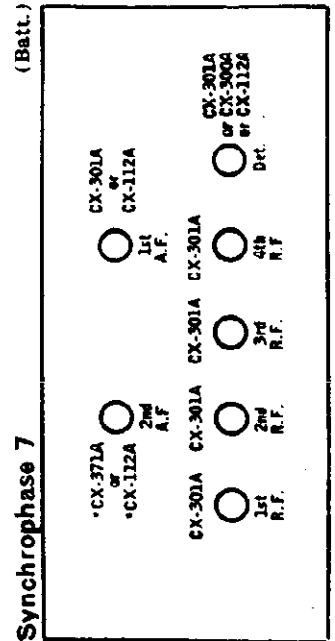
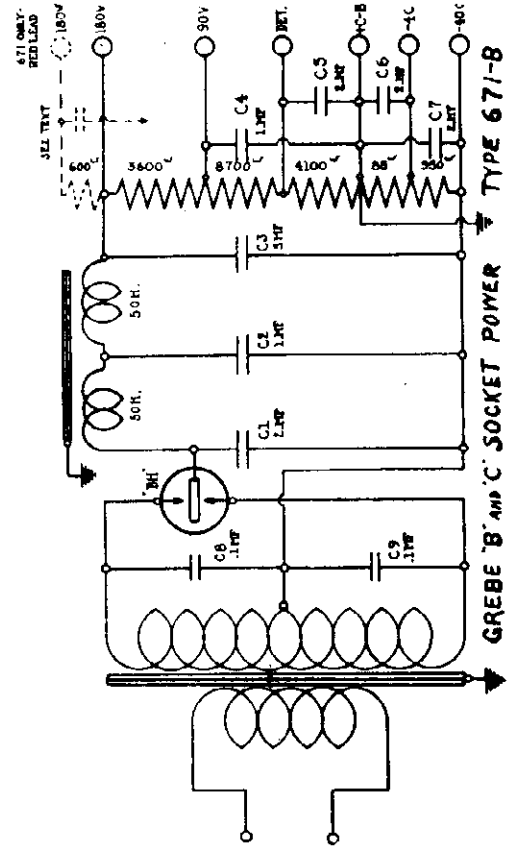
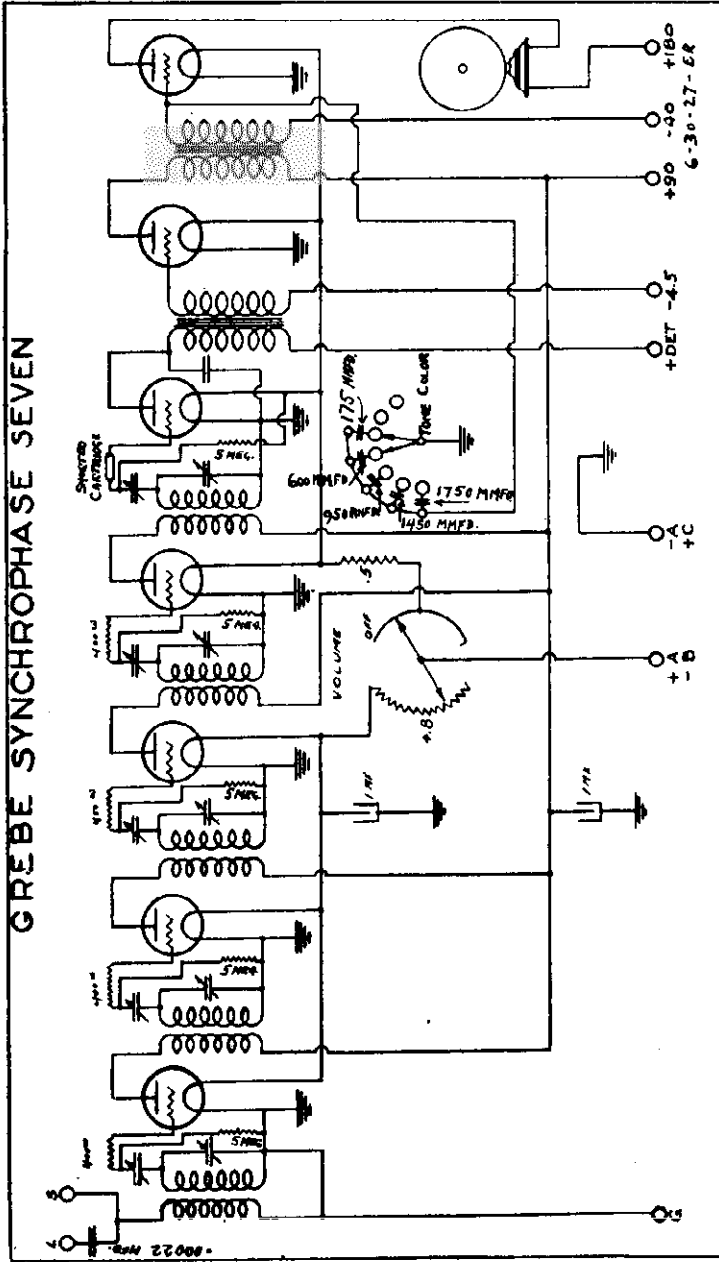
**MODEL Synchrophase AC-6  
Power Unit  
Chassis  
Two Types**

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



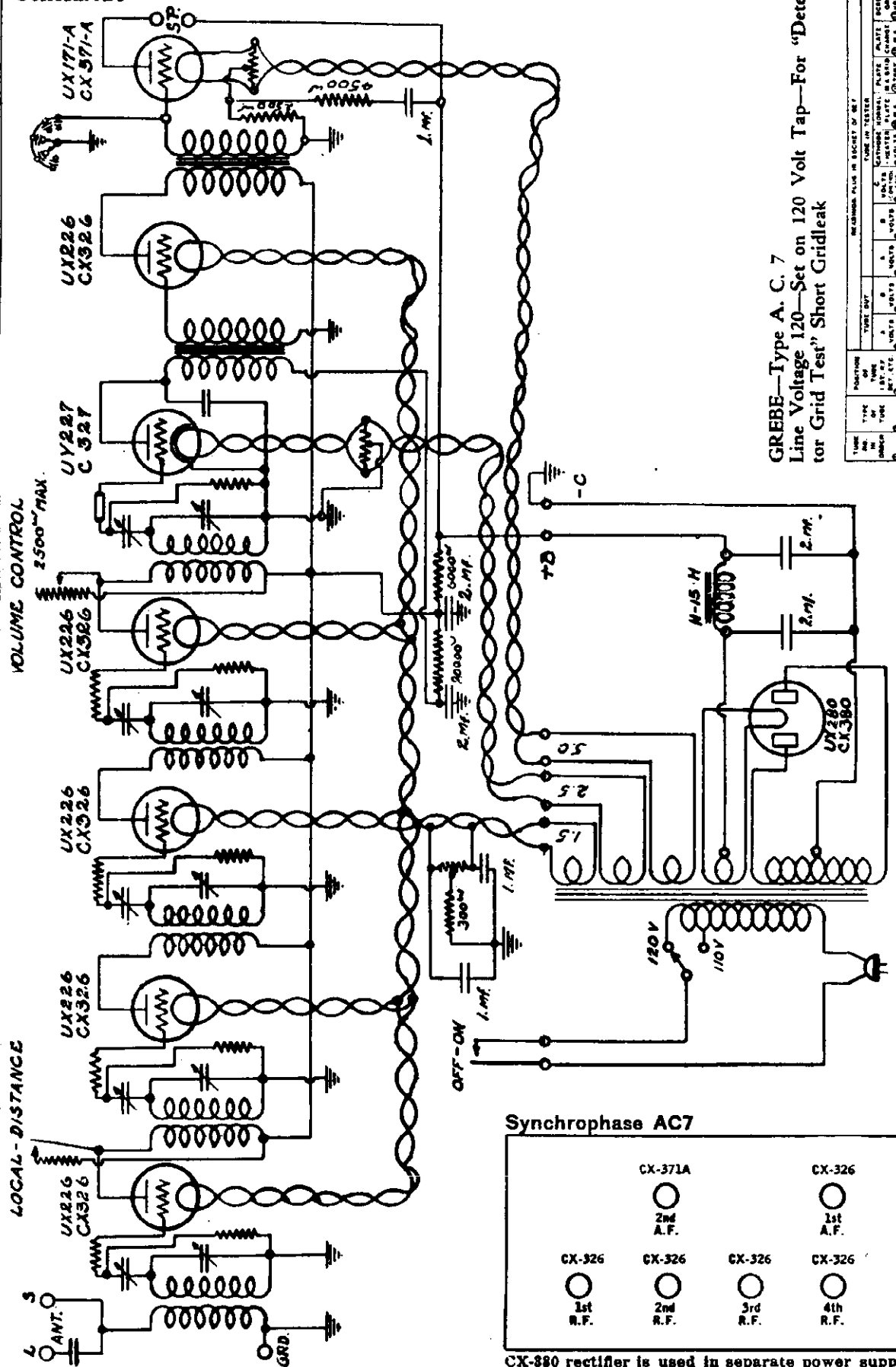
A. H. GREBE & CO.

MODEL Synchrophase 7  
 Battery Type  
 Socket Power Unit 671-B



MODEL Synchrophase 7  
Schematic

A. H. GREBE & CO.

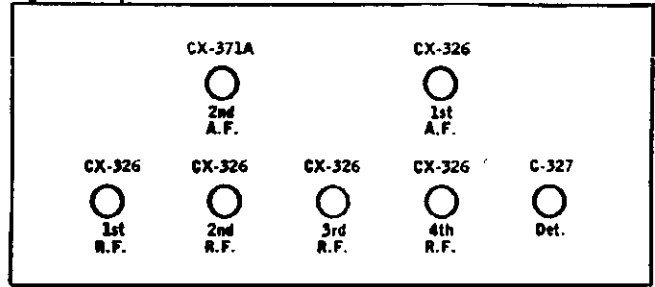


GREBE—Type A. C. 7  
Line Voltage 120—Set on 120 Volt Tap—For "Detector Grid Test" Short Gridleak

TYPE OF TUBE	TYPE OF TUBE	FUNCTION OF TUBE	TUNE DIAL		TUNE IN TESTER		TUNING RANGE (K.C.)	TUNING RANGE (M.C.)	TUNING RANGE (M.C.)
			MIN.	MAX.	MIN.	MAX.			
UX226	CX326	1st R.F.	1.5	1.5	1.5	1.5	1.5	1.5	1.5
UX226	CX326	2nd R.F.	1.5	1.5	1.5	1.5	1.5	1.5	1.5
UX226	CX326	3rd R.F.	1.5	1.5	1.5	1.5	1.5	1.5	1.5
UY227	C 327	Detector	1.5	1.5	1.5	1.5	1.5	1.5	1.5
UY280	CX380	Detector	1.5	1.5	1.5	1.5	1.5	1.5	1.5

SYNCHROPHASE SEVEN A. C. RECEIVER

Synchrophase AC7

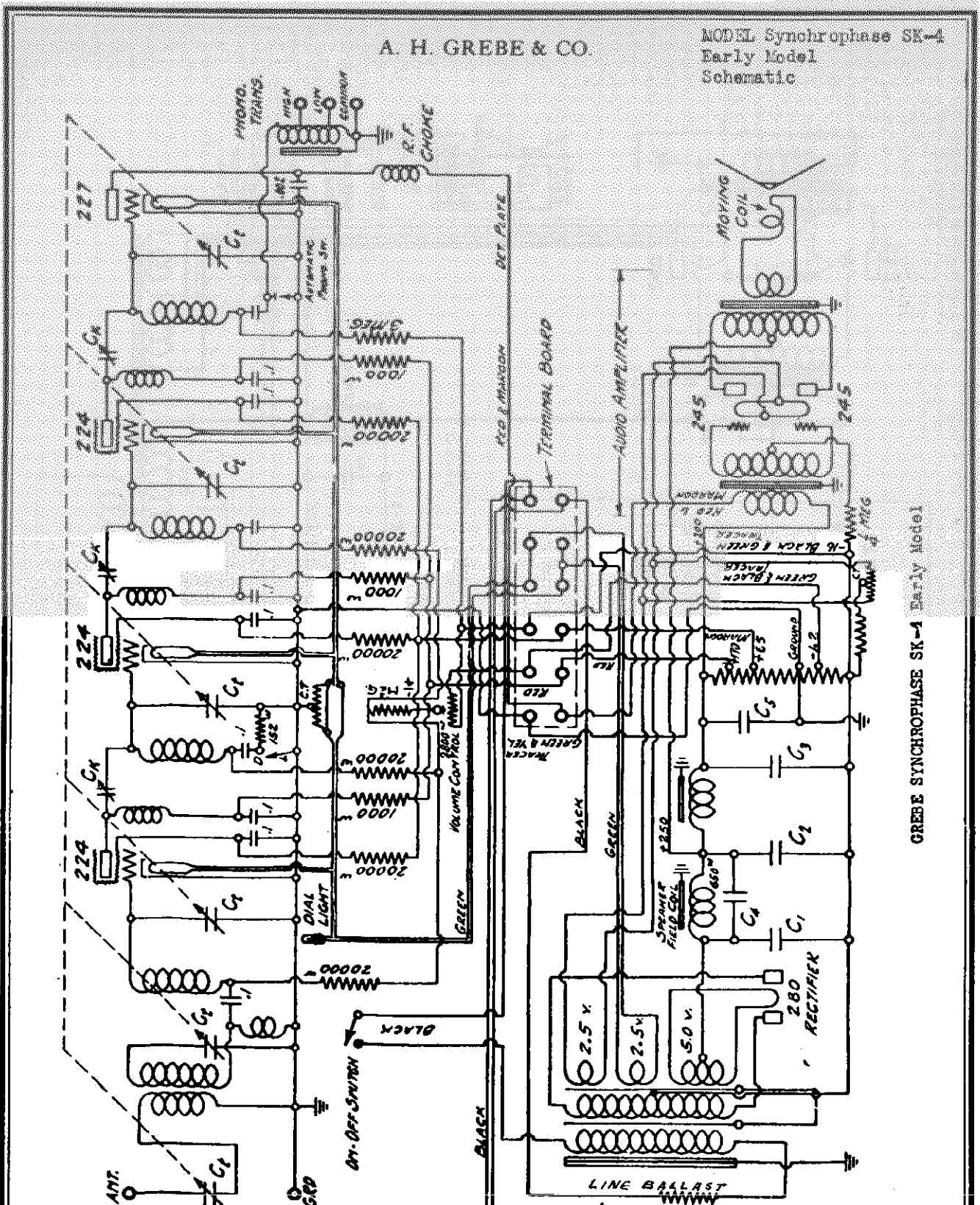


CX-380 rectifier is used in separate power supply unit.

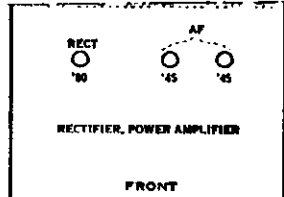
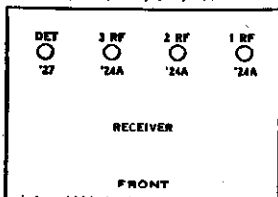


A. H. GREBE & CO.

MODEL Synchrophase SK-4  
Early Model  
Schematic



Models Super-synchrophase SK4,  
21950, 270, 285, 450, 265



Line Voltage 120—Volume Control Position Min.\*  
Note: x Resistors in circuit prevent readings.

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

TUBE NO.	TYPE	POSITION	RESISTANCE PLUG IN ORDER OF SET											
			1	2	3	4	5	6	7	8	9	10		
224	1st AF	2.7	195	2.35	100	16	0	2	2	57				
224	2nd AF	2.7	195	2.35	100	16	0	2	2	57				
224	3rd AF	2.7	195	2.35	100	16	0	2	2	57				
227	Det.	2.7	195	2.35	210	x	0	0	0	0				
245	1st AP	2.7	270	2.35	245	x	30	34	4					
245	2nd AP	2.7	270	2.35	245	x	30	34	4					
280	Rect.	y	-	5.2	-	x	90	-	-					

GREBE SYNCHROPHASE SK-4 Early Model





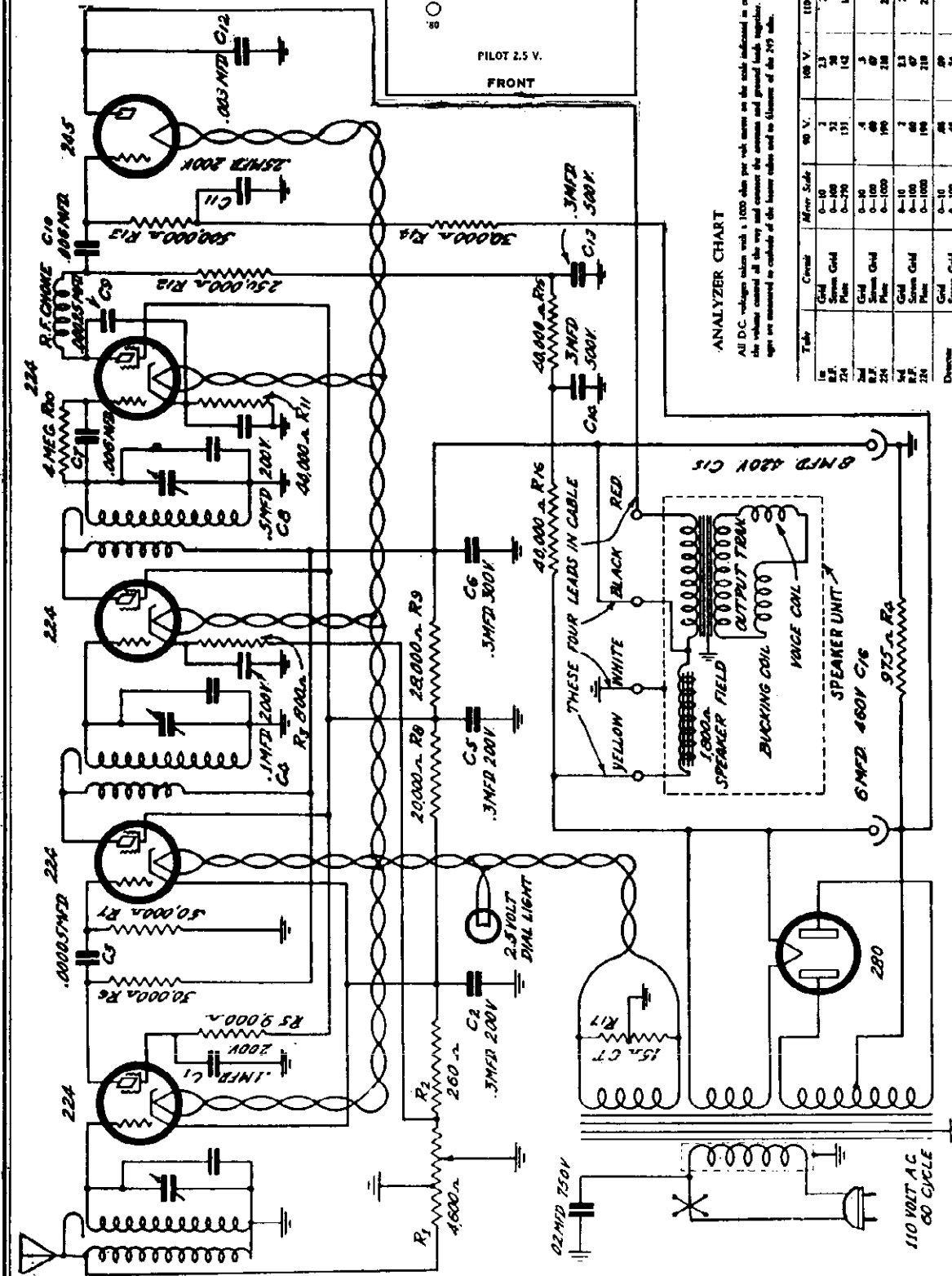
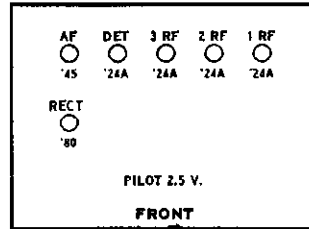




GULBRANSEN CO.

MODEL 60, 63  
Schematic  
Voltage

Model 63-33 (1930)



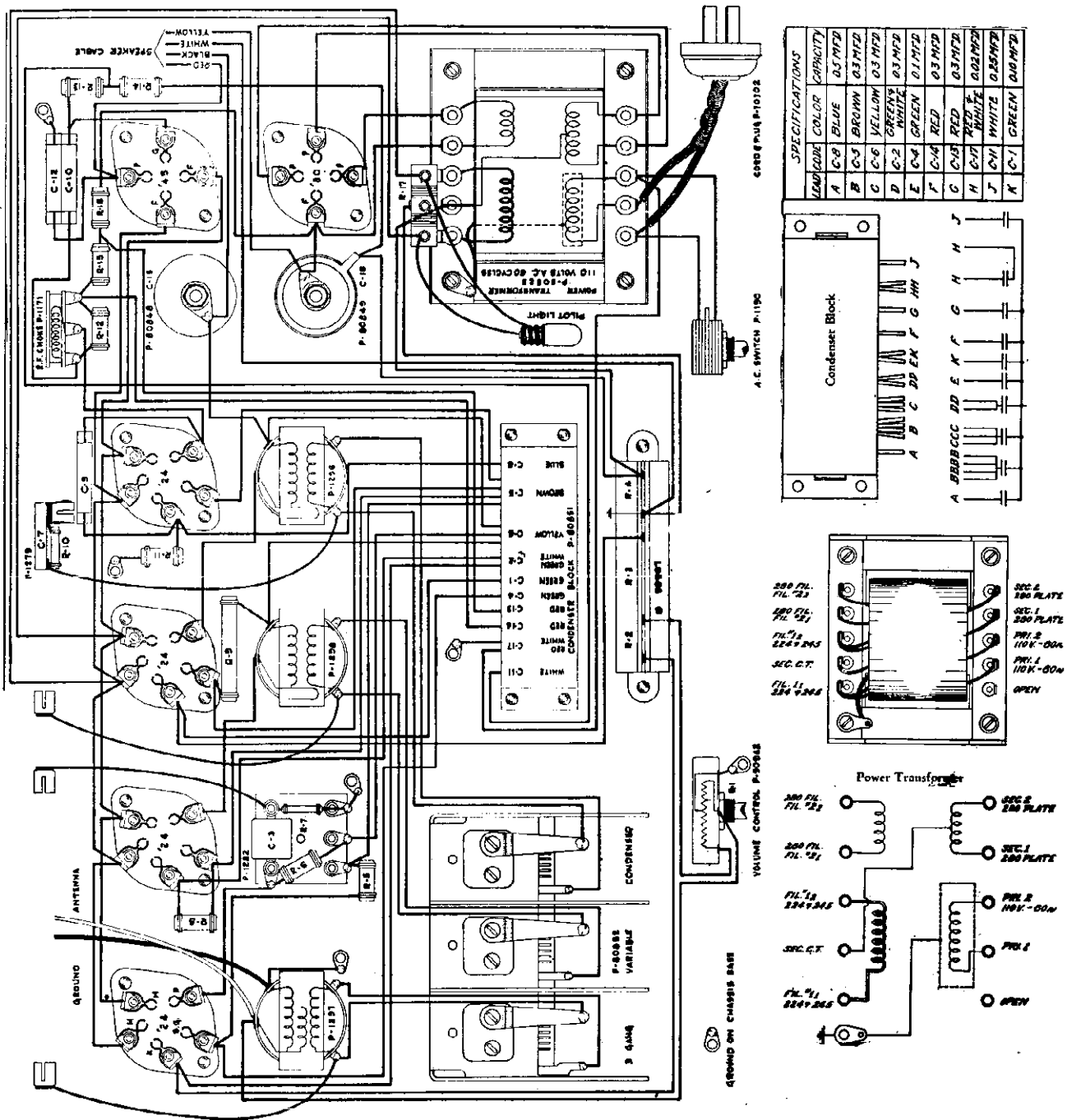
ANALYZER CHART

All D.C. voltages taken with a 1000 ohm per volt meter on the scale indicated in column headed "Meter Scale." Turn on the volume control all the way and connect the antenna and ground leads together. The grid, plate, and screen grid voltages are measured in outside of the lower tubes and in filament of the 224 tube.

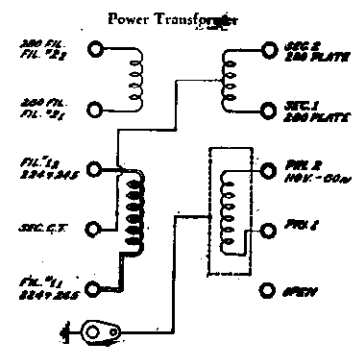
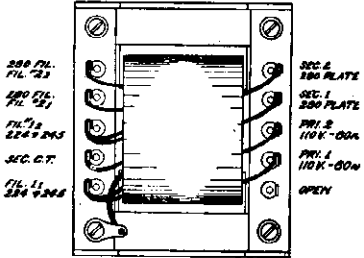
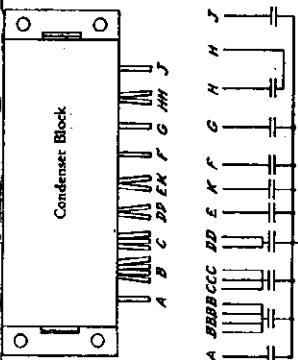
Tube	Control	Meter Scale	90 V.	100 V.	110 V.	120 V.	128 V.	138 V.
1B	Grid	0-10	2.3	2.4	2.5	2.6	2.7	2.8
1B	Screen	0-100	31	32	33	34	35	36
1B	Plate	0-250	131	132	133	134	135	136
2A	Grid	0-10	4	4	4	4	4	4
2A	Screen	0-100	48	49	50	51	52	53
2A	Plate	0-1000	190	191	192	193	194	195
5A	Grid	0-10	5.3	5.4	5.5	5.6	5.7	5.8
5A	Screen	0-100	66	67	68	69	70	71
5A	Plate	0-1000	218	219	220	221	222	223
224	Grid	0-10	48	49	50	51	52	53
224	Screen	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100	48	49	50	51	52	53
224	Plate	0-1000	202	203	204	205	206	207
224	Plate	0-100						

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

**GULBRANSEN CO.**

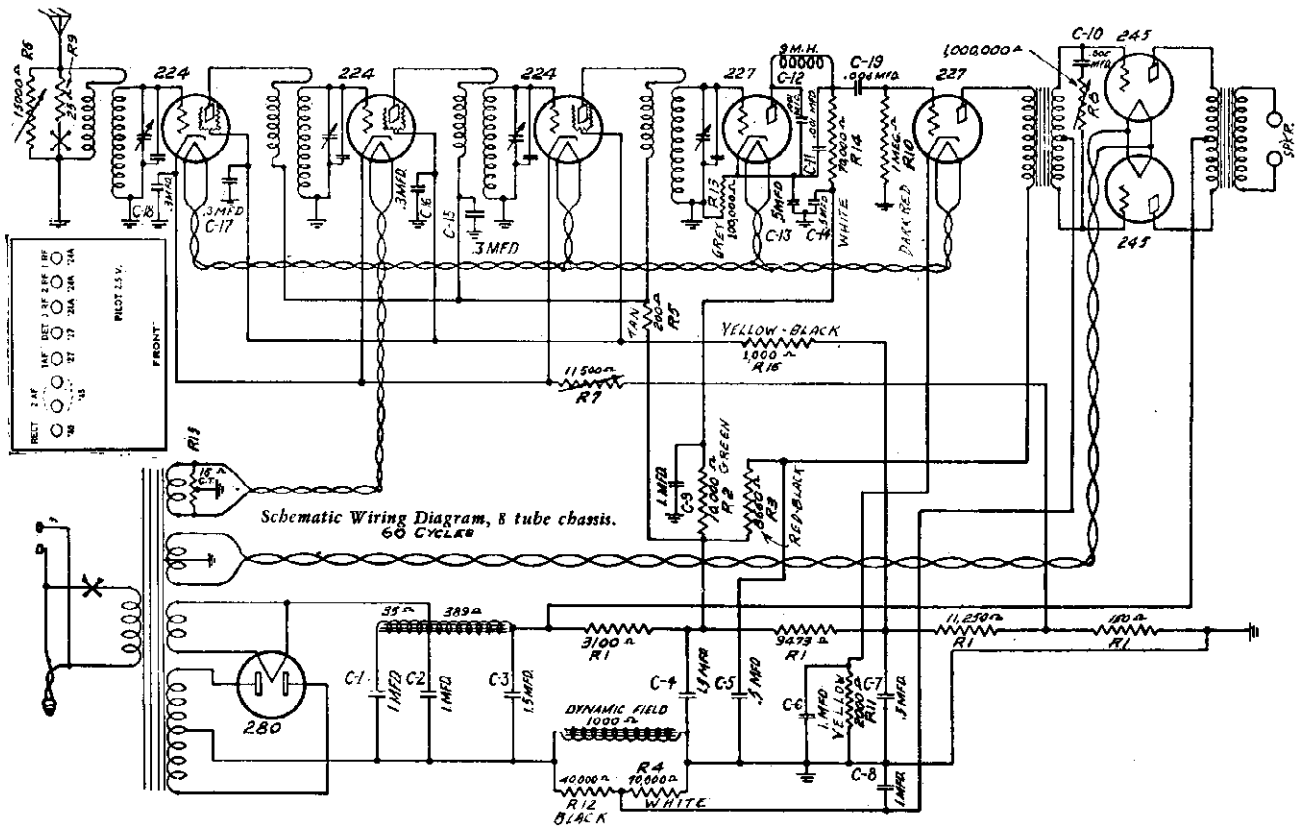


SPECIFICATIONS	
LAND CODE	CAPACITY
A	0.5 MFD
B	0.5 MFD
C	0.5 MFD
D	0.5 MFD
E	0.5 MFD
F	0.5 MFD
G	0.5 MFD
H	0.5 MFD
J	0.5 MFD
K	0.5 MFD



GULBRANSEN CO.

MODEL 160, 161  
60 Cycles  
Schematic-Data



**FIXED CONDENSERS**

CAPACITY	
CODE	60 CYCLE 25 CYCLE
A	1.0 MF.C2
B	1.0 MF.C1
C	1.5 MF.C3
D	1.0 MF.C9
E	1.0 MF.C6
F	0.5 MF.C7
G	1.0 MF.C8
H	0.5 MF.C5
K	1.5 MF.C4
X	COMMON
Y	COMMON

Filter Condenser (60 and 25 cycle receivers).

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.

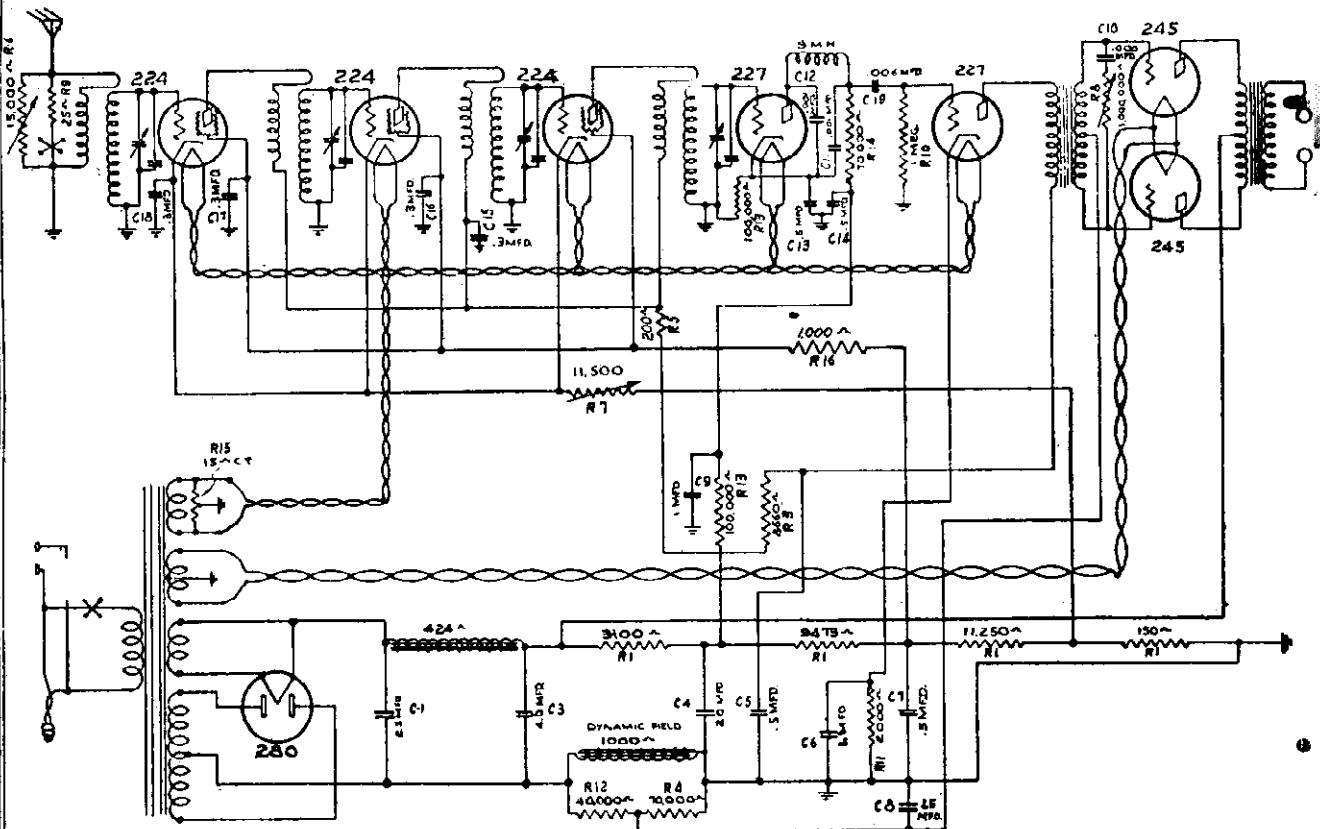
C15, C16 and C18 are located in the triple 3 mfd. condenser case. C17 is a single .3 mfd. condenser, and is mounted alongside of the triple 3 mfd. condenser case.

Code Fig. 1	Stock No.	Capacity
C1 to C9 inclusive	80818	9 Mfds. 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 \*

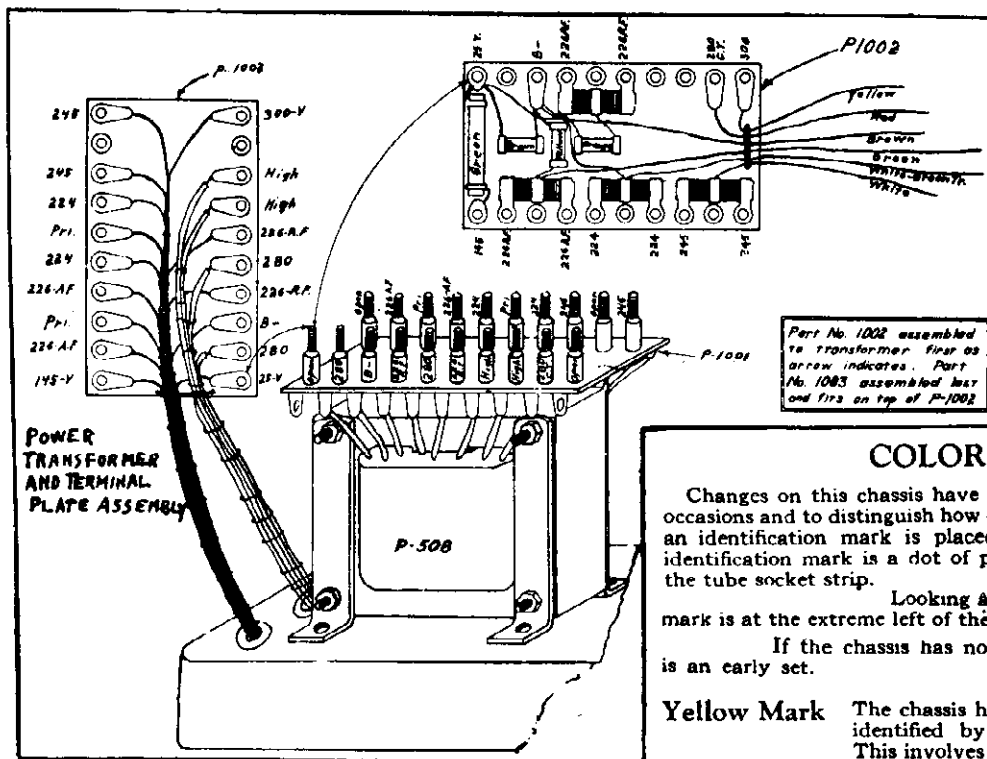
Tube	Position	Filament	Plate	Screen	Grid*	Cathode
224	1st R.F.	2.3	178	90	- 3.0*	3.0
224	2nd R.F.	2.3	178	90	- 3.0*	3.0
224	3rd R.F.	2.3	178	90	- 3.0*	3.0
227	Detector	2.3	100		-10.5*	10.5
227	1st Audio	2.3	130			9.0
245	2nd Audio	2.4	250		51.0	
245	2nd Audio	2.4	250		51.0	
280	Rectifier	4.7				

\* 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, 9950

Voltage  
Data



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	

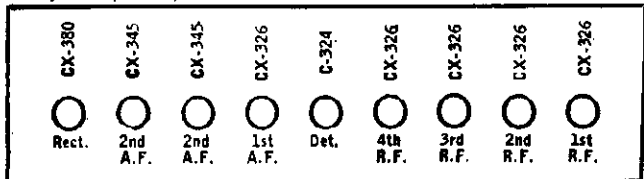
Line Voltage During Test—115 Volts

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.)



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** 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.

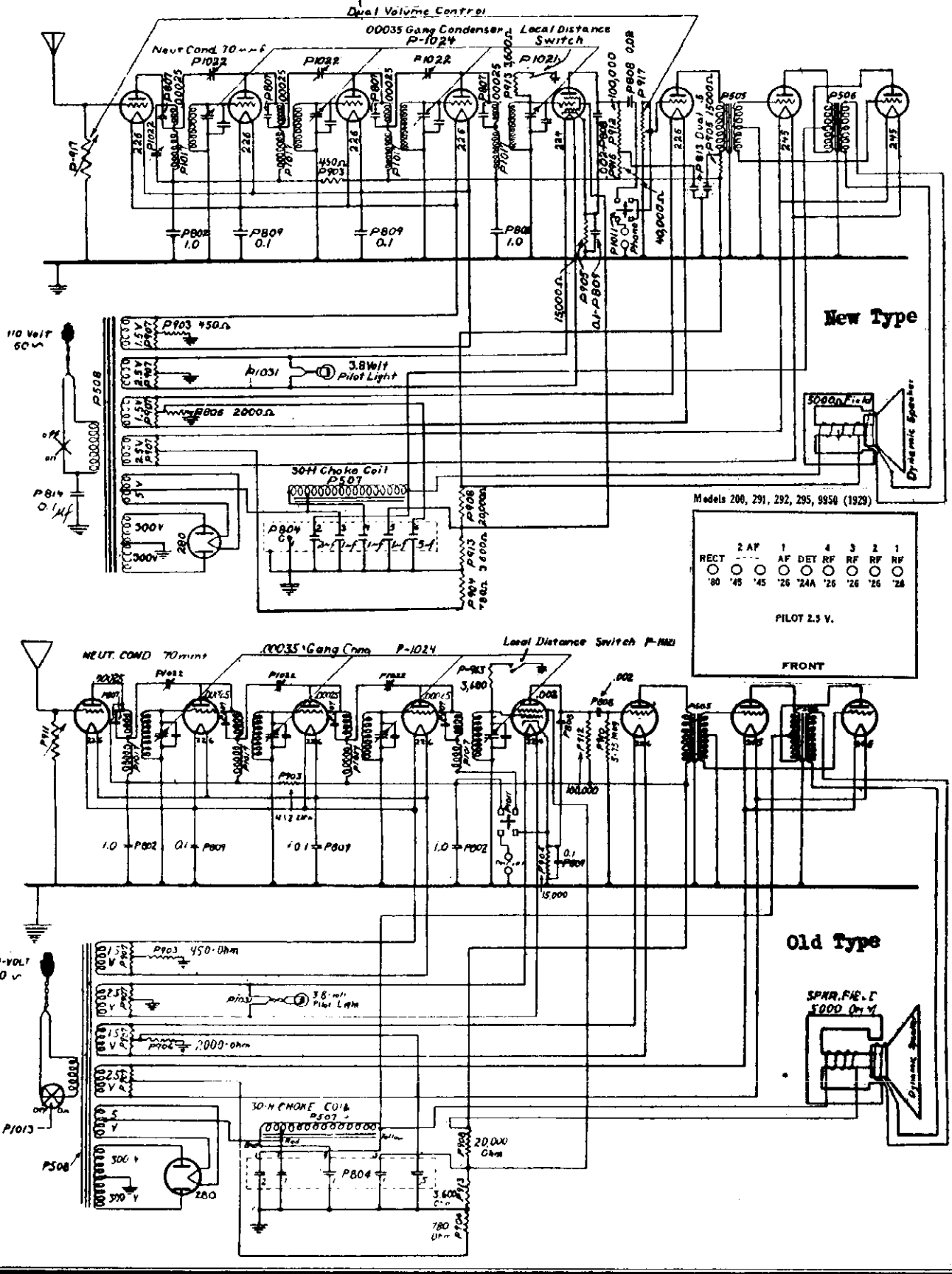
**Green Mark** All Chassis with a green mark on the rivet of the tube socket strip contain the above changes and in addition have a change in the "combination phonograph switch" circuit. This changed circuit makes use of only the audio system of the set for phonograph reproduction, whereas the original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

MODEL 200, 291, 292,  
295, 9950

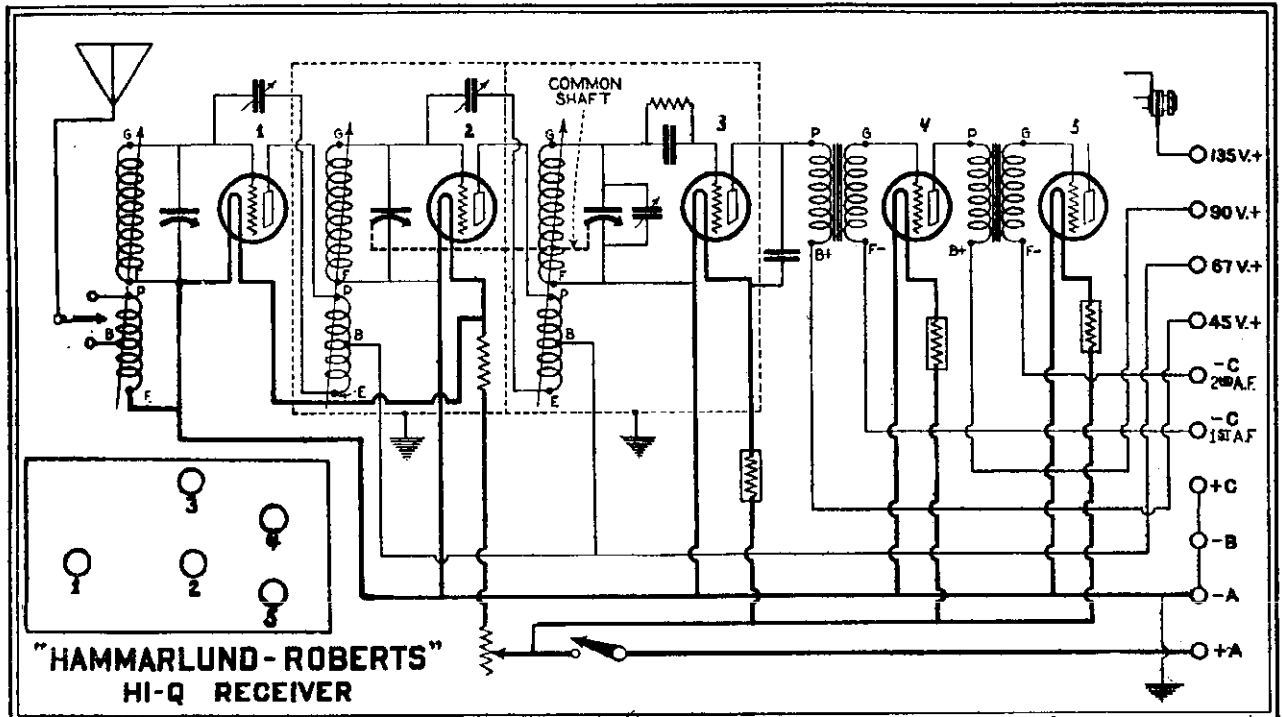
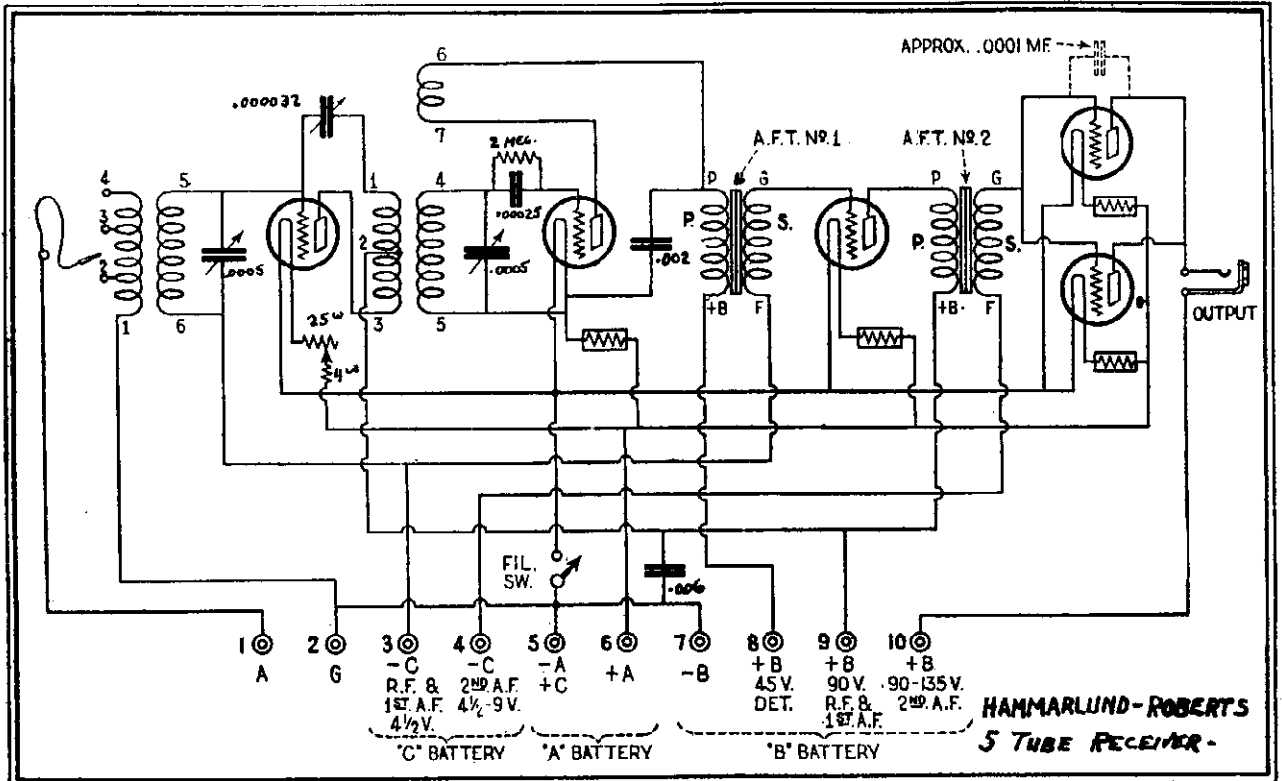
GULBRANSEN CO.

Schematic  
Two Types



HAMMARLUND-ROBERTS, INC.

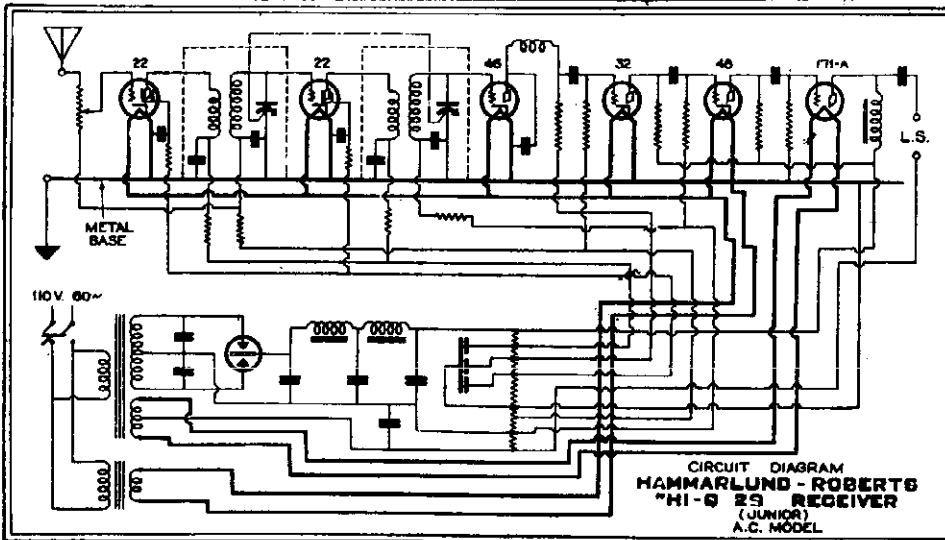
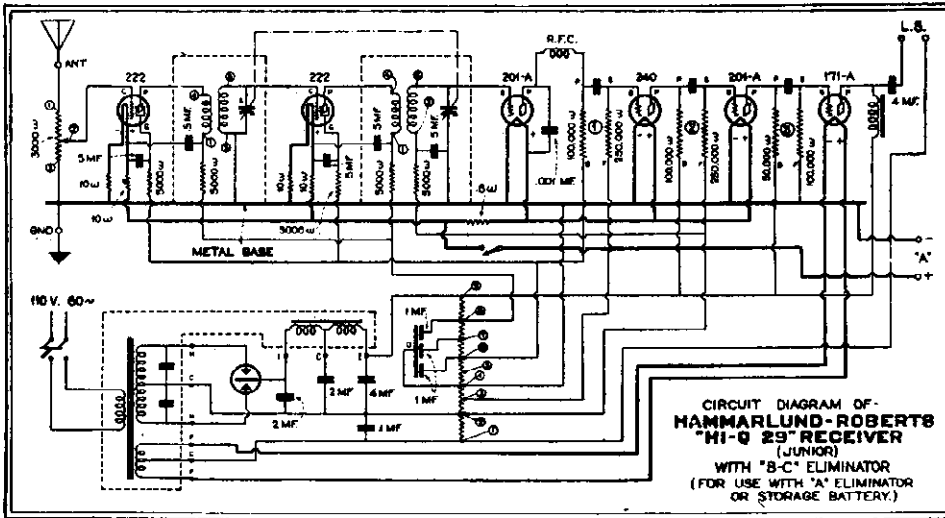
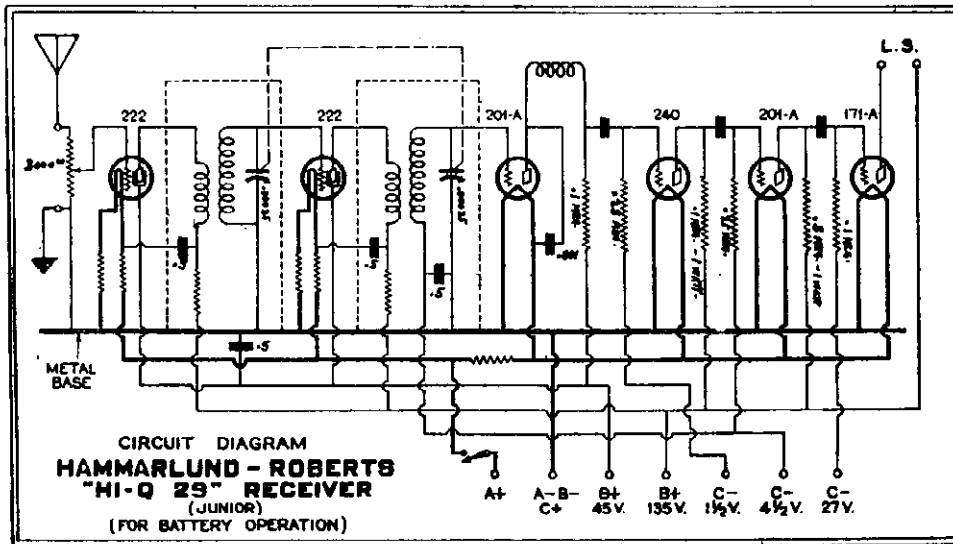
MODEL H-R 5 Tube  
MODEL H-R "HI-Q"





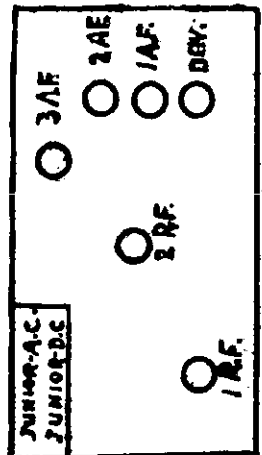
HAMMARLUND-ROBERTS, INC.

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



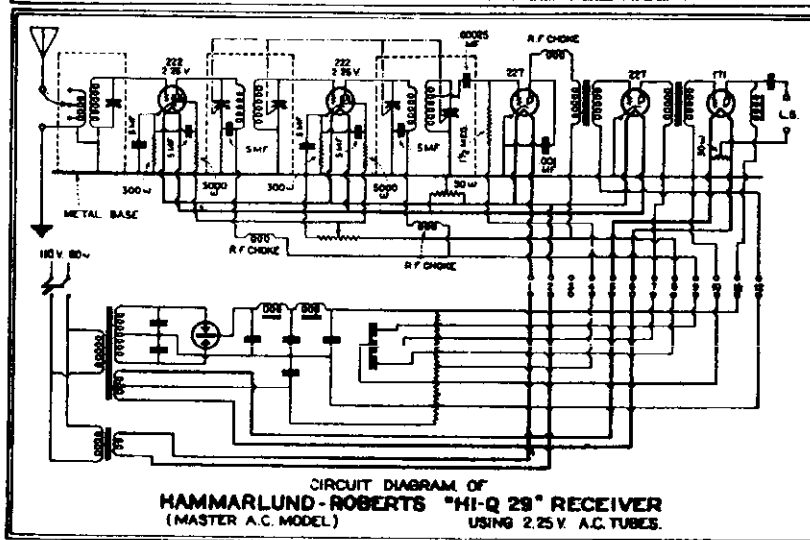
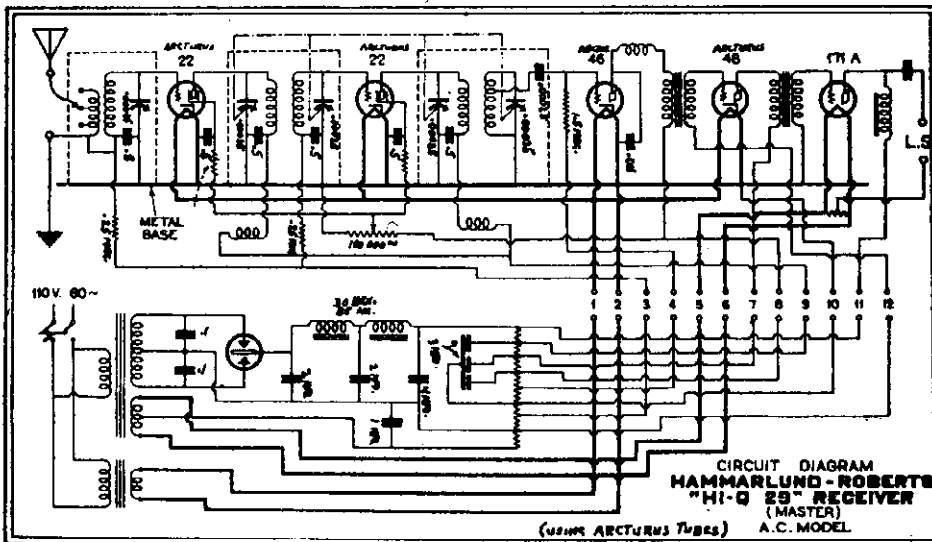
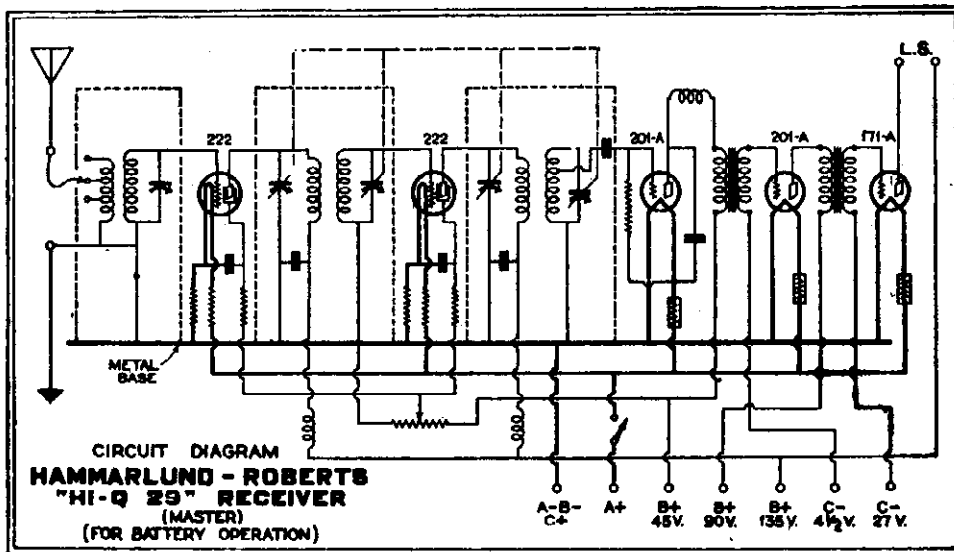
HI-Q 29 Jr. Battery cable.

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

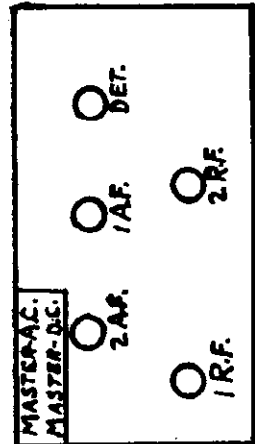


MODEL H-R "HI-Q" 29  
Master-Three Types

HAMMARLUND-ROBERTS, INC.



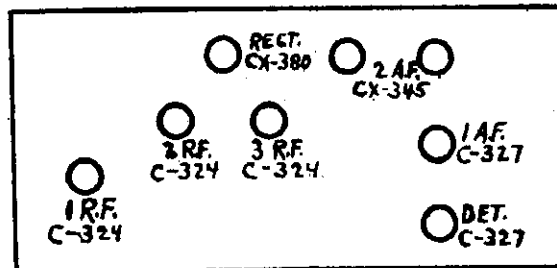
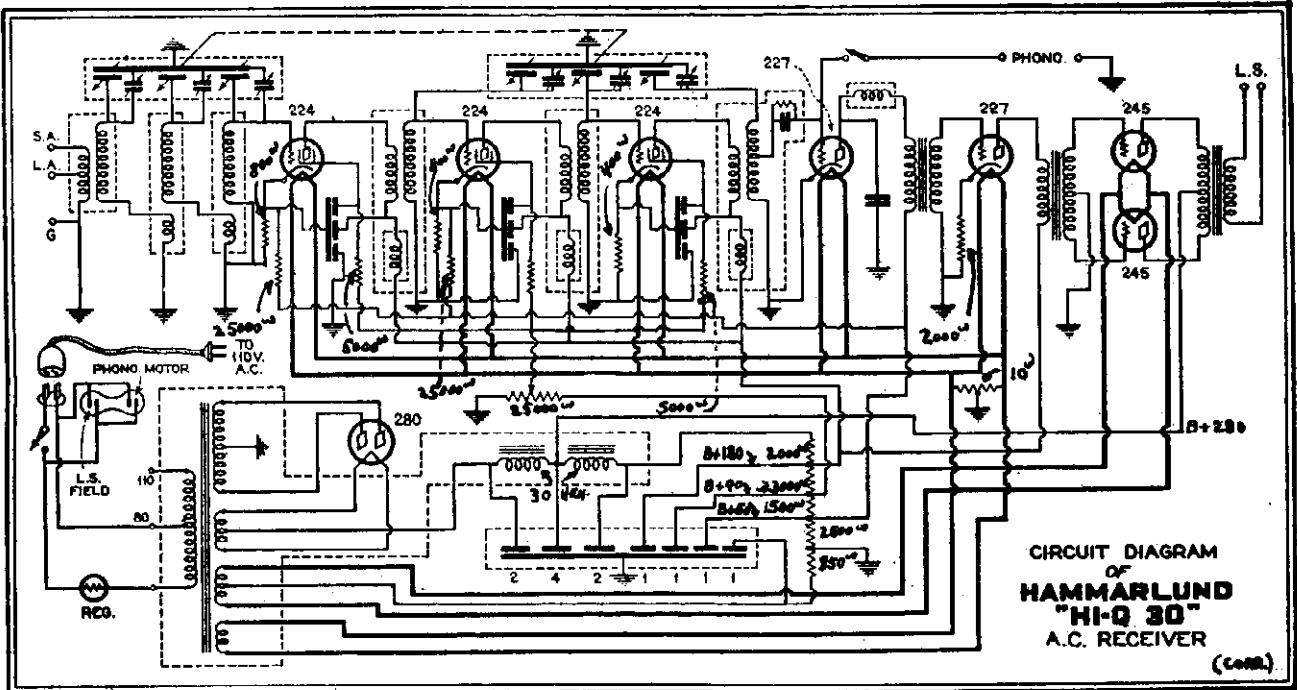
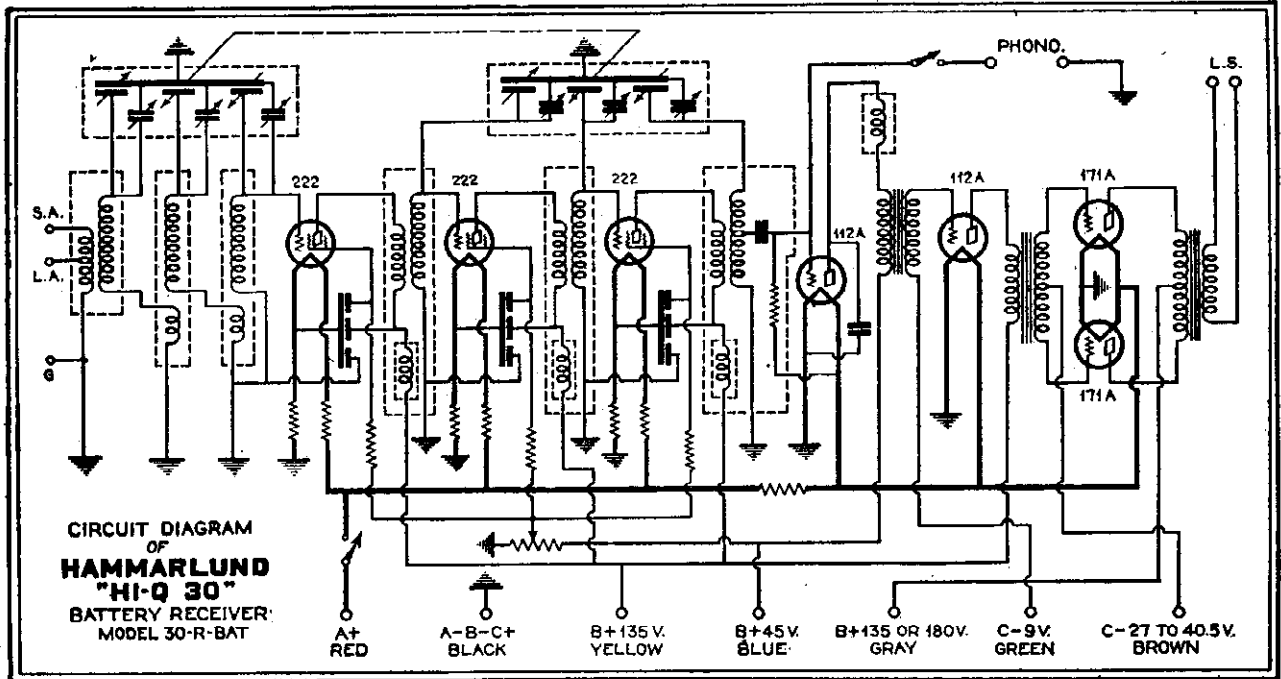
- MASTER A.C. - POWER CABLE**
- 1-RED } 15 V. A.C.
  - 2-BLACK } 15 V. A.C.
  - 3-RED-GREEN TRACER.
  - C-, 1 VOLT
  - 4-BLACK-GREEN
  - 5-RED-YELLOW TRACER } 5 V. A.C.
  - 6-BLACK-YELLOW TRACER } 5 V. A.C.
  - 7-YELLOW, B+ 90V.
  - 8-BLUE, B+ 45V.
  - 9-SLATE, B+ 135V.
  - 10-GREEN, B-C+
  - 11-BROWN, B+ 180V
  - 12-WHITE, C-4.5V



- Master D.C. - Batt. cable.**
- To B+ 135 Gray
  - " B+ 90 Yellow
  - " B+ 45 Blue
  - " B-, C+, A-, Black
  - " C-, 4.5 Green
  - " C-, 27. Brown
  - A+ Red

HAMMARLUND-ROBERTS, INC.

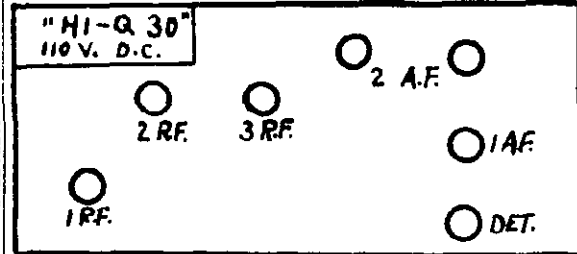
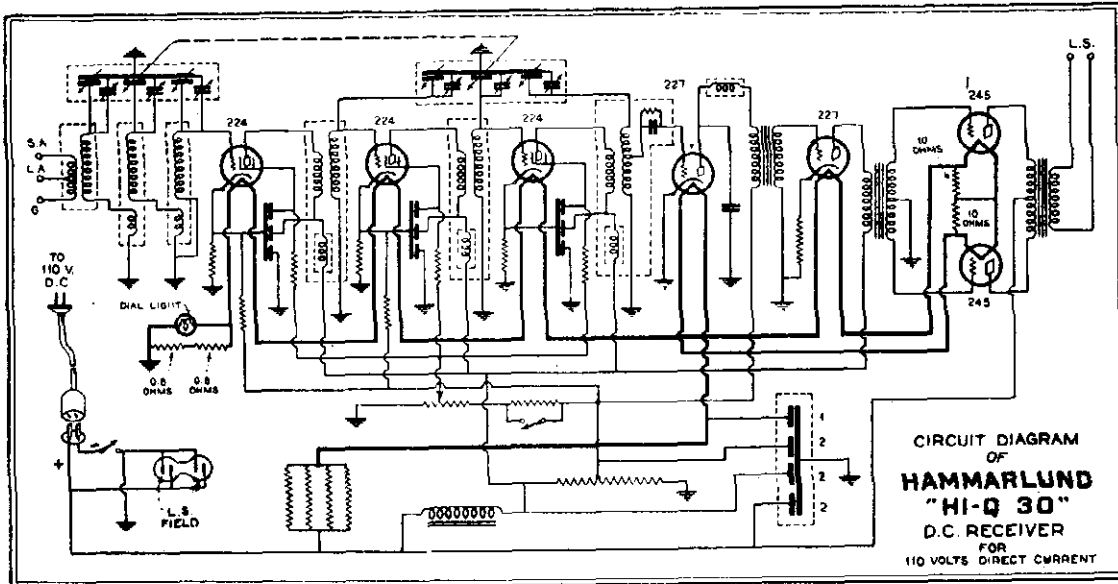
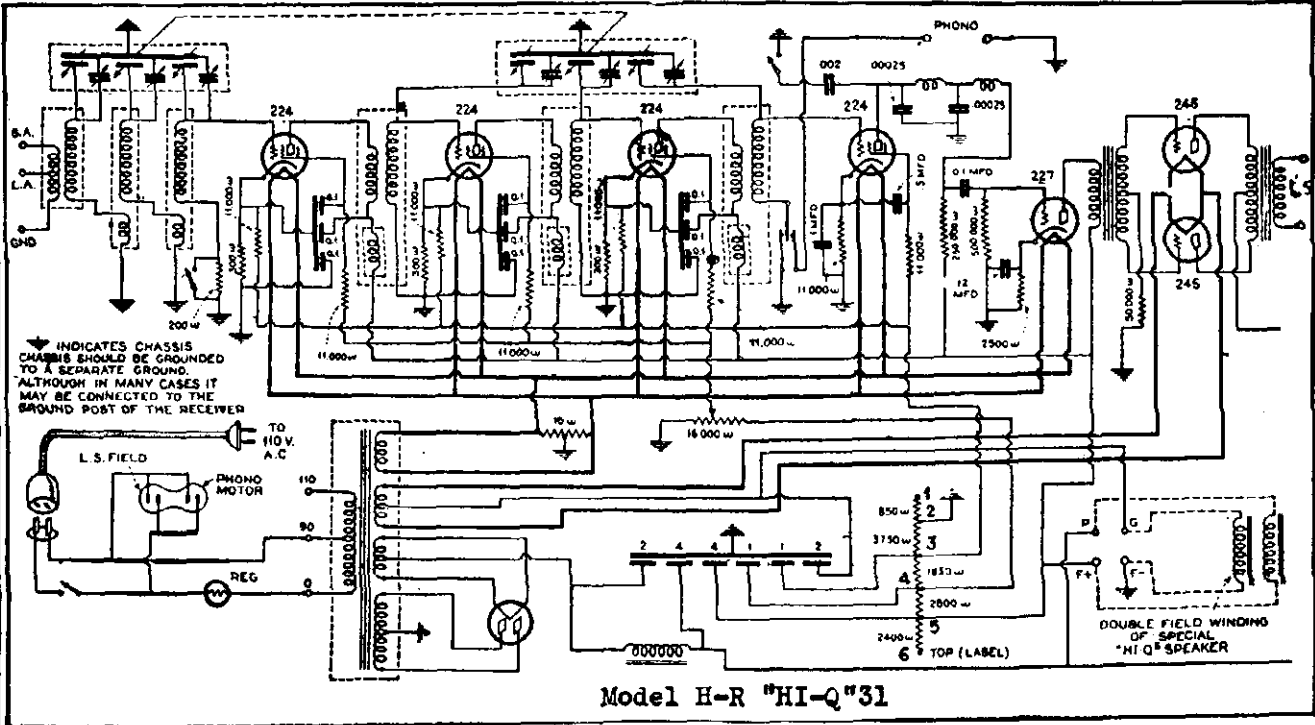
MODEL H-R "HI-Q" 30  
A.C.-Battery





MODEL H-R "HI-Q"30  
D.C.  
MODEL H-R "HI-Q"31

HAMMARLUND-ROBERTS, INC.



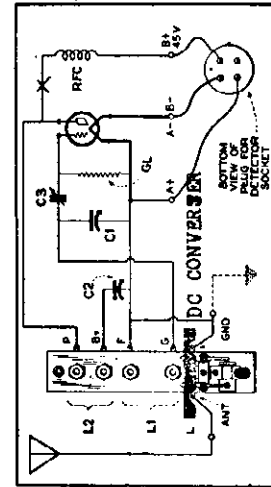
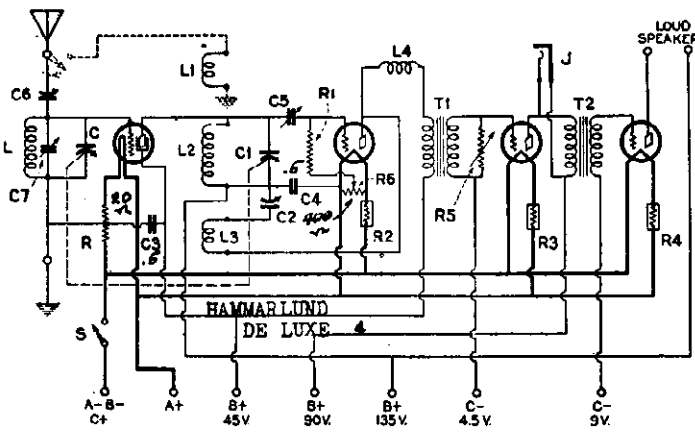
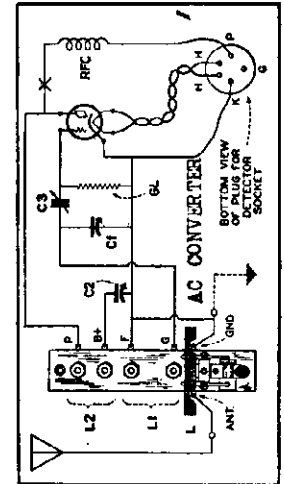
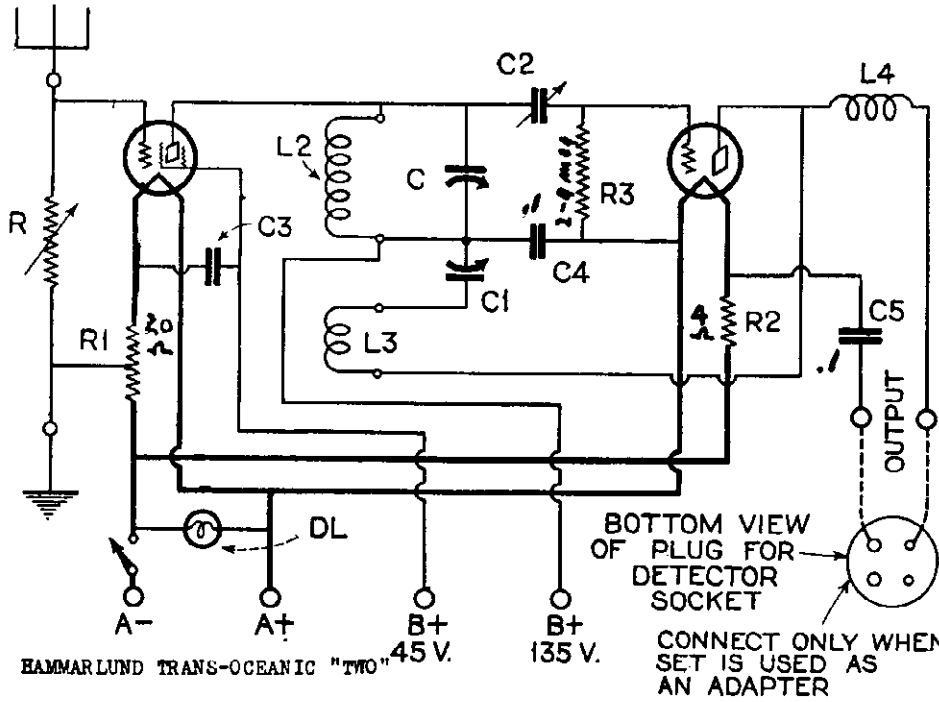
HI-Q 30 D.C.

Voltmeter readings from chassis to:

Top of voltage divider	- 110 V.
Middle tap	- 60 "
(P) term. of socket # 1, 2, 3 and 5	- 100 "
(P) " " " # 4	- 50 "
(P) " " " # 6 and 7	- 110 "
(G) " " " # 1, 2 and 3	- 20 "
(K) " " " # 1, 2 and 3	- 1-2 "
(K) " " " # 5	- 6 "

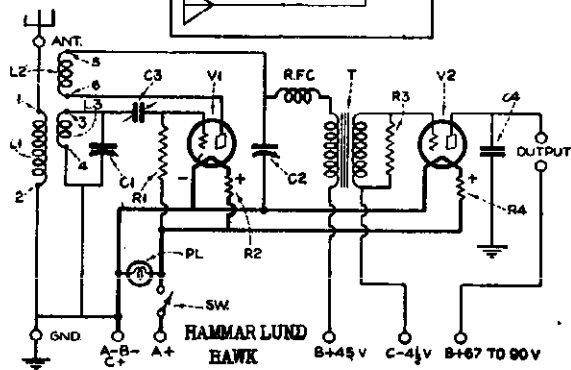
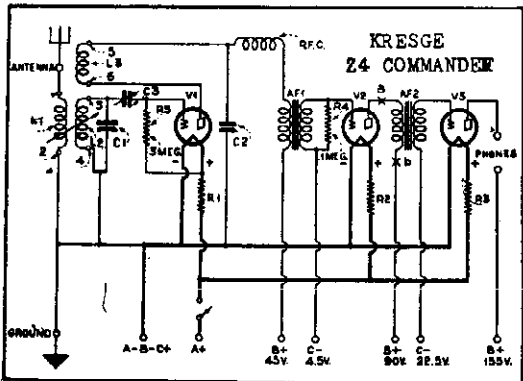
MODEL Hawk  
 MODEL DeLuxe  
 MODEL Z4 Commander  
 MODEL Trans-Oceanic Two  
 MODELS AC & DC Converters

HAMMARLUND MFG. CO.



Wave Band (Meters)	Secondary Turns	Tickler Turns
14 to 24	3	3
22 to 40	7	5
36 to 65	15	6
60 to 110	24	12

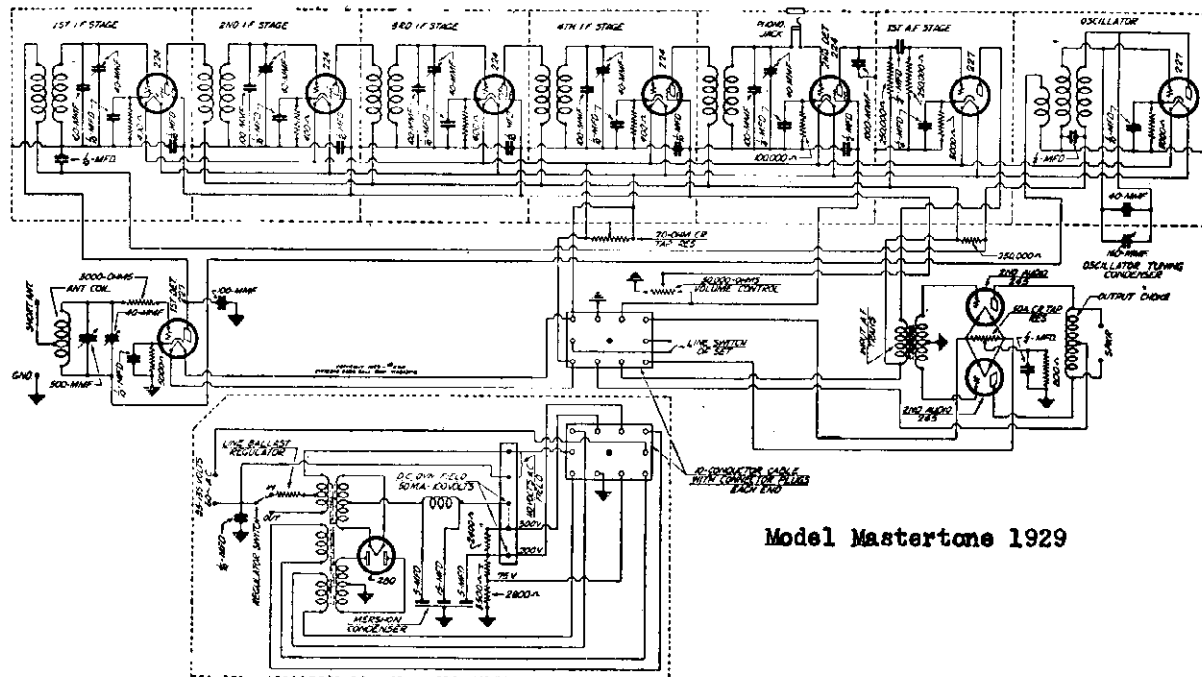
HAMMARLUND HAWK



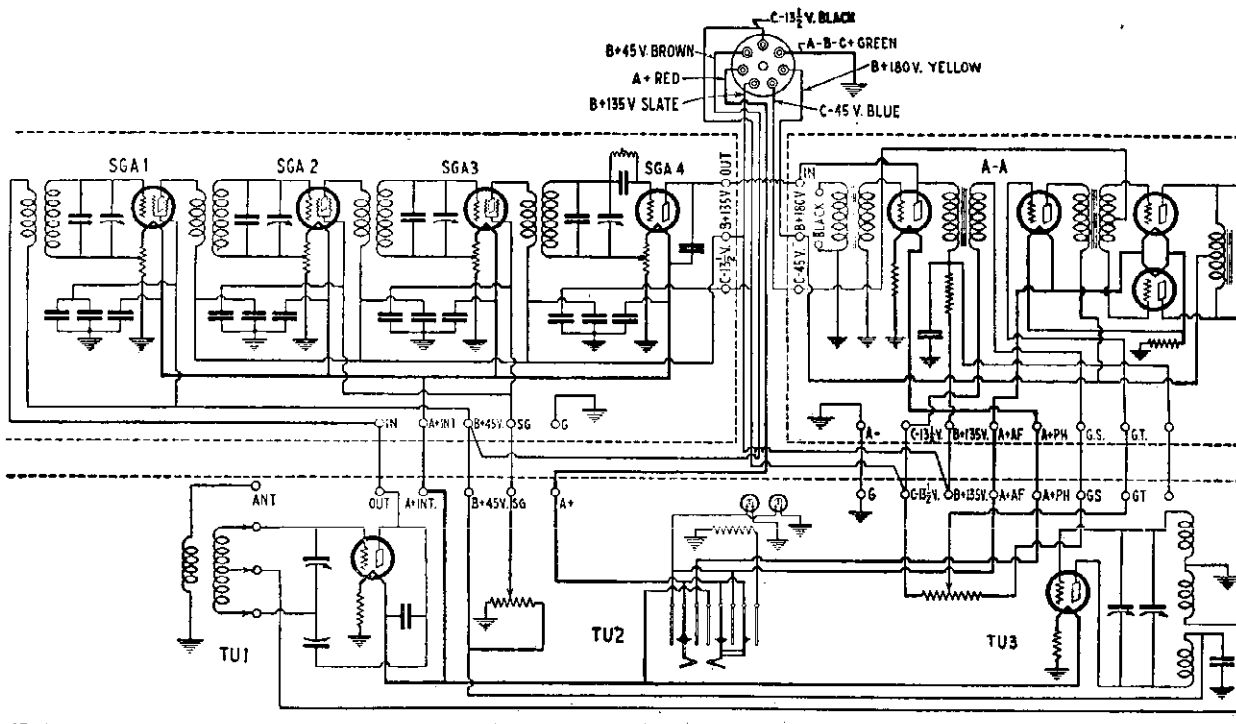


MODEL Mastertone 1929  
 MODEL Isotone 10

HIGH FREQUENCY LABORATORIES



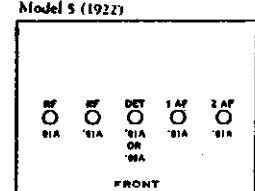
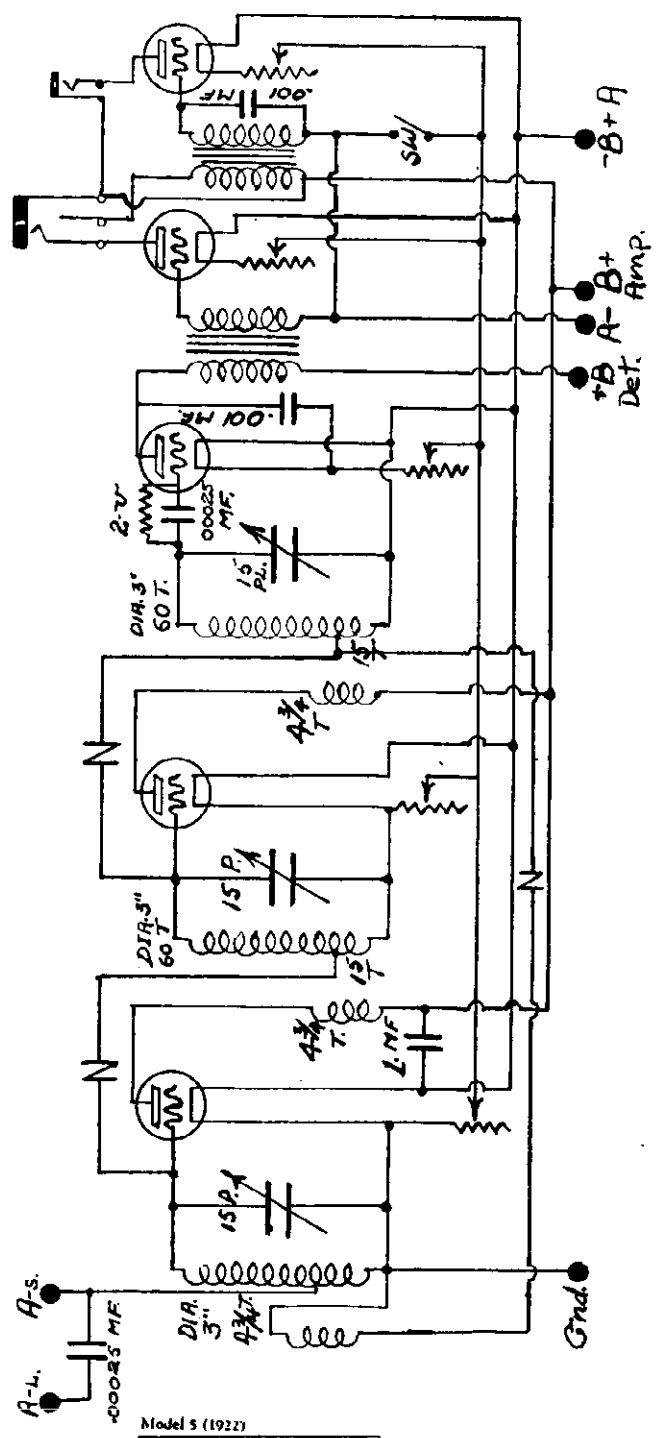
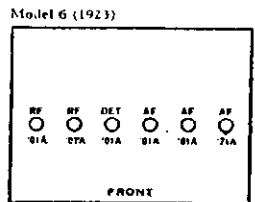
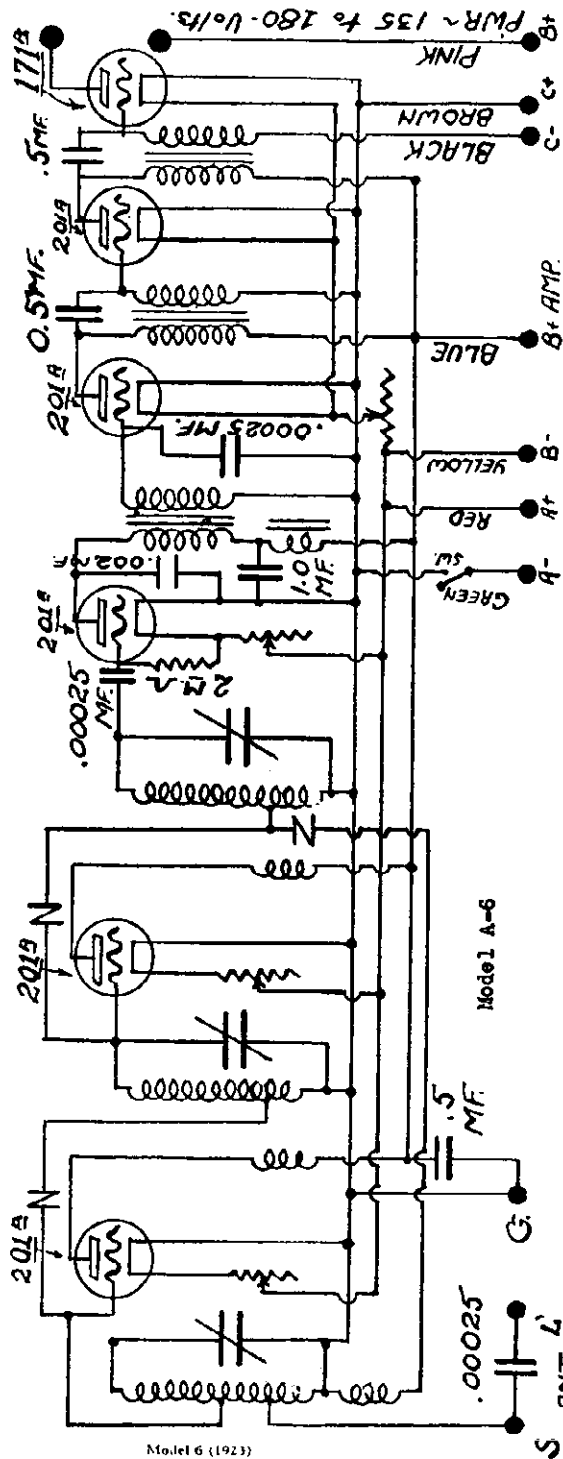
Model Mastertone 1929



Model Isotone 10

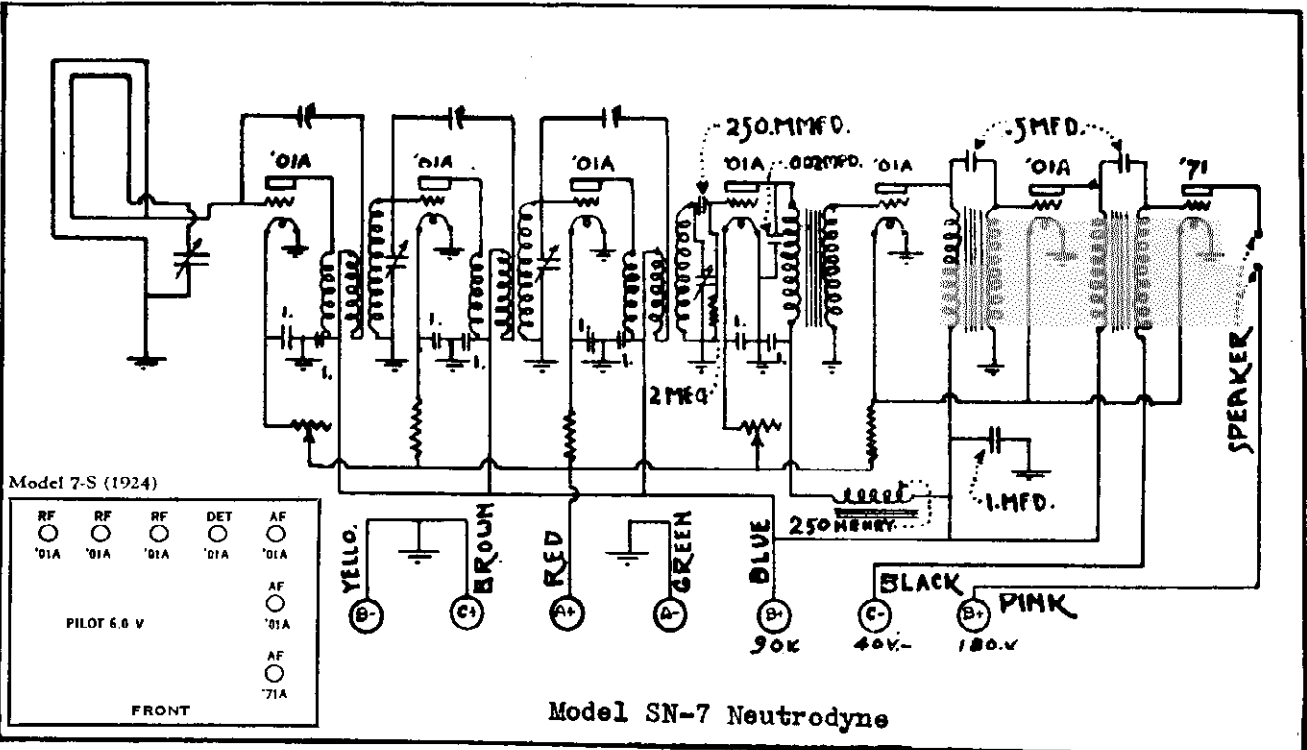
HOWARD RADIO CO.

MODEL A-5  
MODEL A-6



MODEL SN-7  
MODEL K

HOWARD RADIO CO

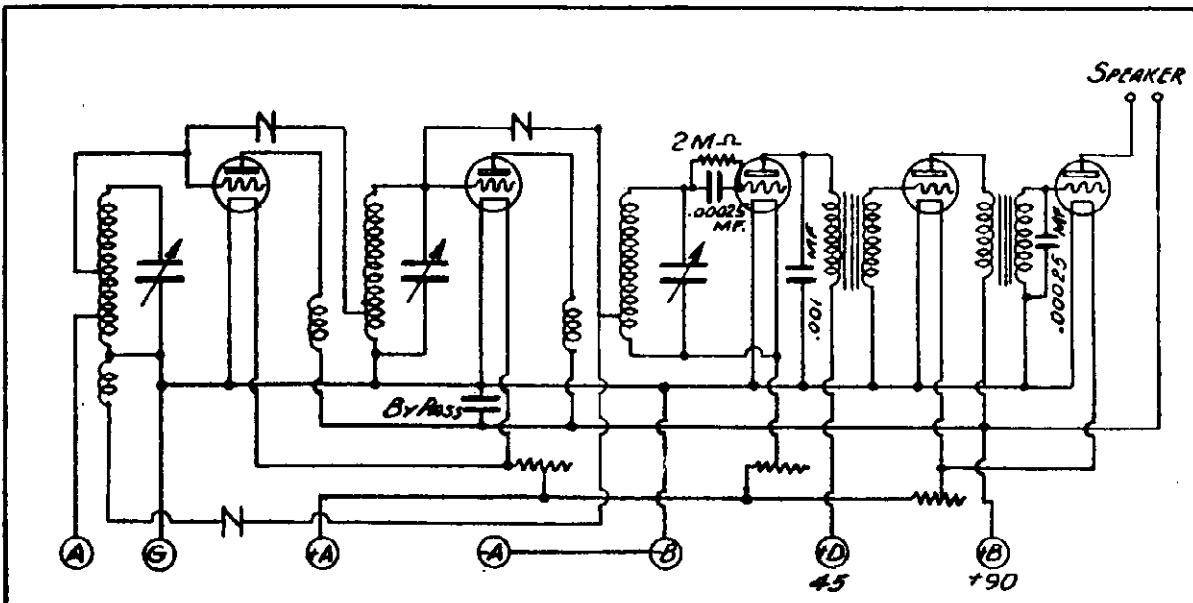


Model 7-S (1924)

RF	RF	RF	DET	AF
'01A	'01A	'01A	'01A	'01A
				AF
				'01A
				AF
				'71A

PILOT 6.6 V

FRONT

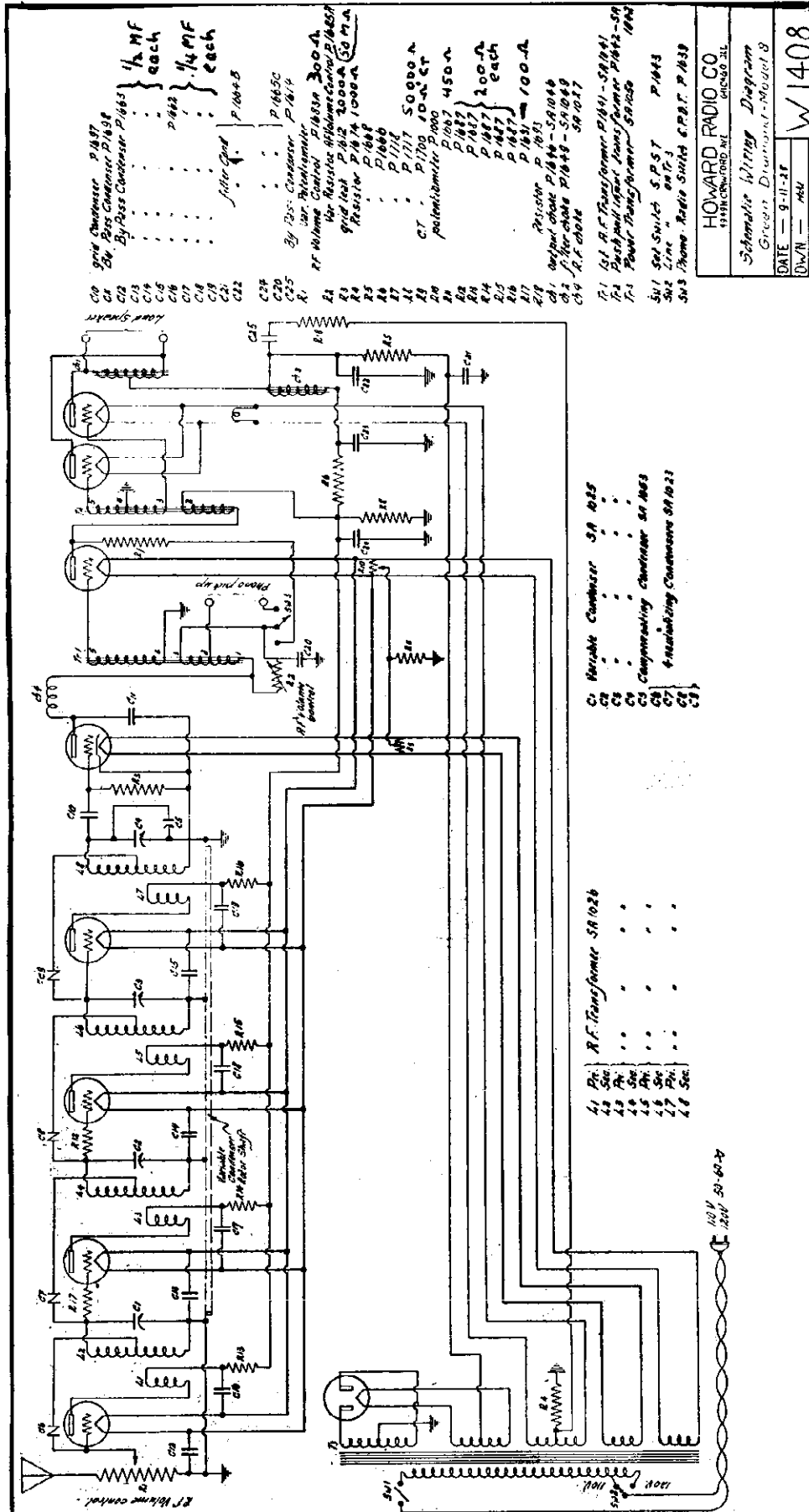


Model K

PAR No	HOWARD RADIO CO.
DATE 10-1-25	SOUTH HAVEN MICHIGAN
REVISED	NAME SCHEMATIC DIAGRAM
	OF HOWARD RECEIVER MODEL K
MATERIAL	WRH
FINISH	

HOWARD RADIO CO.

MODEL Green Diamond 8  
(Magnetic Speaker)



- grid Condenser P 1687
- By Pass Condenser P 1684
- By Pass Condenser P 1663
- 1/2 MF each
- 1/4 MF each
- 1/4 MF each
- Filter Grid P 1665
- By Pass Condenser P 1652
- By Pass Condenser P 1614
- RF Volume Control P 1610 300-Ω
- RF Resistor P 1611 200-Ω
- RF Resistor P 1612 200-Ω
- RF Resistor P 1613 1000-Ω
- RF Resistor P 1614 1000-Ω
- RF Resistor P 1615 1000-Ω
- CT P 1717 50,000-Ω
- Potentiometer P 1667 450-Ω
- P 1668
- P 1669
- P 1670
- P 1671
- P 1672
- P 1673
- P 1674
- P 1675
- P 1676
- P 1677
- P 1678
- P 1679
- P 1680
- P 1681
- P 1682
- P 1683
- P 1684
- P 1685
- P 1686
- P 1687
- P 1688
- P 1689
- P 1690
- P 1691
- P 1692
- P 1693
- P 1694
- P 1695
- P 1696
- P 1697
- P 1698
- P 1699
- P 1700
- P 1701
- P 1702
- P 1703
- P 1704
- P 1705
- P 1706
- P 1707
- P 1708
- P 1709
- P 1710
- P 1711
- P 1712
- P 1713
- P 1714
- P 1715
- P 1716
- P 1717
- P 1718
- P 1719
- P 1720
- P 1721
- P 1722
- P 1723
- P 1724
- P 1725
- P 1726
- P 1727
- P 1728
- P 1729
- P 1730
- P 1731
- P 1732
- P 1733
- P 1734
- P 1735
- P 1736
- P 1737
- P 1738
- P 1739
- P 1740
- P 1741
- P 1742
- P 1743
- P 1744
- P 1745
- P 1746
- P 1747
- P 1748
- P 1749
- P 1750
- P 1751
- P 1752
- P 1753
- P 1754
- P 1755
- P 1756
- P 1757
- P 1758
- P 1759
- P 1760
- P 1761
- P 1762
- P 1763
- P 1764
- P 1765
- P 1766
- P 1767
- P 1768
- P 1769
- P 1770
- P 1771
- P 1772
- P 1773
- P 1774
- P 1775
- P 1776
- P 1777
- P 1778
- P 1779
- P 1780
- P 1781
- P 1782
- P 1783
- P 1784
- P 1785
- P 1786
- P 1787
- P 1788
- P 1789
- P 1790
- P 1791
- P 1792
- P 1793
- P 1794
- P 1795
- P 1796
- P 1797
- P 1798
- P 1799
- P 1800

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

HOWARD RADIO CO.  
1518 CLEVELAND AVE.  
CHICAGO, ILL.

Schematic Wiring Diagram  
Green Diamond-Model 8

DATE — 9-11-37  
DWN — ASU

W 1408

TYPE OF TUBE	POSITION OF TUBE IN SET	TUBE DATA					TUBE IN TESTER		TUBE TEST CAPACITANCE
		VOLTS	WATTS	WATTS	WATTS	WATTS	WATTS	WATTS	
226	1st A.F. ETC	1.5	1.2	1.2	1.2	1.2	1.2	1.2	3-8
226	2nd A.F.	1.5	1.2	1.2	1.2	1.2	1.2	1.2	3-8
226	3rd A.F.	1.5	1.2	1.2	1.2	1.2	1.2	1.2	3-8
226	4th A.F.	1.5	1.2	1.2	1.2	1.2	1.2	1.2	3-8
5A1025	Variable Condenser	—	—	—	—	—	—	—	—
5A1026	R.F. Transformer	—	—	—	—	—	—	—	—
5A1027	Full-Wave Rectifier	—	—	—	—	—	—	—	—

(A.C.)

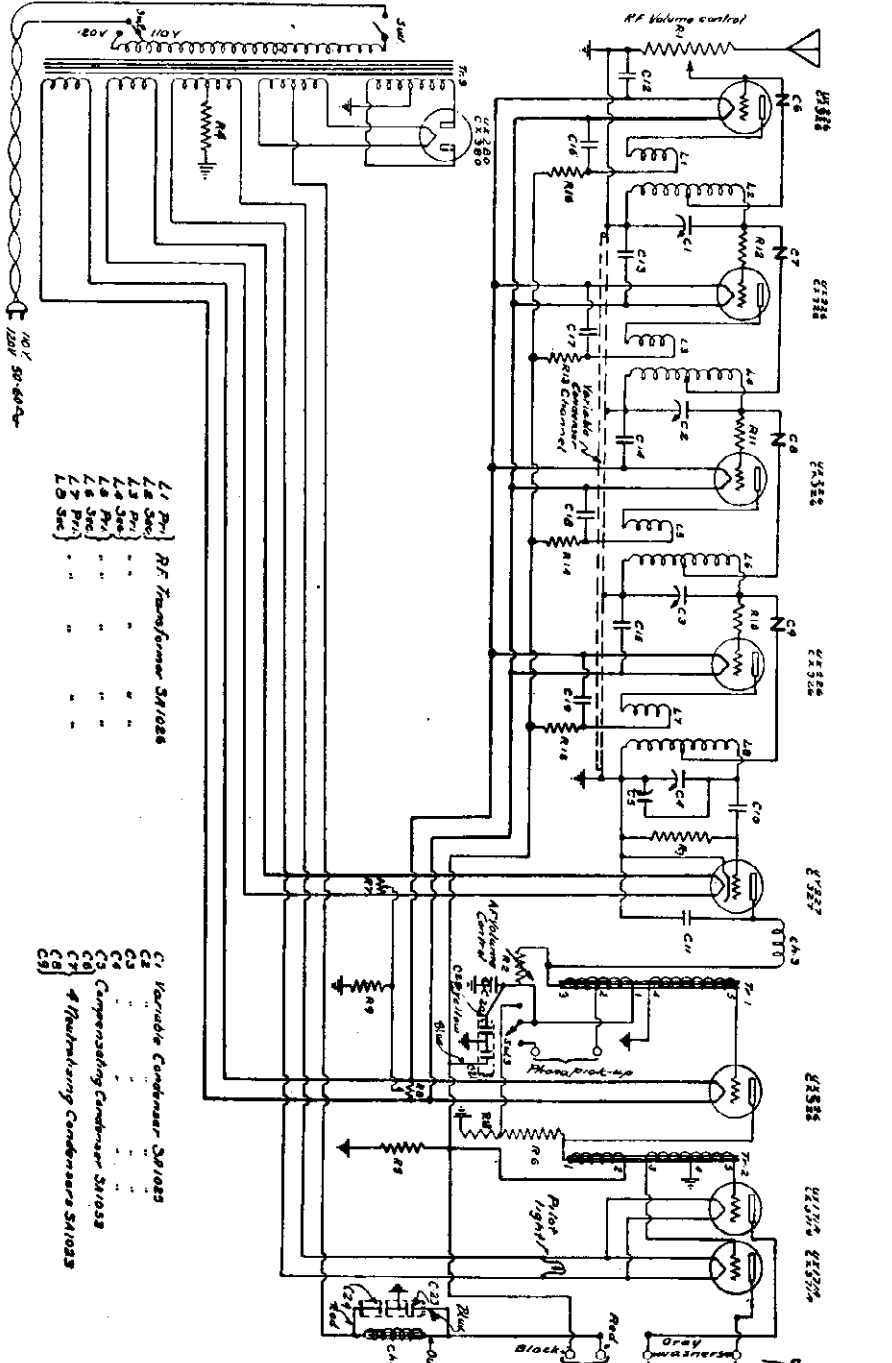
Green Diamond 8,

- CX-326 CX-371A CX-380
- 1st A.F. Rect.
- 2nd A.F.
- CX-326 CX-326
- 3rd R.F.
- CX-326 CX-326
- 4th R.F.
- C-327 Det.
- CX-326
- 1st R.F.
- 2nd R.F.
- 3rd R.F.
- 4th R.F.
- Det.

4-0-0 50-60-4

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

TUBE	TYPE	REPLACEMENT	TUBE DATA				RESISTANCE PLUG IN SOCKET OF SET				
			A	B	C	D	A	B	C	D	
225	1st. R.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
226	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
227	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
228	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
229	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
230	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
231	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
232	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
233	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
234	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
235	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
236	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
237	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
238	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
239	1st. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8
240	2nd. A.F.	1.3	1.36	1.2	1.32	0	—	4.4	8.2	3.8	3.8



- L1 20V 50-60Hz
- L2 500Ω
- L3 500Ω
- L4 500Ω
- L5 500Ω
- L6 500Ω
- L7 500Ω
- L8 500Ω
- L9 500Ω

- C1 Variable Condenser S81025
- C2 "
- C3 "
- C4 Compensating Condenser S81025
- C5 "
- C6 4 Reactoring Condensers S81025
- C7 "
- C8 "
- C9 "
- C10 "

- T1 1st. R.F. Transformer S81025
- T2 Push Pull Input Transformer S81025
- T3 Speaker Input Trans S81025
- S1 300Ω Switch S81025
- S2 100Ω Switch S81025
- S3 500Ω Switch S81025

- R1 100Ω
- R2 100Ω
- R3 100Ω
- R4 100Ω
- R5 100Ω
- R6 100Ω
- R7 100Ω
- R8 100Ω
- R9 100Ω
- R10 100Ω
- R11 100Ω
- R12 100Ω
- R13 100Ω
- R14 100Ω
- R15 100Ω
- R16 100Ω
- R17 100Ω
- R18 100Ω
- R19 100Ω
- R20 100Ω
- R21 100Ω
- R22 100Ω
- R23 100Ω
- R24 100Ω
- R25 100Ω
- R26 100Ω
- R27 100Ω
- R28 100Ω
- R29 100Ω
- R30 100Ω
- R31 100Ω
- R32 100Ω
- R33 100Ω
- R34 100Ω
- R35 100Ω
- R36 100Ω
- R37 100Ω
- R38 100Ω
- R39 100Ω
- R40 100Ω
- R41 100Ω
- R42 100Ω
- R43 100Ω
- R44 100Ω
- R45 100Ω
- R46 100Ω
- R47 100Ω
- R48 100Ω
- R49 100Ω
- R50 100Ω
- R51 100Ω
- R52 100Ω
- R53 100Ω
- R54 100Ω
- R55 100Ω
- R56 100Ω
- R57 100Ω
- R58 100Ω
- R59 100Ω
- R60 100Ω
- R61 100Ω
- R62 100Ω
- R63 100Ω
- R64 100Ω
- R65 100Ω
- R66 100Ω
- R67 100Ω
- R68 100Ω
- R69 100Ω
- R70 100Ω
- R71 100Ω
- R72 100Ω
- R73 100Ω
- R74 100Ω
- R75 100Ω
- R76 100Ω
- R77 100Ω
- R78 100Ω
- R79 100Ω
- R80 100Ω
- R81 100Ω
- R82 100Ω
- R83 100Ω
- R84 100Ω
- R85 100Ω
- R86 100Ω
- R87 100Ω
- R88 100Ω
- R89 100Ω
- R90 100Ω
- R91 100Ω
- R92 100Ω
- R93 100Ω
- R94 100Ω
- R95 100Ω
- R96 100Ω
- R97 100Ω
- R98 100Ω
- R99 100Ω
- R100 100Ω

**Green Diamond 8,**

CX-326 1st A.F.  
 CX-371A 2nd A.F.  
 CX-380 2nd A.F.  
 CX-326 1st A.F.  
 CX-325 2nd A.F.  
 CX-326 1st A.F.  
 CX-326 2nd A.F.

(A.C.)

**HOWARD RADIO CO**  
 494 VERNON AVENUE  
 CHICAGO, ILL.

**W-1409-AB**

**MODEL Green Diamond 8**  
 (Dym. Spkr. 71)

**HOWARD RADIO CO.**

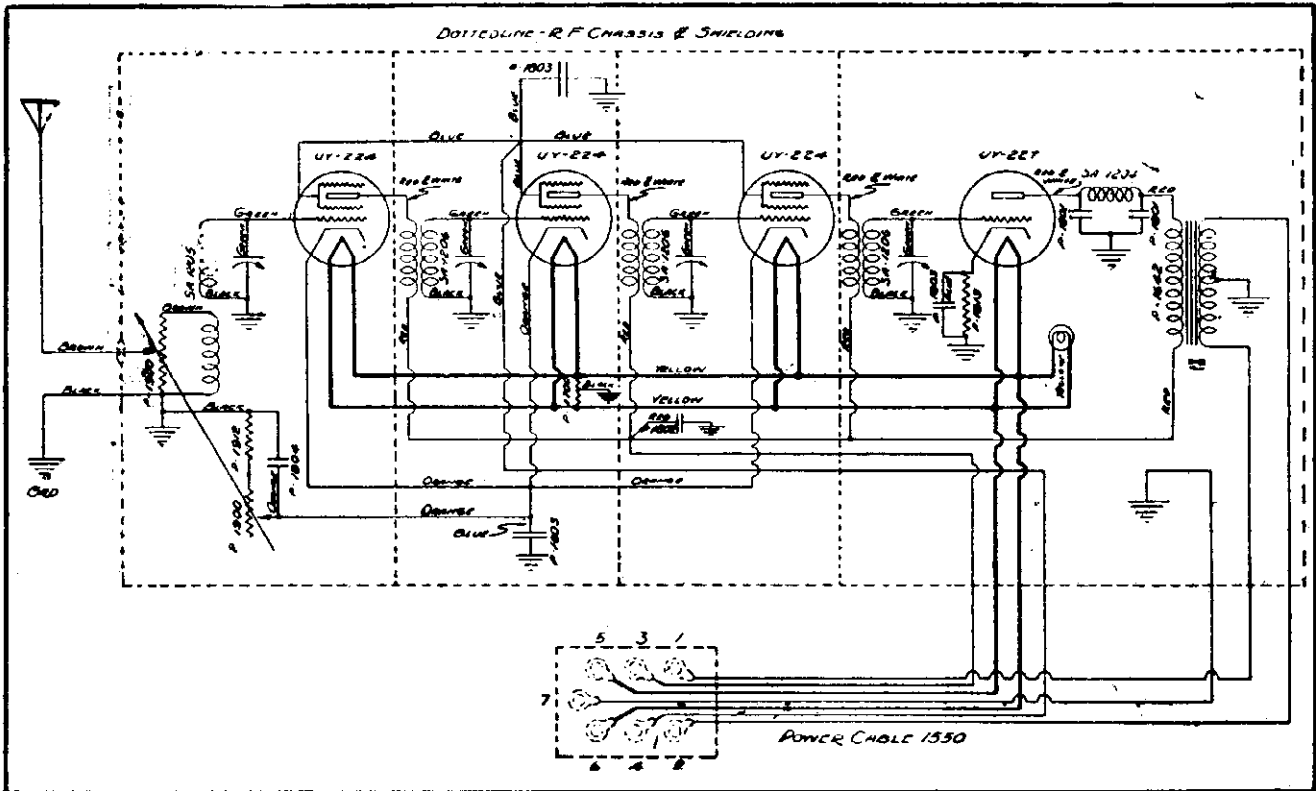




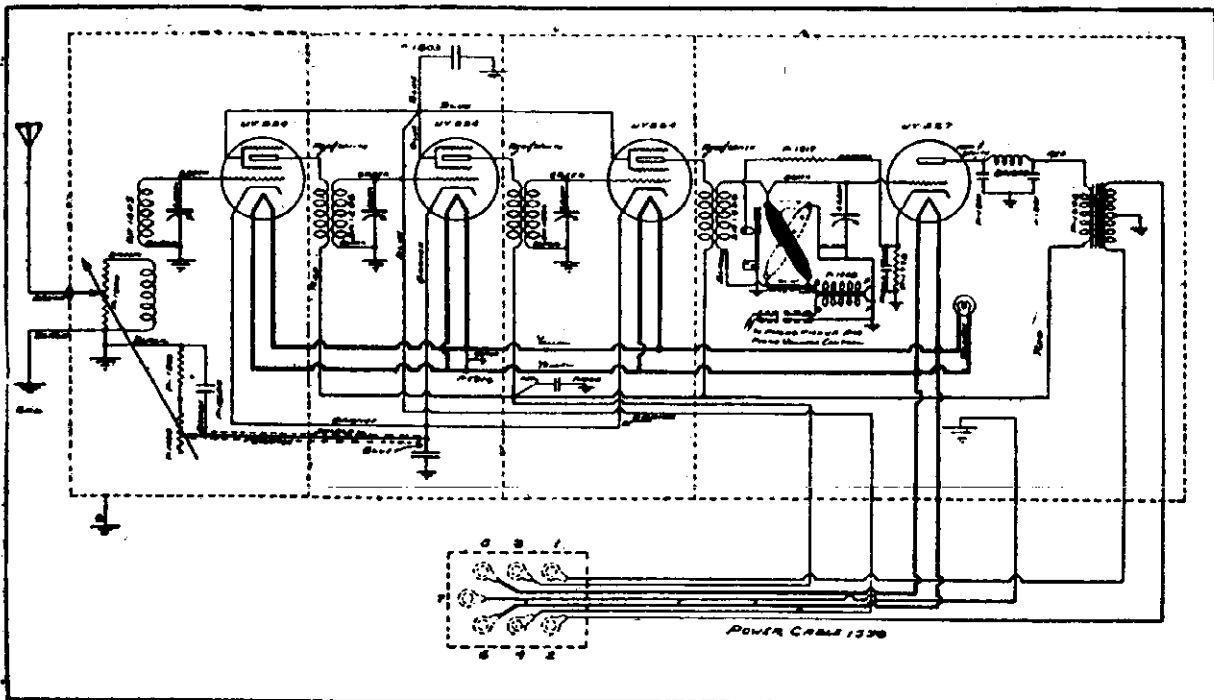
MODEL SG "A"  
 RF Chassis  
 MODEL SG "C"  
 RF Chassis

HOWARD RADIO CO.

DOTTEDLINE - R.F. CHASSIS & SHIELDING



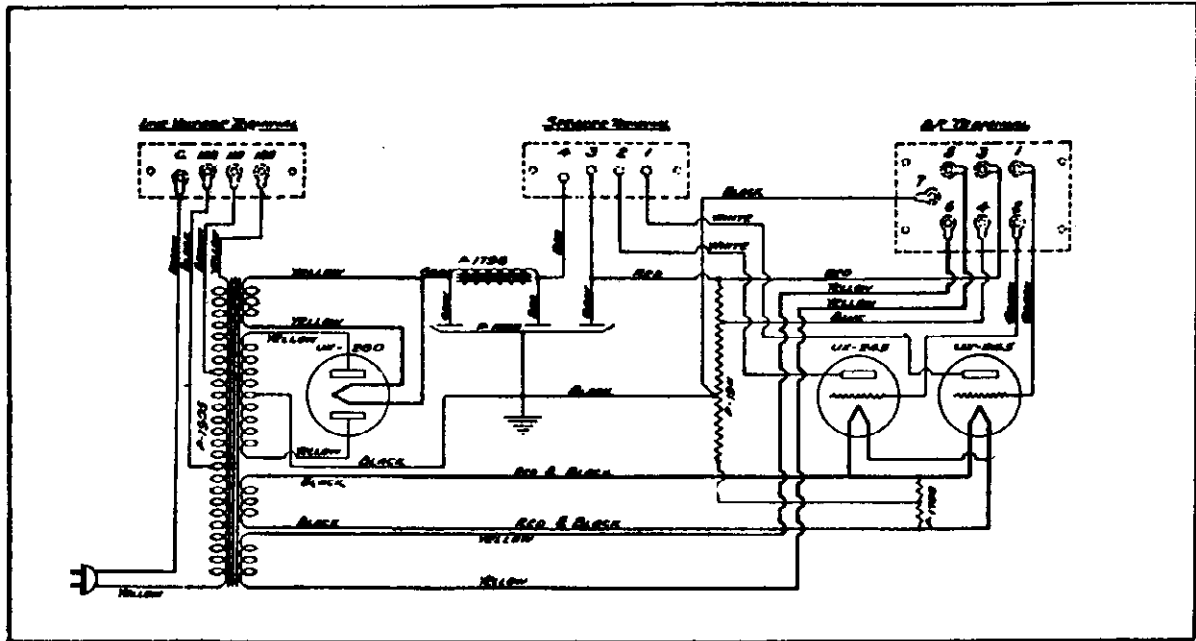
R.F. Chassis Model S.G. "A"



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

HOWARD RADIO CO

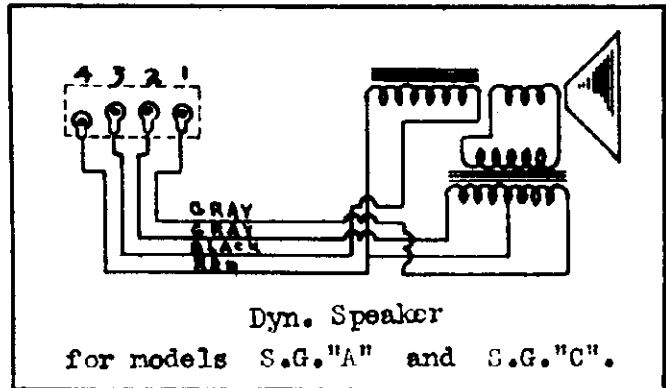
MODEL SG "A"  
AF Chassis  
MODEL SG "C"  
AF Chassis  
Voltage



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



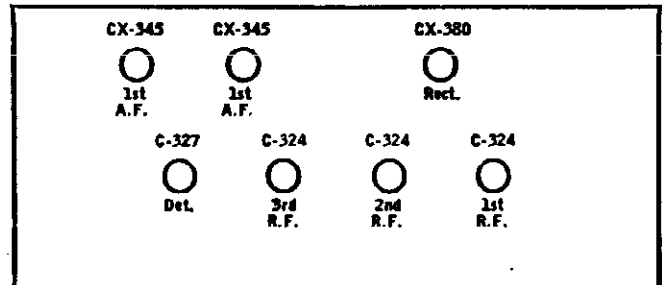
Dyn. Speaker  
for models S.G. "A" and S.G. "C".

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	G VOLTS	B VOLTS	C VOLTS	CATHODE HEATEN VOLTS	NORMAL PLATE MA	PLATE CHANGE MA	SCREEN GRID MA	SCREEN GRID VOLTS			
1	224	1 R.F.	2.40	171	8.26	164	2.7	1.9	3.3	4.3	1.0	64		
2	224	2 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3	1.0	64		
3	224	3 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3	1.0	64		
4	227	Det.	2.45	161	2.32	*150	15.12	11.6	1.1	1.4	0.3	-		
5	245	P. P.	2.33	272	2.21	251	47.0	-	26	30	4.0	-		
6	255	P. P.	2.33	272	2.21	251	47.0	-	26	30	4.0	-		
7	280	Rect.	5.54	-	4.65	-	-	-	64	-	-	-		

SG-A

(A.C.)

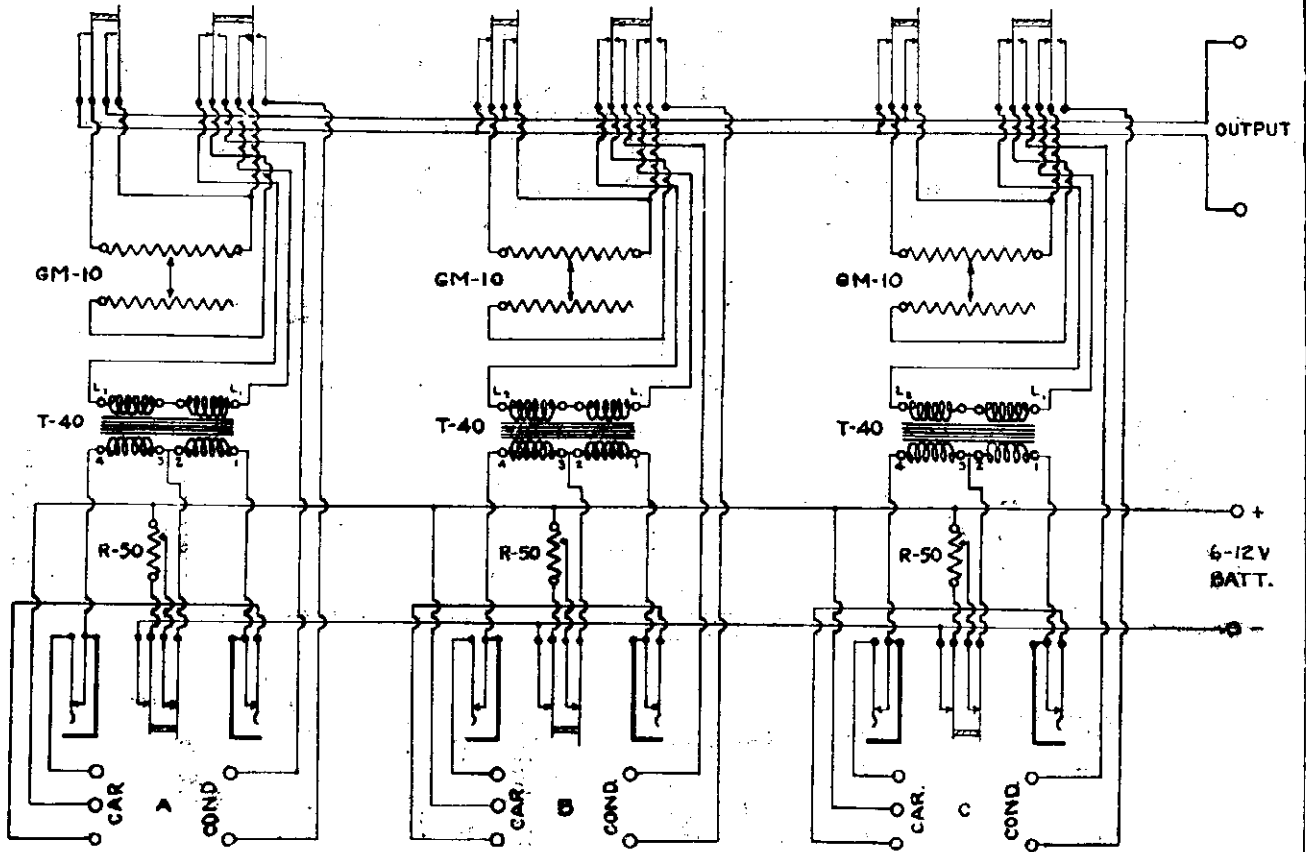


\*Detector coil shorted to give correct voltage when measuring detector

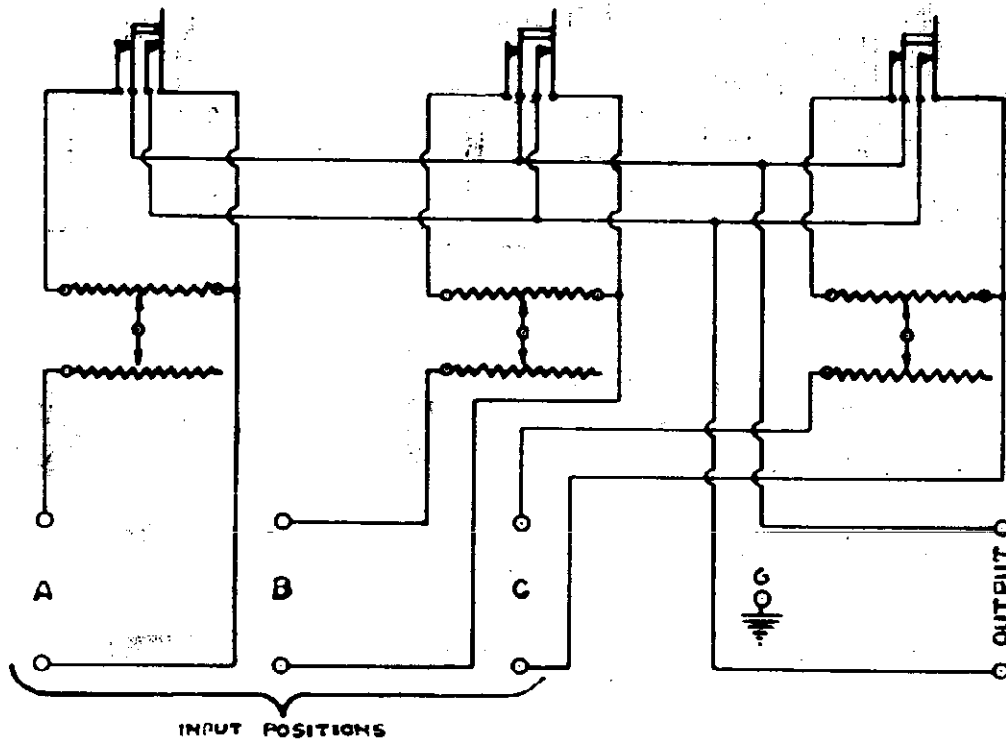


J. E. JENKINS AND S. E. ADAIR

MODEL 3B Mixing Panel  
MODEL 3C Mixing Panel



Schematic of: 3B MIXING PANEL

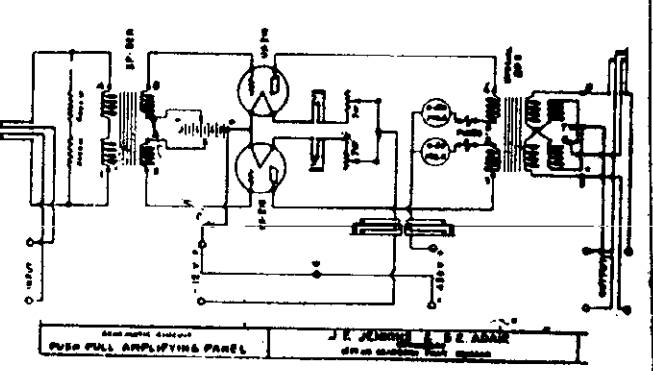
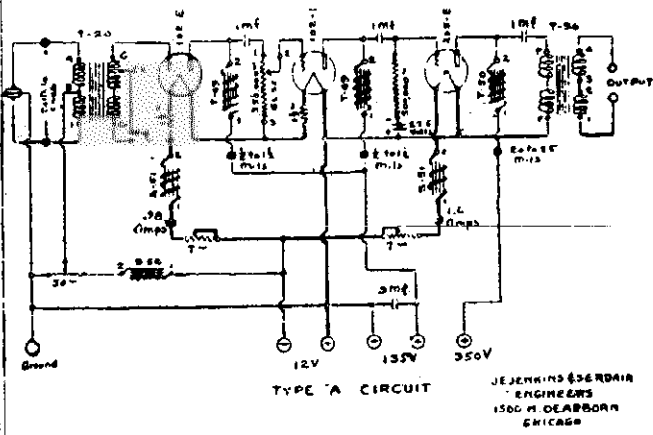
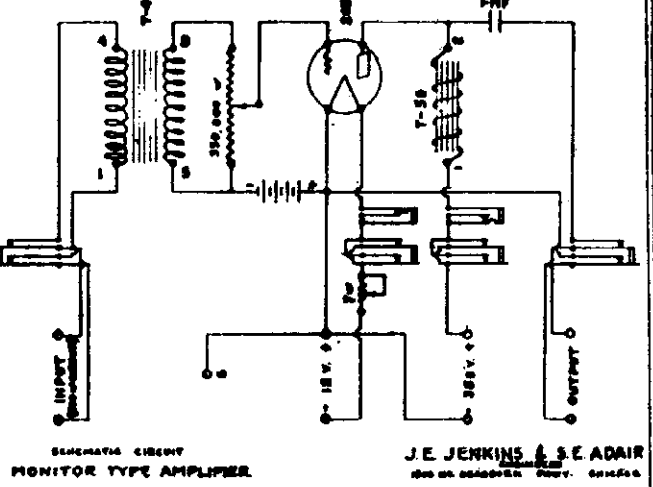
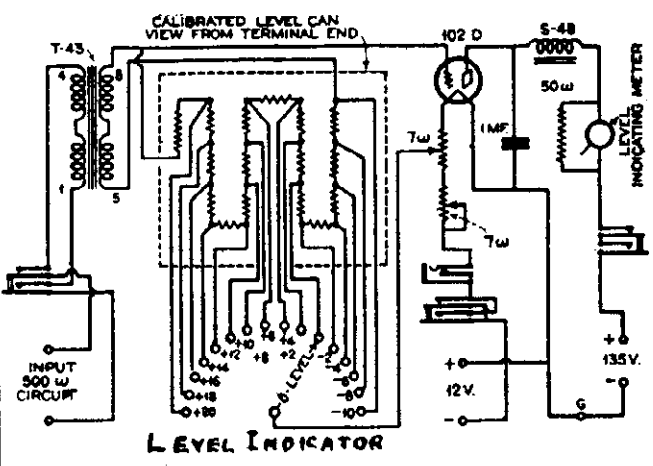
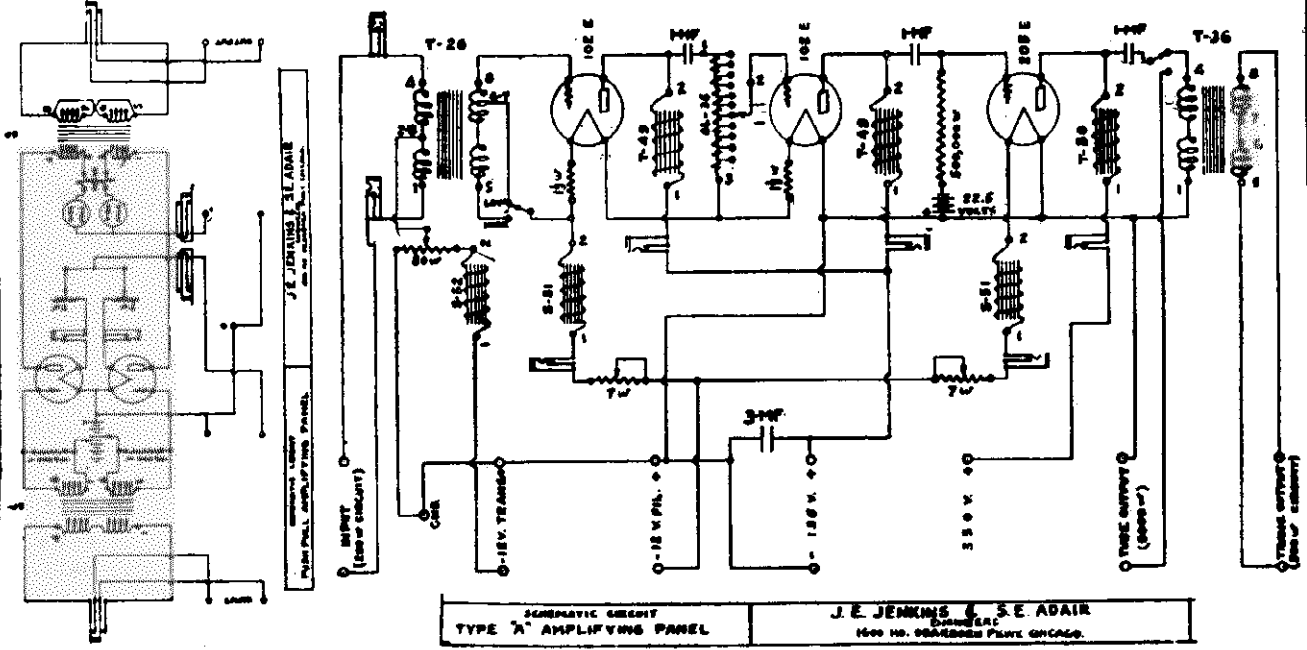


SCHEMATIC CIRCUIT  
3-C MIXING PANEL

J. E. JENKINS & S. E. ADAIR  
ENGINEERS  
1500 NO. DEARBORN PKWY. CHICAGO.

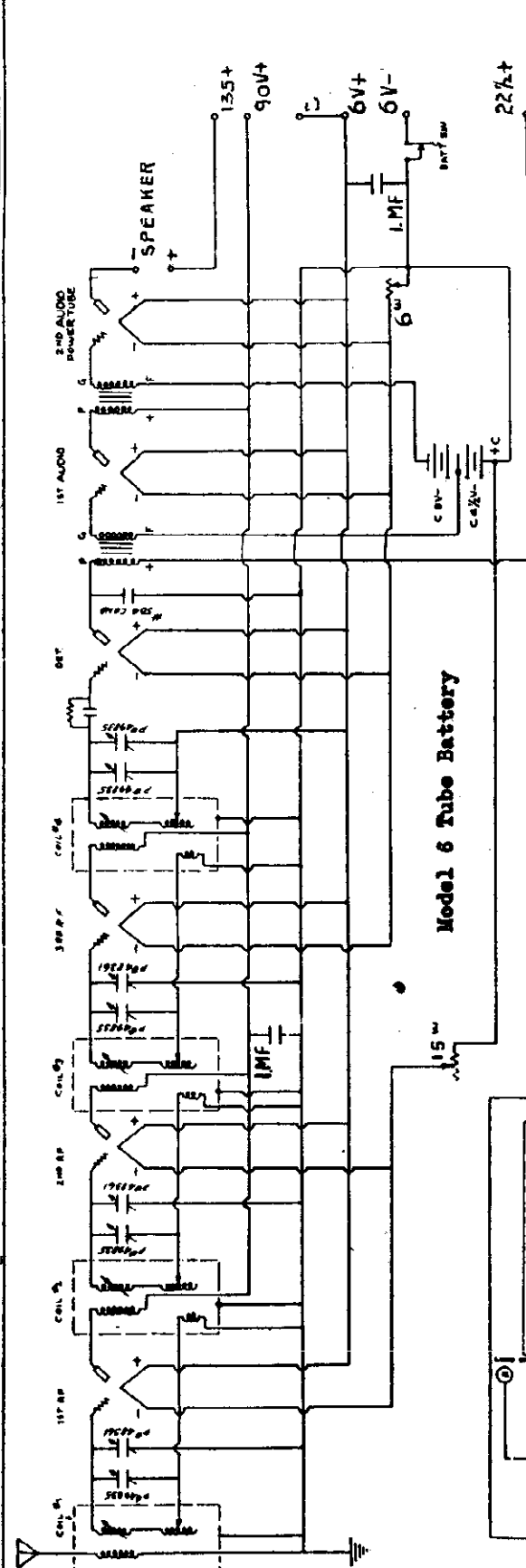
MODEL A Two Types  
 MODEL PushPull Amp.  
 MODEL Monitor Amp.  
 MODEL Level Indicator

J. E. JENKINS AND S. E. ADAIR

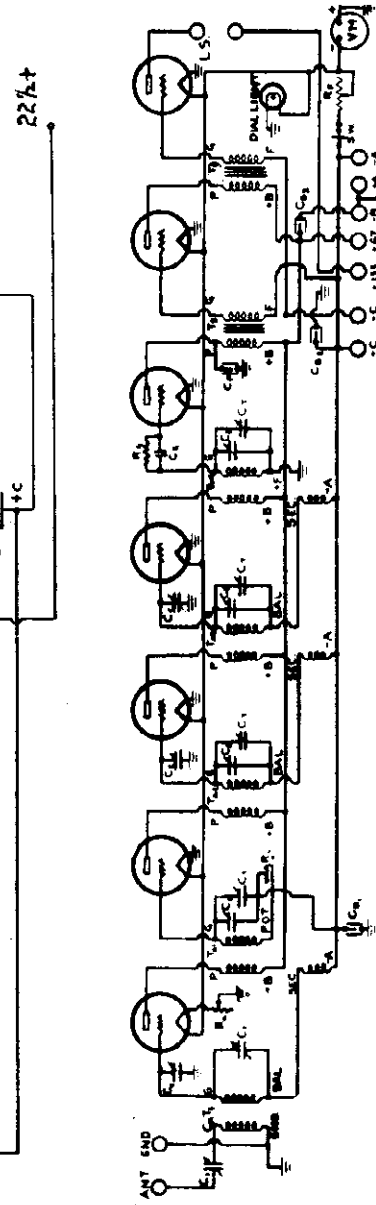


KELLOGG SWITCHBOARD & SUPPLY CO.

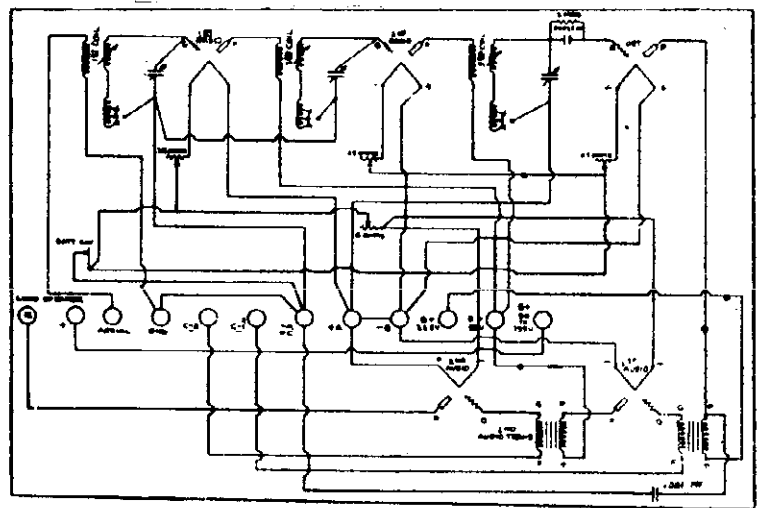
MODEL 6 Tube Battery  
 MODEL 7 Tube Cascade  
 MODEL Wave Master



Model 6 Tube Battery



Model 7 Tube Cascade

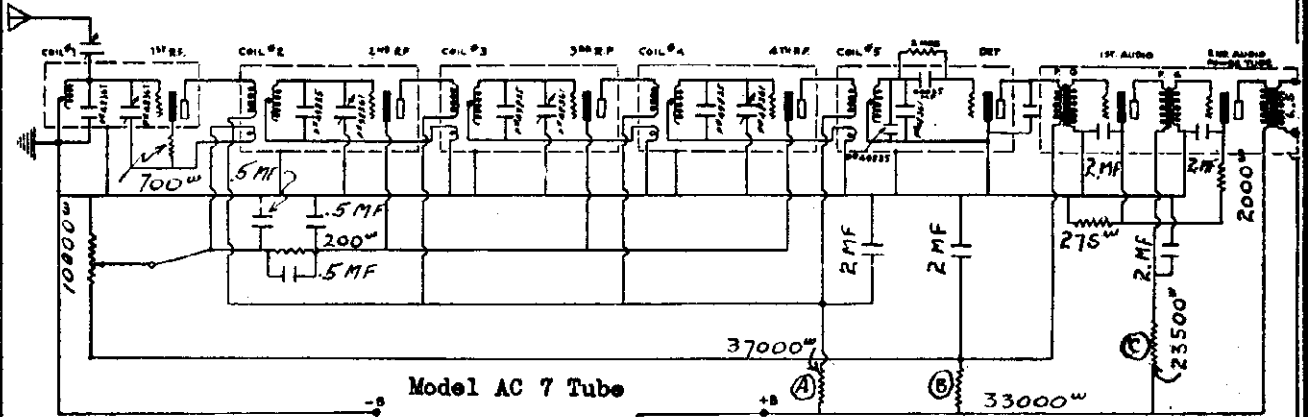


Model Wave Master

- C1 ANTENNA EQUALIZER .00027 MF
- C2 TUNING ALIGNMENT CONDENSER
- C3 BYPASS CONDENSER .001 MF
- C4 BALANCING CONDENSER .00006 MF
- C5 GRID CONDENSER .00025 MF
- C6 BYPASS CONDENSER .001 MF
- C7 GANG CONDENSER .0005 MF [STATION SELECTOR]
- L DIAL LIGHT
- R ROTOR PLATES OF VARIABLE CONDENSER
- R1 FILAMENT RHEOSTAT 4 OHMS
- R2 GRID LEAK 2 1/2 MEGOHMS
- R3 NON-INDUCTIVE WIRE RESISTANCE 200 OHMS
- R4 RHEOSTAT 20 OHMS
- S STATIONARY PLATES OF VARIABLE CONDENSER
- SW FILAMENT SWITCH
- T1 RADIO FREQUENCY TRANSFORMER
- T2 INPUT TRANSFORMER
- T3 KELLOGG AUDIO TRANSFORMER
- VM FILAMENT VOLTMETER
- ⊕ GROUND TO SHIELD

MODEL RFL 701  
 MODEL AC 7 Tube  
 MODEL Chassis B

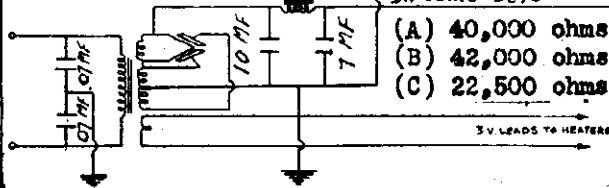
KELLOGG SWITCHBOARD & SUPPLY CO.



Model AC 7 Tube

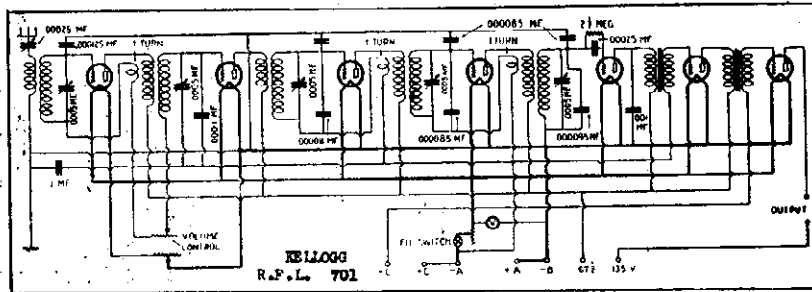
KELLOGG—7 Tube "A" Chassis  
 Line Voltage 115—Volume Control Full

In some sets

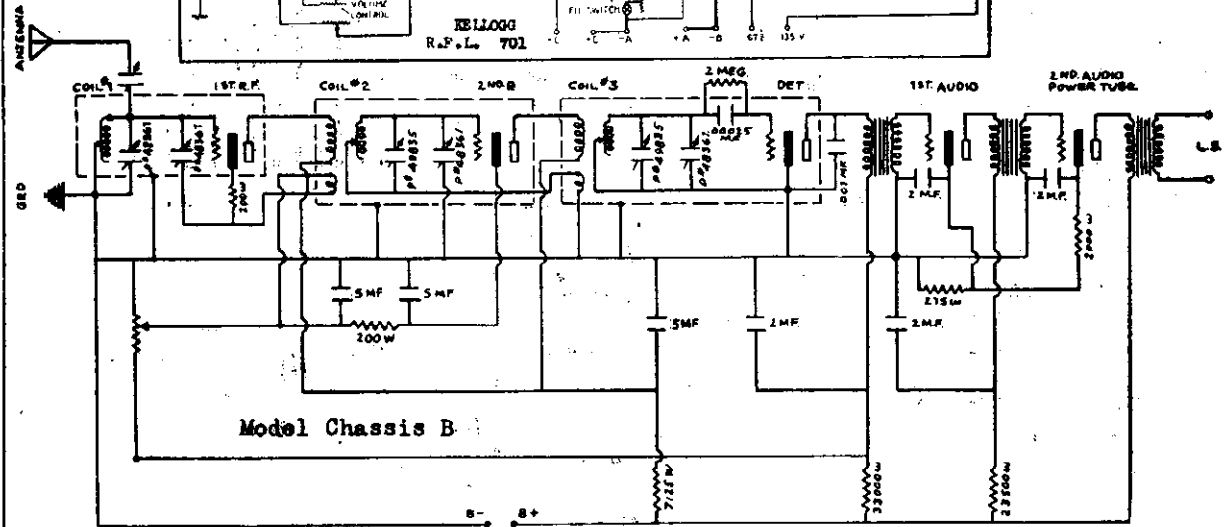


- (A) 40,000 ohms
- (B) 42,000 ohms
- (C) 22,500 ohms

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST BY DET. ETC.)	TUBE OUT					TUBE IN TESTER			
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE V.A.	PLATE TEST	PLATE V.A. CHANGE
1	401	1st. R.F.	2.75	115	2.75	108	3.5	-	6.0	10.5	4.5
2	401	2nd. R.F.	2.75	115	2.75	108	4.0	-	6.2	10.5	4.6
3	401	3rd. R.F.	2.75	115	2.75	108	4.0	-	6.2	10.5	4.6
4	401	4th. R.F.	2.75	115	2.75	108	4.0	-	6.2	10.5	4.6
5	401	Detector	2.75	28	2.75	83	0.0	-	1.4	1.0	1.1
6	401	1st. A.F.	2.75	115	2.75	108	5.0	-	6.2	10.0	4.3
7	405	2nd. A.F.	2.75	165	2.75	155	55.0	-	15.2	15.2	2.0
8	280	Rectifier	-	-	4.60	-	-	-	20.0	-	-

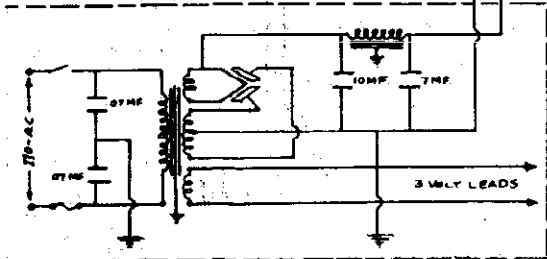


Model RFL 701



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 BY DET. ETC.)	TUBE OUT					TUBE IN TESTER			
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE V.A.	PLATE TEST	PLATE V.A. CHANGE
1	401	1st. R.F.	2.75	113	2.75	105	3.5	-	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	1.0	1.1
4	401	1st. A.F.	2.75	115	2.75	105	4.0	-	6.0	9.5	3.5
5	405	2nd. A.F.	2.75	113	2.75	105	4.0	-	6.0	1.0	1.7
6	280	Rectifier	-	-	4.60	-	-	-	20.0	-	-





**MODEL 523, 526**  
**Power Unit**  
**Schematic**

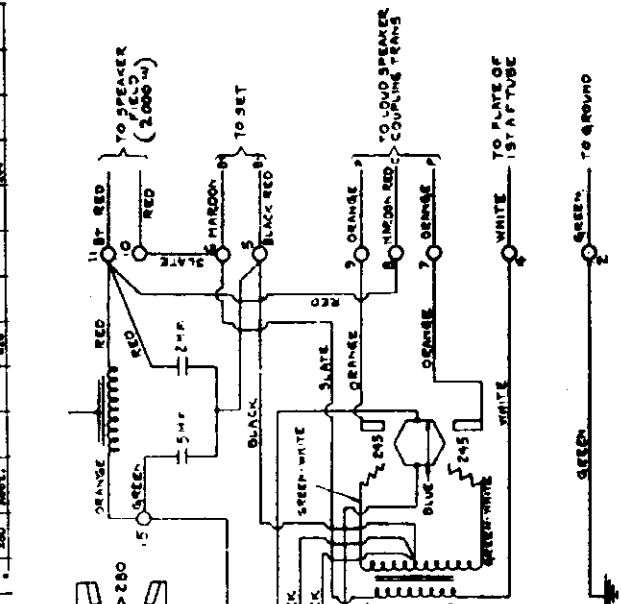
**KELLOGG SWITCHBOARD & SUPPLY CO.**

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

**POWER UNIT CIRCUIT**  
**245 TYPE**

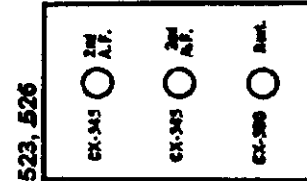
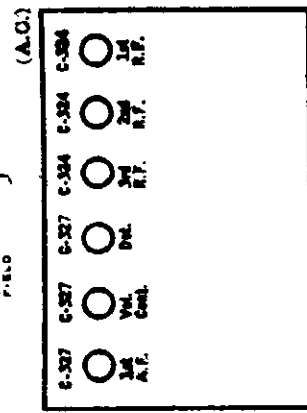
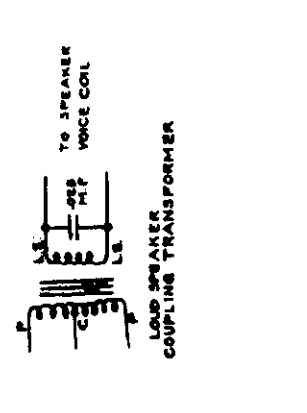
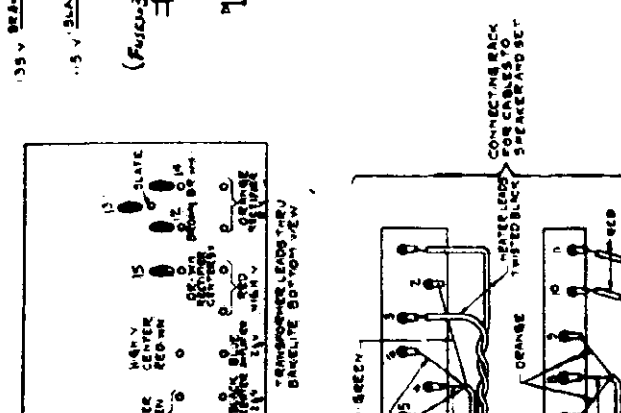
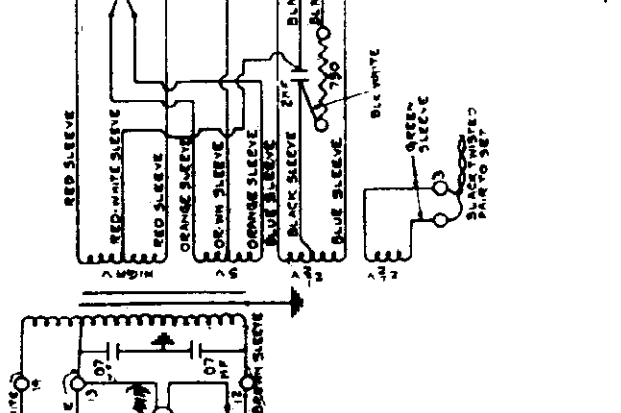
FOR SETS 523, 526

TYPE	LINE VOLTAGE	CYCLE RATE	POWER	RESISTANCE	INDUCTIVE REACTANCE	CAPACITIVE REACTANCE	IMPEDANCE	ADJUSTABLE RANGE	RESISTANCE	INDUCTIVE REACTANCE	CAPACITIVE REACTANCE	IMPEDANCE
245	112	25	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
246	112	25	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
247	112	25	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
248	112	25	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
249	112	25	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
250	112	25	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5



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

TYPE	LINE VOLTAGE	CYCLE RATE	POWER	RESISTANCE	INDUCTIVE REACTANCE	CAPACITIVE REACTANCE	IMPEDANCE	ADJUSTABLE RANGE	RESISTANCE	INDUCTIVE REACTANCE	CAPACITIVE REACTANCE	IMPEDANCE
245	112	60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
246	112	60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
247	112	60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
248	112	60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
249	112	60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
250	112	60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5



523, 526

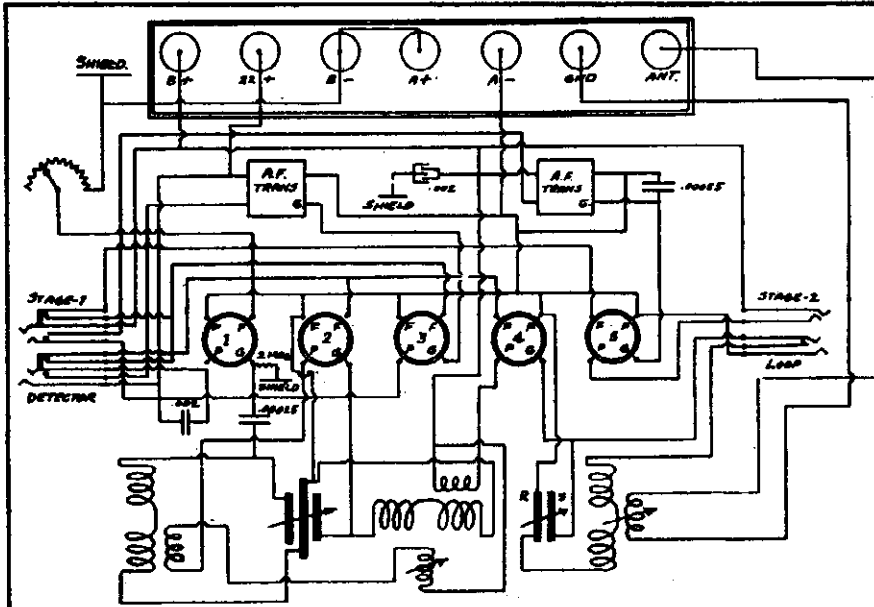
- EX-245 2M A.F.
- EX-246 2M A.F.
- EX-247 2M A.F.
- EX-248 2M A.F.
- EX-249 2M A.F.
- EX-250 2M A.F.

- G-307 1M A.F.
- G-308 1M A.F.
- G-309 1M A.F.
- G-310 1M A.F.
- G-311 1M A.F.
- G-312 1M A.F.
- G-313 1M A.F.
- G-314 1M A.F.
- G-315 1M A.F.
- G-316 1M A.F.
- G-317 1M A.F.
- G-318 1M A.F.
- G-319 1M A.F.
- G-320 1M A.F.
- G-321 1M A.F.
- G-322 1M A.F.
- G-323 1M A.F.
- G-324 1M A.F.
- G-325 1M A.F.
- G-326 1M A.F.
- G-327 1M A.F.
- G-328 1M A.F.
- G-329 1M A.F.
- G-330 1M A.F.
- G-331 1M A.F.
- G-332 1M A.F.
- G-333 1M A.F.
- G-334 1M A.F.
- G-335 1M A.F.
- G-336 1M A.F.
- G-337 1M A.F.
- G-338 1M A.F.
- G-339 1M A.F.
- G-340 1M A.F.
- G-341 1M A.F.
- G-342 1M A.F.
- G-343 1M A.F.
- G-344 1M A.F.
- G-345 1M A.F.
- G-346 1M A.F.
- G-347 1M A.F.
- G-348 1M A.F.
- G-349 1M A.F.
- G-350 1M A.F.

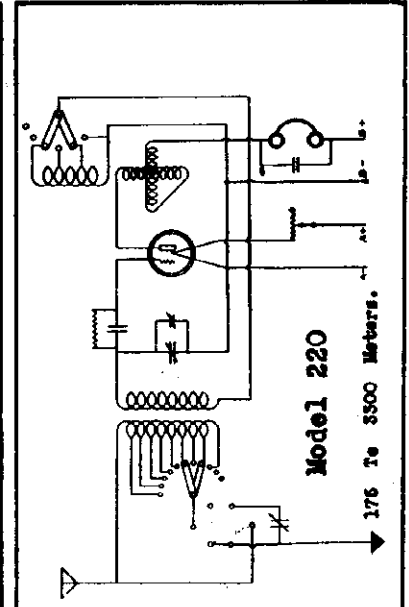




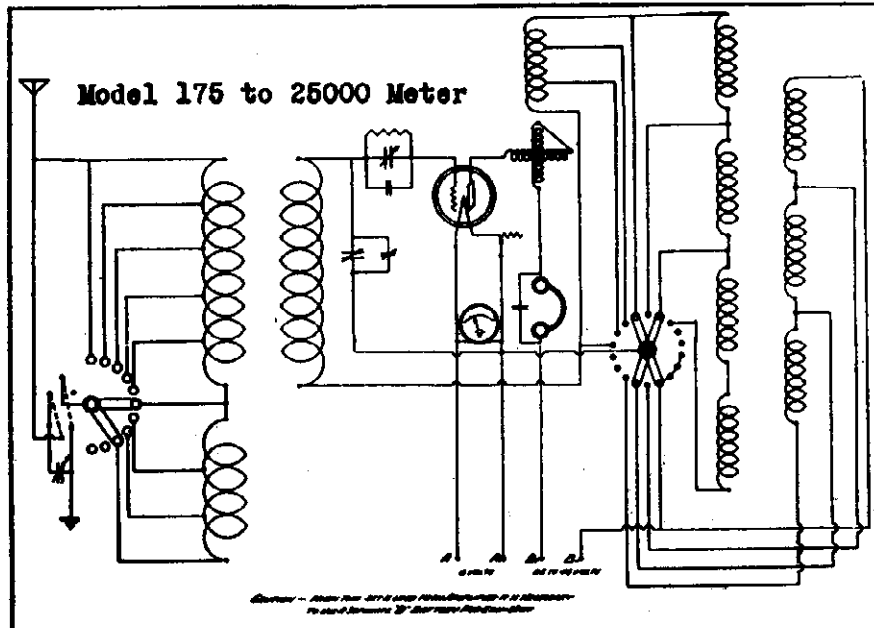
COLIN B. KENNEDY CORP. MODEL 220  
 MODEL 281  
 MODELS 15,16(Type 430-43)  
 MODEL 175 to 25000 Meter



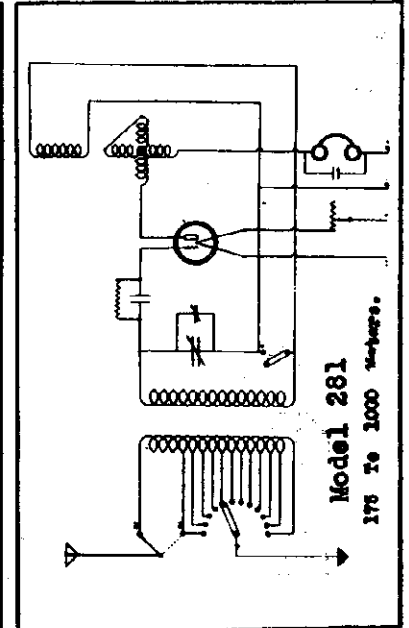
Models 15,16(Type 430-43) Tube orders 4, - 2, - 1, - 3, - 5.



Model 220  
 175 To 3500 Meters.



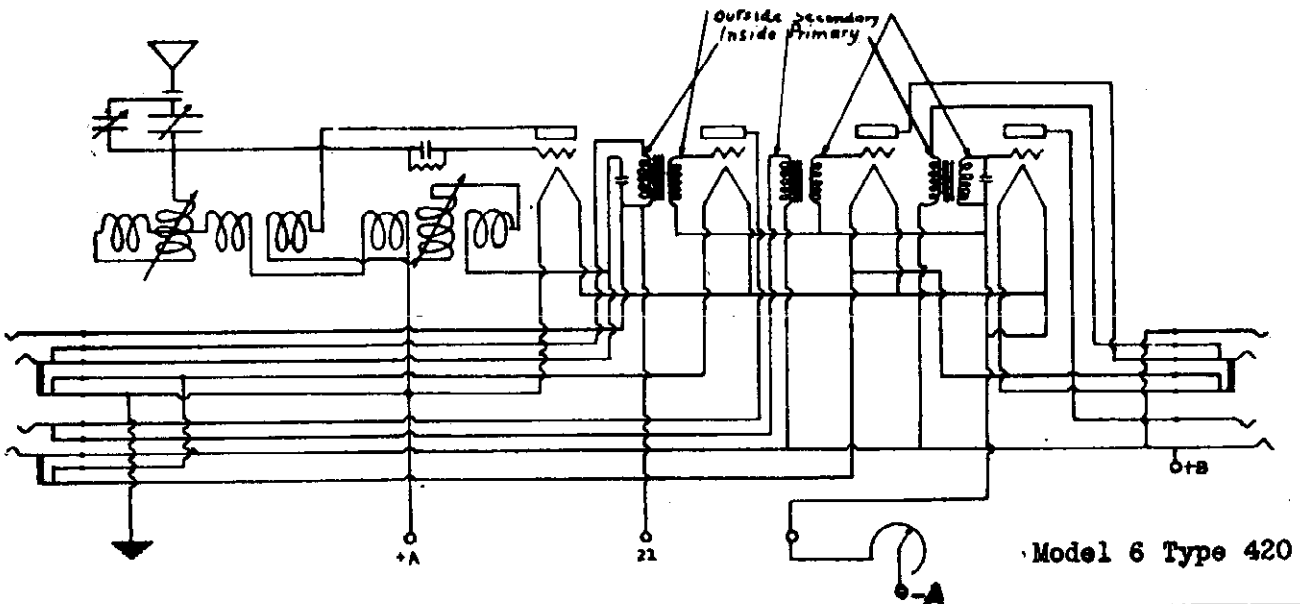
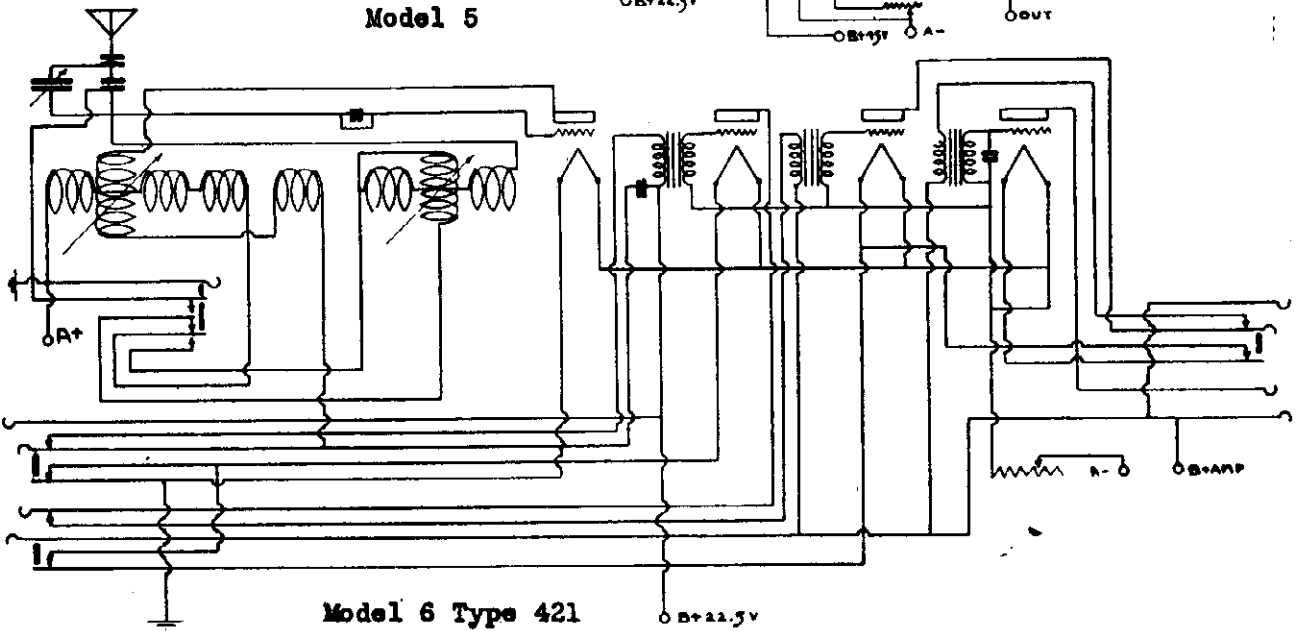
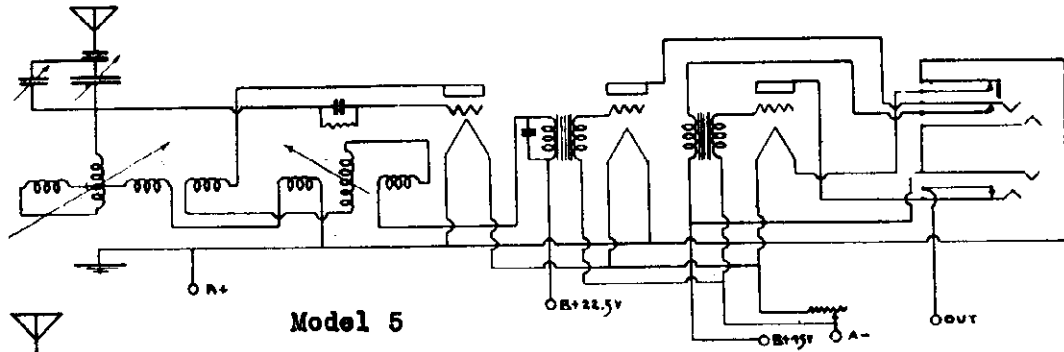
Caution - When the 25000 meter range is in use, the 25000 meter range switch must be in the 25000 position.



Model 281  
 175 To 3000 Meters.

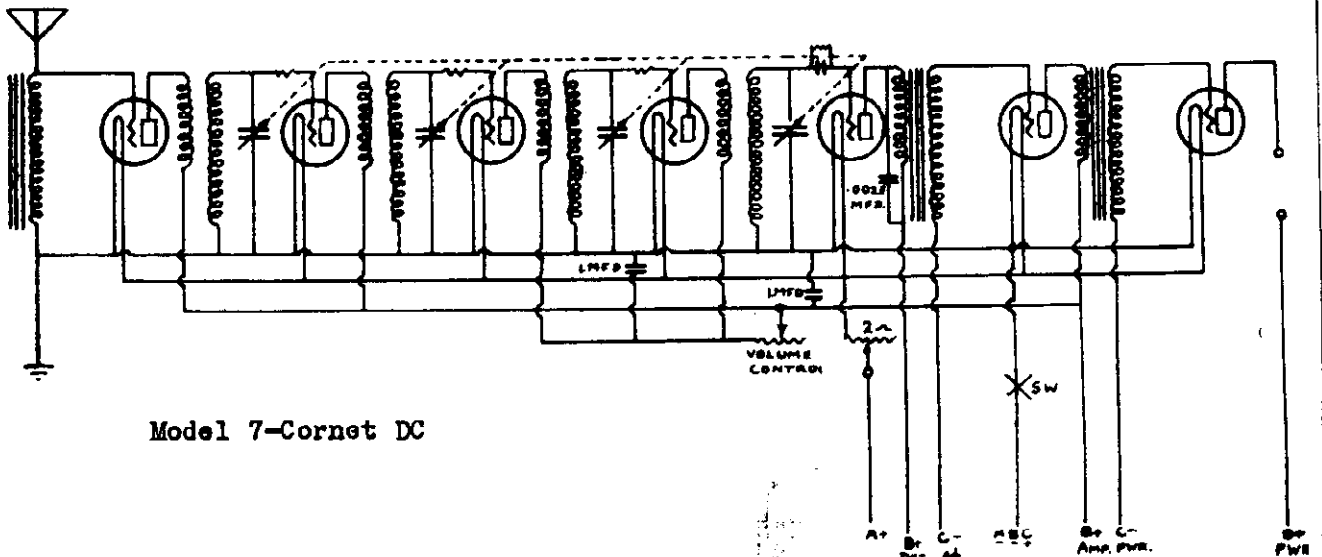
MODEL 5  
MODEL 6 Type 421  
MODEL 6 Type 42C

COLIN B. KENNEDY CORP.

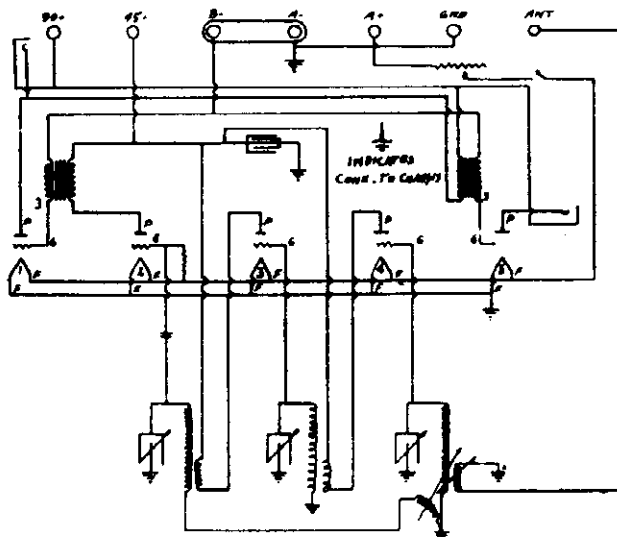


COLIN B. KENNEDY CORP.

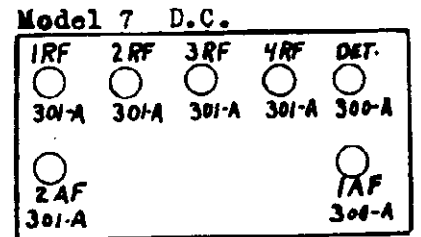
MODEL 7-Cornet DC  
 MODEL 20 Type 440  
 MODEL 30 Type 435



Model 7-Cornet DC



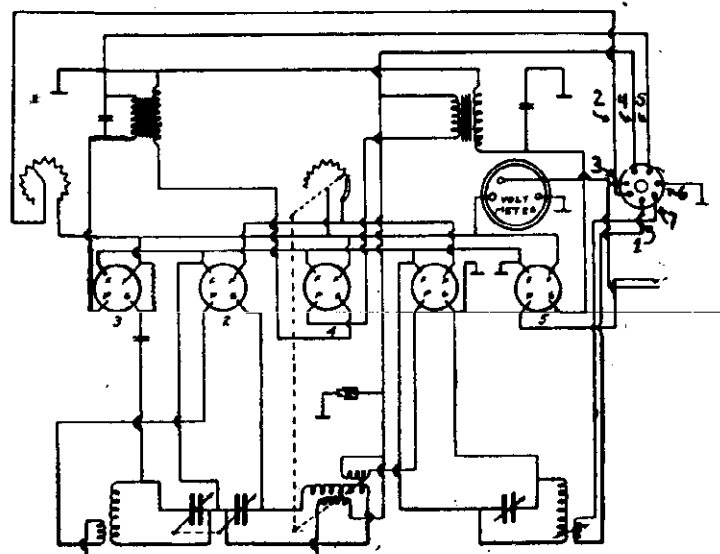
Model 20  
 Type 440  
 Tube Order  
 4,-3,-2,-1,-5.



Model 30  
 Type 435

Wiring Connections  
 and  
 Cable Colors

- 1 Antenna - Green
- 2 +A - Red
- 3 +B3 - Pink
- 4 +B2 - Blue
- 5 PWR - Yellow
- 6 -B2 - Green
- 7 Ground - Black



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

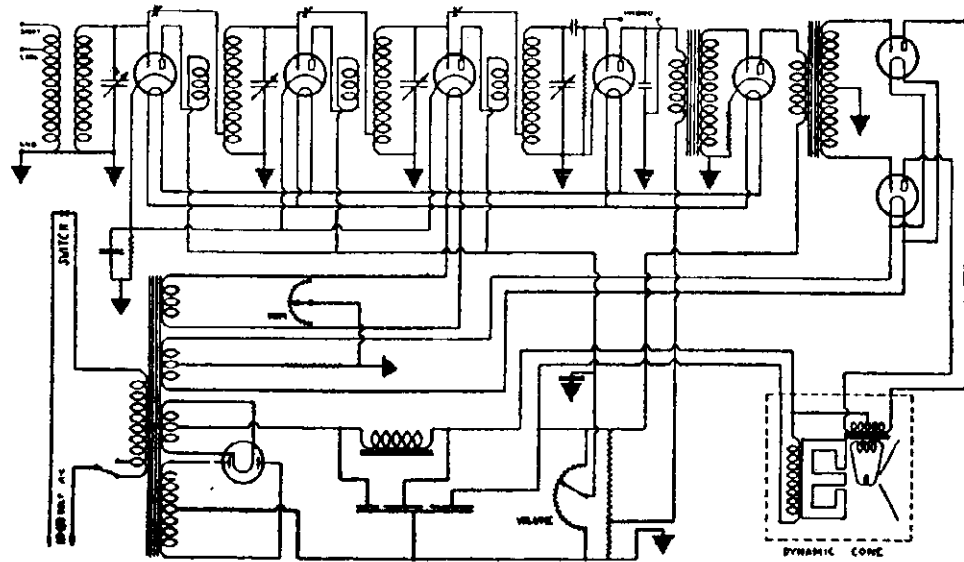
TUBE NO. IN ORDER TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET					FLUORESCENT LAMP	TUBE TEST
			FLUORESCENT LAMP	PLATE OR HEATER	CONTROL GRID - SPACE (500-5)	NORMAL GRID - SCREEN (500-5)	CATHODE TO HEATER		
1	224	1 R.F.	2,3	160	3,5	60	-	-	2,2
2	224	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	180	-	10	-	-	1,5
5	227	1 A.F.	2,3	180	-	9	-	-	2,4
6	245	PP-AF	2,3	230	-	45	-	-	20
7	245	PP-AF	2,3	230	-	45	-	-	20
8	250	Rect.	4,8	-	-	-	-	45	45



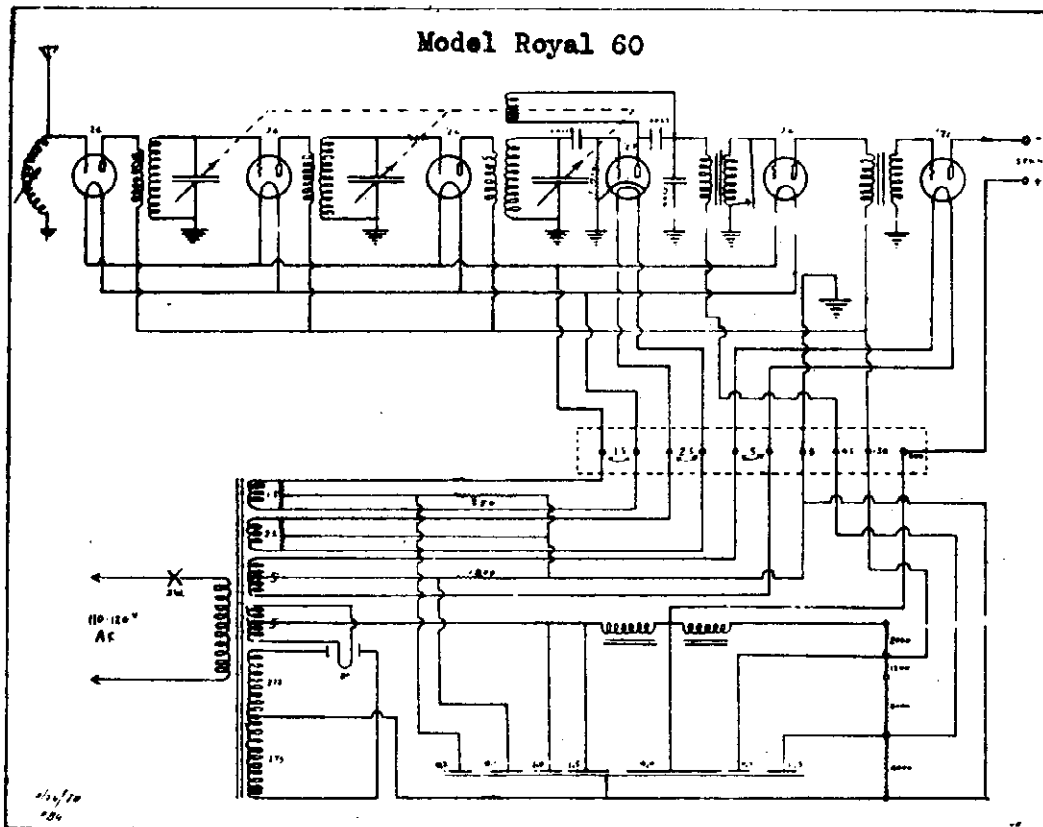


COLIN B. KENNEDY CORP.

MODEL Royal  
MODEL Royal 60



Model Royal



1 RF 26	DET 27	2 AF 71A	RECT 80
2 RF 26	3 RF 26	1 AF 26	

PILOT 5.0 V  
FRONT

MODEL 26  
Schematic  
Chassis, Notes

COLIN B. KENNEDY CORP.

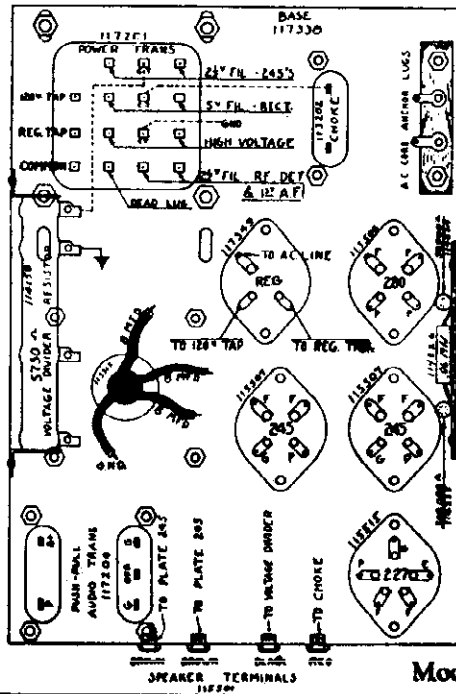
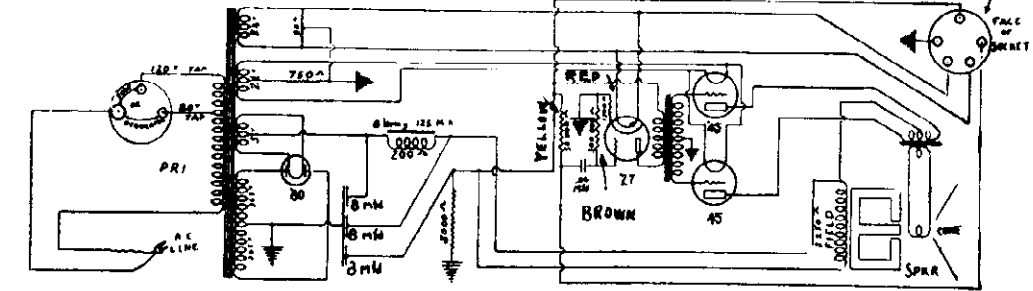
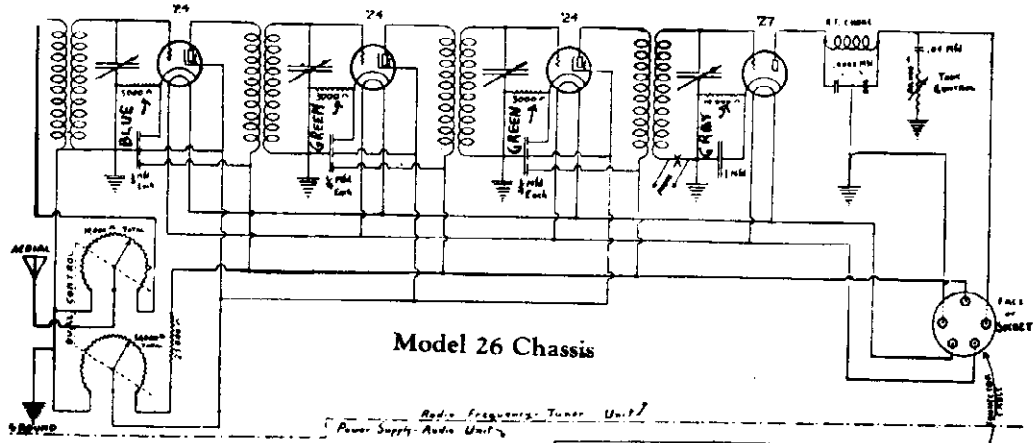
Special Note—Regulator Tubes

The Duarene 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 Duarene regulator tube for the long wave-short wave chassis only (model 826-B) is type 449.

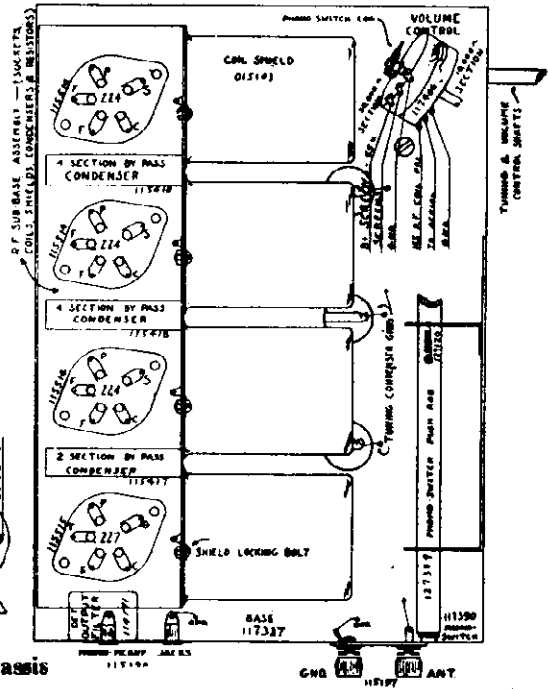
The chassis model 26 is provided with an extra socket for a voltage regulator tube. Receivers are shipped with a plug in this socket which contains a line fuse. The plug automatically connects the line through the fuse, onto the 120 volt primary tap. This transformer tap will provide sufficiently accurate 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	Yellow	50,000 ohms
Blue	5,000 ohms	Brown	500,000 ohms
Grey	10,000 ohms	Red	1,500 ohms



Model 26 Chassis

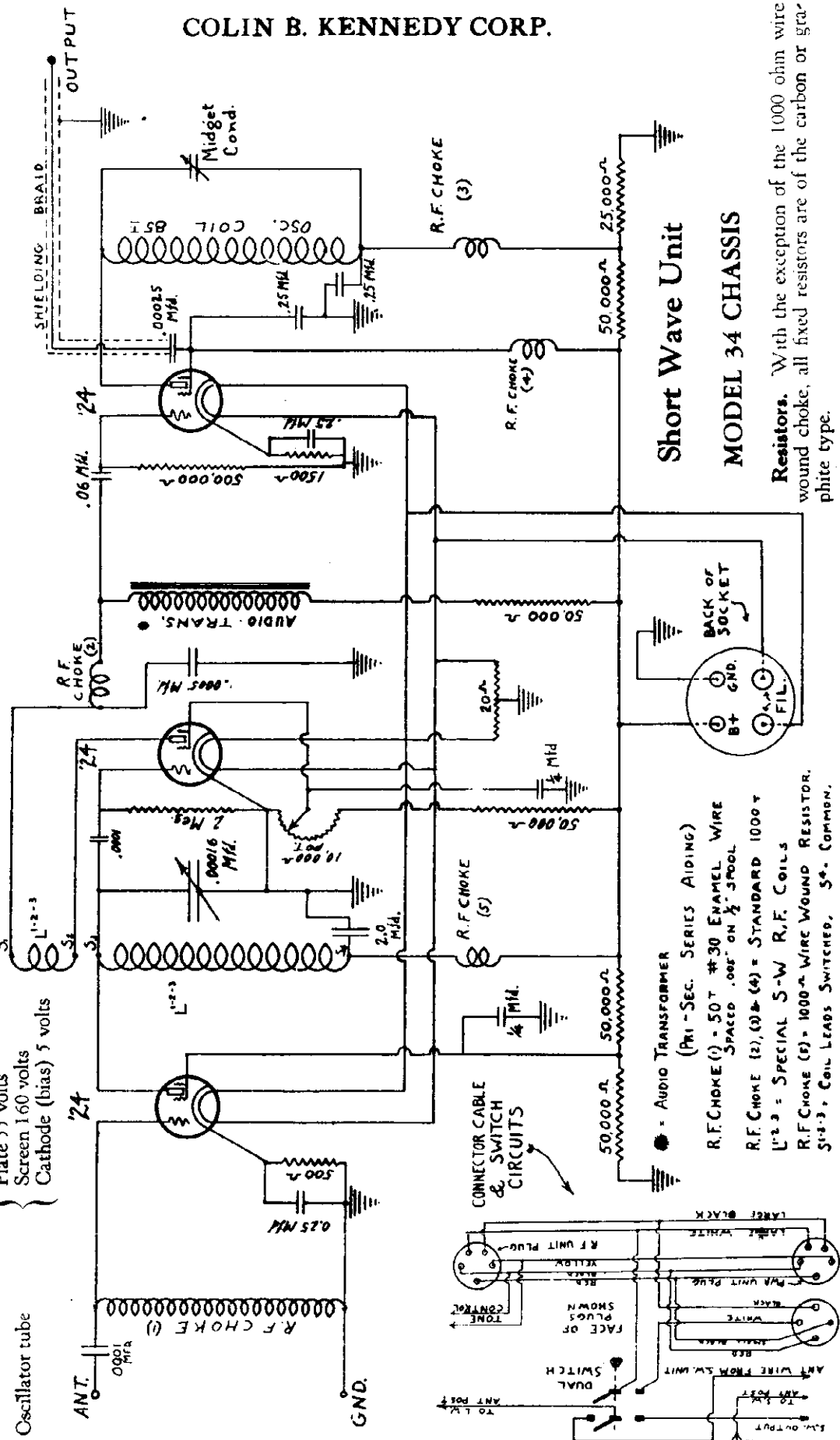




MODEL 34  
Schematic  
Voltage

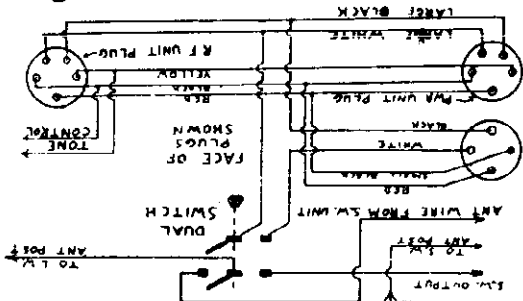
COLIN B. KENNEDY CORP.

- Radio frequency tube:
- Yellow ..... 50,000 ohms
  - Red ..... 1,500 ohms
  - Red (large) ..... 2 megohms
  - Grey ..... 25,000 ohms
  - Brown ..... 500,000 ohms
  - Black ..... 500 ohm
- (Flexible covered resistor)
- Detector tube:
- Plate 160 volts
  - Screen 70 volts
  - Cathode (bias) 1.1 volts
- Oscillator tube:
- Plate 140 volts
  - Screen 30 volts
  - (Volume on Maximum)
- Plate 55 volts
- Screen 160 volts
- Cathode (bias) 5 volts



**Resistors.** With the exception of the 1000 ohm wire wound choke, all fixed resistors are of the carbon or graphite type.

Short Wave Unit  
MODEL 34 CHASSIS



• - Audio Transformer  
(PRI - SEC. SERIES AIDING)

R.F. CHOKES (1) - 50T #30 ENAMEL WIRE SPACED .008" ON 1/2" SPOOL

R.F. CHOKES (2), (3), (4) - STANDARD 1000T

L<sup>1-2-3</sup> - SPECIAL S-W R.F. COILS

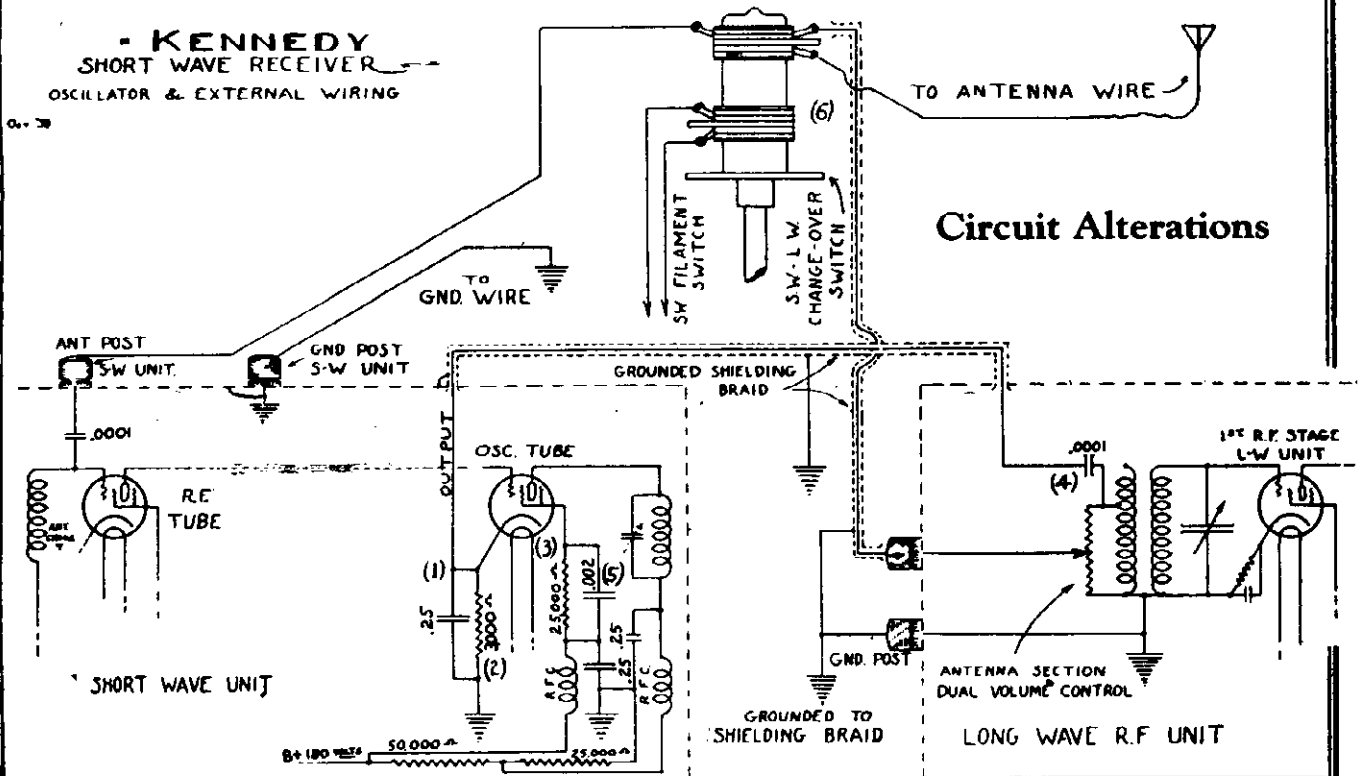
R.F. CHOKES (5) - 1000T WIRE WOUND RESISTOR. 5/16-3/4 COIL LEADS SWITCHED, 5¢. COMMON.



MODEL 34  
Oscillator  
Data

COLIN B. KENNEDY CORP.

- KENNEDY  
SHORT WAVE RECEIVER  
OSCILLATOR & EXTERNAL WIRING



*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.

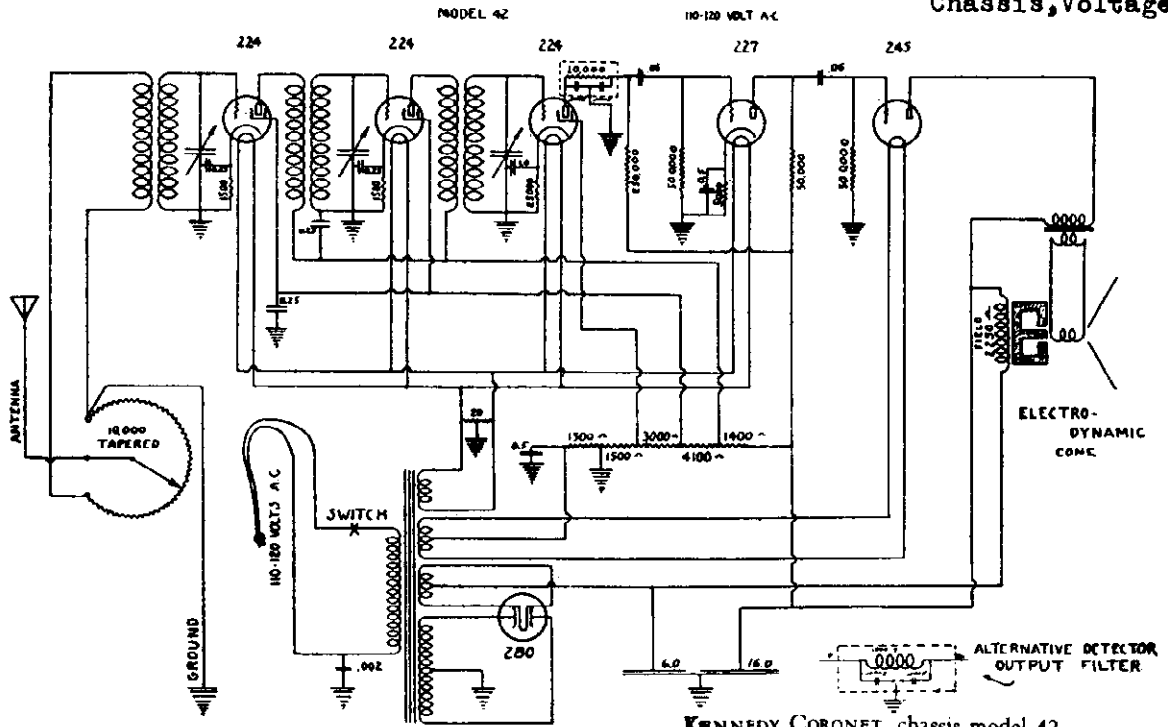
The 10,000-ohm wire wound regeneration and volume control, in the short wave unit, has been replaced by a 10,000-ohm graphite control. This provides a smooth control—less inclined to be noisy.

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.

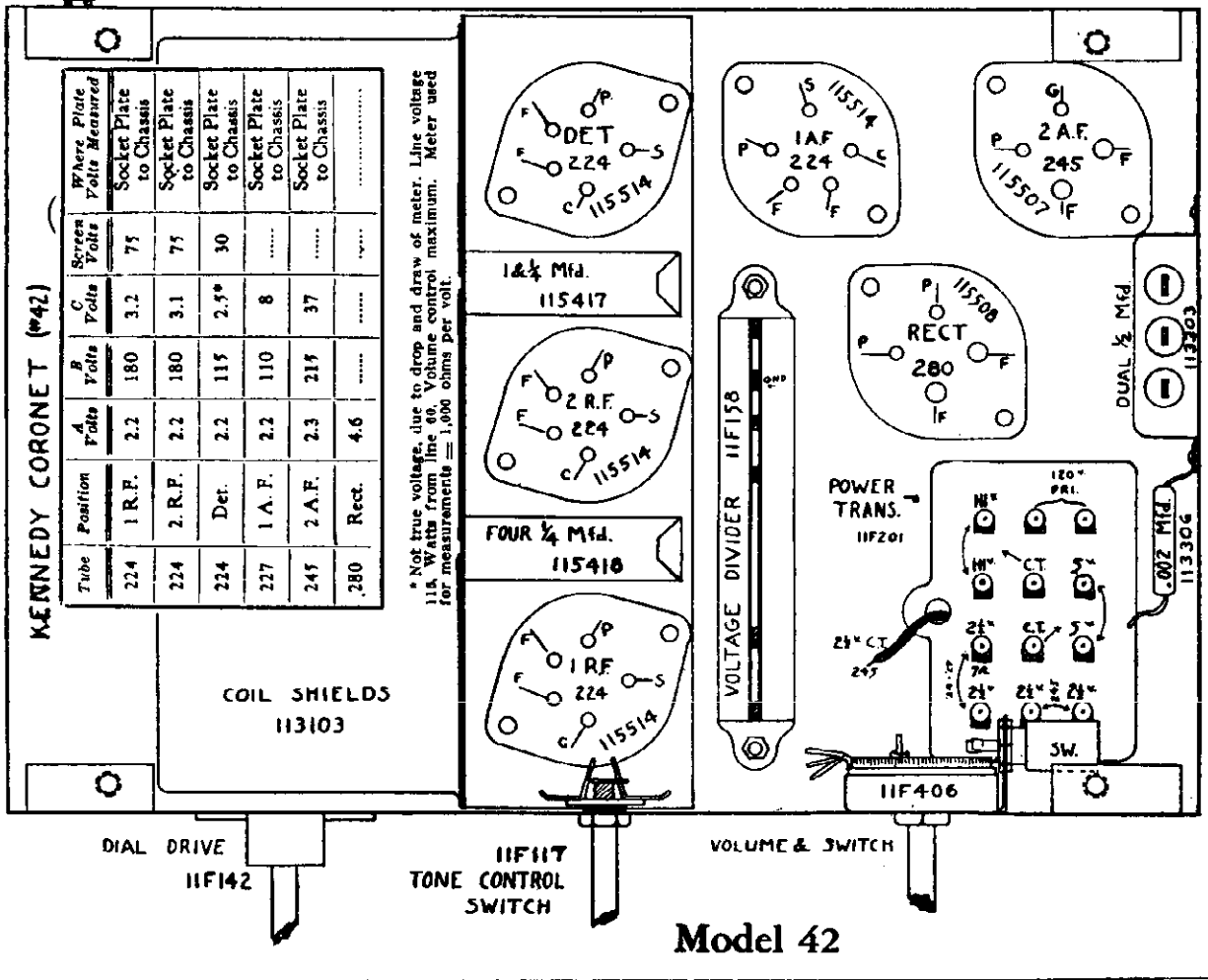
COLIN B. KENNEDY CORP

MODEL Coronet 42  
Schematic  
Chassis, Voltage



KENNEDY CORONET, chassis model 42

ANT-GND POSTS 115197



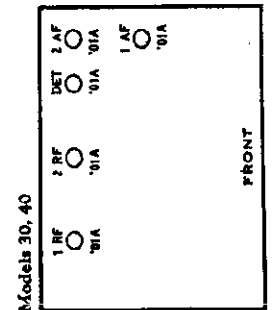
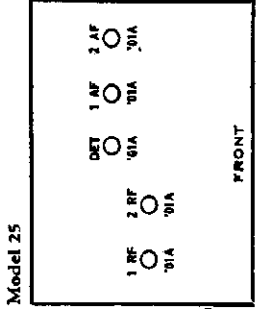
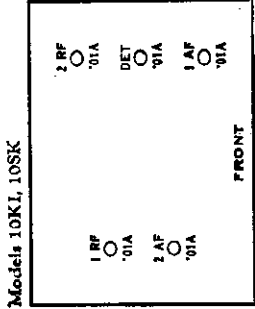
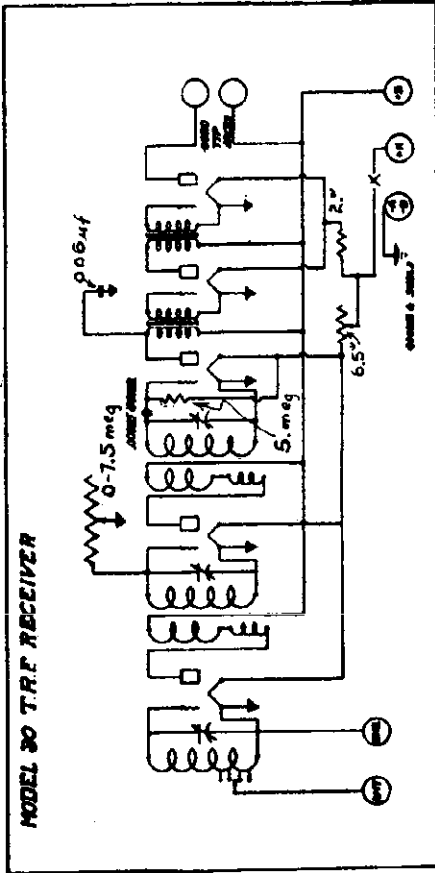
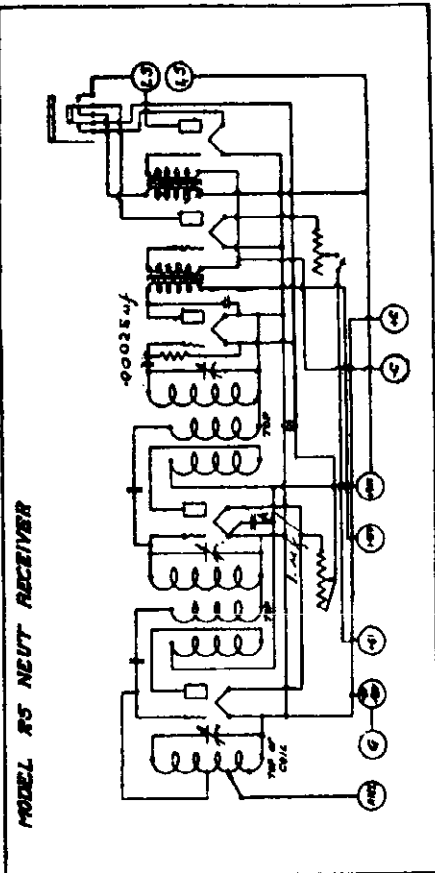
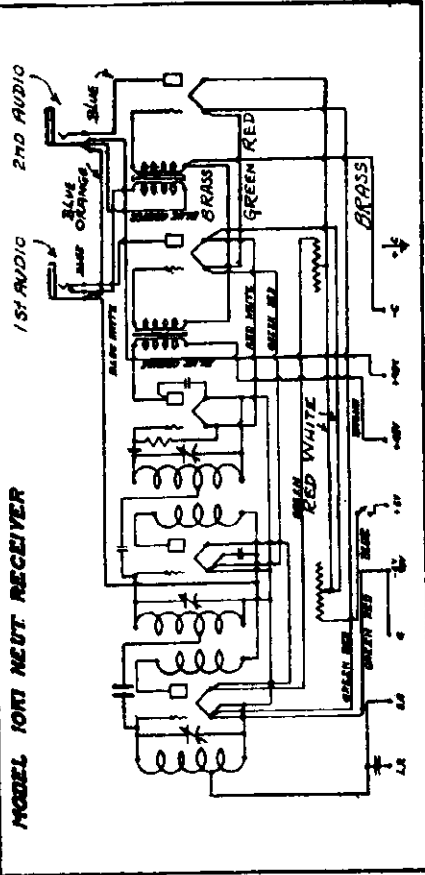
Model 42





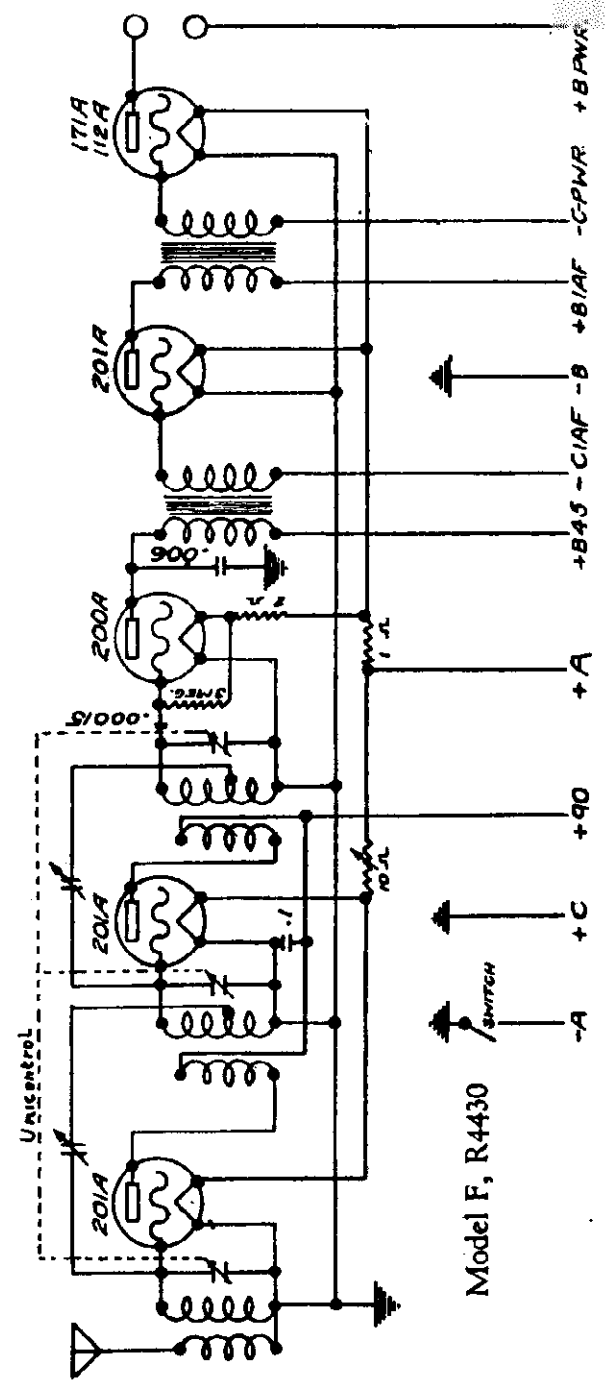
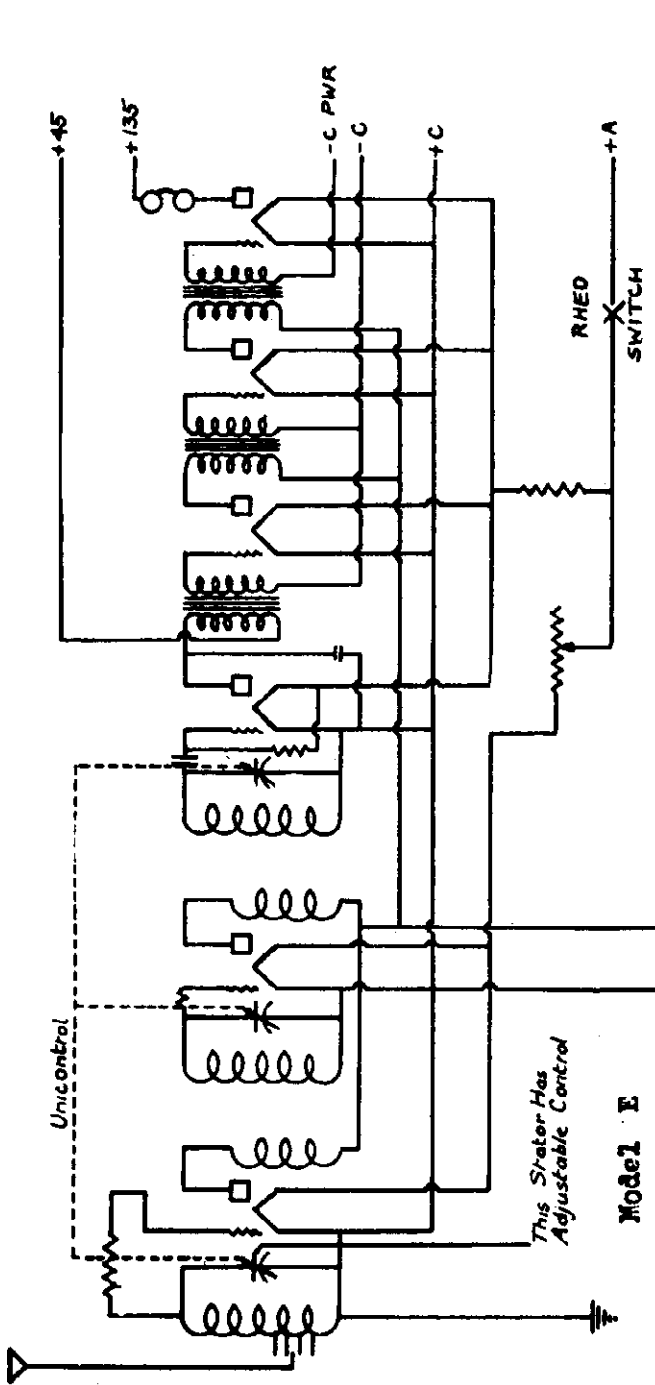
KING MFG. CORP.

MODEL 10 KI, 10 SK  
 MODEL 25  
 MODEL 30

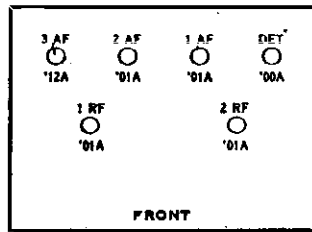


KING MFG. CORP.

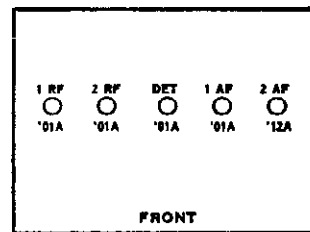
MODEL E  
MODEL F



Models OE, E, 80, 80A



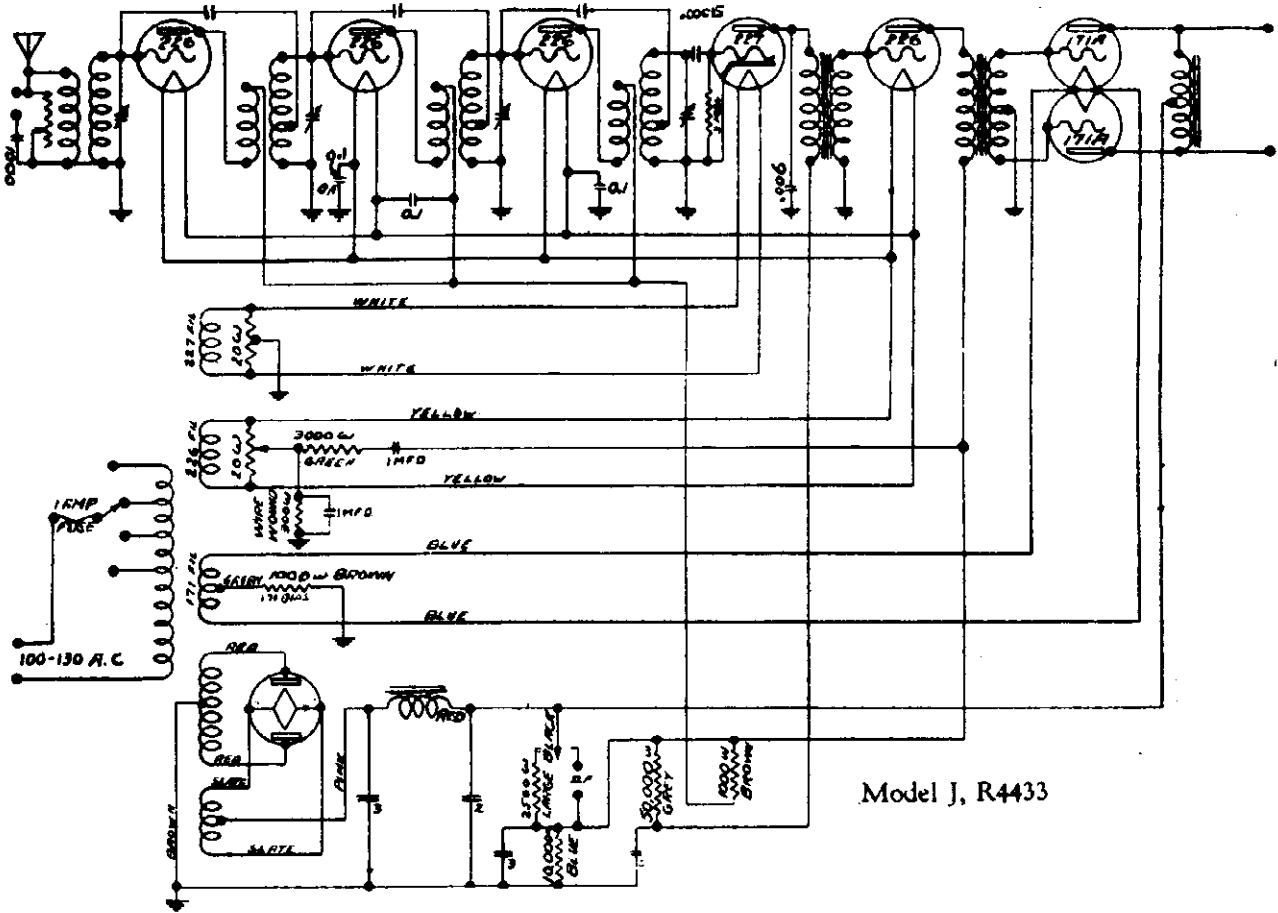
Model F



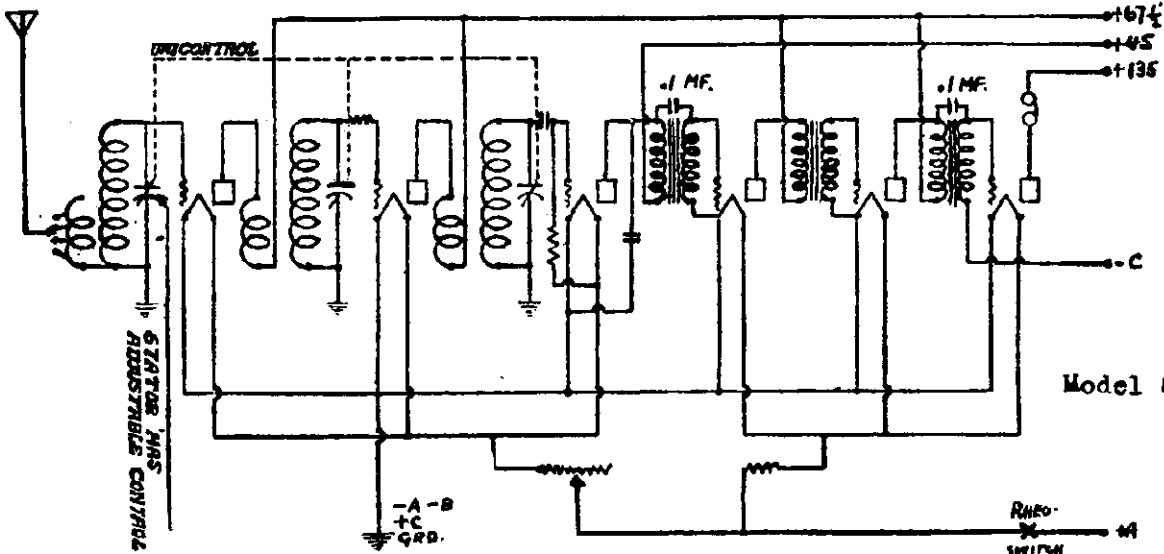


MODEL J  
MODEL 80

KING MFG. CORP.

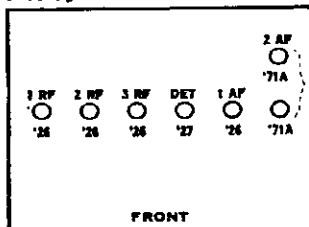


Model J, R4433



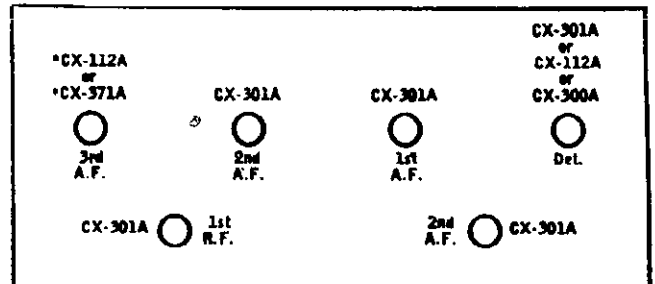
Model 80

Model J



80

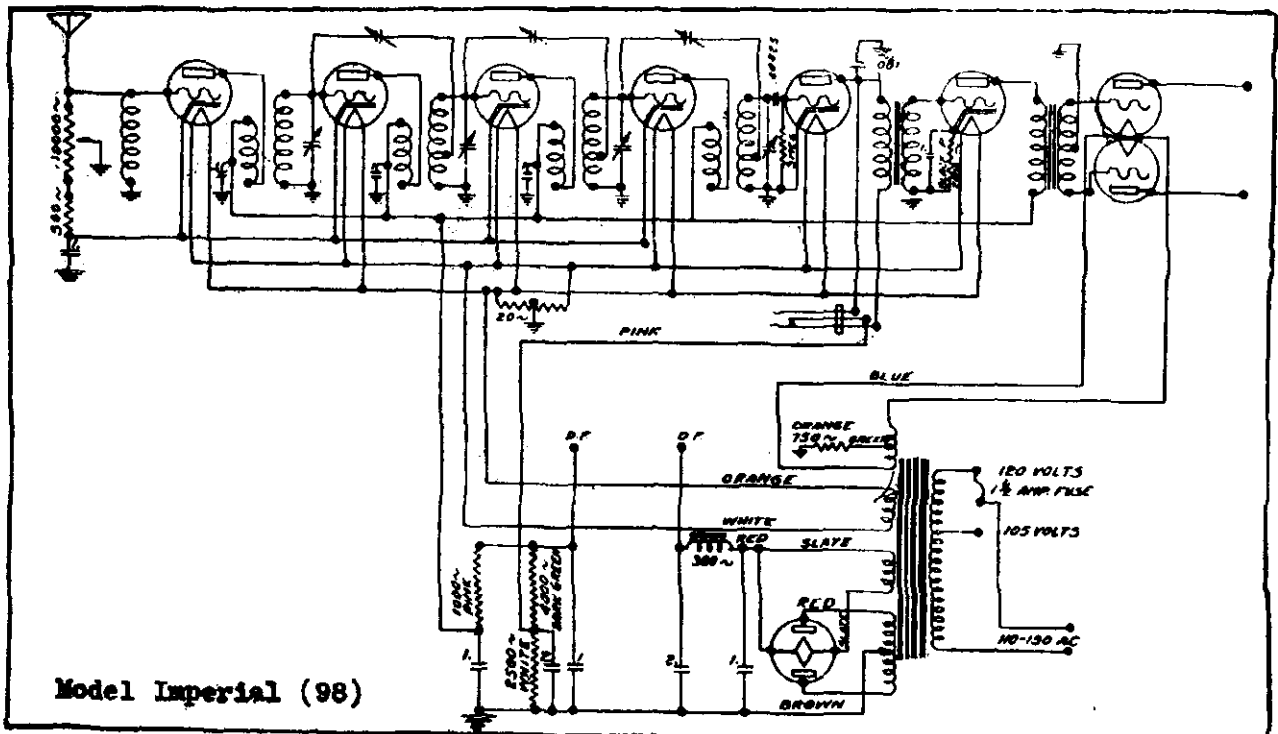
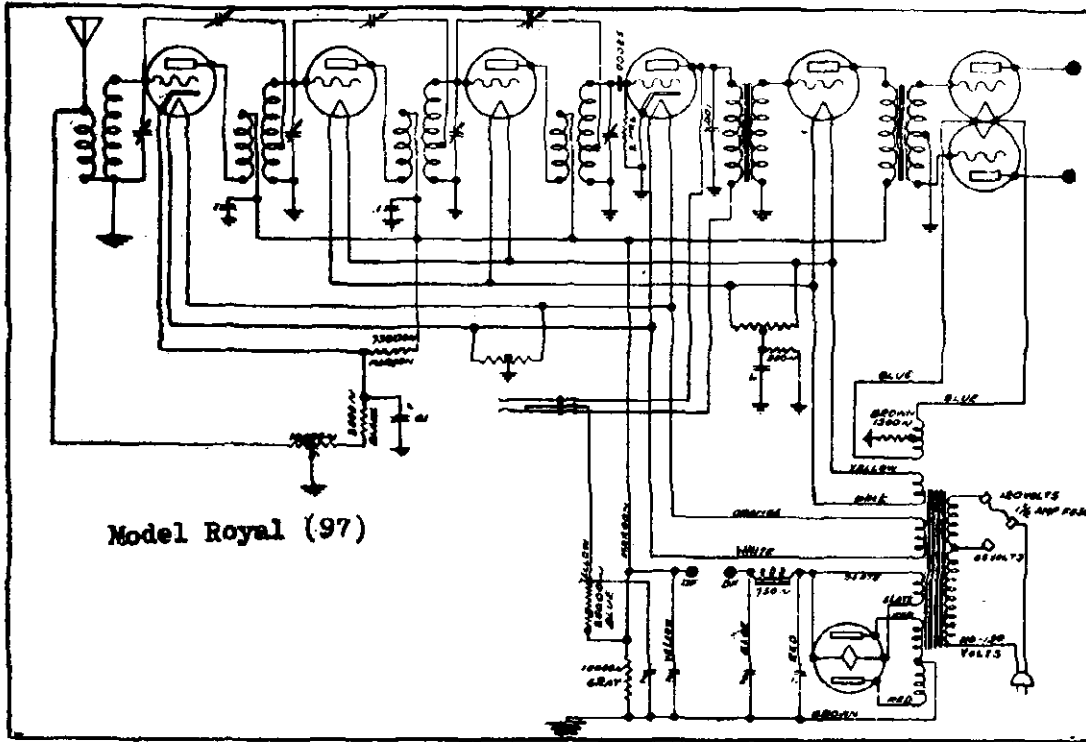
(Batt.)





MODEL ROYAL (97)  
MODEL IMPERIAL (98)

KING MFG. CORP.



97

(A.C.) 98

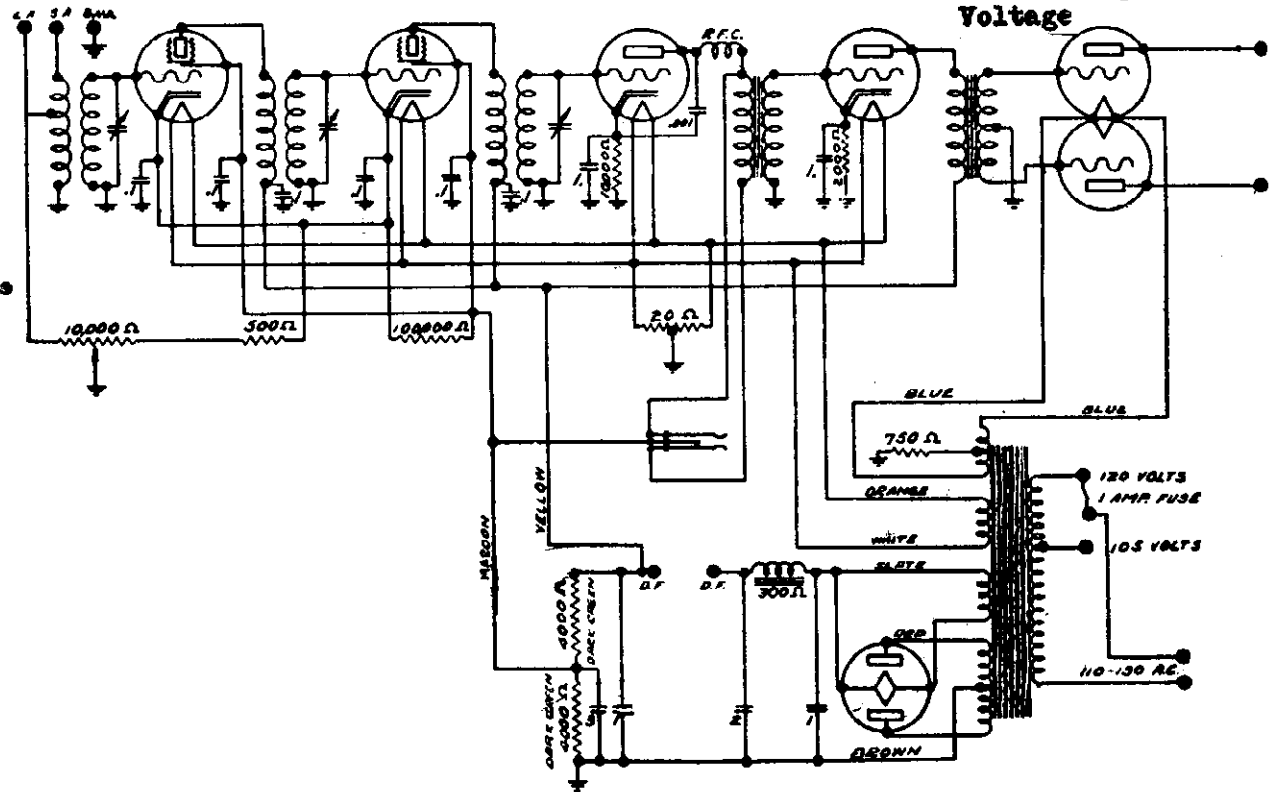
(A.C.)

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.

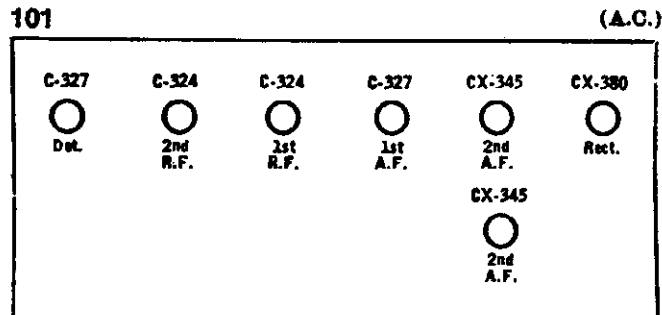
C-327	C-327	C-327	C-327	C-327	CX-345
1st R.F.	2nd R.F.	3rd R.F.	Det.	1st A.F.	2nd A.F.

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.	

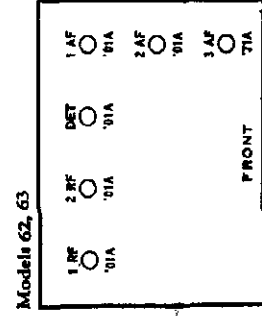
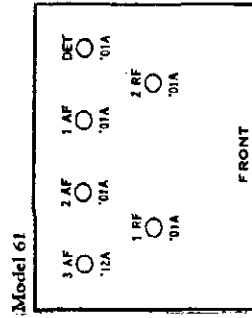
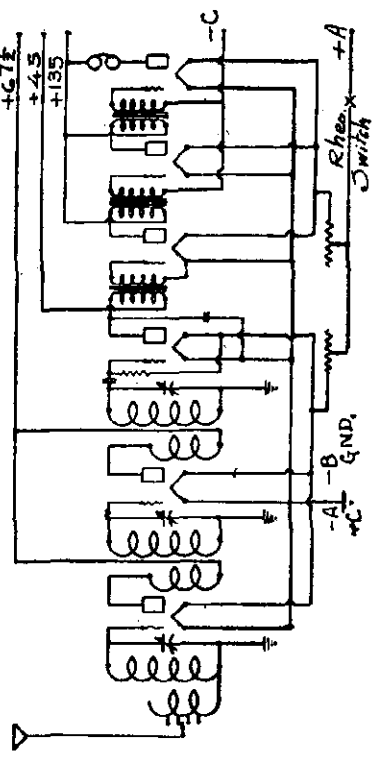


Model 97 Line: 105 Volts.						
Tube	Stage	Fil. V.	Plate V.	Grid V.	Cath. V.	
'27	1 R.F.	2.4	136	11.	-----	
'26	2 R.F.	1.6	136	10		
'26	3 R.F.	1.6	136	10		
'27	Det.	2.4	52	-----	-----	
'26	1 A.F.	1.6	127	8.		
'71	2 A.F.	5.1	184	36		
'71	2 A.F.	5.1	184	36		

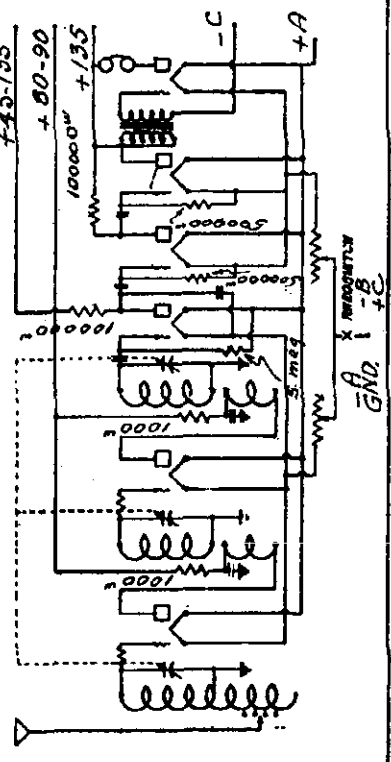
MODEL 61  
 MODEL 62,63  
 MODEL 71

KING MFG. CORP.

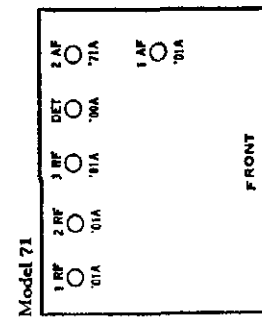
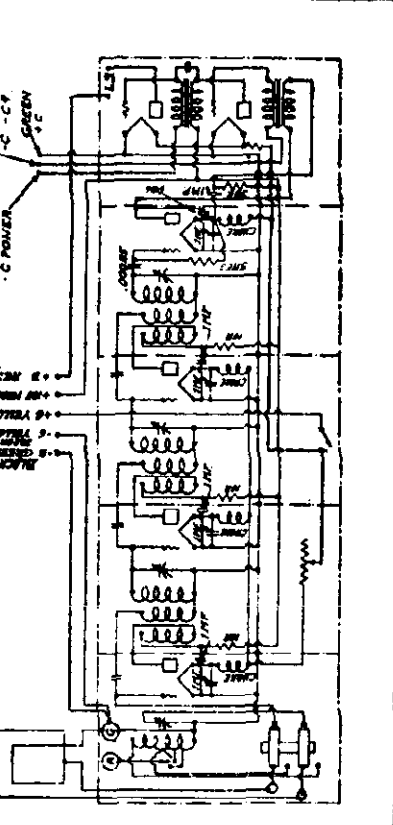
MODEL 61 TRF RECEIVER



MODEL 62 TRF RECEIVER

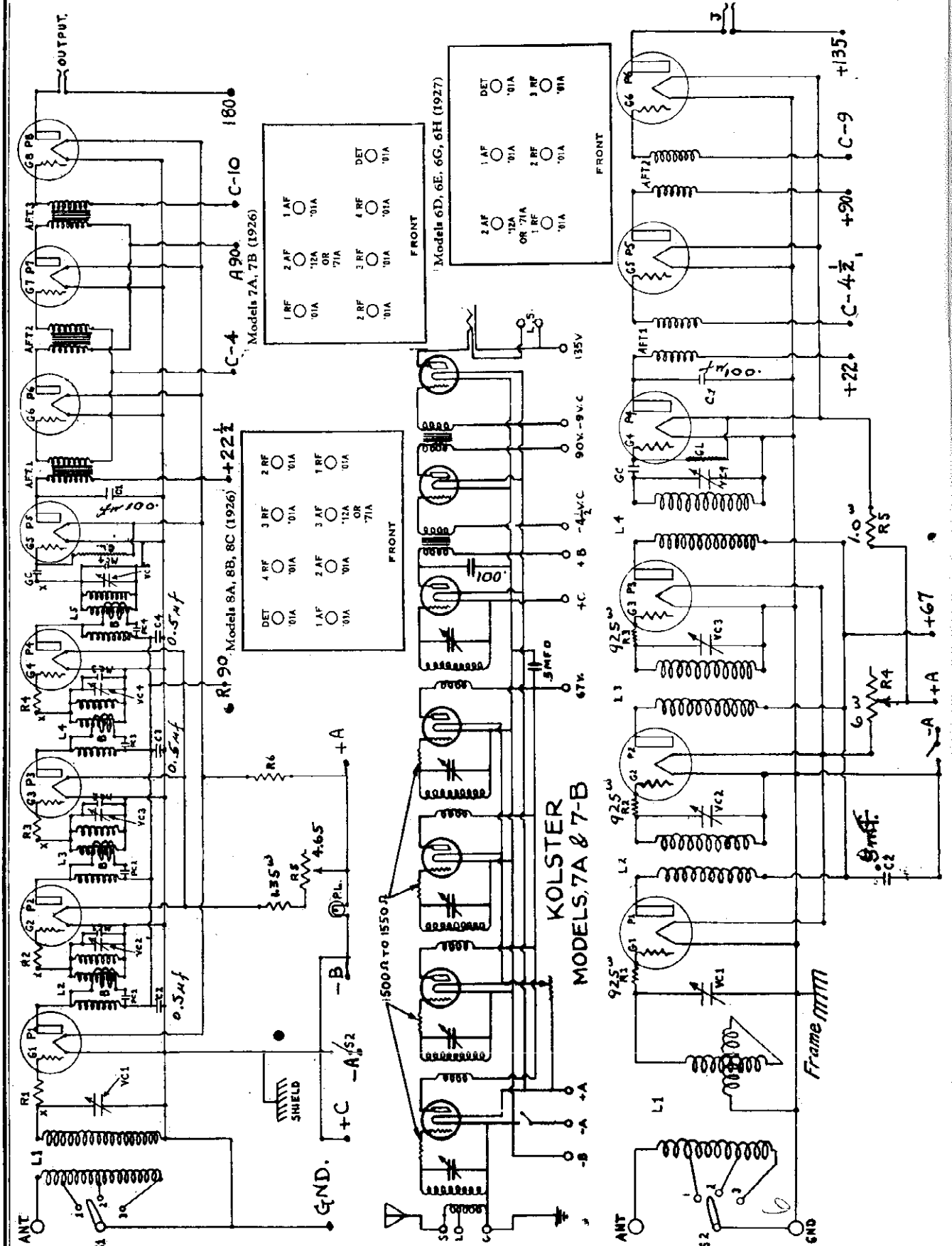


MODEL 71 NEUT RECEIVER



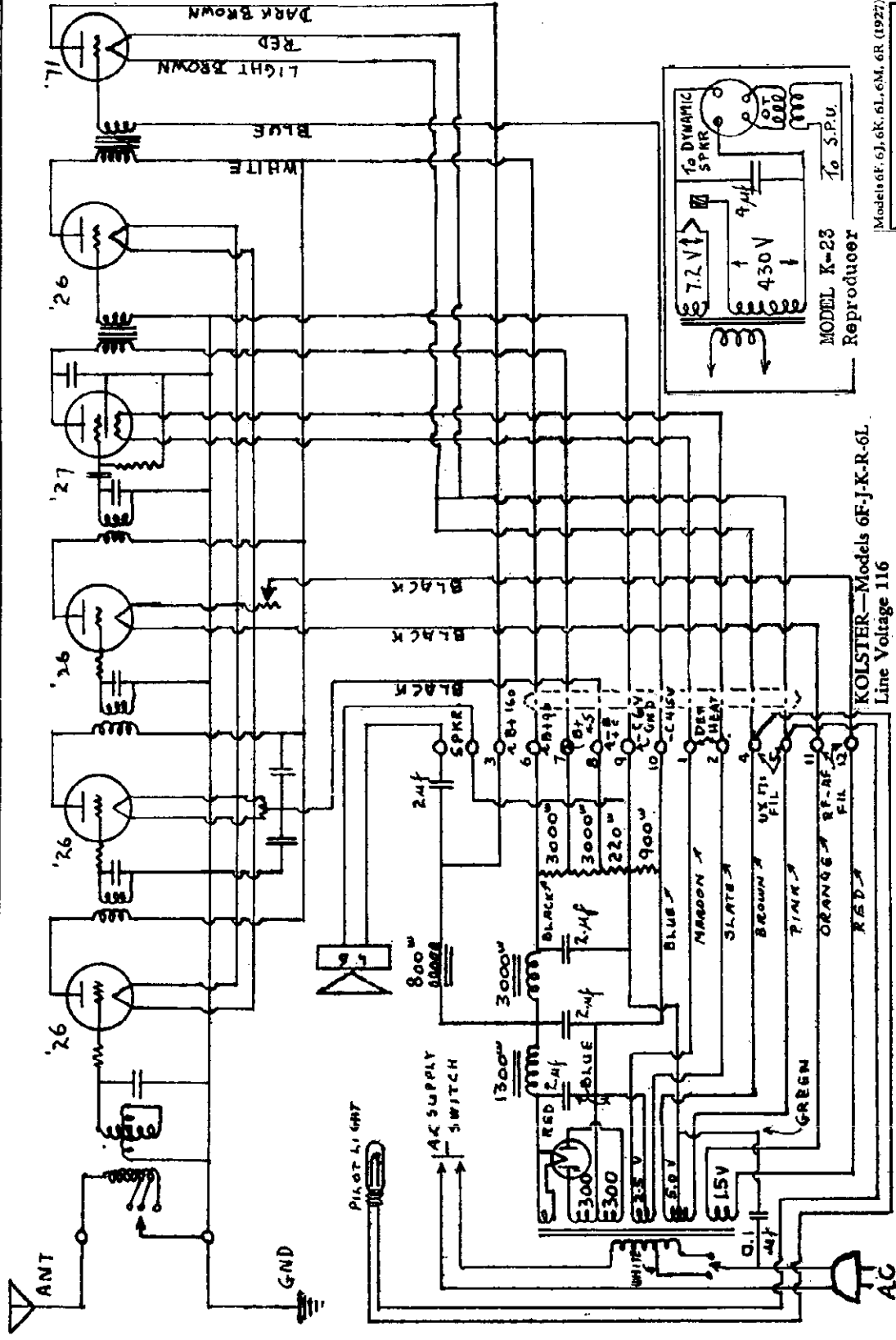


KOLSTER RADIO, INC. MODELS 6D, 6E, 6G, 6H (1927)  
 MODELS 7A, 7B (1926)  
 MODELS 8A, 8B, 8C (1926)



KOLSTER RADIO, INC.

MODEL 6-F, 6-J, 6-K  
 6-L, 6-M, 6-R  
 MODEL K-23  
 Reproducer  
 Schematic

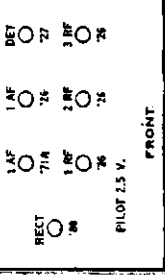


MODEL K-23 Reproducer  
 Models 6F, 6J, 6K, 6L, 6M, 6R (1927)

RECOMMENDED PARTS BY MODEL OF SET

TYPE	TYPE	POSITION	TYPE	TYPE	POSITION	TYPE	TYPE	POSITION
1	224	1B7	1B7	1B7	1B7	1B7	1B7	1B7
2	224	2B7	2B7	2B7	2B7	2B7	2B7	2B7
3	224	3B7	3B7	3B7	3B7	3B7	3B7	3B7
4	224	4B7	4B7	4B7	4B7	4B7	4B7	4B7
5	224	5B7	5B7	5B7	5B7	5B7	5B7	5B7
6	224	6B7	6B7	6B7	6B7	6B7	6B7	6B7
7	224	7B7	7B7	7B7	7B7	7B7	7B7	7B7
8	224	8B7	8B7	8B7	8B7	8B7	8B7	8B7
9	224	9B7	9B7	9B7	9B7	9B7	9B7	9B7
10	224	10B7	10B7	10B7	10B7	10B7	10B7	10B7
11	224	11B7	11B7	11B7	11B7	11B7	11B7	11B7
12	224	12B7	12B7	12B7	12B7	12B7	12B7	12B7
13	224	13B7	13B7	13B7	13B7	13B7	13B7	13B7
14	224	14B7	14B7	14B7	14B7	14B7	14B7	14B7
15	224	15B7	15B7	15B7	15B7	15B7	15B7	15B7
16	224	16B7	16B7	16B7	16B7	16B7	16B7	16B7
17	224	17B7	17B7	17B7	17B7	17B7	17B7	17B7
18	224	18B7	18B7	18B7	18B7	18B7	18B7	18B7
19	224	19B7	19B7	19B7	19B7	19B7	19B7	19B7
20	224	20B7	20B7	20B7	20B7	20B7	20B7	20B7

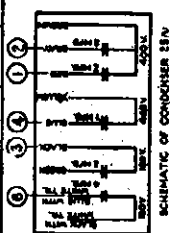
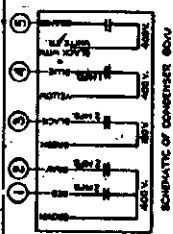
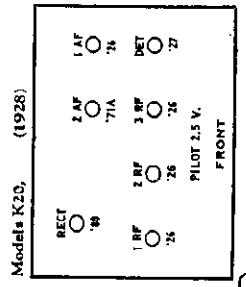
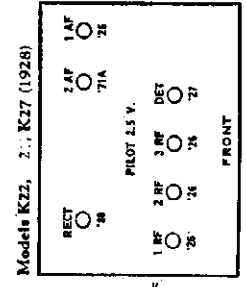
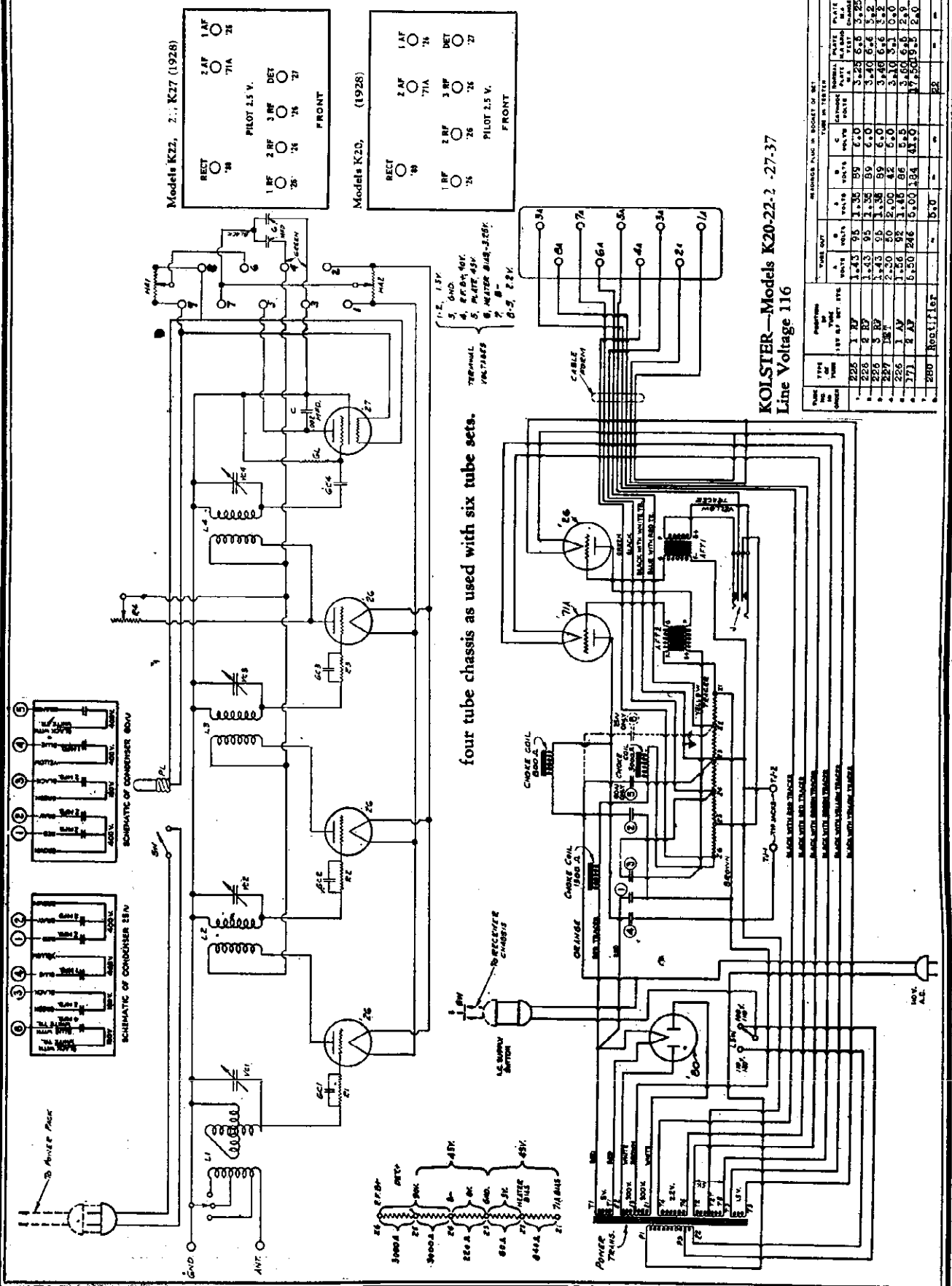
Model 6-F, 6-J, 6-K  
 6-L, 6-M, 6-R



FRONT

MODEL K-20, K-22, K-27  
Schematic, Voltage

KOLSTER RADIO, INC.



four tube chassis as used with six tube sets.

- TERMINAL  
1-2, 1.5V  
3, GND  
4, 2P/4/10T  
5, PILOT 4.5V  
6, WATER BUSS-3.25V  
7, #1  
8-9, 2.5V

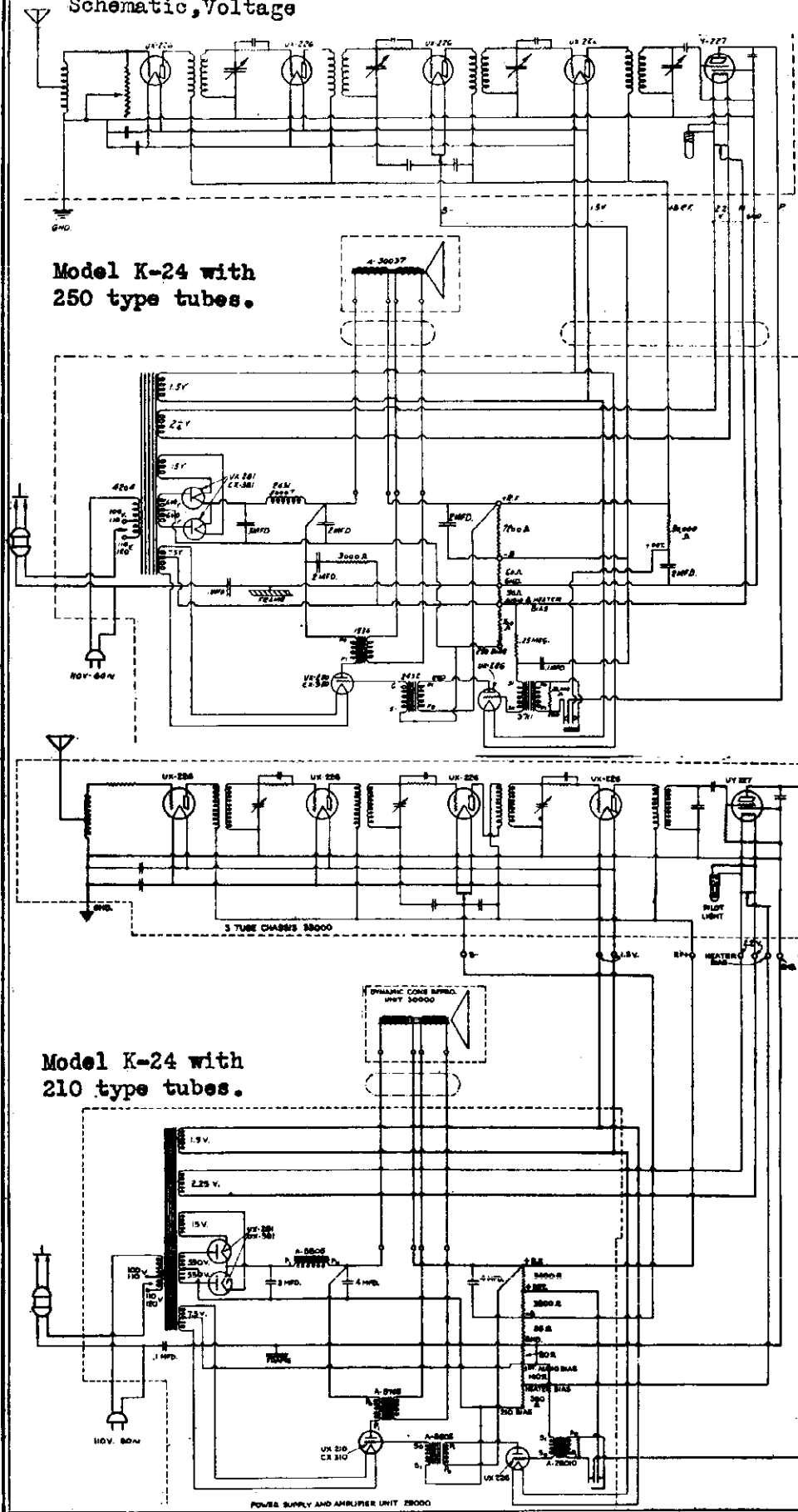
KOLSTER—Models K20-22-27-37  
Line Voltage 116

TYPE OF CHASSIS	TYPE OF POWER SUPPLY	LINE VOLTAGE		CURRENT		WATTAGE		TUBE SETS		TUBE TEST CHASSIS	
		110V	115V	120V	125V	130V	135V	140V	145V	150V	155V
1	225	1.25	1.35	1.45	1.55	1.65	1.75	1.85	1.95	2.05	2.15
2	225	1.35	1.45	1.55	1.65	1.75	1.85	1.95	2.05	2.15	2.25
3	225	1.45	1.55	1.65	1.75	1.85	1.95	2.05	2.15	2.25	2.35
4	225	1.55	1.65	1.75	1.85	1.95	2.05	2.15	2.25	2.35	2.45
5	225	1.65	1.75	1.85	1.95	2.05	2.15	2.25	2.35	2.45	2.55
6	225	1.75	1.85	1.95	2.05	2.15	2.25	2.35	2.45	2.55	2.65
7	225	1.85	1.95	2.05	2.15	2.25	2.35	2.45	2.55	2.65	2.75
8	225	1.95	2.05	2.15	2.25	2.35	2.45	2.55	2.65	2.75	2.85
9	225	2.05	2.15	2.25	2.35	2.45	2.55	2.65	2.75	2.85	2.95
10	225	2.15	2.25	2.35	2.45	2.55	2.65	2.75	2.85	2.95	3.05
11	225	2.25	2.35	2.45	2.55	2.65	2.75	2.85	2.95	3.05	3.15
12	225	2.35	2.45	2.55	2.65	2.75	2.85	2.95	3.05	3.15	3.25
13	225	2.45	2.55	2.65	2.75	2.85	2.95	3.05	3.15	3.25	3.35
14	225	2.55	2.65	2.75	2.85	2.95	3.05	3.15	3.25	3.35	3.45
15	225	2.65	2.75	2.85	2.95	3.05	3.15	3.25	3.35	3.45	3.55
16	225	2.75	2.85	2.95	3.05	3.15	3.25	3.35	3.45	3.55	3.65
17	225	2.85	2.95	3.05	3.15	3.25	3.35	3.45	3.55	3.65	3.75
18	225	2.95	3.05	3.15	3.25	3.35	3.45	3.55	3.65	3.75	3.85
19	225	3.05	3.15	3.25	3.35	3.45	3.55	3.65	3.75	3.85	3.95
20	225	3.15	3.25	3.35	3.45	3.55	3.65	3.75	3.85	3.95	4.05
21	225	3.25	3.35	3.45	3.55	3.65	3.75	3.85	3.95	4.05	4.15
22	225	3.35	3.45	3.55	3.65	3.75	3.85	3.95	4.05	4.15	4.25
23	225	3.45	3.55	3.65	3.75	3.85	3.95	4.05	4.15	4.25	4.35
24	225	3.55	3.65	3.75	3.85	3.95	4.05	4.15	4.25	4.35	4.45
25	225	3.65	3.75	3.85	3.95	4.05	4.15	4.25	4.35	4.45	4.55
26	225	3.75	3.85	3.95	4.05	4.15	4.25	4.35	4.45	4.55	4.65
27	225	3.85	3.95	4.05	4.15	4.25	4.35	4.45	4.55	4.65	4.75
28	225	3.95	4.05	4.15	4.25	4.35	4.45	4.55	4.65	4.75	4.85
29	225	4.05	4.15	4.25	4.35	4.45	4.55	4.65	4.75	4.85	4.95
30	225	4.15	4.25	4.35	4.45	4.55	4.65	4.75	4.85	4.95	5.05
31	225	4.25	4.35	4.45	4.55	4.65	4.75	4.85	4.95	5.05	5.15
32	225	4.35	4.45	4.55	4.65	4.75	4.85	4.95	5.05	5.15	5.25
33	225	4.45	4.55	4.65	4.75	4.85	4.95	5.05	5.15	5.25	5.35
34	225	4.55	4.65	4.75	4.85	4.95	5.05	5.15	5.25	5.35	5.45
35	225	4.65	4.75	4.85	4.95	5.05	5.15	5.25	5.35	5.45	5.55
36	225	4.75	4.85	4.95	5.05	5.15	5.25	5.35	5.45	5.55	5.65
37	225	4.85	4.95	5.05	5.15	5.25	5.35	5.45	5.55	5.65	5.75
38	225	4.95	5.05	5.15	5.25	5.35	5.45	5.55	5.65	5.75	5.85
39	225	5.05	5.15	5.25	5.35	5.45	5.55	5.65	5.75	5.85	5.95
40	225	5.15	5.25	5.35	5.45	5.55	5.65	5.75	5.85	5.95	6.05
41	225	5.25	5.35	5.45	5.55	5.65	5.75	5.85	5.95	6.05	6.15
42	225	5.35	5.45	5.55	5.65	5.75	5.85	5.95	6.05	6.15	6.25
43	225	5.45	5.55	5.65	5.75	5.85	5.95	6.05	6.15	6.25	6.35
44	225	5.55	5.65	5.75	5.85	5.95	6.05	6.15	6.25	6.35	6.45
45	225	5.65	5.75	5.85	5.95	6.05	6.15	6.25	6.35	6.45	6.55
46	225	5.75	5.85	5.95	6.05	6.15	6.25	6.35	6.45	6.55	6.65
47	225	5.85	5.95	6.05	6.15	6.25	6.35	6.45	6.55	6.65	6.75
48	225	5.95	6.05	6.15	6.25	6.35	6.45	6.55	6.65	6.75	6.85
49	225	6.05	6.15	6.25	6.35	6.45	6.55	6.65	6.75	6.85	6.95
50	225	6.15	6.25	6.35	6.45	6.55	6.65	6.75	6.85	6.95	7.05
51	225	6.25	6.35	6.45	6.55	6.65	6.75	6.85	6.95	7.05	7.15
52	225	6.35	6.45	6.55	6.65	6.75	6.85	6.95	7.05	7.15	7.25
53	225	6.45	6.55	6.65	6.75	6.85	6.95	7.05	7.15	7.25	7.35
54	225	6.55	6.65	6.75	6.85	6.95	7.05	7.15	7.25	7.35	7.45
55	225	6.65	6.75	6.85	6.95	7.05	7.15	7.25	7.35	7.45	7.55
56	225	6.75	6.85	6.95	7.05	7.15	7.25	7.35	7.45	7.55	7.65
57	225	6.85	6.95	7.05	7.15	7.25	7.35	7.45	7.55	7.65	7.75
58	225	6.95	7.05	7.15	7.25	7.35	7.45	7.55	7.65	7.75	7.85
59	225	7.05	7.15	7.25	7.35	7.45	7.55	7.65	7.75	7.85	7.95
60	225	7.15	7.25	7.35	7.45	7.55	7.65	7.75	7.85	7.95	8.05
61	225	7.25	7.35	7.45	7.55	7.65	7.75	7.85	7.95	8.05	8.15
62	225	7.35	7.45	7.55	7.65	7.75	7.85	7.95	8.05	8.15	8.25
63	225	7.45	7.55	7.65	7.75	7.85	7.95	8.05	8.15	8.25	8.35
64	225	7.55	7.65	7.75	7.85	7.95	8.05	8.15	8.25	8.35	8.45
65	225	7.65	7.75	7.85	7.95	8.05	8.15	8.25	8.35	8.45	8.55
66	225	7.75	7.85	7.95	8.05	8.15	8.25	8.35	8.45	8.55	8.65
67	225	7.85	7.95	8.05	8.15	8.25	8.35	8.45	8.55	8.65	8.75
68	225	7.95	8.05	8.15	8.25	8.35	8.45	8.55	8.65	8.75	8.85
69	225	8.05	8.15	8.25	8.35	8.45	8.55	8.65	8.75	8.85	8.95
70	225	8.15	8.25	8.35	8.45	8.55	8.65	8.75	8.85	8.95	9.05
71	225	8.25	8.35	8.45	8.55	8.65	8.75	8.85	8.95	9.05	9.15
72	225	8.35	8.45	8.55	8.65	8.75	8.85	8.95	9.05	9.15	9.25
73	225	8.45	8.55	8.65	8.75	8.85	8.95	9.05	9.15	9.25	9.35
74	225	8.55	8.65	8.75	8.85	8.95	9.05	9.15	9.25	9.35	9.45
75	225	8.65	8.75	8.85	8.95	9.05	9.15	9.25	9.35	9.45	9.55
76	225	8.75	8.85	8.95	9.05	9.15	9.25	9.35	9.45	9.55	9.65
77	225	8.85	8.95	9.05	9.15	9.25	9.35	9.45	9.55	9.65	9.75
78	225	8.95	9.05	9.15	9.25	9.35	9.45	9.55	9.65	9.75	9.85
79	225	9.05	9.15	9.25	9.35	9.45	9.55	9.65	9.75	9.85	9.95
80	225	9.15	9.25	9.35	9.45	9.55	9.65	9.75	9.85	9.95	10.05
81	225	9.25	9.35	9.45	9.55	9.65	9.75	9.85	9.95	10.05	10.15
82	225	9.35	9.45	9.55	9.65	9.75	9.85	9.95	10.05	10.15	10.25
83	225	9.45	9.55	9.65	9.75	9.85	9.95	10.05	10.15	10.25	10.35
84	225	9.55	9.65	9.75	9.85	9.95	10.05	10.15	10.25	10.35	10.45
85	225	9.65	9.75	9.85	9.95	10.05	10.15	10.25	10.35	10.45	10.55
86	225	9.75	9.85	9.95	10.05	10.15	10.25	10.35	10.45	10.55	10.65
87	225	9.85	9.95	10.05	10.15	10.25	10.35	10.45	10.55	10.65	10.75
88	225	9.95	10.05	10.15	10.25	10.35	10.45	10.55	10.65		



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

KOLSTER RADIO, INC.

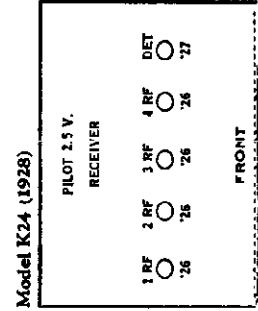
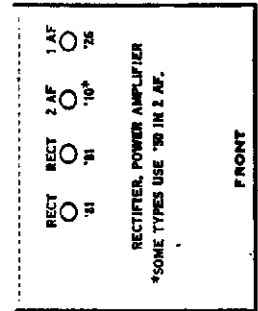


Model K-24 with 250 type tubes.

Model K-24 with 210 type tubes.

Line Voltage 116

TUBE NO. IN CHASSIS	TUBE TYPE	POSITION IN SET BY R.F. SETTING	TUBE OUT			REPLACE PLUG IN SOCKET OF SET			TUBE IN TESTER		
			VOLTS	AMPS	WATTS	VOLTS	AMPS	WATTS	VOLTS	AMPS	WATTS
1	226	1st. R.F.	1.48	30	1.4	84	2.5	5.8	9.8	1.0	
2	226	2nd. R.F.	1.48	30	1.4	84	2.5	5.8	9.8	1.0	
3	226	3rd. R.F.	1.48	30	1.4	84	2.5	5.8	9.8	1.0	
4	227	DET.	2.5	30	2.5	84	2.5	5.8	9.8	1.0	
5	226	1st. A.	2.56	88	1.6	72	2.0	4.8	7.8	3.0	
6	210	2nd. A.	7.9	430	32.5	24	28.5	24	28.5	3.0	
7	231	Rect.	-	-	7.0	-	-	28.0	-	-	
8	231	3rd. A.	-	-	7.0	-	-	28.0	-	-	

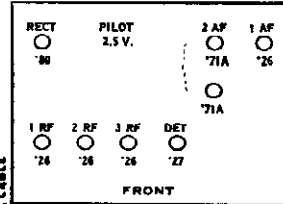




MODEL K-42  
Schematic  
Voltage

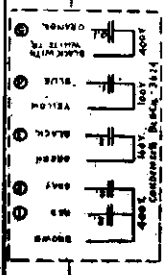
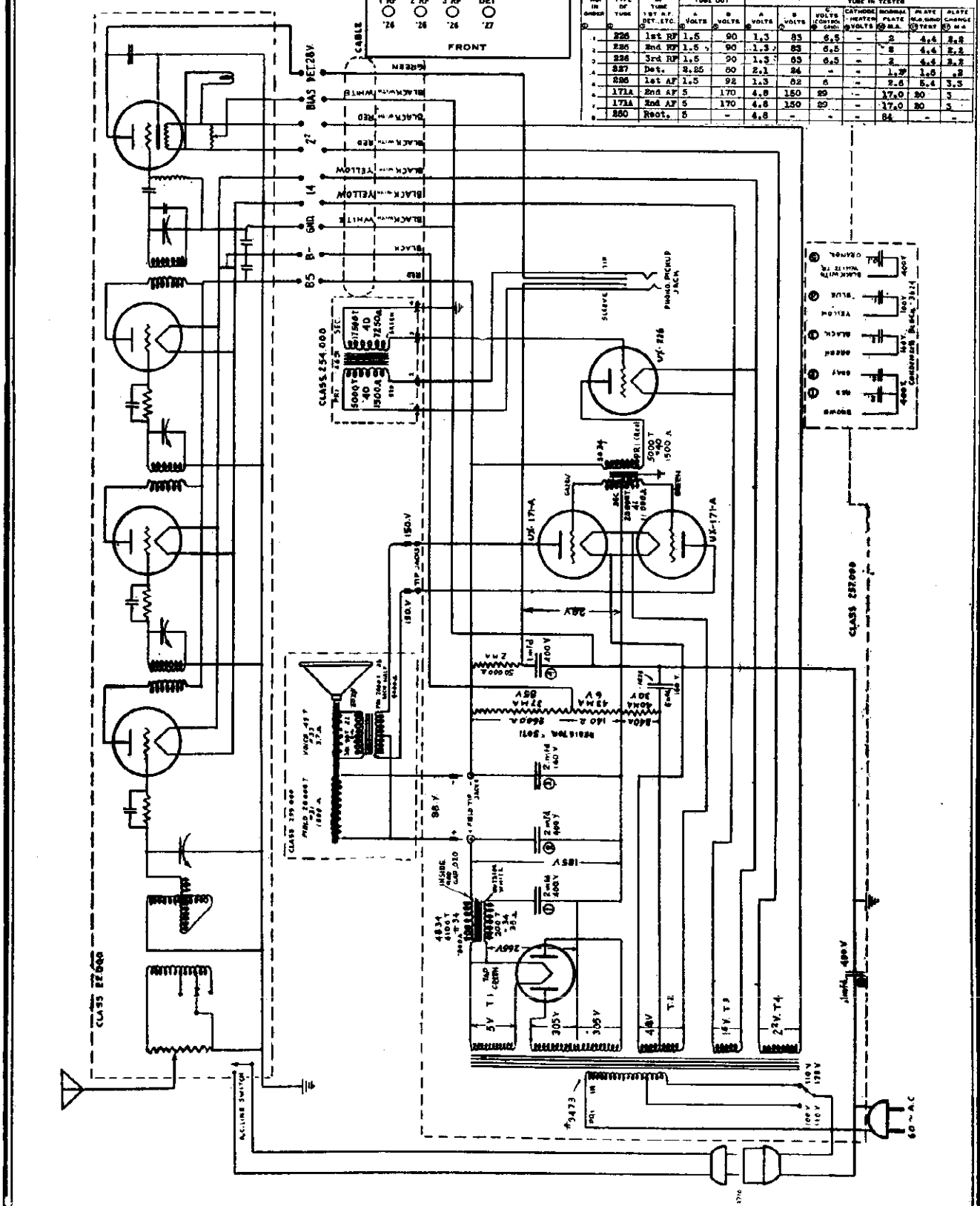
KOLSTER RADIO, INC.

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	TUBE OUT				TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CONTROL)	CATHODE HEATEN (VOLTS)	PLATE (VOLTS)	PLATE CHANGE (M.A.)	
1	226	1st RF	1.5	90	1.3	83	6.5	—	2	2.5	2.2
2	226	2nd RF	1.5	90	1.3	83	6.5	—	2	4.4	2.2
3	226	3rd RF	1.5	90	1.3	83	6.5	—	2	4.4	2.2
4	227	Det.	2.25	90	2.1	84	—	—	1.2	1.8	2
5	226	1st AF	1.5	92	1.3	82	6	—	2.6	5.4	3.5
6	171A	2nd AF	5	170	4.8	160	89	—	17.0	20	3
7	171A	2nd AF	5	170	4.8	160	89	—	17.0	20	3
8	220	Rect.	5	—	4.8	—	—	—	84	—	—



CLASS 227000

CLASS 226000

CLASS 225000

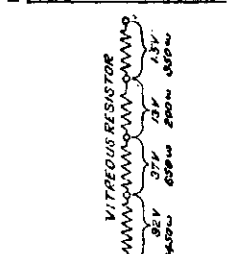
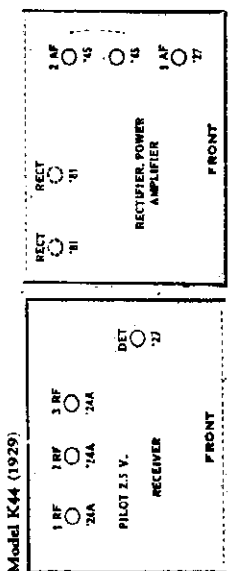
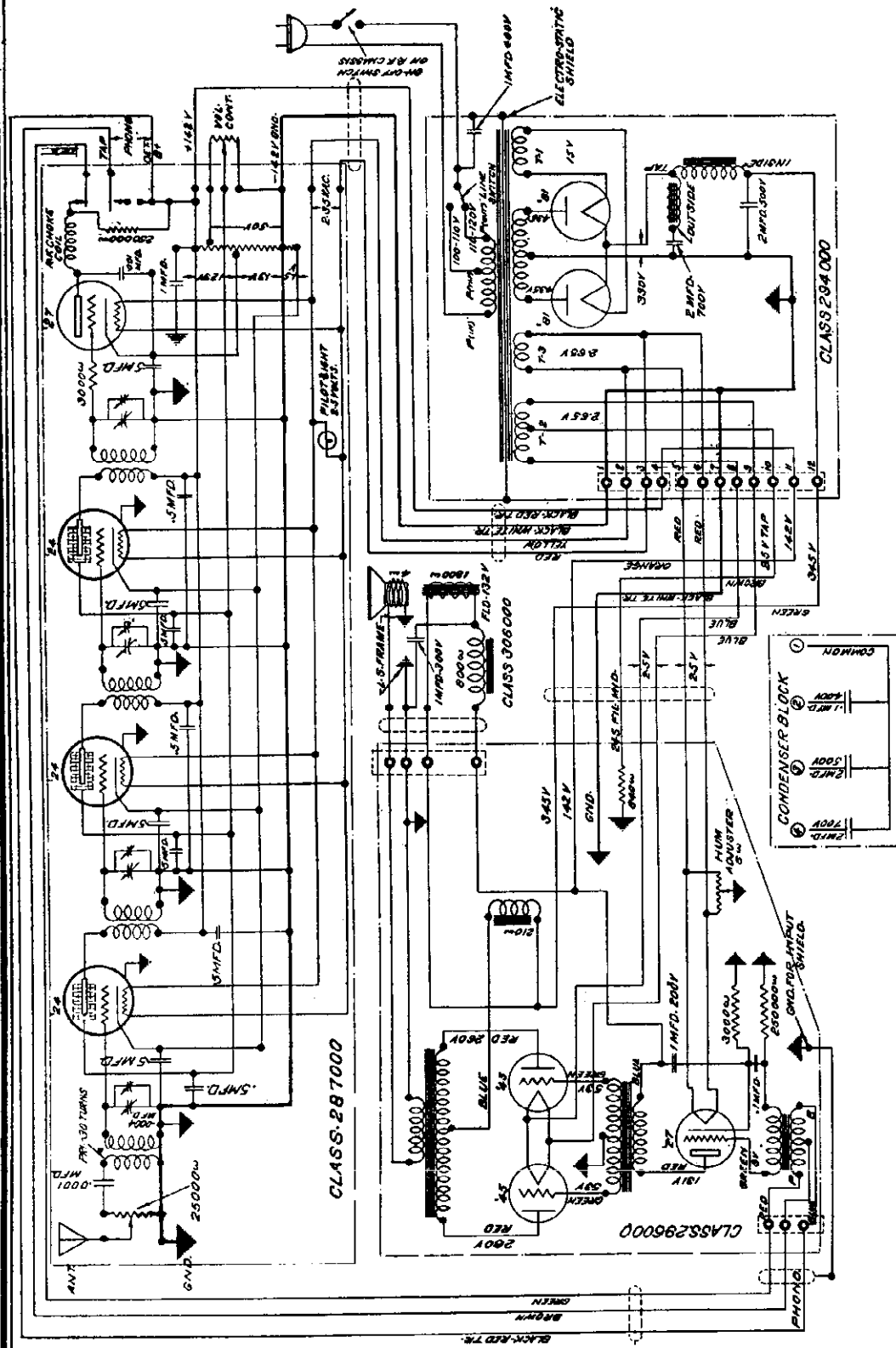
CLASS 224000





**MODEL K-44 (1929)**  
**Schematic**  
**Voltage**

**KOLSTER RADIO, INC.**



Line Voltage 112—Volume Control Position Max

TYPE	WAVE	FORM	RESISTANCE	CAPACITANCE	TURNS IN		TURNS OUT		RESISTANCE	CAPACITANCE	TURNS IN	TURNS OUT
					MIN.	MAX.	MIN.	MAX.				
284	112	35	2.4	135	2.2	130	1.5	1.2	3	2.2	45	45
284	204	35	2.4	135	2.2	130	1.5	1.2	3	2.2	45	45
284	304	35	2.4	135	2.2	130	1.5	1.2	3	2.2	45	45
227	112	A	2.4	125	2.2	120	1.0	1.2	4	1.5	4	4
227	112	A	2.4	135	2.2	130	1.0	1.2	4	1.5	4	4
245	204	A	2.4	280	2.3	280	50	35	39	4	4	4
245	204	A	2.4	280	2.3	250	50	35	39	4	4	4
241	204	A	7.5	7.5	7.3	7.3	55	55	55	55	55	55
241	204	A	7.5	7.5	7.3	7.3	55	55	55	55	55	55





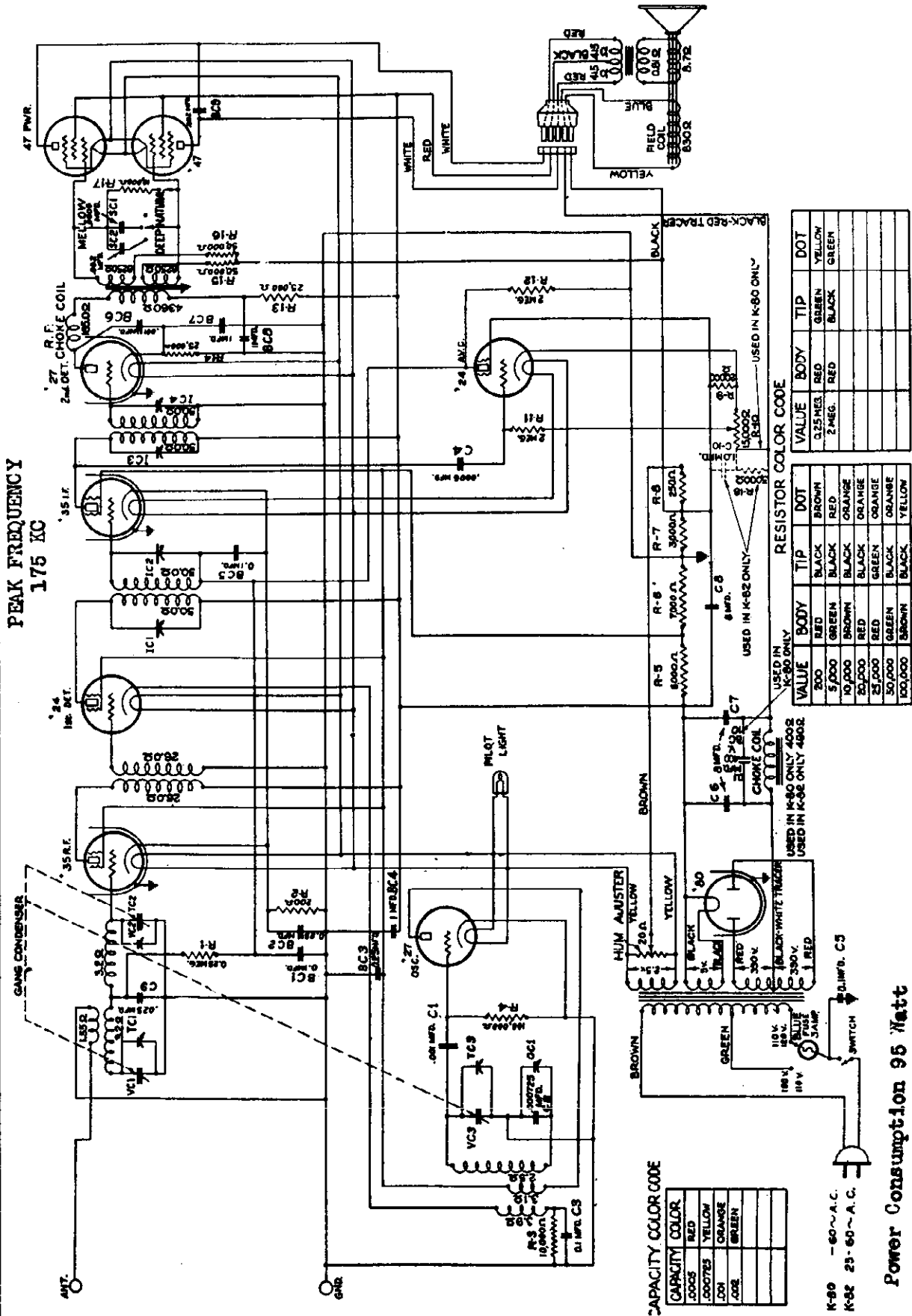


MODEL K-80, K-82

KOLSTER RADIO, INC.

1931

PEAK FREQUENCY  
175 KC



RESISTOR COLOR CODE

VALUE	TIP	BODY	TIP	DOT
0.25 MEG.	BROWN	RED	GREEN	YELLOW
2 MEG.	RED	BLACK	BLACK	GREEN

RESISTOR COLOR CODE

VALUE	TIP	BODY	TIP	DOT
200	BLACK	BROWN	BROWN	
5,000	BLACK	BLACK	RED	
10,000	BROWN	BLACK	ORANGE	
50,000	RED	BLACK	ORANGE	
25,000	RED	GREEN	ORANGE	
50,000	GREEN	BLACK	ORANGE	
100,000	BROWN	BLACK	YELLOW	

CAPACITY COLOR CODE

CAPACITY	COLOR
0.005	RED
0.0075	YELLOW
0.01	ORANGE
0.02	GREEN

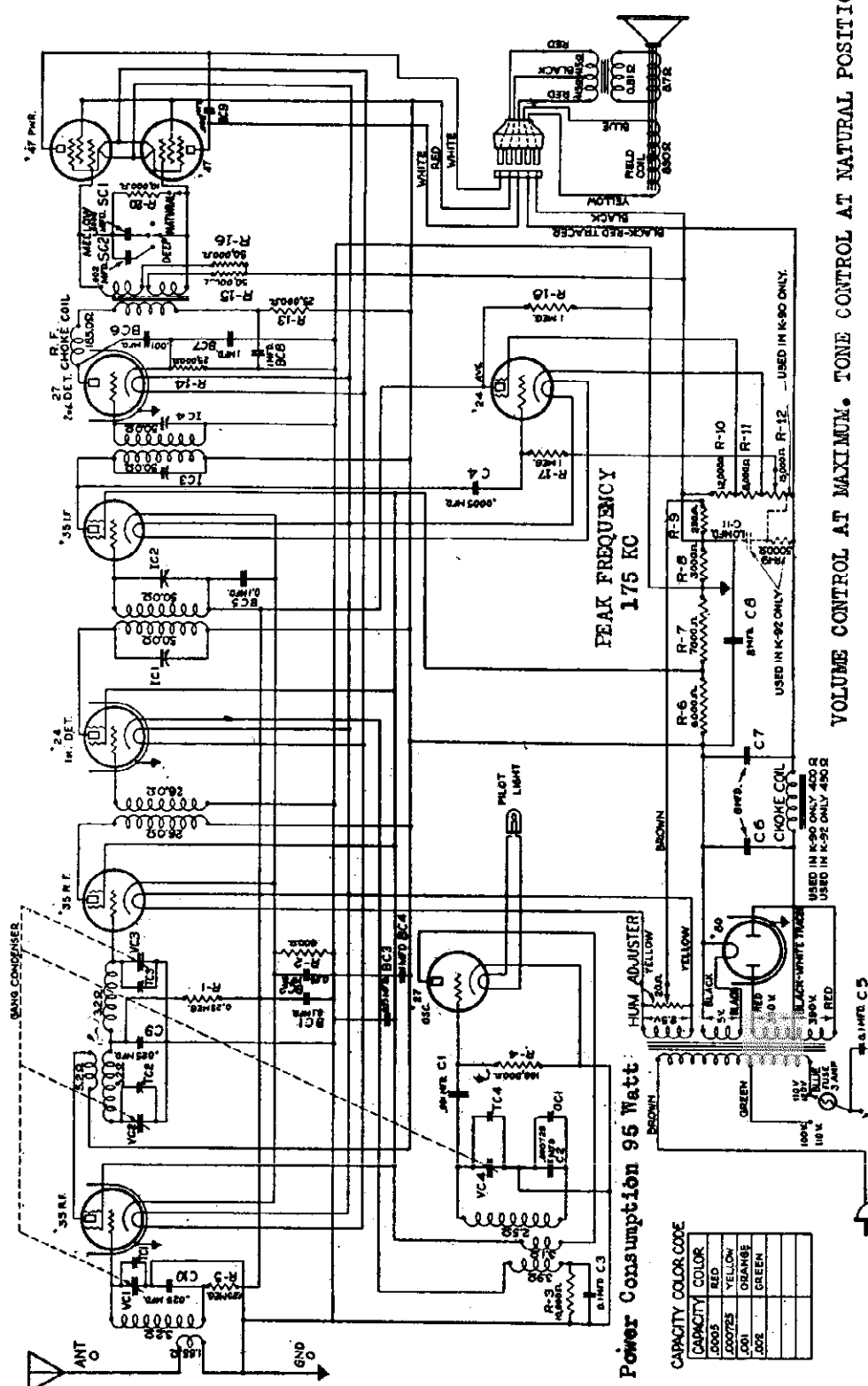
K-80 - 60~A.C.  
K-82 23-60~A.C.

Power Consumption 95 Watt

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

KOLSTER RADIO, INC.

MODEL K-90, K-92  
Schematic  
Voltage



Power Consumption 95 Watt

CAPACITY COLOR CODE

CAPACITY	COLOR
5005	RED
5000	YELLOW
500725	ORANGE
5001	GREEN
5002	GREEN

K-90 - 40 ~ A.C.  
K-92 25 - 60 ~ A.C.

RESISTOR COLOR CODE

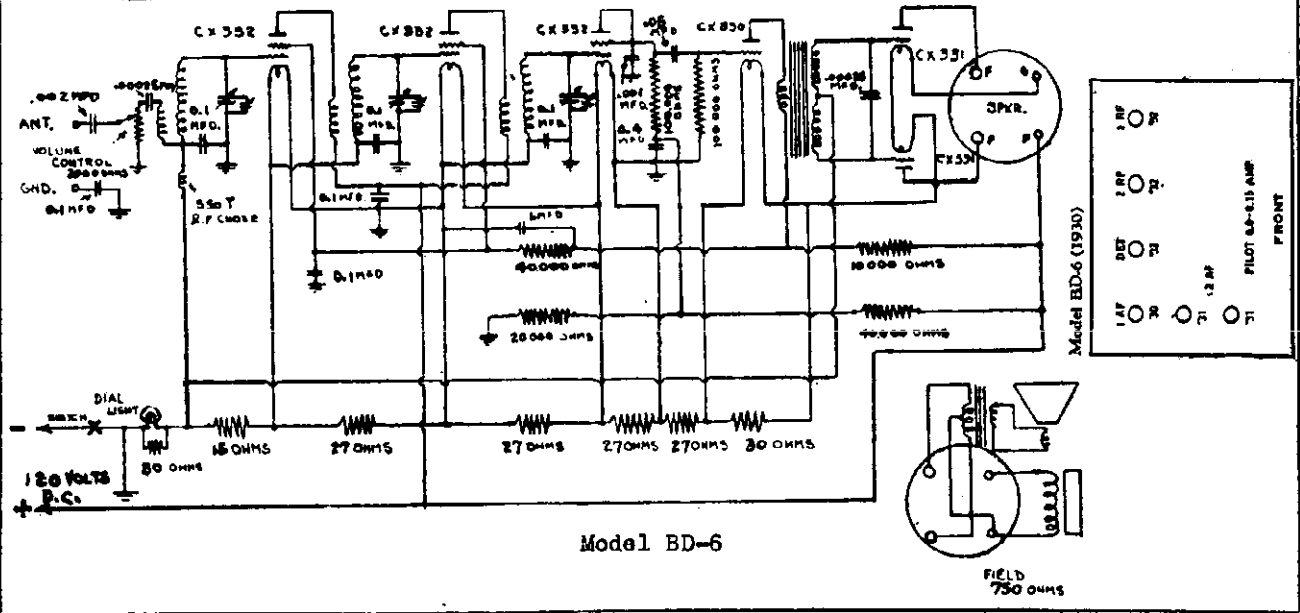
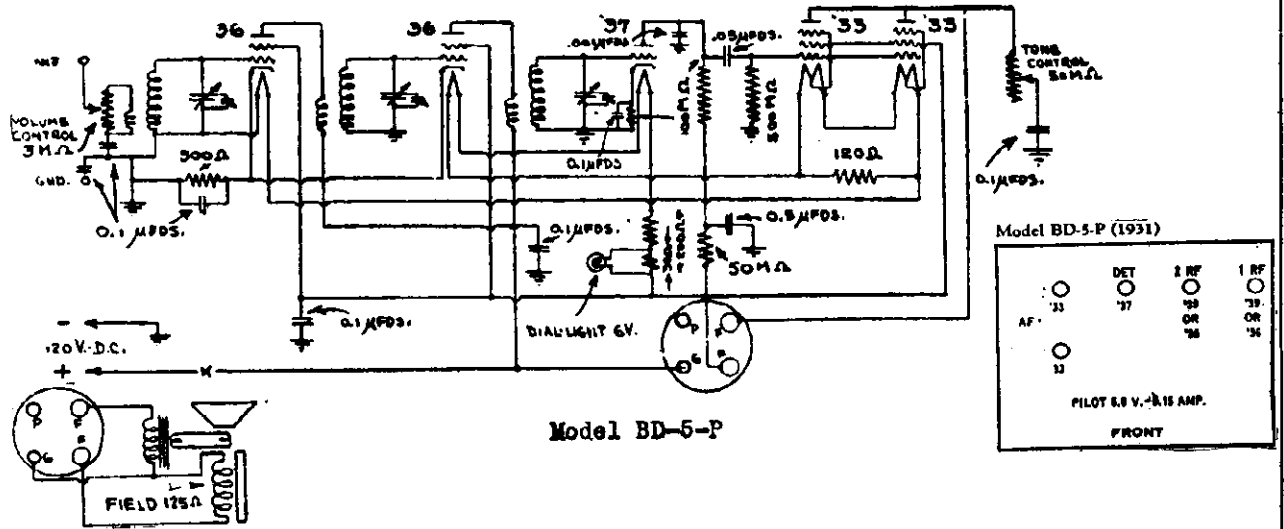
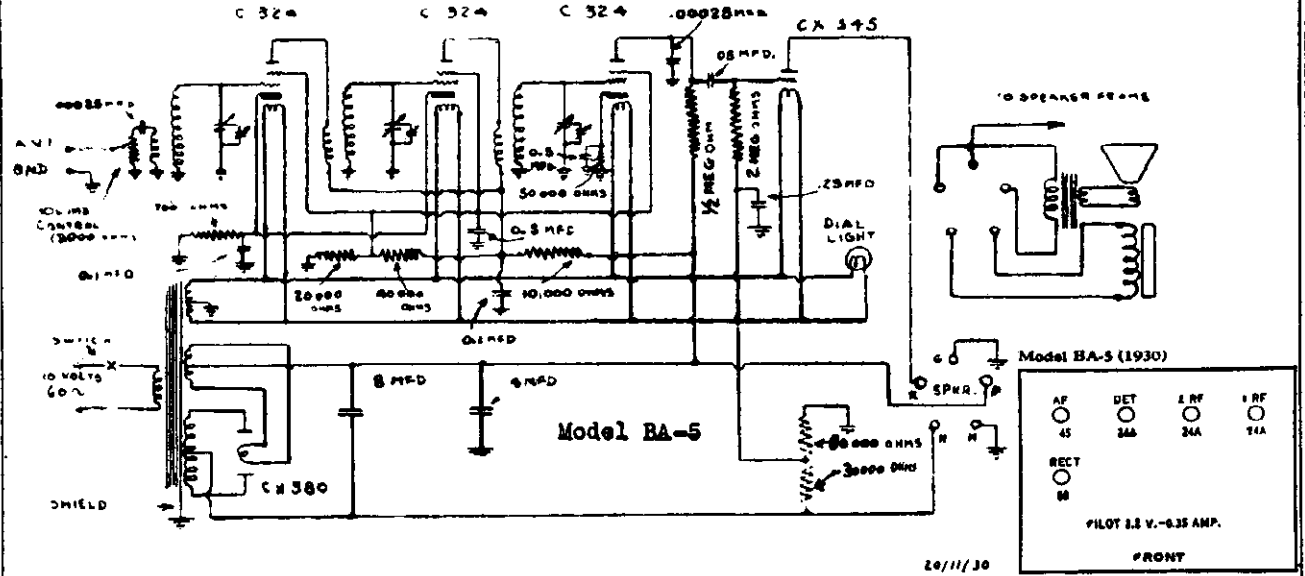
VALUE	BODY	TIP	DOT
500	BLUE	BLACK	BROWN
5000	JULAY	BLACK	BROWN
50000	BROWN	BLACK	BROWN
100000	BROWN	RED	ORANGE
12000	BROWN	RED	ORANGE
15000	RED	GREEN	ORANGE
20000	RED	BLACK	ORANGE
50000	GREEN	BLACK	ORANGE
100000	BROWN	BLACK	YELLOW

VOLUME CONTROL AT MAXIMUM. TONE CONTROL AT NATURAL POSITION.

TUBE	RF	Osc.	1st. Det.	IF	2nd. Det.	AVC	Power.	Rect.	CGV	SGV	KV	FV	P.M.A.
RF	-0.2	0	-5.6	-0.4	-1.5	-0.5	-1.2	-	75	75	68	176	3
Osc.									0		62	73	5.5
1st. Det.									72	75	68	175	.52
IF									68		76	145	2.6
2nd. Det.									44	44	58	67	.65
AVC									250	250	-	228	0
Power.									-	-	-	-	28
Rect.									-	-	-	-	47

LANG RADIO CC

MODEL BA-5  
 MODEL BD-5-P  
 MODEL BD-6





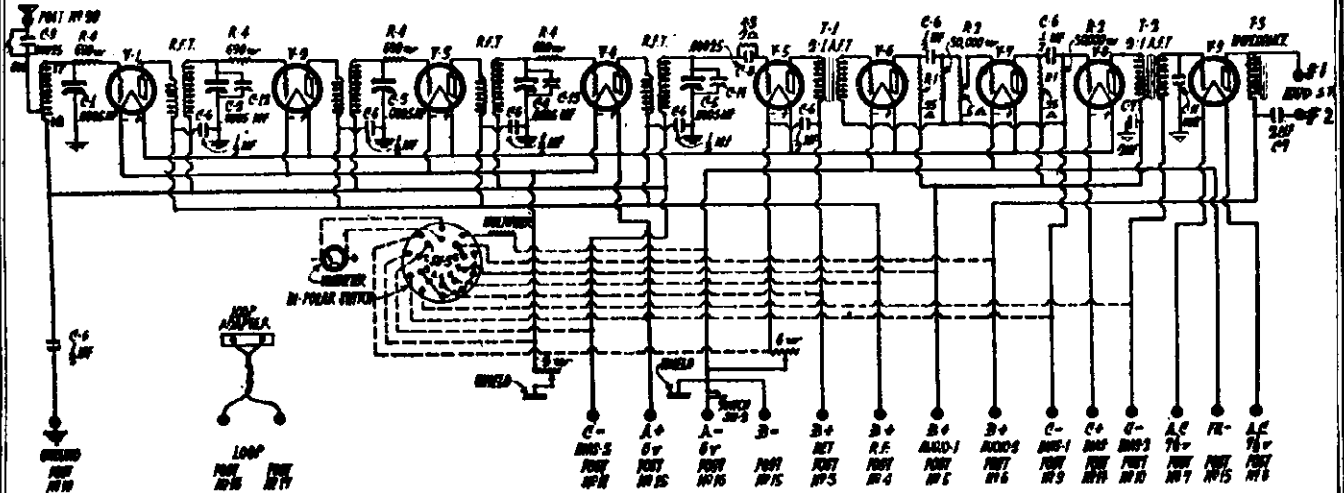




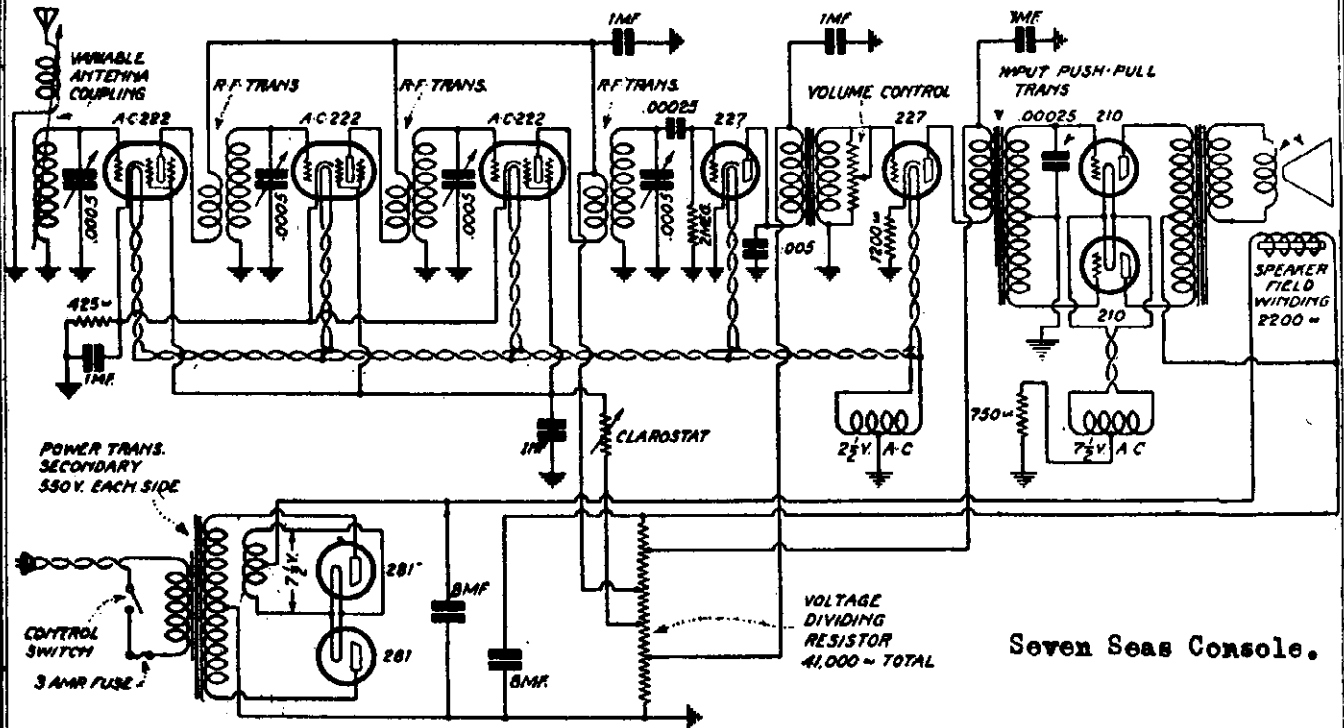


MODEL Trans-Oceanic  
MODEL Seven Seas

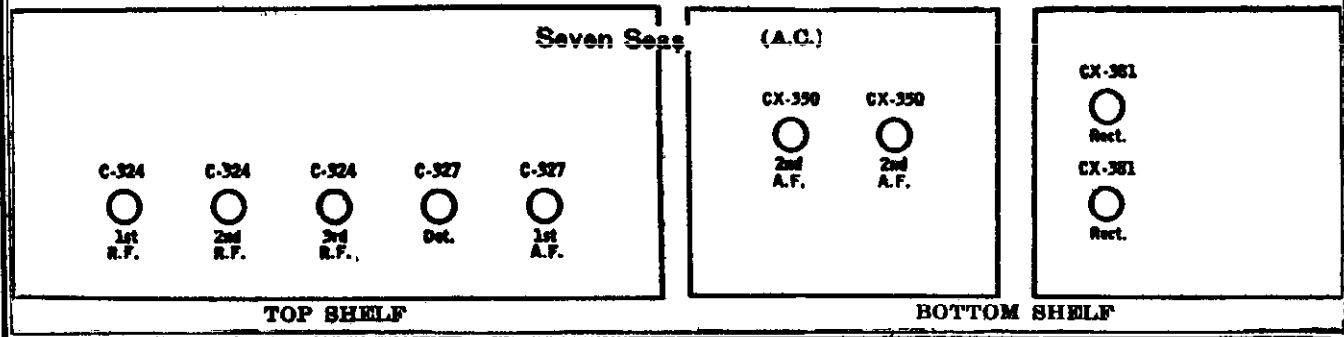
C. R. LEUTZ, INC.



Universal Trans-Oceanic Receiver.

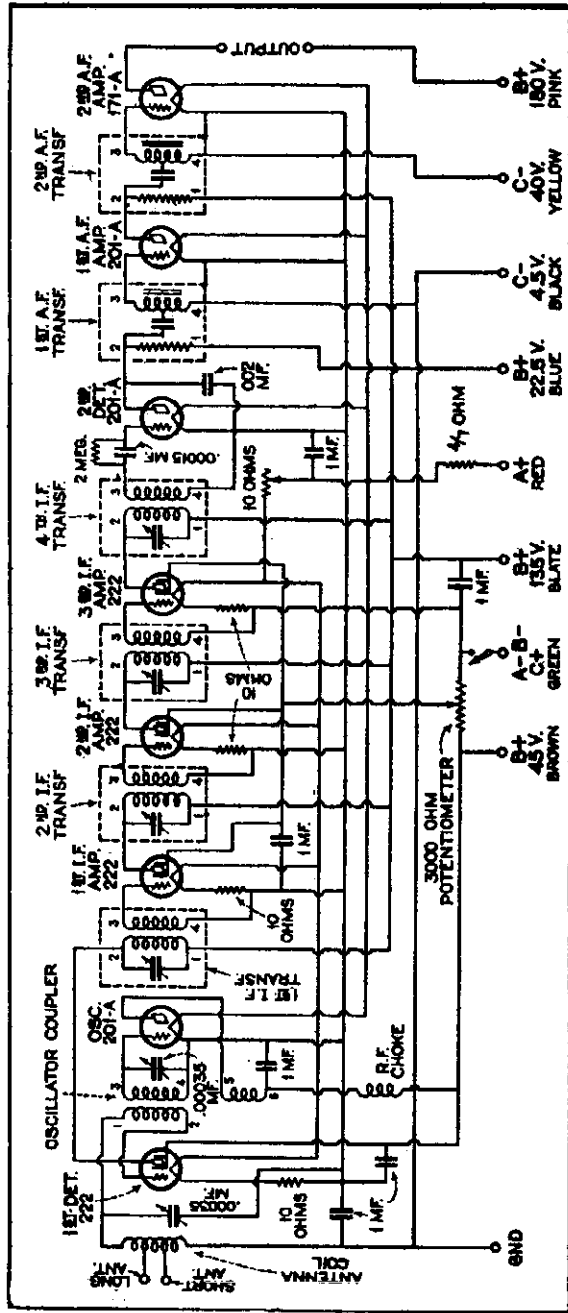


Seven Seas Console.

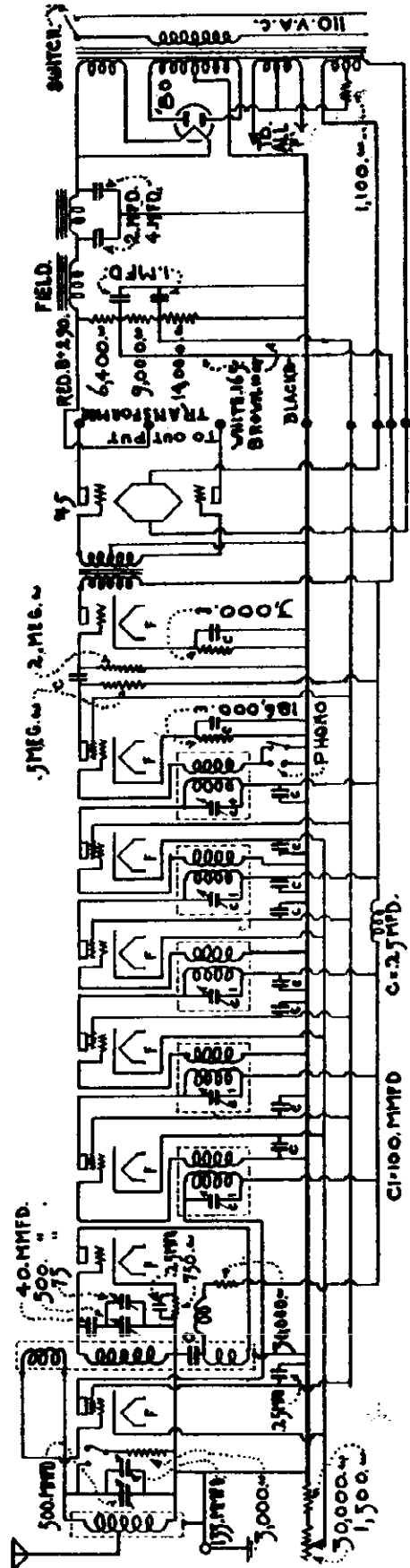


LINCOLN RADIO CORP.

MODEL 8-80  
MODEL 81



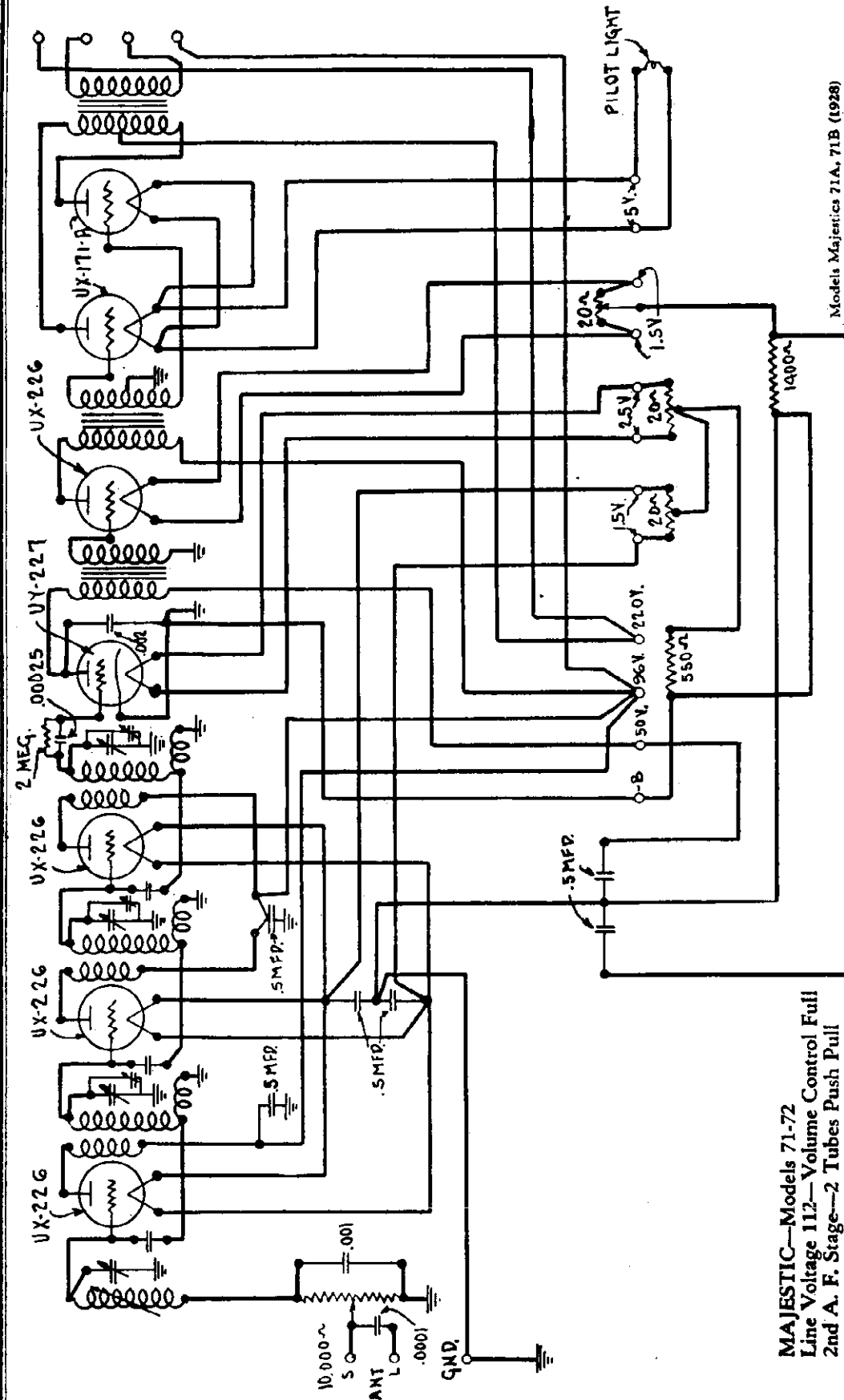
Model 8-80



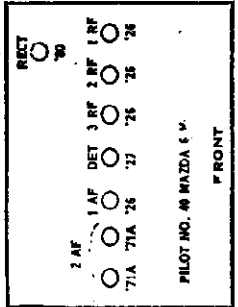
Model 81

GRIGSBY - GRUNOW CO.

MODEL 70  
Chassis



Models Majestics 71A, 71B (1928)



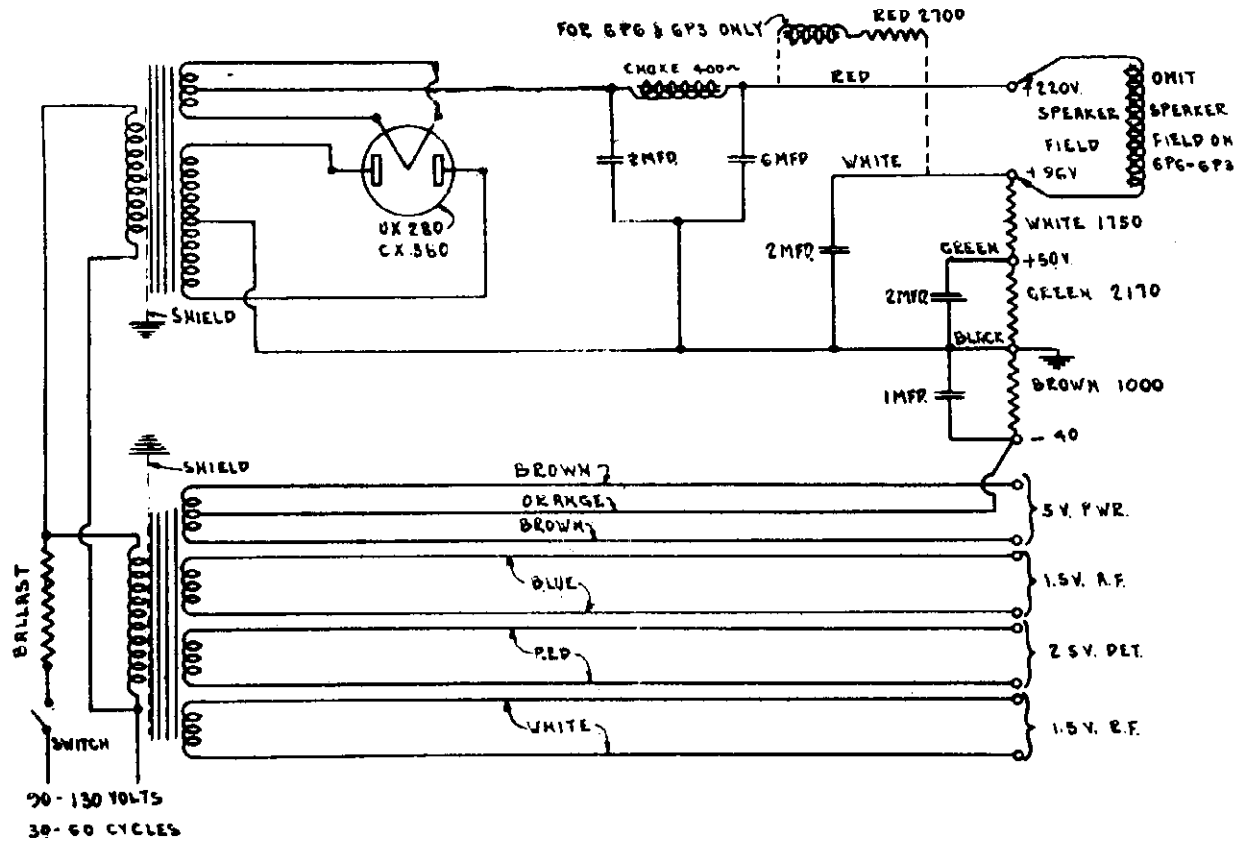
MAJESTIC—Models 71-72  
Line Voltage 112—Volume Control Full  
2nd A. F. Stage—2 Tubes Push Pull

TYPE OF TUBE	POSITION IN CHASSIS	TUBE DATA		TUBE IN TESTER		WELDNICE PLUG IN SOCKET OF SET	
		1ST A.F. STG.	2ND A.F. STG.	VOLTS	WOLTS	PLATE VOLTS	W. GRID VOLTS
226	1st A.F. STG.	1.5	1.5	102	1.5	96	5
226	2nd A.F. STG.	1.5	1.5	102	1.5	96	5
226	3rd A.F. STG.	1.5	1.5	102	1.5	96	5
227	Detector	2.4	1.00	2.4	1.00	40	0
226	1st A.F. STG.	1.5	1.5	100	1.5	83	4
171A	2nd A.F. STG.	5.0	1.92	4.8	1.80	40	20.0
171A	2nd A.F. STG.	5.0	1.92	4.8	1.80	40	20.0
820	Rectifier	-	-	-	-	1.8	-

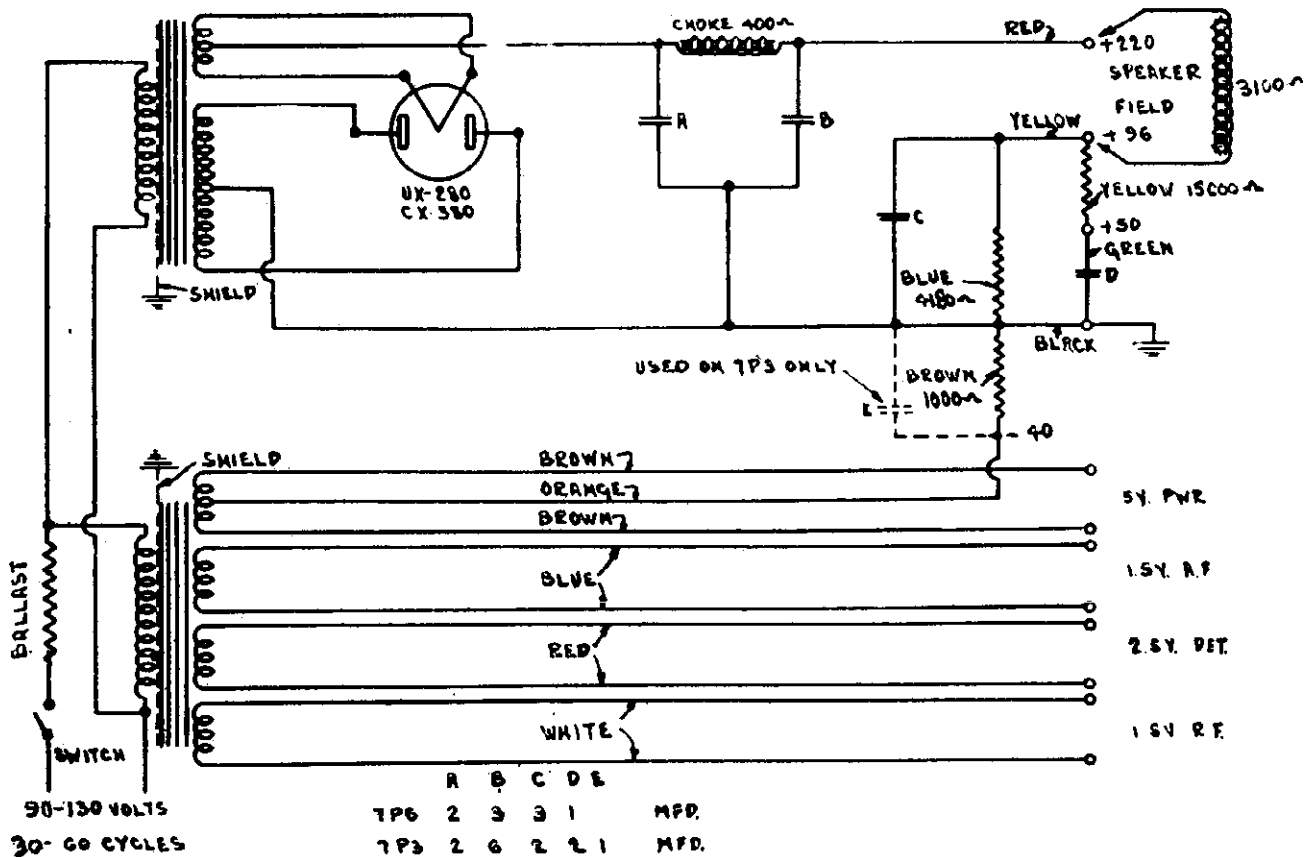
MODEL 7-P-6, 7-P-3  
Two Types

GRIGSBY-GRUNOW CO.

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

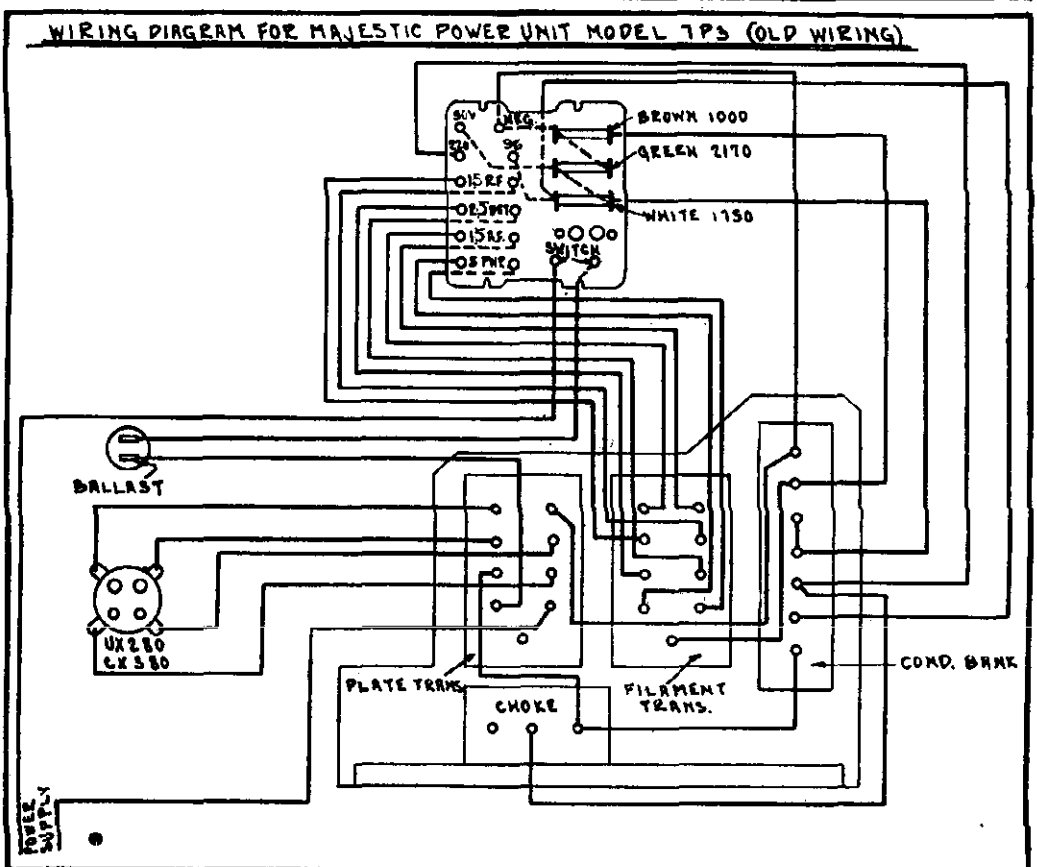
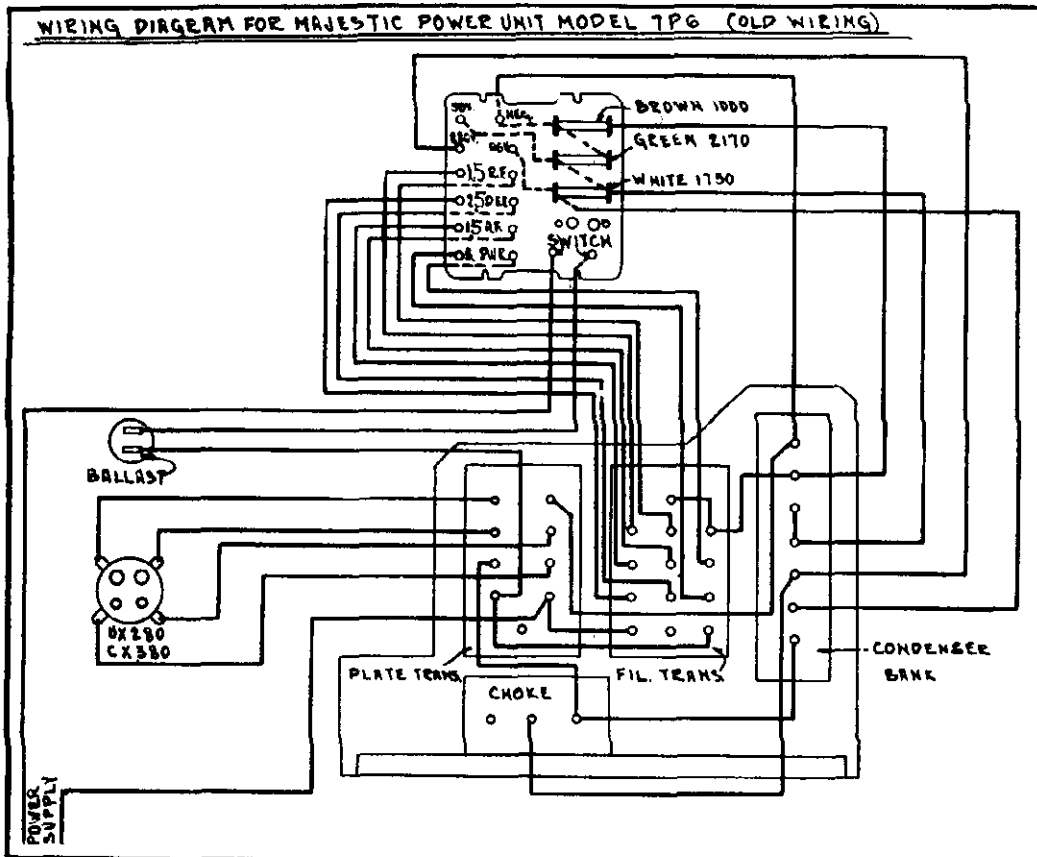


SCHEMATIC DIAGRAM OF 7P6-7P3 POWER PACK



GRIGSBY - GRUNOW CO.

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

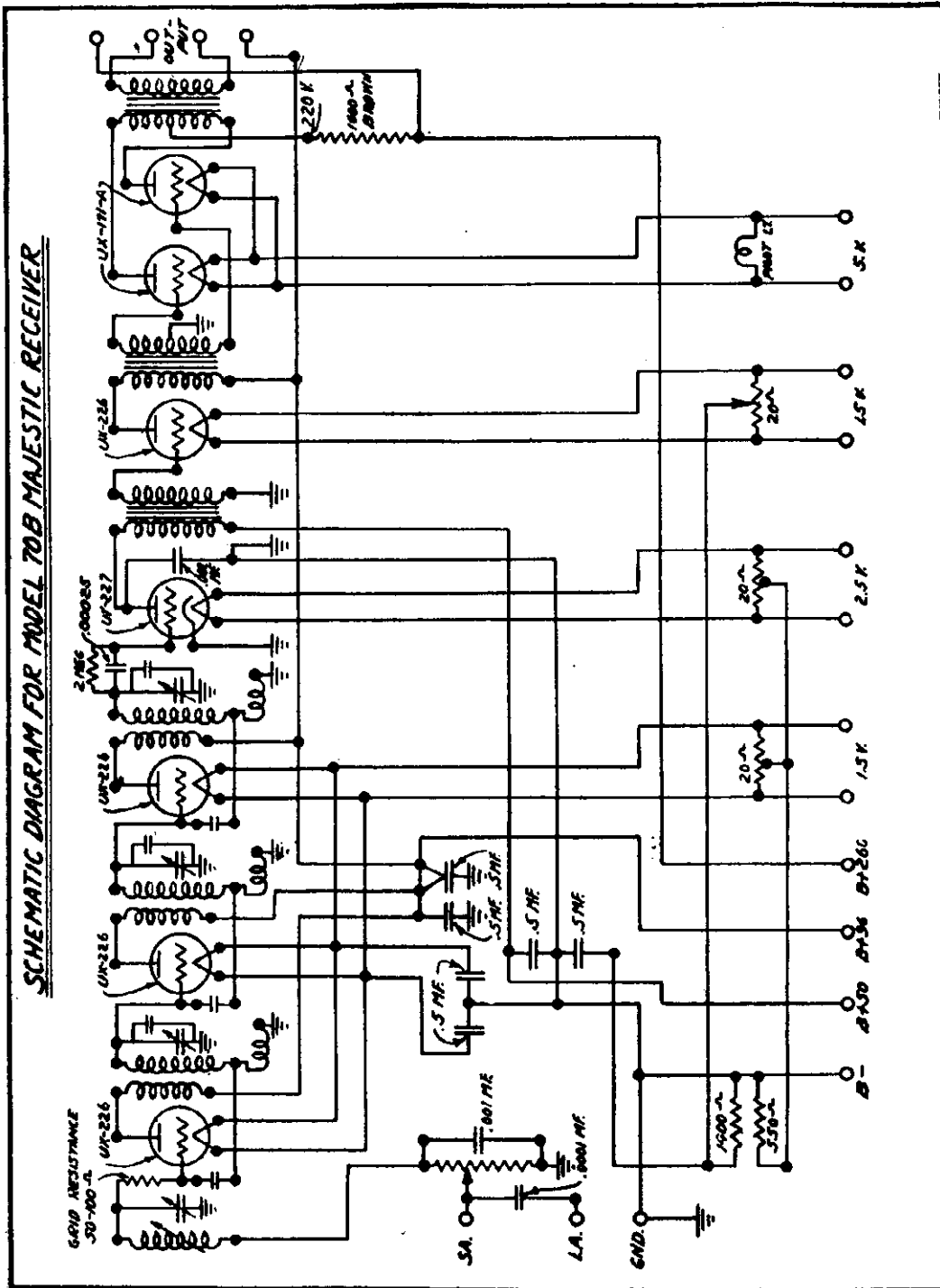






GRIGSBY - GRUNOW CO.

MODEL 70-B



SCHEMATIC DIAGRAM FOR MODEL 70B MAJESTIC RECEIVER

Line Voltage 112—Volume Control Full  
2nd A. F. Stage—2 Tubes Push Pull

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST BY SET STA.)	HEADINGS PLUS IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE R.F. OHMS TEST	PLATE R.F. OHMS	R.F. OHMS
226	2nd A.F.	1A5	102	1.4	96	5	-	3.5	8.5	5.0		
226	3rd R.F.	1A5	102	1.4	96	5	-	3.5	8.5	5.0		
227	Detector	2A4	100	2.2	40	0	-	3.0	3.0	0		
226	1st A.F.	1A5	100	1.4	83	4	-	3.5	8.0	4.5		
171A	2nd A.F.	5A0	192	4.8	180	40	-	20.0	25.0	3.0		
171A	2nd A.F.	5A0	192	4.8	180	40	-	20.0	25.0	3.0		
300	Rectifier	-	-	2.8	-	-	-	20.0	-	-		

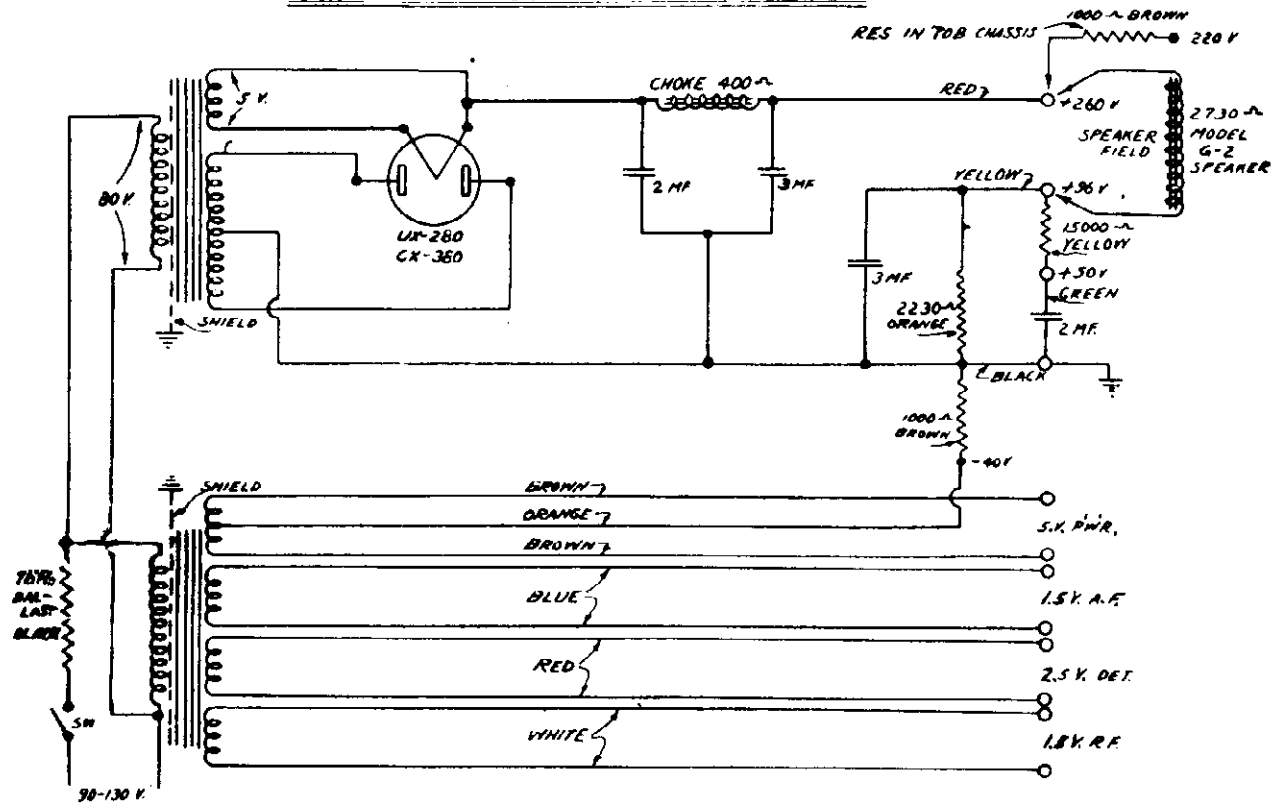
CX-371A	CX-371A	CX-326	C-327	CX-326	CX-326	CX-326
○	○	○	○	○	○	○
2nd A.F.	2nd A.F.	1st A.F.	Det.	3rd R.F.	2nd R.F.	1st R.F.

Separate Power Unit uses CX-380.

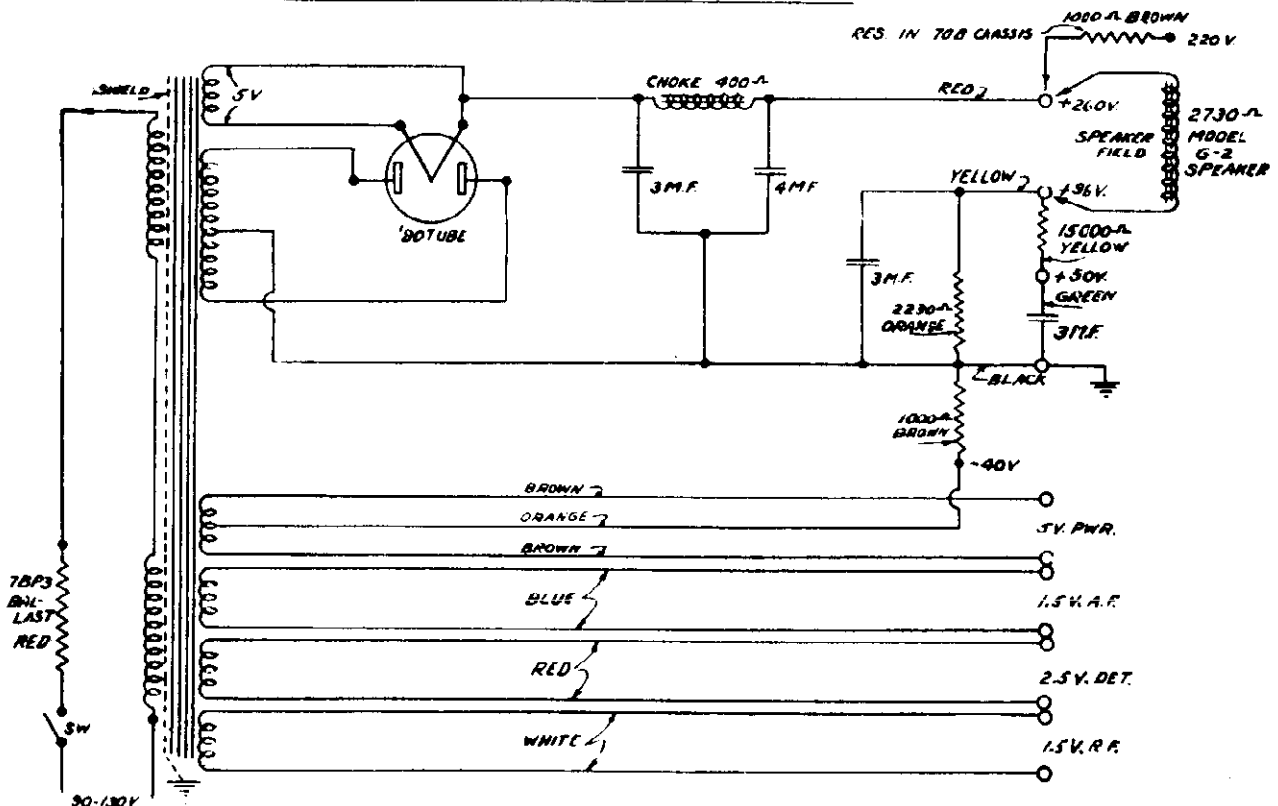
MODEL 7-BP-6,7-BP-3  
Schematic

GRIGSBY - GRUNOW CO.

SCHEMATIC DIAGRAM OF 7BP6 POWER UNIT



SCHEMATIC DIAGRAM OF 7BP3 POWER UNIT





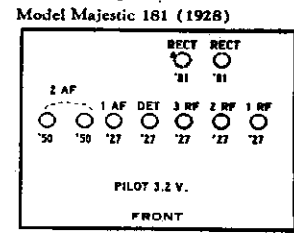
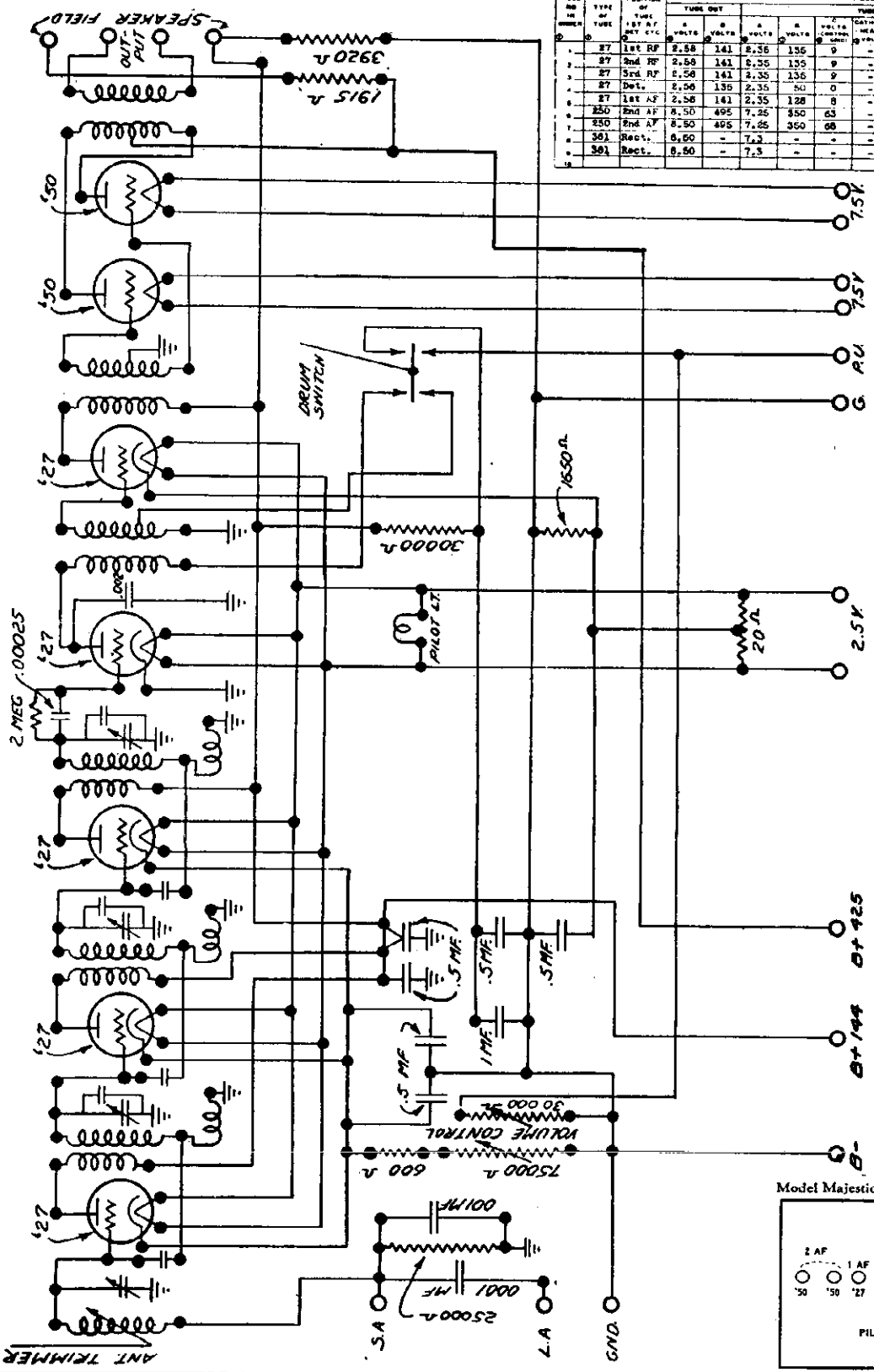
MODEL 180

GRIGSBY - GRUNOW CO.

MAJESTIC—Model 181  
 Line Voltage 112—Set on \*Volt Tap—Volume Control  
 Position Full On  
 \*Voltage Regulator Is Used

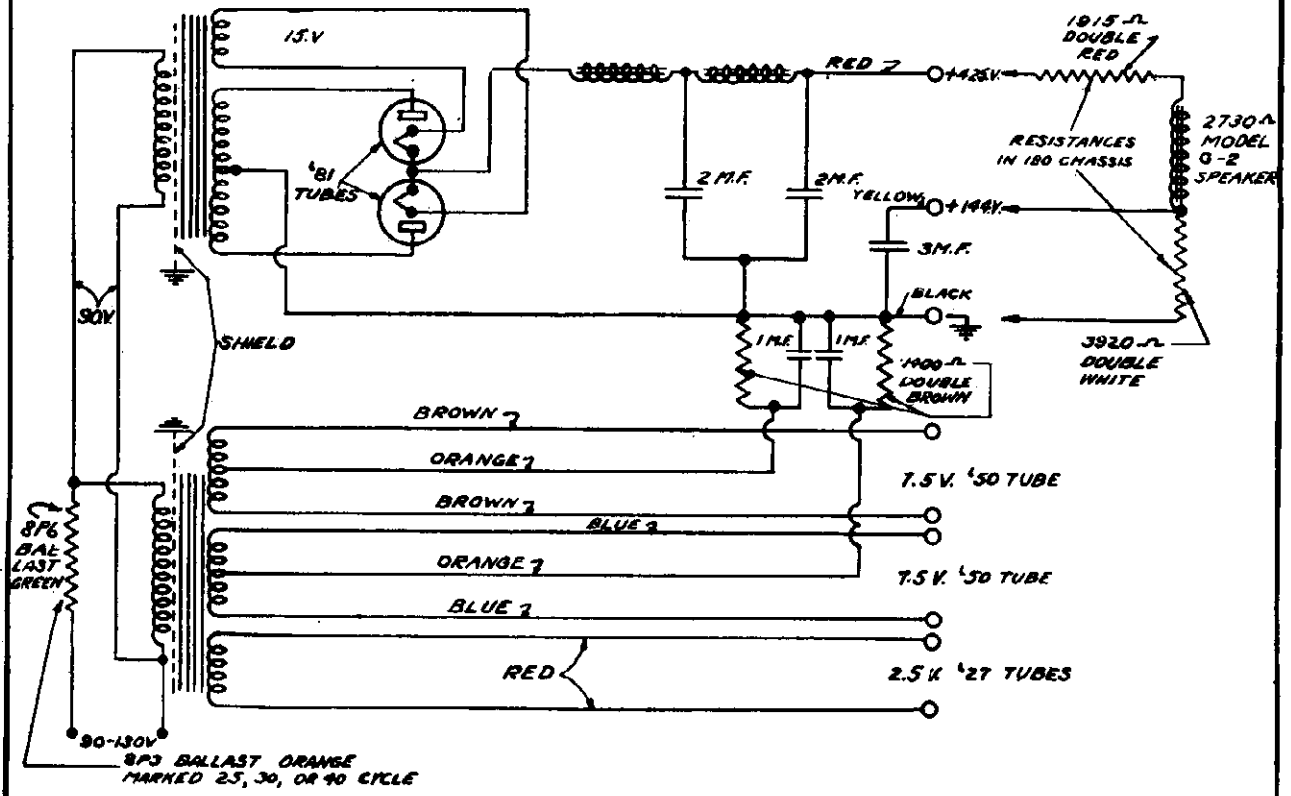
TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE 1ST AF DET ETC	TUBE OUT						TUBE IN TESTER					
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	F VOLTS	TEST POINTS	NORMAL HEATER PLATE	PLATE M.A. (TEST)	PLATE CHANGE M.A.	SCREEN CURR. VOLTS	
1	27	1st RF	2.50	141	2.50	150	9	—	5	8	3	—	—	
2	27	2nd RF	2.50	141	2.50	150	9	—	5	8	3	—	—	
3	27	3rd RF	2.50	141	2.50	150	9	—	5	8	3	—	—	
4	27	Det.	2.50	135	2.35	50	0	—	5	3	—	—	—	
5	27	1st AF	2.50	141	2.35	120	0	—	4	5.3	1.5	—	—	
6	250	2nd AF	8.50	495	7.25	350	60	—	45	47	2	—	—	
7	250	2nd AF	8.50	495	7.25	350	60	—	45	47	2	—	—	
8	301	Rect.	6.50	—	7.2	—	—	—	60	—	—	—	—	
9	301	Rect.	6.50	—	7.3	—	—	—	60	—	—	—	—	

SCHEMATIC DIAGRAM FOR MODEL 180 MAJESTIC RECEIVER

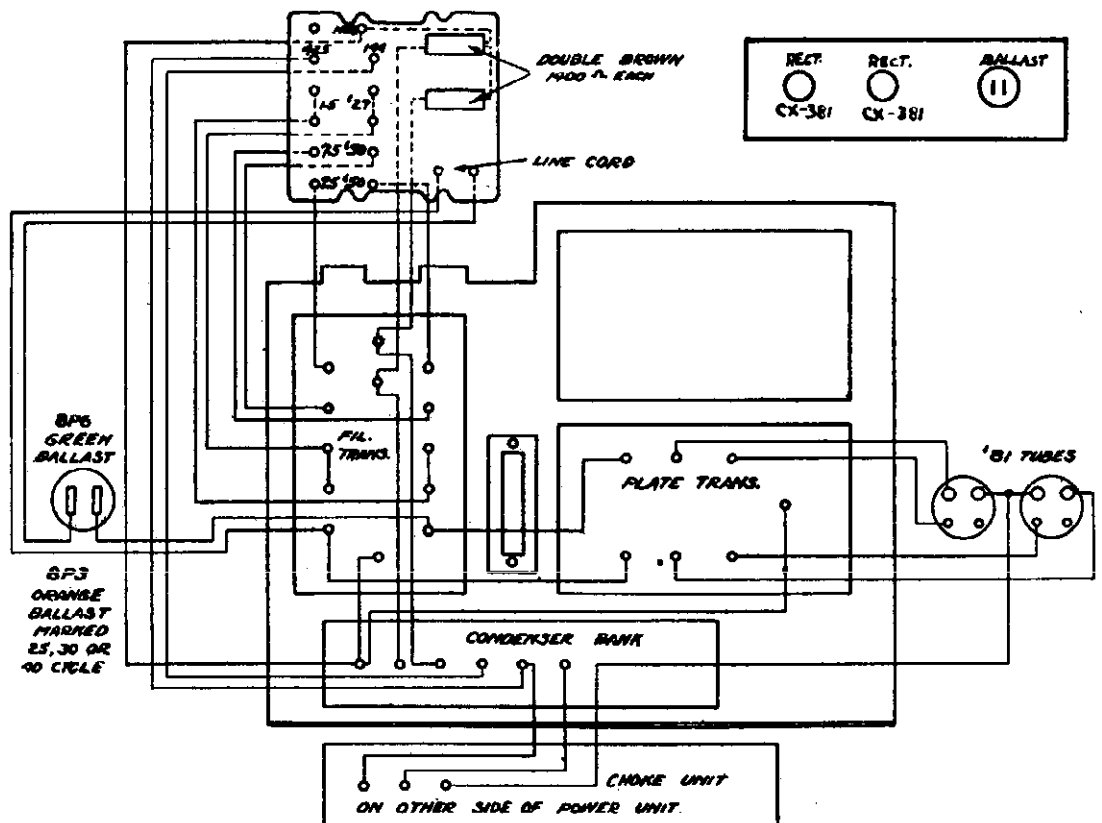


GRIGSBY - GRUNOW CO. MODEL 8-P-6, 8-P-3 Schematic, Wiring Diagram

**SCHMATIC DIAGRAM OF 8P6 & 8P3 POWER UNITS**  
(FOR MODEL 180 CHASSIS)



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

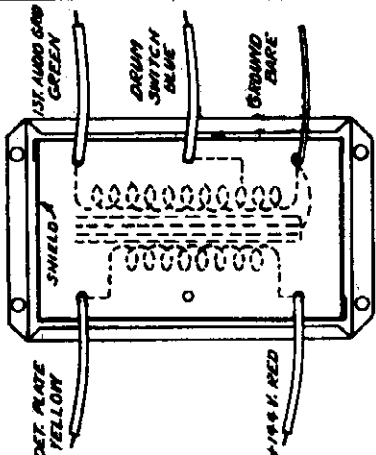


GRIGSBY GRUNOW CO.

MODELS 70-B, 180  
Data

FIRST STAGE AUDIO TRANS 6-2B  
FOR MODEL 180 CHASSIS

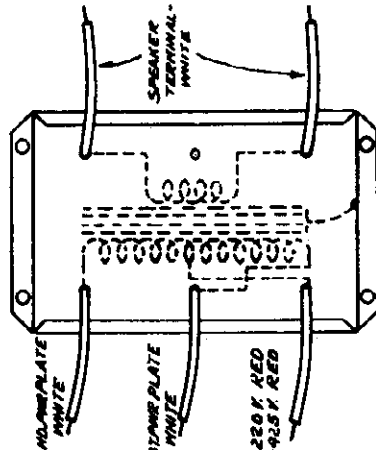
(VIEW LOOKING AT BOTTOM OF CAN)



THIS END GOES AWAY FROM TUBE SOCKETS

PUSH PULL OUTPUT TRANS 6-4  
FOR MODEL 70-B & 180 CHASSIS

(VIEW LOOKING AT BOTTOM OF CAN)

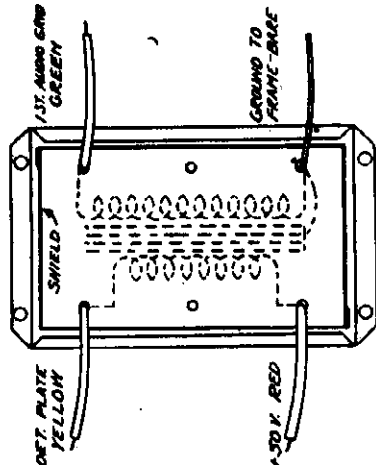


THIS END GOES AWAY FROM TUBE SOCKETS

GRIGSBY GRUNOW CO  
JAN-DEC

FIRST STAGE AUDIO TRANS 6-3B  
FOR MODEL 70-B CHASSIS

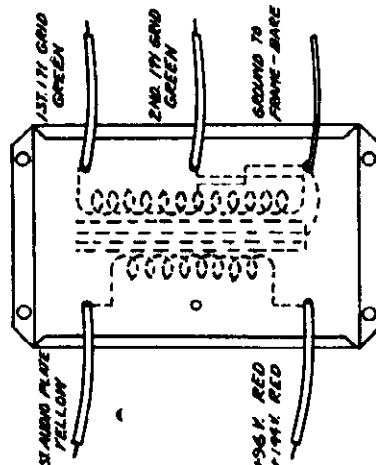
(VIEW LOOKING AT BOTTOM OF CAN)



THIS END GOES AWAY FROM TUBE SOCKETS

PUSH PULL INPUT TRANS 6-3  
FOR MODEL 70-B & 180 CHASSIS

(VIEW LOOKING AT BOTTOM OF CAN)



THIS END GOES AWAY FROM TUBE SOCKETS

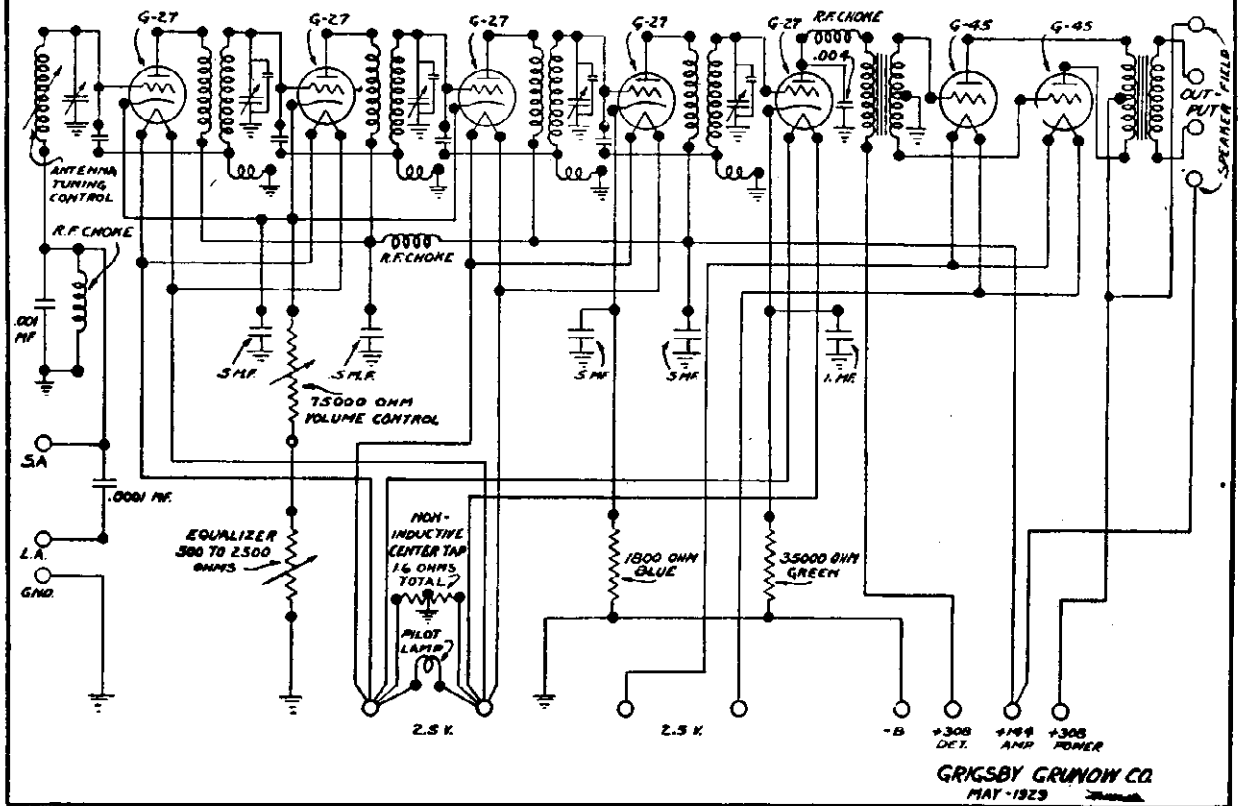
BALLAST SPECIFICATIONS FOR THE VARIOUS TYPES OF MAJESTIC ELECTRIC POWER UNITS

POWER UNIT TYPE	FREQUENCY CYCLES PER SECOND	BALLAST MARKING	BALLAST COLOR	LINE VOLTAGE	PRIMARY VOLTS
1P6	60	B	BLACK	115	80
7P3	25-30-40	B	BLACK	115	60
7BP6	60	7BP6	BLACK	115	80
7BP6	60	7BP6	BLUE	230	160
7BP3	25	7BP3 25	RED	115	80
7BP3	30	7BP3 30	RED	115	80
7BP3	40	7BP3 40	RED	115	80
8P6	60	8P6	GREEN	115	90
8P6	60	8P6	YELLOW	230	180
8P3	25	8P3 25	ORANGE	115	90
8P3	30	8P3 30	ORANGE	115	90
8P3	40	8P3 40	ORANGE	115	90

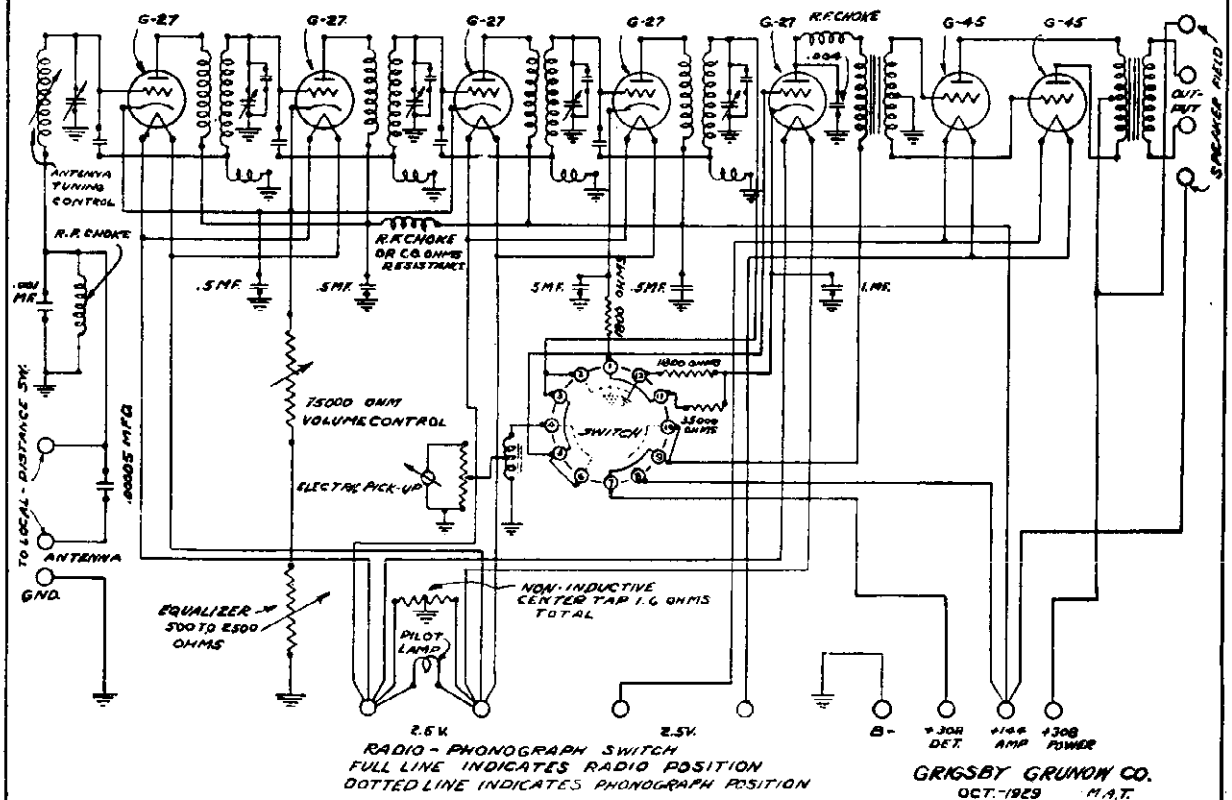
GRIGSBY - GRUNOW CO.

MODEL 90,100  
Schematic

SCHEMATIC DIAGRAM FOR MODEL 90 MAJESTIC RECEIVER

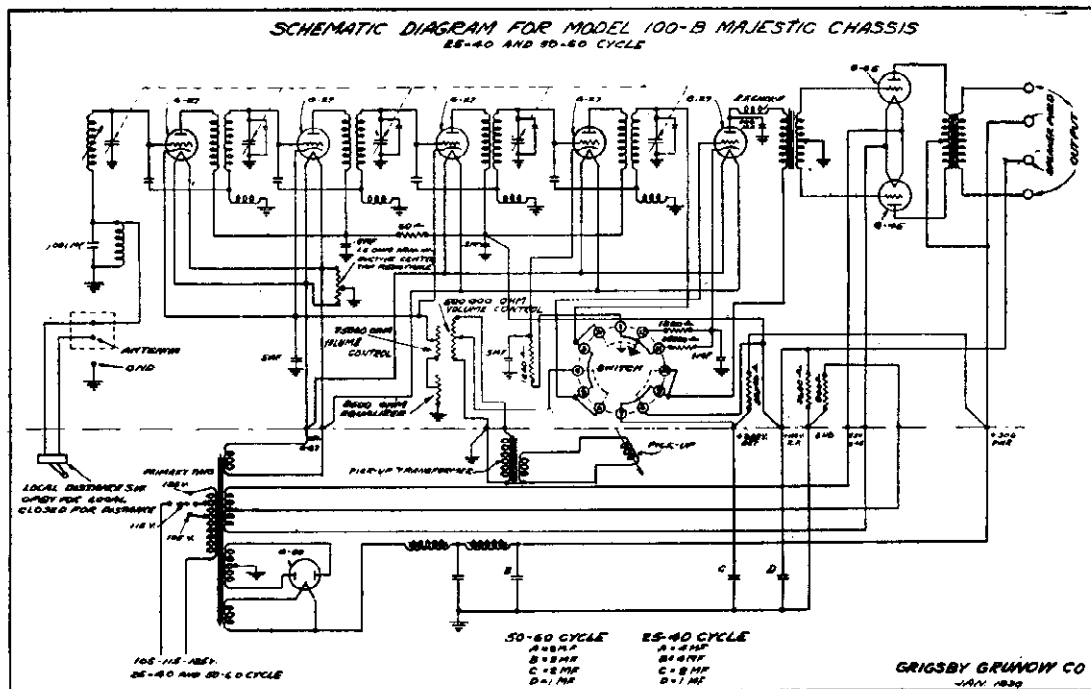
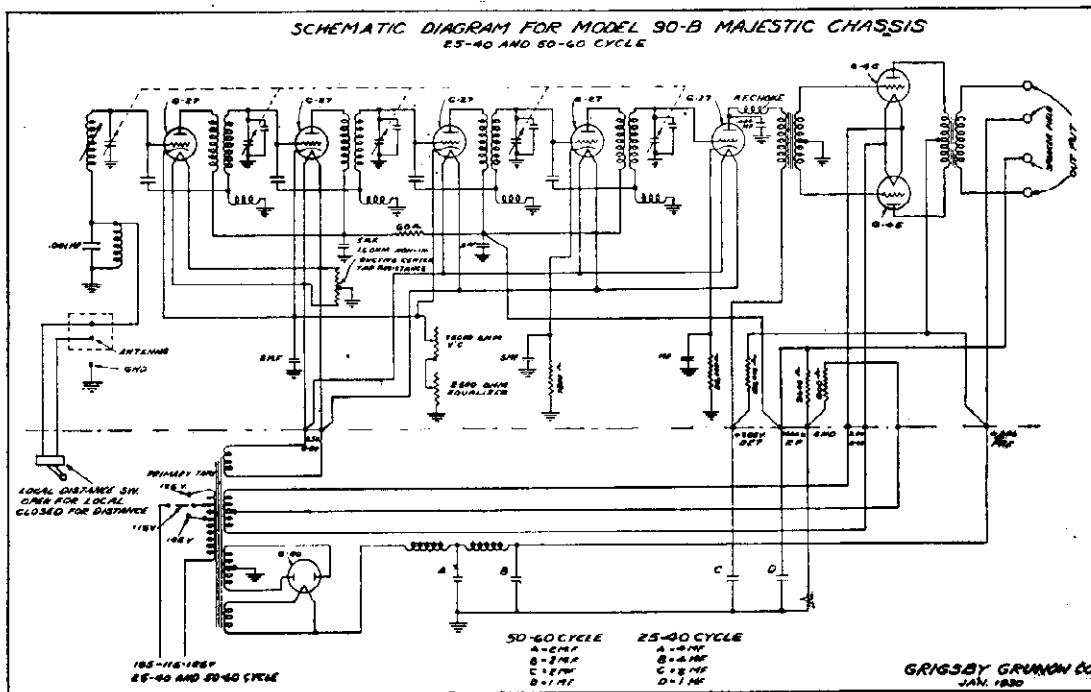


SCHEMATIC DIAGRAM FOR MODEL 100 MAJESTIC RECEIVER



MODEL 90-B  
MODEL 100-B

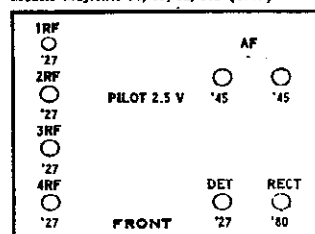
### GRIGSBY - GRUNOW CO.



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 R.F. DET. ETC.	READING PLUG IN SOCKET OF SET											
			TUBE OUT			TUBE IN TESTER			TUBE IN TESTER					
			A VOLTS	B VOLTS	C VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE CONTROL (GRID)	NORMAL HEATER (VOLTS)	PLATE (M.A.)	PLATE (M.A.)	SCREEN (M.A.)	SCREEN (VOLTS)
1	27	1st RF	2.55	145	2.35	130	8	8	5.5	7.8	2.3	-	-	-
2	27	2nd RF	2.55	145	2.35	130	8	8	5.5	7.8	2.3	-	-	-
3	27	3rd RF	2.55	148	2.35	130	8	8	5.5	7.8	2.3	-	-	-
4	27	4th RF	2.55	148	2.35	130	9	9	5	7.2	2.2	-	-	-
5	27	DET.	2.55	306	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	360	-	-	-	-	-	-	-	100	-	-	-	-	-

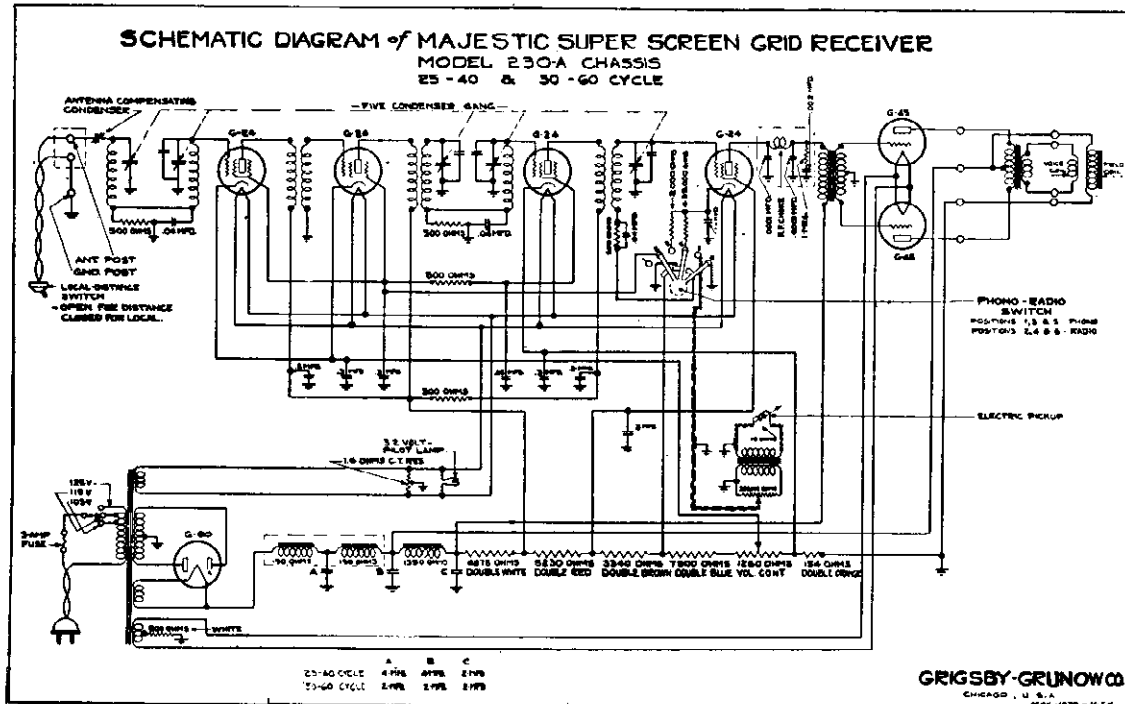
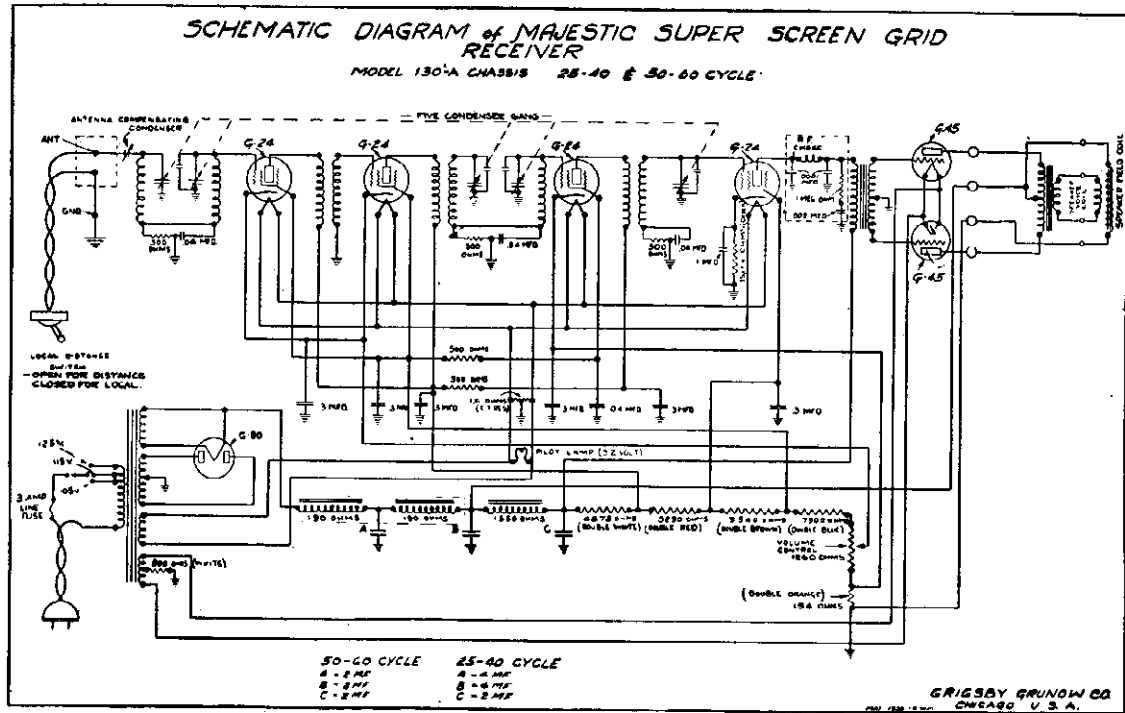
Models Majestic 90, 91, 92, 101 (1929)





GRIGSBY - GRUNOW CO.

MODEL 130-A  
MODEL 230-A

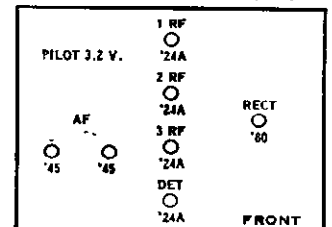
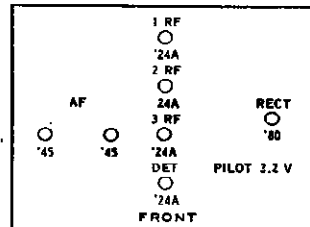


MAJESTIC—Models 130, 131, 132 and 233  
Line Voltage 115—Voltage Tap 115  
Volume Control Maximum

Models 130A, 230A(1930)

Models Majestics 130, 131, 132, 233 (1930)

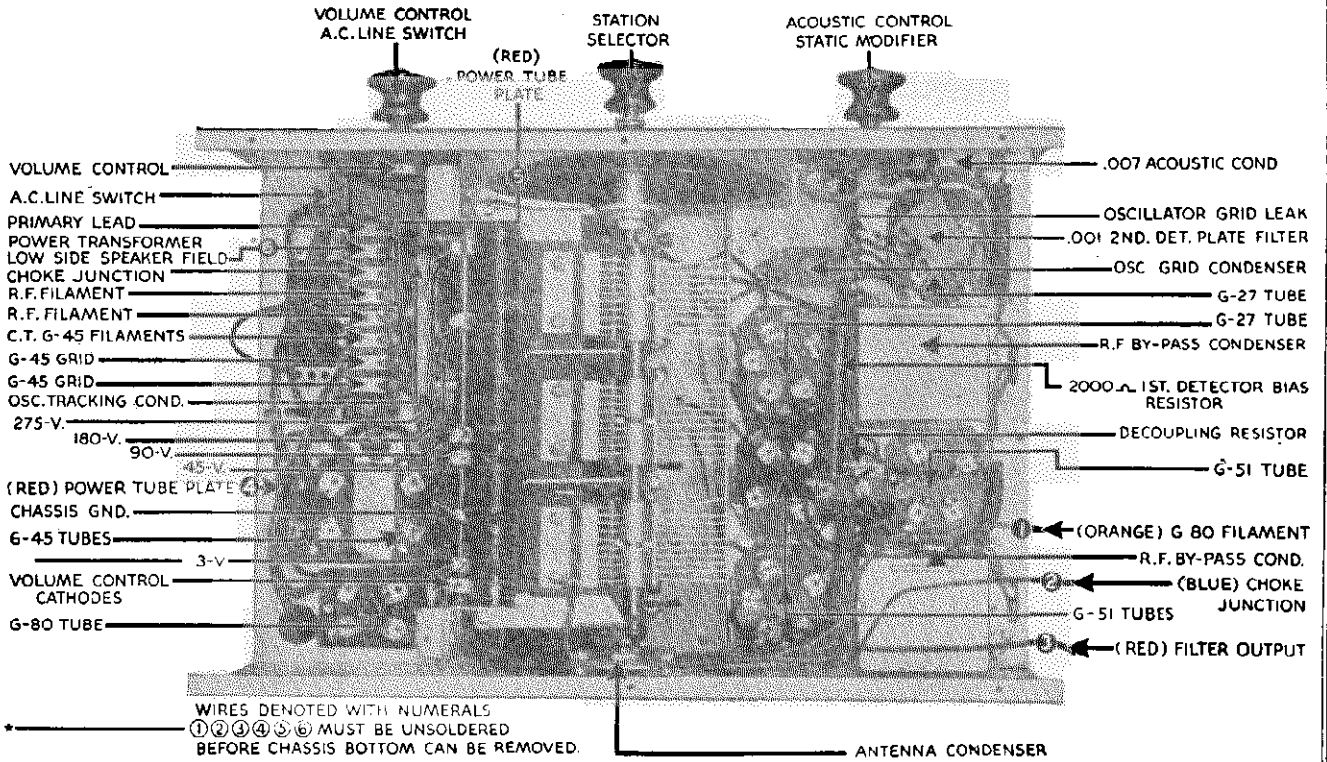
TYPE OF TUBE	POSITION OF TUBE IN SET	OPERATING VOLTAGES	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			FILAMENT OR HEATER	PLATE	CATHODE TO GRID	NORMAL GRID TO HEATER	CATHODE TO SCREEN OR GRID	SCREEN OR GRID TO PLATE	PLATE TO CATHODE	PLATE TO CATHODE	
TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE	TYPE OF TUBE
G-24	1 R. P.	2.56	180	3	90	3	-	3			
G-24	2 R. P.	2.56	180	3	90	3	-	3			
G-24	3 R. P.	2.56	180	3	90	3	-	3			
G-24	2nd.	2.36	263	12	185	12	-	5			
G-45	PP-AF	2.45	250	-	60	-	-	38			
G-45	PP-AF	2.45	250	-	60	-	-	38			
G-50	Reol.	4.8	-	-	-	-	-	48	48		



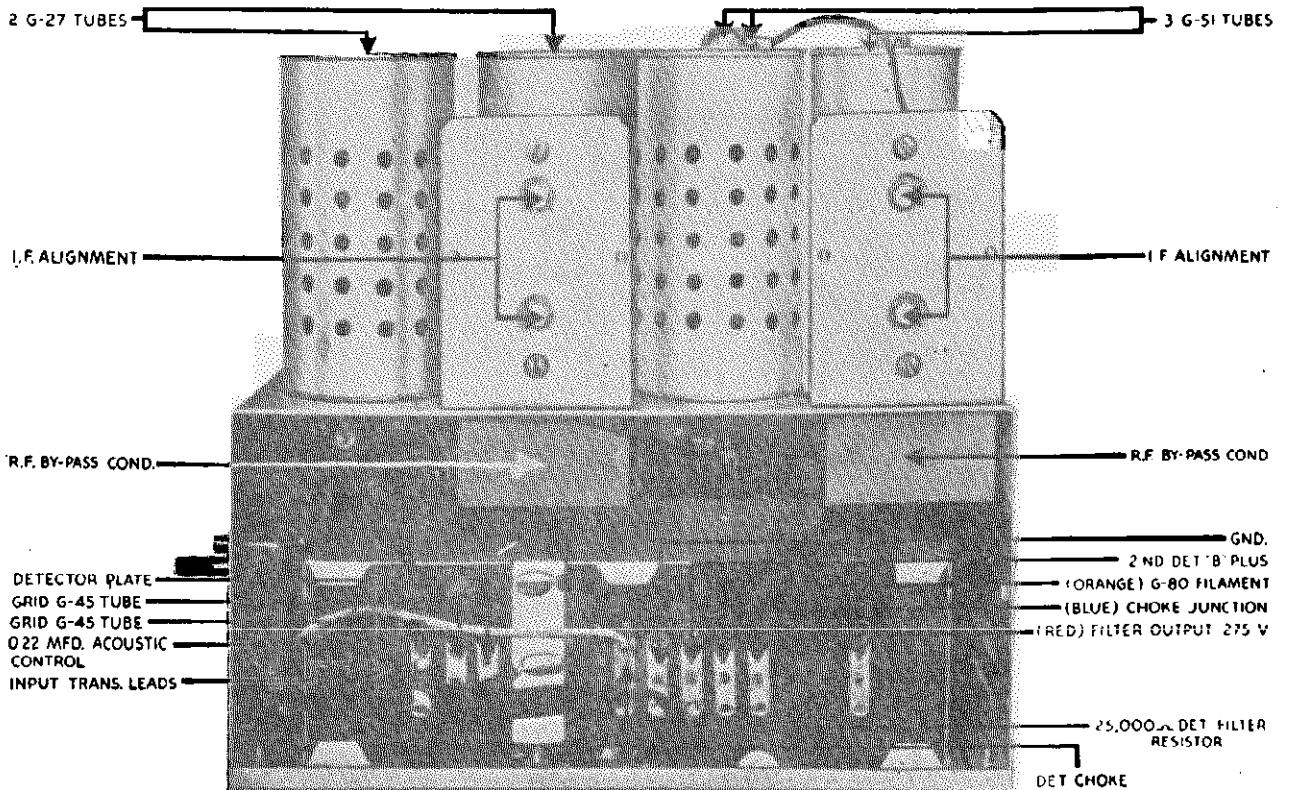


GRIGSBY - GRUNOW CO.

MODEL 20  
Chassis



Bottom View of Model 20 Chassis



End View of Model 20 Chassis

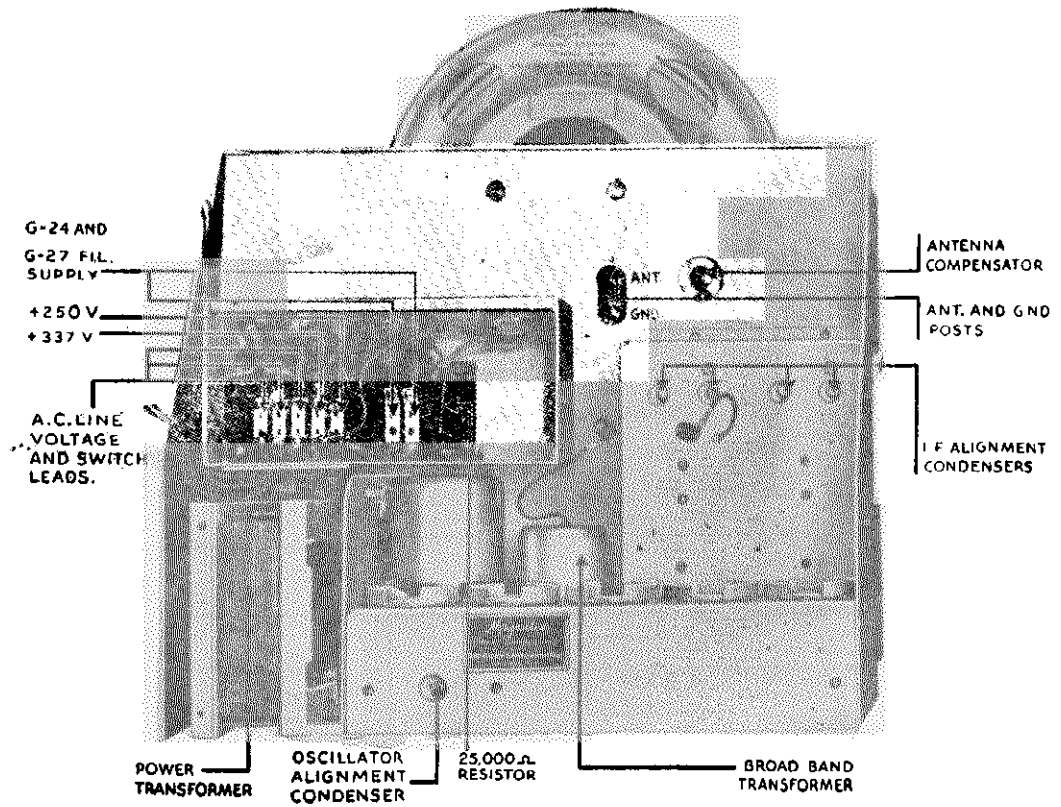




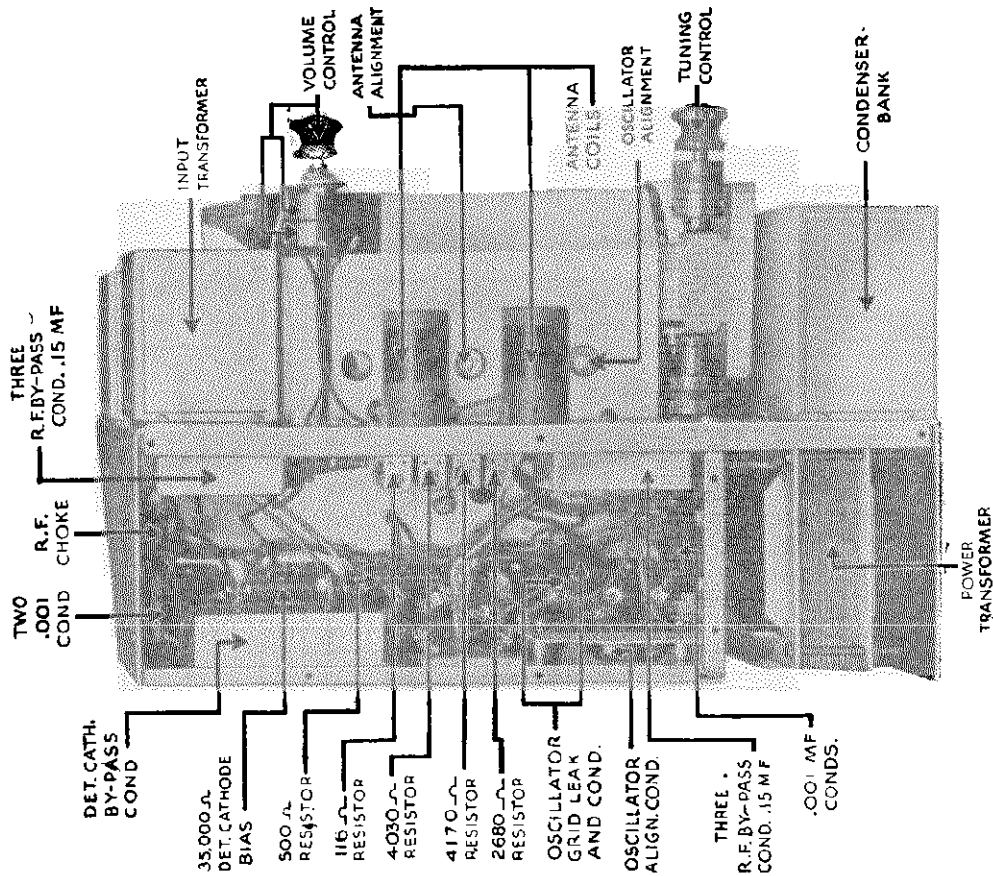


GRIGSBY - GRUNOW CO.

MODEL 50  
Chassis Views



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



Bottom View of Model 50 Chassis





## 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.

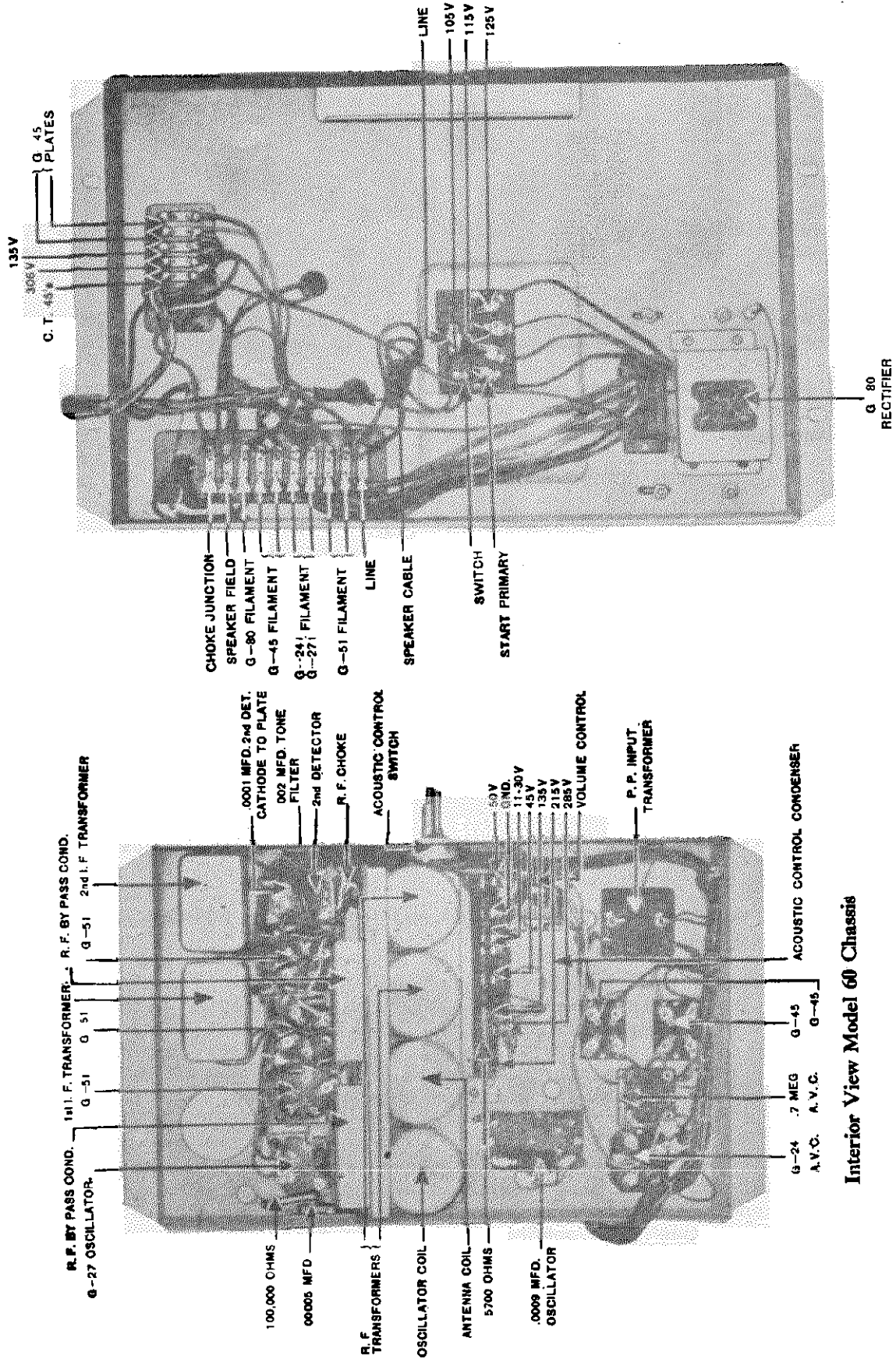
100000 ohm oscillator grid leak - Orange. 600000 ohm Acoustic control- Red.  
700000 ohm AVC plate resistor - Yellow. 35000 ohm 2nd detector cathode bias- Green.  
5700 ohm section of voltage divider- Blue. 10000 ohm 2nd detector screen decoupler- Orange. 250 ohm 1st detector screen, 1st detector plate,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

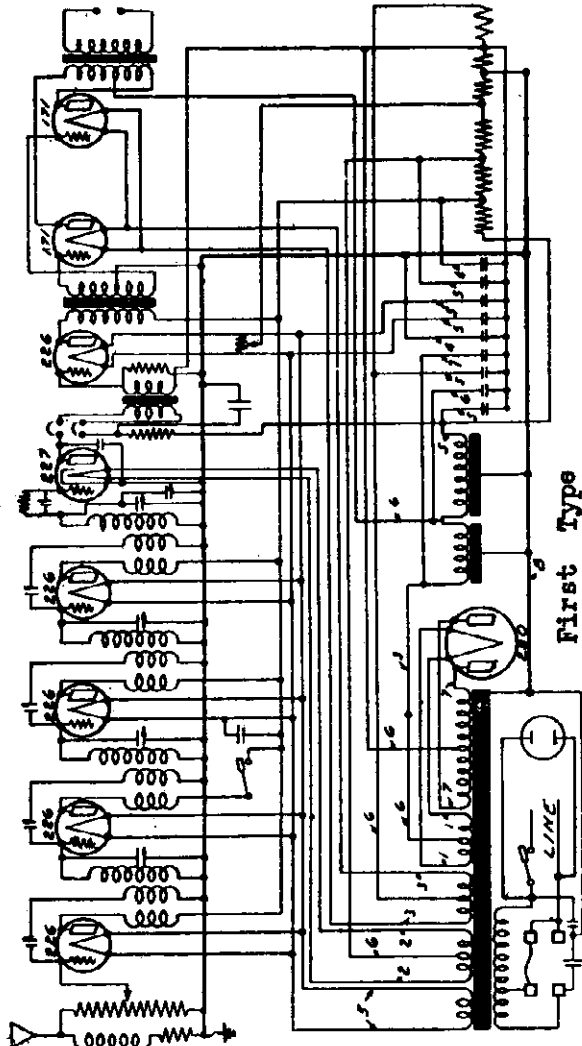
Interior View Model 60 Chassis





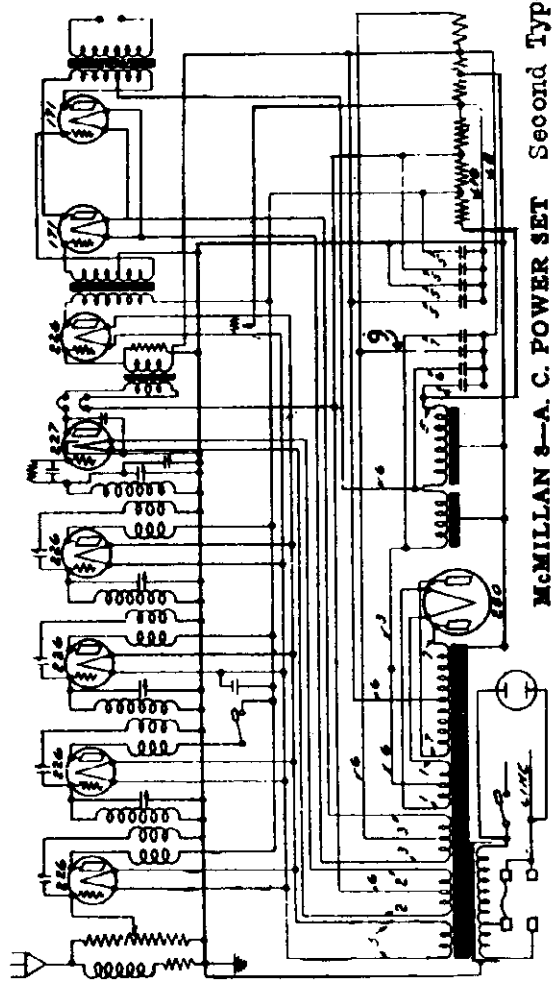
McMILLAN RADIO CO.

MODEL 8<sup>n</sup>  
Two Types



First Type

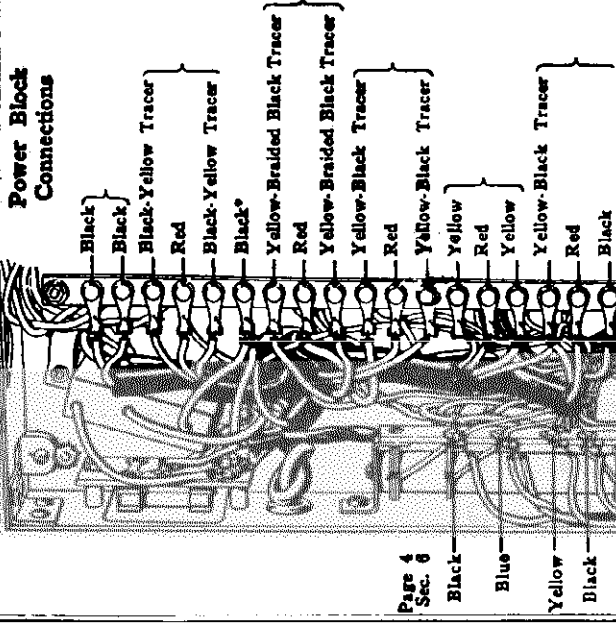
McMILLAN 8-A. C. POWER SET  
Use this circuit diagram for all receivers equipped with a sealed power transformer block, or condenser block not having any brown or slate colored leads.



Second Type

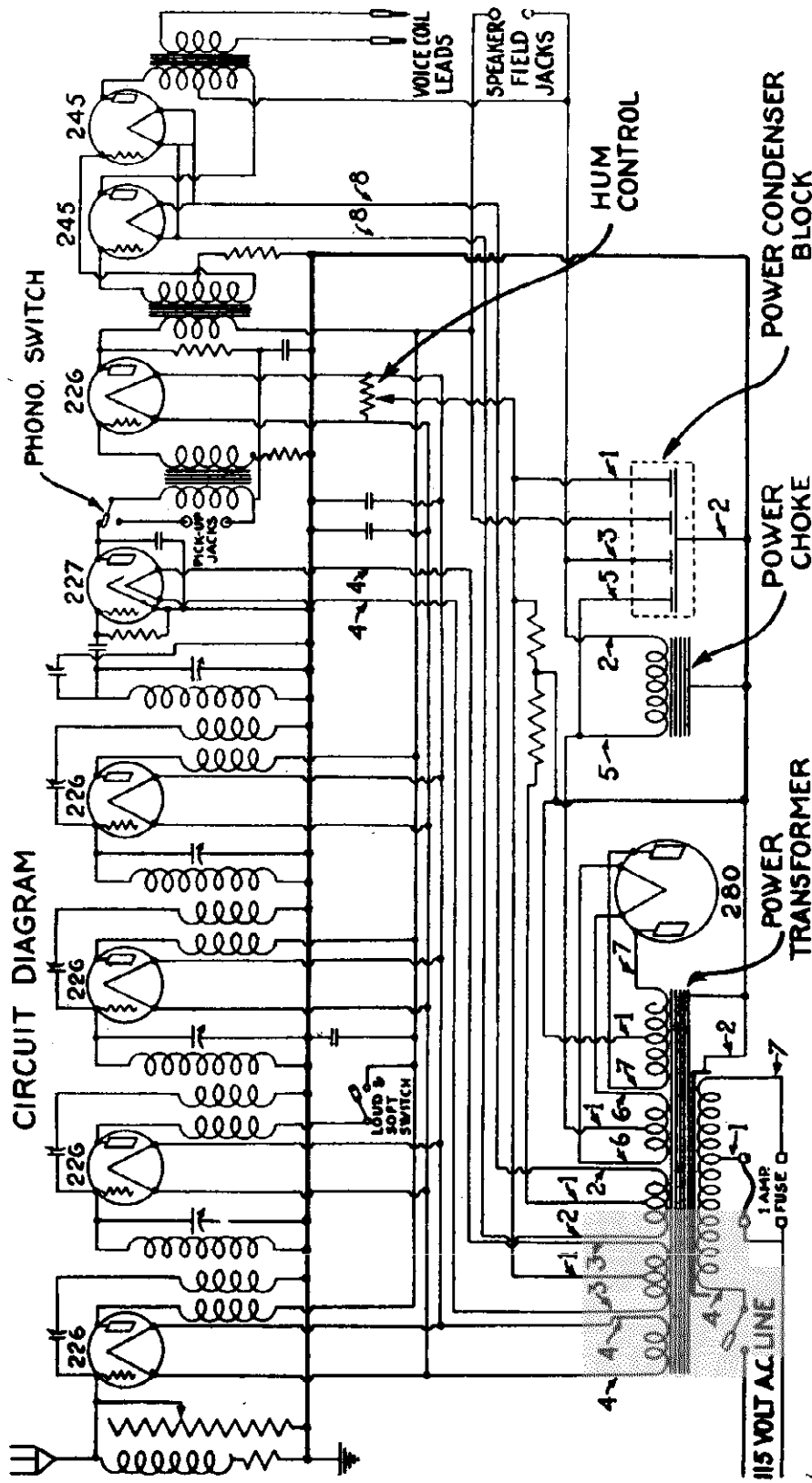
McMILLAN 8-A. C. POWER SET  
Note—Use this circuit diagram for receiver equipped with power blocks having removable covers or condenser blocks having one brown and one slate colored lead

- 1- YELLOW WITH BLACK TRACER
- 2- BLACK WITH YELLOW TRACER
- 3- BLACK & YELLOW
- 4- BLUE
- 5- BLACK
- 6- RED
- 7- YELLOW
- 8- GREEN
- 9- 3-ATC
- 10- BROWN



McMILLAN RADIO CO.

MODEL Series 900

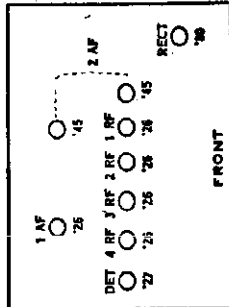


- 1—RED
- 2—GREEN
- 3—BLUE
- 4—BLACK
- 5—YELLOW
- 6—BROWN
- 7—WHITE

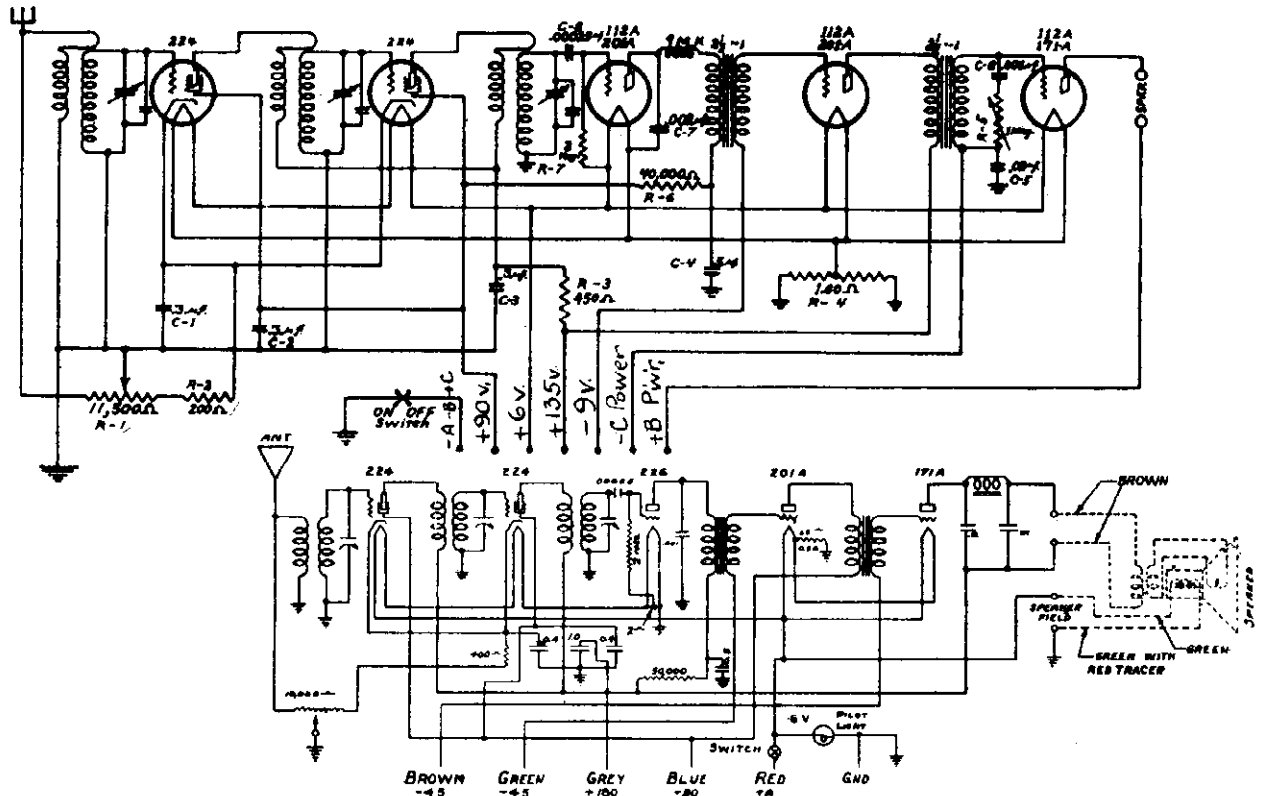
Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max  
 Note: "C" Bias Voltage Reading on Audio tubes is low due to the current draw of the set tester and high resistances in the set.

TUBE IN CIRCUIT	POSITION	TUBE OUT		TUBE IN		TUBE IN		TUBE IN		TUBE IN	
		A	B	A	B	A	B	A	B	A	B
1	2	3	4	5	6	7	8	9	10	11	12
226	1st AF	1.5	1.40	1.4	1.32	1.0	-	5	9	4	-
226	2nd AF	1.5	1.40	1.4	1.32	1.0	-	5	9	4	-
226	3rd AF	1.5	1.40	1.4	1.32	1.0	-	5	9	4	-
226	4th AF	1.5	1.40	1.4	1.32	1.0	-	5	9	4	-
227	Det.	2.5	2.3	2.5	2.0	0	10	2	2	0	-
280	1st PF	1.5	1.47	1.4	1.17	0.5	-	4.5	6.5	3	-
280	2nd PF	2.5	2.60	2.4	2.45	11.5	-	25	29	4.5	-
280	3rd PF	2.5	2.60	2.4	2.45	11.5	-	25	29	4.5	-
280	Rect.	5.5	5.5	5.9	-	-	80	-	-	-	-

Model AC-5091



MONTGOMERY-WARD & CO. MODELS 62-055, 49, 1522, 1922  
 MODELS 1522, 1562  
 Voltage, Schematic  
 Chassis, Bottom View



**General Description**

Not many of these chassis were put out. Because of the high "A" battery consumption, certain changes were suggested that could be made to reduce "A" battery consumption.

Diagram No. 1 gives the original circuit and it will be seen that the tube circuit consists of—  
 2—224's; 1—201A; and 1—171A.

Diagram No. 2 shows the changes to be made so the set will consume less "A" battery current. The tubes are now:  
 2—NY 64's, or 236's; 2—201A; and 1—112A

The NY 64 tubes are screen-grid battery operated tubes which were designed for use in automobile radio sets. Their current consumption is small, their amplification factor quite high and they are rugged and very long lived.

The "A" and "B" batteries are not changed to convert the receiver for lower "A" battery consumption.

Make the changes shown on the diagram. Connect the storage battery to black (neg.) and red (pos.) leads. Insert two NY 64 tubes in sockets marked 224. Place a 201A in socket marked 226, and one 112A in socket marked 201A. Use a 112A in socket marked 171A. Turn on filament switch and see if tubes light—if so connect "B" batteries as tagged, except "B + 180" lead—connect this to "B + 135" terminal.

Connect two 4 1/2 Volt "C" batteries in series. The "C — 4 1/2" Volt lead goes to the connection between the 4 1/2 Volt "C" batteries. The "C — 45" goes to the 4 1/2 Volt part of the second battery.

It is recommended that these changes not be made on sets where the customer is entirely satisfied with the operation and the life of the "A" battery. The operation with the 224 tubes is very highly satisfactory. The sensitivity is extremely high, and the tone quality very good.

**NOTE** - Small dotted lines show original placing and hookup of parts

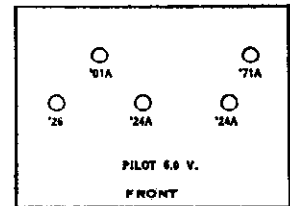
FIG. 2

DIAGRAM SHOWING CHANGES TO BE MADE IN AIRLINE RADIO CIRCUIT

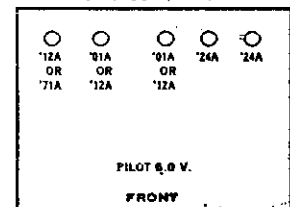
- Break connection from I to E
- Break connection at A
- Connect B-C
- Connect D-E
- Connect F-G
- Connect resistor from K to J instead of from K to M as originally
- Connect that part of resistor N, marked H-O, to connections I-E, leaving end connection L open

Bottom View of Chassis

Models 62-055, 49, 1522, 1922 (1930)

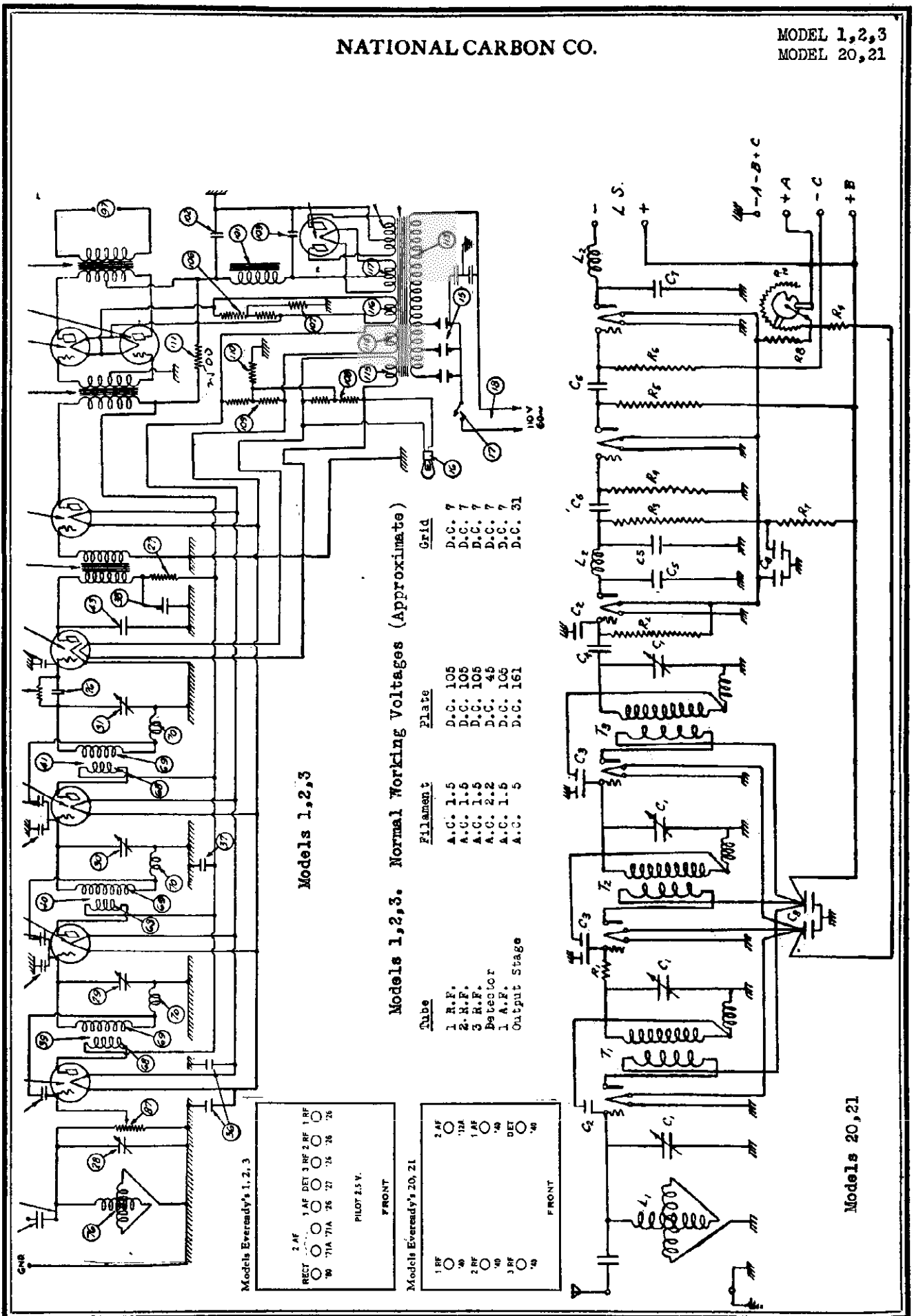


Models 1522, 1562 (1930)

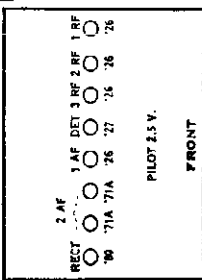


NATIONAL CARBON CO.

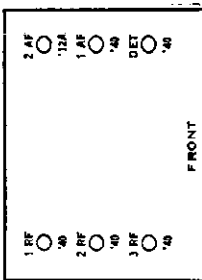
MODEL 1,2,3  
MODEL 20,21



Models Eveready's 1, 2, 3



Models Eveready's 20, 21



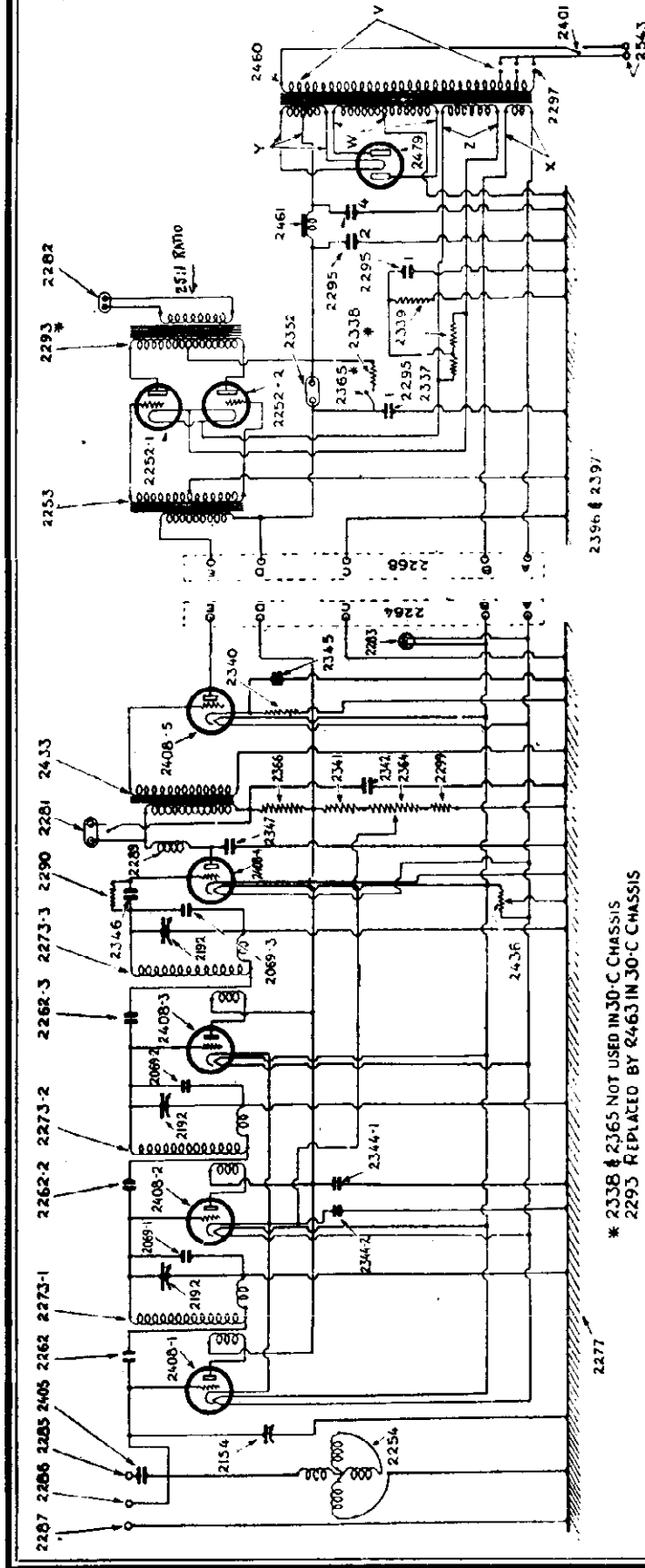
Models 20, 21





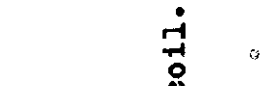
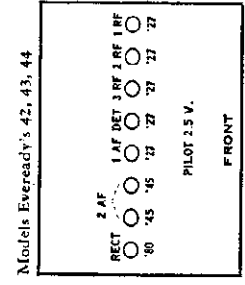
NATIONAL CARBON CO.

MODEL 42, 43, 44  
Eveready



Part No.	Value	Unit	Tube	Normal Working Voltages (APPROXIMATE)
2344-1	.5	mfd	1 R. F.	Grid
2344-2	.5	mfd	2 H. F.	Plate
2405	.0001	mfd	5 R. F.	Grid
2346	.0001	mfd	Detector	Plate
2347	.00025	mfd	1 A. K.	Grid
2343	2	mfd	Output Stage	Plate
2345	1	mfd		Grid
2707	replaces 2339	900		Plate
2344-1	2	megohms		Grid
2344-2	17500	ohms		Plate
2405	175	ohms		Grid
2346	1750	ohms		Plate
2347	3500	ohms		Grid
2343	10	ohms		Plate
2345	600	ohms		Grid
2707	replaces 2339	900		Plate

\* 2338 & 2365 NOT USED IN 30-C CHASSIS  
2295 REPLACED BY 2463 IN 30-C CHASSIS

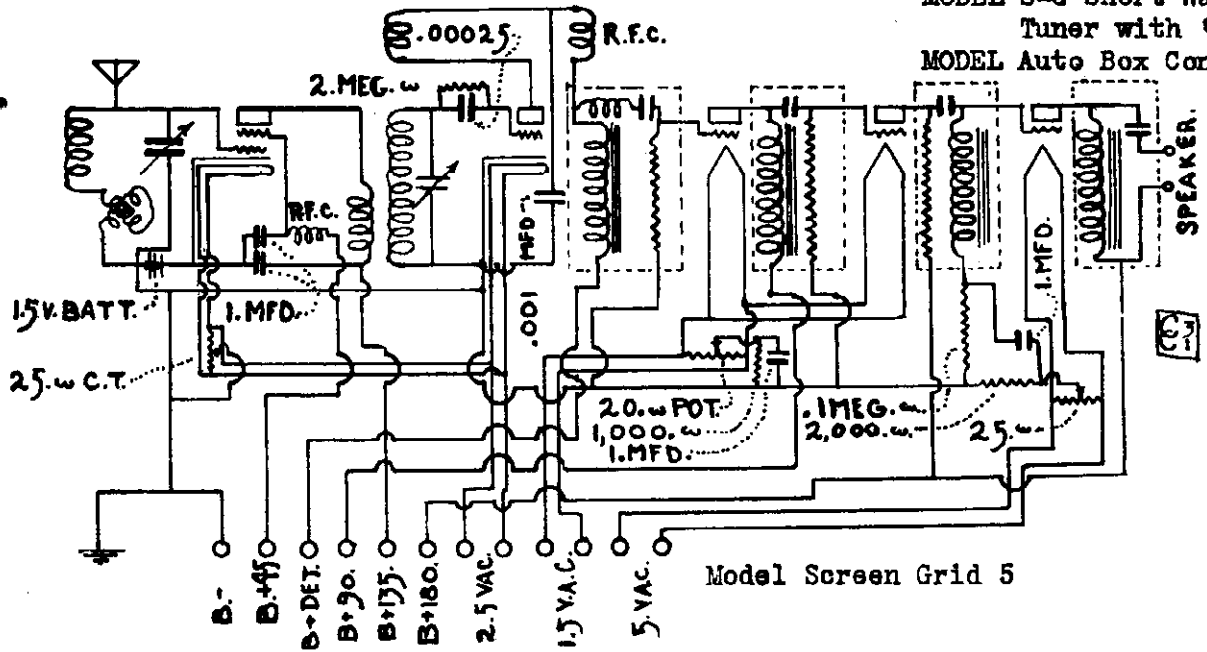


Series 40 Receivers employ a 5000 ohm field coil.

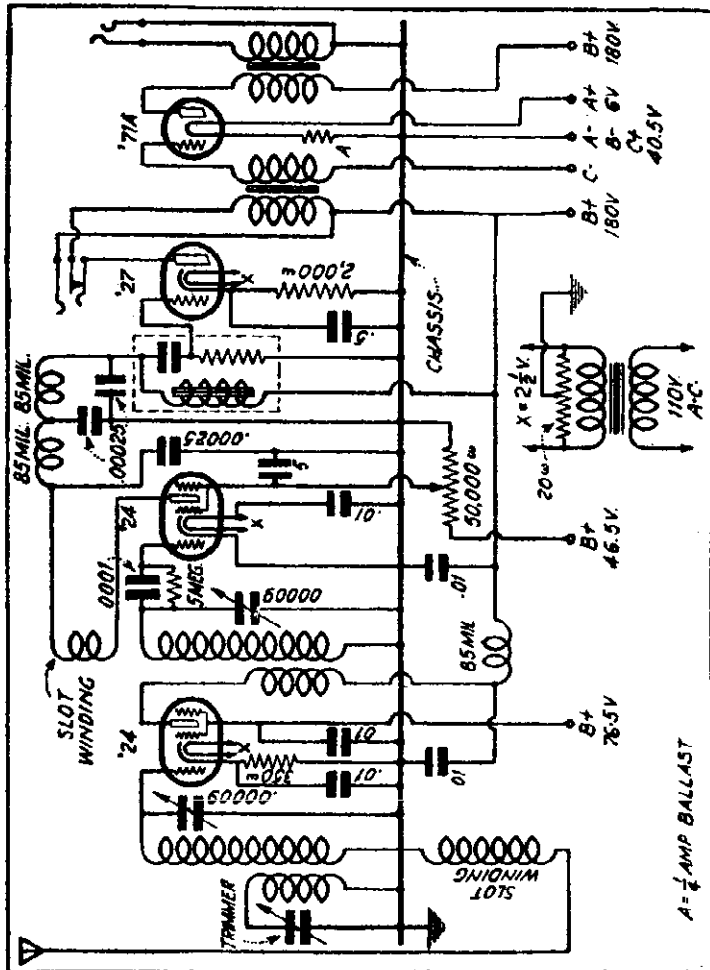


THE NATIONAL COMPANY

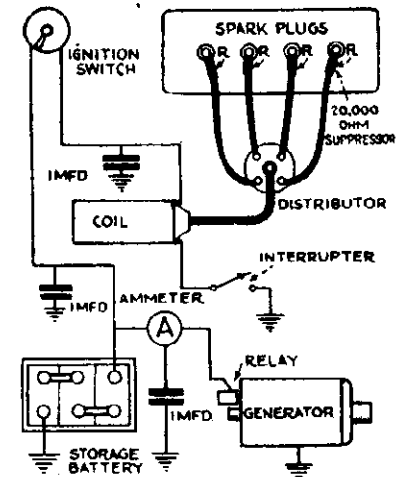
MODEL S-G 5  
 MODEL S-G  
 Short Wave Tuner  
 MODEL S-G Short Wave  
 Tuner with '71  
 MODEL Auto Box Conn.



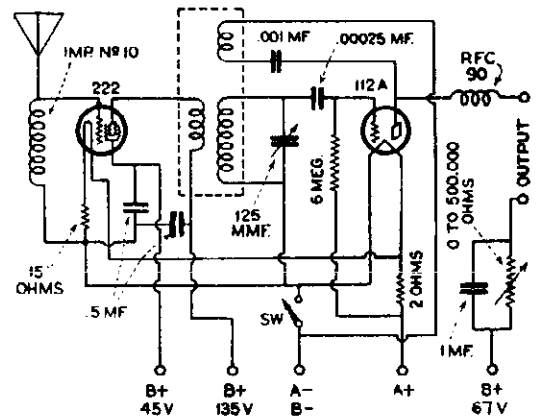
Model Screen Grid 5



Model Screen Grid Short Wave (71)



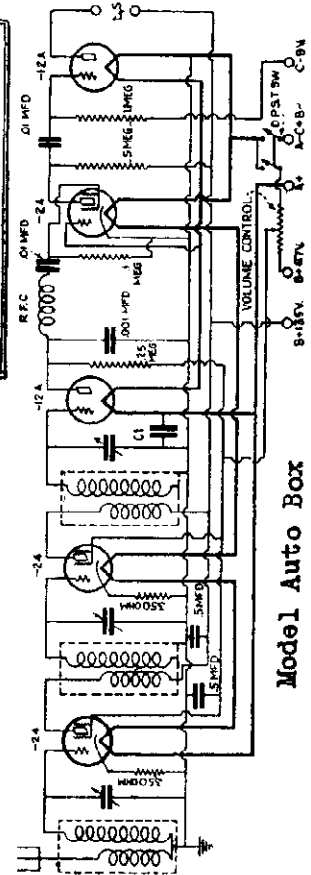
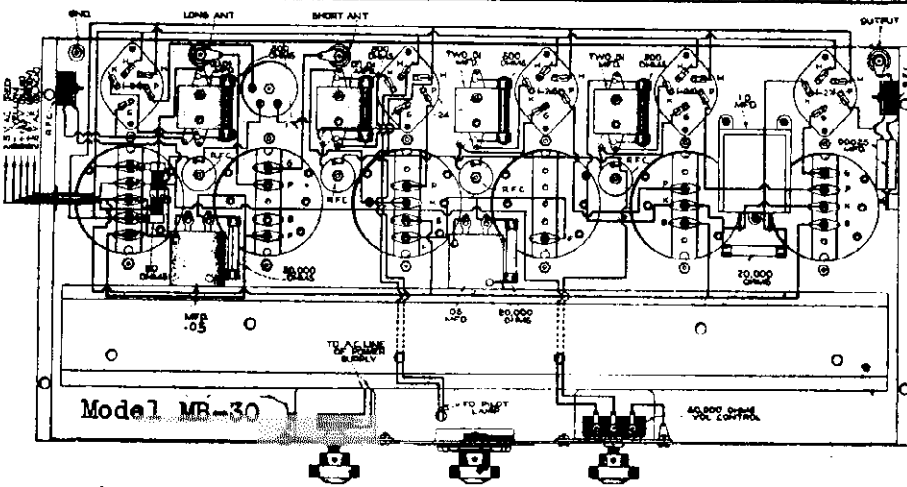
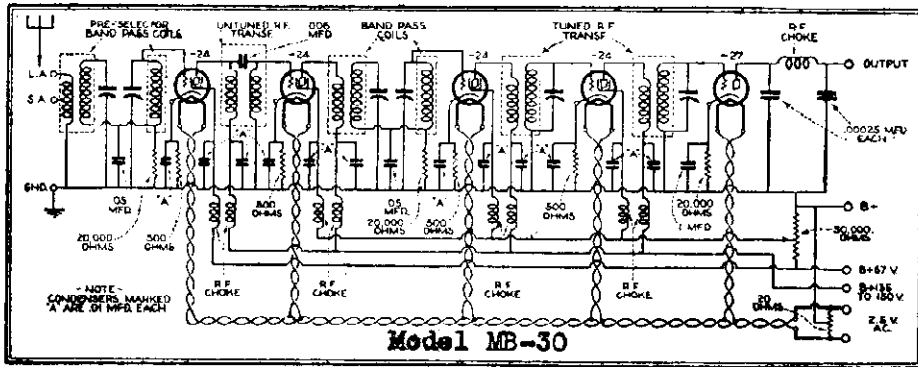
Model Auto Box Connections



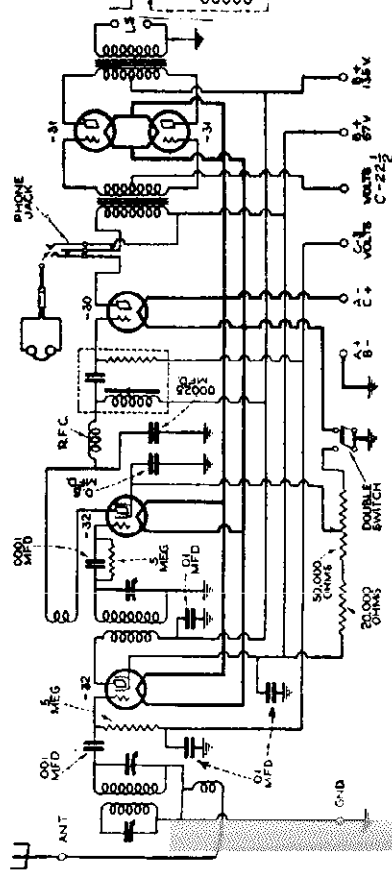
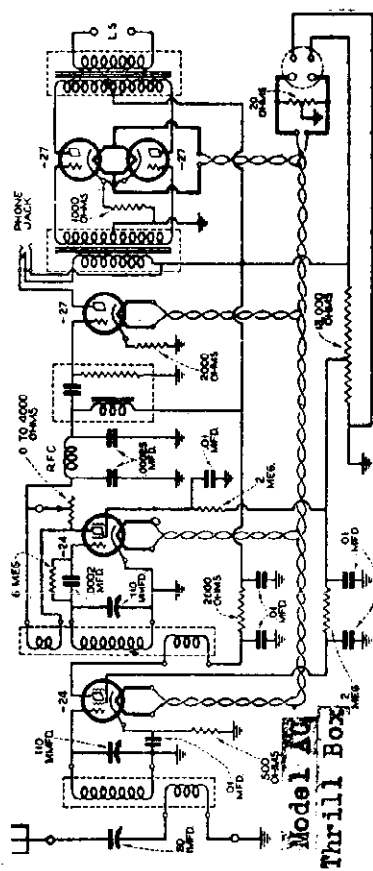
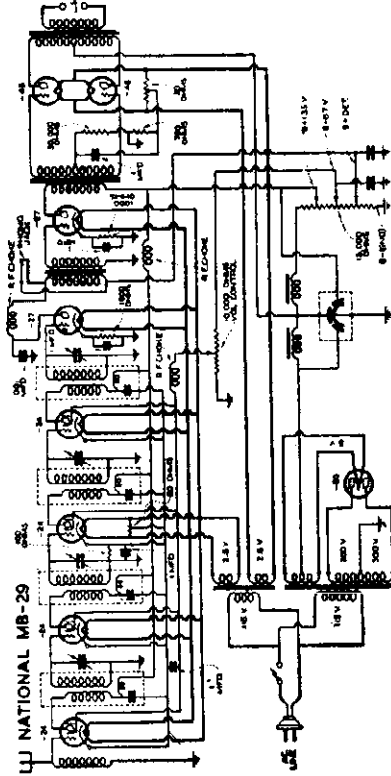
Model Screen Grid S.W. Tuner

MODEL MB-30  
 Schematic, Chassis  
 MODEL MB-29  
 MODELS Thrill Box AC, Short Wave  
 MODEL Auto Box

THE NATIONAL COMPANY



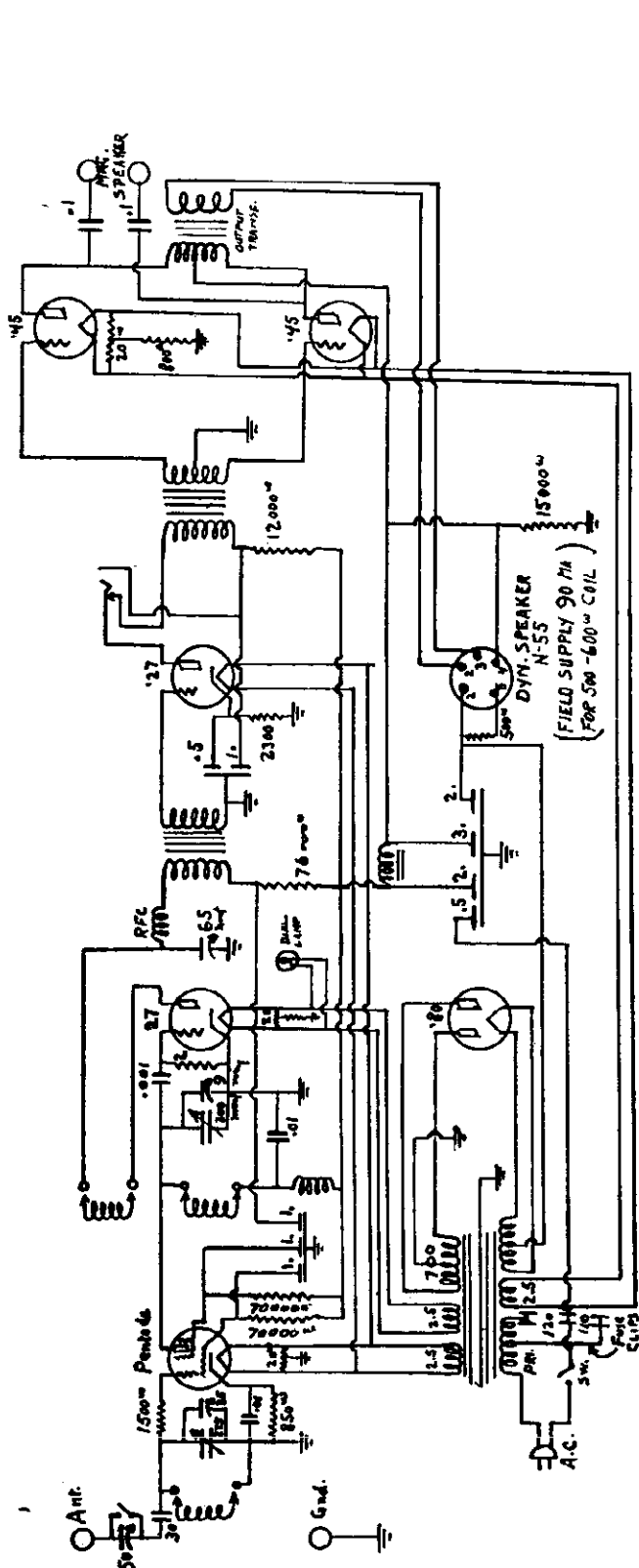
Model Auto Box  
 See preceding page for  
 battery connections.



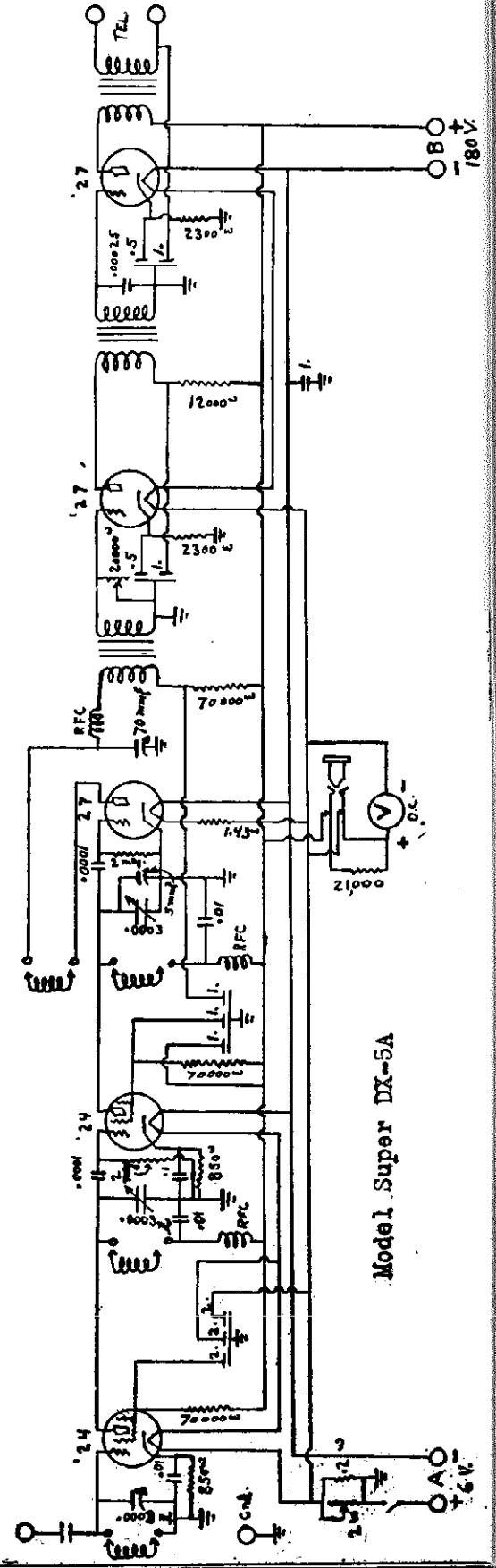
Model Short-Wave Thrill Box 2-volt Tubes

MODEL Super DX-5  
MODEL Super DX-5A

NORDEN-HAUCK, INC.



Model Super DX-5

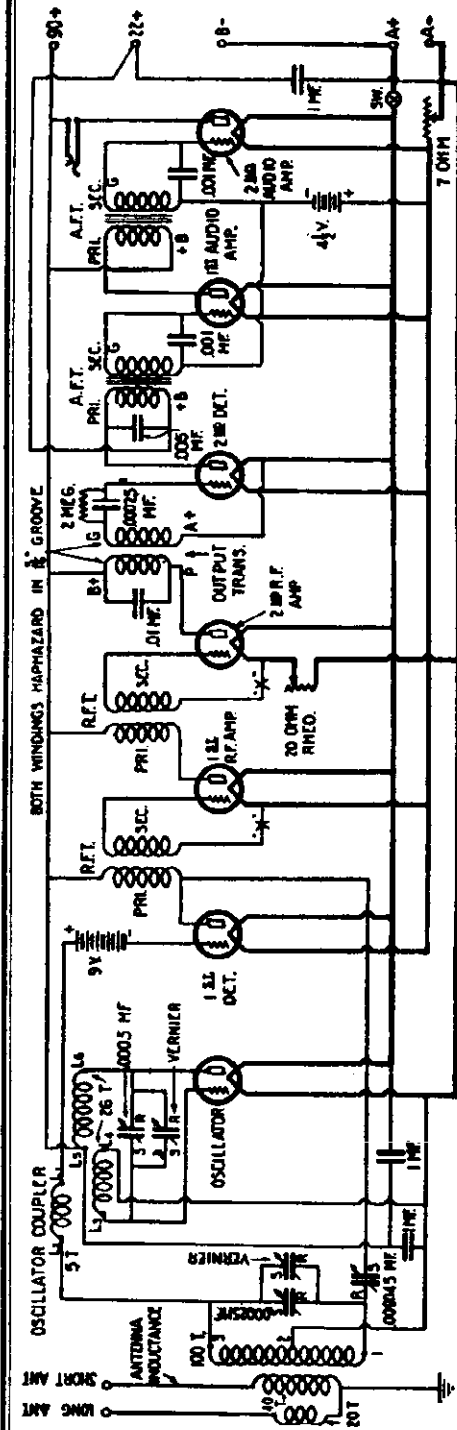


Model Super DX-5A

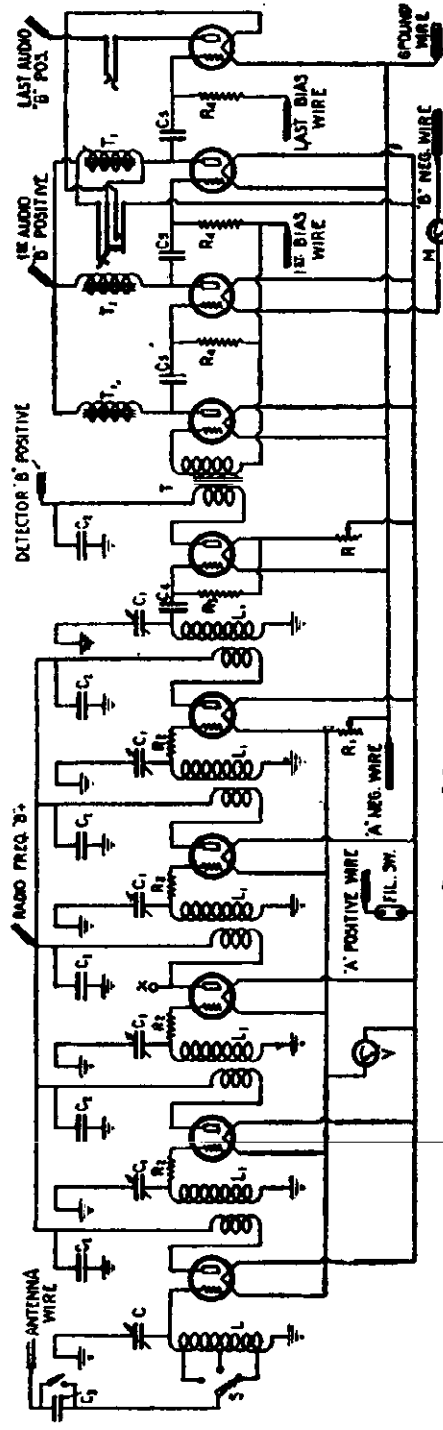


NORDEN-HAUCK, INC.

MODEL C-7  
MODEL Super 10



Model C-7 Norden Hauck super-heterodyne receiver.



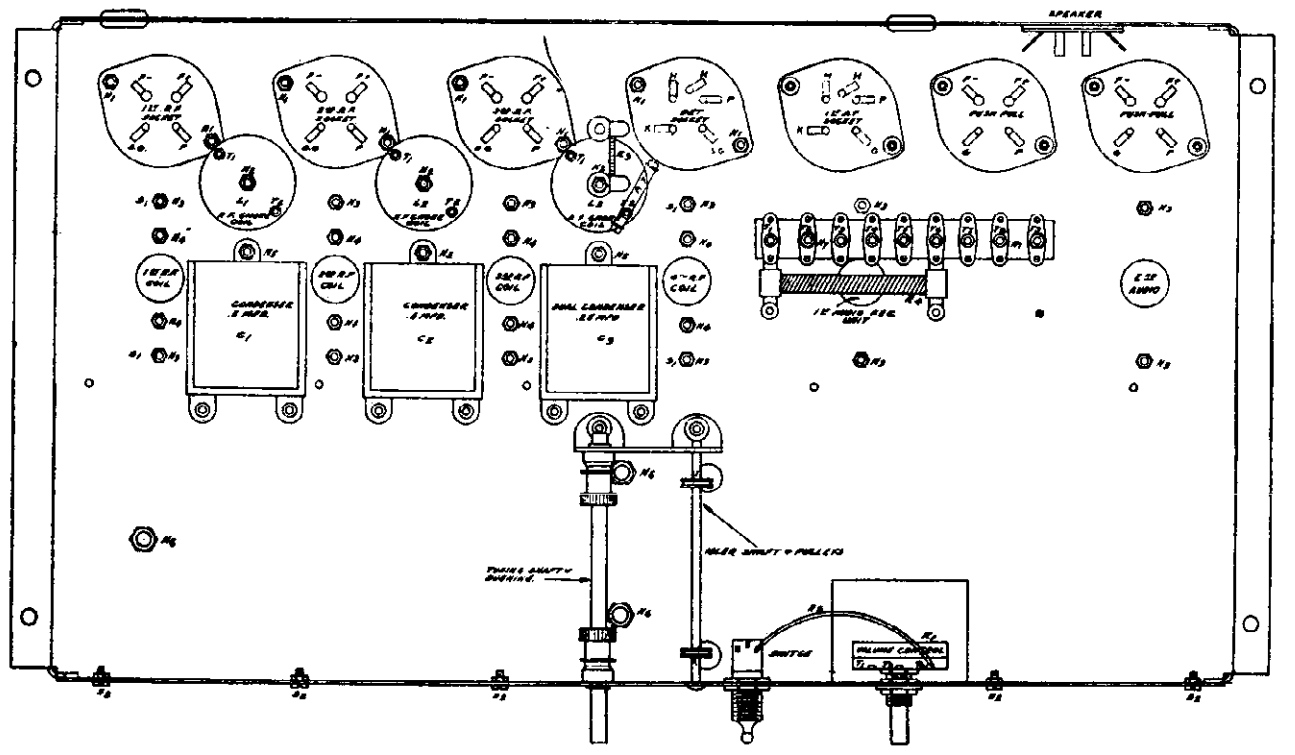
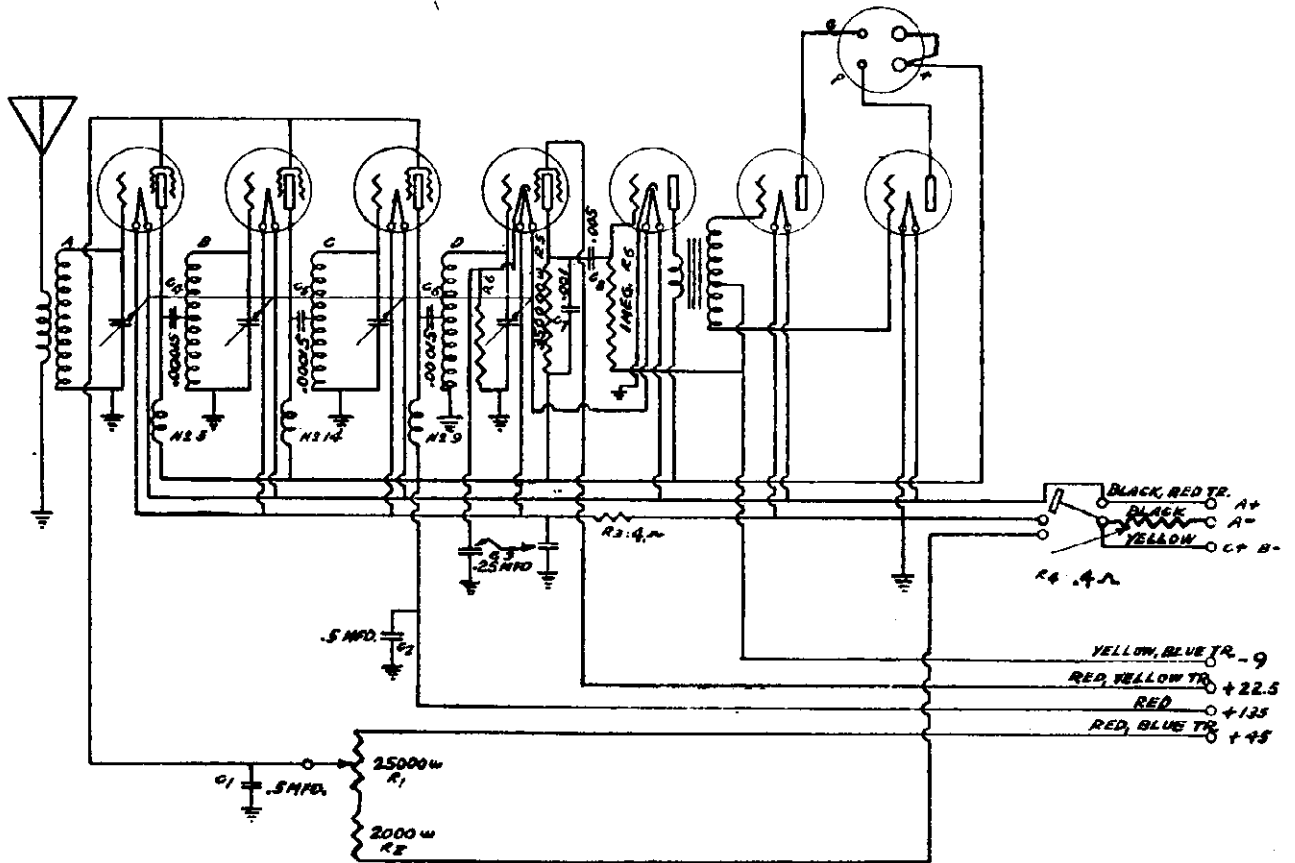
Super 10.

R 1 is 20 ohms. R 2 is 7 ohms. R 2 is 750 ohms. R 3 is 2 megohms.  
R 4 is 30000 ohms. C 3 is .00025 mfd. C 4 is .00025 mfd. C 2 is  
.5 mfd. C 5 is .1 mfd.



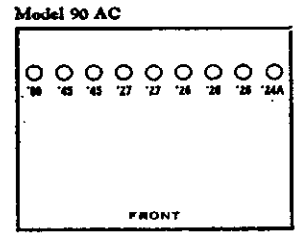
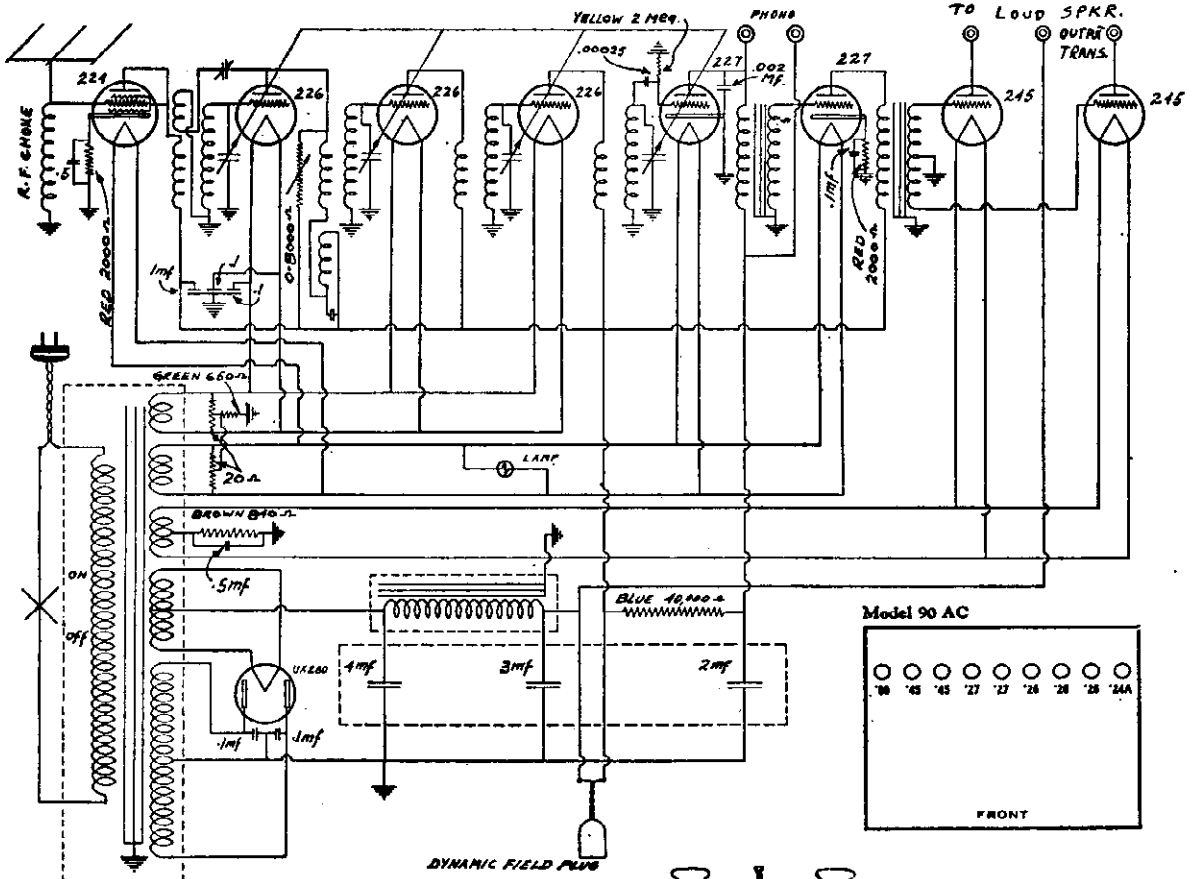
OZARKA, INC.

MODEL 91 - Battery  
Schematic, Chassis



MODEL 90  
Schematic, Chassis  
Voltage

OZARKA, ING,

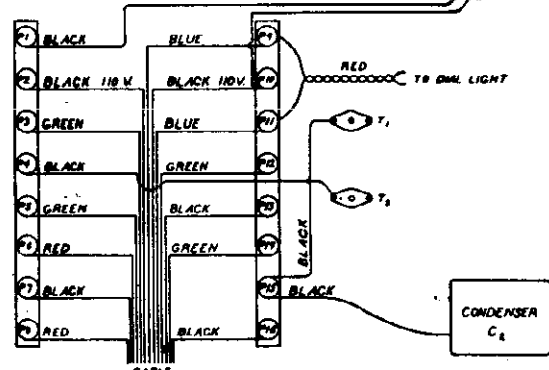
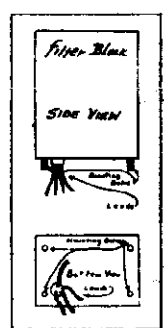
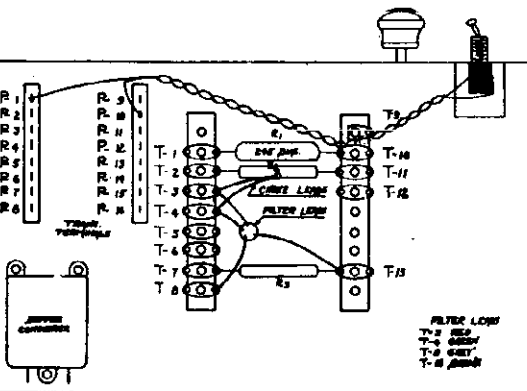
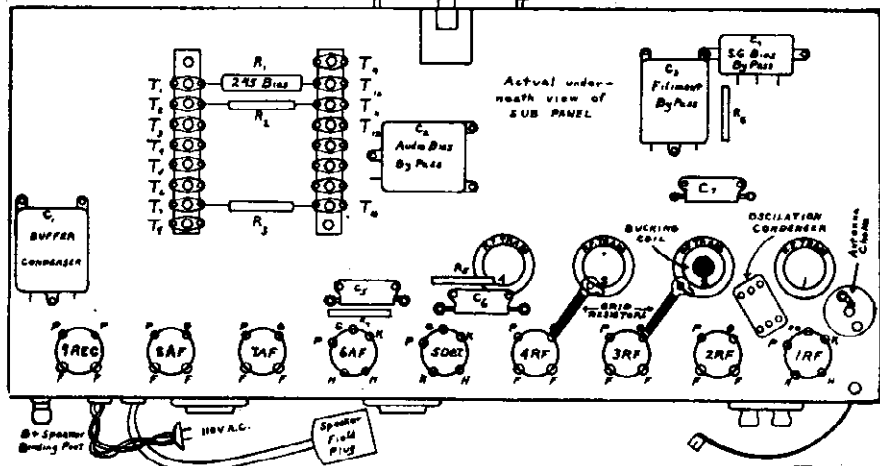


MODEL 90

Tube Type Plate Grid

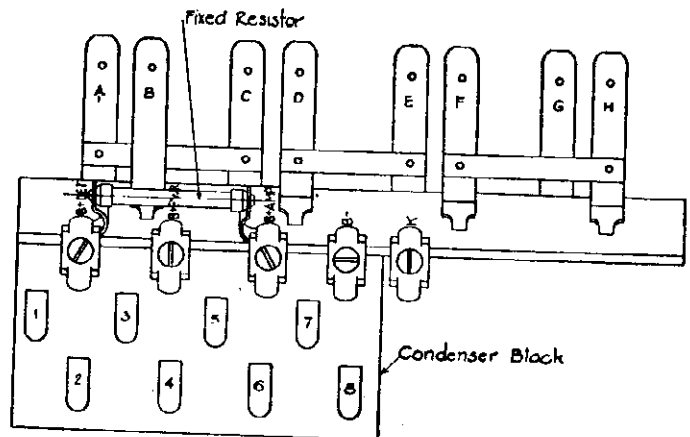
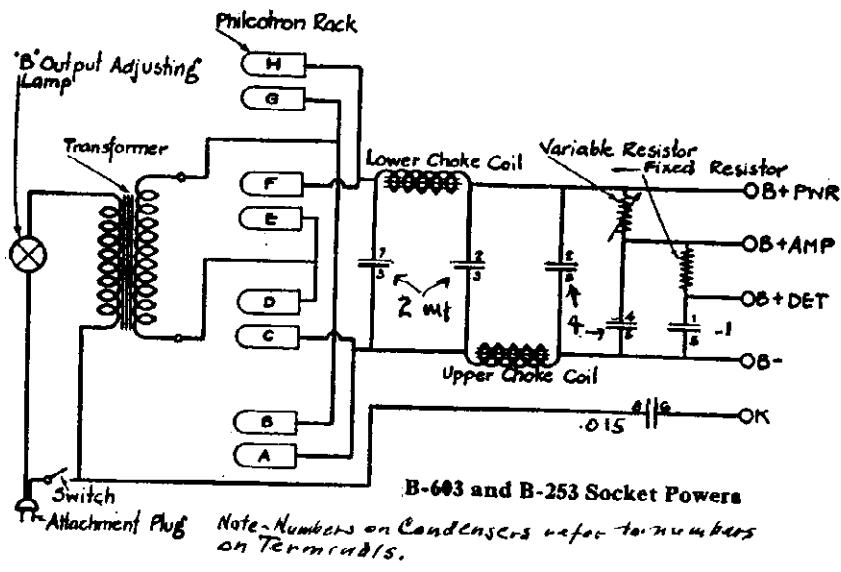
Tube Type	Plate	Grid
R.F. '24	160	160
R.F. '26	160	
R.F. '26	160	
R.F. '26	160	
Det. '27	40	
A.F. '27	150	
Pwr. '45	300	
Pwr. '45	300	

Volume Max.  
All Volts to Ground.  
Grid Volts Fil. To Grd.



PHILCO RADIO & TELEVISION CORP.

MODEL B-253  
 MODEL B-603  
 Power Units



**Socket Power B, Type B-603**

Supplies B power for sets having one to ten tubes—any standard type—including a power tube such as UX-171, UX-112 or UX-120.

For use on 50- or 60-cycle, 105-125-volt alternating current.  
 Full-wave Philco electrolytic rectifier.

Average voltage at amplifier terminals:  
 B+ PWR 135-150 volts, depending on load.  
 B+ AMP 50-100 volts, adjustable.

Maximum continuous current rating: 50 milliamperes.  
 Average current consumption: 12 A.C. watts.  
 Overall dimensions: Length (front to back) 8<sup>3</sup>/<sub>8</sub>" ; width 8<sup>1</sup>/<sub>8</sub>" ; height 7<sup>7</sup>/<sub>8</sub>" .

**Socket Power B, Type B-253**

Same as type B-603 except with special transformer and extra large filter for use on 25-, 30- or 40-cycle current as well as on 50 or 60 cycles for exceptional sets which may require the 25-cycle super-filter.

MODEL 180 B  
 MODEL "B" Part of  
 AB Unit

PHILCO RADIO & TELEVISION CORP.

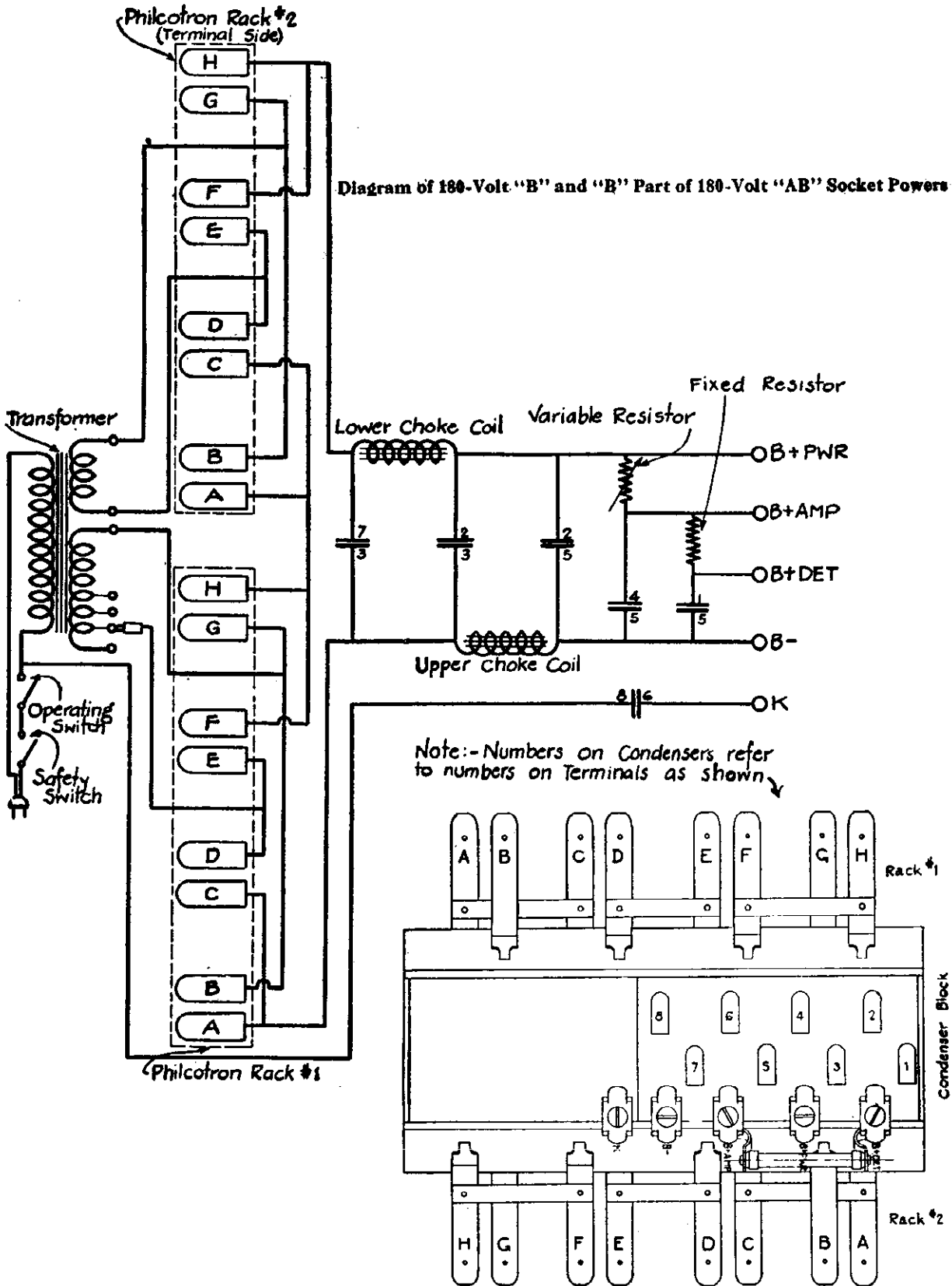
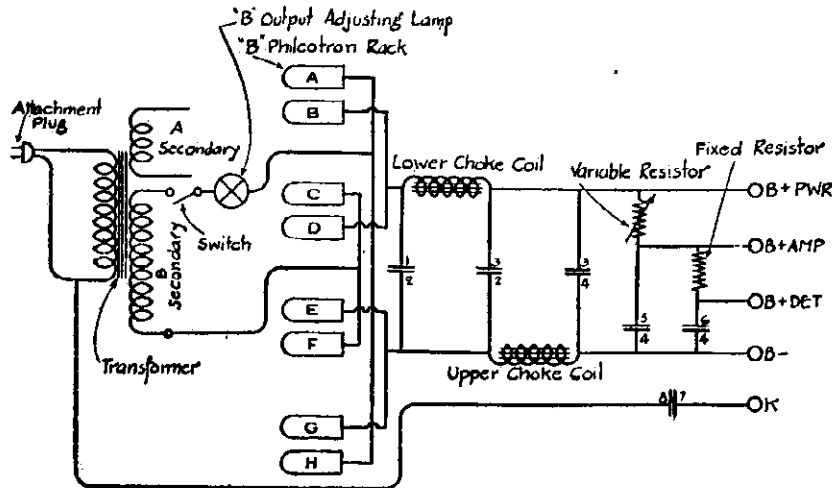


Diagram of 180-Volt "B" and "B" Part of 180-Volt "AB" Socket Powers

Philcofron Racks and Condenser Lugs Marked for Testing for 180-Volt "B" and "B" Part of 180-Volt "AB" Socket Powers

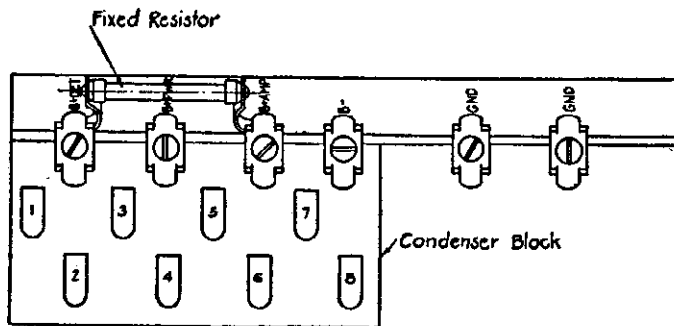
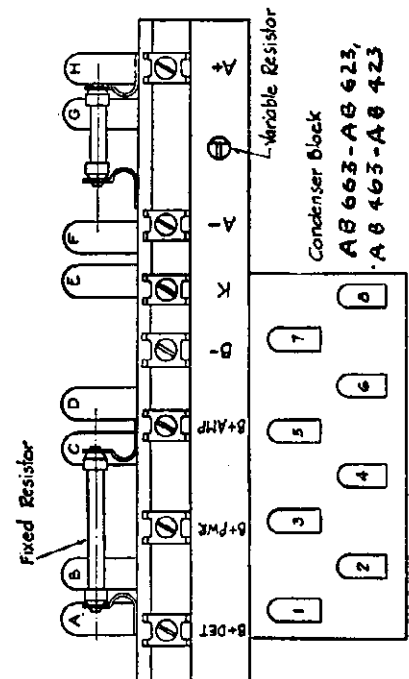
PHILCO RADIO & TELEVISION CORP.

MODEL AB-423, AB-463  
 AB-623, AB-663  
 Power Units

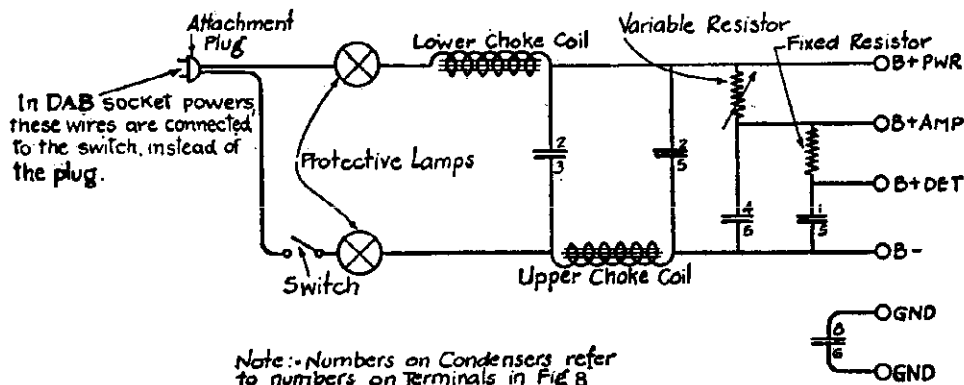


Schematic Wiring Diagram of Types AB-663, AB-623, AB-463, AB-423 Socket Powers

Note:--Numbers on Condensers refer to Terminal



Terminal Strip and Condenser Block of "DB" and "DAB" Socket Powers



Wiring Diagram of "DB" and "B" Part of "DAB" Socket Powers

MODEL DB  
 MODEL AB-463,  
 AB-623,  
 AB-663

**PHILCO RADIO & TELEVISION CORP.**

**Specifications**

**Socket Power B, Type DB**

Similar to type B-603 for use on 105-125-volt *direct current*.

Supplies B power at detector and two amplifier voltages for sets having one to ten tubes of any standard type.

Maximum continuous current rating: 50 milliamperes.

Average current consumption: 3 D.C. watts.

Dimensions same as type B-603.

**Socket Power AB, Type AB-663**

Supplies A power at 6 volts and B power at detector and two amplifier voltages for receiving sets having from one to eight 5-volt storage battery tubes including a power tube such as type UX-171 or UX-112. For use on 50- or 60-cycle, 105-125-volt alternating current.

A battery: Philco type UD-86

A rectifier: Extra large, type AA Philcotron.

	LOW	MEDIUM	HIGH
A trickle charge rates, D.C. afaps.	.2	.4	.8
A current consumption, A.C. watts.	15	25	45

B rectifier: Full-wave Philco electrolytic

Average B voltage at amplifier terminals:

B+ PWR 135-150 volts, depending on load.

B+ AMP 50-100 volts, adjustable.

Maximum continuous B current rating: 50 milliamperes.

Average B current consumption: 12 A.C. watts.

Overall dimensions: Length (front to back) 12 $\frac{3}{4}$ " ; width 13 $\frac{5}{8}$ " ; height 8 $\frac{1}{2}$ " .

**Socket Power AB, Type AB-623**

Same as type AB-663 except with special transformer and extra large B current filter for use on 25-, 30- or 40-cycle current as well as on 50 or 60 cycles for exceptional sets which may require the 25-cycle super-filter.

**Socket Power AB, Type AB-463**

Supplies A power at 4 volts and B power at detector and two amplifier voltages for sets having from one to ten 3-volt dry cell tubes, including Radiolas. For use on 50- or 60-cycle, 105-125-volt alternating current.

A battery: Philco Type UD-44

A rectifier: Large, type A Philcotron

	LOW	MEDIUM	HIGH
A trickle charge rates, D.C. amps:	.075	.15	.30
A current consumption, A.C. watts:	9	12	18

B rectifier: Full-wave Philco electrolytic

Average B voltage at amplifier terminals

B+ PWR 135 volts.

B+ AMP 50-90 volts, adjustable.

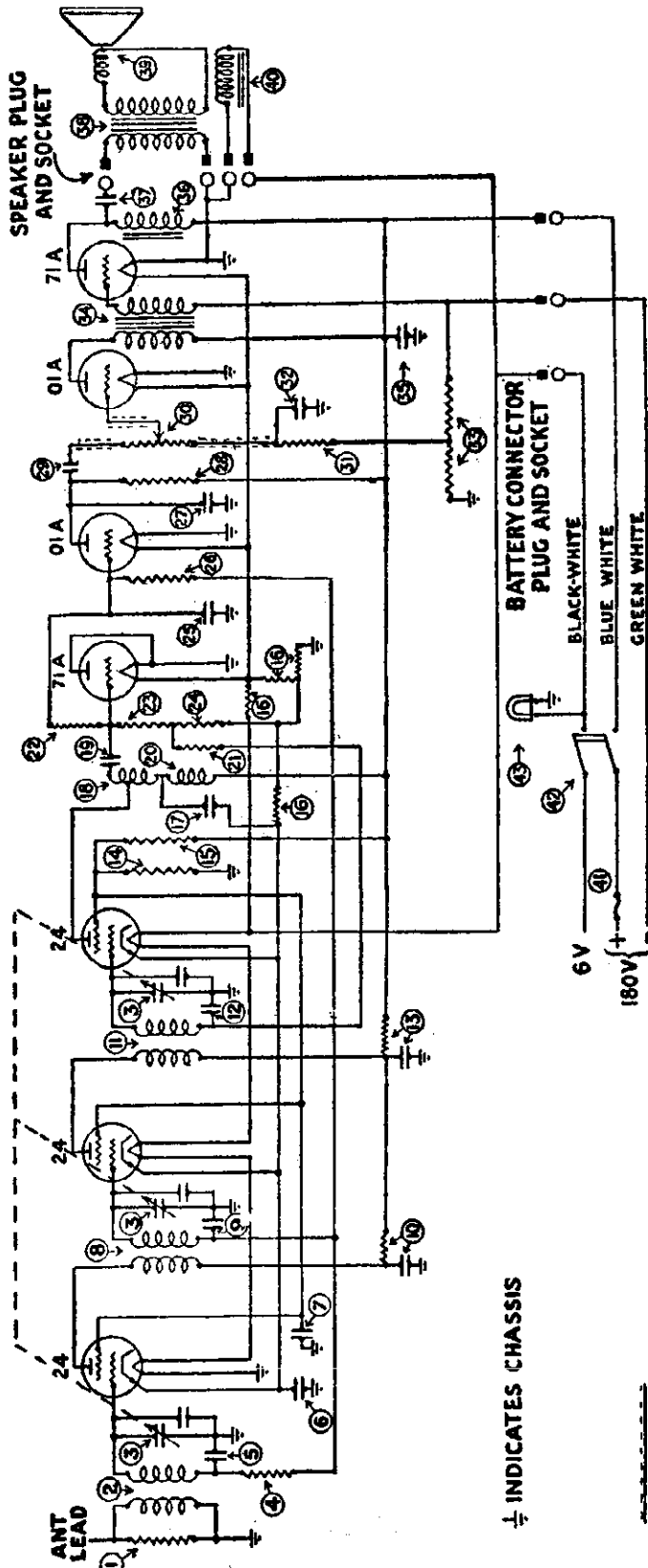
Maximum continuous B current rating: 50 milliamperes.

Average B current consumption: 10 A.C. watts.

Overall dimensions: Length (front to back) 12 $\frac{3}{4}$ " ; width 13 $\frac{5}{8}$ " ; height 8 $\frac{1}{2}$ " .

MODEL 3  
Transitone  
Schematic  
Parts List

PHILCO RADIO & TELEVISION CORP.



**COMPENSATING**

Compensating condensers in all Philco Transitone Receivers are carefully adjusted at the factory, and ordinarily need not be readjusted. If necessary to readjust, a good oscillator should be used. With the Receiver and oscillator set up for operation, and the volume control of the Receiver turned on full-- adjust the oscillator signal to a frequency between 1000 and 1200 kilocycles, or 100 and 120 on the Receivers. Tune the Receiver sharply to the signal and then reduce the oscillator signal so that it is barely audible in the Speaker. Using the special fibre wrench, adjust the third compensating condenser to that point at which the maximum signal is heard in the Speaker, then adjust the second and finally the first condenser in the same manner, always adjusting for that position which gives the maximum signal. After the adjustments are completed tune the Receiver to several broadcast programs to make sure that the stations are tuned in at the proper place on the tuning scale.

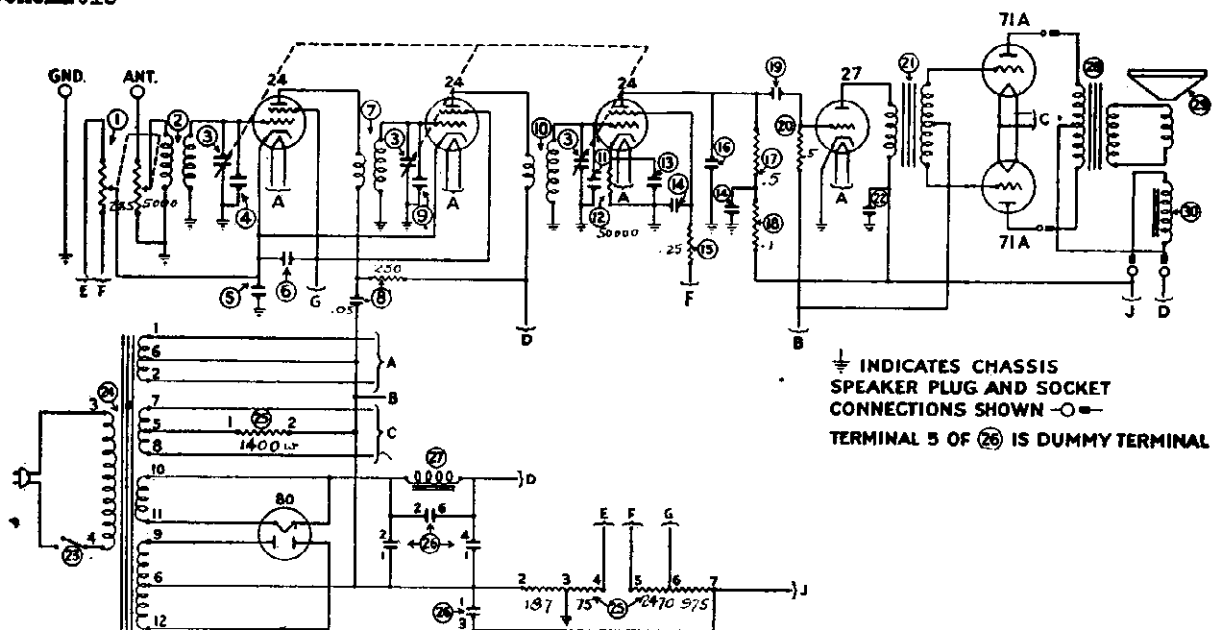
**INDICATES GROUNDED SHIELDING**

①	Condenser and Resistor (.05 mfd with 250 ohms)	3615-C
②	Resistor (50,000 ohms--1 watt)	4237
③	Resistor (25,000 ohms--1 watt)	3656
④	Resistor (4-section)	4407
⑤	Condenser (.00025 mfd)	3082
⑥	Fourth R. F. Transformer	3775-B
⑦	Condenser (.00005 mfd)	3774
⑧	R. F. Choke	3258-A
⑨	Resistor (1,000,000 ohms--1/2 watt)	4409
⑩	Resistor (250,000 ohms -- 1/2 watt)	4410
⑪	Resistor (100,000 ohms -- 1/2 watt)	4411
⑫	Resistor (100,000 ohms -- 1/2 watt)	4411

⑬	Condenser (.00025 mfd)	3082
⑭	Resistor (1,000,000 ohms -- 1 watt)	4414
⑮	Condenser (.00025 mfd)	3082
⑯	Resistor (100,000 ohms -- 1/2 watt)	4411
⑰	Volume Control	3793-D
⑱	Resistor (250,000 ohms -- 1/2 watt)	4410
⑲	Condenser (.25 mfd)	4487
⑳	Resistor (2-section)	4408
㉑	Audio Transformer	3241
㉒	Condenser (2.0 mfd)	4418
㉓	Audio Choke	4485
㉔	Output Condenser (1.0 mfd)	4420

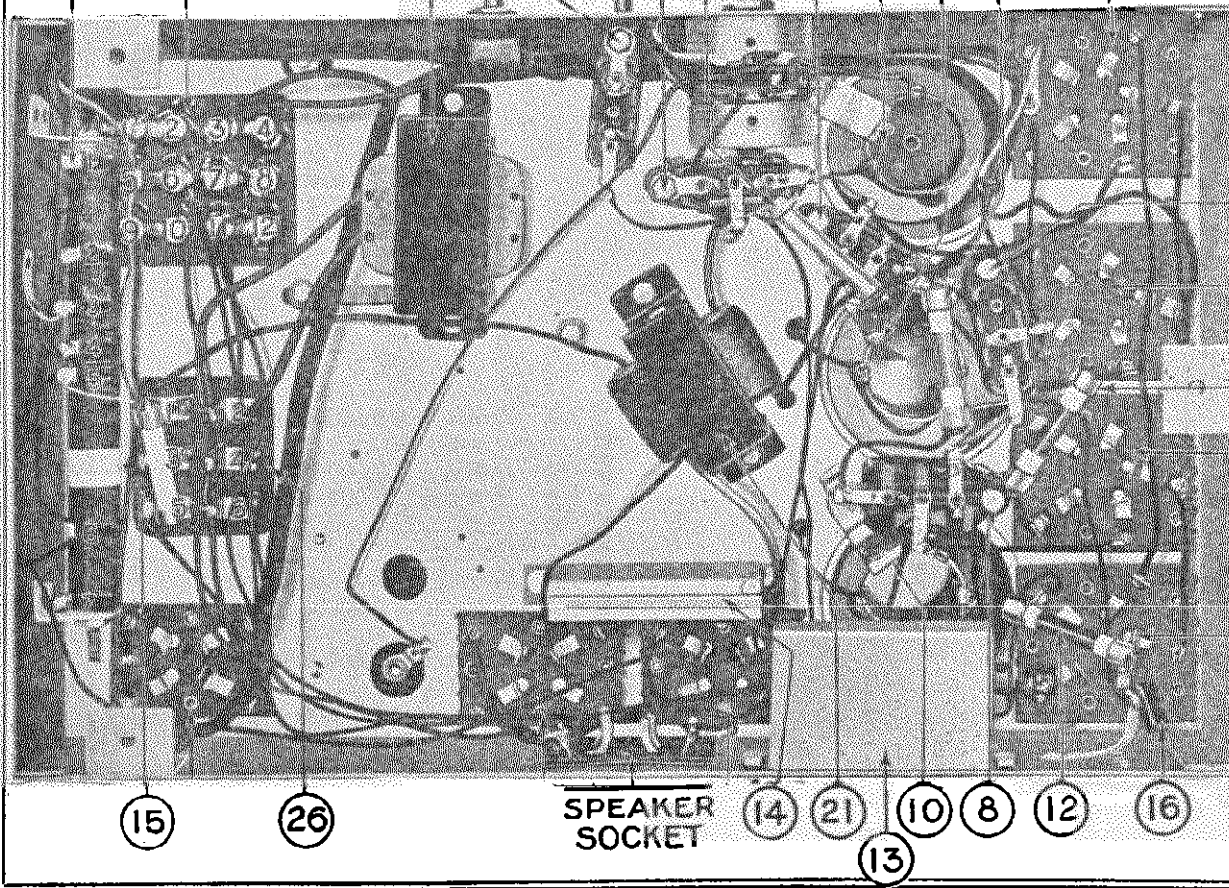
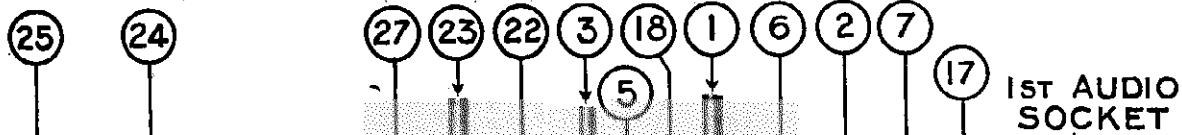
MODEL 20,20-A  
Chassis  
Schematic

PHILCO RADIO & TELEVISION CORP.



**DIFFERENT CIRCUIT ARRANGEMENT FOR MODEL 20-A**

Model 20-A for use on 25-60 cycle lines is wired differently than the Model 20. The plate supply lead for the two 24 R. F. Tubes is taken from the low side of the Speaker field Coil. The lead "D" to the 24 tubes should be changed to "J" for the Model 20-A only. This will change the plate voltage from 250 volts to 115-125 volts. The plate current readings will also be lower than those given in the table.

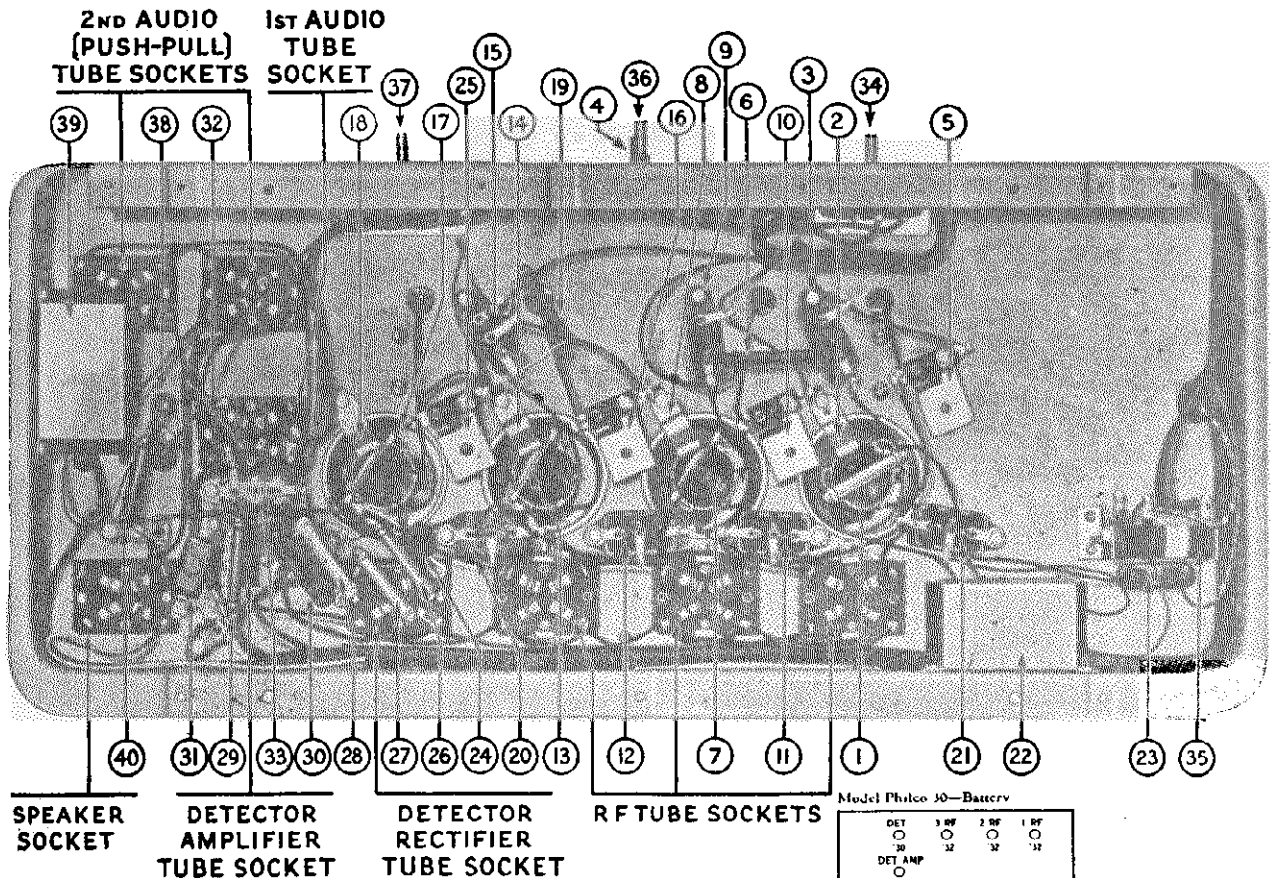


SPEAKER SOCKET

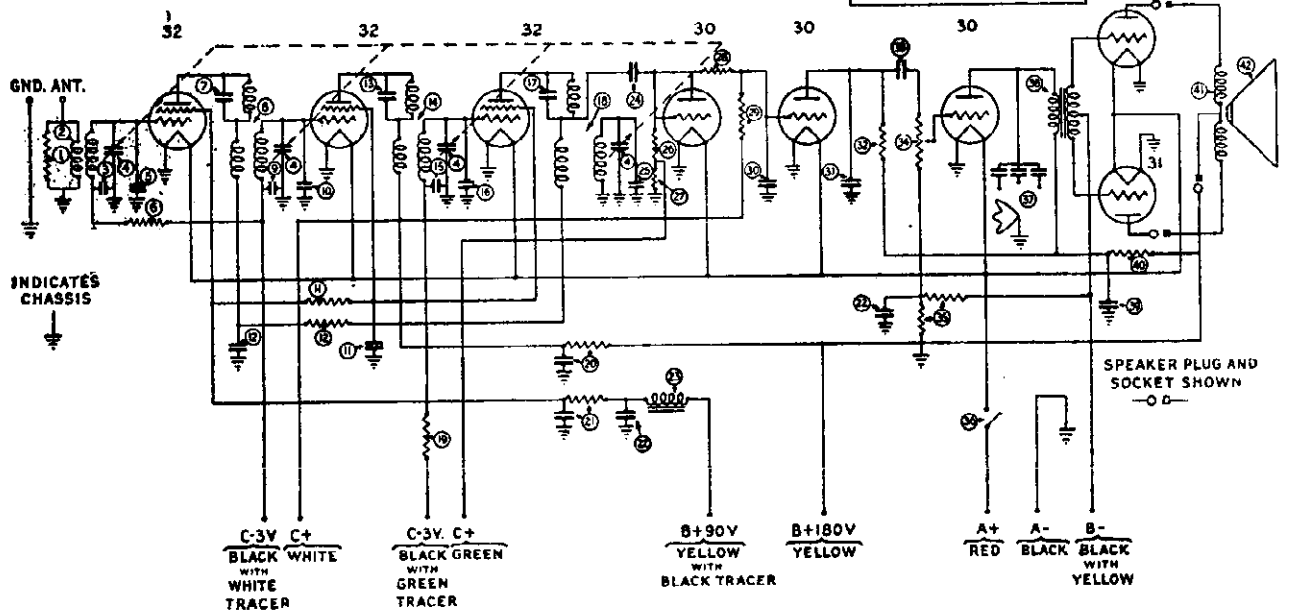
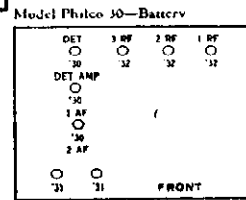


MODEL 30  
Chassis  
Schematic

PHILCO RADIO & TELEVISION CORP.

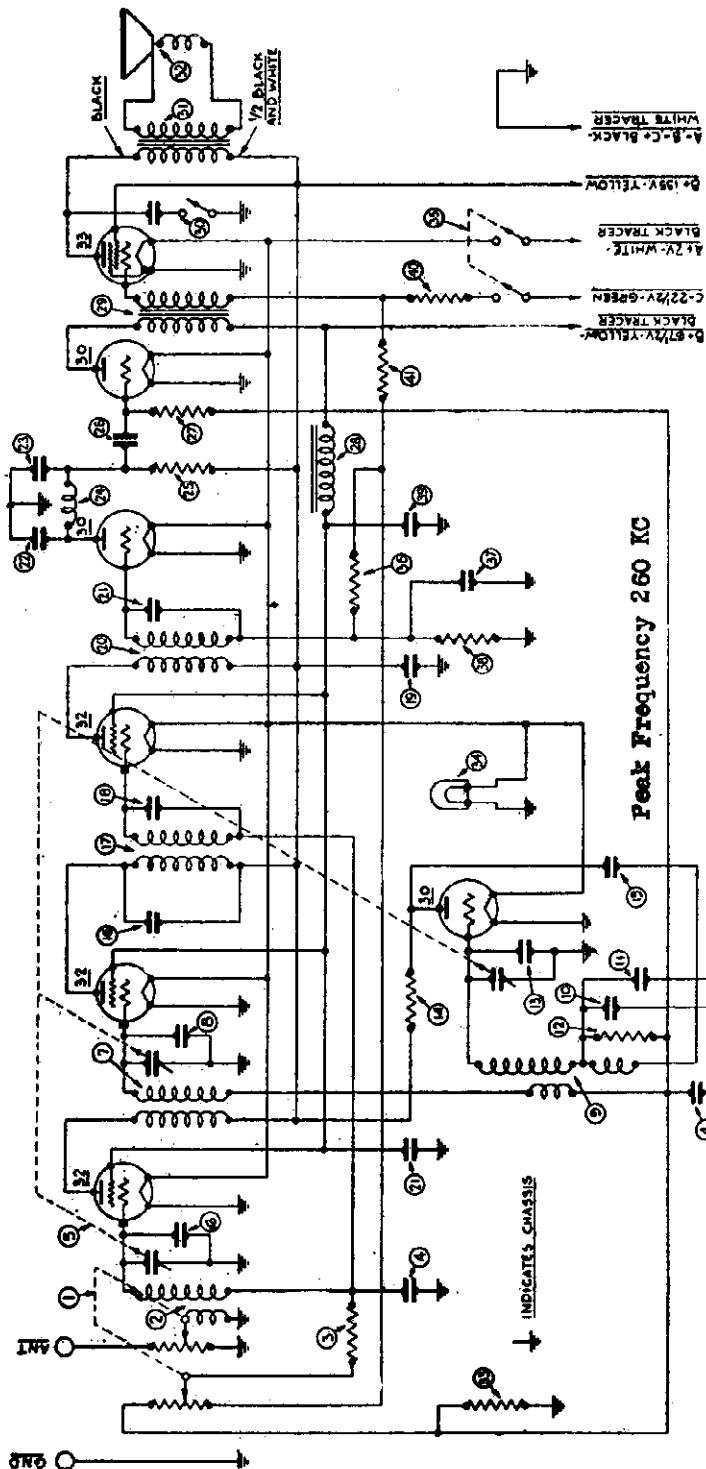


Model 30



PHILCO RADIO & TELEVISION CORP.

MODEL 35  
Schematic  
Voltage



Model 35-B is similar to Model 35 except that the pilot light is omitted. Furthermore, a resistor # 5792 is supplied with Model 35-B. The Model 35-B is intended for use with the Air-Cell battery.

Tube Socket Readings Taken with Set Tester.

Tube	Circuit	Filament Volts	Plate Volts	Grid Volts	Plate Current Milliamperes	Screen Grid Volts
32	R. F.	1.9	133		3.0	60
32	1st Det.	1.9	133		3.0	63
30	Osc.	1.9	60		1.5	60
32	I. F.	1.9	133	2.5	3.5	60
30	2nd Det.	1.9	55		.05	
30	1st Audio	1.9	65		.05	
33	Output	1.9*	125*	7*	12.*	135*

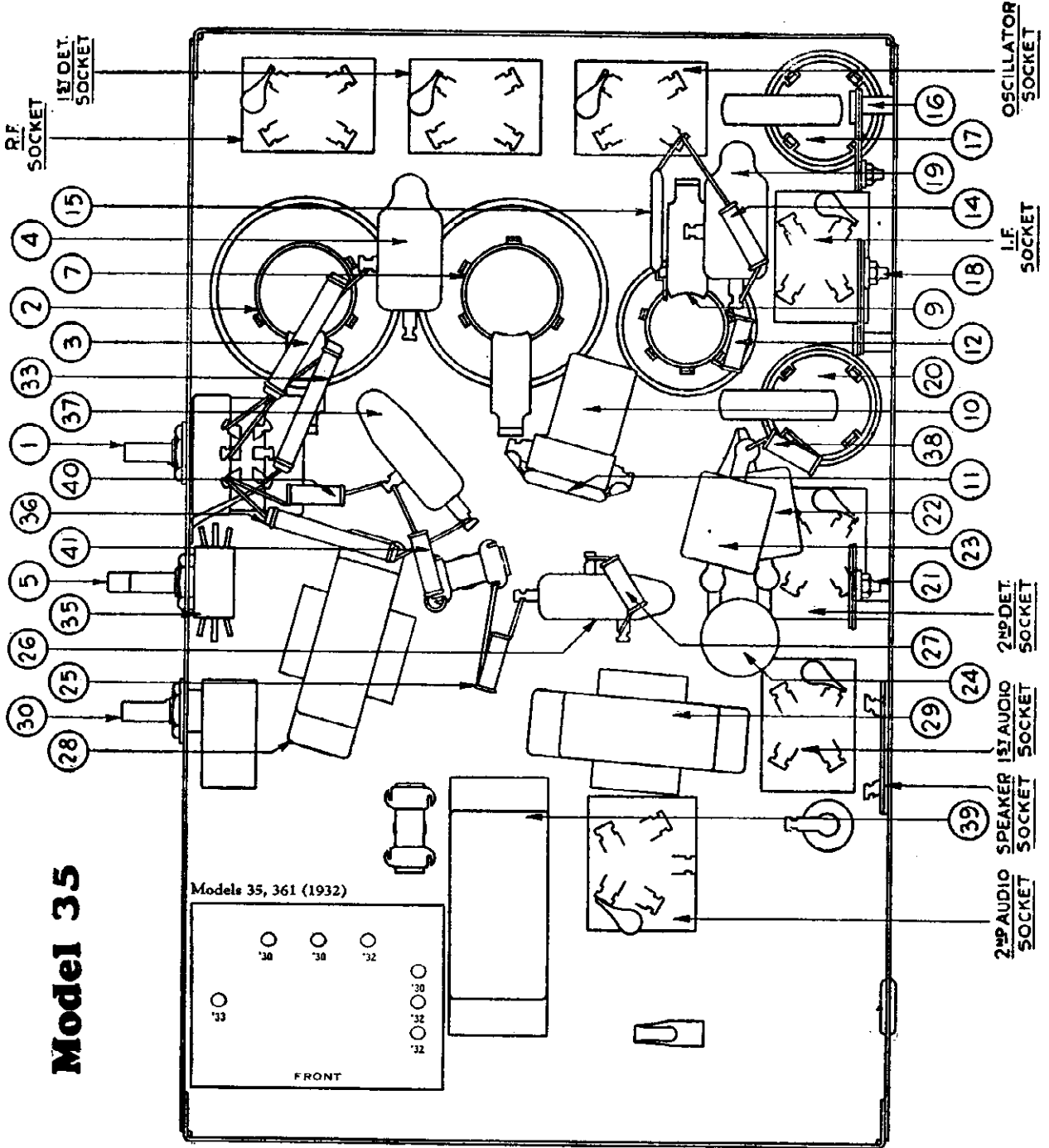
All readings taken with volume control at maximum, antenna disconnected, and ground connected. \*These readings must be taken from the under side of the chassis using test prods and leads unless the set checker is specially equipped for testing pentode tubes.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the

**The Model 35 Receiver is designed for use with the latest 2-volt filament type tubes only.**

MODEL 35  
Chassis  
Data

PHILCO RADIO & TELEVISION CORP.



**Model 35**

Models 35, 361 (1932)

Resistor Data

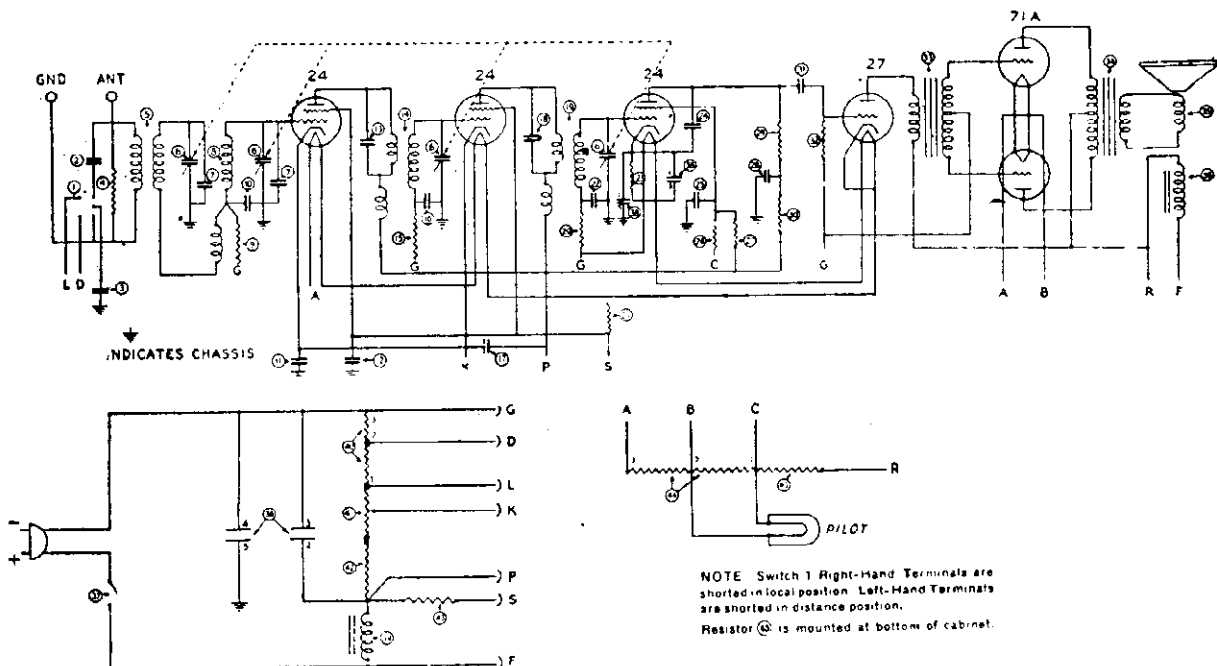
Condenser Data

No. on Figs. 1 and 2	COLOR			Resistance Ohms
	Body	Tip	Dot	
①	Red	Yellow	Yellow	240,000
②	Green	Brown	Orange	51,000
③	Yellow	White	Yellow	490,000
④	Orange	Black	Red	3,000
⑤	Orange	Red	Orange	32,000
⑥	White	White	Orange	99,000
⑦	Green	Black	Red	5,000
⑧	Brown	Black	Orange	10,000

No. on Figs. 1 and 2	Capacity—MFD
⑨	.09
⑩	.000410
⑪	.000110
⑫	.002
⑬	.01
⑭	2.

MODEL 40 DC

PHILCO RADIO & TELEVISION CORP.



**TUBE SOCKET READINGS**

Line Voltage 115

Tube	Circuit	Filament	Plate	Screen Grid	Control Grid	Plate Mills
24	1 R. F.	2.1	100	75	.4	2.7
24	2 R. F.	2.1	100	75	.4	2.7
24	Detector	2.1	45	15	1.8	....
27	1 A. F.	2.4	87	..	.2	2.7
71-A	2 A. F.	5	85	..	13	15
71-A	2 A. F.	5	85	..	13	15

Readings must be taken with volume control on full and local distance switch in distance position.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the table.

**RESISTOR VALUES**

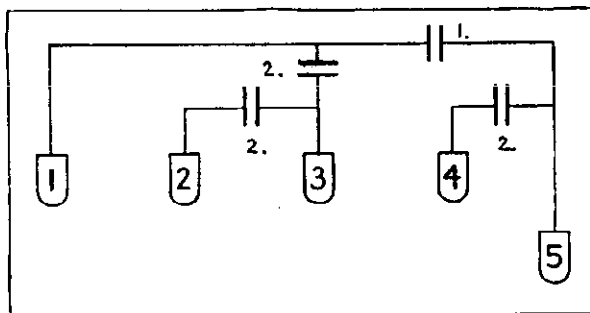
No. on Fig. 2	Terminals	Ohms Resistance
④ - ②① - ④⑤	.....	5,000
⑨ - ①⑤	.....	33,000
②① - ④②	.....	25,000
②⑤ - ③①	.....	100,000
②⑥	.....	13,000
②⑦	.....	70,000
②⑧ - ③②	.....	500,000
④①	{ 1-2	800
	{ 2-3	250
④④	{ 1-2	2
	{ 2-3	4
④⑤	(Note: 20-inch-External)	53

**CONDENSER CAPACITIES**

No. on Fig. 2	Capacity
②	.002
③ - ③①	.01
⑩ - ①⑥ - ①⑦ - ②②	.05
⑪ - ①② - ②⑤ - ②⑥	.25
②④	.0005

**③⑧ Filter Condenser**

Part No. 4067



PHILCO RADIO & TELEVISION CORP.

MODEL 41 DC, 42 DC  
Schematic  
Voltage  
Values

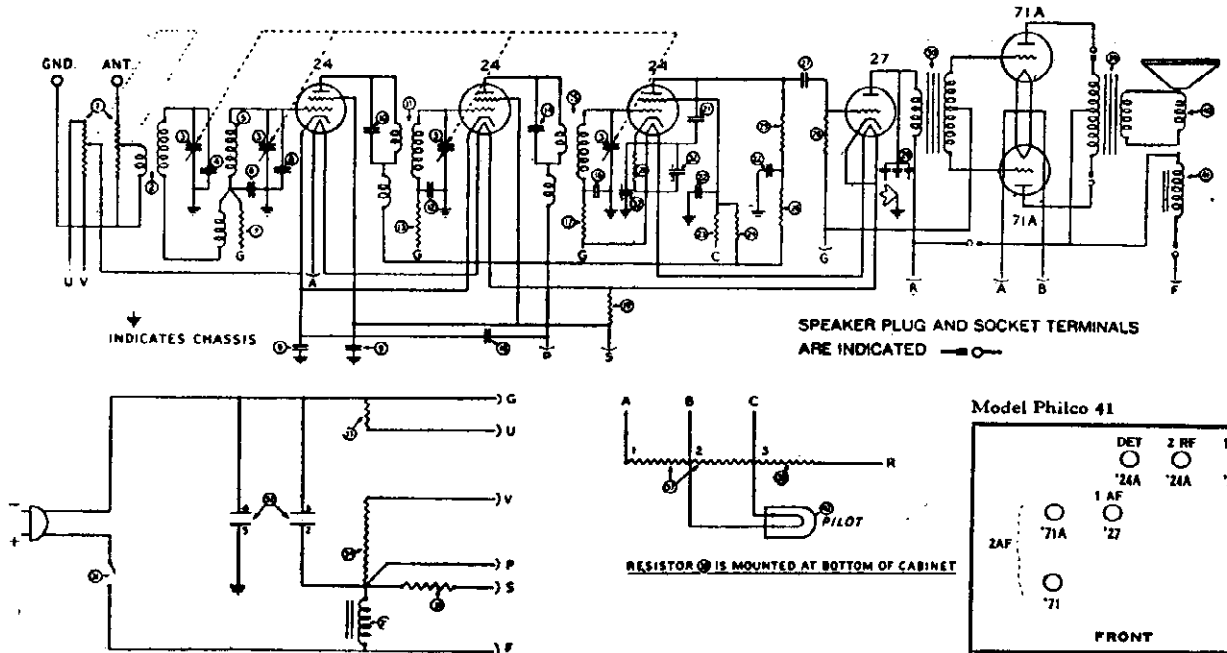


Table 1—TUBE SOCKET READINGS  
Line Voltage 115

Tube	Circuit	Filament	Plate	Screen Grid	Control Grid	Plate Mils
24	1 R. F.	2.1	100	75	.4	2.7
24	2 R. F.	2.1	100	75	.4	2.7
24	Detector	2.1	45	15	1.8	...
27	1 A. F.	2.4	87	..	.2	2.7
71-A	2 A. F.	5	85	..	13	15
71-A	2 A. F.	5	85	..	13	15

Readings must be taken with volume control on full.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the table.

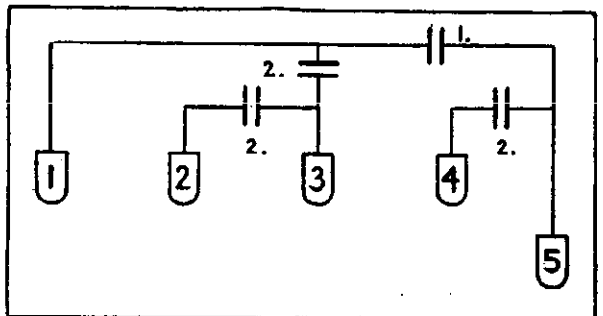
Table 2—RESISTOR VALUES

No. on Figs. 2 and 3	Terminals	Ohms Resistance
17-20	.. . . . .	5,000
28	.. . . . .	18,000
19-24	.. . . . .	25,000
7-12	.. . . . .	33,000
24	.. . . . .	70,000
20-26	.. . . . .	100,000
25-28	.. . . . .	500,000
29	.. . . . .	250
27	{ 1-2	4
	{ 2-3	2
28	(Note: 20-inch—External)	53

Table 3—CONDENSER CAPACITIES  
(Other than Filter Condenser)

No. on Figs. 2 and 3	MFD. Capacity
27	.01
8-13-16-18	.05
9-22	.25
21	.0005

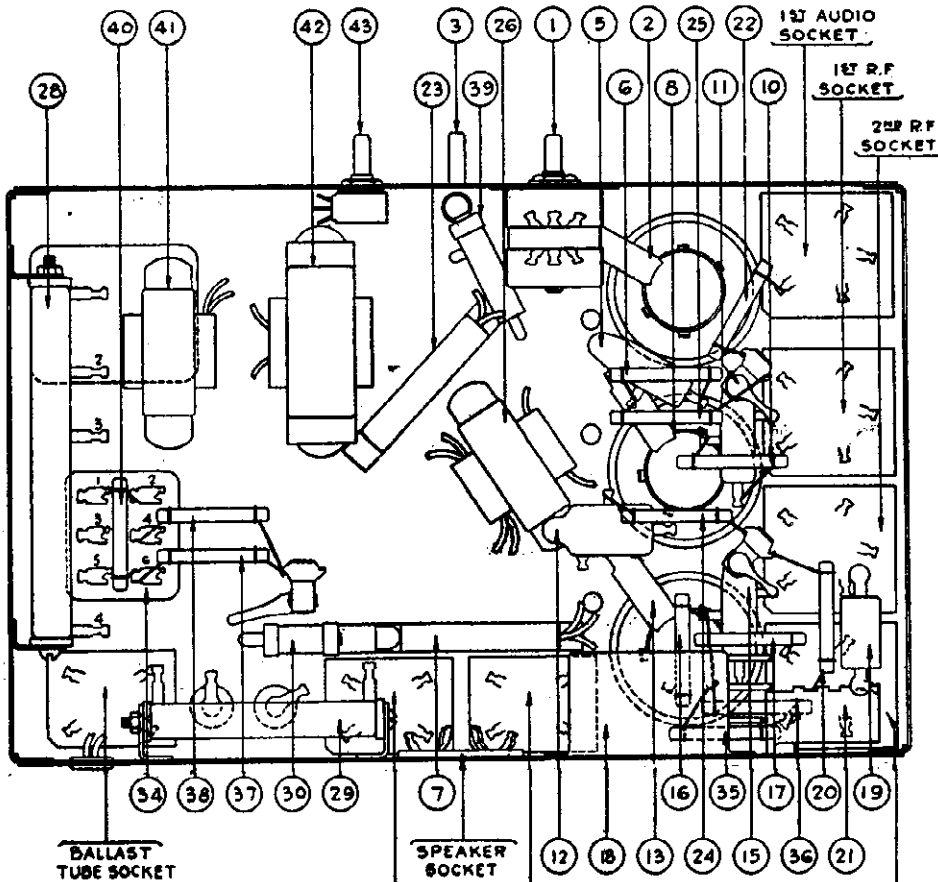
32 Filter Condenser Part No. 4067



MODEL 46, 46-E DC  
Chassis  
Resistor Data

PHILCO RADIO & TELEVISION CORP.

Models 46 and 46-E



-Resistor Data

Resistance	Color	
	Tip	Dot
16	Tubular	
105	Tubular	
1500	Flat Wire Wound	
200	Flat Wire Wound	
250	Flat Wire Wound	
350	Flat Wire Wound	
5,000	Black	Red
32,000	Red	Orange
51,000	Green	Orange
70,000	Green	Jade Green
99,000	White	White
240,000	Red	Yellow
490,000	Yellow	White

Terminal	Resistance
1-2	16
2-3	105
3-4	1500

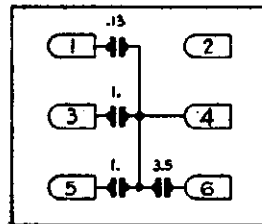
Resistor Data for Model 46-E

No. on Figs. 2 and 3

Condenser Data  
(Other than Filter Condensers) PUSH-PULL SOCKETS

No. on Figs. 2 and 3	Capacity MFD	For
②	.0005	Model 46-E DC
③	.01	
④	.05	
⑤	.05 and 250-ohm resistor	
⑥	.25 (two sections)	

Part No.—4860



DETECTOR SOCKET

Color	Tip
Tubular	
Tubular	
Flat Wire Wound	
Flat Wire Wound	
Yellow	
Belgium Blue	Yellow Tip
Belgium Blue	Yellow Tip
Jade Green	
White	
Silver Gray	Yellow Tip
Battle Gray	

Tube Socket Readings Taken with Set Tester, DC Line, 240 Volts

Tube Type	Circuit	Filament Voltage	Plate Voltage	Grid Voltage	Screen Grid Voltage	Cathode Voltage (Measured with Prod)	Plate Milliamperes
14	1st R. F.	13.5	190	.4	80	3.5	5.5
14	2nd R. F.	13.5	190	.4	75	3.5	5.5
14	Detector	13.0	0	0	20	9.5	.3
17	1st Audio	12.5	60	0		3.0	2.5
71-A	Second Audio	5.5	180	53			12.0
71-A	Push-Pull	5.5	185	53			12.0
3	Ballast	128					

All readings taken with antenna disconnected and ground on. Volume Control on full.  
The majority of set testers are not equipped to measure a DC filament voltage as high as 14 volts. In this case the volt meter binding post prods will have to be used. This method must also be used in checking cathode voltages across resistances No. 17, No. 35, No. 28 and No. 29.  
The field coil of the Speaker used with this Receiver is of low resistance. It is not the same as the field coil used with the AC Electric Receiver. If, by mistake, a speaker from an AC Electric Receiver is plugged into the DC Receiver no damage will result.

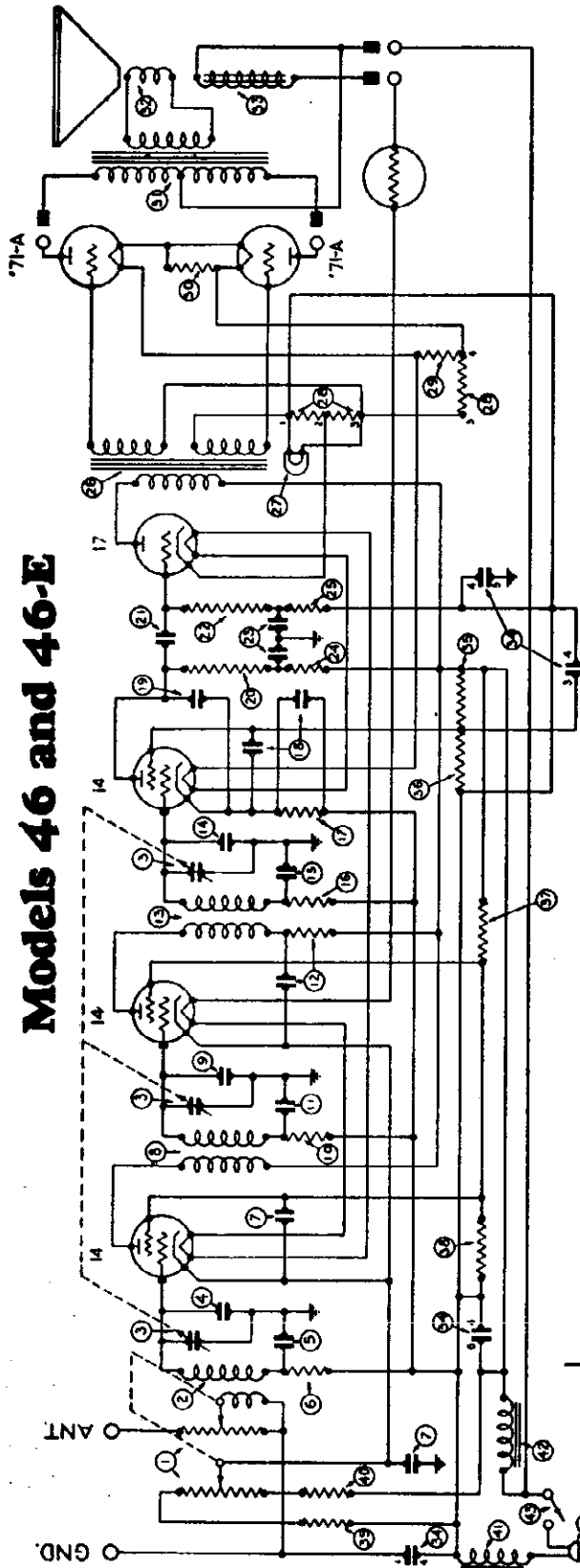
Reference	Terminal
10	2-3
14	1-2
29	3-4
200	
210	
250	
5,000	
13,000	
33,000	
70,000	
100,000	
250,000	
500,000	

No. on Figs. 2 and 3

PHILCO RADIO & TELEVISION CORP.

MODEL 46, 46-E DC  
Schematic  
Voltage  
Condenser

Models 46 and 46-E



INDICATES CHASSIS  
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN

Model 46 for operation on 110-120 Volts DC  
Model 46-E for operation on 210-240 Volts DC.

Table 1—Tube Socket Readings Taken with Set Tester, DC Line, 115 Volts

Tube Type	Circuit	Filament Voltage	Plate Voltage	Grid Voltage	Screen Grid Voltage	Cathode Voltage (Measured with Prod)	Plate Milliamperes
14	2nd R. F.	13.5	100	1.5	60	2.5	2
14	Detector	13.5	30	1.0	25	2.5	.1
17	1st Audio	13.5	100	.25	..	4.5	5
71-A	2d Audio	4.5	90	15.5	..	..	11.5
71-A	Push-Pull	4.5	90	15.5	..	..	11.5
2	Ballast	8	..	..	..	..	..
3	Ballast	128	..	..	..	..	..

All readings taken with antenna disconnected and ground on. Volume Control on full. The majority of set testers are not equipped to measure a DC filament voltage as high as 14 volts. In this case the volt meter binding post prods will have to be used. This method will also have to be used in checking cathode voltages across resistances No. 17—No. 39 and No. 28 and No. 29. The field coil of the Speaker used with this Receiver is of low resistance. It is not the same as the field coil used with the AC Electric Receiver. If, by mistake, a speaker from an AC Electric Receiver is plugged into the DC Receiver no damage will result.

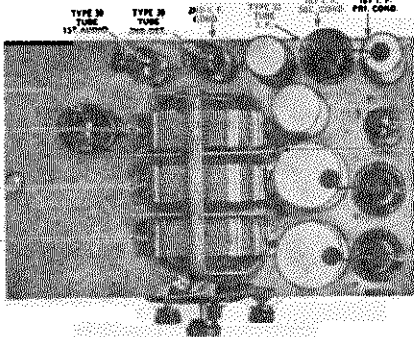
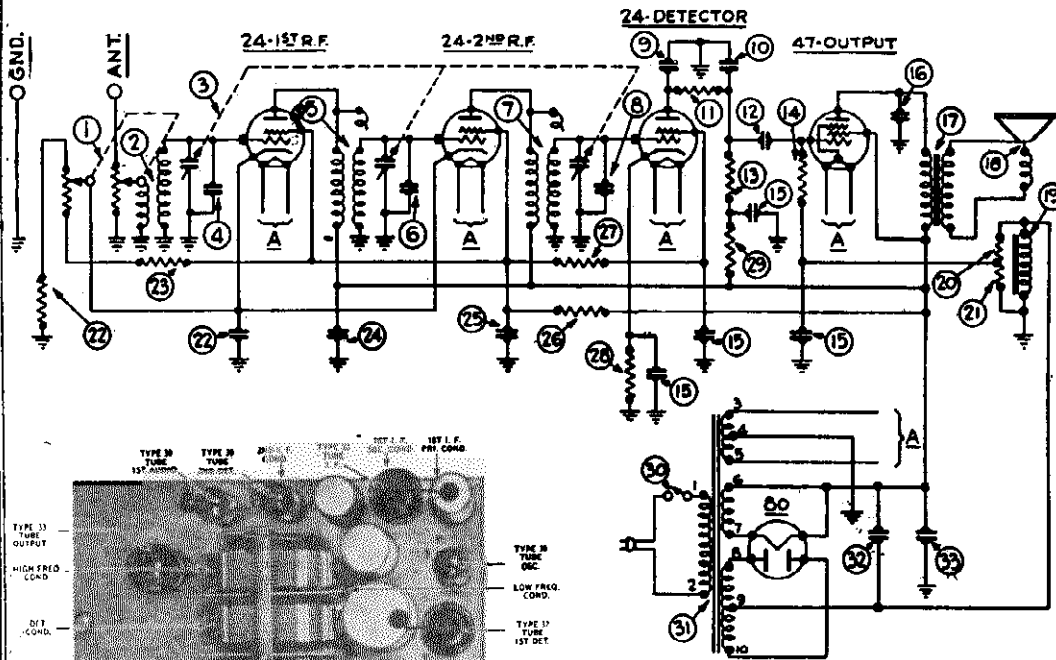
Table 2—Condenser Data  
(Other than Filter Condenser)

No. on Figs. 2 and 3	Capacity MFD
①	.0005
②	.01
③	.05
④	.05 and 250-ohm resistor
⑤	.25
⑥	.25 (two sections)

**MODEL 50, 50-A**  
Schematic  
Chassis

**PHILCO RADIO & TELEVISION CORP.**

**PHILCO MODELS 50 AND 50-A**

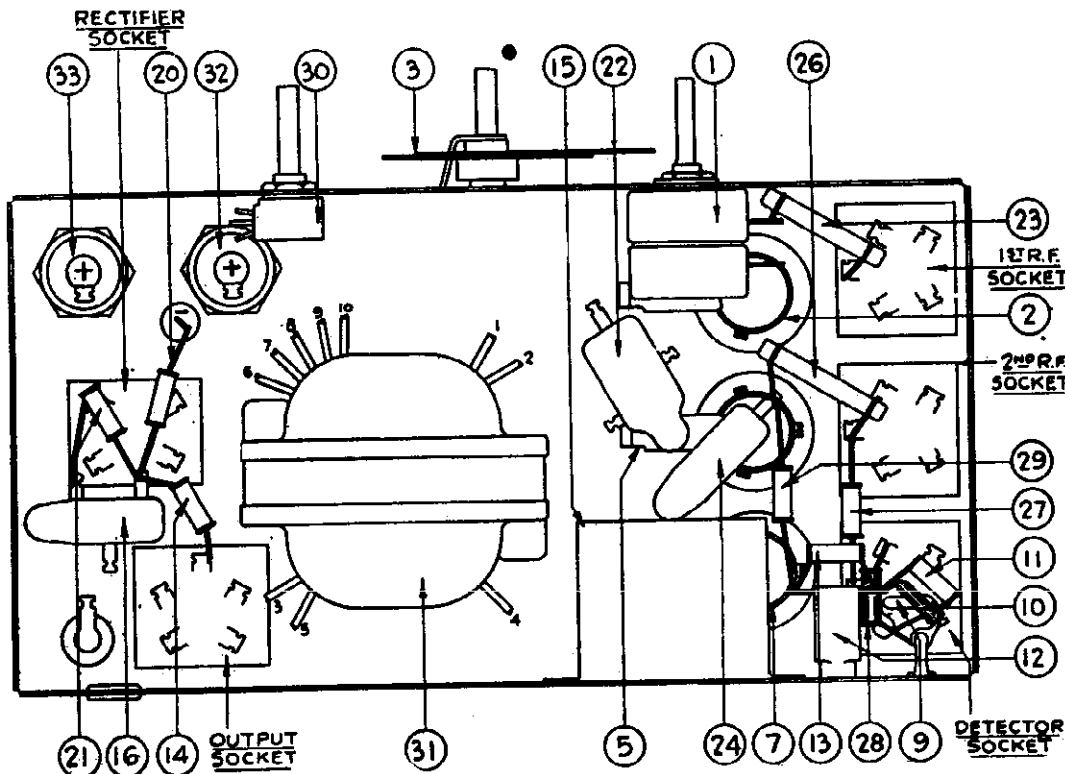


**ADJUSTMENT OF MODELS 50 AND 50-A**

With the volume control advanced to maximum, and using a weak oscillator signal, tune the receiver sharply to the oscillator note.

Adjust the third R. F. compensating condenser by means of the Philco fibre wrench, part 3184, for maximum output signal. If an output meter is being used, adjust for maximum reading.

Next adjust the second R. F. compensating condenser and finally the first. In each case, always adjust for maximum signal or reading.



Adjustment of the compensating condensers in the model 50 should be done with the aid of a good oscillator for the R. F. signal. The oscillator lead should be connected to the "ANT" terminal of the receiver. A good ground connection must be made from the receiver to the grounded side of the oscillator and to a water or radiator pipe.

Either the ear method or an output meter, connected across the speaker voice coil terminals can be used while adjusting.

When the Receiver is set up for operation, adjust the oscillator signal to a frequency which is approximately 1400 kilocycles.



PHILCO RADIO & TELEVISION CORP.

MODEL 50,50-A  
Voltage  
Resistor Data  
Condenser Data

**Models 50 and 50-A Receivers**

Model 50 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines  
Model 50-A Receivers are for operation on 100-130 volt, 25-60 cycle AC lines

Table 1—Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube		Filament Volts	Plate Volts	Screen Grid Volts	Control Grid Volts	Cathode Volts	Plate Milli- amperes
Type	Circuit						
24	1st R.F.	2.4	245	90	2.5	3.0	4.5
24	2nd R.F.	2.4	250	90	2.5	3.0	5.5
24	Det.	2.4	100	42	8.0`	8.0	0
47	Output	2.4	175*	190*	1.0*	...	2.7*
80	Rect.	5.0	...	...	...	...	30/

Note—Volume Control on full; Station Selector turned to Low Frequency End.

\*These readings must be taken from the underside of the chassis, using test prods and leads unless the set checker is specially equipped for testing pentode tubes.

Table 2—Power Transformer Voltages

Terminals	A.C. Volts		Color
1-2	105 to 125	Primary	Black (Small Gauge)
3-5	2.5	Filament of 24 and 47	Black
6-7	5.	Filament of 80	Light Blue
8-10	700.	Plates of 80	Yellow
4	.....	Center Tap of 3-5	Black, Yellow Tracer
9	.....	Center Tap of 8-10	Yellow, Green Tracer

Table 3—Condenser Data

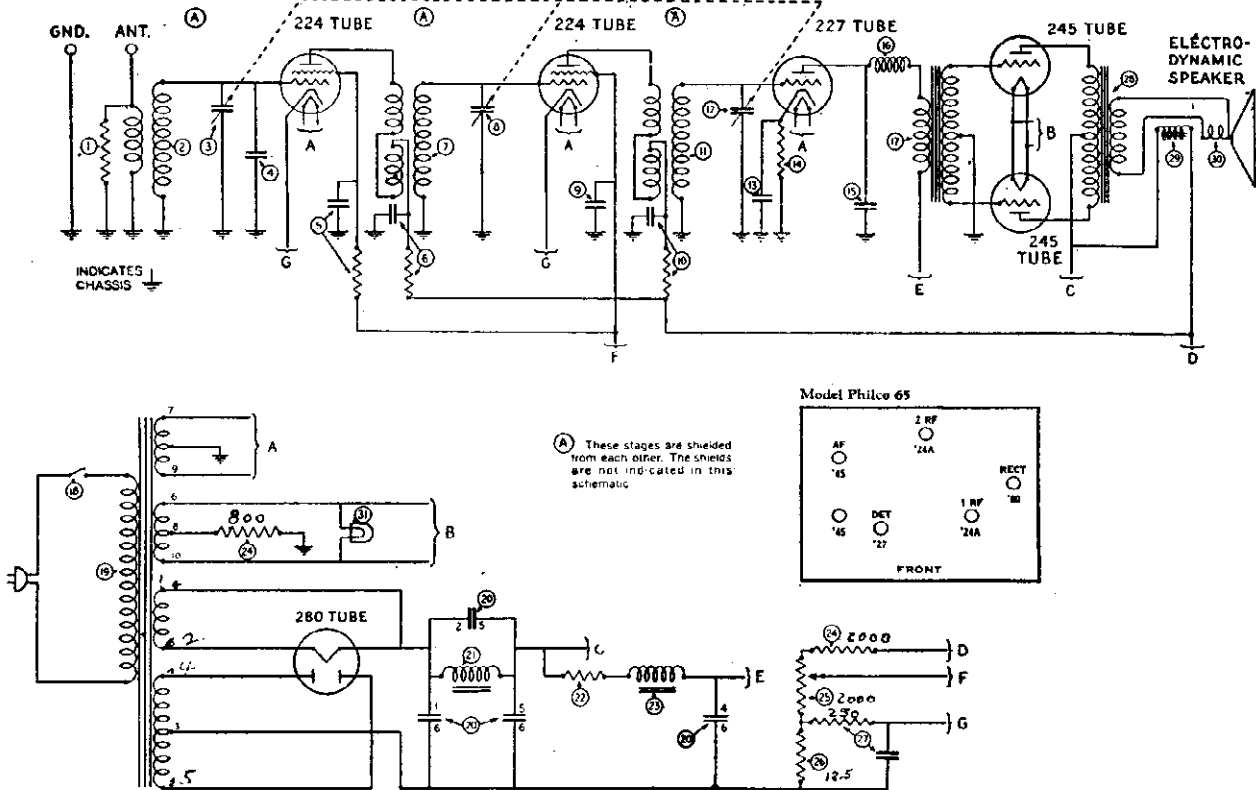
No. on Figs. 2 and 3	Capacity MFD	Container
10	.00025	Yellow
12	.01	Black Bakelite Container
13	.05	Black Bakelite Container
14	.05 and 150 Ohm resistor	Black Bakelite Container
15	.1, .15, .25, 2-.5 (50-60 cycles)	Metal Container
16	.05, .15, .25, 2-.5 (25-40 cycles)	
17	.05	
18	(50 to 60 cycles) 6.	Electrolytic
19	(25 to 40 cycles) 10.	Electrolytic
20	6.	Electrolytic

Table 4—Resistor Data

No. on Figs. 3 and 4	Power (Watts)	Resistance	Color		
			Body	Tip	Dot
21	...	150 and .05 Mfd.	Black	Bakelite Con	tainer
22	.5	10,000	Brown	Black	Orange
23	1.	15,000	Brown	Green	Orange
24	1.	25,000	Red	Green	Orange
25	.5	32,000	Orange	Red	Orange
26	.5	99,000	White	White	Orange
27	.5	160,000	Brown	Blue	Yellow
28	.5	240,000	Red	Yellow	Yellow
29	.5	490,000	Yellow	White	Yellow

MODEL 65

PHILCO RADIO & TELEVISION CORP.



(A) These stages are shielded from each other. The shields are not indicated in this schematic.

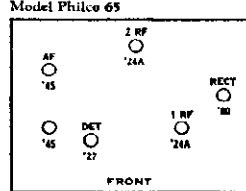


Table 8

Tube Socket Readings

TYPE TUBE	"A" Volts	"B" Volts	"B" VOLTS (SCREEN GRID)	"C" VOLTS (CONTROL GRID)	MA PLATE	CATHODE
224	2.5	150	*.2 to .75	1.5	1.5	+1.5
227	2.5	250	.....	28	1.8 to 3.5	+28
245	2.5	250	.....	50	32	.....
280	5.0	350-V. A.C.	.....	.....	55	.....

\*The voltage varies from 75 volts with the volume control turned for full volume to .2 volts with the control turned for minimum volume.

†When there is no signal being reproduced the detector plate current will be about .8 MA. Strong signals will cause a rise in current to 3.5 MA.

Table 9

Power Transformer Voltage [AC]

TERMINALS	A.C. VOLTS	SECONDARY
1-2	700	A.C. Supply to Plates of Rectifier Tube
3		Center Tap of Rectifier Plate Secondary
4-5	5.0	Rectifier Filament
6-10	2.5	Filament 245 Tubes
8		Center Tap of 245 Tube Secondary
7-9	2.5	Heater 224 and 227 Tubes

Green lead - Center Tap for Secondary 7-9  
Current Consumption - 125 V. A.C. 95 Watts

Table 10

D. C. Voltage Across Filter Condenser Block

TERMINALS	D.C. VOLTS	CAPACITY	CIRCUIT
1-6	325	2.0 Mfd.	First Filter Section, Ground to 280 Filament
2-5	20	.15 Mfd.	Parallel with First Choke Coil
3	.....	.....	Blank Terminal for Detector Plate Resistor
4-6	280	1.0 Mfd.	Last Filter Section, Gnd. to Det. Plate Lead
5-6	305	2.0 Mfd.	2d Filter Section, Gnd. to End of First Choke

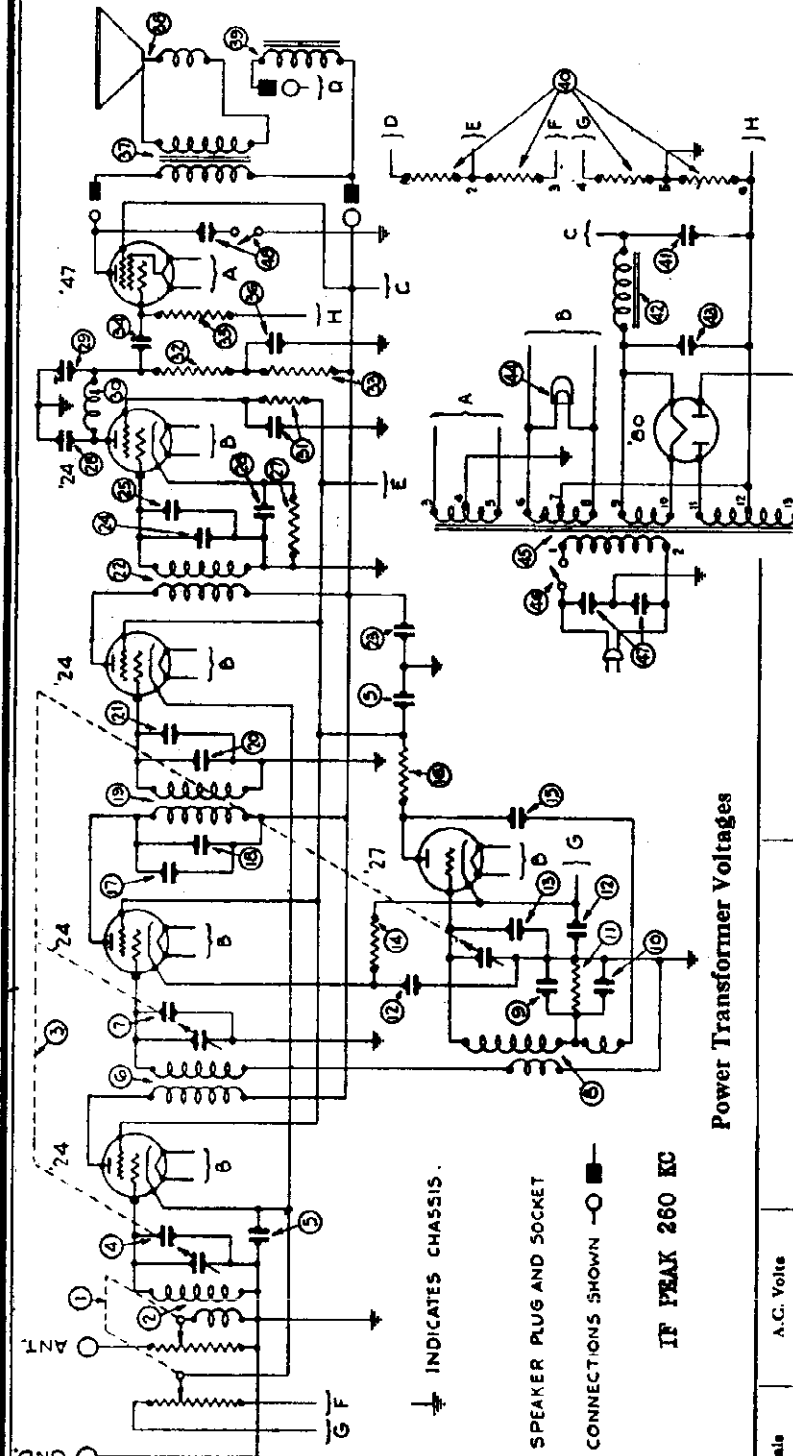
Table 11

Voltage Across Resistors

RESISTOR NUMBER	RESISTOR TERMINAL	VOLTAGE DROP	CIRCUIT
①	1-2	45-50	Grid Bias for the 245 Tubes
②	3-4	75-80	Reduces B Voltage for the Screen Grid
③	1-2	4-10	Detector Plate Voltage
④	1-2	28	Detector Grid Bias
Field Coil of Speaker		135-140	Supplies Field Energy of Dynamic Speaker

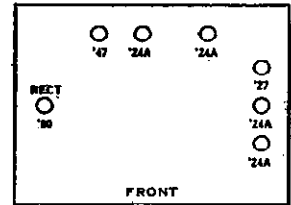
PHILCO RADIO & TELEVISION CORP.

MODEL 70, 70-A  
Below B-22,000  
Voltage  
Schematic  
MODEL 570  
Grandfather Clock



If electrolysis occurs on the insulation of the wire between the filter choke and the electrolytic condenser, unsolder the wire and cover with spaghetti.

Models 70, 70A, 70E, 270, 270A



MODEL 570 Grandfathers Clock contains the same radio equipment as Model 70

Power Transformer Voltages

Terminals	A.C. Volts	Primary	Black (Small Gauge)
1-2	105 to 125	Filament of 47	Dark Green
3-5	2.5	Filament of 24	Black (Heavy Gauge)
6-8	2.5	Filament of 80	Light Blue
9-10	5	Plates of 80	Yellow
11-13	700	Center Tap of 3-5	Black, Green Tracer
4	.....	Center Tap of 6-8	Black, Yellow Tracer
7	.....	Center Tap of 11-13	Yellow, Green Tracer
12	.....		

Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube Type	Circuit	Filament Volts	Plate Volts	Screen Grid Volts	Control Grid Volts	Cathode Volts	Plate Milli-amperes
24	1st R. F.	2.25	250	85	3	19.5	3
24	1st Det.	2.25	250	87	5.5	21.5	.5
27	Osc.	2.25	.85	85	2	19.5	2.5
24	1st I. F.	2.25	250	87	3	19.5	3
24	2nd Det.	2.25	105	75	6	22	.1
47	Audio	2.25	245	255	1	.....	.....
80	Rectifier	4.7	.....	.....	.....	.....	40/plate

Note—Volume Control Off; Station Selector turned to Low Frequency End.

MODEL 70,70-A  
Chassis- Data  
MODEL 570  
Grandfather Clock

PHILCO RADIO & TELEVISION CORP.

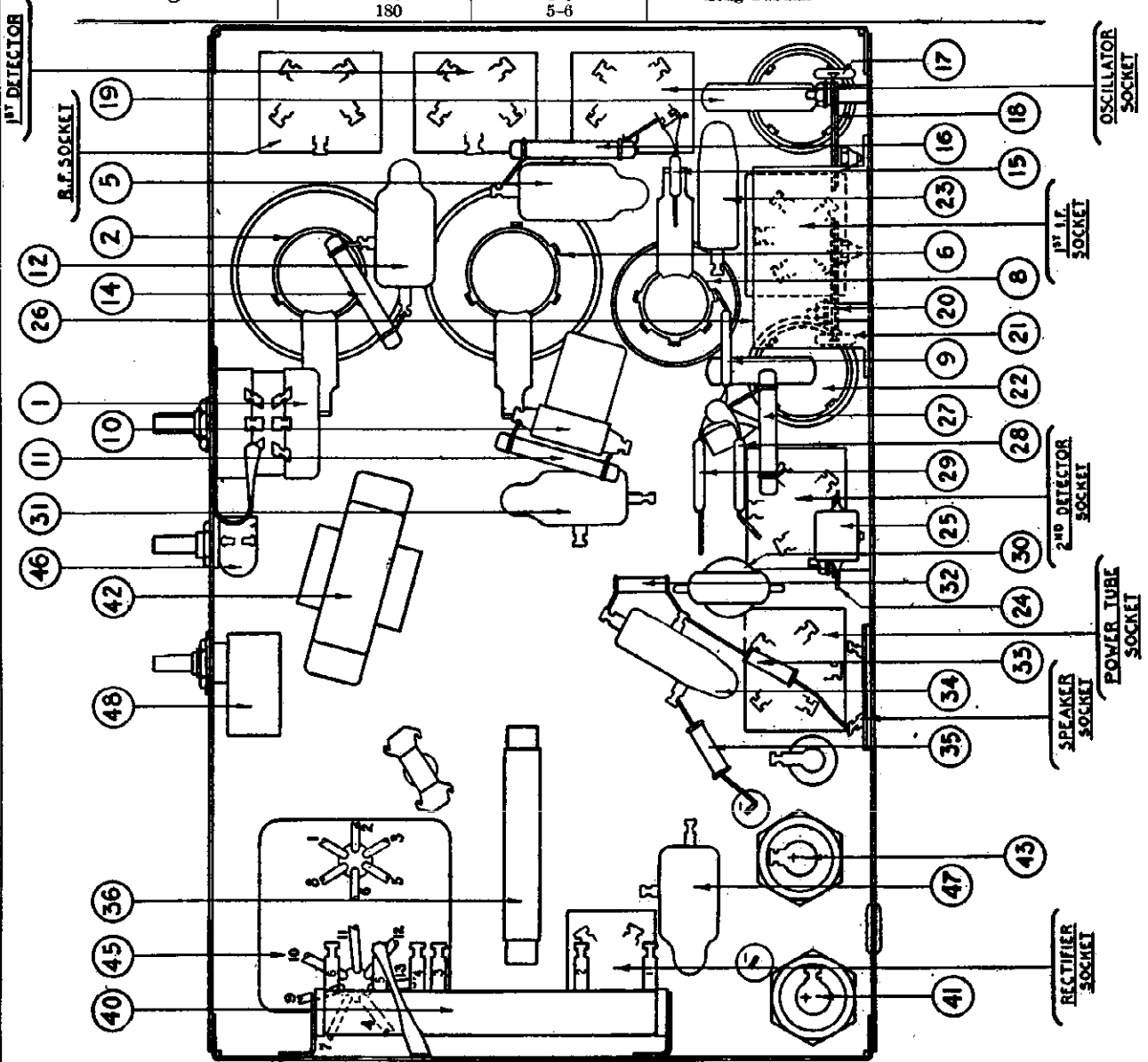
No. on Figs. 3 and 4	Capacity MFD	Color
⑩	.09	Yellow Orange
⑪	.00041	Blue, Golden Yellow
⑫	.09	Light Blue, White
⑬	.00011	Green
⑭	.05	Yellow
⑮	.00005	
⑯	.5	
⑰	.0005	
⑱	.00025	
⑲	.04 and 250 Ohm Resistor	
⑳	.01	
㉑	.25	
	(25 to 40 cycles) 10.	
	(50 to 60 cycles) 6.	
	6.	

Condenser Data

No. on Figs. 3 and 4	Resistance	Terminal	Body	Color Tip	Dot
⑩	50,000	...	Green	Brown	Orange
⑪	5,000	...	Green	Black	Red
⑫	13,000	...	Brown	Orange	Orange
⑬	250,000	...	Red	Yellow	Yellow
⑭	100,000	...	White	White	Orange
⑮	1,060	1-2			
⑯	2,300	2-3			
⑰	70	4-5			
⑱	180	5-6			

Resistor Data

Long Tubular



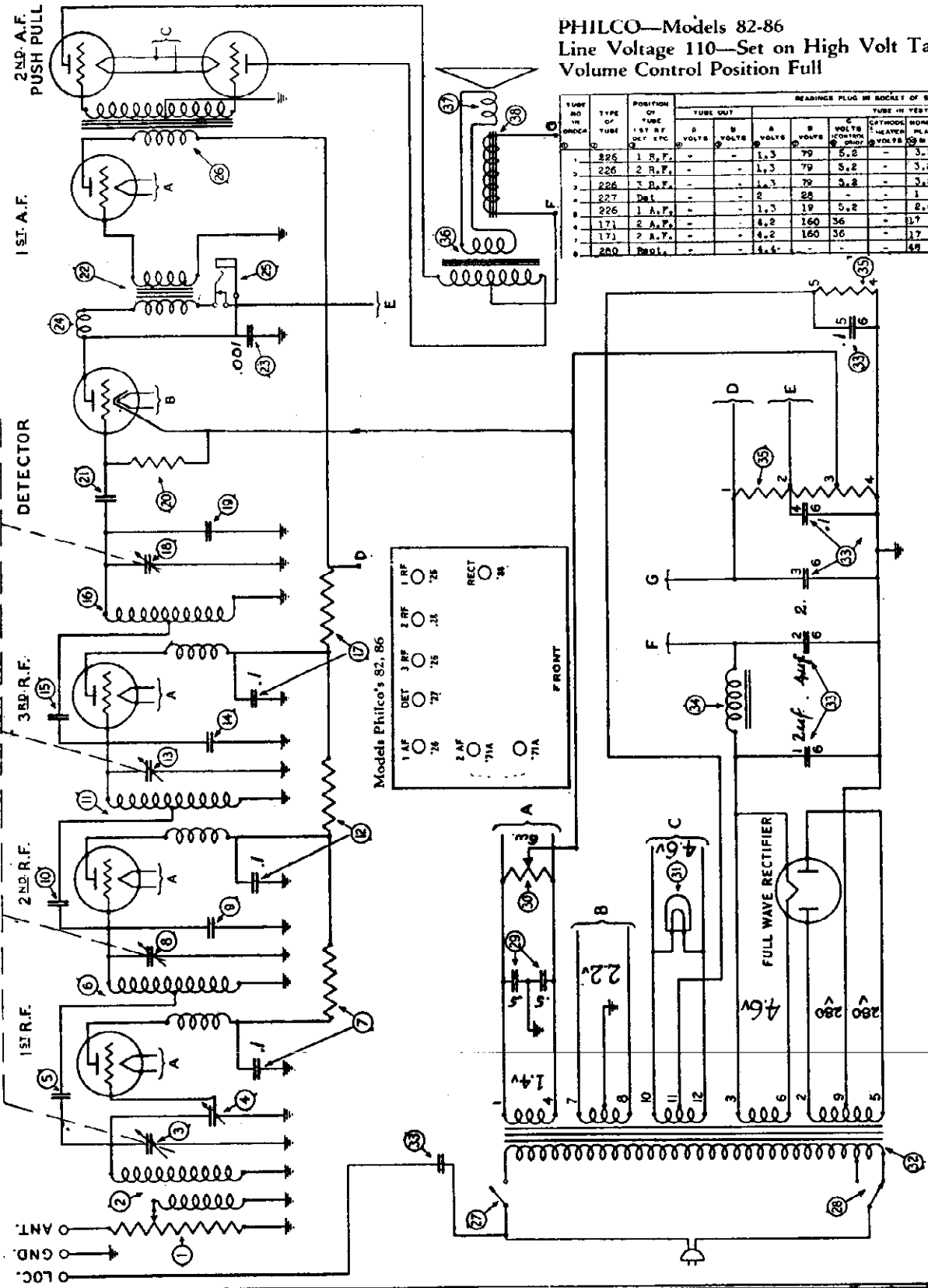




MODEL 82,86

PHILCO RADIO & TELEVISION CORP.

PHILCO—Models 82-86  
Line Voltage 110—Set on High Volt Tap  
Volume Control Position Full



TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE DET. ETC.	TUBE OUT					TUBE IN SOCKET				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS COMMON CHARGE	GRID LEAKAGE VOLTS	NOMINAL PLATE MA	PLATE MA TEST	PLATE CHANGE M.A.	
1	226	1 R.F.	-	-	1.3	79	5.2	-	3.2	5	2	-
2	226	2 R.F.	-	-	1.3	79	5.2	-	3.2	5	2	-
3	226	3 R.F.	-	-	1.3	79	5.2	-	3.2	5	2	-
4	227	DET.	-	-	2	28	-	-	1	-	-	-
5	226	1 A.F.	-	-	1.3	19	5.2	-	2.6	6	3.4	-
6	171	2 A.F.	-	-	4.2	160	36	-	17	20	3	-
7	171	2 A.F.	-	-	4.2	160	36	-	17	20	3	-
8	280	RECT.	-	-	4.6	-	-	-	48	-	-	-

Models Philco's 82, 86

FRONT

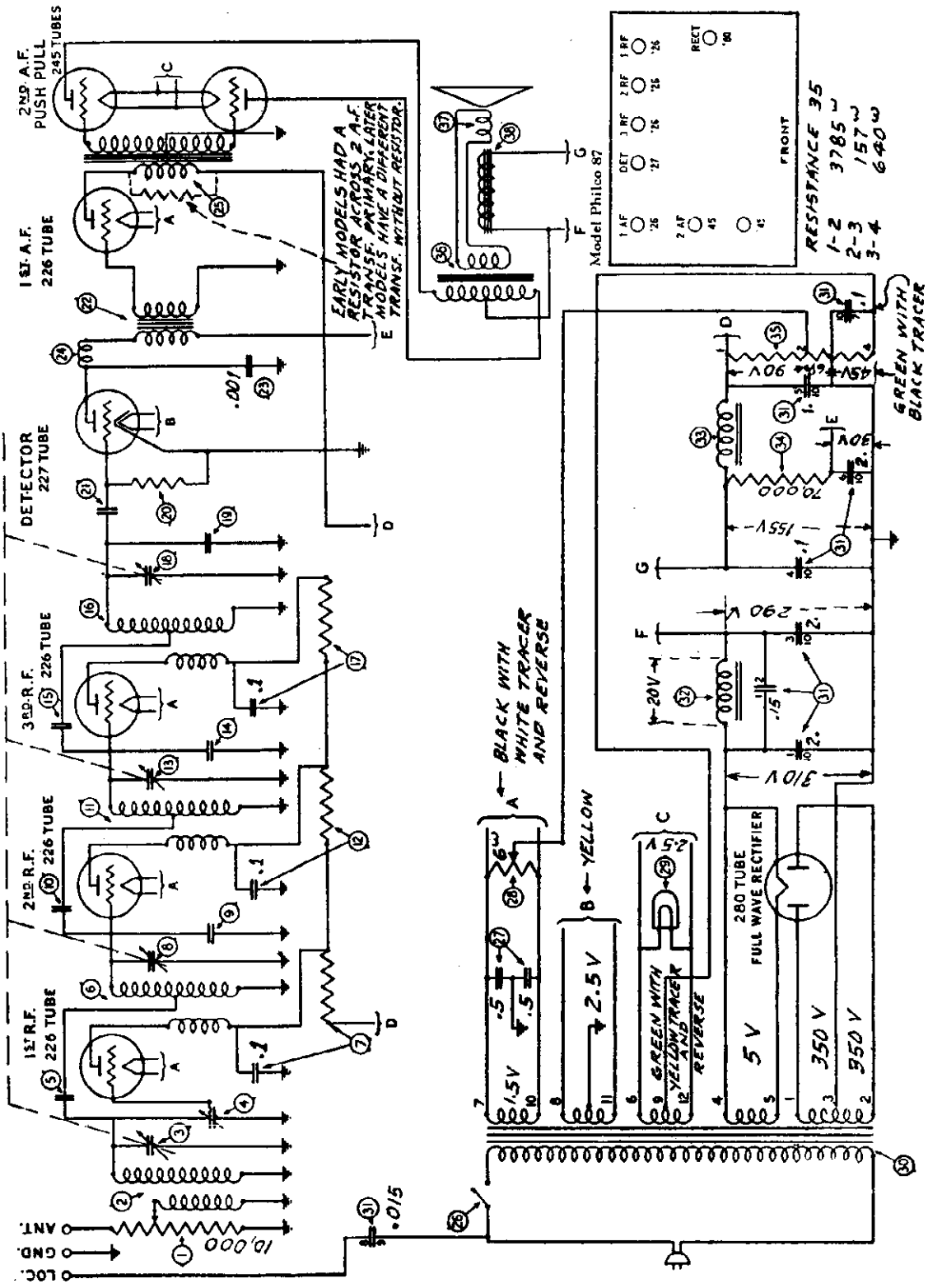
1 A.F. 76    2 A.F. 71A    71A

1 R.F. 78    2 R.F. 78    3 R.F. 78    DET. 77    RECT. 78

PHILCO RADIO & TELEVISION CORP.

MODEL 87  
Schematic  
Socket

Philco Model 87





PHILCO RADIO & TELEVISION CORP.

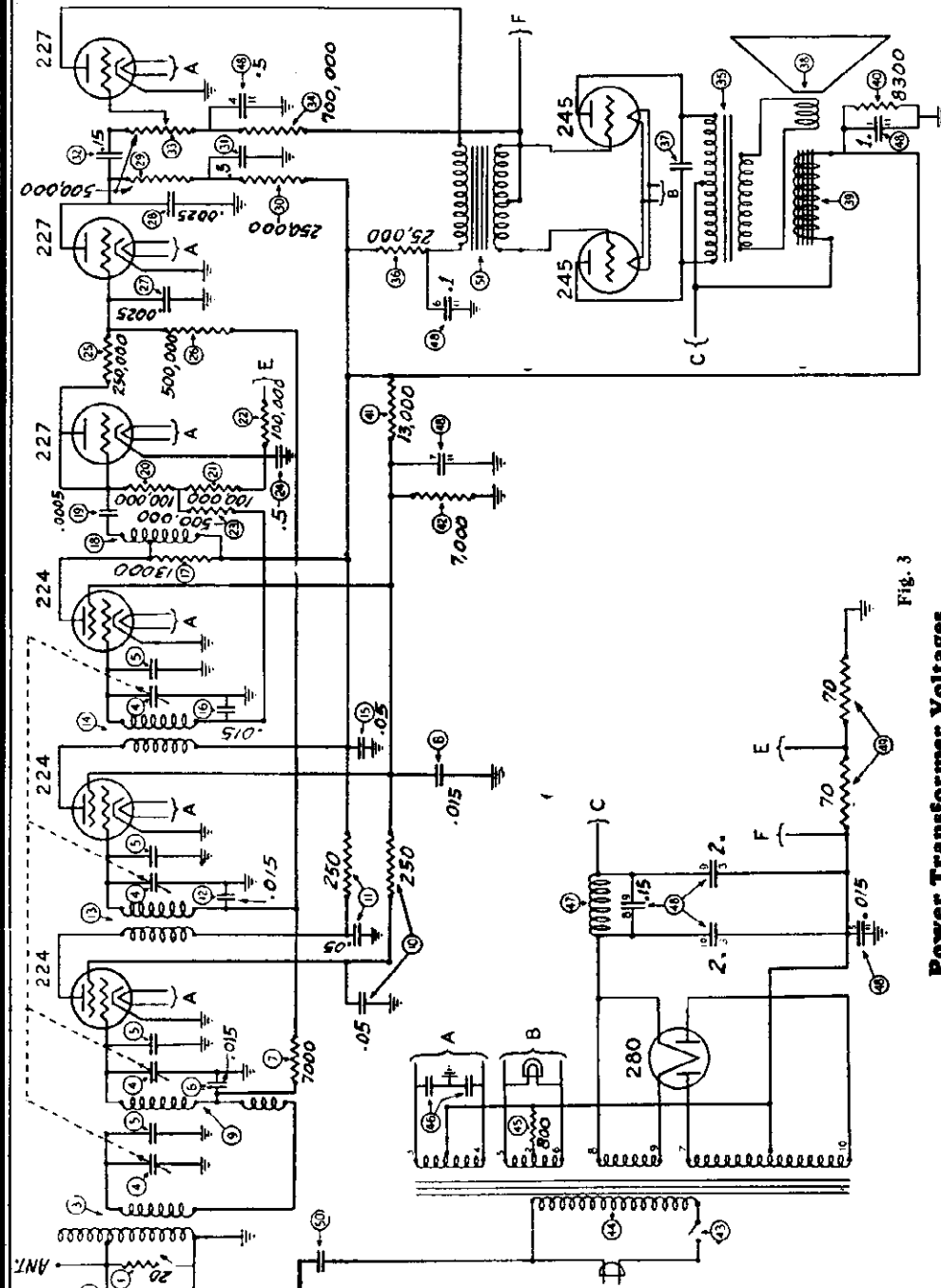
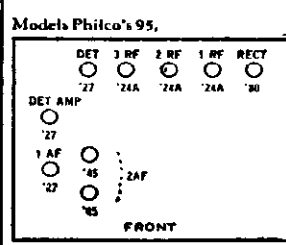


Fig. 3

Power Transformer Voltages

TERMINALS	A.C. VOLTS	SECONDARY
3-4	2.67	Heaters of 224 and 227 Tubes
5-6	2.68	Filaments of 245 Tubes
2	5.00	Center Tap for 245 Tubes
8-9	7.50	Filament of 280 Tube
7-10		Plate of 280 Tube
1		Center Tap for 280 Tube
		Center Tap for 224 and 227 Tubes
		Primary
		Primary

Voltages Read with A.C. Set Tester. A.C. Line 115 Volts.

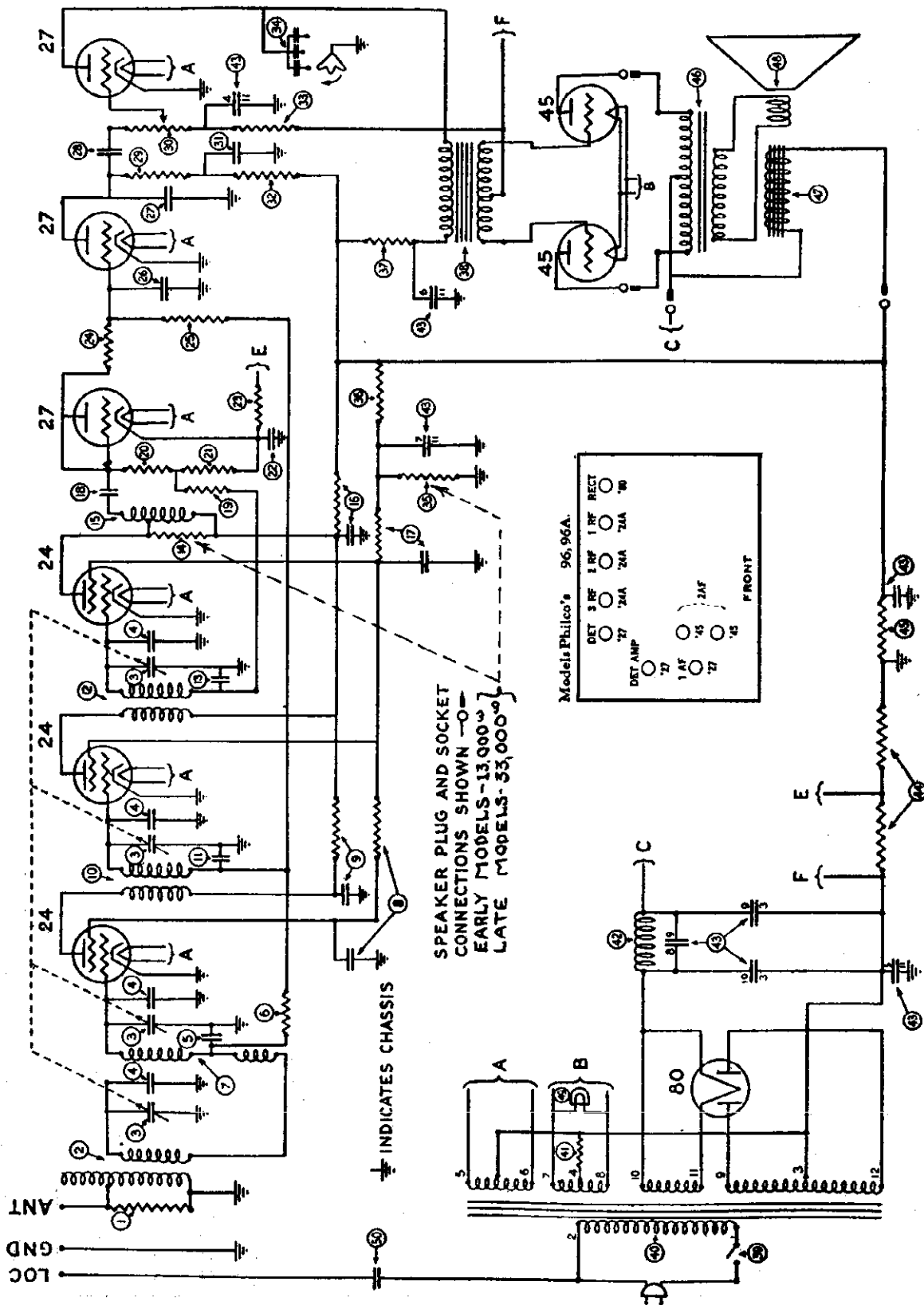


TUBE	TYPE	CIRCUIT	FILAMENT VOLTS	PLATE VOLTS	SCREEN GRID VOLTS	CONTROL GRID VOLTS	CATHODE VOLTS	PLATE MILLI-AMPERE
280		Rectifier	4.5					43/Plate
224		1st R. F.	2.15	155	95	0	5.3	4
224		2d R. F.	2.15	155	95	0	5.3	4
224		3d R. F.	2.15	155	95	0	5.3	4
227		Det.	2.15	0		-.5	.7	0
227		Det. Amp.	2.15	27		-.5	5.5	0
227		1st A. F.	2.15	85		-2.0*	5.5	2.5
245		2d A. F.	2.2	250		41		28
245		2d A. F.	2.2	250		41		28

\*This is read with Volume Control off. With it on the reading will be .2 volt.

PHILCO RADIO & TELEVISION CORP.

MODEL 96, 96-A  
Schematic



PHILCO RADIO & TELEVISION CORP.

MODEL 112, 112-A  
Below 174,001  
Voltage  
Electrical Values

**Models 112 and 112-A Receivers**

Model 112 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines  
Model 112-A Receivers are for operation on 100-130 volt, 25-60 cycle AC lines

Table 1—Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube		Filament Volts	Plate Volts	Screen Grid Volts*	Control Grid Volts	Cathode Volts	Plate Milli-Amperes	Screen-Grid Milli-Amperes †
Type	Circuit							
24	1st R. F.	2.1	190	60	.2	5	1.7	1.75
27	Osc.	2.1	45	..	.7	7	1.6	...
24	1st Det.	2.1	180	62	4.6	8	.5 ‡	.15
24	1st I. F.	2.1	185	65	...	5	1.5	1.7
24	2nd I. F.	2.1	190	82	2.2	5	3	1.85
27	Det. Rect.	2.2	...	..	.4	.5	.....	...
27	Det. Amp.	2.2	35	..	.4	5	.20 ‡	...
27	1st A. F.	2.1	95	..	1.2	5	4	...
45	2nd A. F.	2.2	255	..	50	...	32.5	...
45	2nd A. F.	2.2	255	..	50	...	32.5	...
80	Rect.	4.9	...	..	...	...	50/Plate	...

\*Read with C 100 Scale.  
†Read with 20 Mil. Scale.  
‡Read with 2 Mil. Scale.

Note—Volume Control Off; Station Selector turned to Low Frequency End; Range Switch set in "Normal" Position.

Table 2—Power Transformer Voltages

Terminals	A.C. Volts	
1—2		Primary Center Tap 80 Tube Center Tap 45 Tubes Heaters for 24 and 27 Tubes Filaments for 45 Tubes Plates 80 Tube Filament 80 Tube Center Tap for 24 and 27 Tubes
3		
4		
5—6	2.67	
7—8	2.68	
9—12	750.	
10—11	5.0	
Rubber Covered Lead		

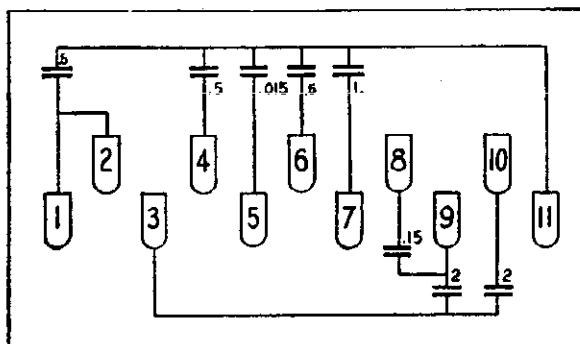
Table 3—Condenser Data  
(Other Than Filter Condenser)

No. on Figs.	CAPACITY	COLOR
8	.05	Bakelite Container
10 11	.05 and 250 Ohm Resistor	Bakelite Container
17	.25 (two sections)	Metal Container
19 25 27 33 35	.00011	Blue, Golden Yellow
21	.0007	White, Golden Yellow
26	.05	Bakelite Container
28	.05 and 250 Ohm Resistor	Bakelite Container
38	.00005	Light Blue, White
40	.5	Metal Container
42	.00025	Yellow
44	.015	Bakelite Container
46	.05	Bakelite Container
61	.015 (two sections)	Bakelite Container
67	.05	Bakelite Container

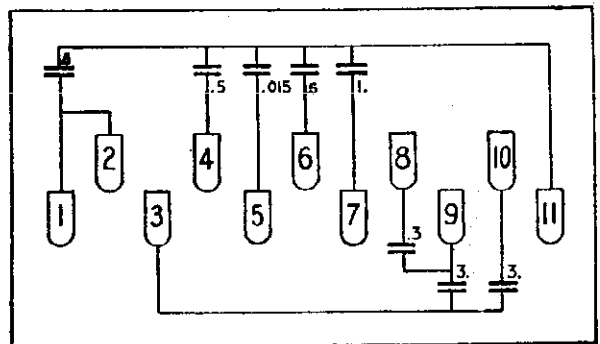
Table 4—Resistor Data

No. on Figs.	Power (Watts)	Resist-ance	Body	COLOR Tip	Dot
20	1.	1,000	Brown	—Black	—Red
1	.5	10,000	Brown	—Black	—Orange
18	1.	13,000	Brown	—Orange	—Orange
31 32	1.	25,000	Red	—Green	—Orange
16 36 37	.5	50,000	Green	—Brown	—Orange
39 41	1.	70,000	Violet	—Black	—Orange
8 43 45 48	.5	100,000	White	—White	—White
49	1.	250,000	Red	—Yellow	—Yellow
51	.5	500,000	Yellow	—White	—Yellow
44	1.	500,000	Yellow	—White	—Yellow
56		70	Flat Wire Wound (two sections)		
58		800	Short Tubular		
57		10,000	Long Tubular		

Model 112 Condenser Block Part No. 3754

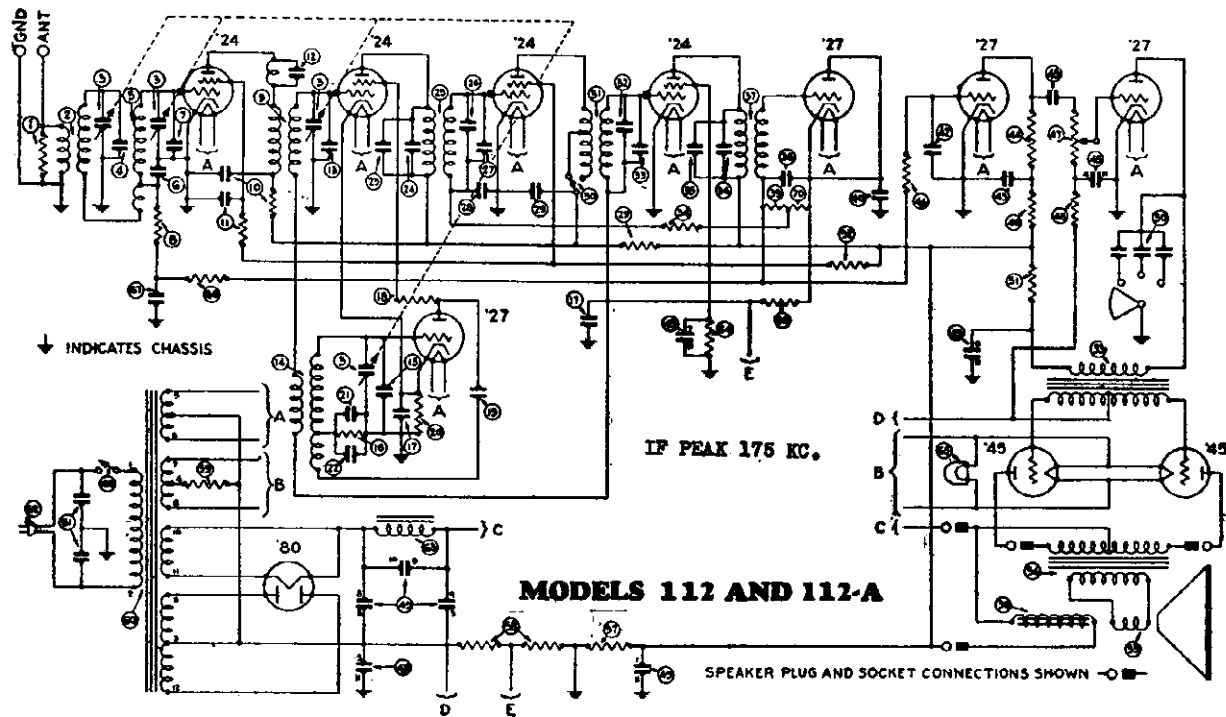


Model 112-A Condenser Block Part No. 3755



PHILCO RADIO & TELEVISION CORP.

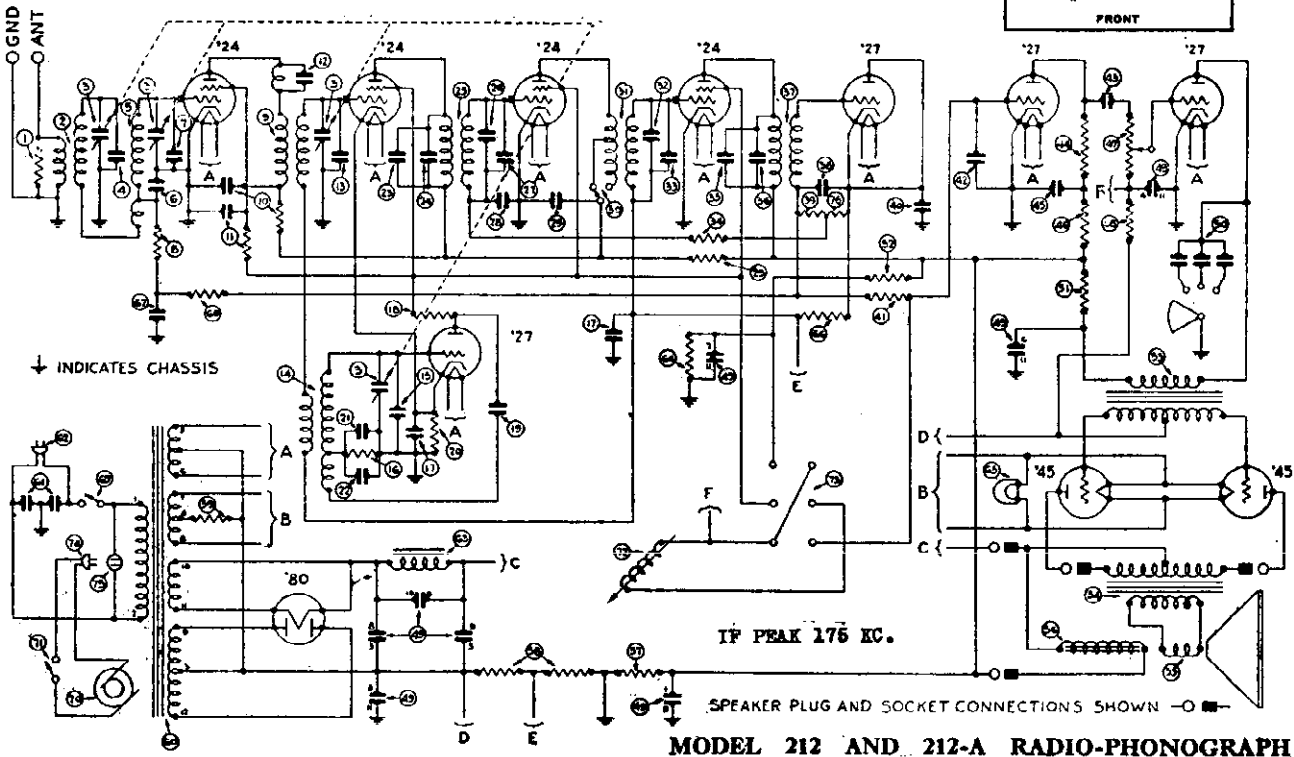
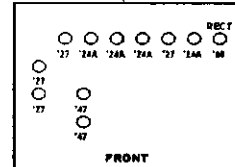
MODEL 112, 112-A  
 Below #174,001  
 MODEL 212, 212-A  
 Schematics



**SPECIAL NOTE**  
 Resistor (70) in models 112, 112-A  
 is (76) in models 212, 212-A

For voltage data and other  
 values applying to models 212, 212-A, see  
 data for models 112, 112-A

Models 112, 112A, 112E, 212, 212E





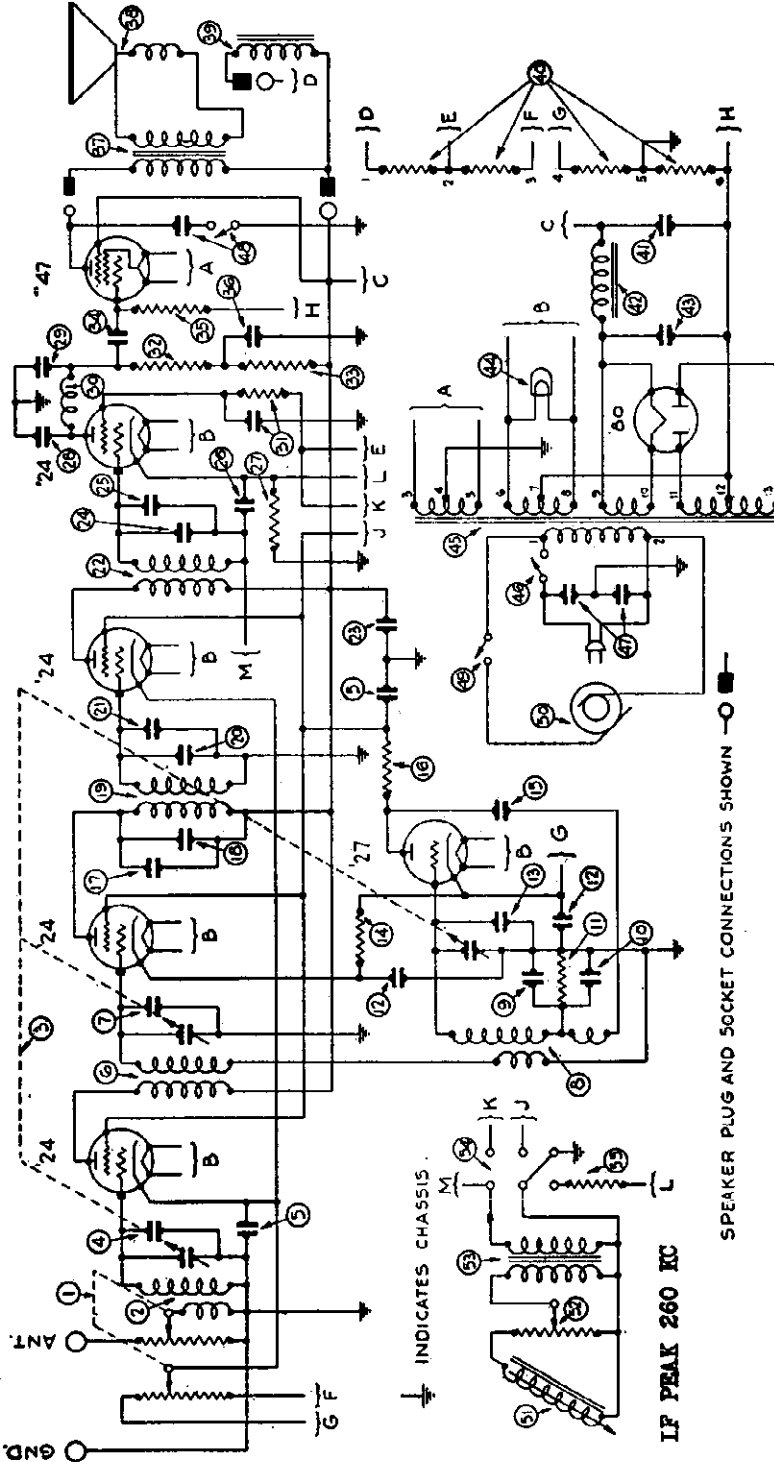
PHILCO RADIO & TELEVISION CORP.

MODEL 270, 270-A  
Schematic

**MODEL 270 AND 270-A RADIO-PHONOGRAPH**

MODEL 70 IS FOR USE ON 50-60 CYCLE 105-125 VOLT AC LINES  
MODEL 70-A IS FOR USE ON 25 CYCLE 105-125 VOLT AC LINES

The chassis of the 270 and 270-A are the same as the chassis for the 70 and 70-A except for the additional wiring to the radio-phono switch and the electric turntable and pick-up.



In case of audio howl and the shipping screws have been properly loosened, the condition ear usually be eliminated by placing a metal tube shield over the detector tube

Do not attempt repair work on the turntable motor. Should this part become defective, replace with another motor and return it to the factory. The pick-up should be handled in the same way. If it doesn't operate properly, - remove the mounting bolt which holds the pick-up head to the tone arm, - replace with another and return it to the factory.

Grease the worm gear of the motor with a clear petroleum jelly or a commercially pure vaseline. In order to oil the bearings of the motor it is necessary to remove the turntable.

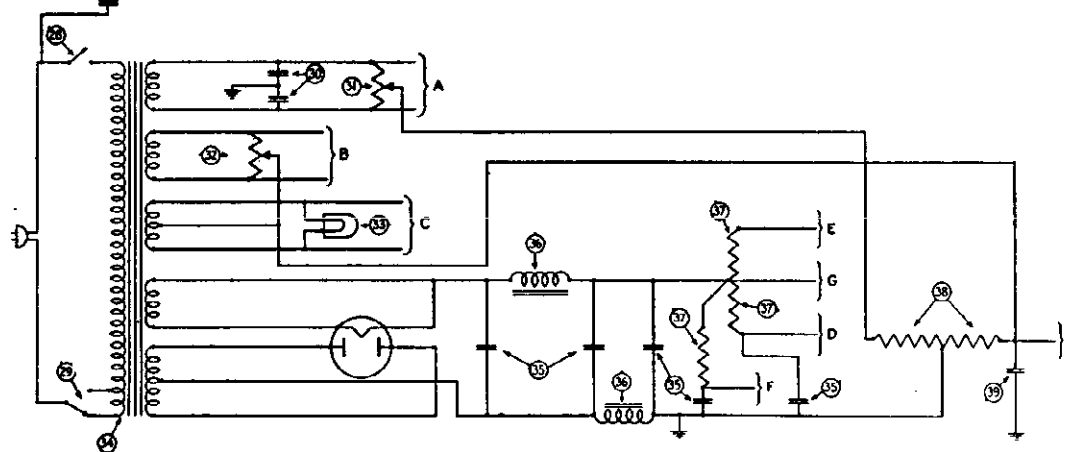
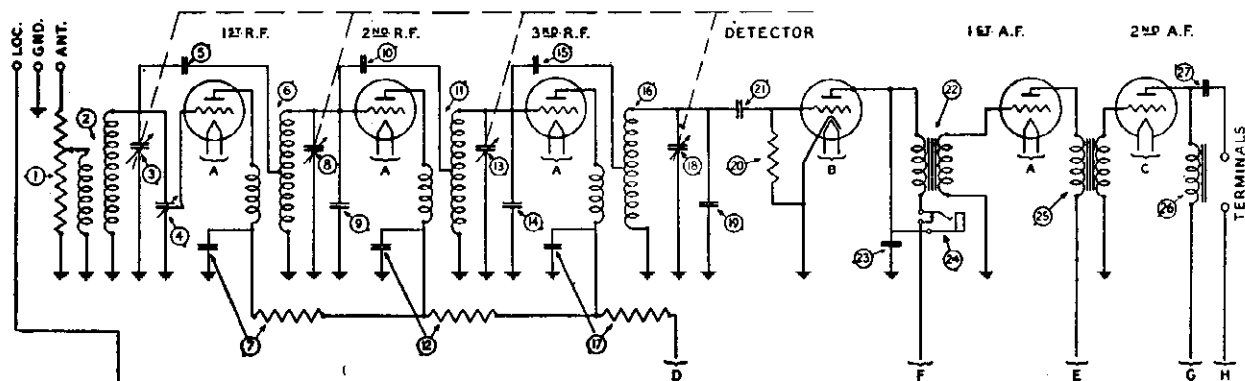
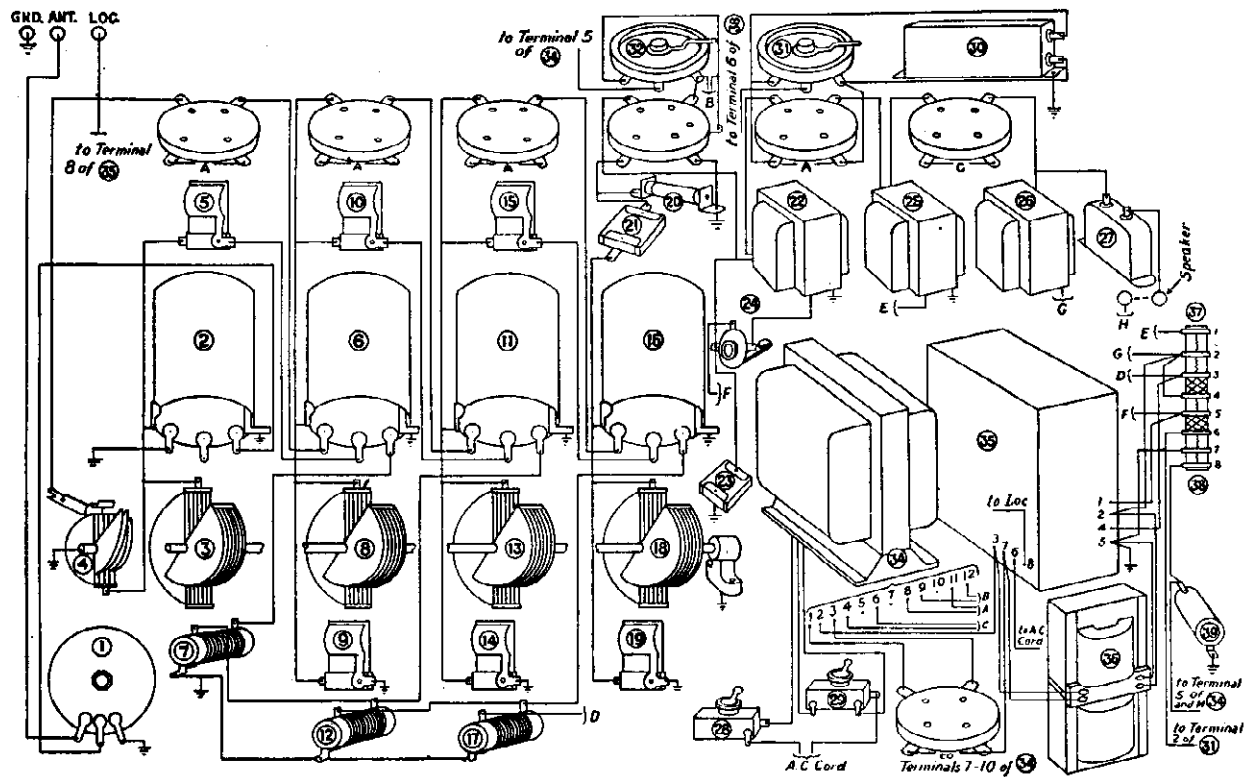
There is an oil cup located at the top of the motor board, in which a few drops of light machine oil may be added as needed.

ADDITIONAL PARTS LIST - MODELS 270 AND 270-A

Part No.	
①	Switch (for motor) . . . . . 5168
②	Motor (50 to 60 cycle) . . . . . 4543
③	Motor (25 cycle) . . . . . 4561
④	Pick-Up Head . . . . . 5251
⑤	Volume Control . . . . . 5117
⑥	Pick-Up Coupling Transformer 5167
⑦	Phono-Radio Switch . . . . . 5170
⑧	Resistor (33000 ohms) . . . . . 3525
⑨	Turntable . . . . . 4547
⑩	Cord Connector Plug . . . . . 4091
⑪	Cord Connector Socket . . . . . 4124
⑫	Needle Cup . . . . . 4101
⑬	Needle Box . . . . . 4102

# PHILCO RADIO & TELEVISION CORP.

## MODEL 500 Series Schematic Chassis



MODEL 296, 296-A

PHILCO RADIO & TELEVISION CORP.

### Installation Hints on Model 296 Radio-Phonograph

Cardboard packing is placed between the motor disc and the field coils to protect the disc in shipping. Be sure that this packing is removed before placing in service.

There are three causes for complaints such as "distorted," "fuzzy" or "noisy" reproduction when playing records on the Model 296.

Usually the trouble is caused by the turntable motor board being in contact with the cabinet. It is absolutely necessary that the four bolts holding the motor board in place be loosened when the Model 296 is put into service. Pure gum washers are between the motor board and the cabinet, so that when the bolts are loosened the motor board is freely floating on the gum washers.

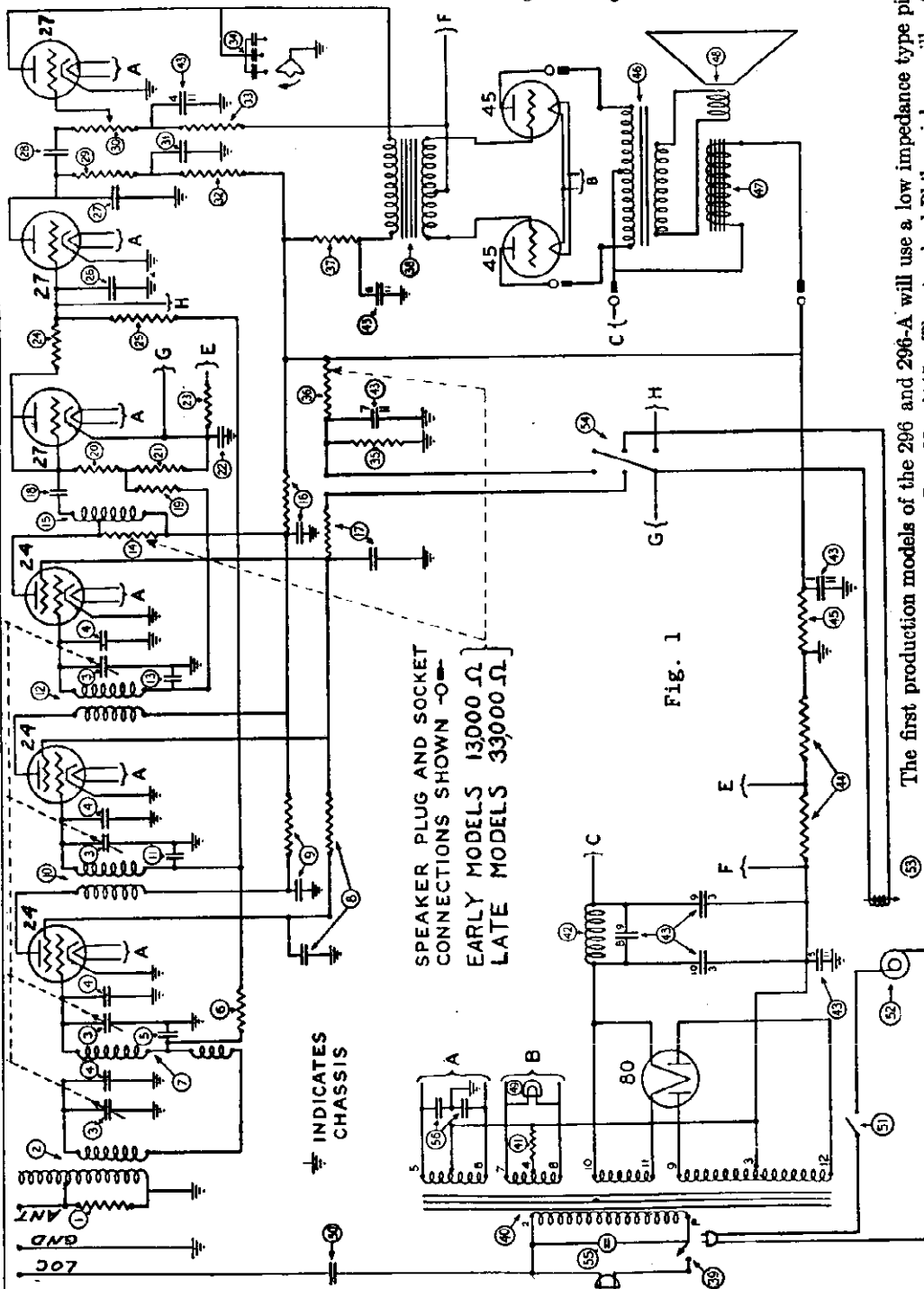


Fig. 1

The first production models of the 296 and 296-A will use a low impedance type pick-up, Part No. 4144, with a coupling transformer, Part No. 4145. The standard Philco pick-up will not be used for the first few weeks.

Whenever the low impedance type pick-up, Part No. 4144 is used be sure the coupling transformer Part No. 4145 is used also. The transformer, however, must not be used with the standard pick-up.

A heater by-pass condenser has been added to the 296 and 296-A chassis. The number in Fig. 1 is 66 and the part number is 3557. This condenser prevents any tendency of the Receiver to oscillate, which may have been noticed on the first few Radio-Phonograph Receivers.

The chassis of the 296 and 296-A are the same as the chassis for the 96 and 96-A except for the additional wiring to the radio-phonograph switch and the electric turntable and pickup.

Models Philco's 296, 296A

DET 3 RF	27	24A	74A	74B
DET 2 RF	27	24A	74A	74B
DET 1 RF	27	24A	74A	74B
RECT	27	24A	74A	74B
DET AMP	27	24A	74A	74B
1.5F	27	24A	74A	74B
24F	27	24A	74A	74B

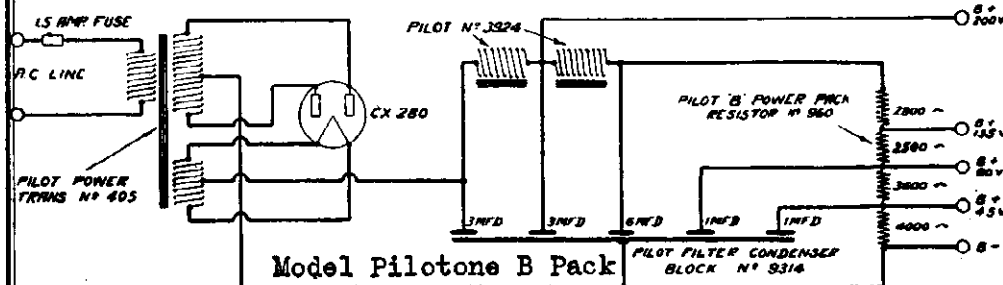
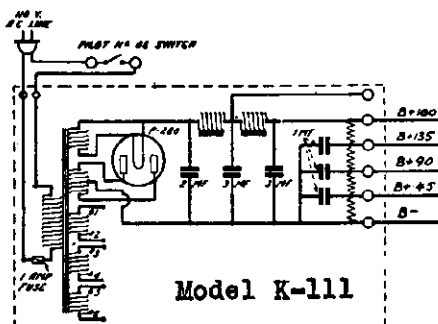
FRONT



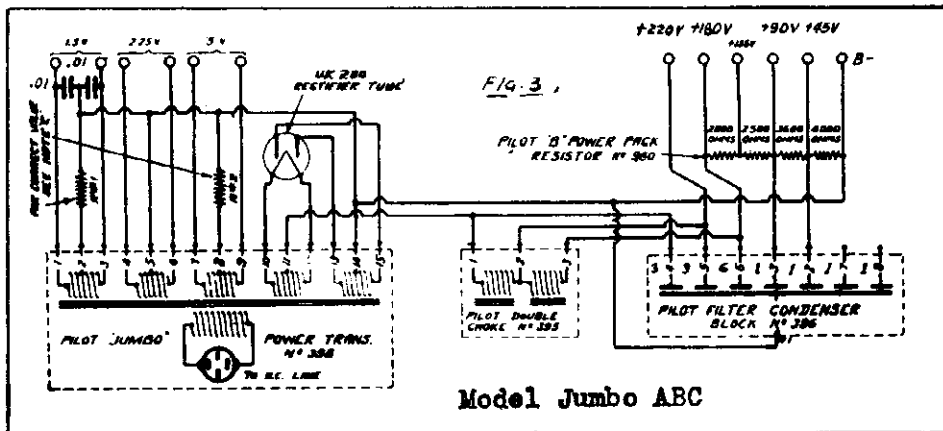


MODEL K-111 ABC Pack  
 MODEL Pilotone B Pack  
 MODEL ABC Pack for SP5  
 MODEL Jumbo Power Pack  
 MODEL Jumbo ABC

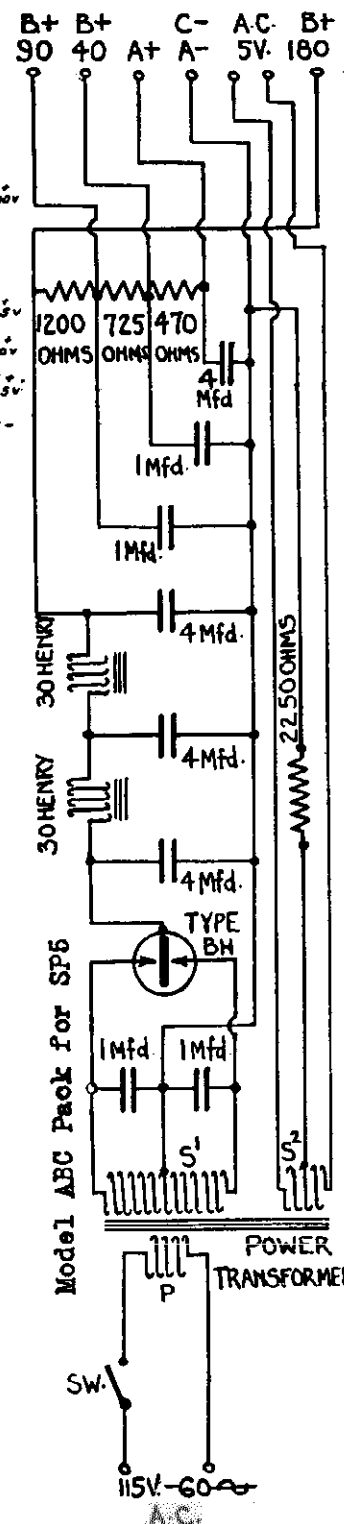
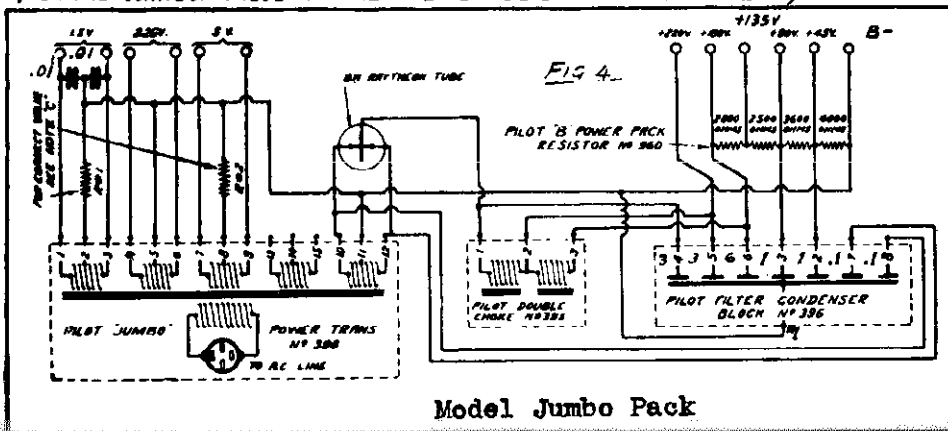
PILOT RADIO & TUBE CORP.



— SCHEMATIC DIAGRAM OF A PILOT 'Jumbo' ABC ELIMINATOR USING THE UX 280 RECTIFIER TUBE FOR THE PLATE SUPPLY —  
 (FOR THE CORRECT VALUE OF THE 'C' BIAS RESISTANCE SEE NOTE C)

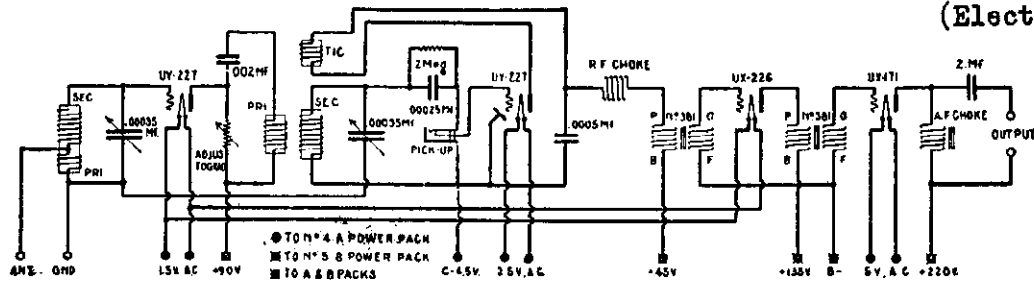


— SCHEMATIC DIAGRAM OF A PILOT 'Jumbo' ABC ELIMINATOR USING THE 6N RAYTHEON GAS RECTIFIER TUBE FOR PLATE SUPPLY —  
 (FOR THE CORRECT VALUE OF THE 'C' BIAS RESISTANCE SEE NOTE C)

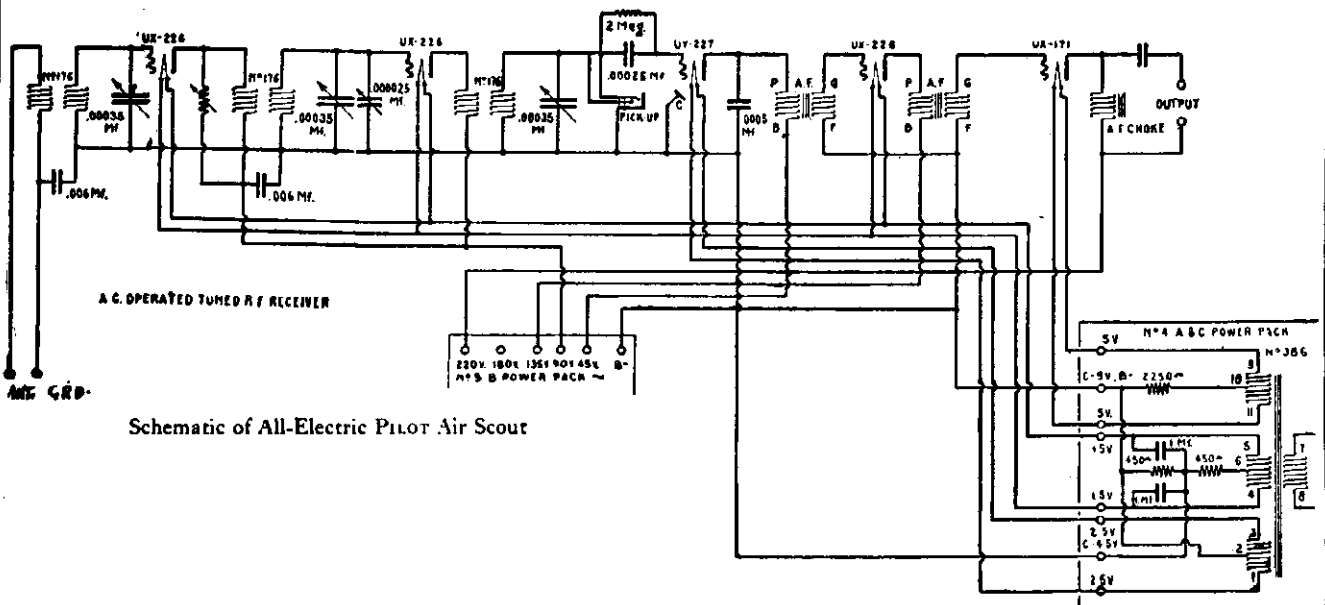


# PILOT RADIO & TUBE CORP.

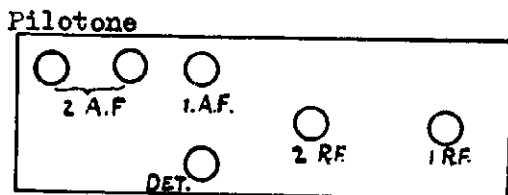
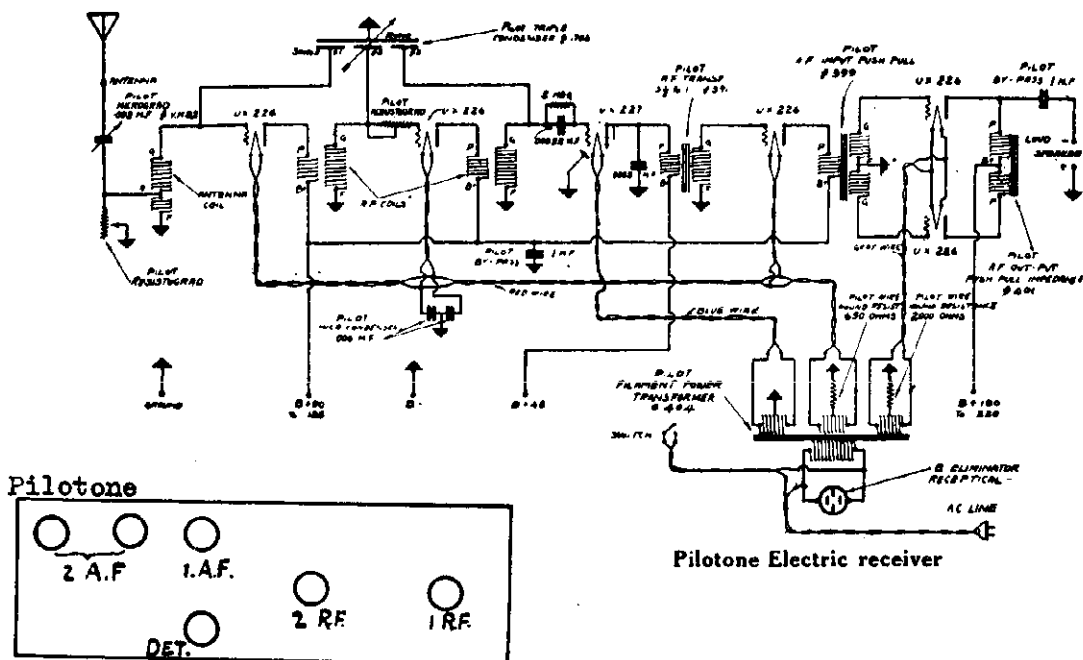
MODEL Air Hound  
(All-Electric)  
MODEL Air Scout  
(All-Electric)  
MODEL Pilotone  
(Electric)



The Air Hound All-Electric Receiver, One Stage R.F., Detector, Two Stages A.F.



Schematic of All-Electric Pilot Air Scout

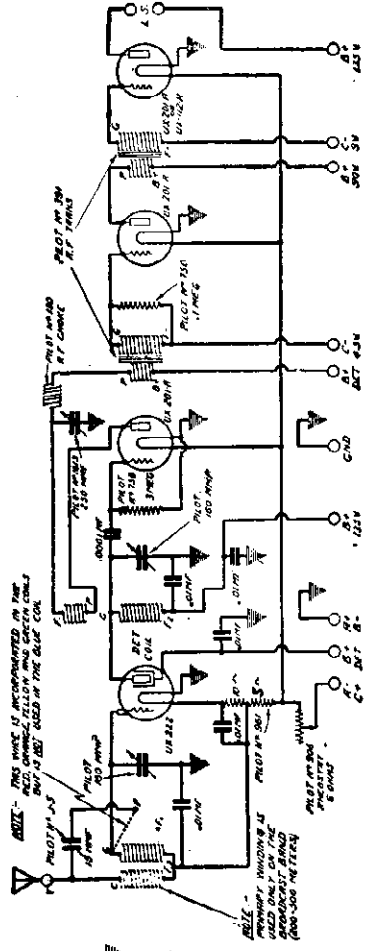


Pilotone Electric receiver

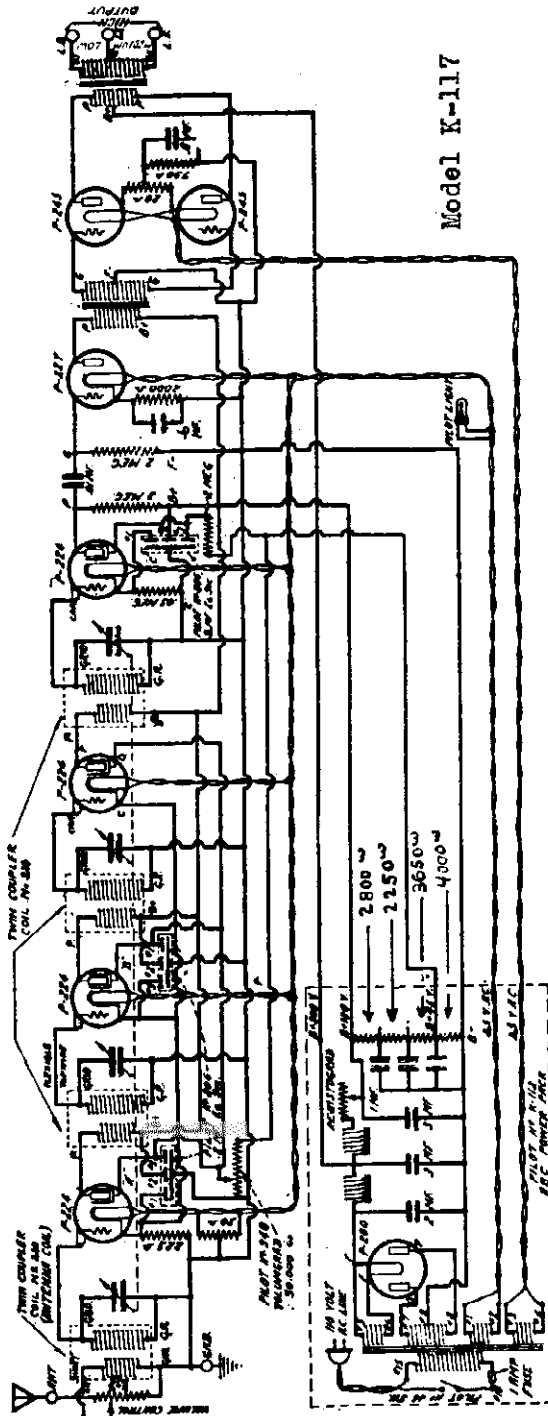
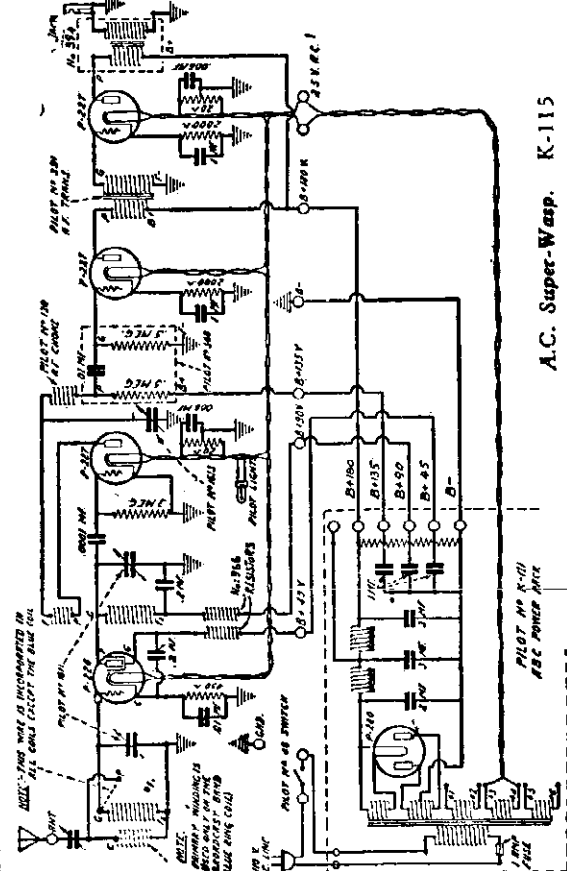
PILOT RADIO & TUBE CORP.

MODEL K-110  
 MODEL K-115  
 MODEL K-117

PILOT "SUPER-WASP" Battery Model, K-110



PILOT "SUPER-WASP" A.C. Super-Wasp. K-115  
 14-500 Meter Wavelength Range.



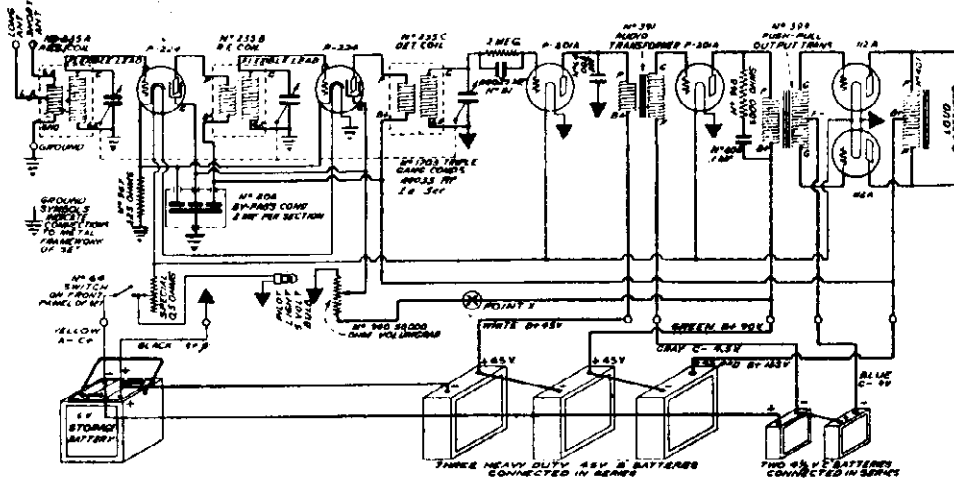
Model K-117

"Pilot Twin Screen-Grid 8"

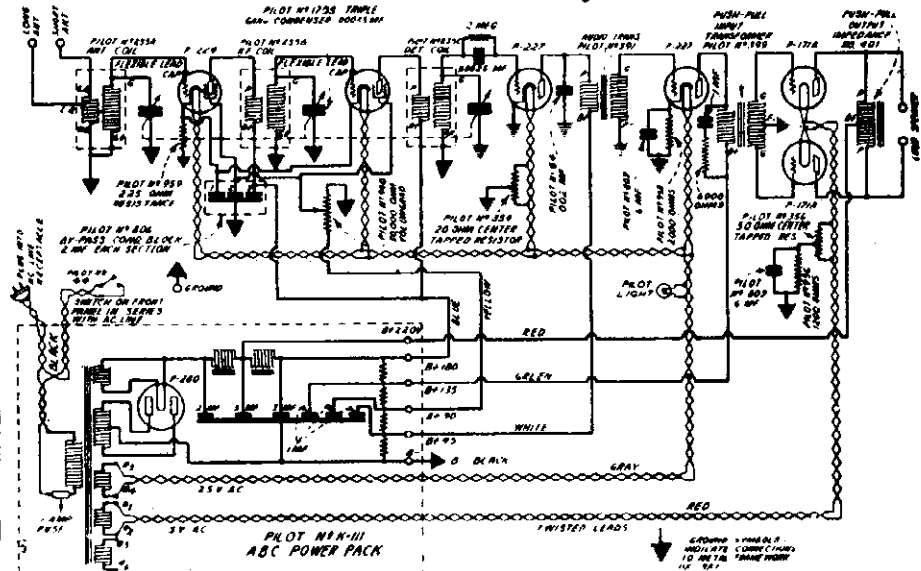
K110		K115	
○ 2AF '01-A	○ 1AF '01-A	○ 2AF '27	○ 1AF '27
○ R.F. '22	○ DET. '01-A	○ R.F. '24	○ DET. '27
FRONT		FRONT	

MODEL K-121, K-121X  
 MODEL PE-6 SG, K-122,  
 K-123, K-124  
 MODEL K-126, K-128

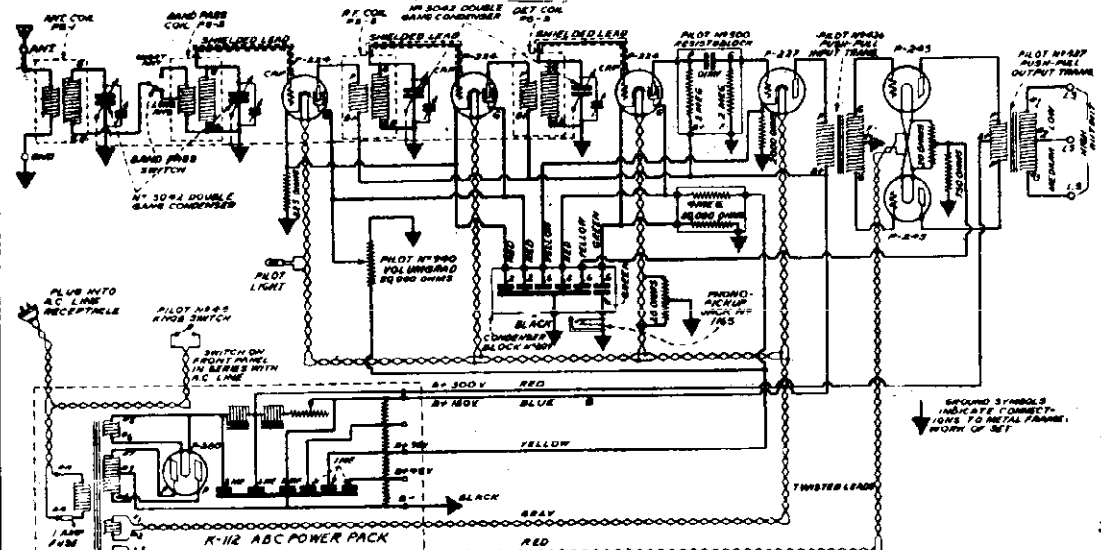
PILOT RADIO & TUBE CORP.



Model K-121, K-121 X



Model PE 6 SG, K-122, K-123, K-124



Model K-126, K-128

COUNTRY SPECIAL

1RF '24      2RF '24

1AF '01-A      DET. '01-A

2AF '12-A      (FRONT)

1RF '24      2RF '24

1AF '27      DET. '27

2AF. '43      (FRONT)

1AF '27

RECT. '80      1RF '24      2RF '24      DET. '24

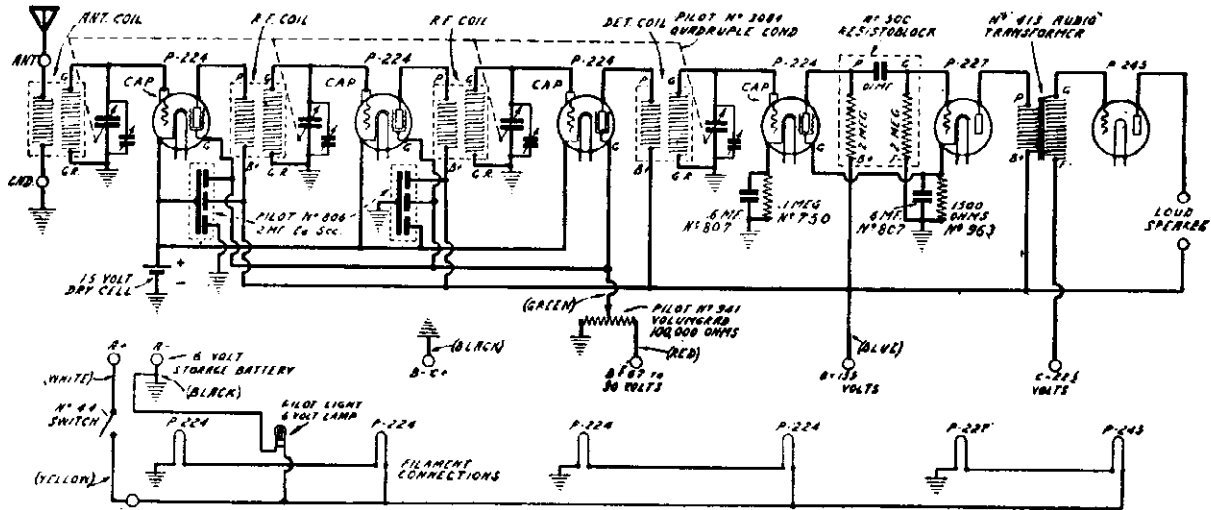
(FRONT)

K 122

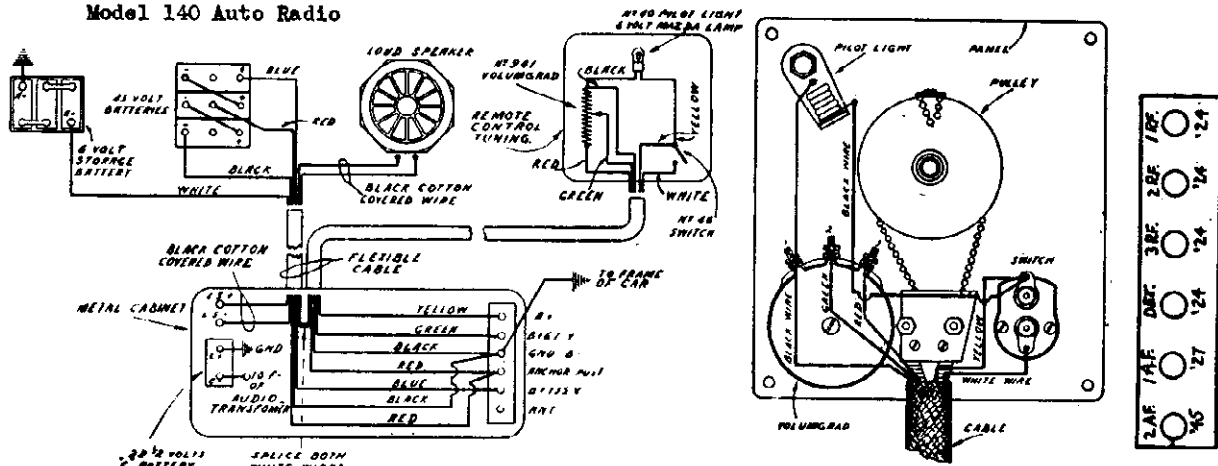
K 126 - K 128

PILOT RADIO & TUBE CORP.

MODEL 140 Auto Radio  
MODEL S.W. Converter

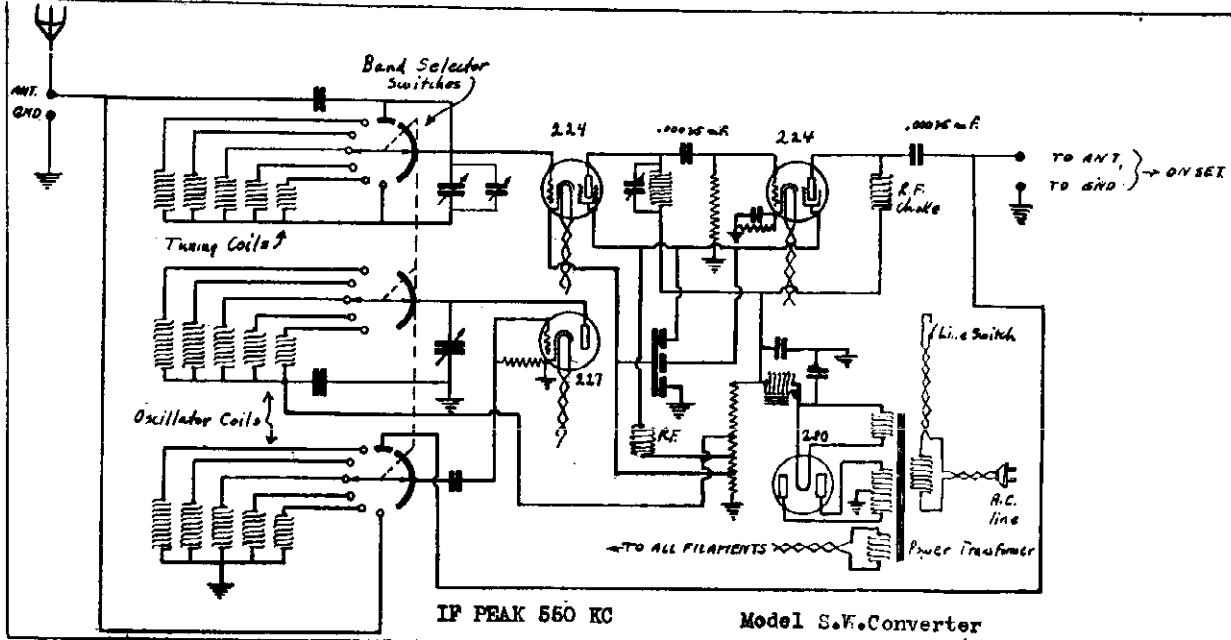


Model 140 Auto Radio



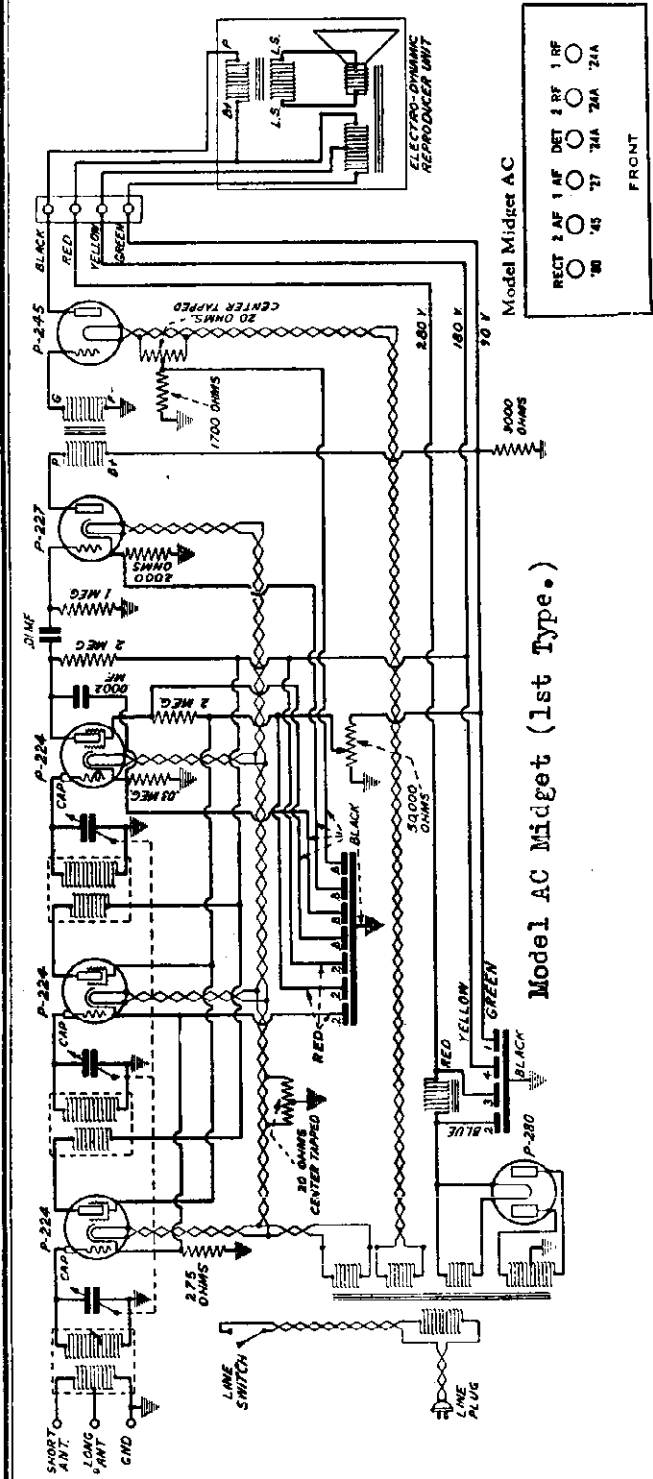
Complete diagram of connections of the "Auto Pilot," showing the receiver proper, the control panel, the loud speaker, and the "A" and "B" batteries.

The connections of the control devices in picture form.

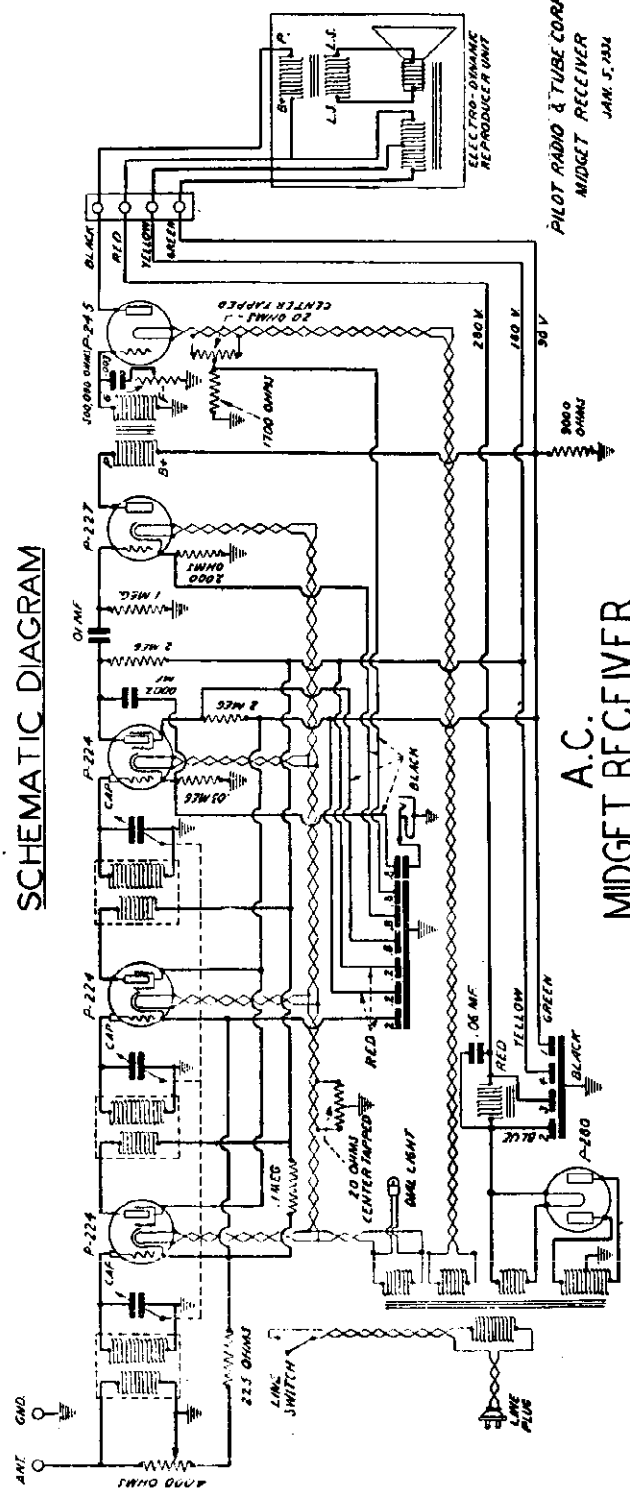


PILOT RADIO & TUBE CORP.

MODEL AC Midget  
 S-155, S-155-A,  
 S-155-B, S-155-F,  
 C-157, C-157-A,  
 C-157-B, C-157-F



SCHEMATIC DIAGRAM



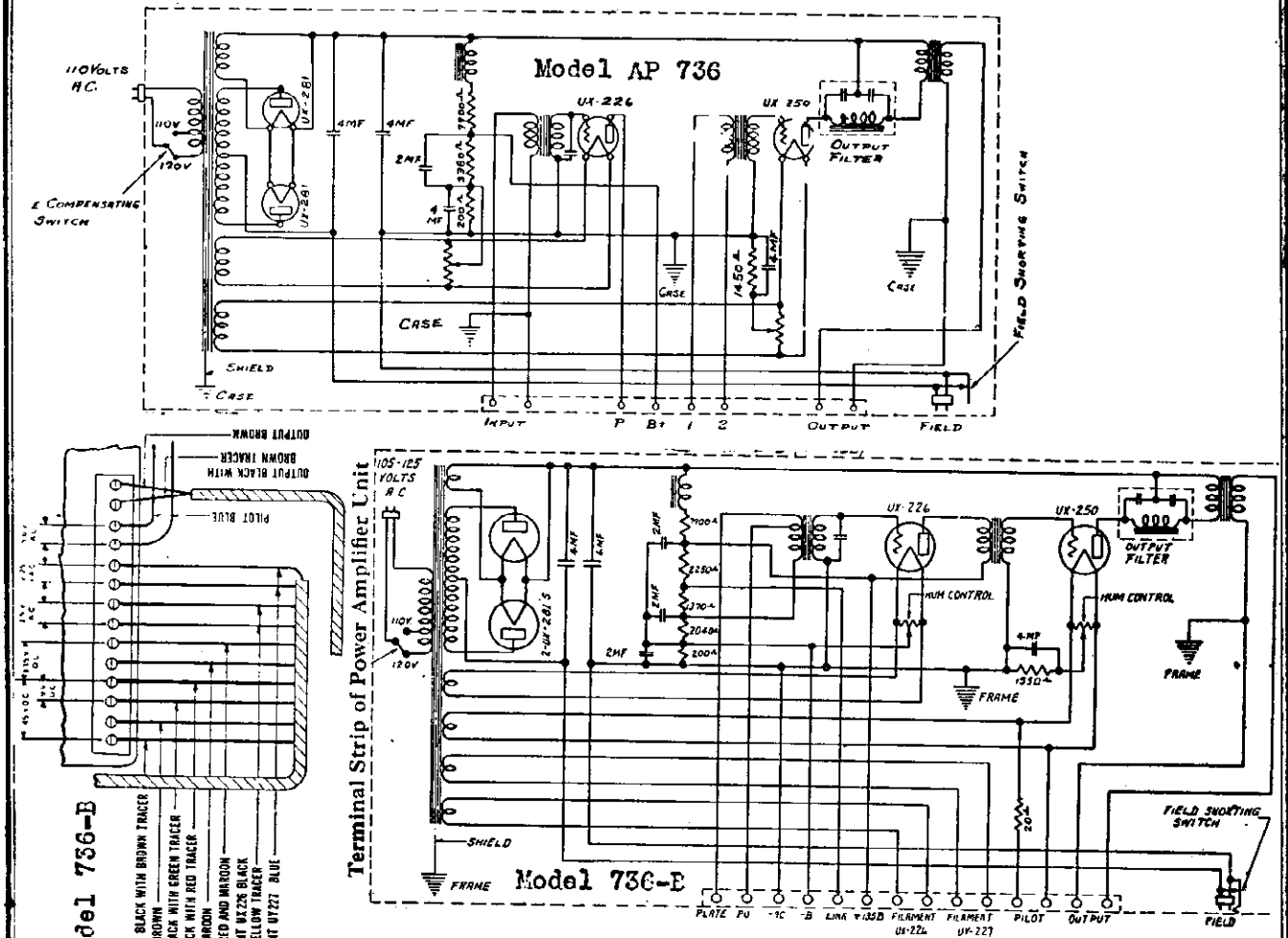
A.C. MIDGET RECEIVER

Model AC Midget (2nd Type)

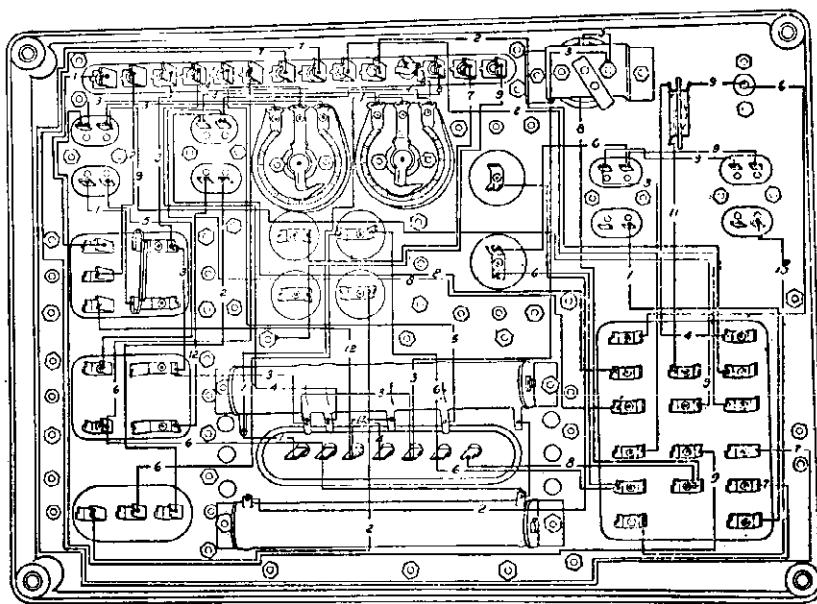
PILOT RADIO & TUBE CORP.  
 MIDGET RECEIVER  
 JAN. 5, 1934

R. C. A. VICTOR CO., INC.

MODEL AP-736  
MODEL AP-736-B



Wiring Diagram of Power Amplifier Unit AP-736-B



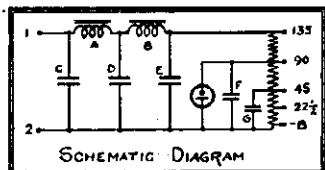
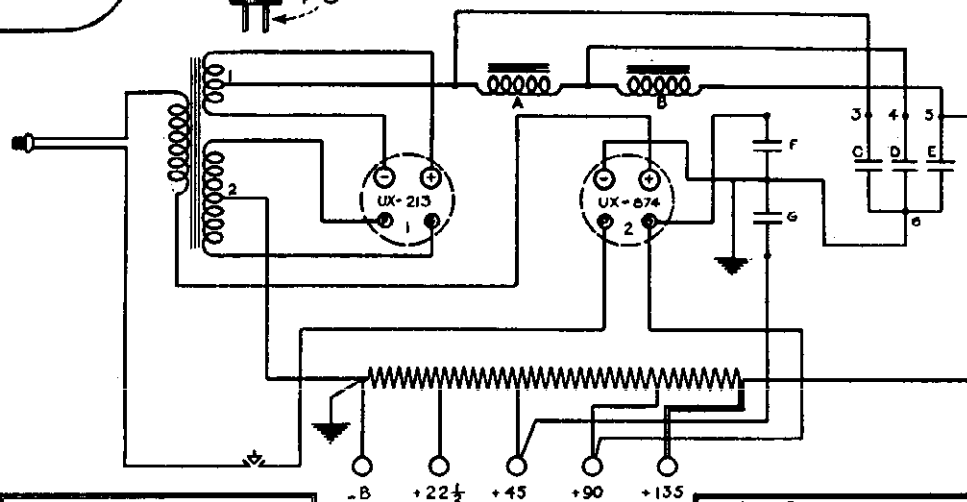
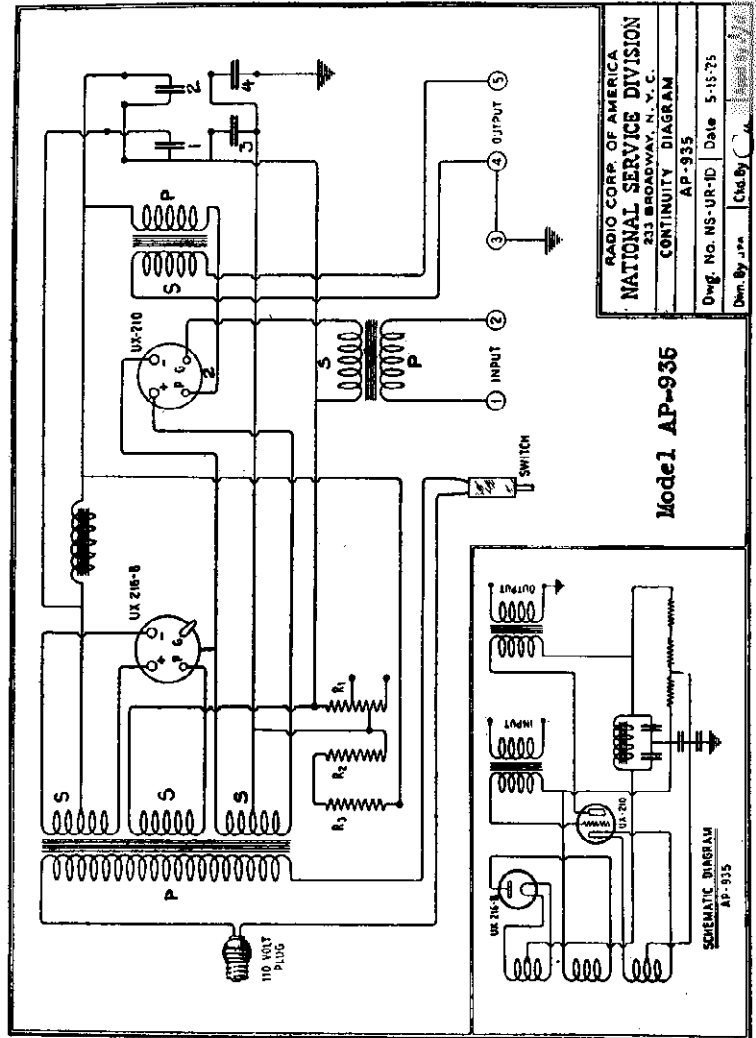
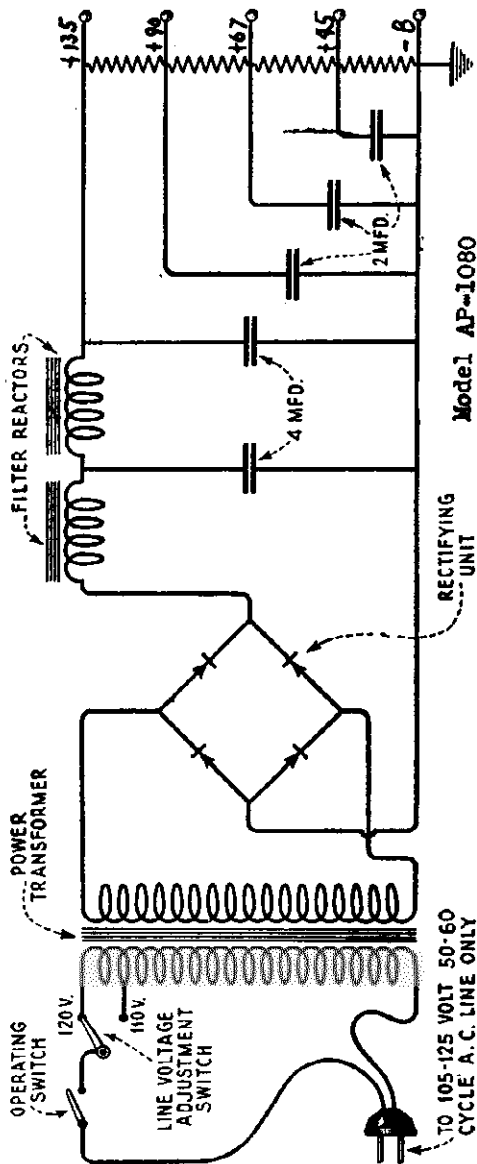
Bottom of Power Amplifier Unit AP-736-B, showing wiring between terminals





R. C. A. VICTOR CO., INC.

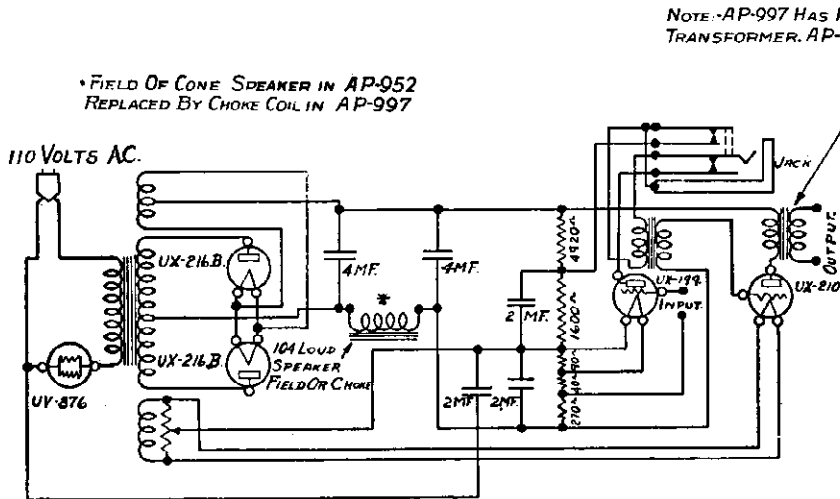
MODEL AP-937  
 MODEL AP-935  
 MODEL AP-1080



RADIO CORP. OF AMERICA  
 NATIONAL SERVICE DIVISION  
 233 BROADWAY, NYC  
 RCA Duo-RECTRON  
 MODEL AP-937  
 Dwg NS-DR-1D DATE 4-9-26  
 Dwn by JM Cld by C.R.L. Appd by J.M.

MODEL AP-995  
 MODEL AP-952  
 MODEL AP-997-C  
 MODEL 12-25 Tuscany  
 MODEL 8-60

R. C. A. VICTOR CO., INC.

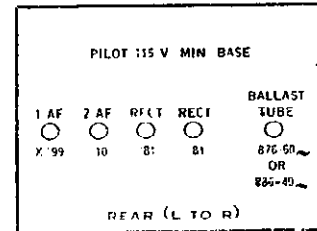


Wiring Diagram AP 952, and AP 997

Victor designation RPA-5 Spec.  
 Used on 8-60.

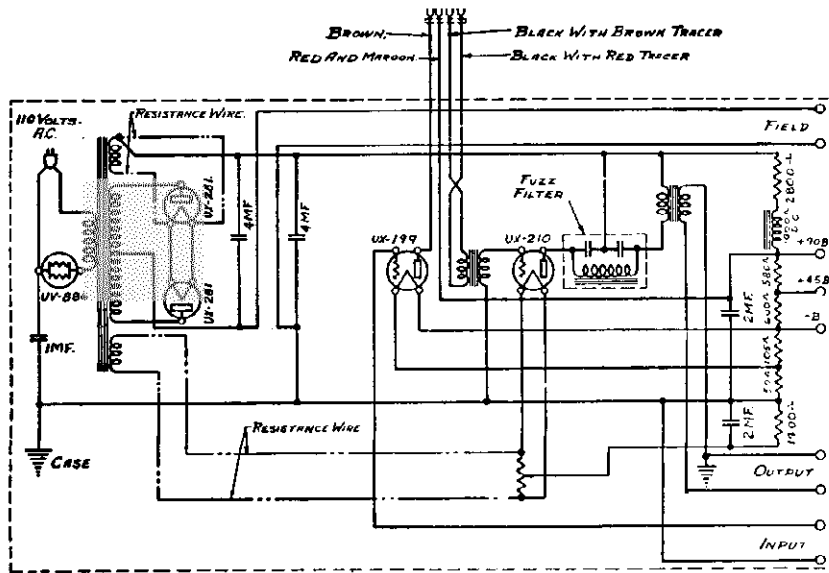
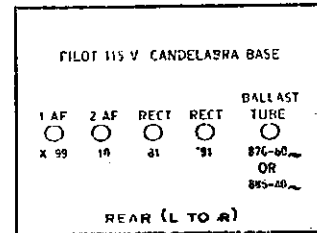
NOTE: AP-997 HAS 1:1 OUTPUT TRANSFORMER. AP-952 HAS 25:1.

Model Electrola Tuscany (1926)



Victor designation RPA 5  
 Used on 12-25, Tuscany

Models Victors 8-60, 12-2, 12-25 (1926)



Wiring Diagram of Power-Amplifier Unit AP-997-C

Used on Victor 12-15.

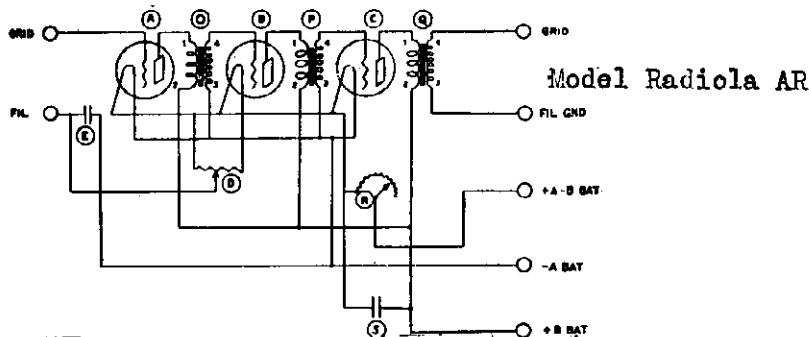
- a. The AP-947-X differs from the AP-947 in that it has a 25 to 1 output transformer and no filter choke.
- b. The AP-997-X differs from the AP-997 in this same manner.
- c. The AP-952-Y differs from the AP-952 only in the substitution of a terminal strip for the input jack.
- d. The AP-997-Y differs from the AP-997 in that it has a 25 to 1 output transformer, a fuzz filter, a terminal strip instead of a jack, and no filter choke.
- e. The AP-947-A, AP-951-B, and AP-997-A differ from the AP-947 in that they require the UX-281 and UV-886 Radiotrons instead of the UX-216-B and UV-876; a 25 to 1 output transformer is used; the resistors are of different values; resistance wire is used in the UX-281 and UX-210 filament leads; and the filter choke instead of being connected in the filter circuit is used in the voltage drop circuit to stabilize the amplifier.
- f. The AP-997-C differs from the AP-997 in the same respects as described in (e) above.

The list below for Victor power-amplifier units contained in new instruments since June 1, 1927 gives the RCA symbol number, the Victor part number, and the instrument on which each unit is used.

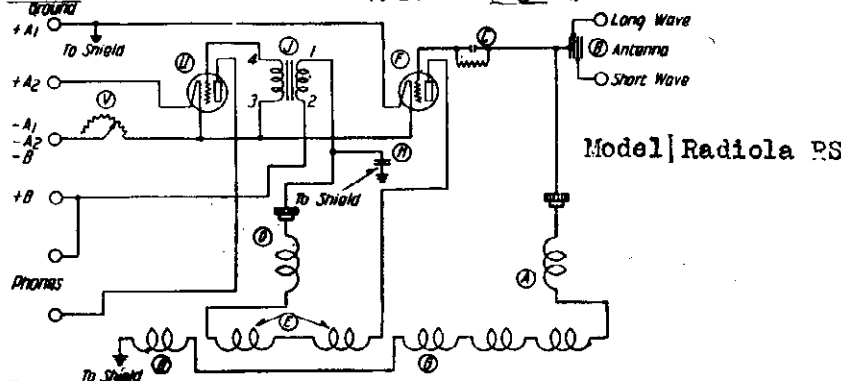
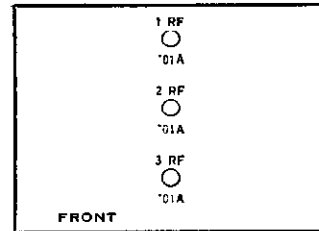
RCA SYMBOL	VICTOR PART NO.	USED ON
AP-947-X	20652	9-40*
AP-997-X	18575	10-51
AP-952-Y	18569	10-70
AP-997-Y		
AP-947-A	18891	9-25
AP-997-A	18574	9-55
AP-951-B		
AP-997-C	20564	12-15

R. C. A. VICTOR CO., INC.

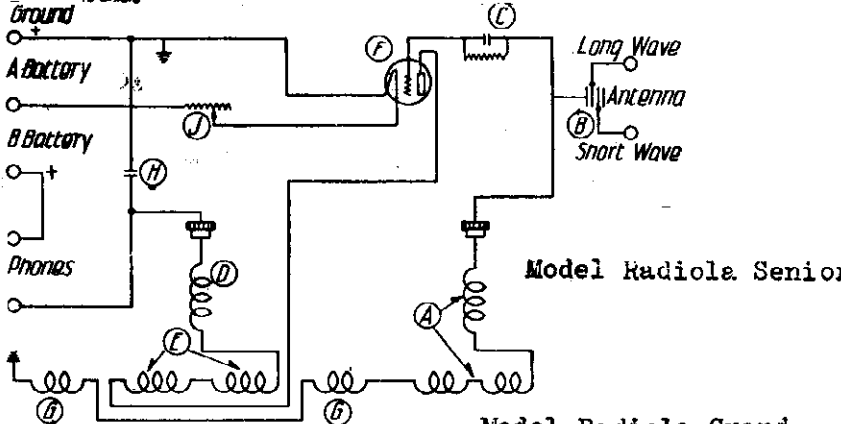
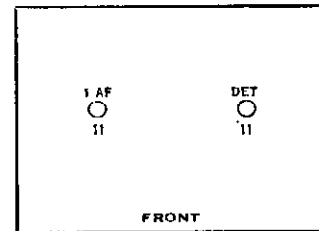
MODEL Radiola Grand  
 MODEL Radiola Senior  
 MODEL Radiola AR  
 MODEL Radiola RS



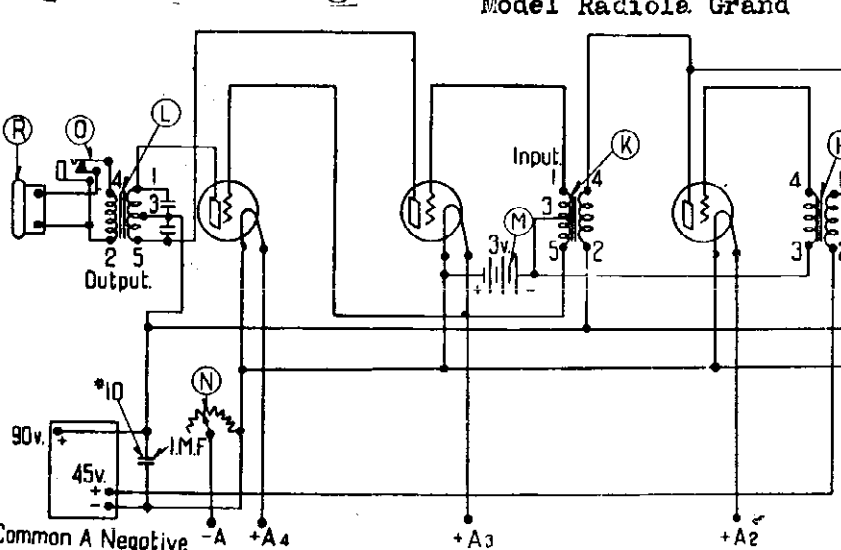
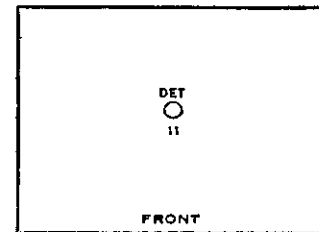
Model Radiola AR (1922)



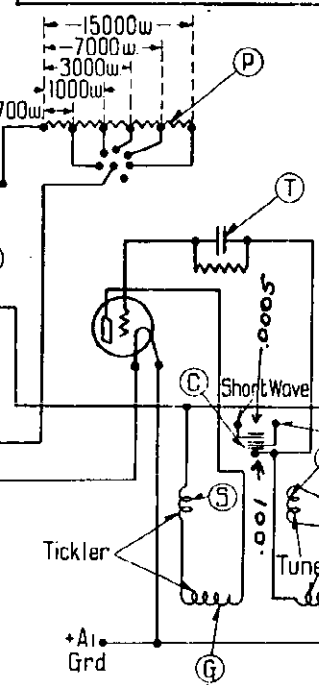
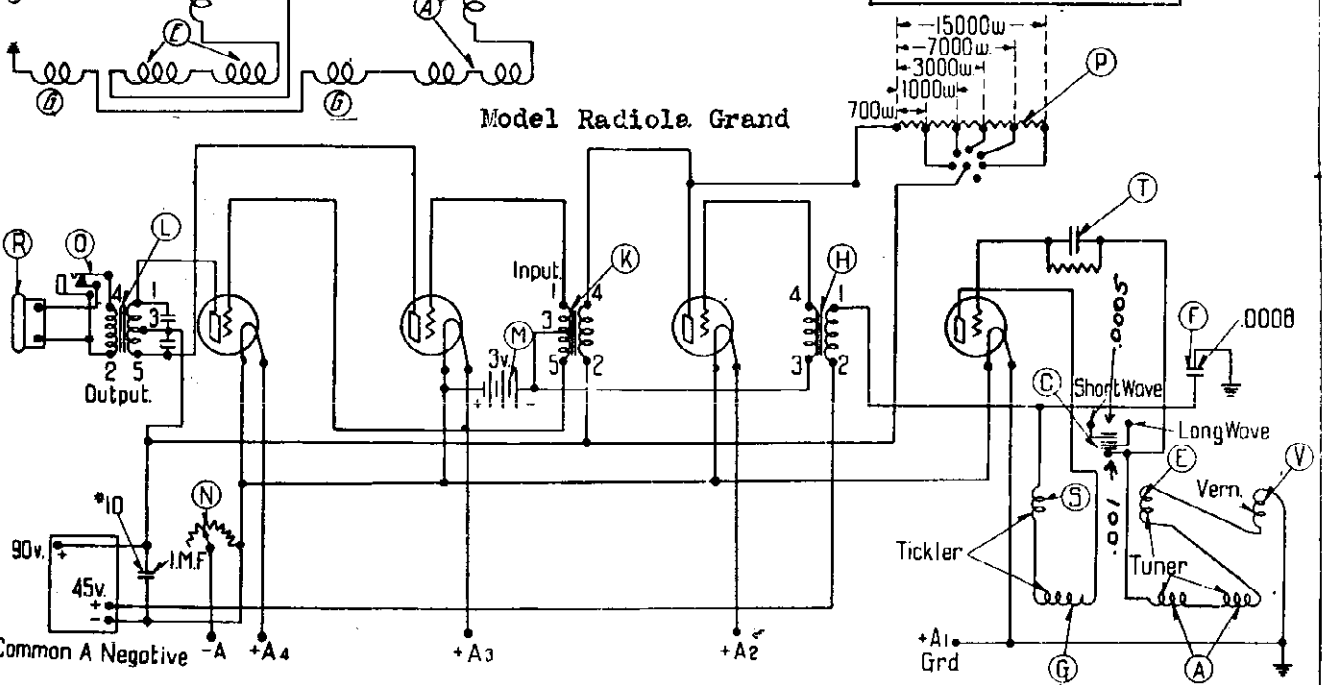
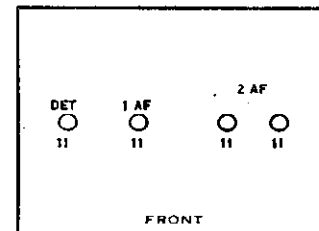
Model Radiola RS (1922)



Model Radiola Senior (1922)

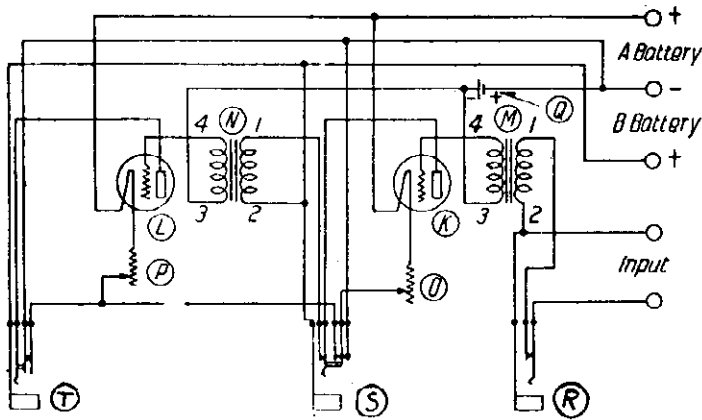


Model Radiola Grand (1922)



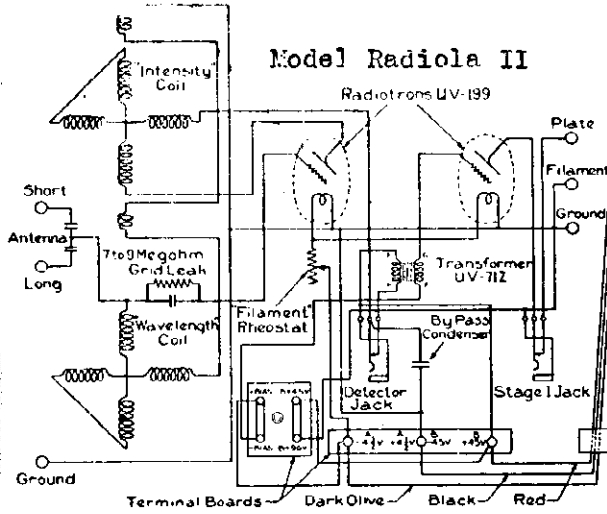
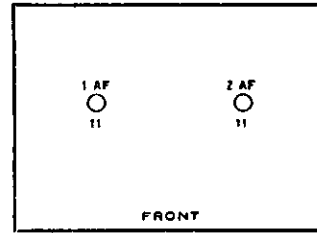
MODEL Radiola II  
 MODEL Radiola III  
 MODEL Radiola  
 Balanced Amp.  
 MODEL Radiola Sen. Amp.

R. C. A. VICTOR CO., INC.

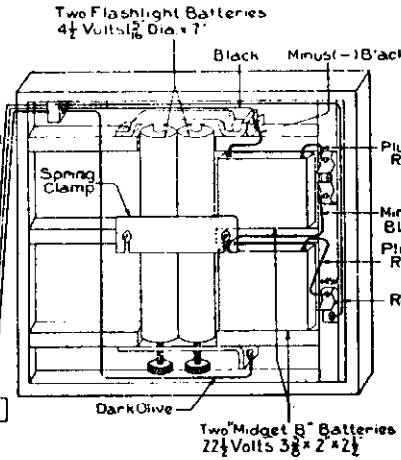


Model Senior Amp.

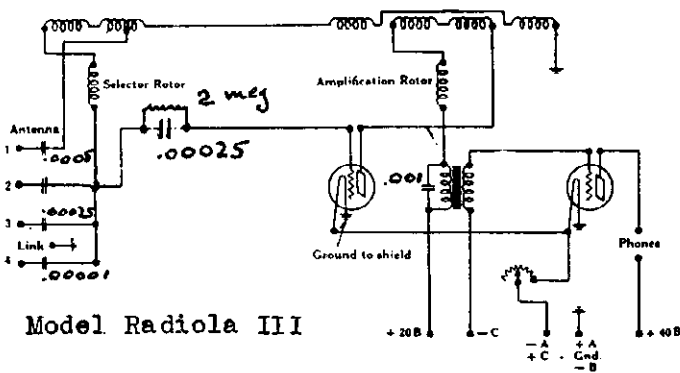
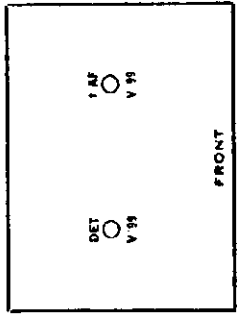
Model Radiola Senior Amplifier (1922)



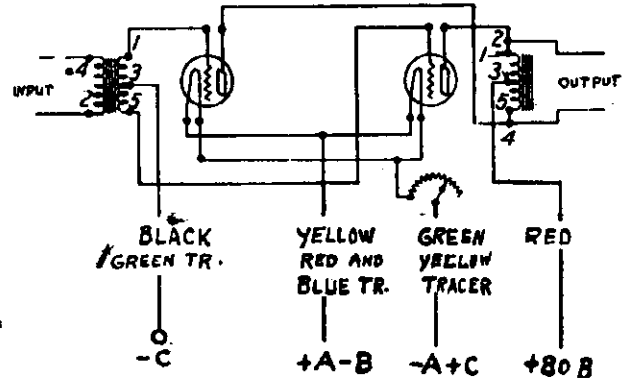
Model Radiola II



Model Radiola II (1924)

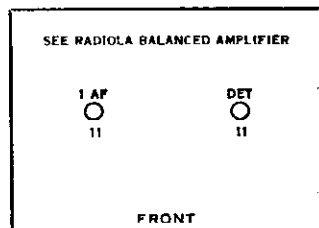


Model Radiola III

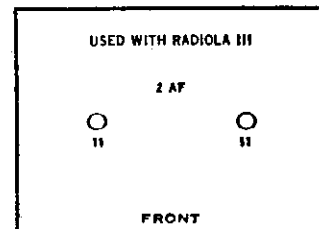


Model Balanced Amp.

Model Radiola III (1924)



Model Radiola Balanced Amplifier (1924)



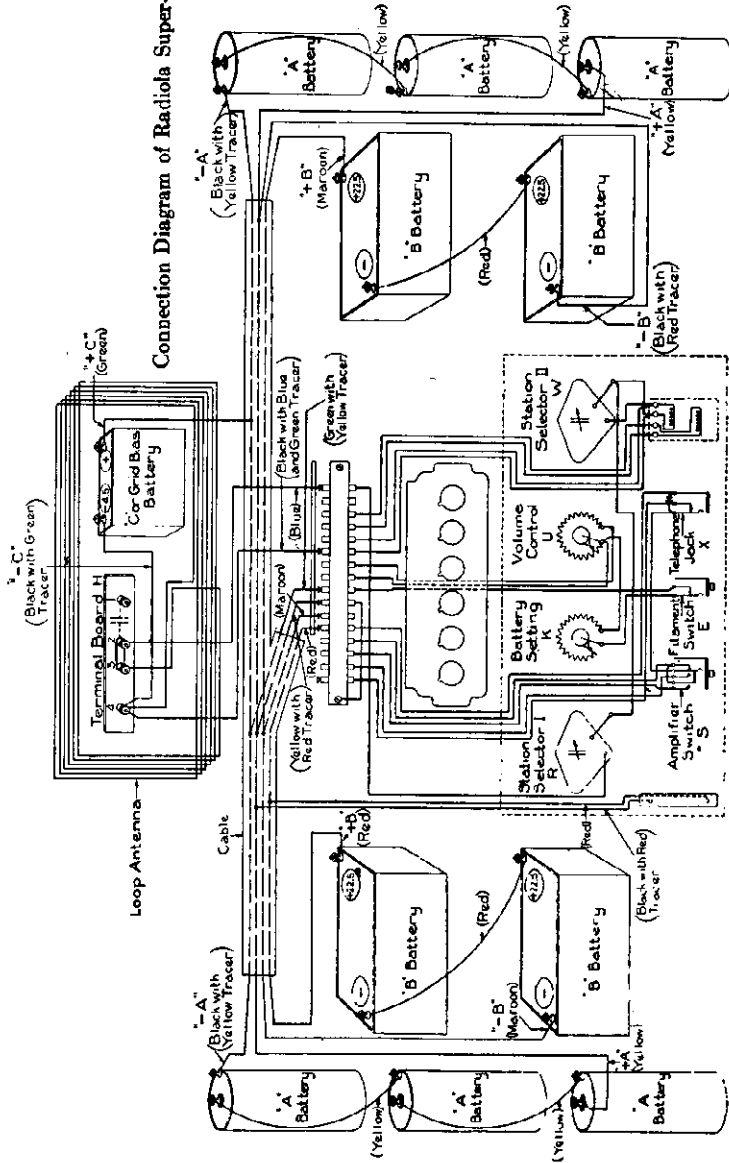




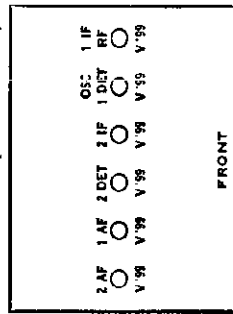
R. C. A. VICTOR CO., INC.

MODEL Radiola Super VIII

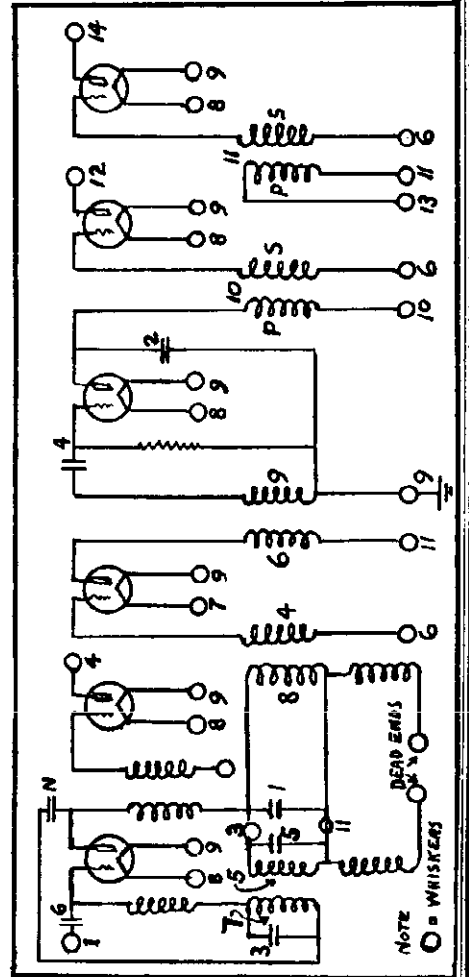
Connection Diagram of Radiola Super-Heterodyne



Model Radiola Super-VIII (1925)



Continuity Test Circuit Of Standard Six Tube Catacomb. Radiolas 24, Super-Heterodyne, Super-VIII.



- Term No.  
 From 6 to 9 Maximum 4.5 volts. Minimum 4 volts  
 9 to 10 Maximum 4.5 volts. Minimum 3 volts with all tubes lighted.  
 10 to 11 Maximum 45 volts. Minimum 34 volts.  
 11 to 12 Maximum 45 volts. Minimum 34 volts.  
 8 to 10 Maximum 3 volts when the volume control rheostat is at 100, and the battery setting rheostat is properly adjusted.

The numbers refer to terminals on the catacomb terminal board starting at the right when looking at the front of the panel.



**MODEL R-5 AC**  
**Parts List**  
**Notes**

**R. C. A. VICTOR CO., INC.**

# RCA Victor Radiolette R-5

The RCA Victor Radiolette R-5 is a tuned circuit R.F. type radio receiver. Compact construction together with good sensitivity, selectivity and high output are features of this receiver.

The receiver uses four Radiotrons, two UY-224, one UX-280, and one RCA-247 Power-Output Pentode. Referring to Figure 1 and tracing a signal through the various stages we find the following action taking place.

The antenna and ground are connected to each side of a 20,000 Ohm potentiometer. The moving contact of the potentiometer is connected to the primary of the first R.F. transformer through a .00013 MFD. condenser, the other side of the transformer being connected to ground. The action of the potentiometer, reducing the voltage applied to the grid of the first R.F. tube, constitutes that of a volume control. The secondary of the R.F. transformer is connected to the grid circuit of the R.F. Radiotron UY-224, which is tuned by one unit of the gang condenser. The plate circuit of this tube works into the primary coil of the 2nd R.F. transformer.

The detector is of the regenerative, grid bias type and its output is coupled by means of resistance coupling to the output Radiotron RCA-247. The regenerative feature of the detector is un-

usual in that it uses two regeneration coils. One of these resonates at a low frequency and improves the sensitivity at that end, while the other has but few turns and brings up the sensitivity at the high frequency end.

The output stage uses the RCA-247 Output Pentode which gives a high undistorted output—2.5 watts—together with a high gain in the stage.

The grid bias for this tube is obtained by using a portion of the drop across the reproducer field. Due to the fact that the plate current of the RCA-247 represents the greatest portion of the total plate current, using the drop across the field acts as a semi-self biasing arrangement.

Plate and grid supply to all tubes is supplied through the use of Radiotron UX-280. The filter is of the "brute force" type. The reproducer unit field coil functions as the reactor. One electrolytic 10 MFD. capacitor and one paper 2 MFD. capacitor act as filter capacitors.

### LINE-UP CAPACITOR ADJUSTMENTS

Two adjustable capacitors are provided for aligning the two tuned circuits at the high frequency end of the scale. The following procedure may be used for making any readjustments that may be necessary.

A. Procure an Oscillator giving a modulated signal at exactly 1400 K.C. Also procure a special socket wrench such as RCA Victor Stock No. 3007.

B. An output indicator is necessary. This may be a current squared thermogalvanometer connected to the secondary of the output transformer in place of the cone coil or other types of output indicators.

C. Turn the station selector until the knob reads exactly 0. Then remove the chassis from the cabinet being careful not to disturb the setting of the dial. The gang condenser rotor plates should be fully meshed with the stator plates. If not, then the dial drum must be adjusted until such a condition exists. Replace the chassis in the cabinet.

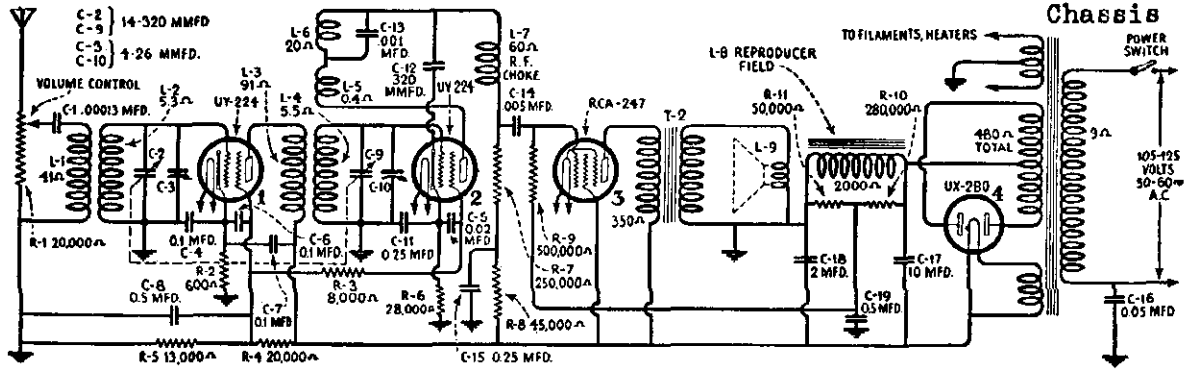
D. Place the oscillator in operation at exactly 1400 K.C. and couple its output to the antenna lead. Set the dial scale at 85 and place the Radiolette in operation. Place a soft pad on its side. Now with the special wrench, adjust each line-up capacitor until maximum output is obtained in the output meter. Be careful to adjust the volume control or oscillator output so that an excessive reading is not obtained. Go over each adjustment a second time to compensate for any interlocking of adjustments.

## REPLACEMENT PARTS

Part No.	DESCRIPTION	List Price	Part No.	DESCRIPTION	List Price
2549	Resistor—250,000 Ohms—Carbon type—Package of 5	\$3.00	3006	Capacitor .001 Mfd.—Used across low frequency tickler coil	\$0.50
2747	Cap. Control grid contactor cap—Package of 5	.50	3007	Wrench—Special wrench for R.F. line-up condenser adjustments	1.00
2954	Capacitor—By-pass capacitor pack containing three 0.1 Mfd. capacitors	.75	5817	Resistor—20,000 Ohms—Carbon type	.90
2955	Transformer—First R.F. transformer complete with mounting washer and nut	1.50	7054	Cord—Power cord complete with male connector plug	1.00
2956	Transformer—Second R.F. transformer complete with mounting washer and nut	2.00	7229	Socket—Five prong Radiotron socket complete with insulating shield—3 used—Package of 2	.50
2957	Capacitor 10 Mfd. electrolytic type—Complete with terminal, insulating washer, mounting nut and lock washer	3.00	7230	Socket—Four prong Radiotron socket complete with insulating shield—1 used—Package of 2	.50
2958	Switch—Operating switch complete with mounting washers and nut	.60	7231	Capacitor Filter and by-pass capacitor pack—Comprising one 0.05 mfd., two 0.5 mfd., two 0.25 mfd. and one 2.0 mfd. condensers	2.50
2959	Volume control—20,000 Ohm Volume control complete with mounting washers and nut	1.50	7232	Capacitor—2 gang variable tuning capacitor	5.00
2960	Dial—Dial scale complete with set screws—Package of 2	.50	7233	Transformer—Output transformer—With fibre terminal board	1.50
2961	Coil—Detector plate R.F. choke coil	.50	7236	Cone—Reproducer cone complete with voice coil and paper ring	1.50
2962	Capacitor—0.005 Mfd. audio coupling capacitor	.75	8669	Transformer—Power transformer—105-125 volt. 50-60 cycle—Complete with mounting washers and nuts	6.00
2963	Resistor—8000 Ohms—Carbon type—Package of 5	2.50	8670	Transformer—Power transformer—105-125 volt. 25-40 cycle—Complete with mounting washers and nuts	9.00
2964	Resistor—13000 Ohms—Carbon type—Package of 5	2.50	8671	Transformer—Power transformer—220 volts, 50-60 cycles—Complete with mounting washers and nuts	8.00
2965	Resistor—600 Ohms—Carbon type—Package of 5	2.50	10434	Resistor—Mid-tapped filament resistor—Used on early models only	.50
2966	Resistor—28,000 Ohms—Carbon type—Package of 5	2.50	<b>SPECIAL PARTS SUPPLIED ON ORDER ONLY</b> (Not to be stocked)		
2967	Resistor—45,000 Ohms—Carbon type—Package of 5	2.50	2979	Board—Baffle board complete with grille cloth	.75
2969	Resistor—50,000 Ohms—Carbon type—Package of 5	2.50	2980	Escutcheon—Station selector escutcheon complete with mounting screws	.75
2970	Resistor—500,000 Ohms—Carbon type—Package of 5	2.50	7233	Board—Resistor mounting board—Less all resistors, capacitors and coils	1.00
2971	Resistor—280,000 Ohms—Carbon type—Package of 5	2.50	7235	Coil—Field coil complete with bracket and cone ring	2.00
2972	Shield—Radiotron shield complete with mounting screw, washer and nut	.50	9321	Cabinet—Cabinet complete—Less all equipment	7.25
2975	Rivet—Eyelet rivet for mounting cone—Package of 100	.50	9329	Chassis—Receiver chassis complete—Less reproducer unit, knobs and Radiotrons	27.50
2976	Knob—Volume control or operating switch knob—Package of 5	1.50	9340	Reproducer unit—Reproducer unit complete	4.75
2977	Knob—Station selector knob—Package of 5	2.50			
2978	Screw assembly—Loudspeaker mounting screw assembly comprising four screws, four washers, four lock washers, eight nuts and four eyelets	.60			
2981	Capacitor—320 Mmfd. detector plate R.F. by-pass capacitor	.50			

R. C. A. VICTOR CO., INC.

MODEL R-5 AC  
Schematic  
Voltage  
Chassis



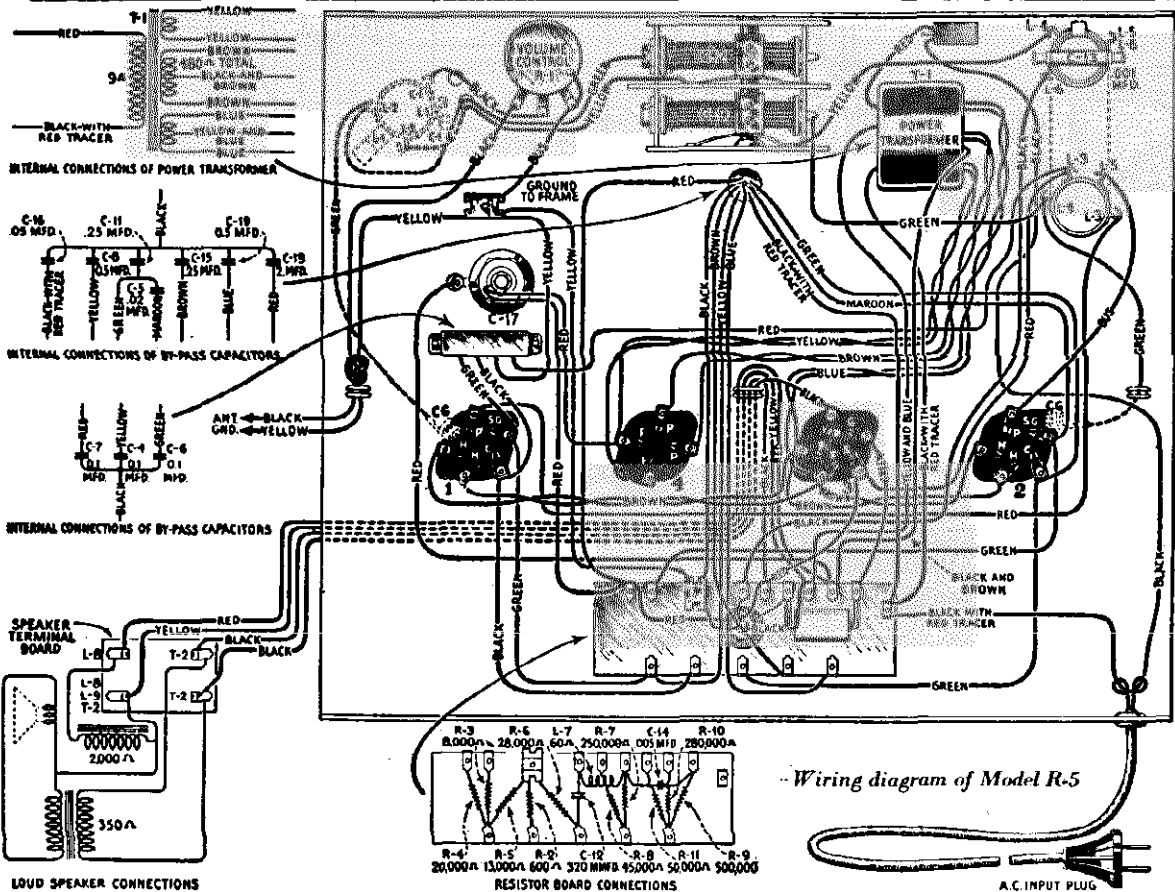
-Schematic Circuit Diagram of Model R-5

SOCKET VOLTAGE READINGS

110-VOLT LINE

These are readings obtained with the usual Set Analyzers and are not true readings of the voltages at which the Radiotrons operate.

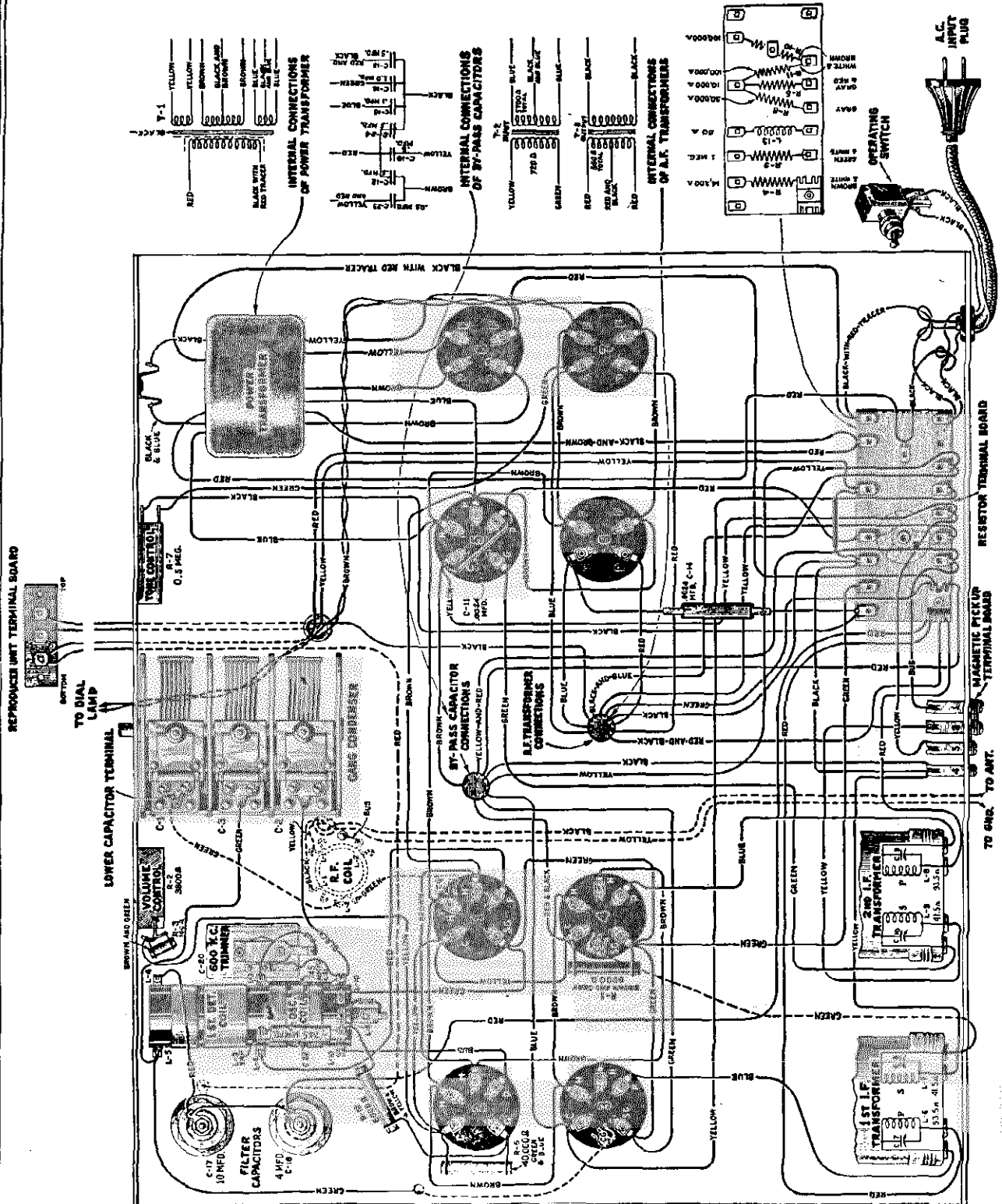
Radiotron No.	Heater to Cathode Volts	Cathode or Filament to Control Grid Volts	Cathode or Filament to Screen Grid Volts	Cathode or Filament to Plate Volts	Plate Current M. A.	Heater Volts
1	3.0	3.0	85	225	4.0	2.2
2	7.0	7.0	65	100	0.25	2.2
3	—	2.0	225	215	30.0	2.2



-Wiring diagram of Model R-5

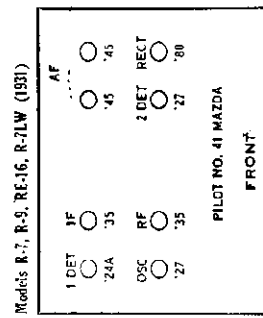
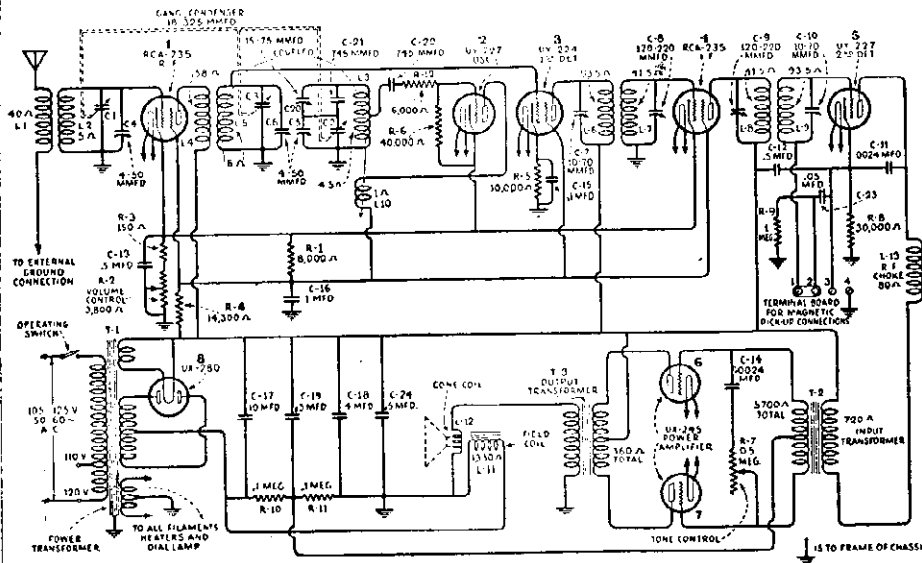
MODEL R-7, R-9 AC  
Supernote  
Chassis

R. C. A. VICTOR CO., INC.



R. C. A. VICTOR CO., INC.

MODEL R-7, R-9 AC  
Supernote  
Schematic



IF PEAK 175 KC

RADIOLA SUPERNOTE

SERVICE NOTES \*\*\*

The can at the extreme center rear of the top of the chassis is AF transformer assembly. Directly in front of it is the RF bypass capacitor pack. The can at the left front facing the chassis is the 10 mfd electrolytic condenser. Directly to the rear of this can is the 4 mfd electrolytic condenser. To the right of this can, towards the center of the chassis is the RF transformer. The 600 KC trimming condenser is accessible by means of a screw adjustment located on top of the chassis, to the right of the electrolytic condenser cans, between the cans and the RF transformer.

The 1400 KC line-up condensers are accessible through three holes in the bottom of the cabinet. With the cabinet tilted away from the operator and the rear of the chassis to the right of the operator, the extreme left hand hole is for the RF condensers, the middle hole for the detector condenser and the extreme right hand hole is for the oscillator condenser.

The IF transformer tuning condensers are accessible from the rear of the chassis. The two holes near the magnetic pickup terminal board are for the 2nd IF transformer. With the cabinet on its side, the upper hole is for the Primary circuit and the lower hole is for the Secondary circuit. The lower pair of holes, near the edge of the chassis are for the 1st IF transformer. The upper hole is for the Secondary circuit adjustment and the lower hole is for the Primary circuit adjustment.

The tone control can is opened by pressing with a pin or sharp instrument through the hole in the side of the can.

For 110 volt operation interchange the black and red lead with the folded over and tapped end, with the black with red-tracer lead connected to one of the terminals. When the change has been made tape up the black-red lead.

Volume Control Maximum

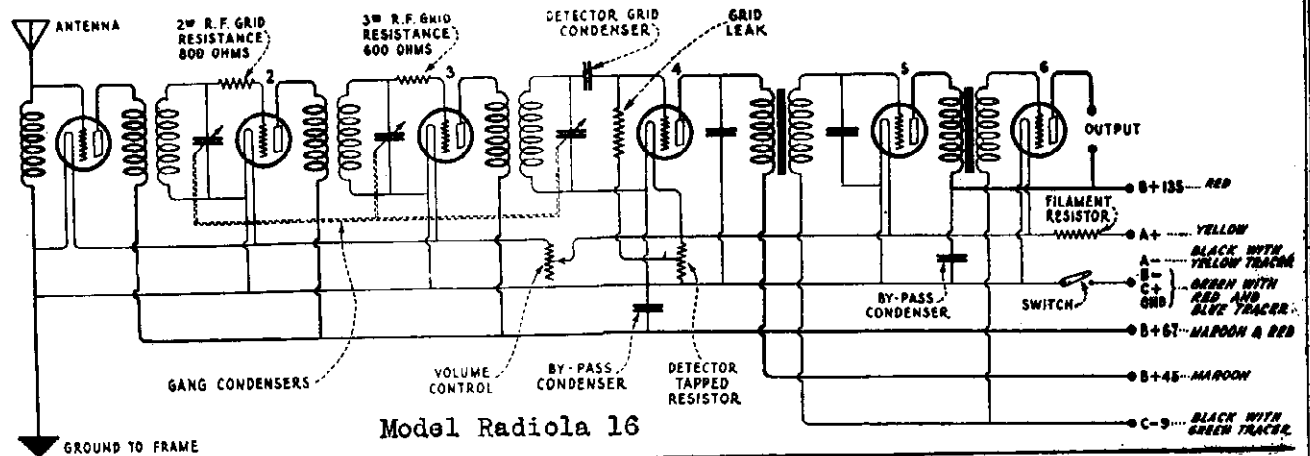
Tube	Cathode-Heater	Cathode-Grid	Cathode-Screen	Cathode-Plate	Plate Current	Fil.
RF	2.5	2.5	65	225	4.0 ma	2.4
Osc.	2.5	0.		55	5.0	2.4
1Det	5.0	5.0	60	215	0.5	2.4
IF	2.5	2.5	65	225	4.0	2.4
2Det	60.	*10.		200	0.5	2.4
AF		*20.		215	20.	2.4
AF		*20.		215	20.	2.4

\* Not true reading because of resistance in circuit.

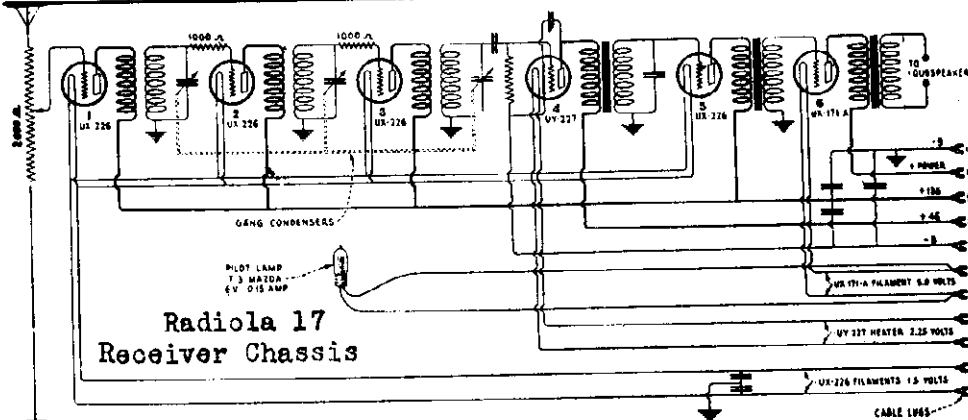


R. C. A. VICTOR CO., INC.

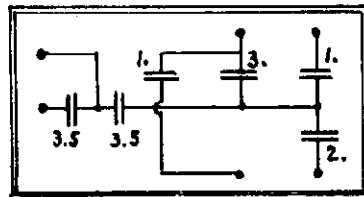
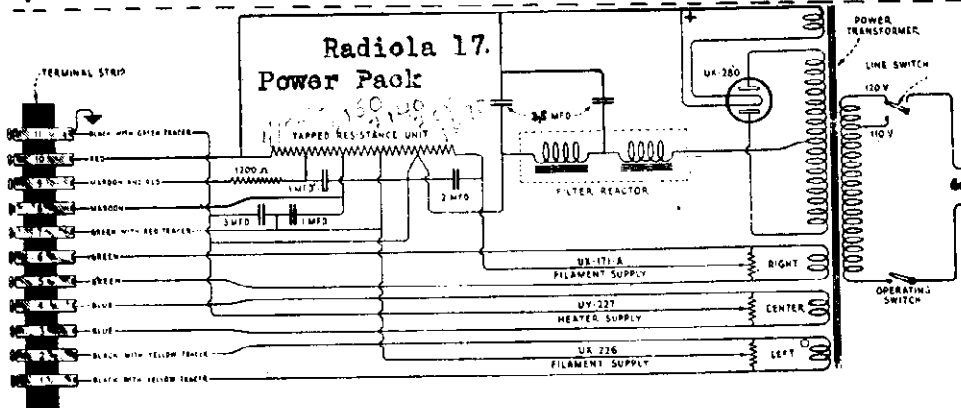
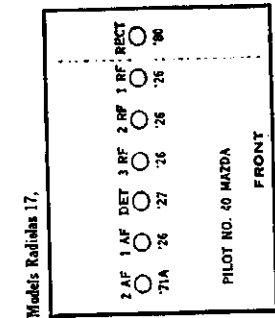
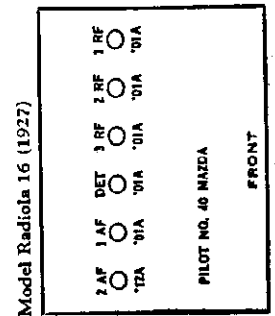
MODEL Radiola 16  
MODEL Radiola 17



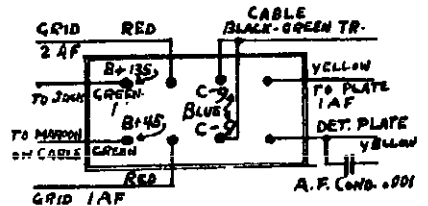
Model Radiola 16



Radiola 17  
Receiver Chassis



Internal Connections  
of filter condenser  
Radiola 17 Pack



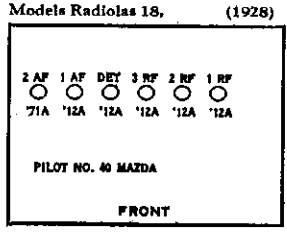
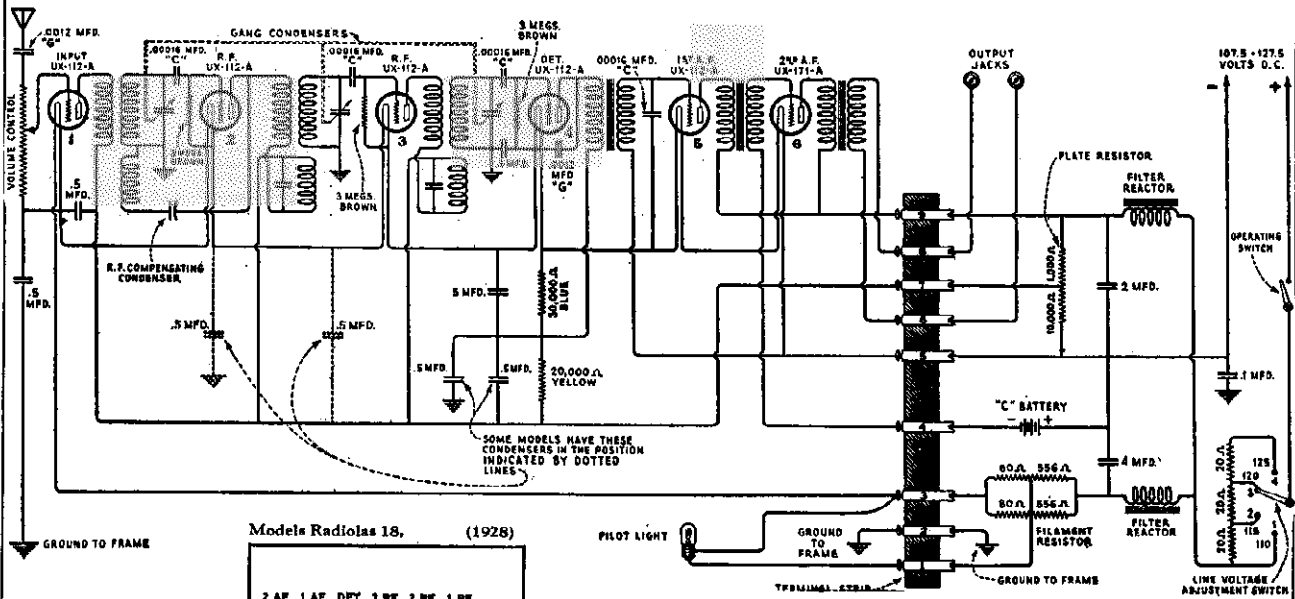
RADIOLA—Models 17  
Line Voltage 112—120 Volt Tap—Volume Control  
Full

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1ST AF DET ETC)	READINGS PLUG IN SOCKET OF SET											
			TUBE OUT					TUBE IN TESTER						
			A VOLTS	B VOLTS	C VOLTS	L VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE				
1	226	1st. R.F.	1.4	125	1.3	122	8	—	4.5	8.5	4.0			
2	226	2nd. R.F.	1.4	125	1.3	122	8	—	4.5	8.5	4.0			
3	226	3rd. R.F.	1.4	125	1.3	122	8	—	4.5	8.5	4.0			
4	227	Detector	2.4	125	2.2	122	8	—	3.0	3.1	—			
5	226	1st. A.F.	1.4	125	1.3	120	8	—	4.0	7.8	3.8			
6	171A	2nd. A.F.	4.0	200	4.7	132	30	—	16.0	10.0	2.0			
7	260	Rectifier	—	—	—	—	—	—	—	—	—			

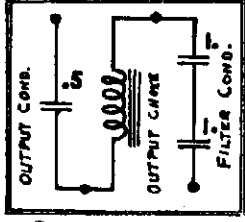
Connections to A.F. Transf  
RADIOLA 16

MODEL Radiola 18 DC  
 MODEL Radiola 18 AC

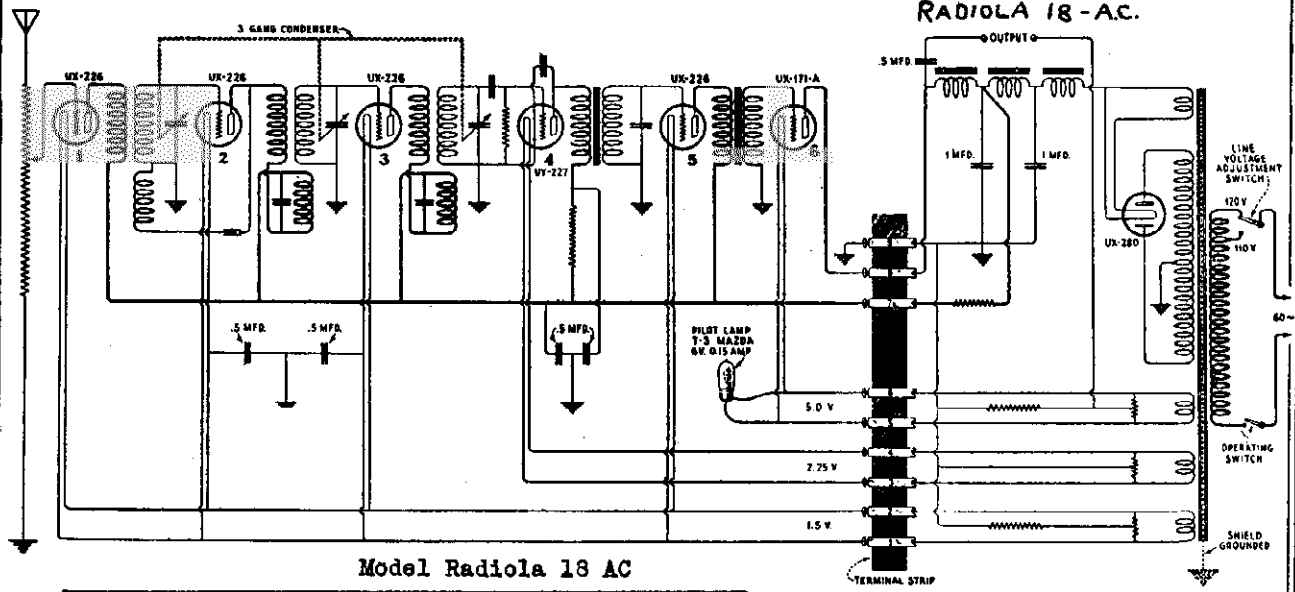
R. C. A. VICTOR CO., INC.



Model Radiola 18 DC

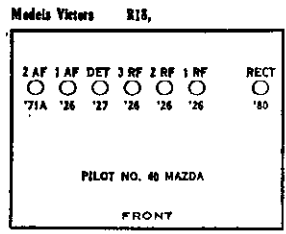


RADIOLA 18-AC.



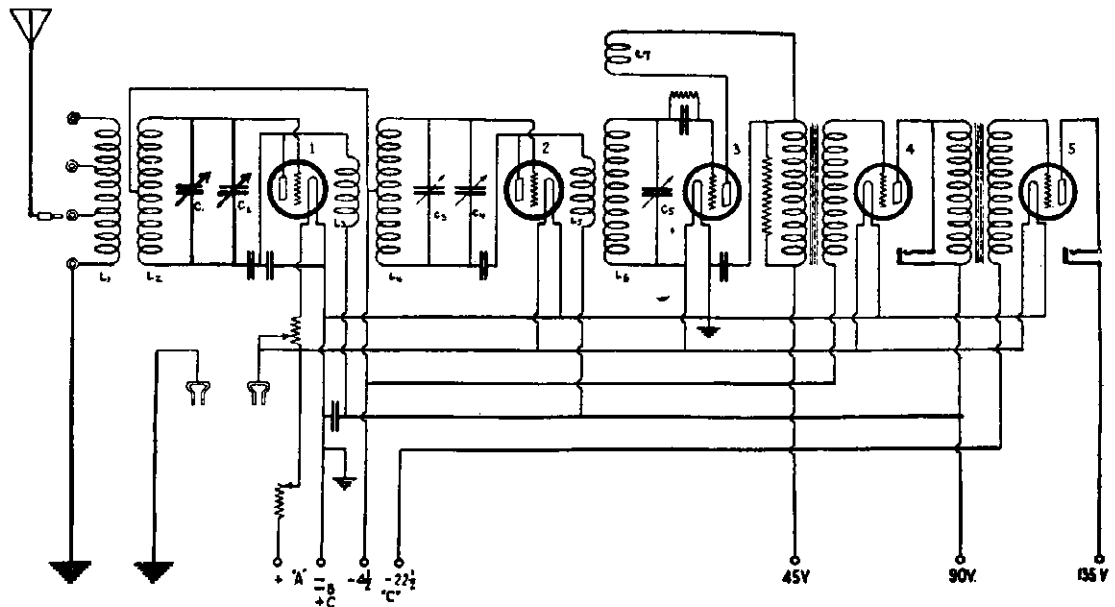
Model Radiola 18 AC

Model 18 D.C.				
Tube No.	Fil. to Grid Volts	Fil. to Plate Volts	Plate Ma.	Fil. Volts
1	5	45	4.5	4.7
2	4	50	8.	4.8
3	4	55	5.5	5.
4	4	21	1.	5.1
5	10	90	3.5	5.2
6	22.5	90	10.	5.3

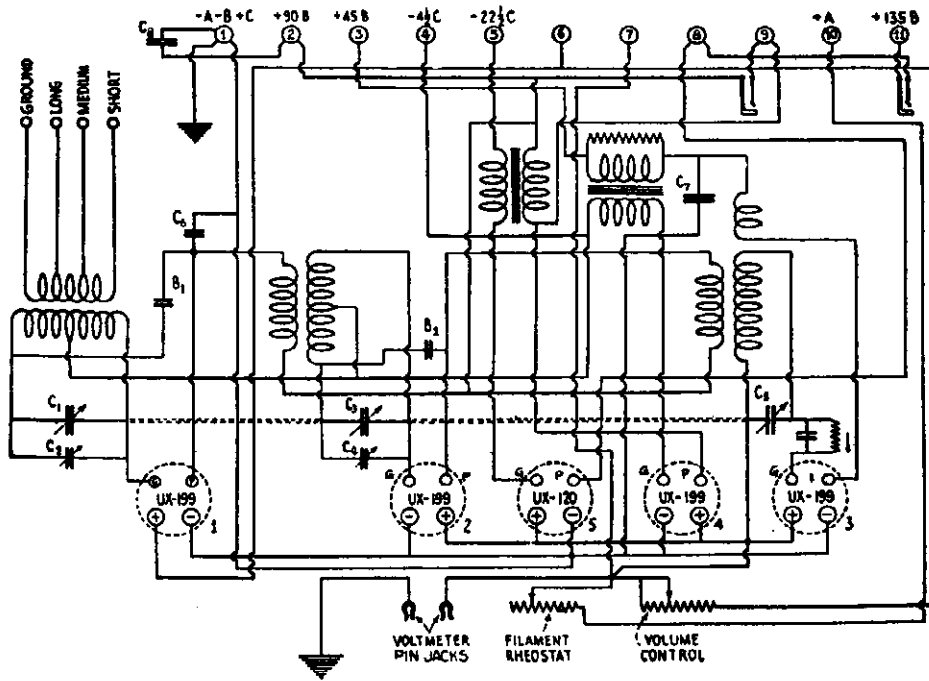


MODEL Radiola 20

R. C. A. VICTOR CO., INC.

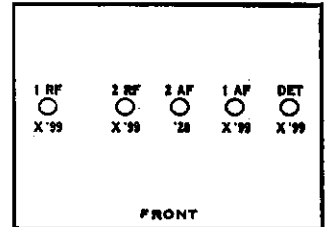


Radiola 20.



Continuity Diagram of the Radiola 20

Model Radiola 20 (1925)

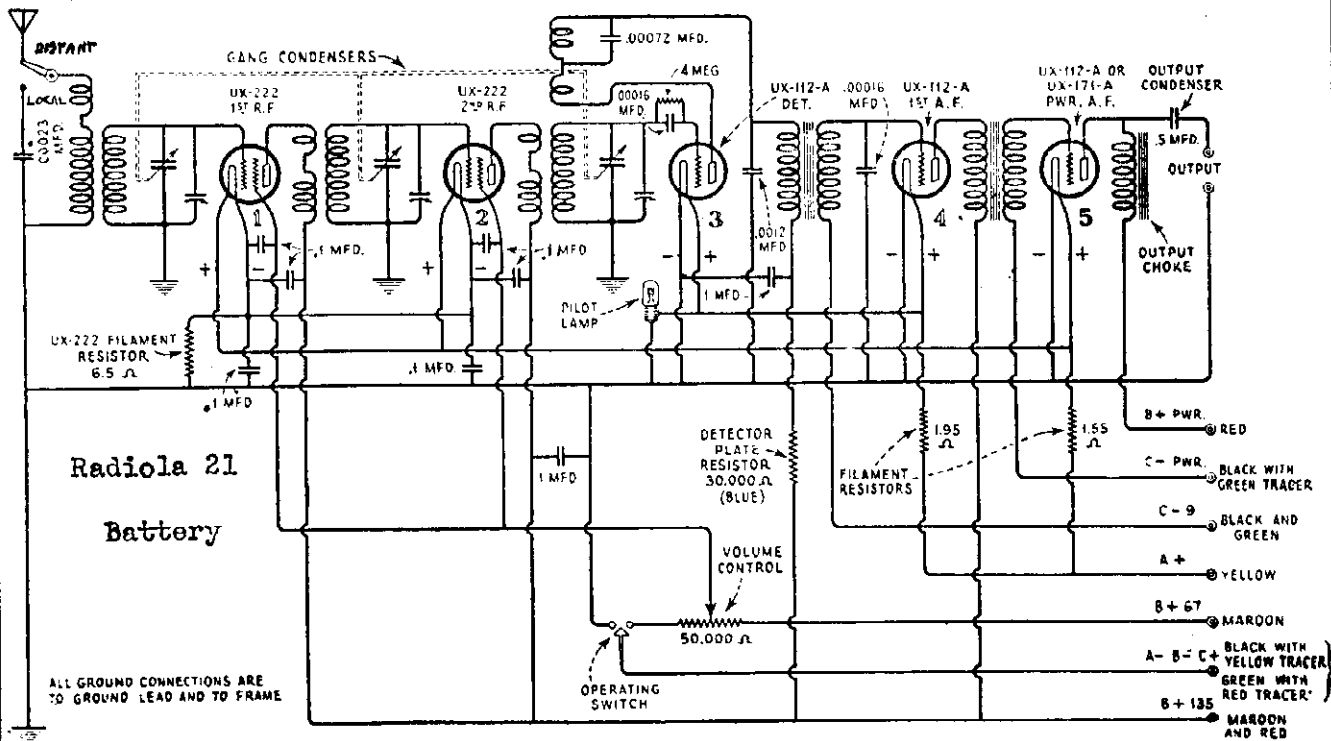


- |              |                             |
|--------------|-----------------------------|
| B plus 135   | Red                         |
| B plus 90    | Maroon and Red              |
| B plus 45    | Maroon                      |
| A- B- C plus | Green and Yellow-Red Tracer |
| -4.5         | Black and Green             |
| -22.5        | Black with Green Tracer     |
| A plus       | Yellow                      |



R. C. A. VICTOR CO., INC.

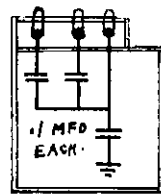
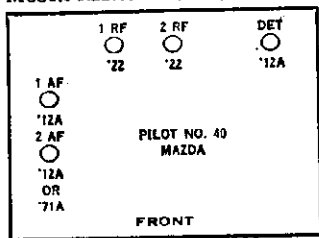
MODEL Radiola 21, 22



Radiola 21  
Battery

ALL GROUND CONNECTIONS ARE TO GROUND LEAD AND TO FRAME

Models Radiolas 21, 22 (1929)



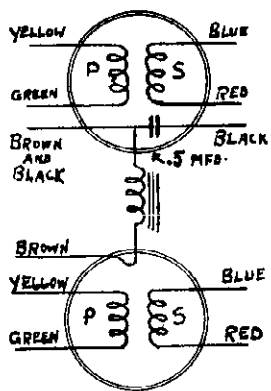
RF Bypass Unit

RADIOIA—Models 21 and 22  
Volume Control at Minimum

TUBE NO. IN SOCKET TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET							
			OPERATING VOLTAGES			MILLIAMPERES				
			FILAMENT OR HEATER	PLATE OR ANODE	CONTROL GRID SPACE	CATHODE TO SCREEN GRID	SCREEN GRID TO PLATE	PLATE TO PLATE	TUBE TEST	PLATE CURRENT CHANGE
222	1 R.F.	1	3.2	135	1.6	0	-	0		
222	2 R.F.	2	3.2	135	1.6	0	-	0		
112A	DET.	3	5.0	45	-	-	-	3.5		
112A	1 A.F.	4	5.0	125	-	9	-	6.5		
171A	PWR.	5	5.0	130	-	27	-	15		

Volume Control at Maximum

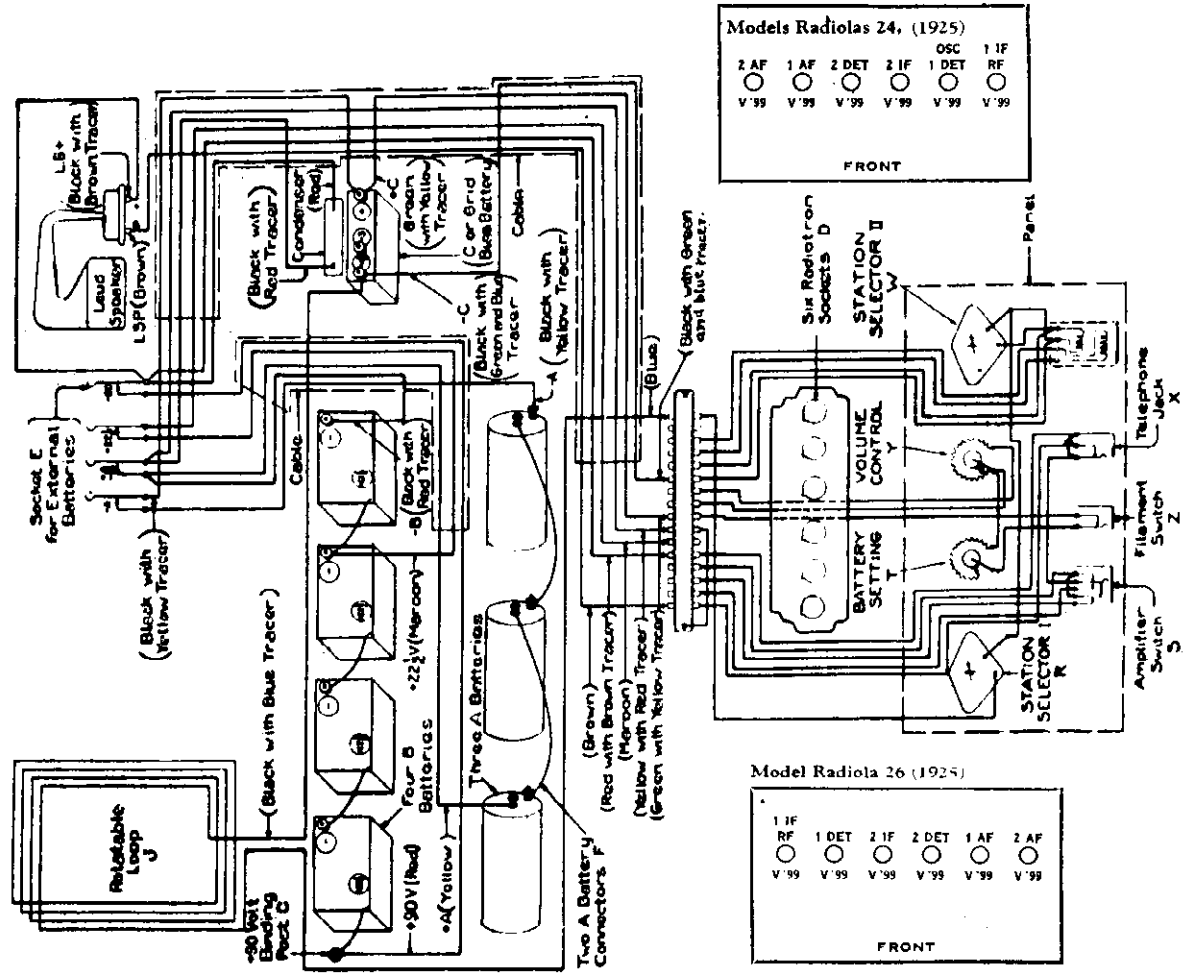
TUBE NO. IN SOCKET TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET							
			OPERATING VOLTAGES			MILLIAMPERES				
			FILAMENT OR HEATER	PLATE OR ANODE	CONTROL GRID SPACE	CATHODE TO SCREEN GRID	SCREEN GRID TO PLATE	PLATE TO PLATE	TUBE TEST	PLATE CURRENT CHANGE
222	1 R.F.	1	3.2	135	1.6	67	-	5.0		
222	2 R.F.	2	3.2	135	1.6	67	-	5.0		
112A	DET.	3	5.0	45	-	-	-	3.5		
112A	1 A.F.	4	5.0	125	-	9	-	6.5		
171A	PWR.	5	5.0	130	-	27	-	15		



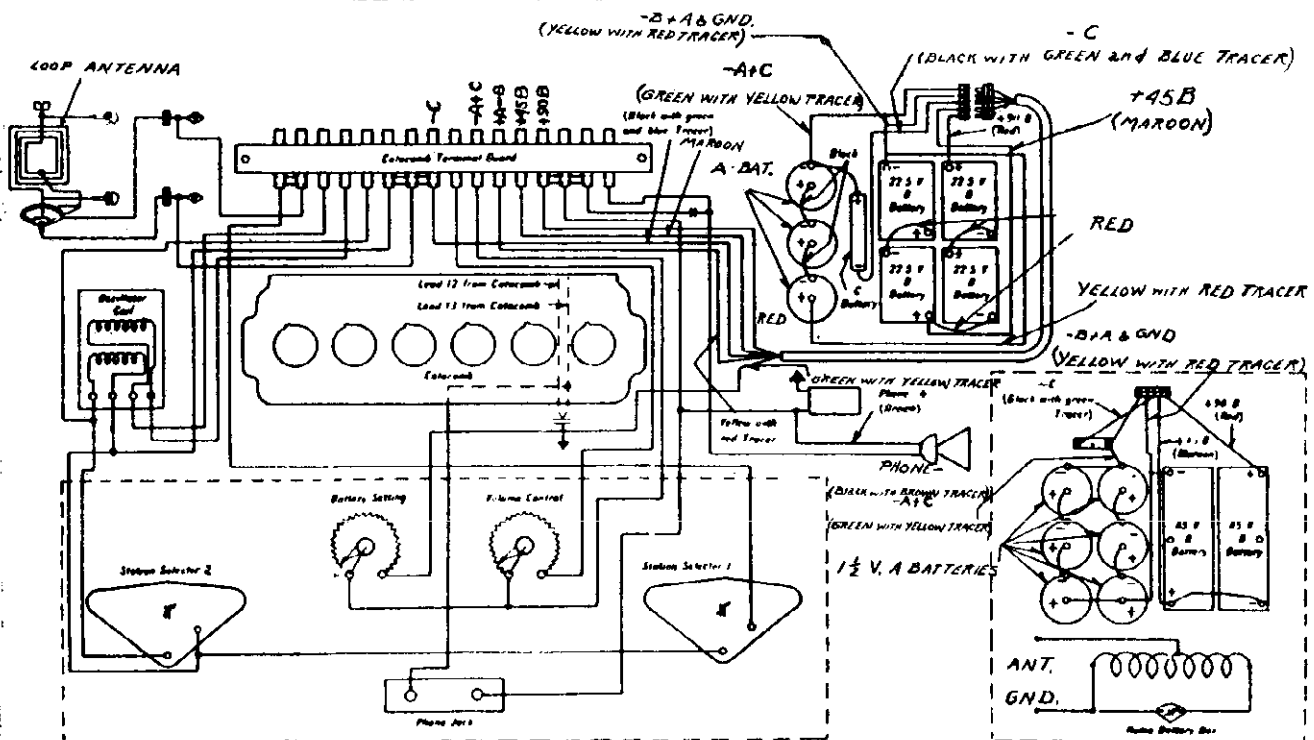
Internal connections of A-F coupling unit.

R. C. A. VICTOR CO., INC.

MODEL Radiola 24  
MODEL Radiola 26



Model Radiola 24 Connection Diagram.



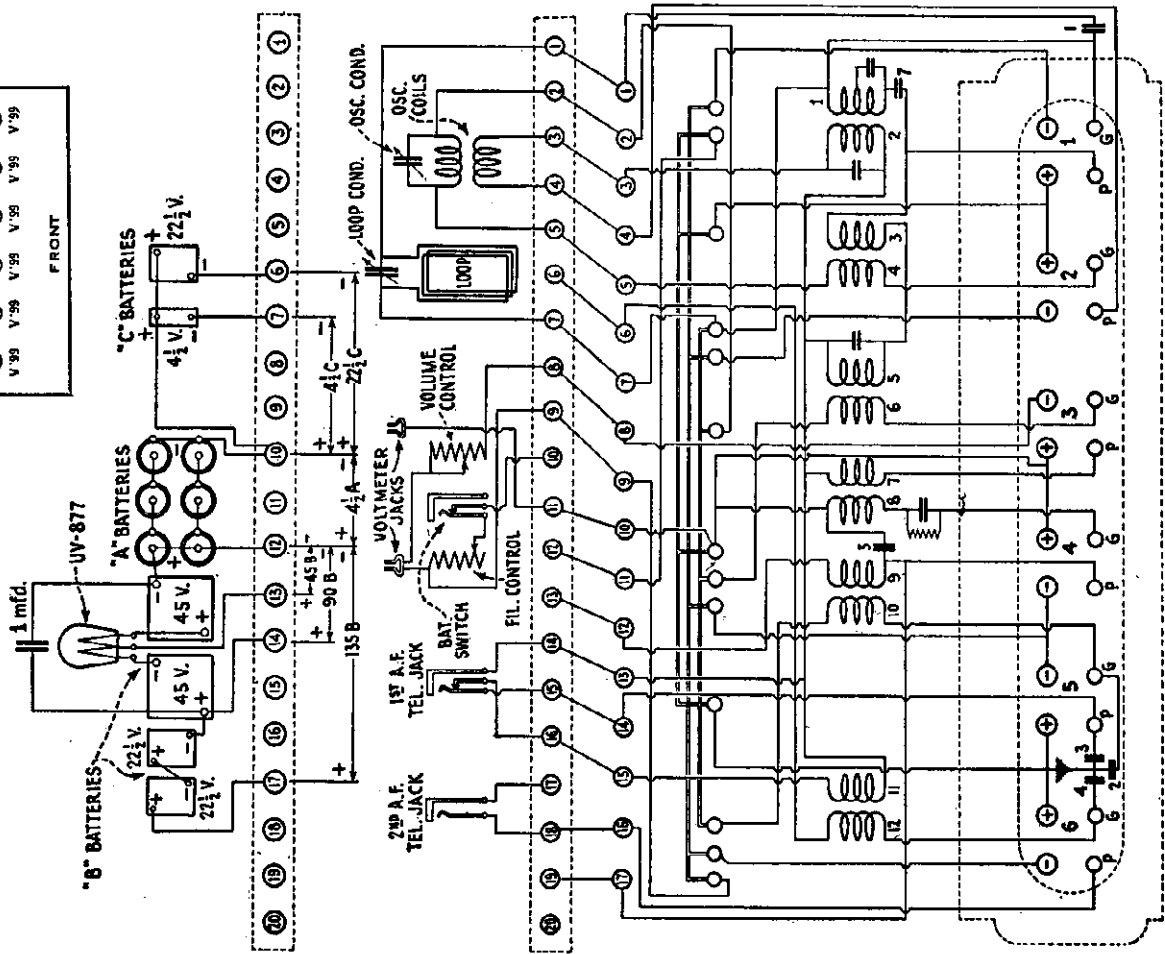
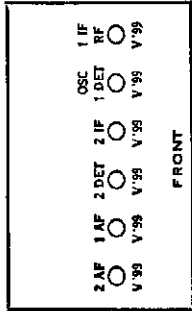
Model Radiola 26

Connection diagram

MODEL Radiola 25

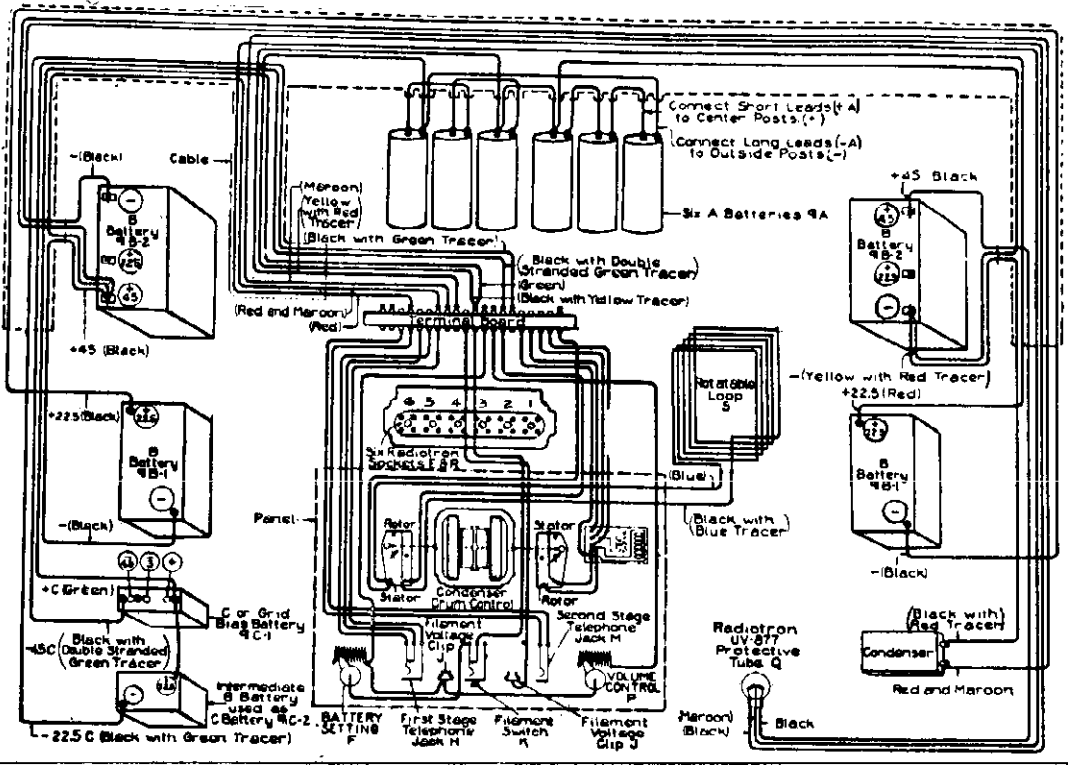
R. C. A. VICTOR CO., INC.

Models Radiolas 24, 25 (1925)



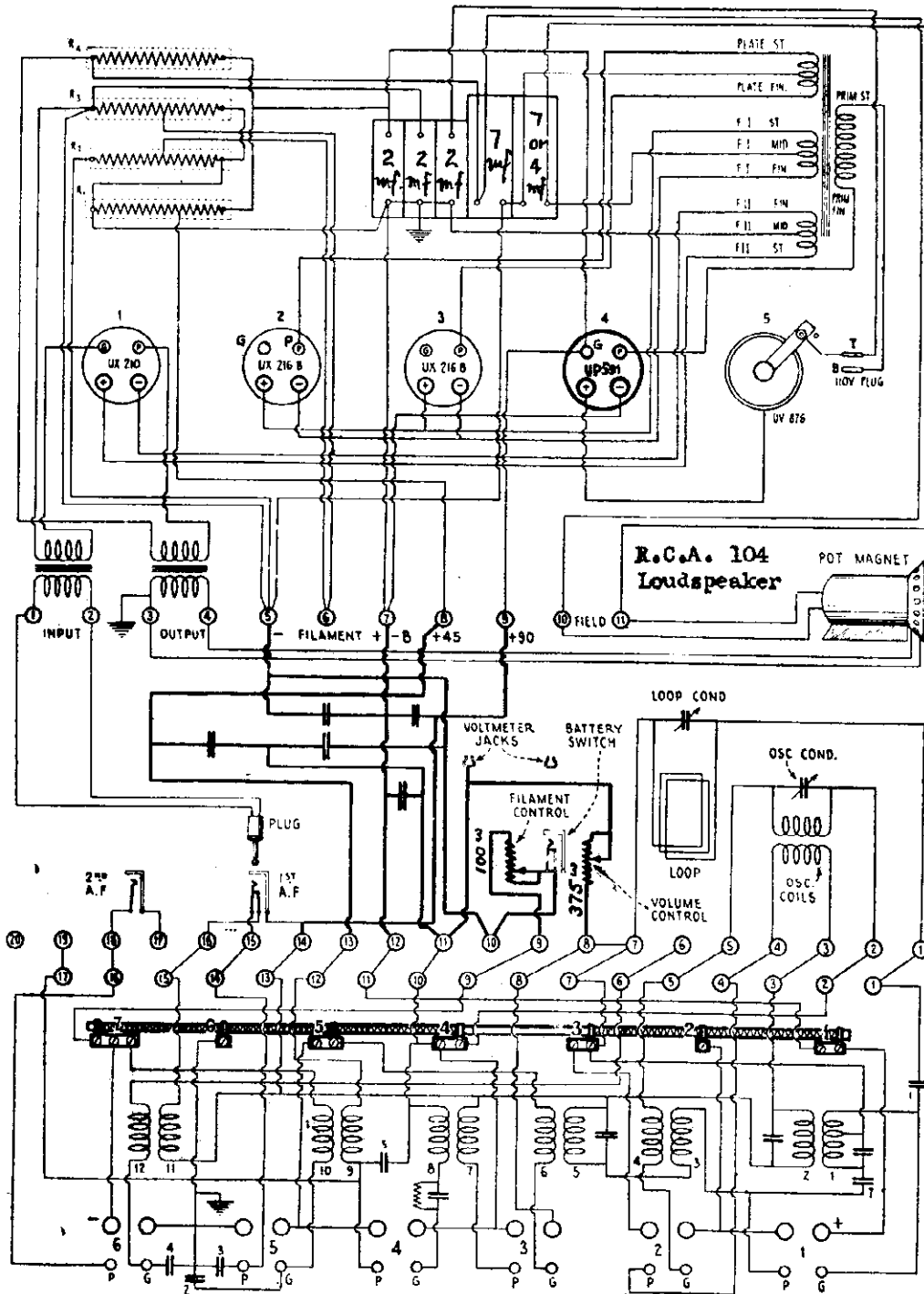
VOLTAGE READINGS TAKEN AT CATACOMB

VOLTS	TERMINAL	TERMINAL
135B	-	12
90B	-	12
45B	-	12
22½C	-	6
4½C	-	7
4½A	-	10
	+	17
	+	14
	+	13
	+	20
	+	20
	+	12



R. C. A. VICTOR CO., INC.

MODEL Radiola 25  
With 104 Power Pack



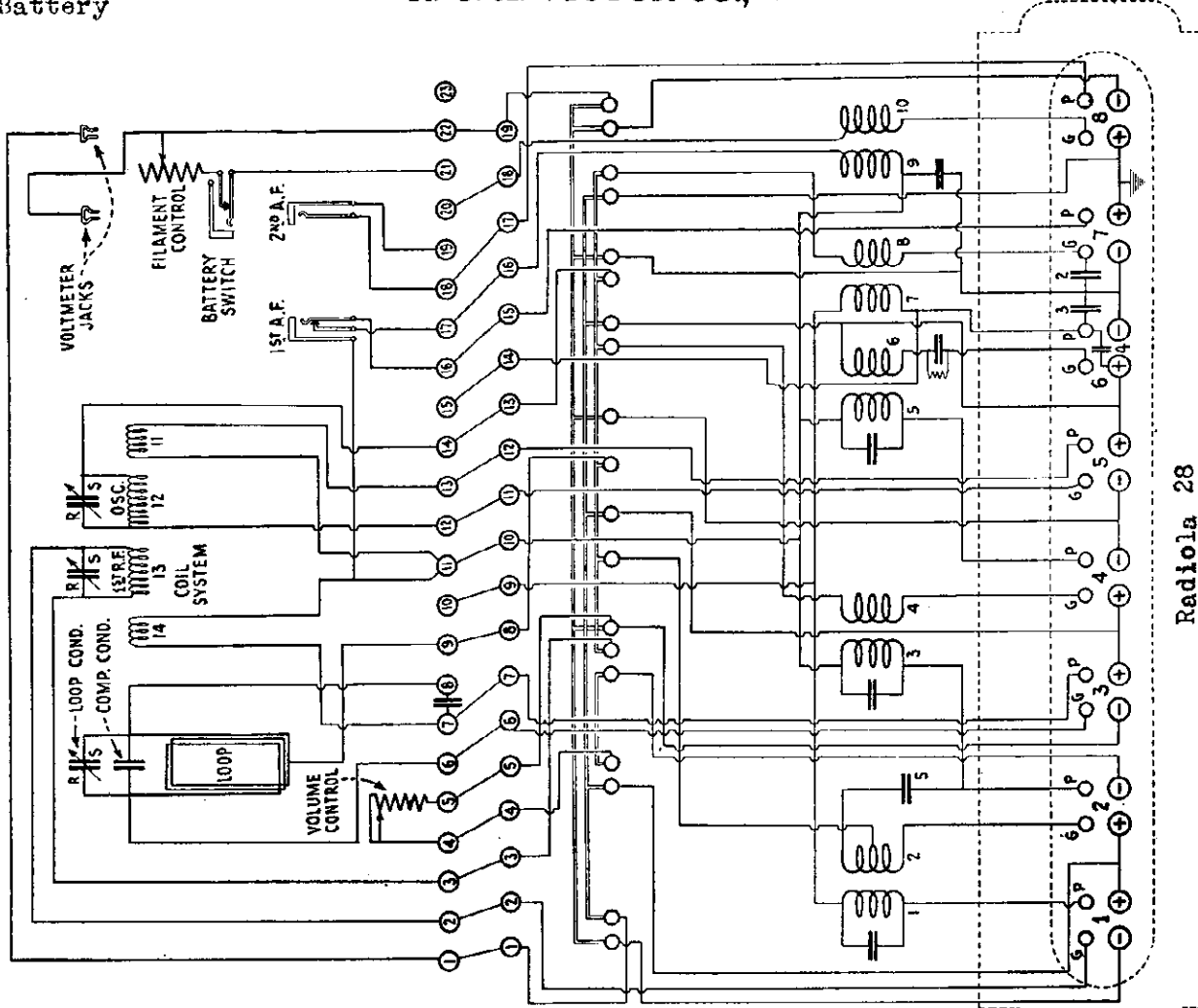
**VOLTAGE READINGS OF RADIO 25**  
 Between terminals 10 and 12  
 12 " 13  
 13 " 14  
 31 volts with tubes lighted  
 21.6 " normal  
 41 volts normal

RADIO 25 A.C. RESISTANCES			
Terminals	Lower limit	Normal	Upper limit
1 and 2	218.5 V.	230 V.	241.5 V.
2 and 3	192 "	201 "	208 "
3 and 4	open	open	open
4 and 5	151.9 "	155 "	158.1 "
5 and 6	143 "	150 "	153 "
6 and 7	44.75 "	50 "	55.25 "

**RADIO 25**  
**A.C. OPERATED**  
 With  
 Model 104 Loudspeaker  
 and Model UP-971 A.C.  
 Package.  
 ( A.C. Package Changes  
 Shown In Heavy Lines.)

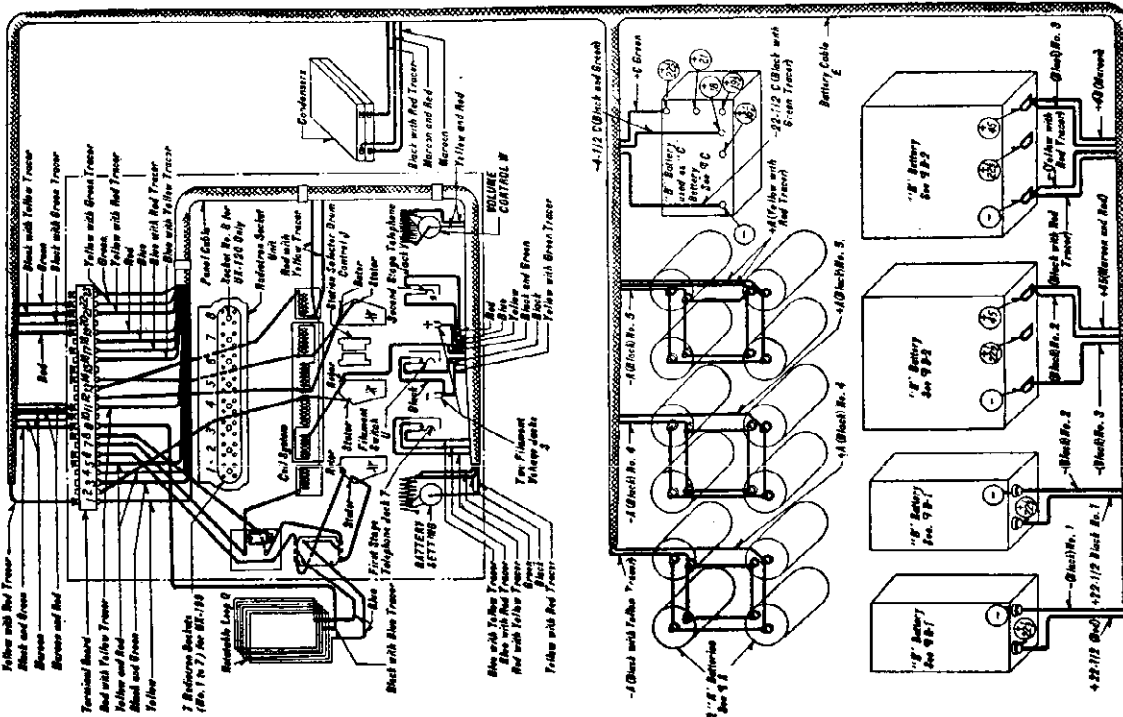
MODEL Radiola 28  
Battery

R. C. A. VICTOR CO., INC.



Radiola 28

IF PEAK 40 KC.



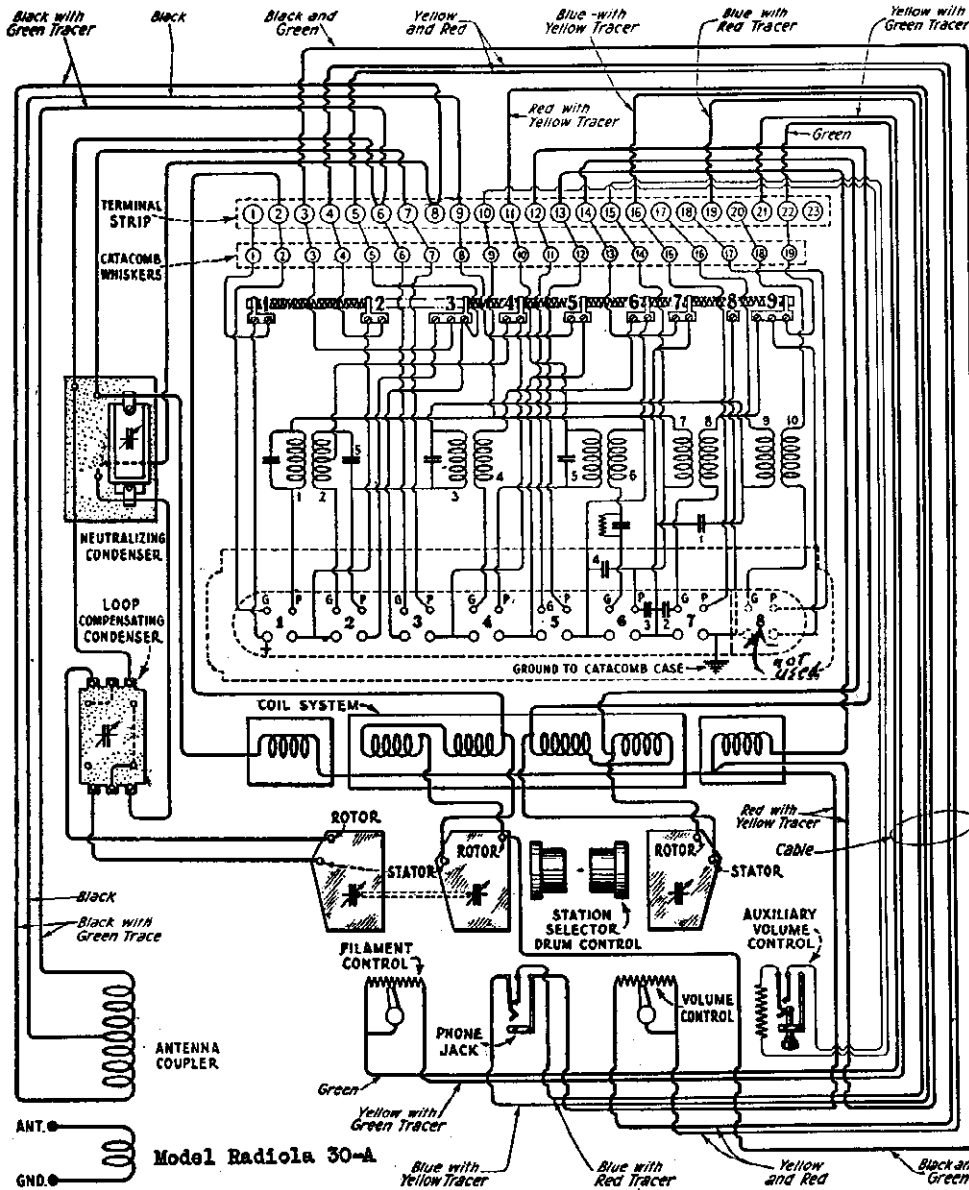
WIRING DIAGRAM FOR RADIO 28  
In this wiring diagram, two or more leads of a like color contained in the same cable may be distinguished by the numeral following the color designation at each end of a green lead.





R. C. A. VICTOR CO., INC.

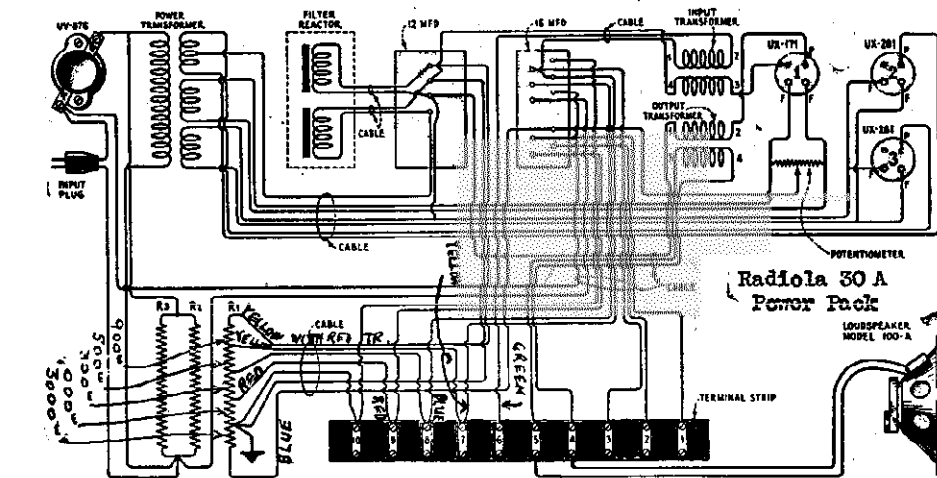
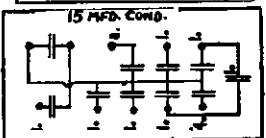
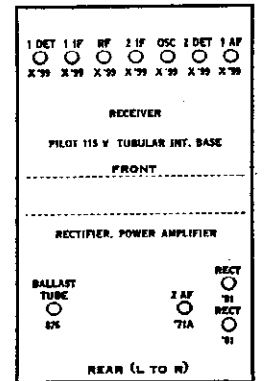
MODEL Radiola 30  
MODEL Radiola 30-A AC  
Power Pack



RESISTANCES AT RESISTANCE TERMINALS

Terminals	Low	Normal	High
1 and 2	260	271	282
2 and 3	open	open	open
3 and 4	230	236.5	243
4 and 5	191	197	203
5 and 6	176	183.5	191
6 and 7	146	154.5	163
7 and 8	137	145.5	154
8 and 9	45	50	55

Model Radiola 30A (1927)



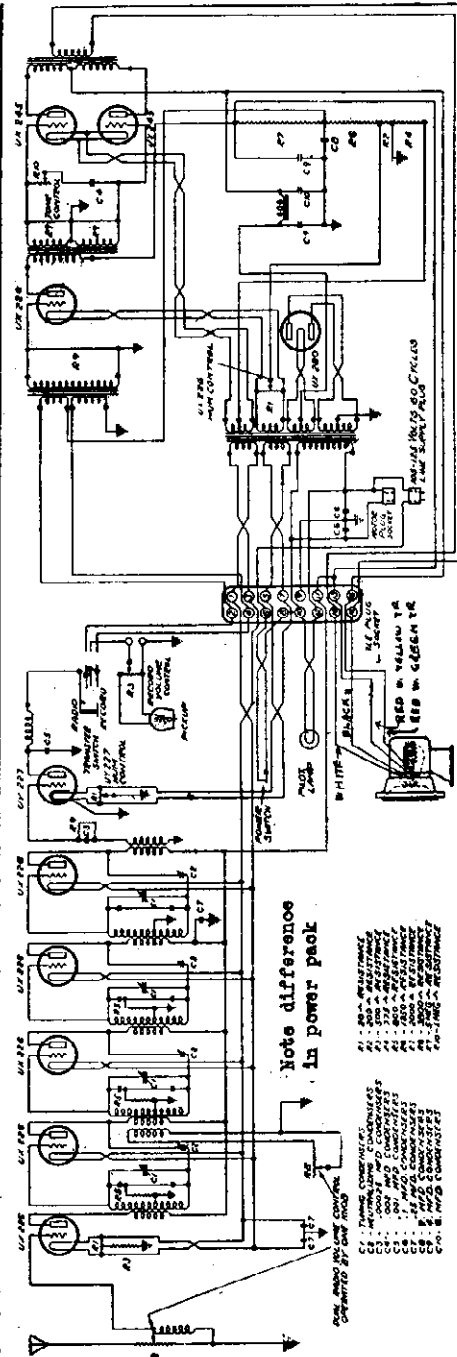
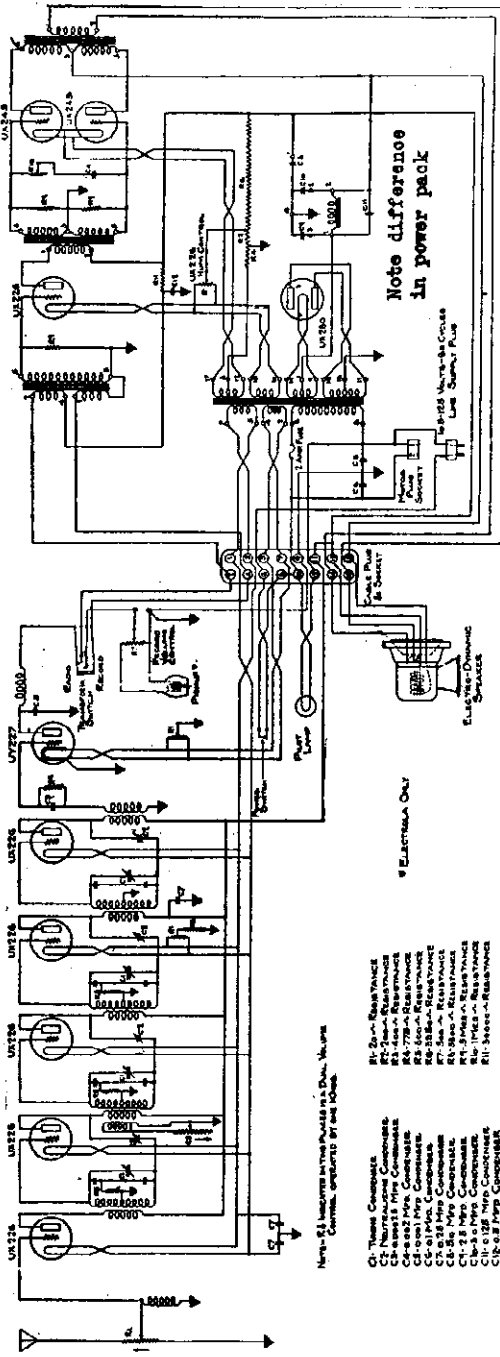
RADIOLA-Model 30A  
Note: For "A" volt tests adjust controls on panel so that reading on first tube tested is that shown. This gives an average condition of operation and a margin of safety in all tests.

RESISTANCE PACK BY RESISTOR OF SET		RESISTANCE PACK BY RESISTOR OF SET	
RESISTOR	RESISTANCE	RESISTOR	RESISTANCE
1R1	1000	1R2	1000
1R3	1000	1R4	1000
1R5	1000	1R6	1000
1R7	1000	1R8	1000
1R9	1000	1R10	1000
1R11	1000	1R12	1000
1R13	1000	1R14	1000
1R15	1000	1R16	1000
1R17	1000	1R18	1000
1R19	1000	1R20	1000
1R21	1000	1R22	1000
1R23	1000	1R24	1000
1R25	1000	1R26	1000
1R27	1000	1R28	1000
1R29	1000	1R30	1000
1R31	1000	1R32	1000
1R33	1000	1R34	1000
1R35	1000	1R36	1000
1R37	1000	1R38	1000
1R39	1000	1R40	1000
1R41	1000	1R42	1000
1R43	1000	1R44	1000
1R45	1000	1R46	1000
1R47	1000	1R48	1000
1R49	1000	1R50	1000
1R51	1000	1R52	1000
1R53	1000	1R54	1000
1R55	1000	1R56	1000
1R57	1000	1R58	1000
1R59	1000	1R60	1000
1R61	1000	1R62	1000
1R63	1000	1R64	1000
1R65	1000	1R66	1000
1R67	1000	1R68	1000
1R69	1000	1R70	1000
1R71	1000	1R72	1000
1R73	1000	1R74	1000
1R75	1000	1R76	1000
1R77	1000	1R78	1000
1R79	1000	1R80	1000
1R81	1000	1R82	1000
1R83	1000	1R84	1000
1R85	1000	1R86	1000
1R87	1000	1R88	1000
1R89	1000	1R90	1000
1R91	1000	1R92	1000
1R93	1000	1R94	1000
1R95	1000	1R96	1000
1R97	1000	1R98	1000
1R99	1000	1R100	1000



MODEL Victor R-32,  
RE-45 and R-52

R. C. A. VICTOR CO., INC.

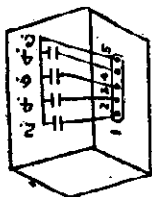


CABLE TERMINAL VOLTAGES

- Between 1 and 5 1.7 volts AC.
- 5 and 7 2.86volts AC.
- 2 and 9 39. volts DC.
- 9 and 11 105. volts DC.
- 13 and 15 185. volts DC.

MULTI-PLUG TERMINALS

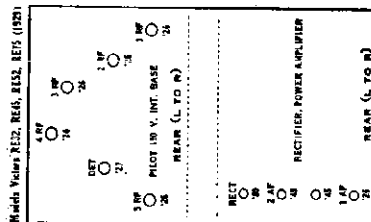
- #1. Brown-white tracer for 226 filament.
- #2. Blue for transfer switch.
- #3. Brown-white tracer for 226 filament.
- #4. White for transfer switch.
- #5. Brown-blue tracer for 227 filament.
- #6. Black-red tracer for power switch.
- #7. Brown-blue tracer for 227 filament.
- #8. Black-red tracer for power switch.
- #9. Braided copper shield to ground.
- #10. Brown-red tracer for pilot light.
- #11. Red-yellow tracer -B of 226.
- #12. Brown-red tracer for pilot light.
- #13. Red-yellow tracer for field.
- #14. White for voice coil.
- #15. Red-green tracer for speaker field.
- #16. Black for voice coil.



Condenser Cap.

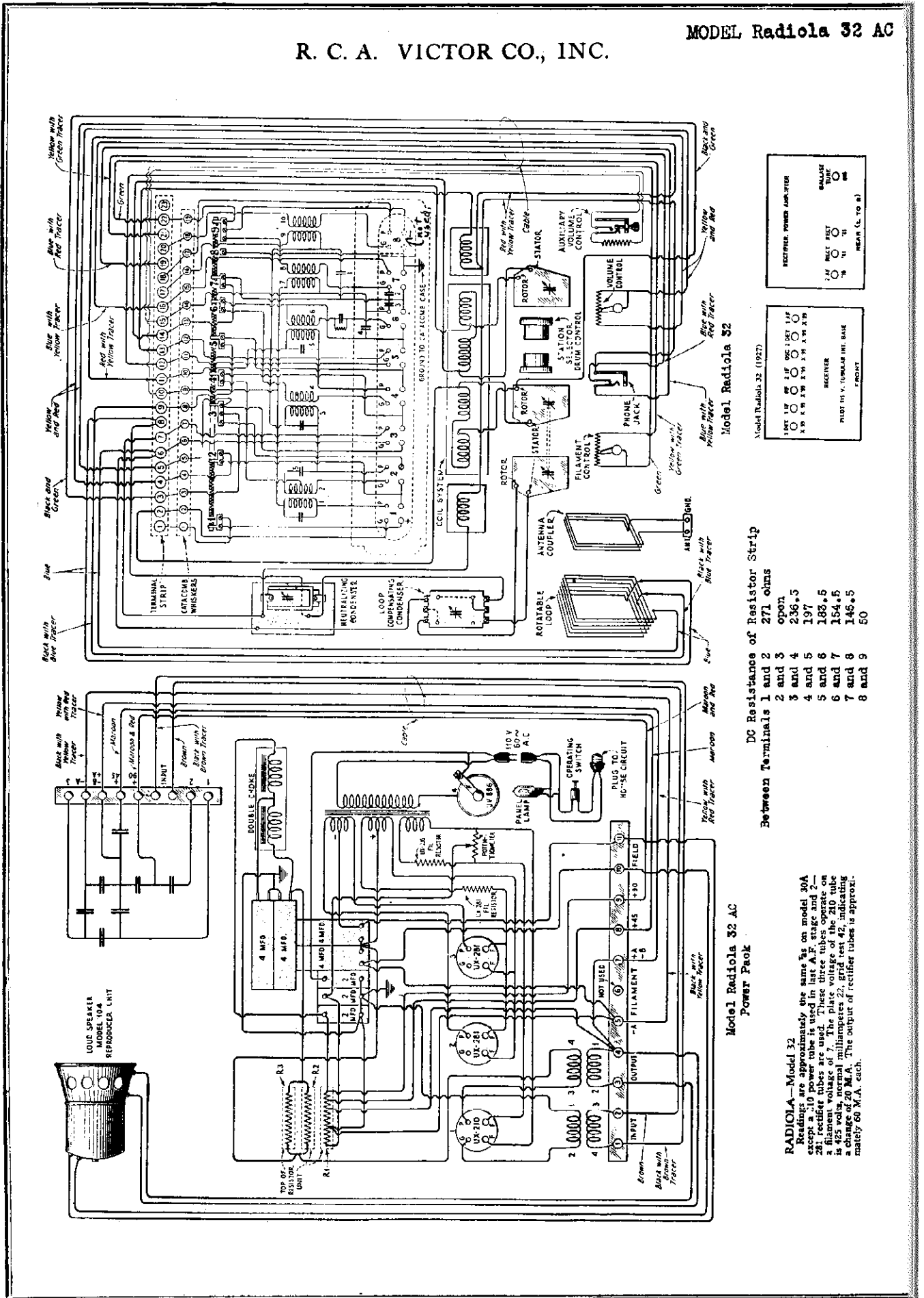
VICTOR—Model R-32  
Line Voltage 115—Volume Control Position Max  
\*Antenna Coupling Stage

TYPE	PART NO.	POSITION	TYPICAL DATA			RESISTANCE VALUE IN SOLELY BY SET			TYPICAL DATA			REMARKS
			W	L	Q	W	L	Q	W	L	Q	
226	1st PP	1.2	112	1.4	112	6	2.8	6.6	3.0	-	-	
226	2nd PP	1.5	112	1.4	112	6	2.8	6.6	3.0	-	-	
226	3rd PP	1.5	112	1.4	112	6	2.8	6.6	3.0	-	-	
226	4th PP	1.5	112	1.4	112	6	2.8	6.6	3.0	-	-	
227	DET.	2.45	52	2.3	44	6	1.2	1.2	-	-	-	
226	1st A	1.5	112	1.4	100	6	3.4	6.2	3.0	-	-	
245	2nd A	2.4	200	2.3	200	45	3.4	3.4	-	-	-	
245	3rd A	2.4	200	2.3	240	45	3.4	3.4	-	-	-	
245	Rect.	5	-	-	-	-	-	-	-	-	-	



R. C. A. VICTOR CO., INC.

MODEL Radiola 32 AC

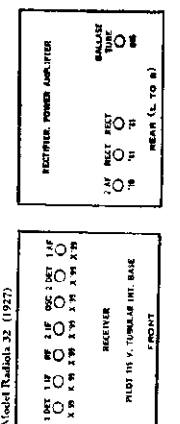


Model Radiola 32 AC Power Pack

DC Resistance of Resistor Strip Between Terminals 1 and 2

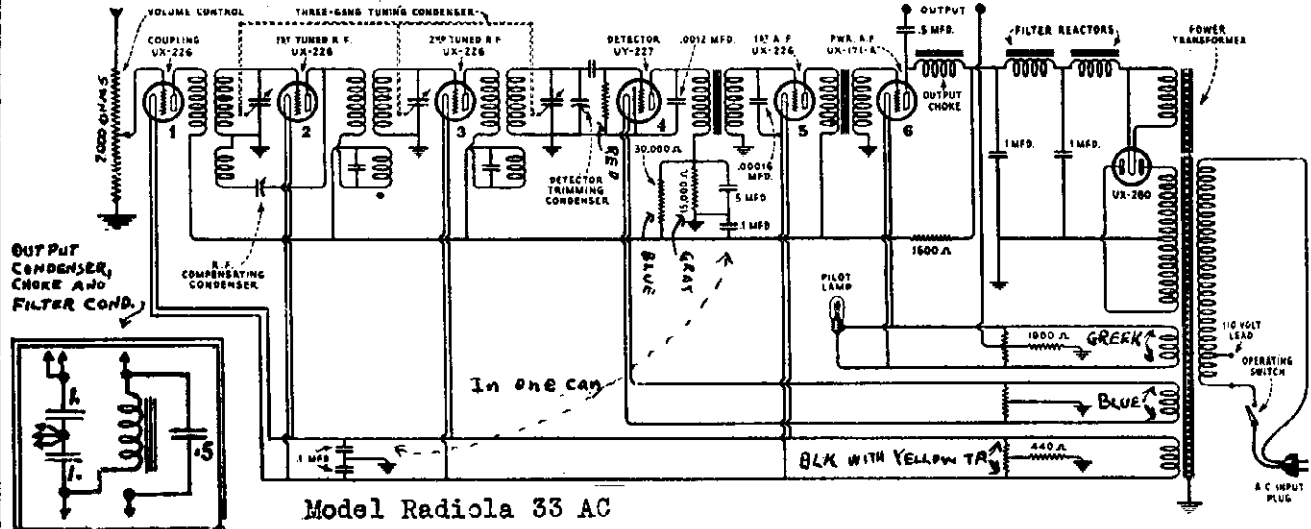
1 and 2	271 ohms
2 and 3	open
3 and 4	236 ± 5
4 and 5	197
5 and 6	188 ± 5
6 and 7	154 ± 5
7 and 8	145 ± 5
8 and 9	50

**RADIOLA—Model 32**  
 Readings are approximately the same as on model 30A except a .10 power tube is used in last A.F. stage and 2-24 rectifier tubes are used. These three tubes operate on 240 filaments. The plate voltage of the 210 tube is 425 volts, normal filament voltage is 6.3, indicating a change of 20 M.A. The output of rectifier tubes is approximately 60 M.A. each.



MODEL Radiola 33 AC  
MODEL Radiola 33 DC

R. C. A. VICTOR CO., INC.

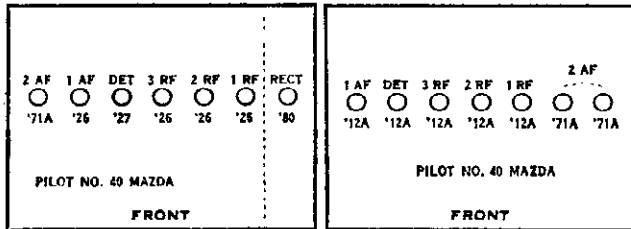


Model Radiola 33 AC

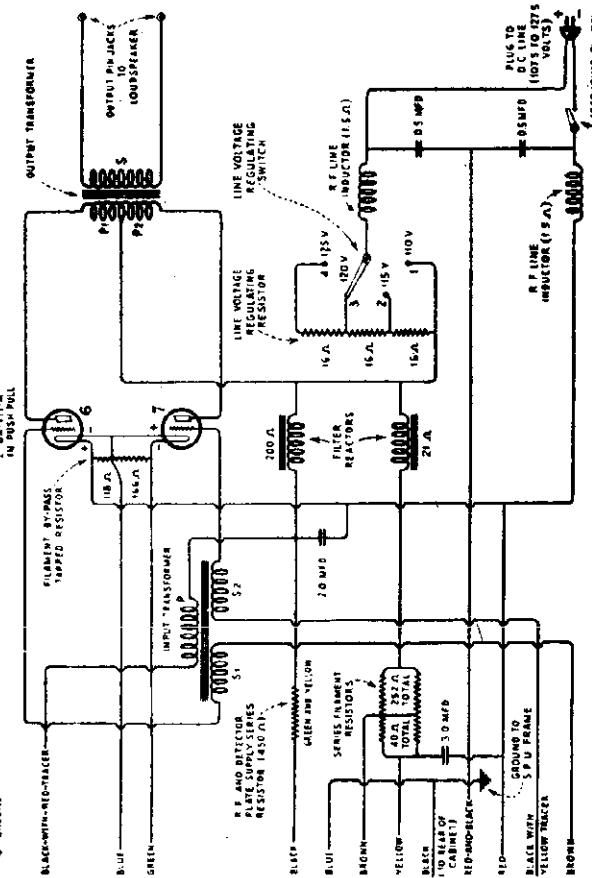
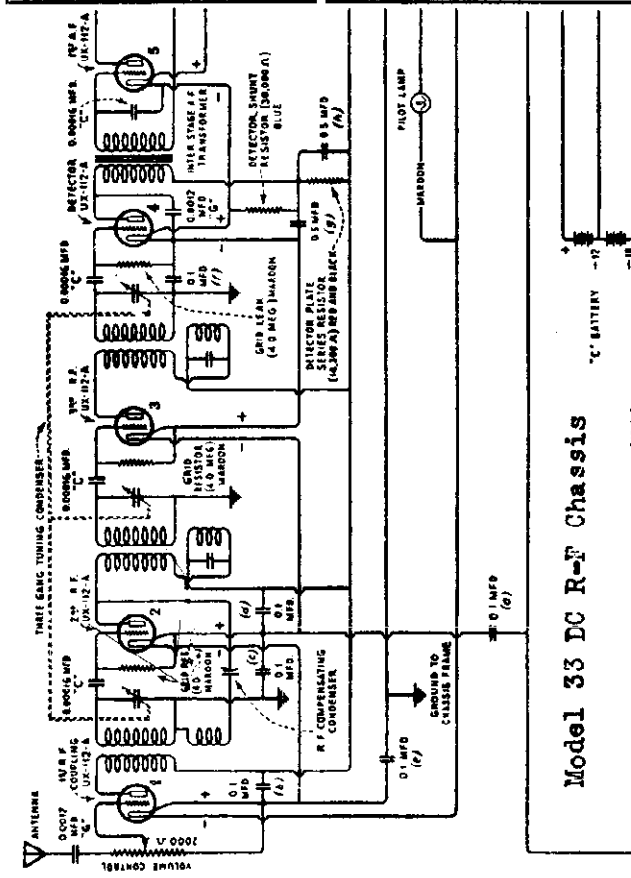
Output condenser,choke and filter condenser.

RADIOLA—Model-33 A.C.  
Line Voltage 112—120 Volt Tap—Volume Control Full

Models Radiolas 33, (1927) Model Radiola 33 DC (1929)



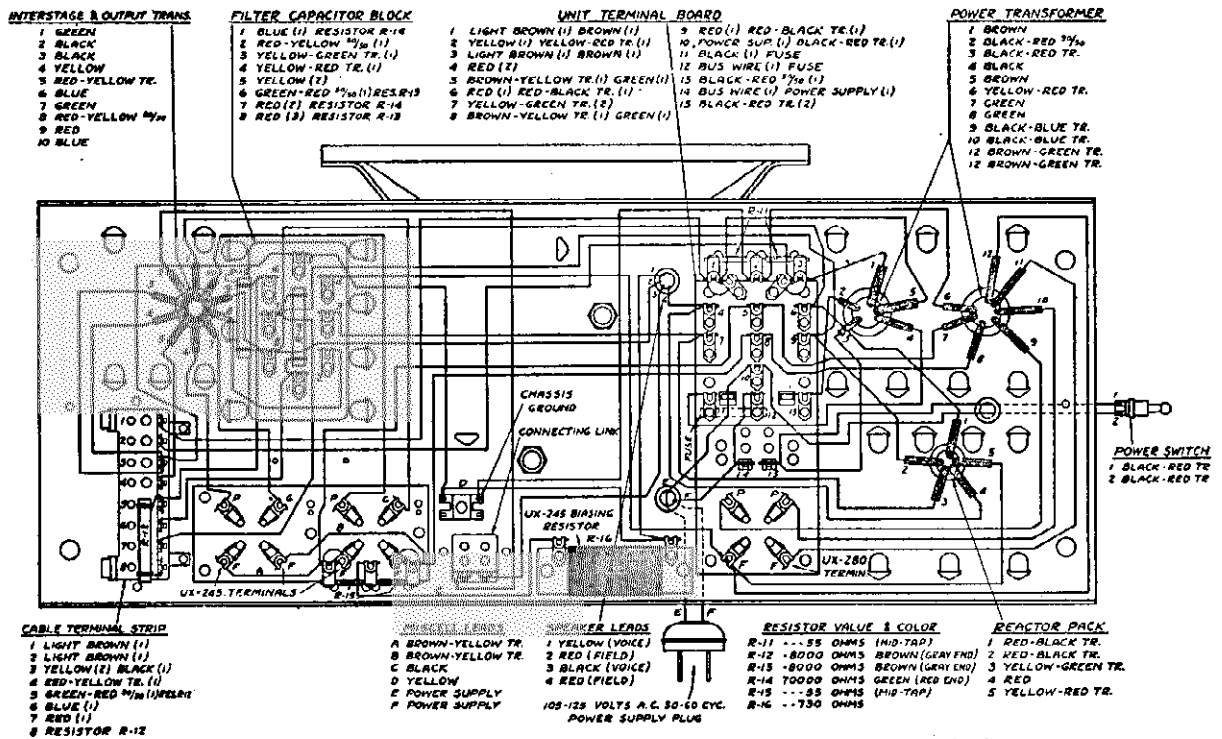
TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE (BY R.F. DET. ETC.)	READINGS PLUG IN SOCKET OF SET									
			TUBE IN TESTER					TUBE IN TESTER				
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE	
1	226	1st. R.F.	1.4	125	1.3	122	8		4.5	8.5	4.0	
2	226	2nd. R.F.	1.4	125	1.3	122	8		4.5	8.5	4.0	
3	226	3rd. R.F.	1.4	125	1.3	122	8		4.5	8.5	4.0	
4	226	Detector	2.4	125	2.2	122	0		5.0	3.1	3.1	
5	226	1st. A.F.	1.4	125	1.3	120	8		4.0	7.8	3.8	
6	171A	2nd. A.F.	4.9	200	4.7	132	30		16.0	18.0	2.0	
7	200	Rectifier	-	-	4.8	-	-		20.0	-	-	



Model 33 DC A-F Chassis

R. C. A. VICTOR CO., INC.

MODEL Victor R-35, R-39,  
RE-57  
A-F Chassis, Voltage

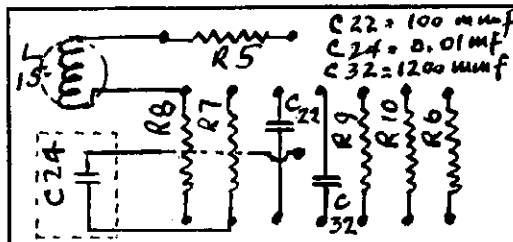
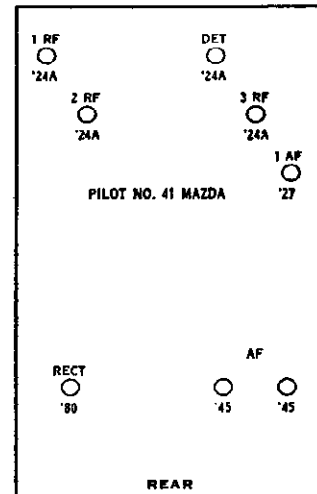


Bottom View of Amplifier-Speaker Unit, showing Wiring between Terminals.

VICTOR—Model “Micro-Synchronous”  
Line Voltage 112—Voltage Tap 120—Volume Control Full

TUBE NO. IN ORDER TUBES	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET						MILLIAMPERES		
			OPERATING VOLTAGES			FILAMENT			PLATE	TUBE TEST	PLATE CURRENT (50 OHMS)
			FILAMENT OF HEATER	PLATE V. GRID-SPACE	POWER GRID-SPACE	SCREEN GRID-SPACE	CATHODE TO HEATER	SCREEN TO PLATE	PLATE A. N. 50	TUBE TEST	PLATE CURRENT (50 OHMS)
1	224	1 R.F.	2.15	172	2.5	80	-	-	2.5	5	2.5
2	224	2 R.F.	2.15	172	2.5	80	-	-	2.5	5	2.5
3	224	3 R.F.	2.15	172	2.5	80	-	-	2.5	5	2.5
4	224	Det.	2.15	75P	-	2.5	6	-	-	-	-
5	227	1 A.F.	2.15	55	-	0	-	-	1.5	1.0	.3
6	245	PP-AF	2.25	185	-	36	-	-	10	22	3.0
7	245	PP-AF	2.25	185	-	36	-	-	19	22	3.0
8	800	-	4.0	-	-	-	-	36	36	-	-

Models Victors R34, R35, R39, RE57, RE73 (1930)



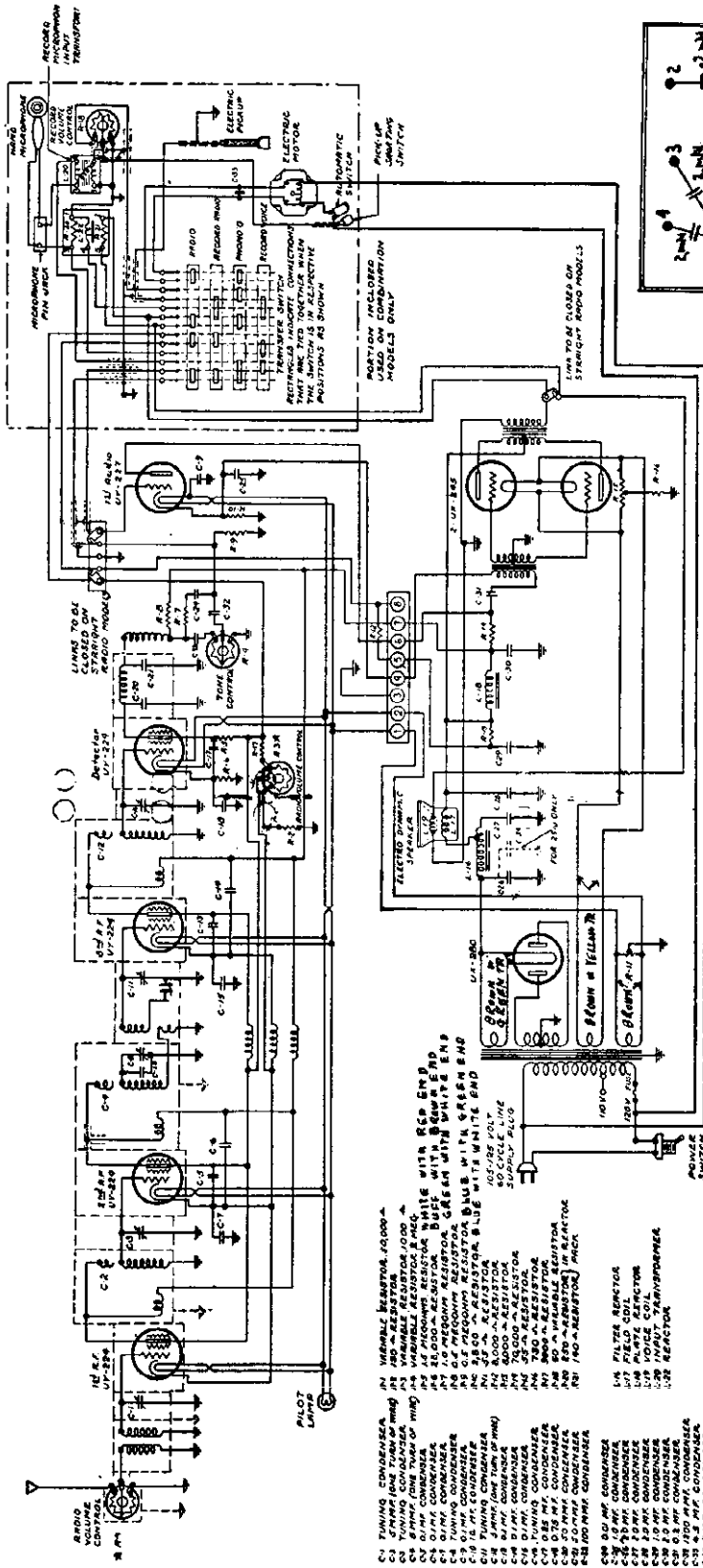
Resistor board on radio chassis.

VOLTAGES ACROSS AMPLIFIER TERMINAL STRIP

Between 1 and 2 2.6 volts AC  
 3 and 7 300. volts DC (The radio chassis is disconnected during these tests)  
 3 and 6 275. volts DC  
 3 and 8 295. volts DC

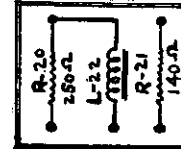
MODEL Victor R-35, R-39  
RE-57  
Schematic

R. C. A. VICTOR CO., INC.

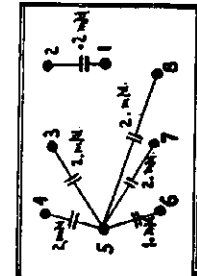


- C-1 TUNING CONDENSER
- C-2 TUNING CONDENSER
- C-3 TUNING CONDENSER
- C-4 TUNING CONDENSER
- C-5 TUNING CONDENSER
- C-6 TUNING CONDENSER
- C-7 TUNING CONDENSER
- C-8 TUNING CONDENSER
- C-9 TUNING CONDENSER
- C-10 TUNING CONDENSER
- C-11 TUNING CONDENSER
- C-12 TUNING CONDENSER
- C-13 TUNING CONDENSER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

NOTE-Broken lines along sides indicate grounded shielding.



MICROPHONE  
REACTOR -  
TERMINALS AND  
CONNECTIONS.



FILTER CONDENSER BANK.

INTERSTAGE AND OUTPUT TRANSFORMER COLOR CODES

Interstage transformer  
 Primary start-Red-yellow tracer  
 Primary midtap-Red  
 Secondary start-Yellow  
 Secondary finish-Black

Output transformer  
 Primary start-Blue  
 Primary midtap-Red  
 Secondary start-Blue  
 Secondary finish-Black

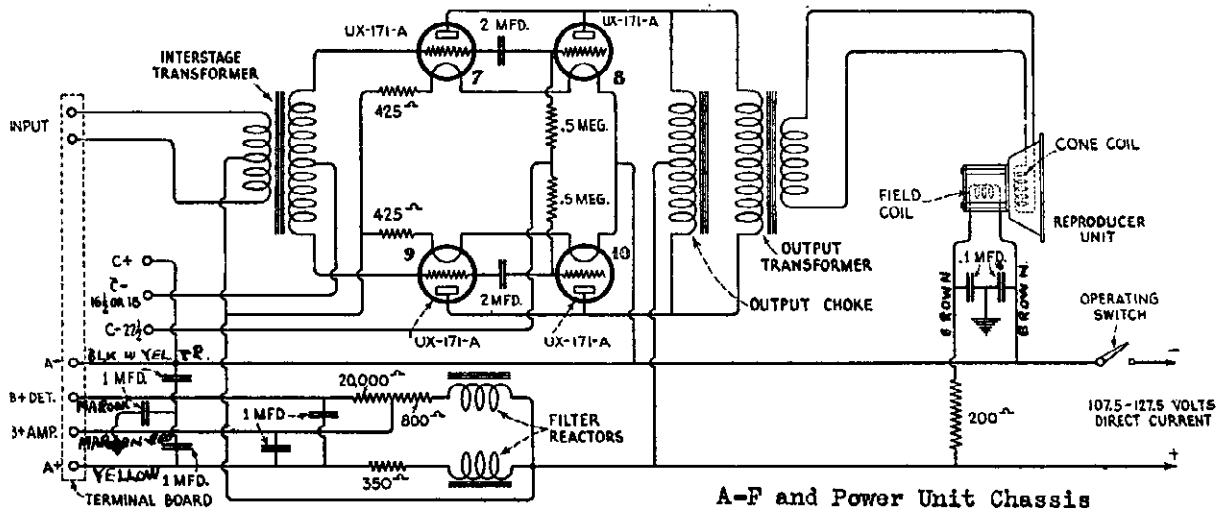
POWER TRANSFORMER COLOR CODE

Primary-Black-red tracer  
 Primary tap-Black-red, 50/50  
 Primary-Black  
 250 filament-Brown-green tracer  
 245 filament-Brown-green tracer  
 245 filament-Brown-yellow tracer

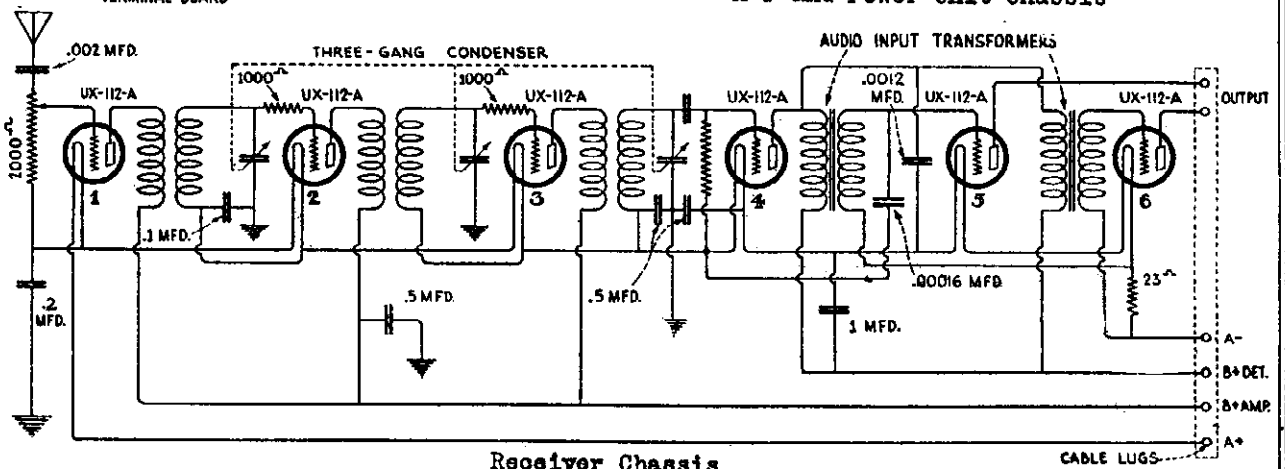
Plate winding-Black-blue tracer  
 Plate midtap-Yellow-red tracer  
 Plate winding-Black-blue tracer  
 224-227 heaters-Brown  
 224-227 heaters-Brown

R. C. A. VICTOR CO., INC.

MODEL Radiola 41 DC



A-F and Power Unit Chassis

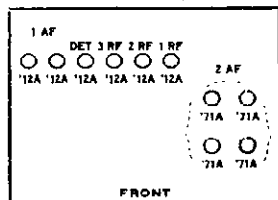


Receiver Chassis

VOLTAGES

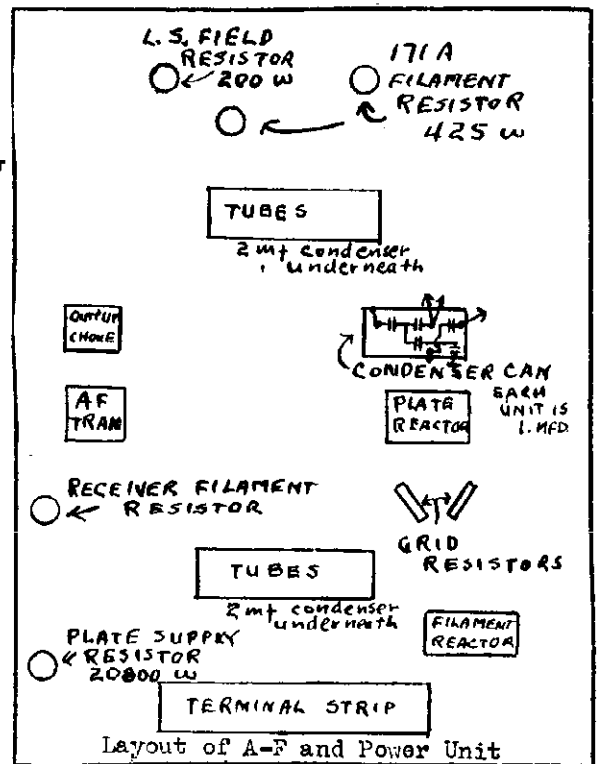
Tube	+Fil.-Grid	Fil.-Plt.	Pl.Crnt.	Fil. V
1	4.2	22	1.5 ma	4.3
2	4.1	26	2.0	4.4
3	4.2	31	2.4	4.5
4	4.0	15	1.0	4.6
5	10.	95	6.0	4.8
6	10.	100	7.0	5.0
9	27.	100	6.5	4.8
10	4.	95	6.5	5.0
7	27.	100	7.0	5.0
8	4.	95	6.5	5.0

Model Radiola 41 DC (1928)



TERMINAL VOLTAGES

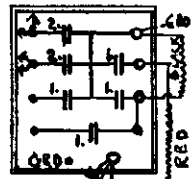
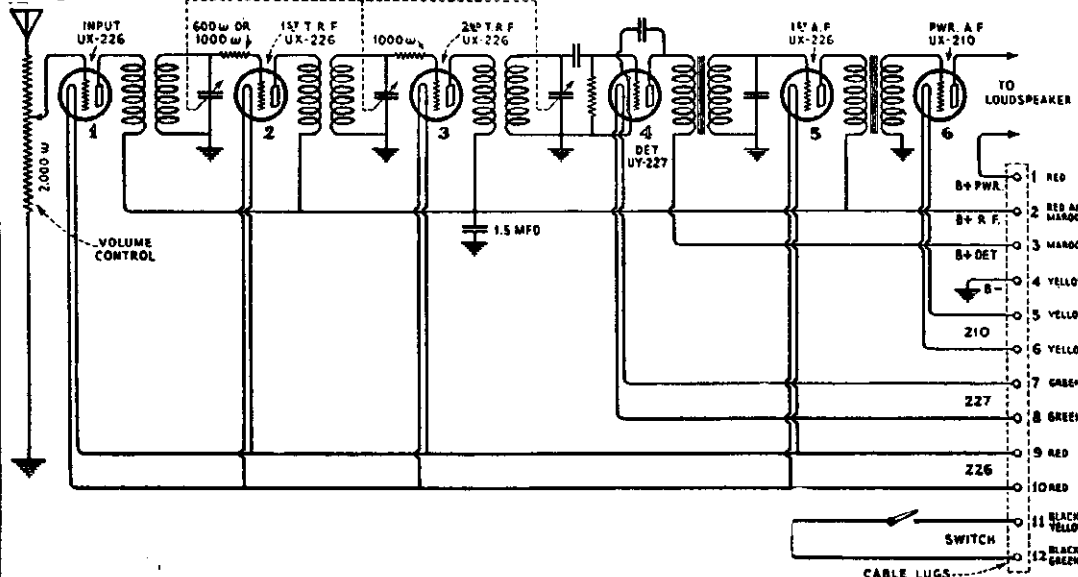
- 120 Volt DC Line
- A- to A+ 35 volts
- A+ to B+Det 5 volts
- A+ to B+AMP 21 volts



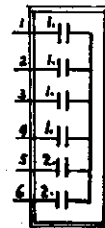
Layout of A-F and Power Unit

MODEL Radiola 41 AC  
R-F Chassis  
Sterling SPU  
Receptor SPU

R. C. A. VICTOR CO., INC.



CONDENSER CAN IN RECEPTOR S.P.U.



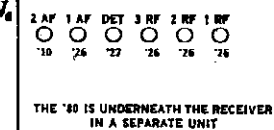
FILTER AND BYPASS CONDENSER CAN IN STERLING S.P.U.

STERLING

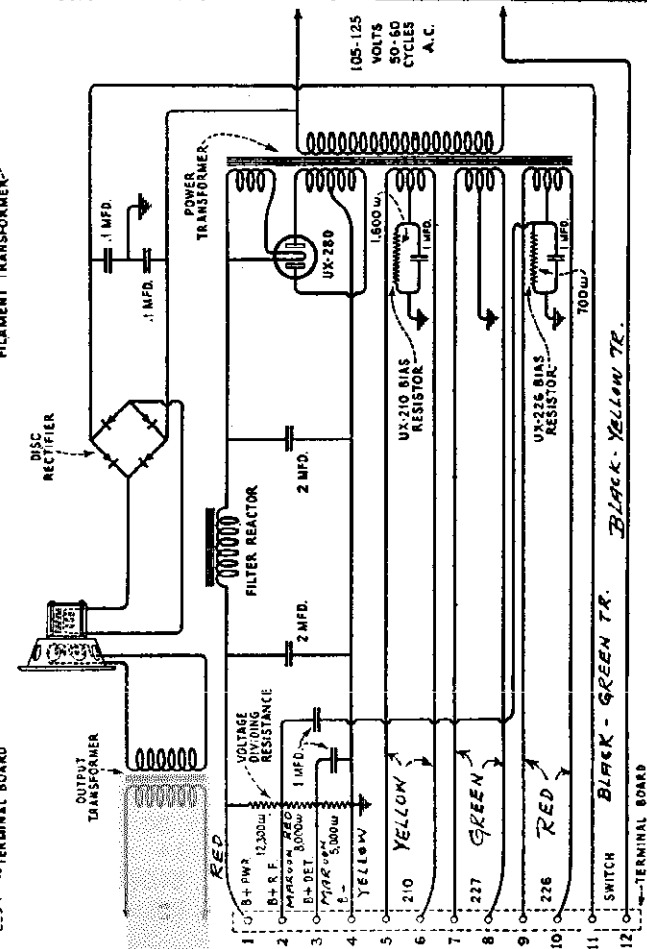
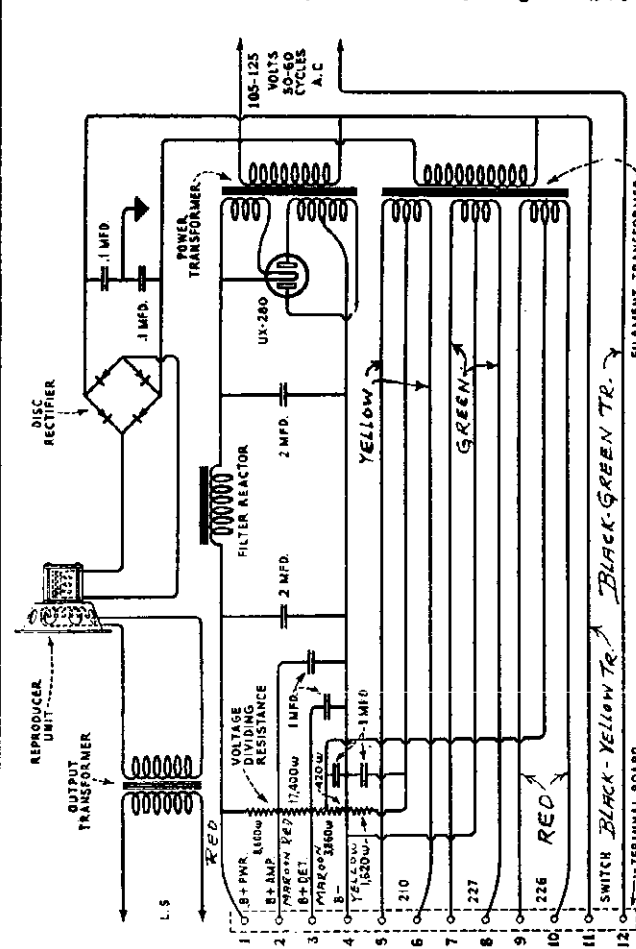
RECEPTOR

Tube	Grd. V.	Plt. V.	Plt. Crnt.	Fil. V.	Tube	Grd. V.	Plt. V.	Plt. Crnt.	Fil. V.
1	10	125	3.5 ma	1.5	1	7.	93	2.5 ma	1.5
2	10	125	3.5	1.5	2	7.	93	2.5	1.5
3	10	125	3.5	1.5	3	7.	93	2.5	1.5
4	-	25	2.0	2.5	4	-	33	2.0	2.5
5	10	125	3.5	1.5	5	7.	93	2.5	1.5
6	20	300	16.	7.5	6	22.	310	16.	7.5

Model Radiola 41 (1928)

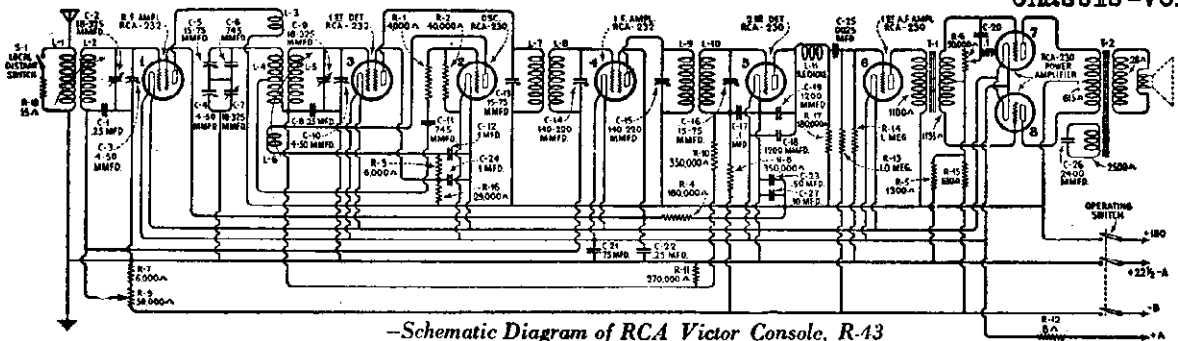


FRONT



R. C. A. VICTOR CO., INC.

MODEL R-43  
Schematic  
Chassis-Voltage



-Schematic Diagram of RCA Victor Console, R-43

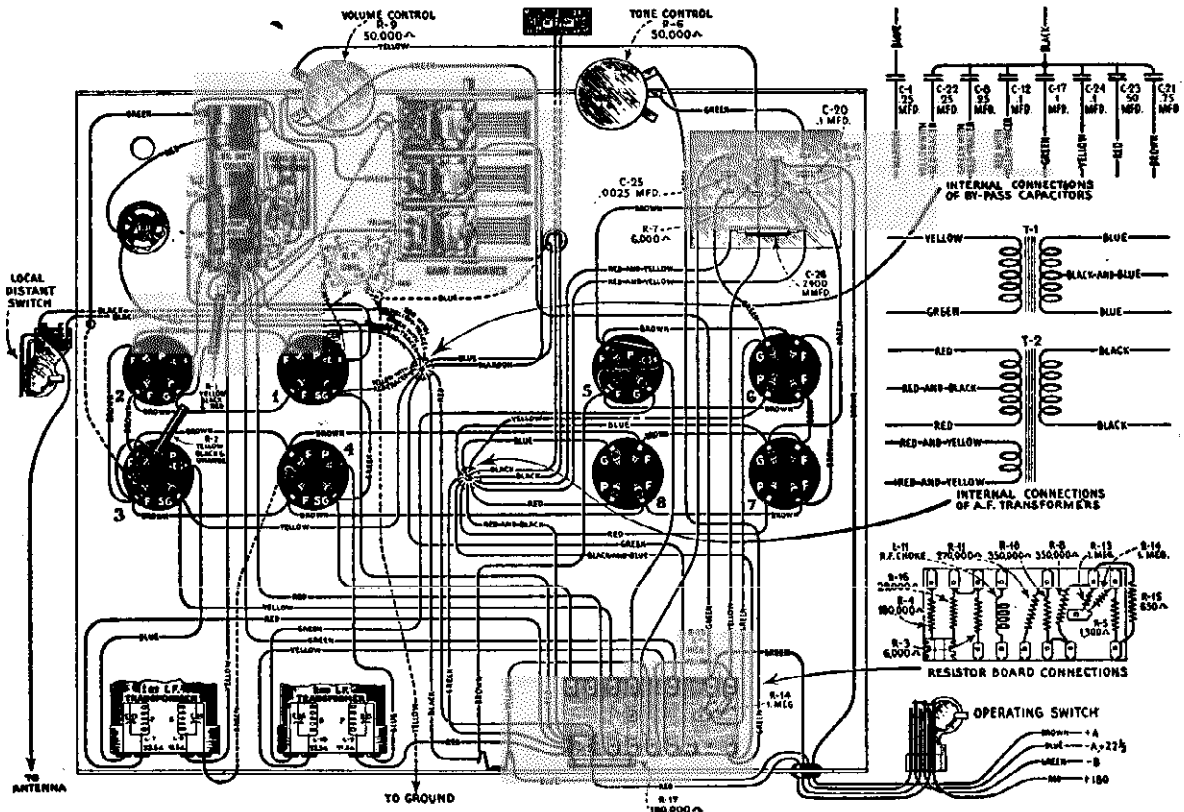
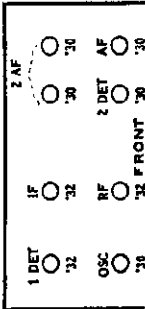
IF PEAK 175 KC.

BATTERIES AT FULL VOLTAGE—NO SIGNAL BEING RECEIVED

These voltages are those obtained with one of the usual set analyzers. The values indicated, therefore, are not necessarily the voltages that actually appear at the Radiotron Sockets when the voltmeter is not connected.

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

Model R-43 (1931)



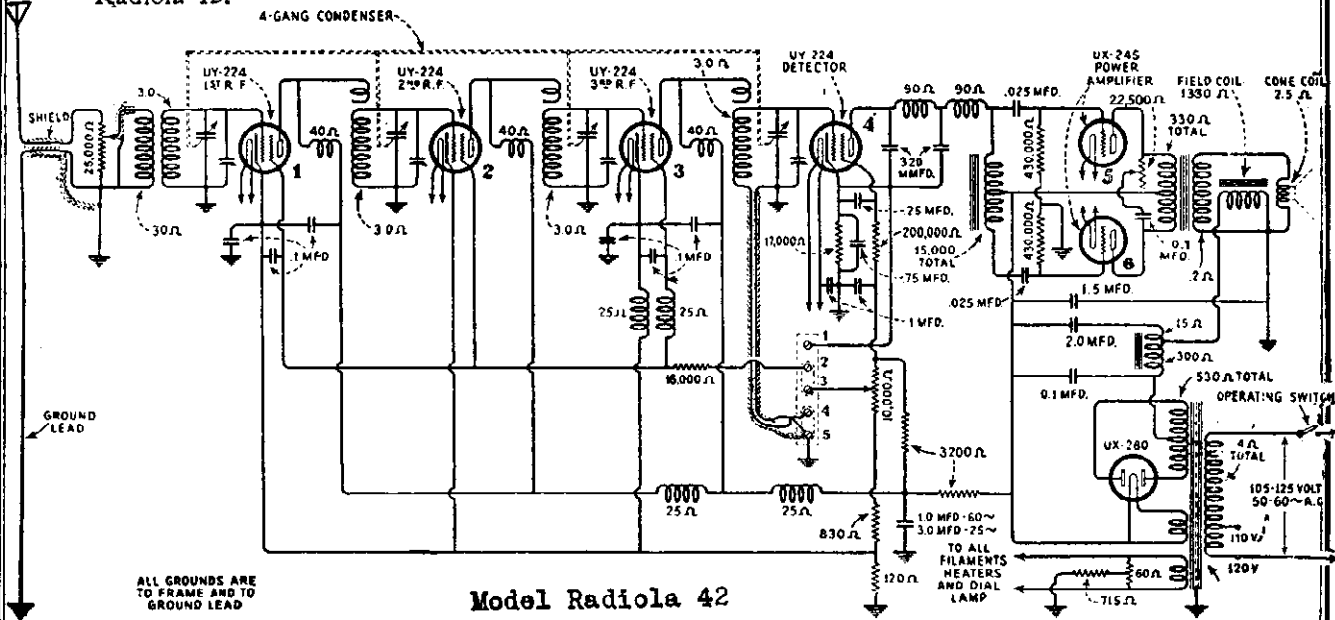
-Wiring Diagram of RCA Victor Console, R-43



**Radiola 42 Schematic  
Model R-43 Notes**

**R. C. A. - VICTOR CO., INC.**

All the information contained in the Radiola 48 Service Notes will therefore apply to the Radiola 42.



**Model Radiola 42**

It will be noted that a new volume control is used. The antenna section of this unit has a value of 25,000 ohms instead of 50,000 ohms as used in the Radiola 48. This volume control is also being used as a replacement in Radiola 48. The screen grid voltage section has a value of 10,000 ohms and the 12,000 ohm shunt resistor is not used. The 0.005 mfd. condenser across the plates of Radiotrons UX-245 has been omitted due to the connection of the tone control in the same position. When making replacements of the condenser and reactor unit it will be necessary to clip the two leads that are connected to the .005 mfd. condenser close to the container. The reason for this is that the replacement unit supplied is suitable for either the Radiola 42 or 48.

**Model R-43 Service Notes**

The RCA Victor Console, R-43 is an eight tube screen grid battery operated Super-Heterodyne radio receiver.

Three Radiotrons RCA-232 are used in the R.F., 1st detector and I.F. stages respectively. Five Radiotrons RCA-230 are used in the Oscillator, 2nd detector, 1st audio and push-pull power stage.

A reference to the RCA Victor Radiola Superette Service Notes will give the details of circuit operation up to and including the second detector. The audio circuits of the R-43 are however, considerably different from the R-7. A discussion of their function follows:

The first audio stage operates in the usual manner, its output being fed into the grid circuit of the push-pull stage. The output stage is of the push-pull type, in which the tubes are biased to substantially plate current cut-off. The arrangement is such that the output stage may deliver substantially four times the output that would be obtained with the same tubes operated in the usual circuit. This system is very economical due to there being but a small amount of residual plate current flowing in the output stage.

Current is drawn only when a modulated signal is being received.

An extra winding, shunted by a capacitor, is placed on the output transformer. The purpose of this circuit is to provide a high frequency cut-off for the audio amplifier.

A tone control is provided, which consists of a 0.1 mfd. capacitor and a 50,000 Ohm variable resistor connected across one half of the secondary of the input transformer. This circuit functions to reduce the high frequency output as the resistance is decreased.

The permanent magnet dynamic loudspeaker used with this receiver is a new development and gives all the fine quality and life-like reproduction inherent in this type of reproducer.

The receiver is designed for use with the new Eveready Aircell "A" battery which provides a life in excess of 600 ampere hours. The receiver draws but .48 amperes, giving approximately 1200 hours life from a single filament battery.

The plate and grid supply for all Radiotrons is furnished from four heavy duty "B" batteries. Due to the

low current drain—8 to 15 M.A.—excellent life is obtained from this source of current.

**SERVICE DATA**

A reference to the RCA Victor Superette, R-7 Service Notes will give complete details on R.F., oscillator and I.F. adjustments as well as the usual service information required with this type of receiver.

**BATTERIES**

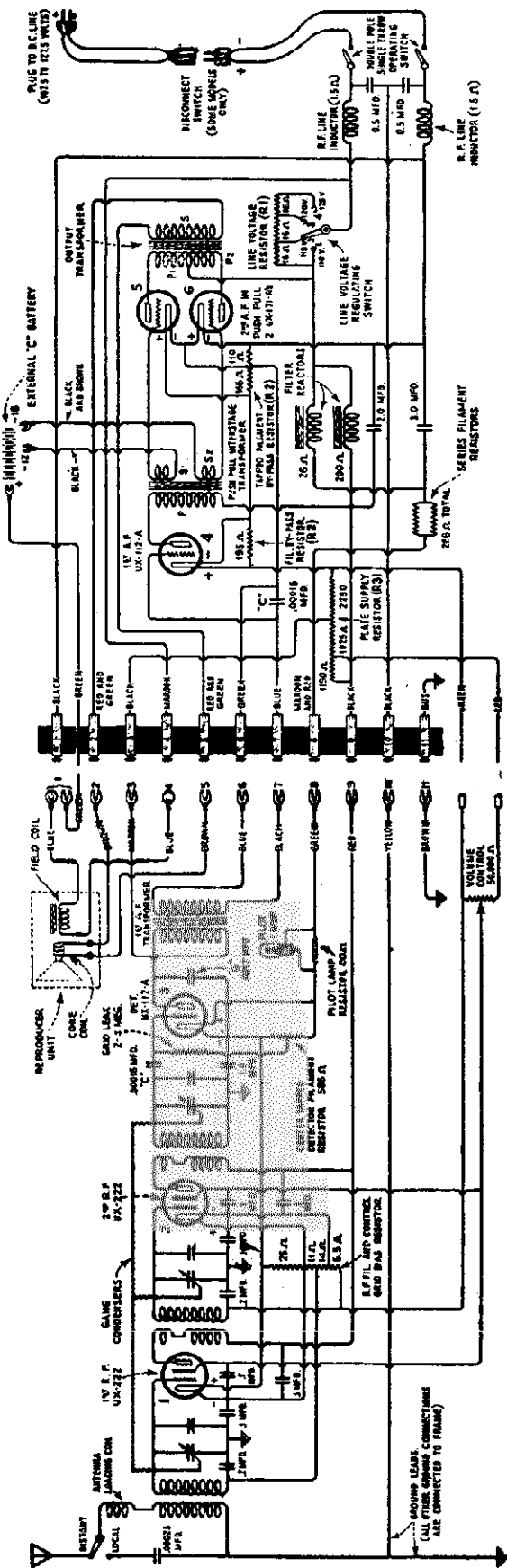
The Eveready Aircell "A" battery must be kept clean and the plates covered with water at all times. Operation at temperatures of 40 degrees Fahrenheit or lower is not recommended and if attempted will result in damage to the battery. Having the battery idle at this temperature does not in any way affect it. If it is essential that an installation be made where the receiver is to be operated at 40 degrees Fahrenheit or less, a single cell storage battery should be used. Due to the low current drain, excellent life from one charging will be obtained.

"B" batteries should be replaced when their output voltage has dropped 25% under load.

**SPECIAL NOTE\*\* Material within border very important information**

R. C. A. VICTOR CO., INC.

MODEL Radiola 46 DC  
 MODEL Radiola 44 AC  
 Terminal Voltage  
 MODEL Radiola 46 AC  
 Terminal Voltage



Model 44 AC Terminal Voltage

Terminals	Vol. Control at Min.	Vol. Control at Max.
1 to 2	2.5 A.C.	2.5 A.C.
3 to Red VC lead	185. D.C.	170. D.C.
4 to 5	70. D.C.	60. D.C.
6 to 9	195. D.C.	180. D.C.
6 to 10	5. D.C.	5. D.C.
8 to 10	330. D.C.	330. D.C.
Red VC lead to 10	2.1 D.C.	2.1 D.C.
Arm of VC lead to Red VC lead	0.	70. D.C.

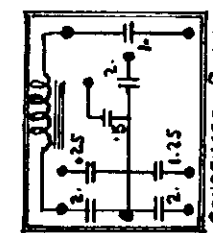
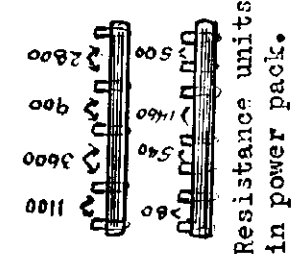
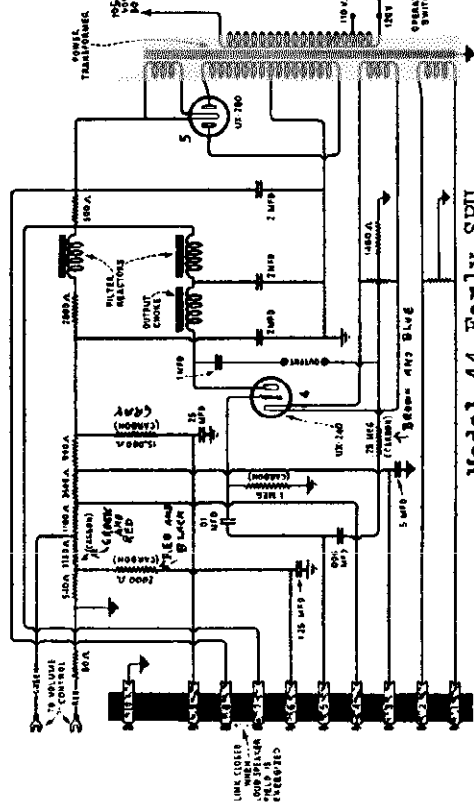
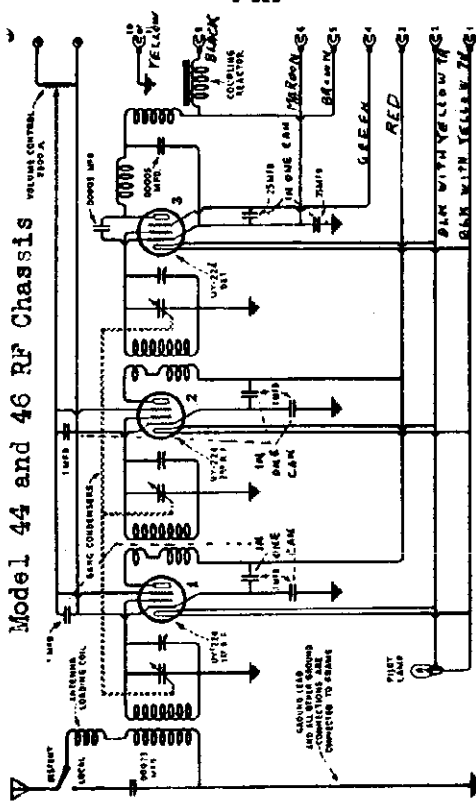
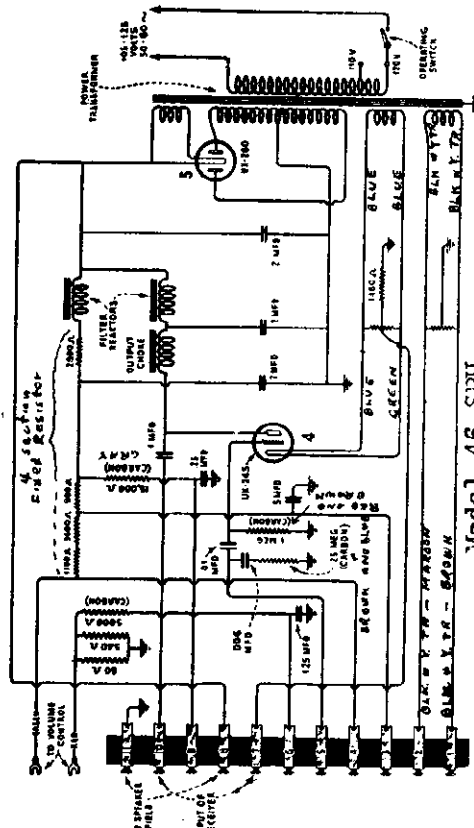
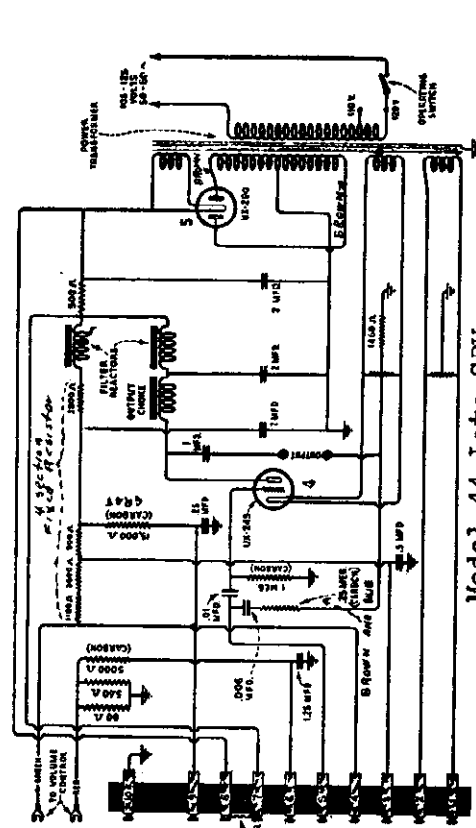
Model 46 AC Terminal Voltage

Terminals	Voltage Control at Min.	Voltage Control at Max.
1 to 2	2.5 A.C.	2.5 A.C.
3 to Red VC lead	185. D.C.	170. D.C.
4 to 6	70. D.C.	65. D.C.
6 to 9	195. D.C.	180. D.C.
6 to 11	5. D.C.	5. D.C.
8 to 11	320. D.C.	320. D.C.
Red VC lead to 11	2.1 D.C.	2.1 D.C.
Arm of VC lead to Red VC lead	0.	70. D.C.

GROUND LEADS (ALL OTHER GROUND CONNECTIONS ARE CONNECTED TO FRAME)

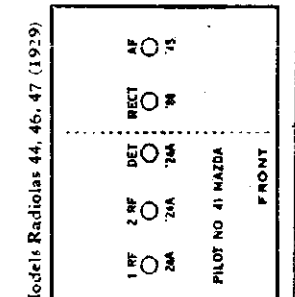
MODEL 44,46 RF Chassis  
 MODEL 44 Early SPU  
 MODEL 44 Late SPU  
 MODEL 46 SPU

R. C. A. VICTOR CO., INC.



**RADIOLA—Models 44-46**  
 Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max

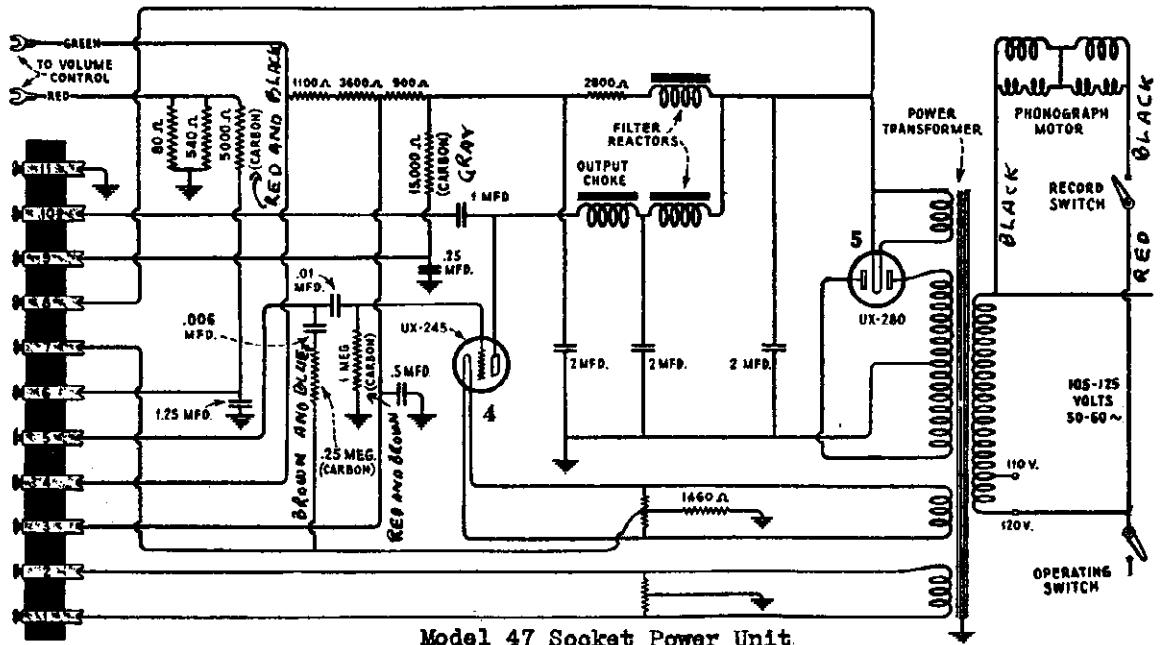
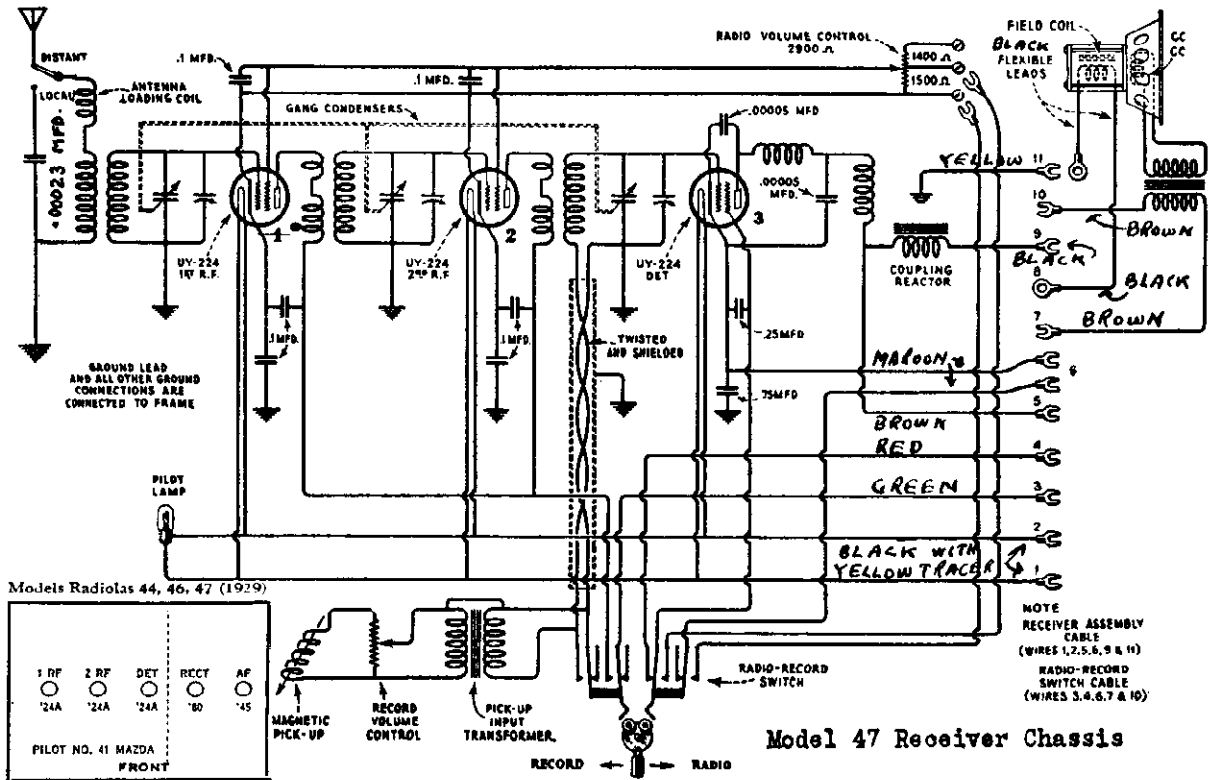
TUBE IN ORDER	TYPE OF TUBE	POSITION	RESISTANCE PLUS IN SOCKET OF TUBE												
			1	2	3	4	5	6	7	8	9	10			
1	2B4	1st RF	2.50	164	2.35	164	1.5	1.5	3.2	2.3	45.0				
2	2B4	2nd RF	2.50	164	2.35	164	1.5	1.5	3.2	2.3	45.0				
3	2B4	Det.	2.50	164	2.35	164	6.0	7.0	0.1	0.8	0.7	50.0			
4	2A8	Aud. 1	2.65	356	2.5	200	6.0	-	32.0	34.0	2.0	-	-	-	
5	2B0	Rect.	5.2	-	5.0	260	-	-	50.0	-	-	-	-	-	



Models Radiolas 44, 46, 47 (1929)

MODEL Radiola 47

R. C. A. VICTOR CO., INC.

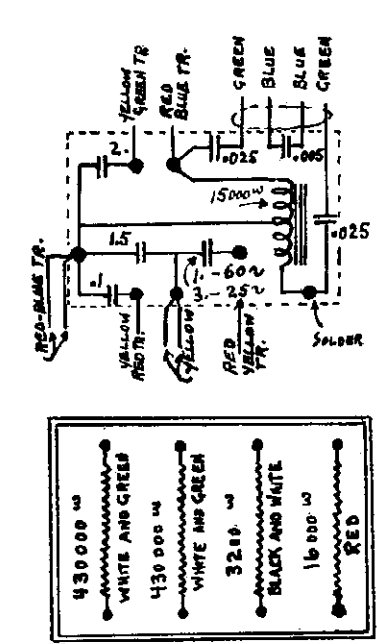
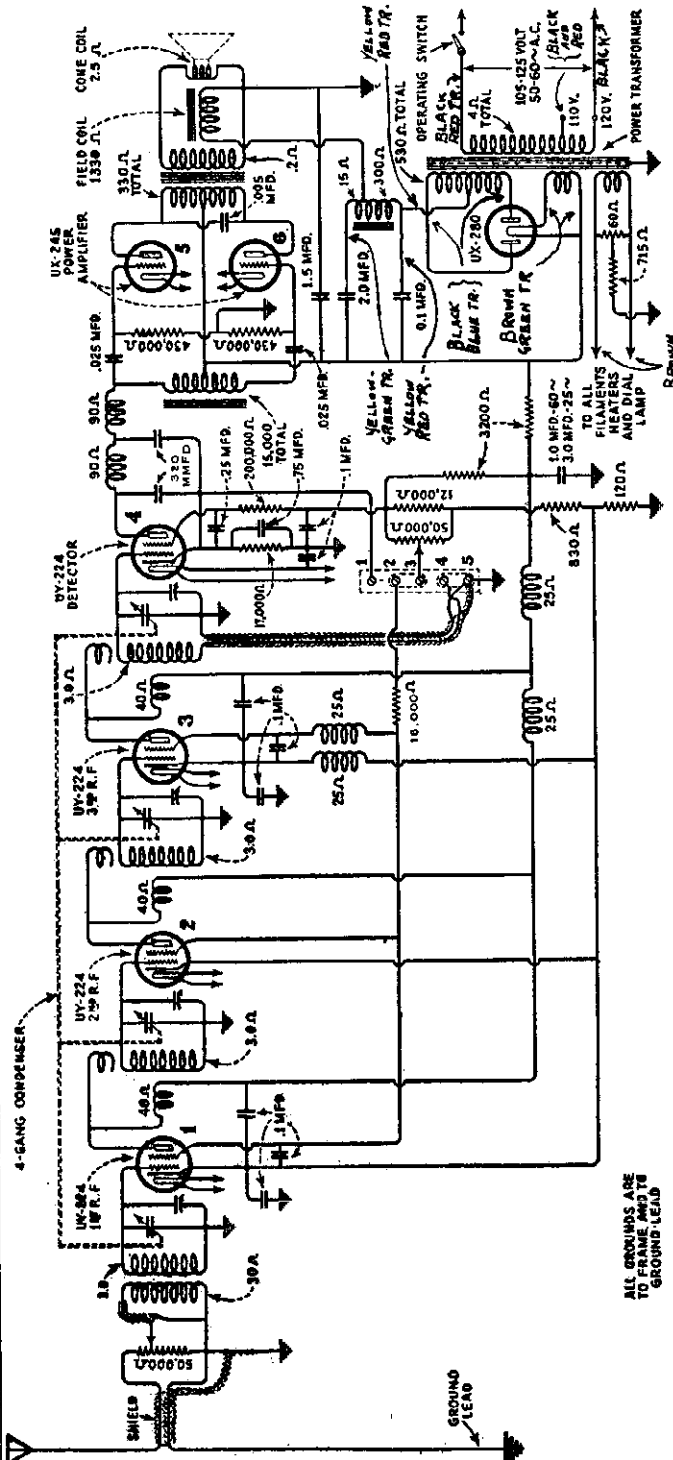
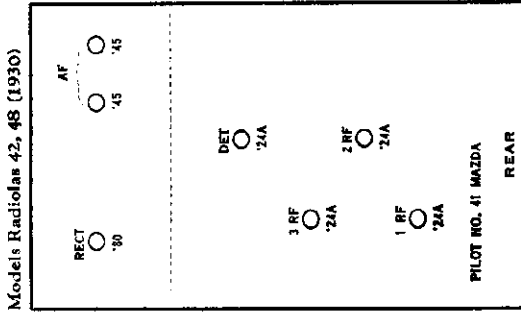


**SOCKET VOLTAGES—RADIOLA 47**

Volume Control at Minimum—Radio-Record Switch at "Radio"

Socket No.	Cathode to Heater Volts	Fil. to Control Grid Volts	Cathode or fil. to plate Volts	Plate Current Millamperes	Filament or Heater Volts
1	2.1	—	190	0	2.35
2	2.1	—	185	0	2.35
3	18	—	120	3.0	2.35
4	—	6.0	225	29.0	2.35

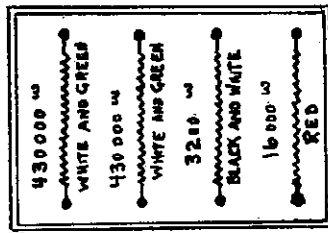
R. C. A. VICTOR CO., INC.



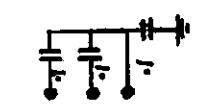
Socket Voltages. (120 Volt Line.) VOL. CONTR. AT MAXIMUM.

Tube No.	Cath. to Heater V. D.C.	Cath. or Contr. Gr. V. D.C.	Cath. to Screen Gr. V. D.C.	Cath. to Fil. to Plate V. D.C.	Plate Current Ma.	S.G. Current Ma.	Heater or Fil. Volts.
1	-40	-2.5	+85	160	3.	0.2	2.3
2	-36	-2.5	+85	155	3.5	0.15	2.3
3	-36	-2.5	+75	155	3.5	0.15	2.3
4	-28	-7.5	+55	225	0.5	0.1	2.3
5	---	-1.	---	200	25.	---	2.3
6	---	-1.	---	200	25.	---	2.3

Internal connections of Capacitor and Coupling Board Connections lining Reactor Pack



Bypass Condenser Units



Internal Connections of Volume Control



R. C. A. VICTOR CO., INC.

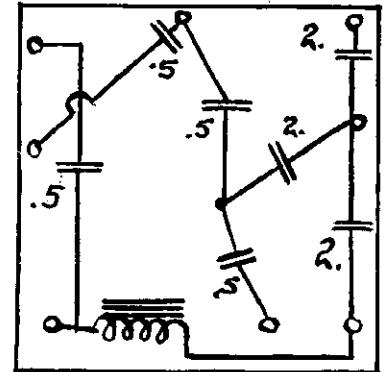
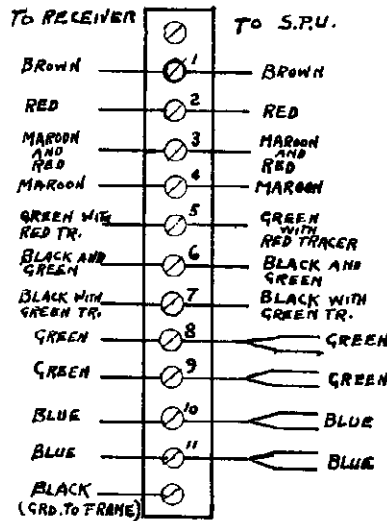
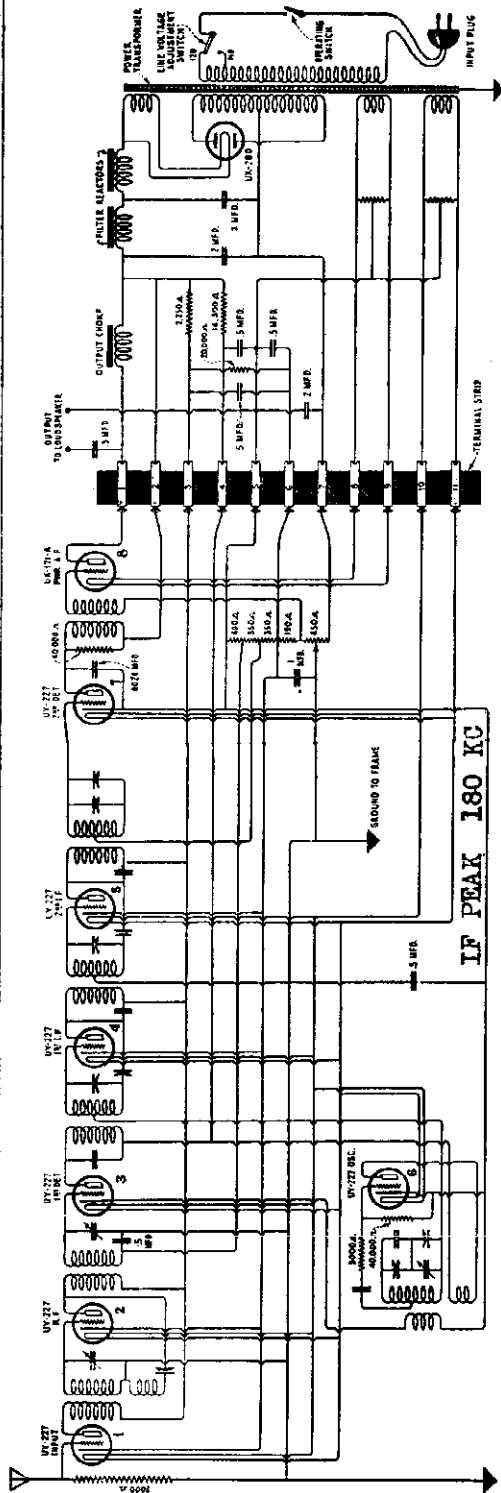
MODEL Radiola 60

RADIOLA 50

is the same as the Radiola 17 with the exception that it makes use of a 100-A speaker and the receiver is mounted in a console cabinet.

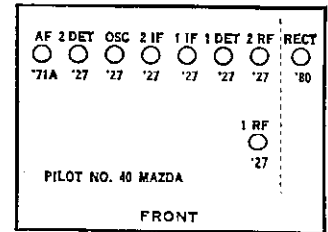
Radiola 51

is the same as the Radiola 18. The Radiola 51 AC is the same as the Radiola 18 AC, except that it is mounted in a console cabinet. The Radiola 51 DC is the same as the Radiola 18 DC, except that it is mounted in a console cabinet.



Filter, bypass condensers and output choke.

Models Radiolas 60, (1928)



Terminal Strip

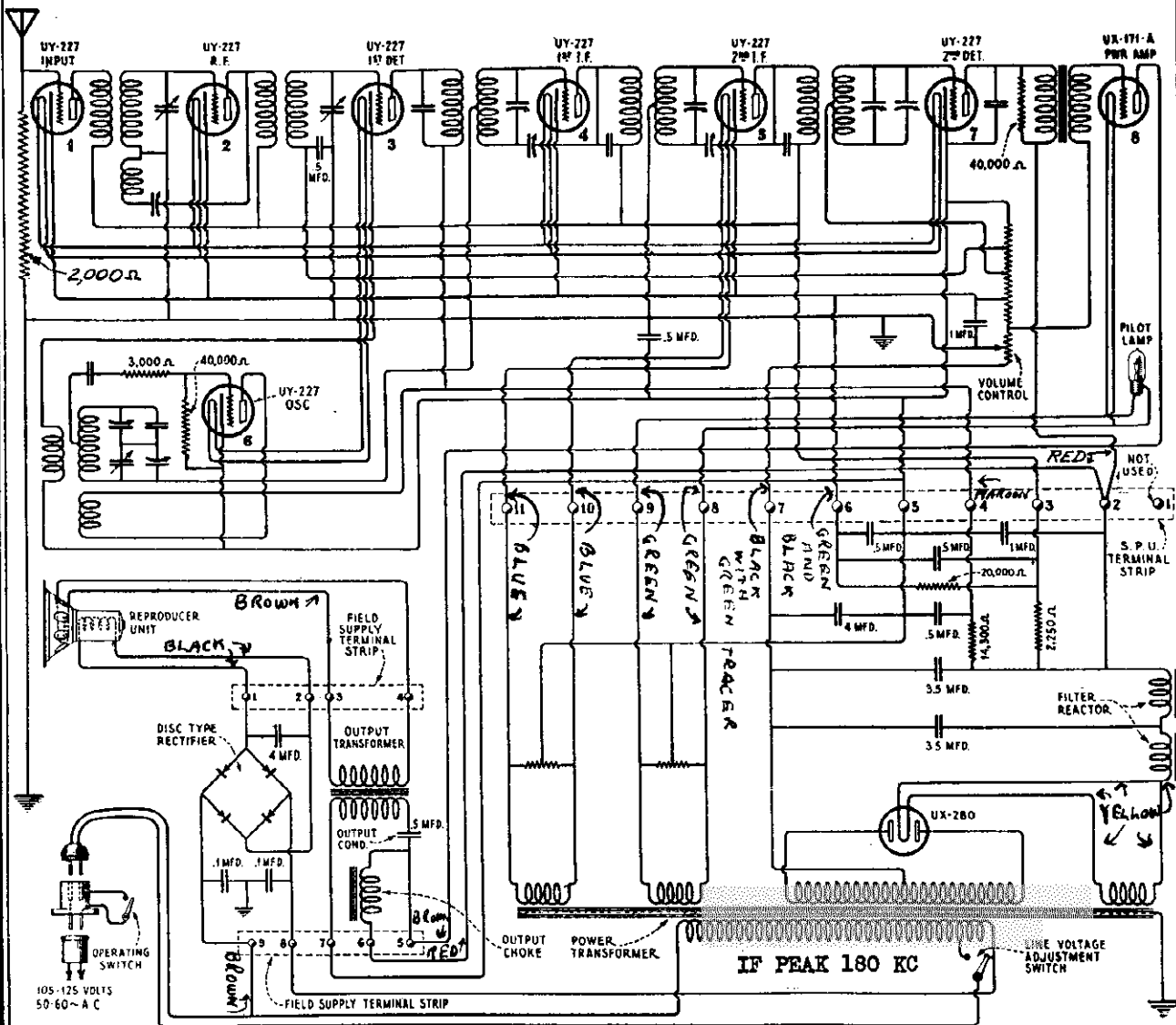
RADIOLA—Model 60

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (L, R, DET., ETC.)	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	G VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. ORANGE TEST	PLATE M.A. ORANGE	
1	227	Ant. Coupl.	2.35	148	2.2	144	18.0	25	1.0	3.0	2.0	
2	227	1st. R.F.	2.35	148	2.2	144	18.0	25	1.0	3.0	2.0	
3	227	1st. Det.	2.35	84	2.2	70	9.0	0	1.0	3.0	2.0	
4	227	1st. I.F.	2.35	148	2.2	144	18.0	25	1.0	4.0	3.0	
5	227	2nd. I.F.	2.35	148	2.2	144	18.0	25	1.0	4.0	3.0	
6	227	Oscillator	2.35	118	2.2	70	0.0	0	7.0	7.0	0.0	
7	227	2nd. Det.	2.35	162	2.2	157	18.0	0	1.0	8.0	2.0	
8	171A	1st. Audio	2.00	178	4.8	157	31.5		15.0	17.0	2.0	
9	280	Rectifier	5.00		4.8				19.0			

Note: The above readings were taken with a line voltage of 117 volts. The volume control should be set centrally with the line vertical in order to get the above readings. The "C" voltage on tubes 1, 2, 4, and 5 will vary from 9 to 27 volts; depending on the position of this volume control, hence, these readings are taken at the middle point.

MODEL Radiola 62

R. C. A. VICTOR CO., INC.



105-125 VOLTS  
50-60~ A C

**SOCKET VOLTAGES**

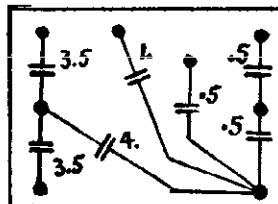
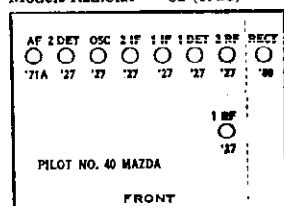
Tube	File. V.	Plt. V.	Grid V.	Pl. Crnt
Coupling	2.05	130	8.	3.5 ma
RF	2.05	130	8.	3.5
1 Det	2.05	80	8.	.5
1 IF	2.05	130	8.	3.
2 IF	2.05	130	8.	3.5
Oscil	2.05	75	-	5.
2 Det	2.05	150	15.	-
AF	4.4	180 c	39.	15.

**TERMINAL VOLTAGES**

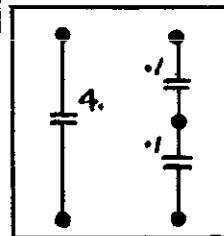
Between 2 and 7	210 volts DC
3 and 7	160 volts DC
4 and 7	110 volts DC
8 and 9	5 volts AC
10 and 11	2.5 volts AC

Output voltage of disc rectifier with field connected should be 100 volts.

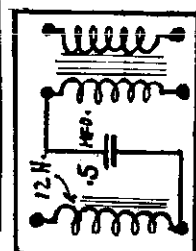
Models Radiolas 62 (1928)



Filter and Bypass Condensers



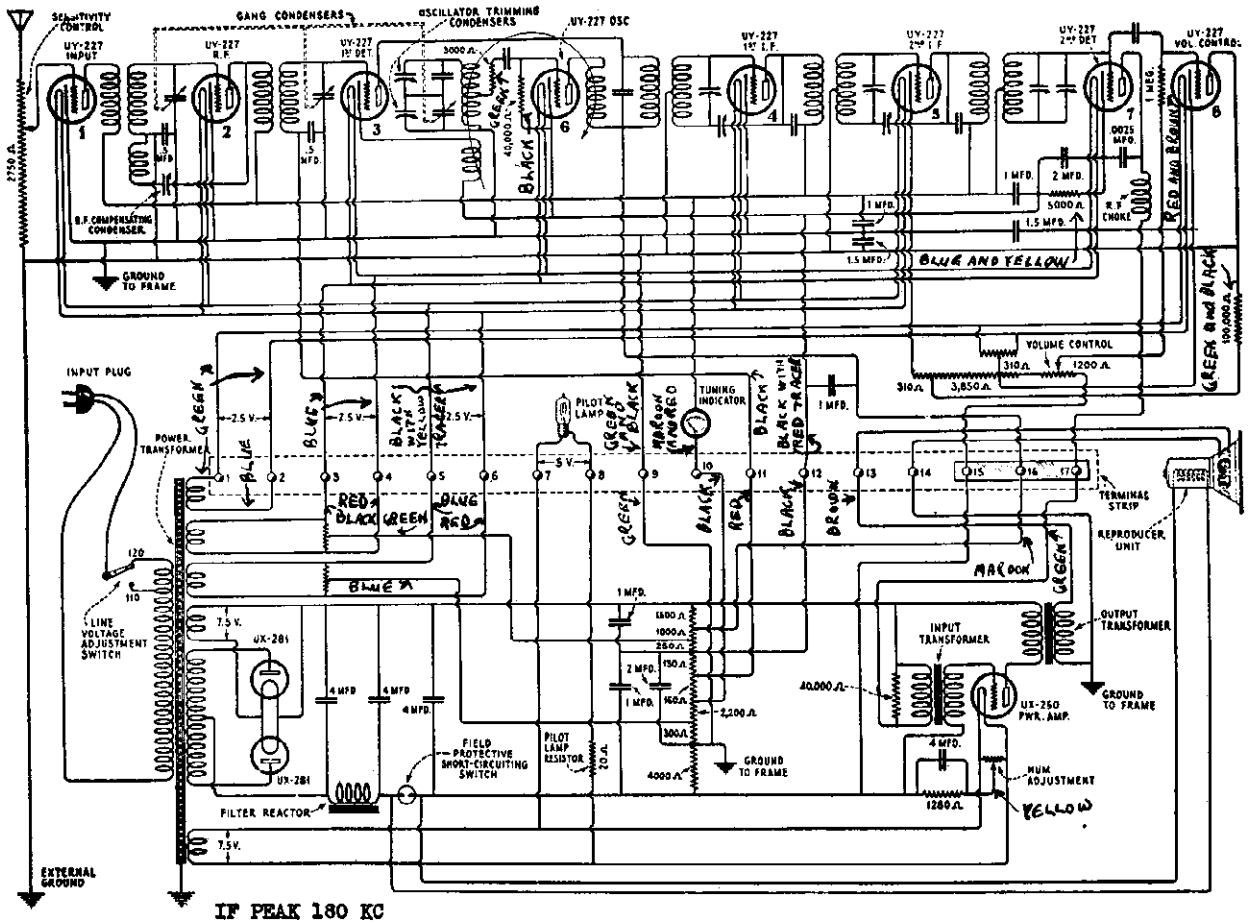
Condenser Bank for Field Supply



Coupling Unit

R. C. A. VICTOR CO., INC.

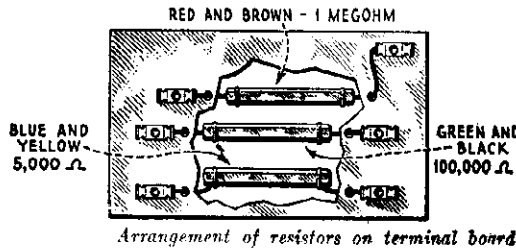
MODEL Radiola 64  
Schematic  
Voltage



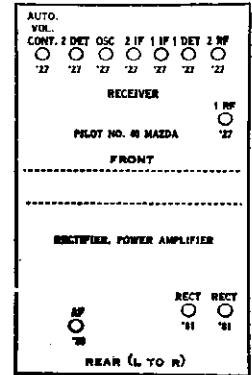
IF PEAK 180 KC

TERMINAL VOLTAGES

- 1 and 2 2.5 V. AC.
- 3 and 4 2.5 V. AC.
- 5 and 6 2.5 V. AC.
- 7 and 8 Light On 5.0 V. AC.
- 9 and 15 150. V. DC.
- 11 and 15 300. V. DC.
- 12 and 15 315. V. DC.
- 15 and 16 400. V. DC.
- 15 and 17 500. V. DC.

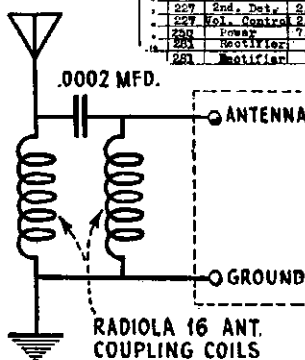


Model Radiola 64 (1928)



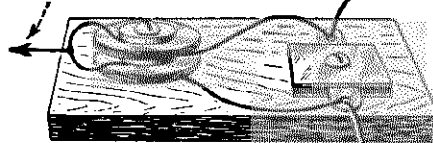
RADIOLA—Model 64  
Line Voltage 112—Volume Control Full

TUBE NO.	TYPE OF TUBE	POSITION OF TUBE IN SET, ETC.	TUBE OUT				TUBE IN TESTER			
			VOLTS	AMPS	VOLTS	AMPS	VOLTS	AMPS	VOLTS	AMPS
227	Ant. Coupl. S.C.	2-3	128	0.4	124	25	15.5	3.4	7.4	4.3
227	Tuned R.F.	2-3	128	0.4	124	25	16.0	3.3	7.1	3.8
227	1st. I.F.A.	2-3	80	0.4	75	25	16.0	2.12	5.2	2.8
227	2nd. I.F.A.	2-3	128	0.4	124	25	15.5	3.4	7.6	4.3
227	3rd. I.F.A.	2-3	128	0.4	124	25	15.5	3.4	7.6	4.3
227	Oscillator	2-3	80	0.4	75	25	13.0	7.0	7.6	4.6
227	2nd. Det.	2-3	180	0.4	176	25	13.5	—	—	—
227	Vol. Control	2-3	80	0.4	75	25	13.5	—	—	—
228	Power	7-8	554	0.2	592	65	—	52	55	57.0
281	Rectifier	7-8	—	—	—	—	—	50	—	—
281	Rectifier	7-8	—	—	—	—	—	50	—	—



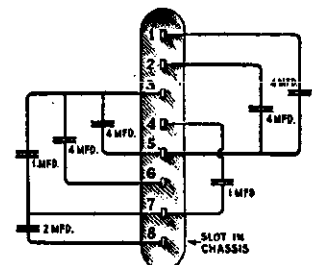
TO GROUND AND GROUND BINDING POST

TO ANTENNA BINDING POST



Long wave interference filter

TO ANTENNA

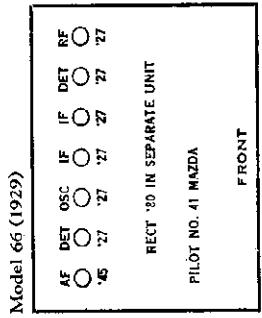
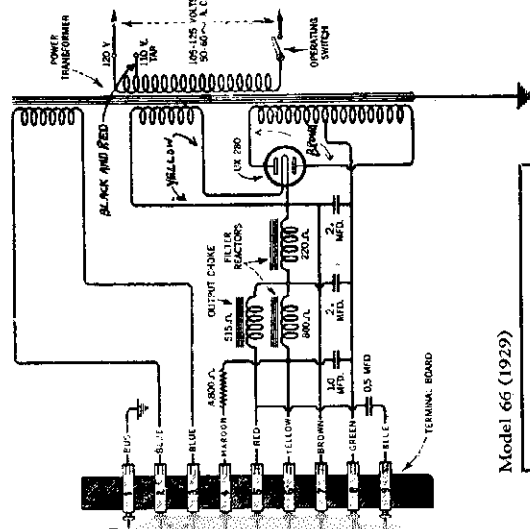


Internal connections of filter condensers

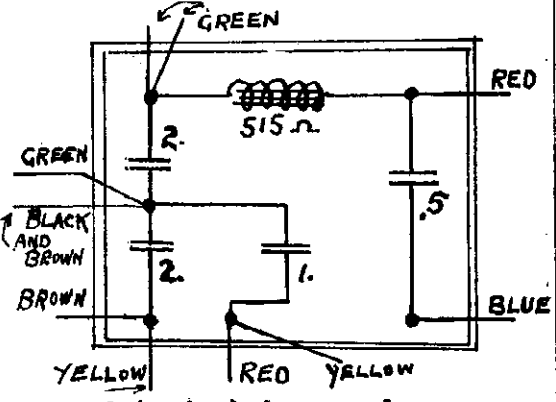
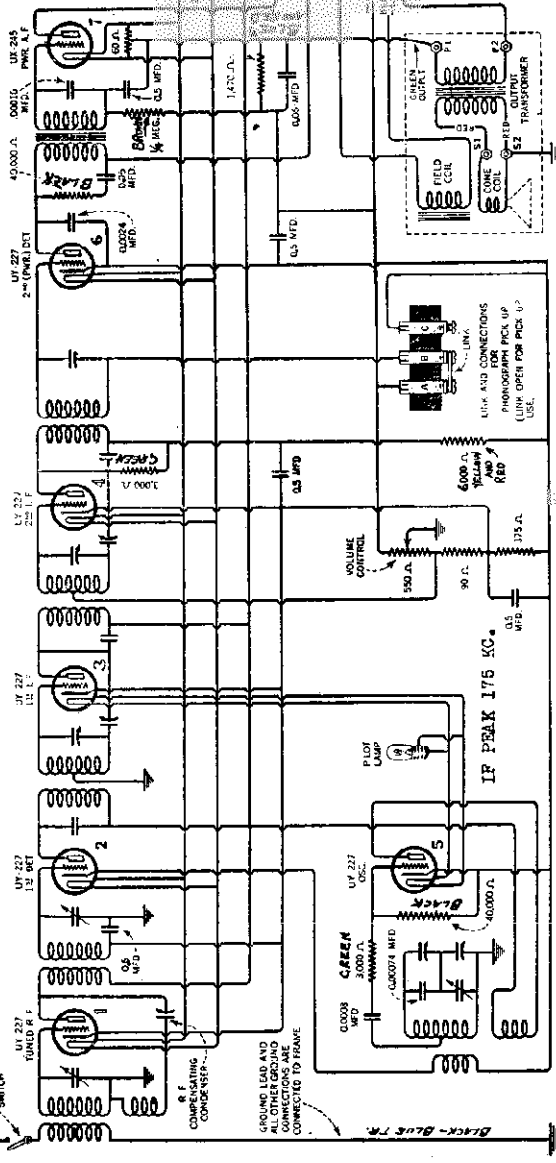


R. C. A. VICTOR CO., INC.

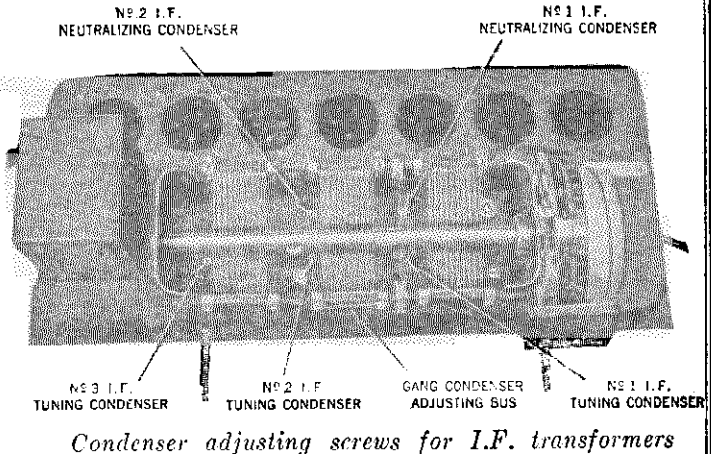
MODEL Radiola 66



Audio transformer and bypass condenser



Output choke, condenser and filter condenser.



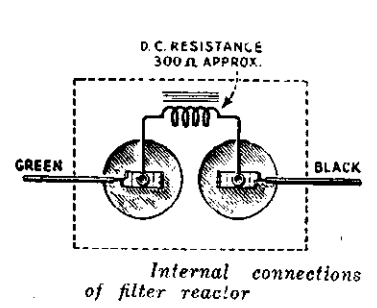
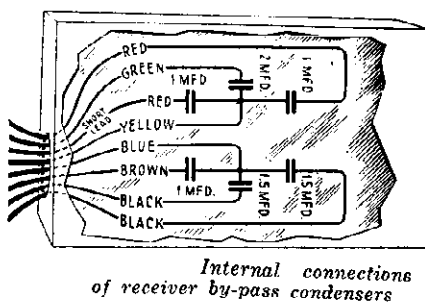
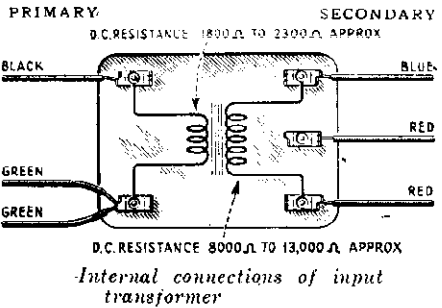
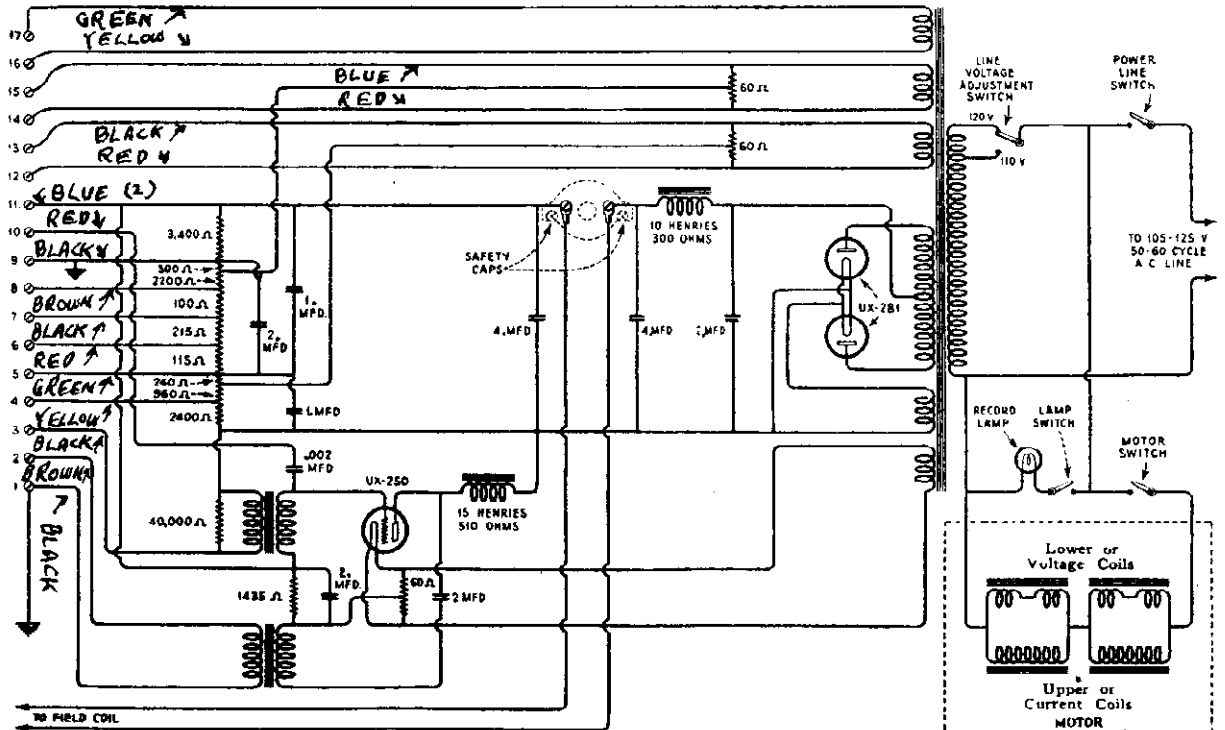
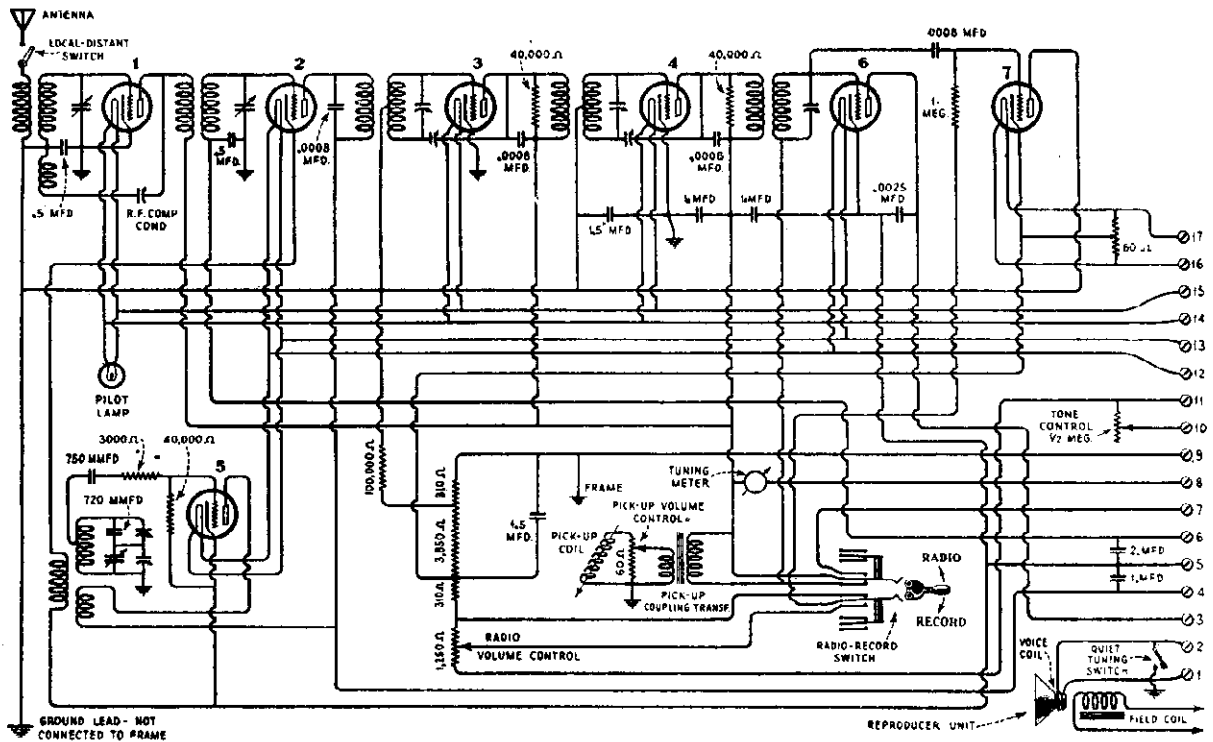
Condenser adjusting screws for I.F. transformers

**RADIOLA—Model 66**  
Line Voltage 120.0—Set on 120.0 Volt Tap—Volume Control Position Max

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST AF SET, ETC.	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
A	B	VOLTS	A	B	C	CATHODE HEATER VOLTS	NORMAL PLATE MA	PLATE MA @ TEST	PLATE CHANGE MA	SCREEN GRID VOLTS		
1	227	RF	2.65	83.0	2.4	80.0	3.0	24.0	4.5	8.0	4.1	-
2	227	1st Det	2.65	83.0	2.4	72.0	7.0	17.0	2.0	3.5	1.5	-
3	227	2nd IF	2.65	83.0	2.4	80.0	3.0	23.0	4.5	8.8	4.1	-
4	227	1st IF	2.65	83.0	2.4	80.0	3.0	25.0	4.5	9.8	4.1	-
5	227	OSC.	2.65	83.0	2.4	66.0	0.0	16.0	6.4	6.8	4.0	-
6	227	2nd Det	2.65	237.0	2.4	536.0	17.0	17.0	.1	1.0	.0	-
7	245	AF	2.65	237.0	2.4	224.0	17.0	-	32.0	34.0	2.0	-
8	250	Rect.	5.2	-	5.0	850	-	-	52.0	-	-	-

MODEL Radiola 67  
Schematic

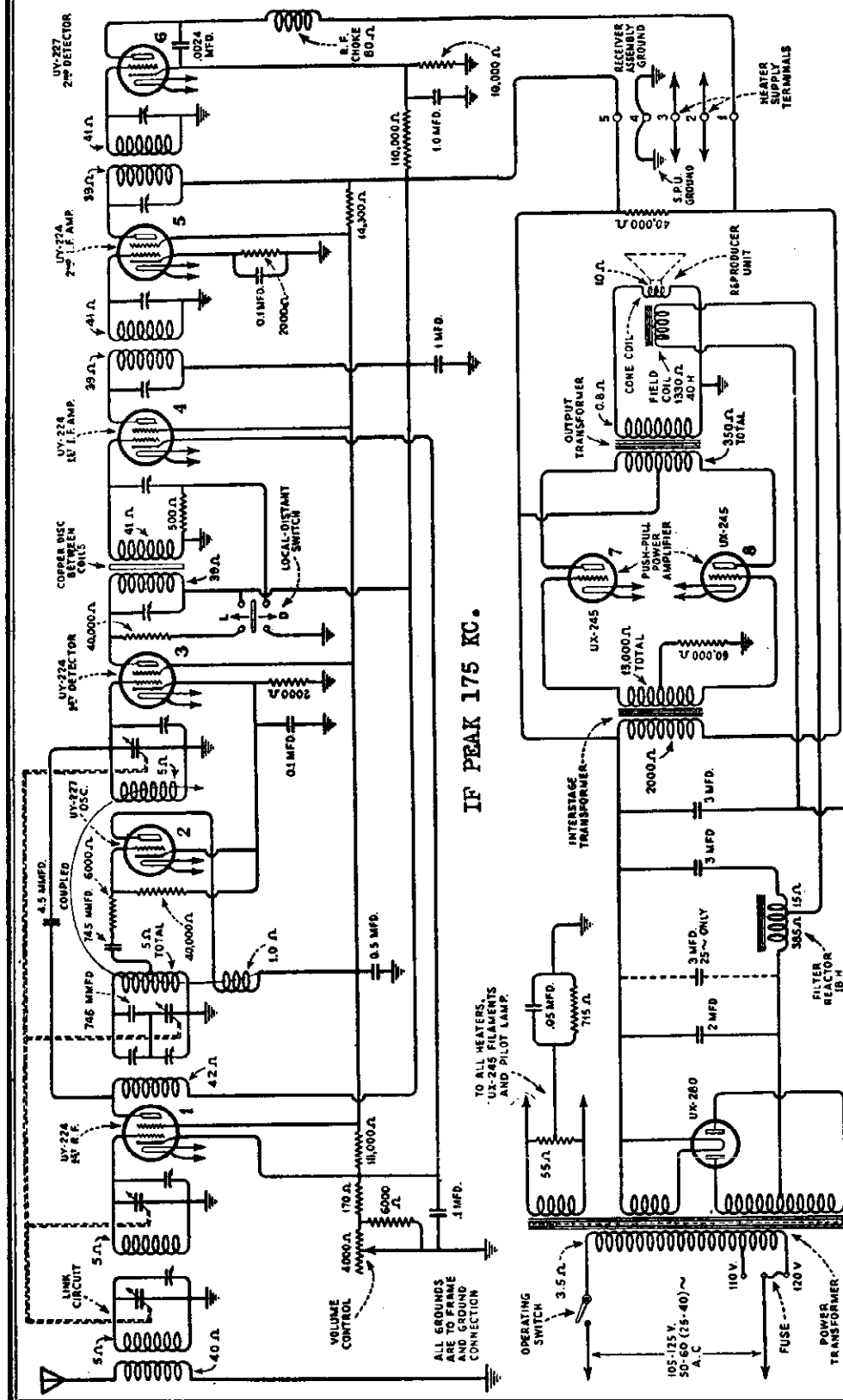
R. C. A. VICTOR CO., INC.



R. C. A. VICTOR CO., INC.)

MODEL Radiola 80  
Schematic  
Voltage

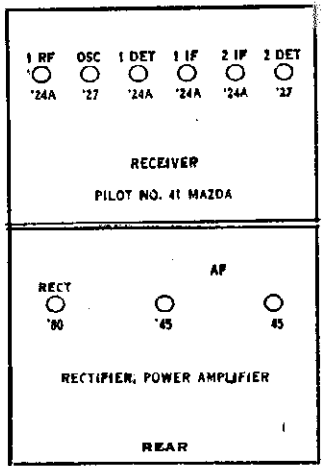
Models Radiolas 80.



IF PEAK 175 KC.

Volume Control at Maximum  
\*Not True Reading Due to Resistor in Circuit

Volume Control at Minimum

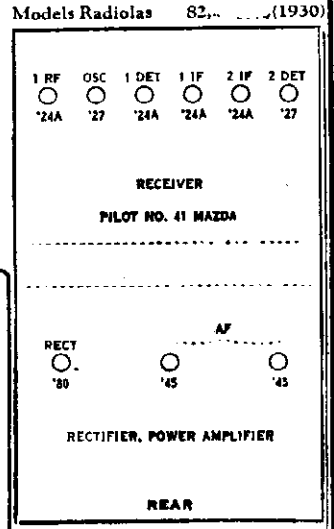
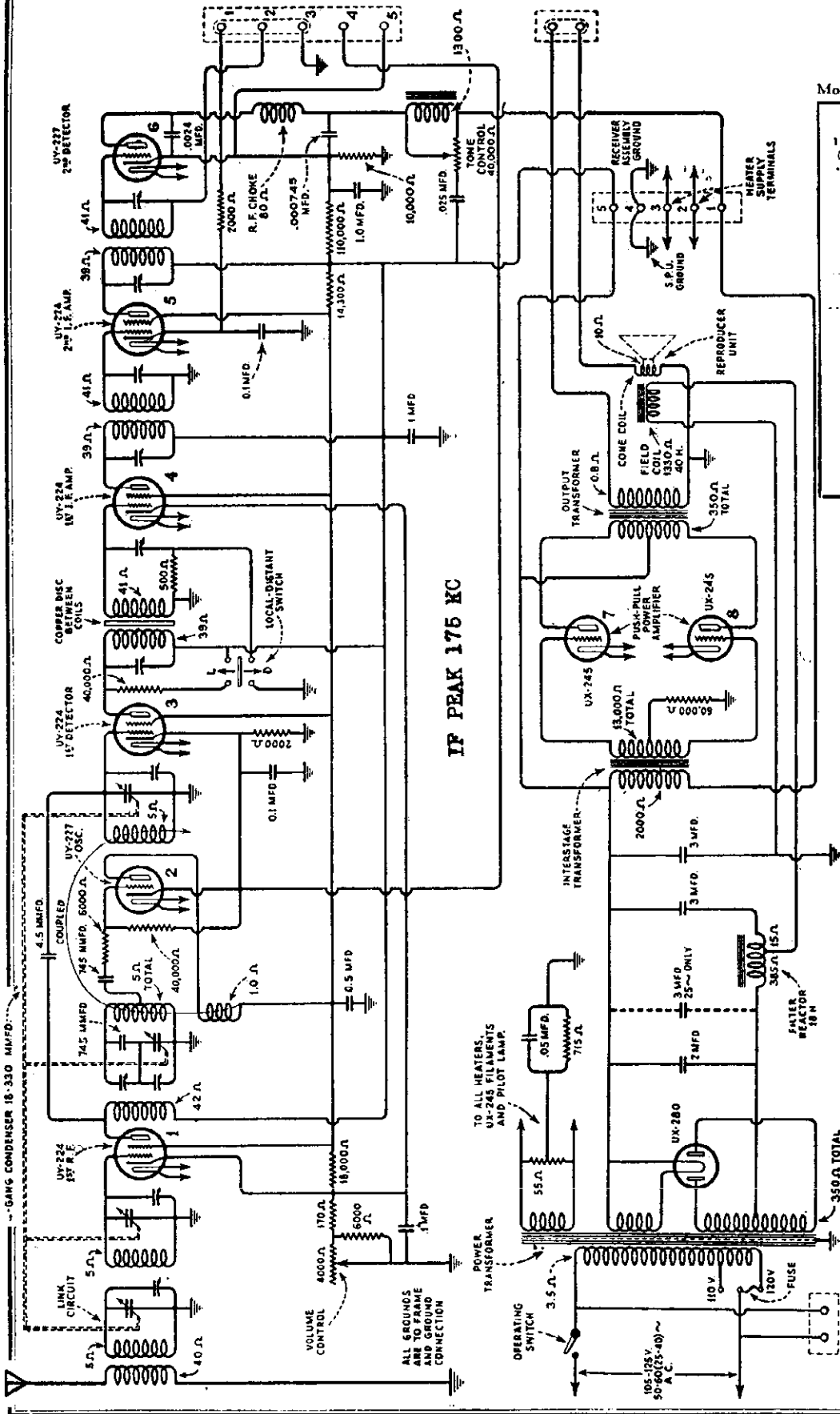


NET NO.	TYPE	RATING	RESISTANCE		CAPACITANCE		INDUCTIVE REACTANCE		TRANSFORMER		METER	
			RESISTANCE	WATTAGE	CAPACITANCE	VOLTAGE	INDUCTIVE REACTANCE	WATTAGE	TYPE	RANGE	SCALE	
223	1 R.F.	2.2	240	2.2	50	5.4	4.5	3.2	50	50	0-100	100
227	OSC.	2.2	60	2.2	60	4.5	6.5	1.2	60	60	0-100	100
228	1 DET.	1.0	2.2	1.0	2.2	2.2	2.2	1.2	2.2	2.2	0-100	100
229	1 I.F.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
230	2 I.F.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
231	2 DET.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
245	PP-AF	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
245	PP-AF	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
250	Rect.	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0-100	100

NET NO.	TYPE	RATING	RESISTANCE		CAPACITANCE		INDUCTIVE REACTANCE		TRANSFORMER		METER	
			RESISTANCE	WATTAGE	CAPACITANCE	VOLTAGE	INDUCTIVE REACTANCE	WATTAGE	TYPE	RANGE	SCALE	
224	1 R.F.	2.2	230	2.2	50	5.4	4.5	3.2	50	50	0-100	100
227	OSC.	2.2	65	2.2	65	4.5	6.5	1.2	65	65	0-100	100
228	1 DET.	1.0	2.2	1.0	2.2	2.2	2.2	1.2	2.2	2.2	0-100	100
229	1 I.F.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
230	2 I.F.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
231	2 DET.	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
245	PP-AF	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
245	PP-AF	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0-100	100
250	Rect.	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0-100	100

R. C. A. VICTOR CO., INC.

MODEL Radiola 82  
Schematic

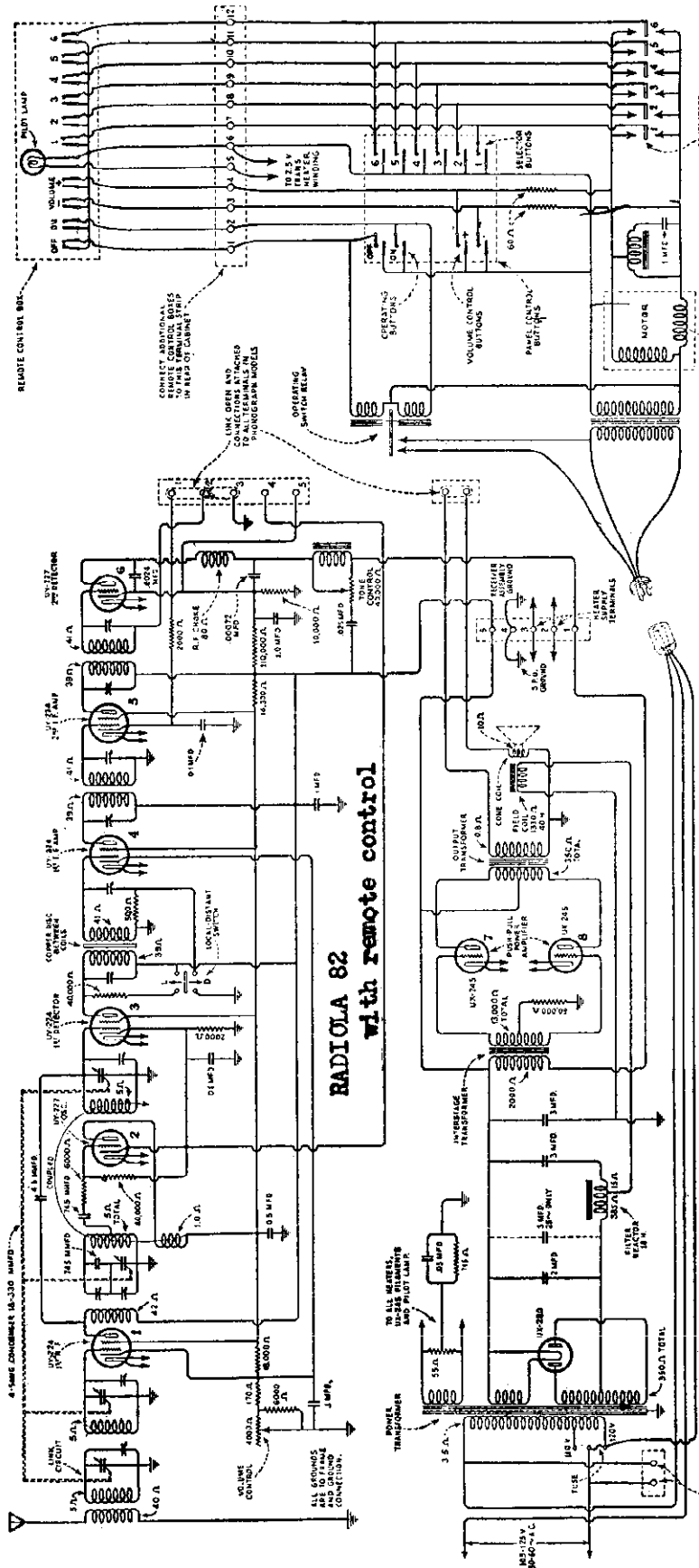


Schematic circuit diagram of Radiola 80 with tone control and Radiola 82.  
(Note:—The terminal strip in series with the cone coil and the extra A. C. terminals are not included with the Radiola 80.)



R. C. A. VICTOR CO., INC.

MODEL Radiola 82  
with Remote Control  
Schematic



IF PEAK 175 KC

The cable to the remote control box supplied with the remote control models is twenty-five (25) feet in length. This is ample for most rooms as it is very rare that a person wishes to listen to a program at a greater distance from the loudspeaker.

If, however, it is desired to place the remote control box at a greater distance from the set, any twelve conductor cable, the wires of which are No. 14 or larger in size, may be used to splice onto the regular cable and increase the total length up to seventy-five (75) feet. Figure 8 shows the method recommended for adding this additional cable.

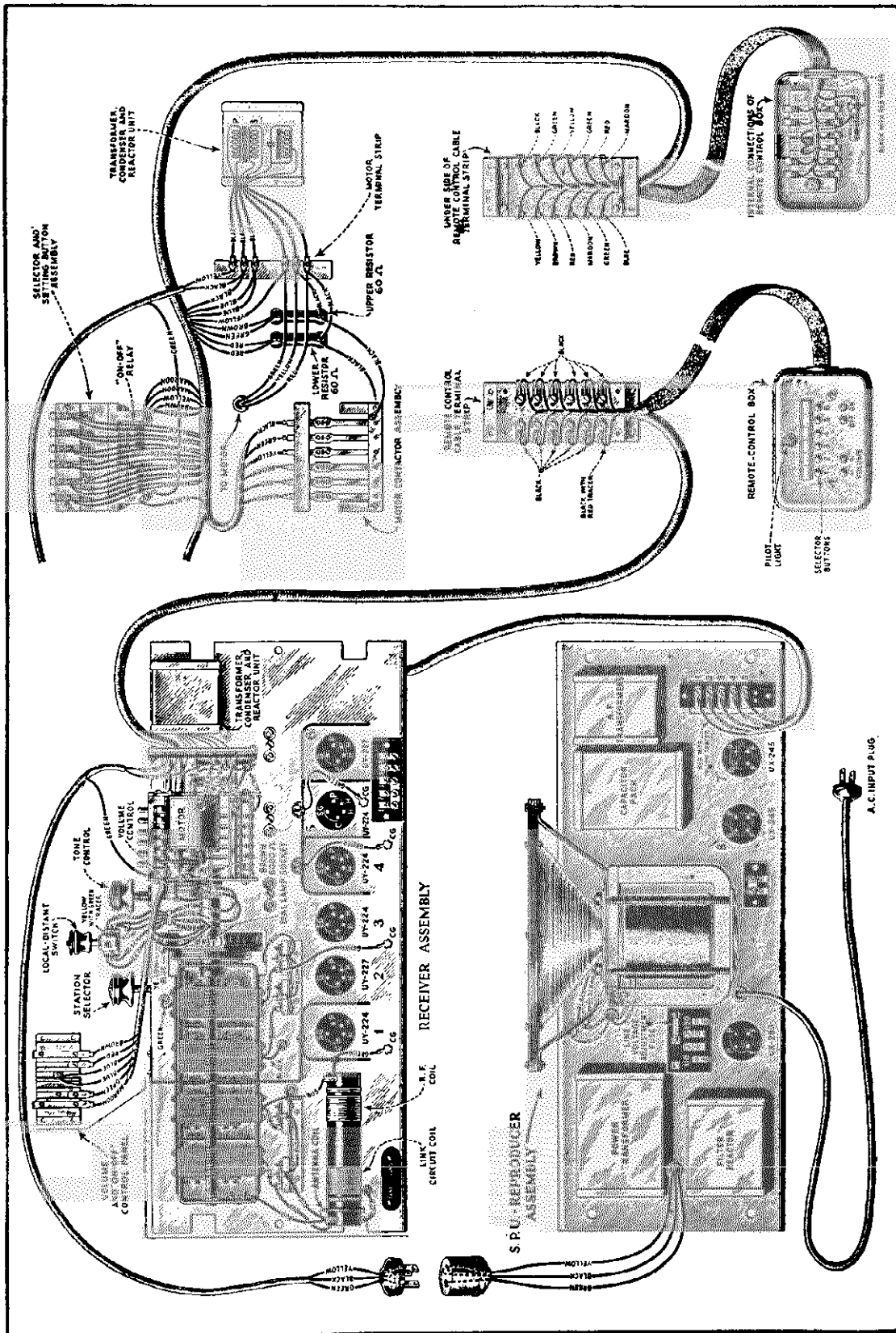
The setting of the drums is made by the pins on the front panel. These are known as the "setting buttons." The selector button is pressed and the drum is moved by the motor until the corresponding contactor is midway between the contacts. The pin will now fall in the hole in the drum if pushed in by the finger. See Figure 7. Holding the pin firmly in the hole, the desired station is then accurately tuned in by means of the manual station selector knob. After tuning the pin is then released. As the point on the opposite side of the

drum is where the diameter of the drum changes, the contactor is half way between the contacts. Pressing the selector buttons will therefore cause no movement of the motor. If another button is pressed and the drum moved, the current through the common lead will always bring the drum back to the position for which it was set.

Referring to the schematic diagram, it will be noted that a common lead is used for the pilot lamp and the selector buttons in the remote control box. By doing this, when a selector button on the box is pressed, the current through the common lead is increased, likewise the voltage drop in the lead is increased. The result is that while the motor is running the pilot lamp becomes very dim. As soon as the motor stops, the lamp flashes bright, thus indicating that the motor has stopped and the station is tuned in. If the station is not then heard, it is necessary to press the + volume control button a little at a time until the desired output level is obtained.

MODELS Radiola 82 and 86  
with Remote Control  
Receiver Chassis

R. C. A. VICTOR CO., INC.

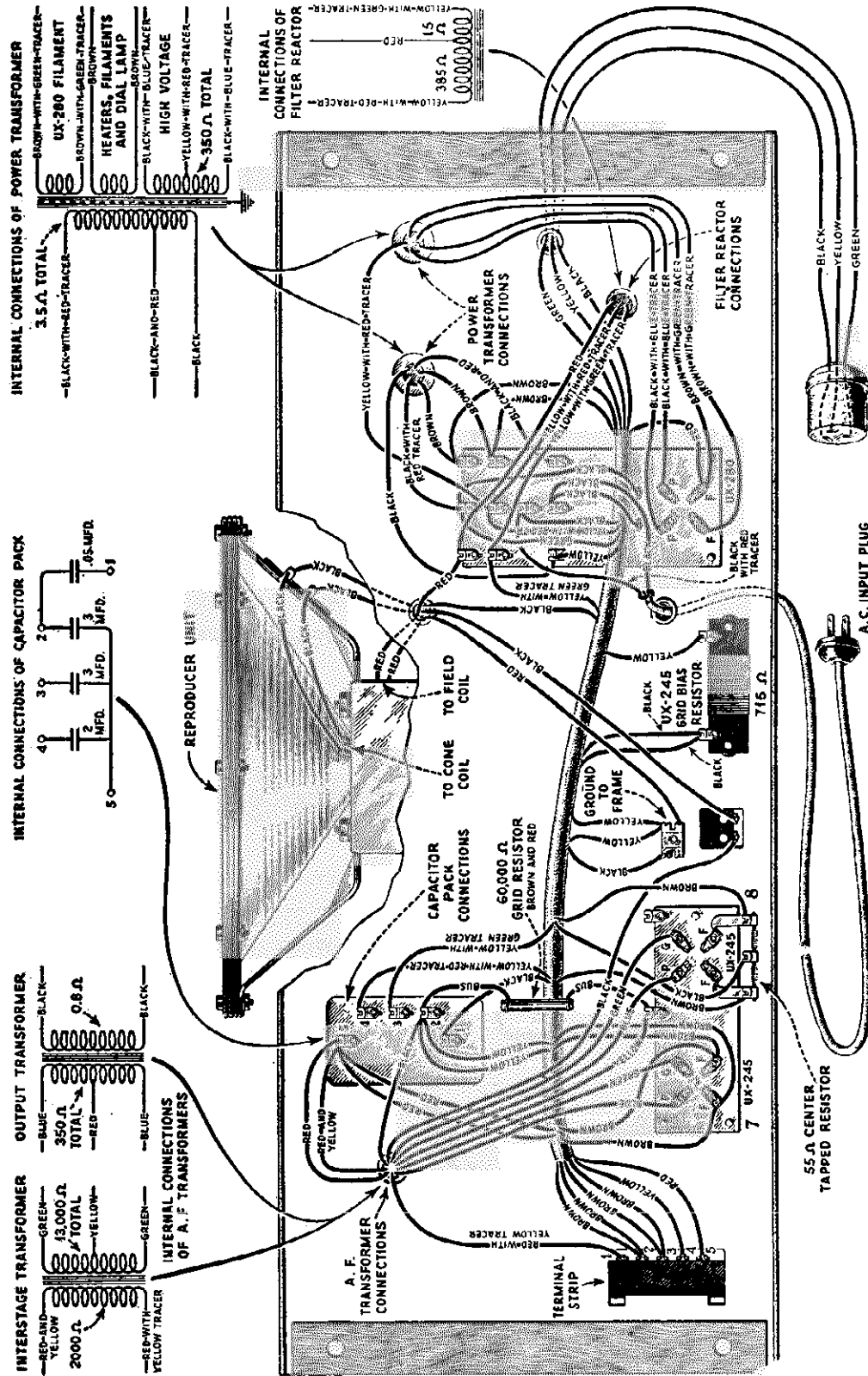


Assembly Wiring Diagram

Models Radiola 82 and 86 with Remote Control

R. C. A. VICTOR CO., INC.

MODELS Radiola 82 and 86  
with Remote Control  
Power Unit Chassis

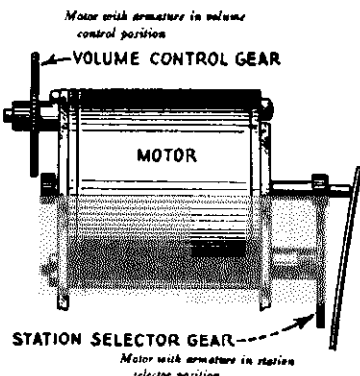
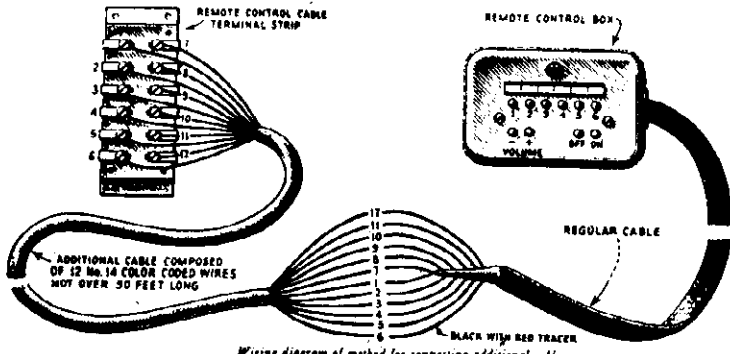
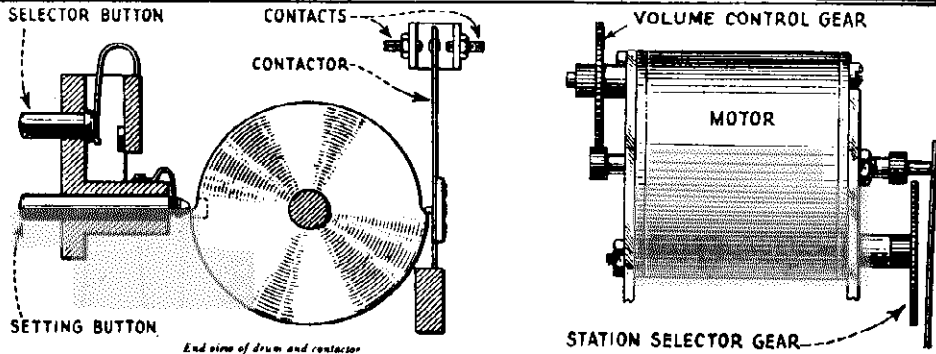
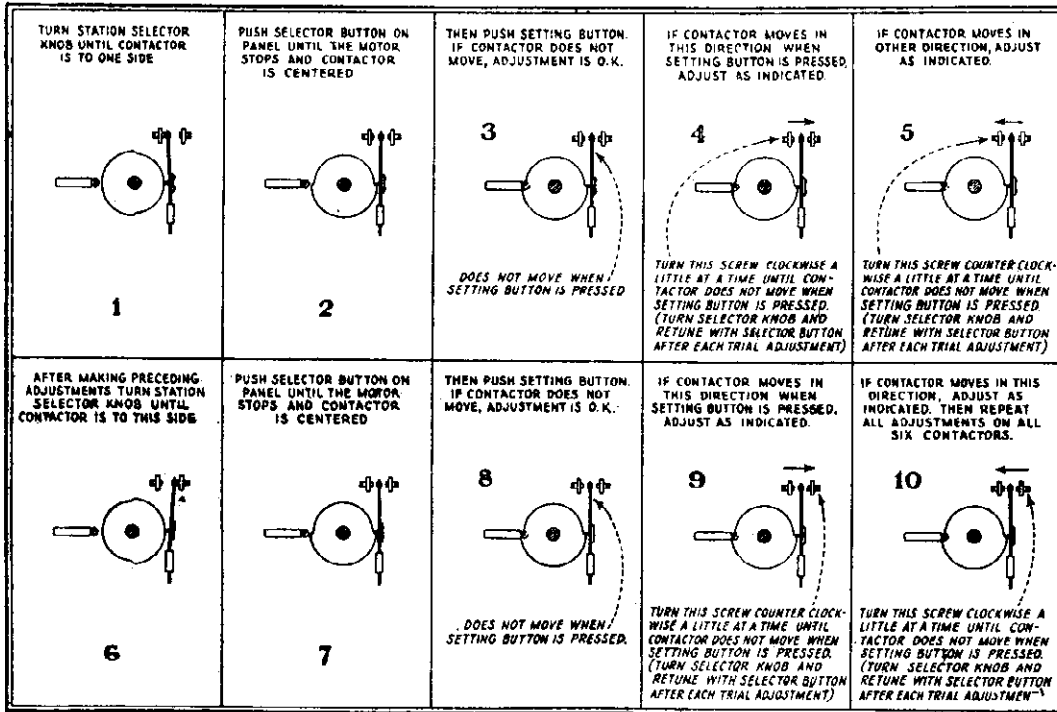


SOCKET POWER UNIT ASSEMBLY  
RADIOLA Models 82 and 86 with Remote Control



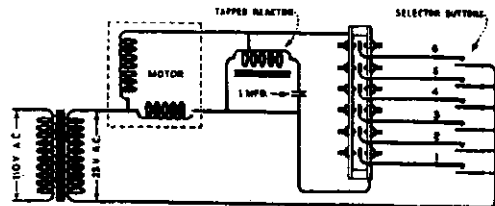
R. C. A. VICTOR CO., INC. MODELS Radiola 82 and 86  
with Remote Control  
Remote Control Units

MOTOR CONTACTOR ADJUSTMENT CHART  
Repeat Entire Procedure For All Contactors



This is figure 8 illustrating the method of increasing the length of the cable.

For additional remote control data, see RAE-79 service data.



Schematic diagram of motor circuit

R. C. A. VICTOR CO., INC.

MODEL Radiola 86  
Audio Circuit  
Diagrams

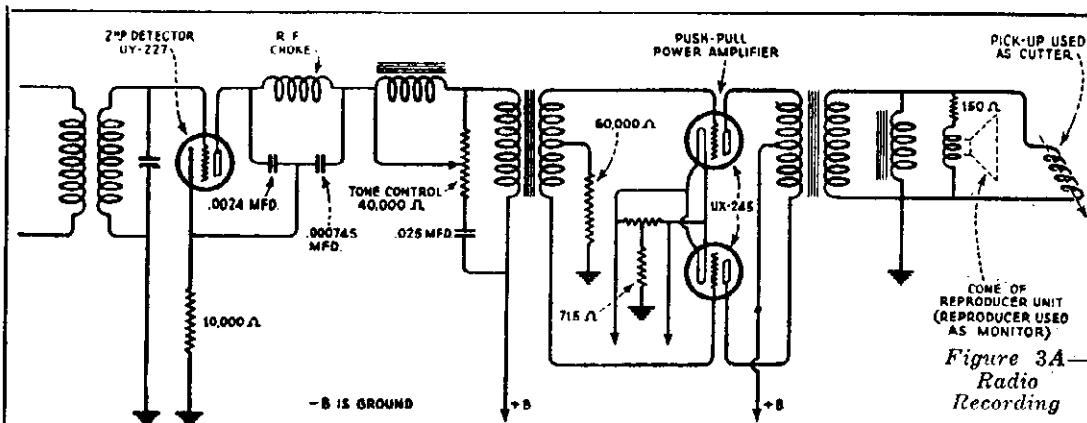


Figure 3A  
Radio  
Recording

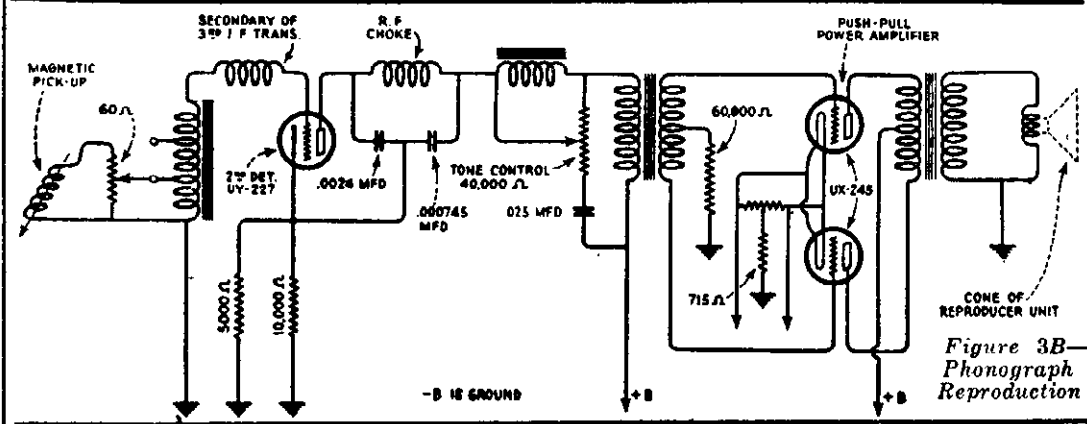


Figure 3B  
Phonograph  
Reproduction

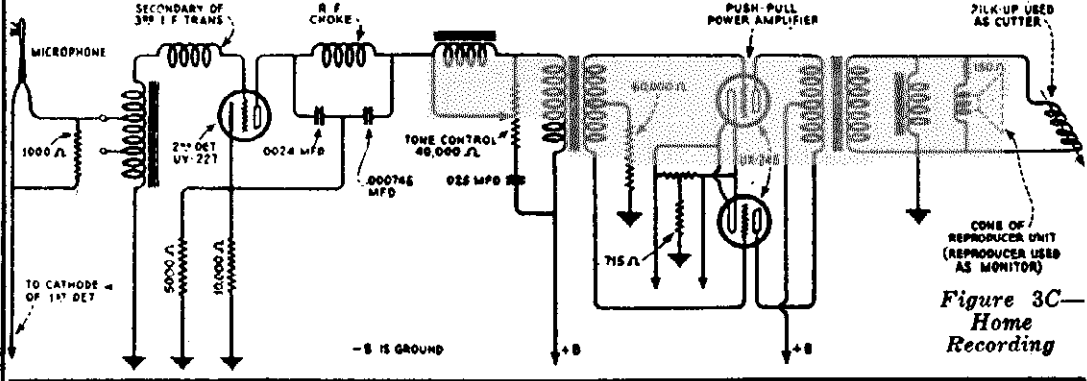


Figure 3C  
Home  
Recording

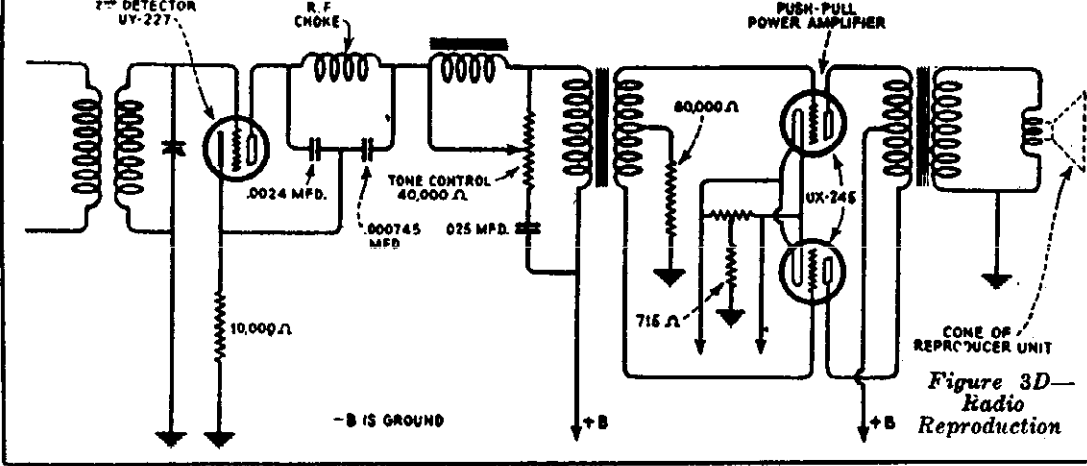
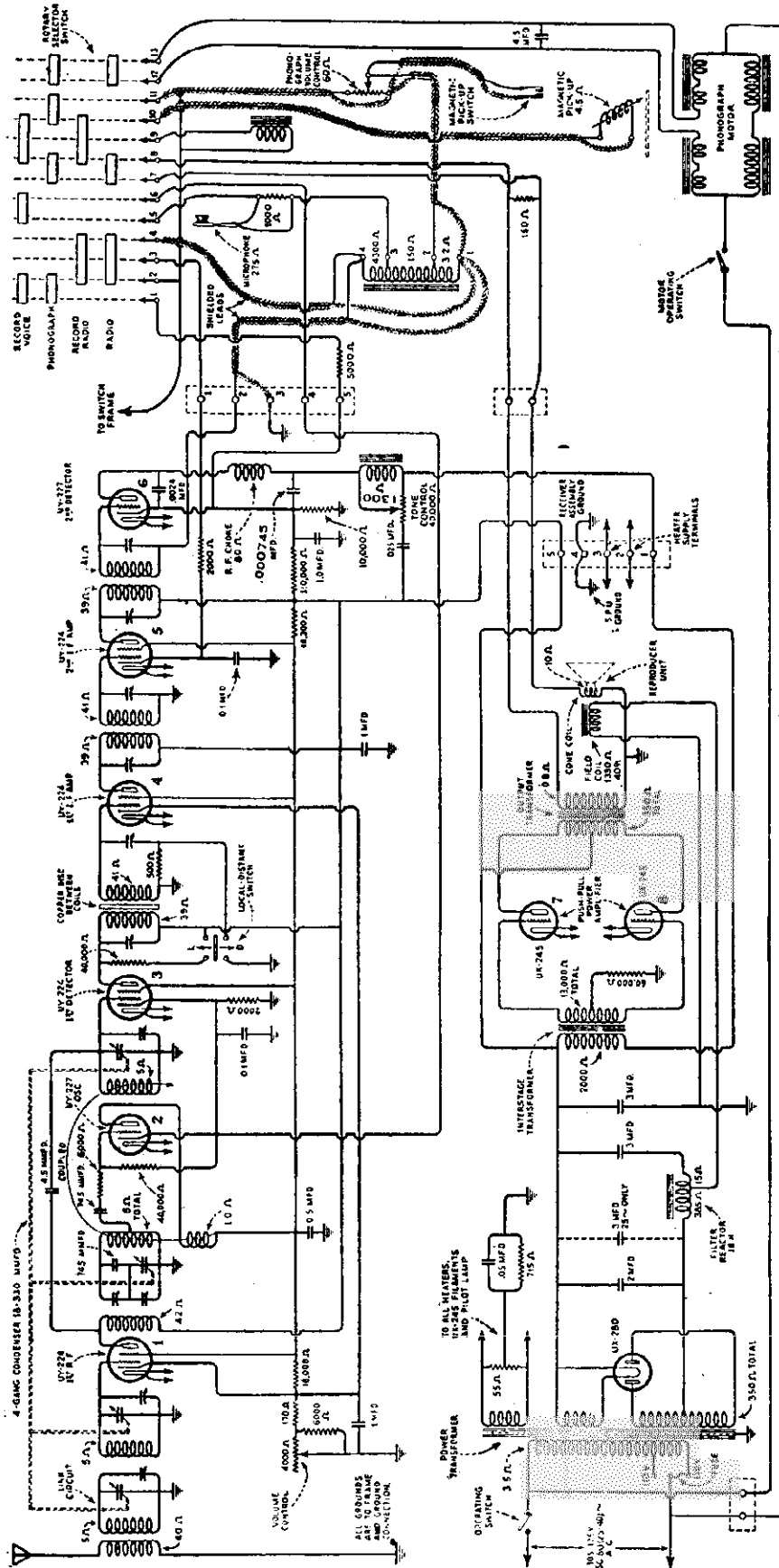


Figure 3D  
Radio  
Reproduction

**MODEL Radiola 86**  
**Schematic**

R. C. A. VICTOR CO., INC.



**Rotary Switch Connections**

- #1 Yellow w. Red Tr.
- #2 Yellow
- #3 Black w. Green Tr.
- #4 Yellow w. Green Tr.
- #5 Yellow w. Black Tr.
- #6 Red and Yellow
- #7 Black
- #8 Black w. Red Tr.
- #9 Black w. Yellow Tr.
- #10 Metal braid
- #11 Black and Yellow
- #12, #13 Black

**Resistor and Reactor Unit**

- YELLOW
- BLACK
- RED AND YELLOW
- YELLOW
- BLACK AND YELLOW TR.
- BLACK AND RED TR.
- RED AND BLACK TR.
- YELLOW AND BLACK TR.
- YELLOW AND RED TR.
- BLACK AND GREEN
- 150 Ω
- 1000 Ω
- 5000 Ω

**For chassis layouts**  
see Model Radiola 82 and also Models 82-86 with remote control.

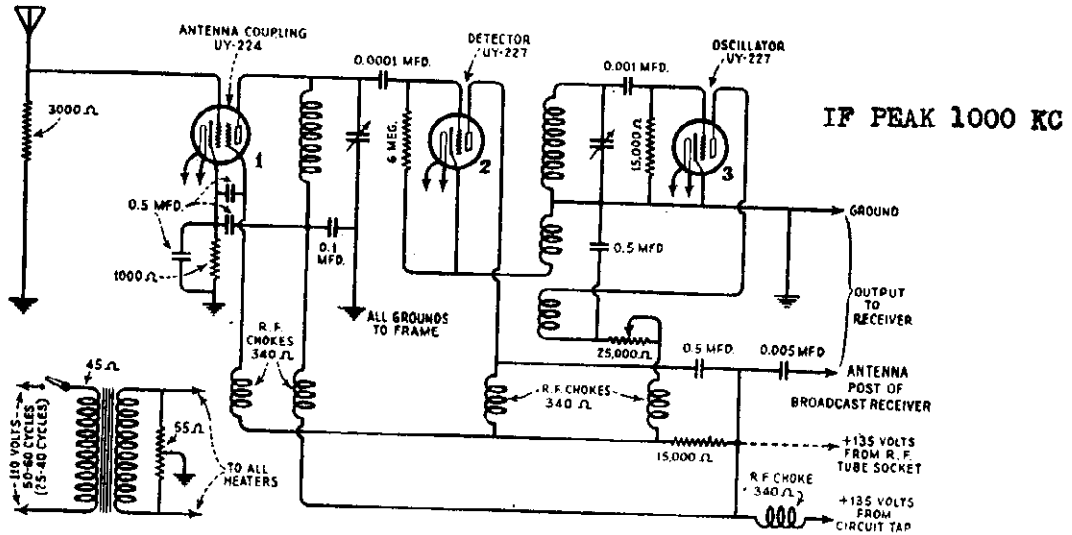
**Power Consumption**  
Radio alone 120 watts  
Combination 200 watts

**For socket layout**  
see Model Radiola 82

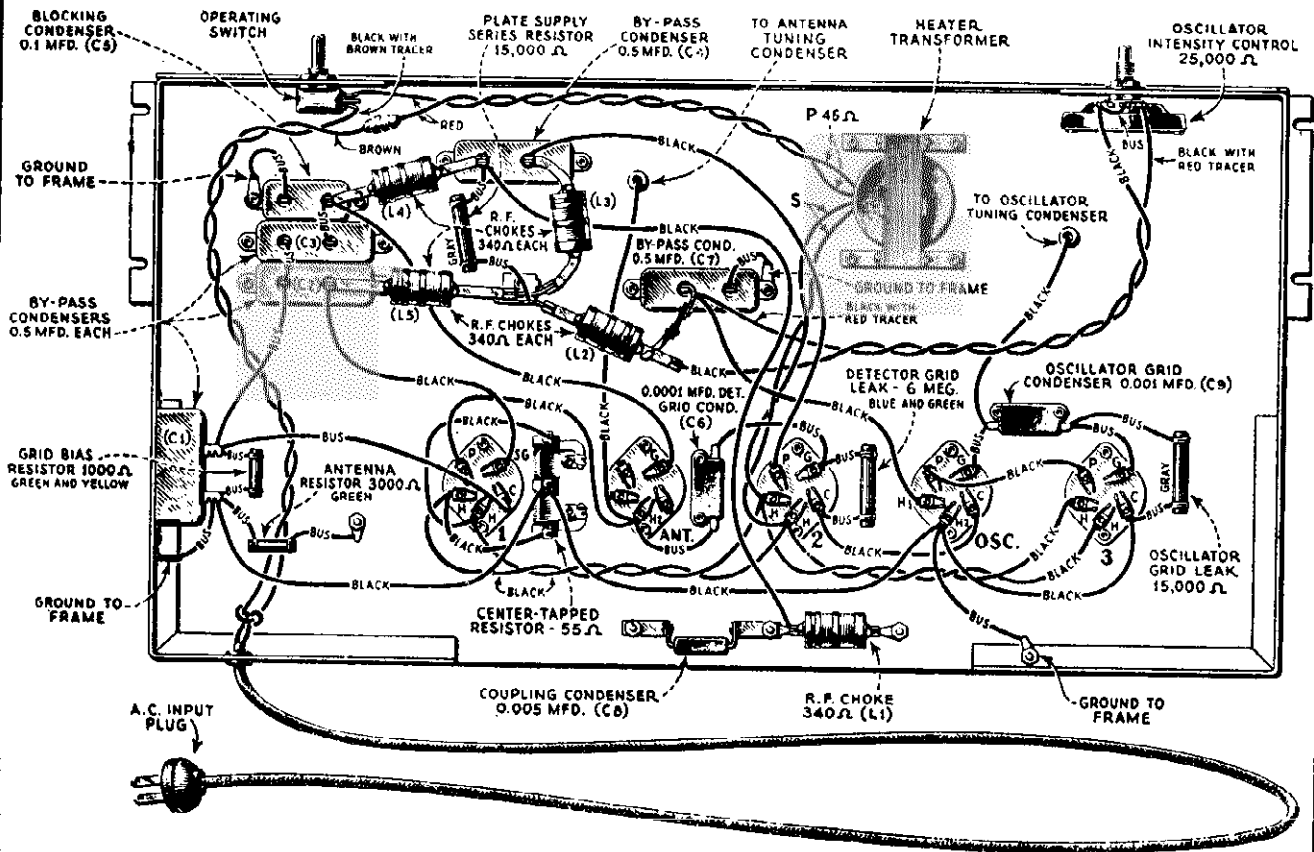
**For voltage data,**  
see Model Radiola 82.

R. C. A. VICTOR CO., INC.

MODEL RCA Short Wave Adaptor  
Victor SW-10  
Schematic-Chassis

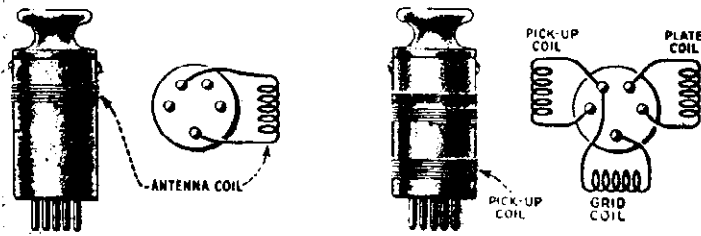


RCA RADIOLA SHORT WAVE ADAPTOR

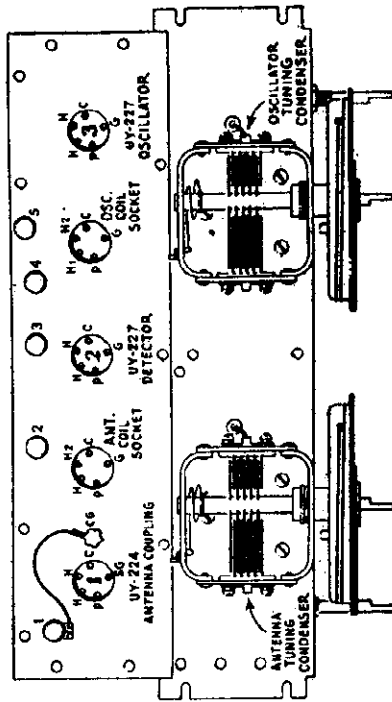
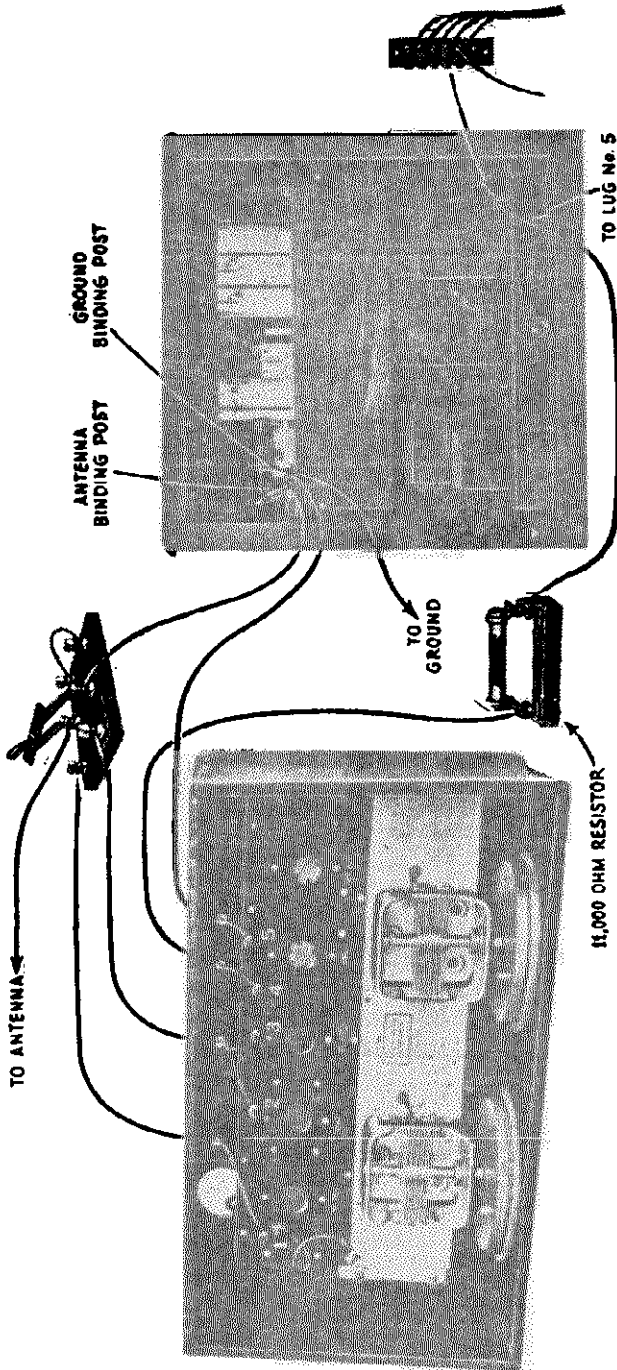


**MODEL RCA Short Wave Adaptor**  
Victor SW-10  
Voltage- Data

R. C. A. VICTOR CO., INC.



Internal connections of Plug-in Coils



- Test points of Short Wave Adaptor

Connections of Short Wave Adaptor to Radiola 80

**OSCILLATOR INTENSITY CONTROL AT MAXIMUM**

Socket No.	Cathode to Heater Volts D. C.	Cathode to Control Grid Volts D. C.	Cathode to Screen Grid Volts D. C.	Cathode to Plate Volts D. C.	Heater Volts A. C.	Plate Current M.A. D.C.	Screen Grid Current M.A. D.C.
1	-1	-1.3*	43	125	2.45	1.40	0.25
2	0	-1.3*	—	50	2.45	2.0	—
3	0	-0.4*	—	45	2.45	2.8	—

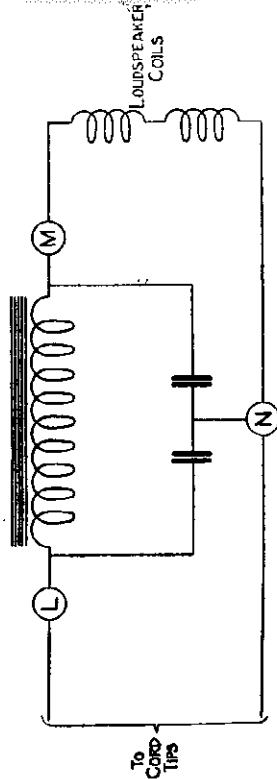
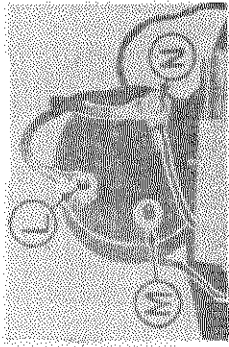
**OSCILLATOR INTENSITY CONTROL AT MINIMUM**

Socket No.	Cathode to Heater Volts D. C.	Cathode to Control Grid Volts D. C.	Cathode to Screen Grid Volts D. C.	Cathode to Plate Volts D. C.	Heater Volts A. C.	Plate Current M.A. D.C.	Screen Grid Current M.A. D.C.
1	-1.2	-1.2	54	127	2.45	1.25	0.28
2	0	—	—	56	2.45	3.0	—
3	0	-0.3*	—	23	2.45	1.7	—

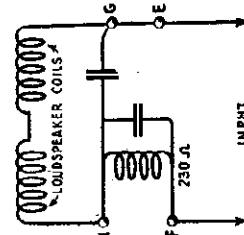
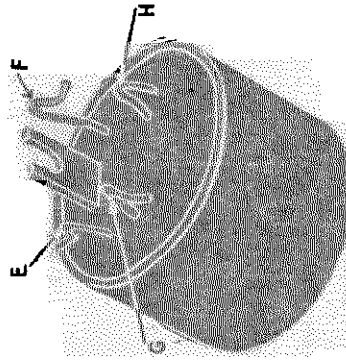
\*Measured on 50 volt range. Is inaccurate because of voltmeter resistance in shunt with grid circuit resistance. Actual grid voltage is slightly higher than the readings.

R. C. A. VICTOR CO. INC.

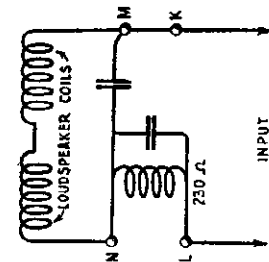
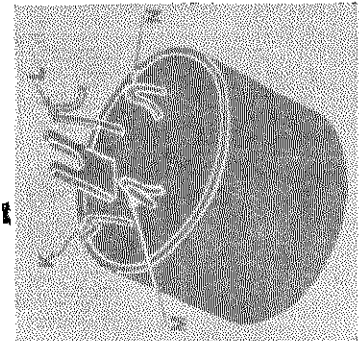
MODELS 100-A, 100-B,  
103, 104-AC  
speakers



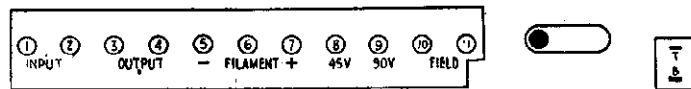
Schematic circuit diagram of RCA Loudspeaker Model 100A and photo of the filter unit



Schematic circuit of Loudspeaker 100B coils and filter and photo of filter unit



Schematic circuit of Loudspeaker 103 coils and filter and photo of filter unit

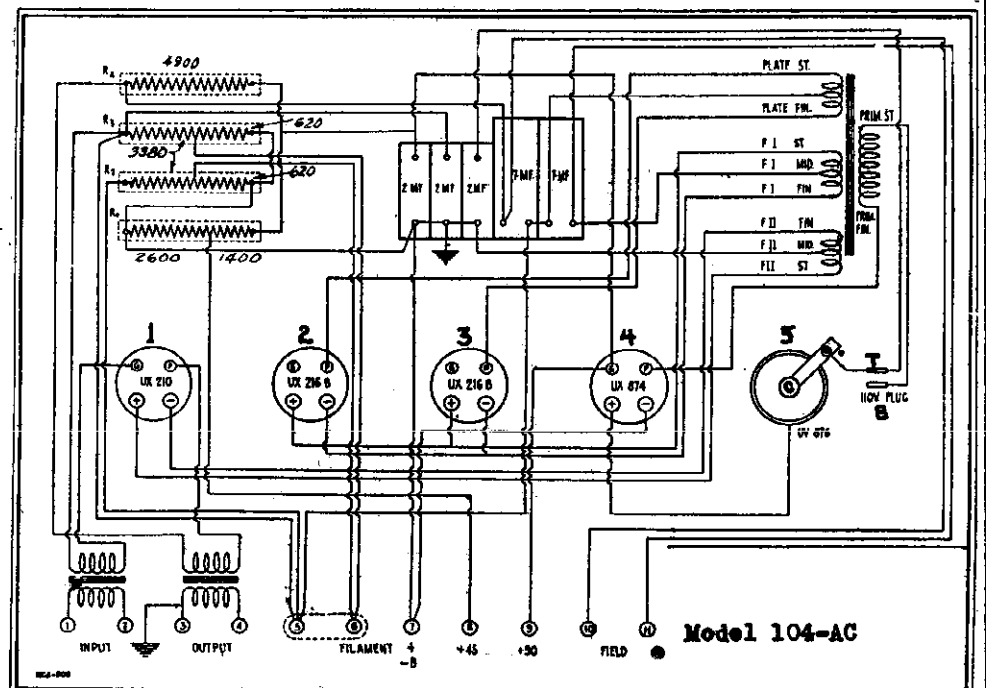


Terminal Layout

Model Radiola 104 Loudspeaker (1925)

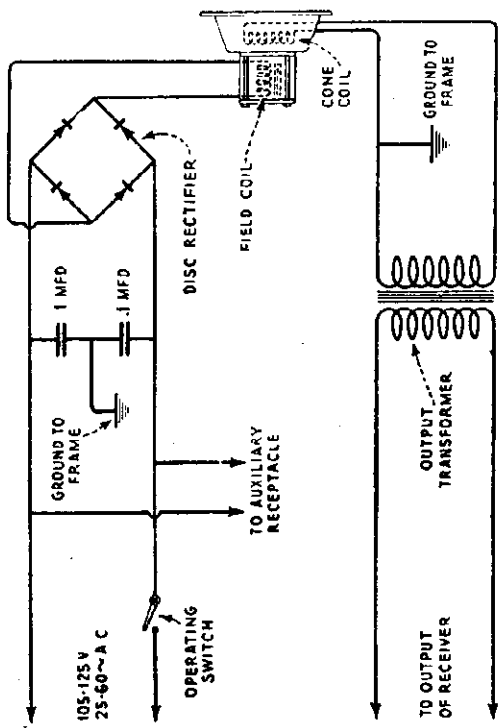
AF	RECT	RECT	VOLT. REG.	BALLAST	TUBE
'10	'11	'11	874	876	50 <sub>~</sub>
			UP591	886	40 <sub>~</sub>

REAR (L TO R)

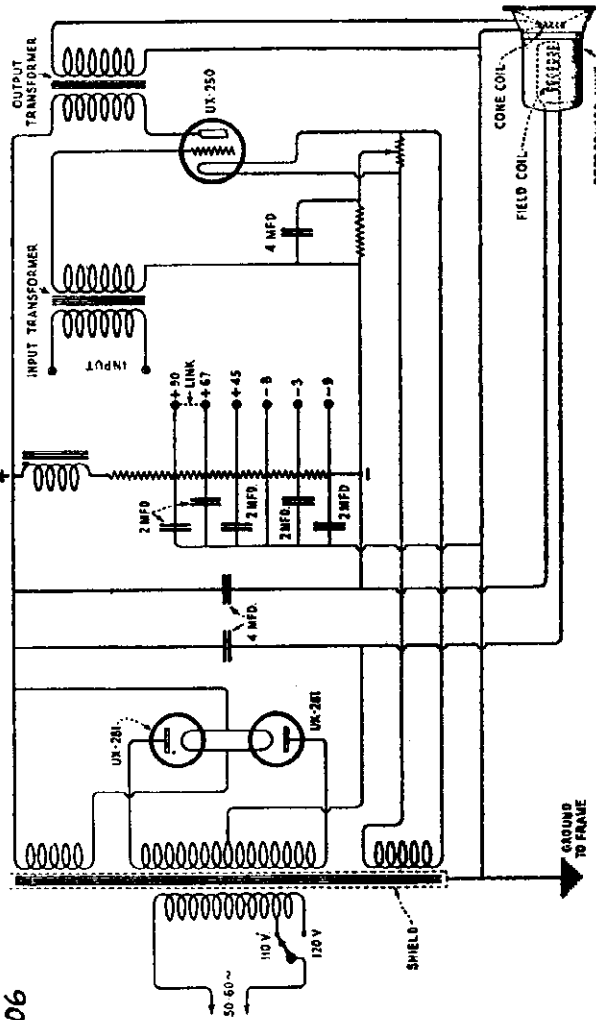


**MODELS 105, 106**  
**Speakers**

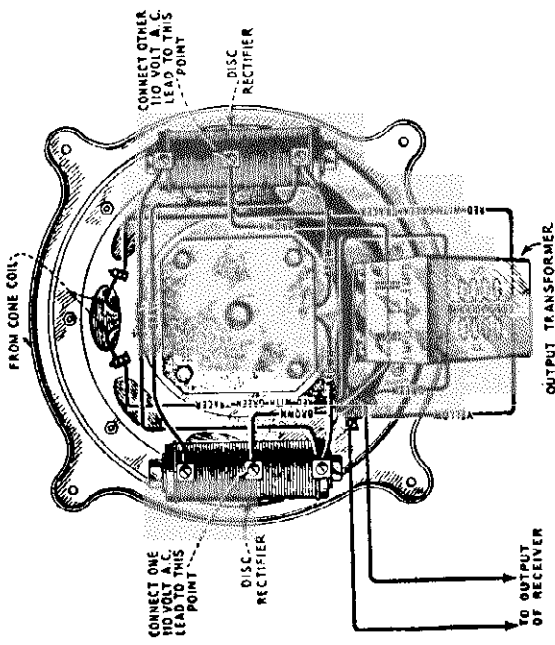
R. C. A. VICTOR CO., INC.



Schematic wiring diagram of Loudspeaker 106

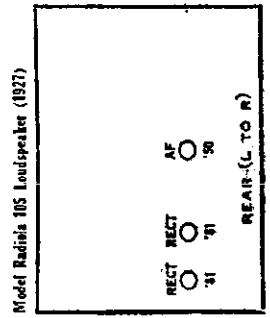


Schematic circuit diagram of RCA Loudspeaker 105.



Wiring diagram of reproducer unit 106

**106 Speaker**  
Voltage across field coil.  
With field connected 80 volts  
With field disconnected 95 volts

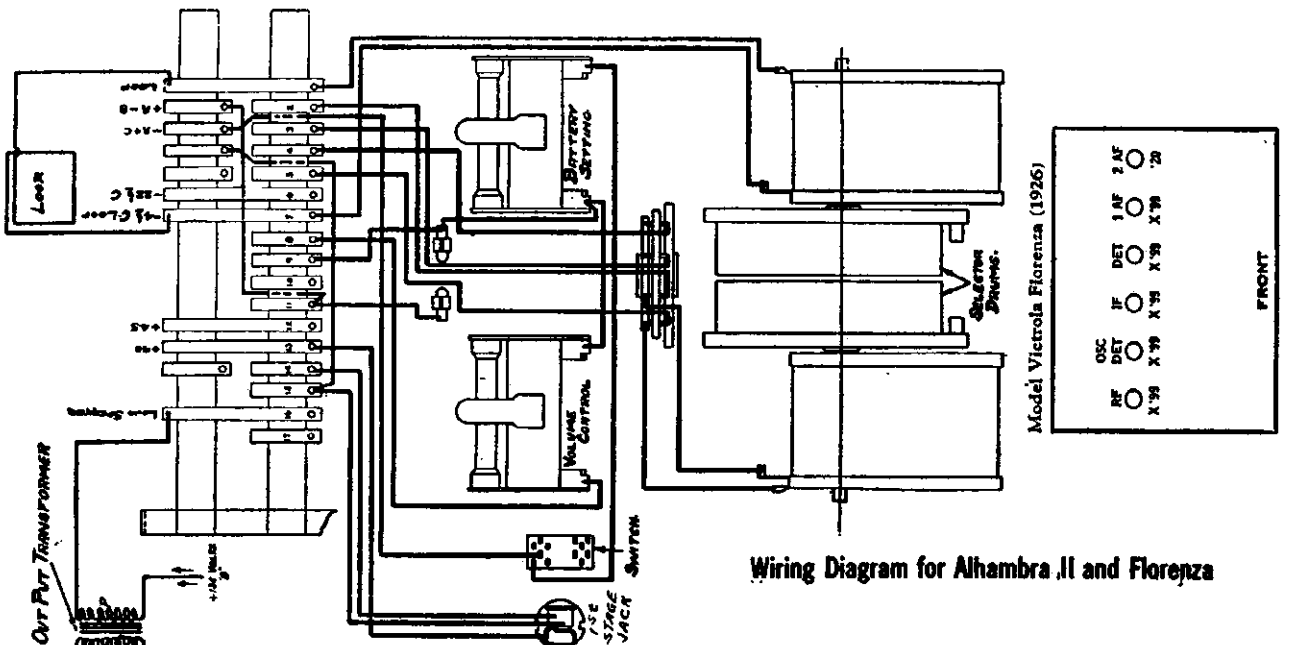


Model Radiola 105 Loudspeaker (1927)

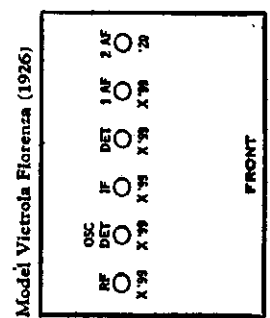
R. C. A. VICTOR CO., INC.

MODEL Victor Alhambra I (7-1)

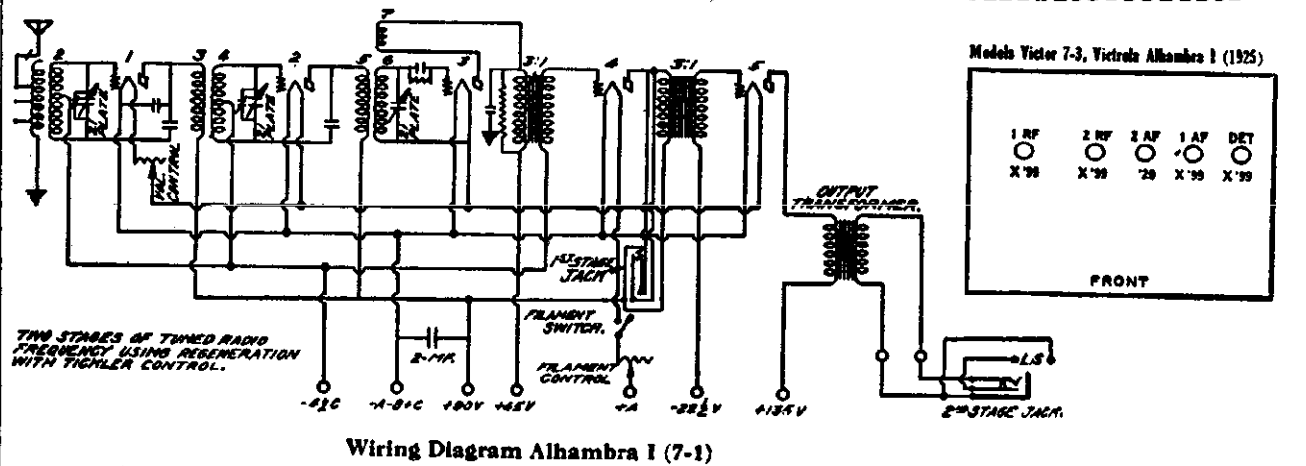
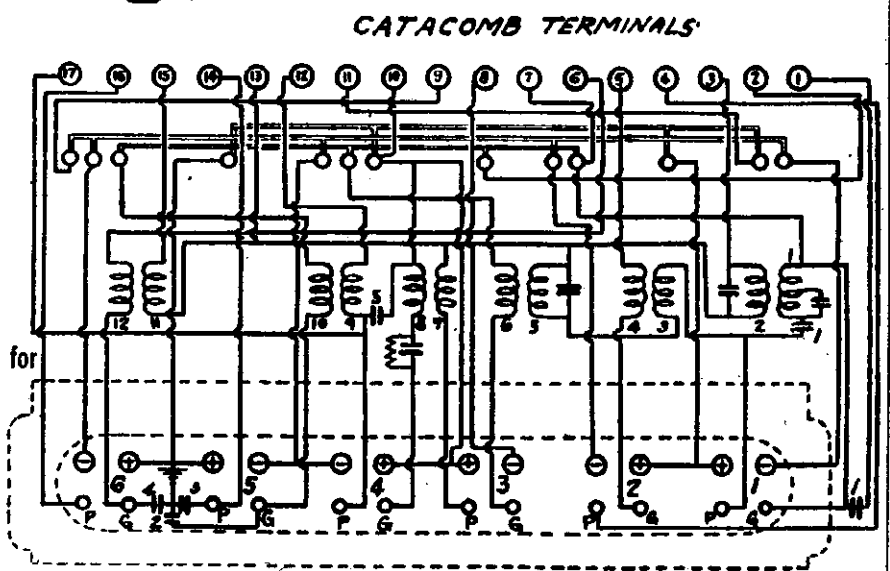
MODEL Victor Alhambra II  
MODEL Victor Florenza



Wiring Diagram for Alhambra II and Florenza



Radiola 25 Catacomb Continuity Diagram for Alhambra II (7-2) and Florenza (9-1)

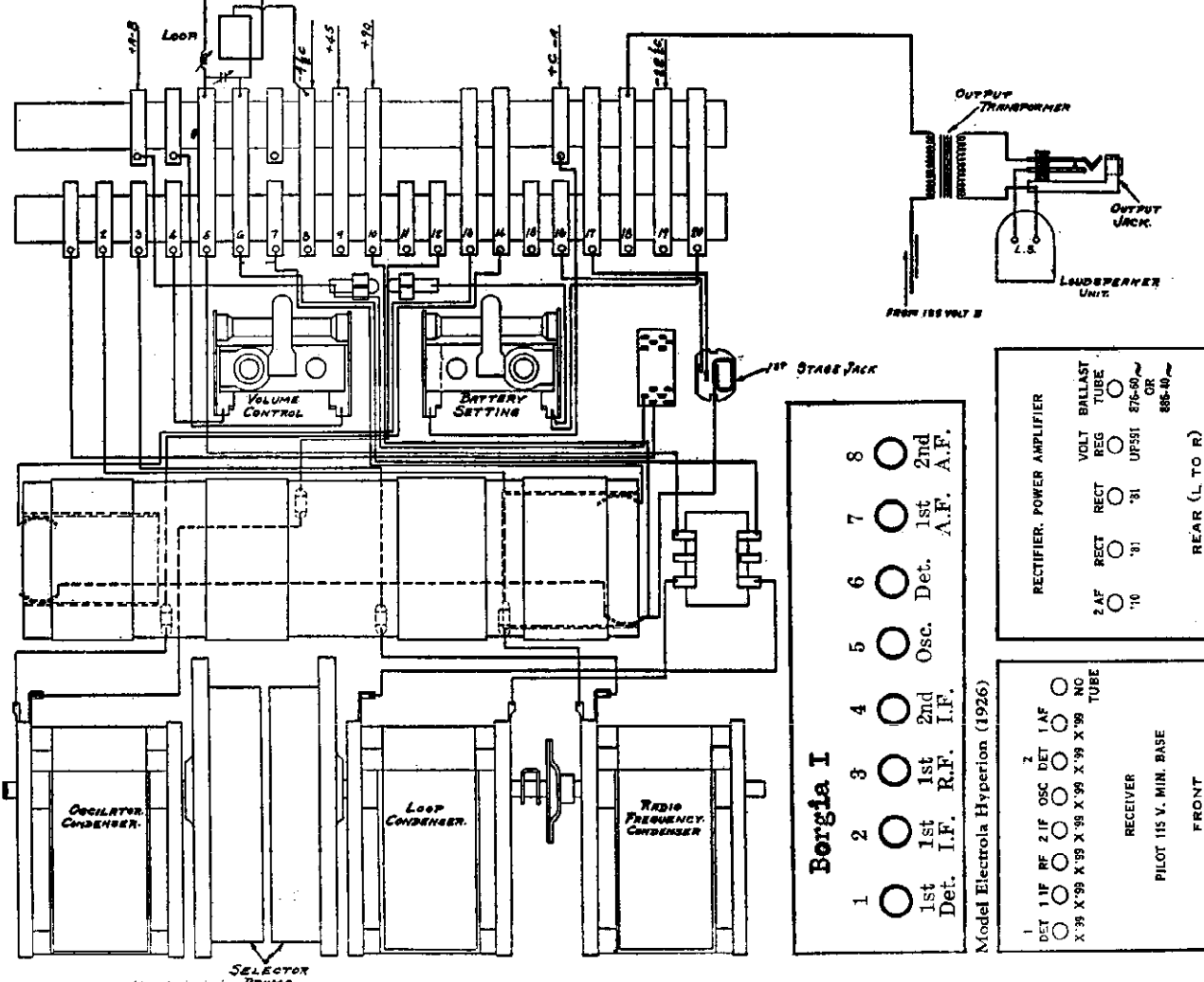
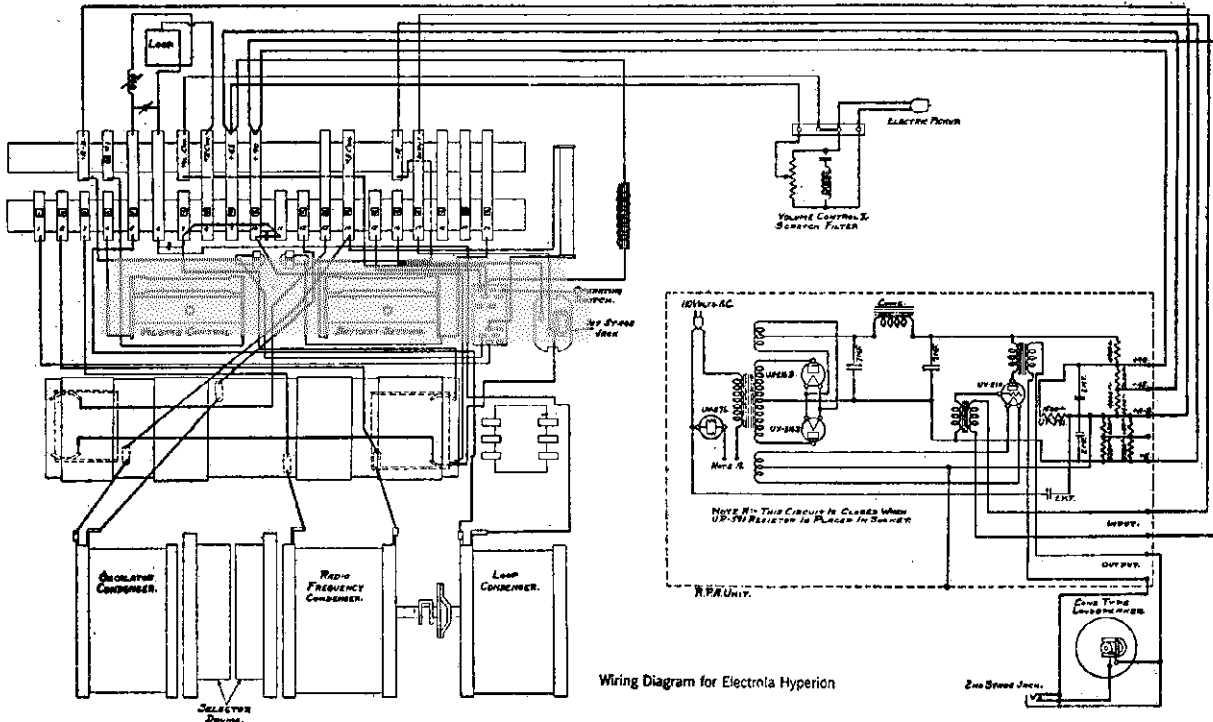


Wiring Diagram Alhambra I (7-1)



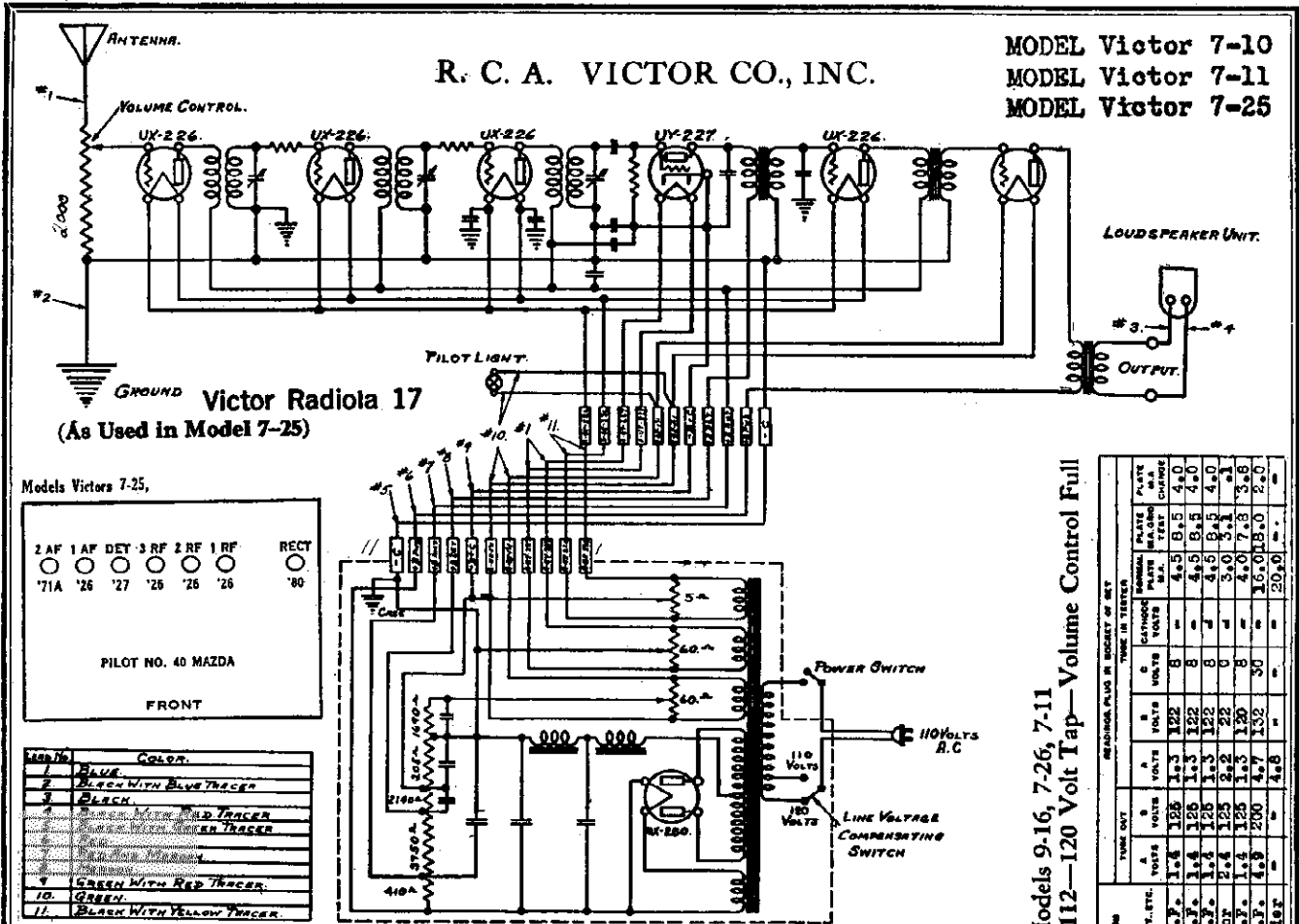
**MODEL Victor Borgia I**  
**MODEL Victor Hyperion**  
**Electrola**

R. C. A. VICTOR CO., INC.



R. C. A. VICTOR CO., INC.

MODEL Victor 7-10  
 MODEL Victor 7-11  
 MODEL Victor 7-25



Victor Radiola 17  
 (As Used in Model 7-25)

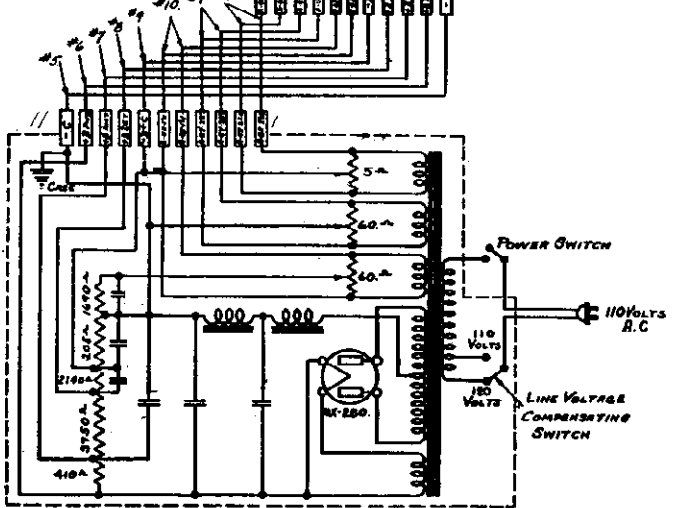
Models Victors 7-25,

2 AF	1 AF	DET	3 RF	2 RF	1 RF	RECT
71A	'26	'27	'26	'26	'26	'80

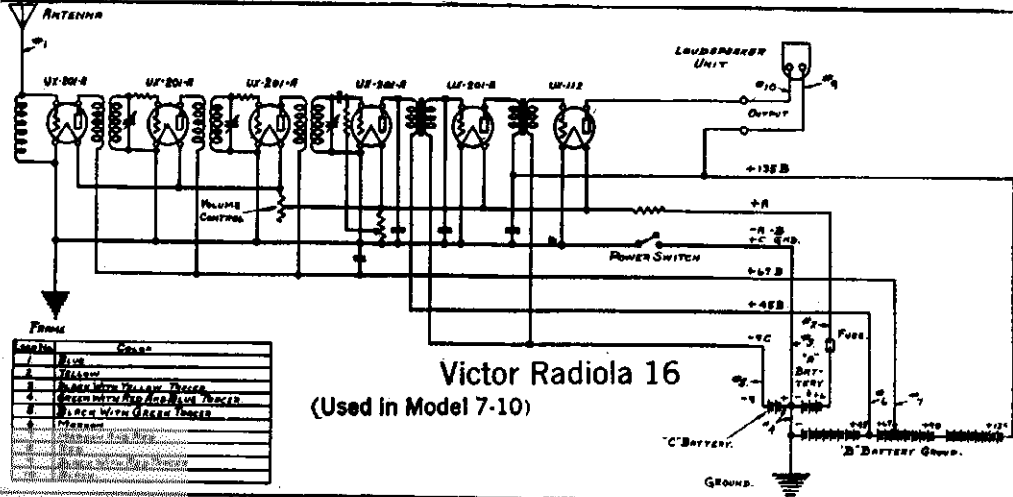
PILOT NO. 40 MAZDA

FRONT

Color	Color
1	BLUE
2	BLACK WITH BLUE TRACER
3	BLACK
4	BLACK WITH RED TRACER
5	BLACK WITH GREEN TRACER
6	GREEN
7	GREEN WITH RED TRACER
8	GREEN WITH BLUE TRACER
9	GREEN WITH YELLOW TRACER
10	BROWN
11	BLACK WITH YELLOW TRACER



Victor Radiola 16  
 (Used in Model 7-10)



Victor Radiola 18  
 (Used in 7-11)

Models Victors 7-10 (1925)

2 AF	1 AF	DET	3 RF	2 RF	1 RF	RECT
71A	'26	'27	'26	'26	'26	'80

PILOT NO. 40 MAZDA

FRONT

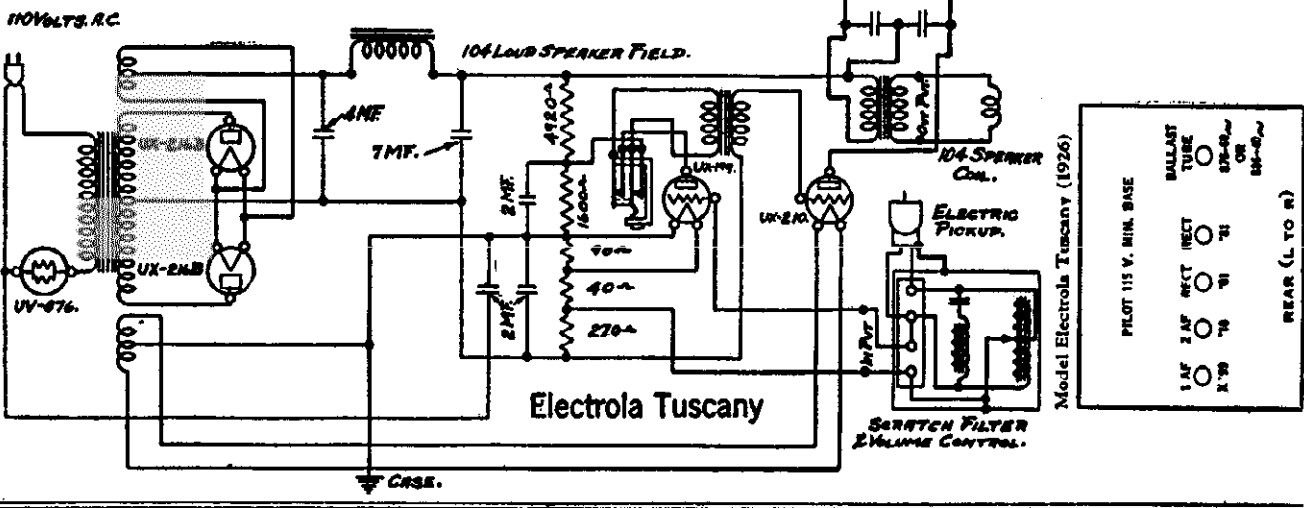
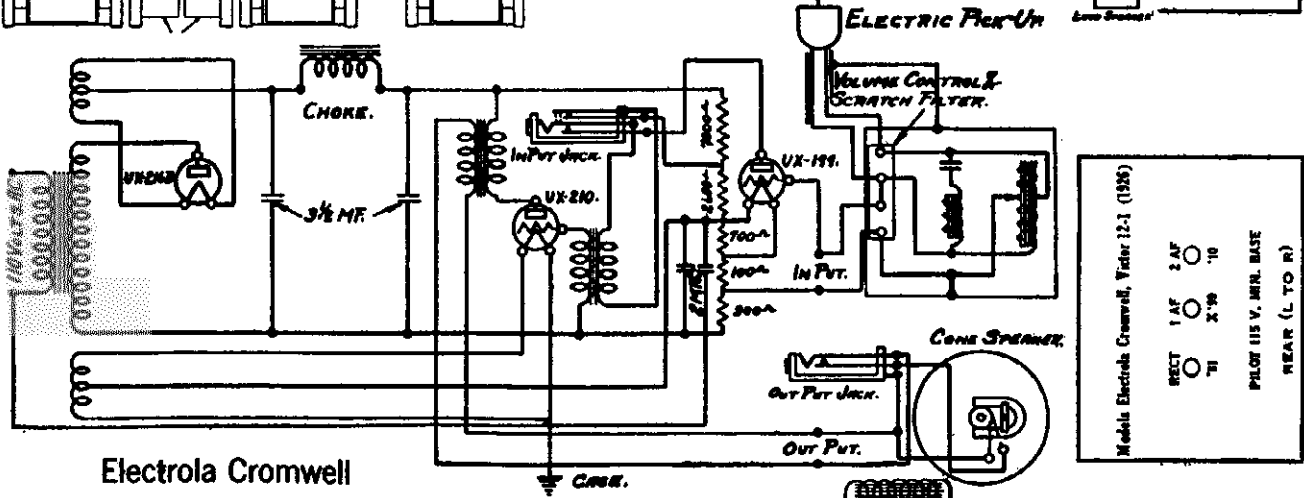
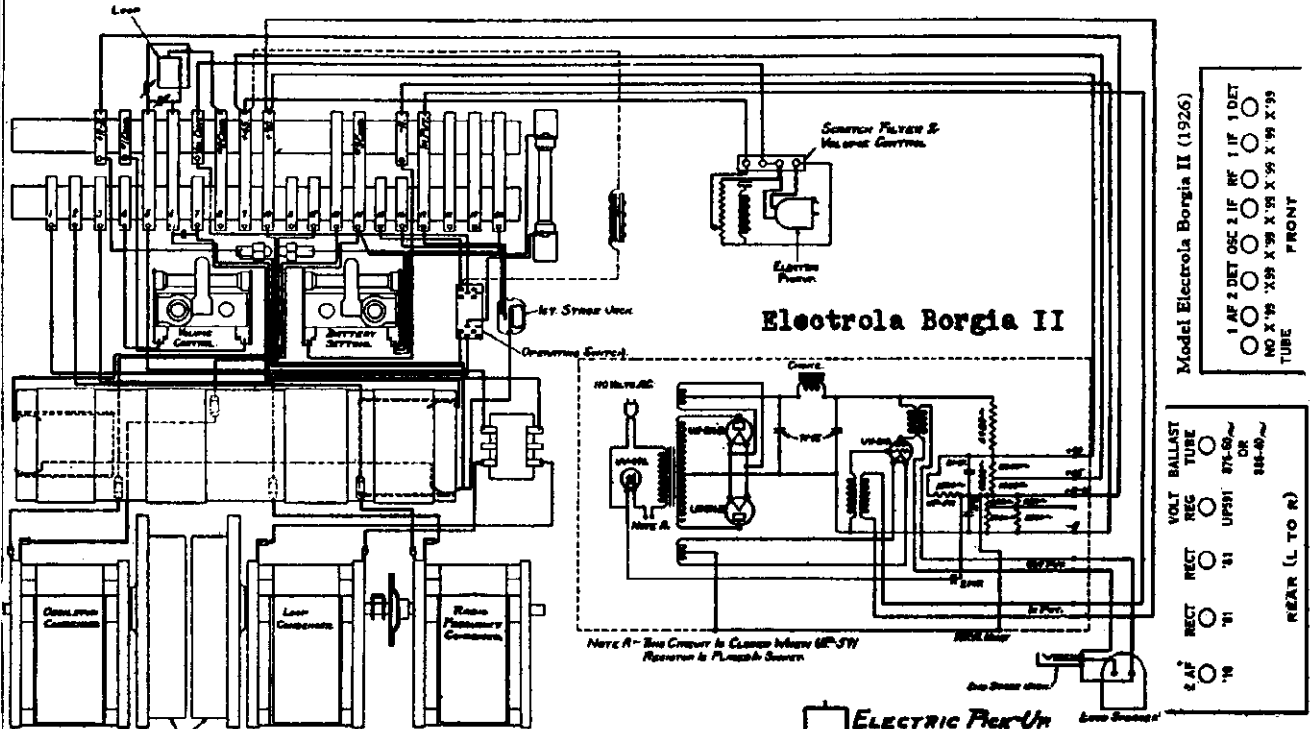
Color	Color
1	BLACK WITH GREEN TRACER
2	RED
3	RED AND BROWN
4	GREEN
5	BLUE
6	BLACK WITH YELLOW TRACER
7	BLACK WITH BLUE TRACER
8	BROWN
9	BLACK WITH BROWN TRACER

VICTOR—Models 9-16, 7-26, 7-11  
 Line Voltage 112—120 Volt Tap—Volume Control Full

TYPE OF TUBE	PARTS OF TUBE	VOLTAGE IN SOCKET OF SET		VOLTAGE IN SOCKET OF SET		VOLTAGE IN SOCKET OF SET		VOLTAGE IN SOCKET OF SET		VOLTAGE IN SOCKET OF SET	
		1ST. PLATE	2ND. PLATE	1ST. PLATE	2ND. PLATE	1ST. PLATE	2ND. PLATE	1ST. PLATE	2ND. PLATE	1ST. PLATE	2ND. PLATE
226	1B1, 2B1, 3B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	2B1, 3B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	3B1, 4B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	4B1, 5B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	5B1, 6B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	6B1, 7B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	7B1, 8B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	8B1, 9B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	9B1, 10B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	10B1, 11B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	11B1, 12B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	12B1, 13B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	13B1, 14B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	14B1, 15B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	15B1, 16B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	16B1, 17B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	17B1, 18B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	18B1, 19B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	19B1, 20B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	20B1, 21B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	21B1, 22B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	22B1, 23B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	23B1, 24B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	24B1, 25B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	25B1, 26B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	26B1, 27B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	27B1, 28B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	28B1, 29B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	29B1, 30B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	30B1, 31B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	31B1, 32B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	32B1, 33B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	33B1, 34B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	34B1, 35B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	35B1, 36B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	36B1, 37B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	37B1, 38B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	38B1, 39B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	39B1, 40B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	40B1, 41B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	41B1, 42B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	42B1, 43B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	43B1, 44B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	44B1, 45B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	45B1, 46B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	46B1, 47B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	47B1, 48B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	48B1, 49B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	49B1, 50B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	50B1, 51B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	51B1, 52B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	52B1, 53B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	53B1, 54B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	54B1, 55B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	55B1, 56B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	56B1, 57B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	57B1, 58B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	58B1, 59B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	59B1, 60B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	60B1, 61B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	61B1, 62B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	62B1, 63B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	63B1, 64B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	64B1, 65B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	65B1, 66B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	66B1, 67B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	67B1, 68B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	68B1, 69B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	69B1, 70B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	70B1, 71B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	71B1, 72B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	72B1, 73B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	73B1, 74B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	74B1, 75B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	75B1, 76B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	76B1, 77B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	77B1, 78B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	78B1, 79B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	79B1, 80B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	80B1, 81B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	81B1, 82B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	82B1, 83B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	83B1, 84B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	84B1, 85B1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
226	85B1, 86B1	1.5									

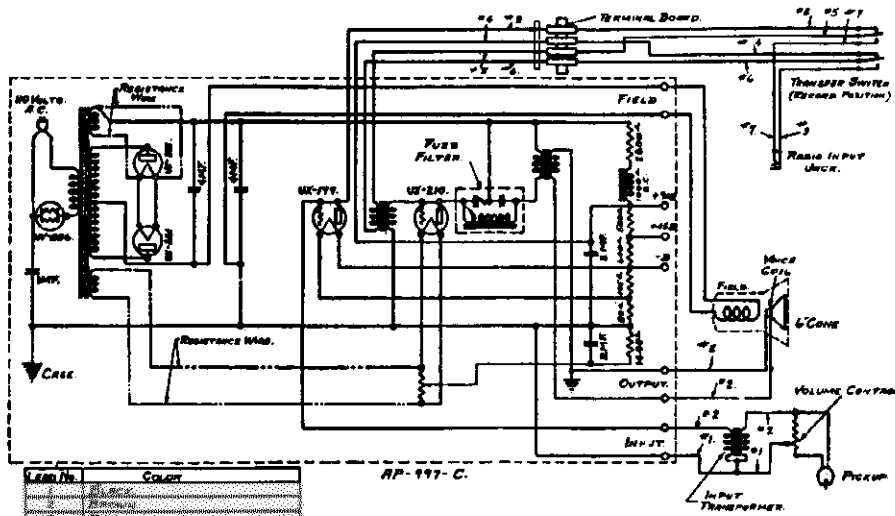
MODEL Victor Borgia II  
 MODEL Victor Tuscany  
 MODEL Victor Cromwell

R. C. A. VICTOR CO., INC.



R. C. A. VICTOR CO., INC.

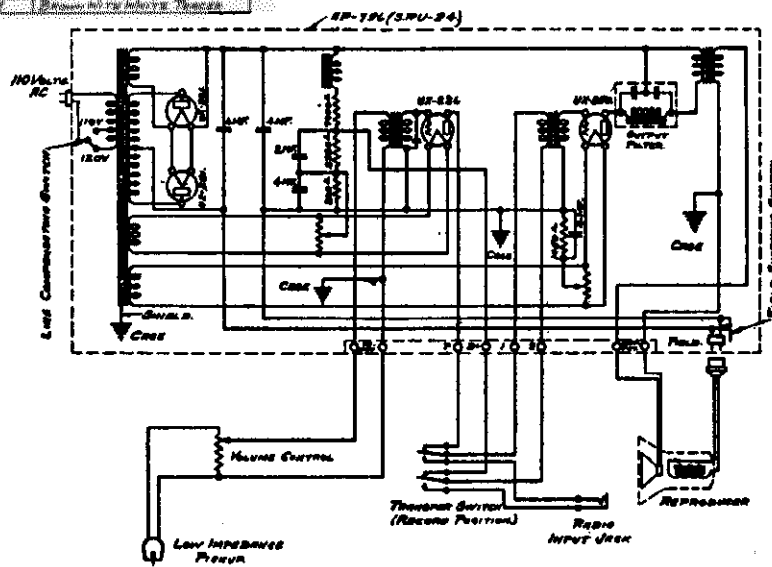
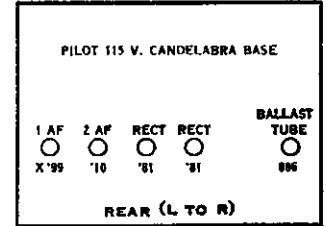
MODEL Victor 12-15  
 MODEL Victor 12-15-C  
 MODEL Victor E-35



Lead No.	Color
1	Red
2	Black
3	Blue
4	Green
5	White
6	Yellow
7	Red Yellow Trace
8	Red Yellow Trace
9	Red Green Trace
10	Red Green Trace

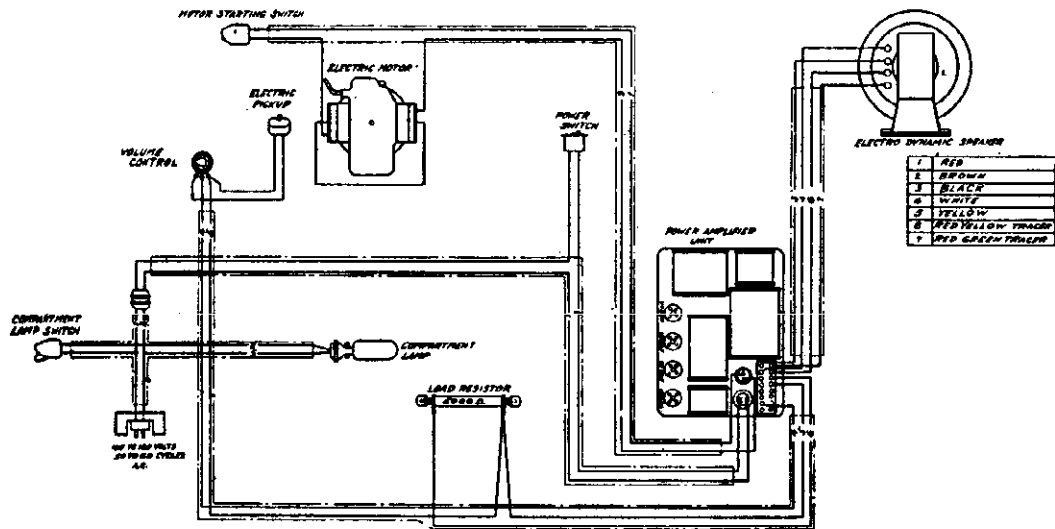
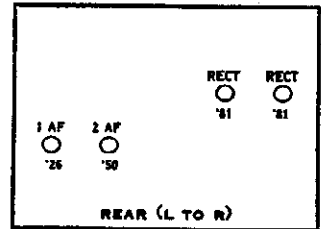
Wiring Diagram of 12-15

Models Victors 12-15 (1927)



Wiring Diagram 12-15 above serial No. 2600

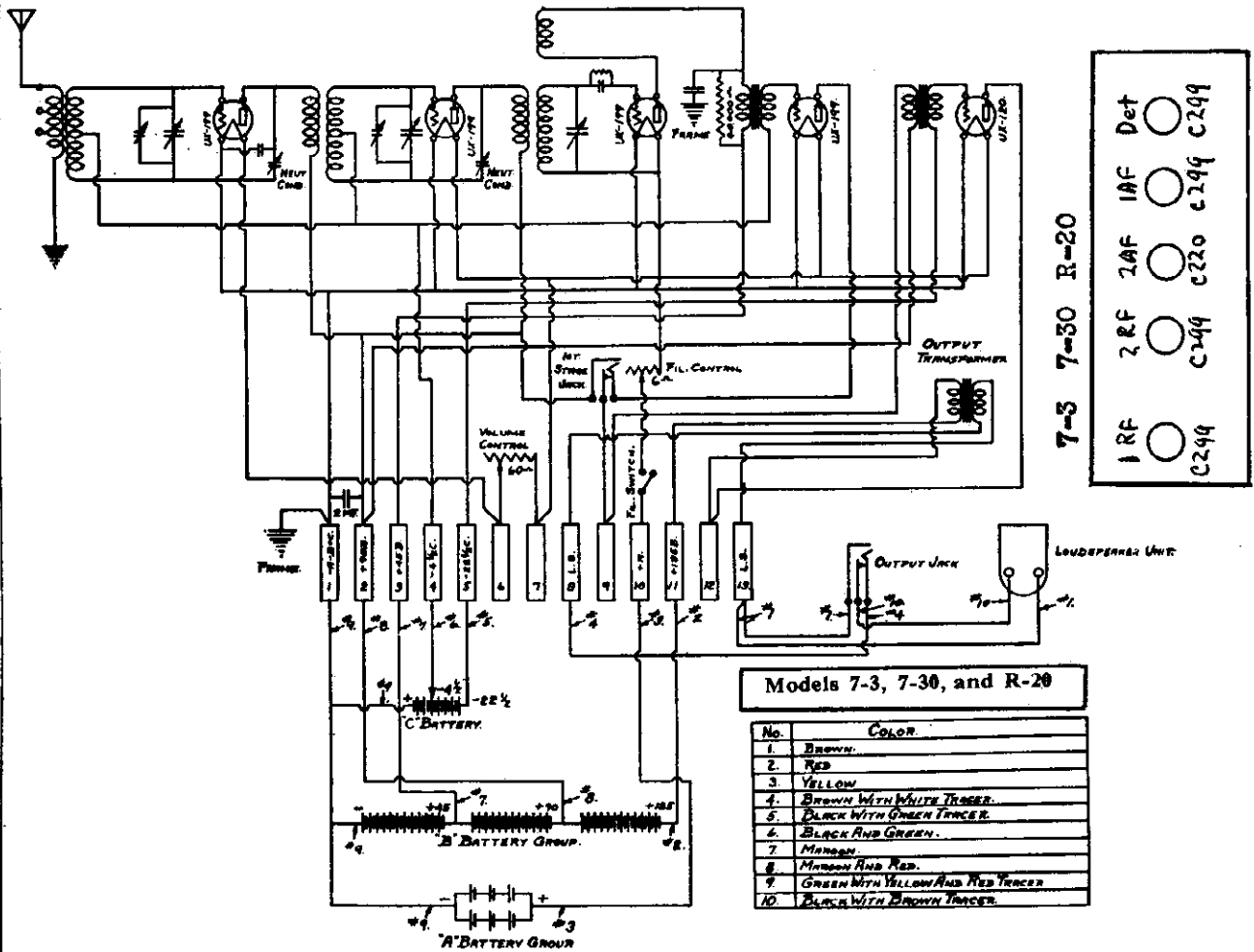
Model Victor 12-15C (1928)



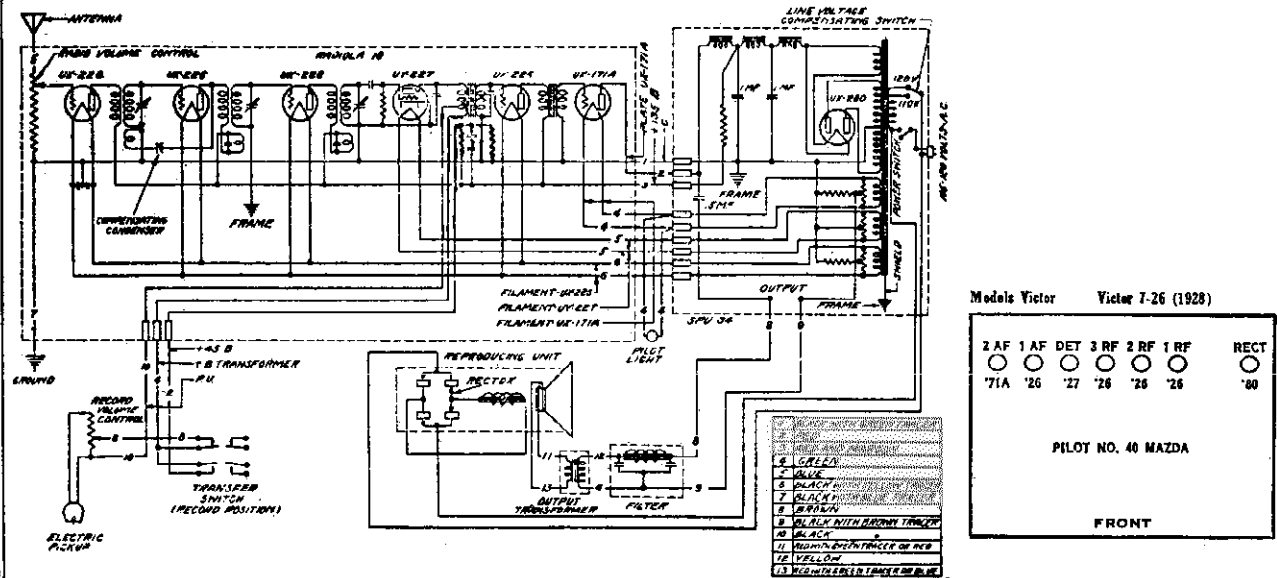
Cable Wiring Electrola E-35

MODEL Victor 7-3, 7-30, R-20  
 MODEL Victor 7-26

R. C. A. VICTOR CO., INC.



For 7-26 voltage data, see index.

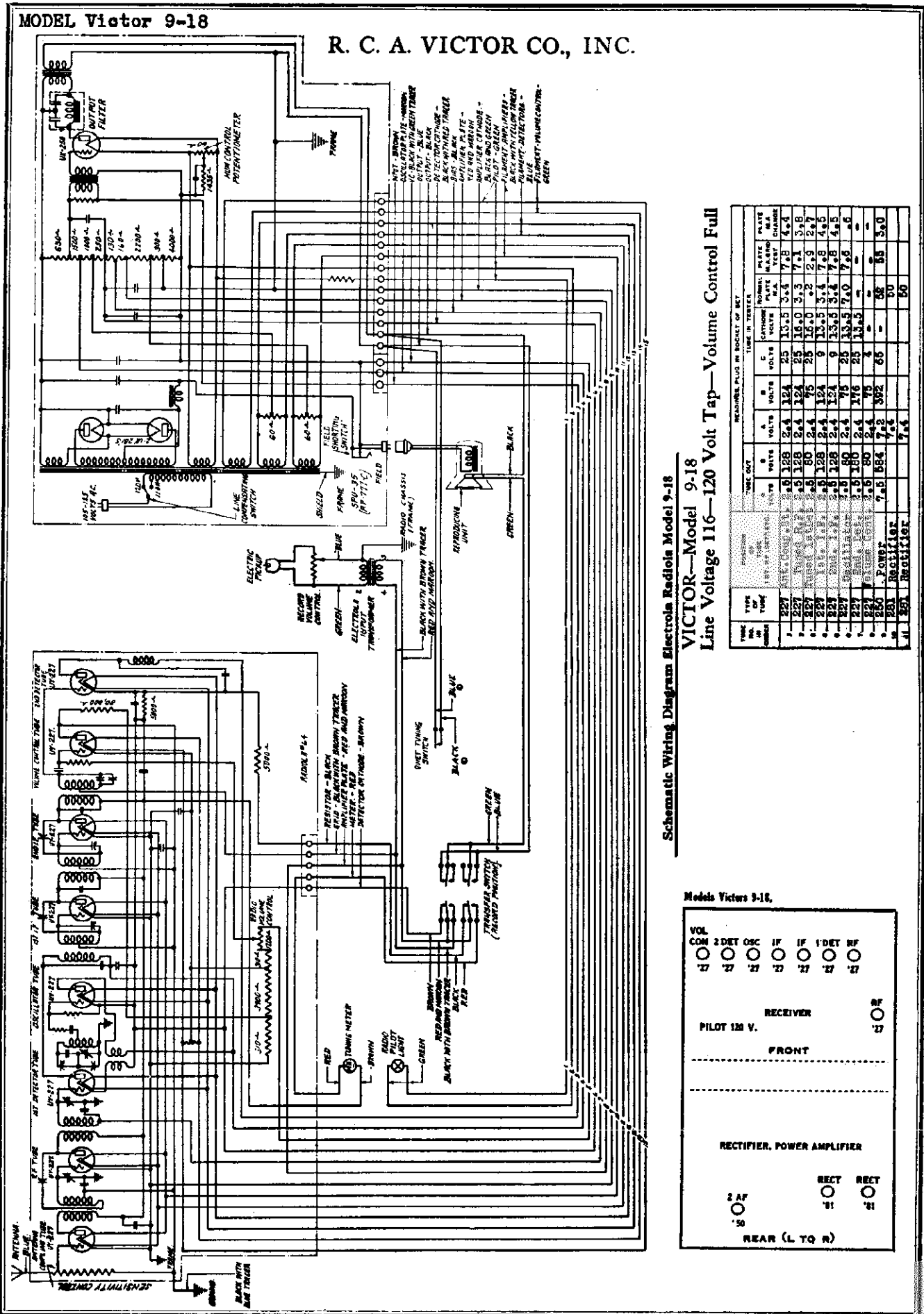


Schematic Wiring Diagram Electrola Radiola 7-26 Above Serial No. 12000



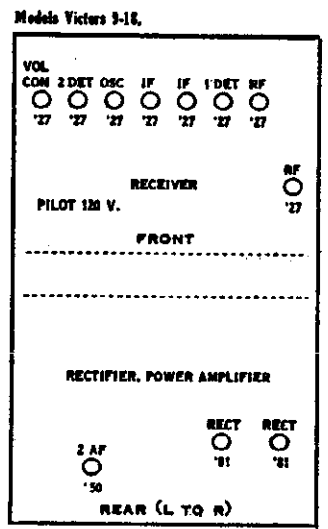
MODEL Victor 9-18

R. C. A. VICTOR CO., INC.



Schematic Wiring Diagram Electrola Radio Model 9-18  
**VICTOR—Model 9-18**  
 Line Voltage 116—120 Volt Tap—Volume Control Full

TYPE	TUBE	NO. IN SET	TUBE OUT		TUBE IN TESTER			PLATE	MAX. CUR.	
			A	B	C	WOMAN	PLATE			MAX. CUR.
227	6X4	1	128	2.4	124	25	13.5	3.4	7.8	4.4
227	6X5	1	128	2.4	124	25	16.0	3.3	7.3	3.0
227	6X6	1	128	2.4	124	25	13.0	3.2	2.9	2.7
227	6X7	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X8	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X9	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4A	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4B	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4C	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4D	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4E	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4F	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4G	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4H	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4I	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4J	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4K	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4L	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4M	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4N	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4O	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4P	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4Q	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4R	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4S	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4T	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4U	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4V	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4W	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4X	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4Y	1	128	2.4	124	25	13.5	3.4	7.8	4.5
227	6X4Z	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X5	1	128	2.4	124	25	16.0	3.3	7.3	3.0
250	6X6	1	128	2.4	124	25	13.0	3.2	2.9	2.7
250	6X7	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X8	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X9	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4A	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4B	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4C	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4D	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4E	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4F	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4G	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4H	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4I	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4J	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4K	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4L	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4M	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4N	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4O	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4P	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4Q	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4R	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4S	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4T	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4U	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4V	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4W	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4X	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4Y	1	128	2.4	124	25	13.5	3.4	7.8	4.5
250	6X4Z	1	128	2.4	124	25	13.5	3.4	7.8	4.5

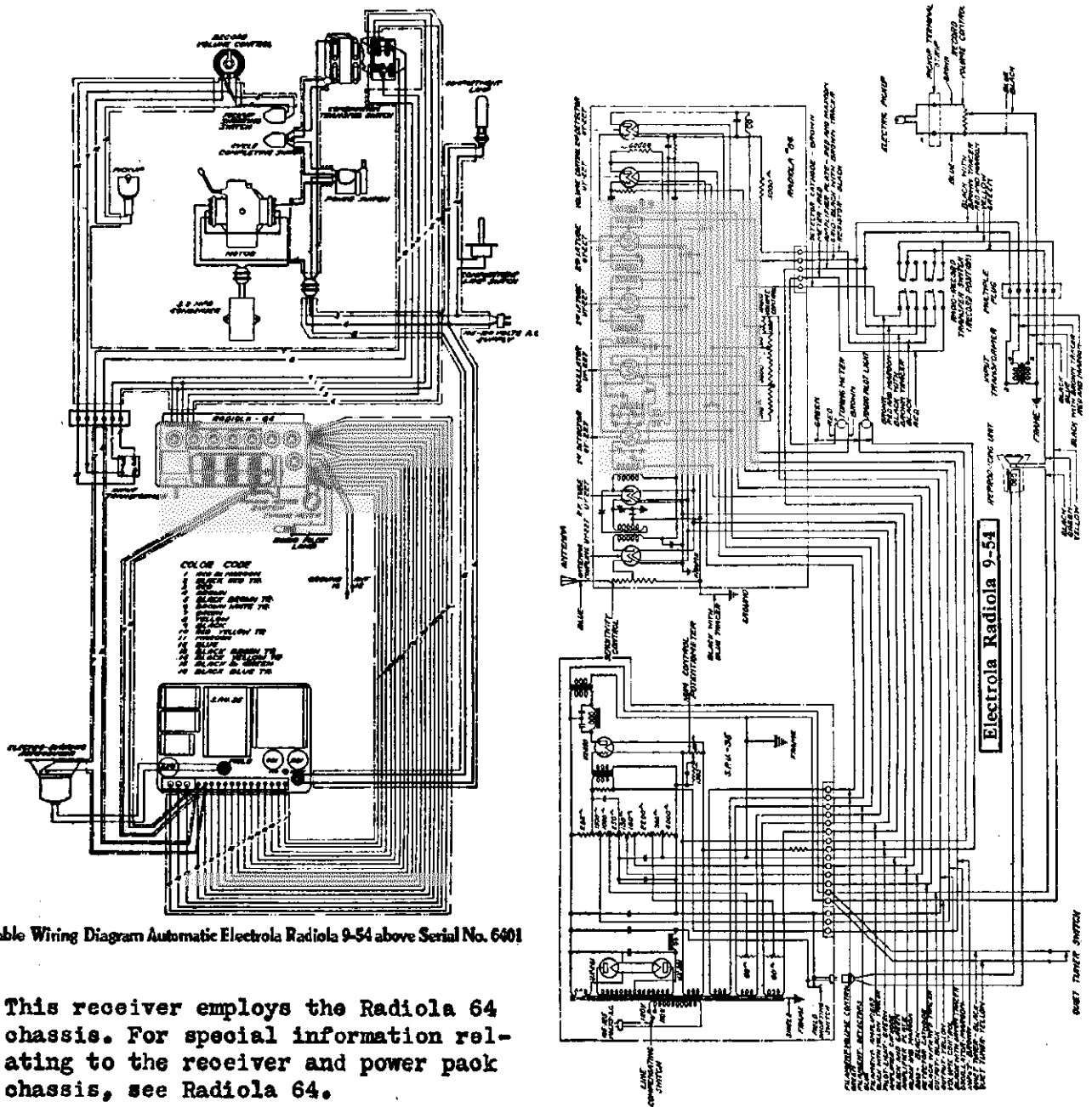






MODEL Victor 9-54

R. C. A. VICTOR CO., INC.

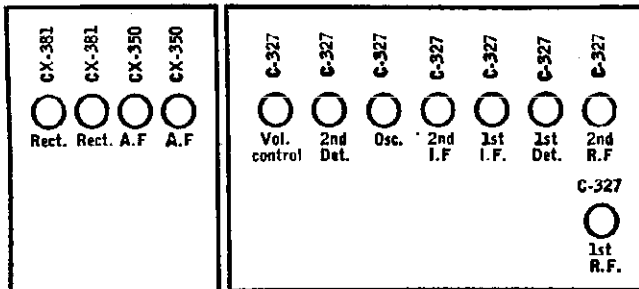


Cable Wiring Diagram Automatic Electrola Radiola 9-54 above Serial No. 6401

This receiver employs the Radiola 64 chassis. For special information relating to the receiver and power pack chassis, see Radiola 64.

9-54

(A.C.) VICTOR—Model 9-54  
Line Voltage 116—120 Volt Tap—Volume Control Full



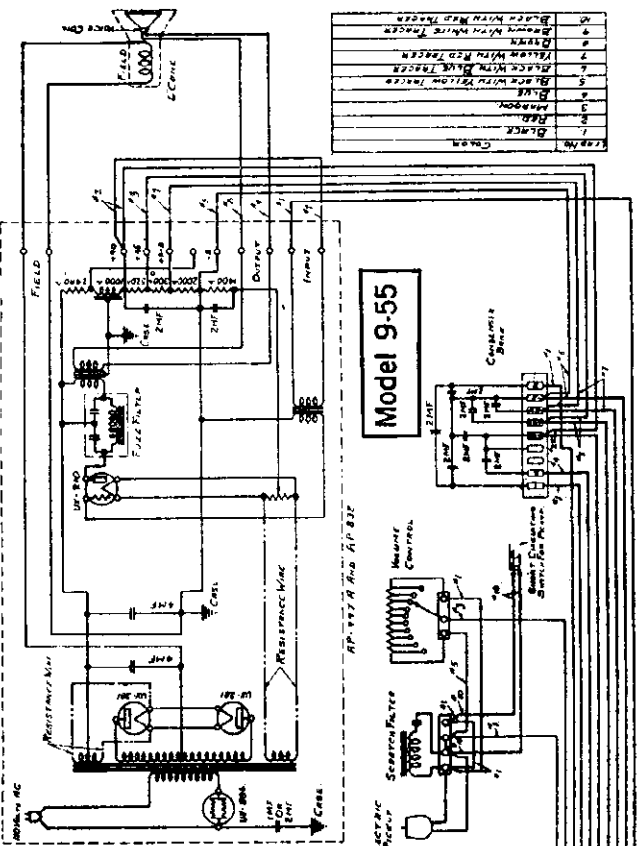
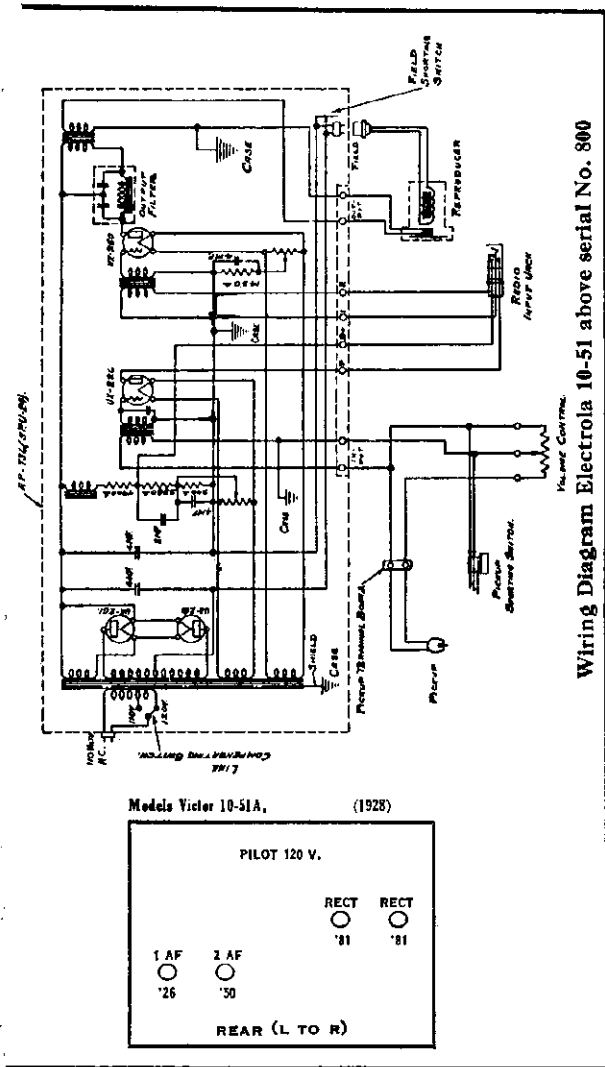
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (1st, 2nd, etc.)	READINGS, PLUG IN SOCKET OF SET					TUBE IN TESTER			
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	0 VOLTS	CATHODE VOLTS	NORMAL PLATE V.O.	PLATE R.A. OHMS	PLATE R.A. CHANGES
1	227	Ant. Coup. St.	2.5	128	2.4	124	25	13.5	5.4	7.8	4.4
2	227	Tuned R.F.	2.5	128	2.4	124	25	16.0	3.3	7.1	3.8
3	227	Tuned 1st Det.	2.5	80	2.4	75	25	16.0	4.2	2.9	2.7
4	227	1st. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
5	227	2nd. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
6	227	Oscillator	2.5	80	2.4	75	25	13.5	7.0	7.6	.6
7	227	2nd. Det.	2.5	80	2.4	75	25	15.5	"	"	"
8	227	Volume Cont.	2.5	80	2.4	75	4	"	"	"	"
9	250	Power	7.5	584	7.2	392	65	"	52	55	3.0
10	251	Rectifier			7.4						
11	251	Rectifier			7.4				50		

R. C. A. VICTOR CO., INC.

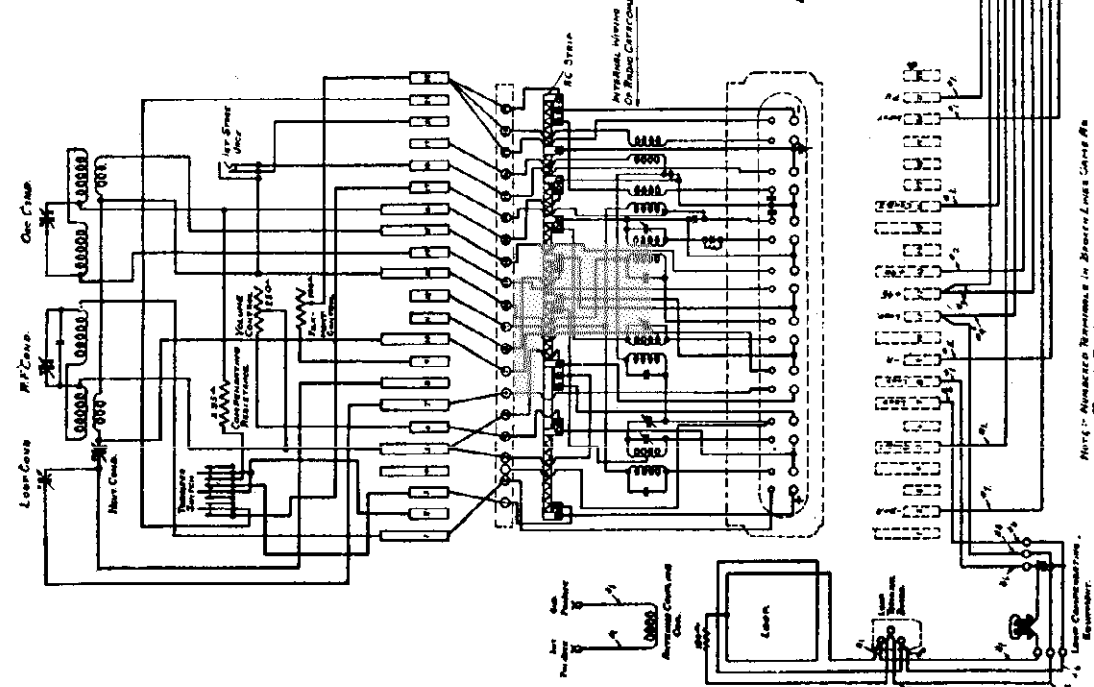
MODEL Victor 10-51A  
MODEL Victor 9-55

Electrola 9-55 Receiver

- CX-299  
○  
1st Det.
- CX-299  
○  
1st I.F.
- CX-299  
○  
1st H.F.
- CX-299  
○  
2nd I.F.
- CX-299  
○  
Osc.
- CX-299  
○  
2nd Det.
- CX-299  
○  
1st A.F.

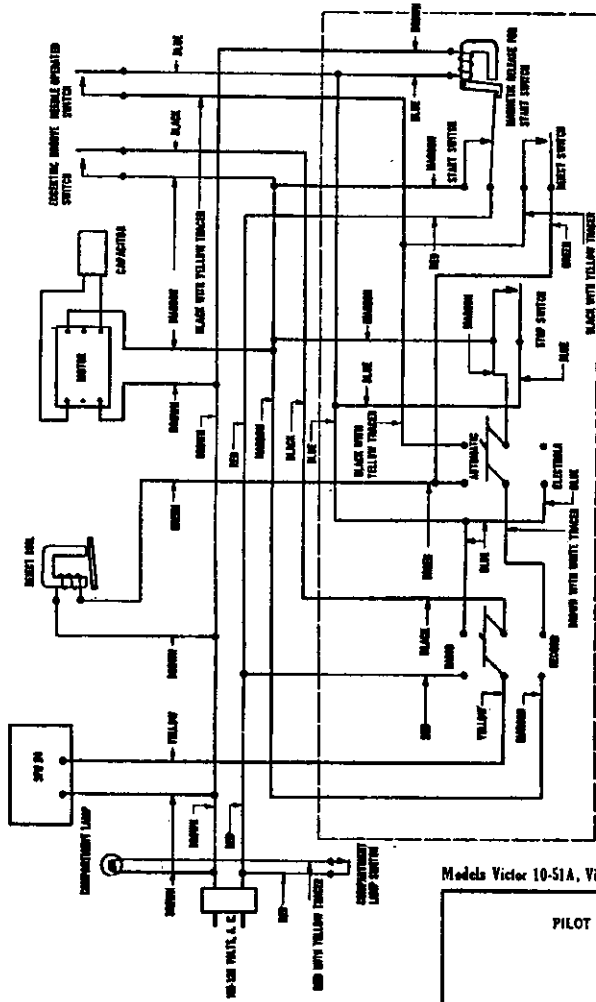


- Electrola 9-55 Power Unit**
- BALLAST  
○  
C-386
  - 10L.T. RES.  
○
  - RECT.  
○
  - RECT.  
○
  - 2 AF  
○
  - CX-381
  - CX-381
  - CX-310



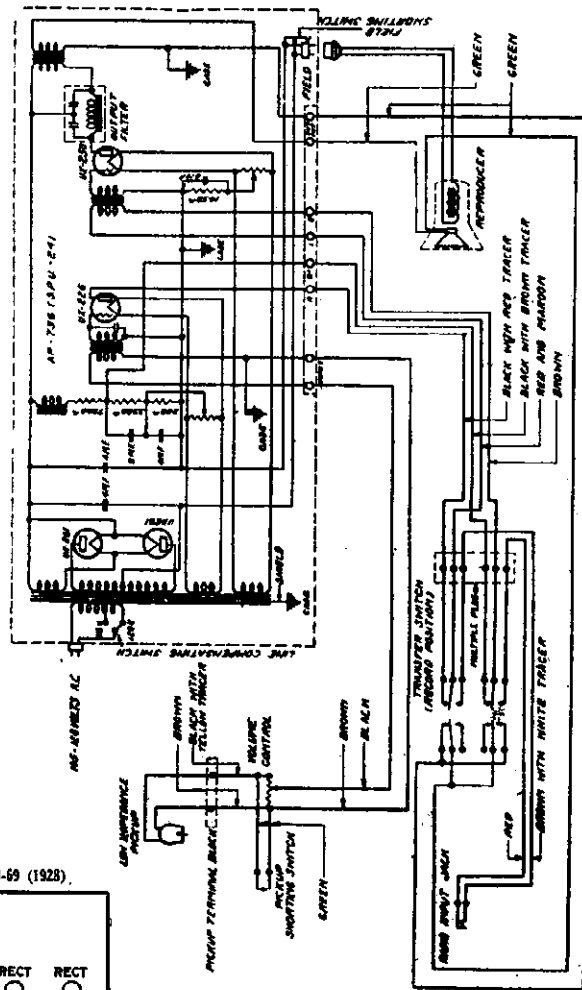
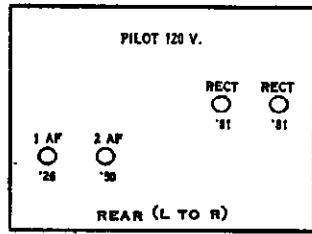
MODEL Victor 10-69

R. C. A. VICTOR CO., INC.

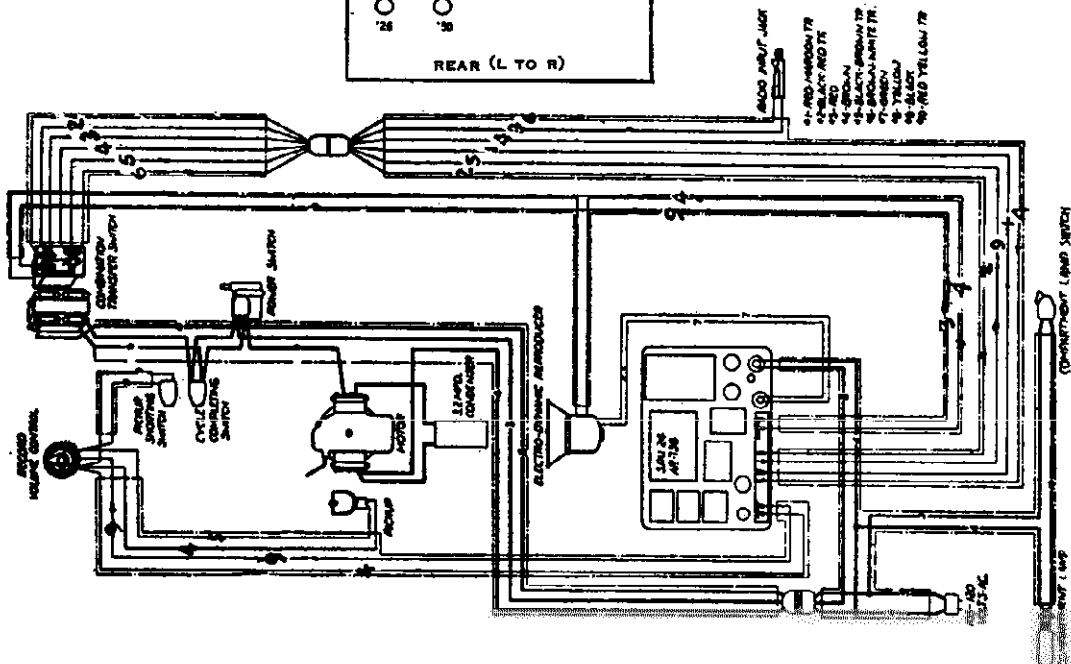


A. C. Power Wiring Diagram Automatic Electrola No. 10-69

Models Victor 10-51A, Victor 10-69 (1928)



Schematic Wiring Diagram Automatic Electrola No. 10-69

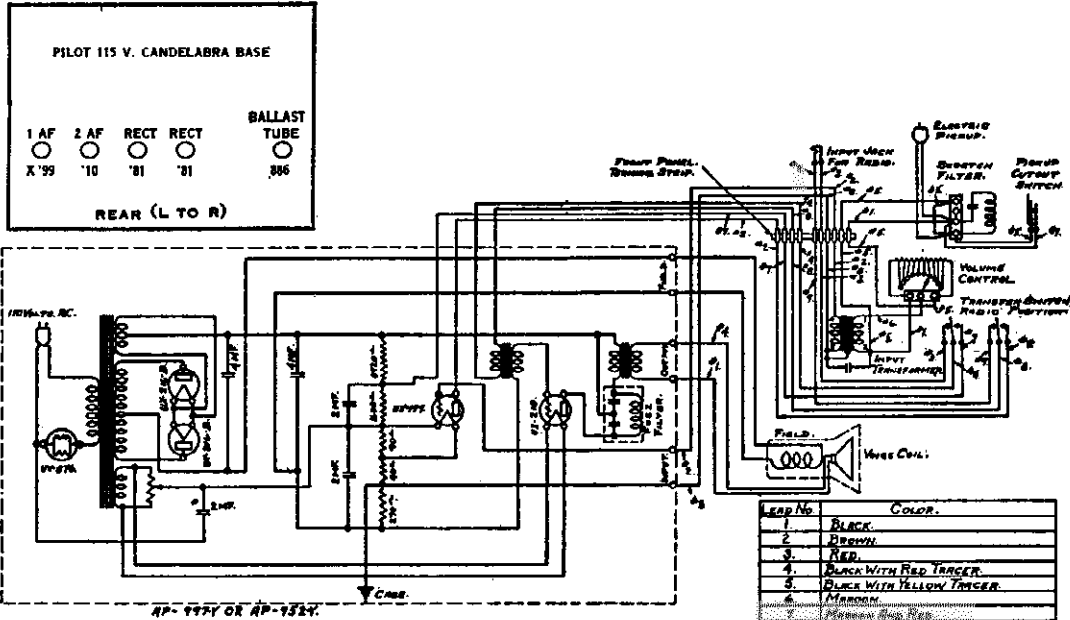


Cable Wiring Diagram Automatic Electrola 10-69, above Serial No. 5001

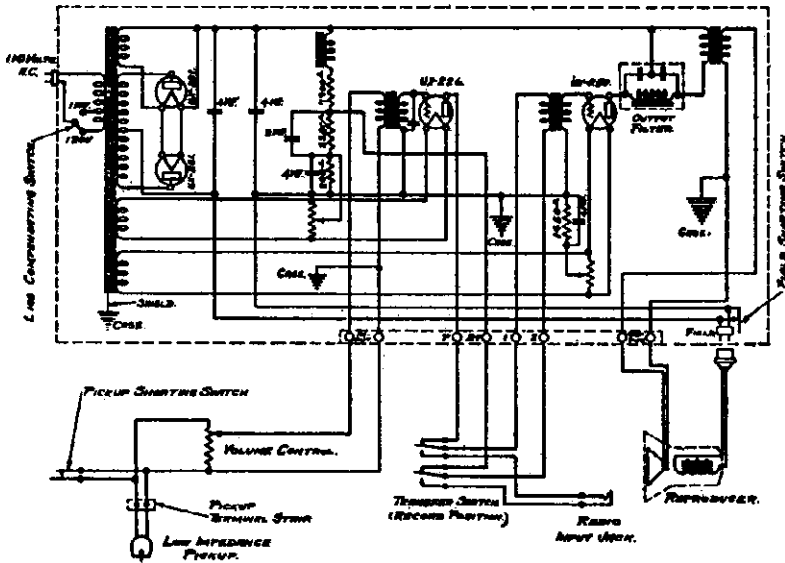
R. C. A. VICTOR CO., INC.

MODEL Victor 10-70  
 MODEL Victor 10-70-A  
 MODEL Victor 12-25

Models Victors 10-51, 10-70, 12-15 (1927)

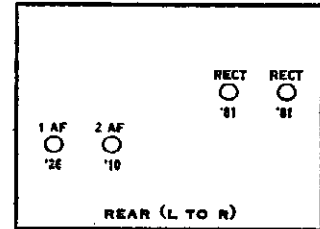


Wiring Diagram—Electrola 10-70

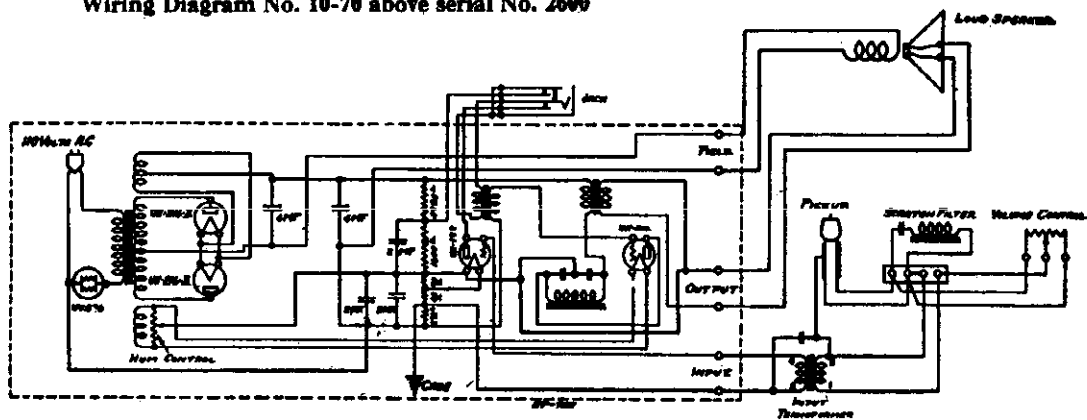
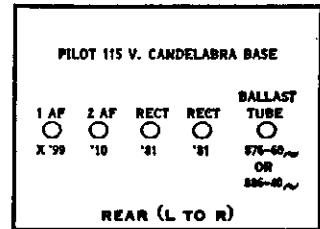


Wiring Diagram No. 10-70 above serial No. 2600

Models Victors 10-70A (1928)



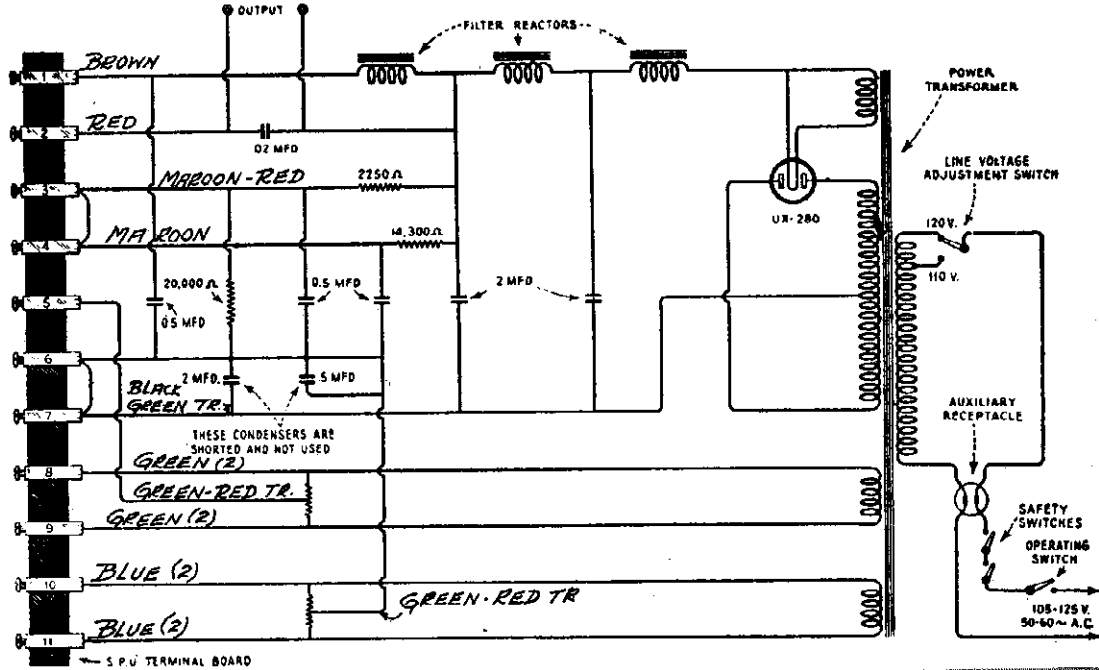
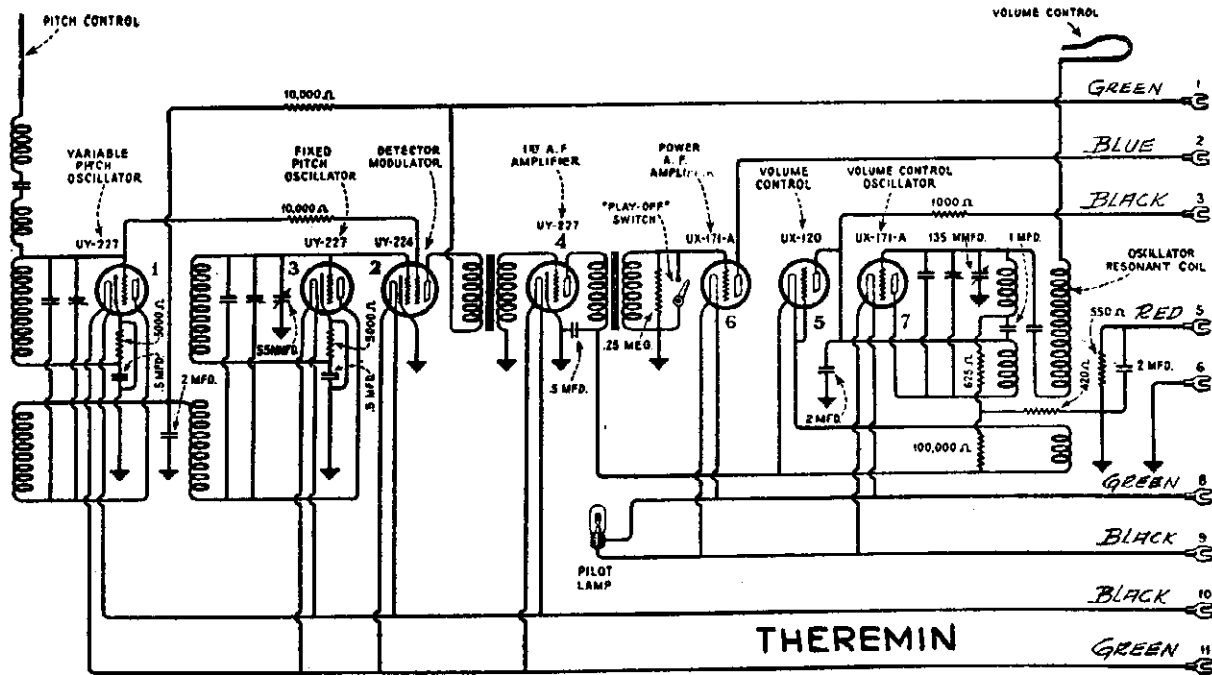
Models Victors 12-25 (1926)



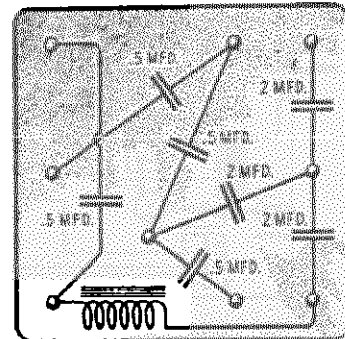
Electrola 12-25

MODEL Theremin

R. C. A. VICTOR CO., INC.



Terminals Nos.	Cable on Tubes Lighted Volts	Cable Off Volts
1 to 6 (D.C.)	190	260
2 to 6	190	260
3 to 6	140	230
5 to 6	29.0	0
8 to 9 (A.C.) rms	2.5	2.8
10 to 11 (A.C.) rms	4.7	5.0



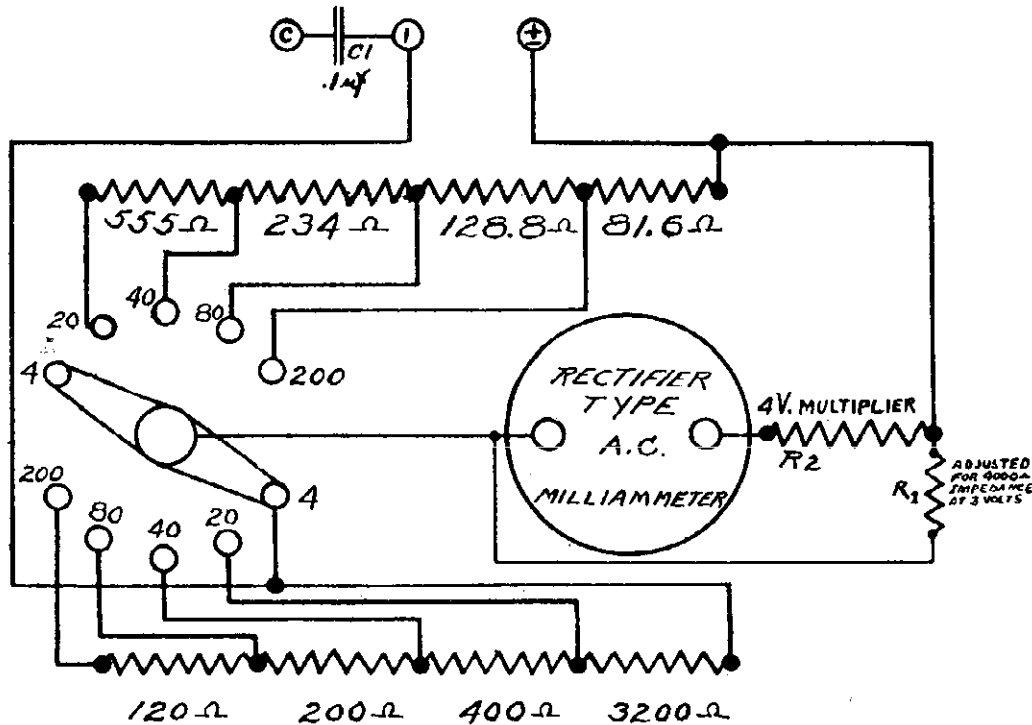
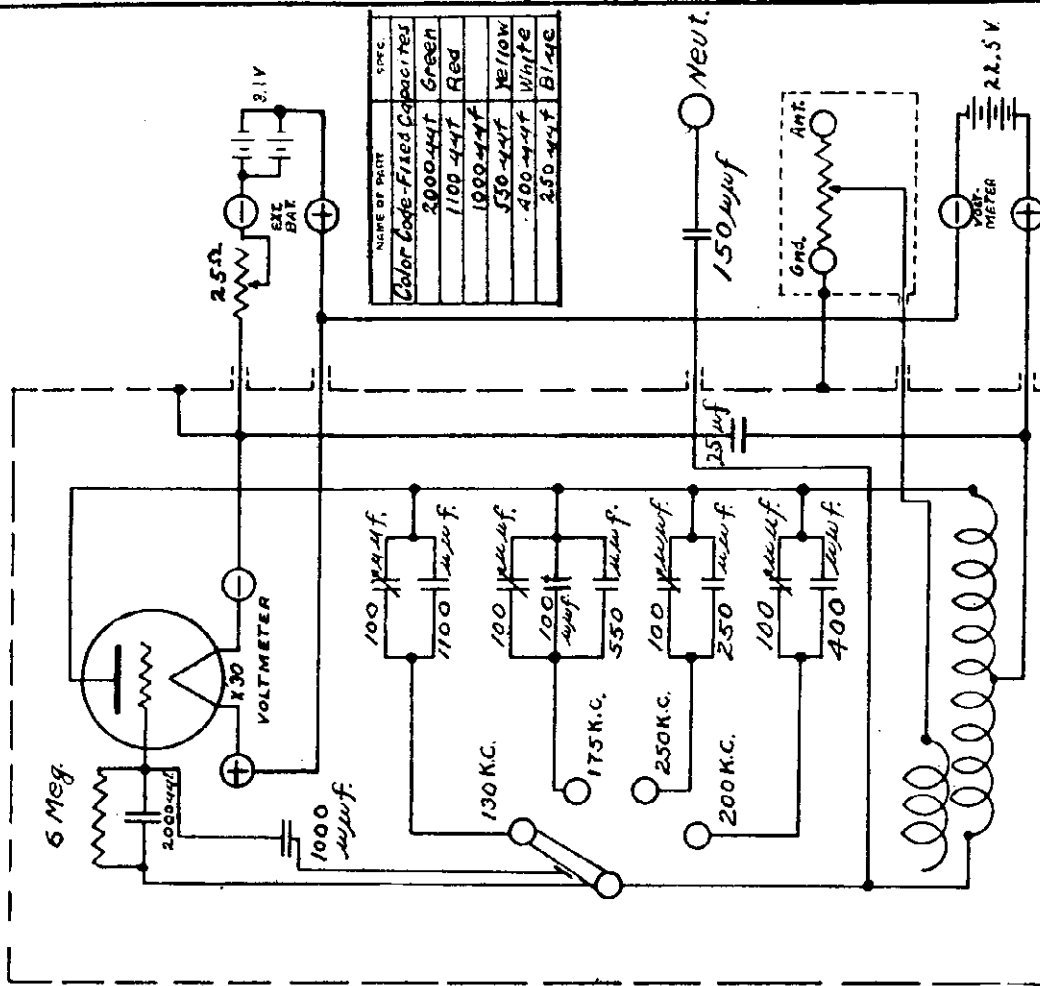
—Internal connections of filter and by-pass condensers, and filter reactor





MODEL Dayrad 21  
Output Meter  
MODEL 330 mmf  
Oscillator

RADIO PRODUCTS CO.



TITLE Circuit Diagram	DATE April 10, 1931
NAME OF PART Type 330 M.F. Oscillator	DATE April 10, 1931
FOR Type 330 M.F. Oscillator	CHECKED BY G.M.
ENGINEERING DEPARTMENT THE RADIO PRODUCTS CO. Dayton, Ohio	DATE April 10, 1931
DRAWING NO. C-2047	
DRAWN BY G.M.	
DATE 12-2-30	
CHECKED BY	DATE

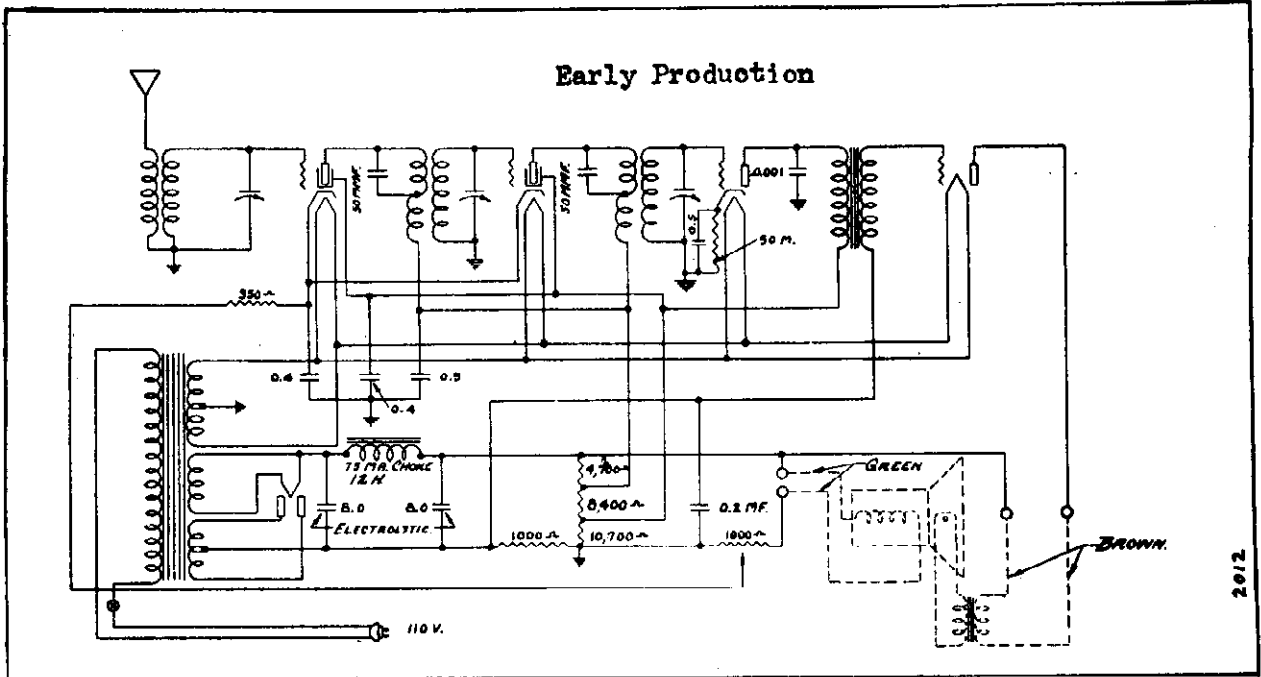




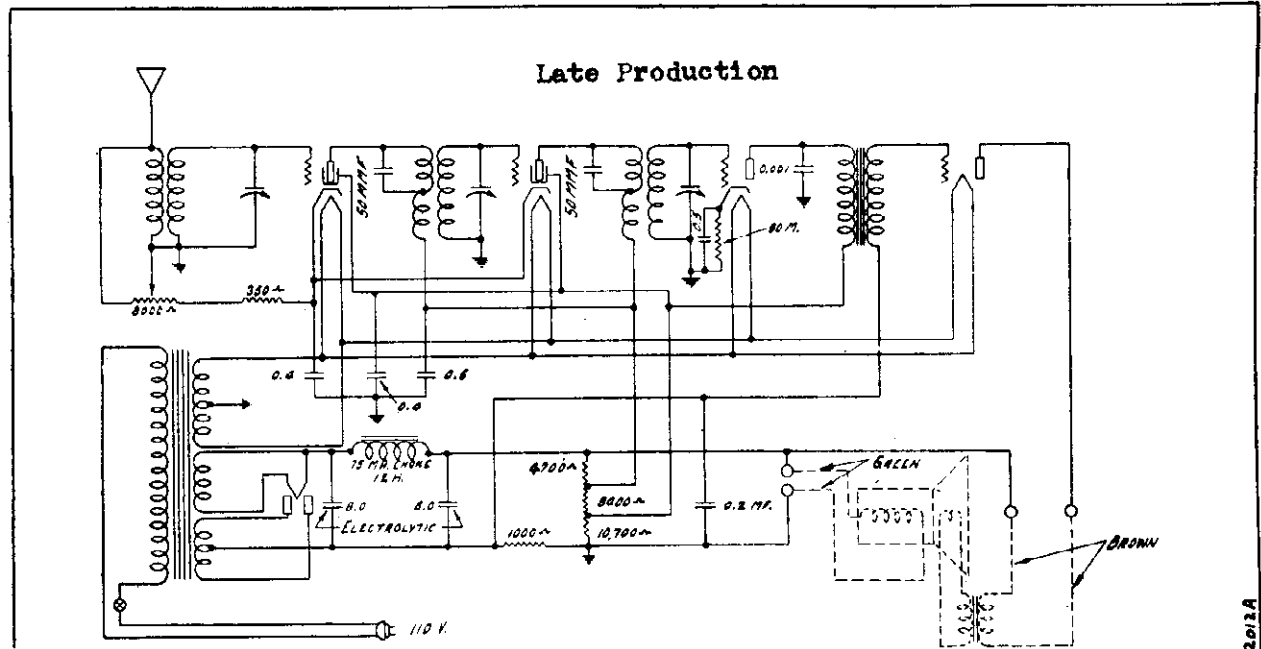


MODEL 27-R

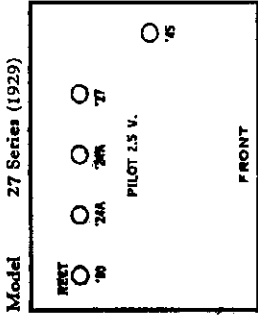
RADIOTROPE



2012



2012A

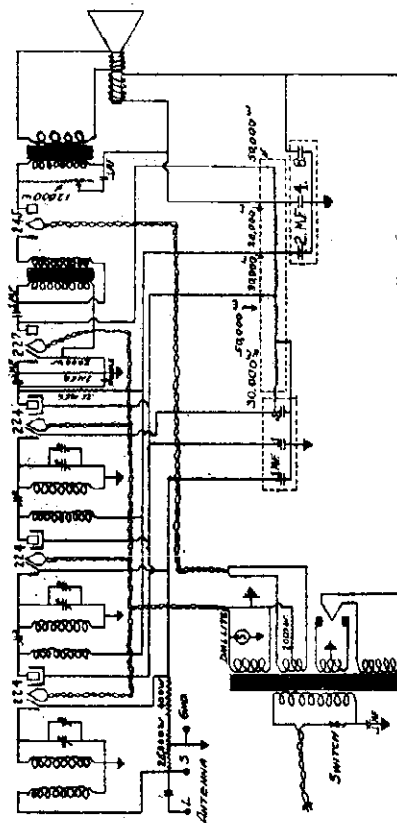
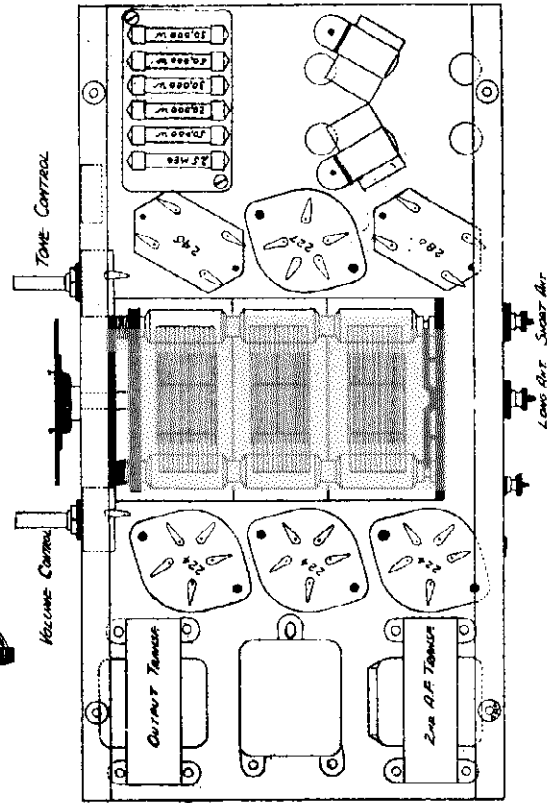
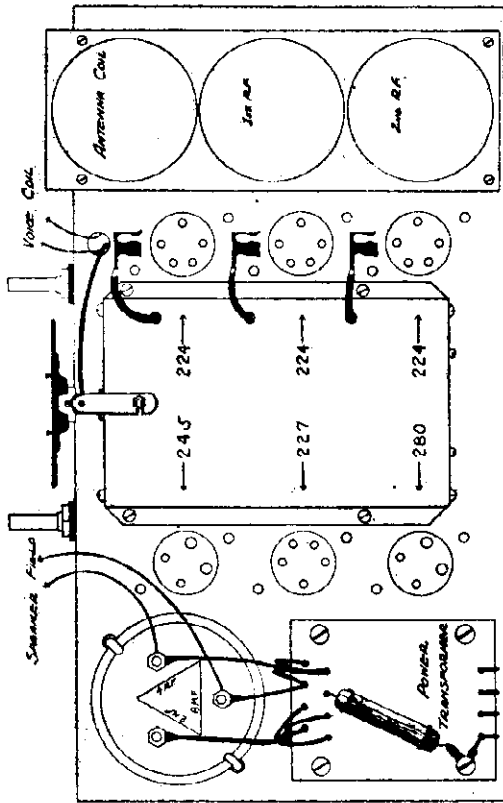


**VOLTAGES AT SOCKETS — VOLUME CONTROL AT MAXIMUM —  
LINE VOLTAGE, 115 — PLUG IN SOCKET OF RECEIVER —  
TUBE IN TEST SET**

Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control Grid "C" Volts	Screen Volts	Screen Current MA	Cathode Volts	Plate MA	Grid Test MA
224	1	1st Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
224	2	2nd Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
227	3	Detector	2.25	70	8.5			8.5	.1	.2
245	4	Audio	2.35	238	44.				19.	22.
280	5	Rectifier	4.8						26.5 per Plate	

REMLER COMPANY, LTD.

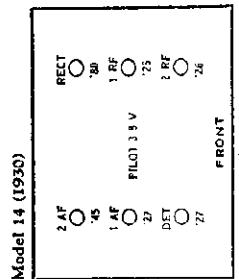
MODEL 14



**WIRE COLOR CODE**  
 RED - ALIMENT RECTIFIER - KATHODE AF - PLATE RF -  
 BLUE - FILAMENT POWER TUBE - SPEAKER FIELD  
 GREEN - KATHODE DETECTOR - GRID POWER TUBE  
 BROWN - FILAMENT RF TUBES AND DETECTOR  
 BLACK - FILAMENT 1ST AF TUBE - DETECTOR KATHODE -  
 SPEAKER VOICE COIL  
 YELLOW - SHIELD GRID - PLATE 1ST AF - ALATE RECTIFIER

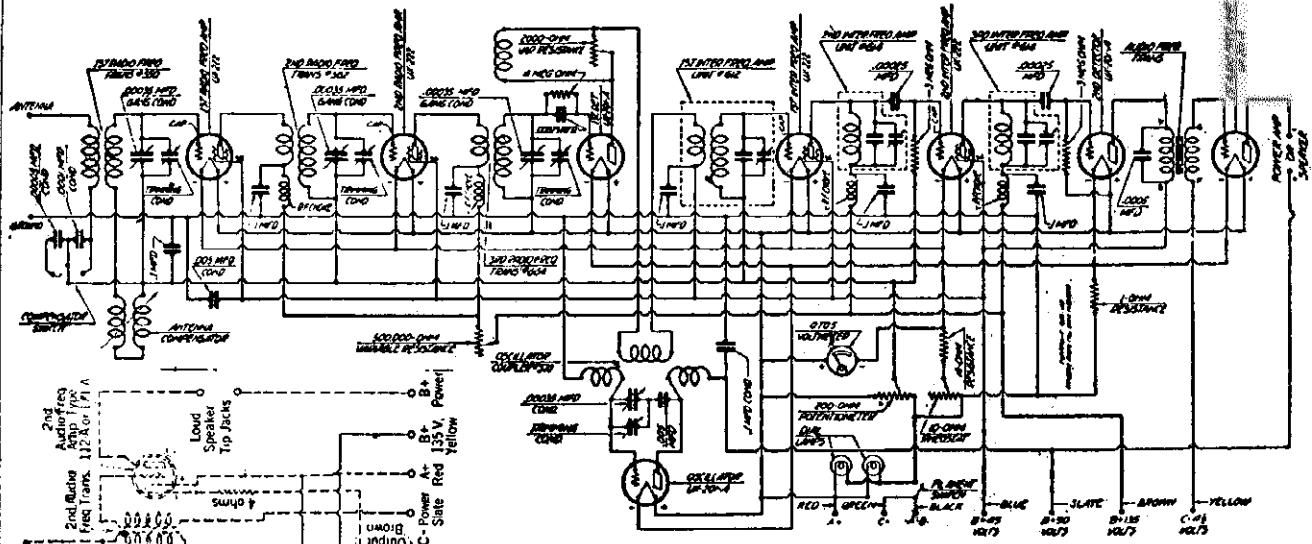
**VOLTAGE TABLE**  
 LINE 115 V 60 CYCLES

TUBE	POSITION	FIL V	GRID V	PLATE V	SG/ALTS
224	1st AF	2.3	3-9	160-185	85-125
224	2nd AF	2.3	3-9	160-185	85-125
224	DET.	2.3	4.0-8	75-115	85-125
227	1st AF	2.3	7	110	
245	POWER	2.4	47	235	
280	RECTIFIER	4.9		400	

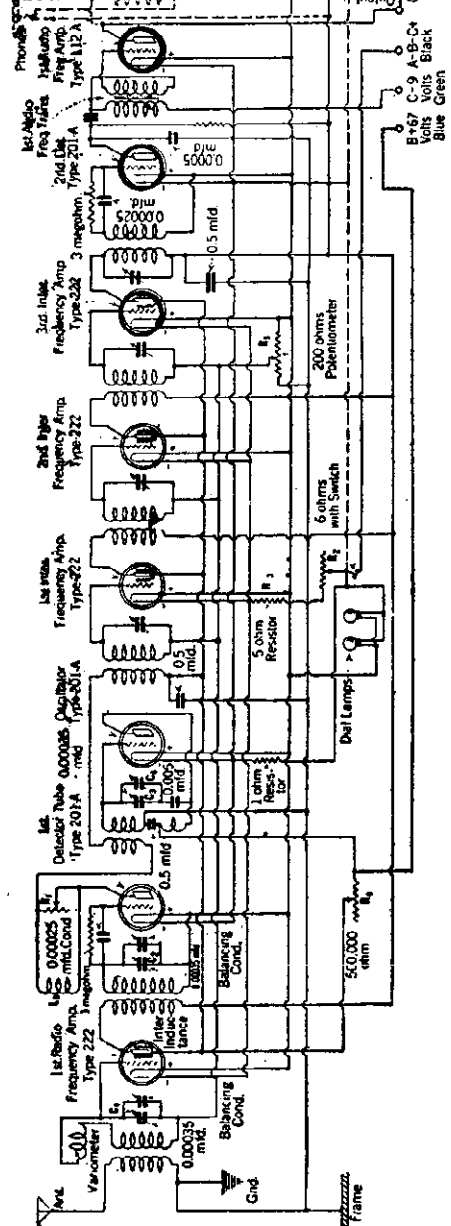


REMLER COMPANY, LTD.

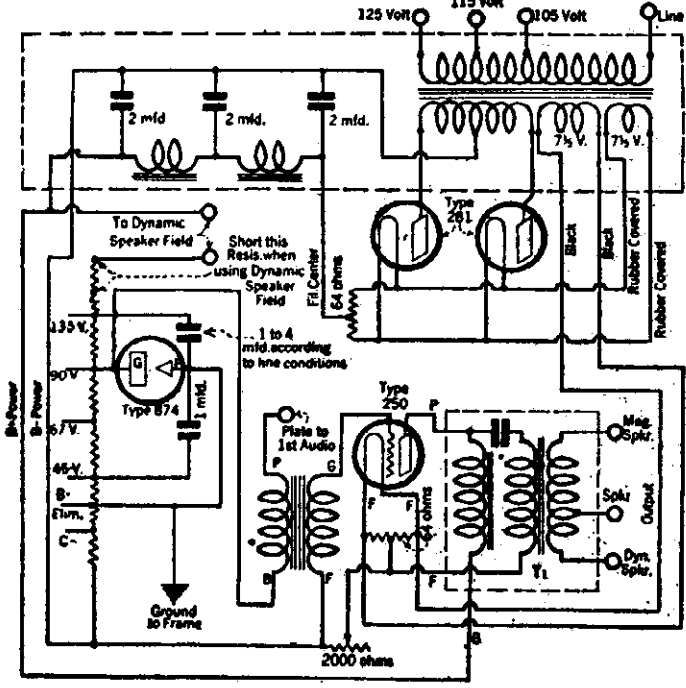
MODEL Best "115 KC"  
MODEL Remler "29"



Model Best "115 KC"



Model Remler "29" Receiver



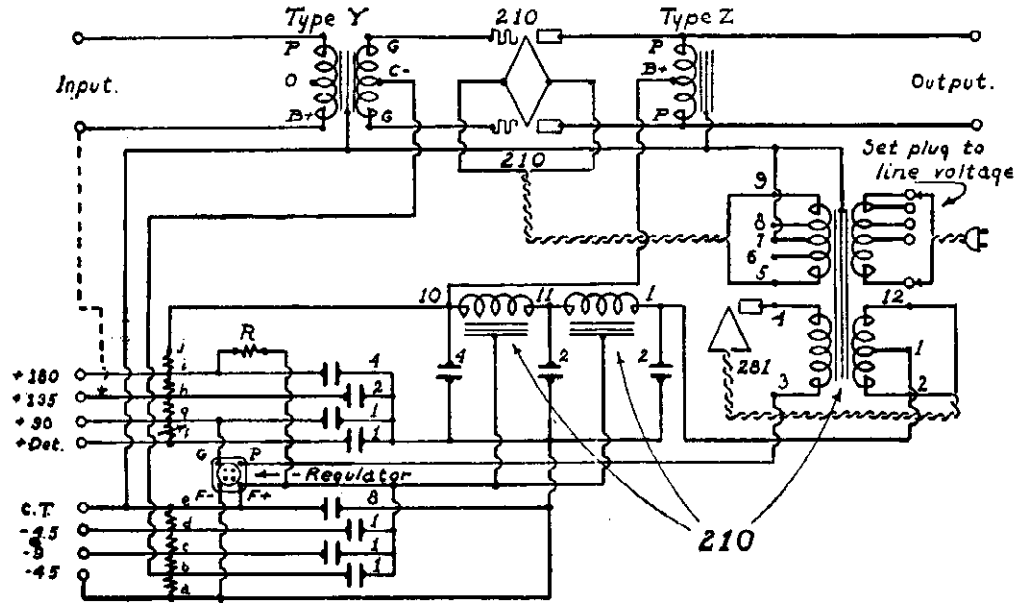
Model Remler "29" Power Pack



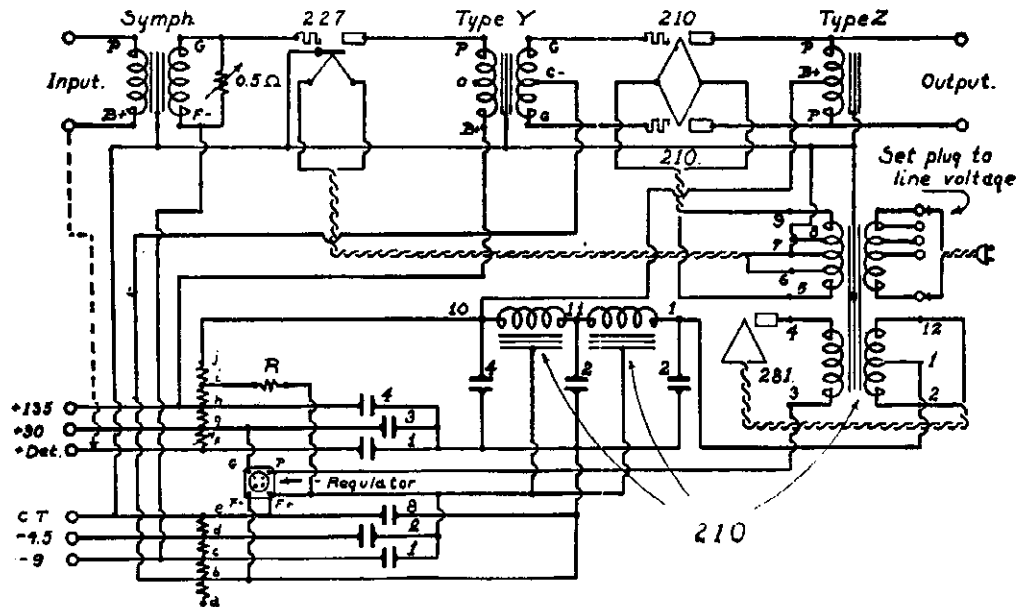


SAMSON ELECTRIC CO.

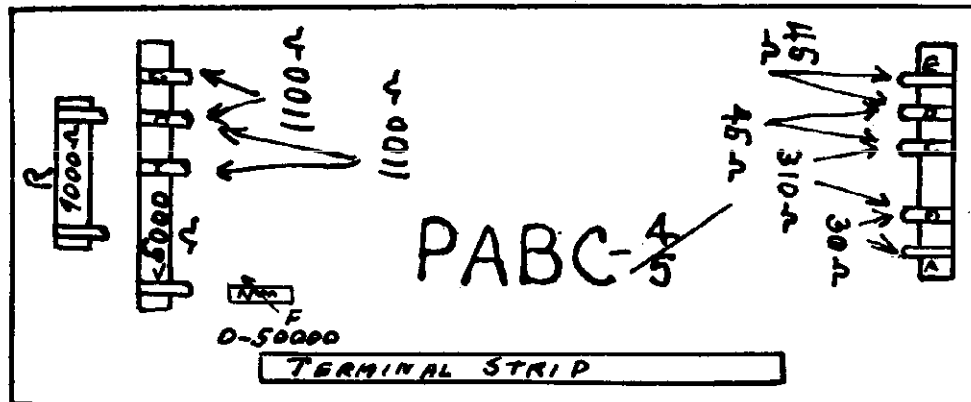
MODEL PABC-4  
MODEL PABC-5



PABC-4 Schematic.



PABC-5 Schematic

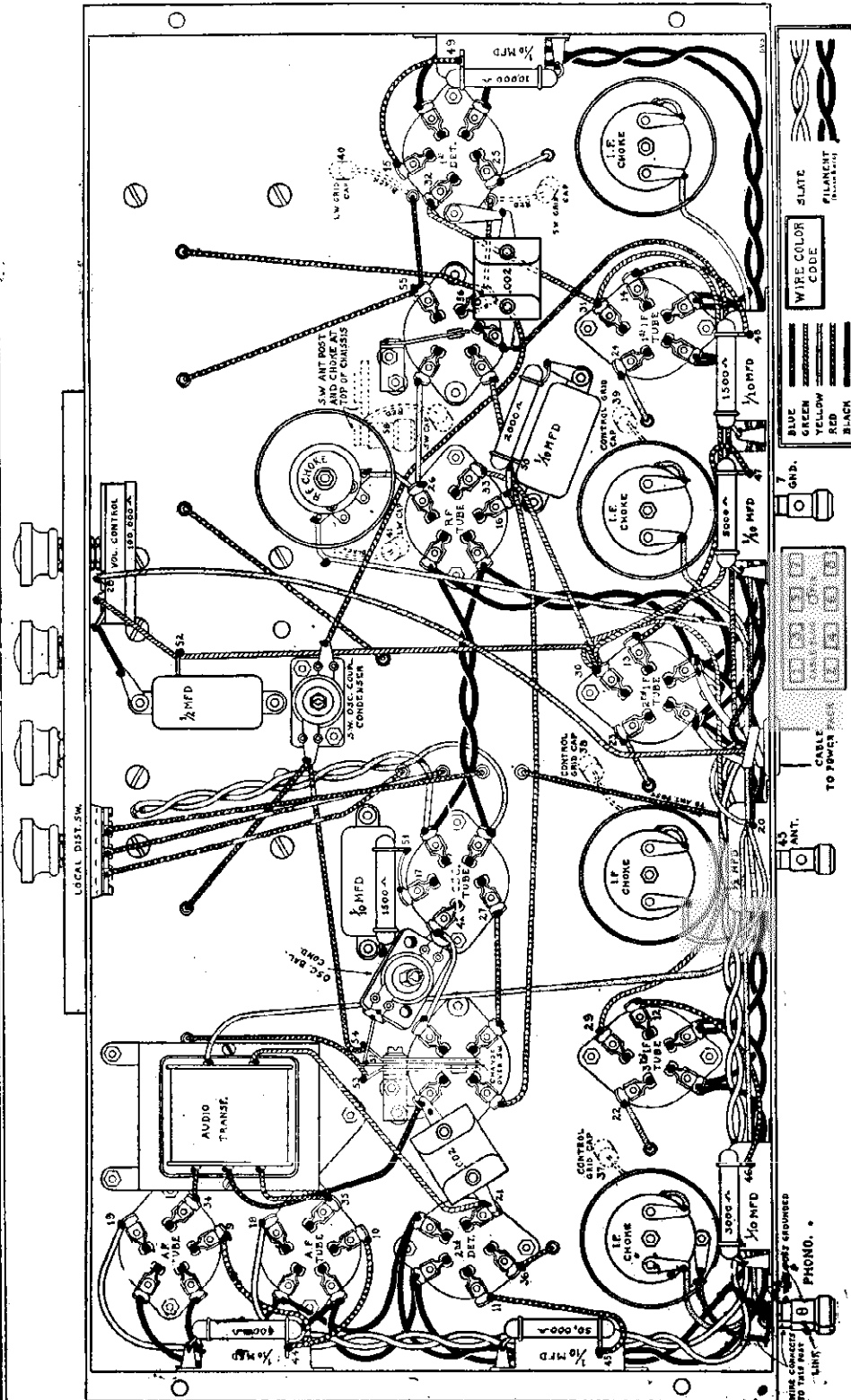






MODEL "All Wave" Super Receiver Chassis

SCOTT TRANSFORMER CO.



HOW TO DISTINGUISH OSCILLATOR FROM R. F. COIL

Oscillator Coil

- Two Enamel Wire Windings
- Two Enamel Wire Windings
- Two Enamel Wire Windings
- Two Enamel Wire Windings
- Two Enamel Wire Windings

R. F. Coil

- One Enamel Wire Winding
- One Enamel Wire Winding
- One Enamel Wire Winding
- One Enamel, One Silk Winding
- One Enamel, One Silk Winding

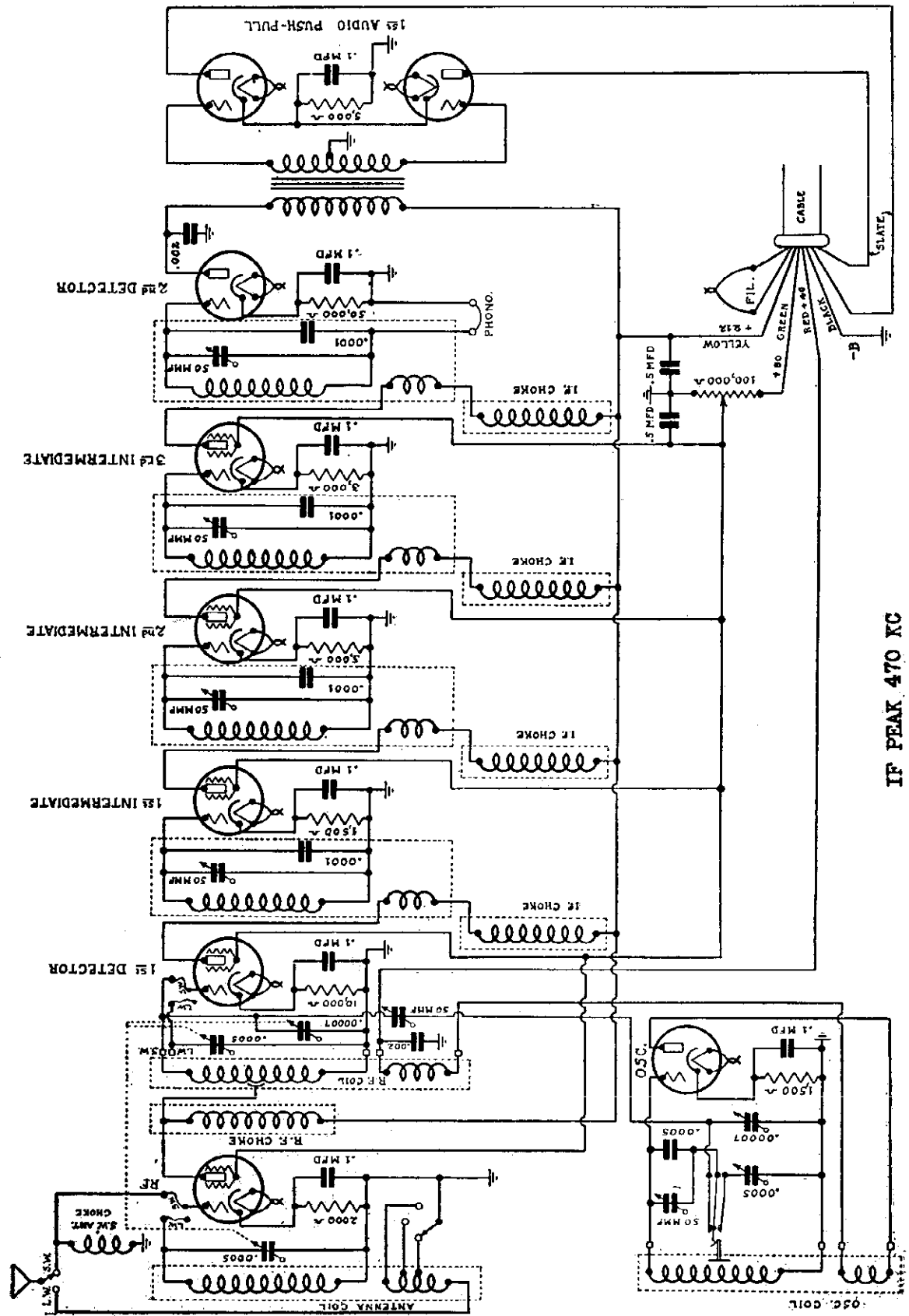
- 15-21 Meters
- 21-27 Meters
- 37-38 Meters
- 38-84 Meters
- 84-184 Meters

**NOTE:**—When tuning short wave stations the short wave coils must be left exposed (the aluminum covers should not be replaced). Be sure that both oscillator and R. F. coils are for the same wave length band.

The tube on the extreme right of the chassis is the first detector

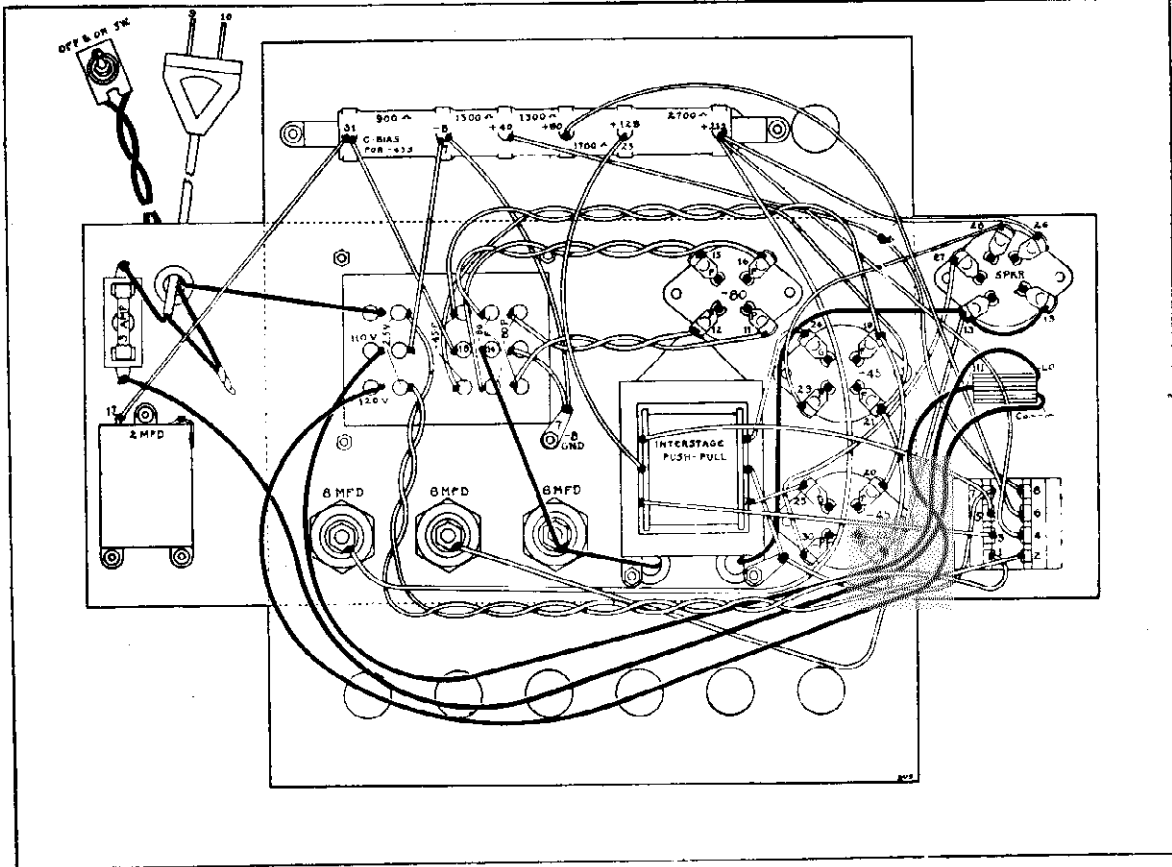
SCOTT TRANSFORMER CO.

MODEL "All Wave" Super Receiver Schematic

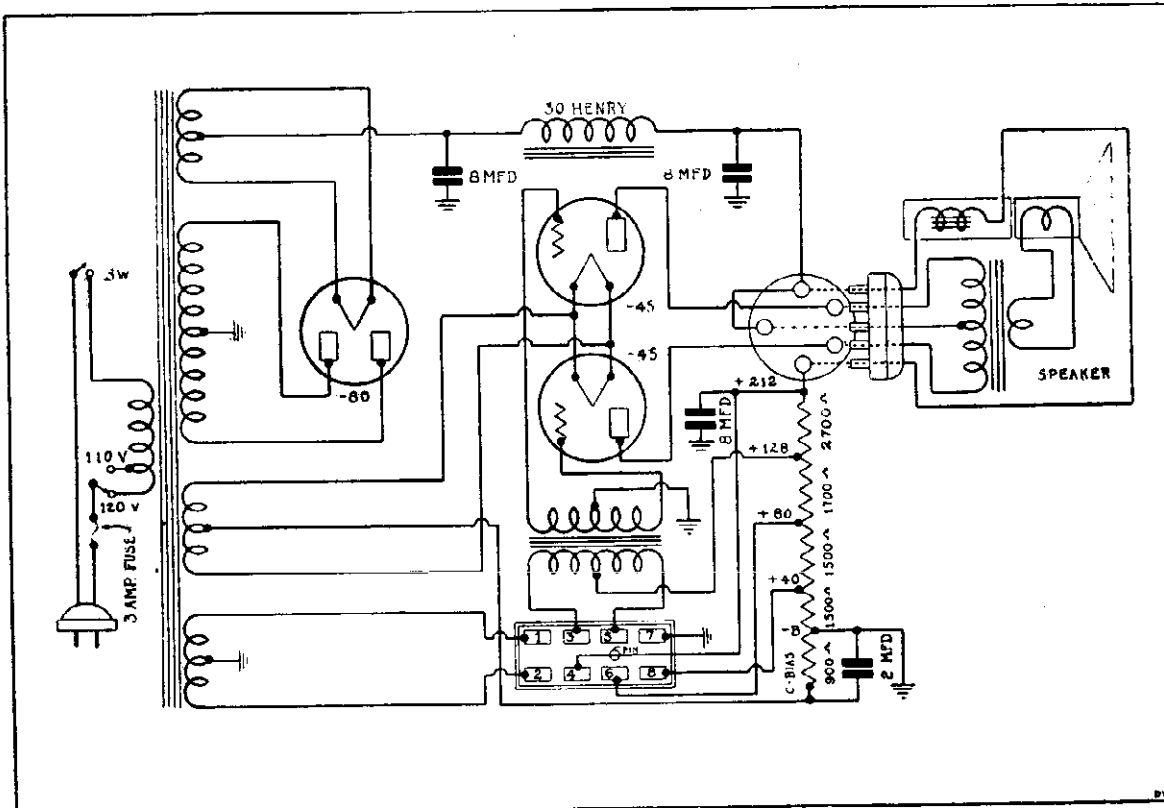


SCOTT TRANSFORMER CO.

MODEL "All Wave" Super  
145 Power Pack  
Schematic- Chassis



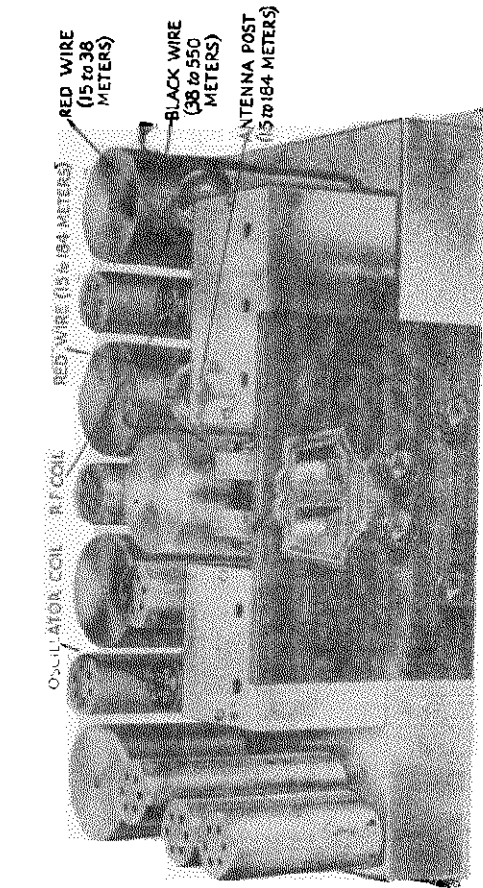
Wiring Diagram of 145 Power Pack



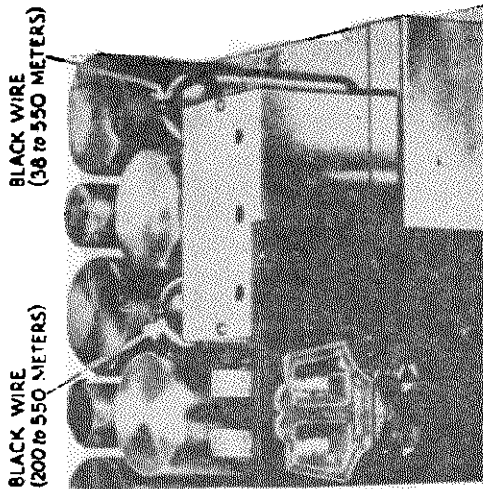
Schematic Diagram of 145 Power Pack

SCOTT TRANSFORMER CO.

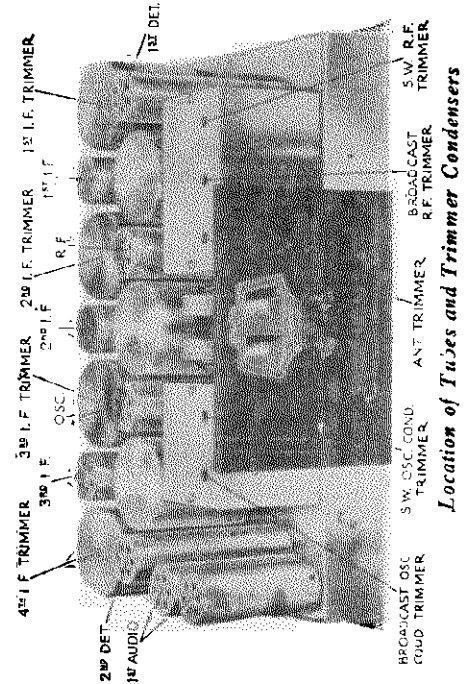
MODEL "All Wave" Super  
150 Power Pack  
Trimmer Locations  
Control Box



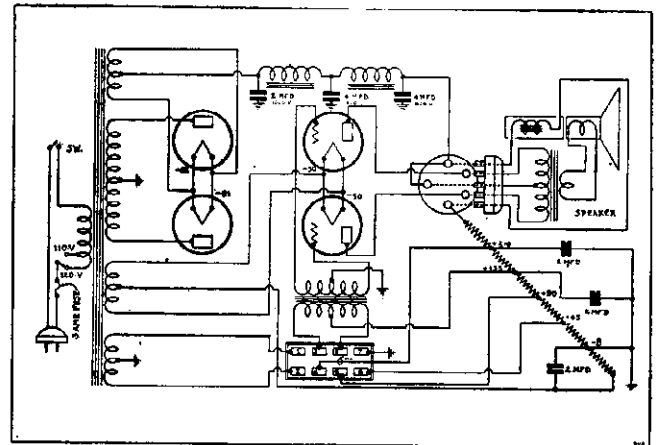
View of Screen Grid Cap Connections for Short Wave Reception



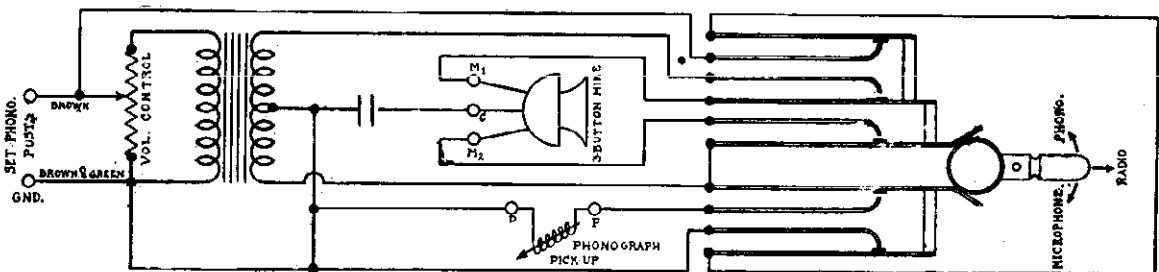
Screen Grid Connections for Broadcast Reception



Location of Tubes and Trimmer Condensers



Schematic Diagram for 150 Power Pack



Note - when single button mire is used, connect between  $M_1$  and  $C. M_2$  is not used

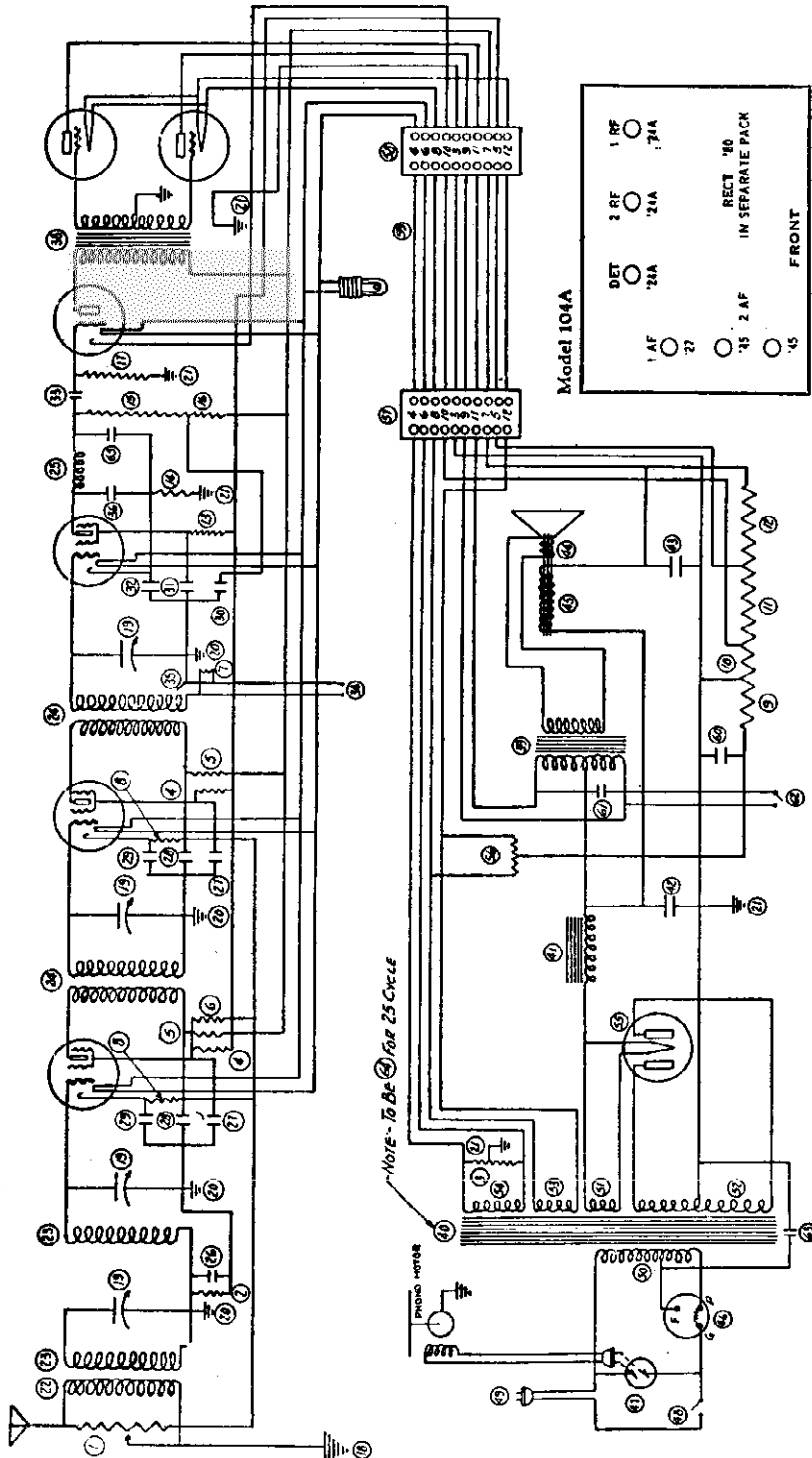
Schematic Diagram of Scott Control Box

MODEL 11,12,15,16  
(104)

SENTINEL RADIO CORP.

SENTINEL—Models 11-12-15-16  
Line Voltage 115—Volume Control Full On

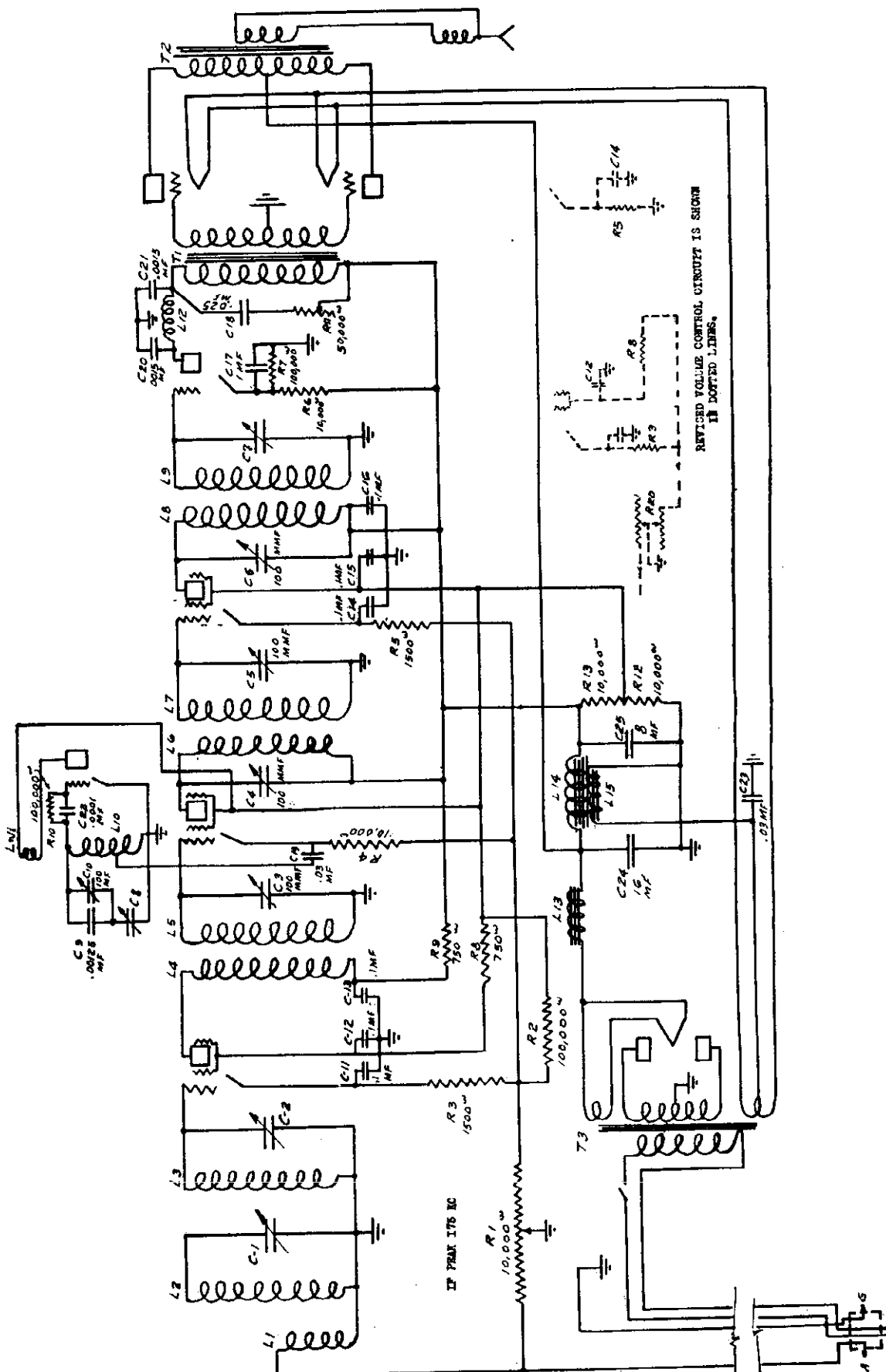
TUBE NO. IN ORDER TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	OPERATING VOLTAGES						MILLIAMPERES	
			FILAMENT OR HEATER	PLATE OR ANODE	CONTROL GRID—SPACE	NORMAL GRID—SCREEN	CATHODE TO HEATER	SCREEN GR. TO PLATE	PLATE P. H. OR PLATE	TUBE TEST
224	1 R.F.	2,36	176	2.2	67	-	-	3		
224	2 R.F.	2,36	176	2.2	67	-	-	3		
224	Det.	2,37	62.5*	4.6	10*	-	-	.25		
227	1 A.F.	2,4	157	-	12.5	-	-	4.75		
245	PP-AF	2,5	235	-	46	-	-	32.5		
245	PP-AF	2,5	235	-	46	-	-	32.5		
260	Rect.	5.0	-	-	-	-	-	55	55	



DESCRIPTION	R	I	E	W	DESCRIPTION	DESCRIPTION
1 VOLUME CONTROL	10M	0	0	0	10	PHONOGRAPH SWITCH
2 COUPLING RESISTOR	750	0	0	0	11	HIGH VOLTAGE WINDING
3 CENTER TAP RESISTOR	20	125	25	3.15	12	245 FILAMENT WINDING
4 SCREEN FILTER RESISTANCE	750	1	75	.0007	13	224 FILAMENT WINDING
5 PLATE FILTER RESISTANCE	150	4	3	.012	14	RECTIFIER TUBE, TYPE 260
6 BIAS RESISTOR	100M	1	93	.09	15	CENTER TAP 245 FILAMENT
7 PICKUP LOAD RESISTANCE	2500	0	0	0	16	JONES PLUG AND RECEPTOR
8 CATHODE BIAS RESISTANCE	750	4	3	.012	17	CABLE TERMINAL STRIP
9 AUDIO BIAS RESISTANCE	715	62	50	3.1	18	1/8" CABLE 10 CONDUCTOR
10 SCREEN RESISTANCE	1850	46	80.5	3.6	19	.025 PAPER CONDENSER 300V
11 FIELD LOAD RESISTANCE	2100	46	93	4.3	20	1mpd PAPER COND. 1000V
12 SCREEN BLEEDER RESISTANCE	15MM	0.35	110	.006	21	1mpd ELECTROLYTIC CONDENSER
13 DETECTOR BIAS RESISTANCE	5M	.38	75	.0007	22	5 MFD. ELECTROLYTIC CONDENSER
14 PLATE LOAD RESISTANCE	300M	.32	36	.03	23	COUPLING COND. 1mfd.-200V
15 DETECTOR FILTER RESISTANCE	50M	.32	16	.003	24	SCREEN FILTER COND. 25mfd.-200V
16 GRID RESISTANCE	1M	0	0	0	25	PLATE FILTER COND. 1mfd.-300V
					26	FIELD 2000-15%
					27	CATHODE BYPASS COND. 1mfd.-200V
					28	DETECTOR FILTER COND. 5mfd.-300V
					29	SCREEN FILTER COND. 25mfd.-200V
					30	CATHODE BYPASS COND. 1mfd.-200V
					31	COUPLING COND. 100mfd.-MICA
					32	PICKUP JACK
					33	
					34	
					35	
					36	
					37	
					38	
					39	
					40	
					41	
					42	
					43	
					44	
					45	
					46	
					47	
					48	
					49	
					50	
					51	
					52	
					53	
					54	
					55	
					56	
					57	
					58	
					59	
					60	

SENTINEL RADIO CORP.

MODEL 106-B  
With Changes



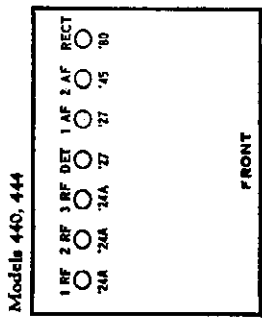
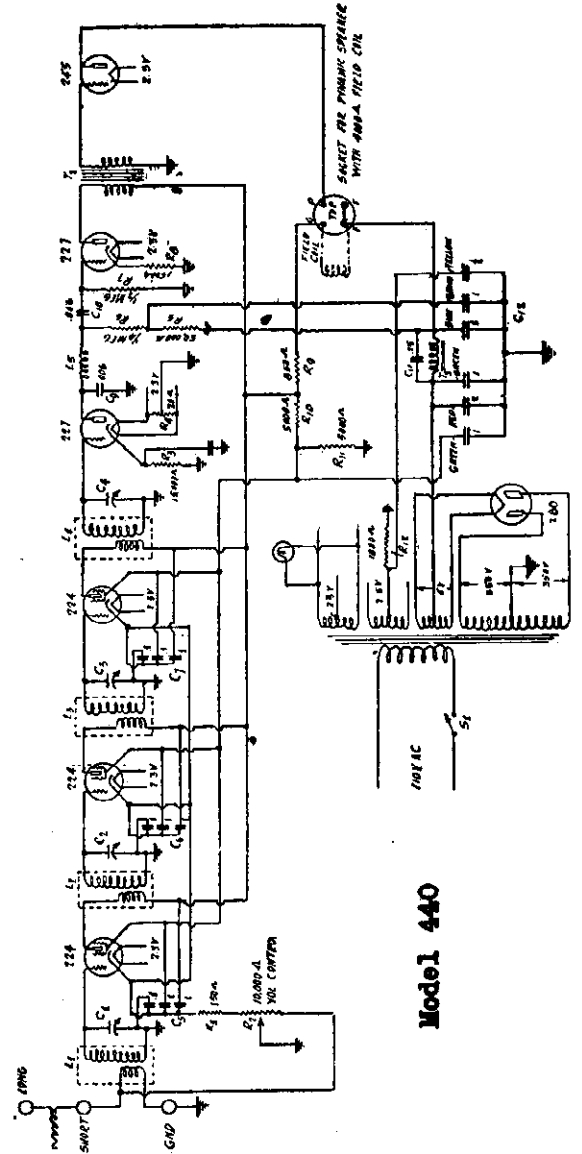
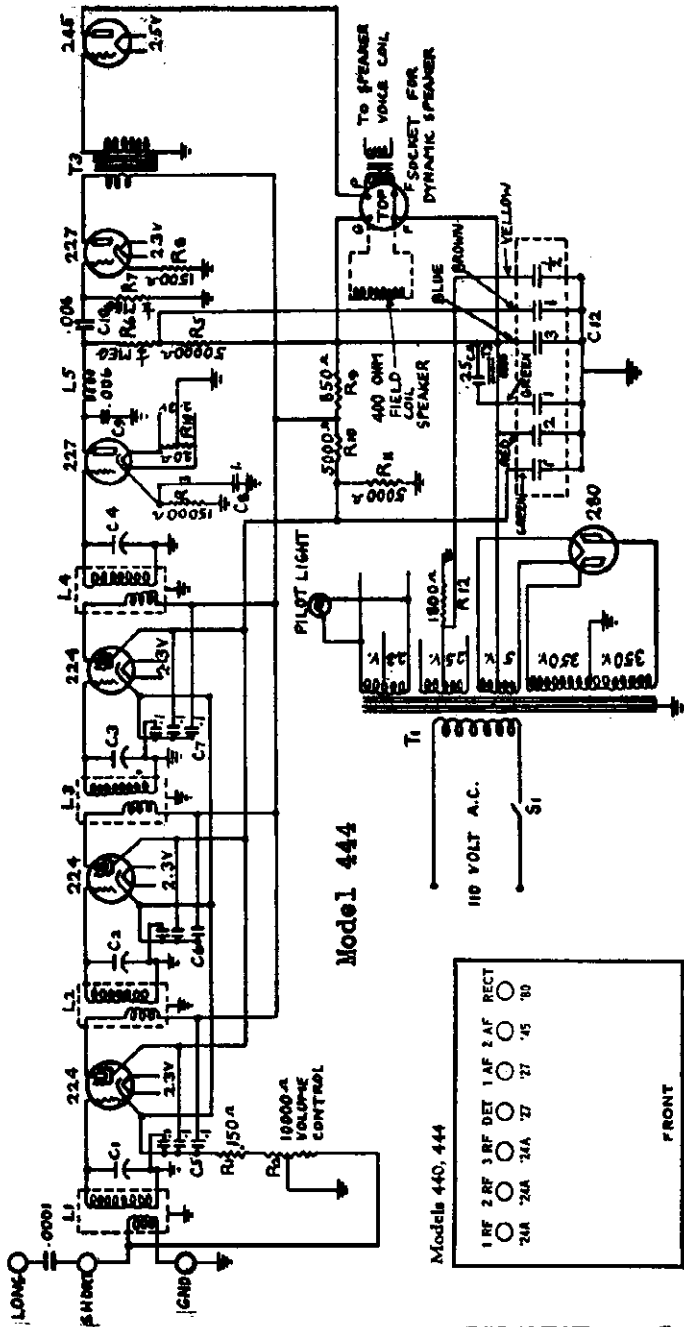






MODEL 440  
MODEL 444

SENTINEL RADIO CORP.

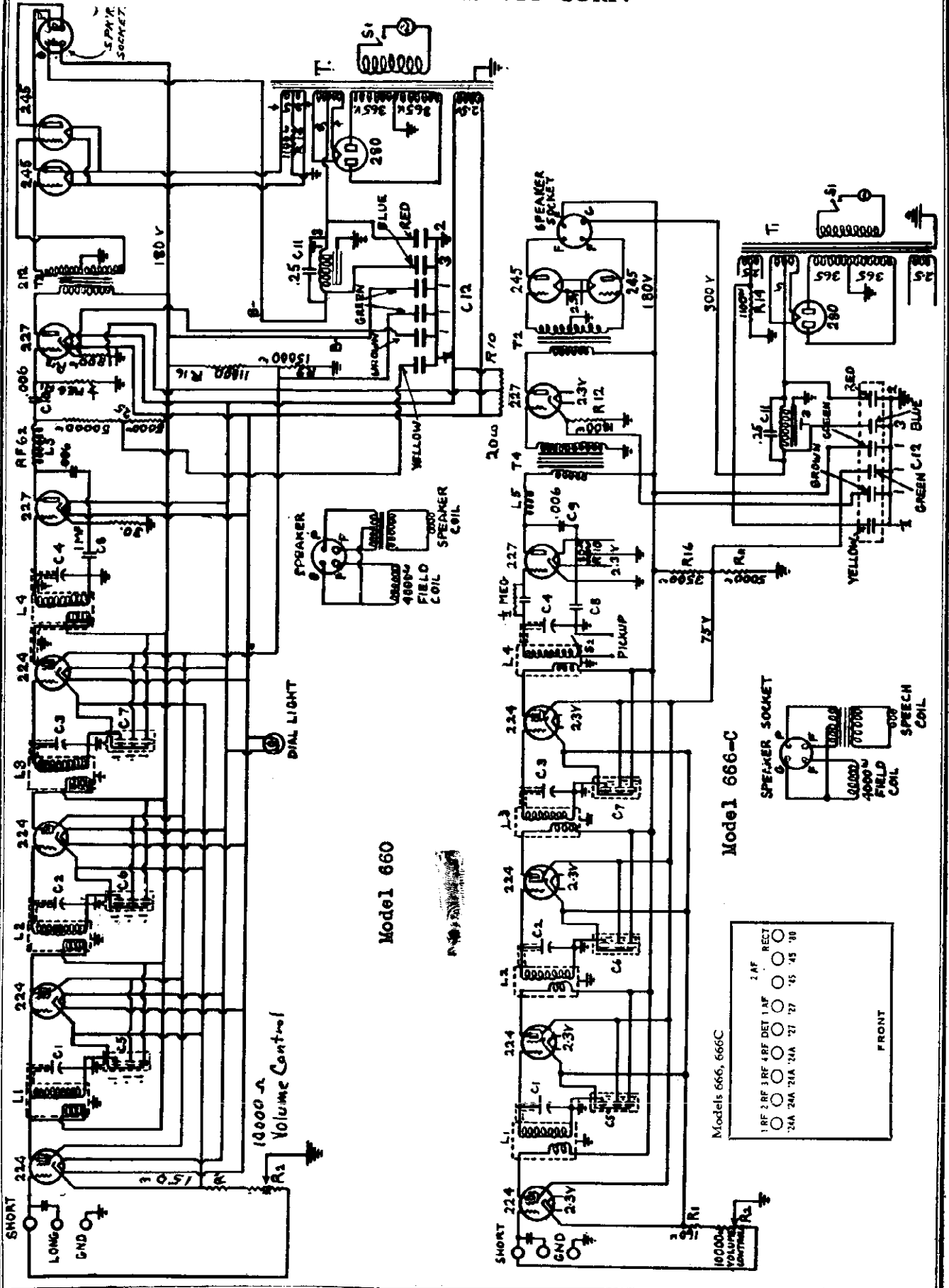


TUBE VOLTAGES		FILAMENT	B	C	NORMAL	SCREEN
Type of Tube	Position of Tube	VOLTS	VOLTS	VOLTS	PLATE M.A.	VOLTS
224	1st RF	2.35	155	2	3.5	75
224	2nd RF	2.35	155	2	3.5	75
224	3rd RF	2.35	155	2	3.5	75
227	Detector	2.35	110	18	.2	
227	1st Audio	2.35	122	8	10.5	
245	Output	2.4	245	50	27	
280	Rectifier	4.75		*55		

350 A.C. Volts each side high voltage secondary  
 \*51-55 M.A. each plate  
 115 volts line  
 With volume control to full on position

MODEL 660,  
MODEL 666-C

SENTINEL RADIO CORP.



Model 660

Model 666-C

Models 666, 666C

1RF 2RF 1RF 1RF DET 1AF	2AF	RECT
25A 25A 25A 25A 27 27 '45 '45 '50		

FRONT

1000  $\Omega$  Volume Control

DIAL LIGHT

SPEAKER

FIELD COIL

SPEAKER COIL

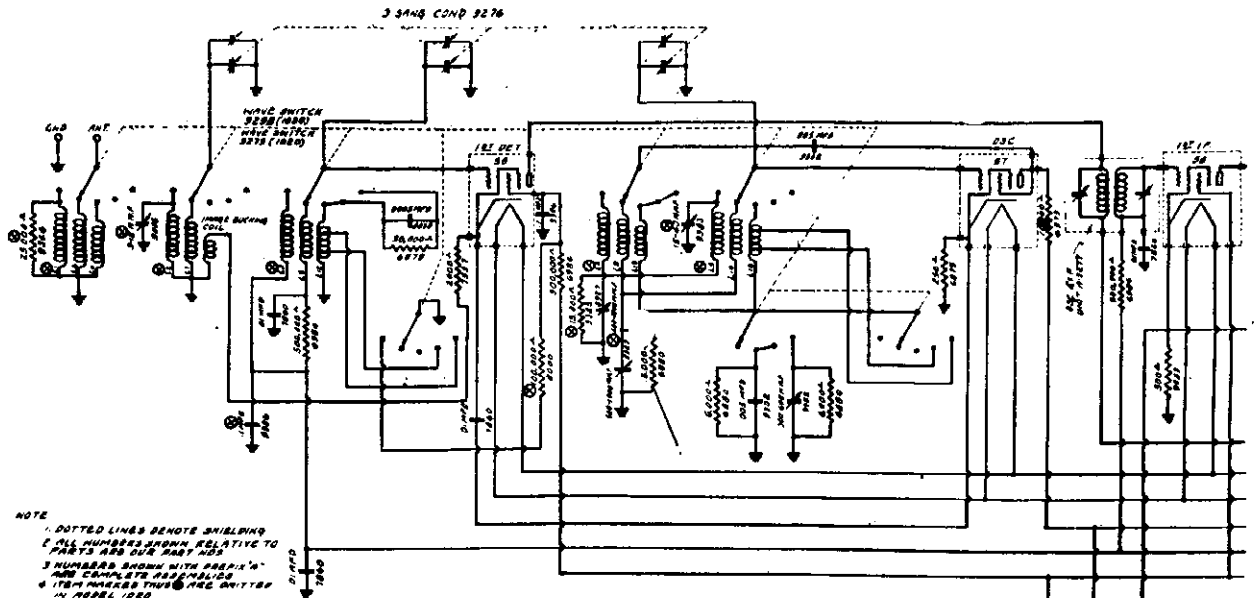
SPEAKER SOCKET

FIELD COIL

SPEECH COIL

FRONT

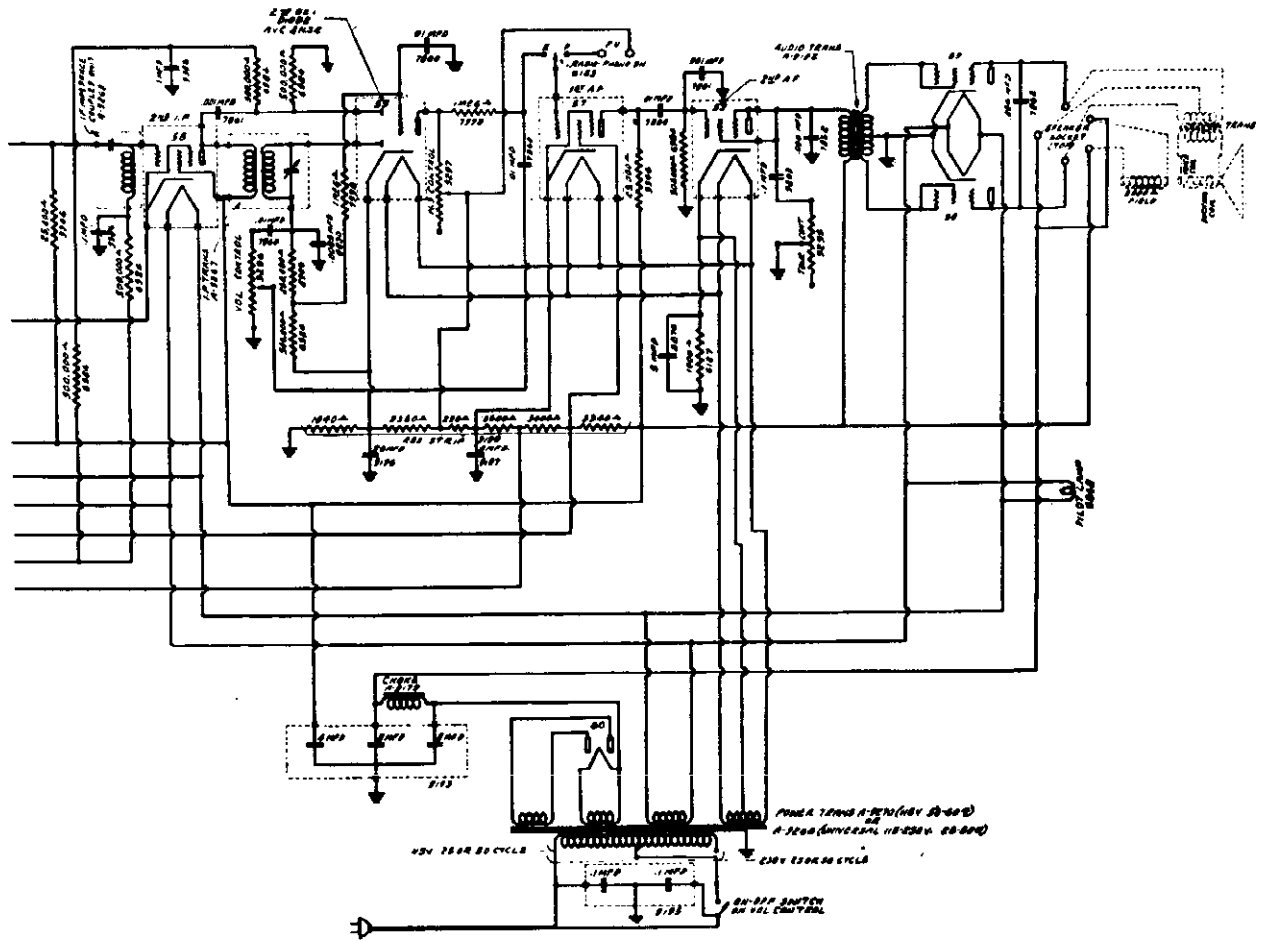
# SENTINEL RADIO CORP.



NOTE  
 1. DOTTED LINES DENOTE SHIELDING  
 2. ALL NUMBERS BROWN RELATIVE TO PARTS AND OUR PART NOS  
 3. NUMBERS SHOWN WITH PREFIX "A" ARE COMPLETE ASSEMBLIES  
 4. ITEM NUMBERS THUS WRITTEN IN MODEL 1020

WIRING DIAGRAM  
 MODEL 1020 & 1030 RECEIVER

L1, L2, L3, L4 = 140-370 K.C. ANT. PROSECTOR, 1ST DET. & OSC. COIL ASSEMBLY 930 (IN MODEL 1030 ONLY)  
 L1 COUPLED TO L2, L2 COUPLED TO L3  
 L3, L4 = 800-1500 K.C. ANT. PROSECTOR, 1ST DET. COIL ASSEMBLY 928  
 L3 COUPLED TO L4, L4 COUPLED TO L5  
 L5, L6 = 800-1500 K.C. OSC. COIL ASSEMBLY 929  
 L5, L6, L7 = 1.5-24.5 K.C. ANT., 1ST DET. & OSC. COIL ASSEMBLY 930  
 L7 COUPLED TO L8

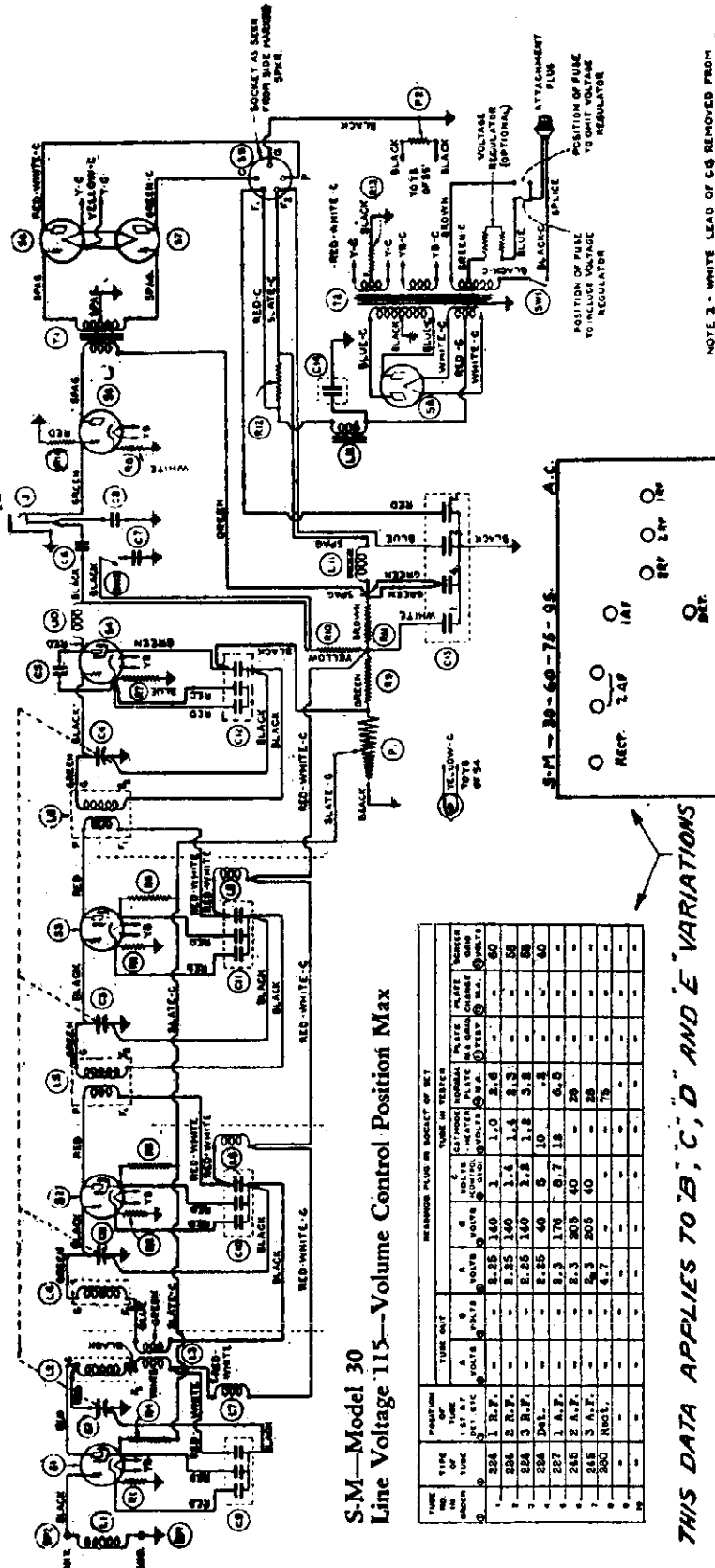


POWER TRANSFORMER (NOV 20-50)  
 A-3200 (UNIVERSAL 110-250V 50-60HZ)

ON-OFF SWITCH  
 AN VOL. CONTROL

SILVER - MARSHALL, INC.

MODEL 30  
Schematic, Voltage  
MODEL 440



S.M.—Model 30  
Line Voltage 115—Volume Control Position Max

TYPE OF TUBE SOCKET	TUBE ONLY		REMOVING PLUG IN SOCKET OF SET		PLATE VOLTAGE (NORMAL)	PLATE CURRENT (NORMAL)	NUMBER OF TUBES PER SOCKET
	A	B	A	B			
25A	1.7	1.4	3.0	2.4	170	1.0	40
25B	1.7	1.4	3.0	2.4	170	1.0	40
25C	1.7	1.4	3.0	2.4	170	1.0	40
25D	1.7	1.4	3.0	2.4	170	1.0	40
25E	1.7	1.4	3.0	2.4	170	1.0	40
25F	1.7	1.4	3.0	2.4	170	1.0	40
25G	1.7	1.4	3.0	2.4	170	1.0	40
25H	1.7	1.4	3.0	2.4	170	1.0	40
25I	1.7	1.4	3.0	2.4	170	1.0	40
25J	1.7	1.4	3.0	2.4	170	1.0	40
25K	1.7	1.4	3.0	2.4	170	1.0	40
25L	1.7	1.4	3.0	2.4	170	1.0	40
25M	1.7	1.4	3.0	2.4	170	1.0	40
25N	1.7	1.4	3.0	2.4	170	1.0	40
25O	1.7	1.4	3.0	2.4	170	1.0	40
25P	1.7	1.4	3.0	2.4	170	1.0	40
25Q	1.7	1.4	3.0	2.4	170	1.0	40
25R	1.7	1.4	3.0	2.4	170	1.0	40
25S	1.7	1.4	3.0	2.4	170	1.0	40
25T	1.7	1.4	3.0	2.4	170	1.0	40
25U	1.7	1.4	3.0	2.4	170	1.0	40
25V	1.7	1.4	3.0	2.4	170	1.0	40
25W	1.7	1.4	3.0	2.4	170	1.0	40
25X	1.7	1.4	3.0	2.4	170	1.0	40
25Y	1.7	1.4	3.0	2.4	170	1.0	40
25Z	1.7	1.4	3.0	2.4	170	1.0	40

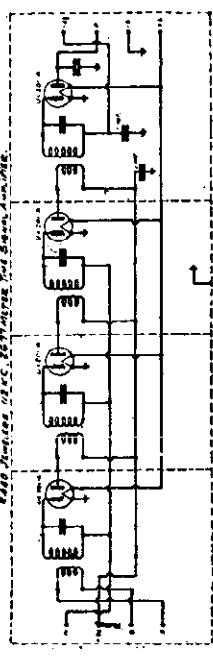
THIS DATA APPLIES TO B, C, D AND E VARIATIONS

NOTE 1 - WHITE LEAD OF C8 REMOVED FROM 50 OHM LEAD OF C8 REMOVED FROM 50 OHM LEAD OF C8  
NOTE 2 - RED LEAD OF C13 MARKED FROM L2 TO L3 TO L4 IN THE RED LEAD OF 7.5 CM ADDED BETWEEN L2 AND L3 AND GROUND  
NOTE 3 - RED LEAD OF C13 MARKED FROM L2 TO L3 TO L4 IN THE RED LEAD OF 7.5 CM ADDED BETWEEN L2 AND L3 AND GROUND  
NOTE 4 - RED LEAD OF C13 CONNECTED TO 50 OHM LEAD OF C13  
NOTE 5 - RED LEAD OF C13 MARKED FROM L2 TO L3 TO L4 IN THE RED LEAD OF 7.5 CM ADDED BETWEEN L2 AND L3 AND GROUND

PART NO.	ASSEMBLY NO.
DATE	SCHEMATIC NO. 30
DRAWN BY	DATE
CHECKED BY	DATE

**LEGEND**

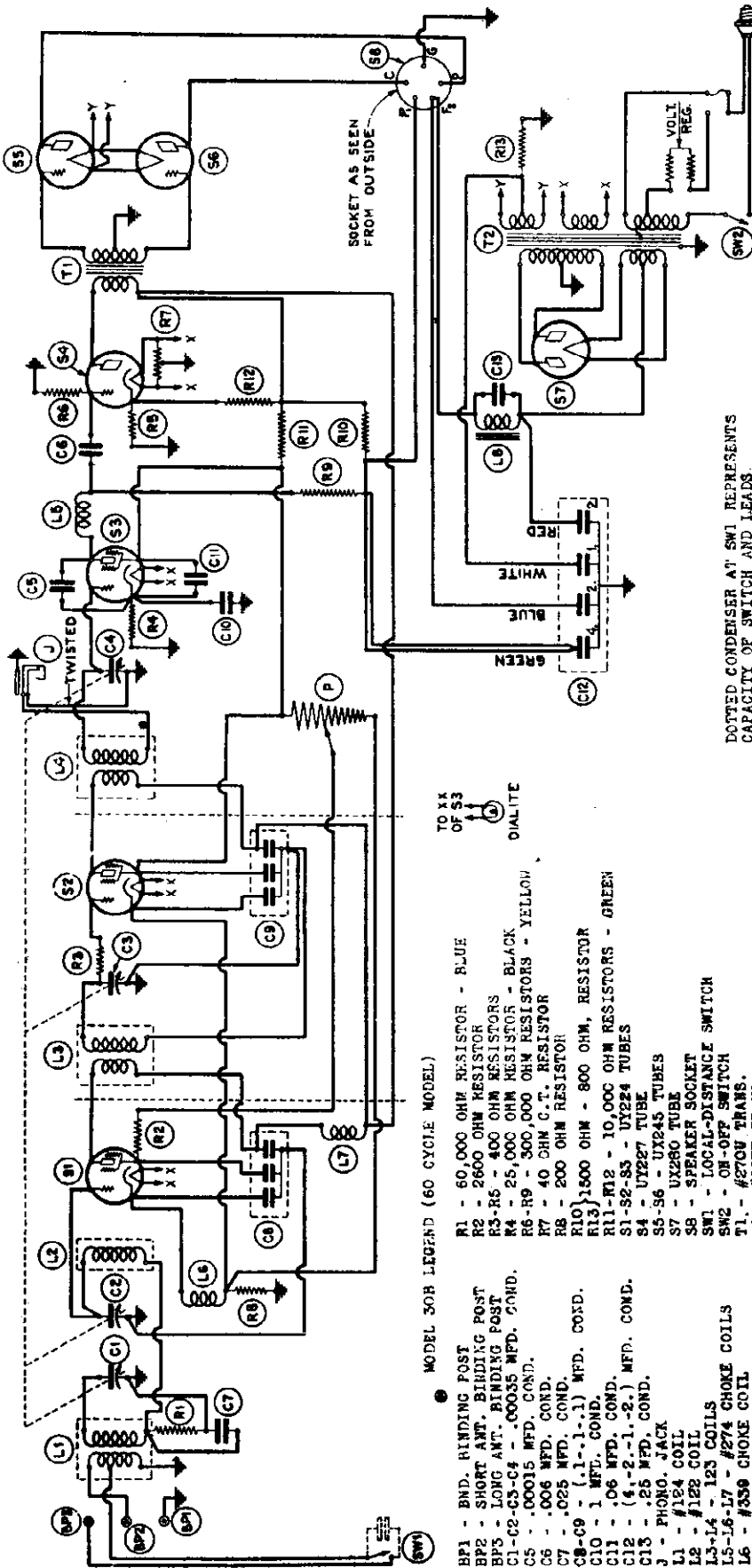
- 6P1-6P5: BENDING POINTS
- C1-C10: CAPACITORS
- C11-C15: CONDENSERS
- C16-C20: CONDENSERS
- C21-C25: CONDENSERS
- C26-C30: CONDENSERS
- C31-C35: CONDENSERS
- C36-C40: CONDENSERS
- C41-C45: CONDENSERS
- C46-C50: CONDENSERS
- C51-C55: CONDENSERS
- C56-C60: CONDENSERS
- C61-C65: CONDENSERS
- C66-C70: CONDENSERS
- C71-C75: CONDENSERS
- C76-C80: CONDENSERS
- C81-C85: CONDENSERS
- C86-C90: CONDENSERS
- C91-C95: CONDENSERS
- C96-C100: CONDENSERS
- C101-C105: CONDENSERS
- C106-C110: CONDENSERS
- C111-C115: CONDENSERS
- C116-C120: CONDENSERS
- C121-C125: CONDENSERS
- C126-C130: CONDENSERS
- C131-C135: CONDENSERS
- C136-C140: CONDENSERS
- C141-C145: CONDENSERS
- C146-C150: CONDENSERS
- C151-C155: CONDENSERS
- C156-C160: CONDENSERS
- C161-C165: CONDENSERS
- C166-C170: CONDENSERS
- C171-C175: CONDENSERS
- C176-C180: CONDENSERS
- C181-C185: CONDENSERS
- C186-C190: CONDENSERS
- C191-C195: CONDENSERS
- C196-C200: CONDENSERS
- C201-C205: CONDENSERS
- C206-C210: CONDENSERS
- C211-C215: CONDENSERS
- C216-C220: CONDENSERS
- C221-C225: CONDENSERS
- C226-C230: CONDENSERS
- C231-C235: CONDENSERS
- C236-C240: CONDENSERS
- C241-C245: CONDENSERS
- C246-C250: CONDENSERS
- C251-C255: CONDENSERS
- C256-C260: CONDENSERS
- C261-C265: CONDENSERS
- C266-C270: CONDENSERS
- C271-C275: CONDENSERS
- C276-C280: CONDENSERS
- C281-C285: CONDENSERS
- C286-C290: CONDENSERS
- C291-C295: CONDENSERS
- C296-C300: CONDENSERS
- C301-C305: CONDENSERS
- C306-C310: CONDENSERS
- C311-C315: CONDENSERS
- C316-C320: CONDENSERS
- C321-C325: CONDENSERS
- C326-C330: CONDENSERS
- C331-C335: CONDENSERS
- C336-C340: CONDENSERS
- C341-C345: CONDENSERS
- C346-C350: CONDENSERS
- C351-C355: CONDENSERS
- C356-C360: CONDENSERS
- C361-C365: CONDENSERS
- C366-C370: CONDENSERS
- C371-C375: CONDENSERS
- C376-C380: CONDENSERS
- C381-C385: CONDENSERS
- C386-C390: CONDENSERS
- C391-C395: CONDENSERS
- C396-C400: CONDENSERS
- C401-C405: CONDENSERS
- C406-C410: CONDENSERS
- C411-C415: CONDENSERS
- C416-C420: CONDENSERS
- C421-C425: CONDENSERS
- C426-C430: CONDENSERS
- C431-C435: CONDENSERS
- C436-C440: CONDENSERS
- C441-C445: CONDENSERS
- C446-C450: CONDENSERS
- C451-C455: CONDENSERS
- C456-C460: CONDENSERS
- C461-C465: CONDENSERS
- C466-C470: CONDENSERS
- C471-C475: CONDENSERS
- C476-C480: CONDENSERS
- C481-C485: CONDENSERS
- C486-C490: CONDENSERS
- C491-C495: CONDENSERS
- C496-C500: CONDENSERS
- C501-C505: CONDENSERS
- C506-C510: CONDENSERS
- C511-C515: CONDENSERS
- C516-C520: CONDENSERS
- C521-C525: CONDENSERS
- C526-C530: CONDENSERS
- C531-C535: CONDENSERS
- C536-C540: CONDENSERS
- C541-C545: CONDENSERS
- C546-C550: CONDENSERS
- C551-C555: CONDENSERS
- C556-C560: CONDENSERS
- C561-C565: CONDENSERS
- C566-C570: CONDENSERS
- C571-C575: CONDENSERS
- C576-C580: CONDENSERS
- C581-C585: CONDENSERS
- C586-C590: CONDENSERS
- C591-C595: CONDENSERS
- C596-C600: CONDENSERS
- C601-C605: CONDENSERS
- C606-C610: CONDENSERS
- C611-C615: CONDENSERS
- C616-C620: CONDENSERS
- C621-C625: CONDENSERS
- C626-C630: CONDENSERS
- C631-C635: CONDENSERS
- C636-C640: CONDENSERS
- C641-C645: CONDENSERS
- C646-C650: CONDENSERS
- C651-C655: CONDENSERS
- C656-C660: CONDENSERS
- C661-C665: CONDENSERS
- C666-C670: CONDENSERS
- C671-C675: CONDENSERS
- C676-C680: CONDENSERS
- C681-C685: CONDENSERS
- C686-C690: CONDENSERS
- C691-C695: CONDENSERS
- C696-C700: CONDENSERS
- C701-C705: CONDENSERS
- C706-C710: CONDENSERS
- C711-C715: CONDENSERS
- C716-C720: CONDENSERS
- C721-C725: CONDENSERS
- C726-C730: CONDENSERS
- C731-C735: CONDENSERS
- C736-C740: CONDENSERS
- C741-C745: CONDENSERS
- C746-C750: CONDENSERS
- C751-C755: CONDENSERS
- C756-C760: CONDENSERS
- C761-C765: CONDENSERS
- C766-C770: CONDENSERS
- C771-C775: CONDENSERS
- C776-C780: CONDENSERS
- C781-C785: CONDENSERS
- C786-C790: CONDENSERS
- C791-C795: CONDENSERS
- C796-C800: CONDENSERS
- C801-C805: CONDENSERS
- C806-C810: CONDENSERS
- C811-C815: CONDENSERS
- C816-C820: CONDENSERS
- C821-C825: CONDENSERS
- C826-C830: CONDENSERS
- C831-C835: CONDENSERS
- C836-C840: CONDENSERS
- C841-C845: CONDENSERS
- C846-C850: CONDENSERS
- C851-C855: CONDENSERS
- C856-C860: CONDENSERS
- C861-C865: CONDENSERS
- C866-C870: CONDENSERS
- C871-C875: CONDENSERS
- C876-C880: CONDENSERS
- C881-C885: CONDENSERS
- C886-C890: CONDENSERS
- C891-C895: CONDENSERS
- C896-C900: CONDENSERS
- C901-C905: CONDENSERS
- C906-C910: CONDENSERS
- C911-C915: CONDENSERS
- C916-C920: CONDENSERS
- C921-C925: CONDENSERS
- C926-C930: CONDENSERS
- C931-C935: CONDENSERS
- C936-C940: CONDENSERS
- C941-C945: CONDENSERS
- C946-C950: CONDENSERS
- C951-C955: CONDENSERS
- C956-C960: CONDENSERS
- C961-C965: CONDENSERS
- C966-C970: CONDENSERS
- C971-C975: CONDENSERS
- C976-C980: CONDENSERS
- C981-C985: CONDENSERS
- C986-C990: CONDENSERS
- C991-C995: CONDENSERS
- C996-C1000: CONDENSERS



440 JEWELLERS TIME-SIGNAL AMPLIFIER

MODEL 30B  
Schematic, Voltage

SILVER - MARSHALL, INC.



MODEL 30B LEGEND (60 CYCLE MODEL)

- BP1 - BND. BINDING POST
- BP2 - SHORT ANT. BINDING POST
- BP3 - LONG ANT. BINDING POST
- C1 - C2 - C3 - C4 - .00035 MFD. COND.
- C5 - .00015 MFD. COND.
- C6 - .006 MFD. COND.
- C7 - .025 MFD. COND.
- C8 - C9 - (.1-.1-.1) MFD. COND.
- C10 - 1 MFD. COND.
- C11 - .06 MFD. COND.
- C12 - (.1-.2-.1-.2.) MFD. COND.
- C13 - .25 MFD. COND.
- J - PHONO. JACK
- L1 - #124 COIL
- L2 - #122 COIL
- L3-L4 - 123 COILS
- L5-L6-L7 - #274 CHOKE COILS
- L8 - #359 CHOKE COIL
- P - 10,000 OHM POT.
- R1 - 60,000 OHM RESISTOR - BLUE
- R2 - 2600 OHM RESISTOR
- R3-R6 - 400 OHM RESISTORS
- R4 - 25,000 OHM RESISTOR - BLACK
- R6-R9 - 300,000 OHM RESISTORS - YELLOW
- R7 - 40 OHM C.T. RESISTOR
- R8 - 200 OHM RESISTOR
- R10 - 1500 OHM - 800 OHM, RESISTOR
- R11-R12 - 10,000 OHM RESISTORS - GREEN
- S1-S2-S3 - UY224 TUBES
- S4 - UY227 TUBE
- S5-S6 - UX245 TUBES
- S7 - UX280 TUBE
- S8 - SPEAKER SOCKET
- SW1 - LOCAL-DISTANCE SWITCH
- SW2 - ON-OFF SWITCH
- T1 - #270V TRANS.
- T2 - #3370 TRANS.

LEGEND FOR 25 CYCLE MODEL  
SAME AS 60 CYCLE MODEL, EXCEPT

- C11 - .04 MFD. COND.
- C13 - 2 MFD. COND.
- T2 - #337-25U TRANS.
- ADD 1. MFD. CONDENSER  
ACROSS TERMINALS OF R12

SILVER-MARSHALL—No. 30B-60B-75B-90B  
Line Voltage 115—Volume Control Position Max

TYPE OF TUBE	POSITION IN SET	TIME OUT		RESISTOR VALUE IN SOCKET OF SET		TUBE IN TESTER		PLATE CURRENT (MA)	SCREEN CURRENT (MA)
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.		
6X4	1	1.0	1.5	2.5	1.5	4	5	—	70
6X5	2	1.0	1.5	2.5	1.5	4	5	—	70
6X5	3	1.0	1.5	2.5	1.5	4	5	—	70
6X5	4	1.0	1.5	2.5	1.5	4	5	—	70
6X5	5	1.0	1.5	2.5	1.5	4	5	—	70
6X5	6	1.0	1.5	2.5	1.5	4	5	—	70
6X5	7	1.0	1.5	2.5	1.5	4	5	—	70
6X5	8	1.0	1.5	2.5	1.5	4	5	—	70
6X5	9	1.0	1.5	2.5	1.5	4	5	—	70
6X5	10	1.0	1.5	2.5	1.5	4	5	—	70
6X5	11	1.0	1.5	2.5	1.5	4	5	—	70
6X5	12	1.0	1.5	2.5	1.5	4	5	—	70

DOTTED CONDENSER AT SW1 REPRESENTS CAPACITY OF SWITCH AND LEADS.  
NOTE - WHEN USING PHONOGRAPH JACK CONNECT LOW SIDE OF PHONOGRAPH VOLUME CONTROL TO SLEEVE OF PLUG.

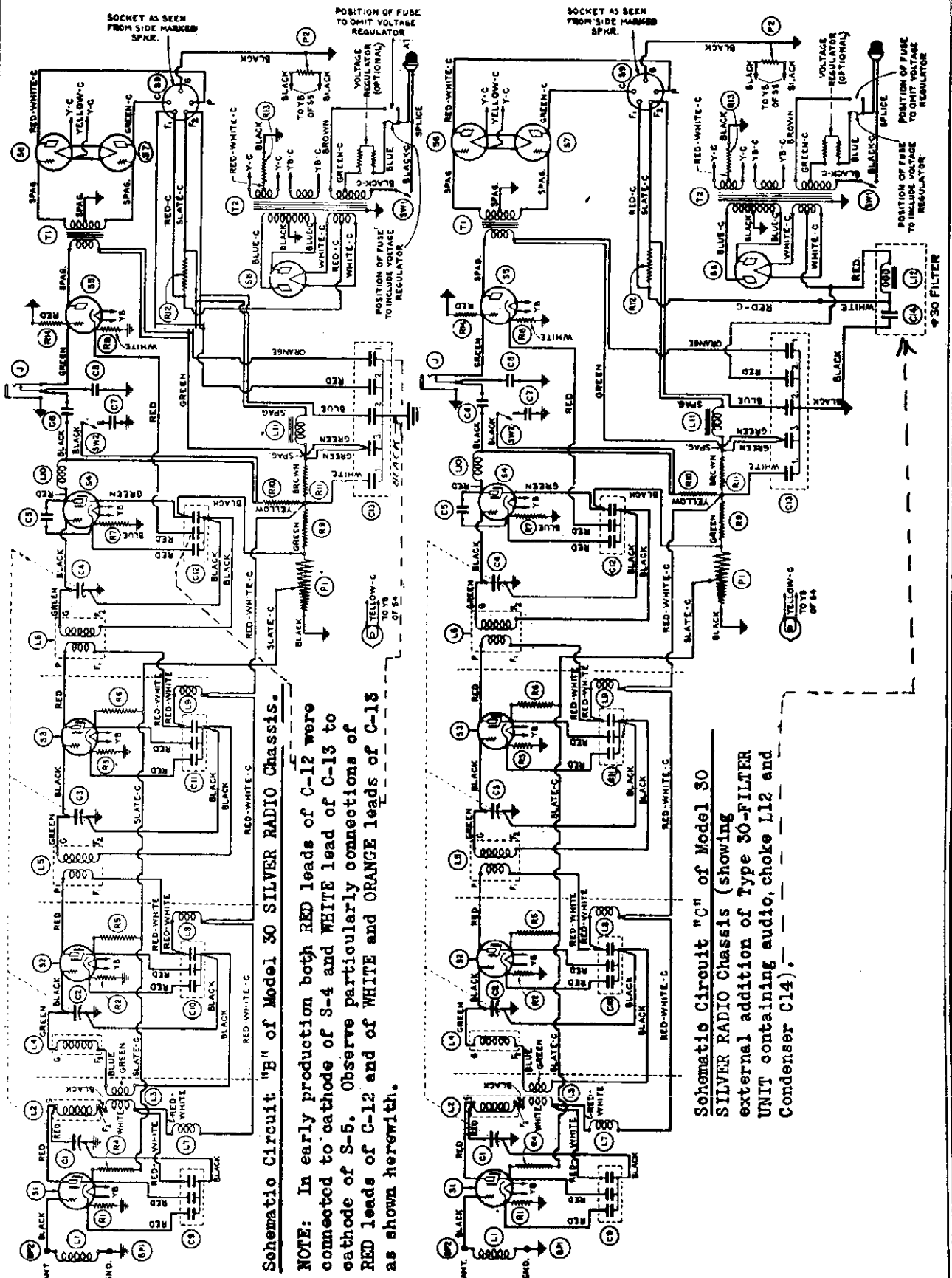
(A.C.)

60-B, 75-B, 95-B-30B

- CX-380 Rect.
- CX-345 2nd A.F.
- CX-345 2nd A.F.
- C-327 1st A.F.
- C-324 2nd R.F.
- C-324 Det.
- C-324 1st R.F.

SILVER - MARSHALL, INC.

MODEL 30  
Schematic Circuit  
Schematic Circuit



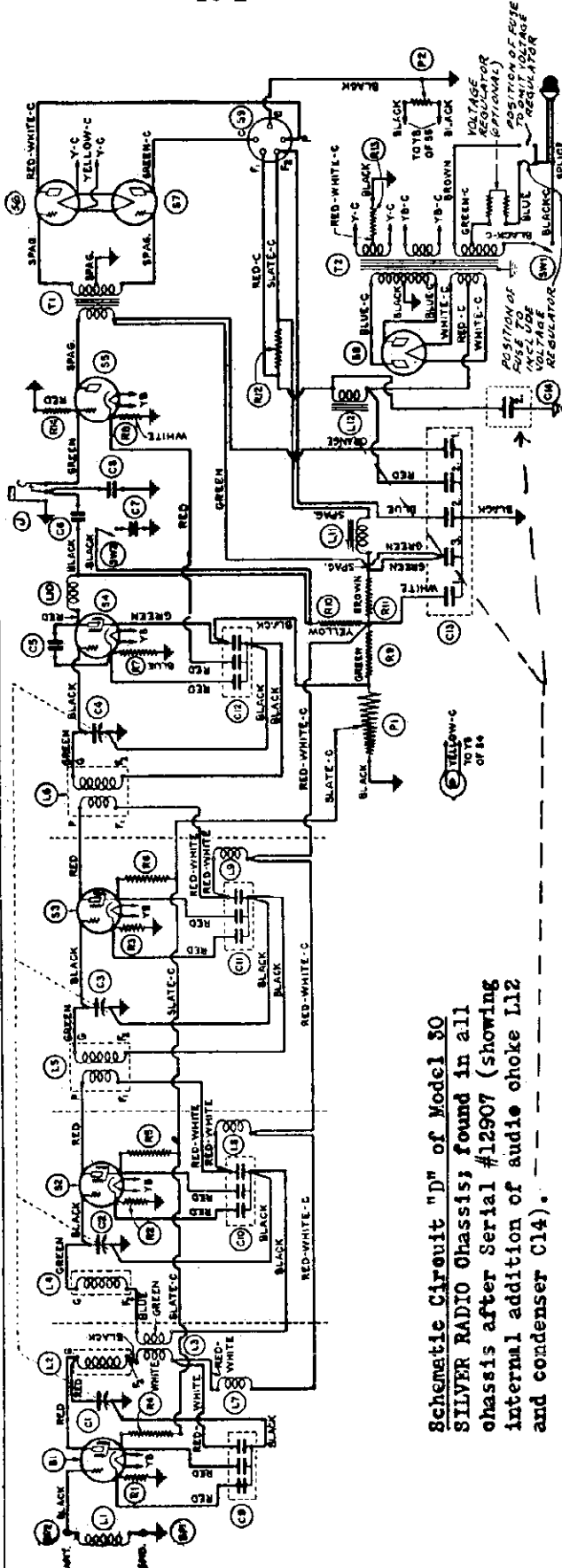
**Schematic Circuit "B" of Model 30 SILVER RADIO Chassis.**

**NOTE:** In early production both RED leads of C-12 were connected to cathode of S-4 and WHITE lead of C-13 to cathode of S-5. Observe particularly connections of RED leads of C-12 and of WHITE and ORANGE leads of C-13 as shown herewith.

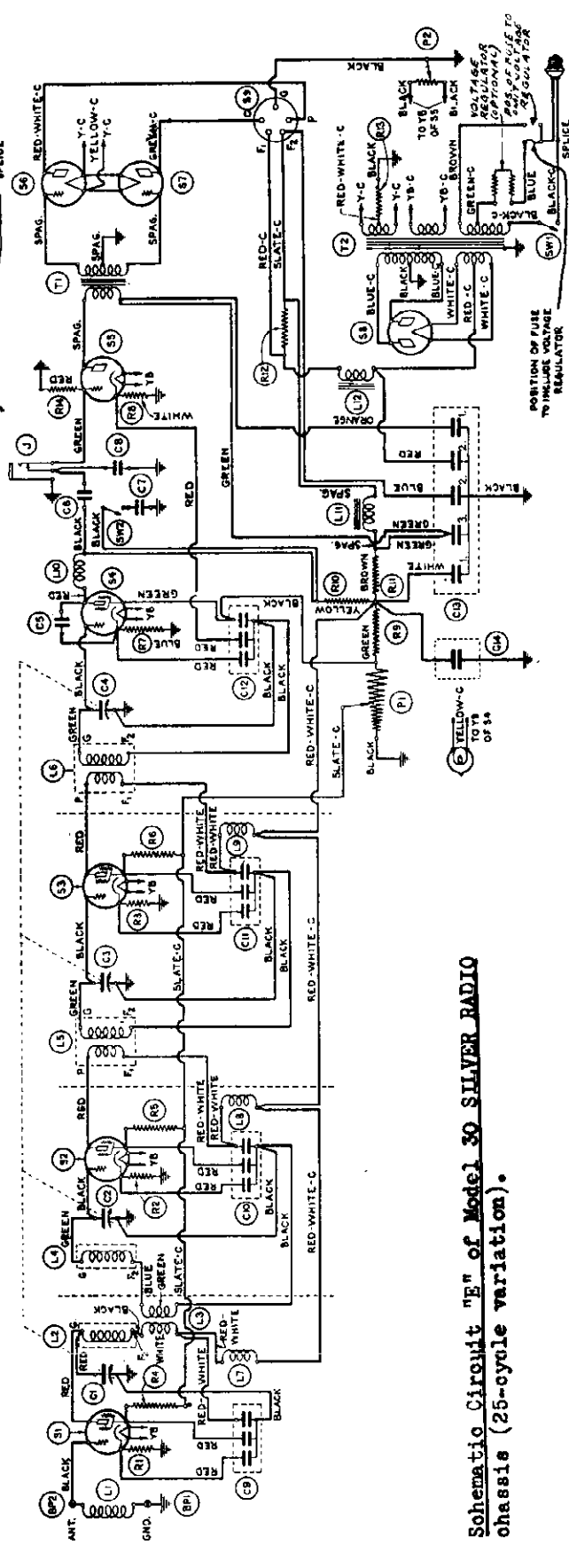
**Schematic Circuit "C" of Model 30 SILVER RADIO Chassis (showing external addition of Type 30-FILTER UNIT containing audio choke L12 and Condenser C14).**

MODEL 30  
Schematic Circuit D  
Schematic Circuit E

SILVER - MARSHALL, INC.



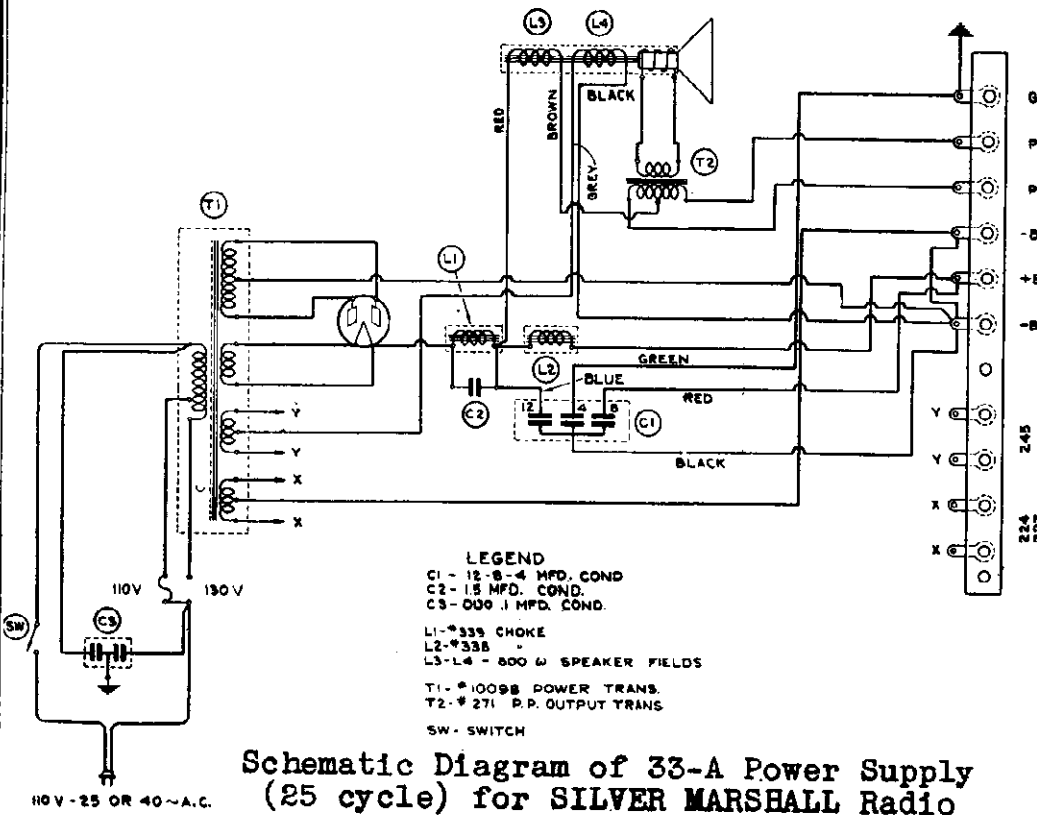
Schematic Circuit "D" of Model 30 SILVER RADIO chassis; found in all chassis after Serial #12907 (showing internal addition of audio choke L12 and condenser C14).



Schematic Circuit "E" of Model 30 SILVER RADIO chassis (25-cycle variation).

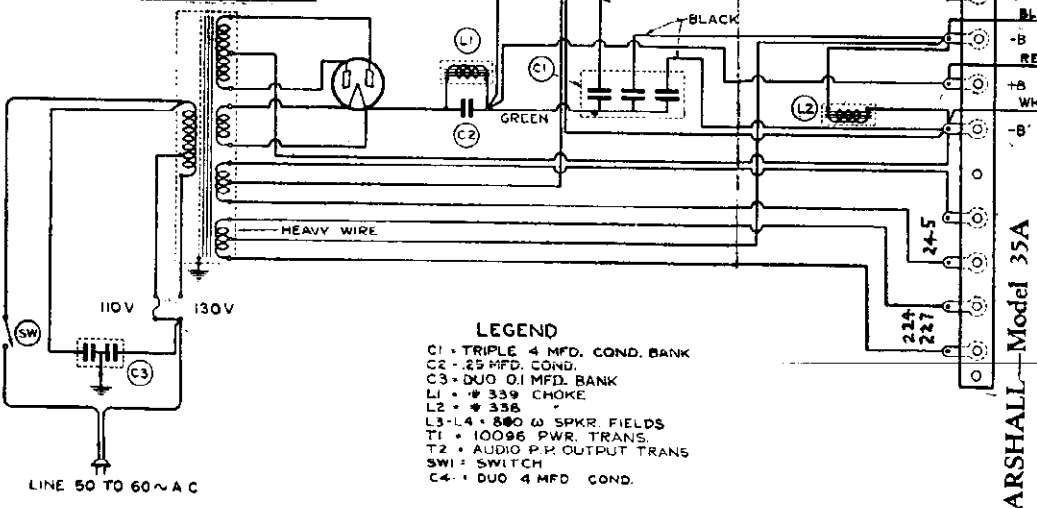
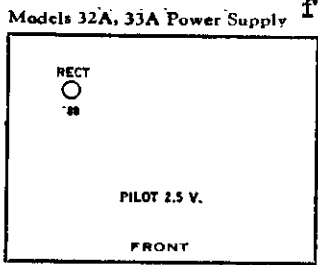


SILVER - MARSHALL, INC. MODEL 33-A Power Supply  
25 and 60 cycles



- LEGEND**  
 C1 - 12-8-4 MFD. COND.  
 C2 - 15 MFD. COND.  
 C3 - 000.1 MFD. COND.  
 L1 - #339 CHOKE  
 L2 - #338  
 L3-L4 - 800 W SPEAKER FIELDS  
 T1 - #10098 POWER TRANS.  
 T2 - #271 P.P. OUTPUT TRANS.  
 SW - SWITCH

Schematic Diagram of 33-A Power Supply (25 cycle) for SILVER MARSHALL Radio for 34A and 35A receivers



- LEGEND**  
 C1 - TRIPLE 4 MFD. COND. BANK  
 C2 - 25 MFD. COND.  
 C3 - DUO 0.1 MFD. BANK  
 L1 - #339 CHOKE  
 L2 - #338  
 L3-L4 - 800 W SPKR. FIELDS  
 T1 - #10098 PWR. TRANS.  
 T2 - #271 P.P. OUTPUT TRANS.  
 SW - SWITCH  
 C4 - DUO 4 MFD. COND.

Schematic Diagram of 33-A Power Supply (60 cycle) for SILVER MARSHALL Radio for 34A and 35A receivers.

**SILVER-MARSHALL—Model 34A**

TUBE NO. IN ORDER TESTED	POSITION OF TUBE	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET	
		OPERATING CURRENT (MA)	WILLIAMPERS
1	2	3	4
224	1 R.P.	2.40	184
224	2 R.P.	2.40	165
224	Dr.C.	2.44	108
227	1 A.P.	2.46	140
245	2 A.P.	2.36	280
245	2 A.P.	2.36	280
240	Rect.	5.	-
			28 28

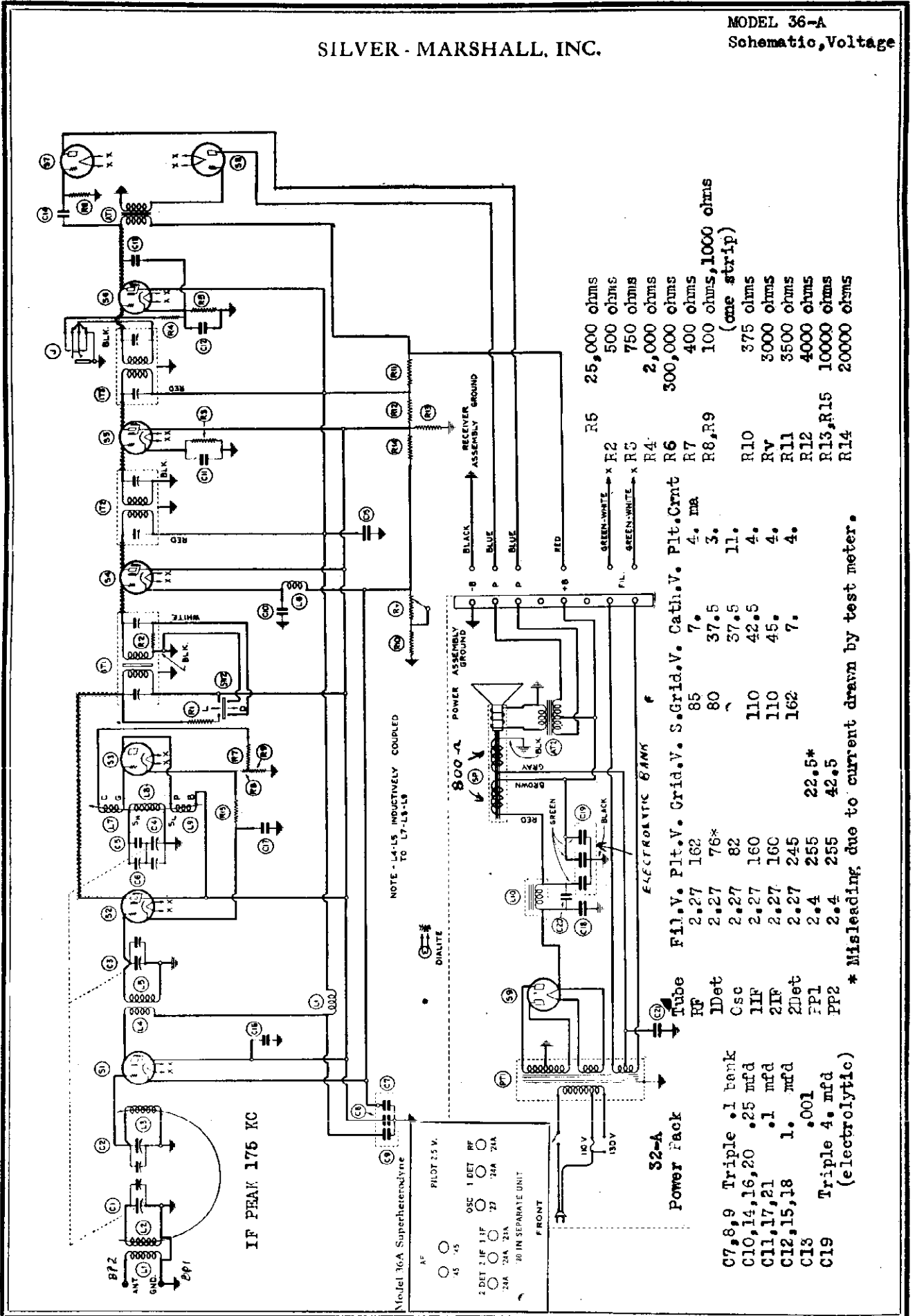
**SILVER-MARSHALL—Model 35A**

TUBE NO. IN ORDER TESTED	POSITION OF TUBE	METER READINGS WITH JEWELL TEST PLUG IN SO	
		OPERATING CURRENT (MA)	WILLIAMPERS
1	2	3	4
224	1 R.P.	2.15	176
224	2 R.P.	2.15	176
224	3 R.P.	2.17	168
224	Dr.C.	2.19	118
227	1 A.P.	2.20	176
245	2 A.P.	2.30	216
245	2 A.P.	2.30	216
240	Rect.	2.15	15
			28 28



SILVER - MARSHALL, INC.

MODEL 36-A  
Schematic, Voltage



- R5 25,000 ohms
- R6 500 ohms
- R7 750 ohms
- R8 2,000 ohms
- R9 300,000 ohms
- R10 400 ohms
- R11 100 ohms, 1000 ohms (one strip)
- R12 375 ohms
- R13 3000 ohms
- R14 3500 ohms
- R15 4000 ohms
- R16 10000 ohms
- R17 20000 ohms

Tube	Fil. V.	Plt. V.	Grid. V.	S. Grid. V.	Cath. V.	Plt. Crnt.	R7	R8, R9	R10	R11	R12	R13, R15	R14
RF	2.27	162	85	7.	37.5	4. ma	4.	3.	11.	4.	4.	10000	20000
IDet	2.27	76*	80	~	37.5	3.	3.	3.	11.	4.	4.	10000	20000
Csc	2.27	82	110	110	42.5	4.	4.	4.	4.	4.	4.	10000	20000
1IF	2.27	160	110	110	45.	4.	4.	4.	4.	4.	4.	10000	20000
2IF	2.27	160	110	110	45.	4.	4.	4.	4.	4.	4.	10000	20000
2Det	2.27	245	162	7.	7.	4.	4.	4.	4.	4.	4.	10000	20000
FP1	2.4	255	22.5*										
FP2	2.4	255	42.5										

\* Misleading due to current drawn by test meter.

- C7, 8, 9 Triple .1 bank
- C10, 14, 16, 20 .25 mfd
- C11, 17, 21 .1 mfd
- C12, 15, 18 1. mfd
- C13 .001
- C19 Triple 4. mfd (electrolytic)

Model 36A Superheterodyne

AF  
 15 15  
 2 DET 2 IF 1 IF  
 2A 2A 2A  
 2A 2A 2A  
 20 IN SEPARATE UNIT

FRONT

PILOT 2.5 V.  
 OSC 1 DET RF  
 2A 2A 2A

32-A Power Pack

IF PEAK 175 KC

NOTE - L4-L5 INDUCTIVELY COUPLED TO L7-L8-L9

DIALITE

800-Ω POWER ASSEMBLY GROUND

ELECTROLYTIC BANK

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

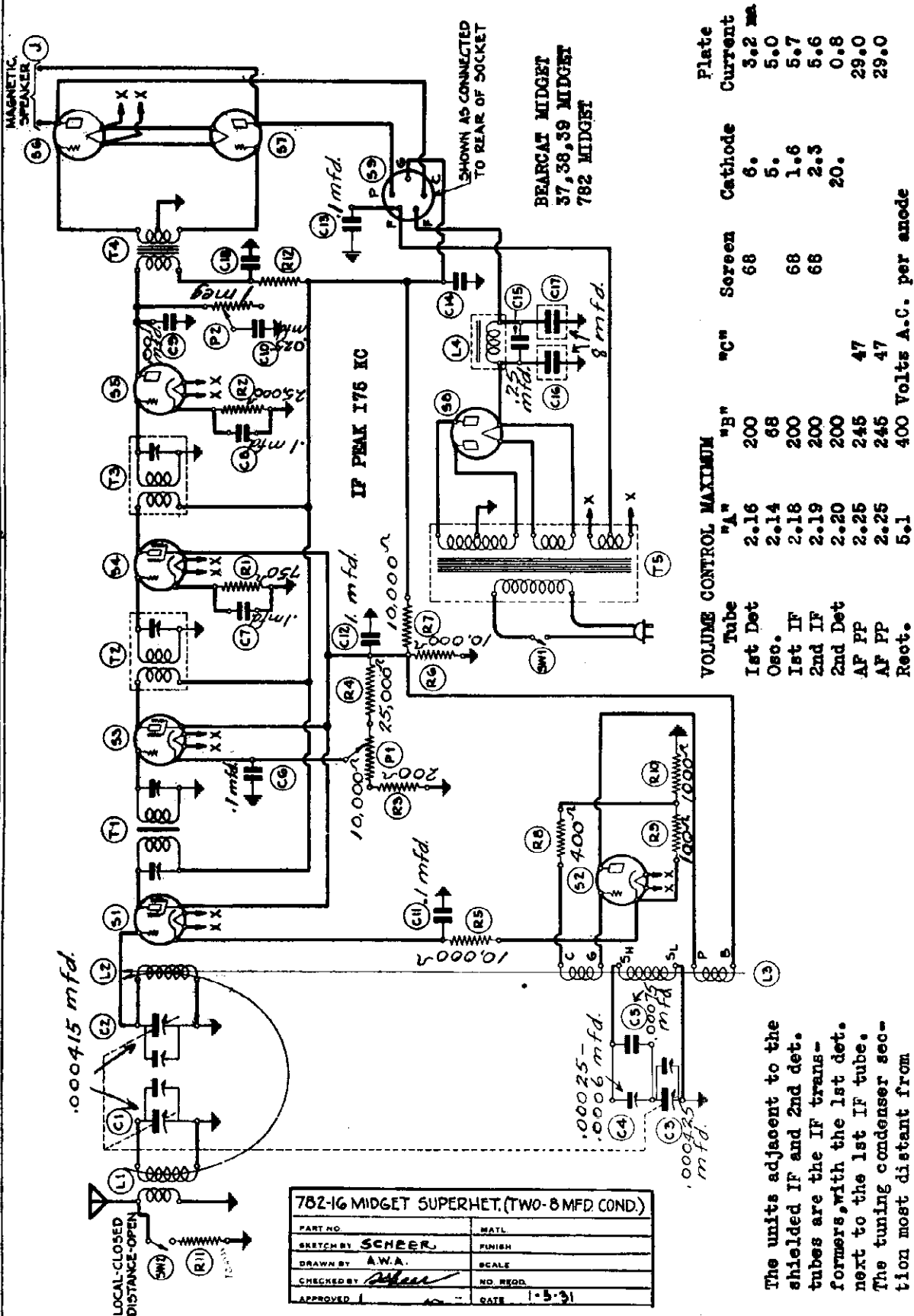
RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

RECEIVER ASSEMBLY GROUND

MODEL Bearcat Midget  
 MODEL 37, 38, 39 Midget  
 MODEL 782 Midget

SILVER - MARSHALL, INC.



**VOLUME CONTROL MAXIMUM**

Tube	"A"	"B"	"C"	Screen	Cathode	Plate Current
1st Det	2.16	200		68	6.	3.2 ma
Osc.	2.14	68			5.	5.0
1st IF	2.18	200		68	1.6	5.7
2nd IF	2.19	200		68	2.3	5.6
2nd Det	2.20	200			20.	0.8
AF PF	2.25	245	47			29.0
AF PF	2.25	245	47			29.0
Rect.	5.1	400				400 Volts A.C. per anode

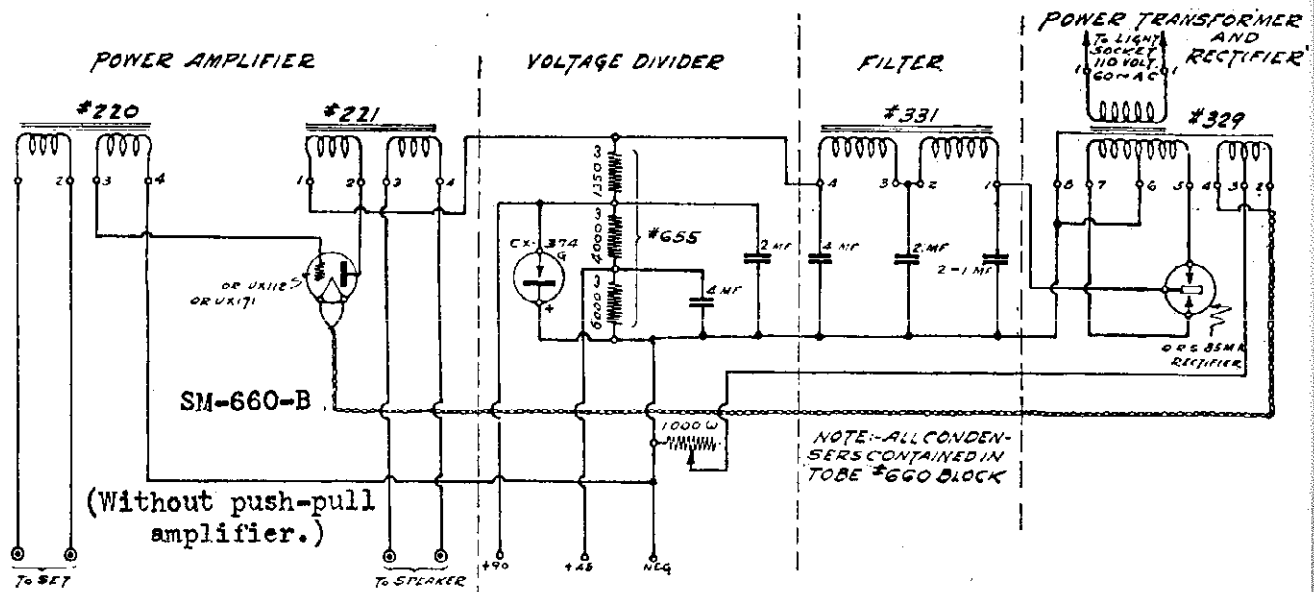
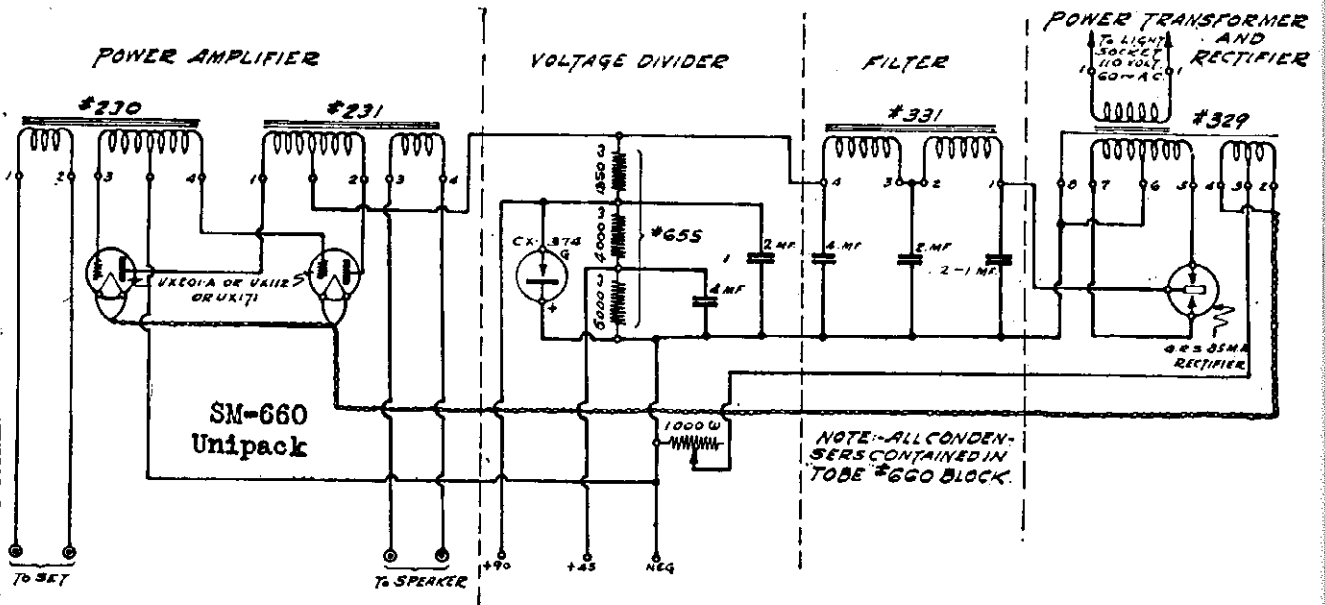
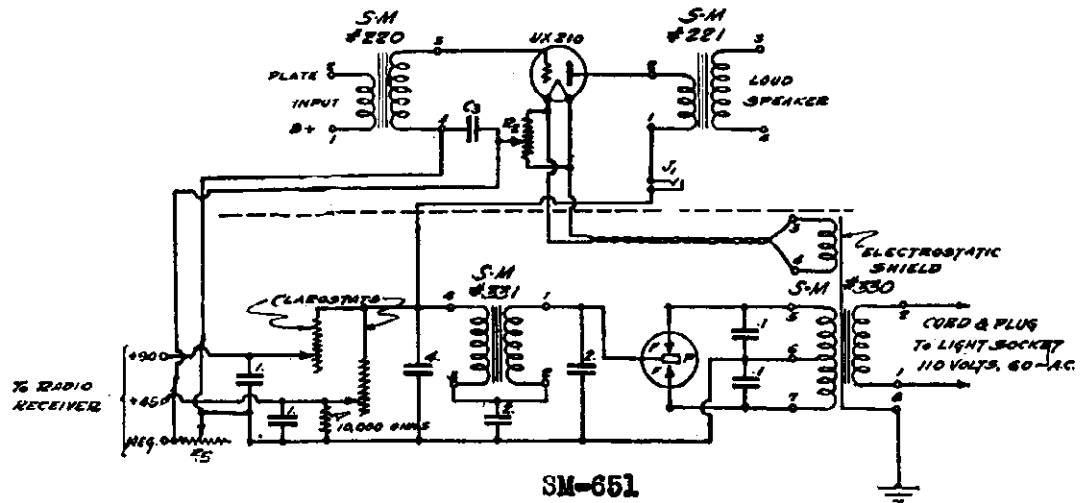
**782-16 MIDGET SUPERHET. (TWO-8 MFD COND.)**

PART NO.	MATL.
SKETCH BY SCHEER	FINISH
DRAWN BY A.W.A.	SCALE
CHECKED BY <i>[Signature]</i>	NO. RECD.
APPROVED <i>[Signature]</i>	DATE 1-5-31

The units adjacent to the shielded IF and 2nd det. tubes are the IF transformers, with the 1st det. next to the 1st IF tube. The tuning condenser section most distant from the dial tunes the osc.

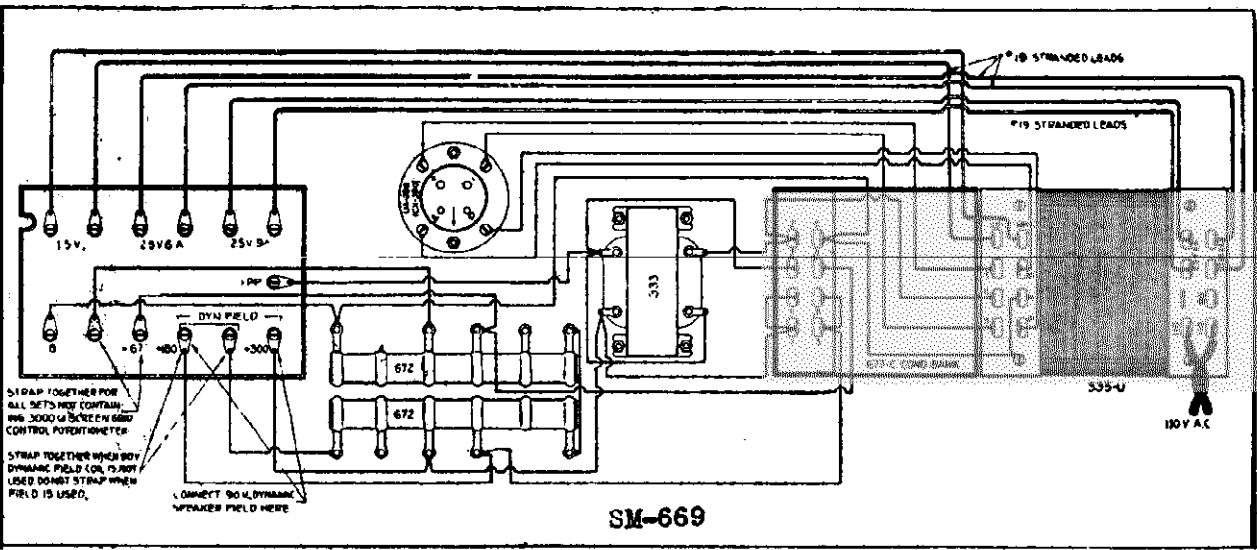
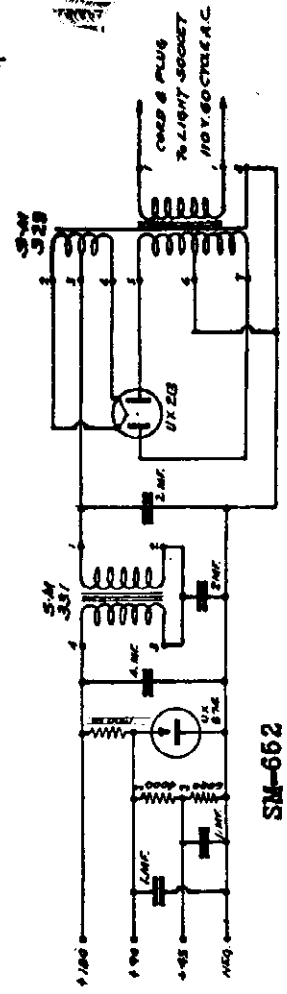
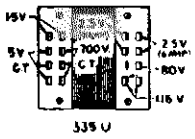
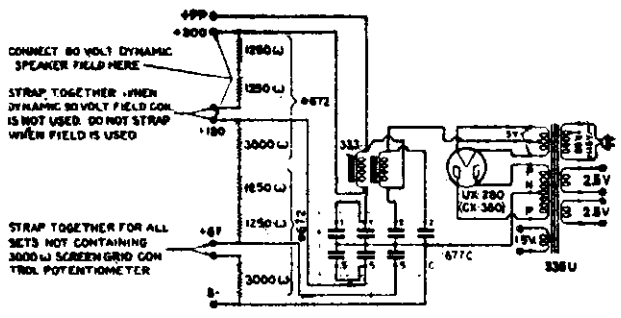
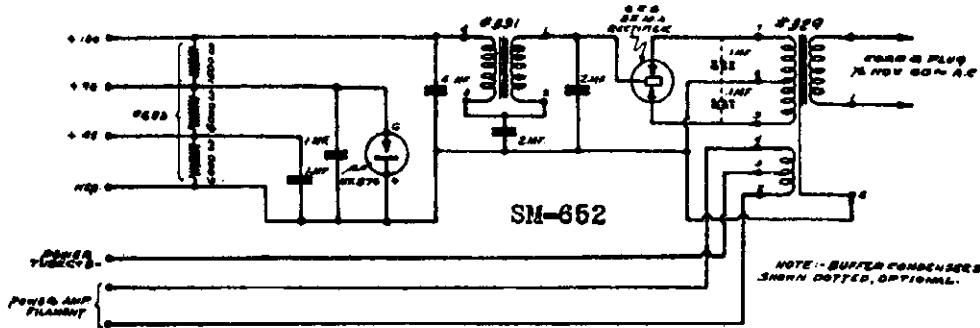
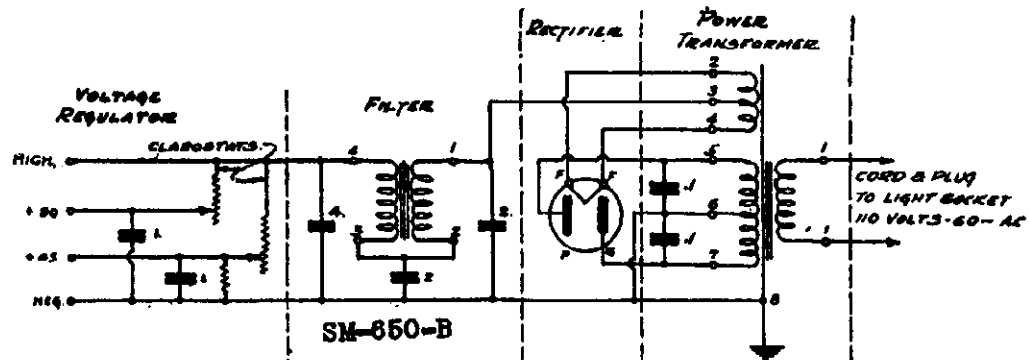
SILVER - MARSHALL, INC.

MODEL 651  
 MODEL 660 Unipack  
 MODEL 660-B



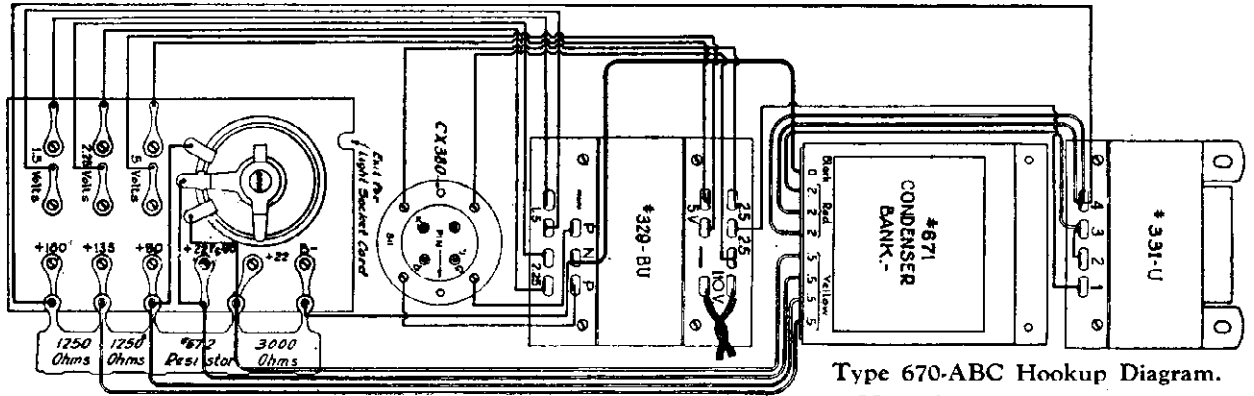
MODEL 650-B  
 MODEL 652  
 MODEL 669

SILVER - MARSHALL, INC.

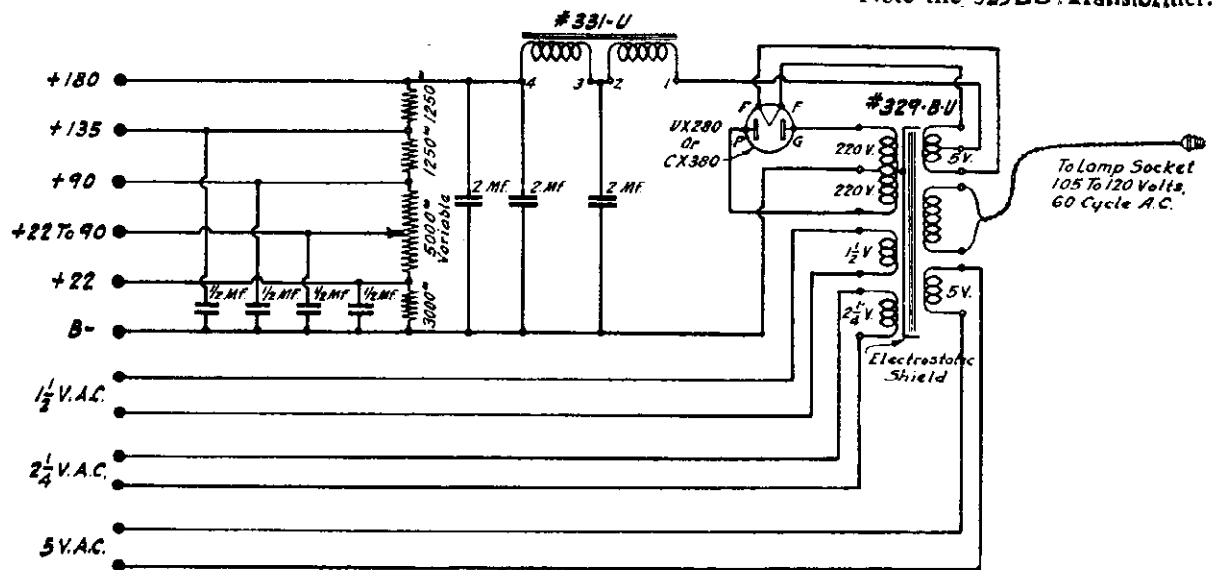


SILVER - MARSHALL, INC.

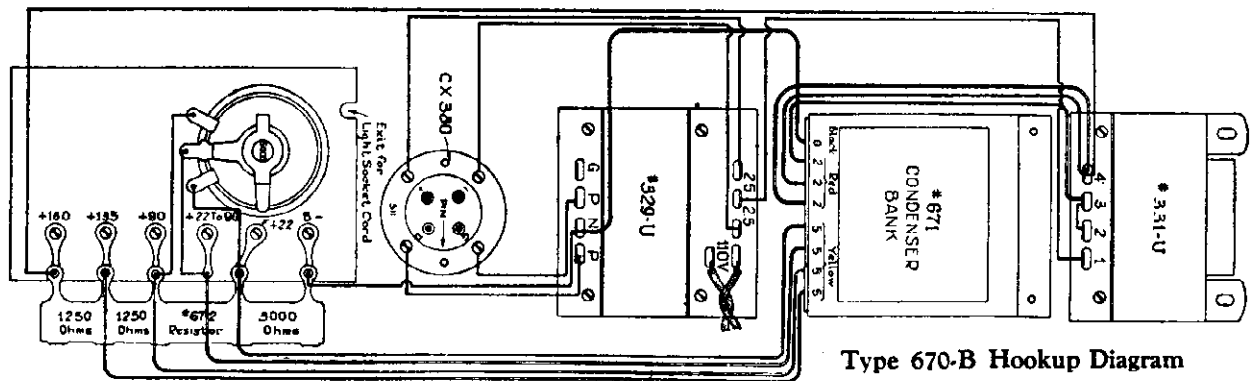
MODEL 670-ABC  
MODEL 670-B  
Schematic, Chassis



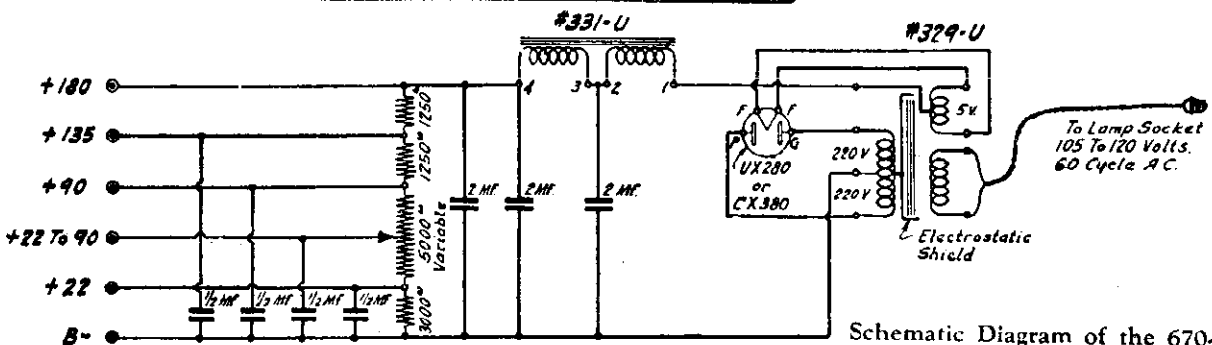
Type 670-ABC Hookup Diagram.  
Note the 329BU Transformer.



Schematic Diagram of the 670-ABC



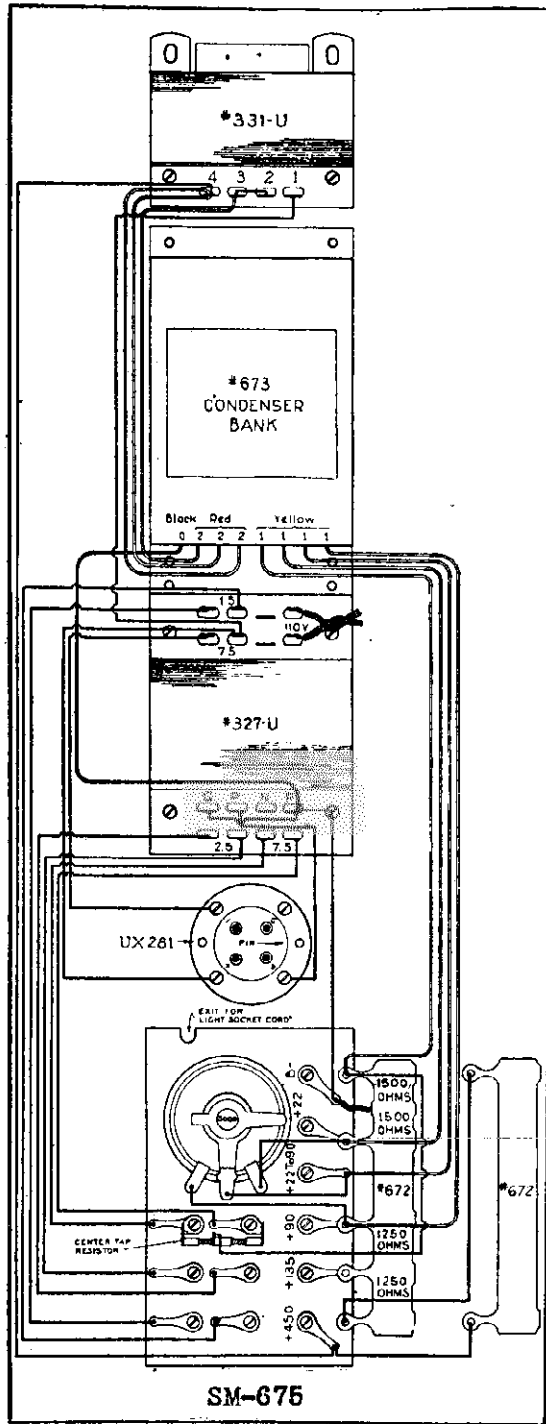
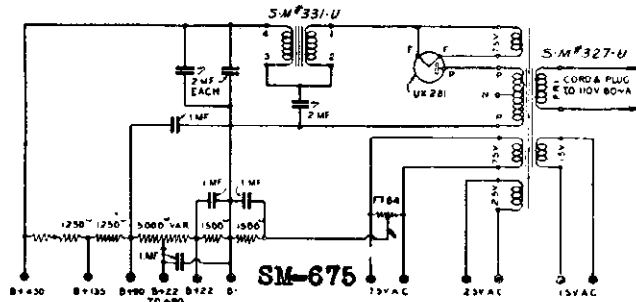
Type 670-B Hookup Diagram



Schematic Diagram of the 670-B

**MODEL 675**  
**Schematic**  
**Chassis, Voltage**

**SILVER - MARSHALL, INC.**



Type No.	Code Word	Secondary		Rectifier Tube	Filament Windings						Tubes (or Equivalent) Will Operate	Size, Inches			Shps. Wt., Lbs.	List Price
		Total Volts	M.A.		First Volts	First Am-peres	Second Volts	Second Am-peres	Third Volts	Third Am-peres		High	Wide	Long		
328BU	Transall	1100	150	2-81	7½	2.5	2½	2	1½	2	2-50, 2-26, 1-27	4½	5½	4½	16½	\$25.00
337U*	Transaal	750	110	1-80	2½	9	2½	3	...	...	2-45, 5-24 or '27	4½	5½	4	12	16.00
33725U*	Transmute	750	110	1-80	2½	9	2½	3	...	...	2-45, 5-24 or '27	4½	5½	4	13	20.00
346	Transone	820	100	1-80	2½	10					5-24, 1-27, 2-45	4½	6½	4	13	15.00
3462S	Transax	820	100	1-80	2½	10					5-24, 1-27, 2-45	4½	6½	4	14	20.00
329BU	Transmount	440	85	1-80	5	2	2½	3.5	1½	5		4½	4½	4½	5	10.00
334	Transflow	300	50	1-80	...						120-volt speaker field	3½	2½	3½	2	7.00
336U	Transut	520	85	1-80	2½	3	2½	7.5	1½	4	2-45, 4-26, 4-24 or -27	4½	3½	3½	5	10.00
285	Transor	336	40	1-26	2½	3½	...	...	...	...	2-27 or '24	3½	2½	2½	3	7.00
2852S	Transcycle	338	40	1-26	2½	3½	...	...	...	...	2-27 or 24	3½	2½	3½	...	9.50
247	Transform	Filament only			1½	5	2½	3.5	5	1	2-27, 5-26, 2-27	3½	2½	2½	2½	5.00
249	Transfull	Filament only			2½	9	2½	3	...	...	2-45, 5-24 or '27	3½	2½	2½	2½	5.00
325**	Transduce	Special line voltage reducing transformer													7½	15.00

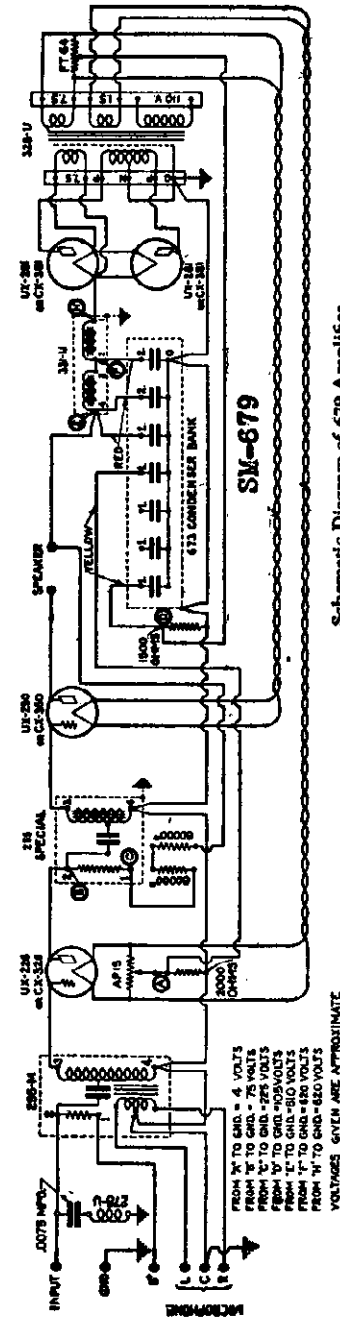
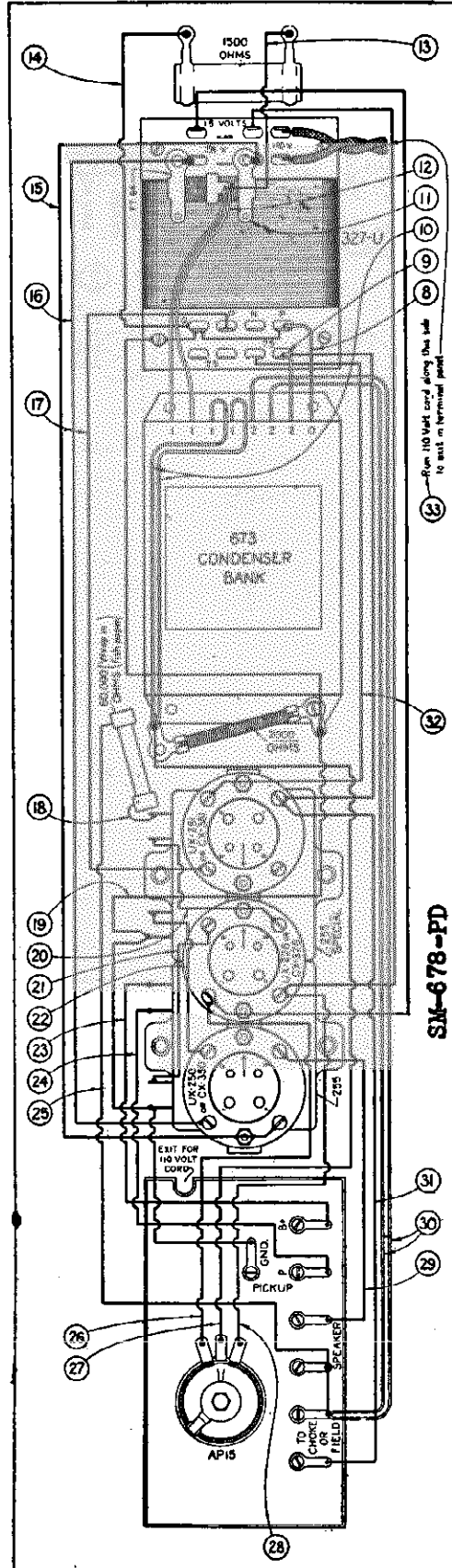
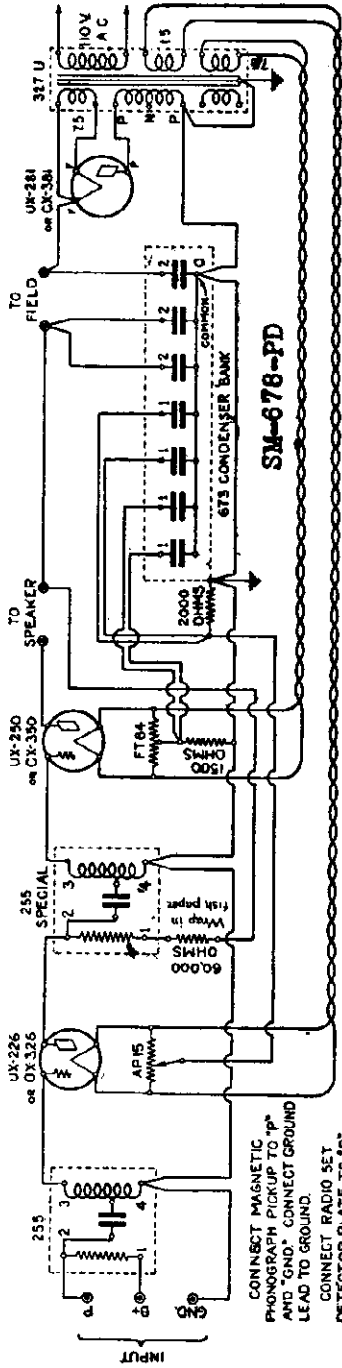
\*\*26 line voltage reducing transformer is intended to reduce line voltages varying from 200 to 250 volts to 110 volts for the operation of 110 volt, 50 to 60 cycle receivers of amplifiers of up to 150 watt rating, or it may also be reversed and employed to step up a 110 volt line to 220 to 250 volts.  
 \*Equipped with 80 volt primary tap for use with automatic voltage regulating device.





SILVER - MARSHALL, INC.

MODEL 678-PD  
Schematic, Chassis  
MODEL 679

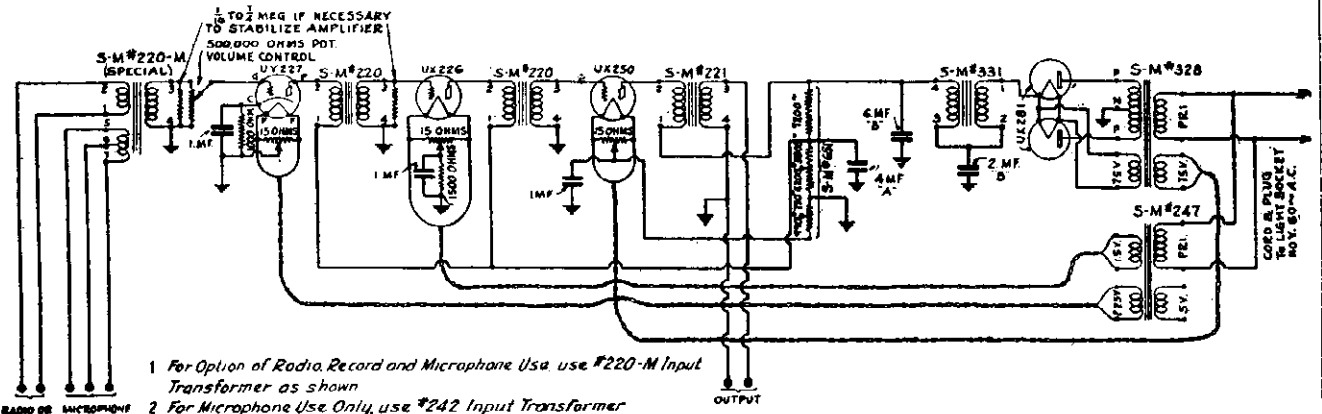


Schematic Diagram of 679 Amplifier

FROM "B" TO GND. = 4 VOLTS  
FROM "C" TO GND. = 75 VOLTS  
FROM "D" TO GND. = 225 VOLTS  
FROM "E" TO GND. = 50 VOLTS  
FROM "F" TO GND. = 150 VOLTS  
FROM "G" TO GND. = 450 VOLTS  
VOLTAGES GIVEN ARE APPROXIMATE

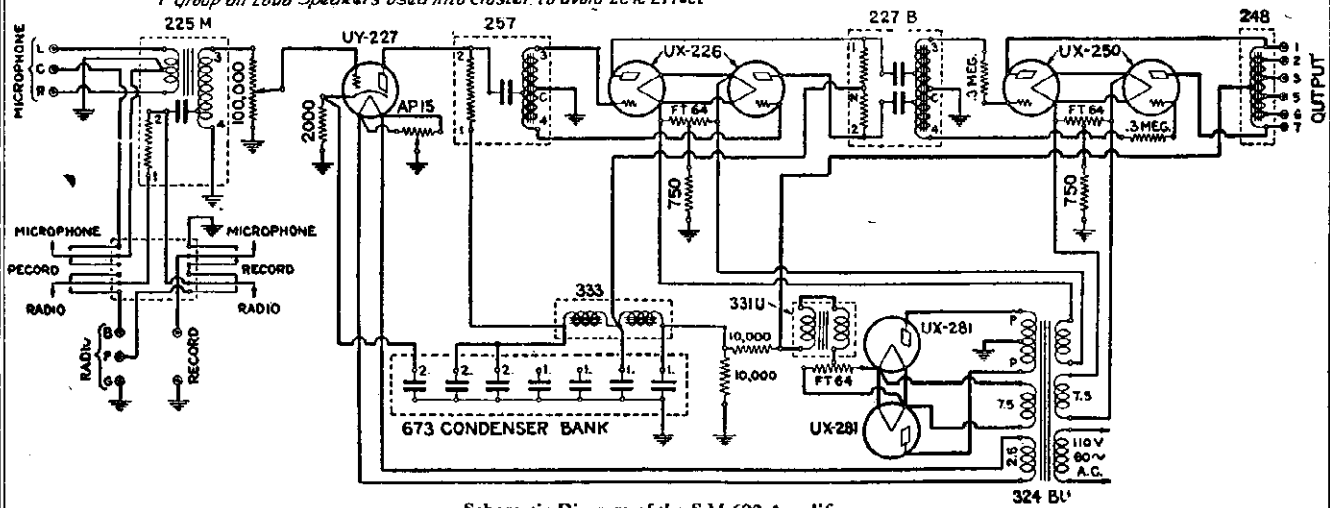
SILVER - MARSHALL, INC.

MODEL 685  
MODEL 690  
MODEL 692

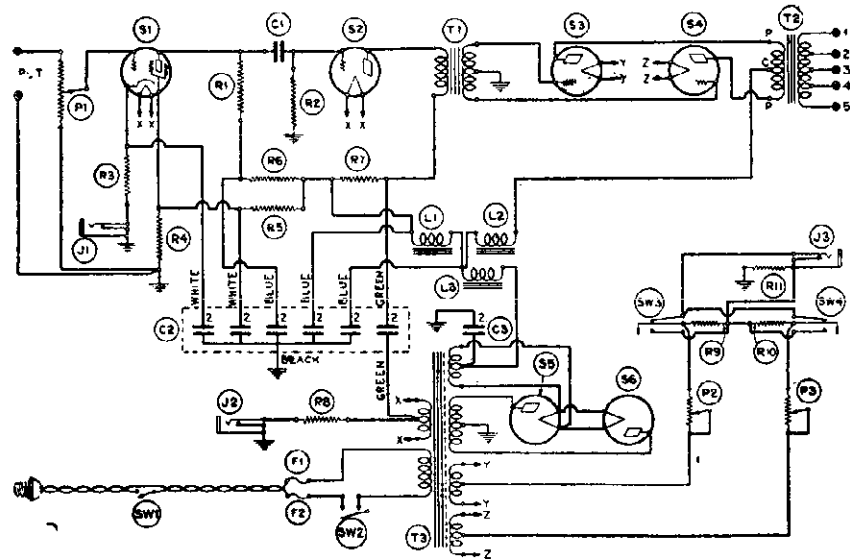


- 1 For Option of Radio, Record and Microphone Use, use #220-M Input Transformer as shown
- 2 For Microphone Use Only, use #242 Input Transformer
- 3 For Radio Use Only, use #220 Input Transformer
- 4 For Record-Pickup Use Only, Omit Input Transformer and Connect Record-Pickup in place of Input Transformer. Secondary directly to Ends of 500,000 Ohm Volume-Control Potentiometer
- 5 When Using Microphone (Single or Double-Button Type Optional) keep well away from Loud Speakers to avoid "Singing"
- 6 Use 3 to 4 1/2 Volts of Dry Battery for Microphone
- 7 Group all Loud Speakers Used into Cluster to avoid "Echo Effect"

Model 685



Schematic Diagram of the S-M 690 Amplifier

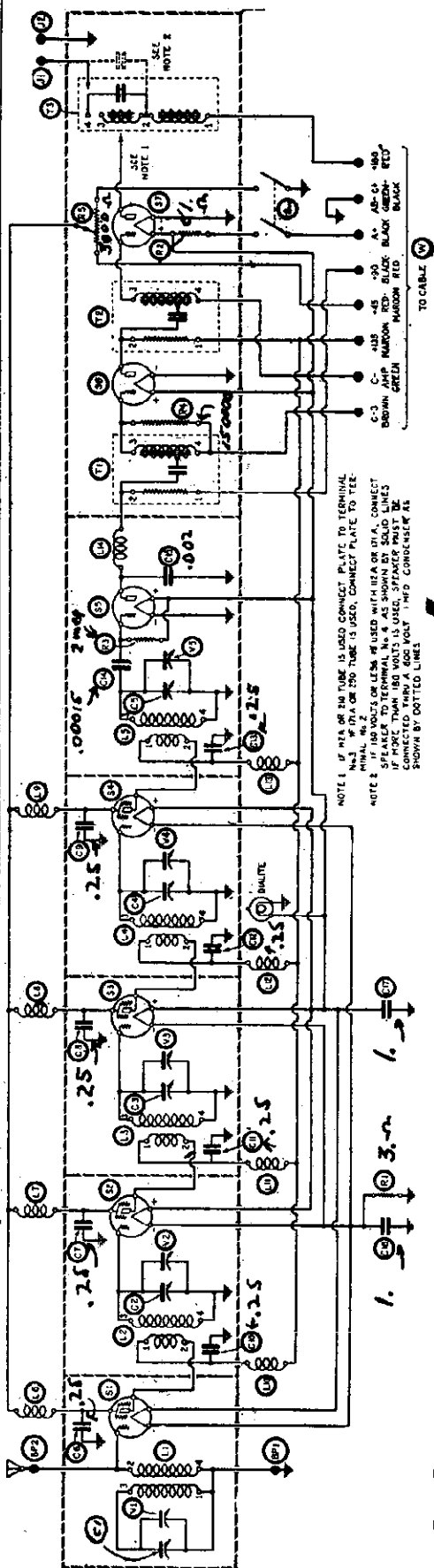


Model 692

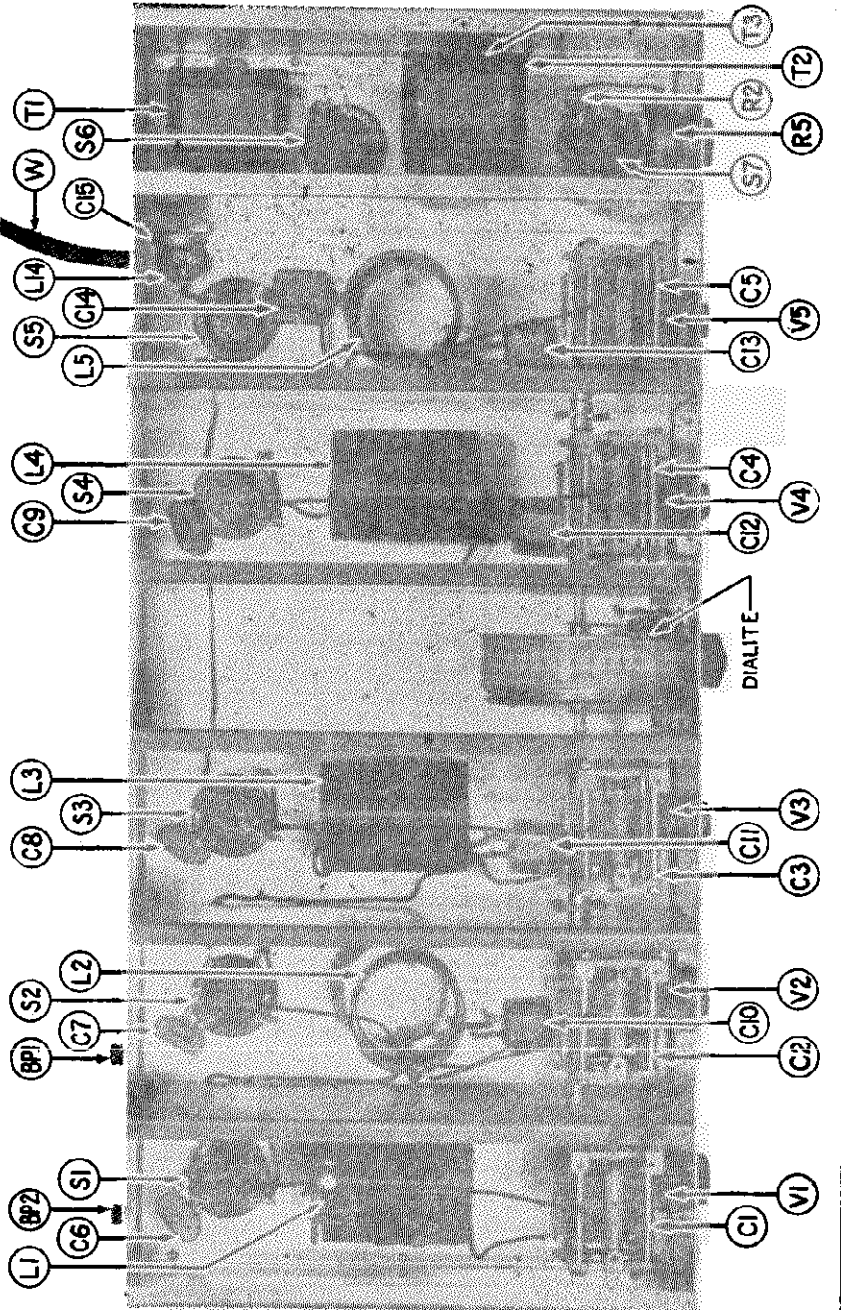
- P1 No. 4491—Potentiometer
- P2 No. 4490—Potentiometer
- P3 No. 4491—Potentiometer
- R1 No. 4772—Resistor
- R2 No. 4700—Resistor
- R3 No. 4730—Resistor
- R4 No. 4771—Resistor
- R5 No. 4685—Resistor
- R6 No. 4698—Resistor
- R7 No. 4726—Resistor
- R8 No. 4689—Resistor
- R9 No. 4723—Resistor
- R10 No. 4723—Resistor
- R11 No. 4776—Resistor

**MODEL 710**  
**Sargent-Raymond Seven**  
**Schematic, Chassis**

**SILVER - MARSHALL, INC.**

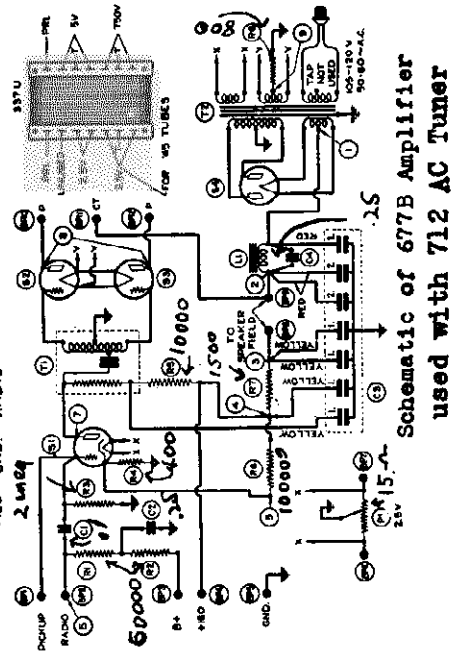
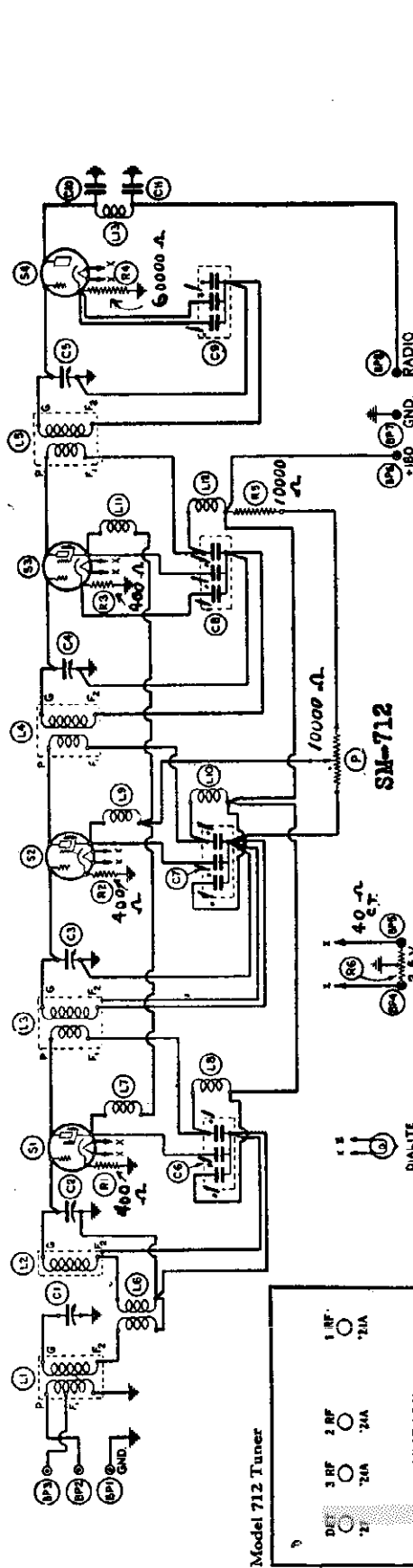


- L1 141 antenna coil
- L2-L3-L4-L5 142 RF transformer coils
- C1-C2-C3-C4 320R variable condensers, .00035 mfd.
- C5
- V1-V2-V3-V4 340 midget condensers, .000025 mfd.
- V5
- L6-L7-L8-L9- 275 RF chokes
- L10-L11-
- L12-L13-
- L14
- S1-S2-S3-S4- 511 tube sockets
- S5-S6-S7
- T1 255 first stage AF transformer
- T2 256 second stage AF transformer
- T3 251 output transformer
- W 708 ten lead battery cable



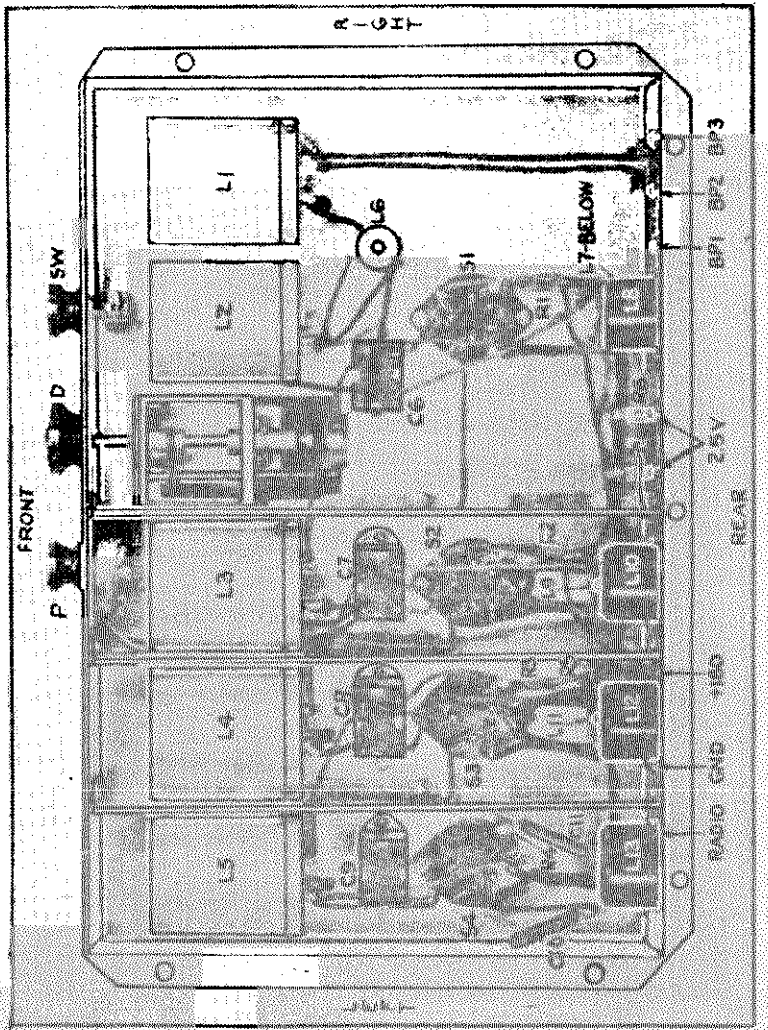
SILVER - MARSHALL, INC.

**MODEL 712**  
**Schematic**  
**Chassis**  
**MODEL 677-B**



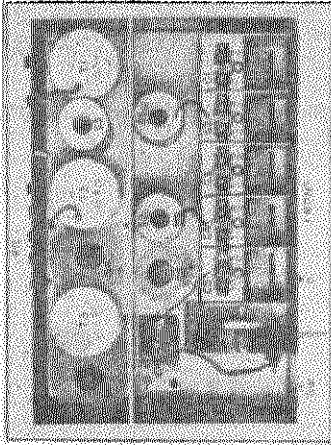
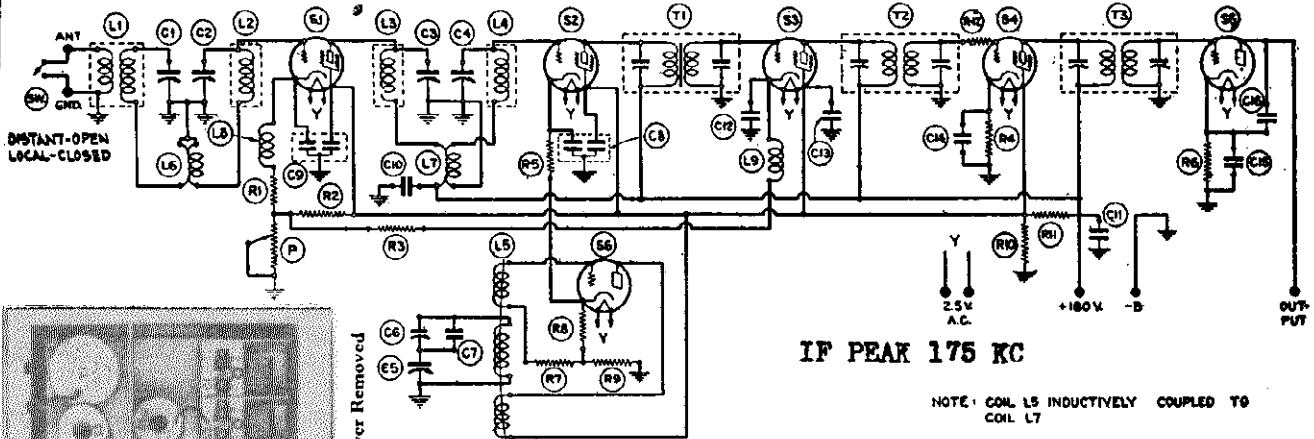
Representative voltages when 677B is connected to 712 Tuner with on-off volume control on full

From	To Ground	
(1)	"	320
(2)	"	310
(3)	"	230
(4)	"	160
(5)	"	8
(6)	"	110
(7)	"	100
(8)	"	300
(9)	"	50

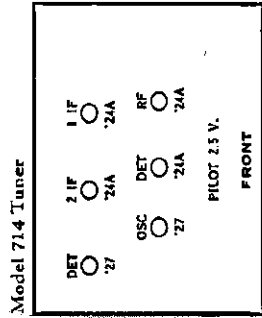


**MODEL 714**  
**Schematic**  
**Chassis, Voltage**

SILVER - MARSHALL, INC.



Top View of Tuner with Cover Removed



IF PEAK 175 KC

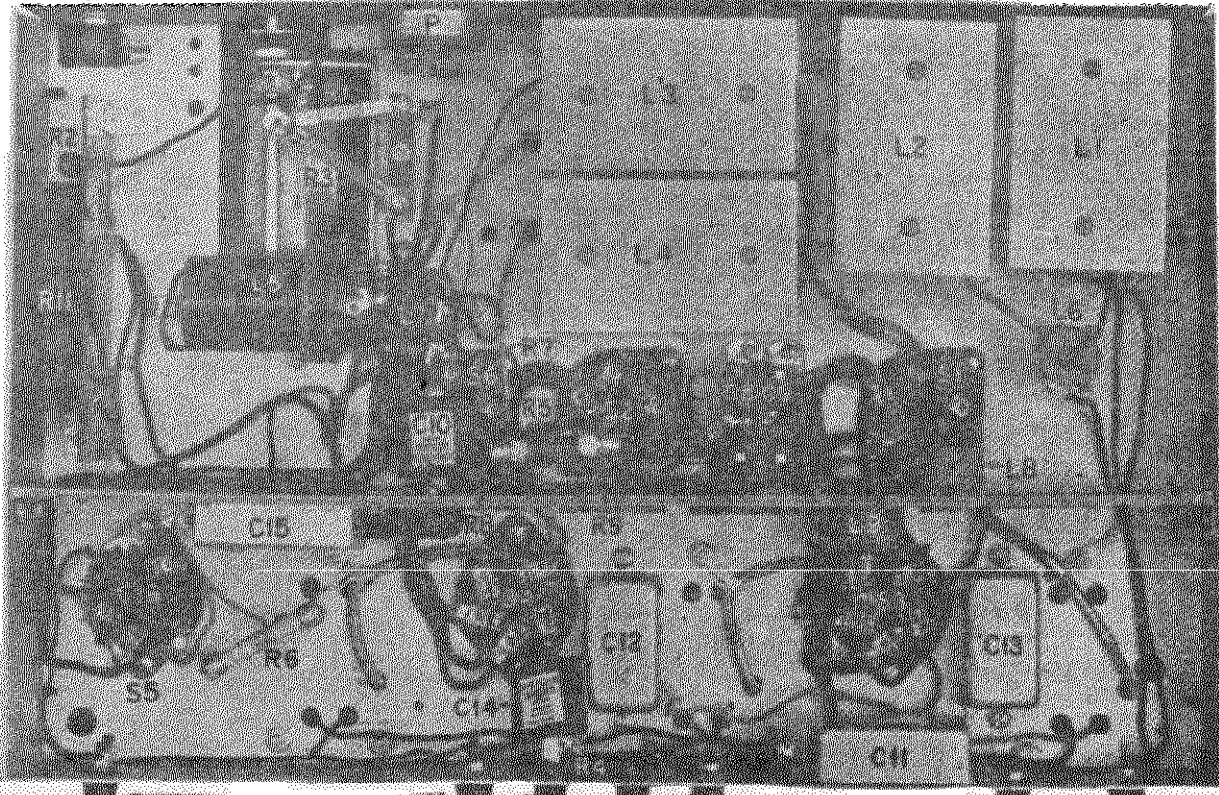
NOTE: COIL L5 INDUCTIVELY COUPLED TO COIL L7

VOLTAGES WITH VOLUME CONTROL AT MAXIMUM

Tube Number	Type of Tube	"A" Volts	"B" Volts	Screen Volts	"C" Volts	Normal Plate Current, MA
R.F.	(S1)	24	160	80	5	3.0
1st Det.	(S2)	24	160	80	7	Note
Oscillator	(S3)	27	80	80	7	5.9
1st I.F.	(S4)	24	160	80	5	1.4
2nd I.F.	(S5)	24	160	80	3	1.7
2nd Det.	(S6)	27	128		17	0.2

\*Misleading

FRONT



OUTPUT

180V

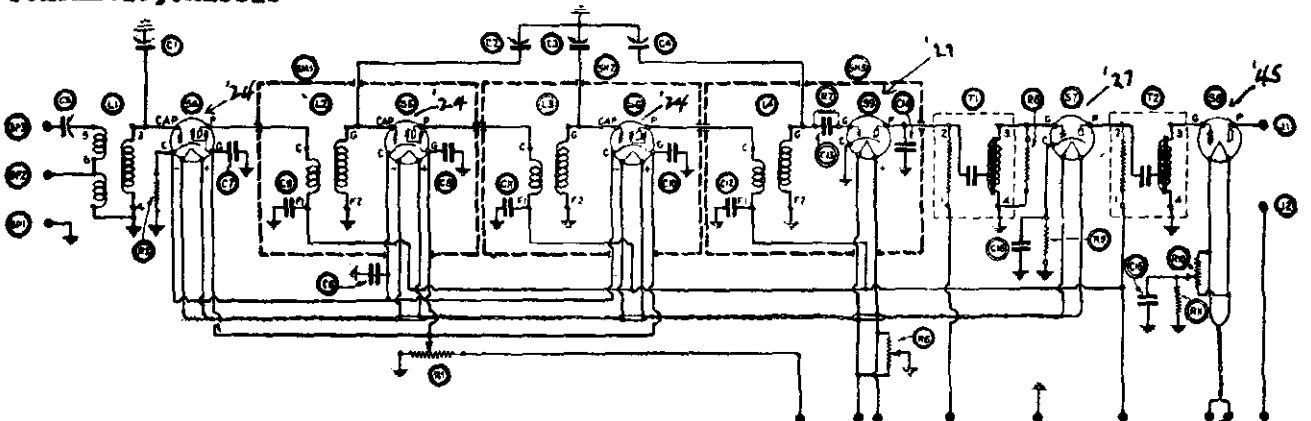
25V

GND

ANT

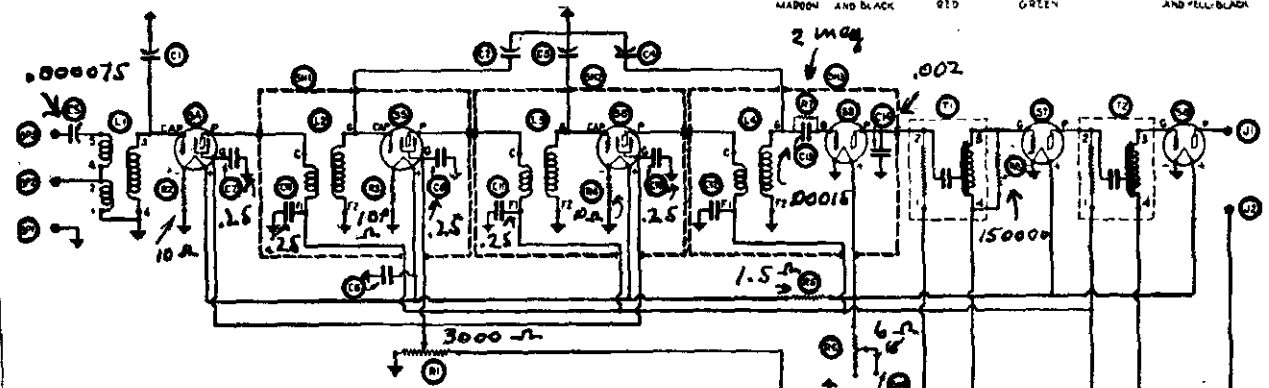
MODEL 720 AC  
MODEL 720 Battery  
Schematic, Chassis

SILVER - MARSHALL, INC.



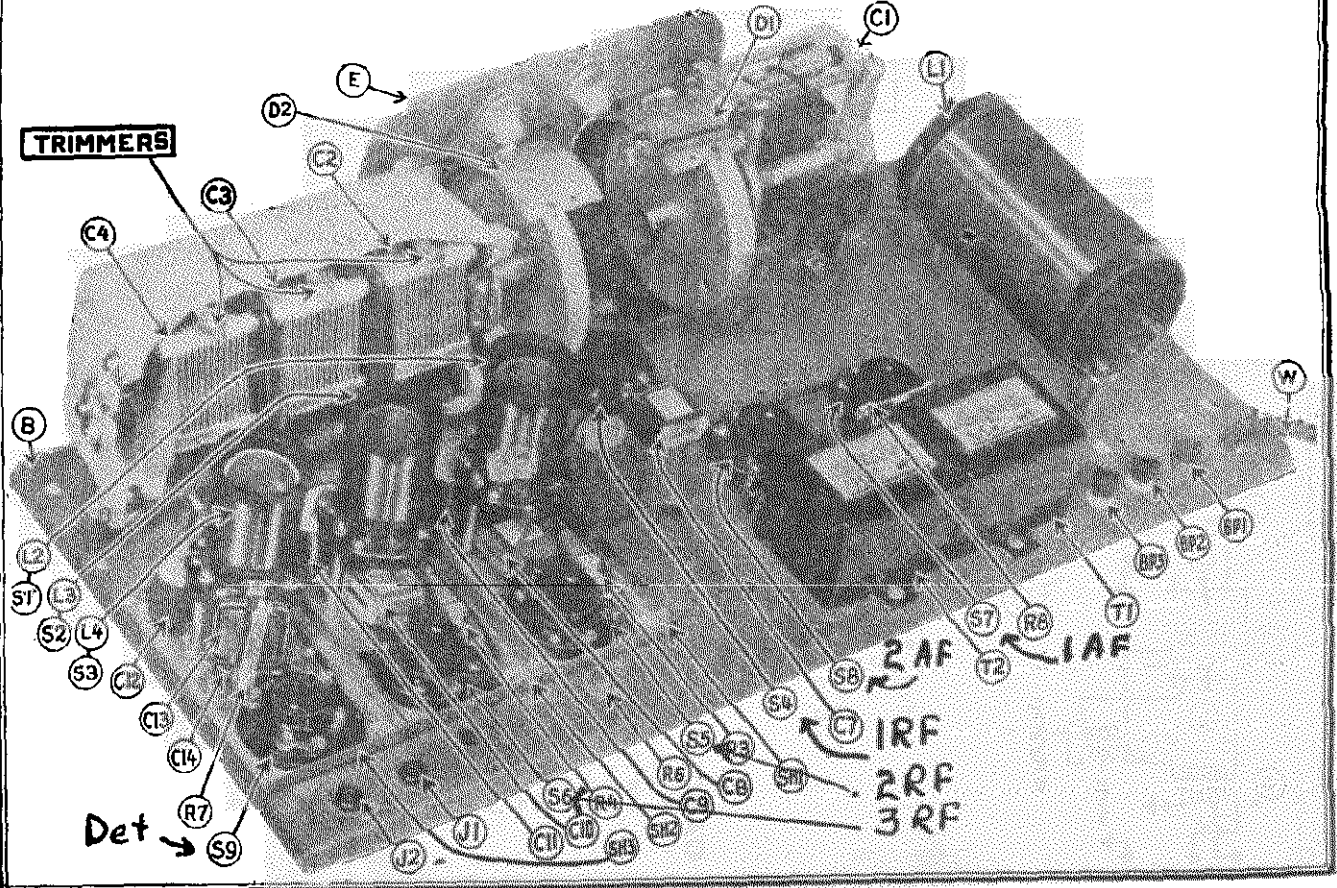
Schematic Diagram of the 720 A.C. Screen Grid Six.

\*67 GREEN  
\*225VAC GREEN AND BLACK  
\*417/180 BLACK-RED  
B-SWITCH- GREEN  
\*180 MAROON  
225 V AC YELLOW AND \*ILL-BLACK  
\*300 RED



Model 720 Battery

\*85 RED  
AP-C- BLACK- GREEN  
A4-45Te186 BLACK- RED  
C-5 BLACK- BROWN  
\*155 MAROON GREEN  
C-AMP MAROON GREEN  
\*180 RED

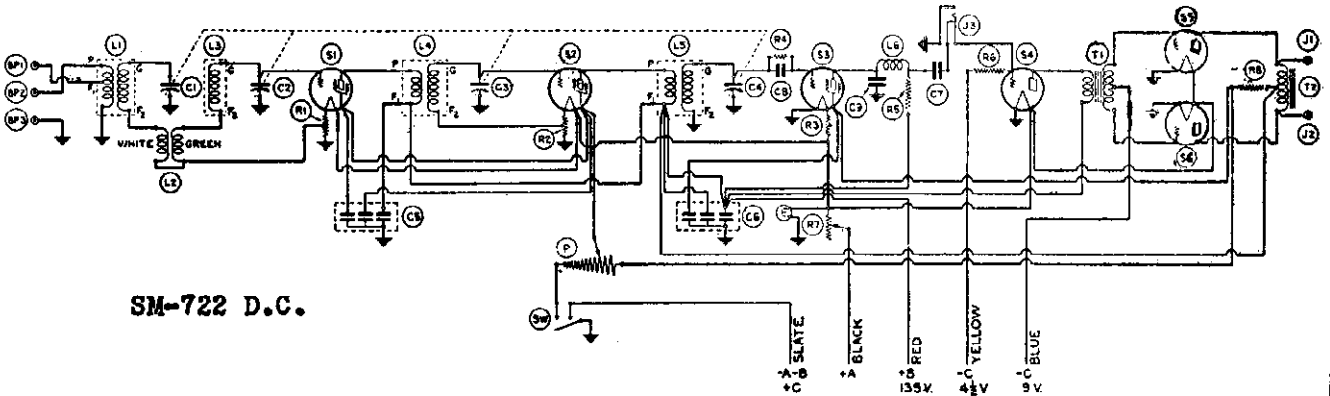






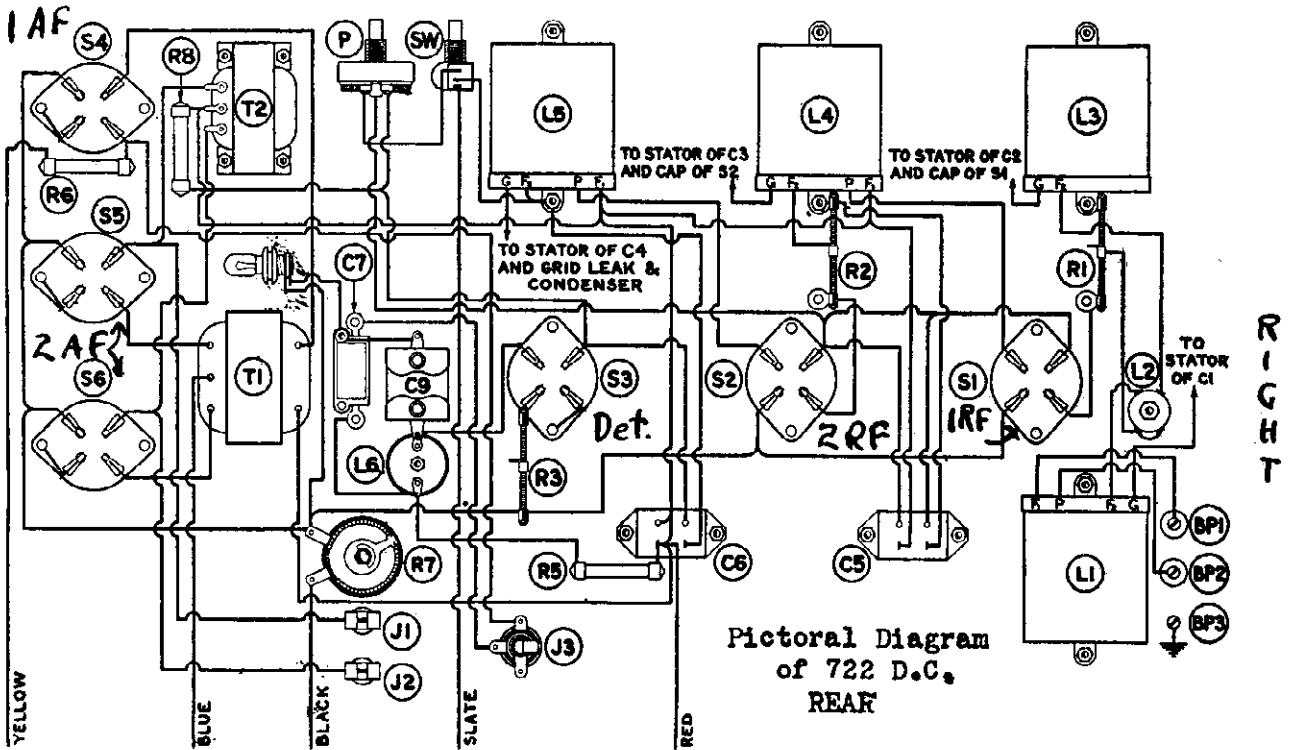
MODEL 722 DC  
Schematic, Chassis

SILVER - MARSHALL, INC.



SM-722 D.C.

Schematic diagram of the 722DC, showing all parts keyed

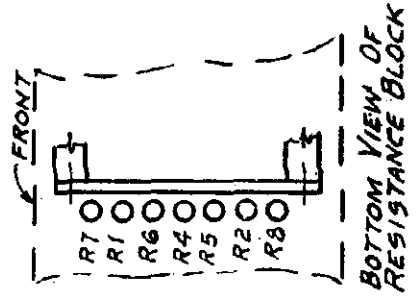
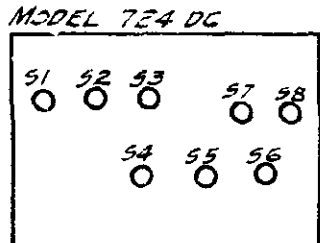
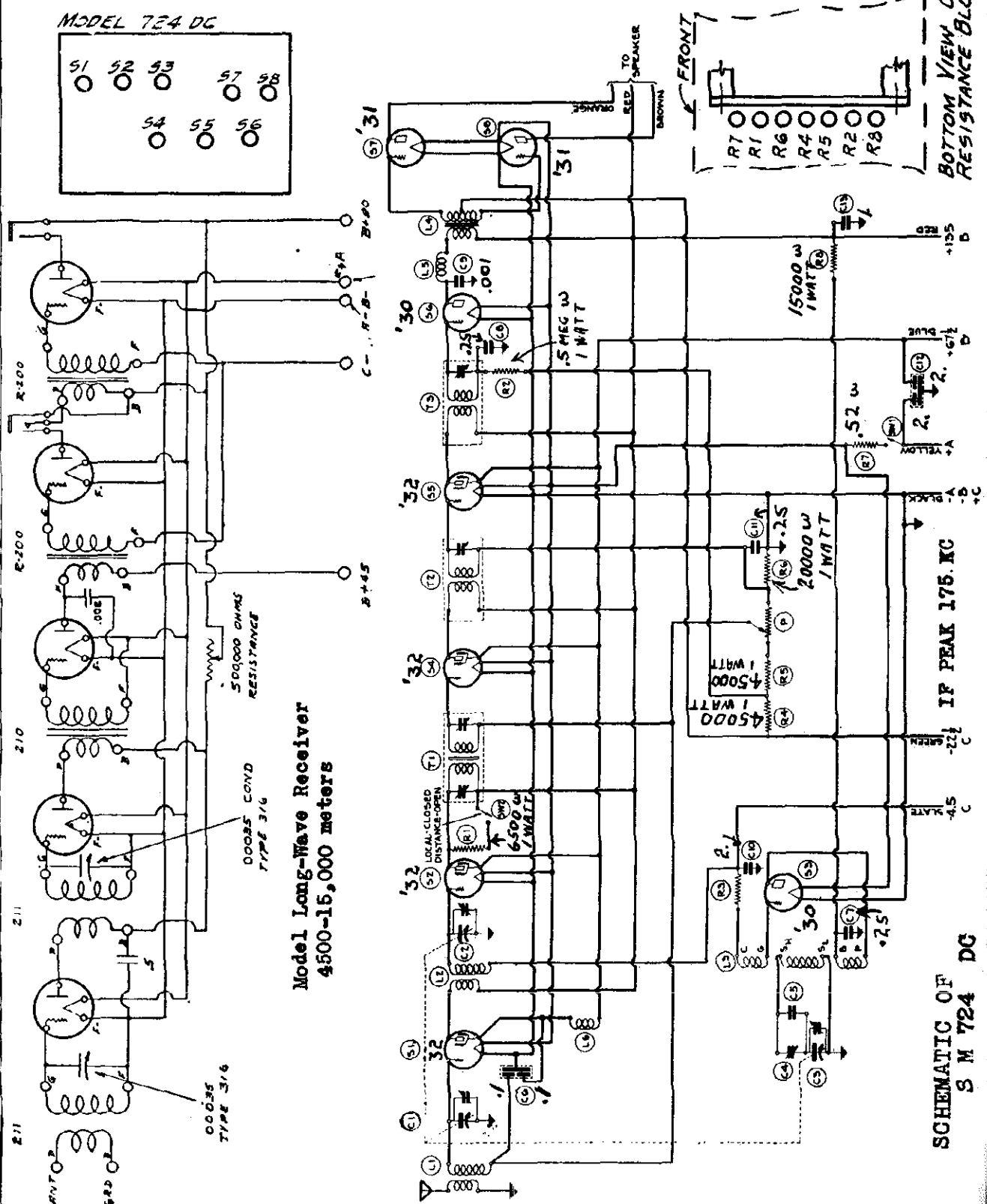


Pictorial Diagram  
of 722 D.C.  
REAR

- |           |  |    |                              |
|-----------|--|----|------------------------------|
| C1,2,3,4, | .00035 mfd 4 gang condenser                    | R7 | Rheostat(sub-base)           |
| C5,6      | block condensers containing three .1 mfd units | R8 | 20000 ohms (one watt) Orange |
| C7        | .006 mfd.                                      |    |                              |
| C8        | .00015 mfd.                                    |    |                              |
| C9        | .0005 mfd.                                     |    |                              |
| P         | 10000 ohm potentiometer.                       |    |                              |
| R1,2,3    | 15 ohm center tapped.                          |    |                              |
| R4,6      | 2 megohm (one watt) Red                        |    |                              |
| R5        | 60000 ohm(one watt) Blue                       |    |                              |



MODEL 724 DC  
 MODEL Long-Wave Receiver SILVER - MARSHALL, INC.



SCHEMATIC OF  
 S M 724 DC

Model Long-Wave Receiver  
 4500-15,000 meters

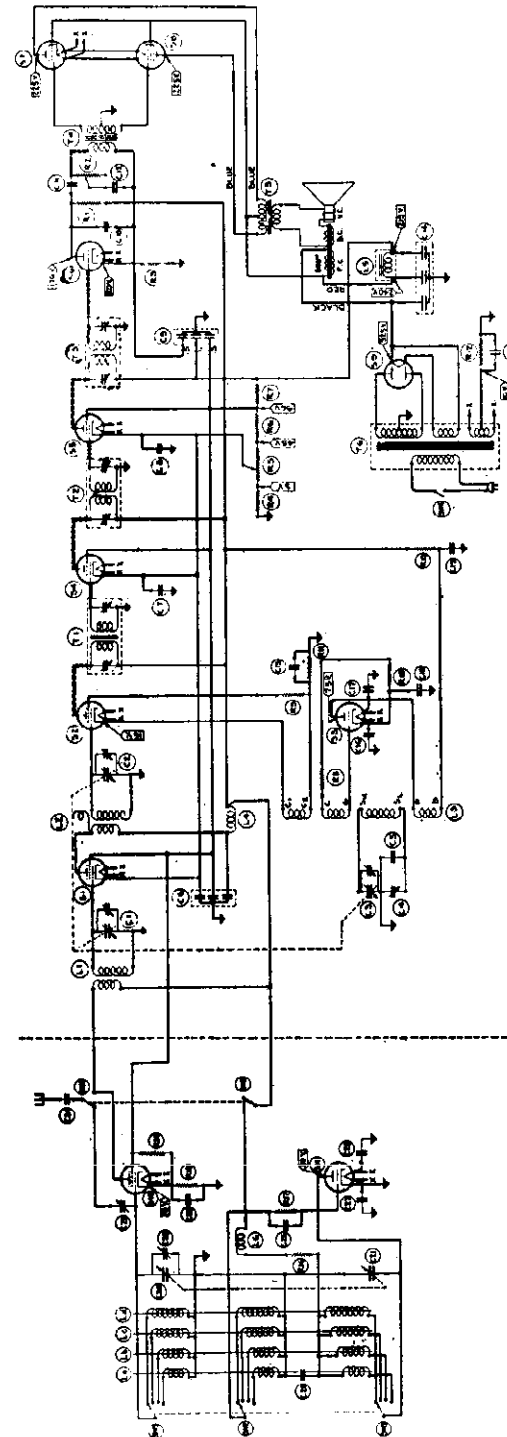
# SILVER - MARSHALL, INC.

**MODEL 726**  
Schematic  
Voltage, Data

REPLACEMENT PARTS LIST FOR 726 SW & 726  
SHORT WAVE-BROADCAST RECEIVERS

Code	Description	Piece Part No.
L1 - 167-S Coil	Model 726 (S.W. & Broadcast)	
L2 - 168-S Coil		
L3 - 175-S Coil		
L4 - 281 R.F. Choke		
L5 - 10145 Choke		
L6 - 277 R.F. Choke		
La - S.W. Coil 10-20 Meters		
Lb - S.W. Coil 20-40 "		
Lc - S.W. Coil 40-80 "		
Ld - S.W. Coil 80-200 "		
T1 - 1st I.F. Transformer B-1		
T2 - 2nd I.F. Transformer B-2		
T3 - 3rd I.F. Transformer B-3		
T4 - A-270 Input Transformer		
T5 - 10143 Output Transformer		
T6 - 10173-S Power Transformer		
C1-C2-C3 - 407 Mmfd. Max. (3-gang variable)		13124
C4 - Variable 250-600 Mmfd.		16035
C5 - 750 Mmfd. ± 10% (Mica)		
C6 - Triple 0.1 Mfd.		3216
C7 - .1 Mfd.		3220
C8 - .1 Mfd.		3220
C9 - .5, .5, 1.0 Mfd.		13140
C10 - .001 Mfd. (Mica)		7039
C11 - 0.15 Mfd.		13145
C12 - .025 Mfd.		3233
C13 - .1 Mfd.		3220
C14 - Three 4 mfd. units (dry Electrolytic) Potter		13120
C15 - .1 Mfd.		3220
C16 - .006 Mfd.		3114
C17 - .006 Mfd.		3144
C18 - .1 Mfd.		3220
C19 - .1 Mfd.		3220
C20-C21 - 140 Mmfd. (2-gang variable)		13161
C22 - 80 Mmfd. (variable)		13162
C23 - Compensating Cond.		13182
C24 - .006 Mfd.		3144
C25 - .006 Mfd.		3144
C26 - .001 Mfd. (Mica)		7039
C27 - .006 Mfd.		3144
C28 - .006 Mfd.		3144
R1 - 30,000 ohms 1 watt		14693
R2 - 1/2 megohm tapered variable resistor		14268
R3 - 60,000 ohms 1 watt		4698
R4 - 100 ohms wire wound		4743
R5 - 4,500 ohms volume control (tapered)		14267
R6 - 13,500 ohms 1 watt		14694
R7 - 15,000 ohms 2 watt		14690
R8 - 400 ohms wire wound		4701
R9 - 60,000 ohms 1 watt		4698
R10 - 100 ohms wire wound		4743
R11 - 10,000 ohms 1 watt		14696
R12 - 220 ohms 2 watt		14692
R13 - 10,000 ohms 2 watt		4728
R14 - 60,000 ohms 1 watt		4698
R15 - 6,500 ohms 1 watt		14693
R16 - 10,000 ohms 2 watt		4726
R17 - 10,000 ohms 1 watt		14696
SW1-SW2-SW3 - S.W. Change-over switch		15115
SW4-SW5 - S.W.-BROADCAST SWITCH		15116
SW6 - ON-OFF SWITCH (Combination with Pot.)		
S2-S10 - '24 Tubes		
S3-S6-S11 - '27 "		
S7-S8 - '47 "		
S1-S4-S5 - '51 "		
S9 - '80 "		

As a short wave broadcast receiver, the circuit is as follows. By throwing a switch, the antenna is fed into the short wave detector circuit using a '24 type tube. A short wave oscillator of special design using a '27 tube, operating 650 kc. away from the short wave detector heterodynes the incoming signal to the frequency to which the r.f. stage of the broadcast receiver is tuned, the broadcast tuning dial being set on a clear channel at approximately 650 kc. for best results. As a short wave super, there are therefore three detectors and two oscillators, giving so-called double "suping"



Model 726 S.W. and Broadcast Superhet.

VOLTAGES WITH VOLUME CONTROL AT MAXIMUM

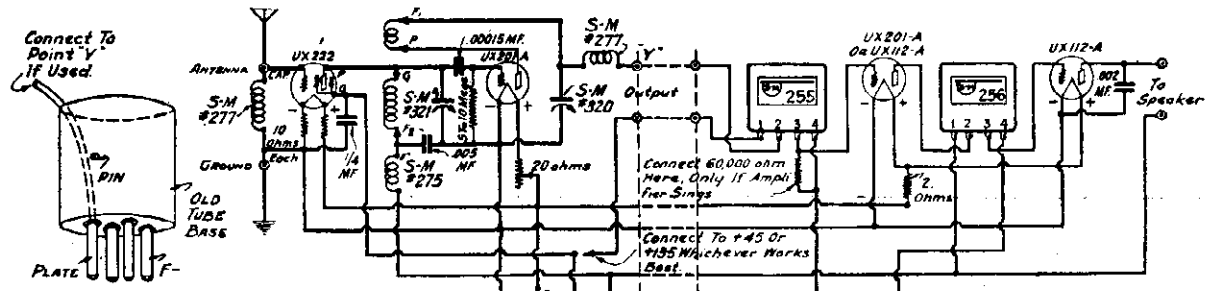
Tube Number	Type of Tube	"A" Volts	"B" Volts	Screen Volts	"C" Volts	Normal Plate Current Mills
S.W. Det	(S10)	'24	2.2	216	96	18 .08
S.W. Osc.	(S11)	'27	2.25	80	...	0 8.
R.F.	(S1)	'51	2.25	216	96	3 6.
1st Det	(S2)	'24	2.35	216	96	16 .1
Osc.	(S3)	'27	2.35	75	....	1.1 10.
1st I.F.	(S4)	'51	2.3	216	96	3 6.
2nd I.F.	(S5)	'51	2.35	216	96	3 6.
End Det.	(S6)	'27	2.35	178	....	20 .1
Audio (right)	(S7)	'47	2.4	224	240	16 32.
Audio (left)	(S8)	'47	2.4	220	240	16 32.
Rectifier	(S9)	'80	5.1	.....	.....	.....

As a broadcast receiver, the 726SW tunes from below 200 to above 550 meters and as a short wave receiver tunes from just under 10 meters to 200 meters without plug in coils.

IP PEAK 176 KC

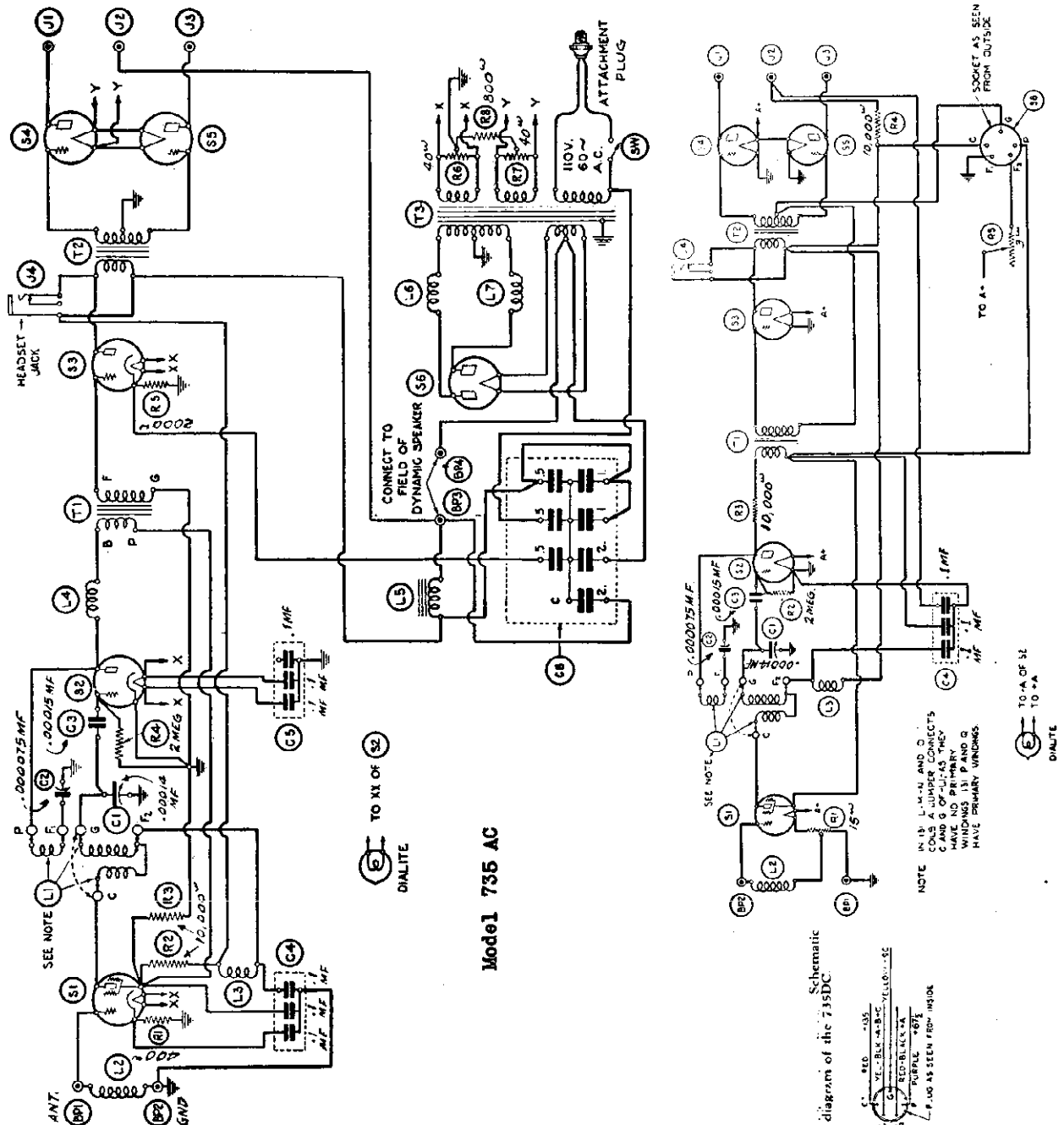
SILVER - MARSHALL, INC.

MODEL 730, 731  
MODEL 735 AC  
MODEL 735 DC



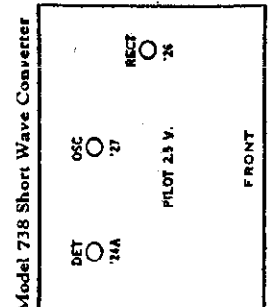
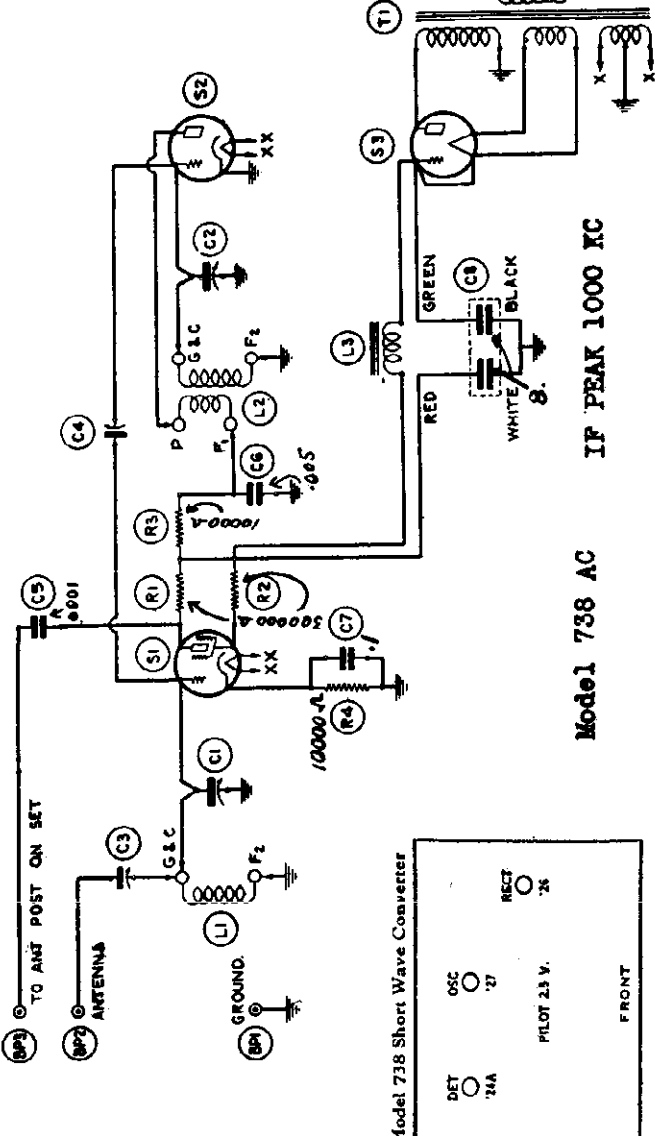
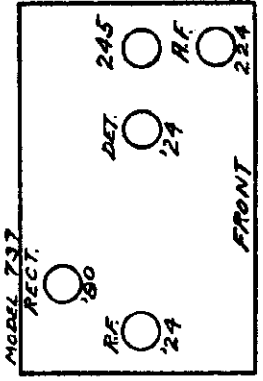
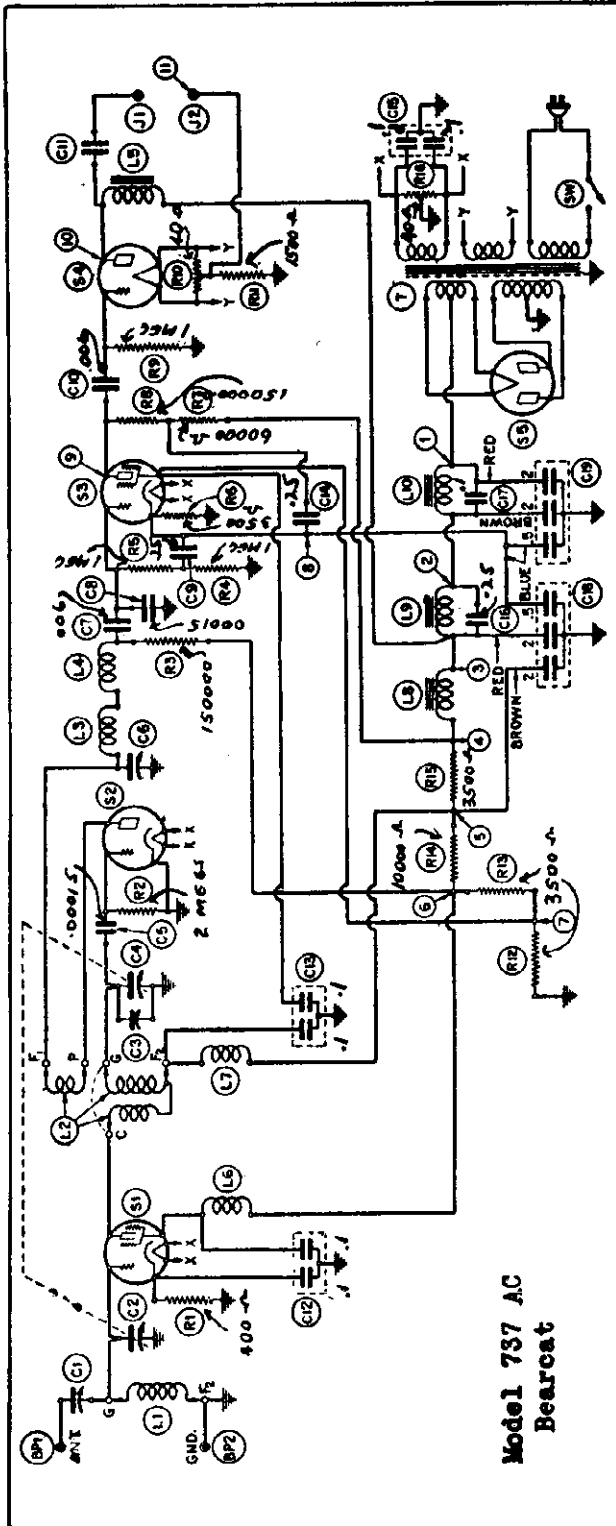
NOTE:—For two tube short wave adapter to be used with any standard radio set:—  
A—Omit all parts to right of dotted lines.  
B—Connect upper "output lead" (from No. 277 choke) to plate pin of old tube base.  
C—Connect battery binding posts to radio set batteries.  
D—Insert old tube base adapter in detector socket of regular radio set, which will join the two tube short wave adapter to the audio amplifier of set.

Schematic circuit of 730 and 731 kits, and details of adapter made from an old tube base.



Schematic diagram of the 735DC

MODEL 737 AC Bearcat  
 MODEL 738 AC SW Converter SILVER - MARSHALL, INC.

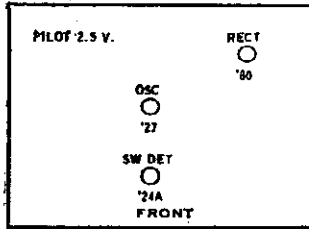


Model 738 AC IF PEAK 1000 KC

SILVER - MARSHALL, INC.

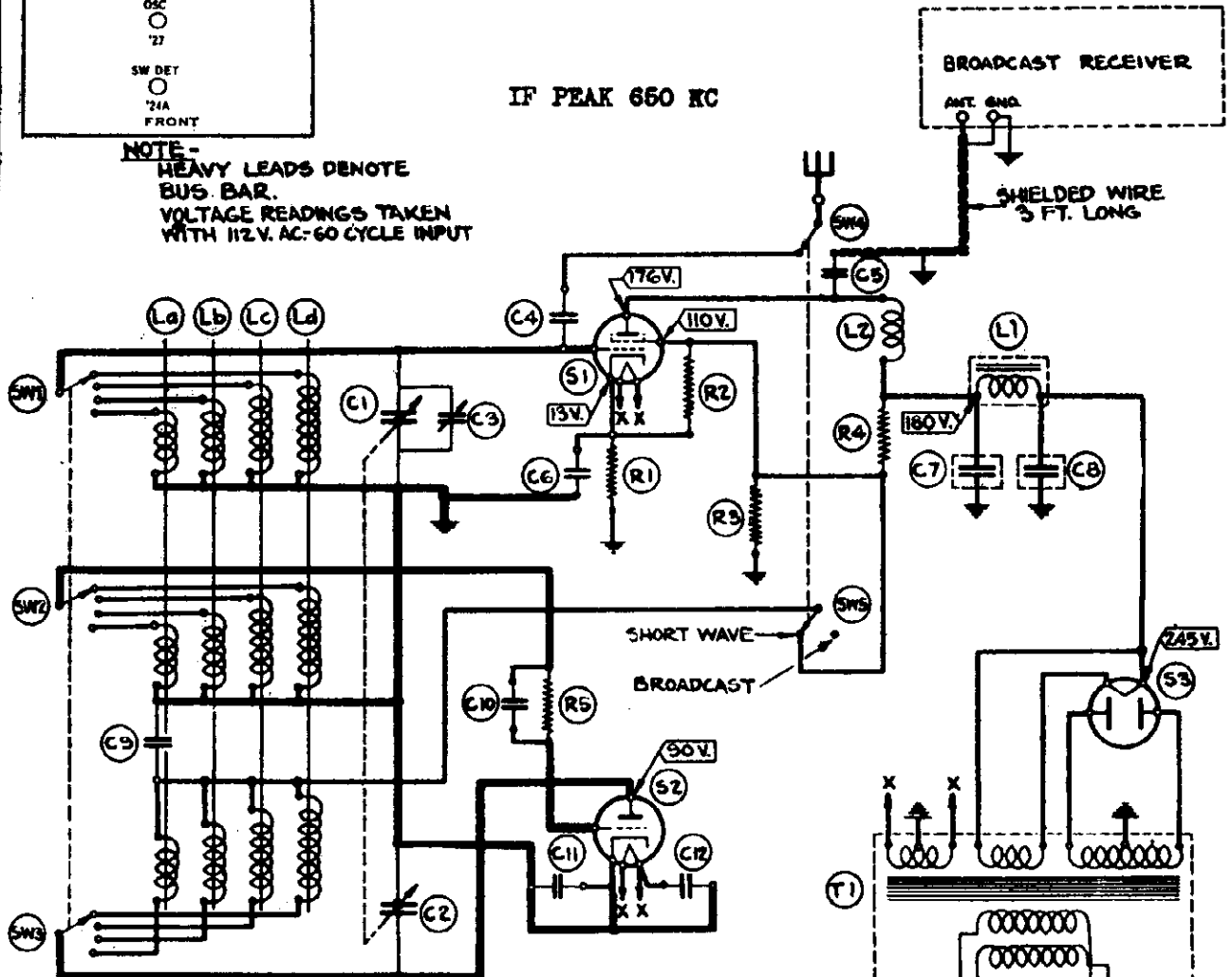
MODEL 739  
SW Superhet Converter

Model 739 (Short Wave Converter) (1931)



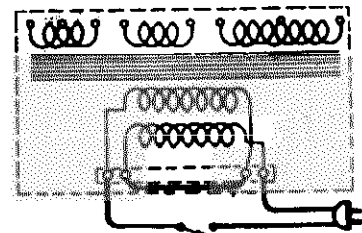
IF PEAK 650 KC

**NOTE -**  
HEAVY LEADS DENOTE  
BUS BAR.  
VOLTAGE READINGS TAKEN  
WITH 112 V. AC-60 CYCLE INPUT



CONNECTIONS FOR  
100-120 V. AC. 25 & 60 CYCLE

NOTE:-  
PRIMARY NORMALLY WIRED &  
SHIPPED FOR 100-120V. OPERATION



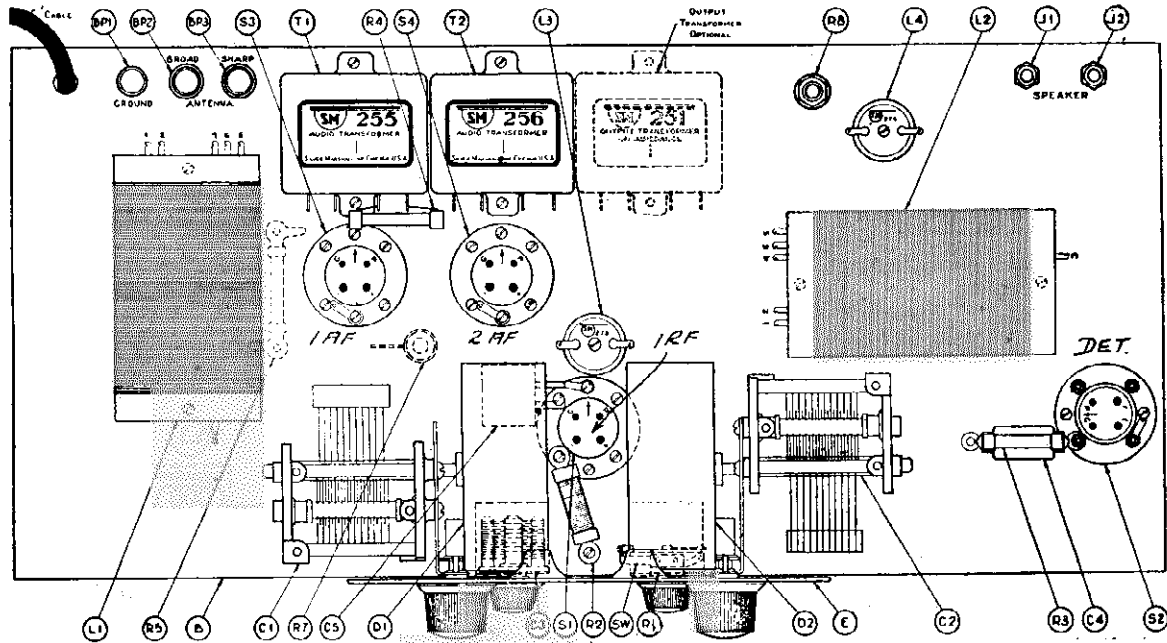
CONNECTIONS FOR  
200-240 V. AC. 25 & 60 CYCLE

There is a small compensating condenser in series with the antenna lead to the detector circuit (on rear of panel, at top center). This condenser is adjusted at the factory for best operation on a test antenna. It will be found that a slight adjustment of this condenser can be made (with a screw driver) for realigning to the particular antenna-ground combination, on which the 739 is to be operated, to give maximum results. To make this adjustment, the receiver should be tuned to a short wave station and without adjusting any controls, this compensating condenser readjusted a slight fraction of a turn at a time until the station comes in at its best.

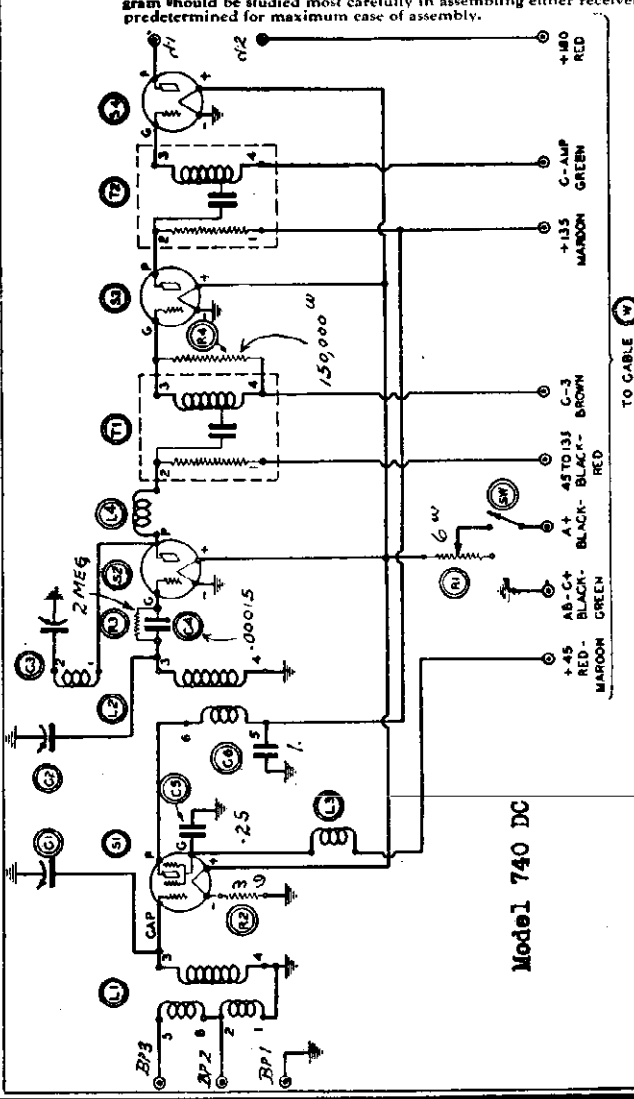
- C6, C11, C12 3 Polymet .006 condenser
- C5, C10 2 Polymet .0001 "
- C9 1 Sprague .1 mfd. condenser
- R5 1 Durham 10,000 ohm resistor
- R2 1 Durham 60,000 ohm resistor
- R1 1 Durham 6500 ohm resistor
- R3 1 Durham 6000 ohm resistor 2 watt.
- R4 1 Durham 3500 ohm resistor, 2 watt.

MODEL 740 DC  
 MODEL 740 AC  
 Schematic, Chassis

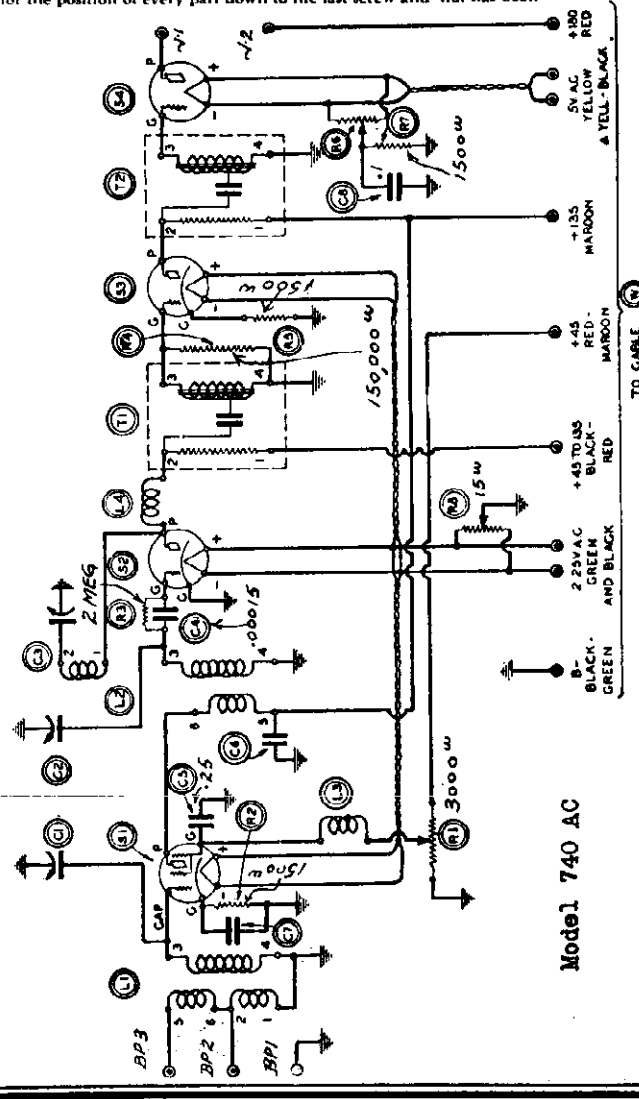
SILVER - MARSHALL, INC.



This layout drawing for the 740 (D.C. tube) Receiver shows the exact positions of all parts, positions of different mounting lugs, and just where screw heads or mounting nuts *etc.* Additional parts for the 740 AC (A.C. tube) Receiver are shown in dotted lines. This diagram should be studied most carefully in assembling either receiver, for the position of every part down to the last screw and nut has been predetermined for maximum ease of assembly.



Model 740 DC



Model 740 AC

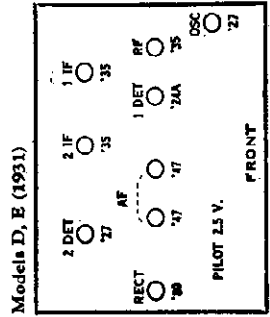
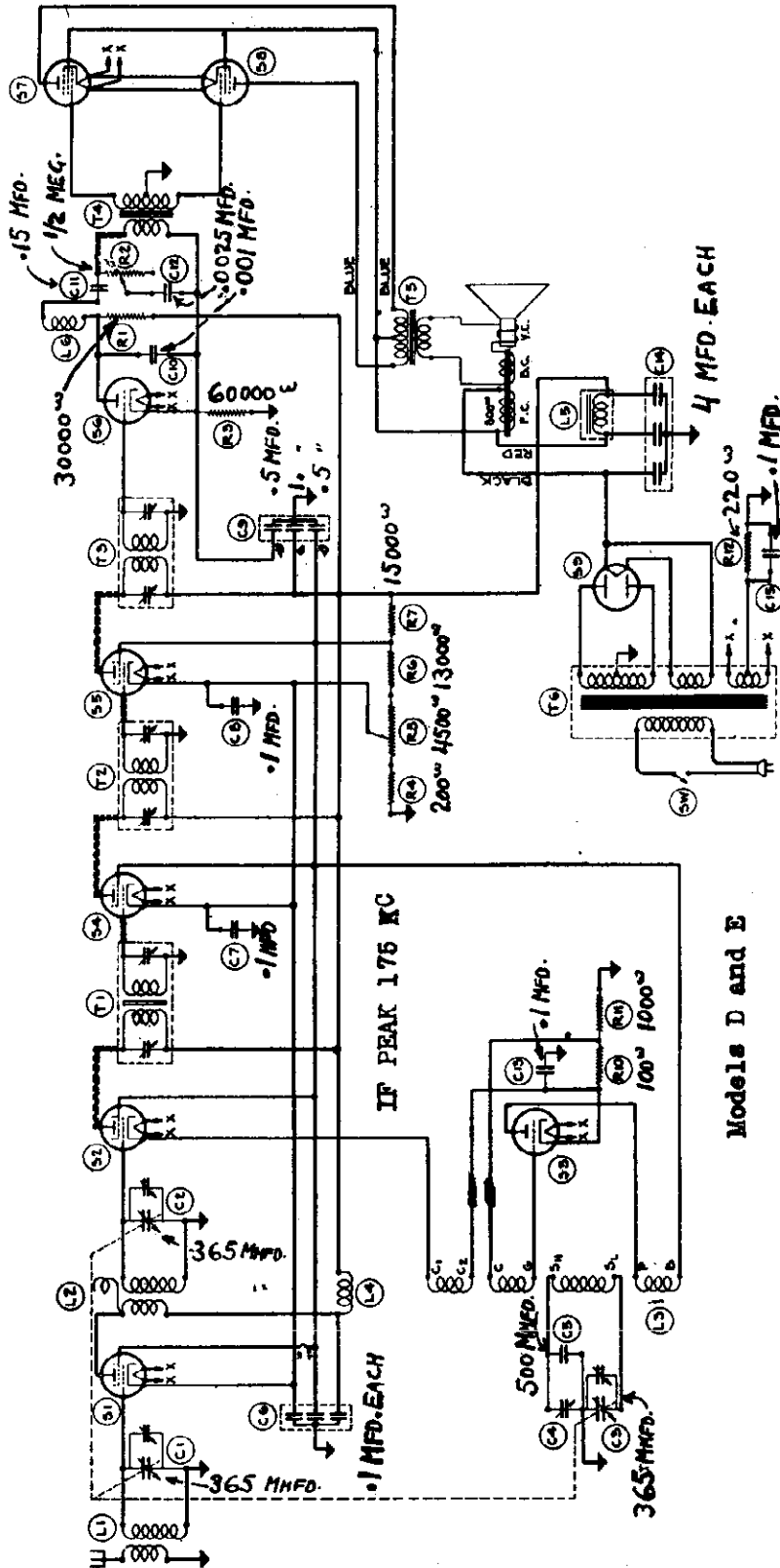






SILVER - MARSHALL, INC.

MODELS D, E  
Schematic, Voltage



Models D and E

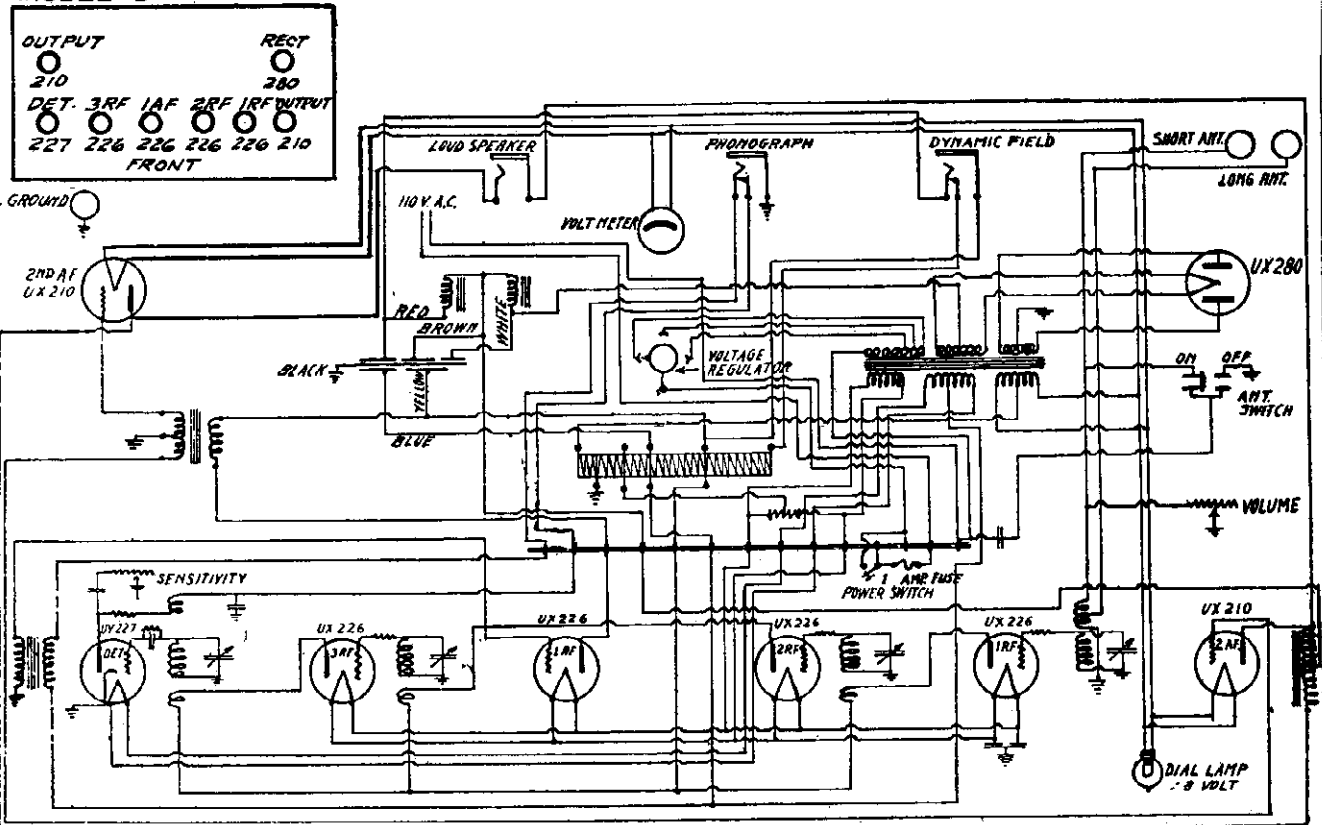
Tube No.	Type	A Volts	B Volts	Screen	C Volts
1st R.F.	551	2.5	225	80	3.2
1st Det.	224	2.5	225	80	12.
Osc.	227	2.5	80	80	6.2
1st I.F.	551	2.5	225	80	3.2
2nd I.F.	551	2.5	225	80	3.2
2nd Det.	227	2.5	220	20.	
Pentodes	247	2.5	220	255	16.5
Rectifier	280	5.0			



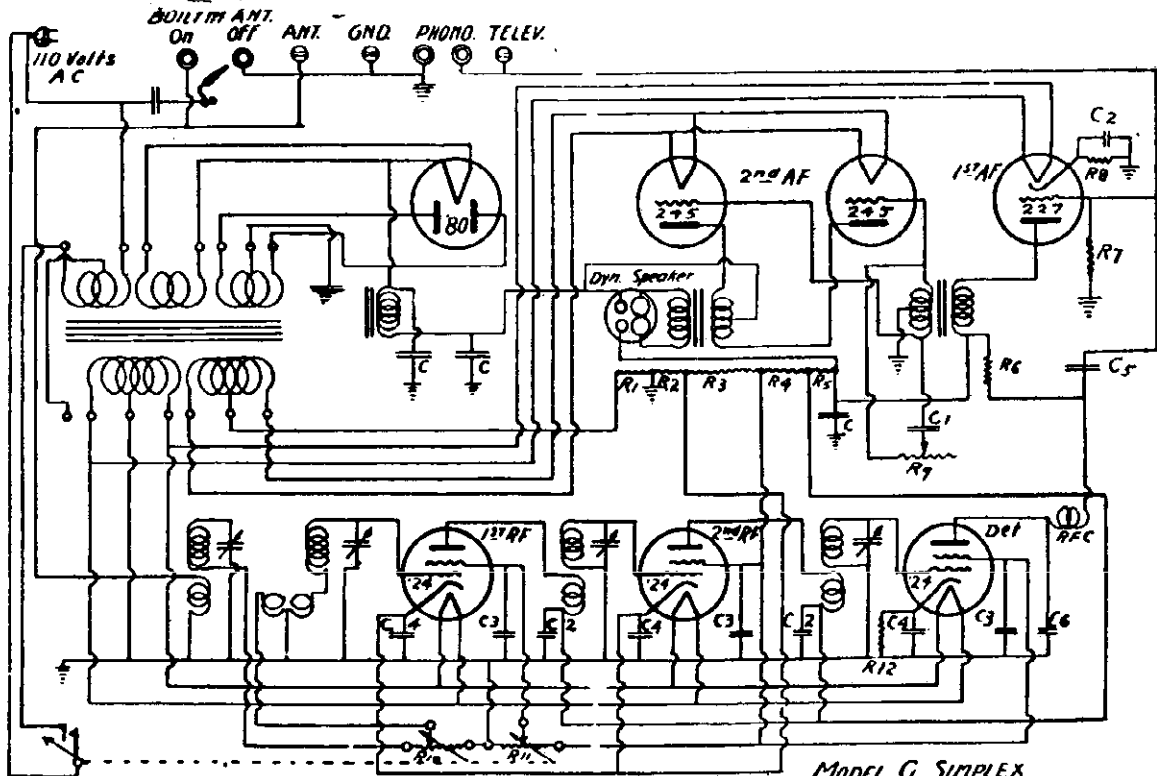
SIMPLEX RADIO CO.

MODEL D Schematic  
MODEL G Schematic

MODEL D



CIRCUIT DIAGRAM, MODEL D, SIMPLEX ELECTRIC.



MODEL G SIMPLEX  
CIRCUIT DIAGRAM





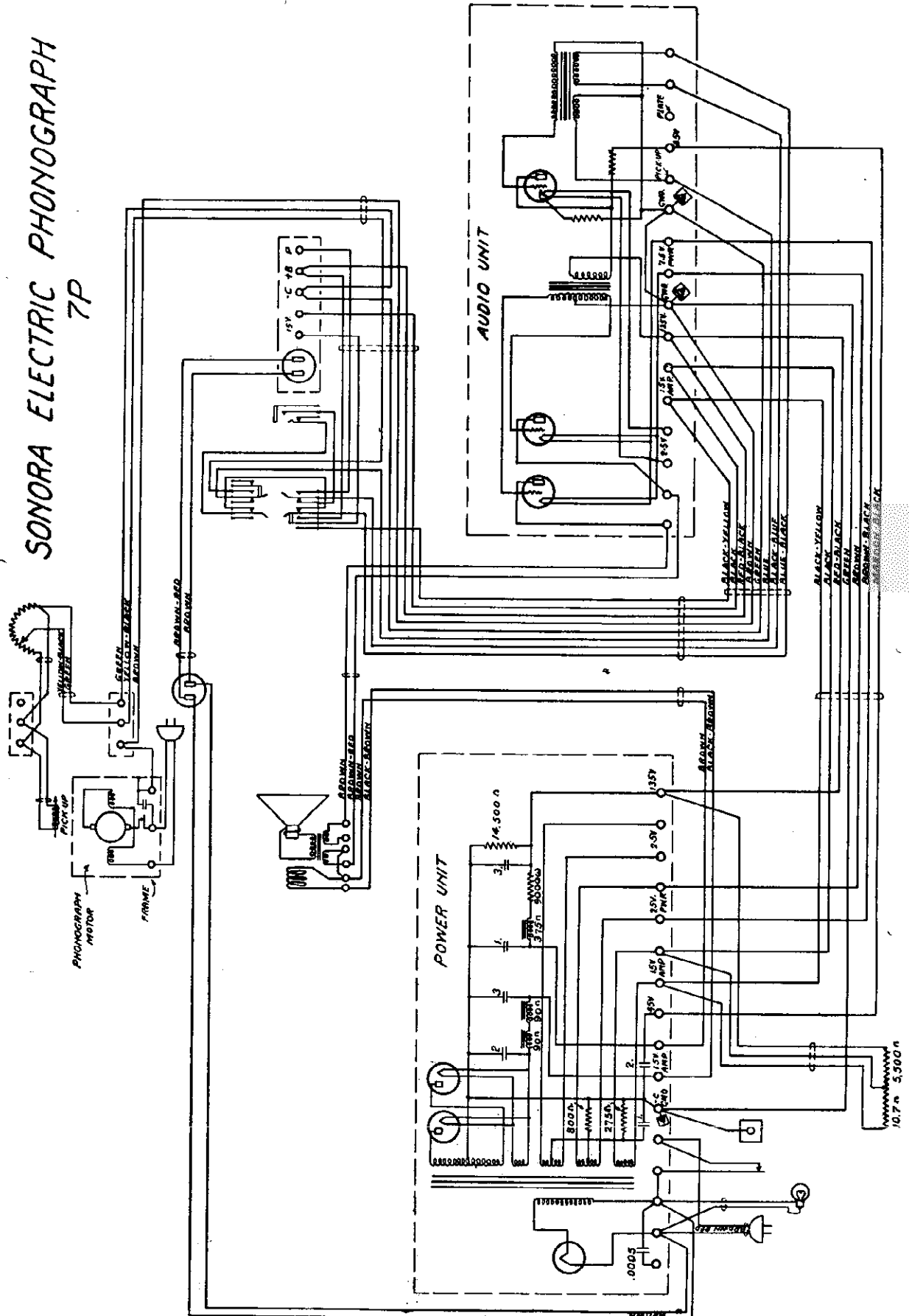




# SONORA PHONOGRAPH CO.

MODEL 7P  
Schematic

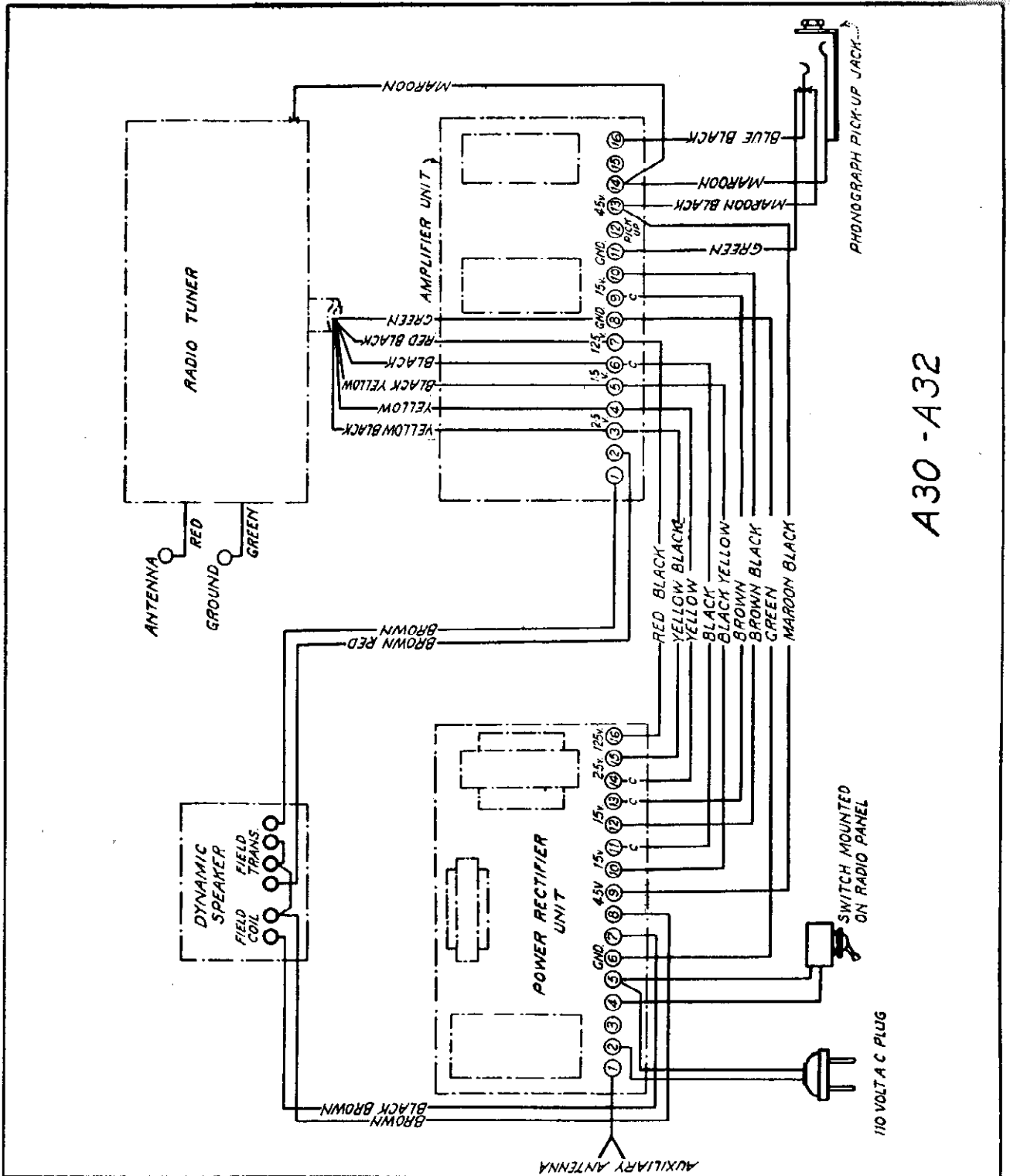
## SONORA ELECTRIC PHONOGRAPH 7P





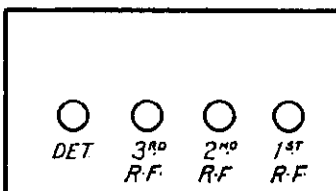
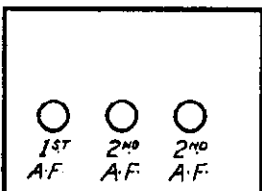
SONORA PHONOGRAPH CO.

MODEL A30, A32  
Wiring Diagram



30, 32, 40

(A.C.)



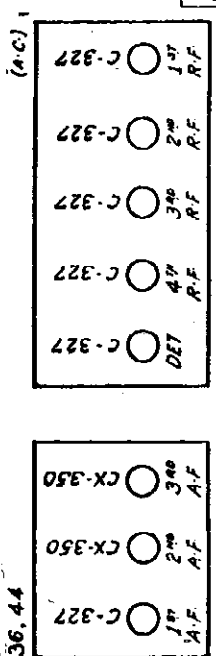
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST, R.F., DET., ETC.	READINGS, PLUG IN SOCKET OF SET				TUBE IN TESTER				
			A VOLTS	B VOLTS	S VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHARGE	
1	RA-1	1st. R.F.	15.0	156	14.0	130	6	6	6.6		
2	RA-1	2nd. R.F.	15.0	136	14.0	130	6	6	6.6		
3	RA-1	3rd. R.F.	15.0	136	14.0	130	6	6	6.6		
4	DK-1	Detector	2.5	88	2.1	20	"	6	.8		
5	RA-1	1st. A.F.	15.0	130	14.0	120	6	6	6.6		
6	SO-1	2nd. A.F. Push	15.0	200	14.0	180	40	"	18.0		
7	SO-1	2nd. A.F. Pull	15.0	200	14.0	180	40	"	18.0	22.0	4.0



SONORA PHONOGRAPH CO.

MODEL A36, A46  
Schematic

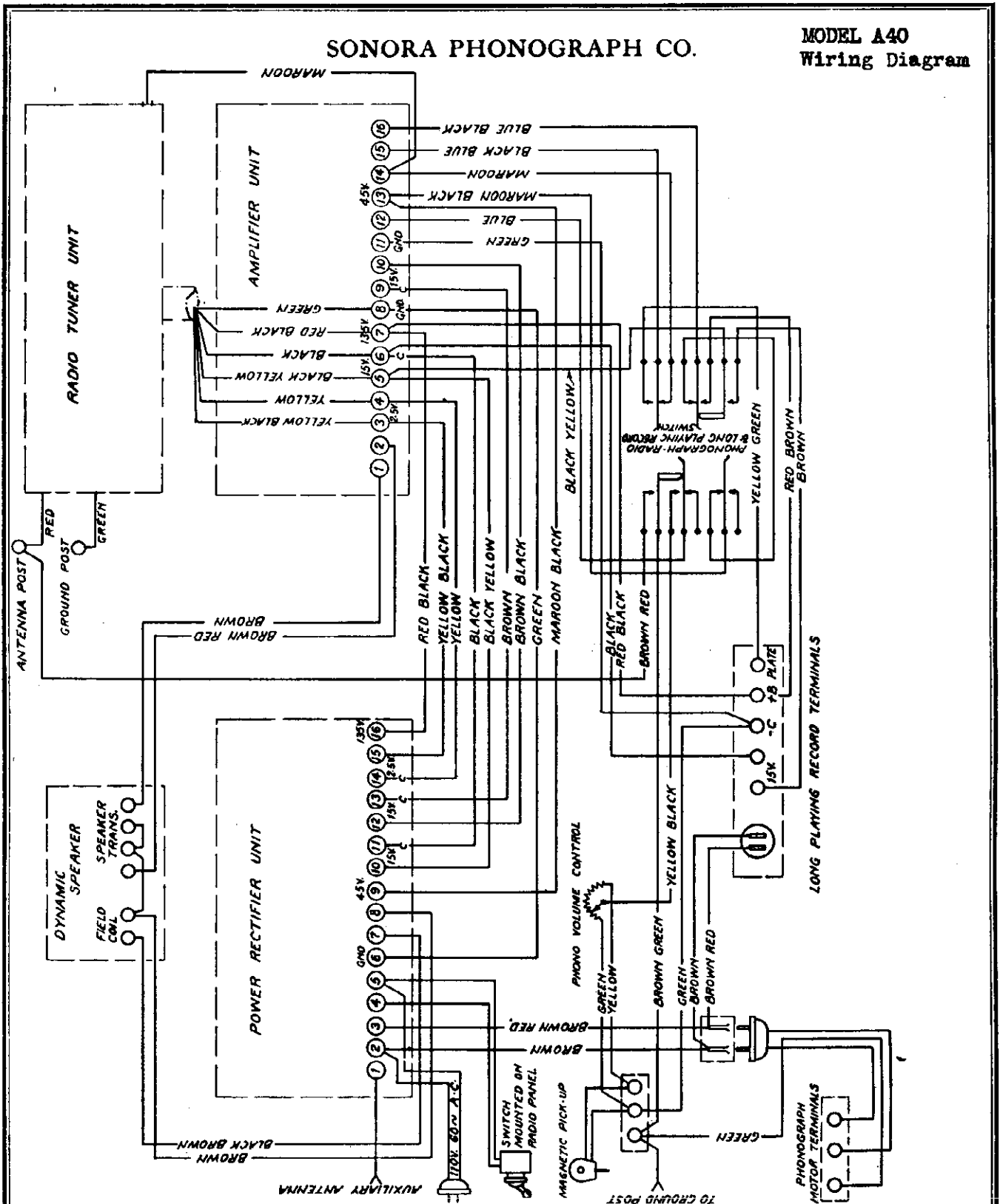
TYPE IN CHASSIS	TUBE TYPE	TUBE OUT		TUBE IN TESTER		E VOLTS	B VOLTS	A VOLTS	C VOLTS	PARTS PLATE M.C.C.D.	PARTS PLATE M.C.C.D.
		TYPE	TYPE	TYPE	TYPE						
1A-2	1ST. R.F.	1A-2	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-3	2ND. R.F.	1A-3	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-4	3RD. R.F.	1A-4	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-5	4TH. R.F.	1A-5	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-6	Detector	1A-6	60	60	20	5	1.2	1.2	0	1.2	0
1A-7	1st. A.F.	1A-7	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-8	2nd. A.F.	1A-8	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-9	3rd. A.F.	1A-9	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-10	4th. A.F.	1A-10	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-11	5th. A.F.	1A-11	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-12	6th. A.F.	1A-12	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-13	7th. A.F.	1A-13	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-14	8th. A.F.	1A-14	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-15	9th. A.F.	1A-15	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-16	10th. A.F.	1A-16	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-17	11th. A.F.	1A-17	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-18	12th. A.F.	1A-18	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-19	13th. A.F.	1A-19	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-20	14th. A.F.	1A-20	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-21	15th. A.F.	1A-21	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-22	16th. A.F.	1A-22	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-23	17th. A.F.	1A-23	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-24	18th. A.F.	1A-24	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-25	19th. A.F.	1A-25	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-26	20th. A.F.	1A-26	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-27	21st. A.F.	1A-27	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-28	22nd. A.F.	1A-28	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-29	23rd. A.F.	1A-29	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-30	24th. A.F.	1A-30	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-31	25th. A.F.	1A-31	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-32	26th. A.F.	1A-32	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-33	27th. A.F.	1A-33	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-34	28th. A.F.	1A-34	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-35	29th. A.F.	1A-35	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-36	30th. A.F.	1A-36	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-37	31st. A.F.	1A-37	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-38	32nd. A.F.	1A-38	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-39	33rd. A.F.	1A-39	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-40	34th. A.F.	1A-40	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-41	35th. A.F.	1A-41	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-42	36th. A.F.	1A-42	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-43	37th. A.F.	1A-43	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-44	38th. A.F.	1A-44	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-45	39th. A.F.	1A-45	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-46	40th. A.F.	1A-46	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-47	41st. A.F.	1A-47	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-48	42nd. A.F.	1A-48	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-49	43rd. A.F.	1A-49	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-50	44th. A.F.	1A-50	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-51	45th. A.F.	1A-51	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-52	46th. A.F.	1A-52	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-53	47th. A.F.	1A-53	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-54	48th. A.F.	1A-54	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-55	49th. A.F.	1A-55	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-56	50th. A.F.	1A-56	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-57	51st. A.F.	1A-57	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-58	52nd. A.F.	1A-58	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-59	53rd. A.F.	1A-59	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-60	54th. A.F.	1A-60	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-61	55th. A.F.	1A-61	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-62	56th. A.F.	1A-62	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-63	57th. A.F.	1A-63	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-64	58th. A.F.	1A-64	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-65	59th. A.F.	1A-65	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-66	60th. A.F.	1A-66	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-67	61st. A.F.	1A-67	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-68	62nd. A.F.	1A-68	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-69	63rd. A.F.	1A-69	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-70	64th. A.F.	1A-70	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-71	65th. A.F.	1A-71	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-72	66th. A.F.	1A-72	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-73	67th. A.F.	1A-73	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-74	68th. A.F.	1A-74	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-75	69th. A.F.	1A-75	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-76	70th. A.F.	1A-76	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-77	71st. A.F.	1A-77	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-78	72nd. A.F.	1A-78	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-79	73rd. A.F.	1A-79	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-80	74th. A.F.	1A-80	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-81	75th. A.F.	1A-81	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-82	76th. A.F.	1A-82	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-83	77th. A.F.	1A-83	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-84	78th. A.F.	1A-84	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-85	79th. A.F.	1A-85	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-86	80th. A.F.	1A-86	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-87	81st. A.F.	1A-87	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-88	82nd. A.F.	1A-88	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-89	83rd. A.F.	1A-89	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-90	84th. A.F.	1A-90	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-91	85th. A.F.	1A-91	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-92	86th. A.F.	1A-92	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-93	87th. A.F.	1A-93	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-94	88th. A.F.	1A-94	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-95	89th. A.F.	1A-95	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-96	90th. A.F.	1A-96	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-97	91st. A.F.	1A-97	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-98	92nd. A.F.	1A-98	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-99	93rd. A.F.	1A-99	110	110	102	5	4.0	5.4	5.4	5.4	5.4
1A-100	94th. A.F.	1A-100	110	110	102	5	4.0	5.4	5.4	5.4	5.4





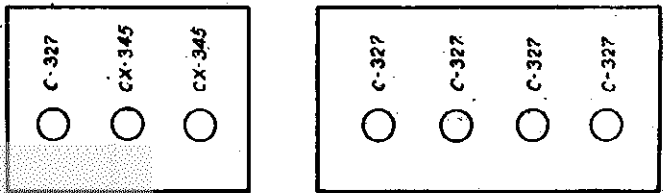
SONORA PHONOGRAPH CO.

MODEL A40  
Wiring Diagram



TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. RT. SOCKET, ETC.	READINGS, PLUS IN SOCKET OF SET						TUBE IN TESTER		
			TUBE OUT		TUBE IN TESTER		CATHODE VOLTS	NORMAL PLATE M.A. @ 250V. TEST	PLATE M.A. @ 250V. TEST	PLATE M.A. @ 250V. TEST	
A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS							
1	RA-1	1st. R.F.	15.0	136	14.0	130	6	6.6	12.0	5.0	
2	RA-1	2nd. R.F.	15.0	136	14.0	130	6	6.6	12.0	5.0	
3	RA-1	3rd. R.F.	15.0	136	14.0	130	6	6.6	12.0	5.0	
4	DE-1	Detector	2.5	88	2.1	20	-	6.6	12.0	5.0	
5	2A-1	1st. A.F.	15.0	130	14.0	120	6	6.6	12.0	5.0	
6	80-1	2nd. A.Y. Push	15.0	200	14.0	180	40	18.0	22.0	4.0	
7	80-1	2nd. A.F. Pull	15.0	200	14.0	180	40	18.0	22.0	4.0	

30, 32, 40



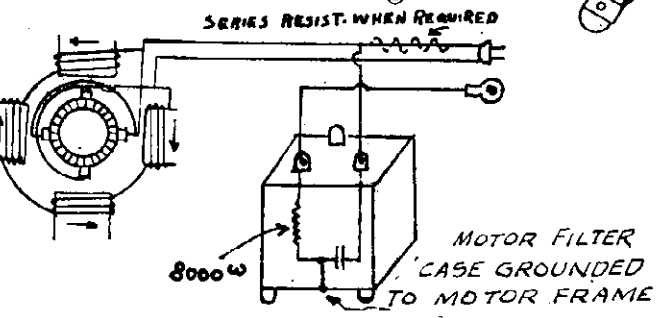
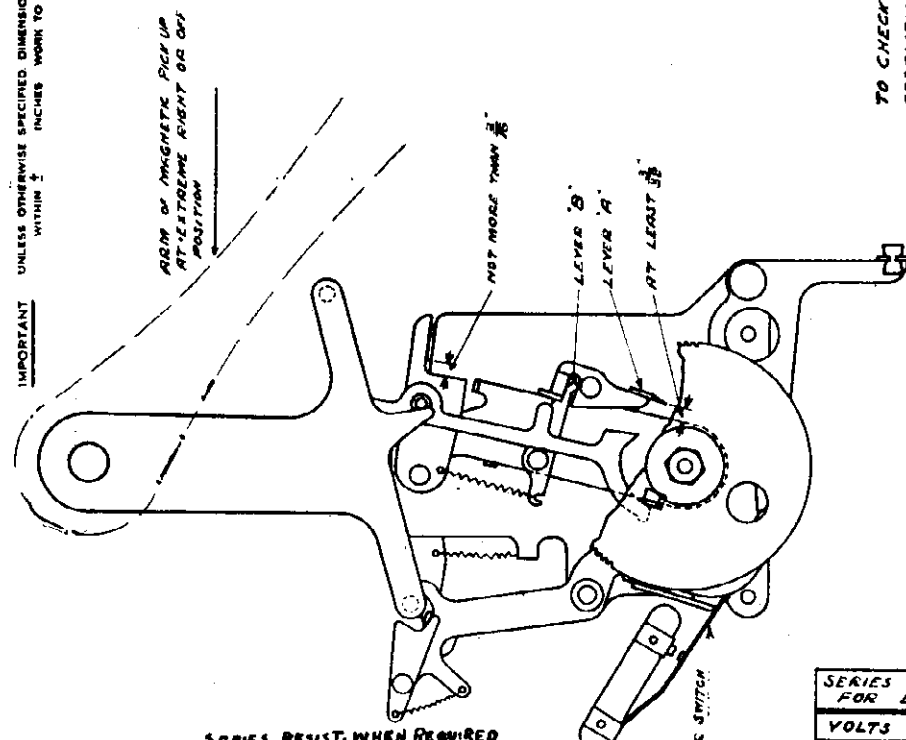
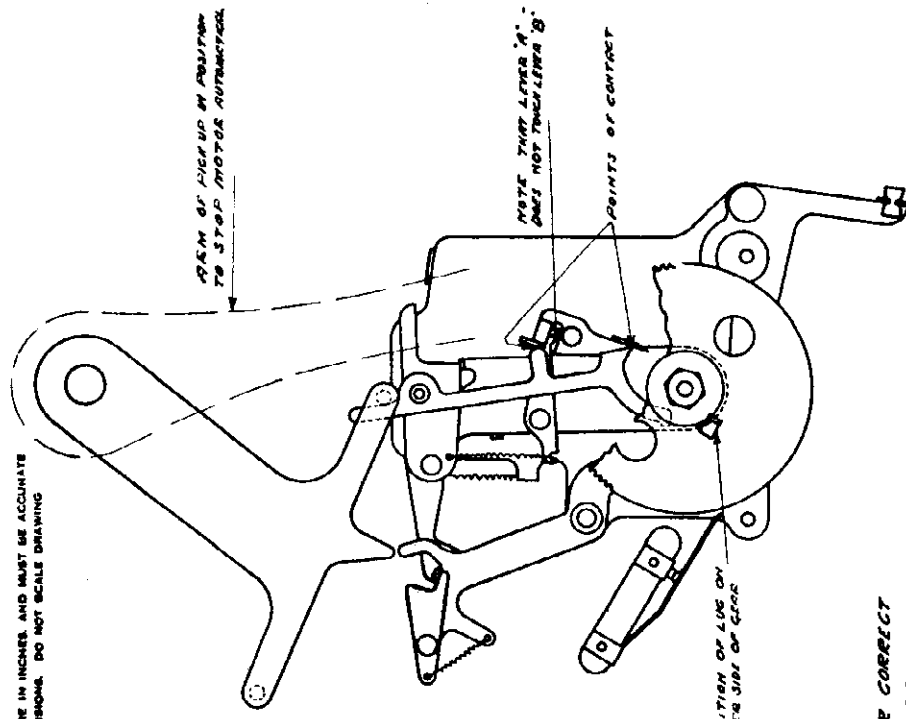
CX-380 USED IN SEPARATE POWER UNIT





SONORA PHONOGRAPH CO.

MODEL 2M  
Automatic Stop



TO CHECK FOR CORRECT ASSEMBLY OF AUTOMATIC STOP MECHANISM OF TYPE 2M MELOPHON MOTOR

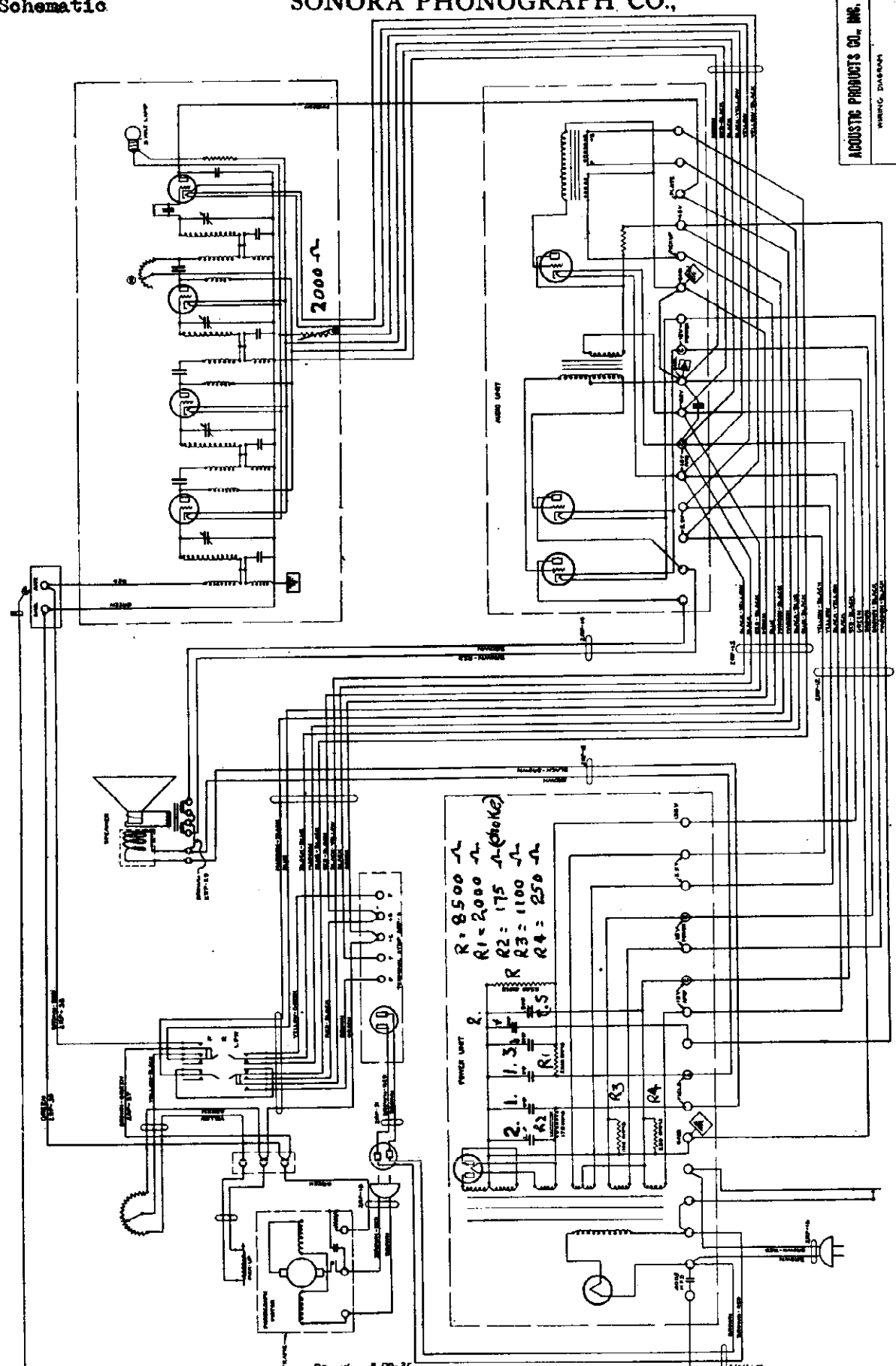
SERIES RESISTANCES REQUIRED FOR DIFFERENT VOLTAGES.			
VOLTS	CYCLES	OHMS	WATTS
110	60	NONE	
110	50	25	100
110	40	60	100
110	25	110	100
110	DC.	165	100
220	60	210	200
220	25	330	200
32	DC.	NONE	

MATERIAL AND SPECIFICATION		UNIT PRICE AND NO.	WEIGHT PER UNIT
AUTOMATIC STOP MECHANISM OF TYPE 2M MOTOR			
SONORA PHONOGRAPH CO. INC. NEW YORK, N.Y.		PART NO.	
DATE	BY	APPROVED BY	
12-18-37			
SCALE			ED SERVICE DEPT DWG # 38

MODEL 2RP 25 Cycle  
Schematic

SONORA PHONOGRAPH CO.,

ACOUSTIC PRODUCTS CO., INC.  
 DRAWING DESIGNER  
 FOR CONSULTATION  
 MODEL NO. 2RP  
 DATE: APR 13 1934  
 DRAWING NUMBER: 2RP-25  
 SCALE: 1/8" = 1"



Model 2RP 25

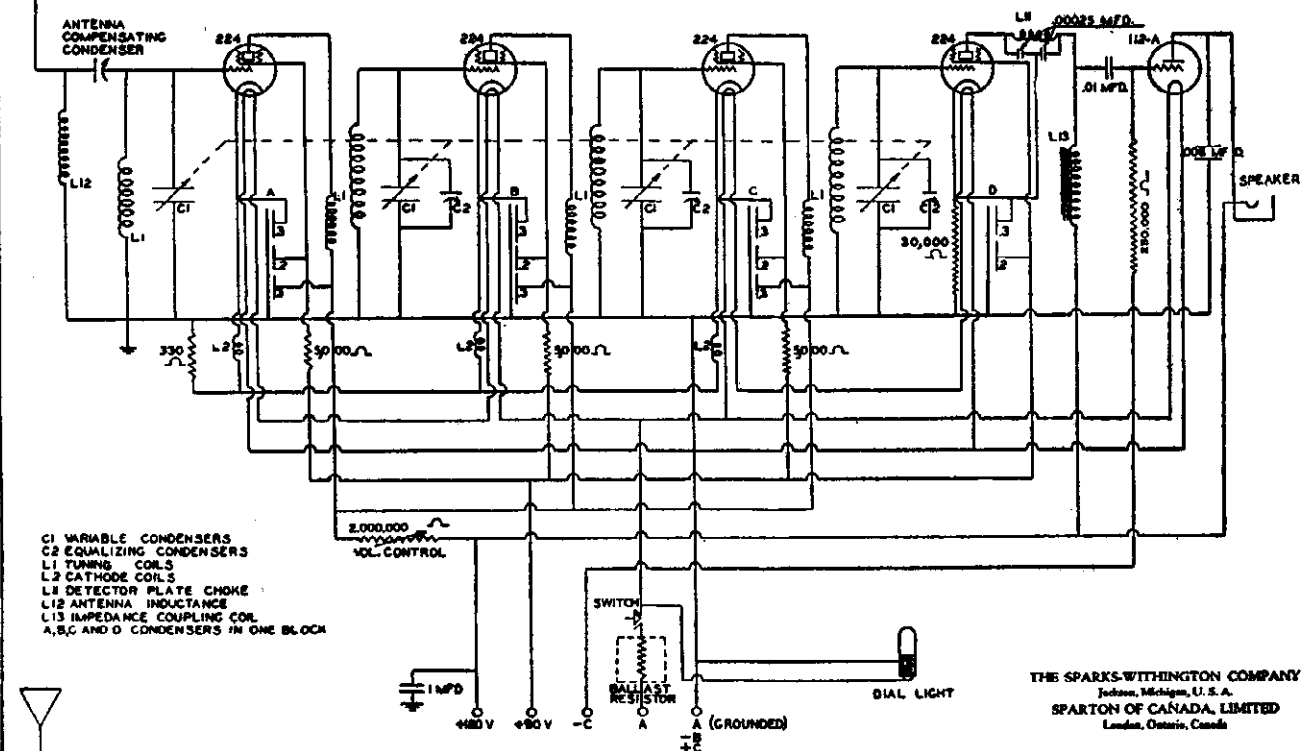
Brown 2RP-36

2RP-25

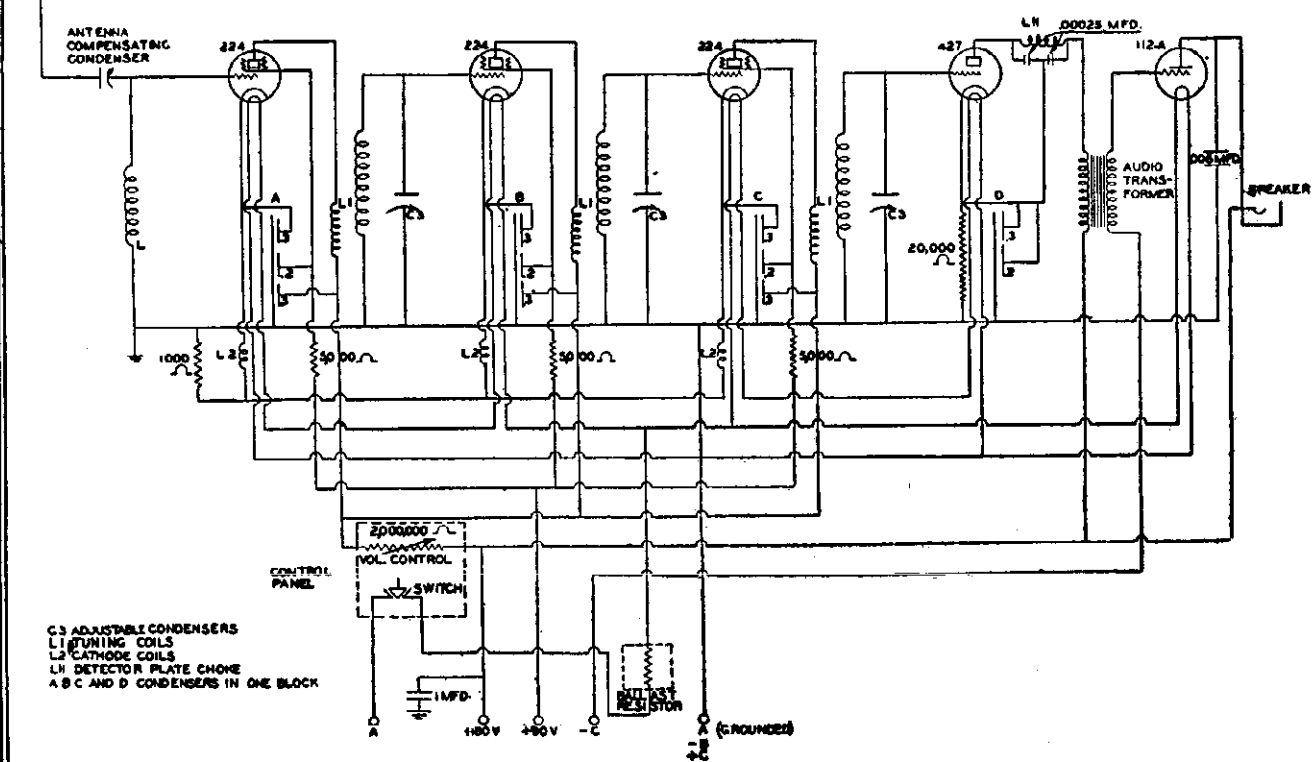
SPARKS WITHINGTON CO.

MODEL AR-19  
MODEL AR-50  
Schematic

MODEL A.R.-19



MODEL AR-50  
POLICE AUTOMOBILE RADIO

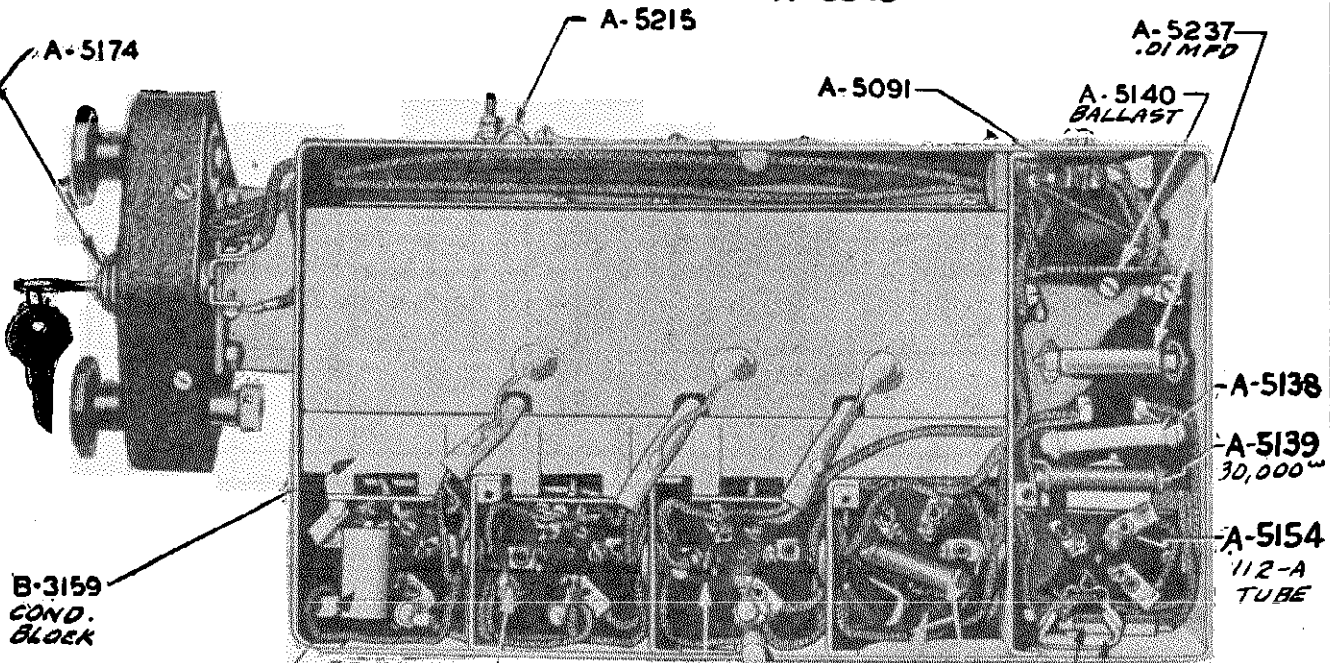
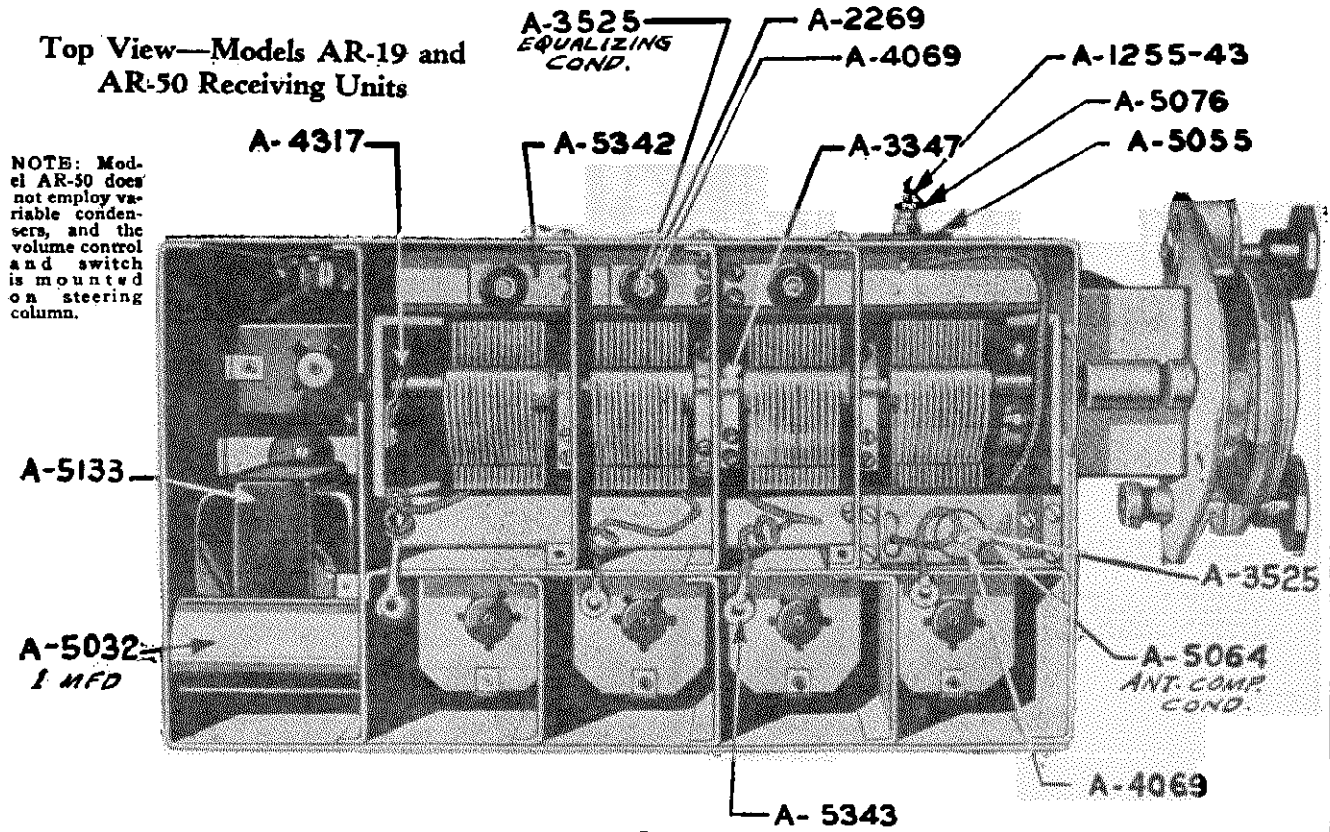


MODEL AR-19  
MODEL AR-50  
Chassis

SPARKS WITHINGTON CO.

Top View—Models AR-19 and AR-50 Receiving Units

NOTE: Model AR-50 does not employ variable condensers, and the volume control and switch is mounted on a steering column.



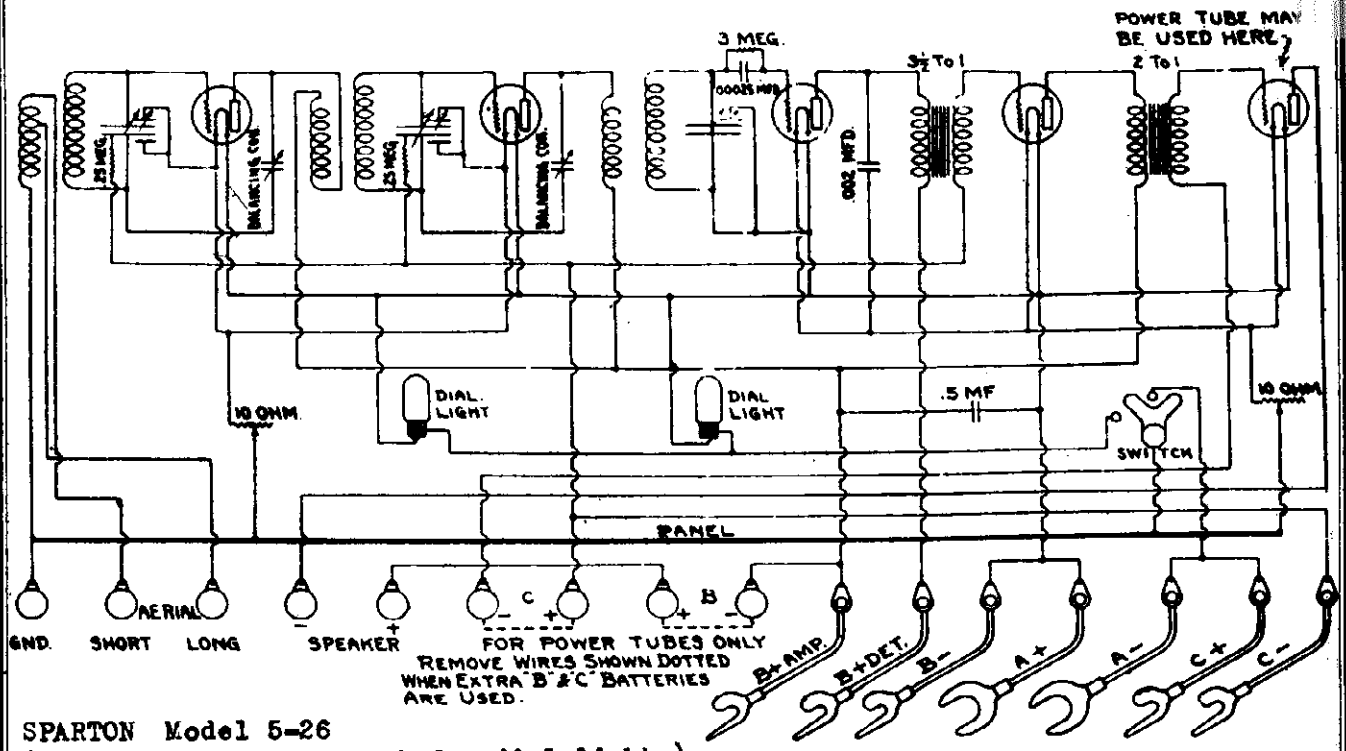
Bottom View  
Models AR-19 and AR-50 Receiving Units

NOTE: In Model AR-50, A-5139 resistor is replaced with A-4261 resistor; A-5174 key switch is replaced with A-5903 toggle switch.

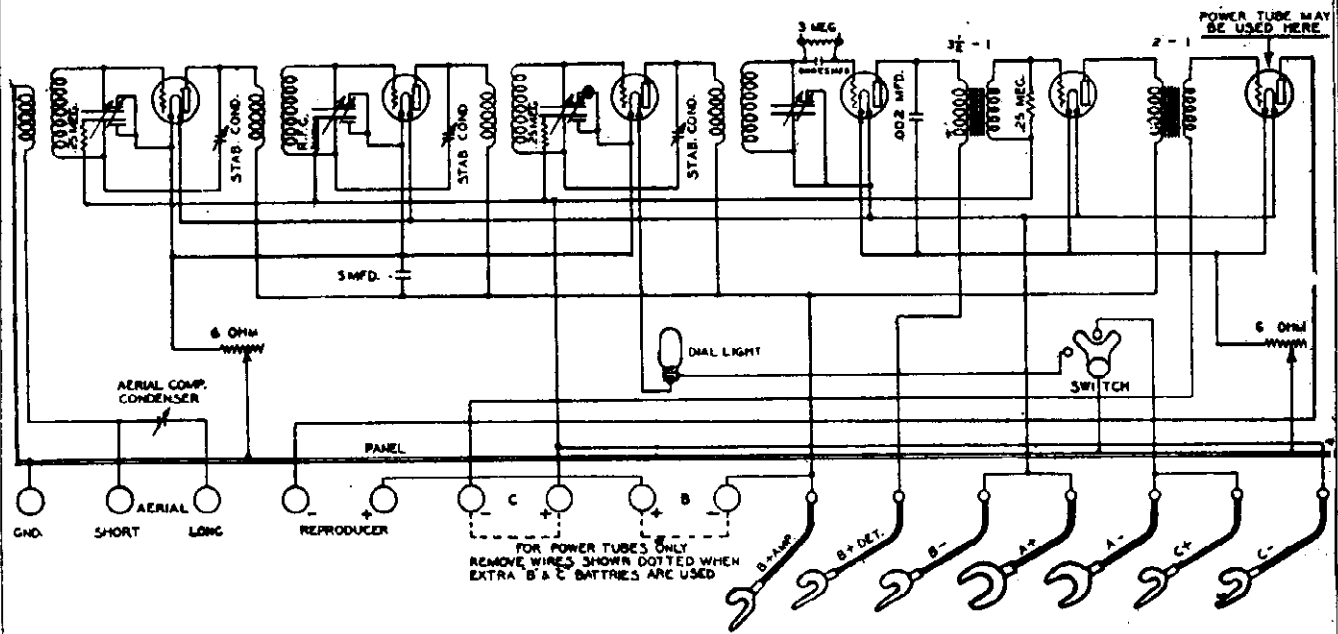
PART #A5217 FOR SPARK PLUG—.01 MFD  
PART #A5258 FOR GENERATOR—.01 MFD

SPARKS WITHINGTON, CO.

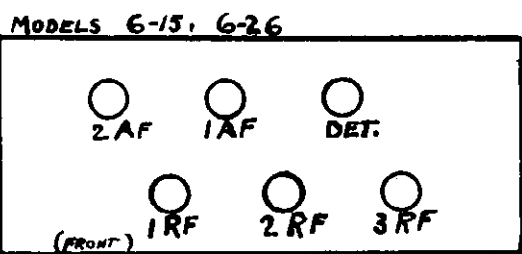
- MODEL 5-15
- MODEL 5-26
- MODEL 6-15
- MODEL 6-26



SPARTON Model 5-26  
(Model 5-15 same except for dial light.)



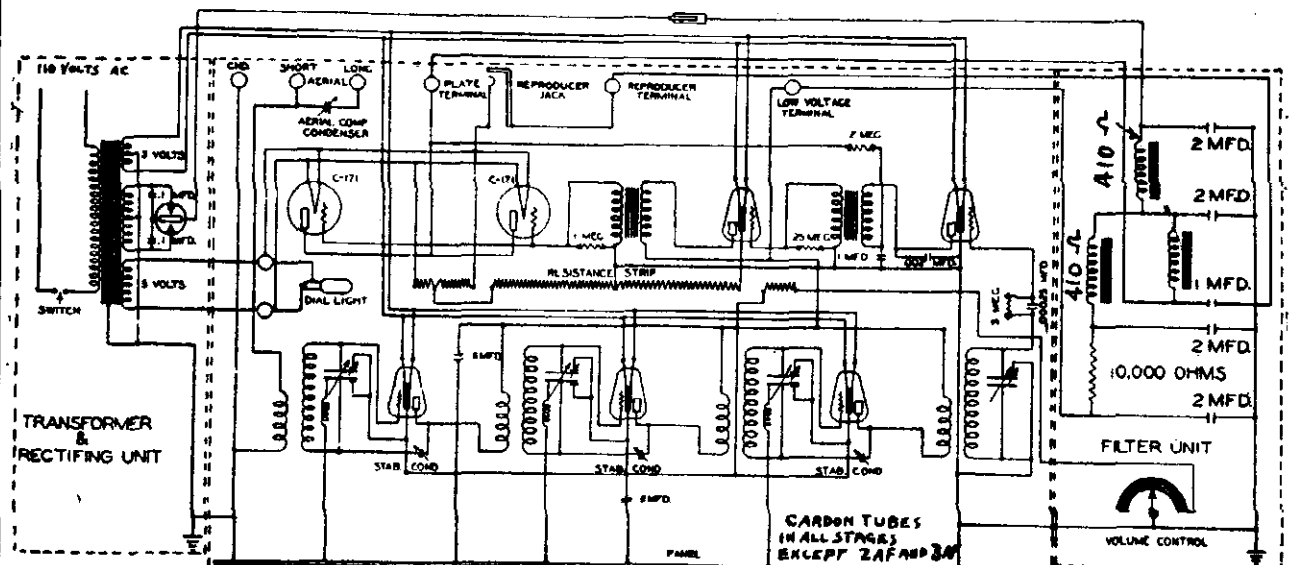
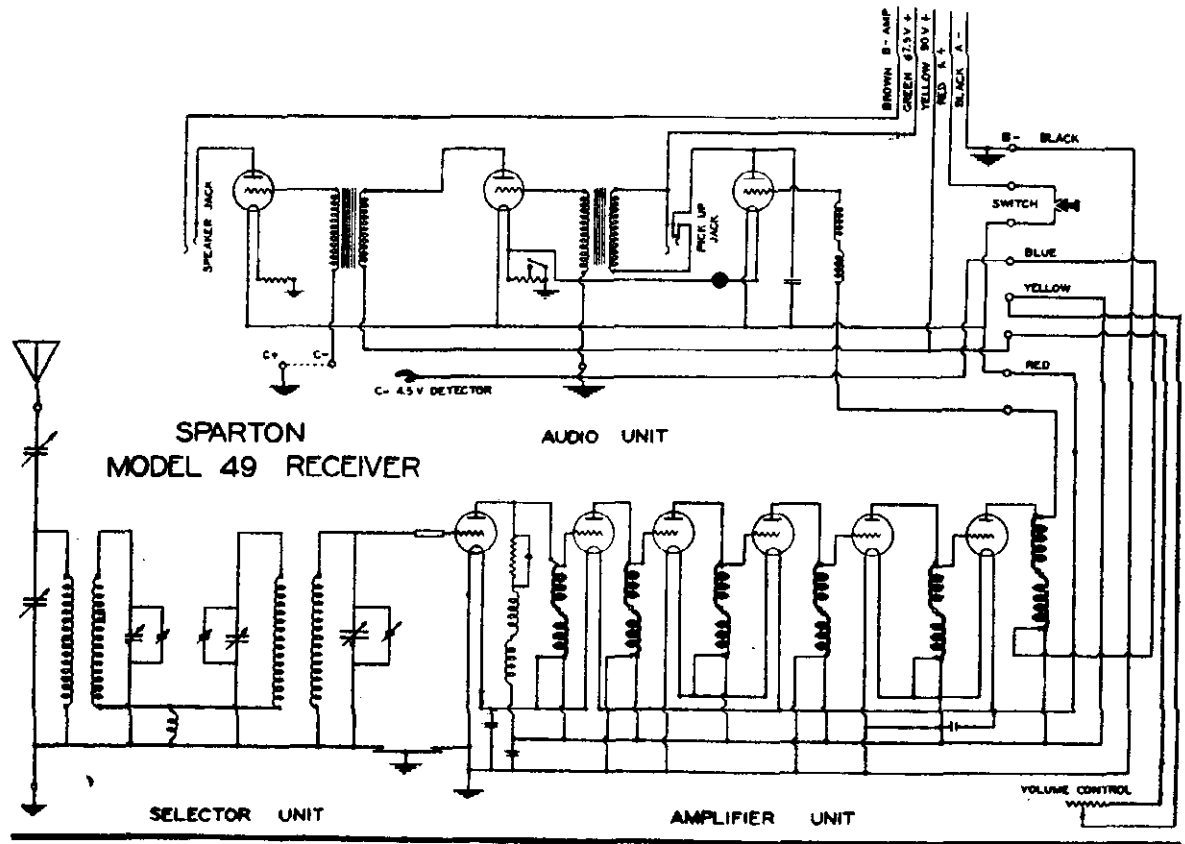
SPARTON MODEL 6-26  
MODEL 6-15 SAME EXCEPT FOR  
DIAL LIGHT & A.F. RHEOSTAT





SPARKS WITHINGTON CO.

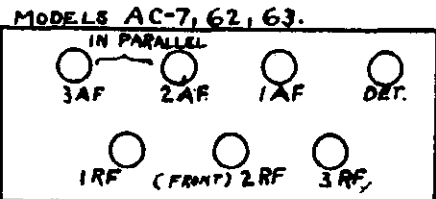
MODEL 49  
MODEL AC-7, 62, 63  
Schematic, Voltage



SPARTON AC 62, 62 and AC 7.

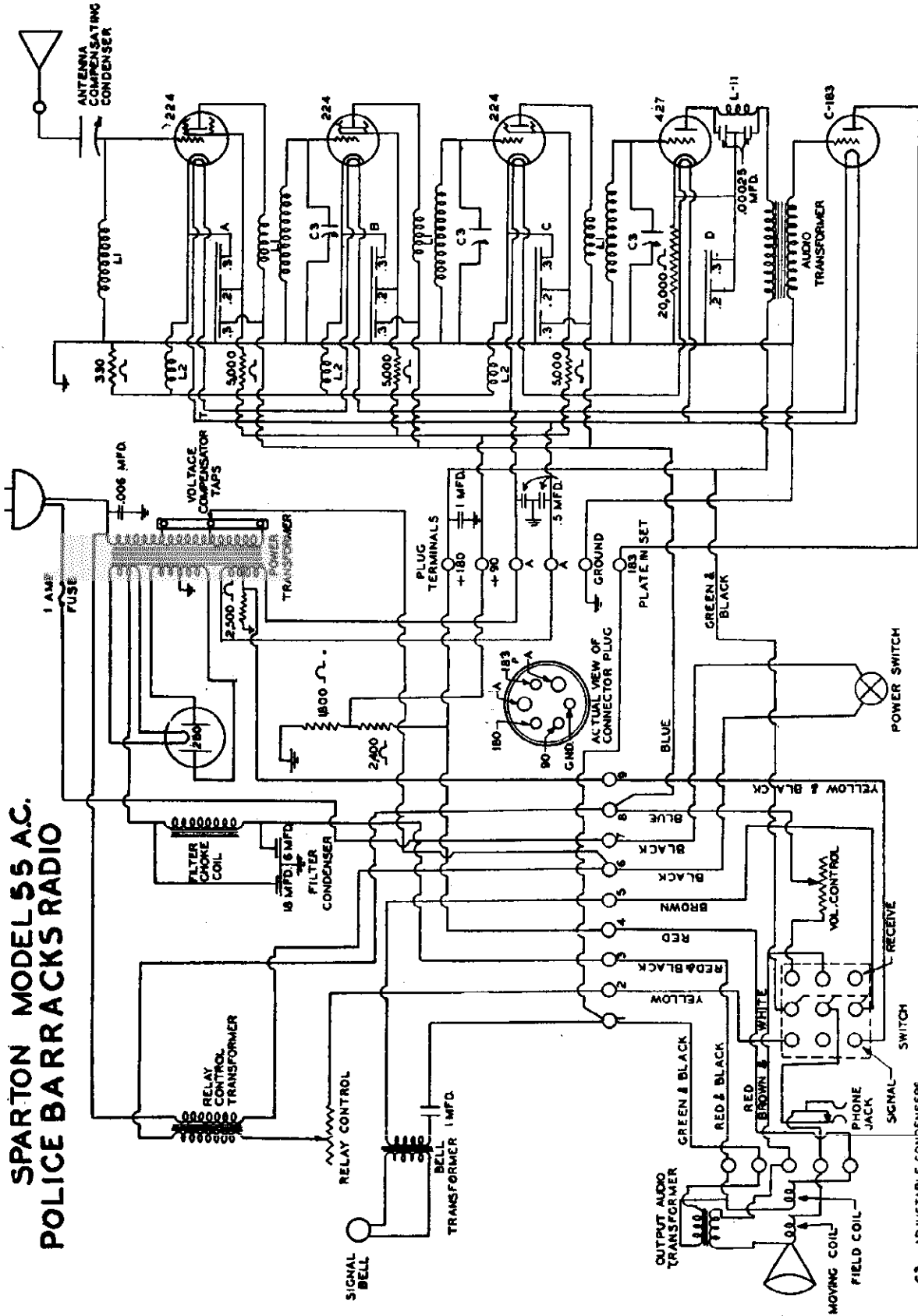
Tube	File V.	Grid V.	Plate V.
1RF	3	2	150
2RF	3	2	150
3RF	3	2	150
Det	3	-	30
1AF	3	6	150
2AFP	5	40	210
3AFP	5	40	210

SPARTON  
AC-62-63-AC-7  
RECEIVER



MODEL 55  
Police Desk  
Schematic

SPARKS WITHINGTON CO.  
SPARTON OF CANADA LTD.



SPARTON MODEL 55 A.C.  
POLICE BARRACKS RADIO

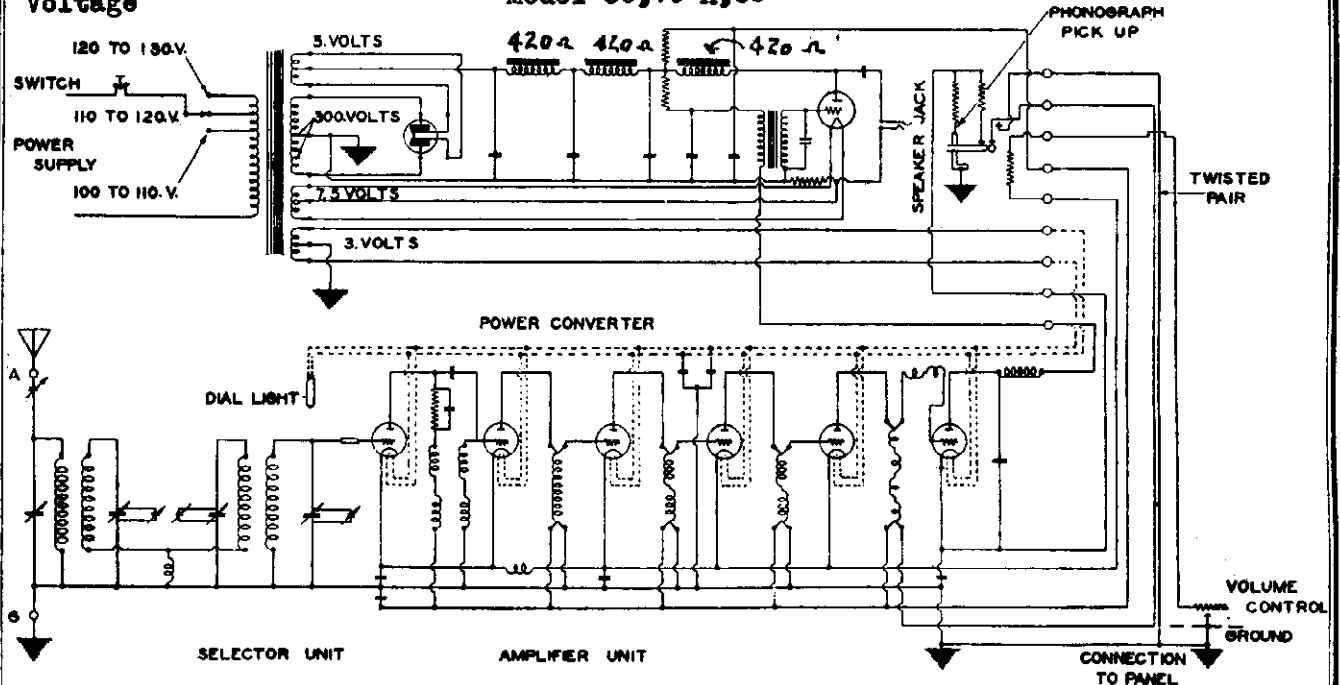
- C3 ADJUSTABLE CONDENSERS
- L1 TUNING COILS
- L2 CATHODE COILS
- L3 DETECTOR PLATE CHOKES
- A, B, C, D CONDENSERS IN ONE BLOCK



MODEL 69,79-A,89  
Schematic  
MODEL 89-A  
Schematic  
Voltage

SPARKS WITHINGTON CO.

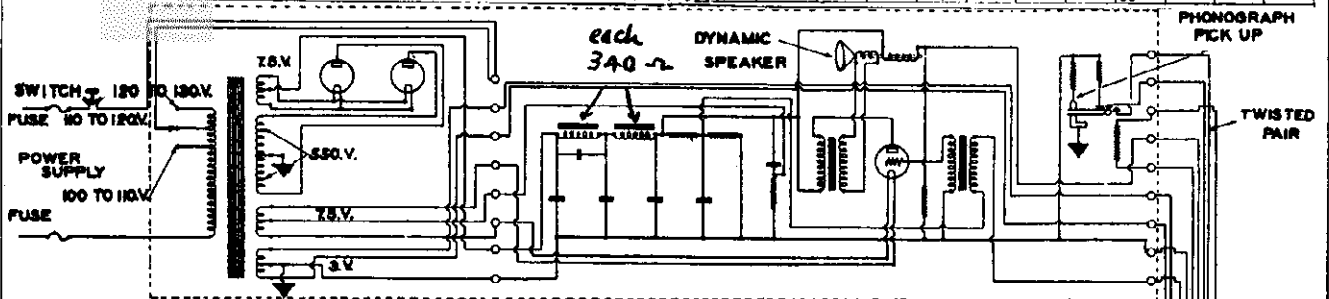
Model 69,79-A,89



SPARTON—Model 79-A.89 - 69  
Line Voltage 120—Volume Control Full

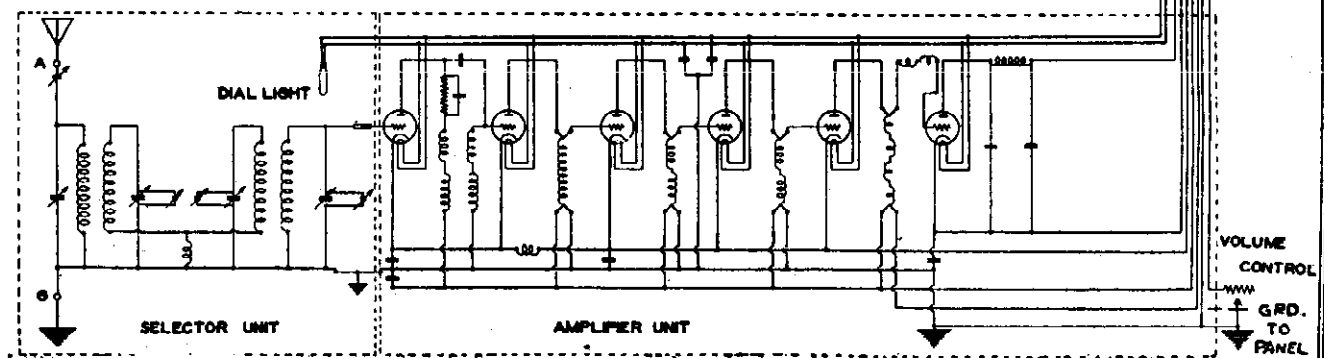
SPARTON—Model 89-A  
Line Voltage 120—Volume Control Full

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1st RF DET. ETC.	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT					TUBE IN TESTER				
			A VOLTS	B VOLTS	C VOLTS	CATHODE HEATER VOLTS	NORMAL PLATE M.A. TEST	PLATE M.A. CHANGE	SCREEN GRID VOLTS	PLATE M.A. TEST	PLATE M.A. CHANGE	SCREEN GRID VOLTS
1	C-484	1st RF	3.2	158	3	128	9	7.8	10.0	3.6		
2	C-484	2nd RF	3.2	158	3	158	9	7.8	13.0	5.2		
3	C-484	3rd RF	3.2	158	3	158	9	5.5	10.0	5.3		
4	C-484	4th RF	3.2	160	3	158	9	7.9	14.4	6.5		
5	C-484	5th RF	3.2	160	3	158	9	7.4	13.2	5.8		
6	C-484	6th RF	3.2	245	3	220	10	1.7	6.0	4.3		
7	585	Ph. Amp.	310	7.4	220	38	25	29	4			
8	280	Rect.	-	5.1	-	-	28	-	-	-		



POWER CONVERTER

Model 89-A



**Resistor Data**

**SPARKS WITHINGTON CO.**

**STANDARD RESISTOR COLOR CODE AND RESISTORS USED IN SPARTON RADIO RECEIVING SETS AND SPARTON ENSEMBLES**

**Standard Resistor Color Code**

- |          |          |
|----------|----------|
| 0—Black  | 5—Green  |
| 1—Brown  | 6—Blue   |
| 2—Red    | 7—Violet |
| 3—Orange | 8—Gray   |
| 4—Yellow | 9—White  |

To determine the value of a resistor, the first significant figure of resistance value is represented by the color of the body of the resistor, and the second

figure of resistance value by the color of the tip of the resistor. The number of ciphers following the second figure is determined by the color of the dot or stripe in the center of the body of the resistor. For example, a 20,000 ohm resistor has a red body, black tip, with orange dot or orange stripe. A 2,200 ohm resistor would be red body, with red tip and red dot, or red stripe, and as all colors are the same, it would be a single color resistor.

**CARBON RESISTORS**

Part No.	Ohms	Watts	Body	Tip	Dot Stripe
B-4114-11	200	.5	Red	Black	Brown
B-4114-3	250	.5	Red	Green	Brown
B-4114-1	500	.5	Green	Black	Brown
B-4114-13	1,000	.5	Brown	Black	Red
A-3397	1,000	2	Light Brown		
A-3397	1,000	2	Brown	Black	Red
A-3750	1,250	3	Brown	Orange	Red
A-3750	1,250	3	Black	Silver	Orange
A-3750	1,250	3	Black		
A-3750	1,250	3	Slate		
A-3325	1,700	2	Dark Brown		
A-3639	1,700	5	Gray	Silver	
A-4613	1,700	1	Brown	Violet	Red
A-5550	2,000	.5	Red	Black	Red
B-4114-6	Use A-5550				
A-5622	2,500	3	Red	Green	Red
A-3232	2,800	.5	Black	Paper Label	
A-4122	2,800	.5	Gray		
A-4122	2,800	.5	Red		
A-4653	2,800	.5	Red	Gray	Red
A-5180	5,000	.5	Green	Black	Red
B-4114-16	Use A-5180				
B-4114-20	Use A-5180				
B-4114-25	7,000	.5	Violet	Black	Red
B-4114-2	8,000	.5	Gray	Black	Red
A-3764-C	10,000	4	Blue		
A-3735	10,000	5	Brown	Black	Orange
A-3735	10,000	5	Gray	Silver	Blue
A-4614	10,000	1	Brown	Black	Orange
B-4114-7	10,000	.5	Brown	Black	Orange
B-4114-5	10,000	.3	Brown	Black	Orange
A-4107	15,000	5	Brown	Green	Orange
A-4107	15,000	5	Gray	Silver	
B-4114-23	15,000	.5	Yellow	Black	Orange
A-2934	20,000	2	Green		
A-2934	20,000	2	Red	Black	Orange
A-3422	20,000	3	Gray		Green
A-3422	20,000	3	Red	Black	Orange
A-4261	20,000	5	Red	Black	Orange
A-4261	20,000	5	Gray	Silver	Blue
B-4114-14	20,000	.5	Red	Black	Orange
B-4114-24	Use B-4114-14				
A-7111	25,000	4.5	Red	Green	Orange

SPARKS WITHINGTON CO.

Resistor Data

CARBON RESISTORS—Continued

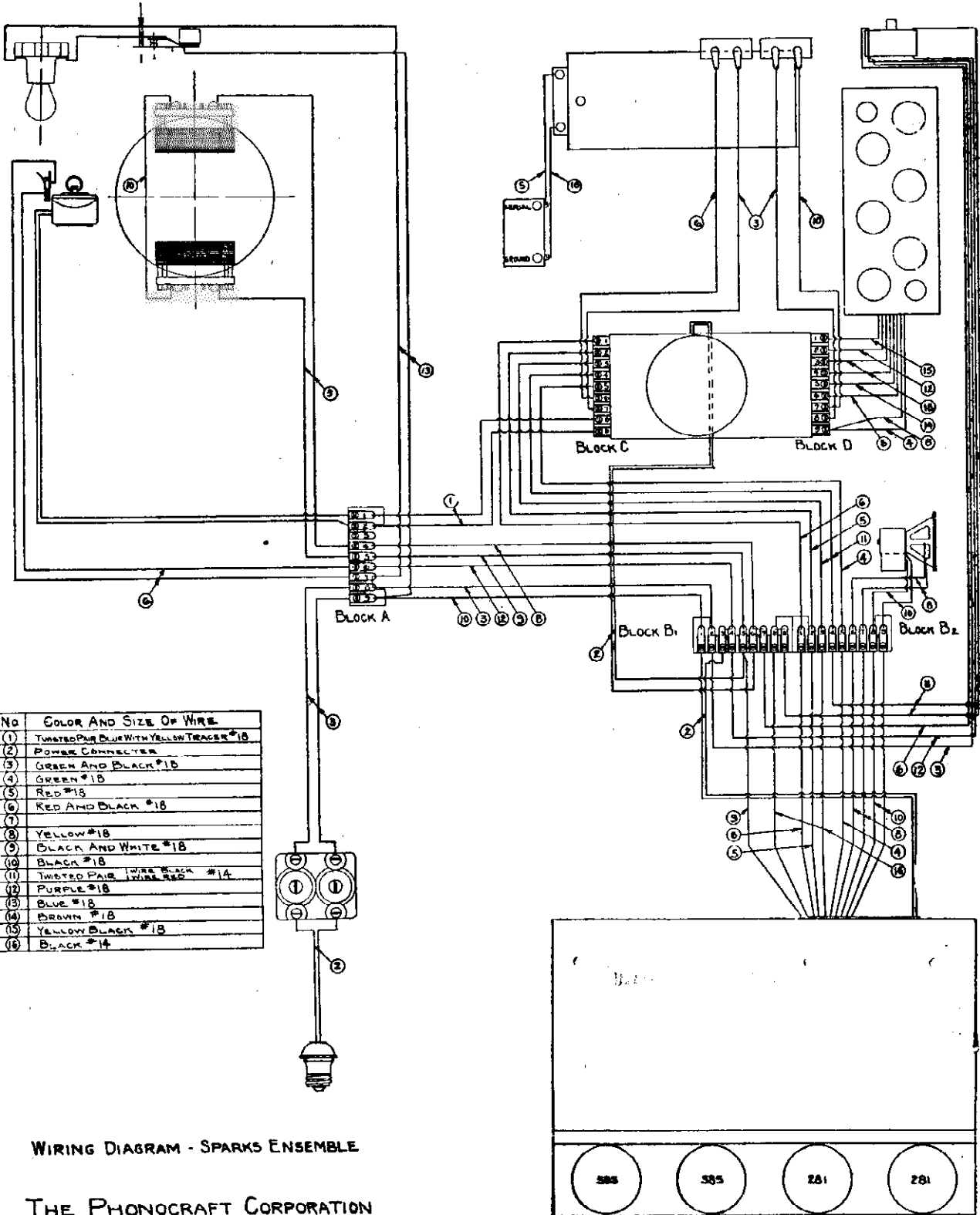
Part No.	Ohms	Watts	Body	Tip	Dot Stripe
B-4114-18	25,000	.5	Red	Green	Orange
A-5139	30,000	1	Orange	Black	
B-4114-19	30,000	.5	Orange	Black	Orange
B-4114-22	40,000	.5	Yellow	Black	Orange
A-3423	50,000	3	Gray		Red
A-3423	50,000	3	Green	Black	Orange
B-4114-12	50,000	.5	Green	Black	Orange
B-4114-15	60,000	.5	Blue	Black	Orange
A-5354	100,000	1	Brown	Black	Yellow
B-4114-10	100,000	.5	Brown	Black	Yellow
B-4114-8	150,000	.5	Brown	Green	Yellow
A-2702-5	200,000		Glass		
B-4114-17	200,000	.5	Red	Black	Yellow
A-1514	250,000		Glass		
A-4234	250,000	1	Red	Green	Yellow
A-5270	Use A-4234				
B-4114-4	250,000	.5	Red	Green	Yellow
A-2702-6	Use A-1514				
A-5269	500,000	1	Green	Black	Yellow
B-4114-9	500,000	.5	Green	Black	Yellow
A-5138	1,000,000	1	Brown	Black	Green
B-4114-21	1,000,000	.5	Brown	Black	Green
A-2702-11	1,000,000		Glass		
A-1515	3,000,000		Glass		
A-2702-13	Use A-1515		Glass		

WIRE WOUND RESISTORS

Part No.	Ohms	Watts	Color	Type	Part No.	Ohms	Watts	Color	Type
A-7411	.43			Special	A-7118	250	1	Blue	Wire Wound
A-6890	.54	2.5	5-23/32"	Wire	A-5137	330	1	Gray	Wire Wound
A-6889	.67	2.5	7-7/64"	Wire	A-3536	900	10	Black	Wire Wound
A-5863	2	5	Blue	Wire Wound	A-7119	1,050	7.5	Blue	Wire Wound
A-4363	7	20	Blue	Wire Wound	A-7018	1,250	4		Candohm
A-7509	8-9			Wire Wound	A-4974	1,250	5	Gray	Candohm
A-5140	(.11 ohms per ft. at 20° C.)			Wire	A-6617	1,500	2	Brown	Braided
A-5862	12	10	Blue	Wire Wound	A-3383	3,000	10	Black	Wire Wound
A-4364	12	30	Blue	Wire Wound	A-3535	7,000	10	Black	Wire Wound
A-5890	14	10	Blue	Wire Wound	A-4583	Use A-3535			
A-4366	15	50	Blue	Wire Wound	A-2043	10,000	6	Black	Wire Wound
A-7421	35	.25	Red	Braided	A-4356	20,000		Blue	Wire Wound
A-5889	54	175	Blue	Wire Wound	A-3811	30,000	.5	Black	Wire Wound
A-5861	57	175	Blue	Wire Wound	A-3642	(6.04 ohms per ft. at 20° C.)			Wire Wd. Tap.
A-4365	63	10	Blue	Wire Wound	A-4260	2,000-7,000	20	Black	Wire Wd. Tap.
A-3590	110	1	Black	Wire Wound	A-5426	1,800-2,400	8	Blue	Wire Wd. Tap.
A-4670	110	1	Black	Wire Wound	A-5870	Use A-5426			
A-4915	110	1	Black	Candohm	A-6619	2,900-3,000	15	Blue	Wire Wd. Tap.
A-7427	160	1	Blue	Wire Wound	A-7120	2,400-3,200	4.5	Blue	Wire Wd. Tap.
A-6618	200	.5	Red	Braided	A-7461	3,900-4,300		Blue	Wire Wd. Tap.
A-5502	200	1	Red	Candohm	A-6977	5,500-6,000	7	Blue	Wire Wd. Tap.
A-6976	230	3	Blue	Wire Wound	A-7462	60-220-2,100		Blue	Wire Wd. Tap.

MODEL 99  
Ensemble  
Assembly  
Wiring

SPARKS WITHINGTON CO.



No	COLOR AND SIZE OF WIRE
(1)	TWISTED PAIR BLUE WITH YELLOW TRACER *18
(2)	POWER CONNECTER
(3)	GREEN AND BLACK *18
(4)	GREEN *18
(5)	RED *18
(6)	RED AND BLACK *18
(7)	
(8)	YELLOW *18
(9)	BLACK AND WHITE *18
(10)	BLACK *18
(11)	TWISTED PAIR (WIRE BLACK WIRE RED) *14
(12)	PURPLE *18
(13)	BLUE *18
(14)	BROWN *18
(15)	YELLOW BLACK *18
(16)	BLACK *14

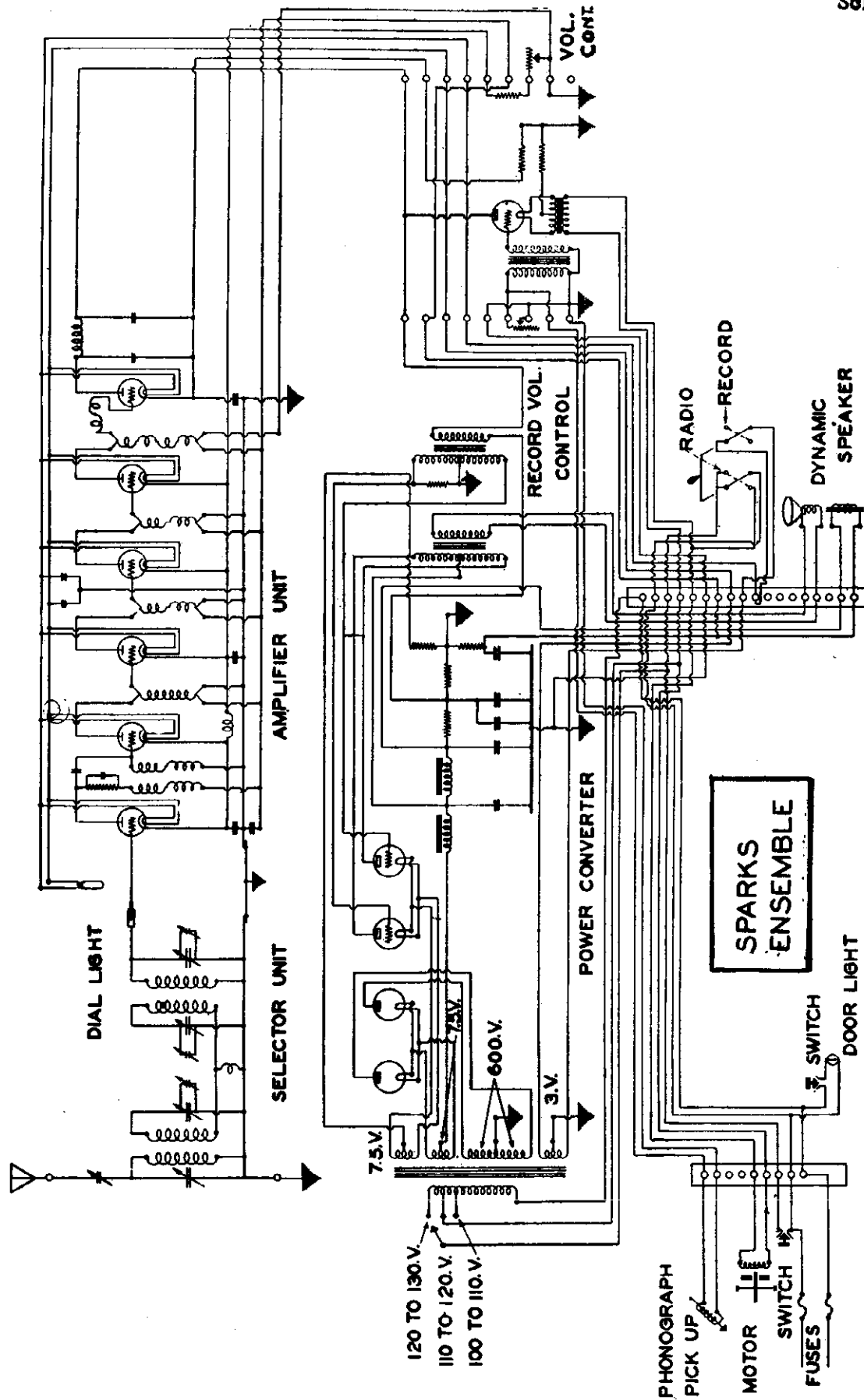
WIRING DIAGRAM - SPARKS ENSEMBLE

THE PHONOCRAFT CORPORATION

APPROVED BY: *[Signature]*

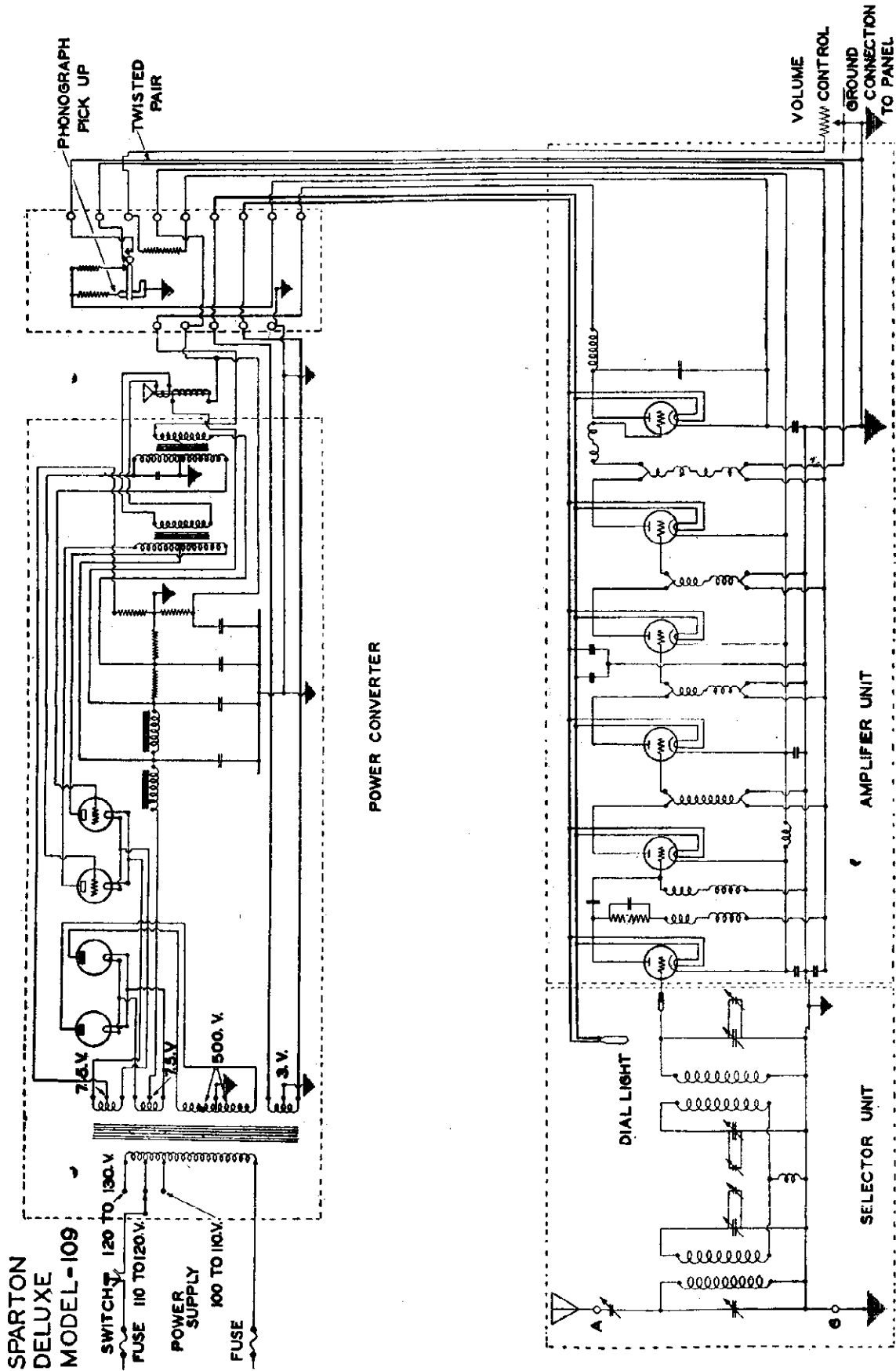
SPARKS WITHINGTON CO.

MODEL 99  
Ensemble  
Schematic



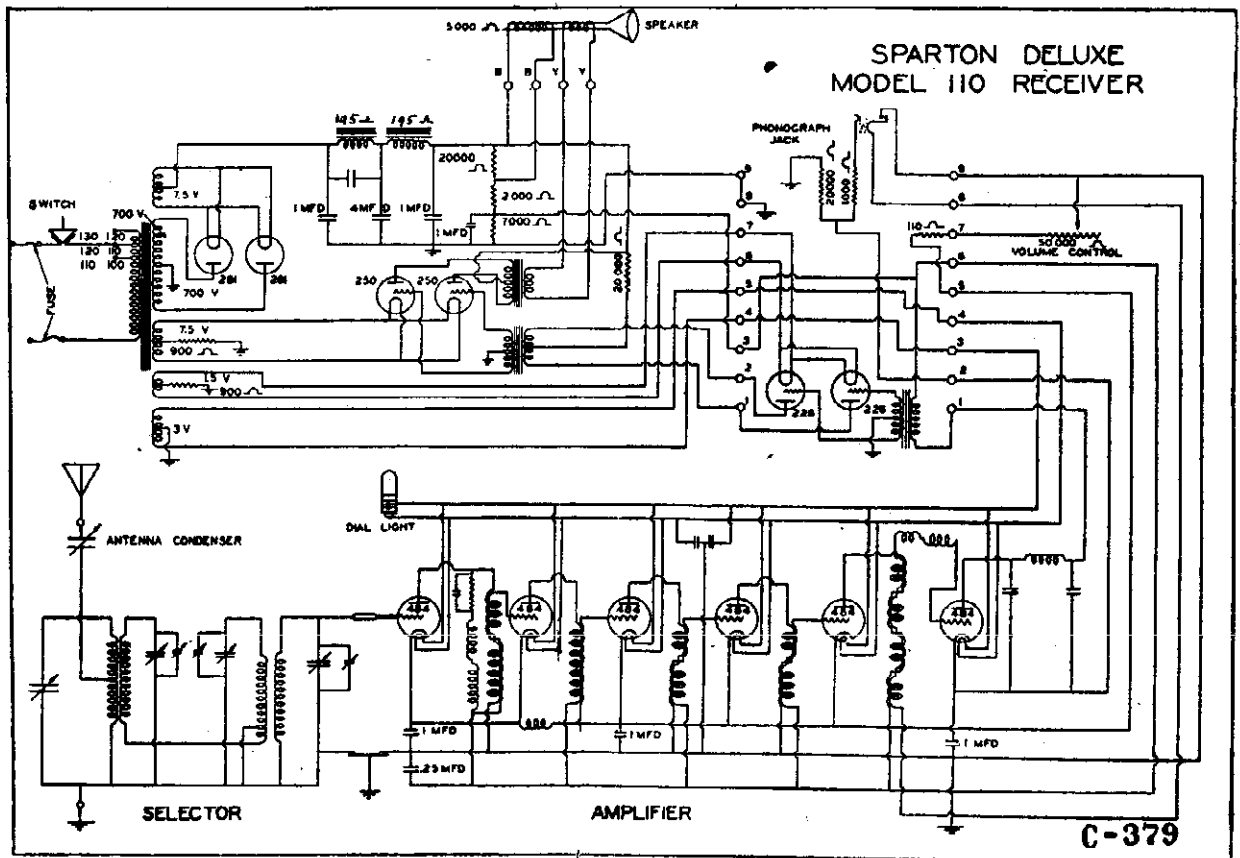
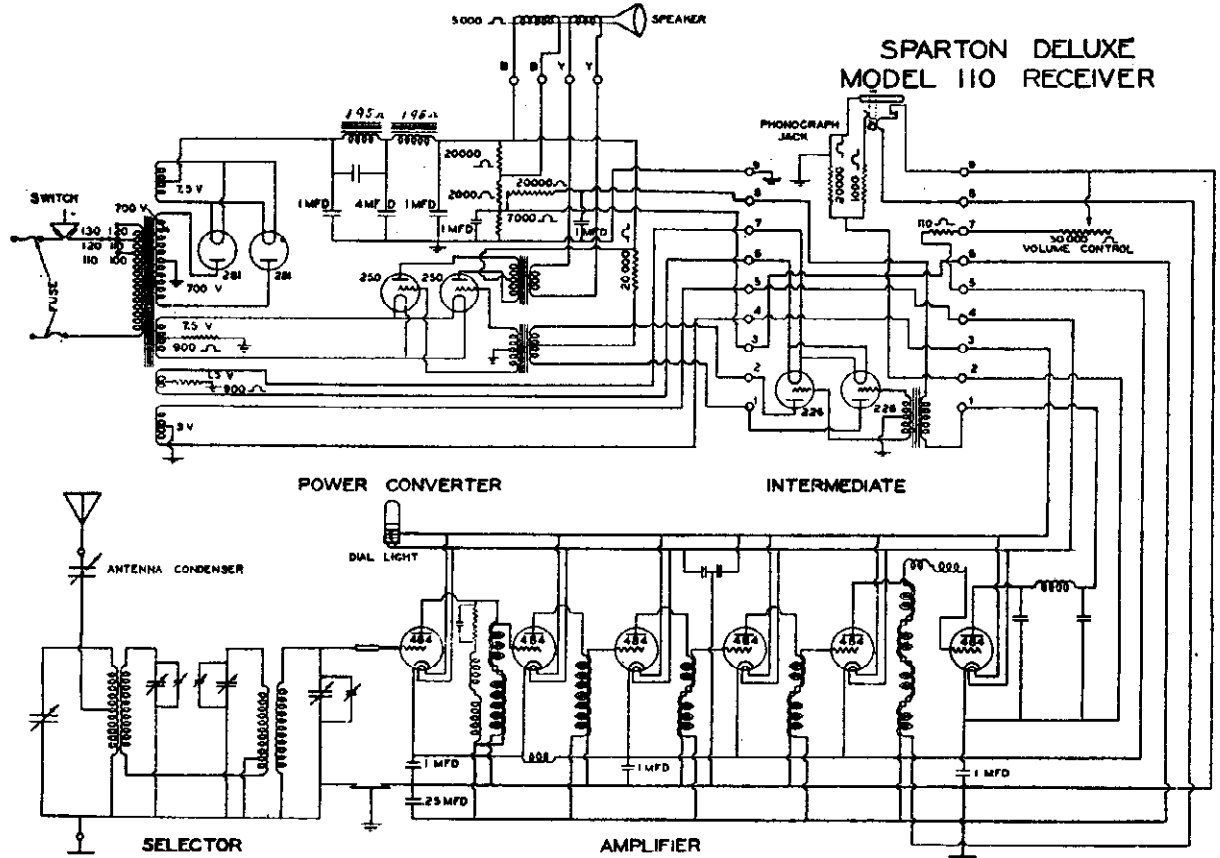
SPARKS WITHINGTON CO.

MODEL 109 DeLuxe  
Schematic



SPARKS WITHINGTON CO.

MODEL 110, 111 AC  
Two Types  
Schematics



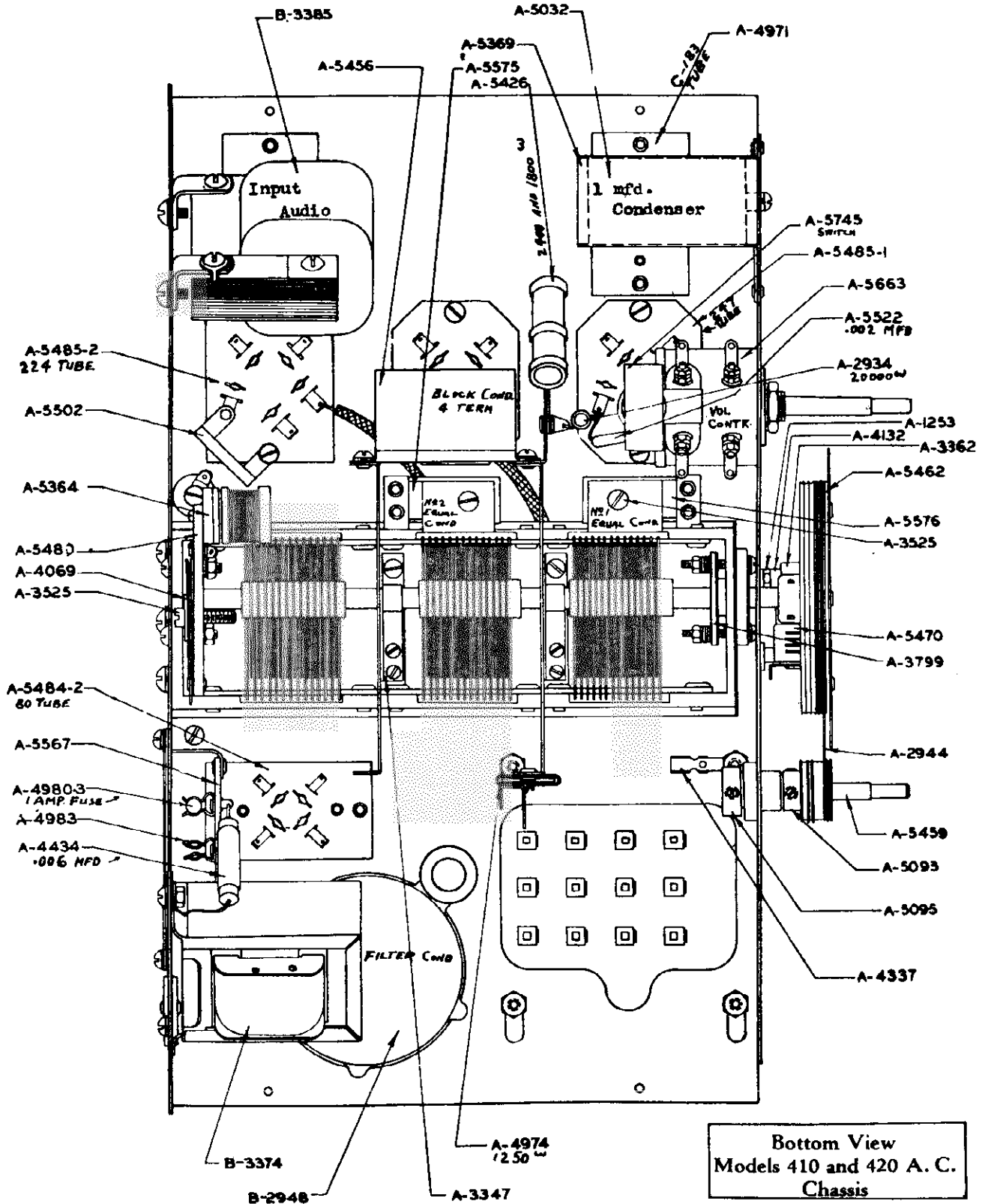






MODEL 420 AC  
Chassis

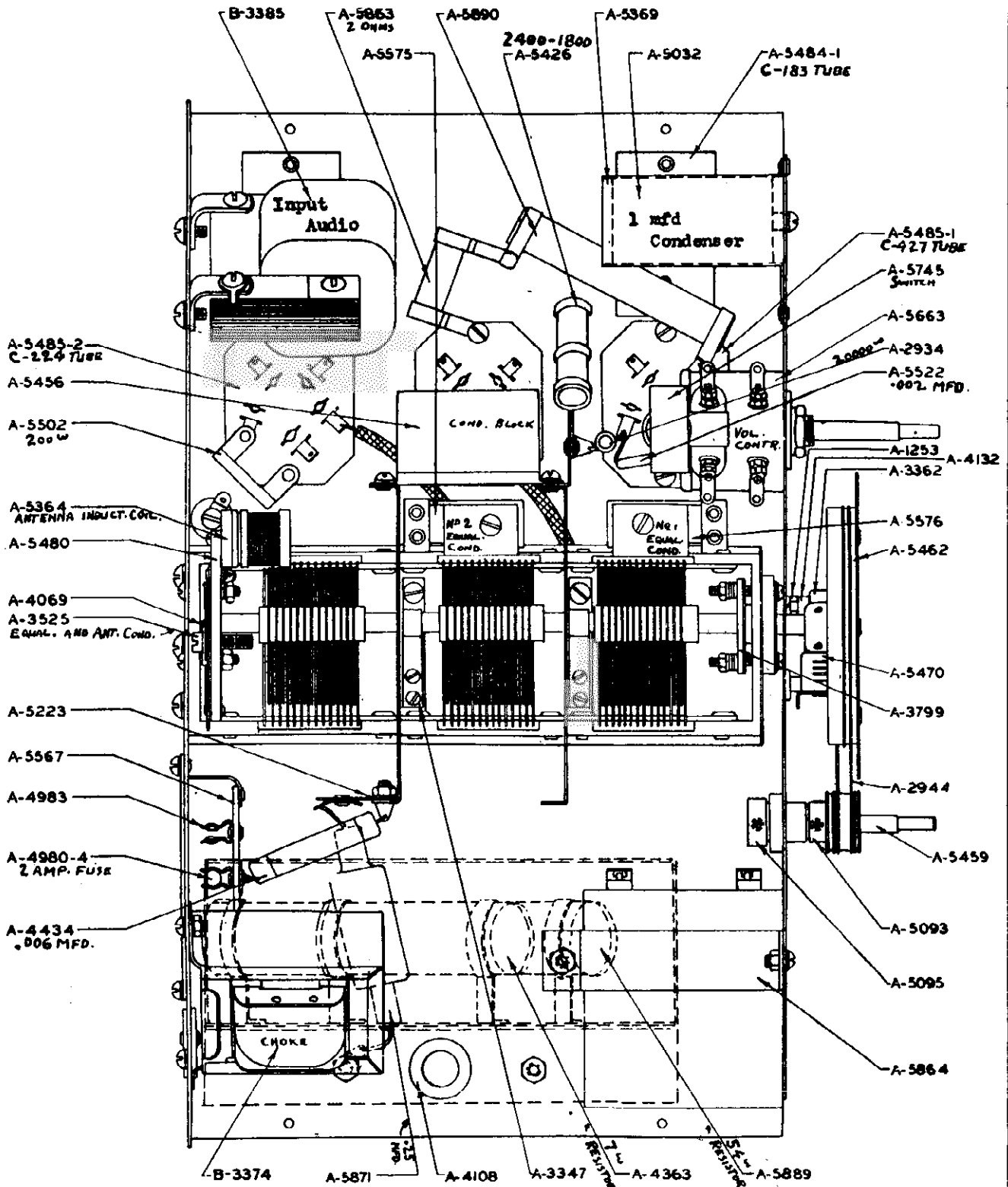
SPARKS WITHINGTON CO.





MODEL 420 DC  
Chassis

SPARKS WITHINGTON CO.



Bottom View—Model 410 and 420 D. C. Chassis



MODEL 600, 610, 620,  
737 AC.  
737 Below # 6502

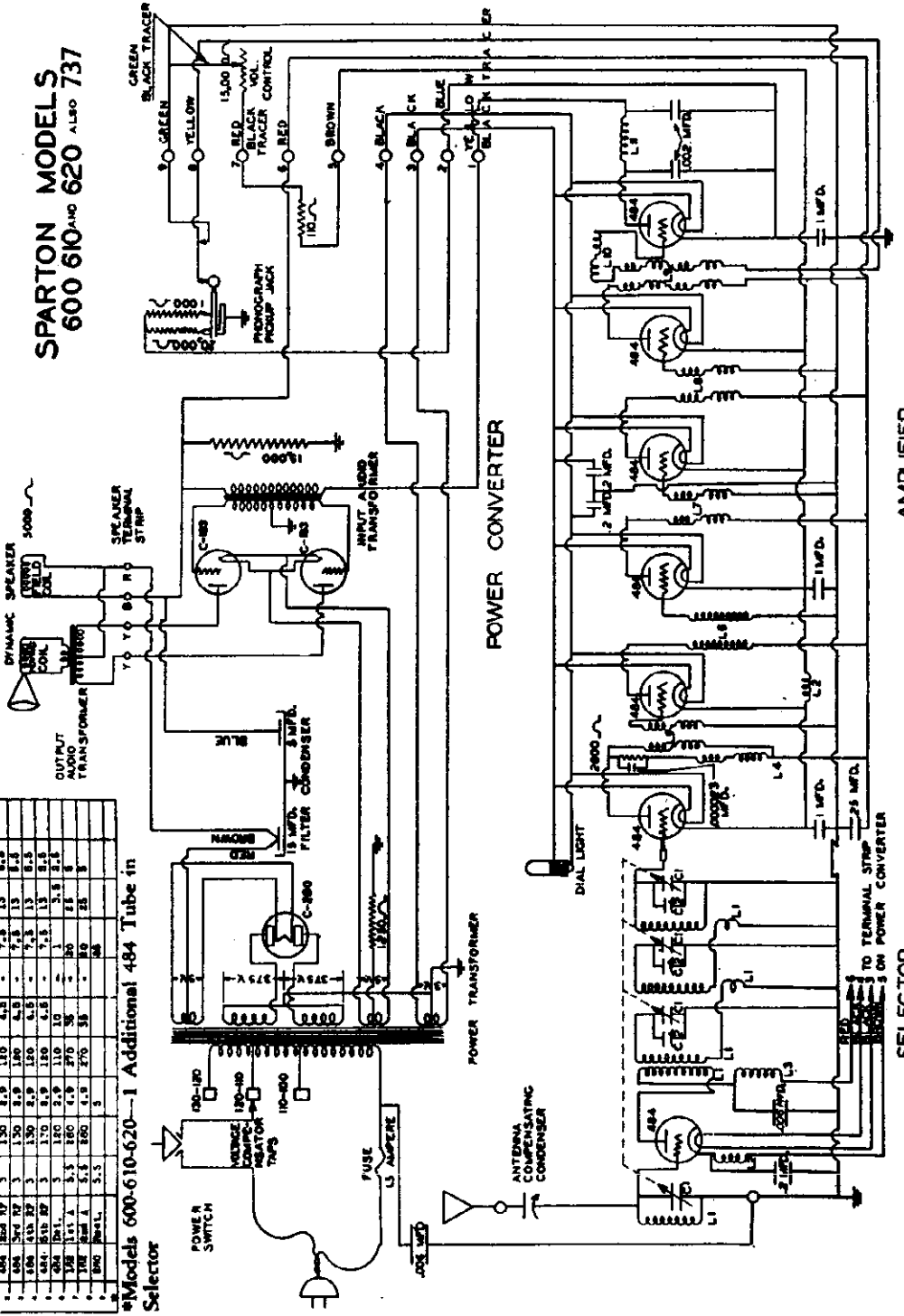
SPARKS WITHINGTON CO.

SPARTON MODELS  
600 610-110 620 ALSO 737

SPARTON—Model 610-620\*  
Line Voltage 120—Set on 120-130 Volt Tap—Volume  
Control Position Max

LINE VOLTAGE	100	110	120	130	140	150	160	170	180	190	200
POWER	1.0	1.2	1.5	1.8	2.2	2.7	3.3	4.0	4.8	5.7	6.7
VOLUME CONTROL POSITION	1	2	3	4	5	6	7	8	9	10	11

\*Models 600-610-620—1 Additional 484 Tube in  
Selector

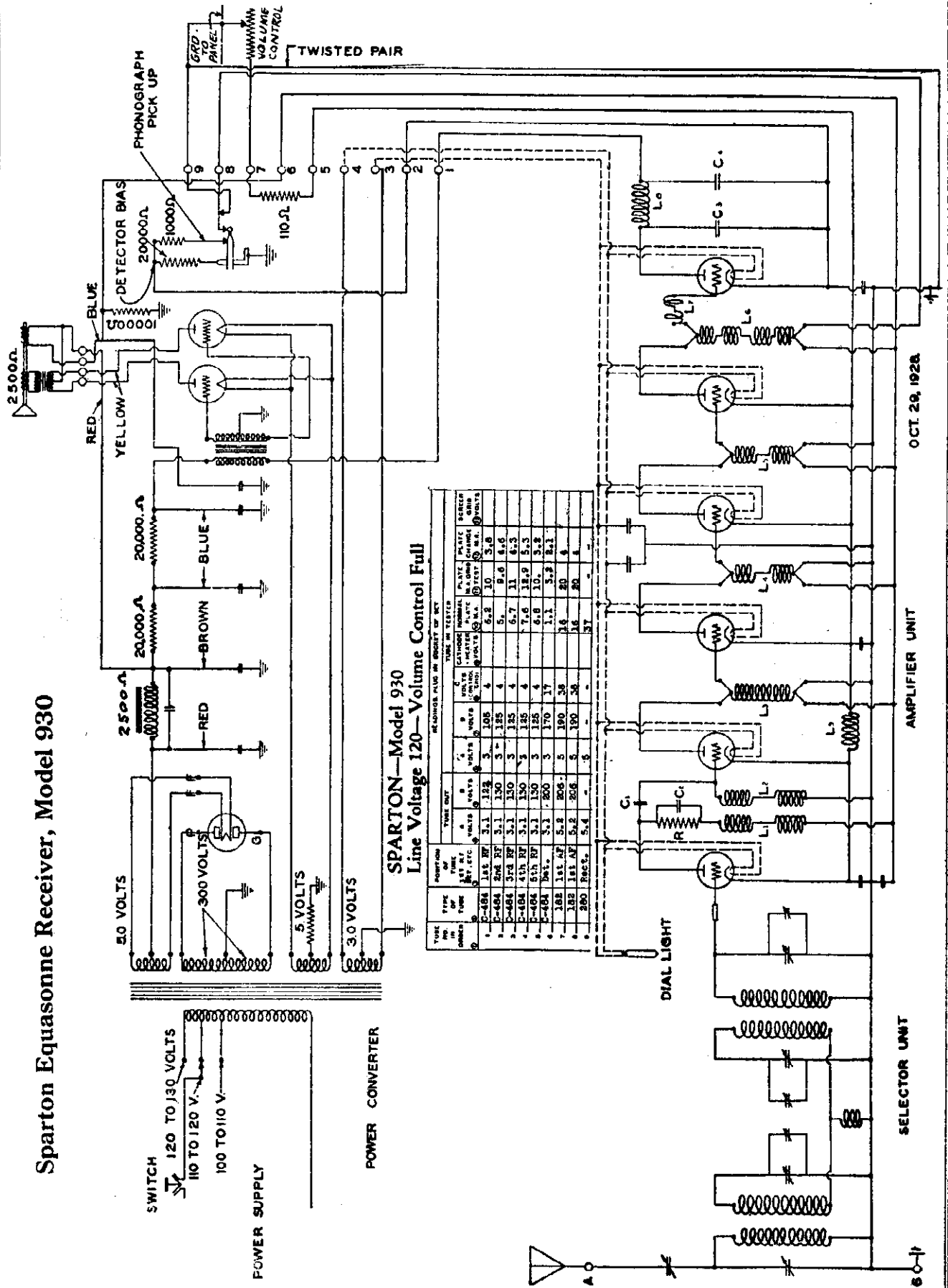


- C1 VARIABLE CONDENSERS
- C2 EQUALIZING CONDENSERS
- L1 TUNING COILS
- L2 CATHODE COIL
- L3 RF CHOKE COIL
- L4 FIRST PLATE COIL
- L5 COUPLING COIL
- L6 FIRST RF TRANSFORMER
- L7 SECOND RF TRANSFORMER
- L8 DETECTOR PLATE CHOKE
- L9 FOURTH RF TRANSFORMER
- L10 GRID COIL
- L11 DETECTOR PLATE CHOKE

MODEL 930 AC

SPARKS WITHINGTON CO.

Sparton Equasone Receiver, Model 930



SPARTON—Model 930  
Line Voltage 120—Volume Control Full

TYPE OF TUBE	TYPE OF CHASSIS	POWER IN WATT		CURRENT IN AMP		RESISTANCE IN OHM		CAPACITANCE IN MICRO FARAD		INDUCTIVE REACTANCE IN MICRO HENRY	
		MAX.	RMS	MAX.	RMS	MAX.	RMS	MAX.	RMS	MAX.	RMS
1. 2-484	120 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	5.0
2. 484	250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
3. 484	375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
4. 484	500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
5. 484	625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
6. 484	750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
7. 484	875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
8. 484	1000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
9. 484	1125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
10. 484	1250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
11. 484	1375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
12. 484	1500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
13. 484	1625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
14. 484	1750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
15. 484	1875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
16. 484	2000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
17. 484	2125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
18. 484	2250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
19. 484	2375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
20. 484	2500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
21. 484	2625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
22. 484	2750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
23. 484	2875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
24. 484	3000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
25. 484	3125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
26. 484	3250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
27. 484	3375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
28. 484	3500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
29. 484	3625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
30. 484	3750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
31. 484	3875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
32. 484	4000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
33. 484	4125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
34. 484	4250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
35. 484	4375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
36. 484	4500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
37. 484	4625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
38. 484	4750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
39. 484	4875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
40. 484	5000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
41. 484	5125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
42. 484	5250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
43. 484	5375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
44. 484	5500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
45. 484	5625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
46. 484	5750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
47. 484	5875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
48. 484	6000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
49. 484	6125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
50. 484	6250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
51. 484	6375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
52. 484	6500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
53. 484	6625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
54. 484	6750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
55. 484	6875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
56. 484	7000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
57. 484	7125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
58. 484	7250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
59. 484	7375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
60. 484	7500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
61. 484	7625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
62. 484	7750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
63. 484	7875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
64. 484	8000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
65. 484	8125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
66. 484	8250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
67. 484	8375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
68. 484	8500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
69. 484	8625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
70. 484	8750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
71. 484	8875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
72. 484	9000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
73. 484	9125 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
74. 484	9250 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
75. 484	9375 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
76. 484	9500 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
77. 484	9625 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
78. 484	9750 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
79. 484	9875 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	
80. 484	10000 V. AC	3.1	1.2	4	1.0	6.2	1.0	5.0	5.0	5.0	

OCT. 29, 1928

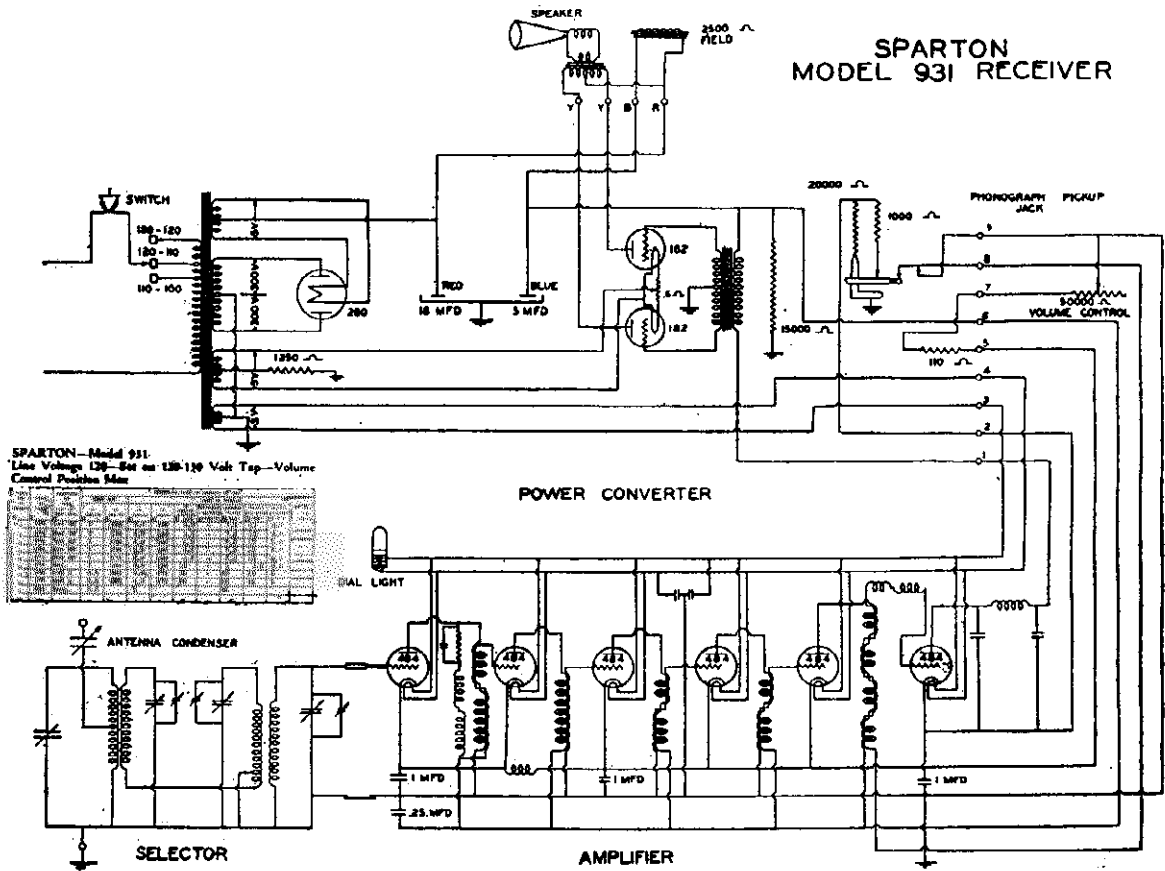
AMPLIFIER UNIT

SELECTOR UNIT

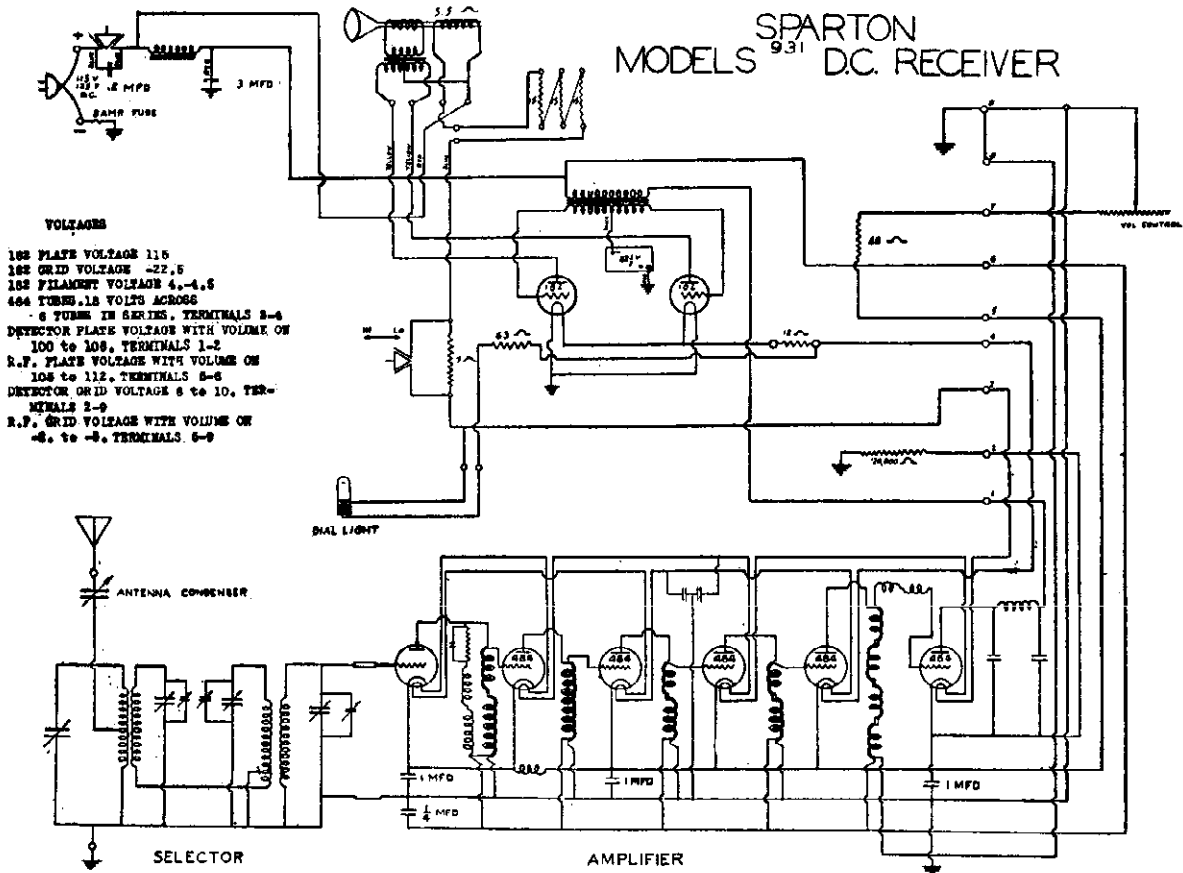
SPARKS WITHINGTON CO.

MODEL 931 AC  
MODEL 931 DC

SPARTON  
MODEL 931 RECEIVER



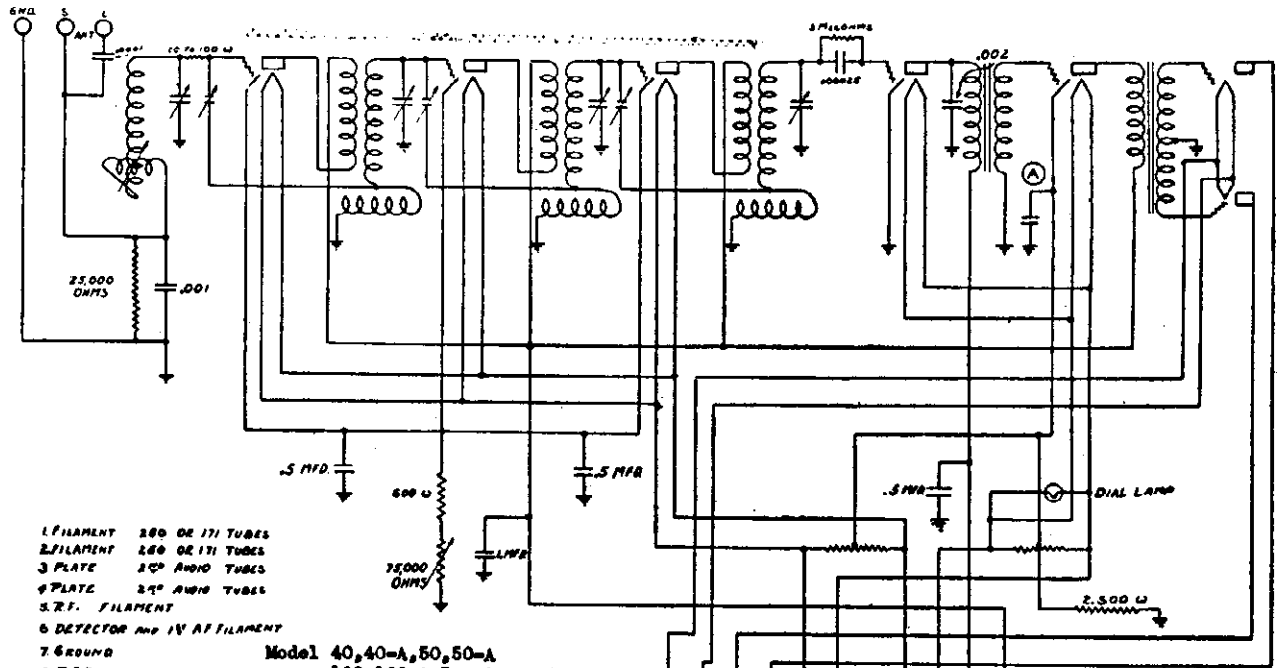
SPARTON  
MODELS 931 DC RECEIVER





STEINITE RADIO CO.

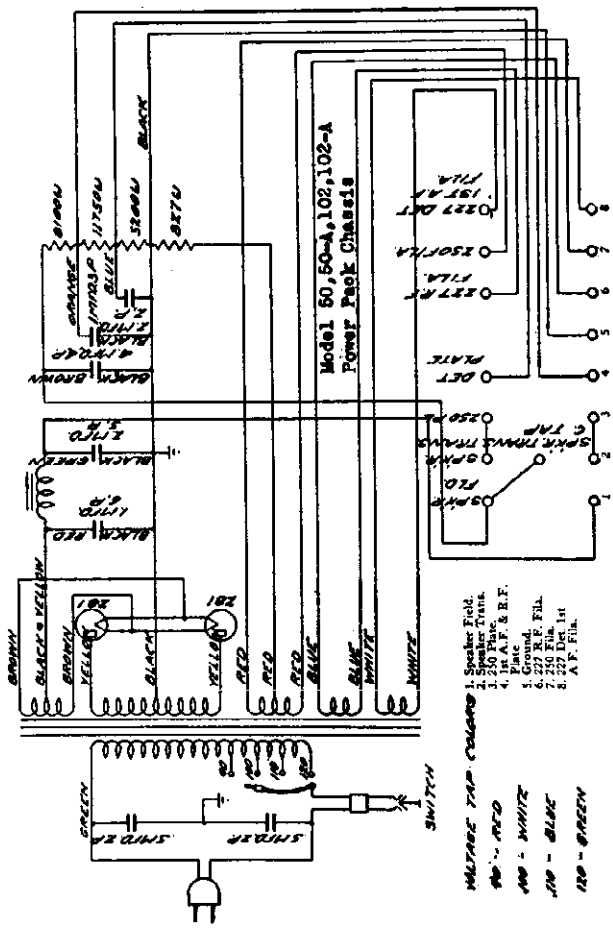
MODEL 40,40-A,50,50-A,  
102,102-A  
Schematic



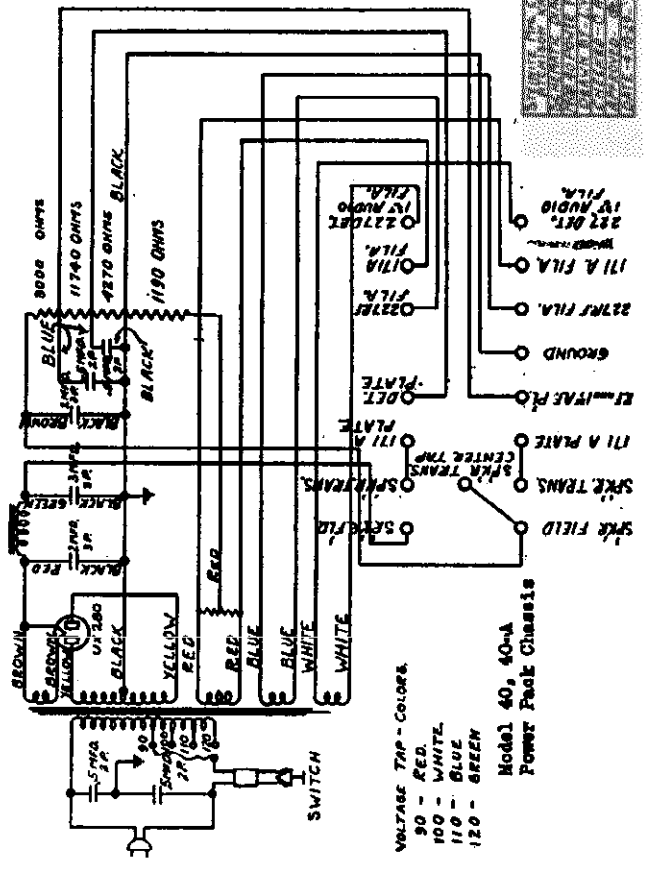
- 1 FILAMENT 200 OR 171 TUBES
  - 2 FILAMENT 200 OR 171 TUBES
  - 3 PLATE 20" AUDIO TUBES
  - 4 PLATE 20" AUDIO TUBES
  - 5 R.F. FILAMENT
  - 6 DETECTOR AND 1V AF FILAMENT
  - 7 GROUND
  - 8 R.F. FILAMENT
  - 9 DETECTOR AND 1V AF FILAMENT
  - 10 DETECTOR 8+
  - 11 RF AND 1V AF 8+
- (A) USE 1. MFD. ON MOD. 40  
USE .4 MFD. ON MOD. 50 AND 102

END OF CHASSIS.

TERMINAL STRIP IN CHASSIS.



- VOLTAGE TAP - COLORS
- 90 - RED
  - 100 - WHITE
  - 110 - BLUE
  - 120 - GREEN



- VOLTAGE TAP - COLORS
- 90 - RED
  - 100 - WHITE
  - 110 - BLUE
  - 120 - GREEN

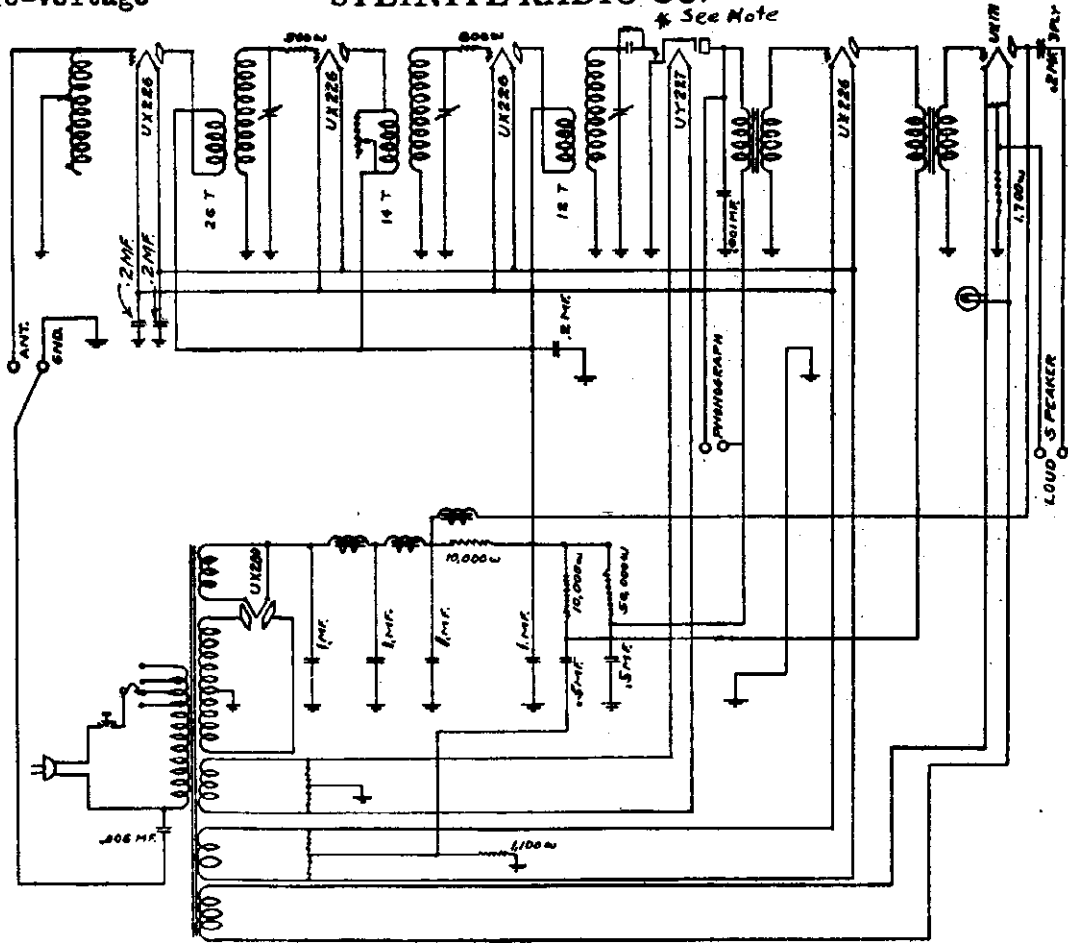




MODEL 261, 262, 263, 264, 265  
Schematic-Voltage  
Socket

STEINITE RADIO CO.

\* See Note



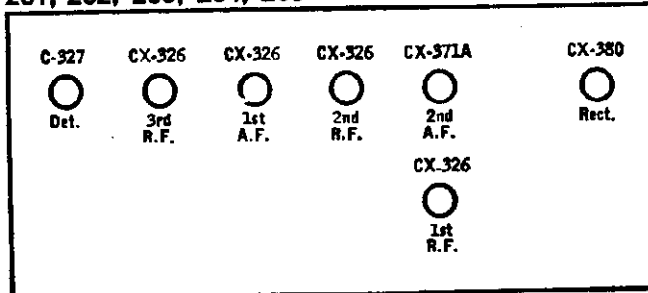
\* A small capacity is connected between detector grid and the filament in the form of a piral pair of twisted wires.  
\*\*Two bindings posts supplying 110V AC are included on all model 261 sets made since September 20, 1938. These are provided for supplying current to dynamic speakers, permitting complete control of the AC supply to both the set and speaker through the toggle switch

STEINITE—Models 261-262  
Line Voltage 112—110 Volt Tap

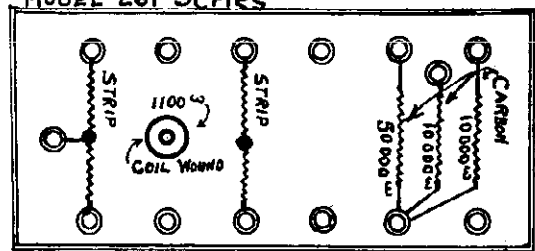
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST, R.F., DET., ETC.	READINGS, PLUG IN SOCKET OF SET												
			TUBE OUT			TUBE IN TESTER									
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	F VOLTS	G VOLTS	H VOLTS	I VOLTS	J VOLTS	K VOLTS	L VOLTS	
1	226	1st. R.F.	1.45	1.20	1.30	1.15	1.1	-	-	-	-	-	3.0	7.0	4.0
2	226	2nd. R.F.	1.45	1.20	1.30	1.15	1.1	-	-	-	-	-	3.0	7.0	4.0
3	226	3rd. R.F.	1.45	1.20	1.30	1.15	1.1	-	-	-	-	-	3.0	7.0	4.0
4	227	Detector	2.30	1.16	2.15	44	-	-	-	-	-	-	2.0	2.0	0.0
5	226	1st. A.F.	1.45	1.12	1.30	1.00	1.0	-	-	-	-	-	3.0	7.0	4.0
6	171A	2nd. A.F.	4.80	3.20	4.60	1.76	33	-	-	-	-	-	22.0	24.0	12.0
7	280	Rectifier	4.65	-	4.50	-	-	-	-	-	-	-	20.0	-	-

261, 262, 263, 264, 265

(A.C.)



MODEL 261 Series



POWER PACK TERMINAL STRIP.

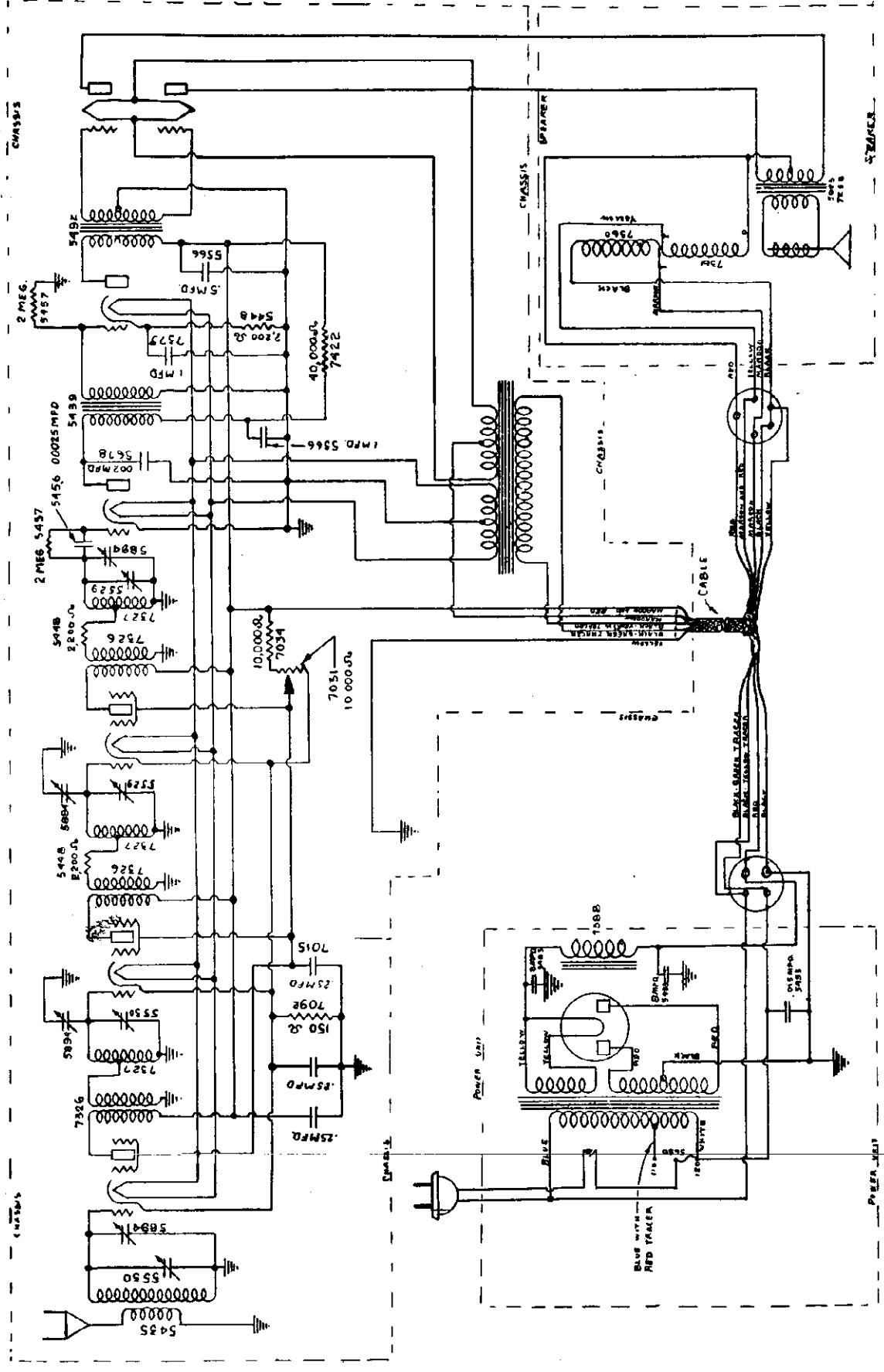




MODEL 4  
Schematic

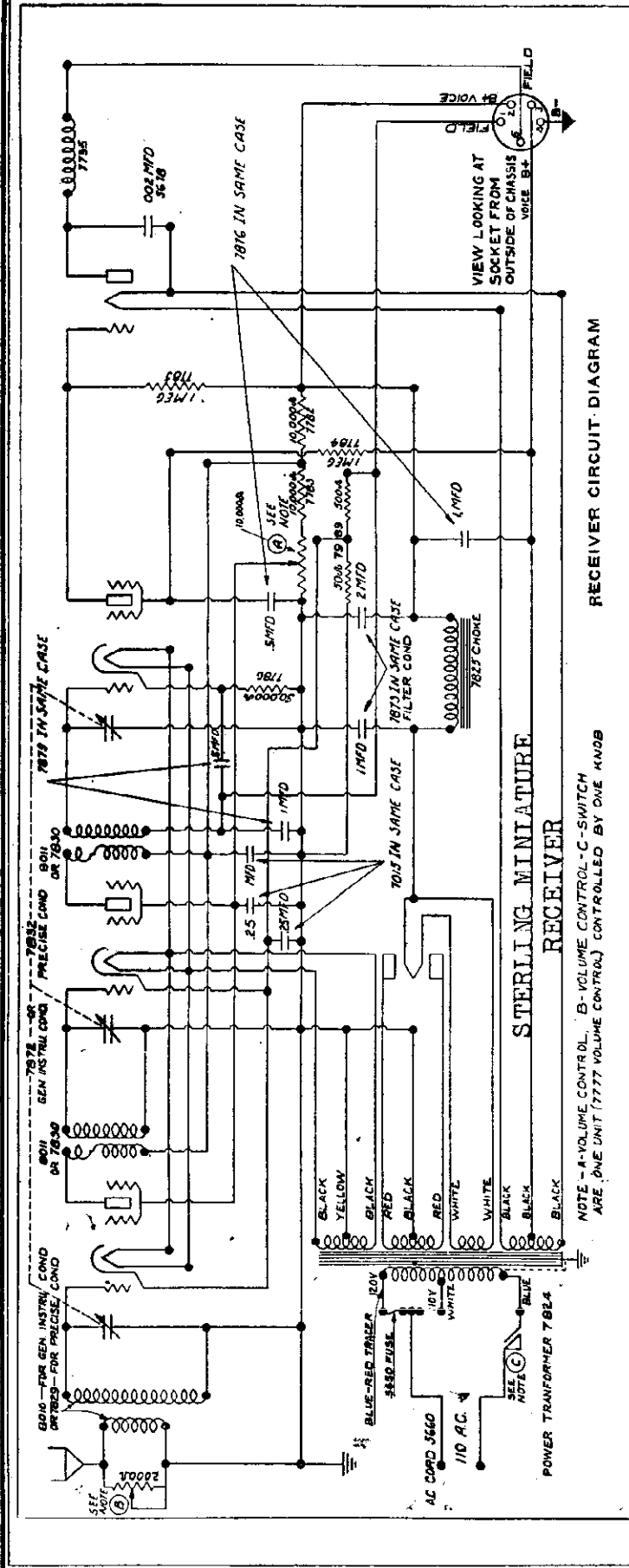
STERLING MFG. CO.

Complete Schematic Diagram of the No. 4 Circuit



STERLING MFG. CO.

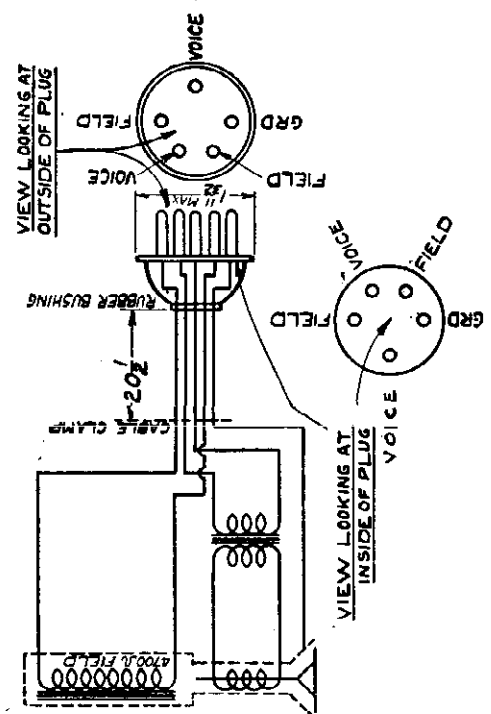
MODEL Miniature  
Schematic, Voltage



RECEIVER CIRCUIT DIAGRAM

Ground to Volume control screen	70 volts
" " RF Plate Screen	165
" " RF Screen Volume on	70
" " RF Cathode	2
" " Power Supply Output	450
" " Power Supply Output	390
" " Detector Plate	40*
" " Detector Screen	20*
" " Detector Cathode	15*
" " 45 Grid Bias	35
" " 45 Plate	220
" " 45 Plate	350**

\*The voltages shown are those obtained with a very high resistance voltmeter, such as a 100 microampere meter and a series resistor of 1 megohm. \*\* 45 Plate reads 350 volts to ground. The cathode is raised 130 volts above ground and the effective 45 plate voltage is 220 volts.



DYNAMIC SPEAKER CIRCUIT DIAGRAM

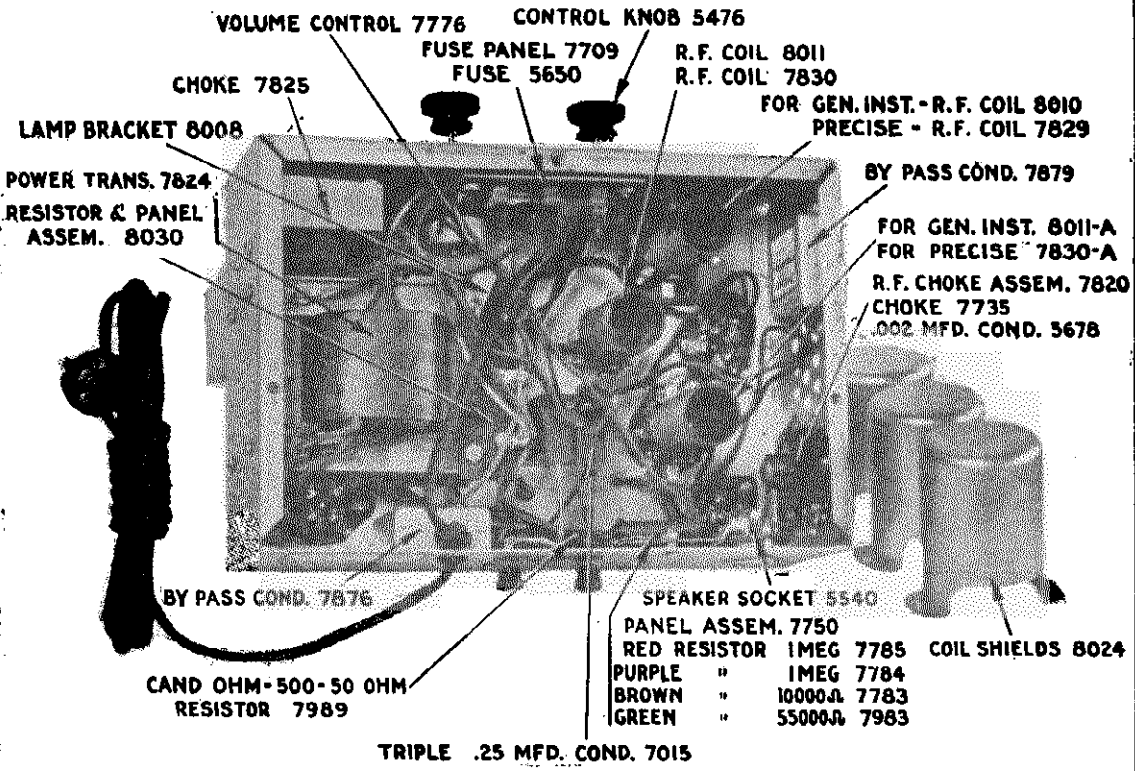


MODEL Miniature  
Chassis Views

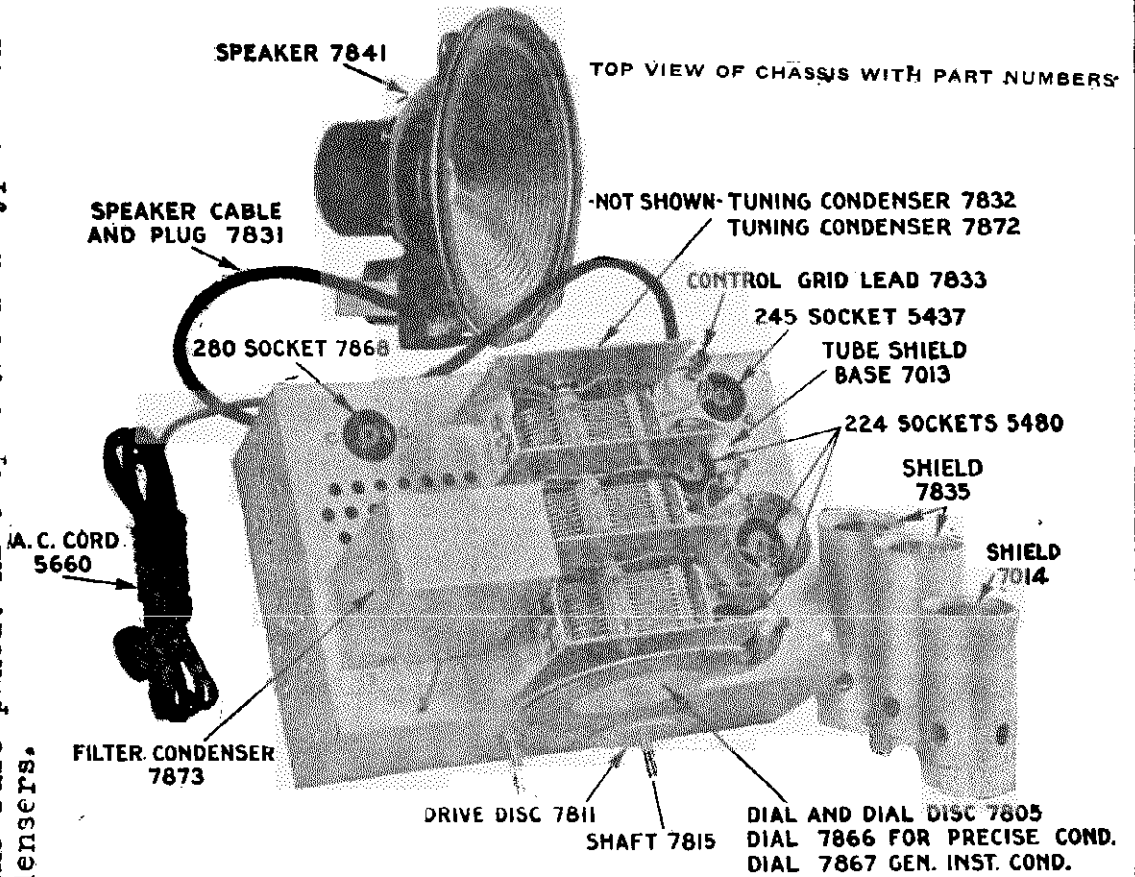
STERLING MFG. CO.

One possible remedy for excessive hum is some condition in the detector tube circuit. Try each of the '24 tubes in the detector socket. A tube that hums in the detector socket, may not hum in the other '24 sockets.

In the event of excessive regeneration difficulties, check the position of the grid wires. If too close together, this trouble is liable to occur. Check the .015 mfd condenser on the center of the fuse panel. Also open .25 mfd bypass condensers.



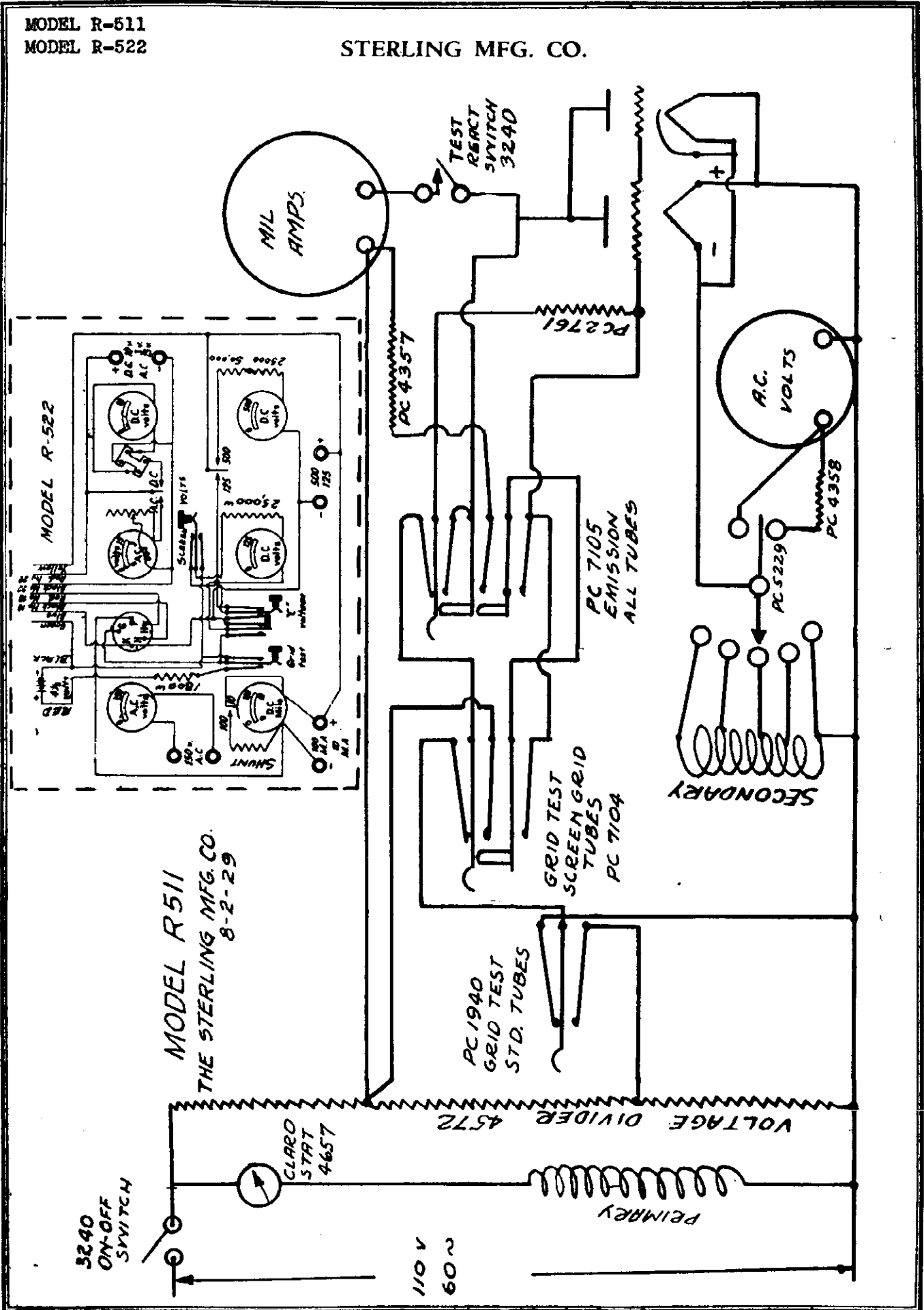
BOTTOM VIEW OF CHASSIS WITH PART NUMBERS





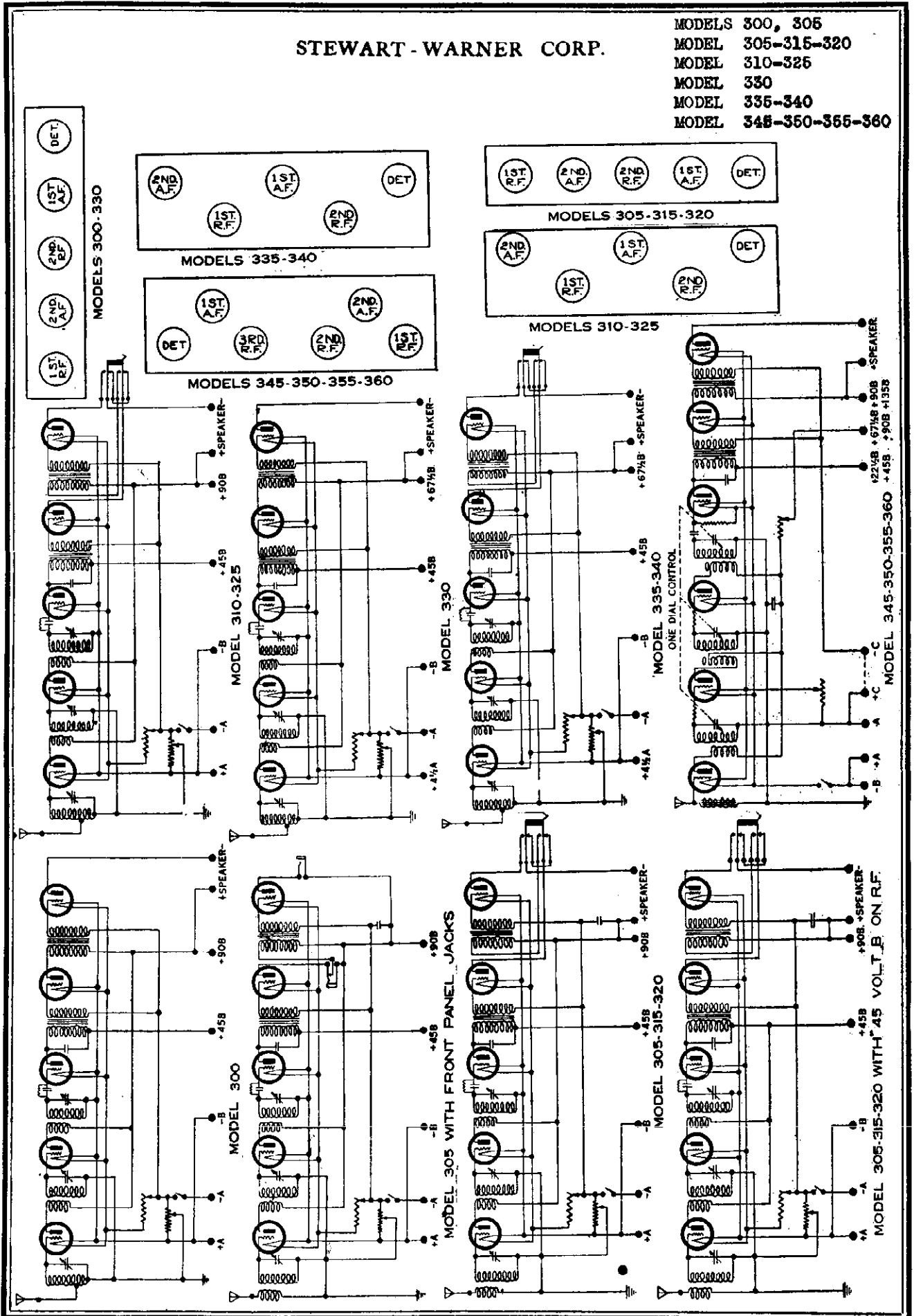
MODEL R-511  
MODEL R-522

STERLING MFG. CO.



STEWART - WARNER CORP.

- MODELS 300, 305
- MODEL 305-315-320
- MODEL 310-325
- MODEL 330
- MODEL 335-340
- MODEL 345-350-355-360



MODELS 300-330

MODELS 335-340

MODELS 345-350-355-360

MODELS 305-315-320

MODELS 310-325

MODEL 300

MODEL 305

MODEL 305 WITH FRONT PANEL JACKS

MODEL 305-315-320

MODEL 330

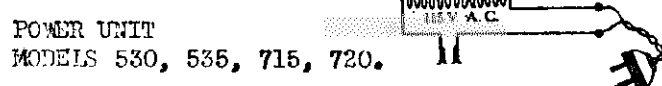
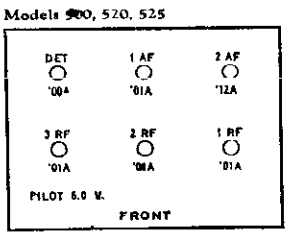
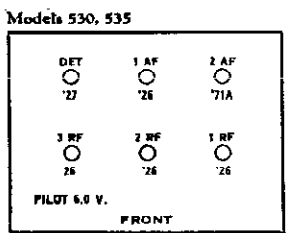
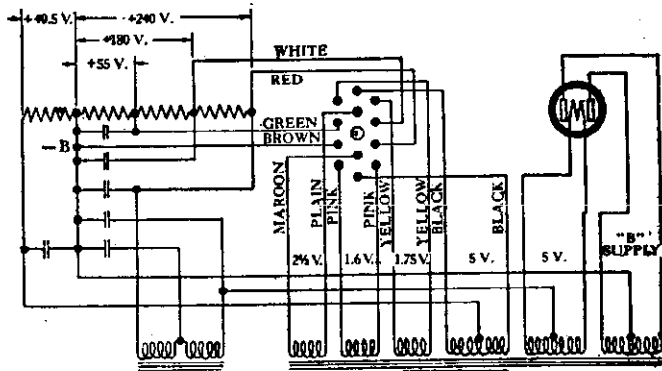
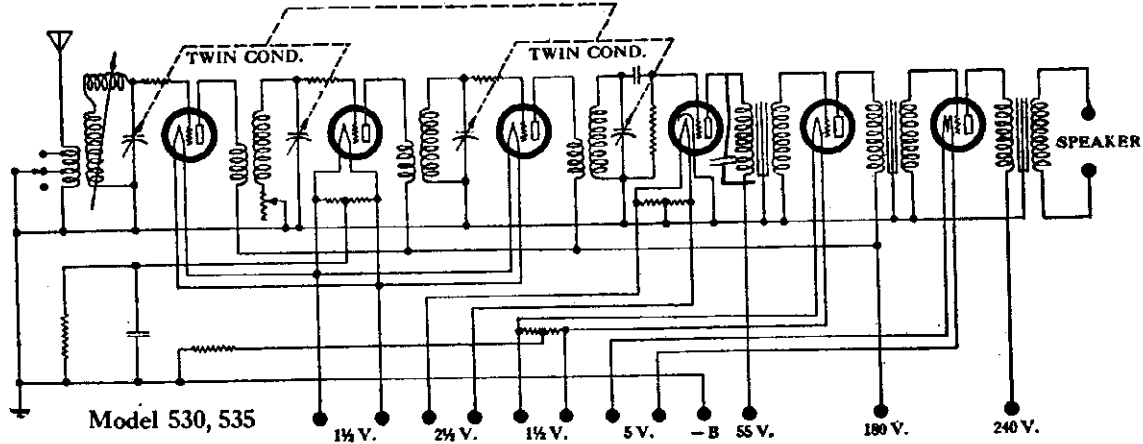
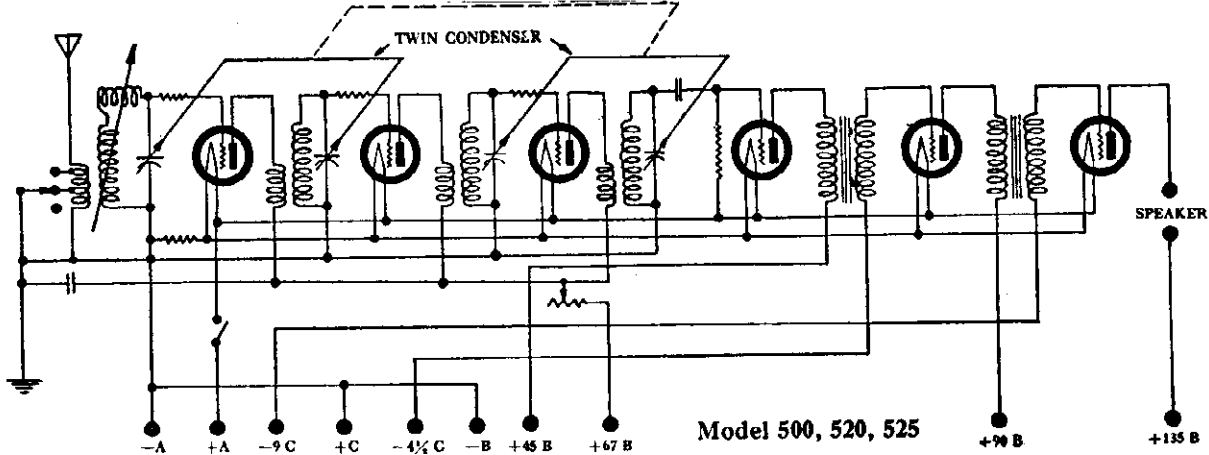
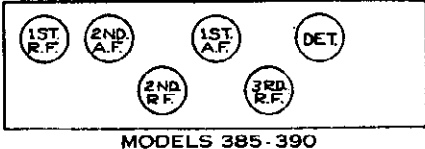
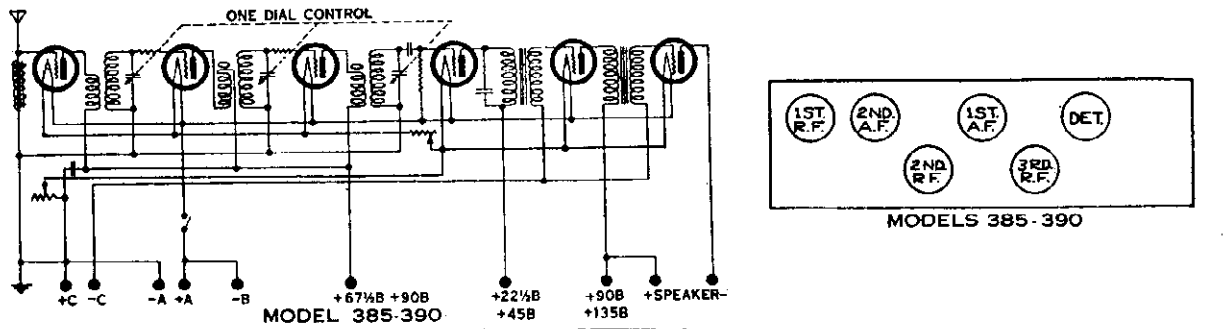
MODEL 335-340

MODEL 305-315-320 WITH 45 VOLT B ON R.F.

MODEL 345-350-355-360

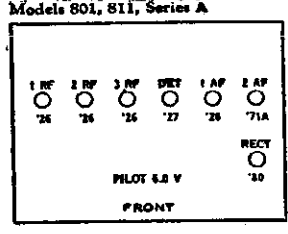
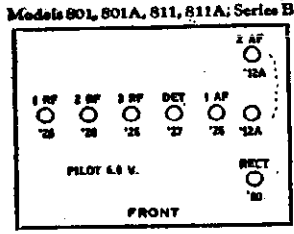
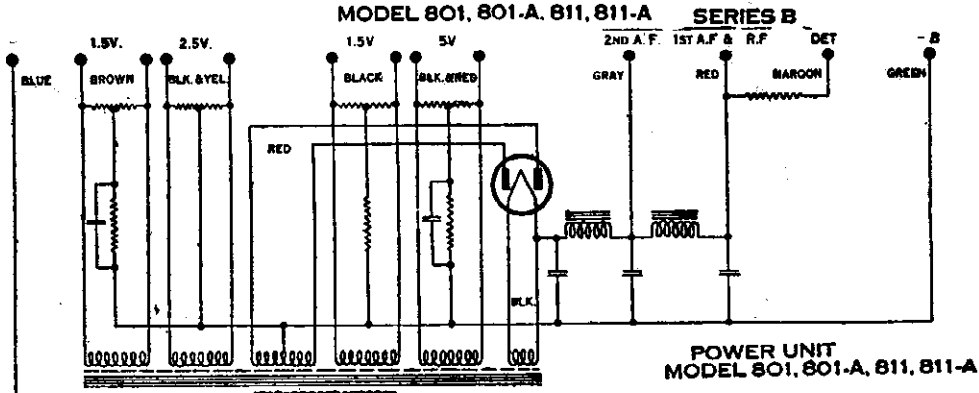
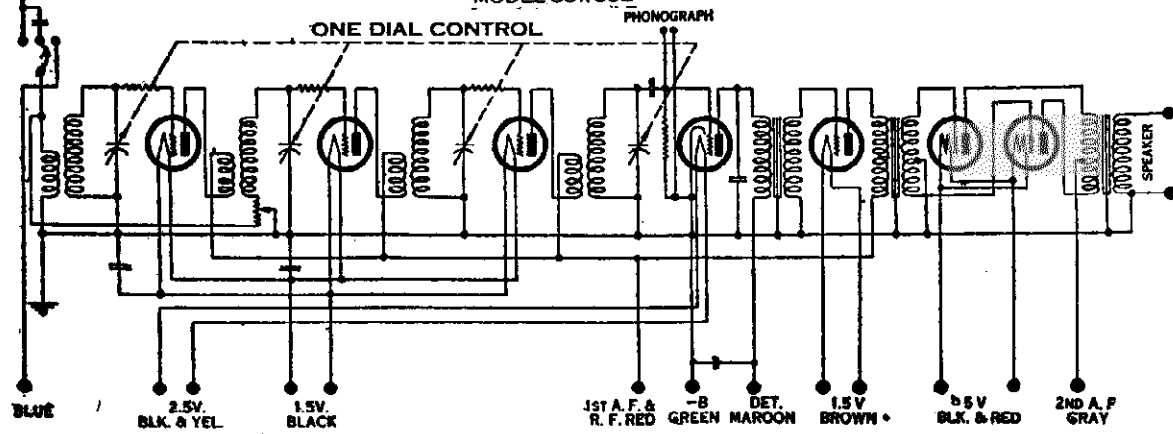
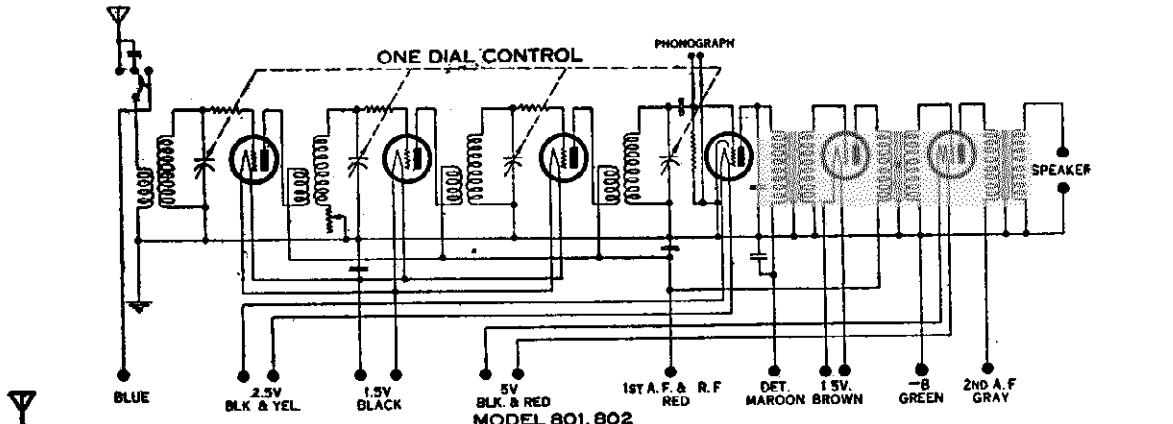
MODEL 385-390  
 MODEL 500, 520, 525  
 MODEL 530, 535  
 MODEL 530, 535, 715, 720

STEWART - WARNER CORP.



STEWART - WARNER CORP.

MODEL 801, 802  
 MODEL 801, 801-A, 811, 811-A (Series B)  
 MODEL PU 801, 801-A, 811, 811-A  
 Schematic, Voltage



STEWART-WARNER—Model 801 SERIES B  
 Line Voltage 115 801A-811-811A

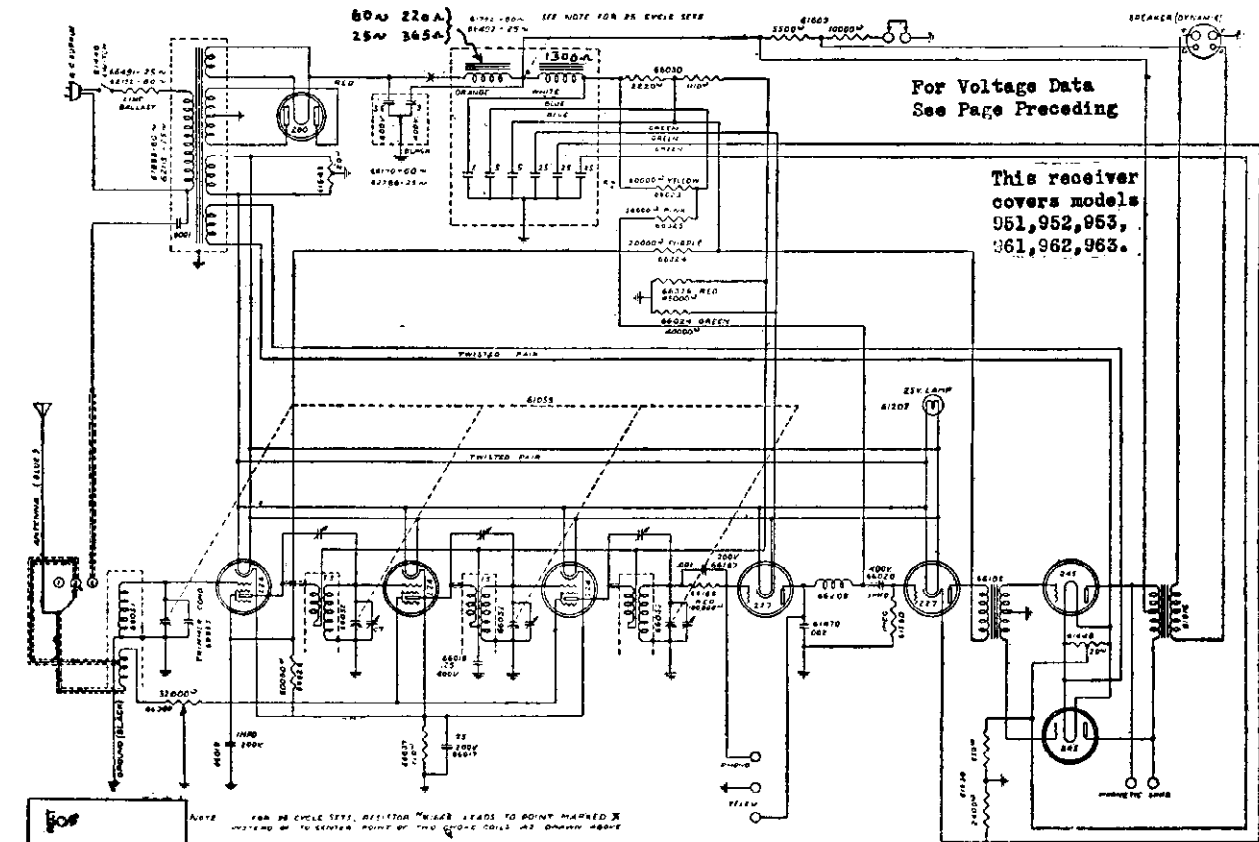
TUBE NO. OR ORDER	TYPE OF TUBE	POSITION OF TUBE 1st, 2nd, 3rd, etc.	TUBE DATA				NOMINAL PLATE VOLTAGE	NOMINAL PLATE CURRENT (mA)	PLATE RESISTANCE (ohms)	PLATE TO GRID TEST	PLATE TO A GRID TEST
			1	2	3	4					
226	1A.F.	1-2	120	107	2.55	155	14.0	-	2.9	7.7	6.5
226	2A.F.	1-2	146	180	2.33	156	14.8	-	2.3	0.2	6.9
226	3A.F.	1-2	148	188	1.92	156	14.8	-	1.9	0.5	7.6
227	DET.	1-2	240	132	1.98	25	0	-	1.4	1.44	0.08
226	1A.F.	1-2	162	175	1.42	146	12.5	-	3.3	4.2	0.8
112A	2A.F.	1-2	5.1	175	4.93	168	12.0	-	9.0	14.0	5.0
112A	2A.F.	1-2	5.1	175	4.95	158	12.0	-	9.3	14.2	4.9
280	Rectifier	1-2	5.7		4.78						

The values given apply to all Model 801 receivers, however, some of the early sets operated with lower "B" voltage than shown. On recent sets the "B" voltage has been increased approximately 10% (per cent) above values given in the chart.

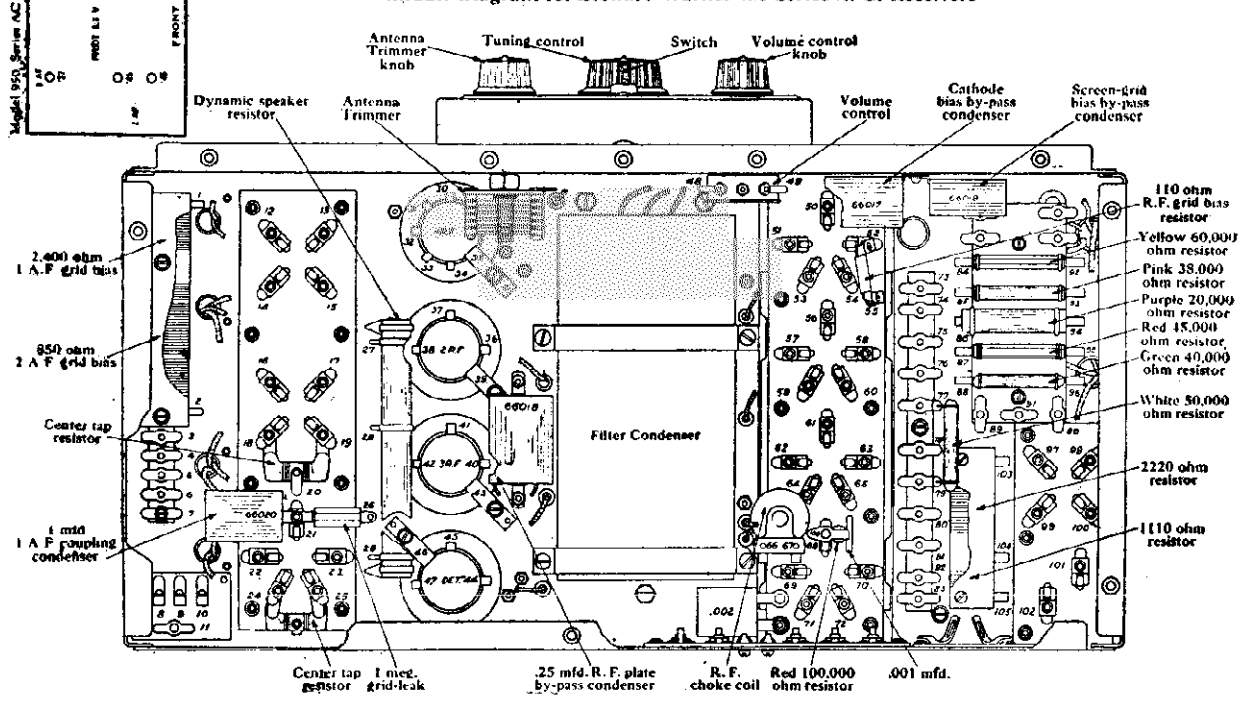


MODEL 950 Series (AC)  
Schematic, Chassis

STEWART-WARNER CORP.



Circuit Diagram for Stewart-Warner 950 Series A. C. Receivers

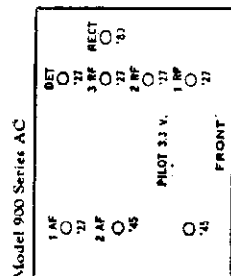
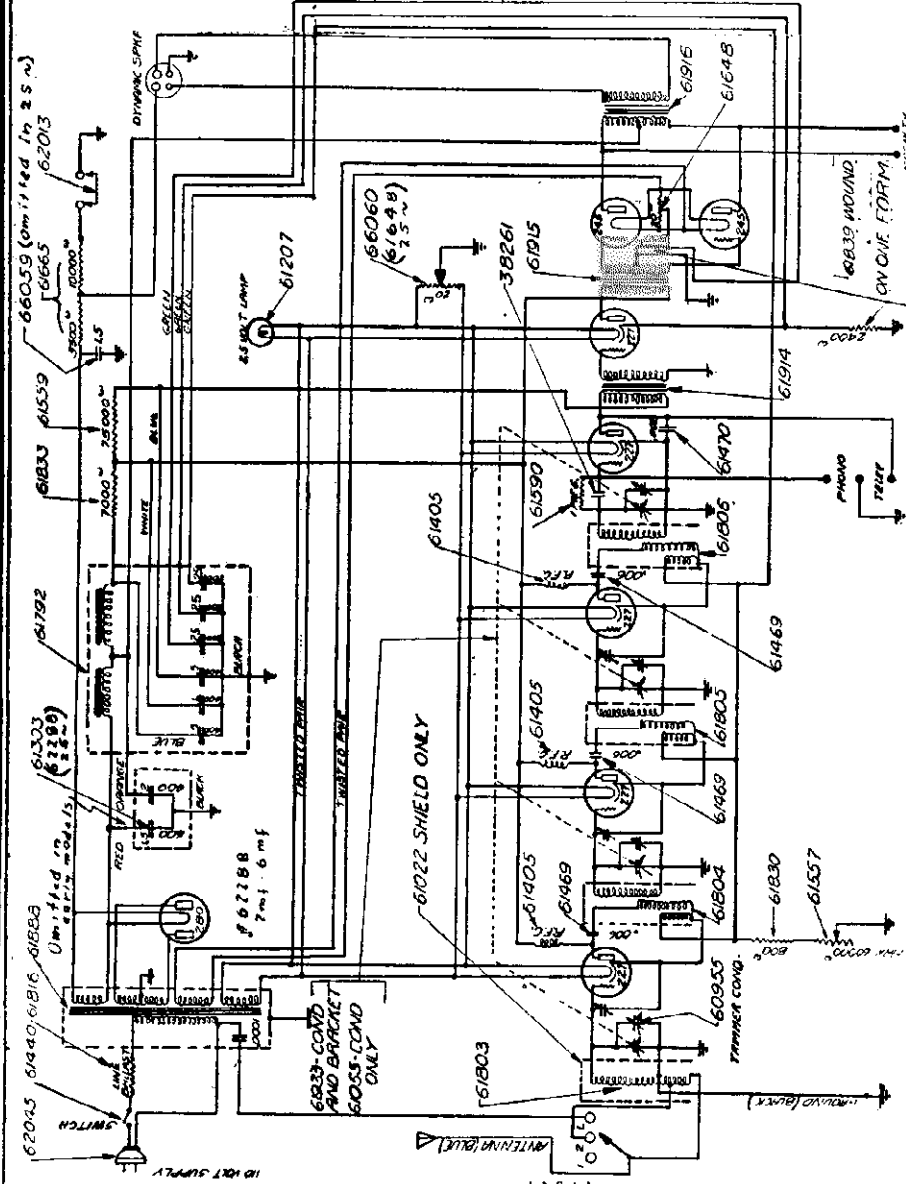


Bottom View of Set



STEWART-WARNER CORP.

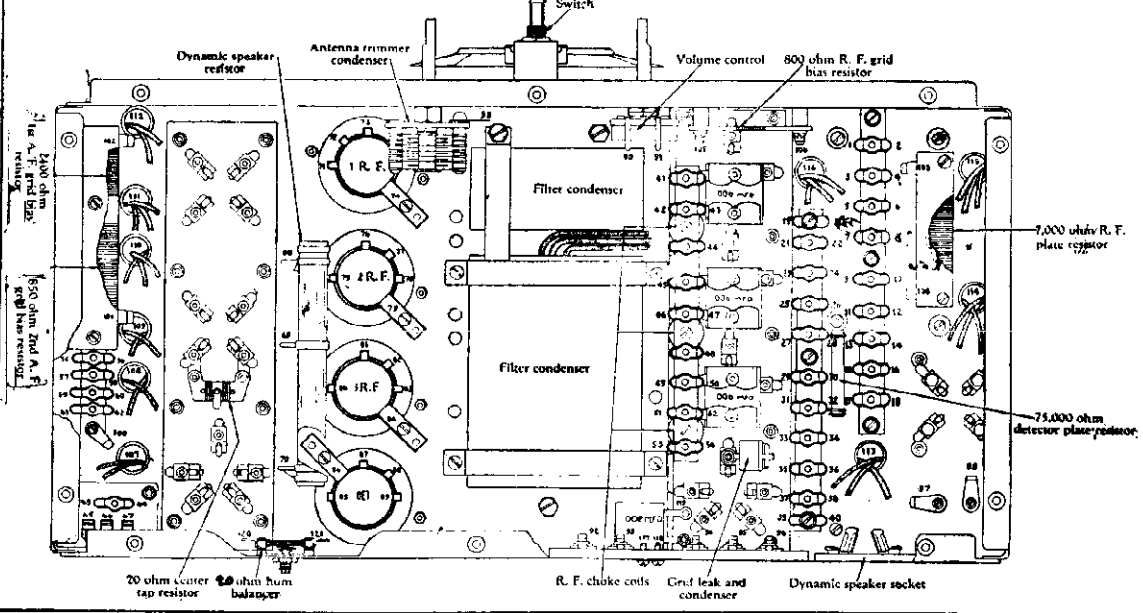
MODEL 901, 902, 903  
911, 912, 913  
Schematic, Chassis



901, 902, 903, 911, 912, 913

STEWART-WARNER—Series 900 A.C.  
Line Voltage 115—Volume Control Position Max

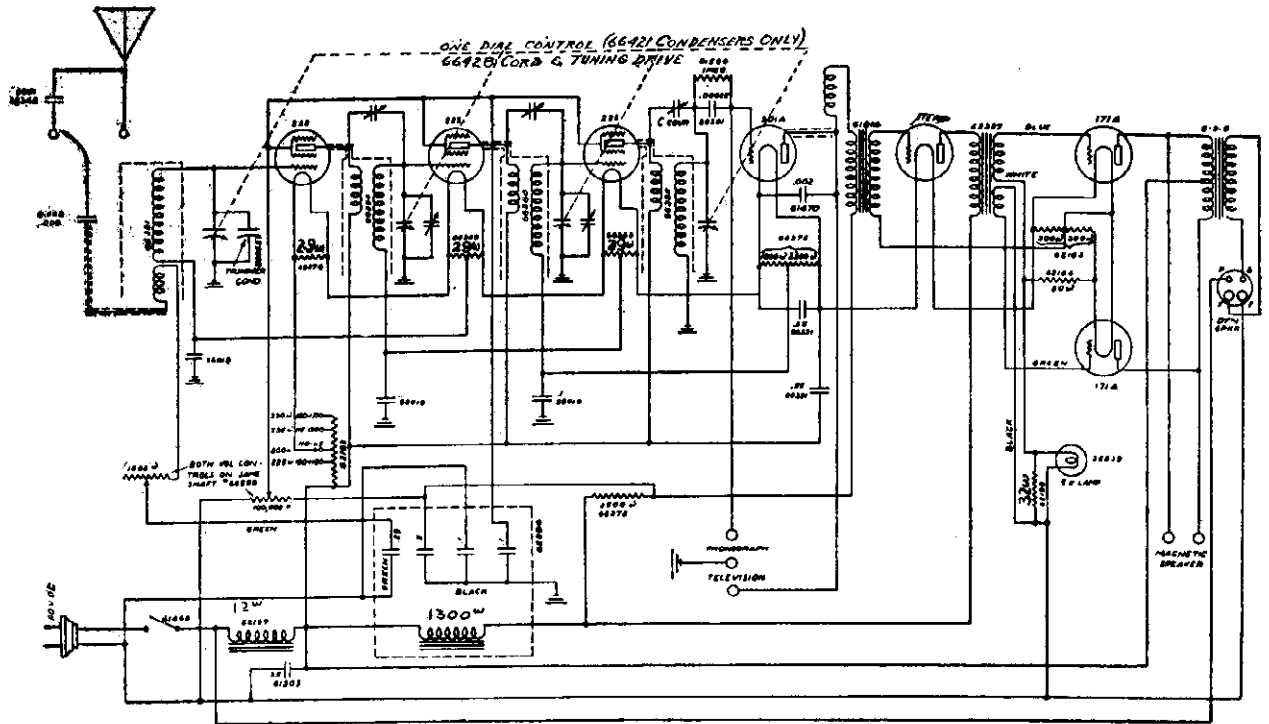
TYPE	RATING	VALUE	RESISTANCE		CAPACITANCE		TUBE SOCKETS		TUBE TYPE		PARTS
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	
1	250	500K	500K	500K	500K	500K	1	1	6X4	1	
2	250	500K	500K	500K	500K	500K	1	1	6X4	1	
3	250	500K	500K	500K	500K	500K	1	1	6X4	1	
4	250	500K	500K	500K	500K	500K	1	1	6X4	1	
5	250	500K	500K	500K	500K	500K	1	1	6X4	1	
6	250	500K	500K	500K	500K	500K	1	1	6X4	1	
7	250	500K	500K	500K	500K	500K	1	1	6X4	1	
8	250	500K	500K	500K	500K	500K	1	1	6X4	1	
9	250	500K	500K	500K	500K	500K	1	1	6X4	1	
10	250	500K	500K	500K	500K	500K	1	1	6X4	1	
11	250	500K	500K	500K	500K	500K	1	1	6X4	1	
12	250	500K	500K	500K	500K	500K	1	1	6X4	1	
13	250	500K	500K	500K	500K	500K	1	1	6X4	1	
14	250	500K	500K	500K	500K	500K	1	1	6X4	1	
15	250	500K	500K	500K	500K	500K	1	1	6X4	1	
16	250	500K	500K	500K	500K	500K	1	1	6X4	1	
17	250	500K	500K	500K	500K	500K	1	1	6X4	1	
18	250	500K	500K	500K	500K	500K	1	1	6X4	1	
19	250	500K	500K	500K	500K	500K	1	1	6X4	1	
20	250	500K	500K	500K	500K	500K	1	1	6X4	1	
21	250	500K	500K	500K	500K	500K	1	1	6X4	1	
22	250	500K	500K	500K	500K	500K	1	1	6X4	1	
23	250	500K	500K	500K	500K	500K	1	1	6X4	1	
24	250	500K	500K	500K	500K	500K	1	1	6X4	1	
25	250	500K	500K	500K	500K	500K	1	1	6X4	1	
26	250	500K	500K	500K	500K	500K	1	1	6X4	1	
27	250	500K	500K	500K	500K	500K	1	1	6X4	1	
28	250	500K	500K	500K	500K	500K	1	1	6X4	1	
29	250	500K	500K	500K	500K	500K	1	1	6X4	1	
30	250	500K	500K	500K	500K	500K	1	1	6X4	1	
31	250	500K	500K	500K	500K	500K	1	1	6X4	1	
32	250	500K	500K	500K	500K	500K	1	1	6X4	1	
33	250	500K	500K	500K	500K	500K	1	1	6X4	1	



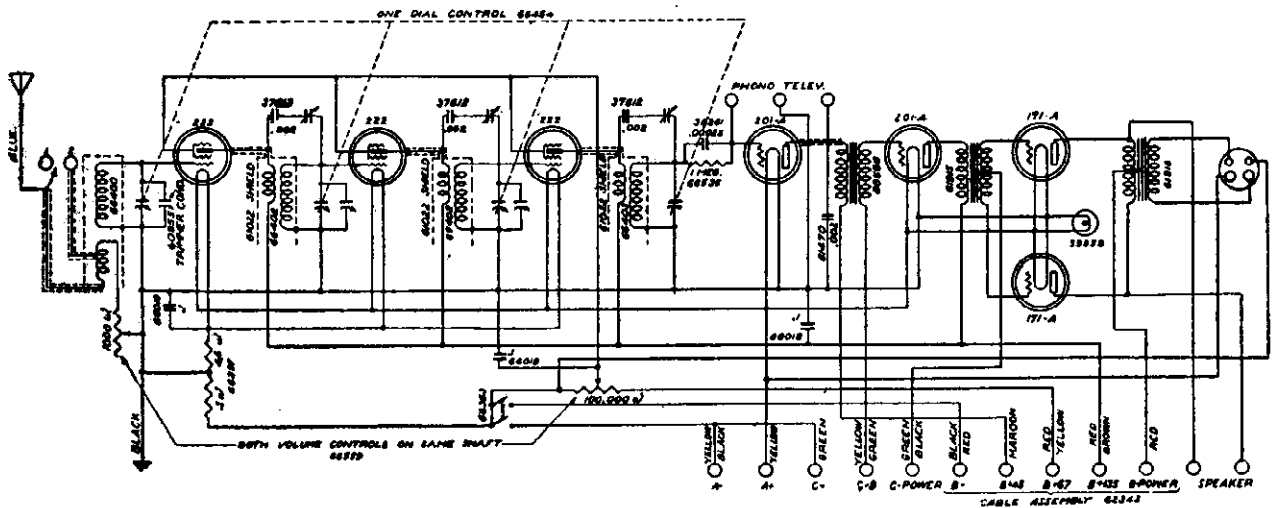


STEWART-WARNER CORP.

MODEL 971, 972, 973 DC  
MODEL 980 Battery

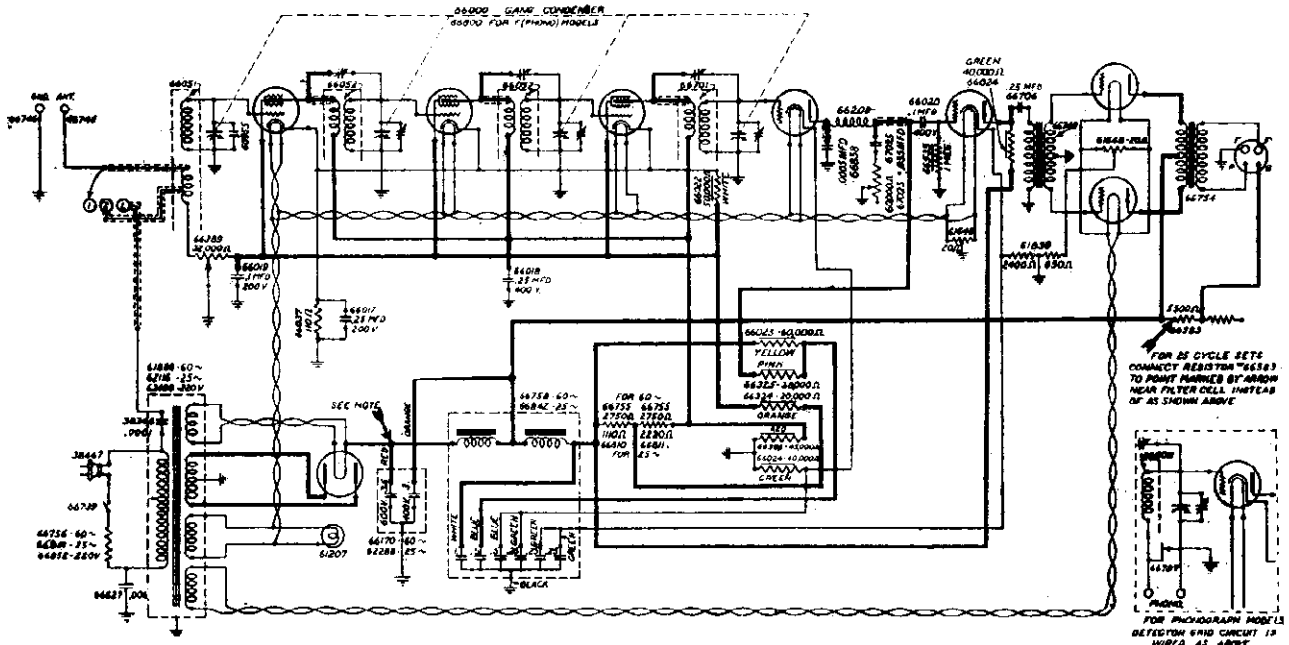


CIRCUIT DIAGRAM FOR STEWART WARNER SERIES 970 D.C. RADIO RECEIVERS

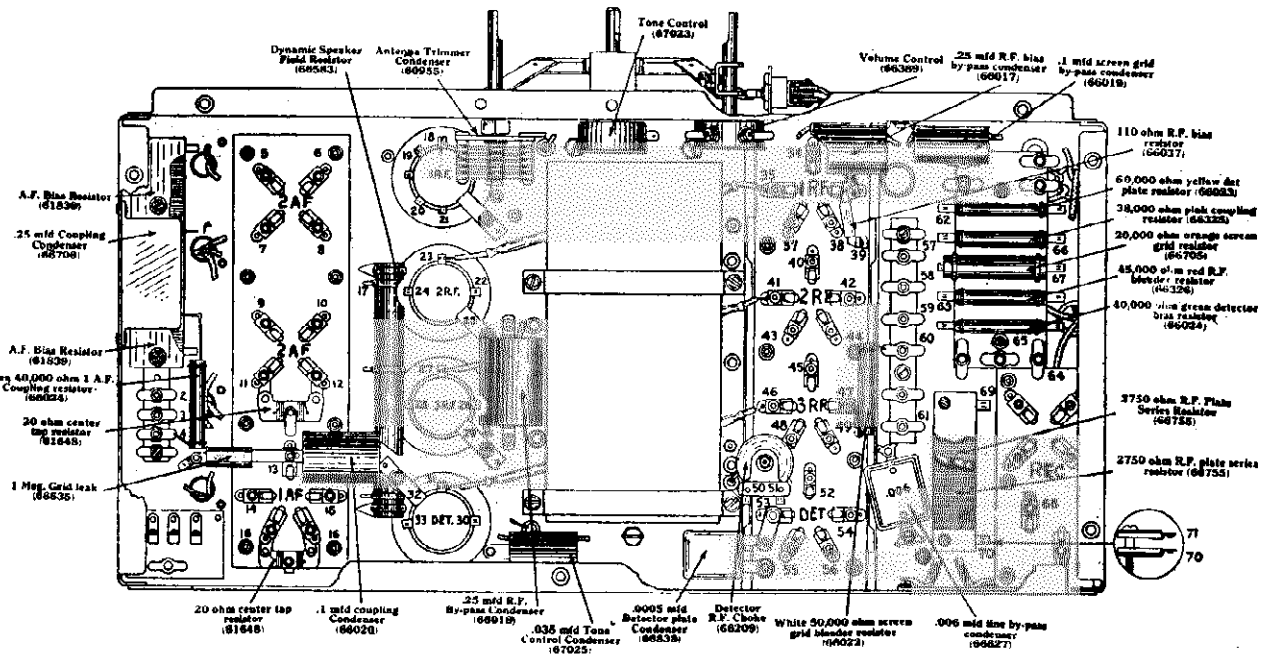


CIRCUIT DIAGRAM FOR STEWART WARNER 980 SERIES BATTERY RECEIVERS

MODEL R-100-A,B,E (AC) STEWART-WARNER CORP.  
 MODEL R-100 Series Schematic, Chassis



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



BOTTOM VIEW OF R-100 SERIES A. C. RADIO RECEIVERS

Tube	Position	Fil.	Plate	Grid	Screen	Plate Crnt.
224	1st RF	2.18	135	2.2	87	5.4
224	2nd RF	2.2	137	2.2	86	4.
224	3rd RF	2.22	136	2.2	86.5	4.9
227	Det	2.2	166	16.5	-	.6
227	1st AF	2.18	120	.6	-	3.6
245	Output	2.3	245	48.	-	27.
280	Rect	5.0	Plate current is 50 mls per anode			Line voltage 115 V.C. Fall

## STEWART-WARNER CORP

MODEL R-100-A  
Continuity Tests

## RECEIVER CONTINUITY TESTS

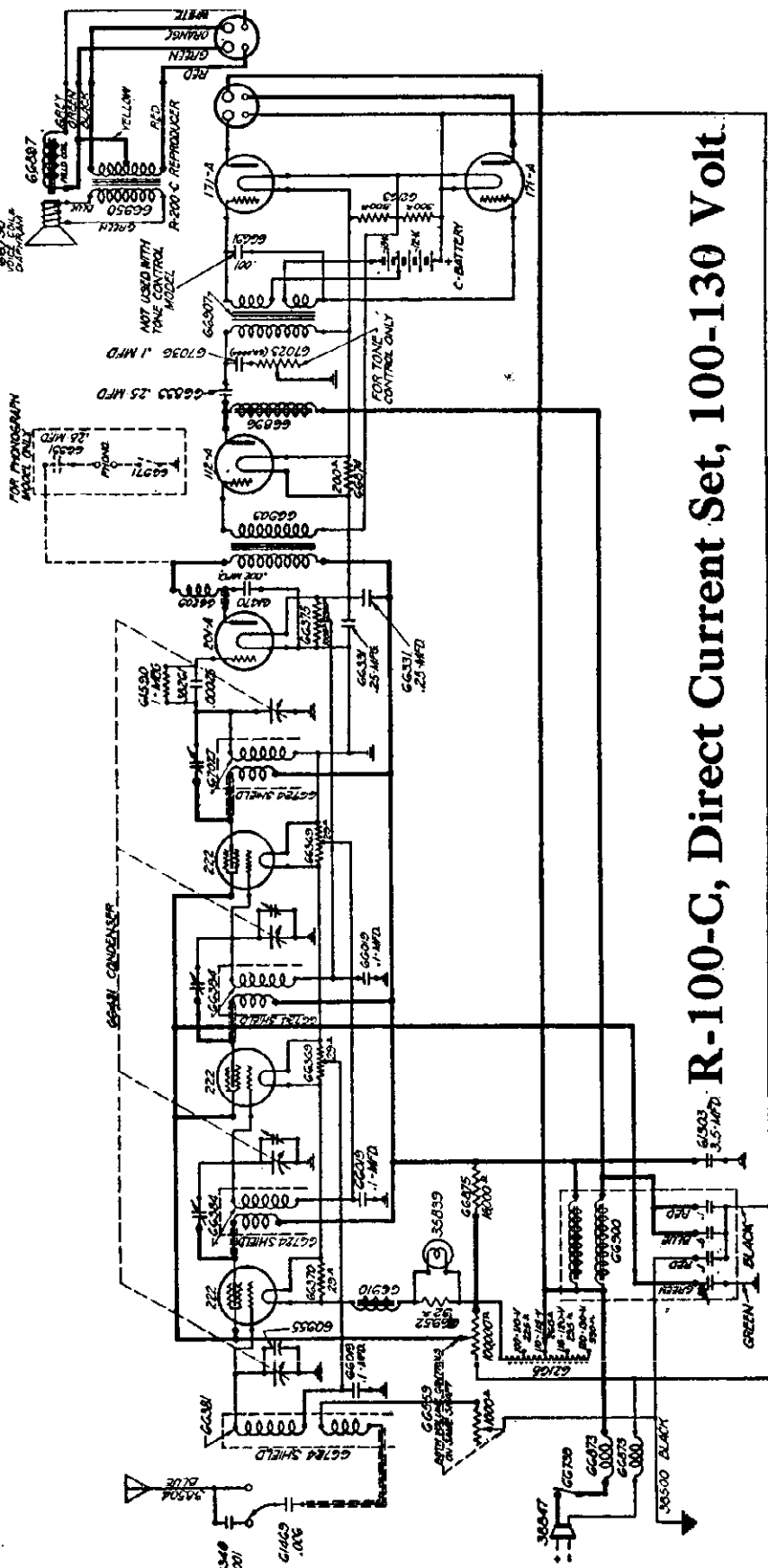
USE HIGH RESISTANCE VOLTMETER. TUBES AND SPEAKER MUST BE IN PLACE BUT SET DISCONNECTED AT SOCKET

CIRCUIT	TERMINALS	APPROX. NORMAL RESIST. READING	NO READING CAUSED BY	HIGH READING (LOW RESISTANCE) CAUSED BY
1 R.F. Plate	35 to 24	60 ohms*	Open 2 RF trans. primary	Shorted RF trans. primary
	35 to 63	17500 ohms*	Open red resistor	Grounded RF transformer primary Broken down or grounded red resistor
	35 to 70	5000 ohms*	Open plate resistor	Shorted 66755 series plate resistor
	35 to 57	6500 ohms	Open filter chokes	Shorted or grounded filter choke
1 R.F. Screen Grid	34 to 47	14000 ohms*	Open white resistor	Shorted or broken down white resistor
	Note: Above test must be made with volume control full on. Volume control is tested at this point by turning it back slowly while watching reading. Voltmeter should go to full reading slowly as control is rotated.			
	34 to 67	14000 ohms*	Open orange resistor	Shorted or defective orange resistor
1 R.F. Control Grid	Grid Wire to Ground	4 ohms	Open 1 RF transformer secondary	Shorted 1 R.F. transformer secondary
1 R.F. Cathode	30 to Grnd.	110 ohms	Open RF bias resistor	Short circuited RF bias resistor
2 R.F. Plate	41 to 28	50 ohms	Open primary 3d RF transformer	Short circuited RF trans. primary
2 R.F. Screen Grid	40 to 47	14000 ohms*	Open white resistor	Short circuited or broken down white resistor
2 R.F. Control Grid	Grid Wire to Ground	4 ohms	Open secondary 2 R.F. transformer	Shorted 2 R.F. transformer secondary
2 R.F. Cathode	42 to Grnd.	110 ohms	Open RF bias resistor	Shorted RF bias resistor
3 R.F. Plate	46 to 33	60 ohms	Open 4th RF trans. primary	Shorted RF transformer primary
3 R.F. Screen Grid	45 to 47	15000 ohms*	Open white resistor	Shorted or broken down white resistor
3 R.F. Control Grid	Grid Wire to Ground	4 ohms	Open 3d R.F. trans. secondary	Shorted 3d R.F. transformer secondary
3 R.F. Cathode	47 to Grnd.	110 ohms	Open RF bias resistor	Shorted RF bias resistor
Det. Plate	53 to 51	80 ohms	Open R.F. choke	Shorted RF trans. primary
	53 to 66	35000 ohms*	Open pink resistor	Shorted or defective pink resist.
	53 to 62	100000 ohms*	Open yellow resistor	Shorted or def. yellow resist.
	53 to 57	100000 ohms	Open filter choke	Shorted or def. yellow or pink resistors
Det. Grid	52 to Grnd.	4 ohms	Open 4th RF trans. secondary	Shorted 4th RF transformer secondary
Det. Cathode	54 to Grnd.	40000 ohms*	Open green resistor	Shorted or def. green resist.
1 A.F. Plate	14 to 4	40000 ohms	Open green plate resist.	Shorted or defective green plate resistor
	1 to Grnd.	1500 ohms	Open primary input trans.	Shorted input trans. primary
1 A.F. Grid	13 to Grnd.	Barely perceptible reading	Open grid leak	Shorted grid leak
1 A.F. Cathode	15 to Grnd.	2400 ohms	Open bias resistor	Shorted bias resistor
2 A.F. Plate	9 to 17	300 ohms)	Open output transformer primary	Shorted output trans. primary
	5 to 17	300 ohms)		
2 A.F. Grid	10 to Grnd.	5000 ohms)	Open input transformer secondary	Shorted input trans. secondary
	6 to Grnd.	4500 ohms)		

\*The value obtained here is not the true resistance because of parallel resistance networks in the set. To obtain true resistance values, one side of the resistor must be unsoldered and then checked when out of the circuit.

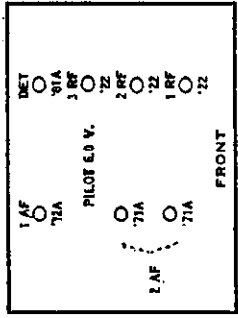
MODEL R-100-C (DC)  
Schematic, Voltage

STEWART-WARNER CORP.



R-100-C, Direct Current Set, 100-130 Volt

Model R100C



All screen grid, control grid, and plate voltages are taken with respect to the **NEGATIVE** filament terminal of the tube.

\* This reading must be taken from negative filament to grid side of tuning coil because of the grid leak in this circuit.

VOLTAGE READINGS  
LINE VOLTAGE 112

Tube Position	Filament	Screen Grid	Plate	Control Grid
1 R.F.	3	44	68	- 1.5
2 R.F.	3	47	71	- 1.5
3 R.F.	3	51	74	- 1.5
Det.	4.25		69	+ 4.2 *
1 A.F.	4.25		92	- 3.7
2 A.F.	4.8		97	-14.8
2 A.F.	4.8		102	-15.2

**VARIABLE RESISTORS: VOLUME CONTROLS AND RHEOSTATS**

Model	Use in Set	Part No.	Resistance	Description
300	Filament Rheostat	18056	4.5 ohms	Wire-wound rheostat.
305	Volume Control	18057	200 ohms	Wire-wound potentiometer.
310	Filament Rheostat	31923	10 ohms	Wire-wound rheostat.
330	Volume Control	18057	200 ohms	Wire-wound potentiometer.
335	Filament Rheostat	34762	3.2 ohms	Wire-wound rheostat.
340	Volume Control	34763	100,000 ohms	Combination wire-wound and carbon strip variable resistor.
345	Filament Rheostat	18056	4.5 ohms	Wire-wound rheostat.
350	Volume Control	18056	4.5 ohms	Wire-wound rheostat.
520	Volume Control and Filament Switch	37040	175,000 ohms	Combination wire-wound and carbon strip variable resistor combined with filament switch.
530	Volume Control	37892	5,000 ohms	Combination wire-wound and carbon strip variable resistor.
705	Detector Rheostat	37211	20 ohms	Wire-wound rheostat.
710	Vol. Control & Switch	35947	175,000 ohms	Combination variable resistor and filament switch.
715	Volume Control	37995	5,000 ohms	Combination wire-wound and carbon strip variable resistor.
720	Volume Control	37995	5,000 ohms	Combination wire-wound and carbon strip variable resistor.
750	Volume Control	39256	10,000 ohms	Metal enclosed carbon strip variable resistor.
805	Volume Control	39725	175,000 ohms	Combination wire-wound and carbon strip variable resistor.
900 Series AC	Volume Control	61537	60,000 ohms	Metal enclosed carbon strip variable resistor.
930-1-3-3	Volume Control	62908	15,000 ohms	Metal enclosed carbon strip variable resistor.
950 Series AC	Volume Control	66389	31,000 ohms	Metal enclosed carbon strip potentiometer.
970-1-3-3	Volume Control	66539	1,000 ohms and 100,000 ohms	Double unit metal enclosed carbon strip variable resistor.
980-1-2-3	Volume Control	66559	1,000 ohms and 100,000 ohms	Double unit metal enclosed carbon strip variable resistor.
R100 A, B & F	Volume Control	66389	32,000 ohms	Metal enclosed carbon strip potentiometer.
R100C	Volume Control	67023	60,000 ohms	Metal enclosed carbon strip variable resistor.
	Volume Control	66539	1,000 ohms and 100,000 ohms	Double unit metal enclosed variable resistor.

**VOLTAGE REGULATORS\***

Model	Part No.	Description
900-1-2-3	61816 66547	Brown. Machine screw mounting. Brown. Two threaded contact pins for mounting.
910-1-2-3	66412	Brown. Plug in type.
940-1-2-3	62151	Brown. Plug in type.
950-1-2-3	62152	Brown. Plug in type.
960-1-2-3	66491	Brown. Plug in type.
990-1-2-3	66514	Brown. Plug in type.
R-100-A	66756	Gold. Plug in type.
R-100-B	66841	Gold. Plug in type.
R-100-E	66852	Gold. Plug in type.

\* Note — No resistance values are given since the resistance of all voltage regulators varies widely with temperature and current flowing through the wire.

**WIRE-WOUND RESISTORS**

SHOW APPROXIMATELY HALF SIZE

38915 1000 ohms. Grid resistor. Used in 800 Series receivers.

60279 29 ohms. 1 R. F. filament about. Used in 900 and R-100 Series D. C.

60657 110 ohms. R. F. bias. Used in 900 and R-100 Series A. C.

37601 .20 ohms. Center tap resistor. Used in 900, 700, and 800 Series A. C. Used in 700 Series battery receivers.

60280 29 ohms. 2 R. F. filament about. Used in 900, 800, and R-100 Series A. C.

61648 .20 ohms. Center tap resistor. Used in 900, 800, and R-100 Series A. C.

37553 1.65 ohms. A. F. filament resistor. Used in 700 Series battery receivers.

34579 3.0 ohms. R. F. filament resistor. .58 ohms. Filament resistor. Used in Model 800 only.

38956 10,000 ohms. 1 A. F. grid bias. Used in Model 811 only.

38979 4000 ohms. 1 A. F. grid bias. Used in Models 801 and 780.

38955 1000 ohms. 2 A. F. grid bias. Used in 800 A. C. Series B.

38499 20 ohms. Center tap resistor. Used in Model 780 and 800 Series A. C. receivers.

38953 2100 ohms. 2 A. F. grid bias in Model 811 and 800 Series A. Used also as R. F. grid bias in 800 A. C.

38958 1700 ohms. R. F. grid bias. Used in Model 780 only.

62106 32 ohms. Pilot light about. (3 A. F., grid bias.) Used in 800 D. C.

**STEWART-WARNER CORP.**

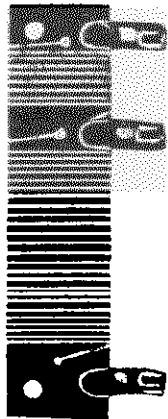
**Resistor Data Part 1**

Resistor Data  
Part 2

STEWART - WARNER CORP.

WIRE-WOUND RESISTORS

SHOWN APPROXIMATELY HALF SIZE



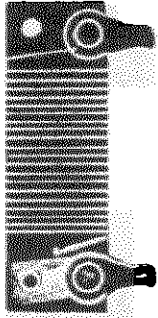
64039  
2220 ohms and 1110 ohms. B supply resistor. Used in 900 and 900 Series A. C. receivers.



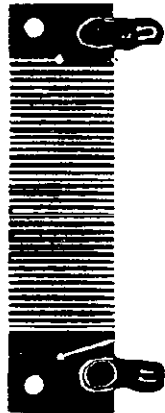
64037  
4.4 ohms and 5 ohms. Filament resistor. Used in 900 Series battery receivers.



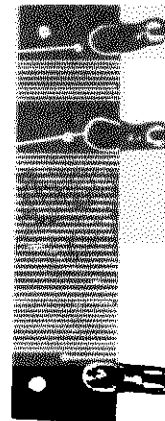
37569  
56 ohms. Filament resistor. Used in 900 Series battery receivers.



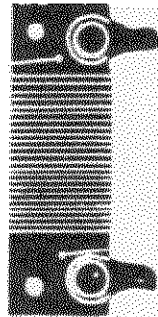
37737  
5100 ohms. 1 A. F. grid bias. Used in 900 and 700 Series A. C. receivers.



61833  
7000 ohms. Series plate resistor. Used in 900 Series A. C.



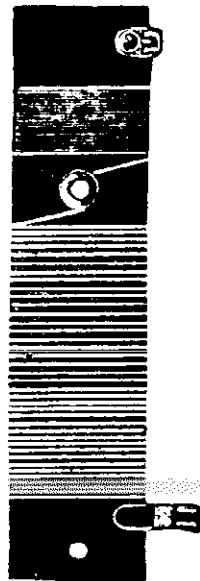
64876  
2300 ohms and 1000 ohms. Detector filament shunt resistor. Used in 900 Series D. C. and R100C receivers.



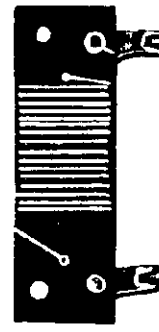
33733  
1000 ohms. Grid resistor. Used in 1st B. F. of 900 Series A. C. and all B. F. of 900 Series Battery.



37794  
1700 ohms. R. F. grid bias. Used in 900 and 700 Series A. C. receivers.



61839  
900 ohms and 2400 ohms. A. F. grid bias. Used in 900, 960 and R-100 Series A. C.



64872  
2000 ohms. Detector plate resistor. Used in 900 Series D. C. receiver.



37763  
1000 ohms. 2nd and 3rd B. F. grid resistor. Used in 900 Series A. C.



37639  
20 ohms. Center tap. Used in 700 Series A. C. receivers.



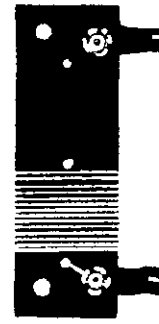
64756  
2700 ohms. B supply resistor. Used in R-100-A and E.  
64834  
1110 ohms. Screen Grid supply resistor. Used in R-100-R  
64831  
2220 ohms. B supply resistor. Used in R-100-E.



64833  
32 ohms. Pilot light shunt resistor. Used in R-100-C.



37555  
56 ohms. Filament resistor. Used in 900 Series battery receivers.



61836  
900 ohms. B. F. grid bias. Used in 900 Series A. C.



A-F. Transformer Data

STEWART-WARNER CORP.

STEWART-WARNER AUDIO-TRANSFORMER DATA

Model Number	Circuit in Which Used	Transformer Finish	Approximate Turns Ratio		Primary	Secondary	Color Code of Wires	Approximate Resistance	Substrate
			Primary	Secondary					
300-345	First Audio	Silver	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	Grid-Blue C- - Green	38977	61914 64566 66566
310-345	Input Push-Pull	Silver	1.5 to 1	3600 ohms	3400 ohms	Plate-Orange B+ - Red	Grid #1-Blue Grid #2-Green Ground-White Or C- - White	39978	61914 64566 66566
320-345	Output Push-Pull	Silver	1 to 1.2	600 and 600 ohms	350 ohms	Plate #1-White with Black Tracer Plate #2-Red with Black Tracer B+ - White with Red Tracer	1. White with Black Tracer Out. Brown Tracer 2. White with Green Tracer	39977	61914 64566 66566
330-345	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	61914	64566 66566
705-719	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
715-726	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
730-736	Input Push-Pull	Brown	2.25 to 1	1500 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64185	61915 64566 66566
740-746	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
750-756	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	61916	64566 66566
760-766	Input Push-Pull	Brown	2.25 to 1	1600 ohms	4200 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	62897	64566 66566
770-776	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
780-786	First Audio	Brown	2.3 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
790-796	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
800-806	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
810-816	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
820-826	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
830-836	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
840-846	First Audio	Brown	2.3 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
850-856	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
860-866	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
870-876	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
880-886	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
890-896	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
900-906	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
910-916	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
920-926	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
930-936	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
940-946	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
950-956	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
960-966	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
970-976	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
980-986	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566
990-996	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate-White B+ - Red	Grid-Blue Grid #1-Blue Grid #2-Green Ground-Orange	64566	61914 64566 66566
1000-1006	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate-White B+ - Red	Grid #1-Blue Grid #2-Green Ground-Orange	61915	64566 66566
1010-1016	Output Push-Pull	Brown	1 to 1.6	280 and 340 ohms	2.6 ohms	Plate #1-White B+ - Red	Output-Blue Green	61916	64566 66566

Resistance values given here are only approximate. They will vary widely with date of manufacture and material used. Where two resistance values are given they apply to both halves of a winding. The color winding always has the higher resistance. The color code given applies only to the cotton insulation of the terminal wire and not to the color of the paperprint or enameled tubing around the wire.

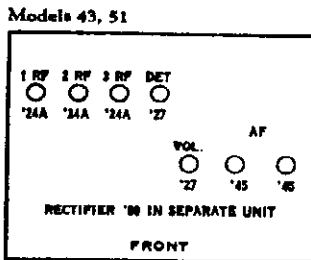
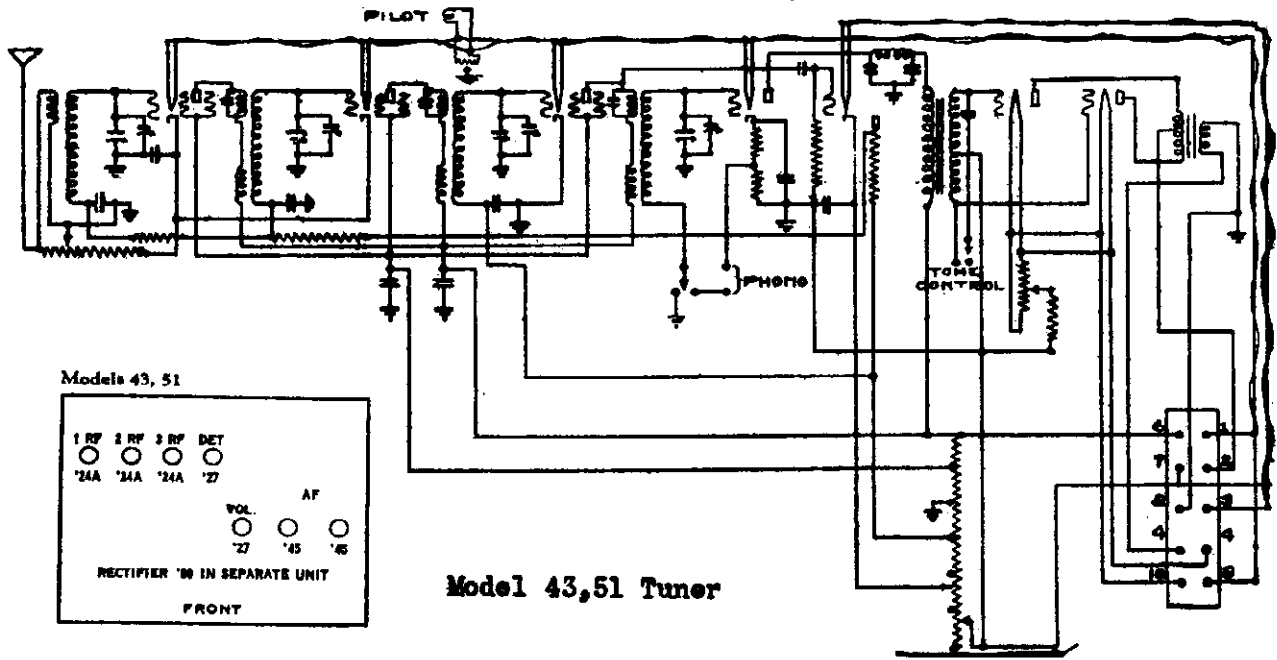
STEWART-WARNER AUDIO-TRANSFORMER DATA

Model Number	Circuit in Which Used	Transformer Finish	Approximate Turns Ratio		Primary	Secondary	Color Code of Wires	Approximate Resistance	Substrate
			Primary	Secondary					
300-345	Both Audio Stages	Brown	3 to 1	800 ohms	3900 ohms	Soldering Lugs Used	38977	61914 64566 66566	
310-345	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
320-345	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Grid-Orange C- - Black	38977	61914 64566 66566	
330-345	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Grid-Orange C- - Blue	38977	61914 64566 66566	
340-345	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Grid-Orange C- - Blue	38977	61914 64566 66566	
350-355	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
360-365	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
370-375	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
380-385	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
390-395	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
400-405	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
410-415	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
420-425	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
430-435	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
440-445	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
450-455	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
460-465	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
470-475	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
480-485	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
490-495	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
500-505	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
510-515	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
520-525	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
530-535	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
540-545	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
550-555	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
560-565	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
570-575	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
580-585	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
590-595	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
600-605	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
610-615	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
620-625	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
630-635	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
640-645	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
650-655	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
660-665	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
670-675	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
680-685	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
690-695	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
700-705	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
710-715	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
720-725	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
730-735	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
740-745	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
750-755	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
760-765	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
770-775	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
780-785	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
790-795	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
800-805	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
810-815	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
820-825	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
830-835	Output	Black	1 to 1	400 ohms	600 ohms	Plate-Orange B+ - Black	38977	61914 64566 66566	
840-845	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate-White B+ - Red	38977	61914 64566 66566	
850-855	Second Audio								

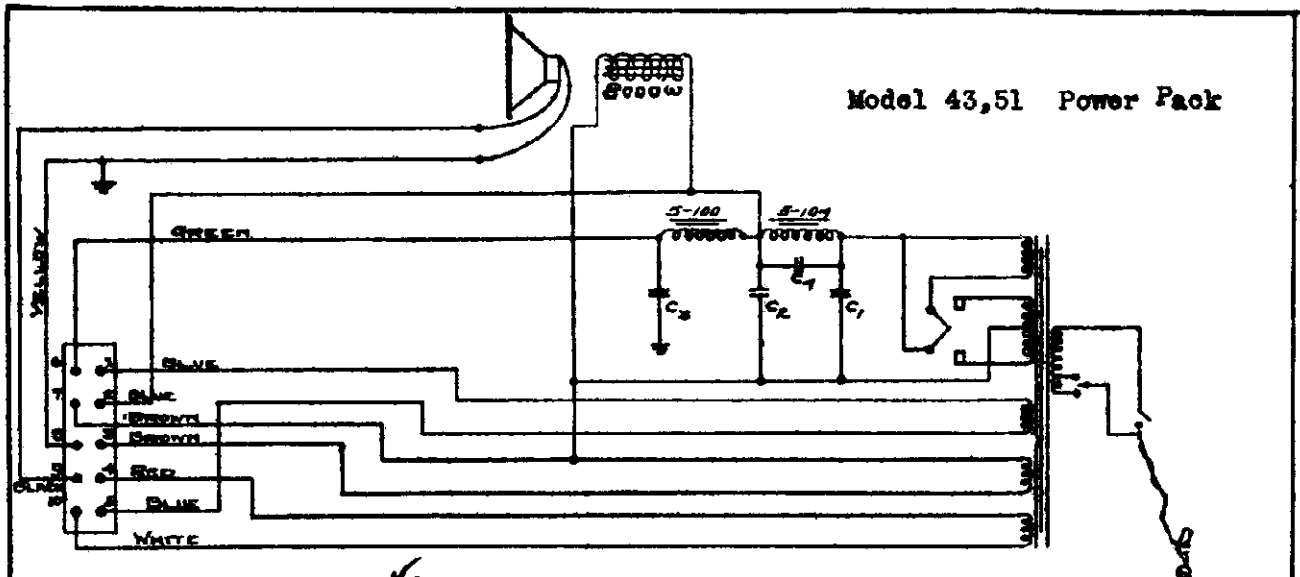


MODELS 43,51

STORY & CLARK RADIO CORP.



Model 43,51 Tuner



Model 43,51 Power Pack

+ NOTE +

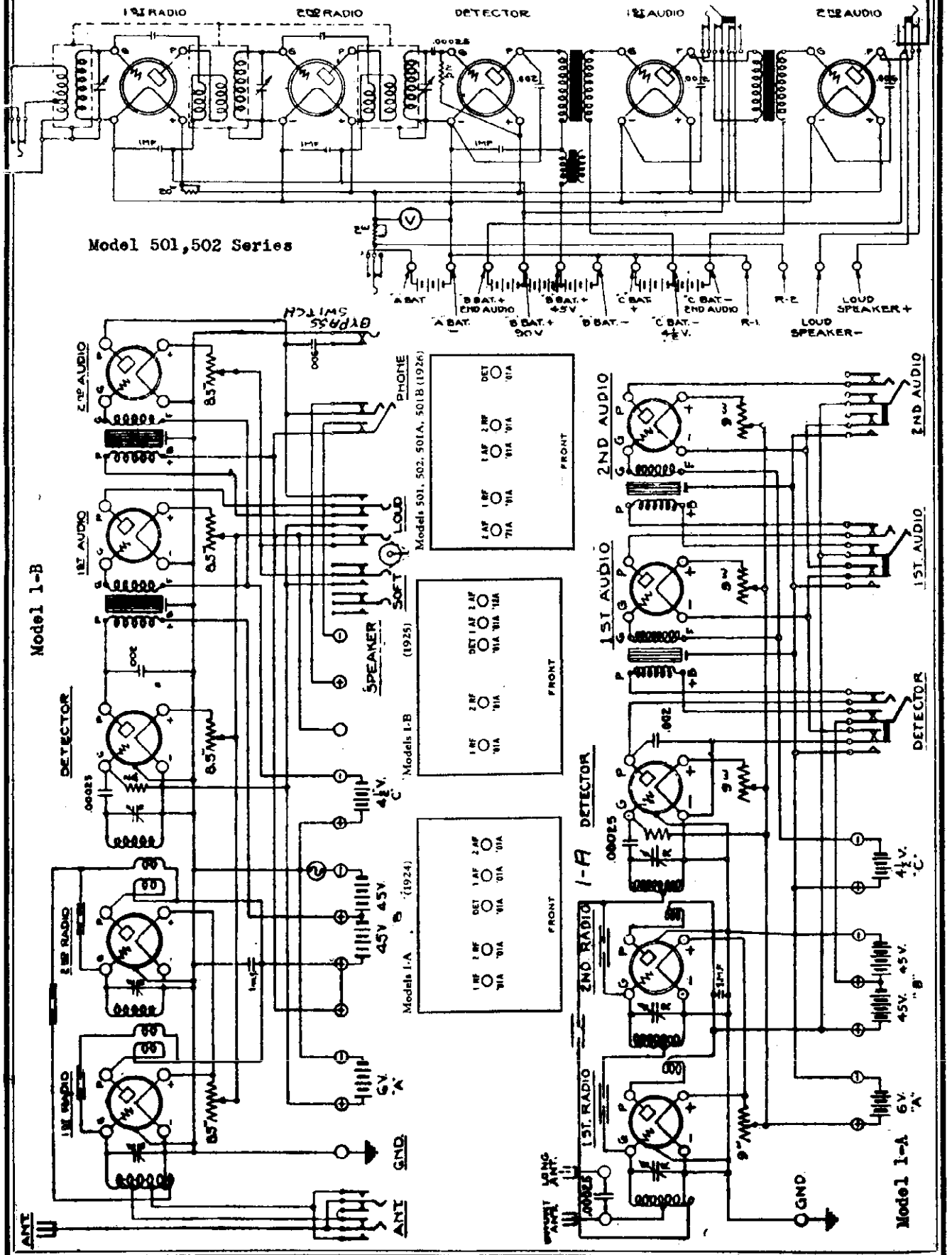
COLORLED LEADS ARE CABLE CONNECTIONS FROM POWER PACK TO R.F. UNIT.  
C<sub>1</sub> - 2 MF, C<sub>2</sub> - 2 MF, C<sub>3</sub> - 3 MF, C<sub>4</sub> - .16 MF.

FOR 60 CYCLE SUPPLY, LOW POTENTIAL SIDE OF C<sub>3</sub> RETURNS TO -B, AS C<sub>2</sub> & C<sub>1</sub>. ALSO CONDENSER C<sub>4</sub> HAS A TOTAL CAPACITY OF 5 MF.

STORY & CLARK RADIO CORP.  
173 N. MICHIGAN AVE.  
CHICAGO, USA

DATE	6-13-30
DRAWN	WJZ
CHECKED	
APPROVED	

STROMBERG - CARLSON TEL. MFG. CO. MODEL 1-A  
 MODEL 1-B  
 MODEL 501, 501-A, 501-B  
 502, 502-A, 502-B



MODEL 403-AA

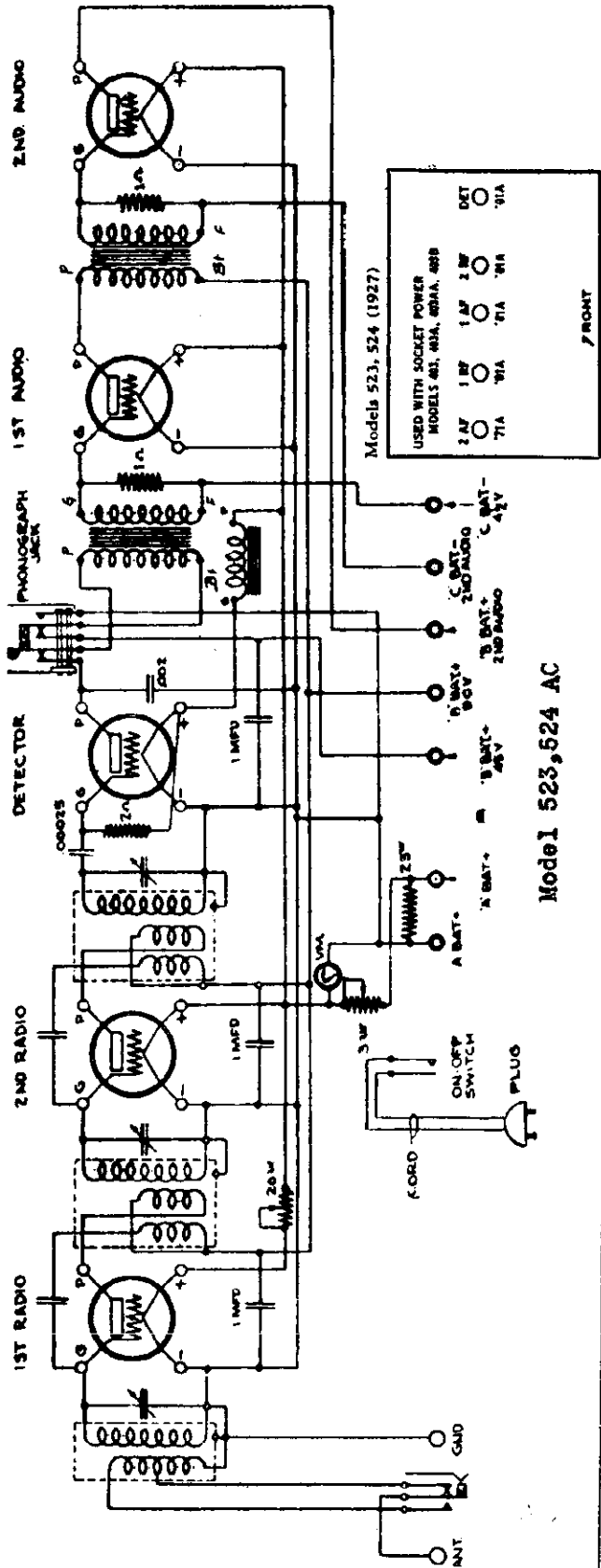
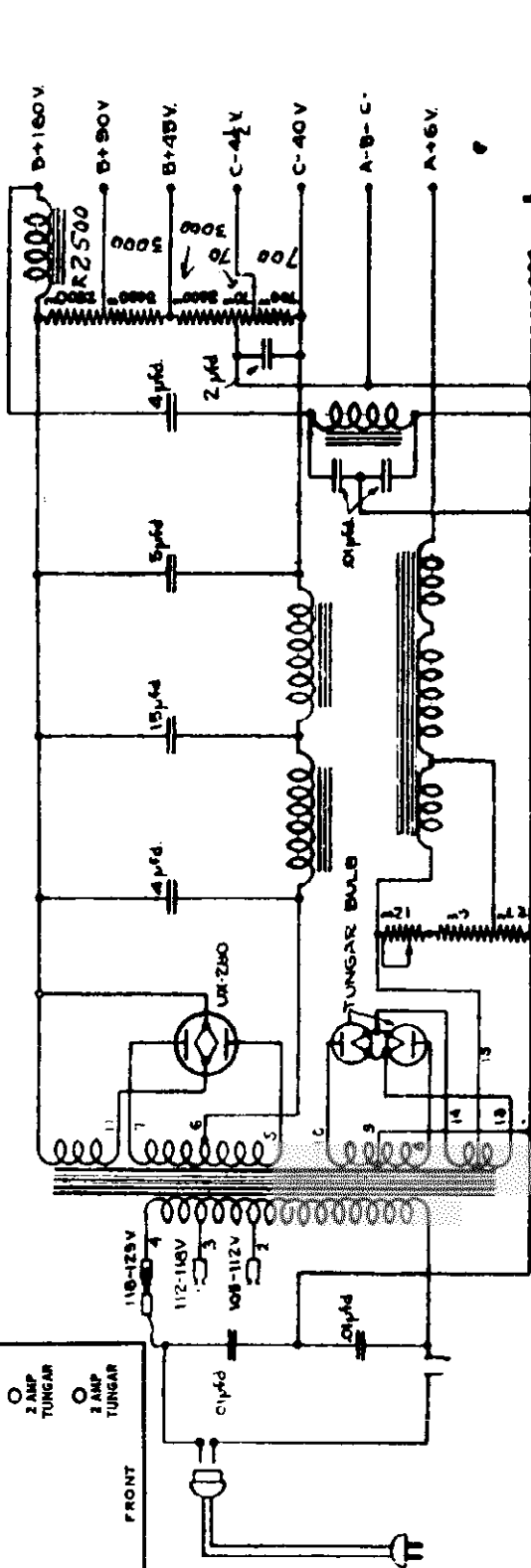
MODEL 523,524 AC STROMBERG - CARLSON TEL. MFG. CO.

Model 403-AA

Models 403, 403A, 403AA, 403B (1927)

SOCKET POWER USED WITH MODELS	
RECT	W
2 AMP TUNGAR	W
2 AMP TUNGAR	W

FRONT



Models 523, 524 (1927)

USED WITH SOCKET POWER MODELS 403, 403A, 403AA, 403B	
2.4V	71A
1.8V	71A
1.4V	71A
2.1V	71A
0.7V	71A

FRONT

Model 523,524 AC

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 403,403-A  
 MODEL 403-B  
 MODEL 301-A

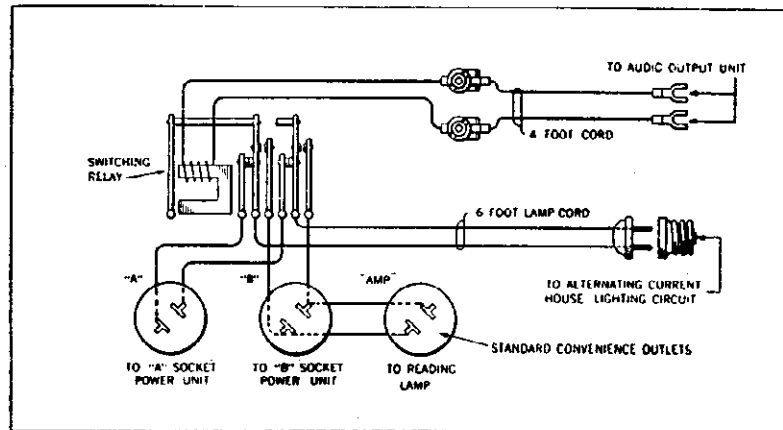
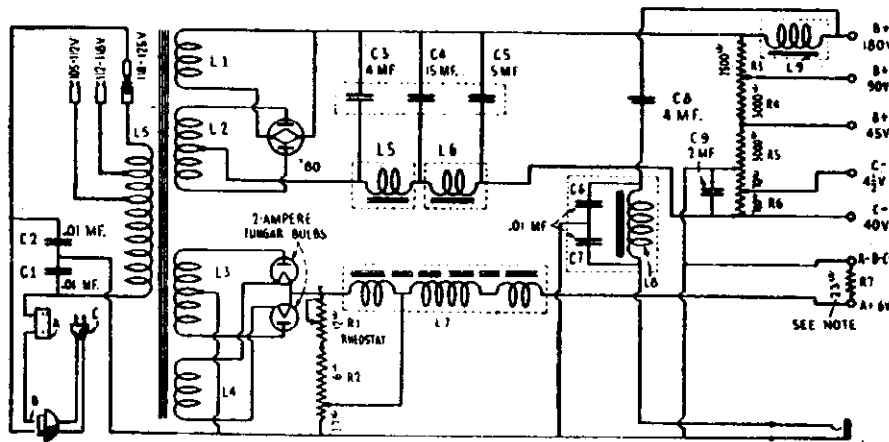
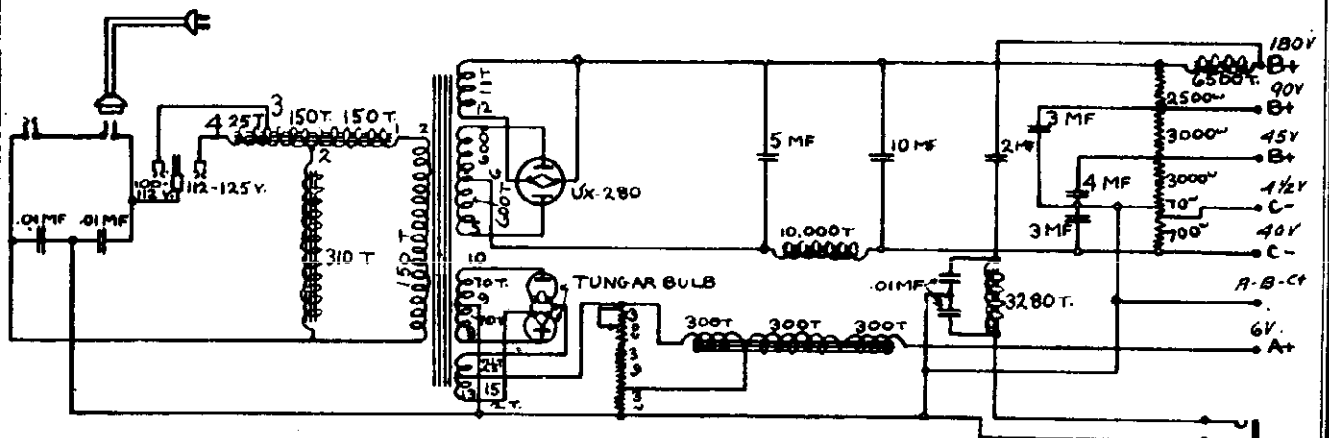


Diagram of Connections in No. 301-A Power Switching Relay



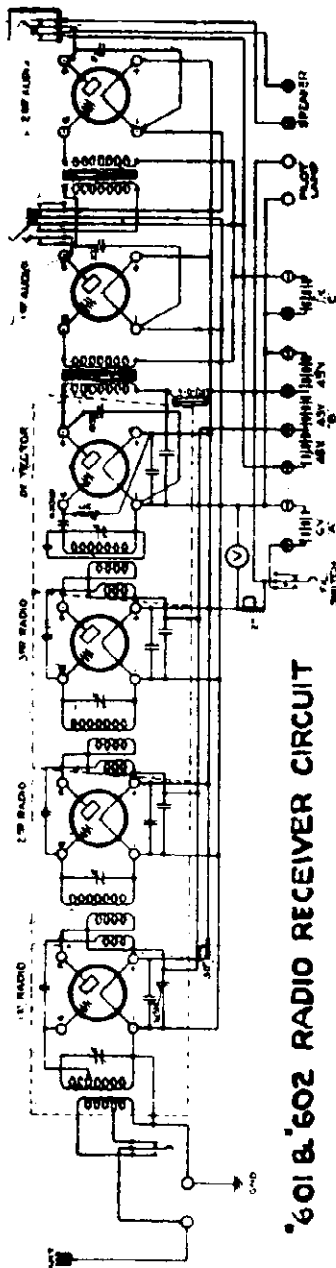
Model 403,403-A



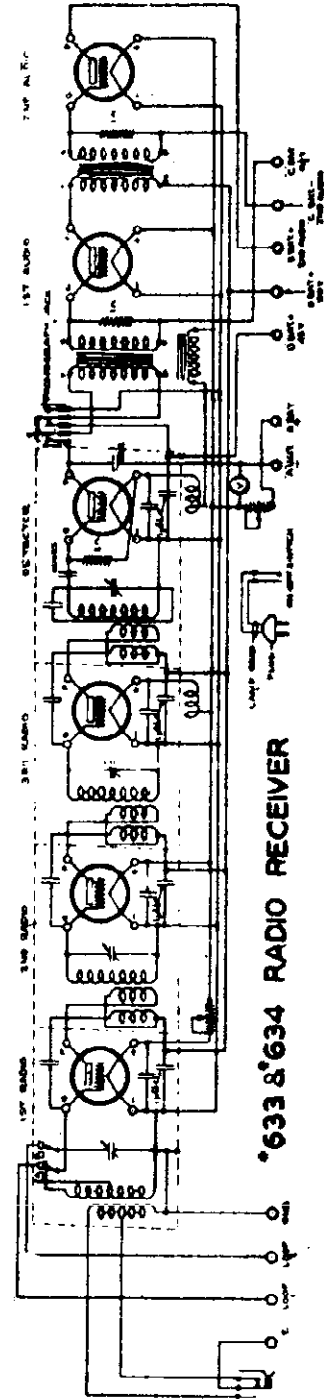
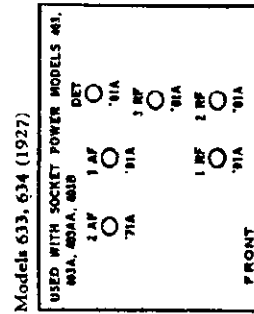
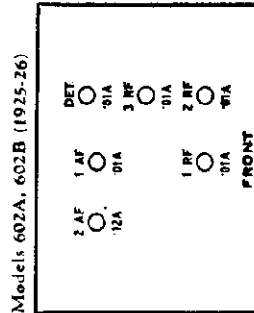
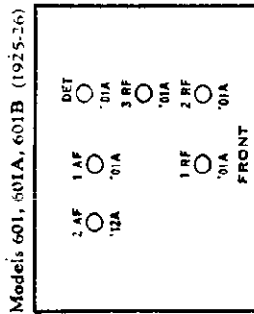
Model 403-B

MODEL 601, 602  
MODEL 633, 634

STROMBERG-CARLSON TEL. MFG. CO.



\*601 & 602 RADIO RECEIVER CIRCUIT



\*633 & 634 RADIO RECEIVER

MODEL 635, 636 AC

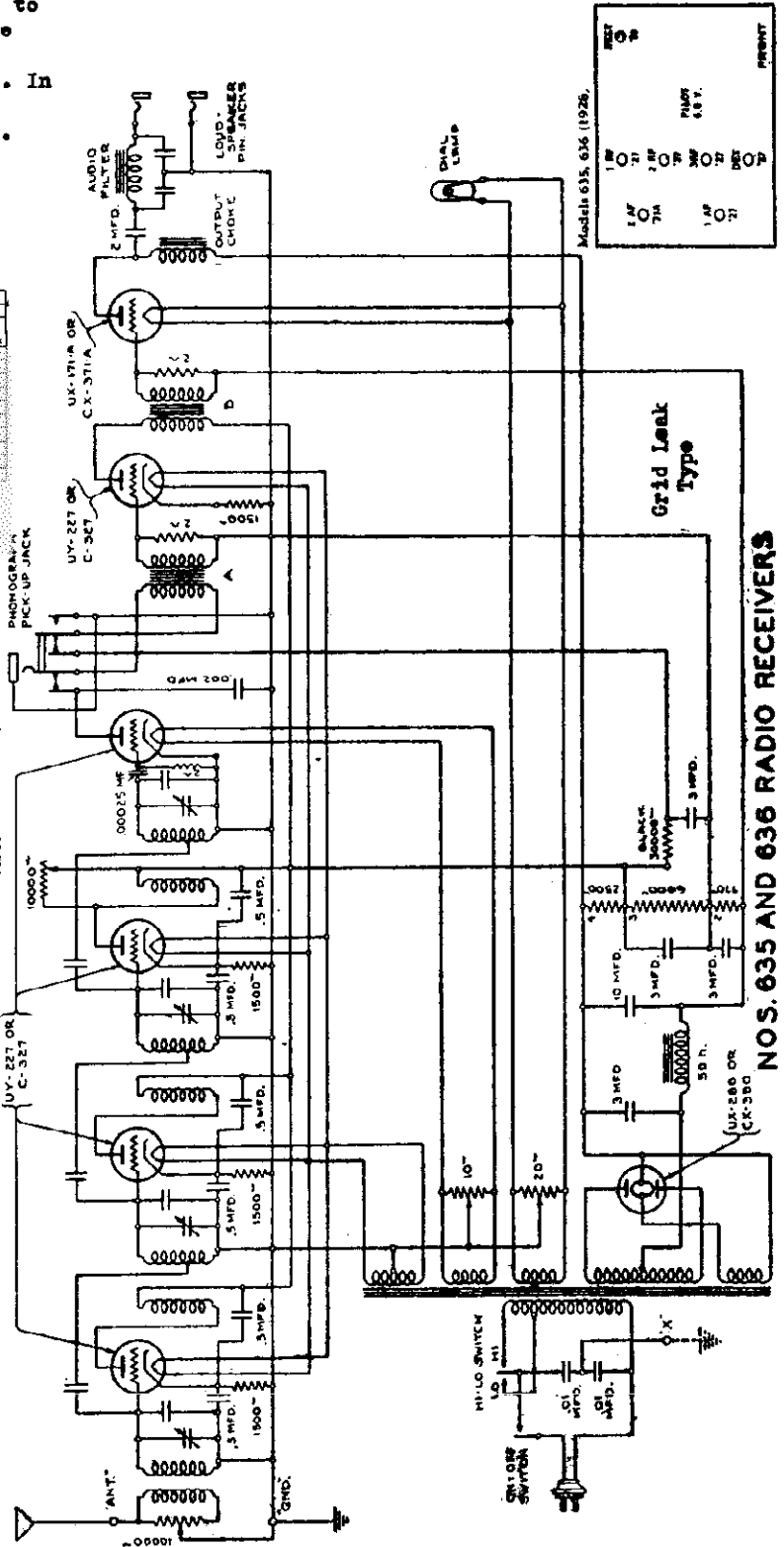
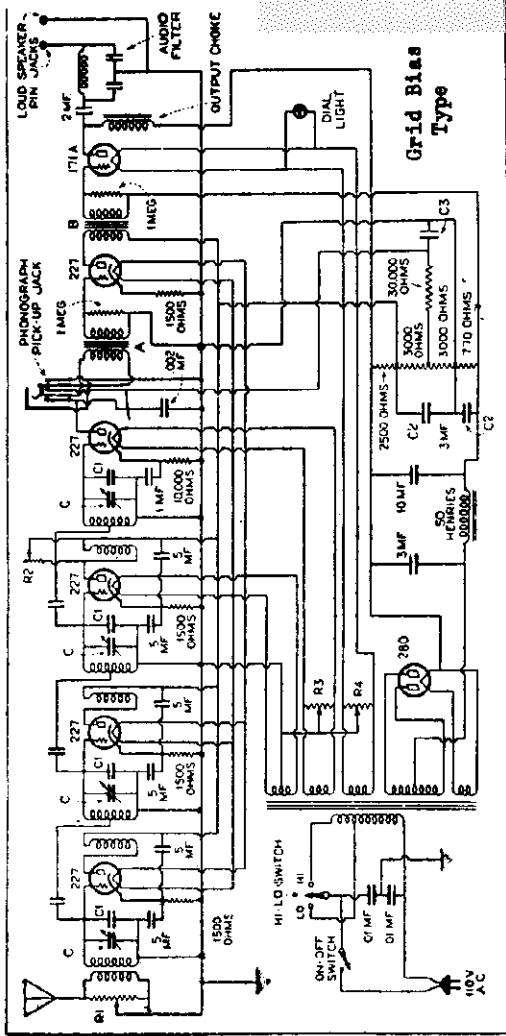
Two Types

STROMBERG - CARLSON TEL. MFG. CO.

The difference between the two types is to be found in the detector circuit. In one of the types, type 1, the detector tube secures its bias via a cathode resistor. In the other type, the detector circuit is equipped with a grid leak and condenser.

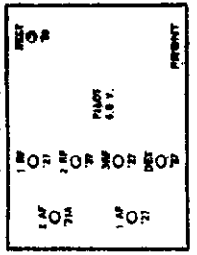
STROMBERG-CARLSON—Models 635-636  
Line Voltage 115—High Volt Tap—Volume Control Full

TYPE	TUBE	READING PLUS IN BRACKET OF RES.				TUBE IN TESTER			
		1	2	3	4	5	6	7	8
1	6X4	100	100	100	100	100	100	100	100
2	6X4	100	100	100	100	100	100	100	100
3	6X4	100	100	100	100	100	100	100	100
4	6X4	100	100	100	100	100	100	100	100
5	6X4	100	100	100	100	100	100	100	100
6	6X4	100	100	100	100	100	100	100	100
7	6X4	100	100	100	100	100	100	100	100
8	6X4	100	100	100	100	100	100	100	100
9	6X4	100	100	100	100	100	100	100	100
10	6X4	100	100	100	100	100	100	100	100
11	6X4	100	100	100	100	100	100	100	100
12	6X4	100	100	100	100	100	100	100	100
13	6X4	100	100	100	100	100	100	100	100
14	6X4	100	100	100	100	100	100	100	100
15	6X4	100	100	100	100	100	100	100	100
16	6X4	100	100	100	100	100	100	100	100
17	6X4	100	100	100	100	100	100	100	100
18	6X4	100	100	100	100	100	100	100	100
19	6X4	100	100	100	100	100	100	100	100
20	6X4	100	100	100	100	100	100	100	100
21	6X4	100	100	100	100	100	100	100	100
22	6X4	100	100	100	100	100	100	100	100
23	6X4	100	100	100	100	100	100	100	100
24	6X4	100	100	100	100	100	100	100	100
25	6X4	100	100	100	100	100	100	100	100
26	6X4	100	100	100	100	100	100	100	100
27	6X4	100	100	100	100	100	100	100	100
28	6X4	100	100	100	100	100	100	100	100
29	6X4	100	100	100	100	100	100	100	100
30	6X4	100	100	100	100	100	100	100	100
31	6X4	100	100	100	100	100	100	100	100
32	6X4	100	100	100	100	100	100	100	100
33	6X4	100	100	100	100	100	100	100	100
34	6X4	100	100	100	100	100	100	100	100
35	6X4	100	100	100	100	100	100	100	100
36	6X4	100	100	100	100	100	100	100	100
37	6X4	100	100	100	100	100	100	100	100
38	6X4	100	100	100	100	100	100	100	100
39	6X4	100	100	100	100	100	100	100	100
40	6X4	100	100	100	100	100	100	100	100
41	6X4	100	100	100	100	100	100	100	100
42	6X4	100	100	100	100	100	100	100	100
43	6X4	100	100	100	100	100	100	100	100
44	6X4	100	100	100	100	100	100	100	100
45	6X4	100	100	100	100	100	100	100	100
46	6X4	100	100	100	100	100	100	100	100
47	6X4	100	100	100	100	100	100	100	100
48	6X4	100	100	100	100	100	100	100	100
49	6X4	100	100	100	100	100	100	100	100
50	6X4	100	100	100	100	100	100	100	100
51	6X4	100	100	100	100	100	100	100	100
52	6X4	100	100	100	100	100	100	100	100
53	6X4	100	100	100	100	100	100	100	100
54	6X4	100	100	100	100	100	100	100	100
55	6X4	100	100	100	100	100	100	100	100
56	6X4	100	100	100	100	100	100	100	100
57	6X4	100	100	100	100	100	100	100	100
58	6X4	100	100	100	100	100	100	100	100
59	6X4	100	100	100	100	100	100	100	100
60	6X4	100	100	100	100	100	100	100	100
61	6X4	100	100	100	100	100	100	100	100
62	6X4	100	100	100	100	100	100	100	100
63	6X4	100	100	100	100	100	100	100	100
64	6X4	100	100	100	100	100	100	100	100
65	6X4	100	100	100	100	100	100	100	100
66	6X4	100	100	100	100	100	100	100	100
67	6X4	100	100	100	100	100	100	100	100
68	6X4	100	100	100	100	100	100	100	100
69	6X4	100	100	100	100	100	100	100	100
70	6X4	100	100	100	100	100	100	100	100
71	6X4	100	100	100	100	100	100	100	100
72	6X4	100	100	100	100	100	100	100	100
73	6X4	100	100	100	100	100	100	100	100
74	6X4	100	100	100	100	100	100	100	100
75	6X4	100	100	100	100	100	100	100	100
76	6X4	100	100	100	100	100	100	100	100
77	6X4	100	100	100	100	100	100	100	100
78	6X4	100	100	100	100	100	100	100	100
79	6X4	100	100	100	100	100	100	100	100
80	6X4	100	100	100	100	100	100	100	100
81	6X4	100	100	100	100	100	100	100	100
82	6X4	100	100	100	100	100	100	100	100
83	6X4	100	100	100	100	100	100	100	100
84	6X4	100	100	100	100	100	100	100	100
85	6X4	100	100	100	100	100	100	100	100
86	6X4	100	100	100	100	100	100	100	100
87	6X4	100	100	100	100	100	100	100	100
88	6X4	100	100	100	100	100	100	100	100
89	6X4	100	100	100	100	100	100	100	100
90	6X4	100	100	100	100	100	100	100	100
91	6X4	100	100	100	100	100	100	100	100
92	6X4	100	100	100	100	100	100	100	100
93	6X4	100	100	100	100	100	100	100	100
94	6X4	100	100	100	100	100	100	100	100
95	6X4	100	100	100	100	100	100	100	100
96	6X4	100	100	100	100	100	100	100	100
97	6X4	100	100	100	100	100	100	100	100
98	6X4	100	100	100	100	100	100	100	100
99	6X4	100	100	100	100	100	100	100	100
100	6X4	100	100	100	100	100	100	100	100



Models 635, 636 (1926)

NOS. 635 AND 636 RADIO RECEIVERS

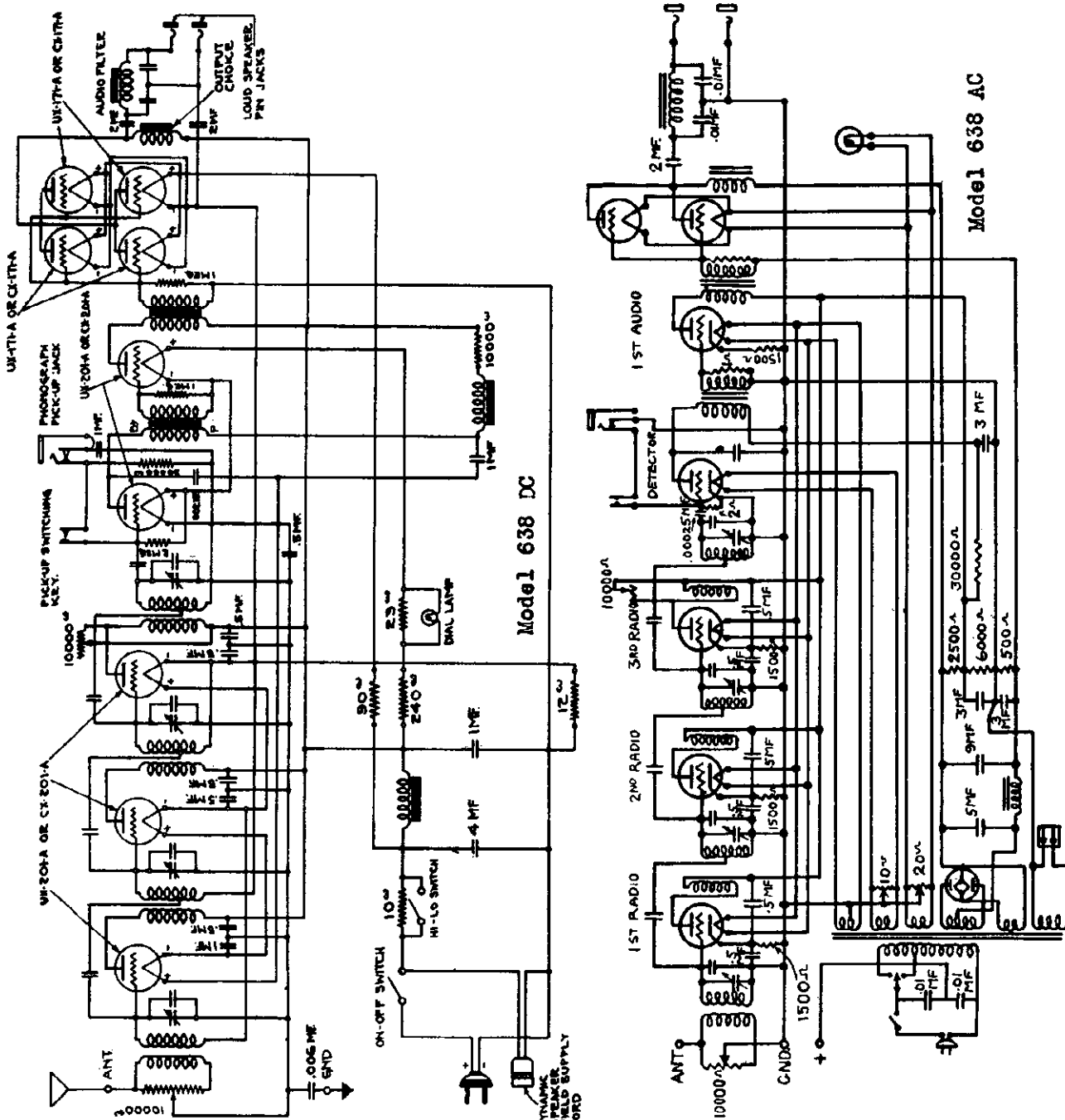






STROMBERG - CARLSON TEL. MFG. CO.

MODEL 638 AC  
MODEL 638 DC



Models. 638 DC (1928)

1 RF	2 AF
'01A	'71A
2 RF	'71A
'01A	'71A
3 RF	
'01A	
1 AF	PILOT 6.0 V.
'01A	
	FRONT

Model 638 AC (1929)

2 AF	1 RF	RECT
'71A	'27	'86
'71A	2 RF	
	'27	
	3 RF	PILOT 6.0 V.
1 AF	'27	
'27	'27	
		FRONT

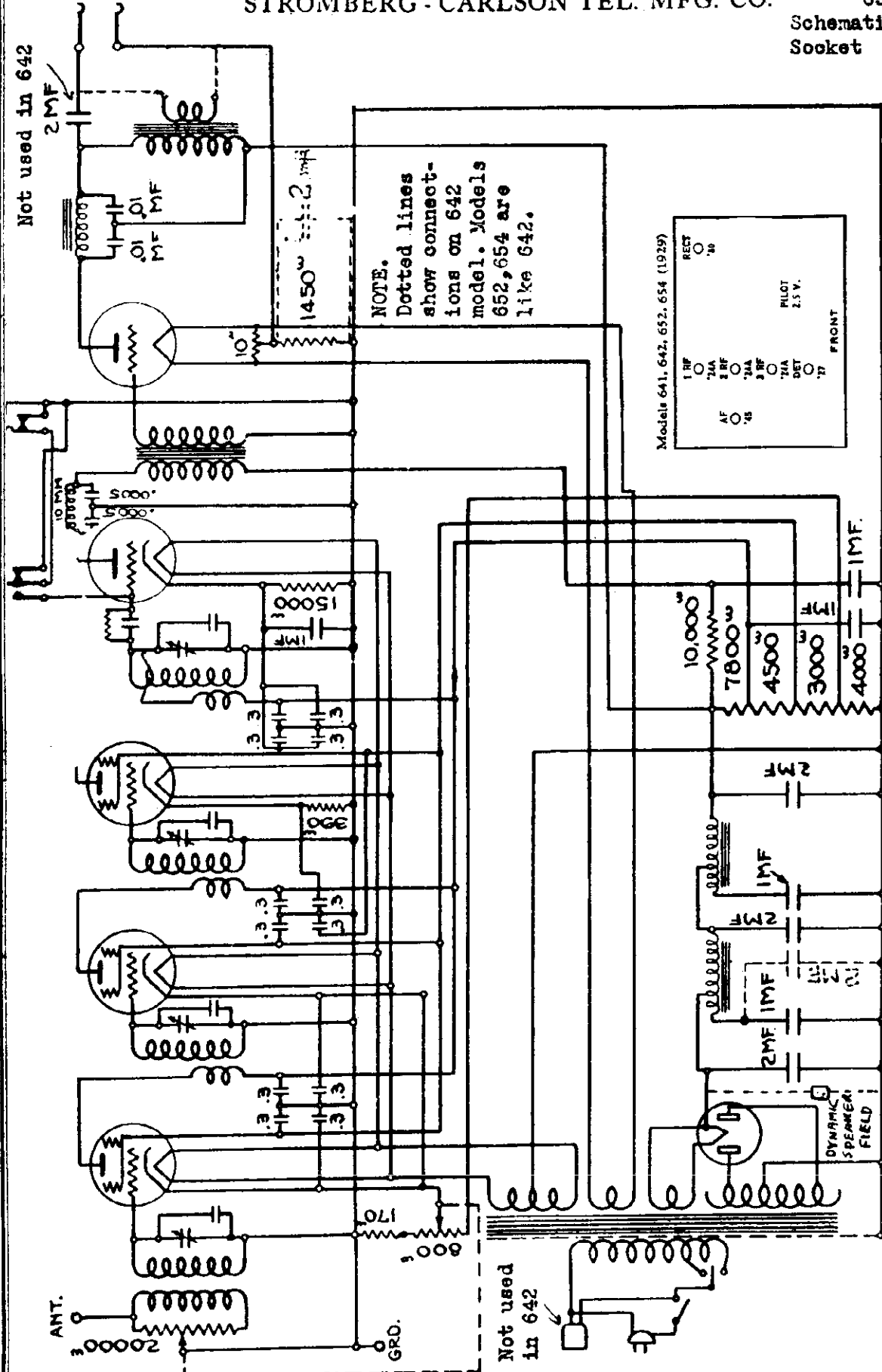
Model 638 Line 117 V. Vol. Maximum

Tube Type	Stage	Fil Volts	Plate Volts	Grid Volts	Plate Ma.
'27	1 RF	2.1	90	4.	2.5
'27	2 RF	2.1	90	4.	2.8
'27	3 RF	2.1	90	4.	3.5
'27	Det.	2.	35	-	2.
'27	1 AF	2.	80	4.	3.5
'71A	2 AF	4.4	155	30.	22.
'71A	2 AF	4.4	155	30.	22.
'80	Rec.	4.4	---	-	37.*

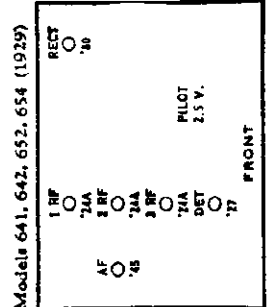
\* Per Anode

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 641,642,  
652,654  
Schematic, Voltage  
Socket



NOTE.  
Dotted lines  
show connect-  
ions on 642  
model. Models  
652, 654 are  
like 642.



Receiver Code No.	Line Voltage 114--	Control Position	Frequencies
641-A	105-125	High Tap	60 Cycles
641-B	105-125	Max	25-60 Cycles
641-C	210-250	Max	25-60 Cycles

TUBE ORDER	PART NO.	TYPE	TUBE OUT		TUBE IN		TUBE IN		TUBE IN		TUBE IN	TUBE IN	TUBE IN	TUBE IN
			1	2	3	4	5	6	7	8				
1	224	115 RF	2.45	1.10	2.24	1.15	2.5	1.5	4	2.5	5	5	5	5
2	224	500 RF	2.45	1.10	2.24	1.15	2.5	1.5	4	2.5	5	5	5	5
3	224	570 RF	2.45	1.10	2.24	1.15	2.5	1.5	4	2.5	5	5	5	5
4	245	100P.	2.45	1.10	2.24	1.15	2.5	1.5	4	2.5	5	5	5	5

Not used in 642

Not used in 642

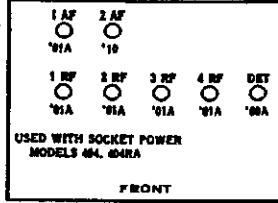




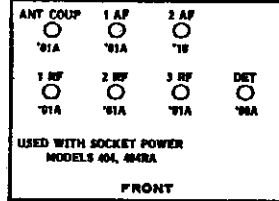
STROMBERG - CARLSON TEL. MFG. CO.

MODEL 734  
MODEL 744  
MODEL 404 RA

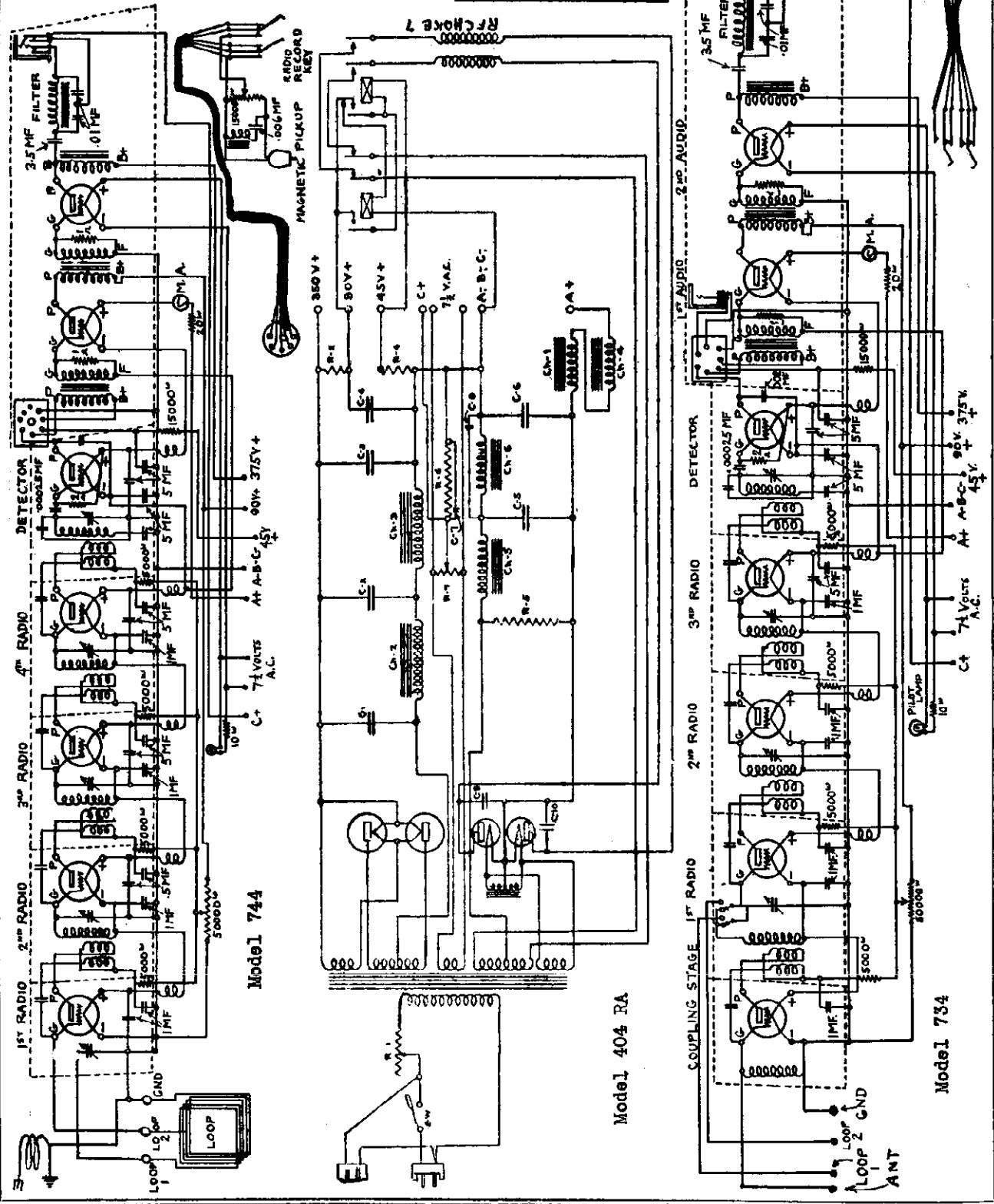
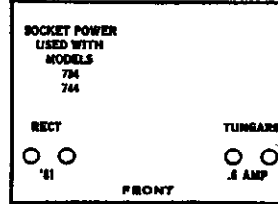
Model 744 (1927)



Model 734 (1927)

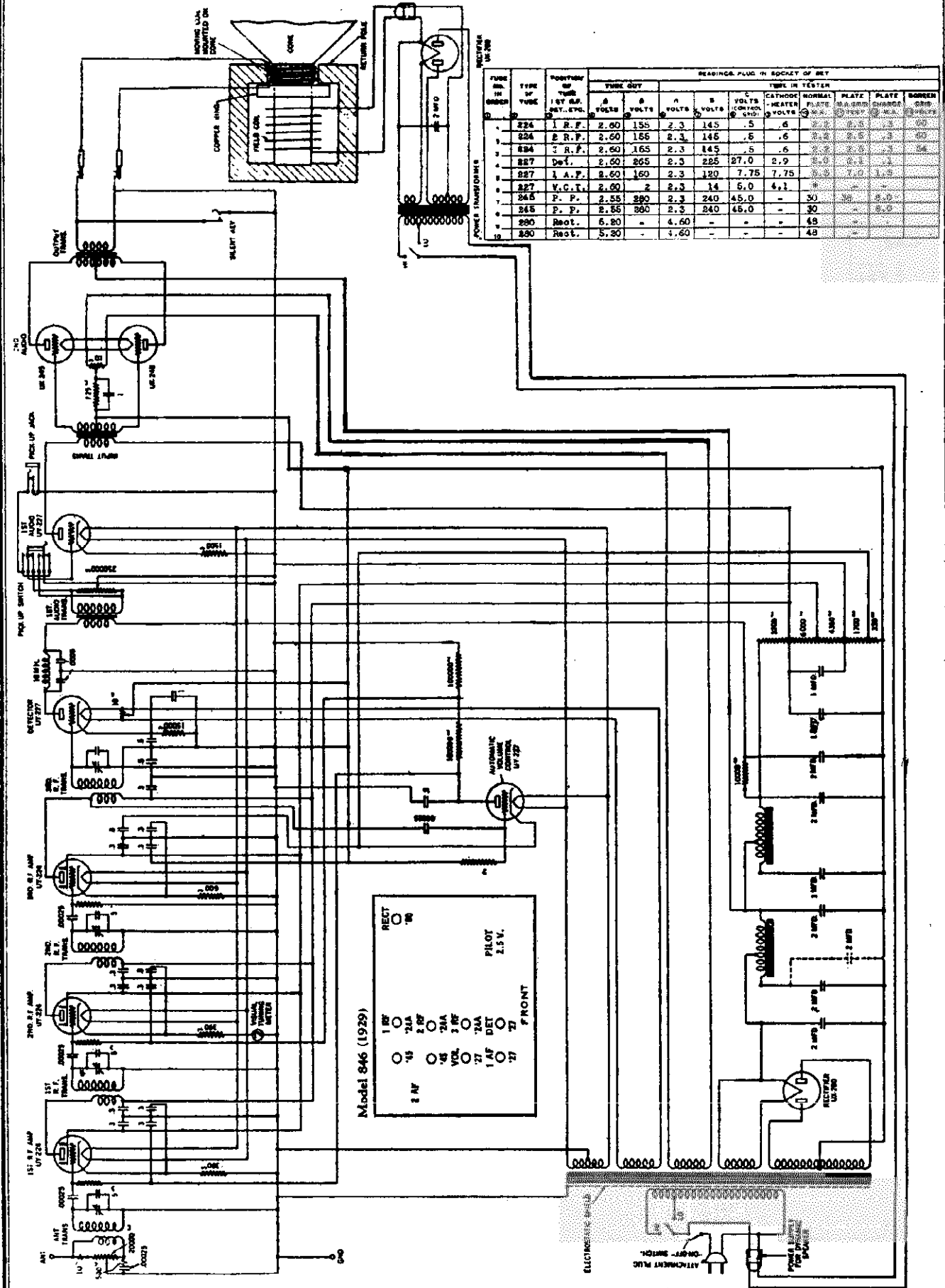


Model 404RA (1927)



MODEL 846 AC  
Schematic

STROMBERG - CARLSON TEL. MFG. CO.



TUBE NO. IN SOCKET	TYPE OF TUBE	POSITION OF TUBE 1ST. SEC.	FUSE GUY				READINGS PLUG IN SOCKET OF MET					
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CATH. HEAT. VOLTS)	CATHODE HEATER VOLTS	NORMAL PLATE (A-GRID) VOLTS	PLATE (B-GRID) VOLTS	SCREEN GRID VOLTS	
22A	1 R.F.		2.60	155	2.3	145	.5	.6	2.5	2.5	2.5	2.5
22A	2 R.F.		2.60	166	2.3	146	.6	.6	2.5	2.5	2.5	2.5
22A	3 R.F.		2.60	165	2.3	145	.5	.6	2.5	2.5	2.5	2.5
227	Det.		2.60	265	2.3	225	27.0	2.9	8.0	2.1	1.4	1.4
227	1 A.F.		2.60	160	2.3	120	7.75	7.75	8.0	7.0	1.5	
227	V.C.T.		2.60	2	2.3	14	5.0	4.1				
245	P. P.		2.55	280	2.3	240	45.0	-	30	30	30	30
245	P. P.		2.55	260	2.3	240	46.0	-	30	30	30	30
290	Rect.		5.80	-	4.60	-	-	-	45	-	-	-
290	Rect.		5.80	-	3.60	-	-	-	48	-	-	-

Model 846 (1929)

RECT 10

PILOT 2.5 V.

FRONT

1 RF 15

2 RF 15

3 RF 15

4 RF 15

5 RF 15

DET 15

VOL 15

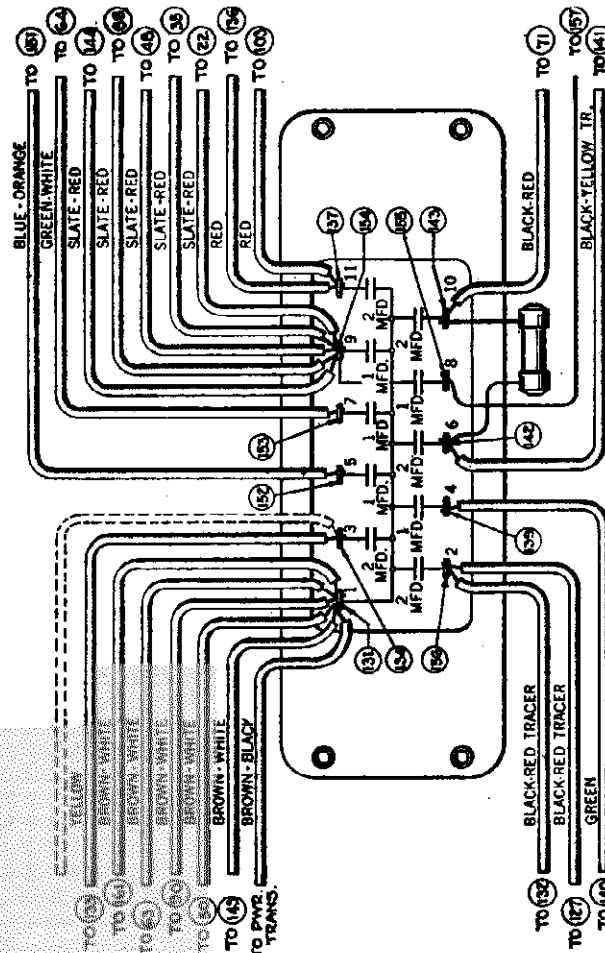
1 AF 15

2 AF 15

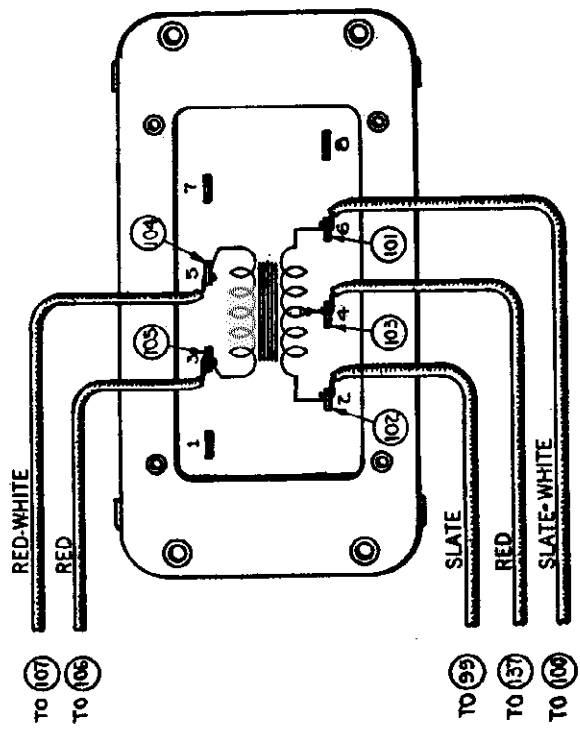
3 AF 15

MODEL 846

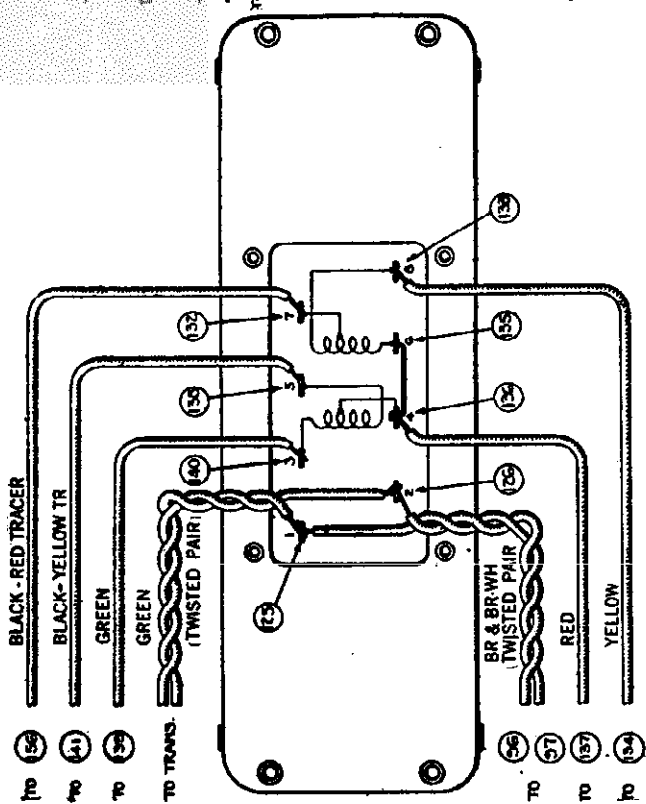
Internal Wiring STROMBERG - CARLSON TEL. MFG. CO.



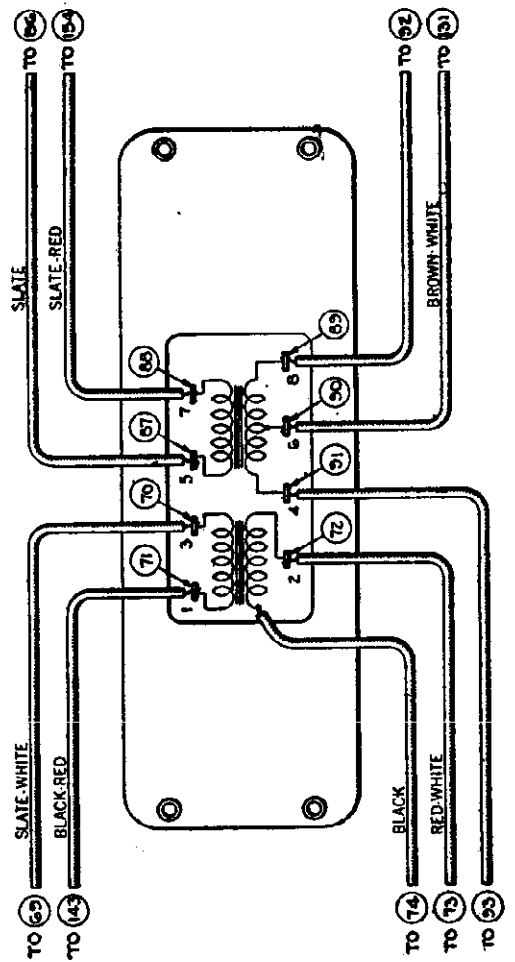
Detail of P-19038 Capacitor Assembly.



Detail of P-18781 Output Transformer.



Detail of P-18200 Filter Inductor Assembly.

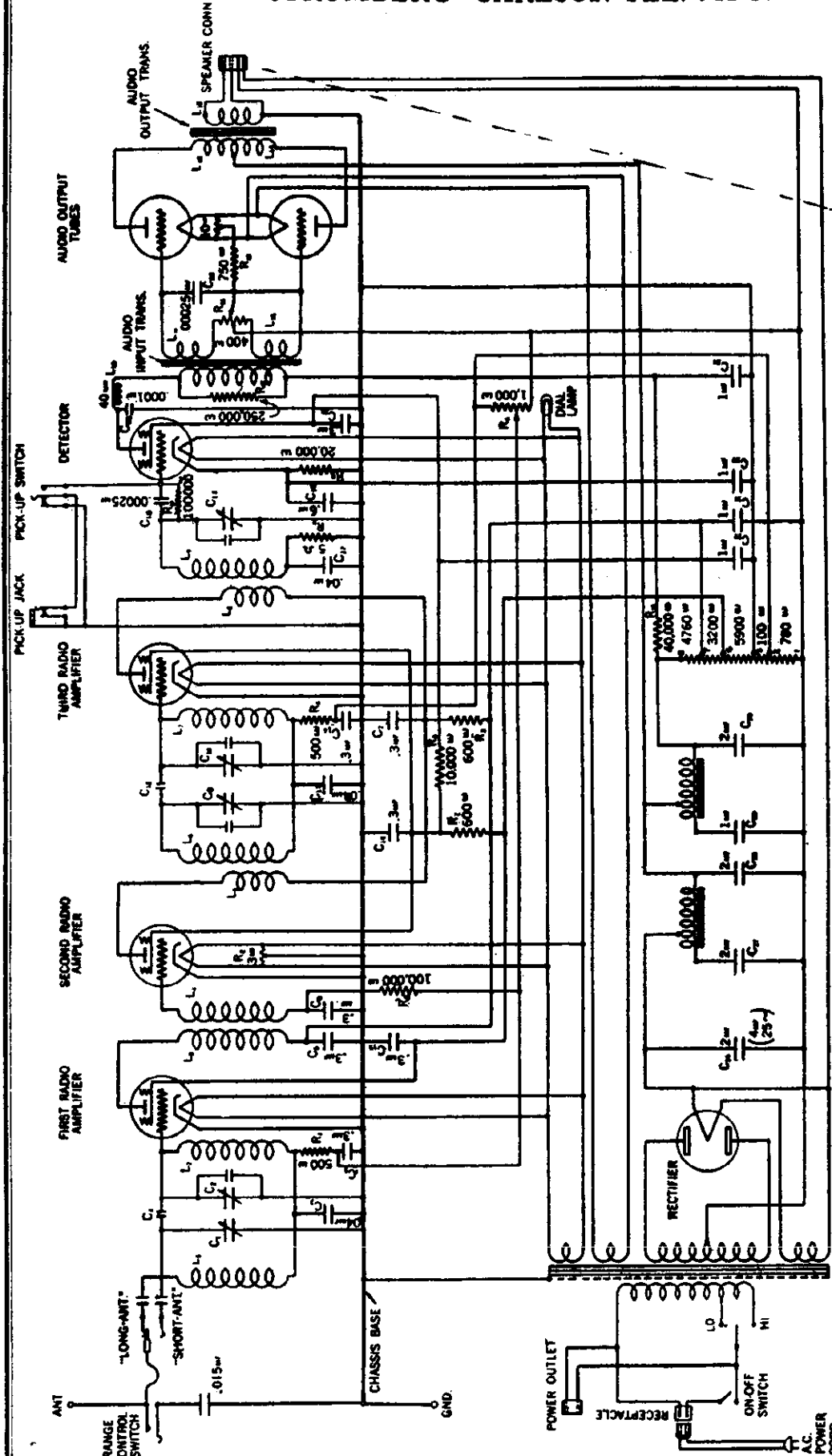


Detail of P-18780 Audio Transformers Assembly.



STROMBERG - CARLSON TEL. MFG. CO.

MODEL 10-11  
Schematic

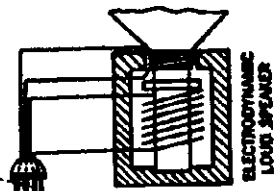
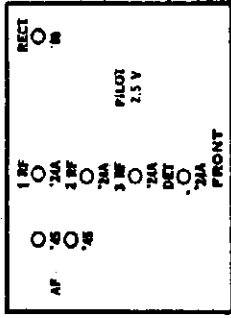


STROMBERG-CARLSON—Models 10 and 11  
Line Voltage 120—Voltage Tap High

Models 10, 11 (1930)

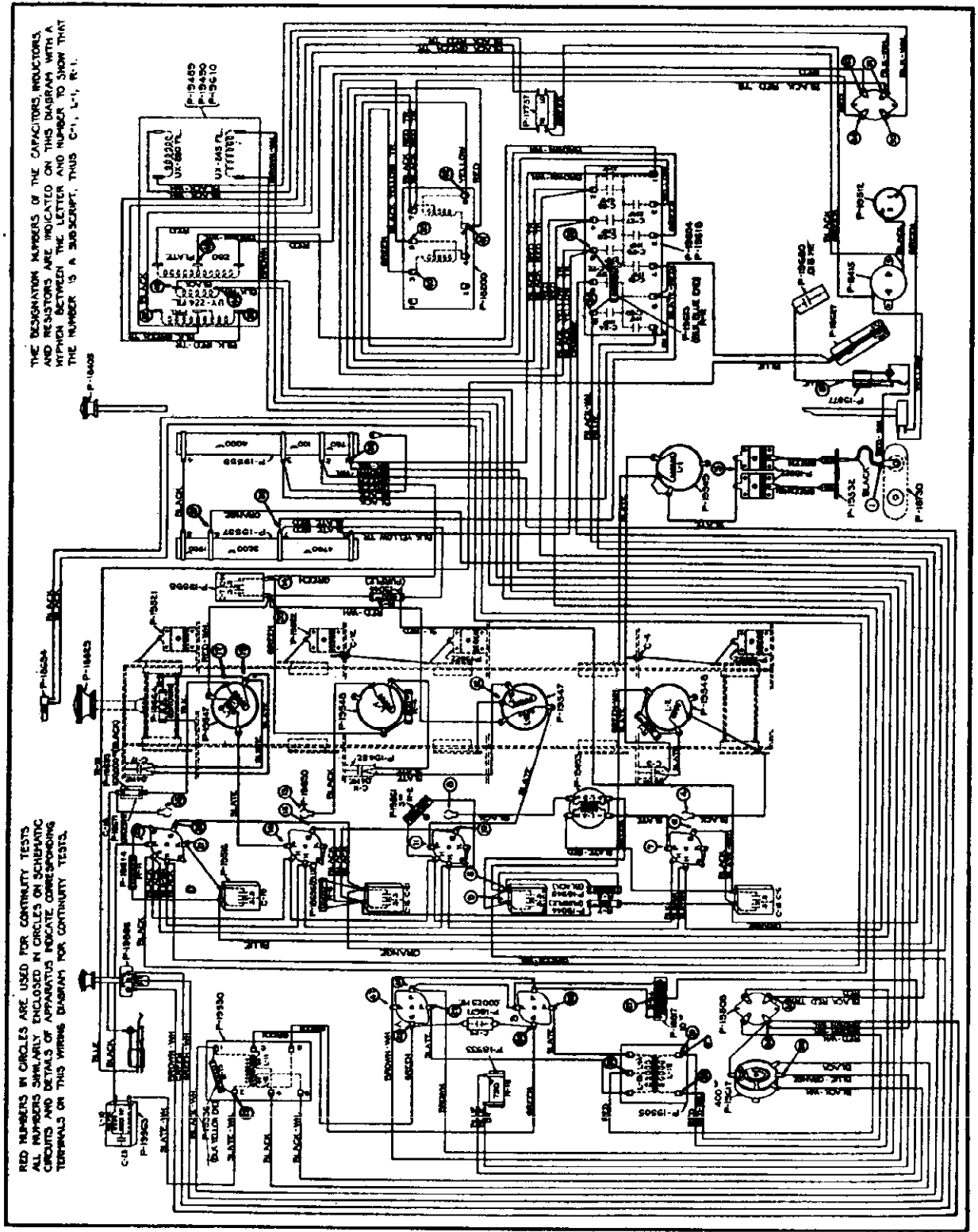
OPERATING VOLTAGES

NO.	TYPE	PLATE	SCREEN	GRID	CONTROL	BIAS	WARM UP	REPLACE
1	6X4	250	150	0	0	0	15	15
2	6X4	250	150	0	0	0	15	15
3	6X4	250	150	0	0	0	15	15
4	6X4	250	150	0	0	0	15	15
5	6X4	250	150	0	0	0	15	15
6	6X4	250	150	0	0	0	15	15
7	6X4	250	150	0	0	0	15	15
8	6X4	250	150	0	0	0	15	15
9	6X4	250	150	0	0	0	15	15
10	6X4	250	150	0	0	0	15	15
11	6X4	250	150	0	0	0	15	15
12	6X4	250	150	0	0	0	15	15
13	6X4	250	150	0	0	0	15	15
14	6X4	250	150	0	0	0	15	15
15	6X4	250	150	0	0	0	15	15
16	6X4	250	150	0	0	0	15	15
17	6X4	250	150	0	0	0	15	15
18	6X4	250	150	0	0	0	15	15
19	6X4	250	150	0	0	0	15	15
20	6X4	250	150	0	0	0	15	15
21	6X4	250	150	0	0	0	15	15
22	6X4	250	150	0	0	0	15	15
23	6X4	250	150	0	0	0	15	15
24	6X4	250	150	0	0	0	15	15
25	6X4	250	150	0	0	0	15	15
26	6X4	250	150	0	0	0	15	15
27	6X4	250	150	0	0	0	15	15
28	6X4	250	150	0	0	0	15	15
29	6X4	250	150	0	0	0	15	15
30	6X4	250	150	0	0	0	15	15
31	6X4	250	150	0	0	0	15	15
32	6X4	250	150	0	0	0	15	15
33	6X4	250	150	0	0	0	15	15
34	6X4	250	150	0	0	0	15	15
35	6X4	250	150	0	0	0	15	15
36	6X4	250	150	0	0	0	15	15
37	6X4	250	150	0	0	0	15	15
38	6X4	250	150	0	0	0	15	15
39	6X4	250	150	0	0	0	15	15
40	6X4	250	150	0	0	0	15	15
41	6X4	250	150	0	0	0	15	15
42	6X4	250	150	0	0	0	15	15
43	6X4	250	150	0	0	0	15	15
44	6X4	250	150	0	0	0	15	15
45	6X4	250	150	0	0	0	15	15
46	6X4	250	150	0	0	0	15	15
47	6X4	250	150	0	0	0	15	15
48	6X4	250	150	0	0	0	15	15
49	6X4	250	150	0	0	0	15	15
50	6X4	250	150	0	0	0	15	15



# STROMBERG - CARLSON TEL. MFG. CO.

## MODEL 10-11 Chassis Wiring



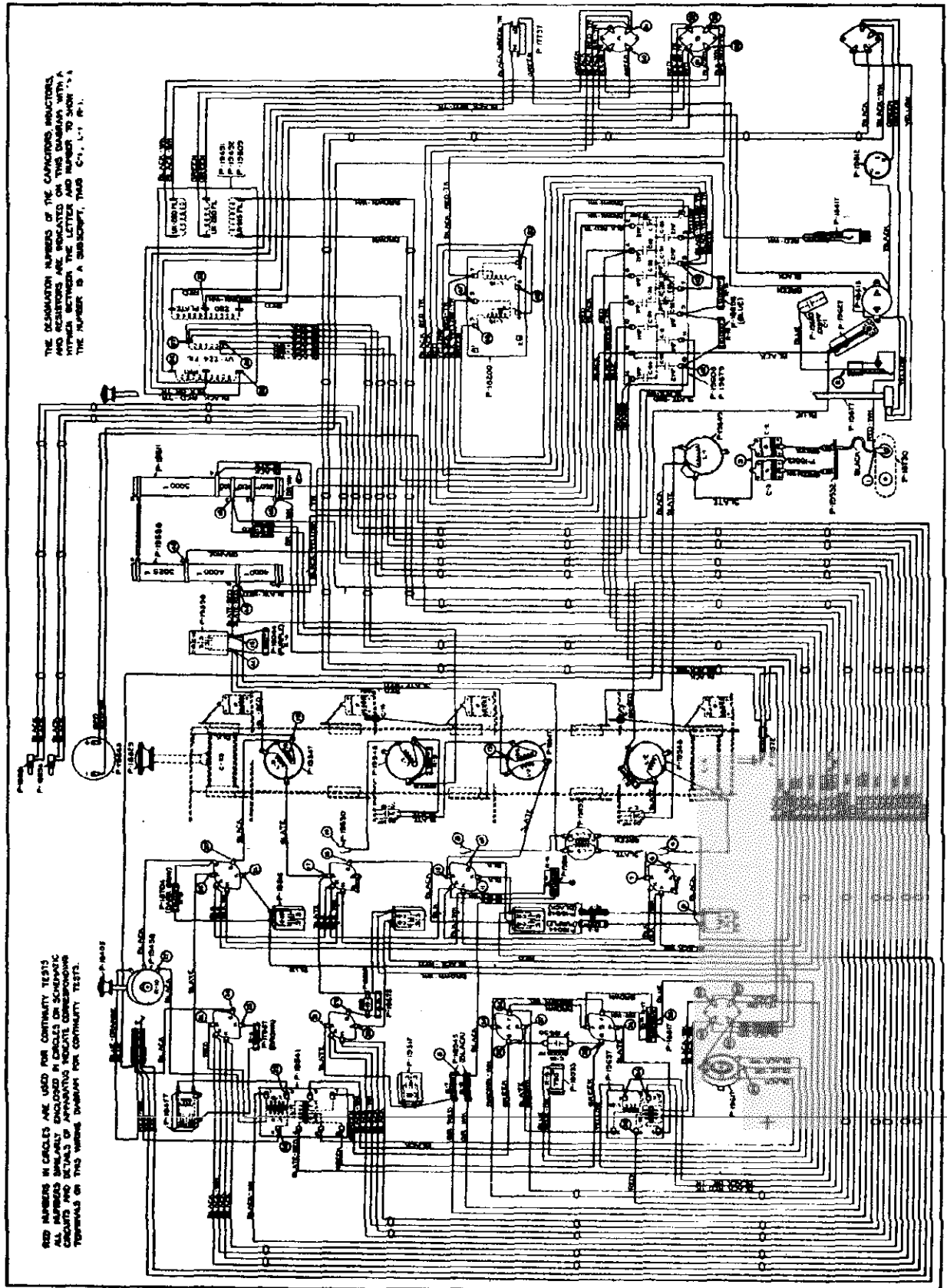
THE DESIGNATION NUMBERS OF THE CAPACITORS, INDUCTORS, AND RESISTORS ARE POINTED ON THIS DIAGRAM WITH A WIREPEN. ALWAYS WRITE THE LETTER AND NUMBER TO SHOW THAT THE NUMBER IS A SUBSCRIPT, THUS C-1, U-1, R-1.

RED NUMBERS IN CIRCLES ARE USED FOR CONTINUITY TESTS. ALL NUMBERS SIMILARLY ENCLOSED IN CIRCLES ON SCHEMATIC CIRCUITS AND DETAILS OF APPARATUS INDICATE CORRESPONDING TERMINALS ON THIS WIRING DIAGRAM FOR CONTINUITY TESTS.



STROMBERG - CARLSON TEL. MFG. CO.

MODEL 12-14  
Chassis Wiring

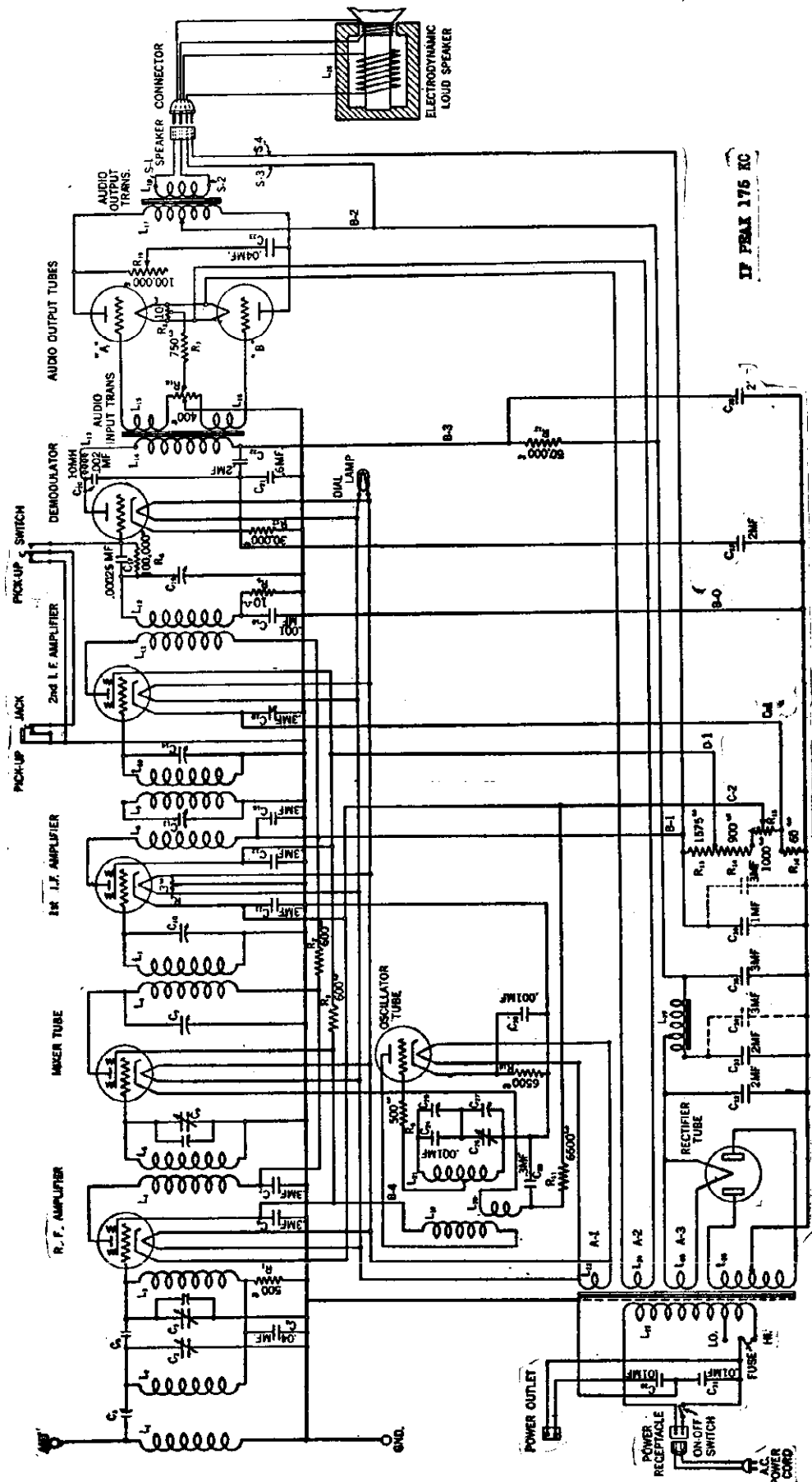


THE DENOMINATION NUMBERS OF THE CAPACITORS, INDUCTORS, AND RESISTORS ARE INDICATED ON THIS DIAGRAM WITH A HYPERBOLIC BETWEEN THE LETTER AND NUMBER TO SHOW THE NUMBER IS A SUBSCRIPT, THUS C<sub>1</sub>, L<sub>1</sub>, R<sub>1</sub>.

RED NUMBERS IN CIRCLES ARE USED FOR CONTINUITY TESTS. ALL NUMBERS SIMILARLY ENCLOSED IN CIRCLES ON SCHEMATIC CIRCUITS AND DETAILS OF APPARATUS INDICATE CORRESPONDING TERMINALS ON THIS WIRING DIAGRAM FOR CONTINUITY TESTS.

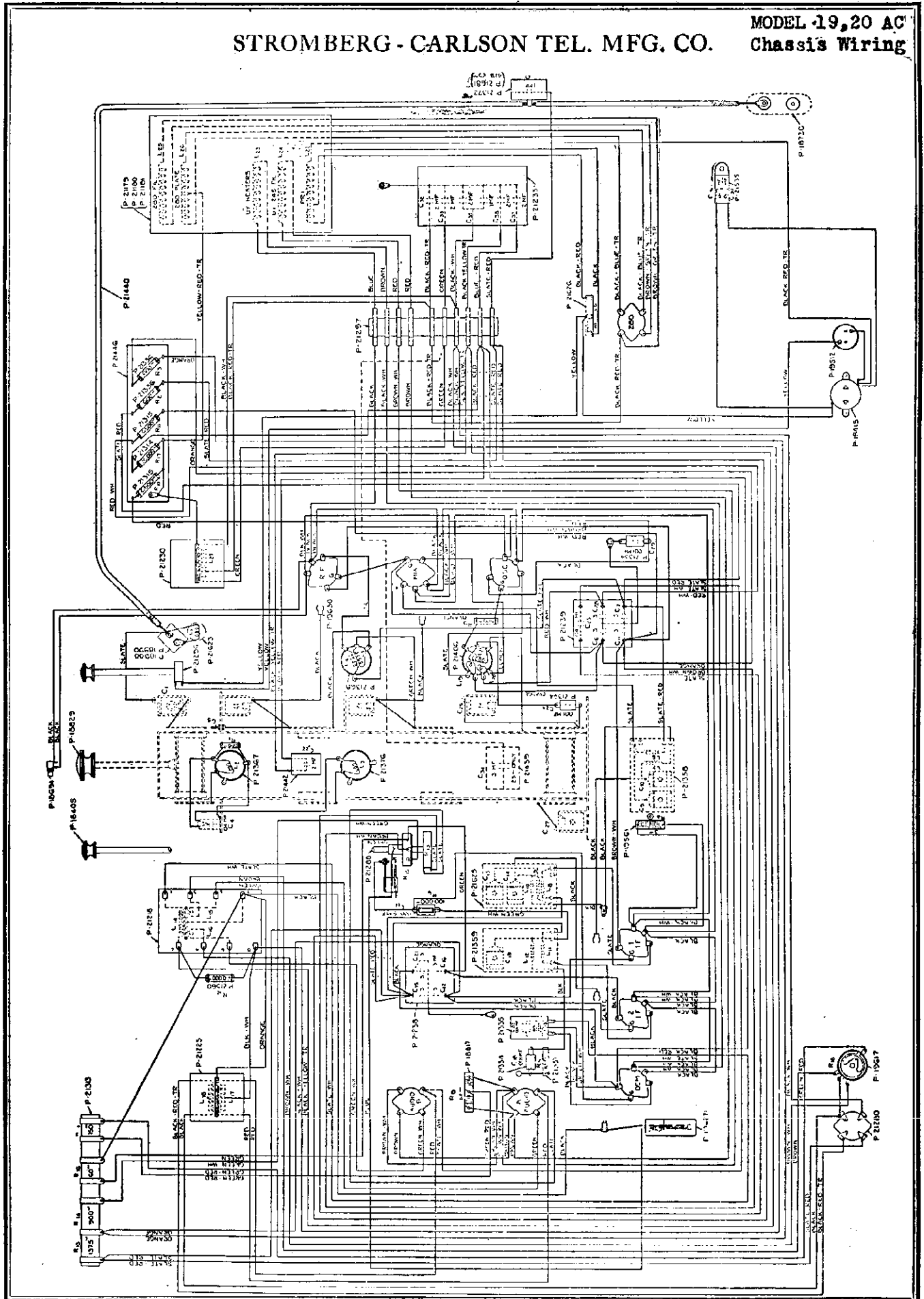
MODEL 19,20 AC  
Schematic

STROMBERG CARLSON TEL. MFG. CO.



STROMBERG - CARLSON TEL. MFG. CO.

MODEL 19,20 AC  
Chassis Wiring



MODEL 19,20 AC  
Voltage  
Electrical Values

STROMBERG - CARLSON TEL. MFG CO.

INDUCTANCES

		No.
L1	.9 millihenry	R1
L2	215. microhenry	R2
L3	215. microhenry	R3
L4	5.5 millihenry	R4
L5	215. microhenry	R5
L6	5.6 millihenry	R6
L7	5.5 millihenry	R7
L8	5.5 millihenry	R8
L9	5.5 millihenry	R9
L10	5.5 millihenry	R10
L11	5.5 millihenry	R11
L12	5.5 millihenry	R12
L19	15. microhenry	R13
L20	5.5 microhenry	R14
L21	172. microhenry	R15
		R16
		R17
		R18
		R19

Value	Body	Tip	Dot
500	Green	Blk	Brn
600	Blue	Blk	Brn
600	Blue	Blk	Brn
3	( Wire wound)		
10 megs	Brn	Blk	Blue
100,000	Brn	Blk	Green
750	( Wire wound)		
10	( Wire wound)		
500	Green	Blk	Brn
6,500	Blue	Green	Red
6,500	Blue	Green	Red
60,666	Blue	Blk	Orange
1,575	( Wire wound)		
900	( Wire wound)		
1,000	( Wire wound)		
60	( Wire wound)		
30,000	Orange	Blk	Orange
400	( Wire wound)		
100,000	Carbon potentiometer		

CONDENSERS

C2	.0004 mfd	max.
C3	.0004 mfd	max.
C4	.04 mfd	
C5	.000001 mfd	app.
C6	.3 mfd	
C7	.3 mfd	
C8	.0004 mfd	max.
C11	.3 mfd	
C12	.3 mfd	
C15	.3 mfd	
C16	.3 mfd	
C17	.00025 mfd	
C18	.001 mfd	
C20	.002 mfd	
C21	.6 mfd	
C22	.2 mfd	
C23	.04 mfd	
C24	.001 mfd	
C26	.0004 mfd	max.
C28	.3 mfd	
C29	.001 mfd	
C30	.01 mfd	
C31	.01 mfd	
C32	2. mfd	
C33	2. mfd	
C34	3. mfd	
C35	3. mfd	
C36	1. mfd	
C36	4. mfd	(25 cy.)
C37	1. mfd	
C38	1. mfd	

TABLE 4.  
Normal Voltage Readings

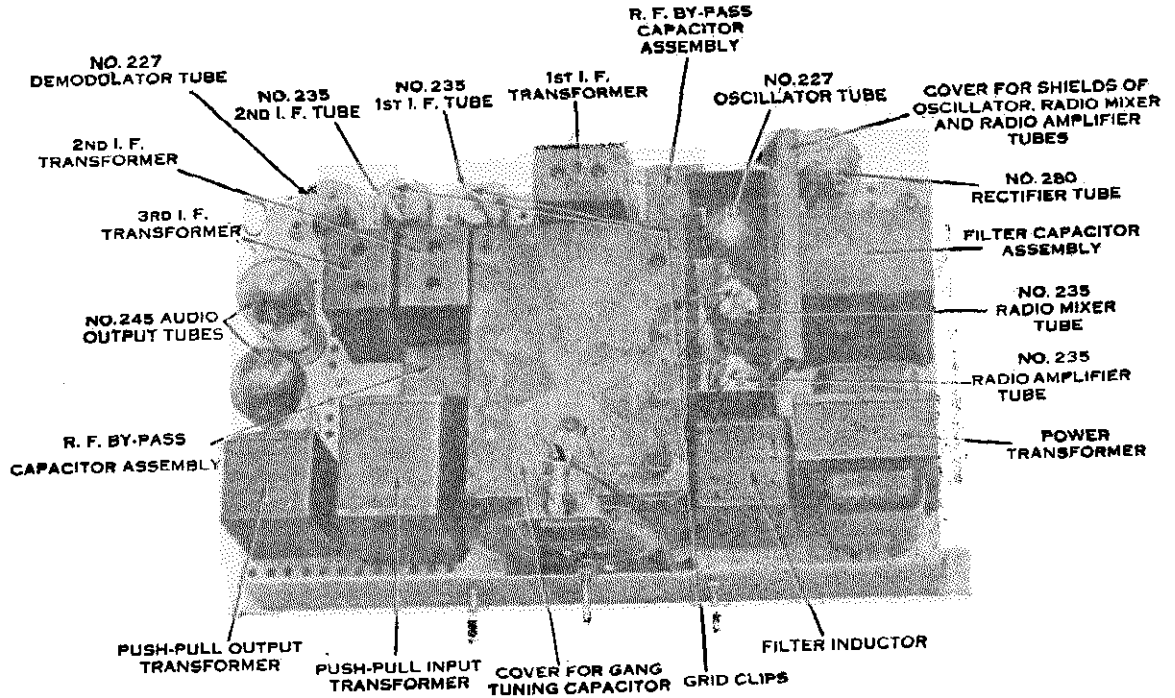
(Be sure to make these readings with the Meter and Scale indicated, otherwise the results will not agree with those tabulated. Alternating voltages are indicated by italics.)

Voltage	Meter	Scale	Where Measured	Approx. Value in Volts
<i>Heater Voltage Nos. 227 &amp; 228 Tubes</i>	A.C.	0-4	Across Heater Terminals of Sockets	2.1
<i>Filament Voltage No. 245 Tubes</i>	A.C.	0-4	Across Filament Terminals of Audio Output Sockets	2.1
<i>Filament Voltage No. 250 Tube</i>	A.C.	0-4	Across Filament Terminals of Rectifier Socket	4.5
<i>Plate Voltage Radio Amplifier</i>	D.C.	0-250	Between Plate Terminal of R. F. Amplifier Socket (+) and Chassis Base (-)	150-170
<i>Plate Voltage Mixer Tube</i>	D.C.	0-250	Between Plate Terminal Mixer Tube Socket (+) and Chassis Base (-)	150-170
<i>Plate Voltage Oscillator</i>	D.C.	0-250	Between Plate Terminal of Oscillator Socket (+) and Chassis Base (-)	65-90
<i>Plate Voltage I.F. Tubes</i>	D.C.	0-250	Between Plate Terminals of I. F. Amplifier Sockets (+) and Chassis Base (-)	150-170
<i>Plate Voltage Demodulator</i>	D.C.	0-250	Between Plate Terminal of Demodulator Socket (+) and Chassis Base (-)	150-215
<i>Plate Voltage Audio Output Tubes</i>	D.C.	0-250	Between Plate Terminals Audio Output Socket (+) and 10 ohm Mid Tap Resistor R <sub>2</sub> (-)	300
<i>Control Grid Voltage R.F. Amplifier</i>	D.C.	0-10	Between Control Grid Clip of R. F. Amplifier Tube (-) and Cathode (+) of R. F. Amplifier Tube	3
<i>Control Grid Voltage Mixer Tube</i>	D.C.	0-250	Between Control Grid Clip Mixer Tube (-) and Cathode (+) of Mixer Tube	10-12
<i>Control Grid Voltage 1st I.F. Amplifier</i>	D.C.	0-10	Between Control Grid Clip 1st I. F. Tube (-) to Cathode (+) of 1st I. F. Tube	3
<i>Control Grid Voltage 2nd I.F. Tube</i>	D.C.	0-10	Between Control Grid Clip 2nd I. F. Tube (-) to Cathode (+) of 2nd I. F. Tube	3
<i>Grid Voltage Oscillator</i>	D.C.	0-250	Across 6800 ohm Resistor R <sub>11</sub>	10-15
<i>Grid Voltage Demodulator</i>	D.C.	0-250	Across 30,000 ohm Resistor R <sub>12</sub>	30-35
<i>Grid Voltage Audio Tubes</i>	D.C.	0-250	Between Grids of Audio Tubes (-) to Mid Tap 10 ohm Resistor R <sub>2</sub> (+)	45-60*
<i>Screen Voltage Radio Amplifier Mixer 1st &amp; 2nd I.F. Tubes</i>	D.C.	0-250	Between Screen Terminals of Tubes (+) to Chassis Base (-)	20-25*
<i>B Voltage R.F. Amplifier and Mixer Tube</i>	D.C.	0-250	Between Tube Side of 800 ohm Resistor and Chassis Base	150-170*
<i>B Voltage 1st &amp; 2nd I.F. and Mixer Tubes</i>	D.C.	0-250	Between "High" Side of Voltage Divider and Chassis Base	100-170*
<i>B Voltage Audio Tubes</i>	D.C.	0-250	Between Mid Tap of Audio Output Transformer and Chassis Base (-)	300
<i>C Voltage Audio Output Tubes</i>	D.C.	0-250	Across 750 ohm Bypass Resistor R <sub>1</sub>	50
<i>Speaker Field Voltage</i>	D.C.	0-250	Across Small Pins of Speaker Connector Socket	100-170
<i>Plate Voltage A.C. Five Amode No. 250 Rectifier</i>	A.C.	See Remark.	Between P Terminals No. 250 Rectifier Socket and Chassis Base	225-250*

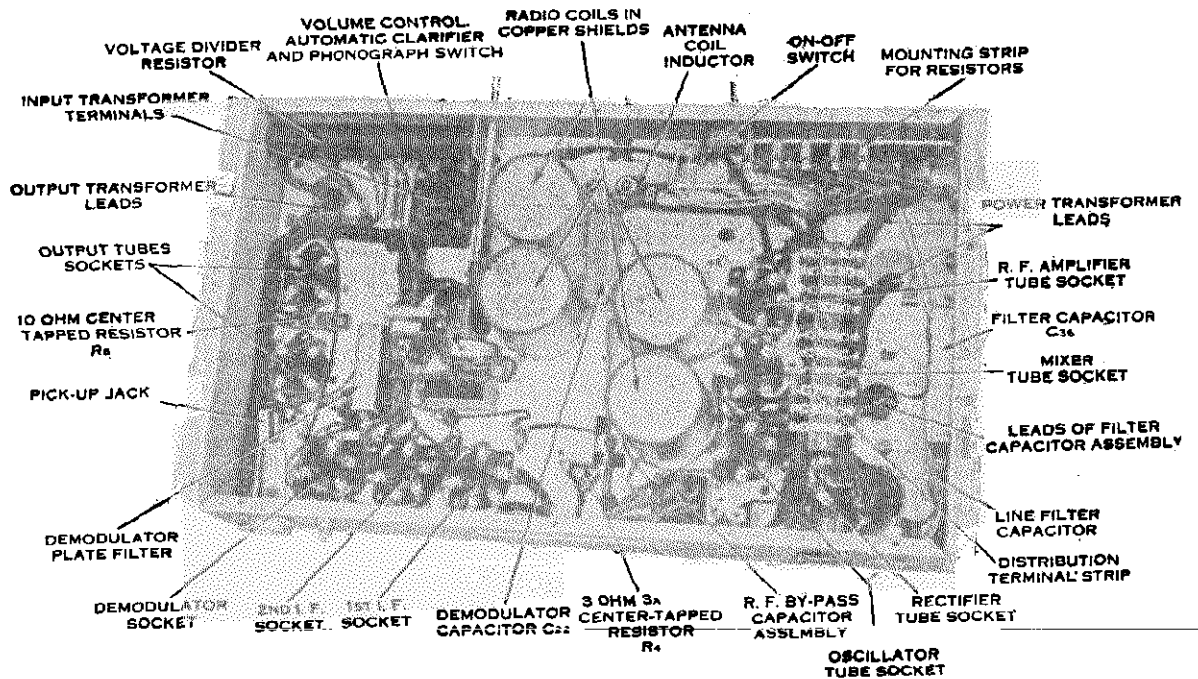
\*These voltage vary with dial setting and position of volume control.  
Cannot be measured on Weston Model 520 Meter unless multiplier is used.

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 19,20 AC  
Chassis Views



Top View of Chassis with Tubes in Place and Shields Removed.



Bottom View of Chassis with Cover Removed.

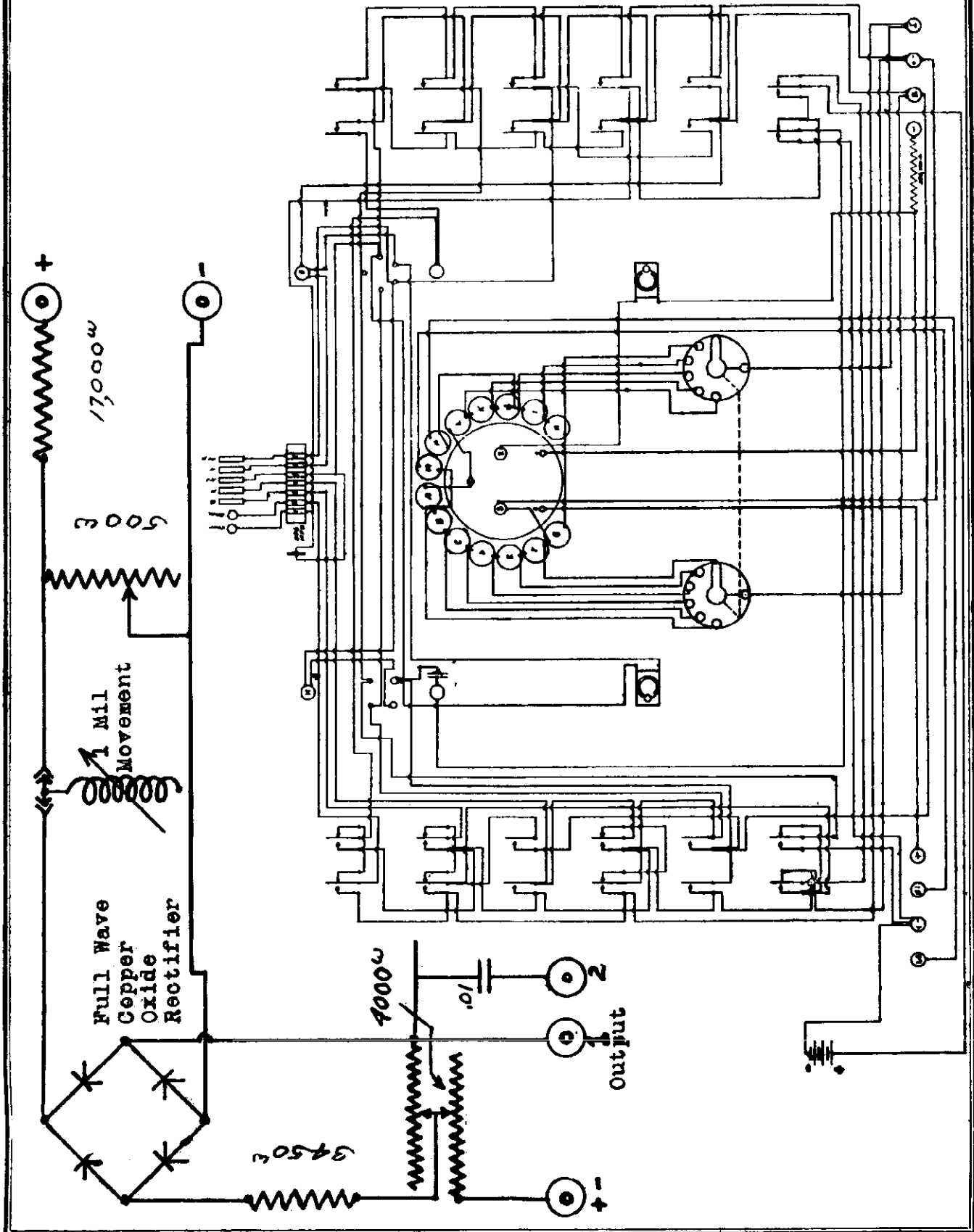
The hum adjuster is next to the speaker connector receptacle which is at the rear left of the chassis looking at the chassis from the front. The fuse box is to the front of the rectifier tube socket looking at the chassis from the front. The two outlets near the rectifier tube socket are the power input and power output, the latter being nearest to the name and serial number plate. The pickup jack is to the rear of the audio output-tubes.



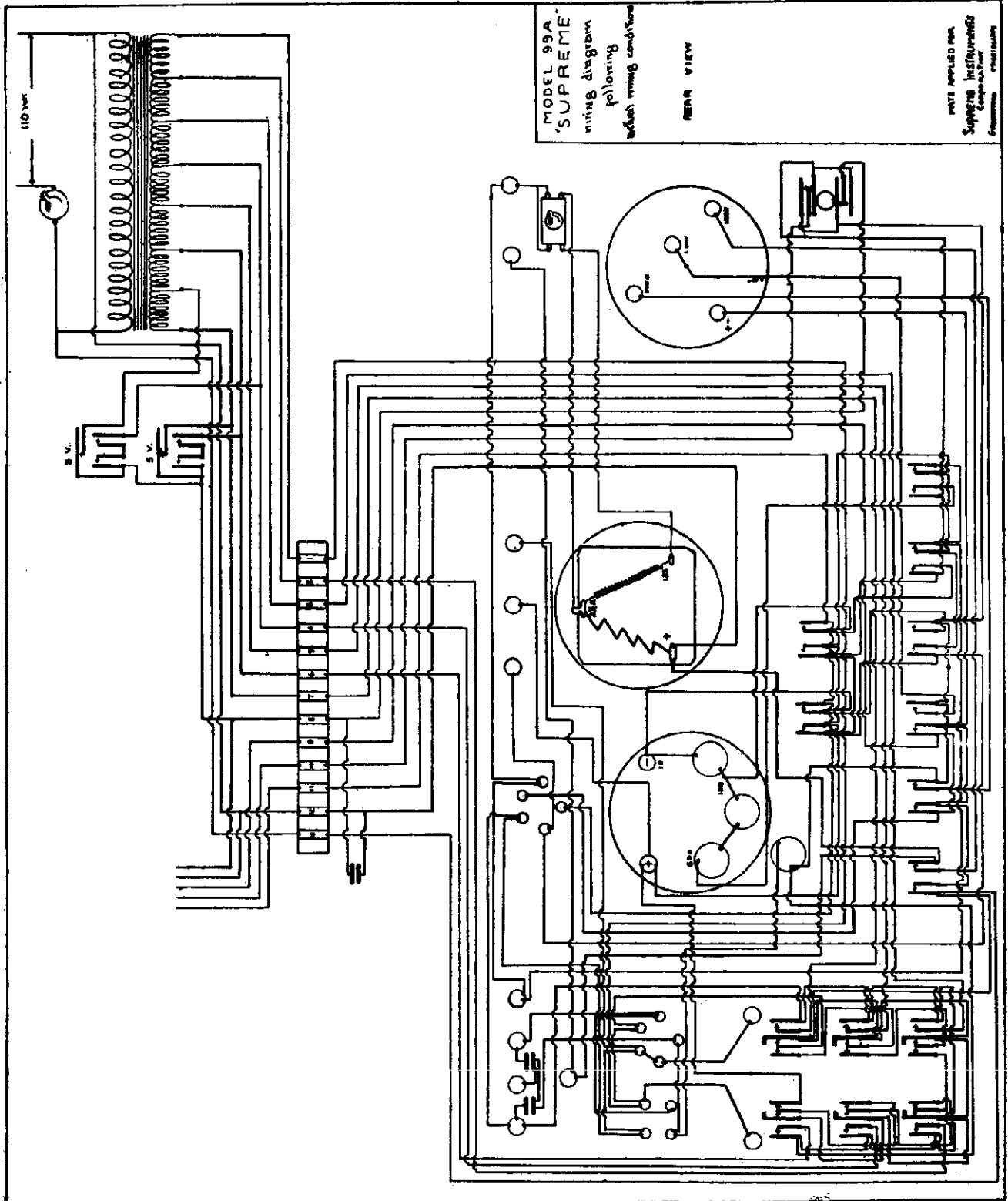


MODEL 90 Analyzer  
MODEL Output Meter

SUPREME INSTRUMENTS CORP.



SUPREME INSTRUMENTS CORP.



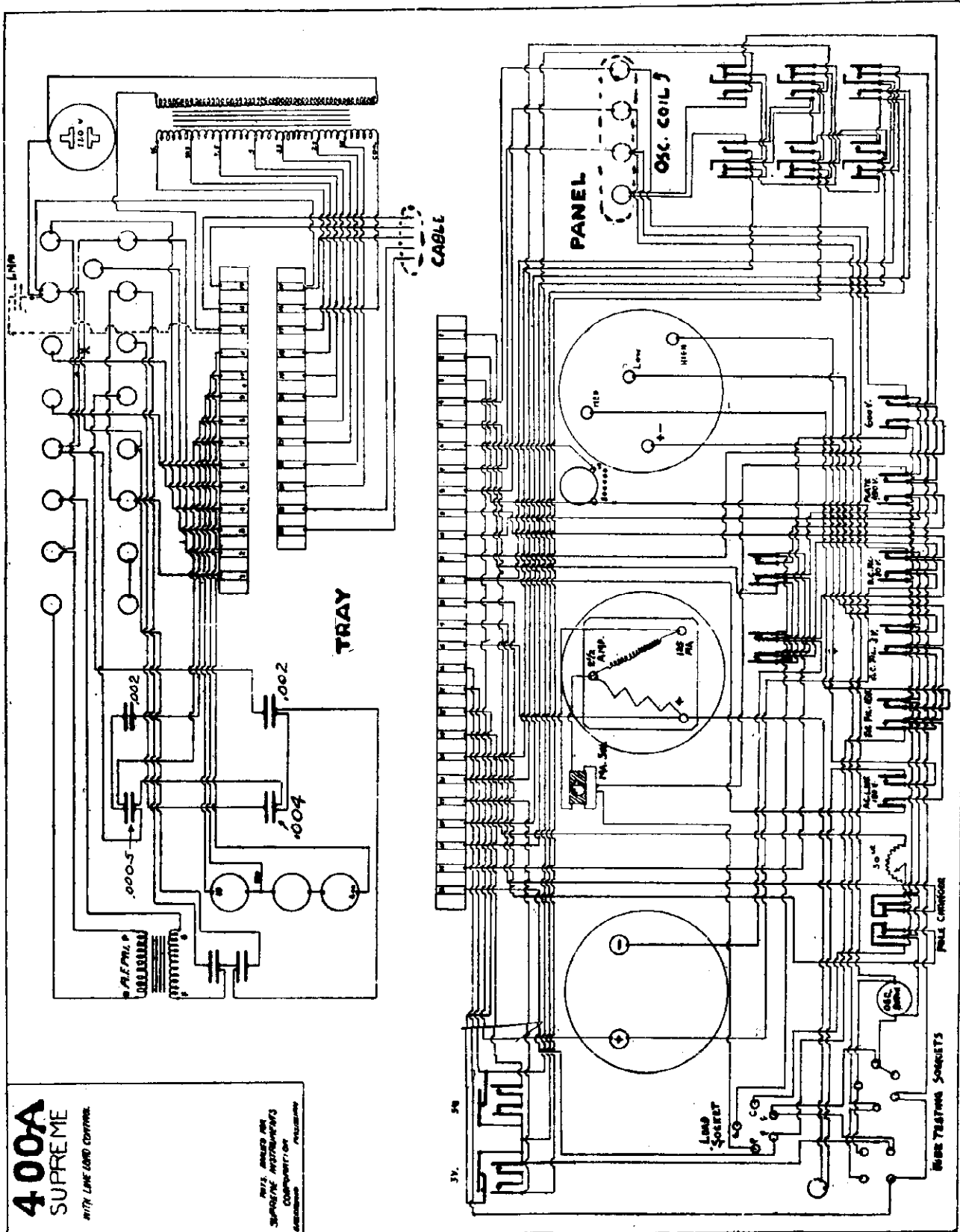
MODEL 99-A  
SUPREME  
wiring diagram  
following  
actual wiring conditions

REAR VIEW

PARTS APPLIED FOR  
Supreme Instruments  
Company  
Cincinnati, Ohio

MODEL 400-A  
Diagnoser

SUPREME INSTRUMENTS CORP.

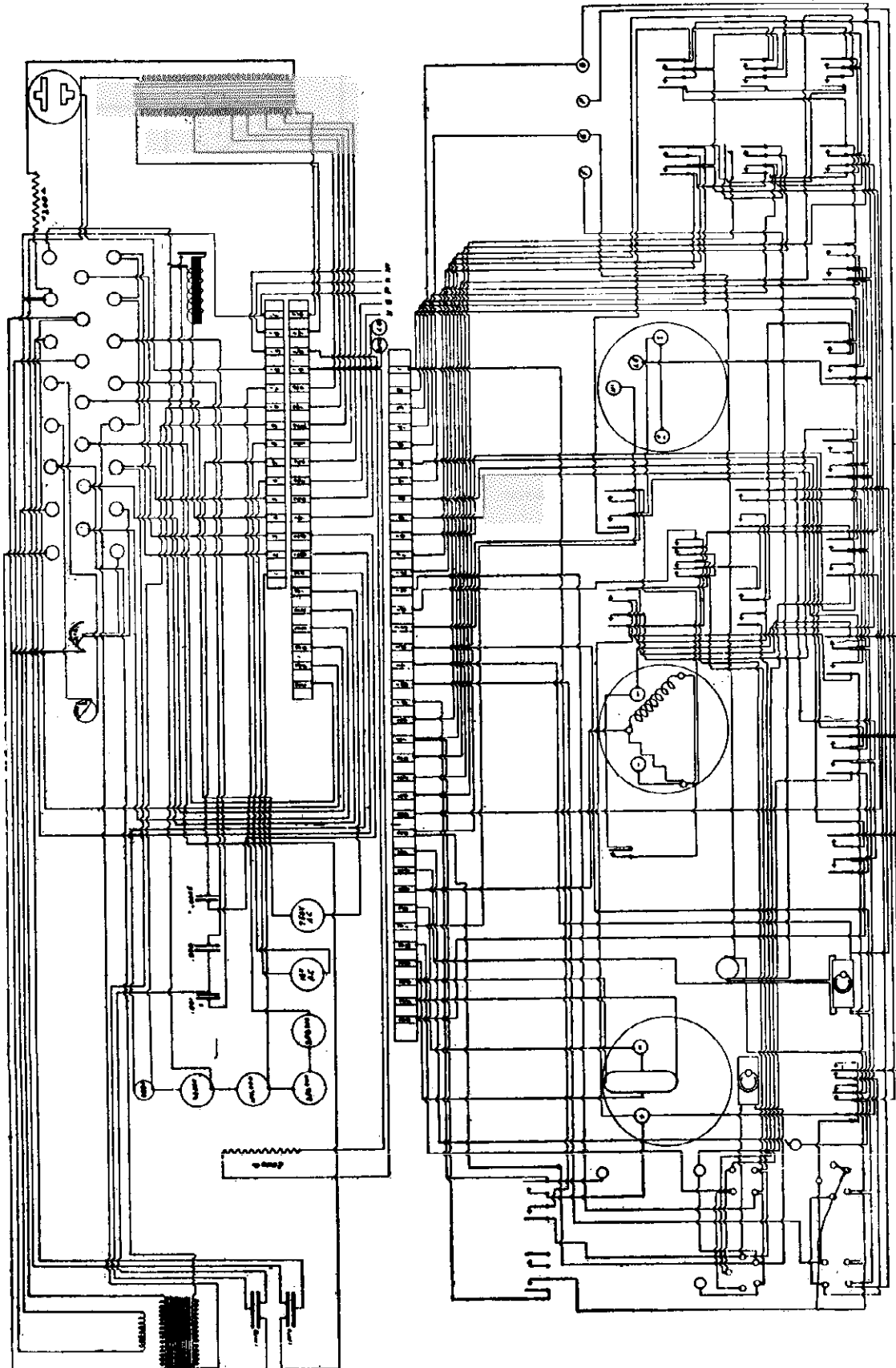


**400A**  
SUPREME  
WITH LINE CORD CONTROL

1017, 10000, 100  
SUPREME INSTRUMENTS  
CORPORATION  
PHILADELPHIA

SUPREME INSTRUMENTS CORP.

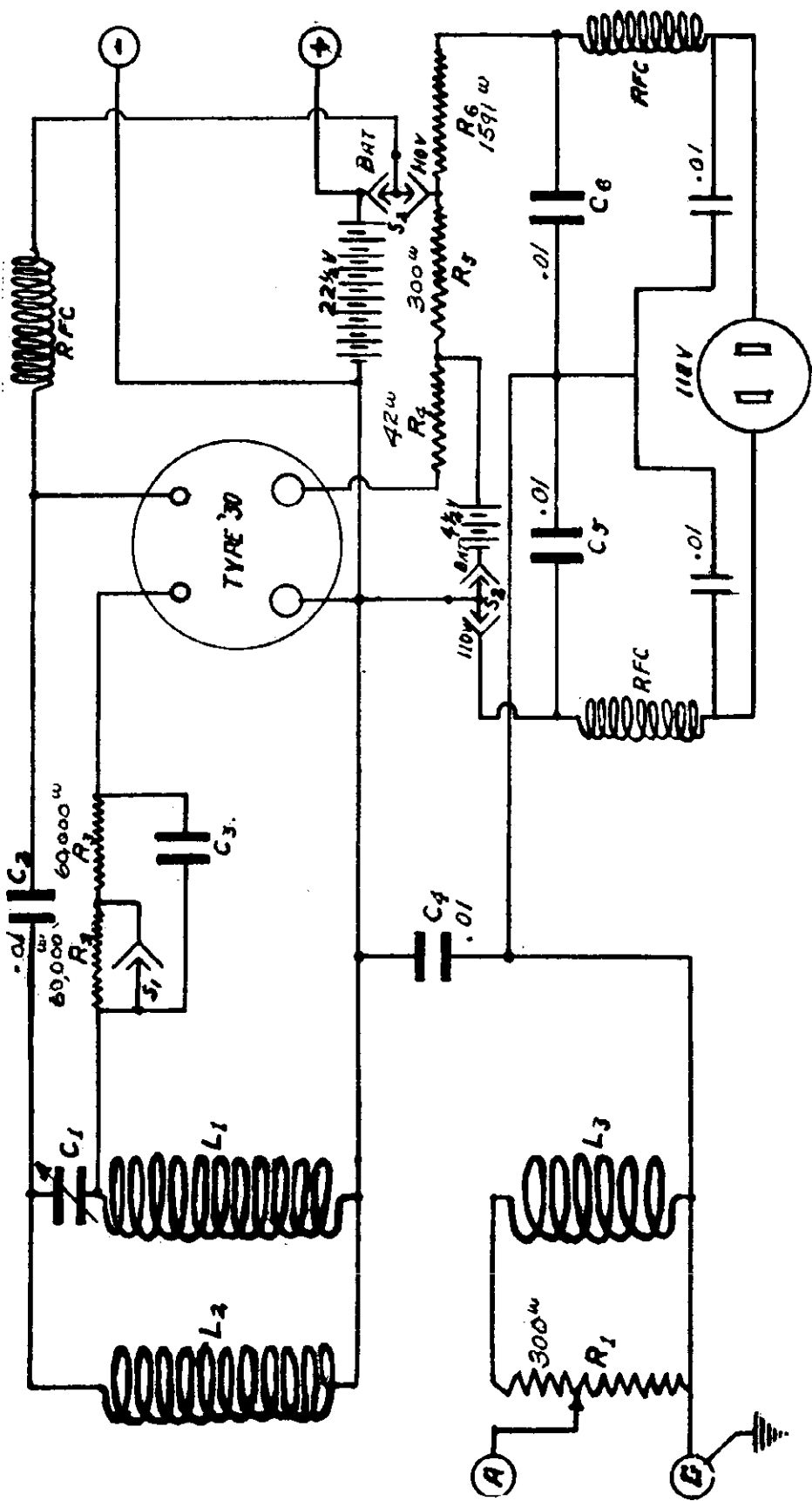
MODEL 400-B  
#4 Series  
Diagnoser



DATE	5/11/52
BY	P. J. [Signature]
CHECKED	[Signature]
SUPREME INSTRUMENTS CORP. —Baltimore, Md.—	
SUPREME #400 #4 Series	
509D	

MODEL 70 Oscillator

SUPREME INSTRUMENTS CORP.



<p><b>SUPREME INSTRUMENTS CORP.</b> GREENWOOD - MISS.</p>	<p><b>496-A</b></p>
<p><b>SCHEMATIC CIRCUIT</b> <b>MODEL 70 OSCILLATOR</b></p>	<p><i>W. L. G.</i></p> <p><i>Checked</i></p> <p><i>Approved</i></p>



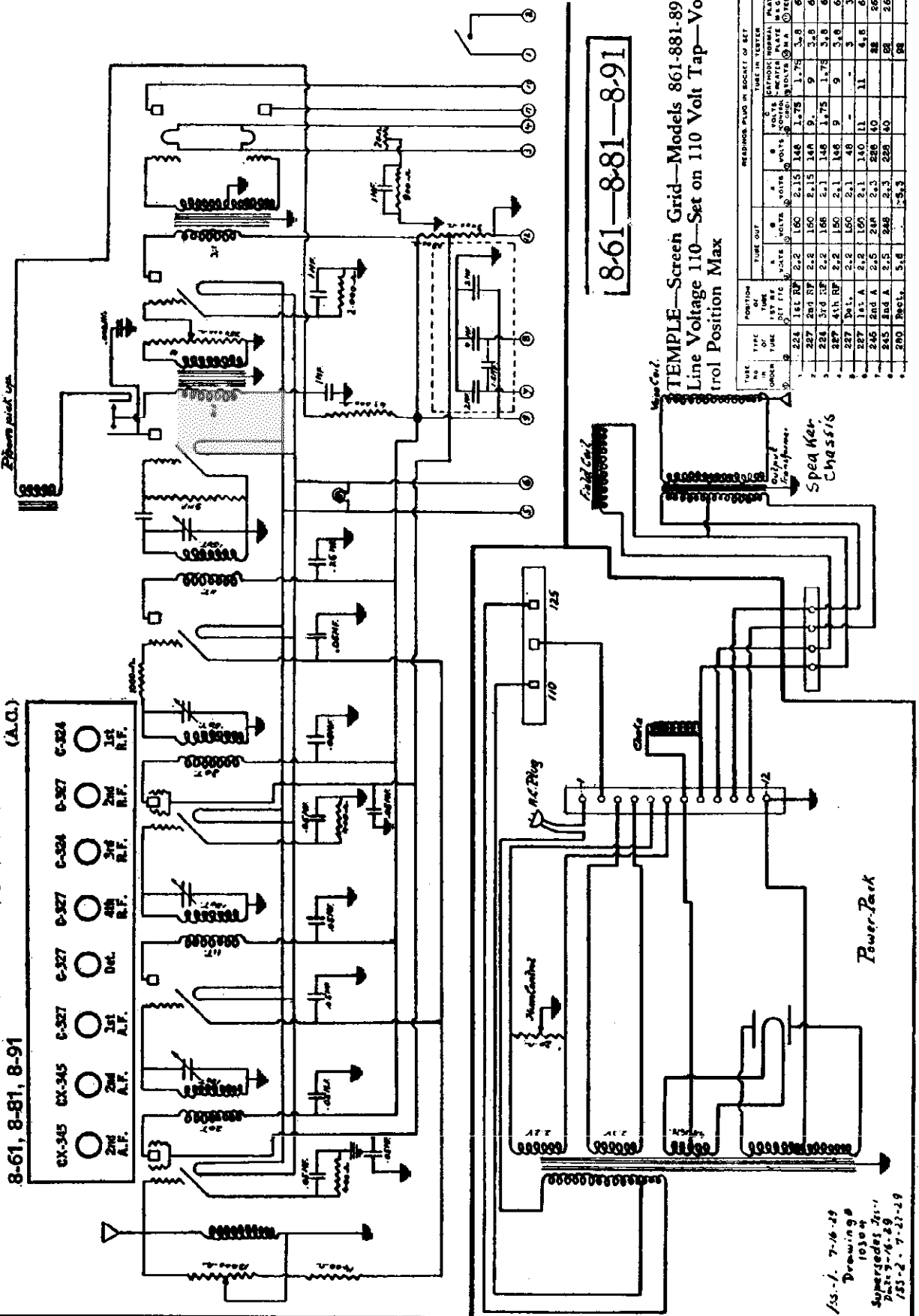
MODEL 8-61, 8-81, 8-91

TEMPLE CORPORATION

8-61, 8-81, 8-91

(A.C.)

- EX-345 2nd A.F.
- C-327 2nd A.F.
- C-327 Det.
- C-327 4th R.F.
- C-324 3rd R.F.
- C-324 2nd R.F.
- C-324 1st R.F.



8-61-8-81-8-91

TEMPLE—Screen Grid—Models 861-881-891  
Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max

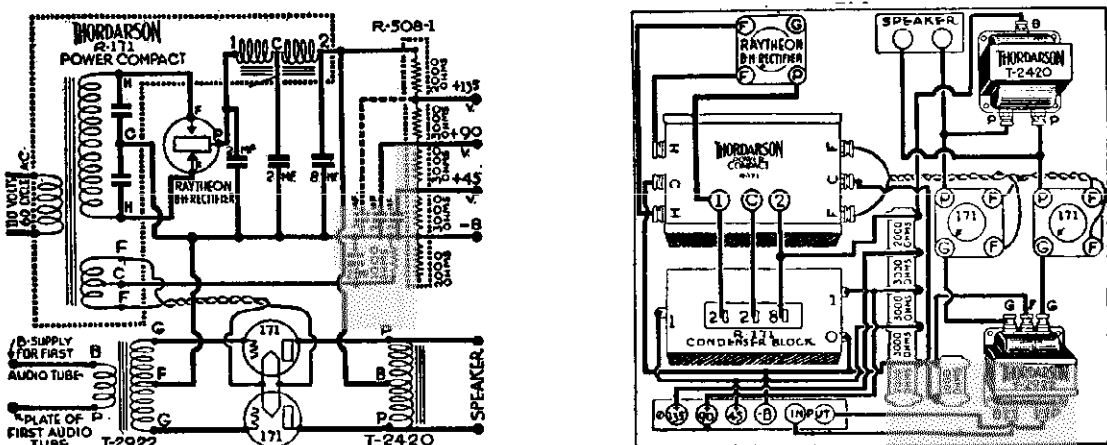
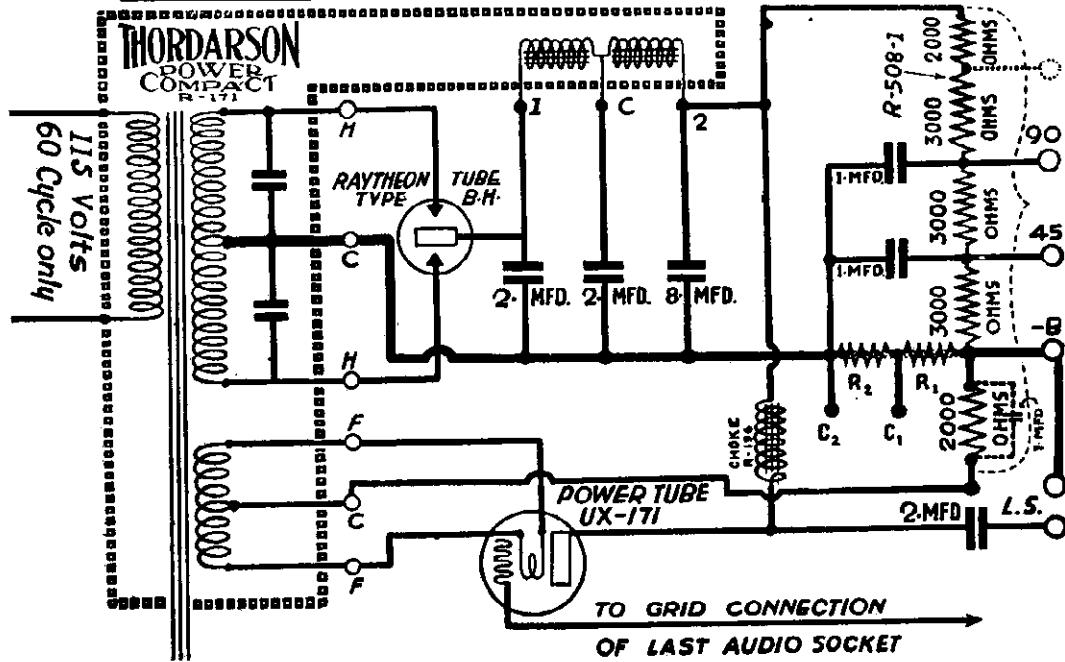
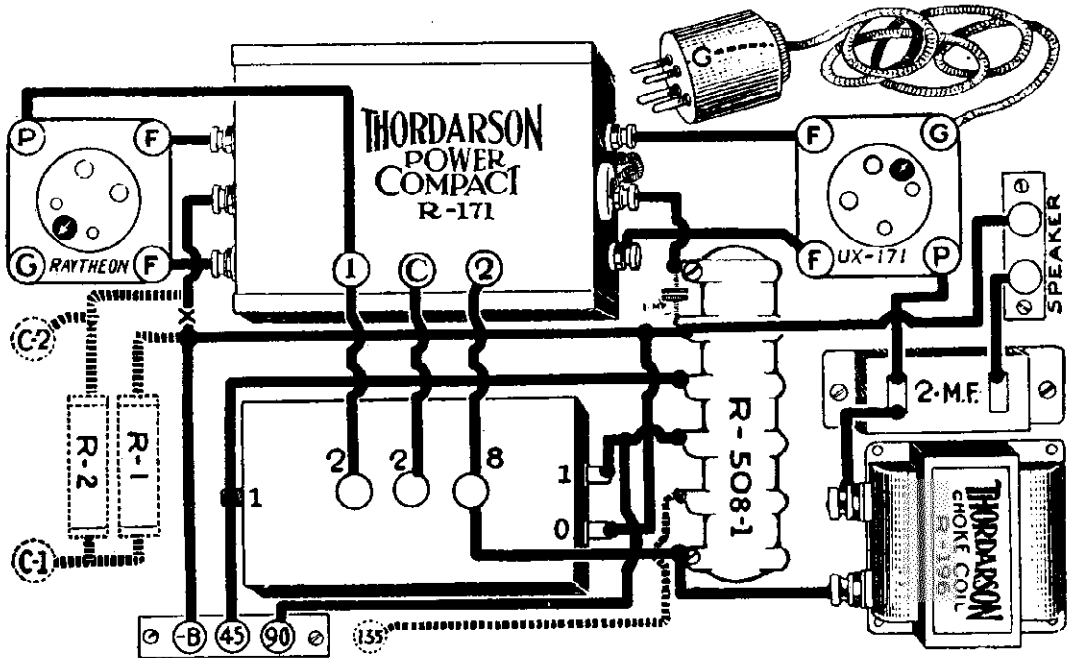
TUBE NO.	TYPE OF TUBE	POSITION IN SET	TUBE OUT		TUBE IN SET		RESIDUAL PLUG IN SOCKET OF SET	
			1st	2nd	1st	2nd	1st	2nd
224	1E1 RP	2-2	150	2.15	148	1.75	3.8	6
227	2E1 RP	2-2	150	2.15	148	1.75	3.8	6
228	3E1 RP	2-2	150	2.15	148	1.75	3.8	6
229	4E1 RP	2-2	150	2.15	148	1.75	3.8	6
227	2A1	2-2	150	2.15	148	1.75	3.8	6
227	1A1 A	2-2	150	2.15	148	1.75	3.8	6
245	2nd A	2-5	248	2.5	226	4.0	28	56
245	1st A	2-5	248	2.5	226	4.0	28	56
220	Rect.	5-6	5.6	5.3	5.0	5.0	5.0	5.0

15-1-7-16-29  
Drawing # 10304  
Supersedes 7-1-29  
155-2-7-27-29



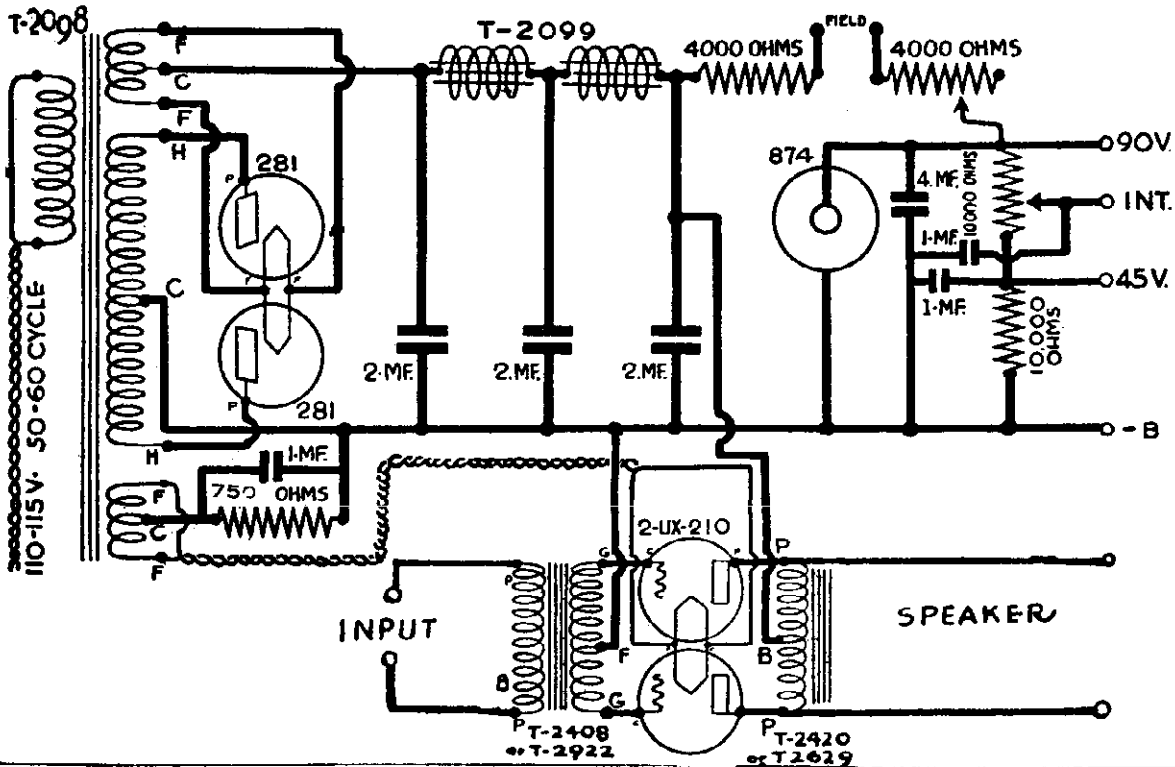
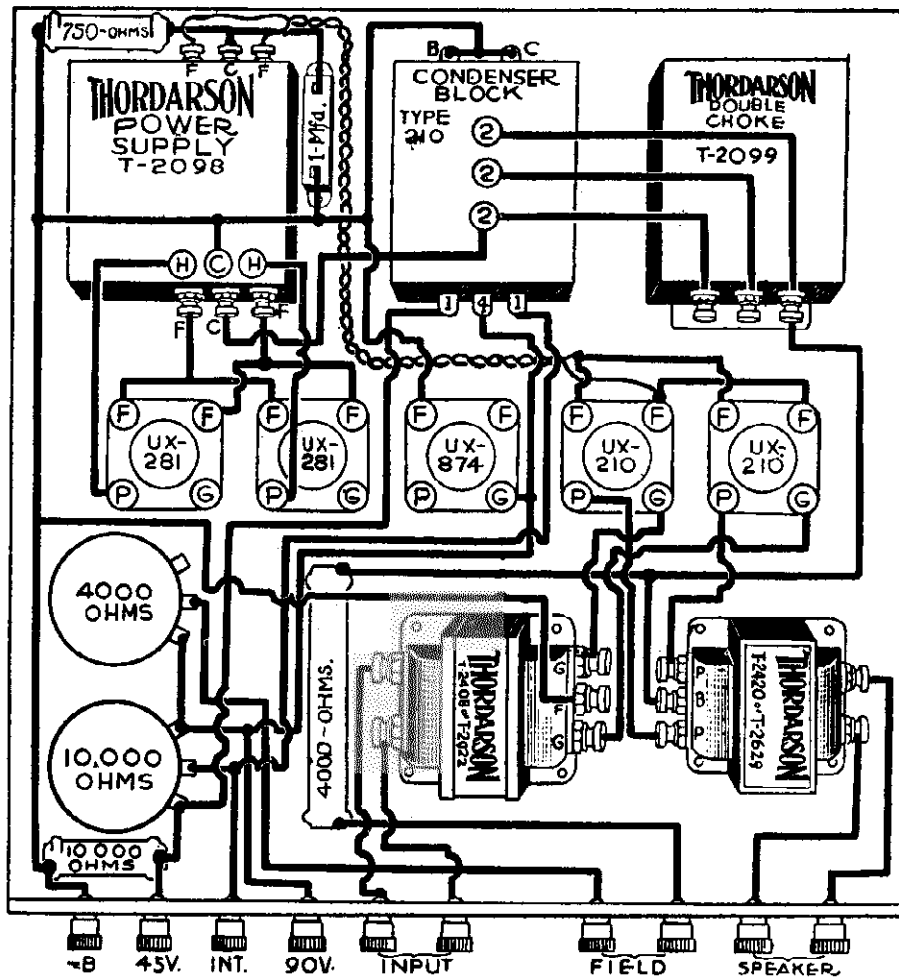
THORDARSON ELECTRIC MFG. CO.

MODEL R-171  
MODEL PP-171



MODEL 210  
Power Amplifier

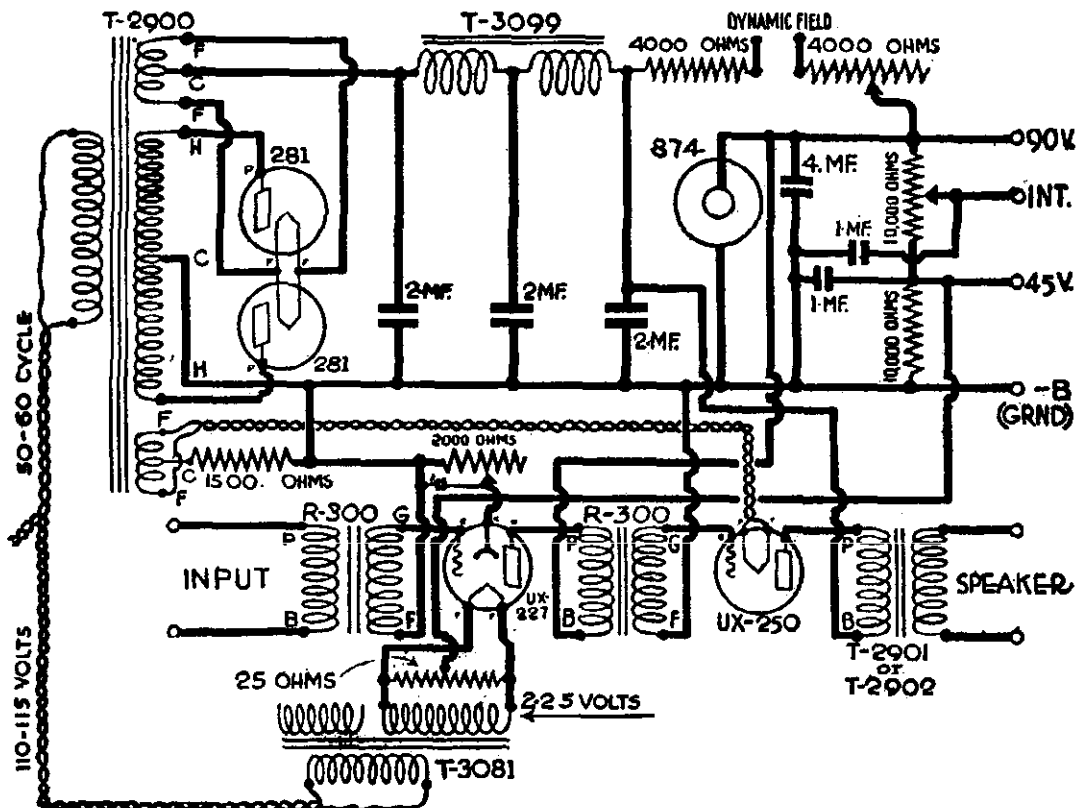
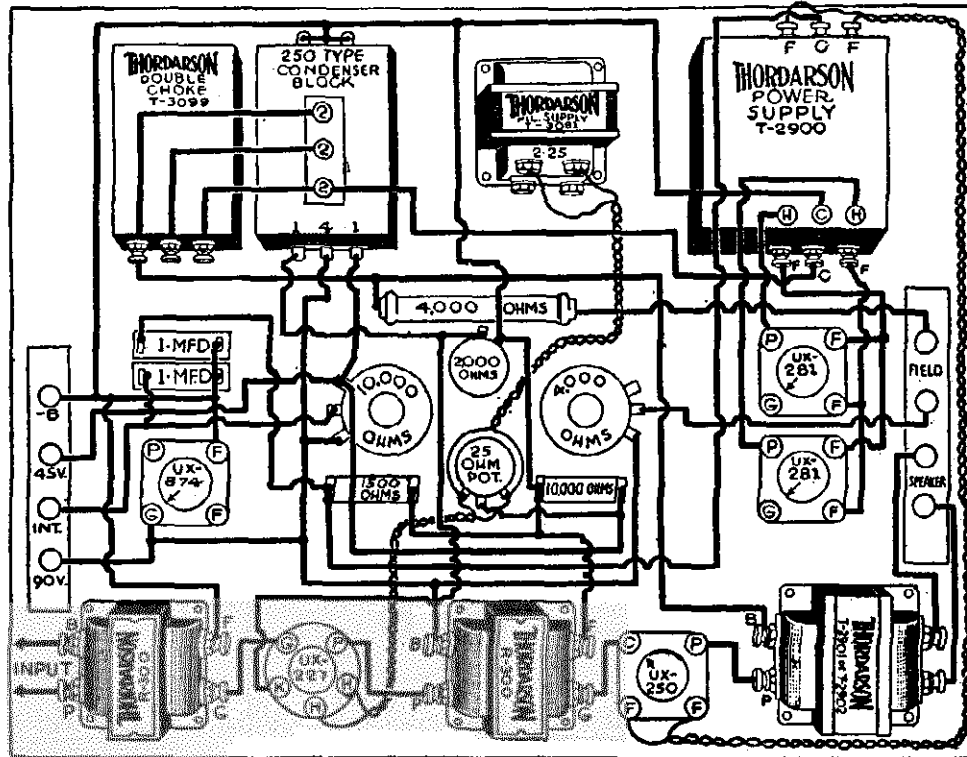
THORDARSON ELECTRIC MFG. CO.





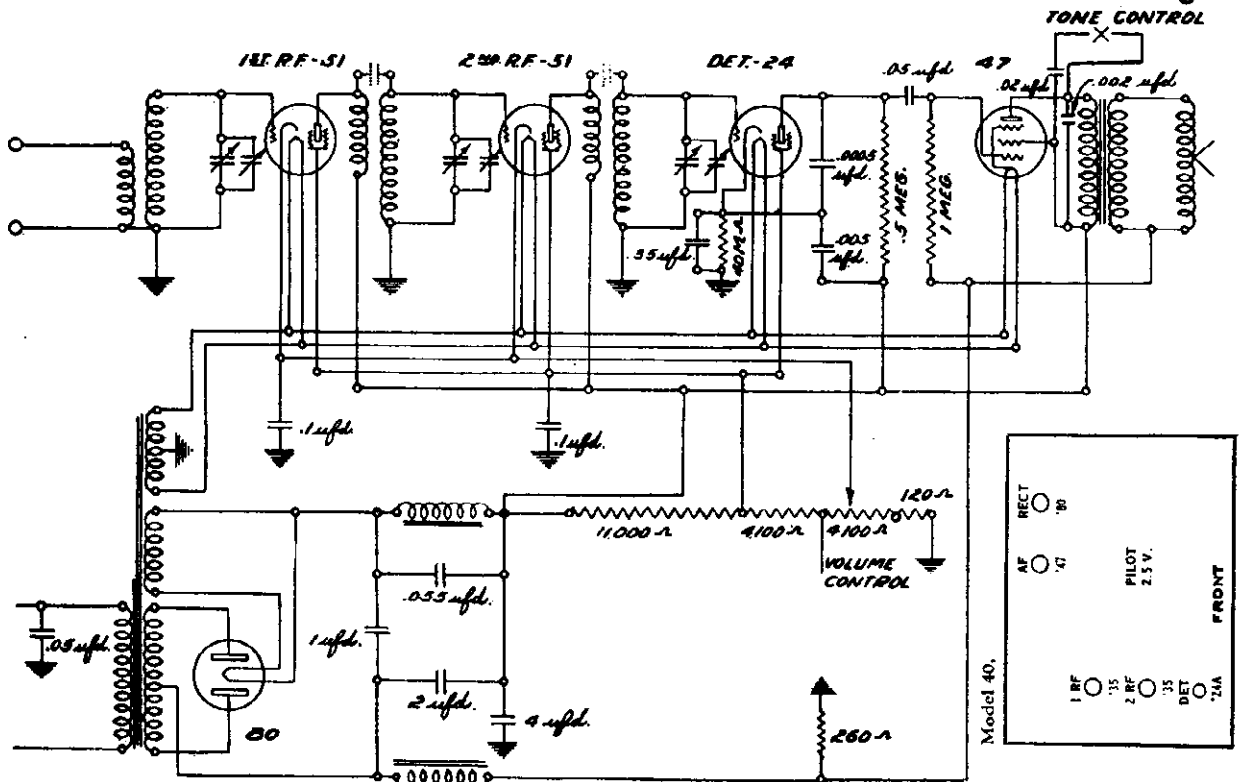
MODEL 250  
Power Amplifier

THORDARSON ELECTRIC MFG. CO.



TRANSFORMER CORP. OF AMERICA

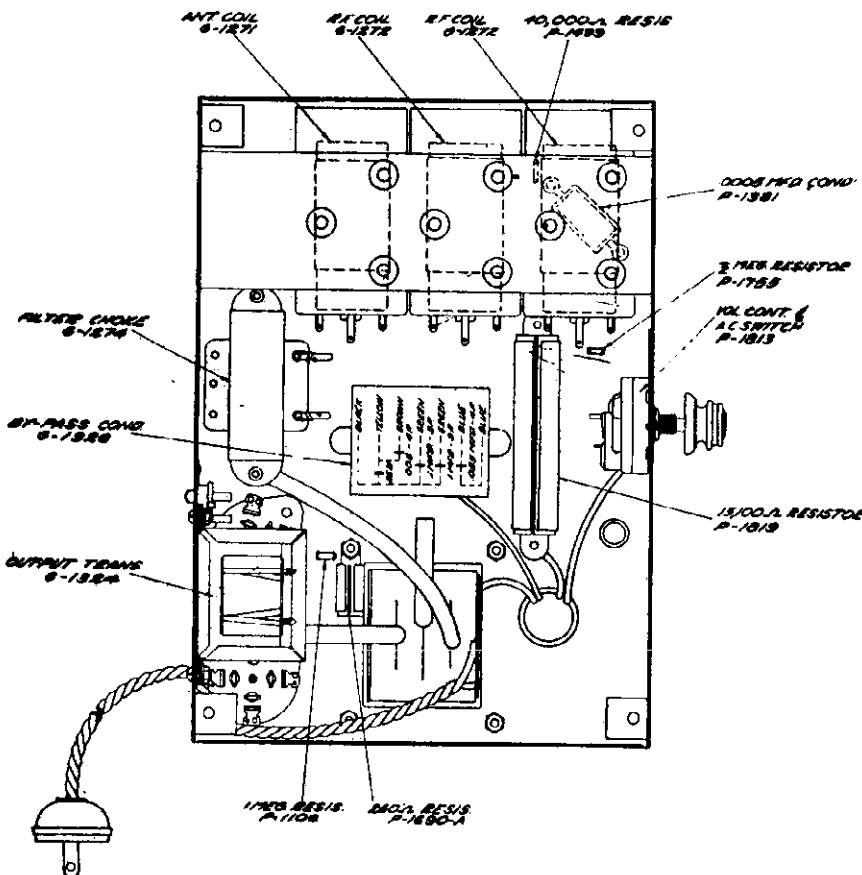
MODEL 40  
Schematic  
Voltage  
Control



6-2-31

SPKR. FIELD

MODEL 40



VOLTAGE ANALYSIS

READINGS TAKEN WITH WESTON MODEL 565 ANALYZER MODEL 40

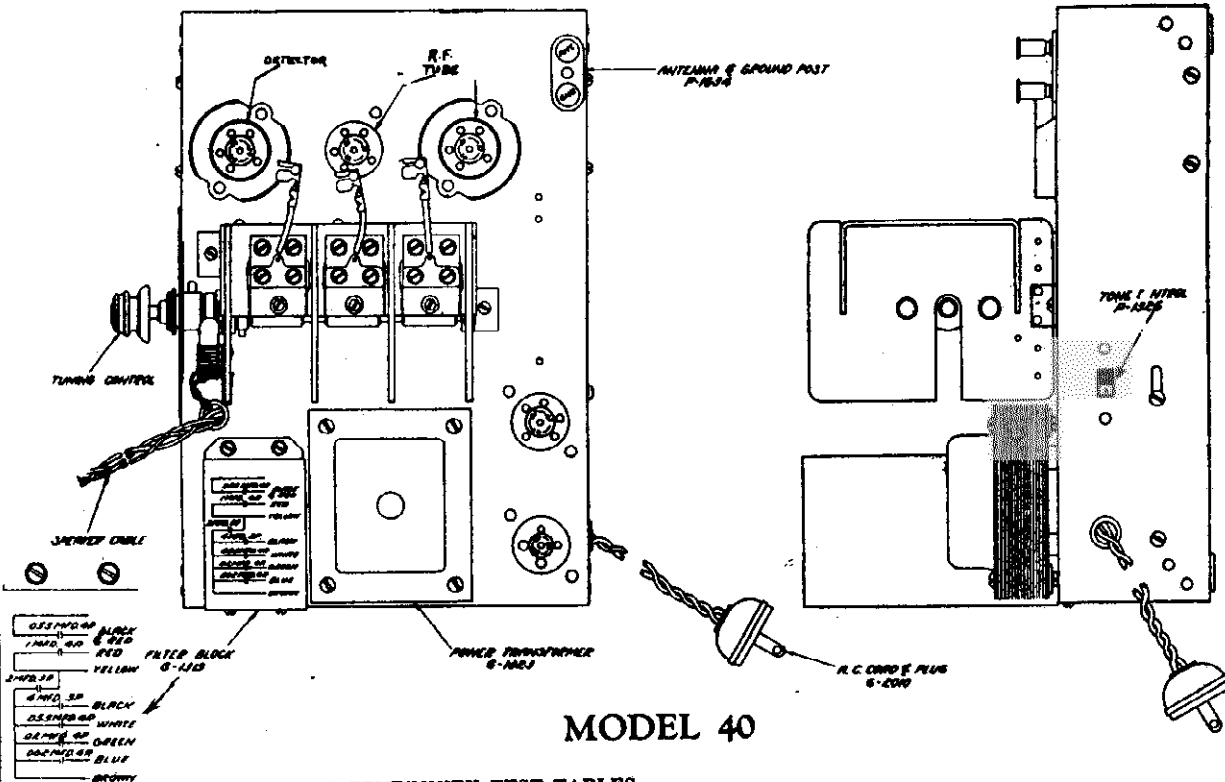
No.	Stage	Type Tube	Fil. Volts	Plate Volts	Cont. Grid Volts	Cath. Volts	S. G. Volts	I <sub>p</sub> Normal
1	1st R. F.	C. L. 51	2.1	225	2.1	2	75	5
2	2nd R. F.	C. L. 51	2.1	230	2.2	2	75	4.5
3	Det.	C. L. 24	2.1	160	7	7.5	75	.02
4	Output	C. L. 47	2.1	215	5*	0	225	26.5
5	Rect.	C. L. 80	4.8	280				†30

\*Reading dependant upon resistance of meter.

†Reading taken for one anode only: 60 milliamperes would be about correct. Volume control position full. Line voltage 115-60 cycle.

**MODEL 40**  
Chassis  
Data

**TRANSFORMER CORP. OF AMERICA**



**RESISTANCE TABLE MODEL 40**

(Using 10-volt range meter 1,000 ohms per volt and 6-volt battery)

Item	Color Code*	From	To	Reading	Your Reading	Resistance in Ohms
Det. Cath. Resistor	Yel., Blk., Or.	Det. Cath.	Gnd.	1.3		40,000
Pent. Grid Resistor	Br. Blk., Green	Pent Grid	Spkr. Field	Slight Deflection		1,000,000
Wire Wound	Black	Voice Coil, Black	Gnd.	5.9		260
Voltage Divider, Short End	Black	Volume Cont. Green Lead	S. G. Ckt.	4.2		4,100
Voltage Divider, Long End	Black	Plate	S. G. Ckt.	3.		11,000
Det. Plate Resistor	Gr., Blk., Yellow	Det. Plate	Pent. Space Chg. Grid.	J		500,000
Vol. Control "on"		Gnd.	R. F. Cathode	4.2		4,100

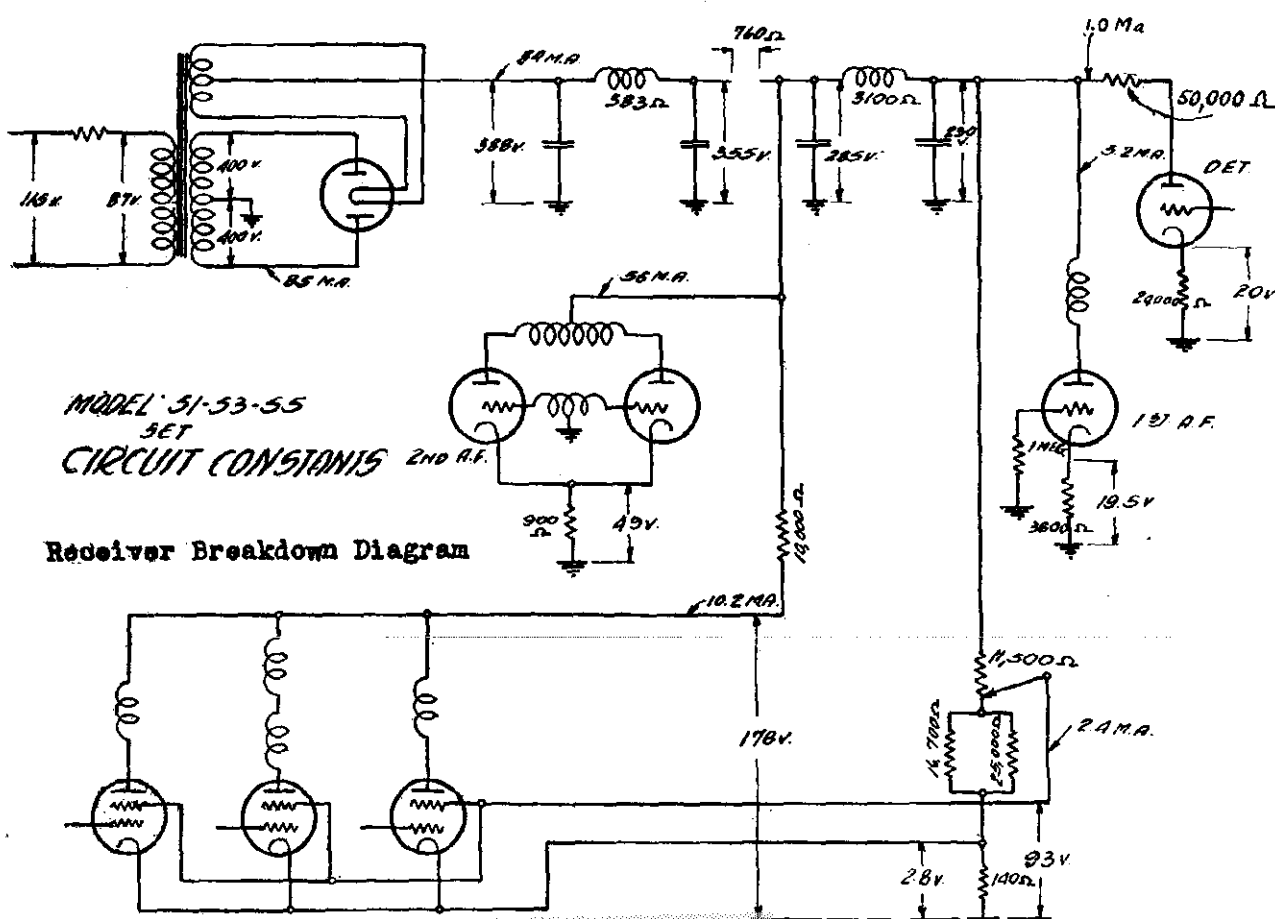
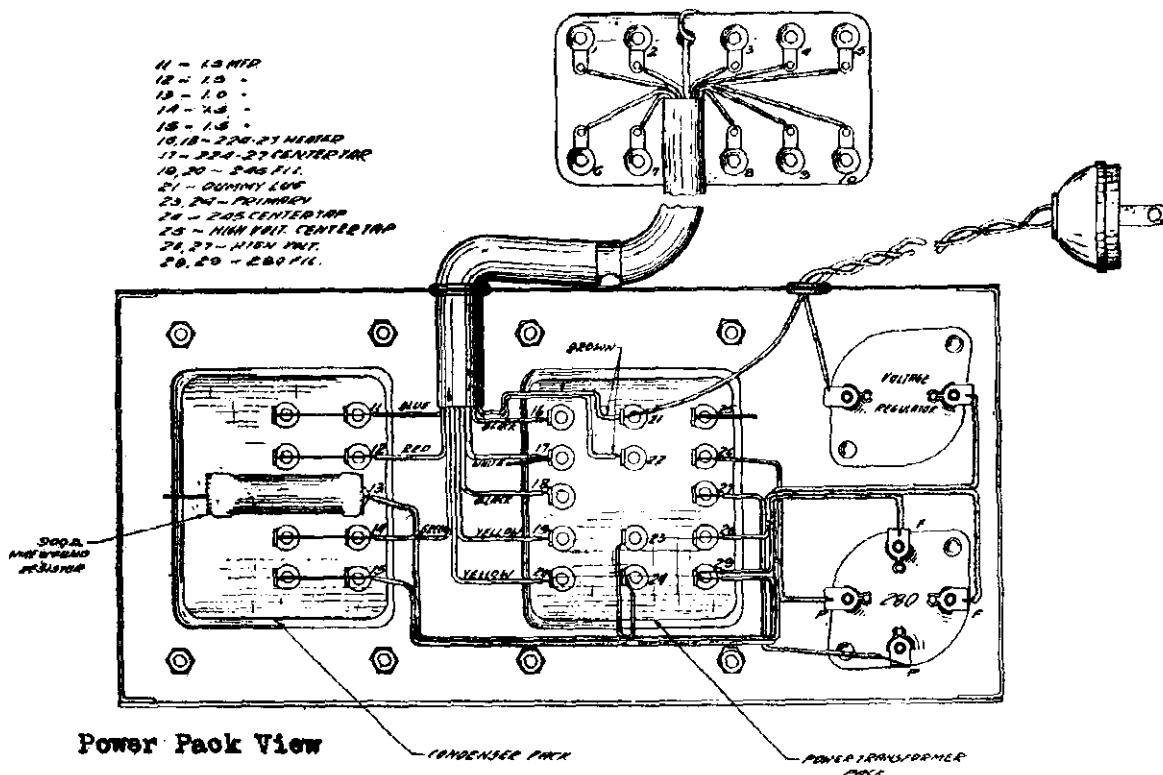
\*Color code: read body color first, tip second and dot last.



MODEL AC 51,53,55  
 Power Pack View  
 Receiver Breakdown

TRANSFORMER CORP. OF AMERICA

- 11 - 15 MFD
- 12 - 15 "
- 13 - 10 "
- 14 - 25 "
- 15 - 15 "
- 16, 18 - 2.25-2.7 MFD
- 17 - 350-27 CENTER TAP
- 19, 20 - 5-45 FIL.
- 21 - DUMMY LOAD
- 23, 24 - PRIMARY
- 25 - 2-05 CENTER TAP
- 26 - HIGH VOLT. CENTER TAP
- 28, 29 - HIGH VOLT.
- 29, 30 - 250 FIL.



MODEL 51-53-55  
 SET  
 CIRCUIT CONSTANTS

Receiver Breakdown Diagram





**MODEL AC-60, 25-60**  
**Chassis View**  
**Continuity Test**

**TRANSFORMER CORP. OF AMERICA**

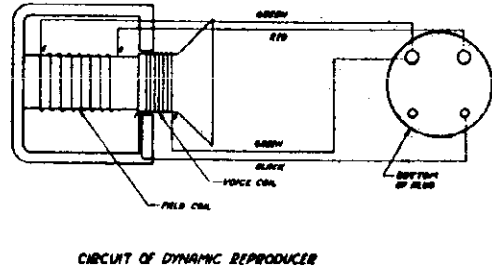
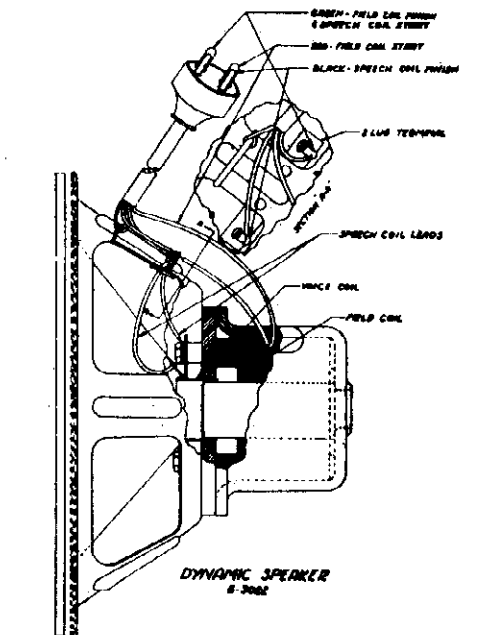
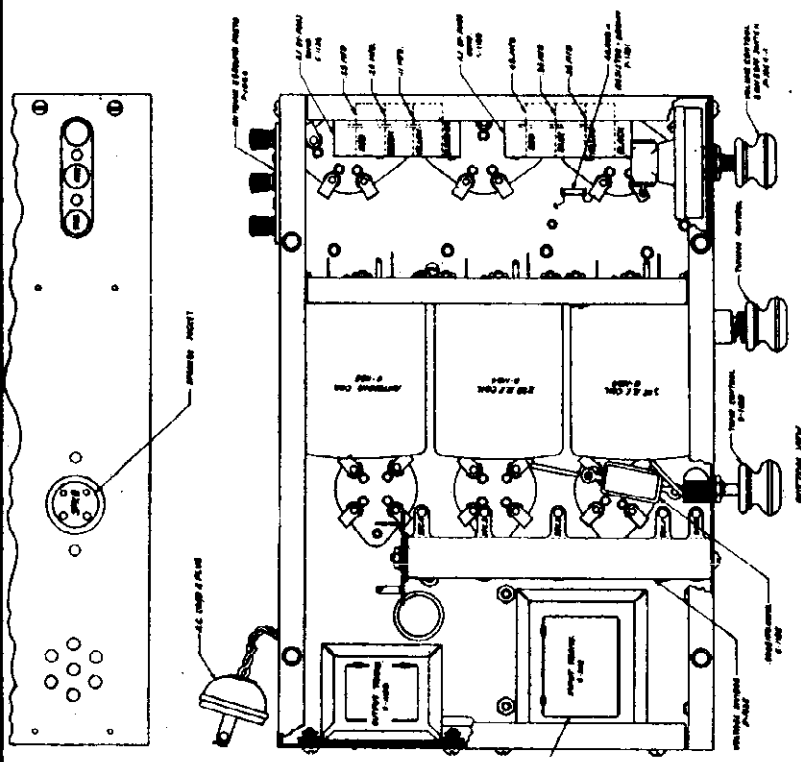
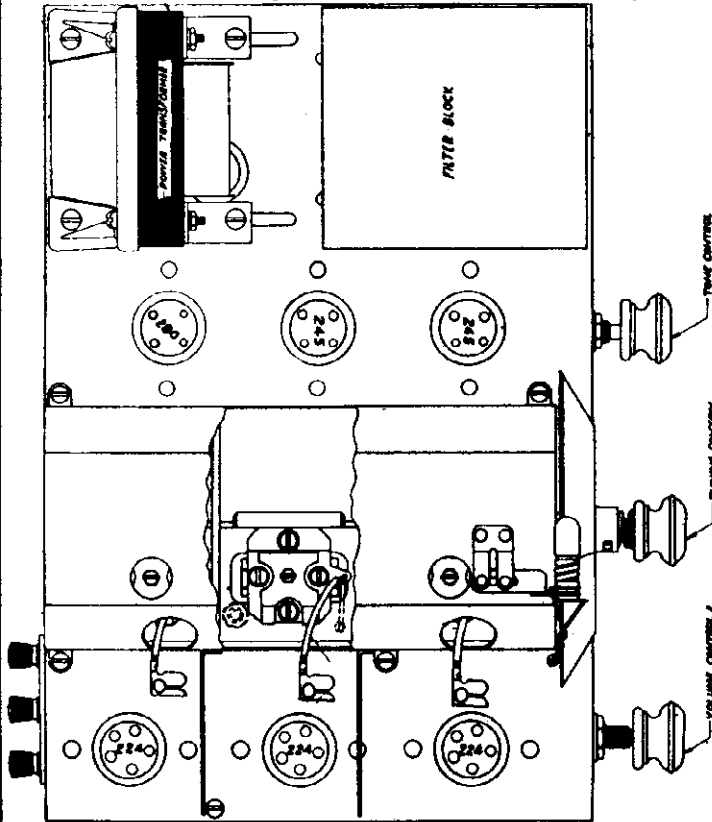
In some A.C. 60 models a phonograph jack was provided through which phonograph records may be reproduced. The phonograph pickup to be used with the set should have an impedance of 5000 ohms at 1000 cycles. We recommend Audak, Webster, Toman.

Model A. C. 60 receivers are designed for operation on 105 to 125 volt 50 to 60 cycle alternating current. The models 25-60 are to be operated on 105 to 125 volts 25 to 40 cycle alternating current only.

**CONTINUITY TEST TABLES**

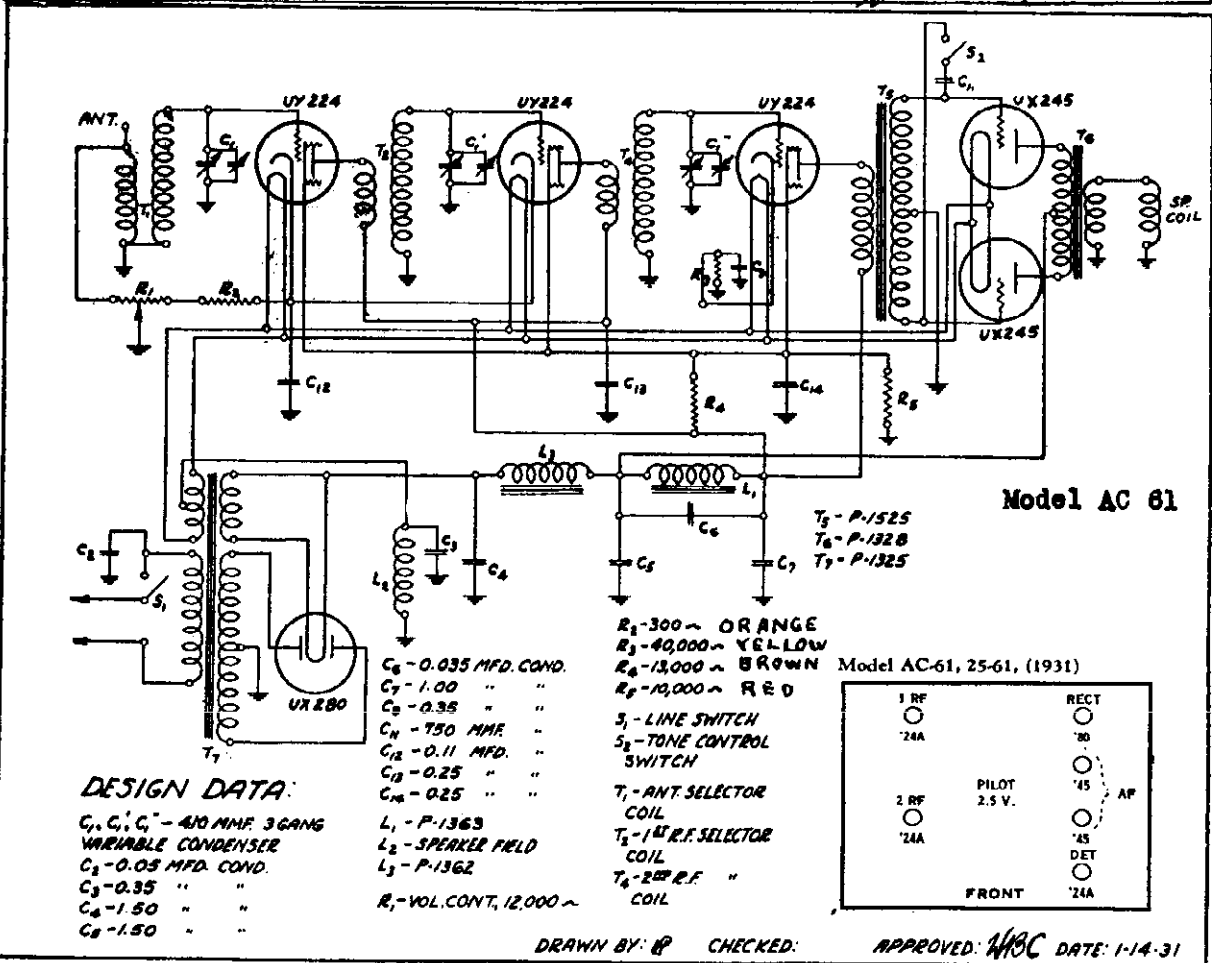
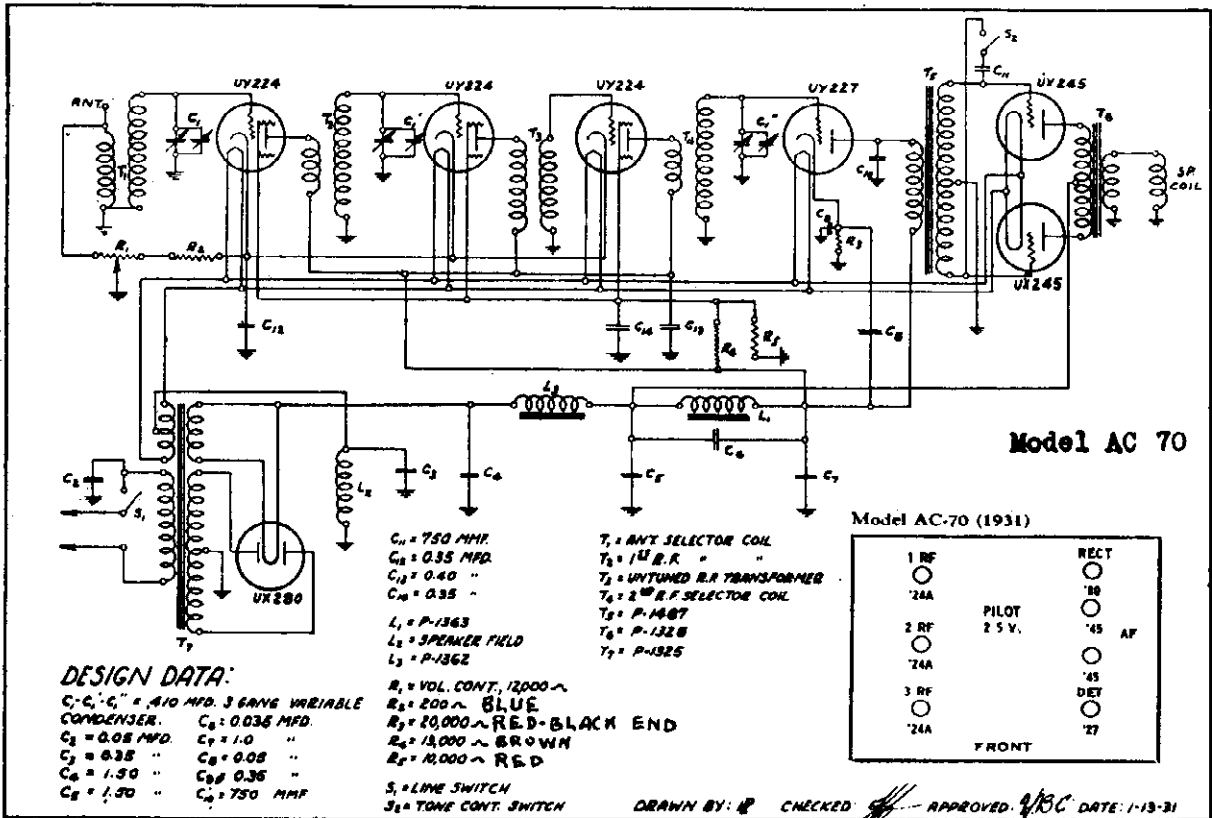
Using 6 Volt Battery with 0-10 Voltmeter (1000 Ohms Per Volt)

Circuit Tested	From	To	Resistance
Antenna coil	Blank binding post	Ground	6.0
1st r. f. grid ckt.	Grid cap 1st r. f.	Ground	6.0
1st r. f. plate ckt.	Plate prong at socket	3rd tap divider	6.0
2nd r. f. grid ckt.	Grid cap 2nd r. f.	Ground	6.0
2nd r. f. plate ckt.	Plt. prong at socket	3rd tap divider	6.0
Det. pit. ckt.	Pit. prong det. socket	4th tap divider	3.4
Det. grid ckt.	Grid cap det.	Ground	6.0
245 grid ckt.	Alternate grids	Ground	4.3-4.5
245 pit. ckt.	Alternate plates	Center tap output trans.	5.9
Output trans. sec.	Green lead spkr. socket	Ground	6.0
Speaker field	Spkr. socket	Ground	5.6
Pr. power trans.	Across AC line plug (switch on)		6.0
280 fil. sec.	Across 280 socket filament prongs		6.0
245-224 fil. sec.	Across 245 socket filament prongs		6.0
High voltage sec.	Across 280 plate prongs		5.8
L. 1, filter choke	Center tap output trans.	280 fil. prong	5.9
L. 2, filter choke	Center tap output trans.	Det. socket plate prong	5.0



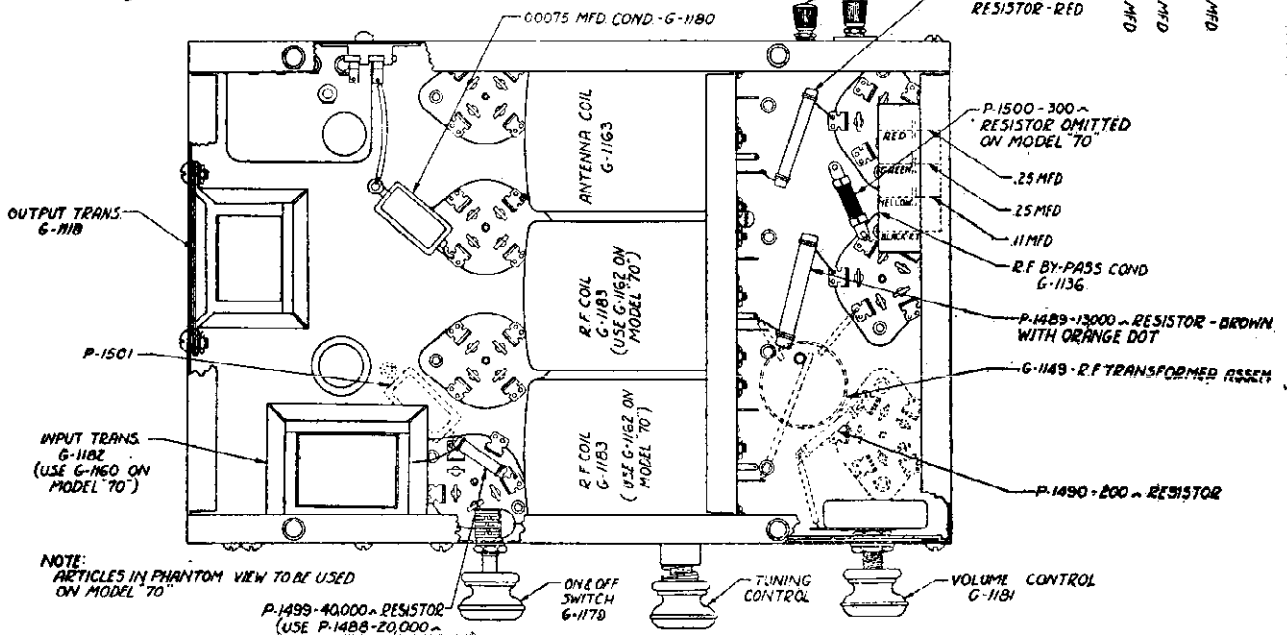
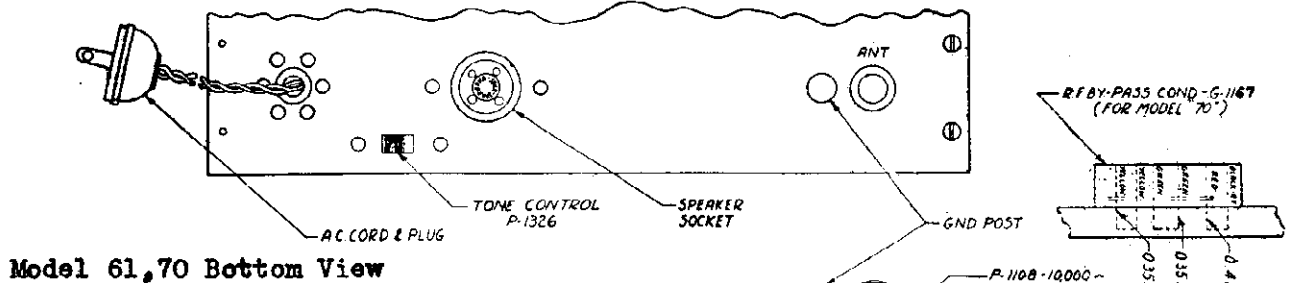
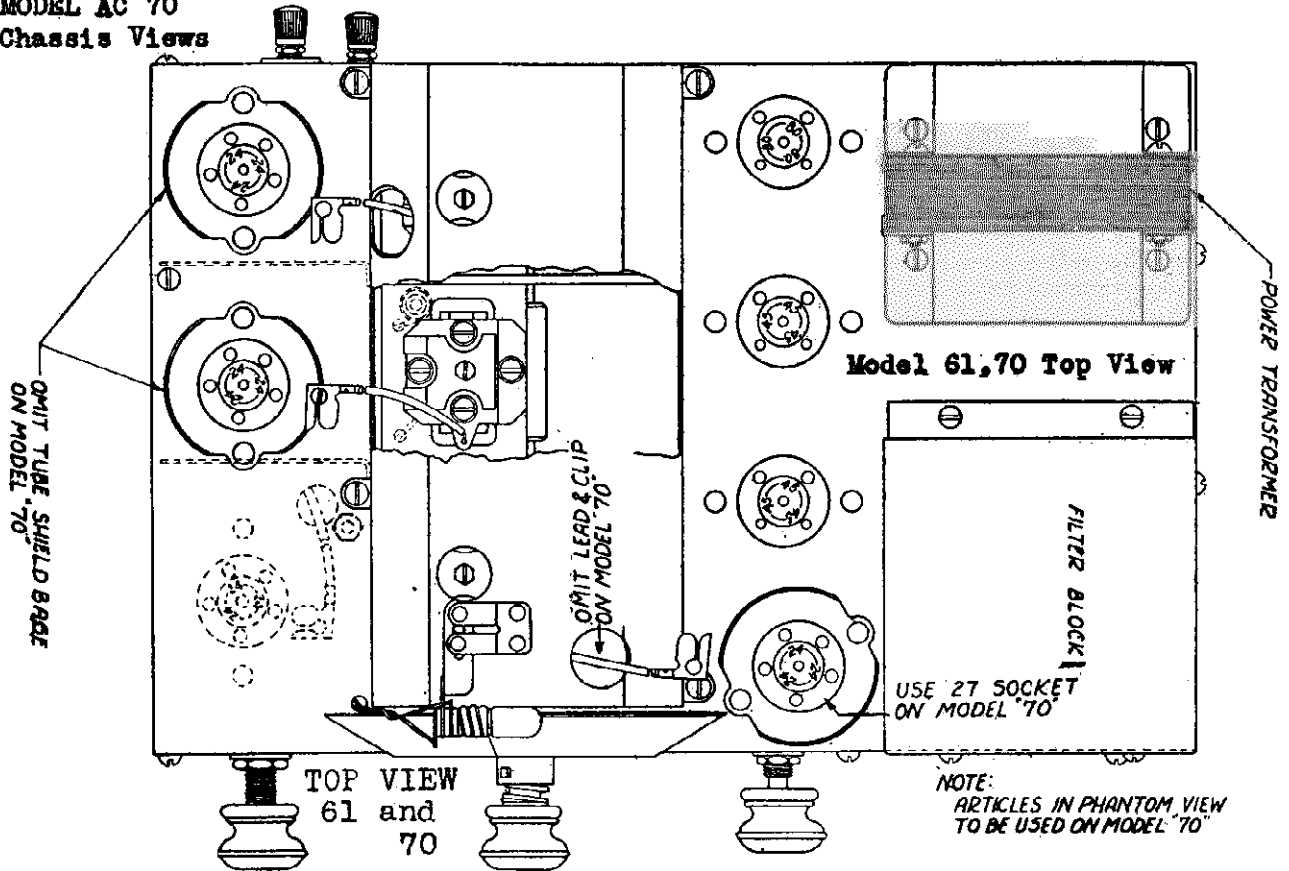
TRANSFORMER CORP. OF AMERICA

MODEL 61 AC  
MODEL 70 AC



MODEL AC 61  
Chassis Views  
MODEL AC 70  
Chassis Views

TRANSFORMER CORP. OF AMERICA



# TRANSFORMER CORP. OF AMERICA

**MODEL AC 61**  
**Voltage - Data**  
**MODEL AC 70**  
**Voltage - Data**

**NOTE.. Continuity test is made with 6 volt battery, 10 volt meter rated at 1000 ohms per volt.**

**READINGS TAKEN WITH WESTON MODEL 565 ANALYSER**  
**Model 61 Line 115 Volts**

No.	Stage	Type Tube	A Volts	B Volts	Cent. Grid Volts	Cath. Volts	I <sub>p</sub> Norm.	SG Volts
1	1st r. f.	224	2.40	260	3.2	50.0	4.3	100.0
2	2nd r. f.	224	2.35	260	3.2	50.0	4.3	100.0
3	Det.	224	2.40	260	8.0	42.0	0.200	100.0
	AF	245	2.42	290	53.0		34.0	
5	AF	245	2.43	290	53.0		34.0	
6	Rect.	280	5.00					

115 Volts { 280 Fil. to Gnd.—320 Volts D.C.  
L1 & L2 Center tap to Gnd. 300 Volts D.C.  
End of Choke L2 to Gnd. 260 Volts D.C.

**Model 70 Line 115 Volts**

No.	Stage	Type Tube	A Volts	B Volts	Cent. Grid Volts	Cath. Volts	I <sub>p</sub> Norm.	SG Volts
1	1st r. f.	224	2.37	250	3.0	50.0	4.0	90
2	2nd r. f.	224	2.30	250	3.0	50.0	4.0	90
3	3rd r. f.	224	2.30	250	3.0	50.0	4.0	90
4	Det.	227	2.38	250	20.0	33.0	1.00	
5	AF	245	2.42	290	53.0		34.0	
6	AF	245	2.43	290	53.0		34.0	
7	Rect.	280	5.00					

115 Volts { 280 Fil. to Gnd.—320 Volts D.C.  
L1 & L2 Center tap to Gnd.—300 Volts D.C.  
End of Choke L2 to Gnd. 260 Volts D.C.

*Note.* Since Resistance tolerances in the set are plus or minus 10%, and tubes may vary over 20%, your readings may disagree with the above by plus or minus 30%.

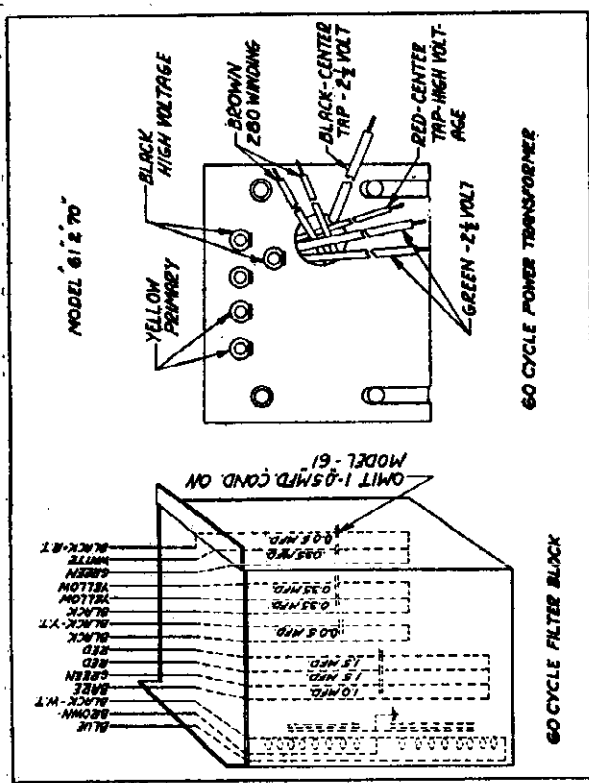
**CAPACITY TABLES**

Using 200 Volt Scale of A. C. Meter included in Weston No. 565 Analyser

No.	MODEL 61 (115 Volt 60 Cycle Line)		MODEL 70 (115 Volt 60 Cycle)	
	Capacity	Reading	Reading	True Reading
C-2	0.05	20.0	0.05	20.0
C-3	0.25	95.0	0.25	95.0
C-4	1.50	115.0	1.50	115.0
C-5	1.50	115.0	1.50	115.0
C-6	0.05	30.0	0.05	30.0
C-7	1.0	92.0	1.0	92.0
C-9	35	11	35	11
C-12	25	45.0	25	45.0
C-13	25	86.0	25	86.0
C-14	25	80.0	25	80.0

**CONTINUITY TEST TABLES**  
**Models 61 and 70**

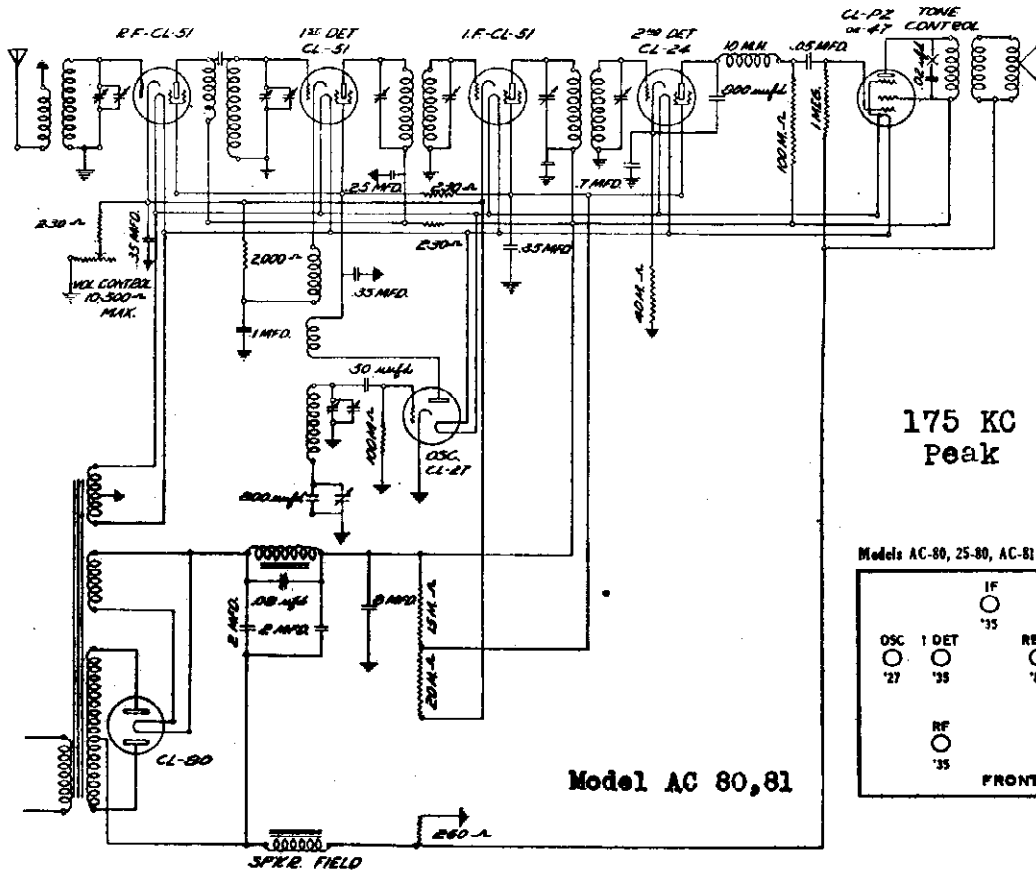
Circuit Tested	From	To	Reads	
			61	70
Antenna coil	Antenna post	Ground	6.0	6.0
1st r. f. grid ckt.	Grid cap 1st r. f.	Ground	6.0	6.0
1st r. f. plate ckt.	Plate prong at skt.	Upper term. input trans.	6.0	6.0
1st r. f. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pri.	2.6	2.6
2nd r. f. grid ckt.	Grid cap 2nd r. f.	Ground	6.0	6.0
2nd r. f. plate ckt.	Plate prong at skt.	Upper term. input trans.	6.0	6.0
2nd r. f. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pn.	2.6	2.6
3rd r. f. grid ckt.	Grid cap 3rd r. f.	Ground		6.0
3rd r. f. plate ckt.	Plate prong at skt.	Upper term. input trans.		6.0
3rd r. f. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pri.		2.6
Det. grid ckt.	Grid cap or prong	Ground	6.0	6.0
Det. plate ckt.	Plate prong at skt.	Opposite term. input trans.	4.0	5.1
Det. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pri.	2.6	
Any screen grid	Screen prong skt.	Ground	3.0	3.0
245 grid ckt.	Alternate grids	Ground	7.4	3-4.2
245 plate ckt.	Alternate plates	Center tap output trans.	5.8	5.8
Output trans. sec.	Green lead apr. skt.	Ground	6.0	6.0
Speaker field	Across green and red leads spkr. plug		5.6	5.6
Spkr. voice coil	Across green and black leads speaker		6.0	6.0
280 fil. sec.	Across fil. terms. 280 socket		6.0	6.0
245 and 224 fil. sec.	Across fil. terms. 245 socket		6.0	6.0
Pri. power trans.	Across AC line plug (switch on)		6.0	6.0
High voltage sec.	Across 280 plate terms.		5.8	5.8
L1 filter choke	Center tap output trans.	Upper term. input trans.	5.9	5.9
L3 filter choke	Center tap output trans.	280 fil. terms.	5.1	5.1



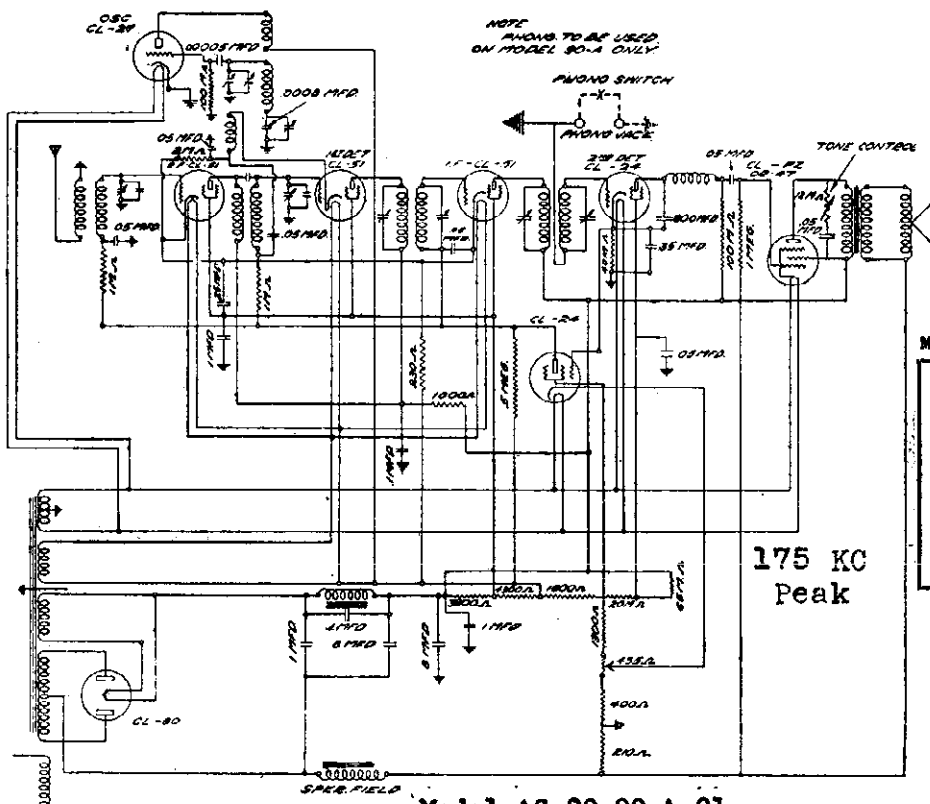
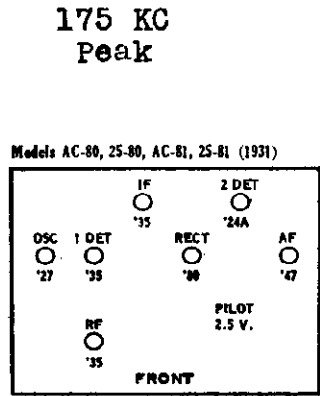
MODEL AC 80,81,90,  
90-A, 91.

TRANSFORMER CORP. OF AMERICA

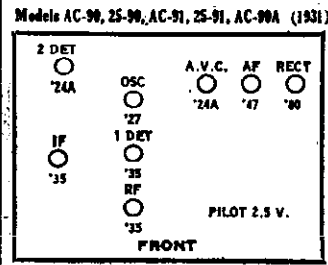
Schematic



Model AC 80,81



175 KC Peak



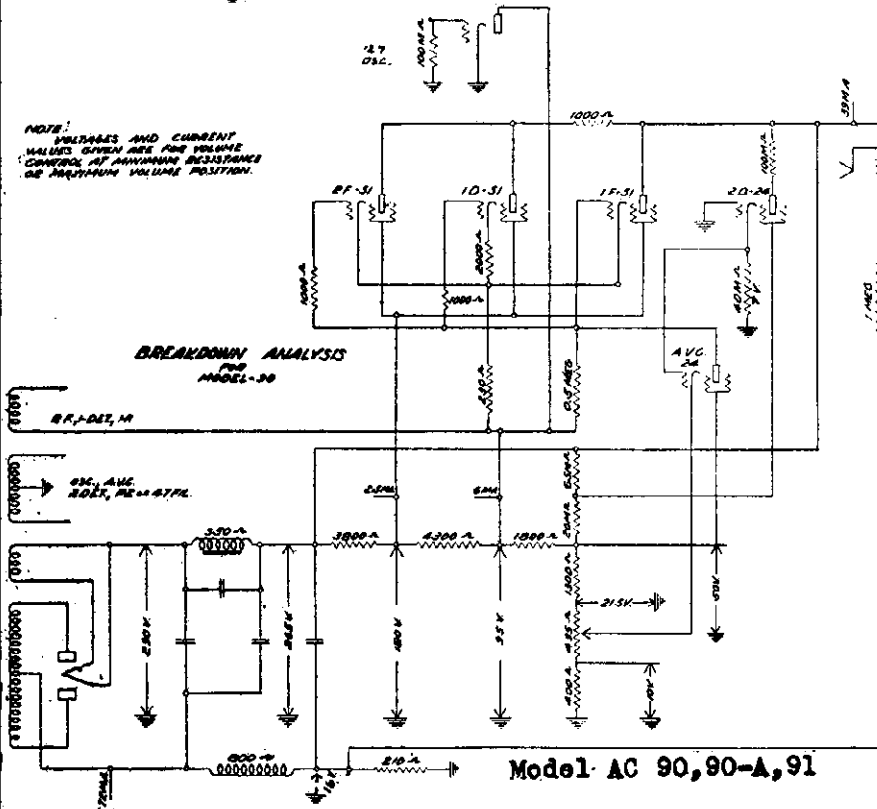
Model AC 90,90-A,91 SCHEMATIC DIAGRAM



**MODEL AC 80,81,80,  
90-A,91**  
**Voltage  
Breakdown Diagrams**

**TRANSFORMER CORP. OF AMERICA**

NOTE:  
VOLTAGES AND CURRENT  
VALUES GIVEN ARE FOR VOLUME  
CONTROL AT MINIMUM RESISTANCE  
OR MAXIMUM VOLUME POSITION.



**Model AC 90,90-A,91**

**READINGS TAKEN WITH WESTON MODEL 565 ANALYSER  
MODEL 90**

**READINGS TAKEN WITH WESTON MODEL 565 ANALYSER  
MODEL 90**

No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Coth. Volts	I <sub>p</sub> Norm.	SG Volts
1	r. f.	CL-51	2.2	233	3	3	5	66
2	1st det.	CL-51	2.2	233	7	7	2.3	73
3	Osc.	CL-27	2.2	80	0	0	4	0
4	I. F.	CL-51	2.2	233	3	3	5	77
5	2nd det.	CL-24	2.2	162	6.2	7.2	5	73
6	Output	CL-PZ	2.2	728	15	0	27	223
7	A. V. C.	CL-PZ	2.2	280	0	0	27	223
8	Rect.	CL-80	4.6	300	0	0	50	0

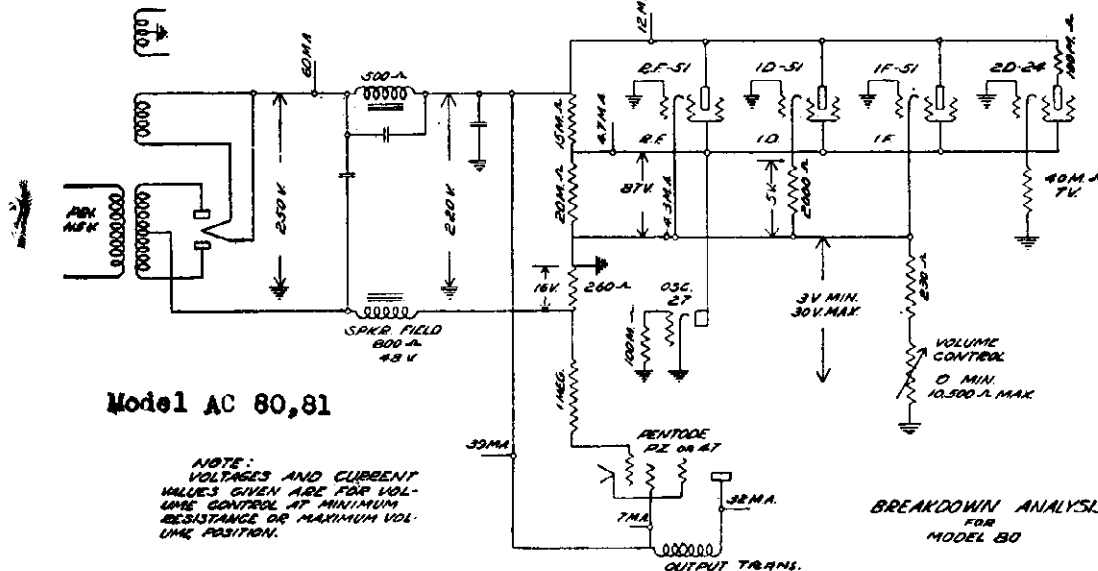
Volume control position Full Line Voltage 115-00 cycle.

NOTE: Filaments and cathodes of R.F., I.F., and first detector are 95 volts positive with respect to ground on the model 90.

No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Coth. Volts	I <sub>p</sub> Norm.	SG Volts
1	r. f.	CL-51	2.2	233	3	3	5	66
2	1st Det.	CL-51	2.2	233	7	7	2.3	73
3	Osc.	CL-27	2.2	80	0	0	4	0
4	I. F.	CL-51	2.2	233	3	3	5	77
5	2nd det.	CL-24	2.2	162	6.2	7.2	5	73
6	Output	CL-PZ	2.2	728	15	0	27	223
7	Rect.	CL-80	4.8	300	0	0	50	0

Volume control position Full Line Voltage 115 -

Note: Since resistance tolerances in the sets are plus or minus 10%, and tubes may vary over 20%, your readings may disagree with the above by plus or minus 30%. CL-PZ is also known as CL-47, the latter being the Pual type number.



**Model AC 80,81**

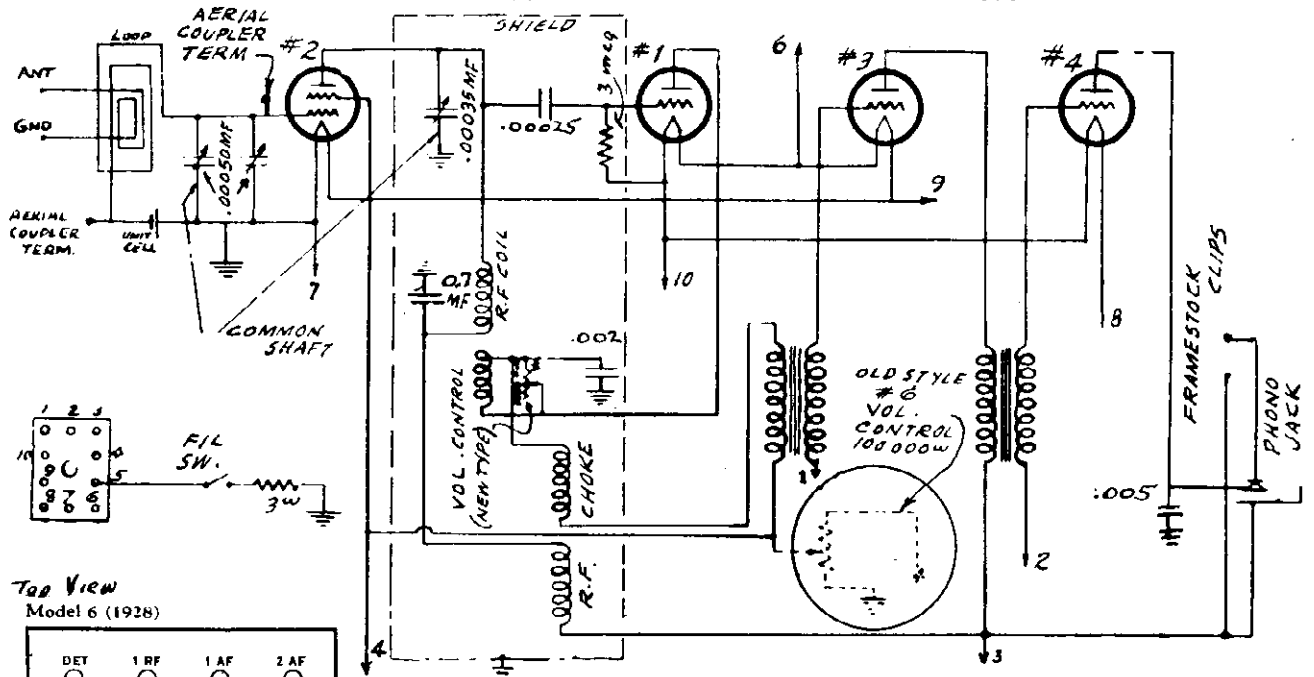
NOTE:  
VOLTAGES AND CURRENT  
VALUES GIVEN ARE FOR VOL-  
UME CONTROL AT MINIMUM  
RESISTANCE OR MAXIMUM VOL-  
UME POSITION.

**BREAKDOWN ANALYSIS  
FOR  
MODEL 80**

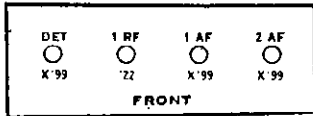




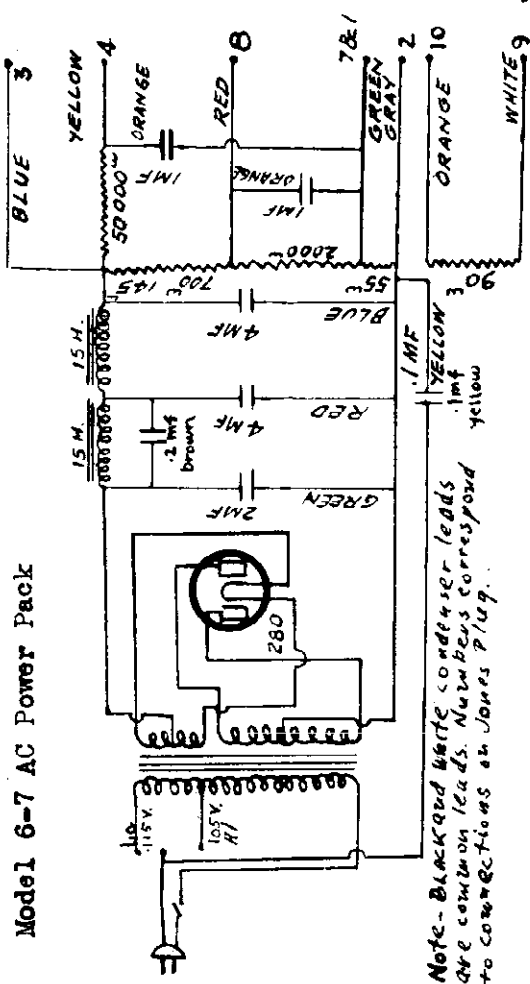
TRAV-LER RADIO & TELEVISION CORP.



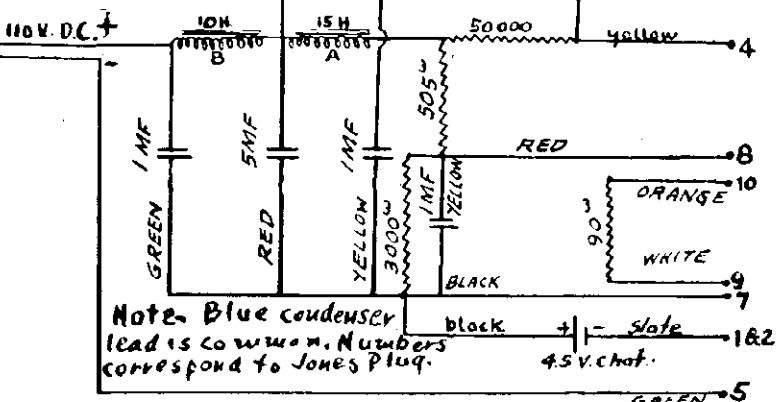
Top View Model 6 (1928)



Model 6 - 7 Receiver Chassis

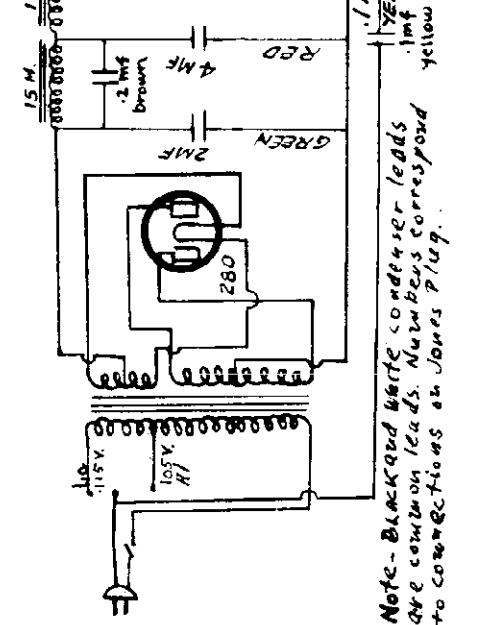


Model 6-7 DC Power Pack

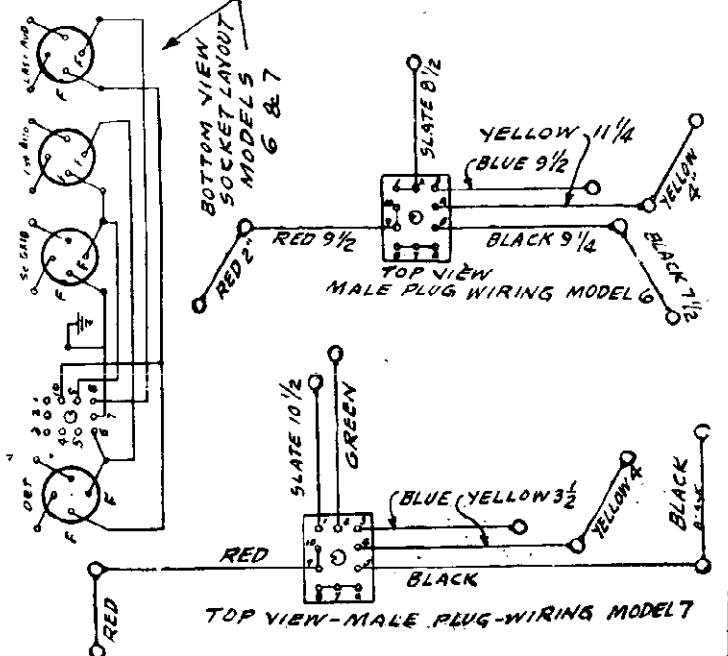


Note: Blue condenser lead is common. Numbers correspond to Jones Plug.

Model 6-7 AC Power Pack



Note: Black and white condenser leads are common leads. Numbers correspond to Jones Plug.

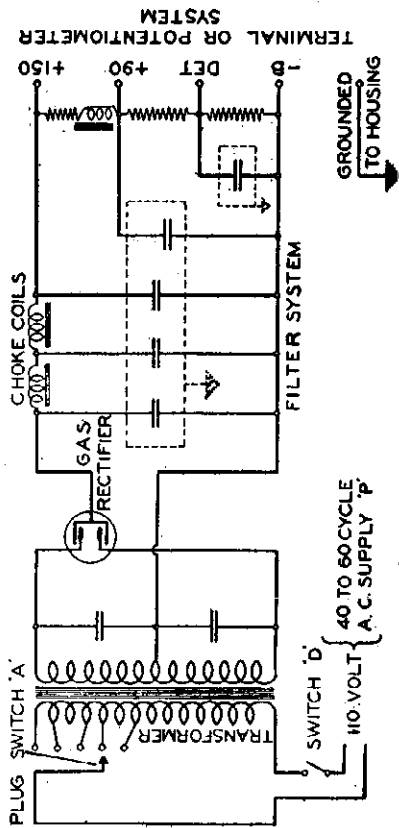




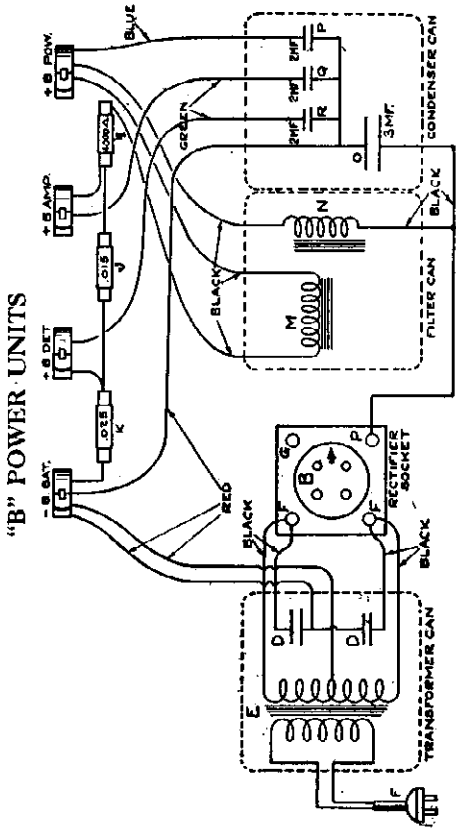
UNITED AMERICAN BOSCH CORP.

MODEL BAN  
"B" Power Units

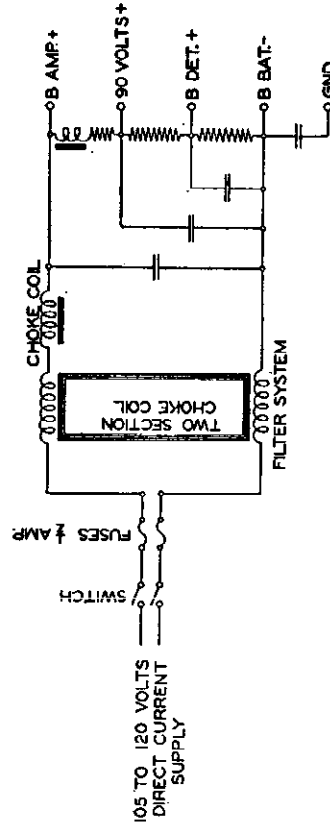
"B" POWER UNITS



Type BAN Edition 2 Nobattery

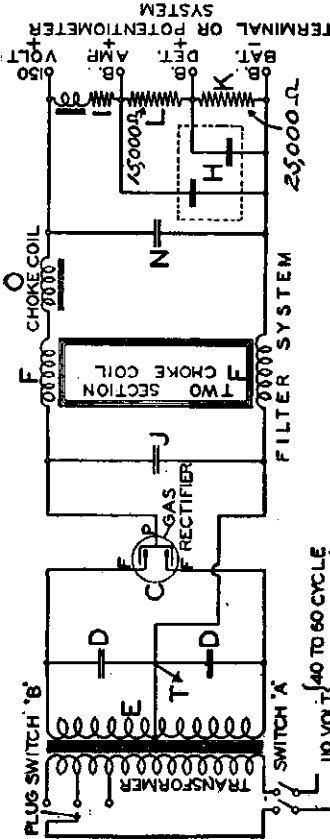


Type BAN Edition 6 Nobattery—Models 504 and 506

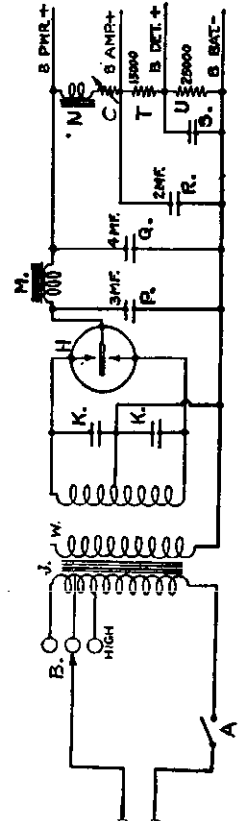


Type BDN Edition 1 Nobattery (for direct current)  
Type BDN Edition 2 Nobattery (for 220 volts DC).

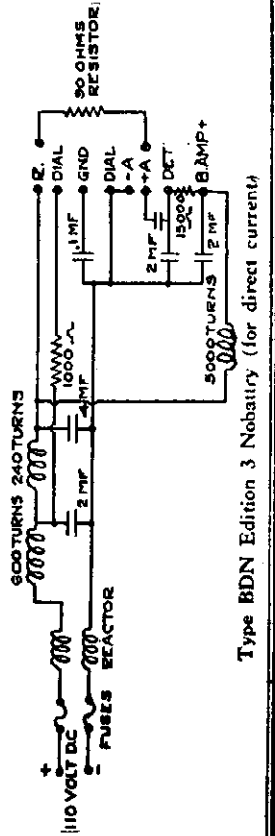
Note: A series resistance is connected between the switch and the fuse in the 220-volt unit. The Nobatteries are otherwise identical.



Type BAN Edition 3 Nobattery  
Type BAN Edition 4 Nobattery (for 25 cycles)  
Type BAN Edition 4 Model 505 Nobattery



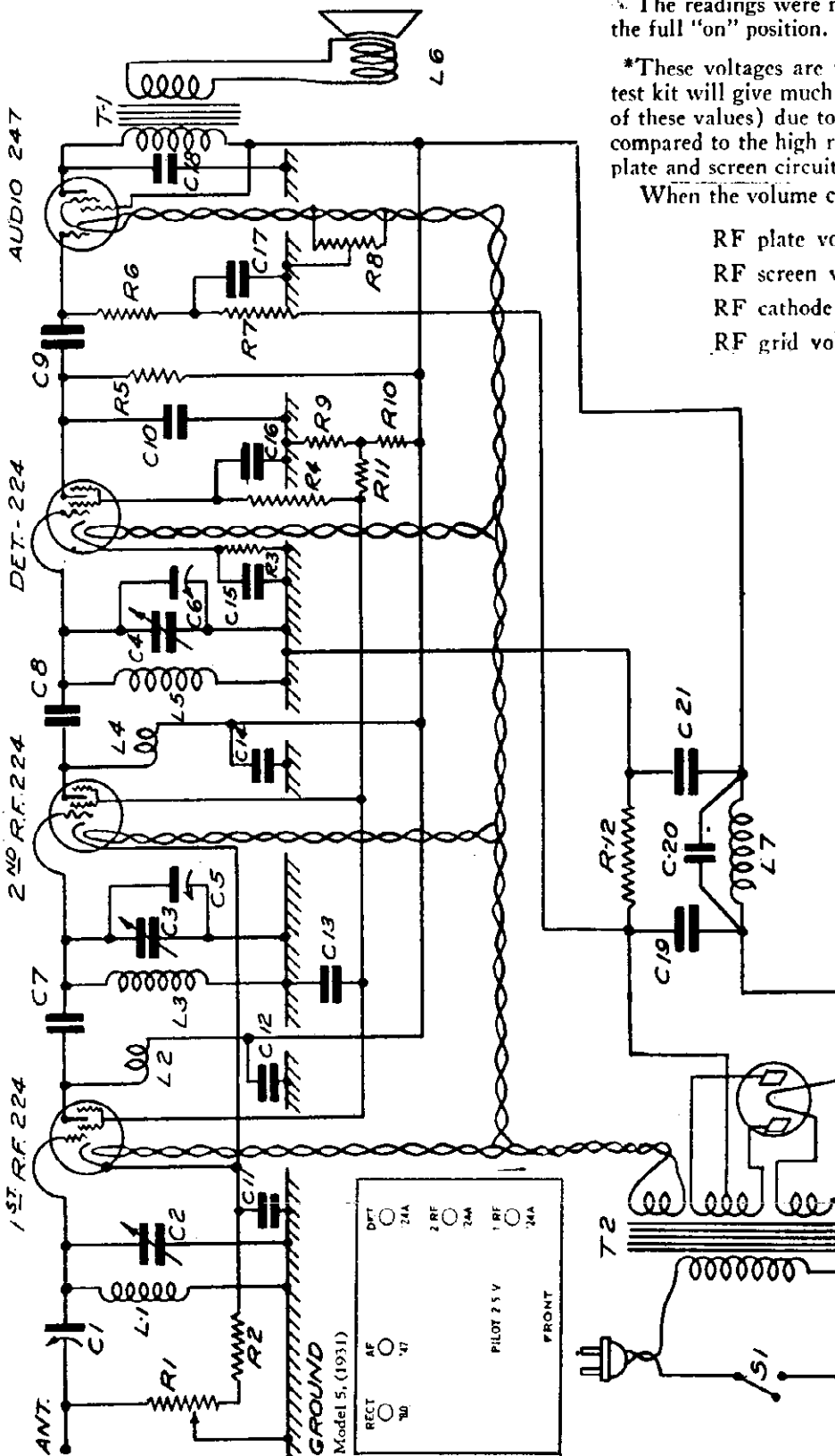
Type BAN Edition 5 Nobattery—Models 501, 502, 503



Type BDN Edition 3 Nobattery (for direct current)

MODEL 5 AC  
Schematic  
Voltage

UNITED AMERICAN BOSCH CORP.



The readings were made with the volume control in the full "on" position.

\*These voltages are the correct values. The average test kit will give much lower readings, (as low as 1/10 of these values) due to the low resistance of the meters compared to the high resistance included in the detector plate and screen circuits and the audio grid circuit.

When the volume control is reduced the

- RF plate voltage remains constant
- RF screen voltage increases
- RF cathode voltage increases
- RF grid voltage increases

SOCKET VOLTAGES

Stage	Tube	Fil.	Plate	Screen	Cathode	Grid	Plate MA	
1st RF	224	2.3	250	90	2.5	2.5	4.5	
2nd RF	224	2.3	250	90	2.5	2.5	4.5	
Det.	224	2.3	*150	*20	3.0	1.5	.5	
Audio	247	2.3	250	250	.....	*16	32	
Rect.	280	4.8	Plate current of each plate—20					

## UNITED AMERICAN BOSCH CORP.

MODEL 5 AC  
Electrical  
Values

## NOMENCLATURE

- C 1—Antenna Trimmer Condenser  
 C 2—Tuning Condenser  
 C 3—Tuning Condenser  
 C 4—Tuning Condenser  
 C 5—Alignment Condenser  
 C 6—Alignment Condenser  
 C 7—Coupling Capacity  
 C 8—Coupling Capacity  
 C 9—Audio Coupling Condenser .006 mfd.  
 C 10—Det. plate By-pass .0001 mfd.  
 C 11—RF Cathode By-pass .05 mfd.  
 C 12—RF Plate By-pass .05 mfd.  
 C 13—RF Screen By-pass .25 mfd.  
 C 14—RF Plate By-pass .05 mfd.  
 C 15—Det. Cathode By-pass 1.00 mfd.  
 C 16—Det. Screen By-pass .25 mfd.  
 C 17—Audio Grid By-pass .01 mfd.  
 C 18—Audio Plate By-pass .01 mfd.  
 C 19—Filter Condenser 4. mfd.  
 C 20—Field Condenser .08 mfd.  
 C 21—Filter Condenser 4. mfd.  
 R 1—Volume Control 10,000 ohms  
 R 2—RF Cathode Resistor 300 ohms  
 R 3—Det. Cathode Resistor 50,000 ohms  
 R 4—Det. Screen Resistor 2 megohms  
 R 5—Det. Plate Resistor 1 megohm  
 R 6—Audio Grid Resistor ½ megohm  
 R 7—Audio Grid Resistor 100,000 ohms  
 R 8—Mid Tap Resistor  
 R 9—Divider Resistor 50,000 ohms  
 R 10—Screen Resistor 50,000 ohms  
 R 11—Screen Resistor 10,000 ohms  
 R 12—Audio Bias Resistor 400 ohms  
 L 1—Antenna Coil  
 L 2—Primary } of RF Coil  
 L 3—Secondary }  
 L 4—Primary } of RF Coil  
 L 5—Secondary }  
 L 6—Speaker Moving Coil  
 L 7—Speaker Field Coil  
 T 1—Audio Output Transformer  
 T 2—Power Transformer

## Filter Condenser

The three leads from the main filter condenser are connected as follows:

- Black—to center tap of 280 plate winding  
 Green—to filament terminal of 280 socket  
 Red—to +B connection on terminal strip

## By-pass Condenser Assembly

The condensers incorporated in this unit are identified as follows:

- |          |                       |
|----------|-----------------------|
| 1.0 mfd. | Green Leads           |
| .01 mfd. | Green and White Leads |
| .05 mfd. | Black Leads           |
| .25 mfd. | Red Leads             |

## Resistors

- 300 ohms—Orange, Black, Brown  
 400 ohms—Yellow, Black, Brown  
 10,000 ohms—Blue, Yellow  
 50,000 ohms—Green, White  
 100,000 ohms—Blue, White  
 ½ megohm—Gray  
 1 megohm—Black  
 2 megohm—Black, White

## Power Transformer

Six leads are brought out of the transformer winding on the side next to the terminal strip. Three are located on the opposite side. The transformer is connected as follows:

- Primary Winding—Stranded wires, terminal strip side  
 224 and 247 filaments—Heavy wires, terminal strip side  
 280 filament—Small wires, terminal strip side  
 280 plates—Two leads nearest front of set, opposite side  
 280 center tap—Lead nearest back of set, opposite side

The trimmer condenser mounted on the loud speaker must be adjusted for maximum volume.

Some types of the 247 Pentode operate normally with a blue glow. This action does not, therefore, denote that the tube is defective due to gas.

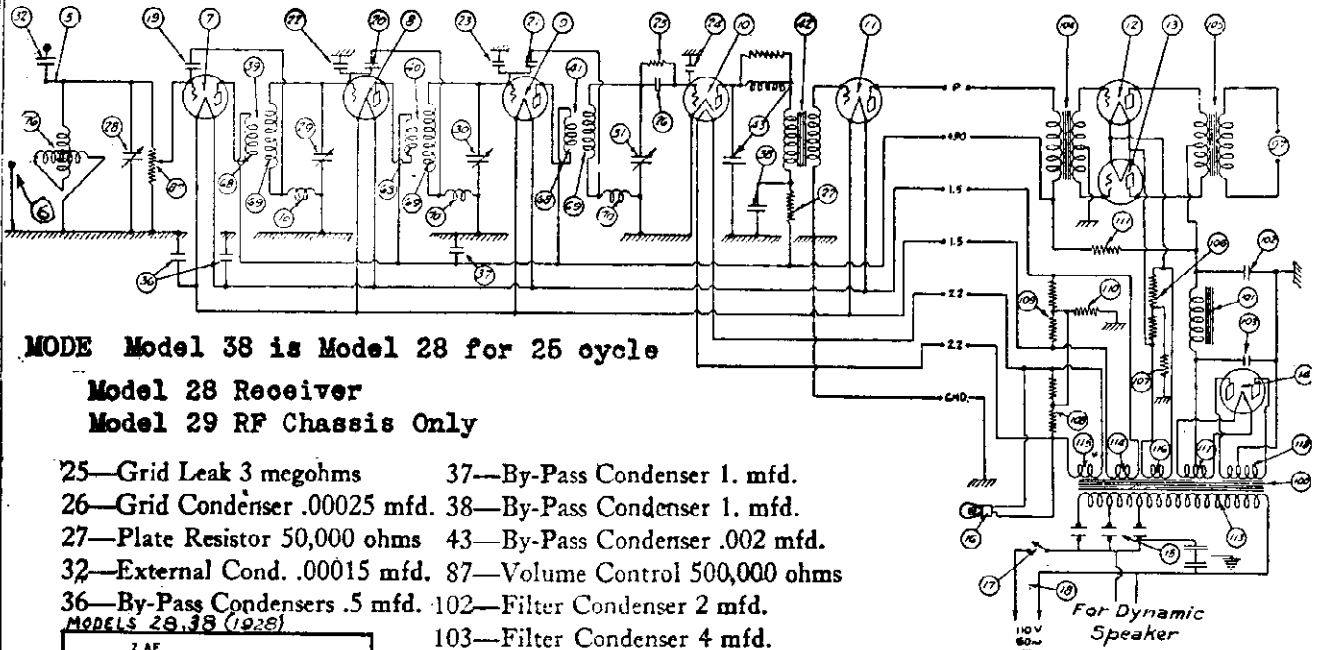
It is very important that no tube is removed from its socket with the receiver "on" as to do this will damage the receiver or the Pentode tube.

Make sure that the lead from the top of each 224 tube to the variable condenser follows closely along the metal partition between the tubes. Oscillation may occur if this lead lies too close to the tube itself.



UNITED AMERICAN BOSCH CORP.

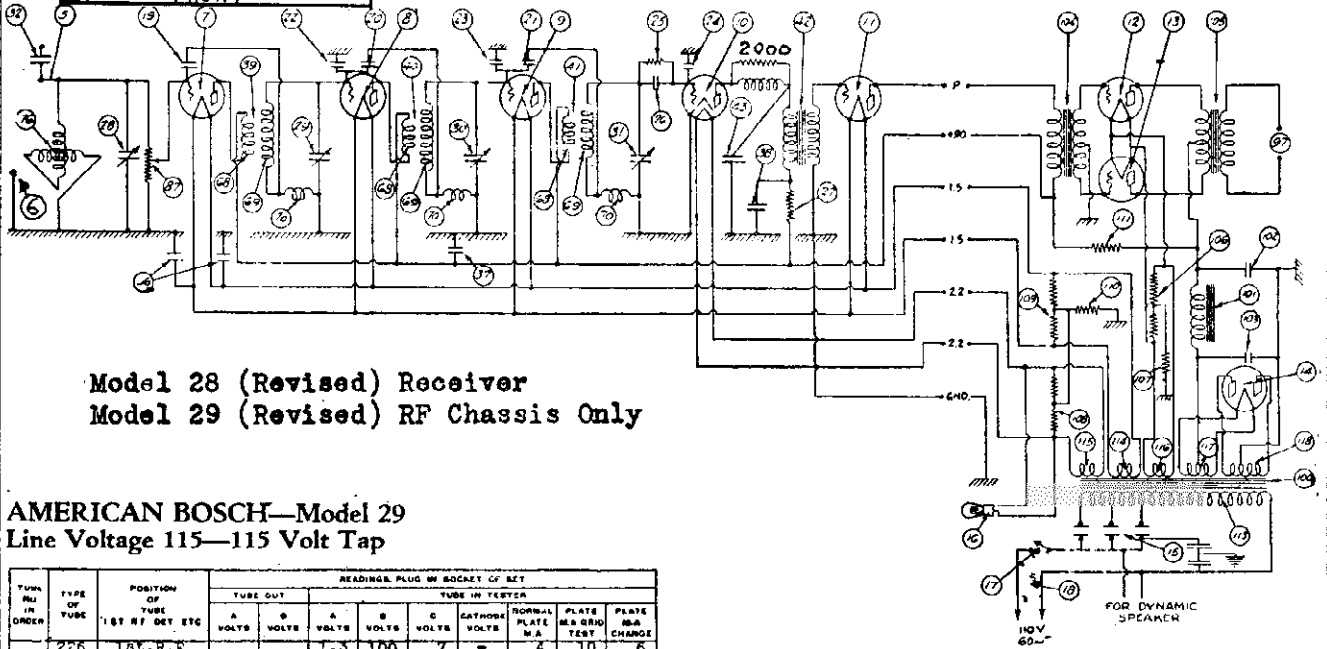
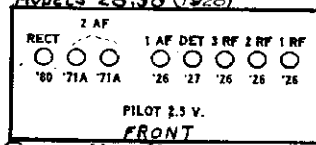
MODEL 28 AC  
Two Types  
MODEL 29 AC  
RF Chassis



MODE Model 38 is Model 28 for 25 cycle

Model 28 Receiver  
Model 29 RF Chassis Only

- 25—Grid Leak 3 megohms
- 26—Grid Condenser .00025 mfd.
- 27—Plate Resistor 50,000 ohms
- 32—External Cond. .00015 mfd.
- 36—By-Pass Condensers .5 mfd.
- 37—By-Pass Condenser 1. mfd.
- 38—By-Pass Condenser 1. mfd.
- 43—By-Pass Condenser .002 mfd.
- 87—Volume Control 500,000 ohms
- 102—Filter Condenser 2 mfd.
- 103—Filter Condenser 4 mfd.
- 107—Bias Resistor 1500 ohms
- 110—Bias Resistor 300 ohms
- 111—"B" Resistor 5000 ohms



Model 28 (Revised) Receiver  
Model 29 (Revised) RF Chassis Only

AMERICAN BOSCH—Model 29  
Line Voltage 115—115 Volt Tap

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1st RF DET ETC	READINGS PLUG IN SOCKET OF SET											
			TUBE OUT					TUBE IN TESTER						
			A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A. TEST	PLATE M.A. CHARGE	PLATE M.A. CHARGE					
1	226	1st. R.F.	1.3	100	7	—	4	10	6					
2	226	2nd. R.F.	1.3	100	7	—	4	10	6					
3	226	3rd. R.F.	1.3	100	7	—	4	10	6					
4	227	Detector	2.3	45	—	—	2	2	0.0					
5	226	1st. A.F.	1.3	100	7	—	3	6.5	3.5					
6	210	2nd. A.F.	7.3	400	30	—	20	23	3					
7	281	Rectifier	7.3	—	—	—	23	—	—					
8	281	Rectifier	7.3	—	—	—	23	—	—					

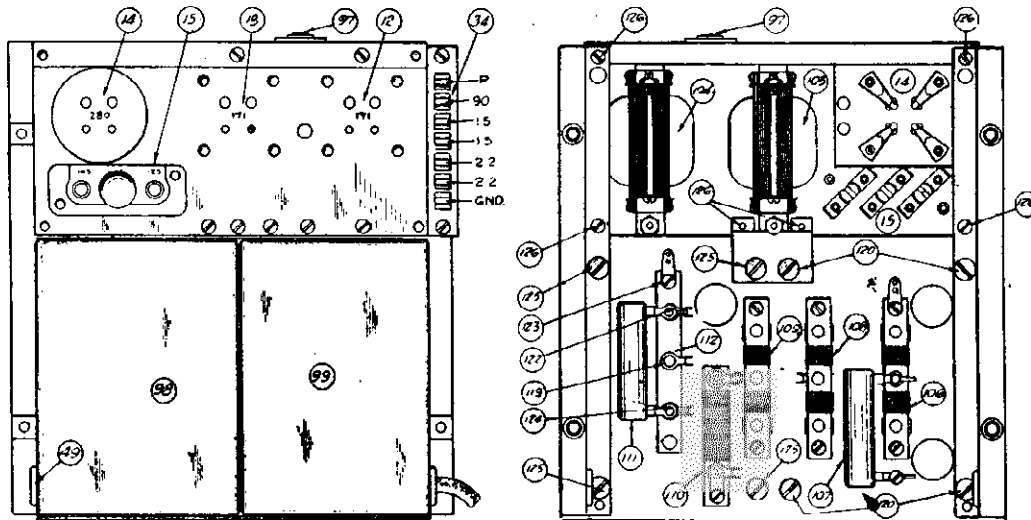
AMERICAN BOSCH—Model 28  
Line Voltage 115—115 Volt Tap

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1st RF DET ETC	READINGS PLUG IN SOCKET OF SET											
			TUBE OUT					TUBE IN TESTER						
			A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A. TEST	PLATE M.A. CHARGE	PLATE M.A. CHARGE					
1	226	1st. R.F.	1.3	100	7	—	4	10	6					
2	226	2nd. R.F.	1.3	100	7	—	4	10	6					
3	226	3rd. R.F.	1.3	100	7	—	4	10	6					
4	227	Detector	2.3	45	—	—	2	2	0.0					
5	226	1st. A.F.	1.3	100	7	—	3	6.5	3.5					
6	171	2nd. A.F.	5.0	150	35	—	10	14	4					
7	171	2nd. A.F.	5.0	150	35	—	10	14	4					



MODEL 28  
Power Pack  
Chassis - Data

UNITED AMERICAN BOSCH CORP.



Model 28 Power Pack, Top and Bottom View

**POWER TRANSFORMER**

The power transformer "100" is enclosed in the transformer can "98." Since the transformer is completely sealed, it is necessary to replace the entire unit.

The transformer has a single primary winding and five secondary windings, two of which have center taps. The colors of these leads, together with their points of attachment to the resistors and other parts, are given in the following paragraphs.

**1.5 Volt Winding "114":** Supplies filament current for RF and 1st AF tubes (7, 8, 9, 11). The two leads from this winding are *red* and connect to the two end terminals of resistor "109."

**2.2 Volt Winding "115":** Supplies filament current for the detector tube and dial lamp (10 and 16). The two leads from this winding are *black* and connect to the two end terminals of resistor "108."

**5 Volt Winding "116":** Supplies filament current for the two push-pull stages (11 and 12). The two leads from this winding are *blue* and connect to the two end terminals of resistor "106."

**Single Brown Lead (Primary Lead) Cotton Covered:** To one of the main switch "17" leads.

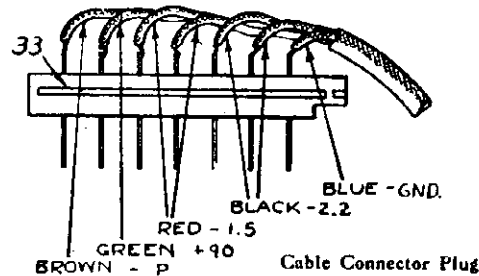
**Twisted Leads (Primary Taps):** Black with red tracer—to tap switch (15), "105" tap. Black—to tap switch (15), "115" tap. Black with yellow tracer—to tap switch (15), "125" tap.

**Brown Twisted Leads (Plate Winding "118"):** To plate contacts (small holes) of socket "14."

**Brown Cable (Filament Winding "117"):** To filament contacts (large holes) of socket "14."

**Single Black Lead:** To terminal "119" of strip "112." This lead is the center tap of rectifier filament winding "117."

**Single Green Lead:** To ground connection. This lead is the center tap of the rectifier plate winding "118."



**FILTER CAN**

The Filter Can "99" contains the two filter condensers "102" and "103," and the filter choke coil "101." These three units are sealed in the can, making it necessary to replace the entire filter can if any of these units become defective.

There are five leads from the filter can, connected as follows:

**Black Fabric Covered Wires:** These leads come from the choke coil "101" and connect to terminals "119" and "122" of terminal strip "112." These two leads are interchangeable.

**Black Lead:** This lead comes from filter condenser "103" and connects to terminal "119."

**Blue Lead:** This lead comes from filter condensers "102" and "103" and connects to ground terminal "123."

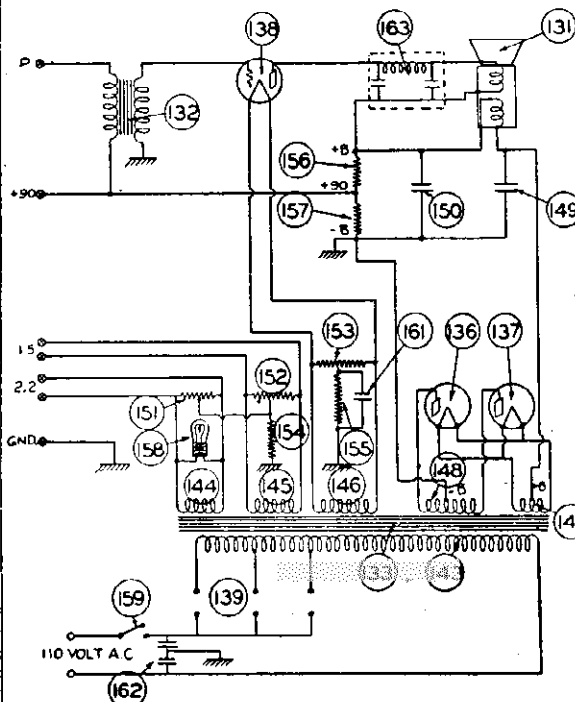
**Red Lead:** This lead comes from filter condenser "102" and connects to terminal "122."

**Filter Can Replacement**

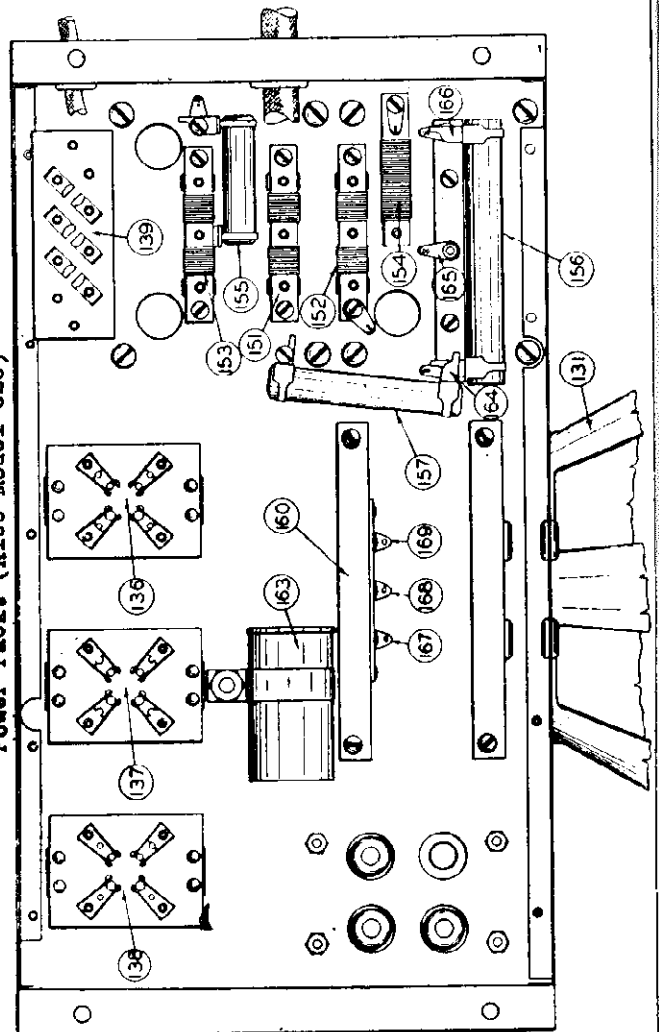
1. Unsolder the five leads of the filter can at their point of connection to the terminal strips.
2. Remove the 4 holding screws "125."
3. Mount the new can in place.
4. Connect the wires as indicated in the preceding paragraph.

UNITED AMERICAN BOSCH CORP.

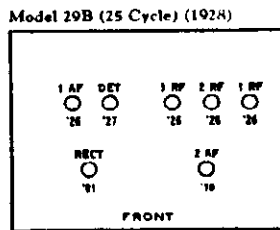
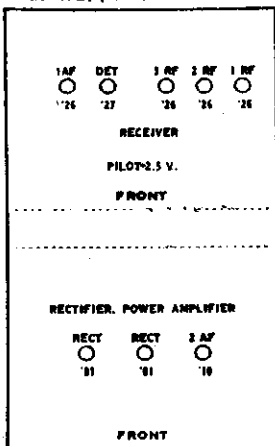
MODEL 29 AC, 825  
Power Pack  
Chassis - Schematic



Bottom View of Model 29 Dynamic Power Pack. (Also Model 825)



Model 825 Super Dynamic Power Pack. Used with Model 28 Chassis only to form Model 29 Receiver. Model 29B, (1928)

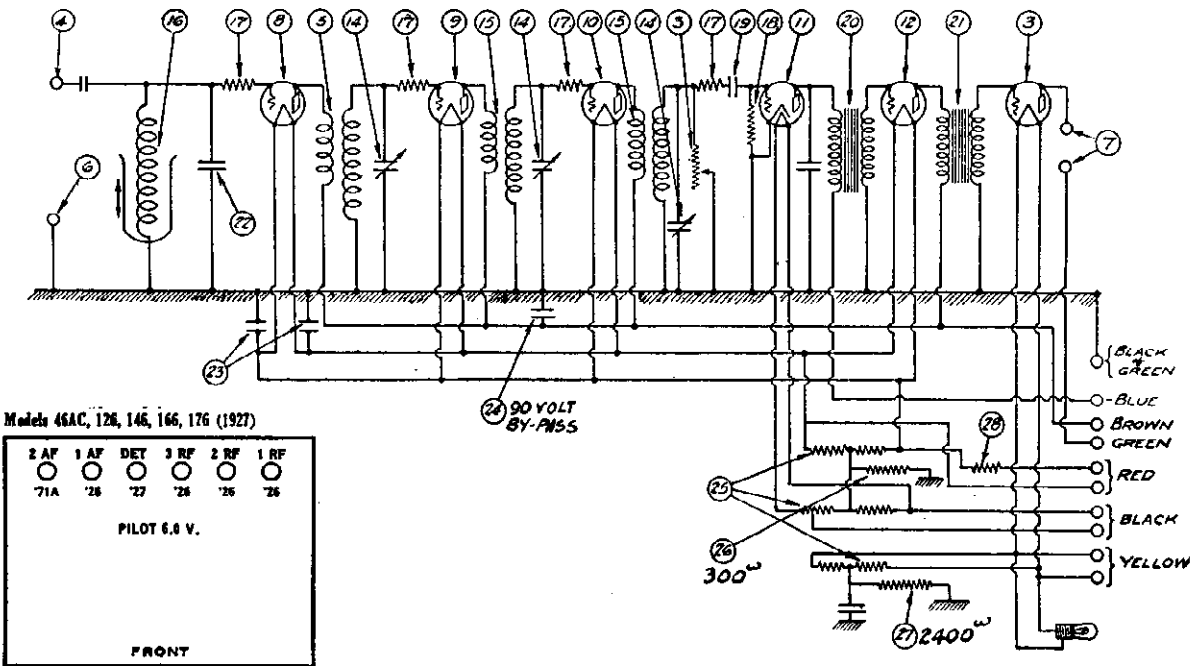


MODEL 825 POWER PACK

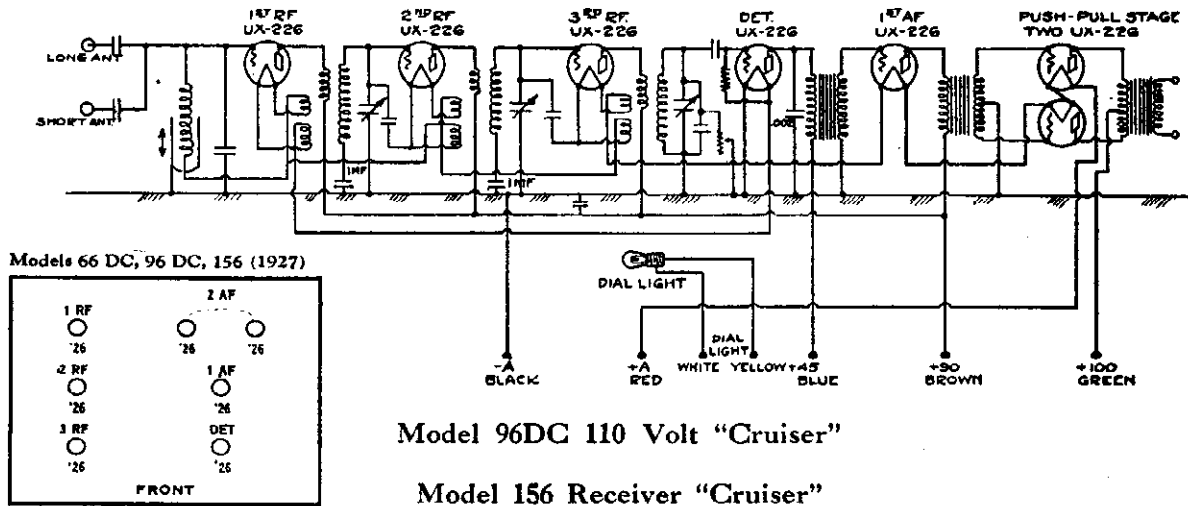
- 157—Plate Resistor 10,000 ohms
- 149—Filter Condenser 4 mfd.
- 161—By-Pass Condenser 1. mfd.
- 150—Filter Condenser 2 mfd.
- 162—Buffer Condensers
- 154—Bias Resistor 500 ohms
- 155—Bias Resistor 2000 ohms
- 163—Filter
- 156—Plate Resistor 10,000 ohms

	CHASSIS					MODEL 28		MODEL 29
	1 AF.	DET	3 RF	2 RF	1 RF	PUSH-PULL		POWER
A Volts	1.3	2.3	1.3	1.3	1.3	5	5	7.5
B Volts	100	45	100	100	100	150	150	400
C Volts	7	—	7	7	7	35	35	30
Plate M. A.	3	2	4	4	4	10	10	20
Tube Test	—	—	10	10	10	35	35	—

MODEL AC 46,126,146,  
166,176 UNITED AMERICAN BOSCH CORP.  
MODEL DC 96,156



Models 126, 146, 166, 176, 46AC (AC operation)



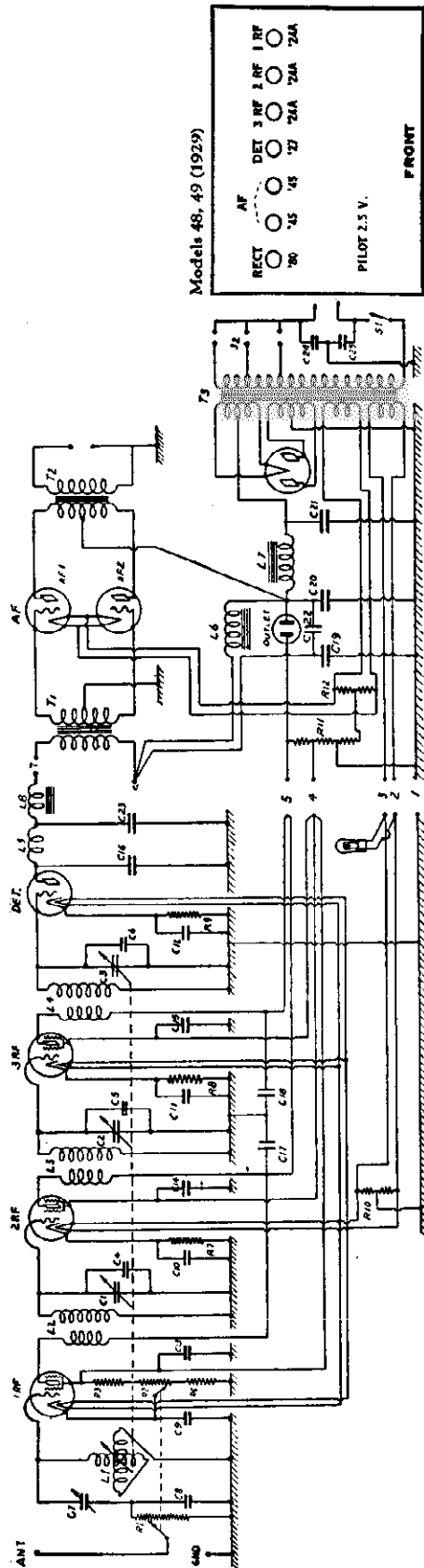
Model 96DC 110 Volt "Cruiser"

Model 156 Receiver "Cruiser"

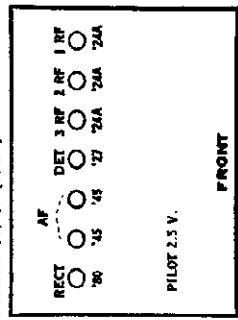
Receiver	Circuit	Radio Frequency Stage				Det. Stage	Audio Stages		
		1	2	3	4		1	2	3
96 DC 110V	Filament	1.4	1.4	1.4	—	1.4	1.4	Push Pull Stage	
66 DC 110V	Plate	95	100	95	—	45	80	75	75
156	Grid	-0.2	0.2	1.8	—	0	1.2	2.2	2.2
126, 146, 166, 176 (Little Six AC Chassis)	Filament	*1.4	*1.4	*1.4	—	*2.3	*1.4	*5	—
	Plate	90	90	90	—	45	70	130	—
	Grid	3	3	3	—	0	1	8 to 9	—

UNITED AMERICAN BOSCH CORP.

MODEL 48,49 AC Schematic, Voltage



Models 48, 49 (1929)



Model 48 Receiver (Model 49 for 25 Cycle Operation)

- T1—Audio Input Transformer
- T2—Audio Output Transformer
- T3—Power Transformer
- R1—Volume Control {10,000} ohms (Antenna)
- R2—Volume Control {50,000} ohms
- R3—1st RF Screen Resistor 25,000 ohms
- R4—2nd RF Grid Resistor 500 ohms
- R5—3rd RF Grid Resistor 500 ohms
- R6—1st RF Bias Resistor 1500 ohms
- R7—2nd RF Bias Resistor 1500 ohms
- R8—3rd RF Bias Resistor 15,000 ohms
- R9—Detector Bias Resistor 15,000 ohms
- R10—Voltage Divider Resistor
- R12—Audio Center Tap Resistor

- C1—Antenna Tuning Condenser
- C2—Antenna Condenser .001 mfd.
- C3—1st RF Cathode By-Pass Condenser .5 mfd.
- C10—2nd RF Cathode By-Pass Condenser .5 mfd.
- C11—3rd RF Cathode By-Pass Condenser .5 mfd.
- C12—Detector Cathode By-Pass Condenser .1 mfd.
- C13—1st RF Screen By-Pass Condenser .5 mfd.
- C14—2nd RF Screen By-Pass Condenser .5 mfd.
- C15—3rd RF Screen By-Pass Condenser .5 mfd.
- C16—Detector Plate By-Pass Condenser .001 mfd.
- C17—1st and 2nd RF Plate By-Pass Condenser .5 mfd.
- C18—3rd RF Plate By-Pass Condenser .5 mfd.
- C19—Filter Condenser 1 mfd.
- C20—Filter Condenser 2 mfd.
- C21—Filter Condenser 4 mfd.
- C22—By-Pass Condenser 160 cycles .05 mfd.
- C23—Detector Plate By-Pass Condenser .001 mfd.

- L1—Variometer
- L2—2nd RF Coil
- L3—3rd RF Coil
- L4—Detector Coil
- L5—Detector Plate Choke
- L6—Small Filter Choke
- L7—Large Filter Choke
- S1—Off and On Switch
- S2—Voltage Tap Switch
- C1—2nd RF Tuning Condenser
- C2—3rd RF Tuning Condenser
- C3—Detector Tuning Condenser
- C4—2nd RF Alignment Condenser
- C5—3rd RF Alignment Condenser
- C6—Detector Alignment Condenser

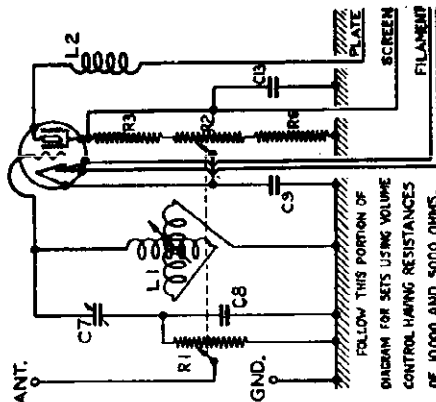


DIAGRAM FOR SETS USING VOLUME CONTROL HAVING RESISTANCES OF 10,000 AND 50,000 OHMS.

BOSCH—Model 49-25 Cycle Line Voltage 112—Volume Control Position Full On

TUBE NO. ORDER	TYPE	POSITION OF VOLUME CONTROL	TUBE OUT		TUBE IN		REQUIRES PLUG IN SOCKET OF SET		TUBE IN TESTER		PLATE MA	SCREEN MA	GRID CHARGE MA	WINDING	OHMS
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	A VOLTS	B VOLTS	A VOLTS	B VOLTS					
1	22A	1st RF	-	2.4	150	1.8	1.8	2.5	6	3.5	70	-	-	-	-
2	22A	2nd RF	-	2.4	150	1.8	1.8	2.5	6	3.5	70	-	-	-	-
3	22A	3rd RF	-	2.4	150	1.8	1.8	2.5	6	3.5	70	-	-	-	-
4	227	DET.	-	2.4	250	27	27	-	-	-	-	-	-	-	-
5	245	Aud.	-	2.4	200	42	42	-	-	50	20	-	-	-	-
6	245	Aud.	-	2.4	200	42	42	-	-	50	20	-	-	-	-
7	250	Rect.	-	4.6	-	-	-	-	-	100	-	-	-	-	-

BOSCH—Model 48-60 Cycle Line Voltage 112—Volume Control Position Full On

TUBE NO. ORDER	TYPE	POSITION OF VOLUME CONTROL	TUBE OUT		TUBE IN		REQUIRES PLUG IN SOCKET OF SET		TUBE IN TESTER		PLATE MA	SCREEN MA	GRID CHARGE MA	WINDING	OHMS
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	A VOLTS	B VOLTS	A VOLTS	B VOLTS					
1	22A	1st RF	-	2.4	175	2.5	2.5	3.5	9	70	-	-	-	-	-
2	22A	2nd RF	-	2.4	175	2.5	2.5	3.5	9	70	-	-	-	-	-
3	22A	3rd RF	-	2.4	175	2.5	2.5	3.5	9	70	-	-	-	-	-
4	227	DET.	-	2.4	200	27	27	-	-	-	-	-	-	-	-
5	245	Aud.	-	2.4	250	45	45	-	-	50	20	-	-	-	-
6	245	Aud.	-	2.4	250	45	45	-	-	50	20	-	-	-	-
7	250	Rect.	-	4.6	-	-	-	-	-	100	-	-	-	-	-

MODEL 48,49 AC  
Chassis Views

UNITED AMERICAN BOSCH CORP.

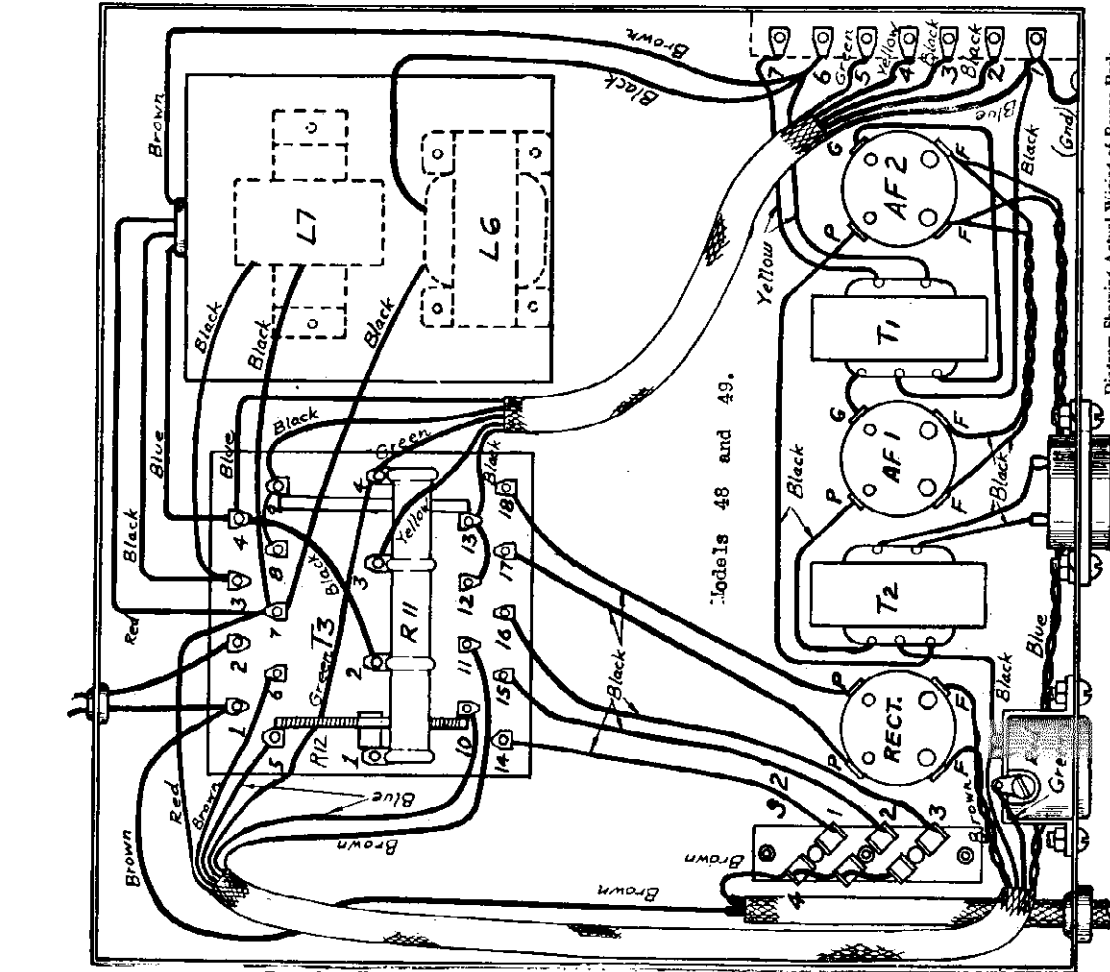


Diagram Showing Actual Wiring of Power Pack

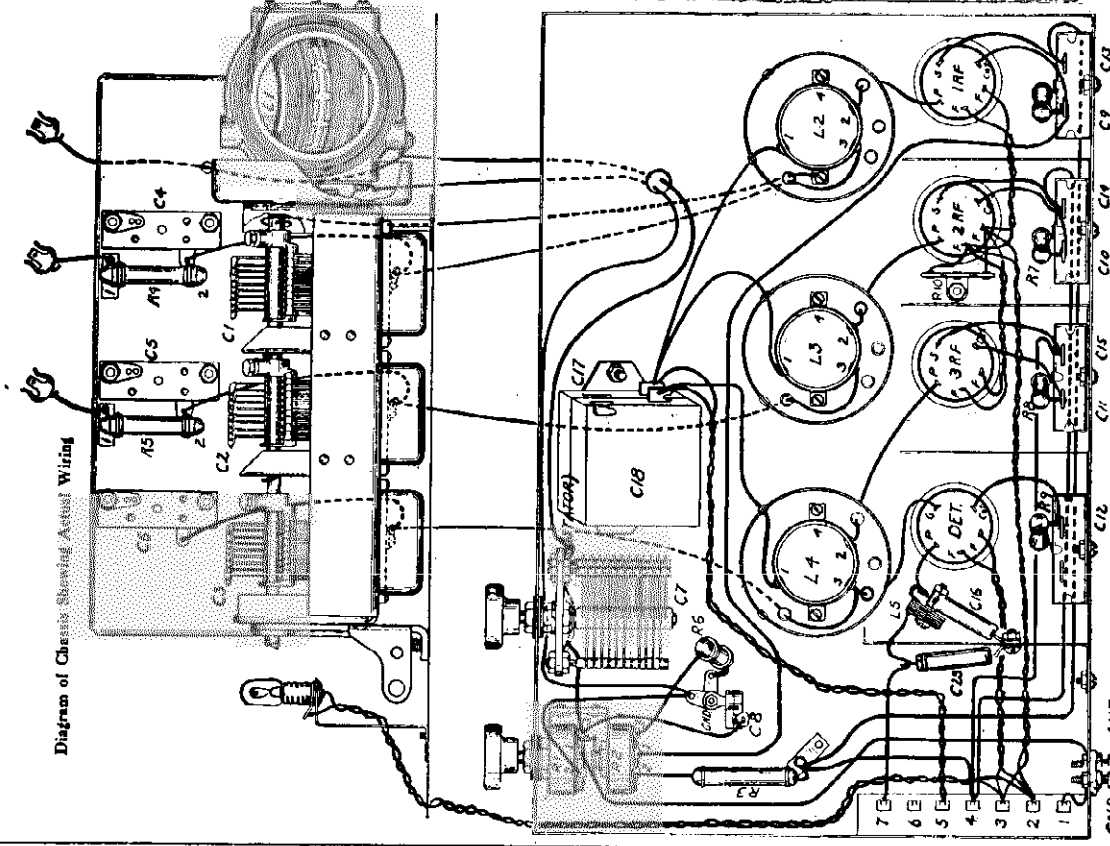


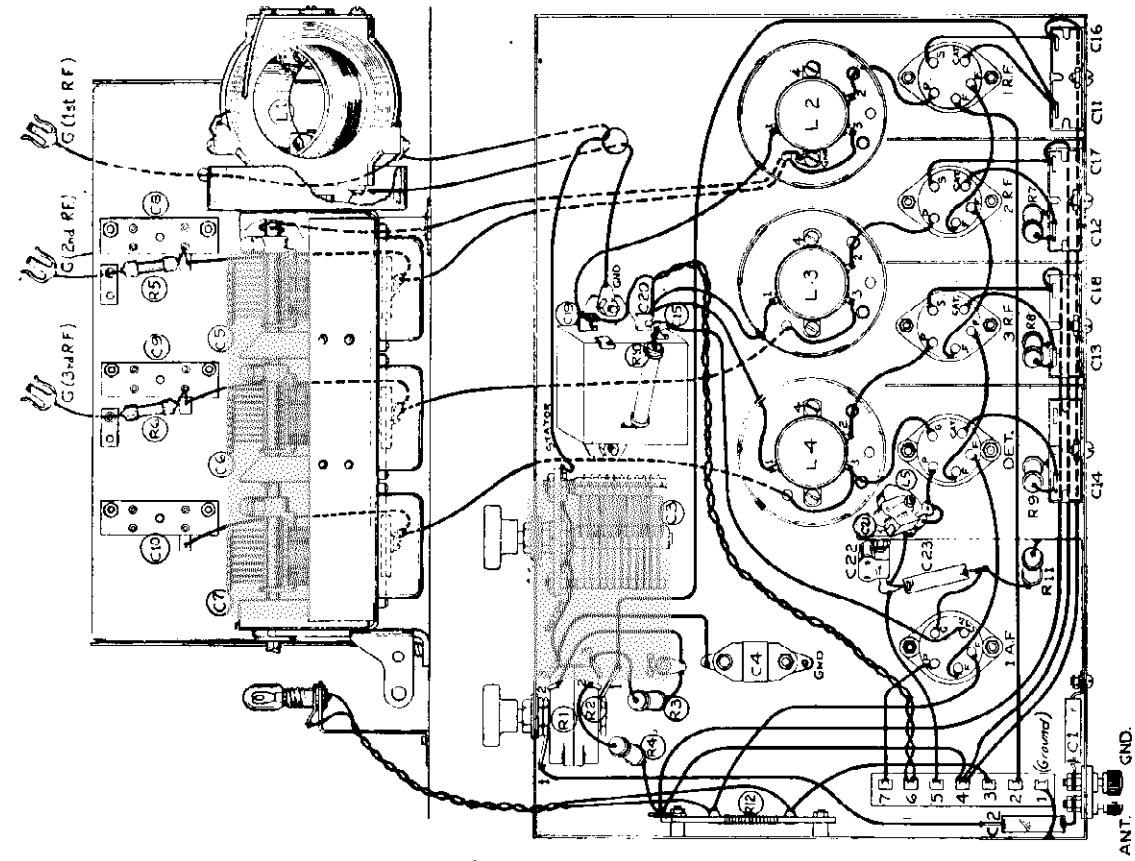
Diagram of Chassis Showing Actual Wiring

NOTE: This diagram applies to sets having dual volume control of 10,000 and 5,000 ohms.

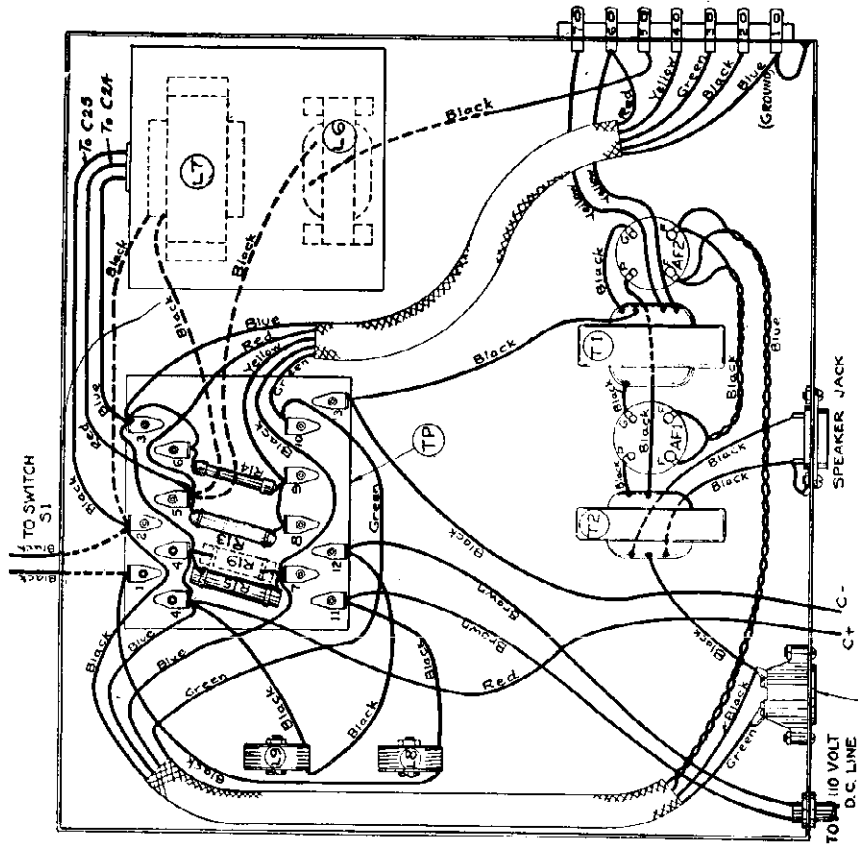


MODEL 54 DC  
Chassis Views

UNITED AMERICAN BOSCH CORP.



Actual Wiring of Model 54 Chassis.



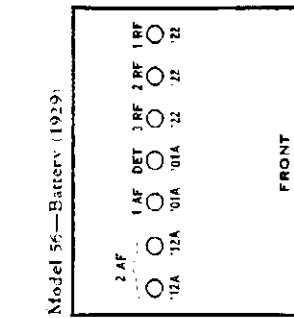
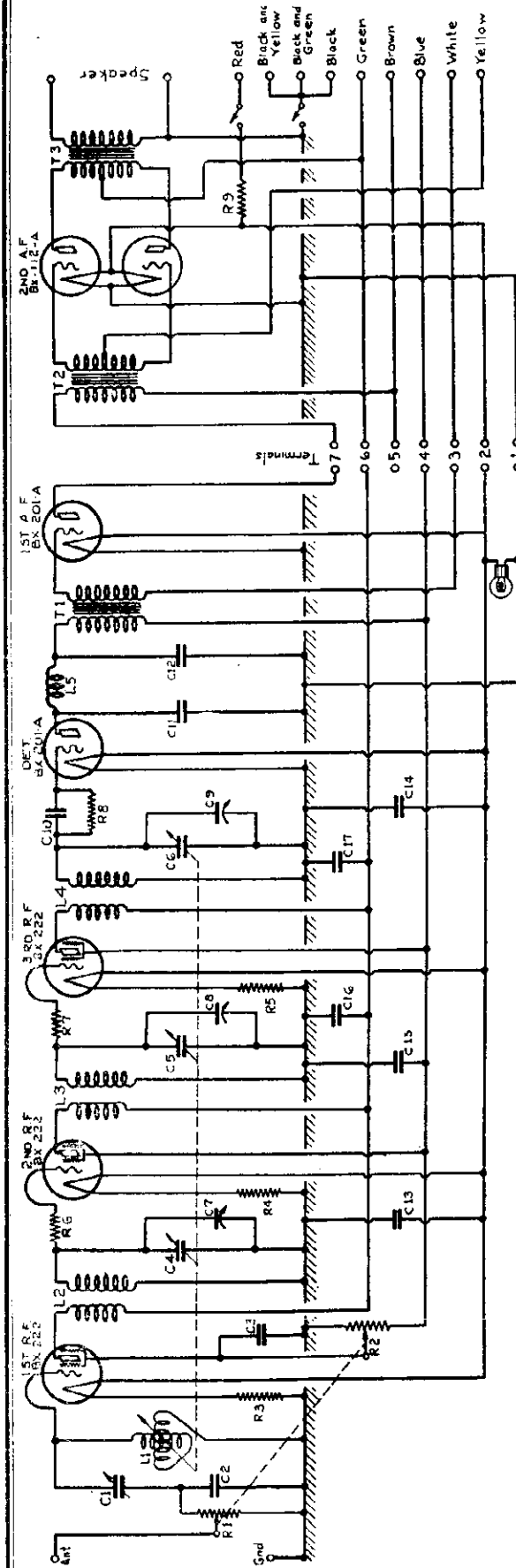
Actual Wiring of Model 54 Power Pack.

**Note:** Do not attempt to switch the receiver "on" until all tubes are in place, and aerial and ground are connected.  
Connect the ground wire *only* to the terminal provided. *Do not* connect it to any other portion of the chassis.

**Loud Speaker:** The speaker used with the model 54 Bosch receiver is an electrodynamic type similar to the Bosch models 619 and 620 except that it embodies a special field winding having a resistance of 4 ohms.

UNITED AMERICAN BOSCH CORP.

MODEL 56 Battery Schematic Parts List



- R7. 3rd RF Grid Resistor 250 ohms
- R8. Grid Leak 2 meg.
- R9. Main Filament Resistor .55 ohms
- T1. 1st Audio Transformer
- T2. 2nd Audio Input Transformer
- T3. 2nd Audio Output Transformer
- L1. Variometer
- L2. 2nd RF Coil
- L3. 3rd RF Coil
- L4. Detector Coil
- L5. Detector Choke Coil

- C13. Filament By-pass Condenser .5 mf.
- C14. Filament By-pass Condenser .5 mf.
- C15. Screen By-pass Condenser .5 mf.
- C16. Plate By-pass Condenser .5 mf.
- C17. Plate By-pass Condenser .5 mf.
- R1. Volume Control (Antenna) 10,000 ohms
- R2. Volume Control (Screen) 50,000 ohms
- R3. Filament Resistor 12.8 ohms
- R4. Filament Resistor 12.8 ohms
- R5. Filament Resistor 12.8 ohms
- R6. 2nd RF Grid Resistor 250 ohms

- C1. Trimming Condenser
- C2. Antenna Condenser .00025 mf.
- C3. Screen By-pass Condenser .5 mf.
- C4. 2nd RF Tuning Condenser
- C5. 3rd RF Tuning Condenser
- C6. Detector Tuning Condenser
- C7. 2nd RF Alignment Condenser
- C8. 3rd RF Alignment Condenser
- C9. Detector Alignment Condenser
- C10. Grid Condenser .00025 mf.
- C11. Detector By-pass Condenser .001 mf.
- C12. Detector By-pass Condenser .001 mf.

The table model is known as the model 56 and is to be used with the Bosch model 616 speaker. The console model (model 56AB) consists of the table model used in conjunction with the AB console. A type 612 speaker is used in the console.

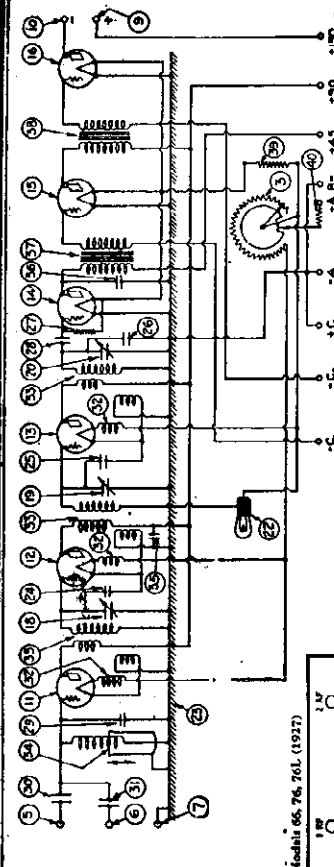
Model 56 Battery Operated



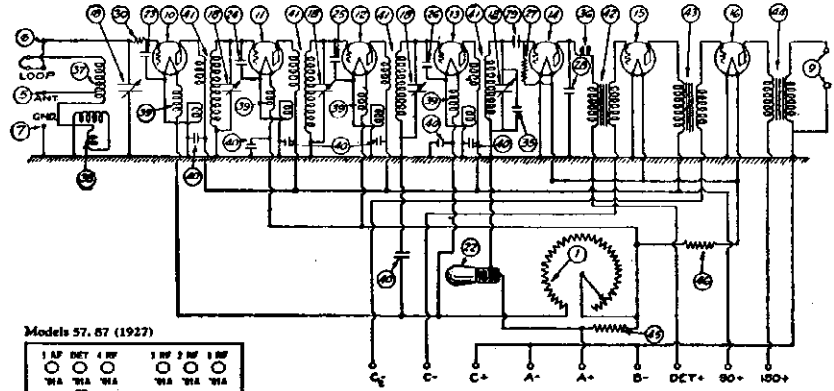


UNITED AMERICAN BOSCH CORP.

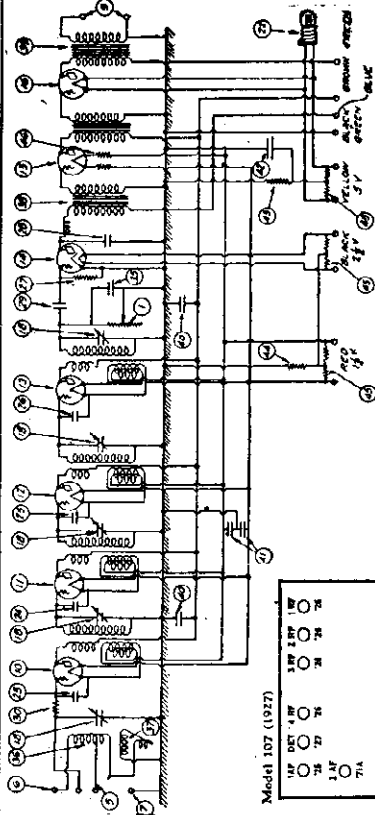
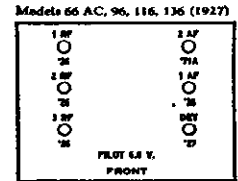
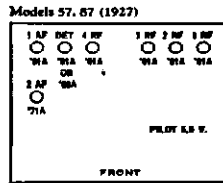
MODEL 57,87  
 MODEL 66,76,76-L  
 MODEL 66AC,96,116  
 136. AC  
 MODEL 107 AC



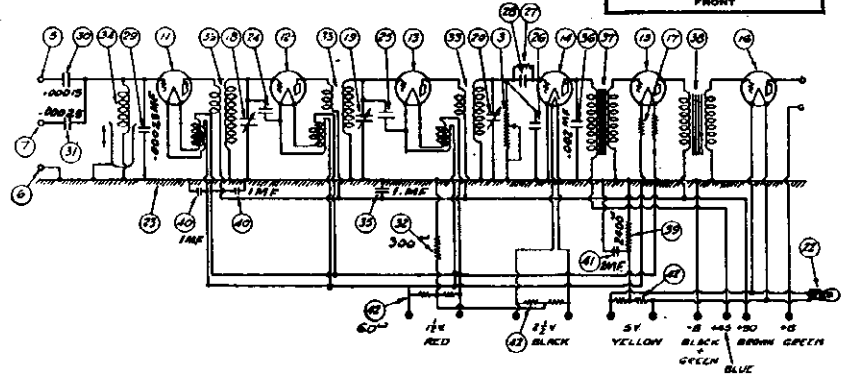
Models 66, 76, and 76L Receivers—The "Cruiser"



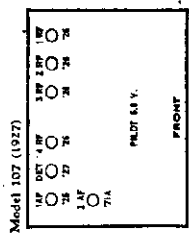
Models 57 and 87 Receivers



Model 107 Receiver (for AC operation)



Models 66AC, 96, 116, 136 Receivers (for AC operation)  
 "CRUISER"

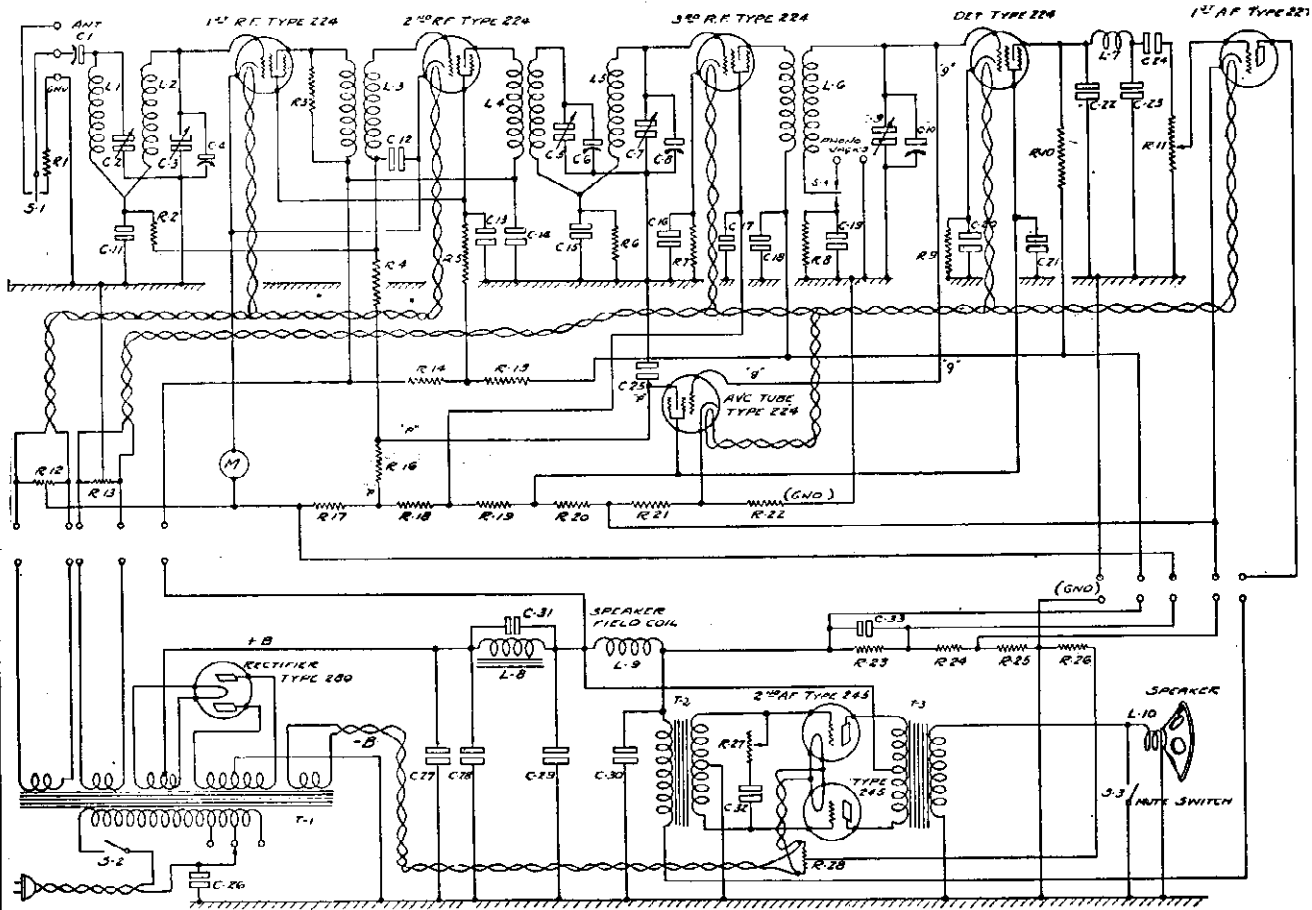


Receiver	Circuit	Radio Frequency Stages				Detector Stage	Audio Stages		
		1	2	3	4		1	2	3
66AC, 96, 116, 136, (Regular AC Six Tube Chassis)	Filament	*1.4	*1.4	*1.4	—	*2.3	*1.4	*5	—
	Plate	90	90	90	—	45	70	130	—
	Grid	5	5	5	—	0	1	8 to 9	—
Model {57, 87}	Filament	5	5	5	5	5	5	5	—
	Plate	90	90	90	90	45	80	100	—
	Grid	3	5	5	5	0	1	3	—
Model {66, 76}	Filament	5	5	5	—	5	5	5	—
	Plate	90	90	90	—	45	80	100	—
	Grid	5	5	5	—	0	1	3	—
107 (Seven Tube AC Chassis)	Filament	*1.4	*1.4	*1.4	*1.4	*2.3	*1.4	*5	—
	Plate	90	90	90	90	45	70	130	—
	Grid	3	5	5	5	0	1	8 to 9	—

MODEL 60, 60-D,  
60-E, 61

UNITED AMERICAN BOSCH CORP.

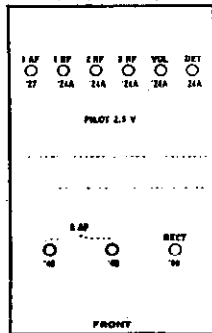
Schematic  
Voltage  
Parts List



Schematic Diagram of Model 60 Receiver.

- L1—1st RF Coil
- L2—1st RF Coil
- L3—2nd RF Coil (untuned)
- L4—3rd RF Coil
- L5—3rd RF Coil
- L6—Detector Coil
- L7—Detector Plate Choke
- L8—Power Pack Filter Choke
- L9—Speaker Field Coil
- L10—Speaker Voice Coil
- T1—Main Power Transformer
- T2—Audio Input Transformer
- T3—Audio Output Transformer
- C1—Antenna Trimmer Condenser
- C2—1st RF Tuning Condenser
- C3—1st RF Tuning Condenser
- C4—1st RF Alignment Condenser
- C5—3rd RF Tuning Condenser
- C6—3rd RF Alignment Condenser
- C7—3rd RF Tuning Condenser
- C8—3rd RF Alignment Condenser
- C9—Detector Tuning Condenser
- C10—Detector Alignment Condenser
- C11—1st RF Coupling Condenser .04 mfd.
- C12—2nd RF Grid Return Condenser .5 mfd.
- C13—1st and 2nd RF Screen Condenser .25 mfd.

Models 60, 61, 60D, 60E (1930)



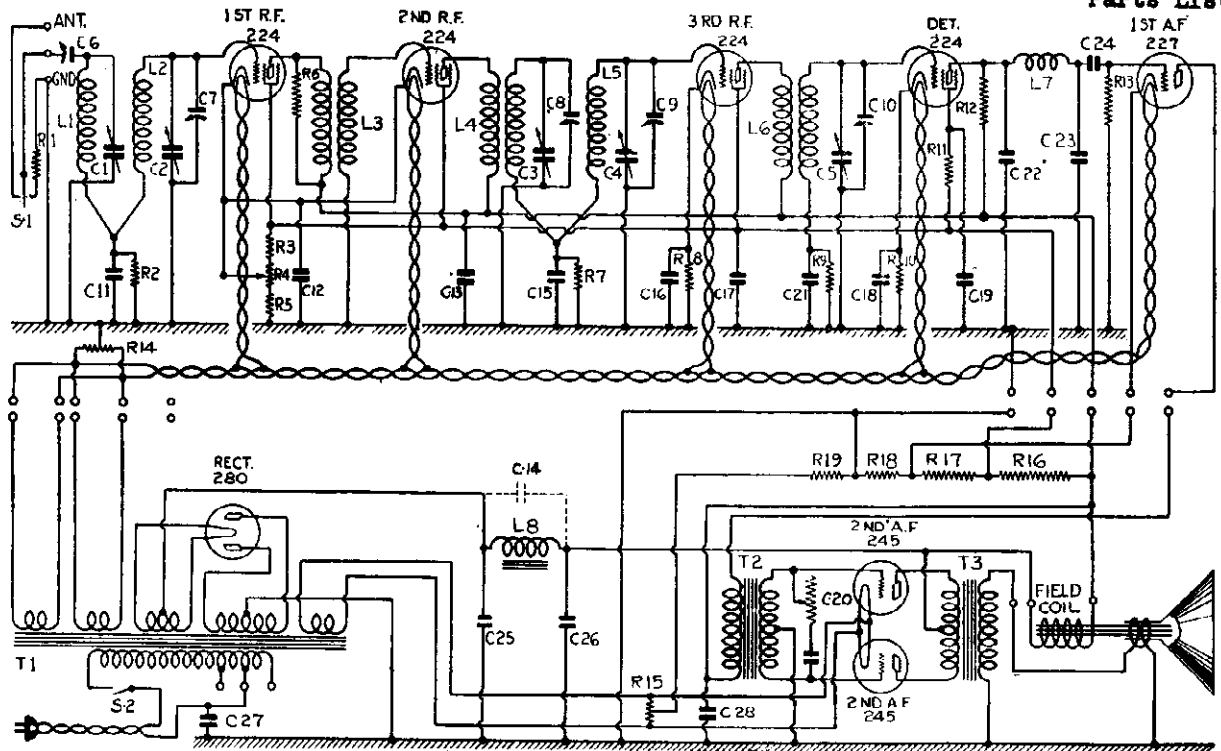
- C14—1st and 2nd RF Plate Condenser .25 mfd.
- C15—3rd RF Coupling Condenser .04 mfd.
- C16—3rd RF Cathode Condenser .5 mfd.
- C17—3rd RF Screen Condenser .5 mfd.
- C18—3rd RF Plate Condenser .5 mfd.
- C19—Detector Grid Return Condenser .04 mfd.
- C20—Detector Cathode Condenser 1. mfd.
- C21—Detector Screen Condenser .5 mfd.
- C22—Detector Plate By-pass Condenser .0001 mfd.
- C23—Detector Plate By-pass Condenser .0001 mfd.
- C24—Audio Coupling Condenser .006 mfd.
- C25—AVC Plate By-pass Condenser .006 mfd.
- C26—Buffer Condenser .1 mfd.
- C27—Power Pack Filter Condenser 2. mfd.
- C28—Power Pack Filter Condenser 2. mfd.
- C29—Power Pack Filter Condenser 4. mfd.
- C30—Power Pack Filter Condenser 2. mfd.
- C31—Filter Choke Tuning Condenser .075 mfd.
- C32—Tone Control Condenser .006 mfd.
- C33—By-pass Condenser 2. mfd.

- R5—1st and 2nd RF Screen Resistor 18,000 ohms
- R6—3rd RF de-coupling Resistor 1,000 ohms
- R7—3rd RF Bias Resistor 1,000 ohms
- R8—Detector Grid Resistor 1,000 ohms
- R9—Detector Bias Resistor 50,000 ohms
- R10—Detector Plate Resistor .5 meg.
- R11—Volume Control .5 meg.
- R12—1st and 2nd RF Center Tap Resistor
- R13—Center Tap Resistor
- R14—1st and 2nd RF Screen Resistor 20,000 ohms
- R15—Resistor 10,000 ohms
- R16—AVC Resistor .5 megohms
- R17—Resistor 900 ohms
- R18—3rd RF Screen Resistor 5,000 ohms
- R19—AVC and Detector Screen Resistor 25,000 ohms
- R20—Resistor 5,000 ohms
- R21—1st AF Bias Resistor 2,000 ohms
- R22—AVC Bias Resistor 2,000 ohms
- R23—Voltage Divider Resistor 1,300 ohms
- R24—Voltage Divider Resistor 2,380 ohms
- R25—Voltage Divider Resistor 160 ohms
- R26—2nd Audio Bias Resistor 950 ohms
- R27—Tone Selector Resistor .5 megohm
- R28—2nd Audio Center Tap Resistor

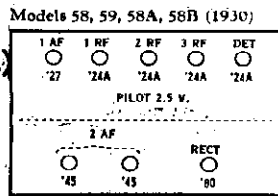
- R1—Antenna Resistance 500 ohms
- R2—1st RF de-coupling Resistor 1000 ohms
- R3—Untuned Coil Resistor 50,000 ohms
- R4—1st and 2nd RF Grid Resistor .5 meg.

UNITED AMERICAN BOSCH CORP.

MODEL 58 AC  
Schematic  
Voltage  
Parts List



- L 1 -1st RF Coil
- L 2 -1st RF Coil
- L 3 -2nd RF Coil (untuned)
- L 4 -3rd RF Coil
- L 5 -3rd RF Coil
- L 6 -Detector Coil
- L 7 -Detector Plate Choke
- L 8 -Filter Choke
- T 1 -Main Power Transformer
- T 2 -Audio Input Transformer
- T 3 -Audio Output Transformer
- C 1 -1st RF Tuning Condenser
- C 2 -1st RF Tuning Condenser
- C 3 -3rd RF Tuning Condenser
- C 4 -3rd RF Tuning Condenser
- C 5 -Detector Tuning Condenser
- C 6 -Antenna Trimming Condenser
- C 7 -1st RF Alignment Condenser
- C 8 -3rd RF Alignment Condenser
- C 9 -3rd RF Alignment Condenser
- C 10 -Detector Alignment Condenser
- C 11 -1st RF Coupling Condenser .04 mfd.
- C 12 -Cathode By-pass Condenser .5 mfd.
- C 13 -Plate By-pass Condenser .5 mfd.
- C 14 -Filter Condenser .2 mfd. (25 cycle only)
- C 15 -3rd RF Coupling Condenser .04 mfd.
- C 16 -Cathode By-pass Condenser .5 mfd.
- C 17 -Screen By-pass Condenser .5 mfd.
- C 18 -Detector Cathode By-pass Condenser 1 mfd.
- C 19 -Detector Screen By-pass Condenser .5 mfd.
- C 20 -Tone Control Condenser .006 mfd.
- C 21 -Detector Condenser .04 mfd.
- C 22 -Detector Plate By-pass Condenser .0001
- C 23 -Detector Plate By-pass Condenser .0001
- C 24 -Audio Coupling Condenser .006 mfd.



- C 25 -Power Pack Filter Condenser 2 mfd.
- C 26 -Power Pack Filter Condenser 2 mfd.
- C 27 -Buffer Condenser 1 mfd
- C 28 -Audio By-pass Condenser 4 mfd.
- R 1 -Antenna Resistor 500 ohms
- R 2 -De-coupling Resistor 1,000 ohms
- R 3 -Screen Resistor 20,000 ohms
- R 4 -Volume Control 3,000 ohms
- R 5 -Screen Resistor 250 ohms
- R 6 -Untuned Transformer Resistor .1 megohm
- R 7 -3rd RF de-coupling Resistor 1,000 ohms
- R 8 -3rd RF Cathode Resistor 1,000 ohms
- R 9 -Detector Grid Resistor 1,000 ohms
- R 10 -Detector Cathode Resistor 50,000 ohms
- R 11 -Detector Screen Resistor 1 megohm
- R 12 -Detector Plate Resistor .25 megohm
- R 13 -1st Audio Grid Resistor 2 megohms
- R 14 -Center Tap Resistor (chassis)
- R 15 -Center Tap Resistor (power pack)
- R 16 -Screen Supply Resistor 2,050 ohms
- R 17 -Audio Cathode Resistor 1,950 ohms
- R 18 -Divider Resistor 180 ohms
- R 19 -Audio Bias Resistor 950 ohms
- R 20 -Tone Control 5 megohm

Line Voltage 115—Voltage Tap 115  
Volume Control Full On  
\*Not true readings due to resistors in circuit.

TUBE NO. IN CHASSY TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	OPERATING VOLTAGES						MILL
			FILAMENT (V. RANGE)	GRID-1 (V. RANGE)	GRID-2 (V. RANGE)	GRID-3 (V. RANGE)	CATHODE (V. RANGE)	PLATE (V. RANGE)	
1	224	1 R.F.	2.2	170	2.2	75	-	-	3
2	224	2 R.F.	2.2	170	2.2	75	-	-	3
3	224	3 R.F.	2.2	170	2.2	75	-	-	3
4	224	Det.	2.2	30*	1.5	10*	-	-	.1*
5	227	1 A.F.	2.2	150	-	8	-	-	5
6	245	PP-AF	2.4	250	-	50	-	-	30
7	245	PP-AF	2.4	250	-	50	-	-	30
8	280	Rect.	5.0	-	-	-	-	-	-

MODEL 62 DC

Electrical Values  
Voltage

UNITED AMERICAN BOSCH CORP.

- C12 -Cathode By-pass Condenser .5 mfd.
- C13 -Plate By-pass Condenser .5 mfd.
- C14 -Screen By-Pass Condenser .5 mfd.
- C15 -3rd RF Coupling Condenser .04 mfd.
- C16 -3rd RF Cathode Condenser .5 mfd.
- C17 -Detector Condenser .04 mfd.
- C18 -Detector Cathode Condenser 1. mfd.
- C19 -Detector Screen Condenser .5 mfd.
- C20 -Detector Plate By-pass Condenser .0001 mfd.
- C21 -Detector Plate By-pass Condenser .0001 mfd.
- C22 -Audio Coupling Condenser .006 mfd.
- C23 -Ground Condenser .006 mfd.
- C24 -Filter Condenser 4 mfd.
- C25 -Filter Condenser 4 mfd.
- C26 -Tone Selector Condenser .002 mfd.
- S 1 -Local-Long Distance Switch
- S 2 -Off and On Switch
- B 1 -"C" Battery -22½ volts
- T 1 -Audio Input Transformer
- T 2 -Audio Output Transformer
- L 1 -1st RF Coil
- L 2 -1st RF Coil
- L 3 -Untuned Transformer
- L 4 -3rd RF Coil
- L 5 -3rd RF Coil
- L 6 -Detector Coil
- L 7 -Detector Plate Choke
- L 8 -Filter Choke
- L 9 -Filter Choke
- L10 -Filter Choke
- R 1 -Antenna Resistor 500 ohms
- R 2 -De-coupling Resistor 1,000 ohms
- R 3 -Resistor 20,000 ohms
- R 4 -Volume Control 3,000 ohms
- R 5 -Resistor 150 ohms
- R 6 -Untuned Transformer Resistor .1 meg.
- R 7 -De-coupling Resistor 1,000 ohms
- R 8 -3rd RF Cathode Resistor 600 ohms
- R 9 -Resistor 1,000 ohms
- R10 -Detector Cathode Resistor 50,000 ohms
- R11 -Detector Screen Resistor 1 meg.
- R12 -Detector Plate Resistor .5 meg.
- R13 -1st Audio Grid Resistor 2 meg.
- R14 -Filament Resistor 1.8 ohms
- R15 - Filament Resistor 18 ohms
- R16 -Filament Resistor 18 ohms
- R17 -Filament Resistor 18 ohms
- R18 -Tone Selector Resistor .5 meg.
- R19 -Voltage Divider Resistor 1,400 ohms
- R20 -Voltage Divider Resistor 2,600 ohms
- R21 -Voltage Divider Resistor 250 ohms
- C 1 -1st RF tuning Condenser
- C 2 -1st RF Tuning Condenser
- C 3 -3rd RF Tuning Condenser
- C 4 -3rd RF Tuning Condenser
- C 5 -Detector Tuning Condenser
- C 6 -Antenna Trimming Condenser
- C 7 -1st RF Alignment Condenser
- C 8 -3rd RF Alignment Condenser
- C 9 -3rd RF Alignment Condenser
- C10 -Detector Alignment Condenser
- C11 -1st RF Coupling Condenser .04 mfd.

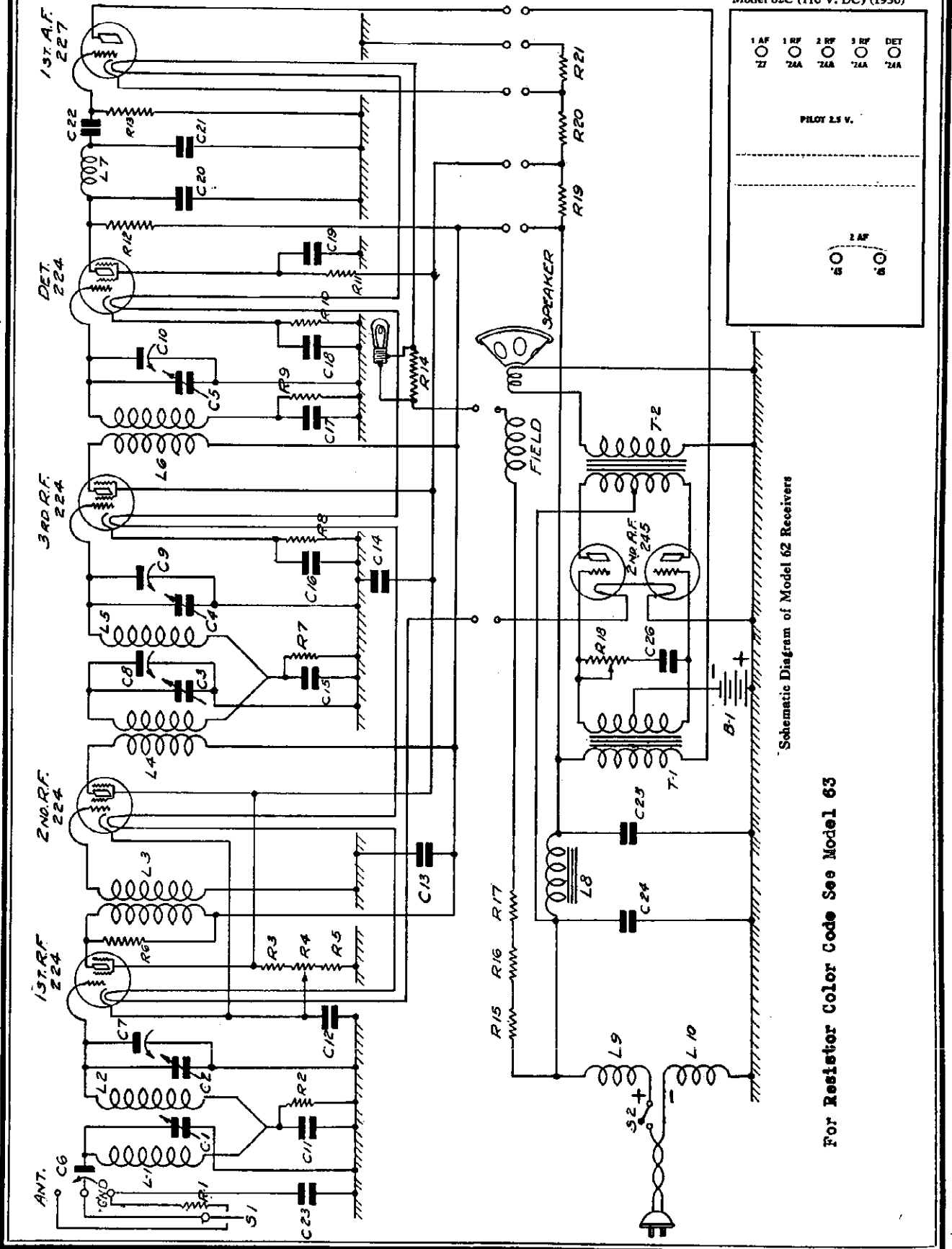
SOCKET VOLTAGES : MODEL 62

STAGE	Tube	Plate	Screen	Grid.	Fil.	Plate MA.
1st RF.....	224	100	60	10	2.1	1.5
2nd RF.....	224	100	60	9	2.1	1.5
3rd RF.....	224	100	60	8	2.1	1.5
Detector.....	224	30	15	*	2.1	*
1st AF.....	227	85		8	2.1	2.5
2nd AF.....	245	105		20	2.1	8
2nd AF.....	245	105		20	2.1	8

UNITED AMERICAN BOSCH CORP.

MODEL 62 DC  
Schematic  
Socket

Model 62C (110 V. DC) (1930)



1 AF	1 RF	2 RF	3 RF	DET
27	2A	2A	2A	2A
PILOT 2.5 V.				
2 AF				

Schematic Diagram of Model 62 Receivers

For Resistor Color Code See Model 63

MODEL 63 DC  
 Values  
 Resistor Code  
 Voltage

UNITED AMERICAN BOSCH CORP.

## Model 63 Receiver

- R 1—Antenna Resistor 500 ohms
- R 2—De-coupling Resistor 1,000 ohms
- R 3—Untuned Transformer Resistor 50,000 ohms
- R 4—De-coupling Resistor 1,000 ohms
- R 5—3rd RF Cathode Resistor 600 ohms
- R 6—Detector Resistor 1,000 ohms
- R 7—Detector Cathode Resistor 50,000 ohms
- R 8—Detector Plate Resistor .5 meg.
- R 9—Volume Control .5 meg.
- R10—1st and 2nd RF Bias Resistor 1 meg.
- R11—Bias Control Resistor 1 meg.
- R12—Filament Resistor 1.8 ohms
- R13—AVC Screen Resistor 20,000 ohms
- R14—Voltage Divider Resistor 150 ohms
- R15—Voltage Divider Resistor 900 ohms
- R16—Voltage Divider Resistor 5,000 ohms
- R17—Voltage Divider Resistor 20,000 ohms
- R18—Filament Resistor 18 ohms
- R19—Filament Resistor 18 ohms
- R20—Filament Resistor 18 ohms
- R21—Tone Control Resistor .5 meg.
- R22—Voltage Divider Resistor 1,400 ohms
- R23—Voltage Divider Resistor 2,600 ohms
- R24—Voltage Divider Resistor 250 ohms

- C 1—1st RF Tuning Condenser
- C 2—1st RF Tuning Condenser
- C 3—3rd RF Tuning Condenser
- C 4—3rd RF Tuning Condenser
- C 5—Detector Tuning Condenser
- C 6—Antenna Trimmer Condenser
- C 7—1st RF Alignment Condenser
- C 8—3rd RF Alignment Condenser

- C 9—3rd RF Alignment Condenser
- C10—Detector Alignment Condenser
- C11—Ground Series Condenser .0001 mfd.
- C12—1st RF Coupling Condenser .04 mfd.
- C13—2nd RF Condenser .5 mfd.
- C14—Cathode By-pass Condenser .5 mfd.
- C15—3rd RF Coupling Condenser .04 mfd.
- C16—3rd RF Cathode Condenser .5 mfd.
- C17—Detector Condenser .04 mfd.
- C18—Detector Cathode Condenser 1 mfd.
- C19—Detector Plate Condenser 1 mfd.
- C20—Detector Plate Condenser .0001 mfd.
- C21—Detector Plate Condenser .0001 mfd.
- C22—Audio Coupling Condenser .006 mfd.
- C23—Plate By Pass Condenser .25 mfd.
- C24—Screen By Pass Condenser .25 mfd.
- C25—Plate By Pass Condenser .5 mfd.
- C26—AVC Plate By Pass Condenser .006 mfd.
- C27—AVC Screen Condenser .5 mfd.
- C28—Filter Condenser 4 mfd.
- C29—Filter Condenser 4 mfd.
- C30—Tone Control Condenser .006 mfd.

- T 1—Input Transformer
- T 2—Output Transformer

- B 1—AVC Plate Battery 22½ volts
- B 2—2nd Audio "C" Battery 22½ volts

- S 1—Local Distance Switch
- S 2—Phono Switch
- S 3—Main Switch
- S 4—Mute Switch

The resistors used in the Models 62 and 63 receivers are marked in colors as a means of identification. The complete color code is as follows:

- 150 ohms — Red-black
- 250 ohms — White
- 500 ohms — Yellow
- 600 ohms — Blue-black
- 900 ohms — Black-brown
- 1,000 ohms — White-red
- 2,000 ohms — Brown-yellow
- 2,500 ohms — White-brown

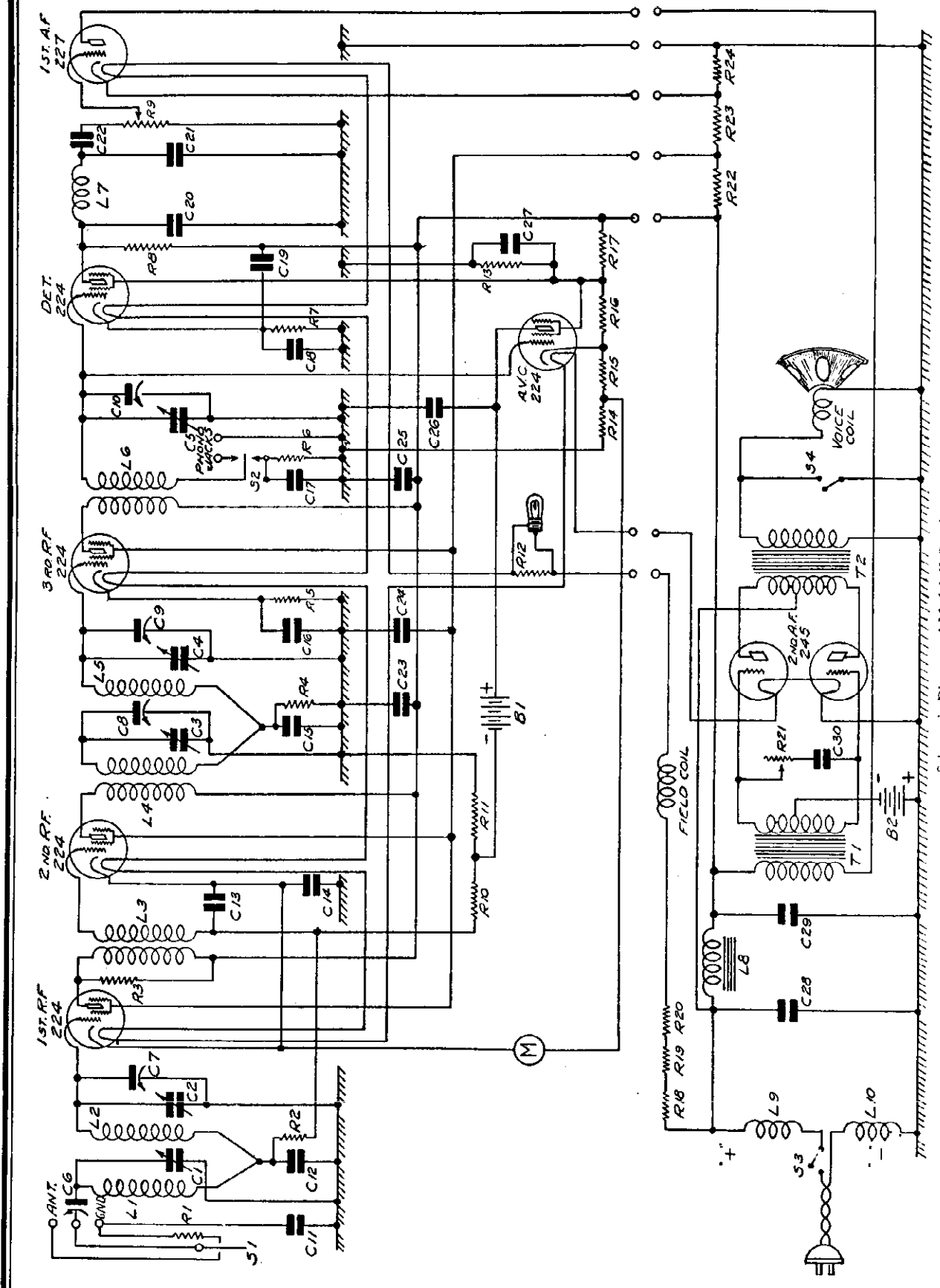
- 5,000 ohms — Black-yellow
- 10,000 ohms — Blue-yellow
- 18,000 ohms — White-gray
- 20,000 ohms — Green-yellow
- 25,000 ohms — Blue
- 50,000 ohms — Green-white
- .1 megohm — Blue-white
- .25 megohms — Brown
- .5 megohms — Grey
- 1. megohm — Black
- 2. megohms — Black-white

### SOCKET VOLTAGES - MODEL 63

Stage	Tube	Plate	Screen	Grid.	Fil.	Plate MA.
1st RF.....	224	100	60	1	2.1	1.5
2nd RF.....	224	100	60	1	2.1	1.5
3rd RF.....	224	100	60	1	2.1	1.5
AVC.....	224	10	20	3	2.1	*
Detector.....	224	30	15	1	2.1	*
1st AF.....	227	85	-	8	2.1	2.5
2nd AF.....	245	105	-	20	2.1	8
2nd AF.....	245	105	-	20	2.1	8

UNITED AMERICAN BOSCH CORP

MODEL 63 DC  
Schematic



Schematic Diagram of Model 63 Receivers



MODEL 73, 74  
Parts List  
Voltage - Data

UNITED AMERICAN BOSCH CORP.

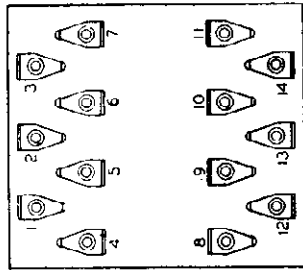


Fig. 4  
Terminal Plate of Main Power Transformer T3

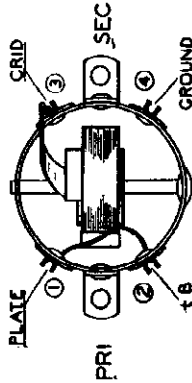
If the transformer is perfect - following readings will be obtained:

- Primary Winding 1500 ohms (See T1, pages 5 and 6)
- Secondary Winding (each half) 4000 ohms

AUDIO OUTPUT TRANSFORMER "T2"

This unit may be identified by the low resistance heavy secondary winding terminating at "1" and "2."

- Primary Winding (each half) 200 ohms full reading
- Secondary Winding



Top View of Coil

MAIN POWER TRANSFORMER "T3"

- No. 1. Start of Primary Wind
- No. 3. 116 Volt Tap
- No. 4. Center Tap of 280 Plate Winding
- No. 6. Filament Supply Winding
- No. 7. 120 Volt Tap
- No. 9. Filament Supply Winding
- Filament Supply to 280 tube are heavy wires direct from winding.
- Plate Supply to 280 tube are stranded wires direct from winding.

If the transformer is perfect the following readings will be obtained:

- Primary Winding 1 to 3—full reading
- 1 to 7—full reading
- Filament Supply Sec. 6 to 9—full reading
- 280 Filament Winding F to F of 280 socket—full reading
- 280 Plate Winding P to P of 280 socket—350 ohms
- 280 Center Tap 4 to P of 280 socket—175 ohms

AUDIO INPUT TRANSFORMER "T1"

This is a special unit having a ratio of 6 to 1. Under no circumstances may it be replaced by any other type of transformer, nor may it be used as a replacement in receivers of other models. It may be identified by the mounting for the small choke coil.

COIL TEST:

- Circuit Test—From 1 to 2—full reading
- From 3 to 4—full reading
- A reading from 1 or 2 to either 3 or 4 denotes a defective (short circuited) coil. In this case the primary coil may be replaced. It is very important that it is placed exactly in the center of the secondary, and that the wire on which it is mounted is perfectly straight.

The coupling units (C2, C3 and C4) are not ordinary condensers, but are formed of the capacity between the plate end (1) of the primary winding and the small bypass plate which is connected to the grid terminal 2.

As volume is decreased, 1st and 2nd RF Screen voltage increases, Plate current decreases.

NOMENCLATURE

Resistors

- R1 Volume Control 10,000 ohms
- R2 2750 ohms ) Tapped unit
- R3 250 ohms )
- R4 Cathode Resistor 750 ohms
- R5 Cathode Resistor 25,000 ohms
- R6 50,000 ohms
- R7 Tone Control 50,000 ohms
- R8 Plate Supply Resistor 5,000 ohms
- R9 Plate Supply Resistor 10,000 ohms
- R10 Screen Supply Resistor 750 ohms
- R11 Cathode Resistor 25,000 ohms
- R12 Screen Supply Resistor 30,000 ohms
- R13 Audio Bias Resistor 800 ohms
- R14 Center Tap Resistor 4.1 ohms

Condensers

- C1 Antenna Trimmer Condenser
- C2 Coupling Capacity
- C3 Coupling Capacity
- C4 Coupling Capacity
- C5 Tuning Condenser
- C6 Tuning Condenser
- C7 Tuning Condenser
- C8 Tuning Condenser
- C9 Alignment Condenser
- C10 Alignment Condenser
- C11 Alignment Condenser
- C12 Det. Plate By-pass .005 mfd.
- C13 Tone Control Condenser .05 mfd.

Coils and Inductances

- L1 Antenna Coil
- L2 2nd RF primary
- L3 2nd RF secondary
- L4 3rd RF primary
- L5 3rd RF secondary
- L6 Det. coil primary
- L7 Det. coil secondary
- L8 Degenerative choke
- L9 Det. Plate choke
- L10 Tone Control choke
- L11 Filter choke
- L12 Speaker Field
- L13 Speaker Voice Coil

Transformers

- T1 Audio Input Transformer
- T2 Audio Output Transformer
- T3 Main Power Transformer

Switches

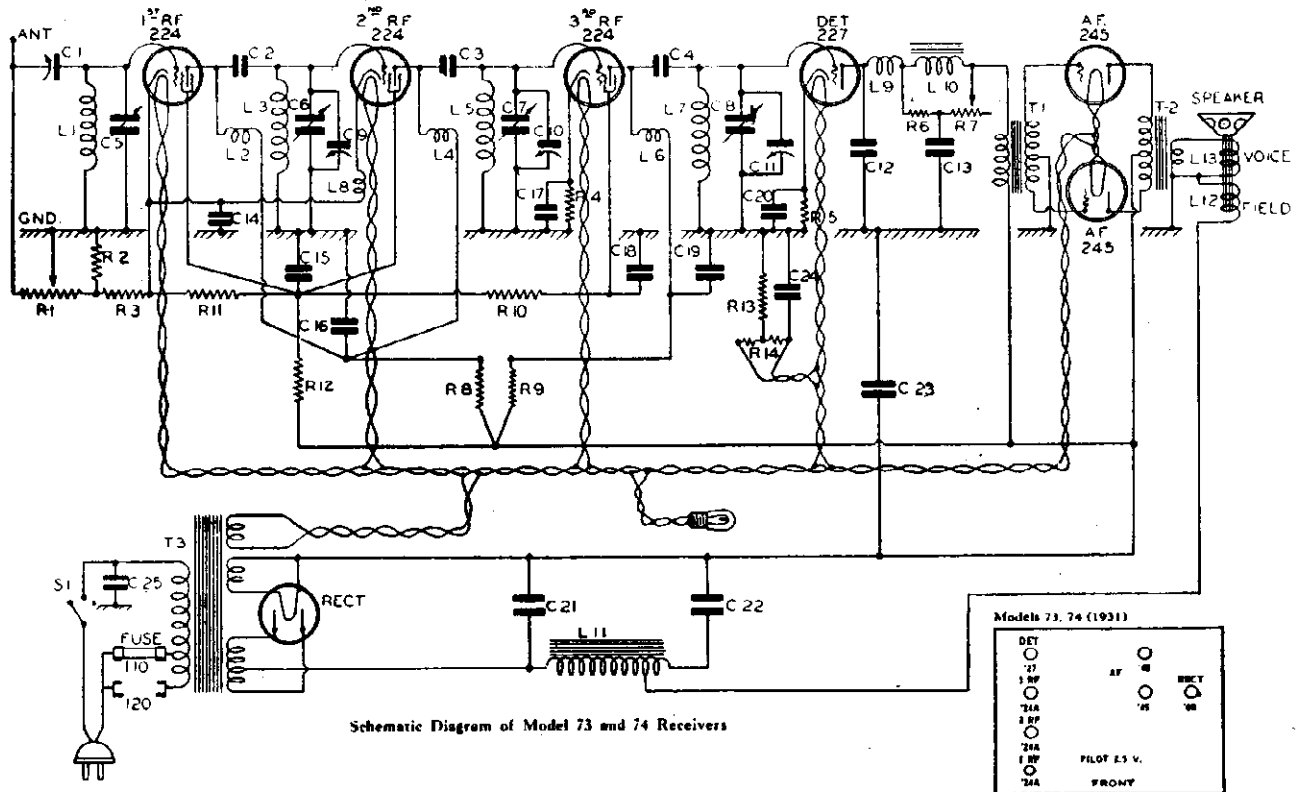
- S1 Main Switch

Model 73 and 74 Voltage Readings

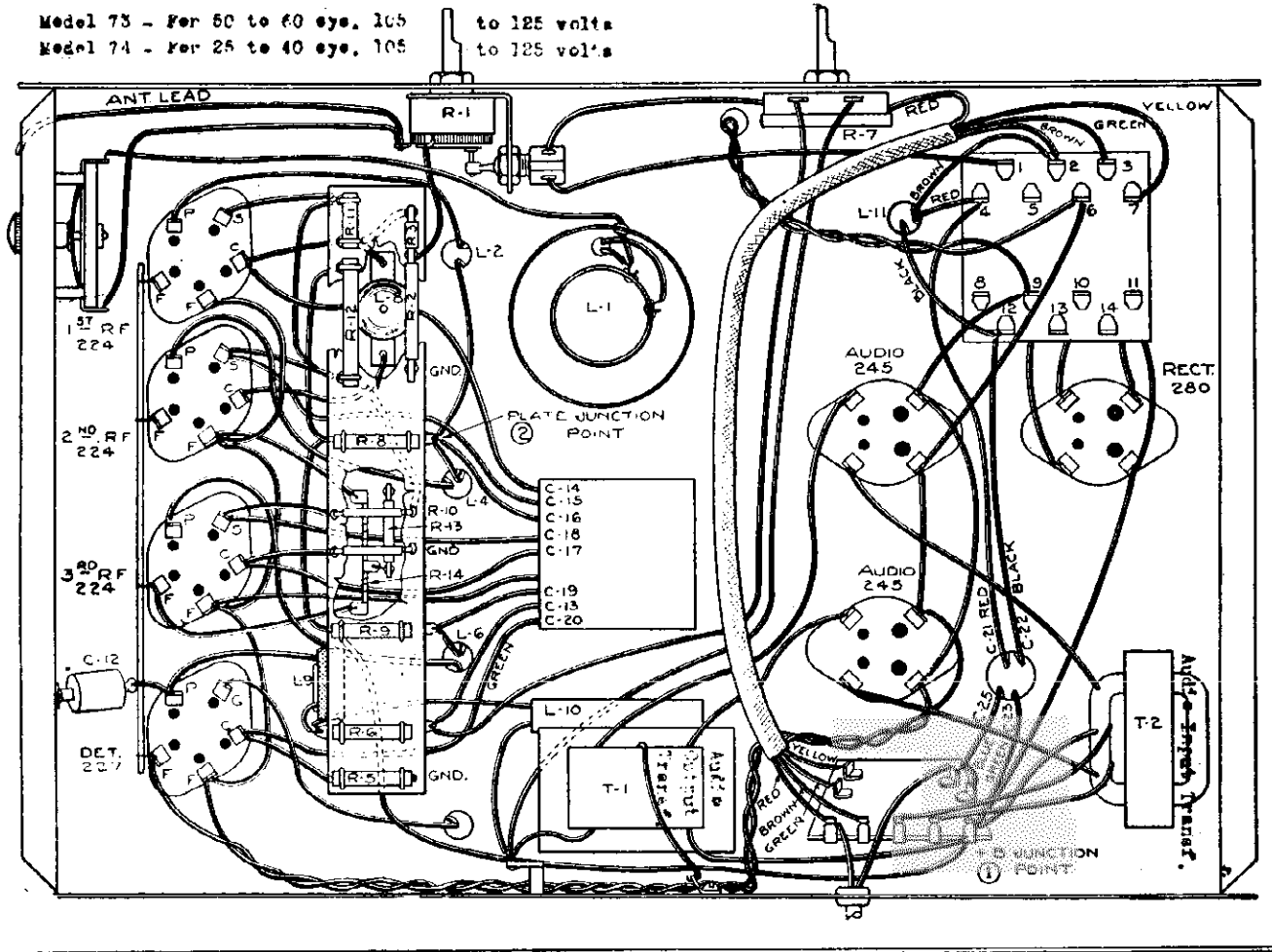
Stage	Tube	Plate	Screen	Cathode	Grid	Fil.	Plate Current
1st RF	224	240	90	44	3	22	4
2nd RF	224	240	90	44	3	22	4
3rd RF	224	240	90	44	3	22	4
Det.	227	250	...	20	25	2.2	1
Audio	245	230	...	...	44	2.3	25
Audio	245	230	...	...	44	2.3	25
Rect.	280	...	...	...	...	4.8	30-30

UNITED AMERICAN BOSCH CORP.

MODEL 73, 74  
Schematic  
Chassis

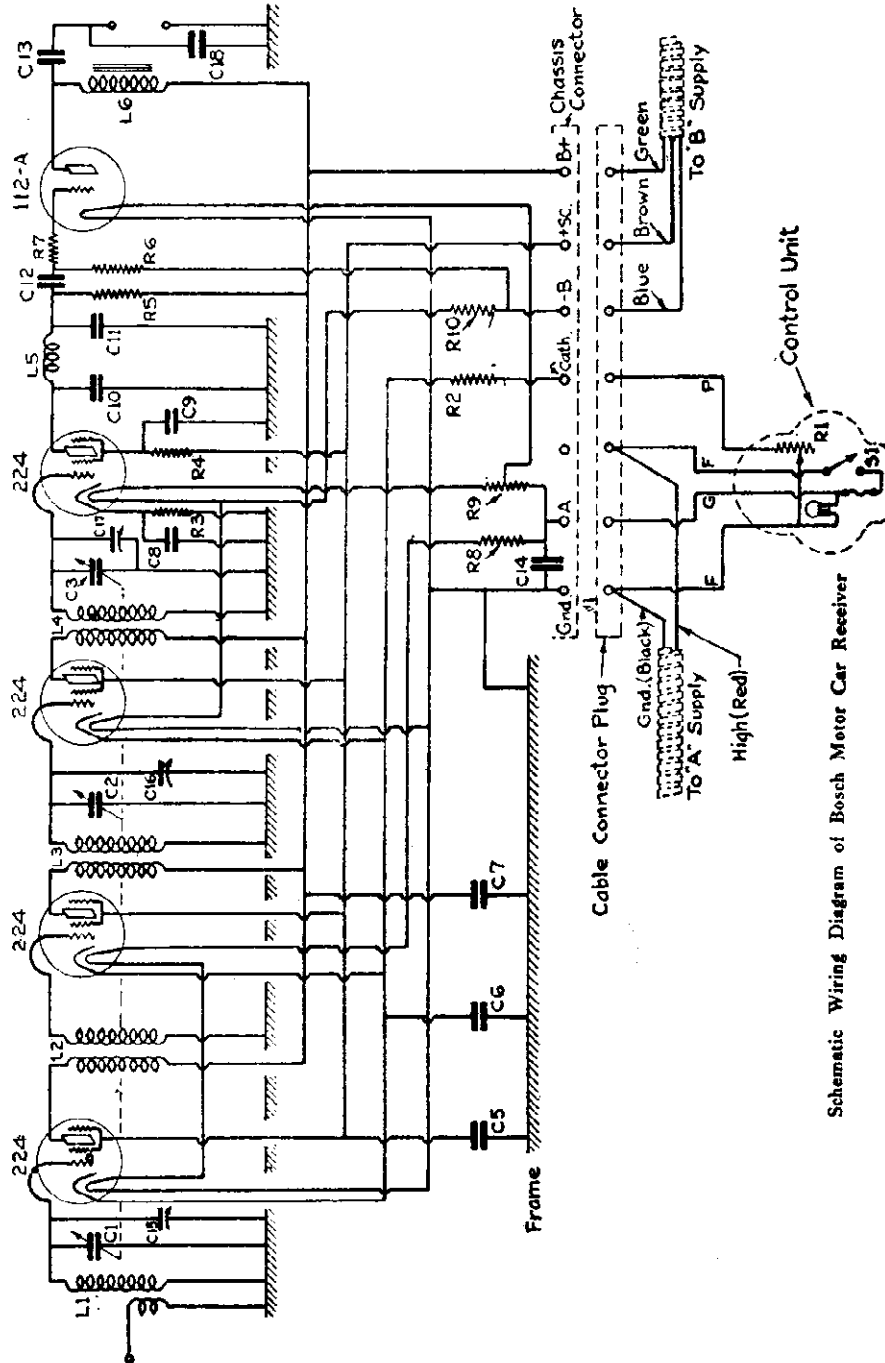


Model 73 - For 50 to 60 eye, 105 to 125 volts  
 Model 74 - For 25 to 40 eye, 105 to 125 volts



UNITED AMERICAN BOSCH CORP.

MODEL 80  
SCHEMATIC  
VOLTAGE



Schematic Wiring Diagram of Bosch Motor Car Receiver

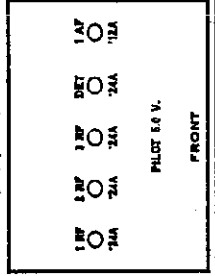
- C-8—Detector Cathode Condenser .5mf.
- C-9—Detector Screen Condenser .5mf.
- C-10—Detector Plate Condenser .0001mf.
- C-11—Detector Plate Condenser .0001mf.
- C-12—Coupling Condenser .002mf.
- C-13—Output Condenser 1mf.
- C-14—Filament By-pass Condenser
- C-15—1st RF Alignment Condenser
- C-16—3rd RF Alignment Condenser
- C-17—Det. Alignment Condenser
- C-18—Speaker Condenser

- R-6—Audio Grid Resistor 2 meg.
- R-7—Series Grid Resistor 250,000 ohms
- R-8—Filament Resistor 1.3 ohms
- R-9—Filament Resistor 1.1 ohms
- R-10—Audio Bias Resistor 900 ohms
- C-2—1st RF Tuning Condenser
- C-3—2nd RF Tuning Condenser
- C-5—Screen By-pass Condenser .5mf.
- C-6—Cathode By-pass Condenser .5mf.
- C-7—Plate By-pass Condenser 1mf.

- L-1—1st RF Coil
- L-2—2nd RF Coil
- L-3—3rd RF Coil
- L-4—Detector Coil
- L-5—Detector Choke
- L-6—Output Choke
- R-1—Volume Control 18,000 ohms
- R-2—1st RF Bias Resistor 500 ohms
- R-3—Detector Bias Resistor 25,000 ohms
- R-4—Detector Screen Resistor 500,000 ohms
- R-5—Detector Plate Resistor 500,000 ohms

TABLE OF SOCKET VOLTAGES

STAGE	TUBE	FIL.	PLATE	SCREEN	GRID	PLATE M.A.	
						Normal	Test
1st RF	224	2.0	170	75	3.5	3.0	5.00
2nd RF	224	2.0	170	75	3.5	3.0	5.00
3rd RF	224	2.0	170	75	3.5	3.0	5.00
Det.	224	2.0	50	15	1.0	3.0	5.00
Audio	112-A	4.8	165		0.1	6.5	9

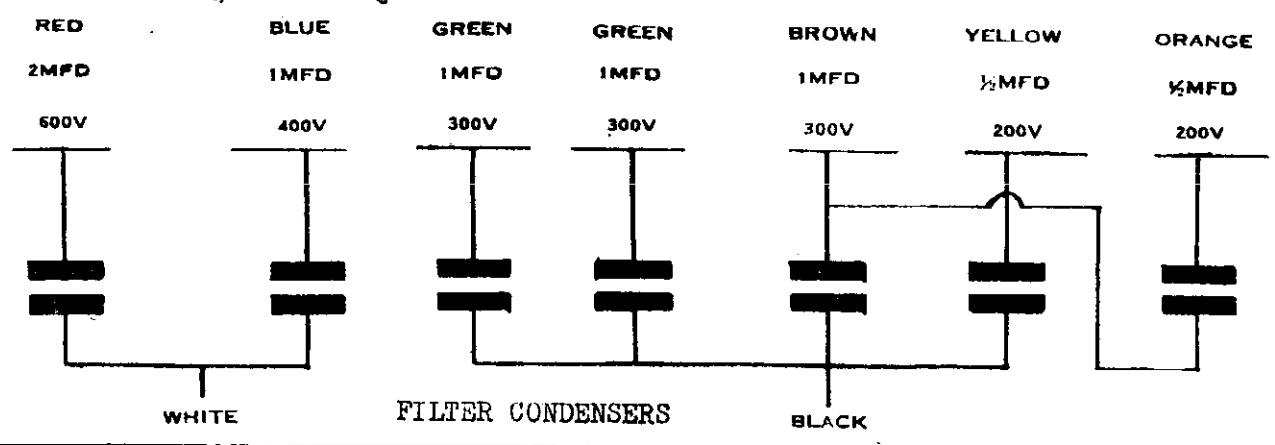
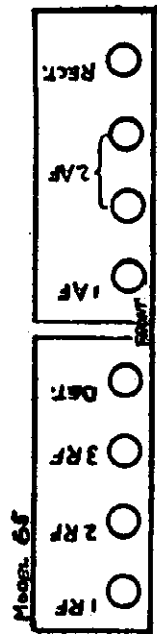
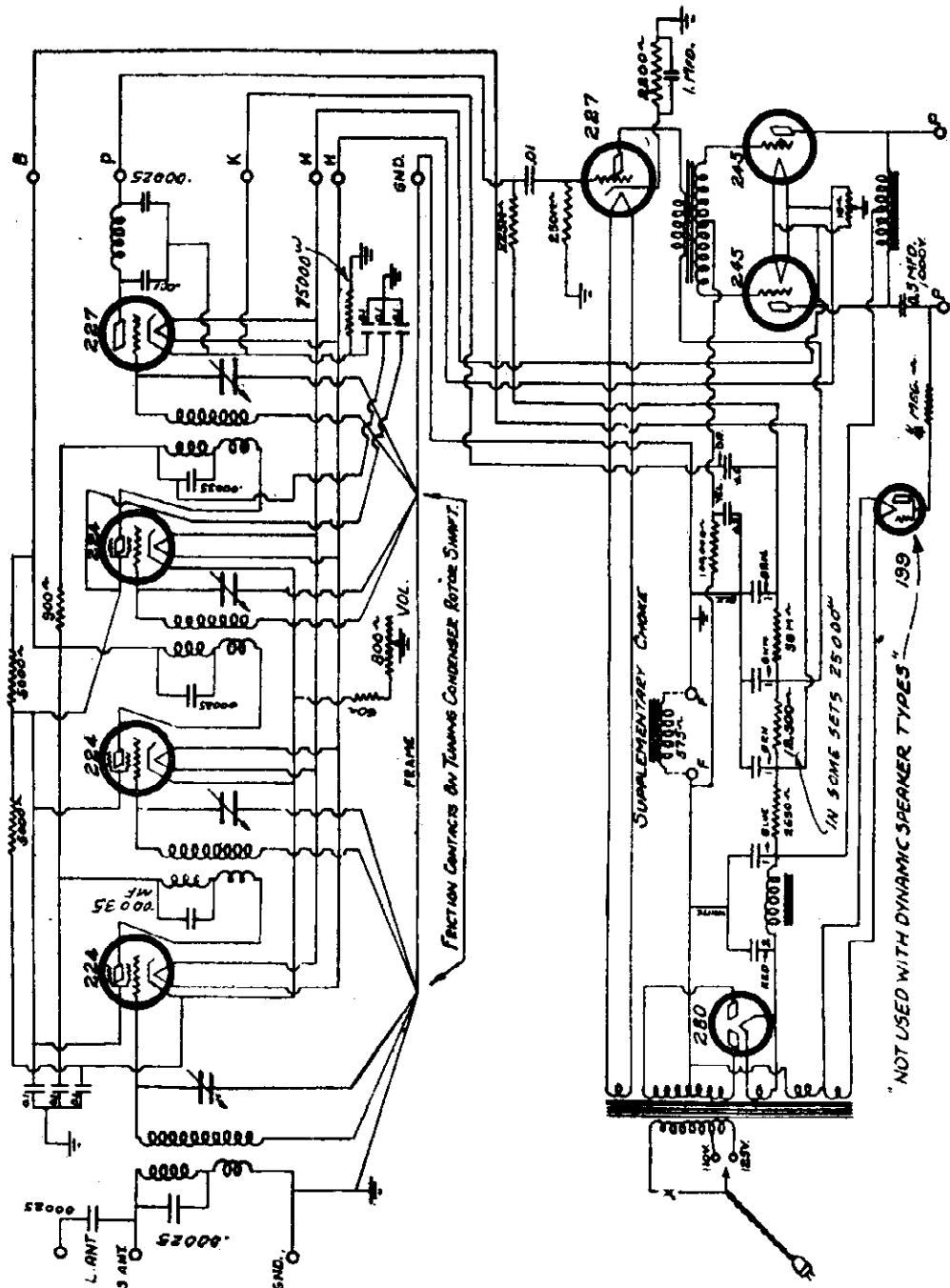


Models 80, 84 (1930)



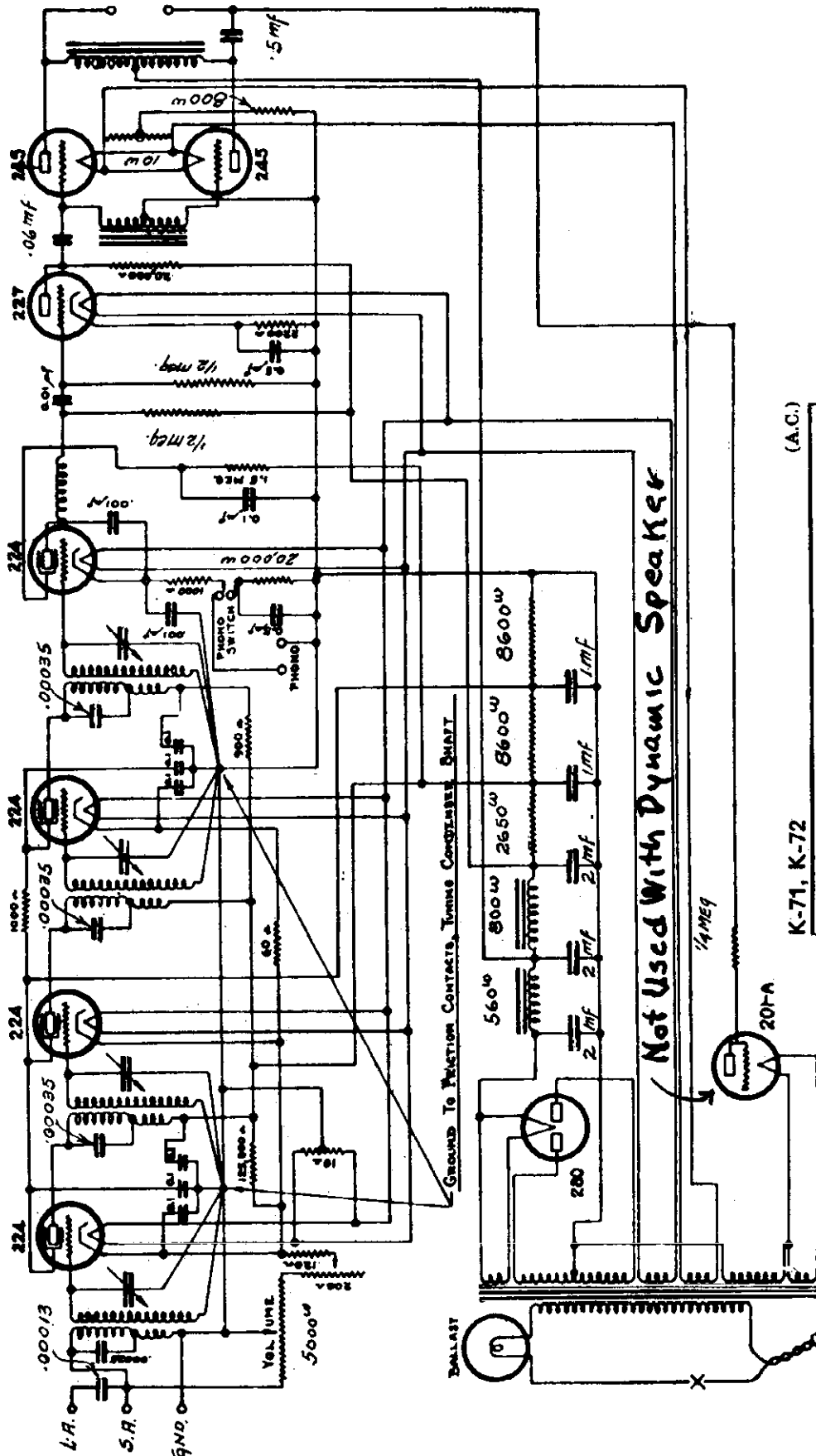
UNITED REPRODUCERS CORP

MODEL 65  
Schematic



MODEL 70 Series  
(71,72)

UNITED REPRODUCERS CORP.



(A.C.)

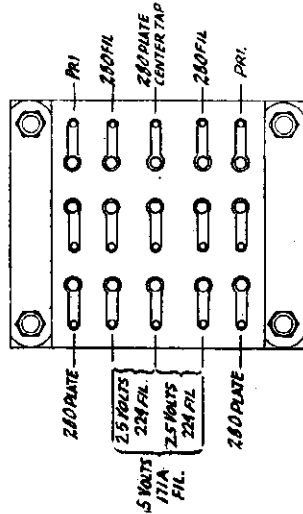
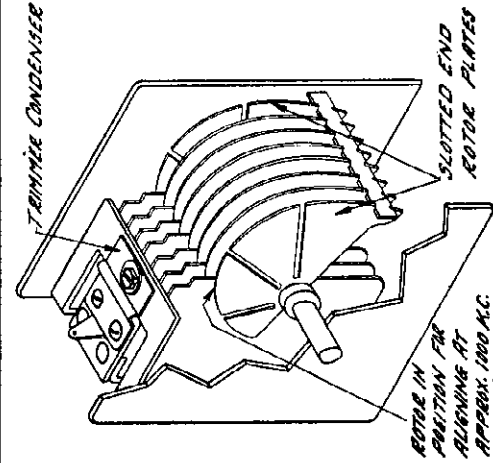
K-71, K-72

CX-301A	CX-360
○	○
Polarized	Rect.
C-324	C-324
○	○
1st R.F.	Det.
C-324	C-324
○	○
2nd R.F.	3rd R.F.
C-327	CX-345
○	○
1st A.F.	2nd A.F.
CX-345	CX-345
○	○



MODEL 20  
Voltage - Data

U. S. RADIO & TELEVISION CORP.



CENTER ROW OF LUGS USED  
AS WIRING TERMINALS ONLY  
Power Transformer Terminals

**Electrodynamic Speaker**

An especially designed electrodynamic speaker is supplied with the No. 20 chassis. The field of this speaker is energized by the power system of the chassis and is a part of the power system. For that reason no other speaker should be used with the No. 20 chassis than the one supplied with it. Care should be taken in servicing the No. 20 receiver not to reverse the leads to one of the field sections as the fields will then "buck" and low signal strength will result. The field winding also acts as a filter choke.

No. 20 CHASSIS—VOLTAGES AT SOCKETS—VOLUME CONTROL AT MAXIMUM  
LINE VOLTAGE. 115—PLUG IN SOCKET OF RECEIVER—TUBE IN TEST SET

Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current MA	Cathode Volts	Plate MA	Grid Test MA
224	1	1st Radio	2.5	196	2.2	85	1.4	2.2	5.	7.1
224	2	Detector	2.5	95(1)	2.3(2)	17(3)	.015		.1	.2
171A	3	1st Audio	5.1	191	43. (4)				18.	20.
280	4	Rectifier	5.1						23 Per Plate	

(1) Computed value. Reading with voltmeter will be lower.  
(2) This voltage read across 55 ohm section of shunt resistor.  
(3) This voltage read across 935 ohm section of speaker field and 55 ohm section of shunt resistor.  
(4) This voltage read across 935 ohm section of speaker field and 55 ohm section of shunt resistor.

**Tuning Condenser Alignment**

The tuning condensers are aligned at the factory with oscillators and output meters and the receiver will not normally lose its alignment unless mishandled or tampered with. When the condenser is out of alignment one or more of the stages are not in resonance and the receiver may tune broadly, lack volume at certain parts of the broadcast band, or tune in a signal at two or more points of the dial.

The chassis should be grounded but the antenna disconnected. In case a strong enough signal is not being received from the oscillator, connect a five or six foot length of wire to the antenna post and run it over towards the oscillator. First set the oscillator for a signal of 1,400 K.C. Then carefully tune to resonance by turning the tuning condenser rotor slowly back and forth until maximum output is obtained. Now adjust the trimmer condensers to resonance. Adjust the volume control until the pointer of the output meter is at about half scale. The oscillator signal should not be too great in intensity as distortion will be introduced. The trimmer condensers are adjusted by raising or lowering the center screw. Turn the screws down until the volume starts to drop. Then adjust the trimmers to resonance, raising or lowering the screws until maximum deflection is obtained. Adjustment may be made with a metal screw driver as the rotor is at ground potential.

An important point to remember in adjusting the trimmer condenser is that the screws should not be turned completely down. If they are screwed in too tightly the capacity of the trimmer

condenser which is added to the capacity of the tuning condenser will be so high that the receiver cannot be tuned to a high frequency signal.

After the trimmer condensers have been adjusted at 1,400 K.C., they should not be changed in any way when aligning the tuning condensers at different frequencies as explained below.

Next set the oscillator for a signal of 1,000 K.C. Then turn the tuning condenser rotor carefully until maximum deflection is obtained on output meter. The second slotted section of the rotor will be approximately half way in mesh with the stator as shown in Fig. 3. Bend this section of the two end rotor plates of the first section of the tuning condenser in or out until maximum reading is obtained on the output meter. Follow the same procedure with section two of the tuning condenser. The corresponding slotted section on both ends of any rotor section should be bent in or out about the same amount for each adjustment.

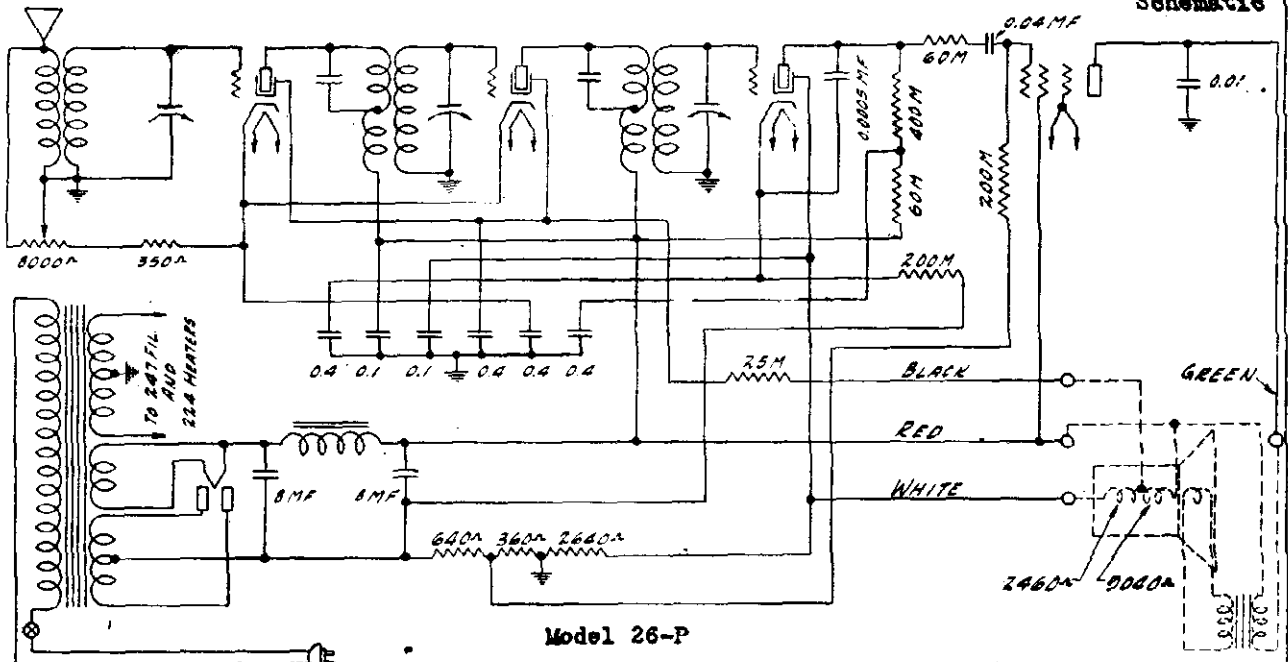
After each material adjustment of a slotted rotor plate section, the tuning or setting of rotor for resonance should be checked. In other words, after every bending turn the tuning knob back and forth until maximum deflection of output meter is obtained before proceeding to make the next adjustment.

Next tune in a signal at 750 K.C. Follow the same procedure. Lastly, tune in a signal at 600 K.C. and again follow the same procedure. The condenser will then be properly aligned.

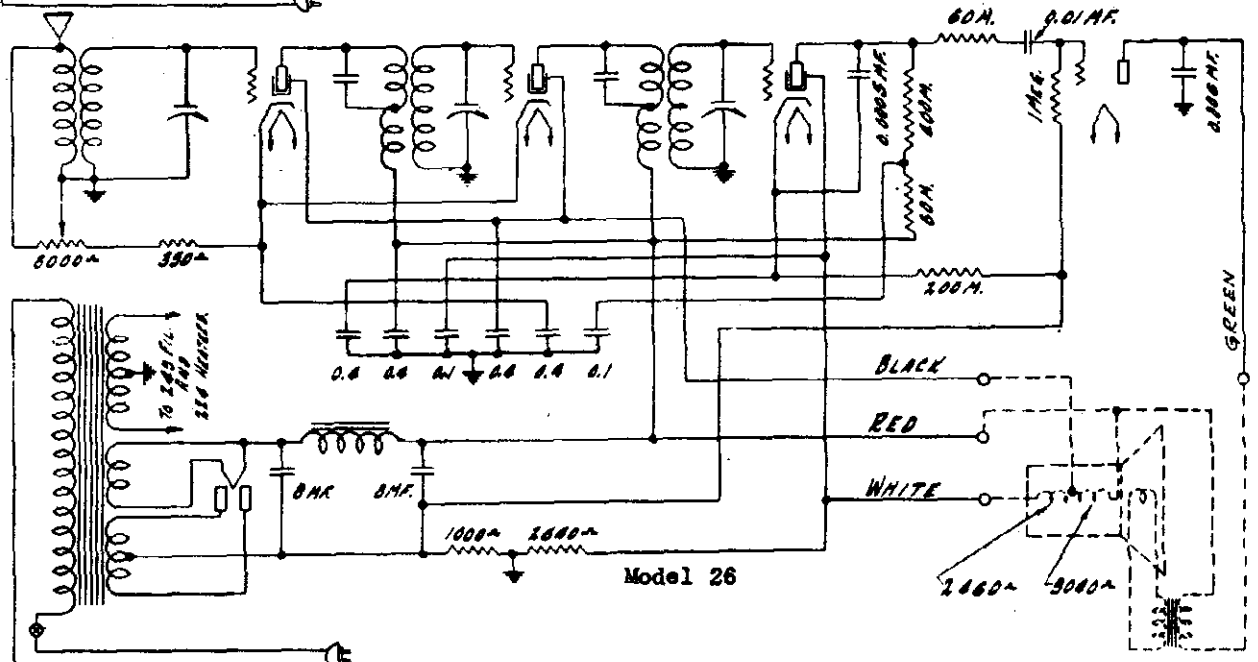


U. S. RADIO & TELEVISION CORP.

MODEL 26  
Schematic  
MODEL 26-P  
Schematic



Model 26-P



Model 26

Type      Function      A      B      C      Screen      Plate Crnt.

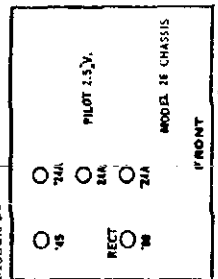
224	1st RF	2.2	245	2.5	80	2.9 ma
224	2nd RF	2.2	245	2.5	80	2.9
224	Det.	2.2	130	3.	40	.25
245	Audio	2.35	245	50.		28.
280	Rect.	4.6				25.*

\* Per anode. Line voltage 115 . V.C.Max.

224	1st RF	2.2	250	2.	55."*	2.1
224	2nd RF	2.2	250	2.	55."*	2.1
224	Det.	2.2	130	2.8	40."*	.25
247	Audio	2.3	238	18.**	250	27.
280	Rect.	4.65				28. *

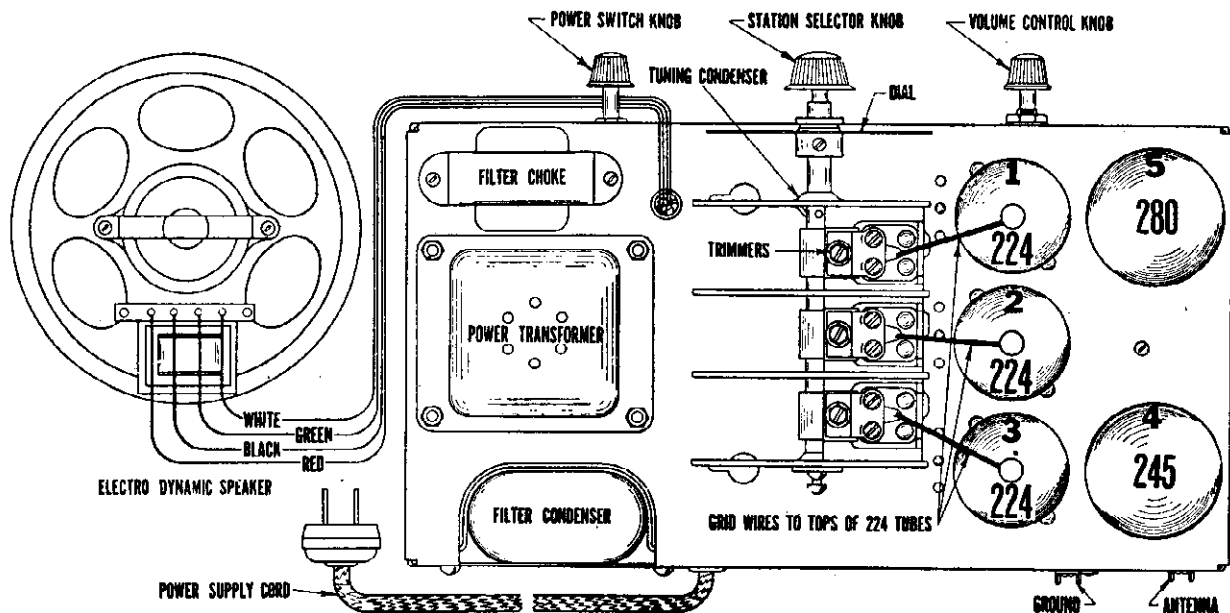
\*\* Read across 360 ohms section of shunt resistor.

" Read with 250,000 ohm meter.



FRONT

MODEL 26 Chassis  
 MODEL 26-P Parts List U. S. RADIO & TELEVISION CORP.



--Top View of No. 26 Chassis showing Tube Sequence and Speaker Connections

**No. 26P Chassis Replacement Parts (Supplementing No. 26 List)**

The following parts are used in addition to the parts listed for the No. 26 chassis.

Part No.	Description	No. Used in Set	List Price Each
2757	Tube Socket—247.....	1	.35
705	25,000 ohm Series Resistor, Carbon.....	1	.50
1358	.04 Mfd. Coupling Condenser.....	1	.60
1751	200,000 ohm Grid Leak Resistor, Carbon.....	1	.50
2303A	Shunt Resistor, 640—360—2640 ohms.....	1	.60
2767	Resistor & Condenser Panel Assembly complete.....	1	3.00
2678	8 Mfd. Electrolytic Condenser Unit complete, Dry type.....	2	2.25
2752	Chassis Cover Plate for Electrolytic Condensers.....	1	.15
2691	Mounting Plate for Electrolytic Condensers.....	1	.15
2763	Electrolytic Condenser Assembly complete, 2 Units and Mounting Plate.....	1	4.65
2756	Power Transformer, 115 Volt, 60 Cycles.....	1	7.50
2768	Chassis Harness.....	1	1.00
2771	Bottom Plate.....	1	.40
2758	Baffle Mtg. D.C. Electrodynamic Speaker for No. 26P Chassis.....	1	8.50
2796	Transformer for Speaker.....	1	3.50

The following parts listed for the No. 26 Chassis are not used in the No. 26P Chassis:

685	Tube Socket—245.....	1	.35
1612	.006 Mfd. Audio Plate By-pass Condenser.....	1	.80
2266	1 Megohm Grid Leak Resistor.....	1	.45
2303	Shunt Resistor, 1000—2640 ohms.....	1	.60
2316	Resistor & Condenser Panel Assy. complete.....	1	3.00
1942	8 Mfd. Electrolytic Condenser Unit.....	2	2.50
2223	Mounting Clamp for Electrolytic Condensers.....	1	.20
2328	Metal Cap for Electrolytic Condensers.....	1	.15
2251	Power Transformer, 115 Volts, 60 Cycles.....	1	7.50
2238	Cover Plate for Power Transformer.....	1	.30
2318	Chassis Harness.....	1	1.20
2467	Baffle Mtg. D.C. Electrodynamic Speaker No. 26 Chassis.....	1	8.50
2555	Transformer for Speaker.....	1	3.50

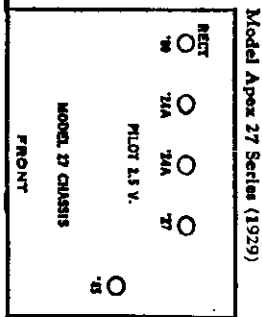
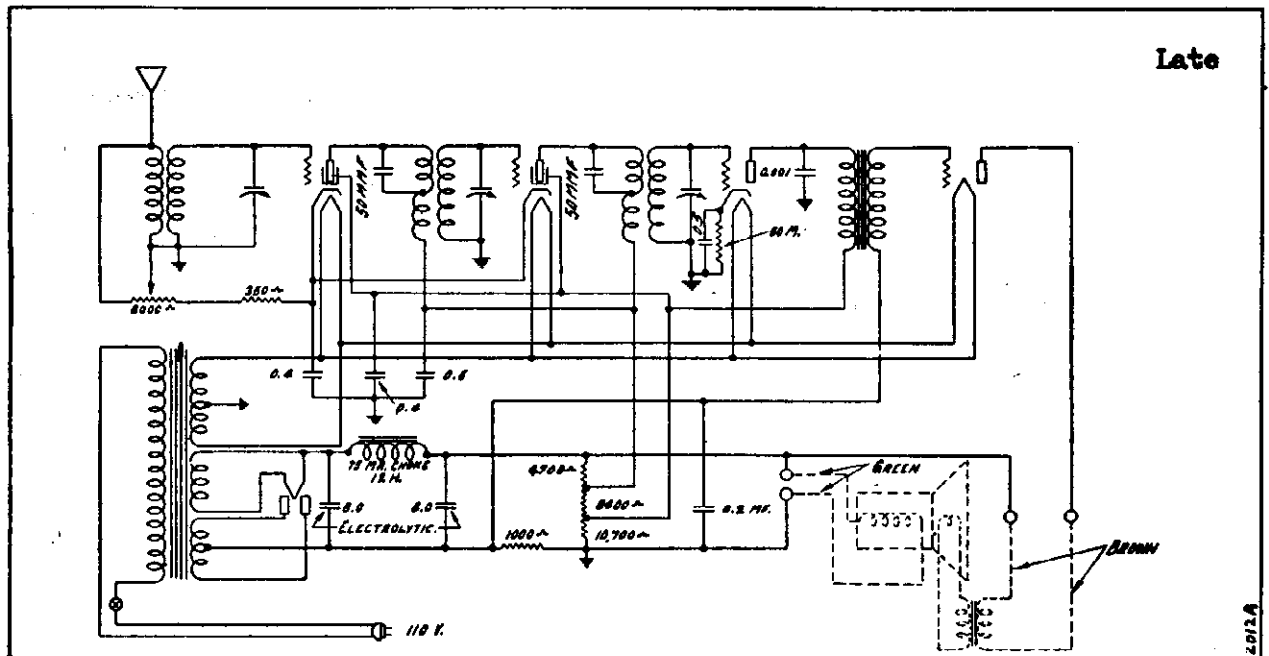
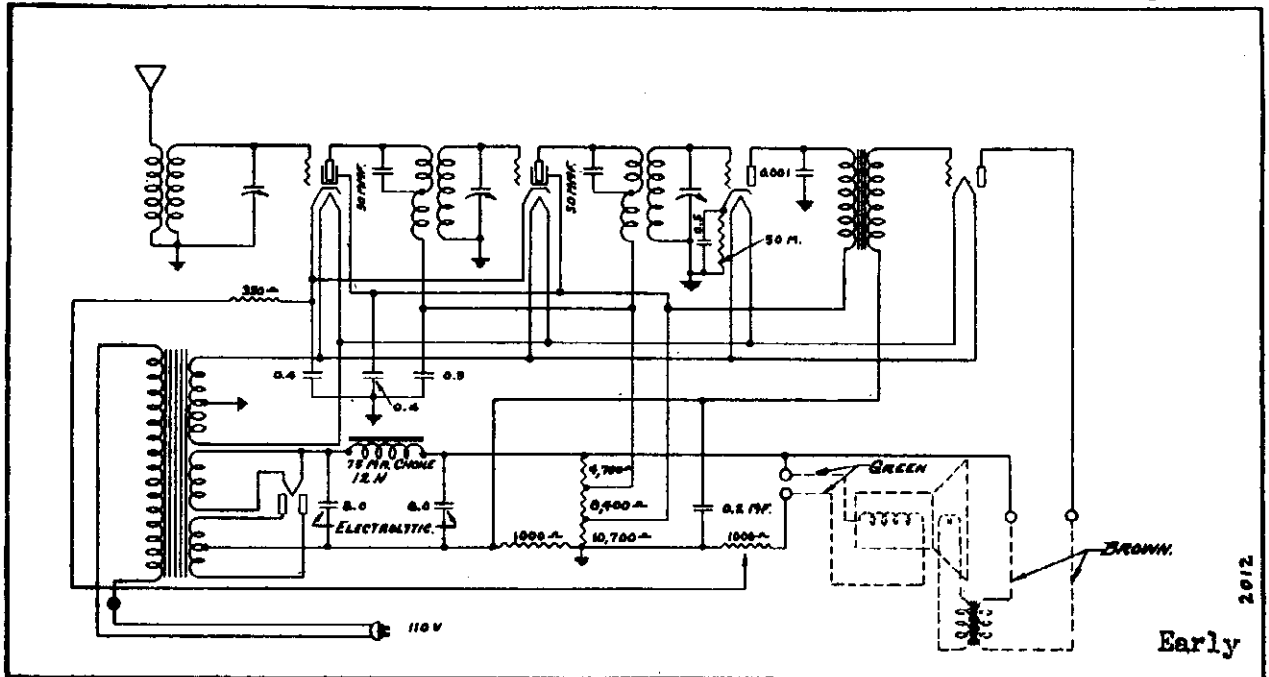
**Making Pentode Current and Voltage Readings**

Reading	Terminals	Meter
A Volts	Across filament terminals	0-4 A.C. Voltmeter
E Volts	Plate terminal to subpanel	0-300 D.C. Voltmeter
C Volts	Across 360 ohm resistor	0-50 D.C. Voltmeter
Screen Volts	Screen grid terminal to subpanel	0-300 D.C. Voltmeter
Screen M.A.	Insert milliammeter in screen grid line	0-25 D.C. Milliammeter
Plate M.A.	Insert milliammeter in plate line	0-50 D.C. Milliammeter

**CAUTION:**—Never operate the Pentode tube under any circumstances without plate voltage. This condition may arise if one of the speaker leads is disconnected opening the line to the primary of the output transformer. Without plate voltage the screen grid will become white hot due to the excessive current flowing through it and may become distorted or may evolve gas. Care should be taken, therefore, in servicing the No. 26P chassis or conducting experiments with the Pentode never to have this condition arise.

U. S. RADIO & TELEVISION CORP.

MODEL 27 (Early)  
Schematic  
MODEL 27 (Late)  
Schematic



VOLTAGES AT SOCKETS — VOLUME CONTROL AT MAXIMUM —  
LINE VOLTAGE, 115 — PLUG IN SOCKET OF RECEIVER —  
TUBE IN TEST SET

Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control Grid "C" Volts	Screen Volts	Screen Current MA	Cathode Volts	Plate MA	Grid Test MA
224	1	1st Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
224	2	2nd Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
227	3	Detector	2.25	70	8.5			8.5	.1	.2
245	4	Audio	2.35	238	44.				19.	22.
280	5	Rectifier	4.8						26.5 per Plate	



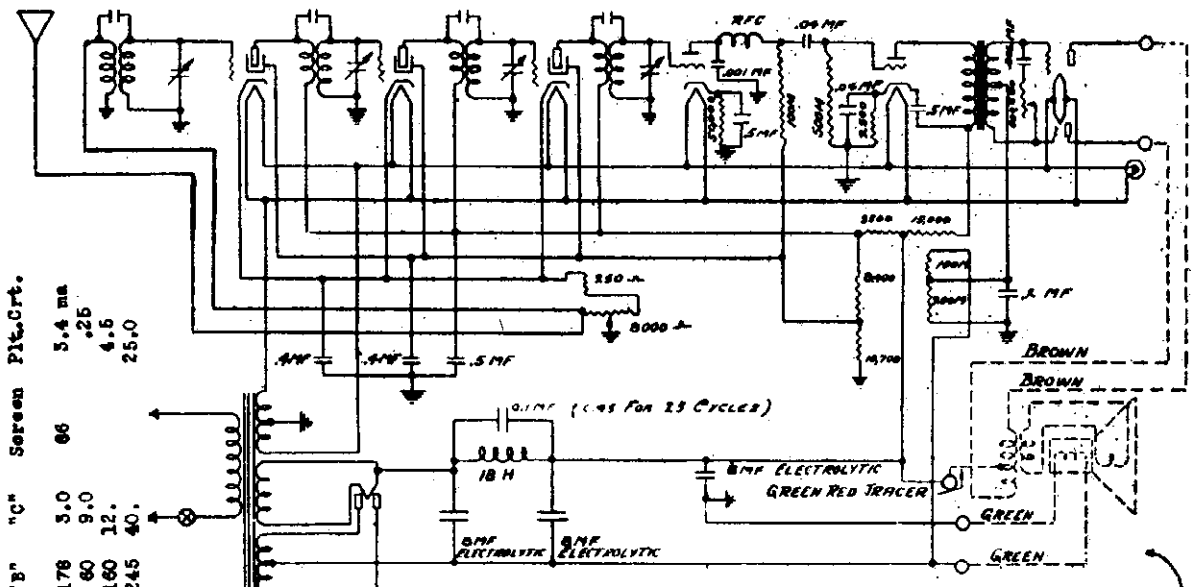




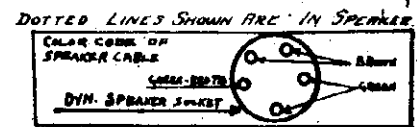
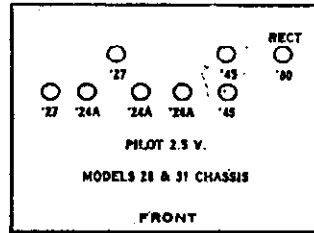


U. S. RADIO & TELEVISION CORP.

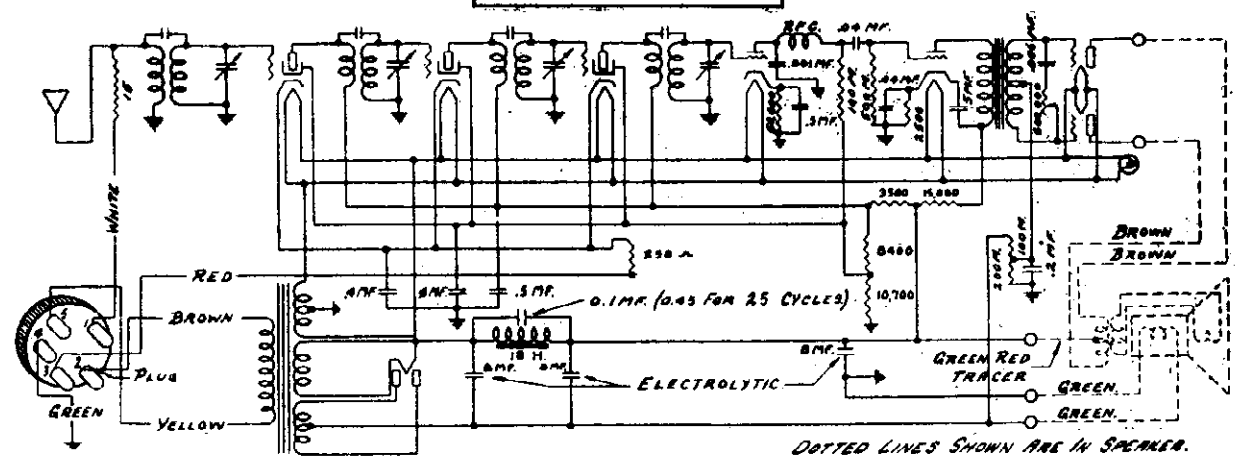
MODEL Apex 31-R



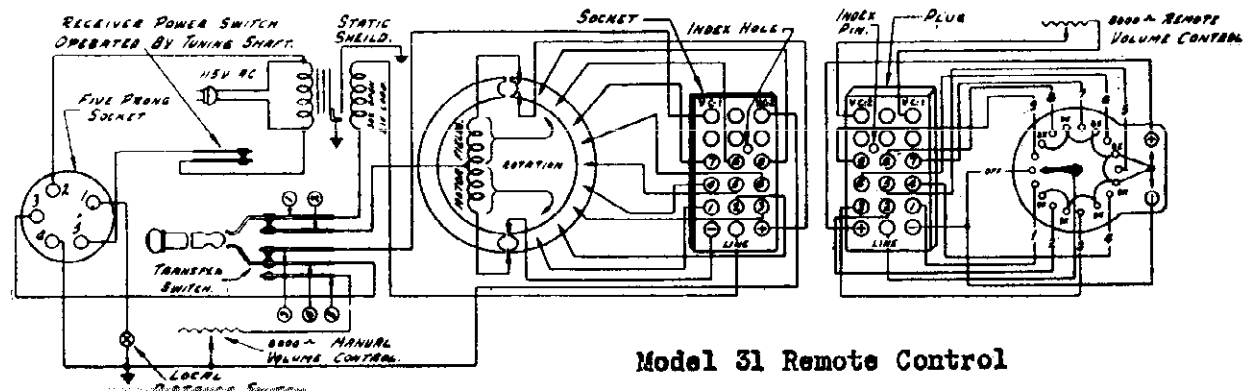
Models Apex 28A, 31 Series (1929)



Model Apex 31



Model 31 Remote Control

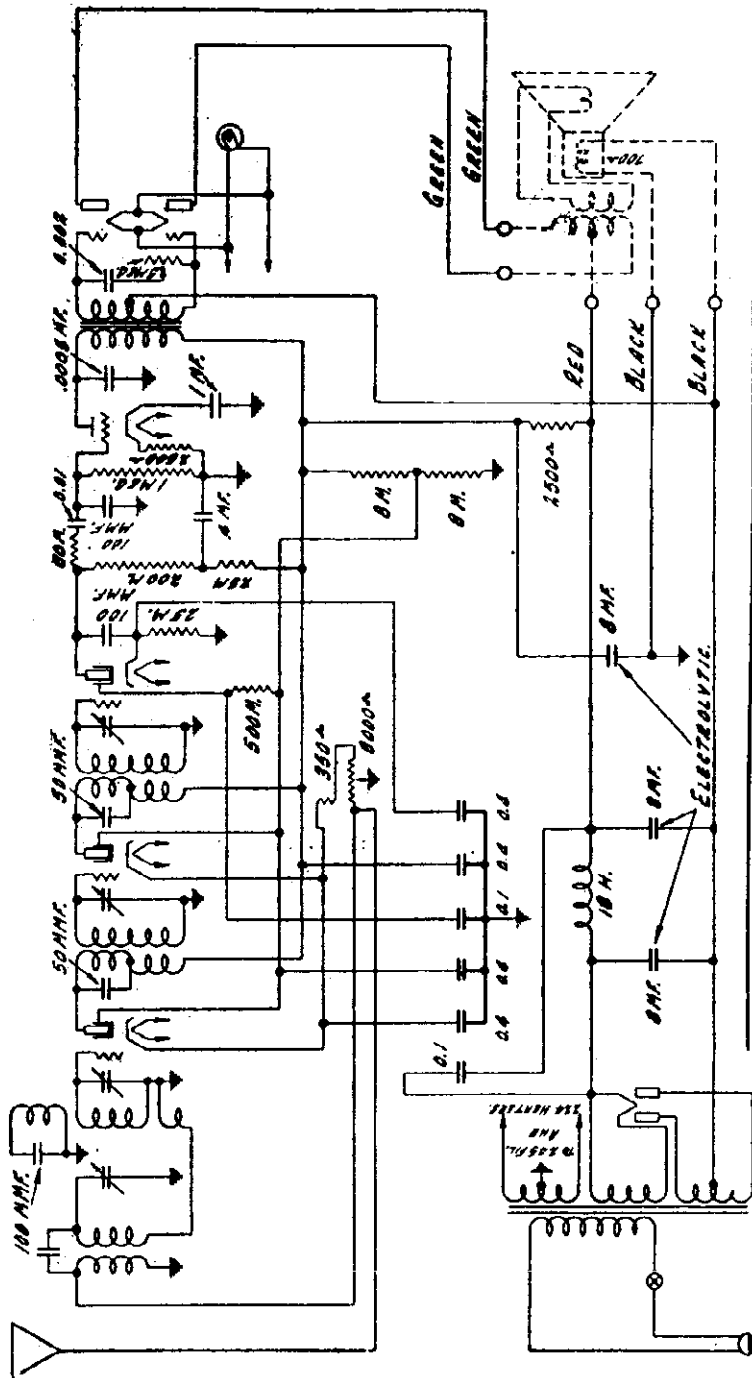


Model 31 Remote Control



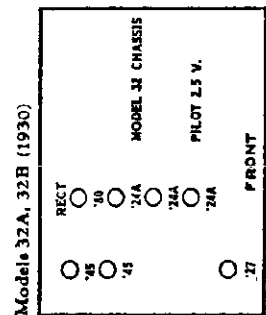
MODEL 32 Series

U. S. RADIO & TELEVISION CORP.



**No. 32 CHASSIS—VOLTAGES AT SOCKETS—VOLUME CONTROL AT MAXIMUM  
LINE VOLTAGE, 115—PLUG IN SOCKET OF RECEIVER—TUBE IN TEXT SET**

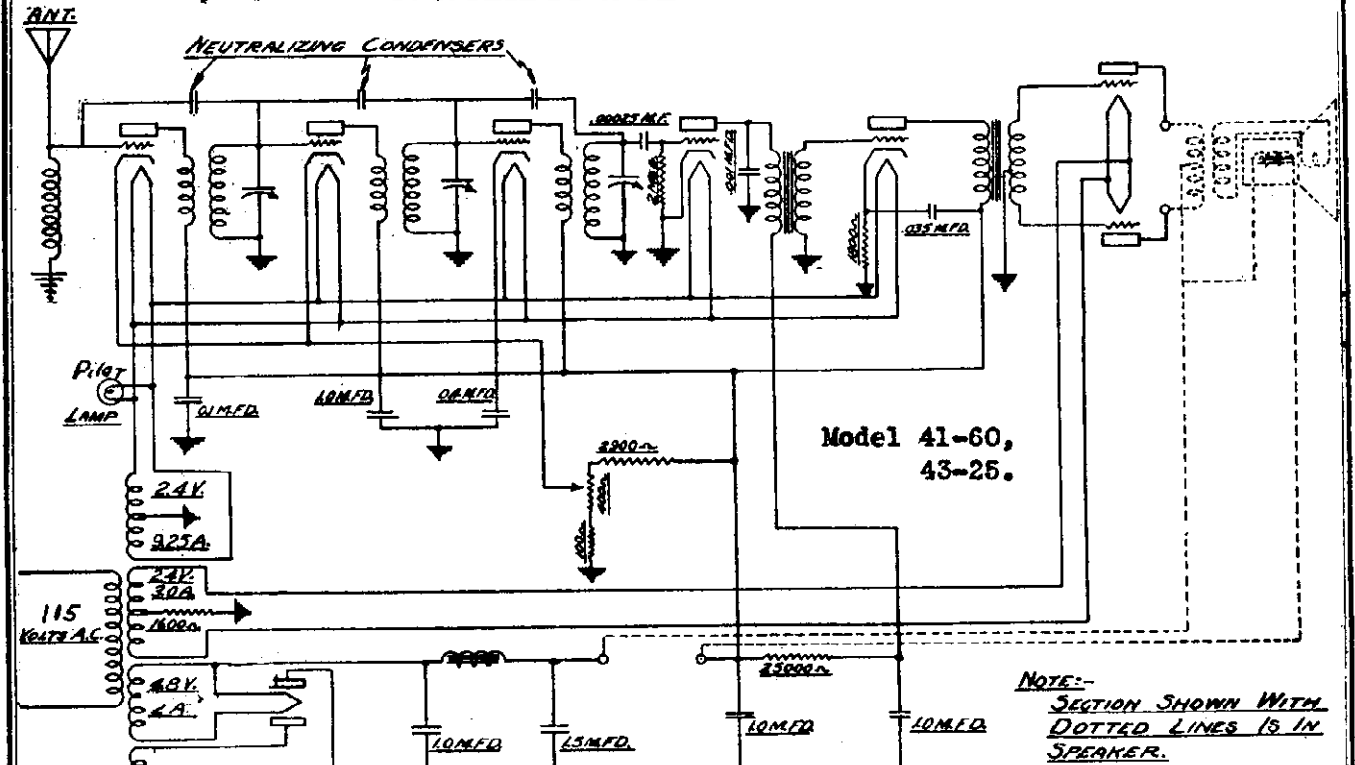
Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control "C" Volts	Screen Volts	Screen Current MA	Cathode Volts	Plate MA	Grid Treat MA
224	1	1st Radio	2.3	198	3.	88	.9	3.	3.5	6.
224	2	2nd Radio	2.3	198	3.	88	.9	3.	3.5	6.
224	3	Detector	2.3	150	6.	45	.1	6.	.25	.4
227	4	1st Audio	2.3	180	12.5			12.5	5.	6.1
245	5	2nd Audio	2.4	255	55.				26.	31.
245	6	2nd Audio	2.4	255	55.				26.	31.
280	7	Rectifier	5.						36.	Per Plate





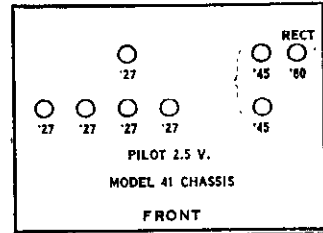
MODEL 41-60, 43-25  
MODEL 42-60, 44-25

U. S. RADIO & TELEVISION CORP.

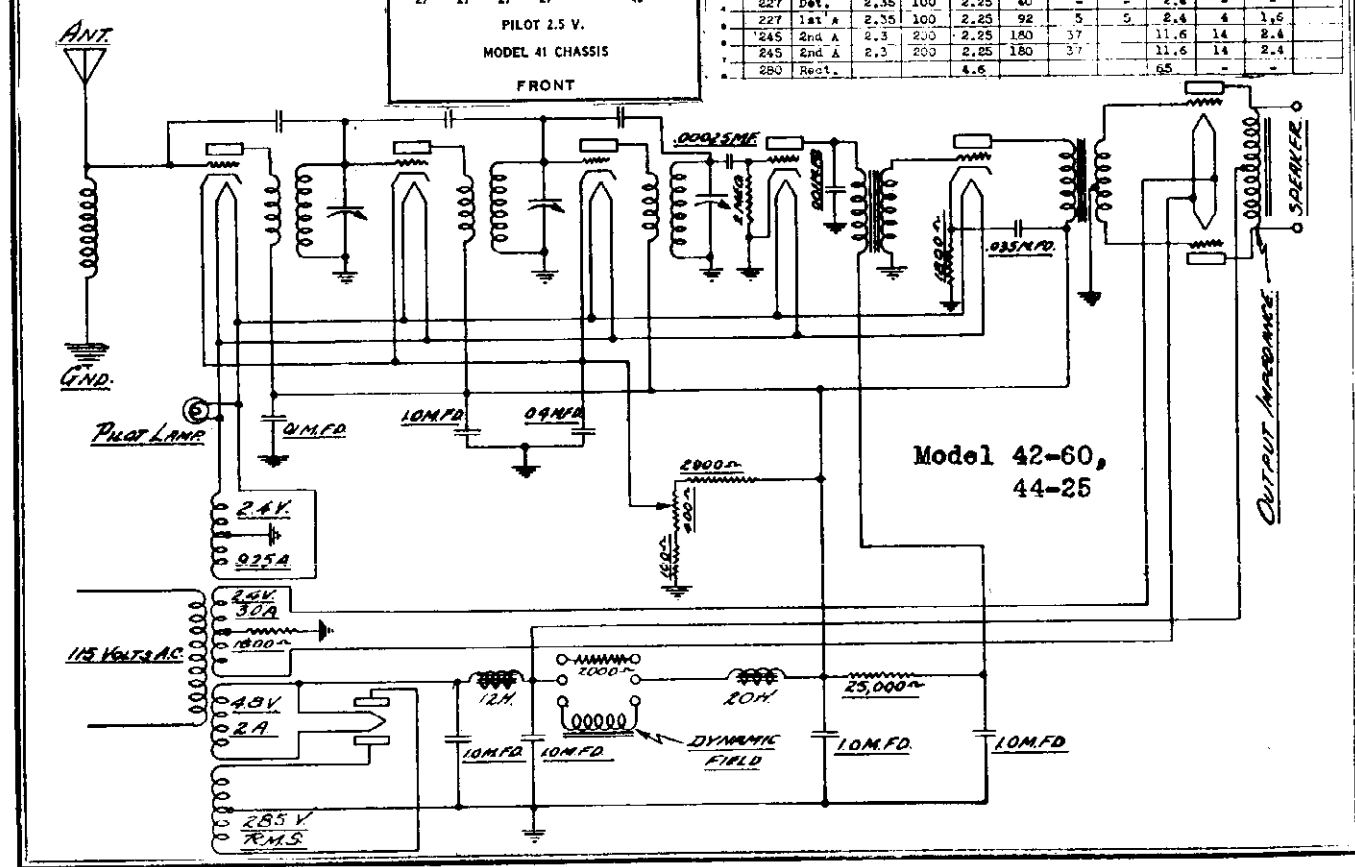


U. S. RADIO & TELEVISION—Model 41-60 Cycle Line Voltage 110—Volume Control Position Max

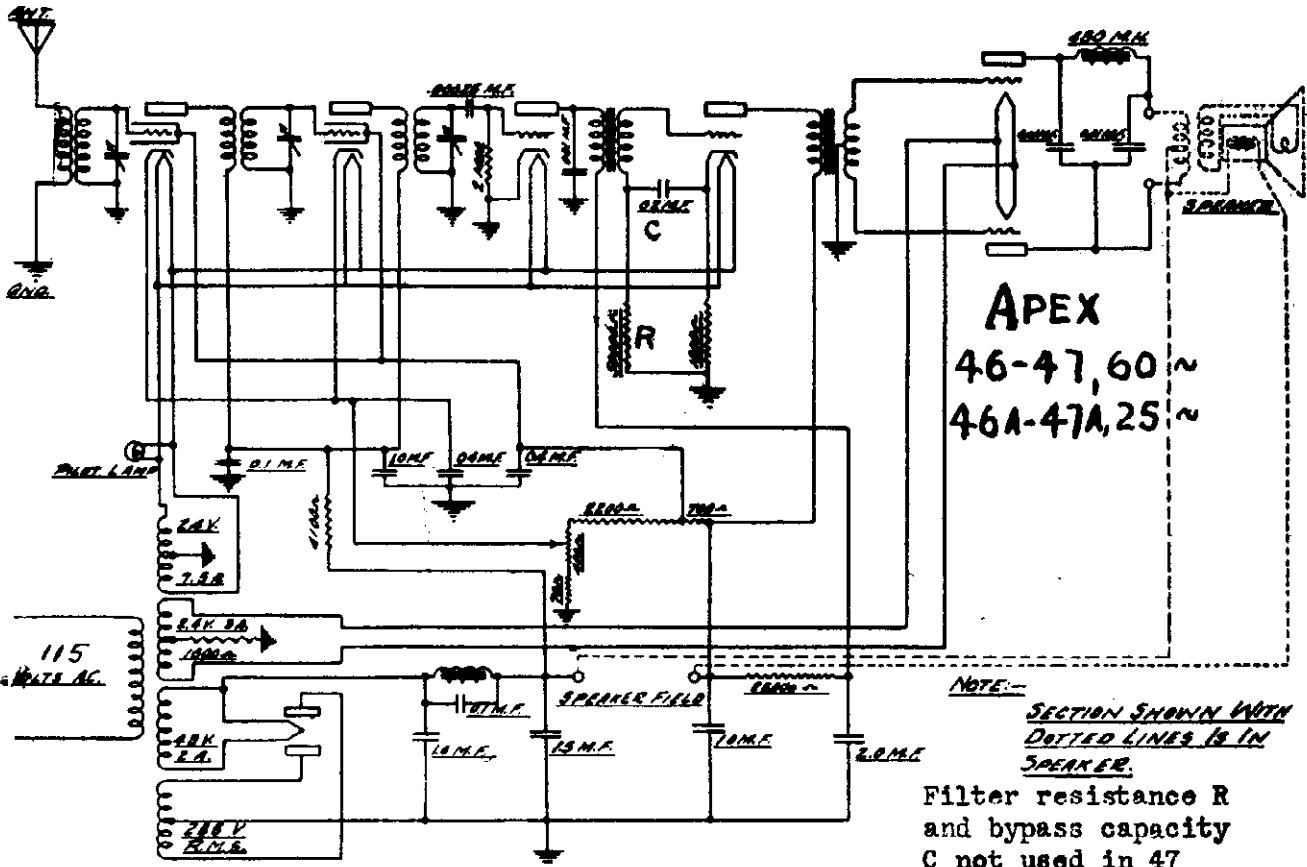
Models Apex 41, 42, 43, 44, 60, 60A (1929)



TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RT. 2ND RT. 3RD RT. 4TH RT.	TUBE OUT			TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE CENTER (V)	NORMAL PLATE (V)	PLATE MA GRID (V)	CHANGE MA (V)	SCREEN GRID (V)
1	227	1st RF	2.3	100	2.25	100	4	4	4.6	9	4.4	
2	227	2nd RF	2.3	100	2.25	100	4	4	4.6	9	4.4	
3	227	3rd RF	2.35	100	2.25	100	4	4	4.5	9	4.4	
4	227	Det.	2.35	100	2.25	60	-	-	2.4	-	-	-
5	227	1st A	2.35	100	2.25	92	5	5	2.4	4	1.6	
6	245	2nd A	2.3	200	2.25	180	37	-	11.6	14	2.4	
7	245	2nd A	2.3	200	2.25	180	37	-	11.6	14	2.4	
8	250	Rect.	-	-	4.6	-	-	-	6.5	-	-	-



U. S. RADIO & TELEVISION CORP. MODEL 46,47 Apex  
MODEL 46-A,47-A Apex



**APEX**  
46-47, 60 ~  
46A-47A, 25 ~

NOTE:—  
SECTION SHOWN WITH  
DOTTED LINES IS IN  
SPEAKER.

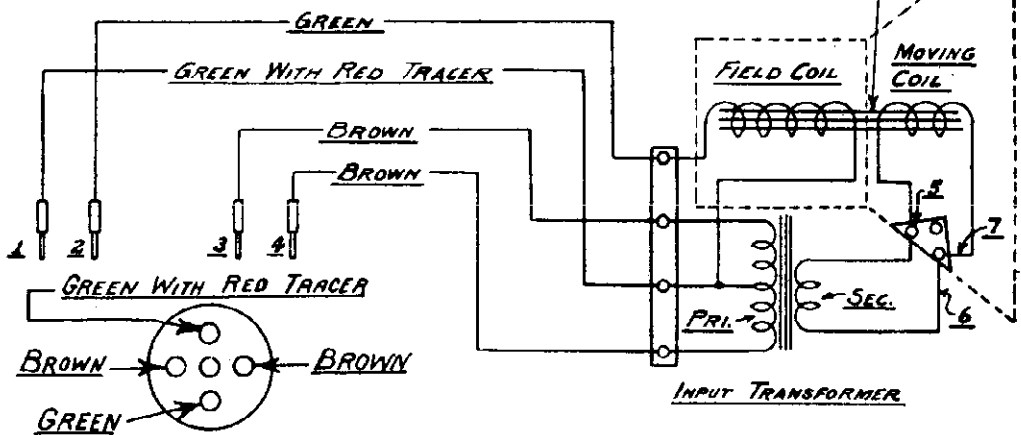
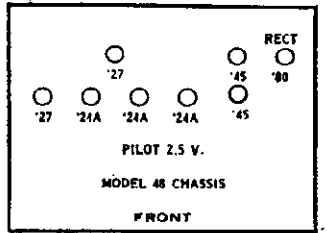
Filter resistance R  
and bypass capacity  
C not used in 47  
and 47A

46 and 46-A

U. S. RADIO & TELEVISION—Models 47 and 47A

TUBE NO. OR ORDER TESTED	TYPE OF TUBE	POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET										
			OPERATING VOLTAGES			MILLIAMPERES			MILLIAMPERES				
1	2	3	PLATE OR ANODE	CONTROL GRID - SPACE GRID	NORMAL GRID - SCREEN GRID	CATHODE TO CHASSIS	SCREENING GRID TO CHASSIS	PLATE TO CHASSIS	TUBE TEST	PLATE CURRENT	SCREENING GRID CURRENT	CONTROL GRID CURRENT	SCREENING GRID CURRENT
1	224	1 R.F.	2.36	173	2.72	66	2.78	.67	3.0				
2	224	2. R.F.	2.31	173	2.72	66	2.78	.81	3.0				
3	227	Det.	2.28	35	-	0	-	-	2.0				
4	227	1 A.F.	2.28	100	-	6.1	-	-	3.25				
5	245	2 A.F.	2.29	169	-	38	-	-	11.3				
6	245	2 A.F.	2.29	169	-	38	-	-	11.3				
7	880	Rect.	4.61	-	-	-	-	-	34.8	34.5			

Models Apex 11, 11A, 14, 14A, 46, 47 (New Type) (29)



—Electrodynamic Speaker and Connections—



U. S. RADIO & TELEVISION CORP.

MODEL 80  
Schematic.

**CASE 80-81** —Line Voltage 115.  
On Some Models There Will Be a Cathode Voltage of Approximately 27 Volts—Others 0

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	NOMINAL PLATE M.A.	PLATE M.A. TEST	PLATE C.A. CHANGES	
226	1st. R.F.		1.25	110	8.5	-	3.3	6.3	3.0			
226	2nd. R.F.		1.25	110	8.5	-	3.3	6.3	3.0			
226	3rd. R.F.		1.25	110	8.5	-	3.3	6.3	3.0			
226	4th. R.F.		1.25	110	8.5	-	3.3	6.3	3.0			
227	Detector		2.00	27	0.0	0.0	1.4	1.4	0.0			
226	1st. A.F.		1.27	110	7.8	-	2.7	6.7	3.0			
171A	2nd. A.F.		1.80	165	37.0	-	17.0	19.5	2.5			
280	Rectifier		4.50	-	-	-	24.0	-	-			

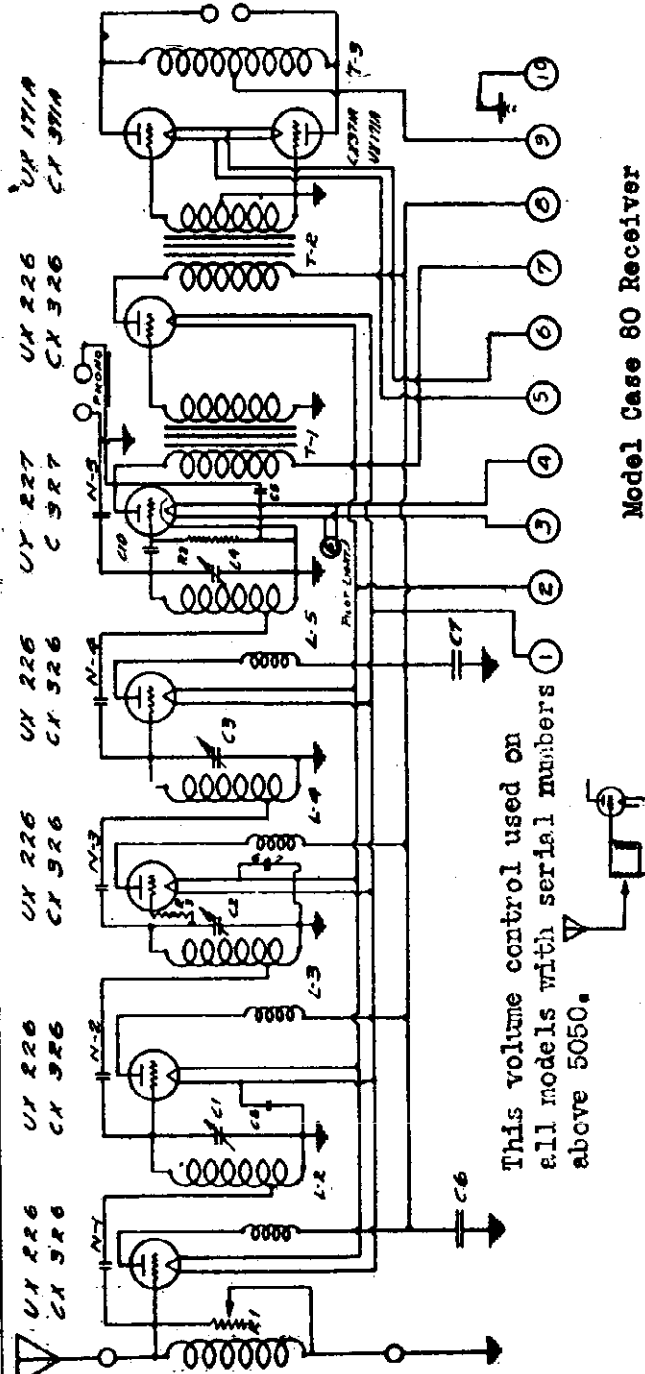
Case 81B, 81C

(A.C.)

CX-380

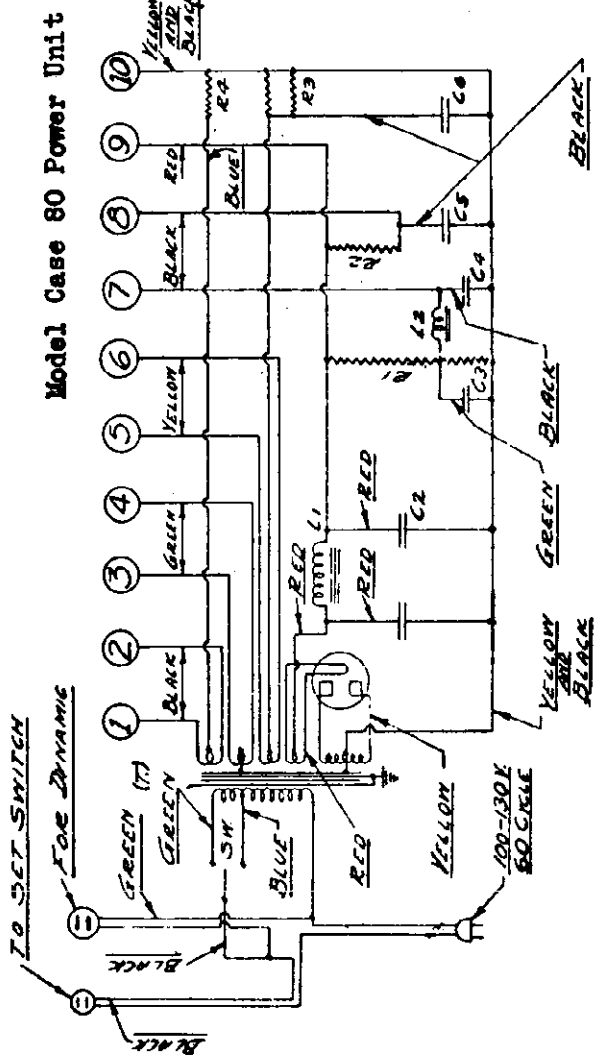


CX-326 CX-326 CX-326 CX-326 C-327 CX-326 CX-371A CX-371A



Model Case 80 Receiver

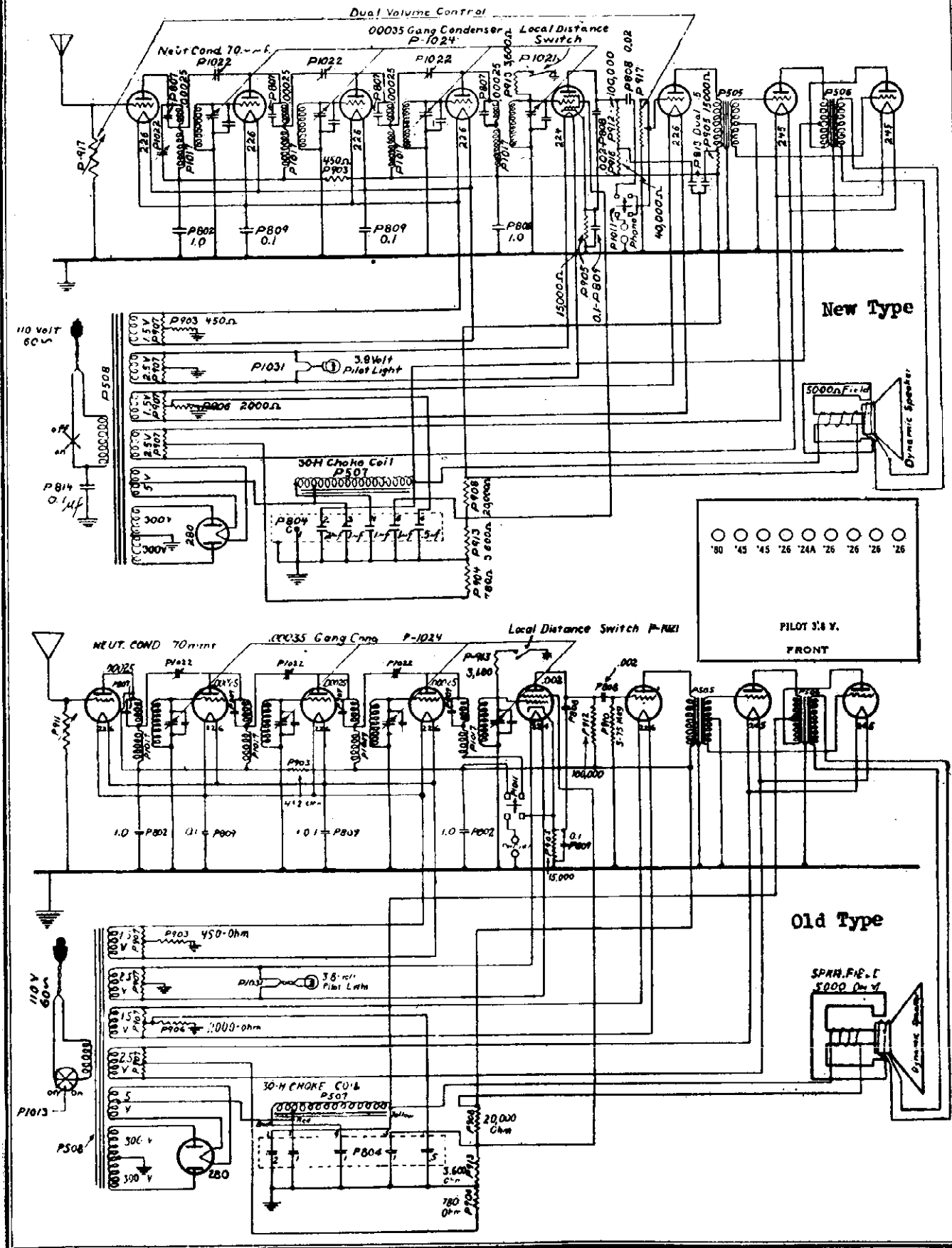
This volume control used on all models with serial numbers 1 above 5050.



Model Case 80 Power Unit

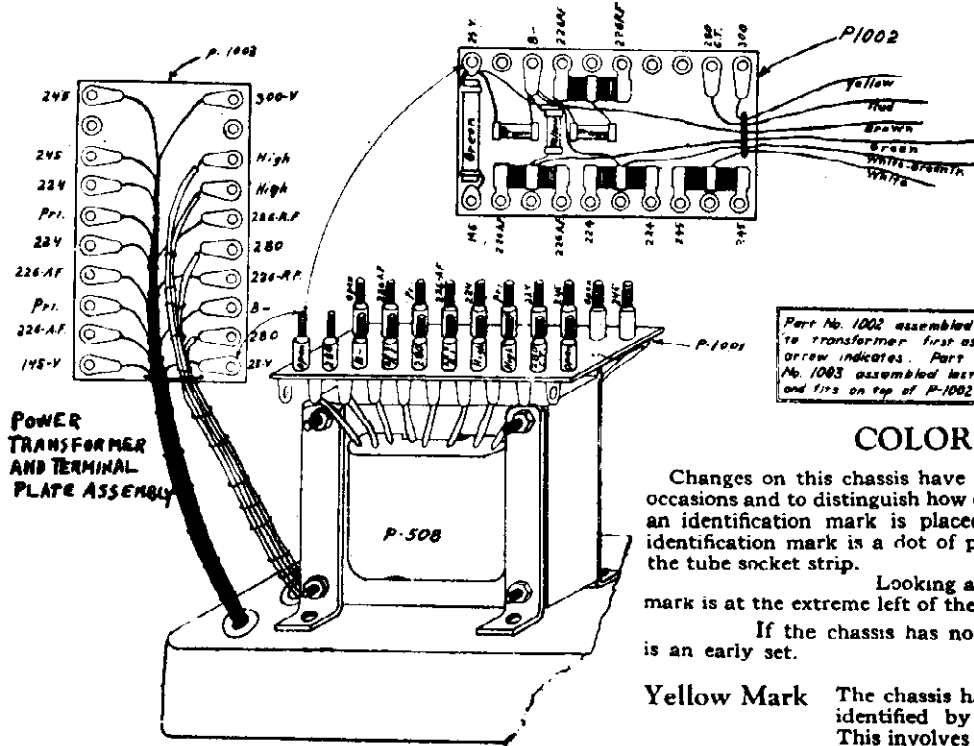
# WELLS - GARDNER & CO.

## MODEL C,CG Schematic 1st & 2nd Types



MODEL C,CG  
Voltage - Data  
1st & 2nd Types

WELLS - GARDNER & CO.



**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

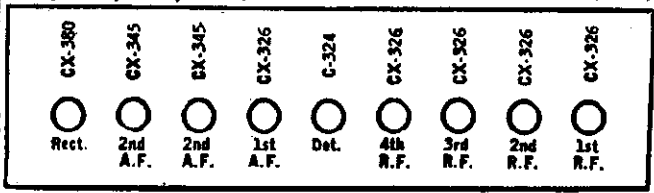
Line Voltage During Test—115 Volts.

**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.)

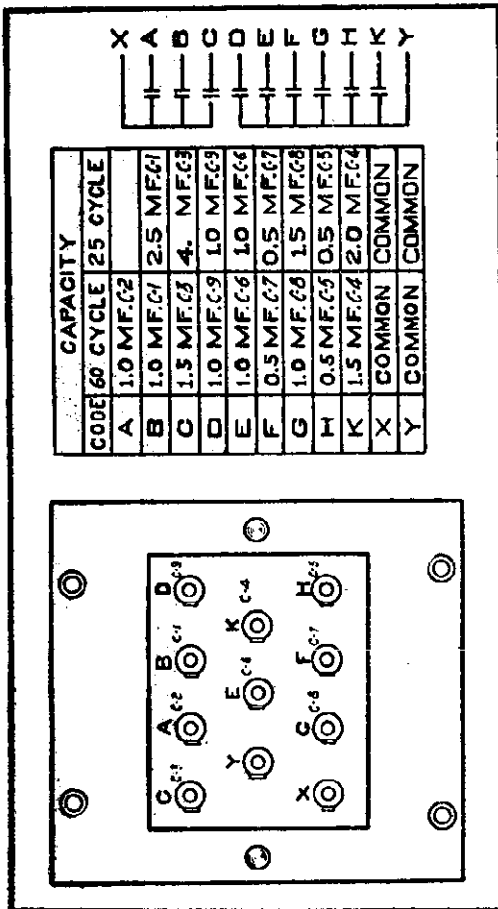
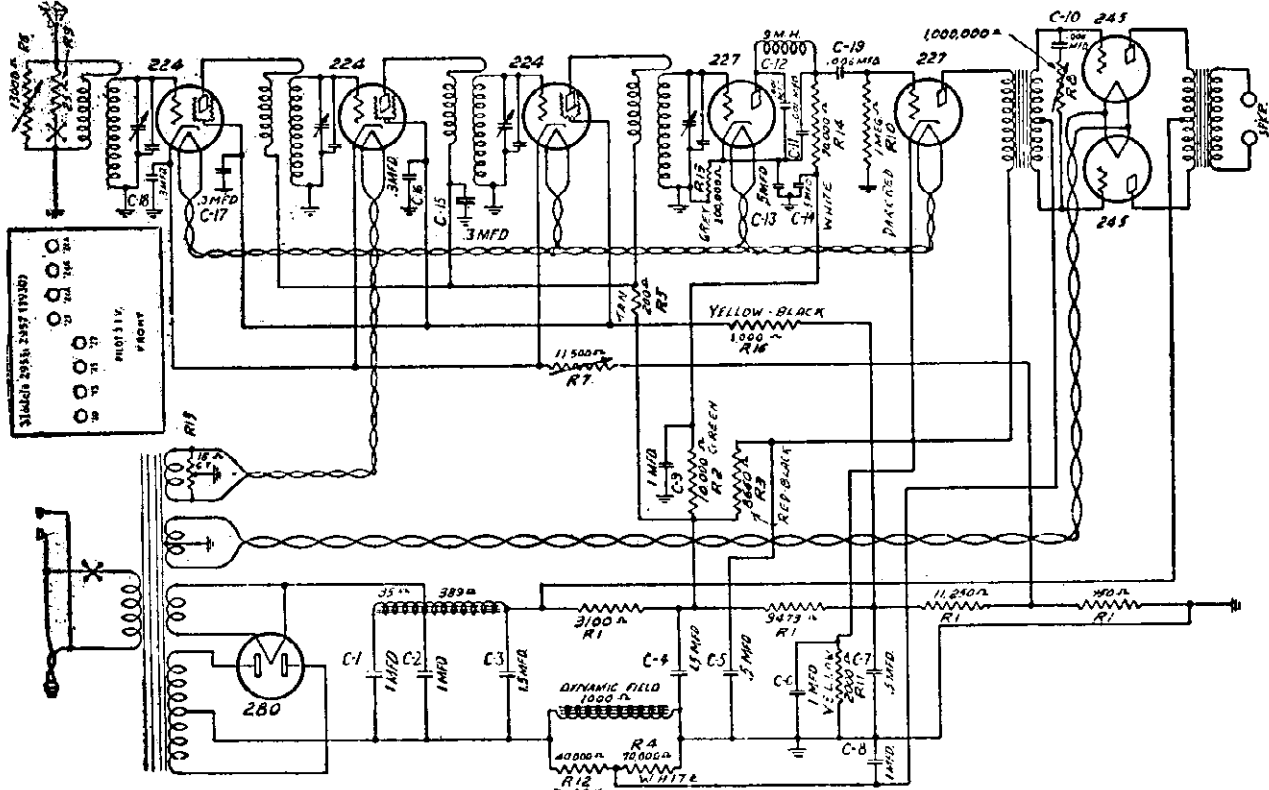






WELLS - GARDNER & CO.

MODEL 80, 82 AC  
60 cycle  
Schematic  
Data



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.

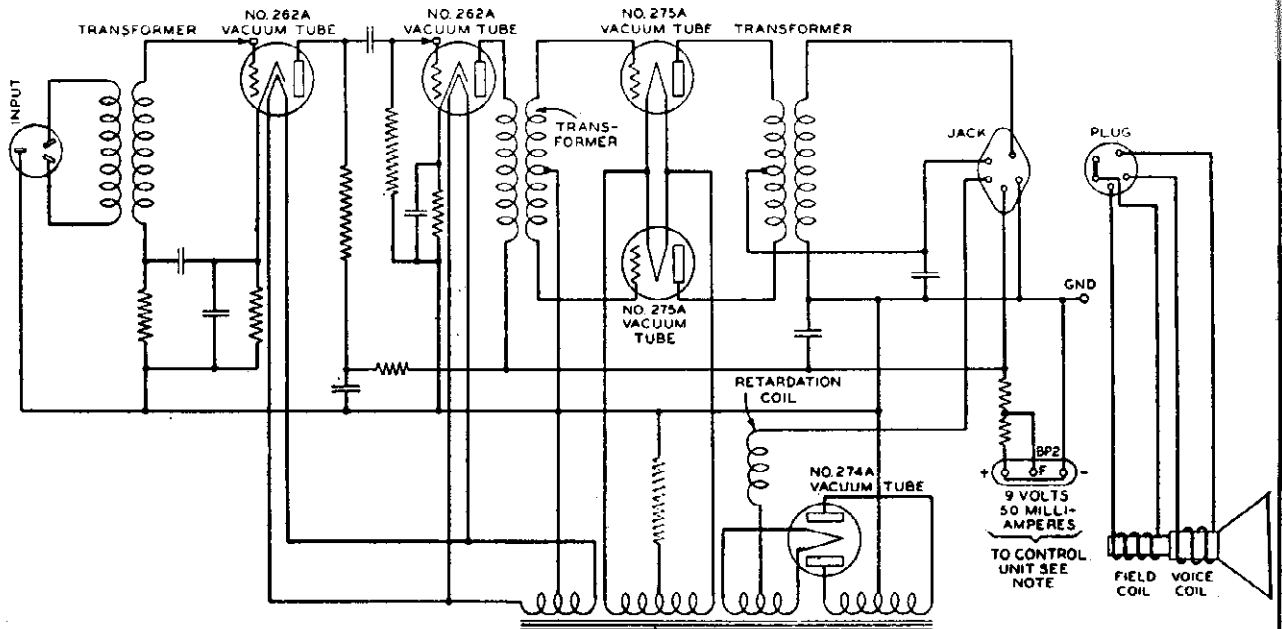
C11 and C12 are .001 mfd. moulded condensers, and are used in the detector plate circuit filter. C13 and C14 are the two units in the dual 1/2 mfd. by-pass condenser.

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.

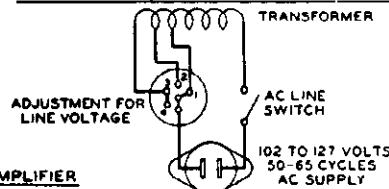
Code Fig. 1	Stock No.	Quantity
C1 to C9 inclusive	80818	9 Mfd. total. Filter block.
C10 and C19	80822	.006 Mfd. White paint spot.
C11 and C12	80821	.001 Mfd. Grey paint spot.
C13 and C14	80826	Dual .5 Mfd. Metal case.
C15, C16, C18	80817	Triple .3 Mfd. Metal case.
C17	80820	.3 Mfd. Metal case.

WESTERN ELECTRIC CO.

MODEL D-95508  
MODEL 8  
MODEL 8

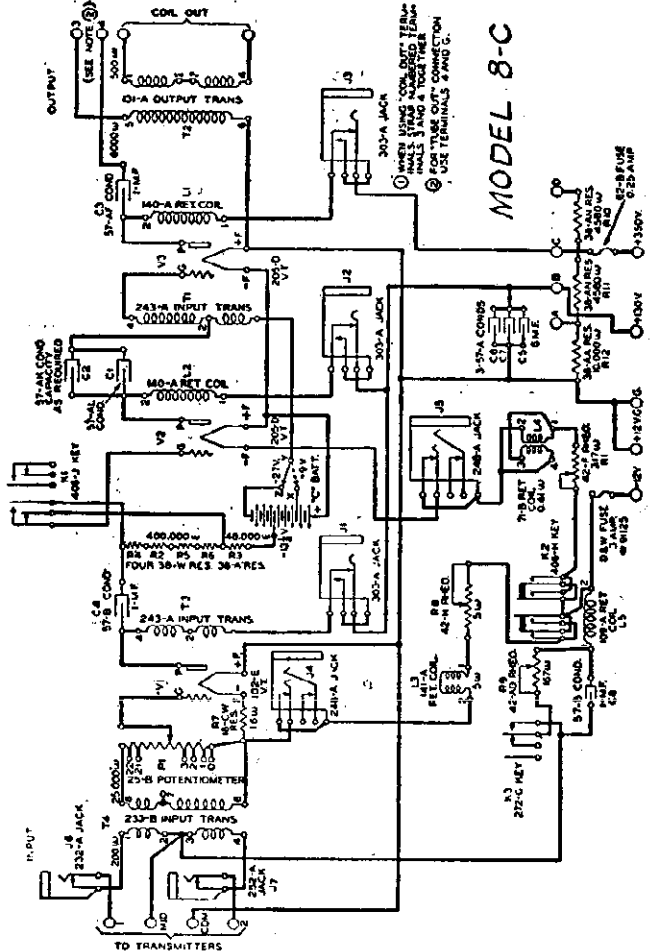
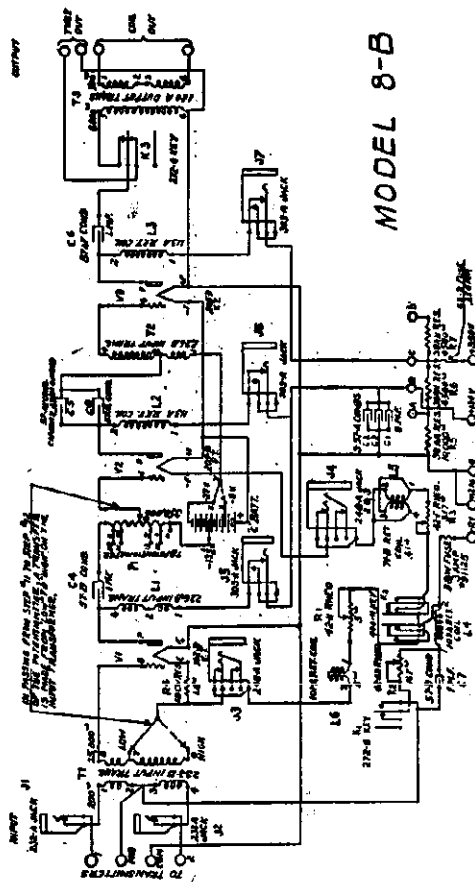


NOTE -  
THE STRAP BETWEEN THE + AND - BINDING POSTS ON BP2 SHOULD BE REMOVED ONLY WHEN THESE POSTS ARE CONNECTED TO A CONTROL UNIT FOR SUPPLYING CURRENT TO OTHER APPARATUS



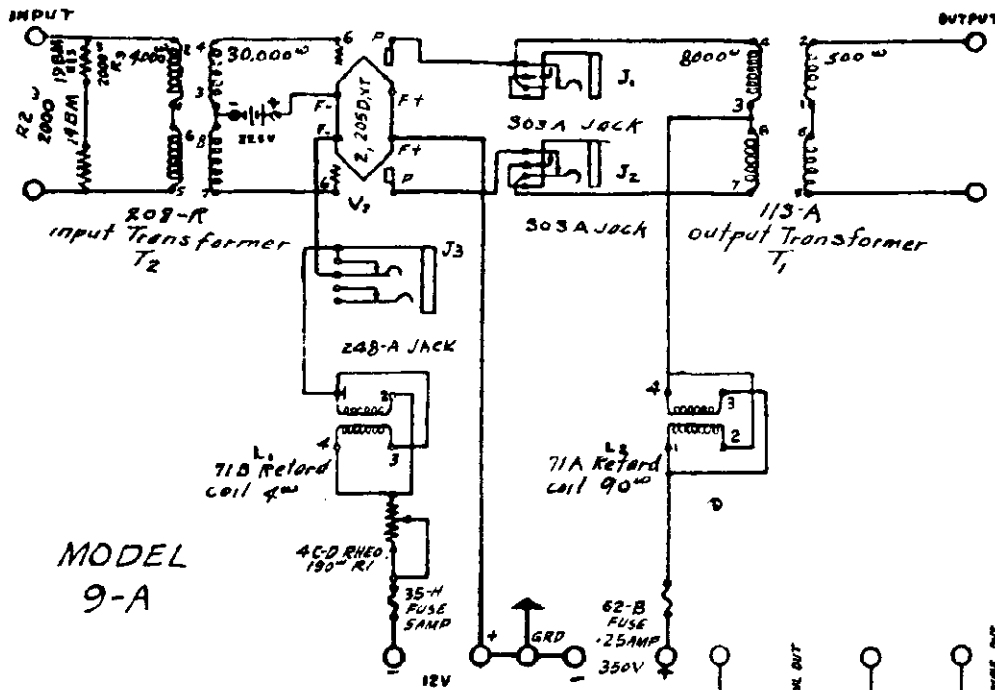
NO. KS-7109  
LOUD SPEAKING TELEPHONE

NO. D-95508 AMPLIFIER

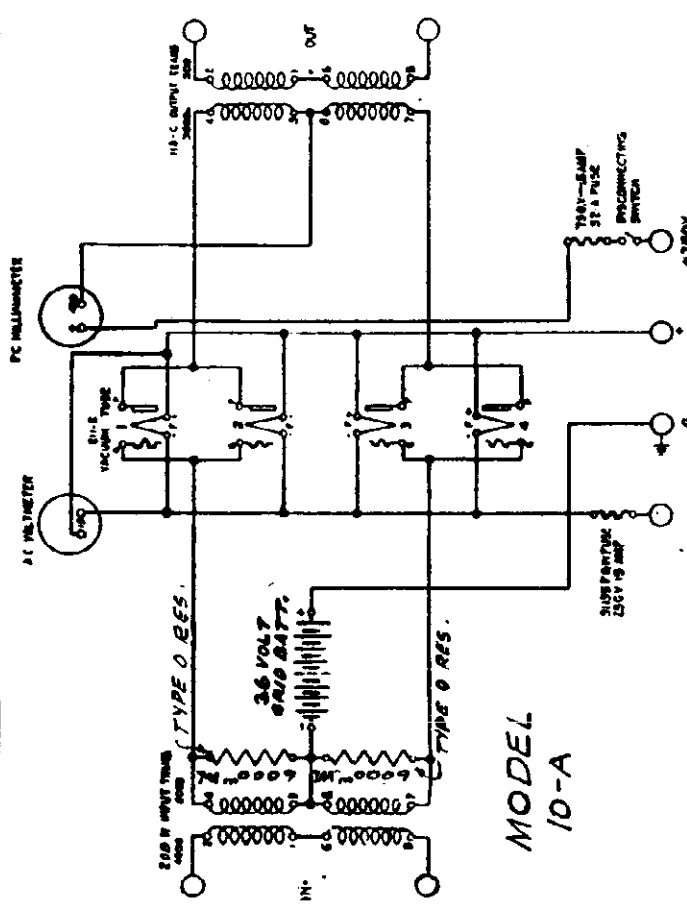


WESTERN ELECTRIC CO.

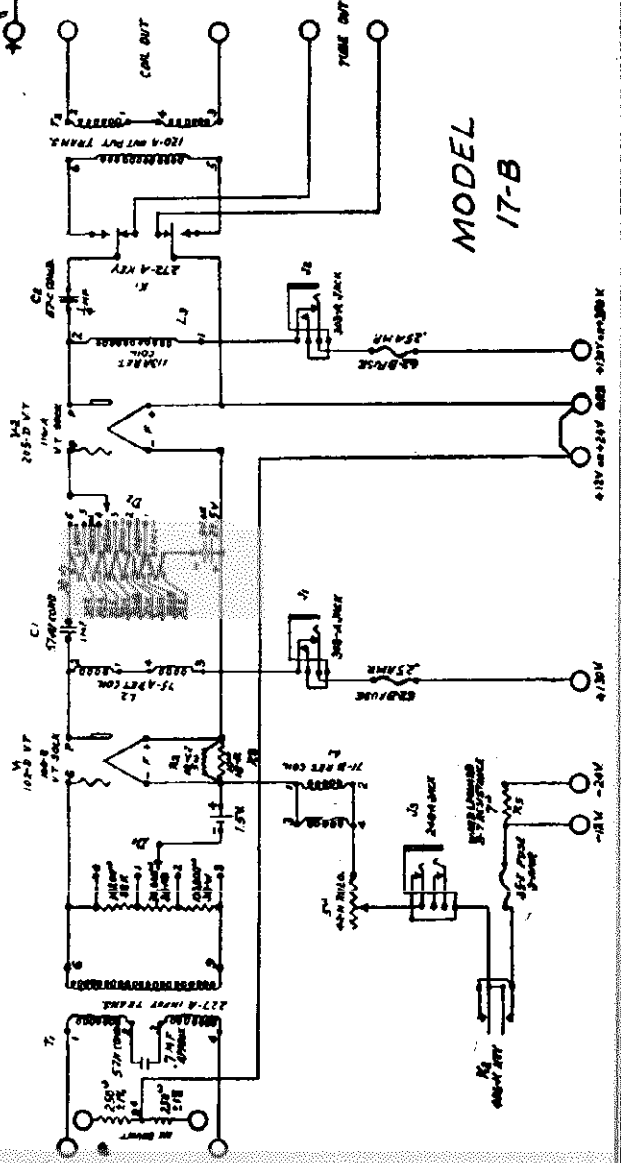
MODEL 9-A  
MODEL 10-A  
MODEL 17-B



MODEL 9-A



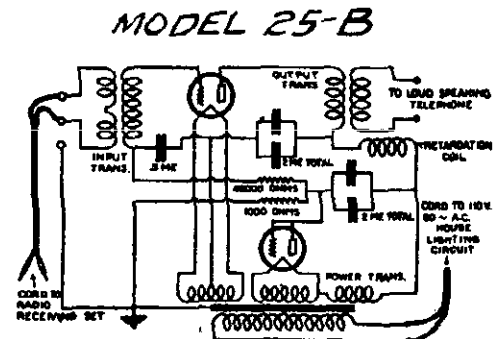
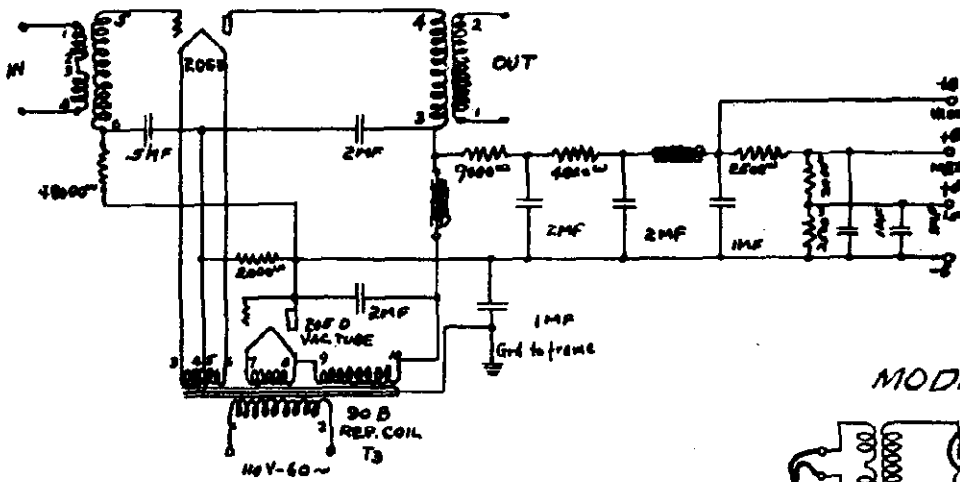
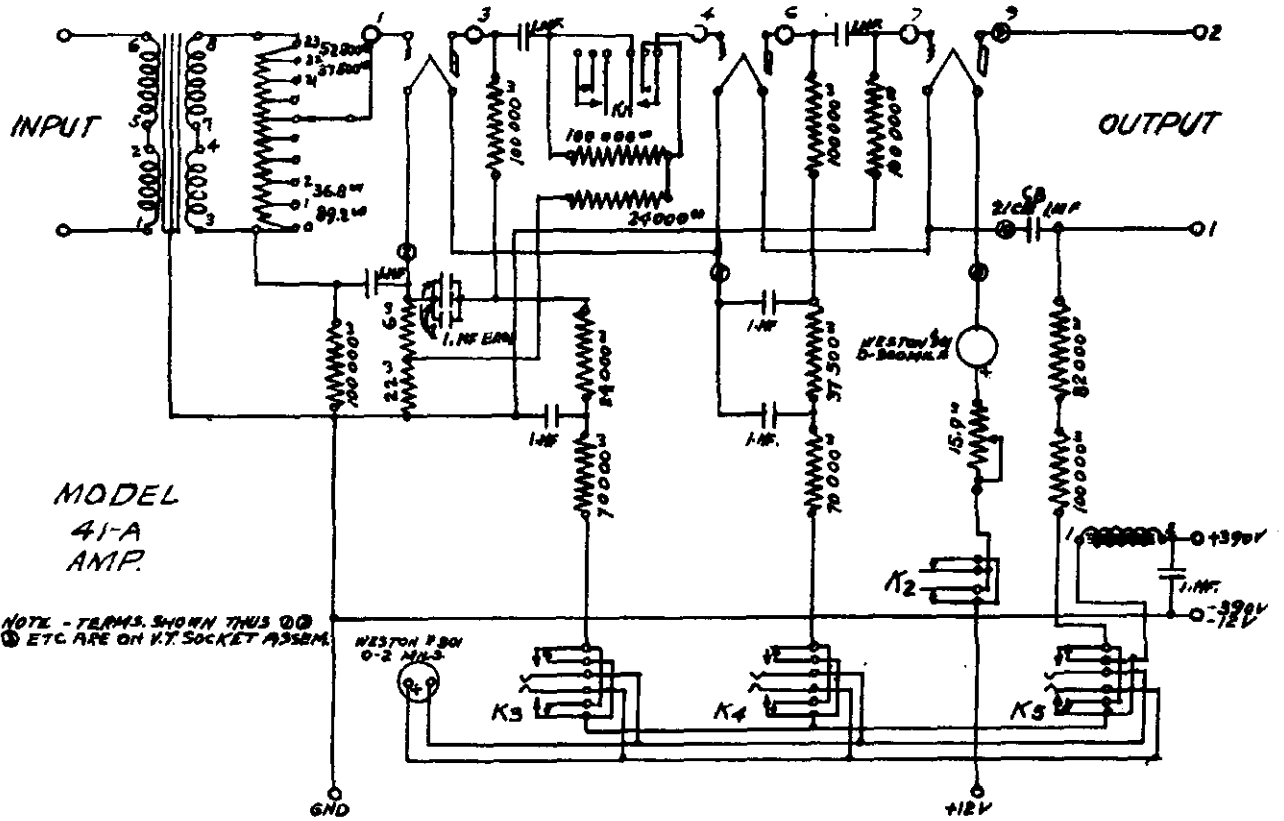
MODEL 10-A



MODEL 17-B

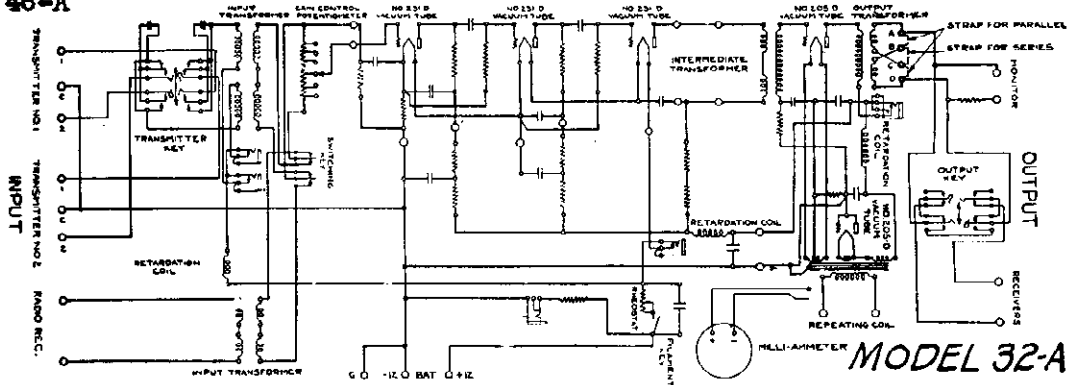
WESTERN ELECTRIC CO.

MODEL 41-A  
MODEL 45-A  
MODEL 25-B

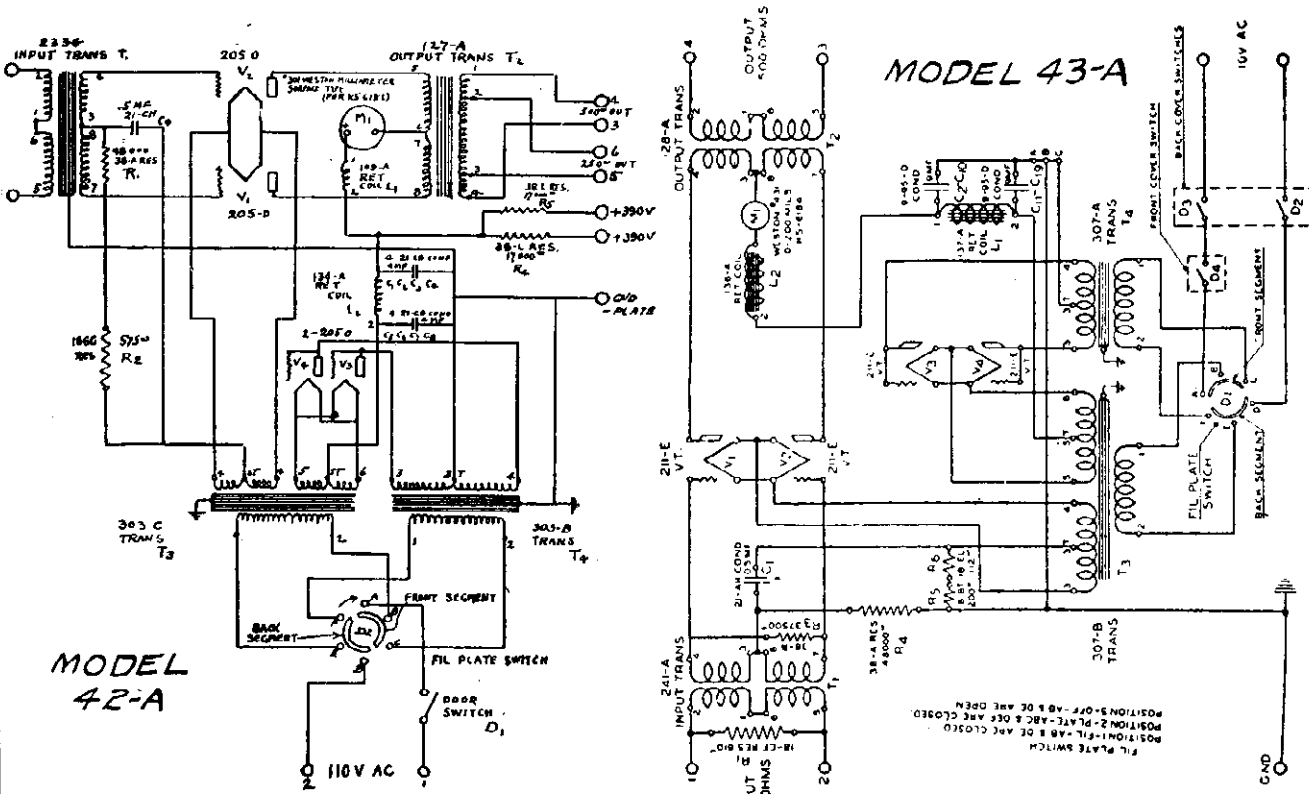


MODEL 32-A  
 MODEL 42-A  
 MODEL 43-A  
 MODEL 46-A

WESTERN ELECTRIC CO.

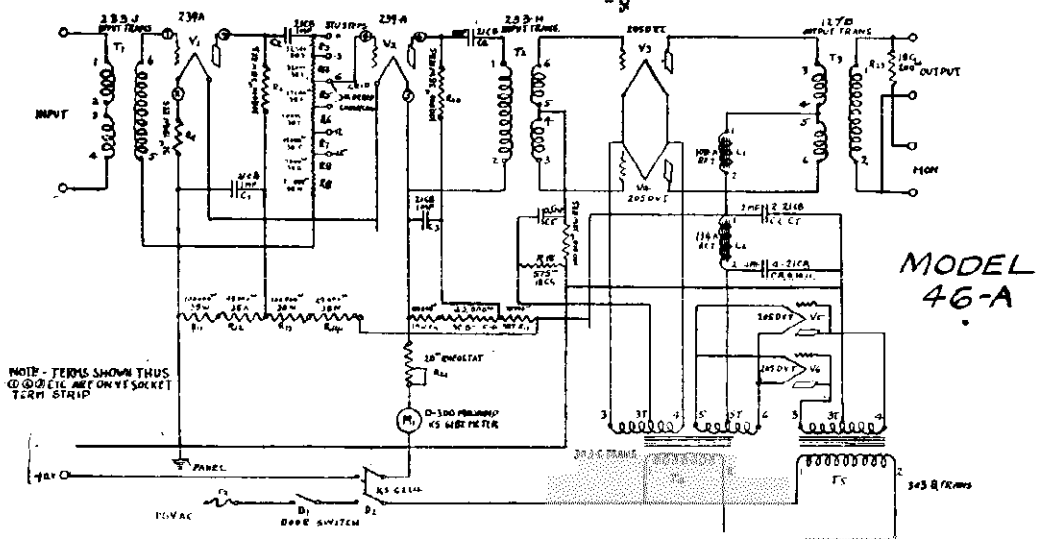


MODEL 32-A



MODEL 43-A

MODEL 42-A

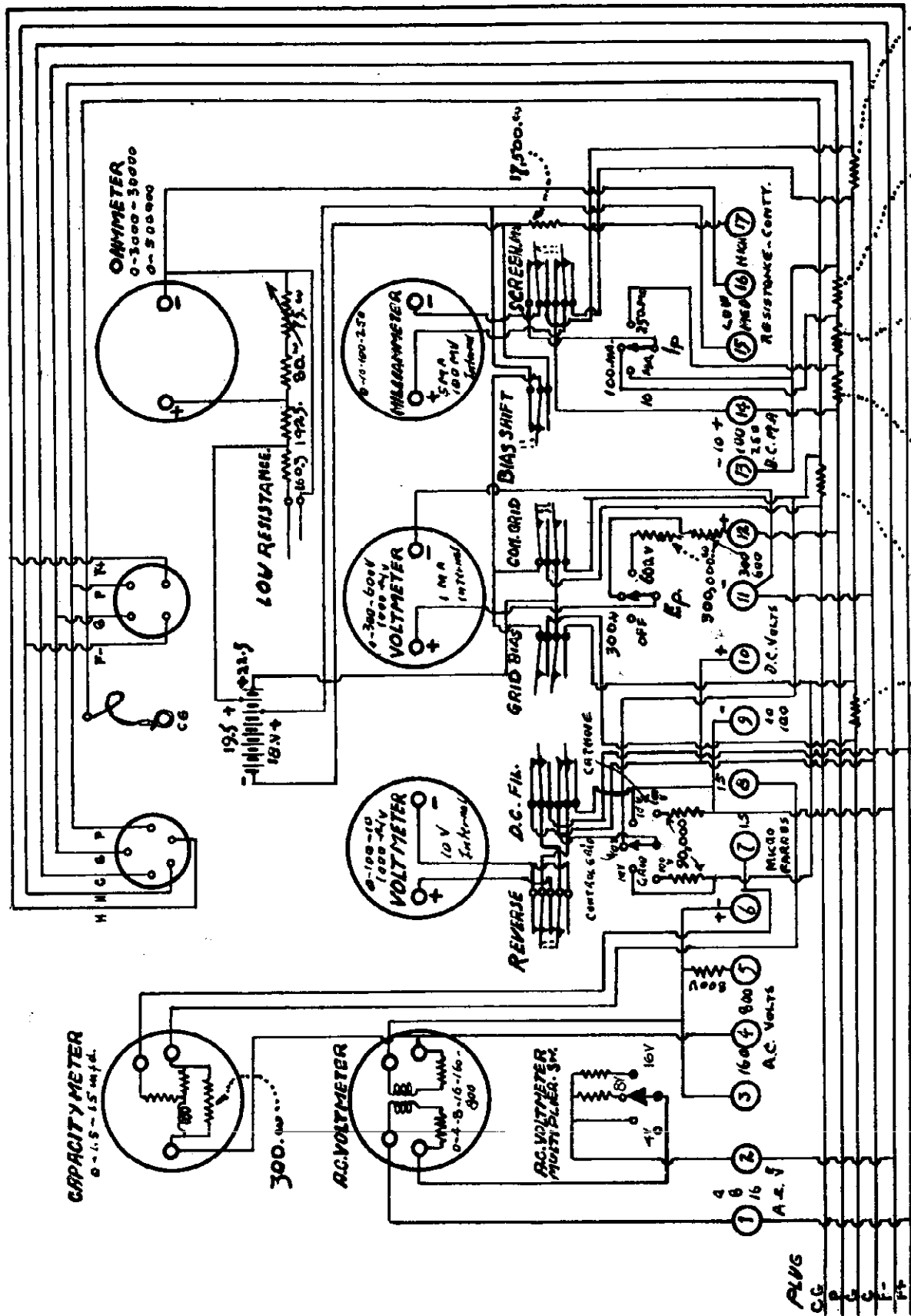


MODEL 46-A

NOTE - TERMS SHOWN THUS  
 (C) FIL. ARE ON Y-SOCKET  
 TERM STRIP

WESTON ELECTRICAL INSTRUM'T CORP.

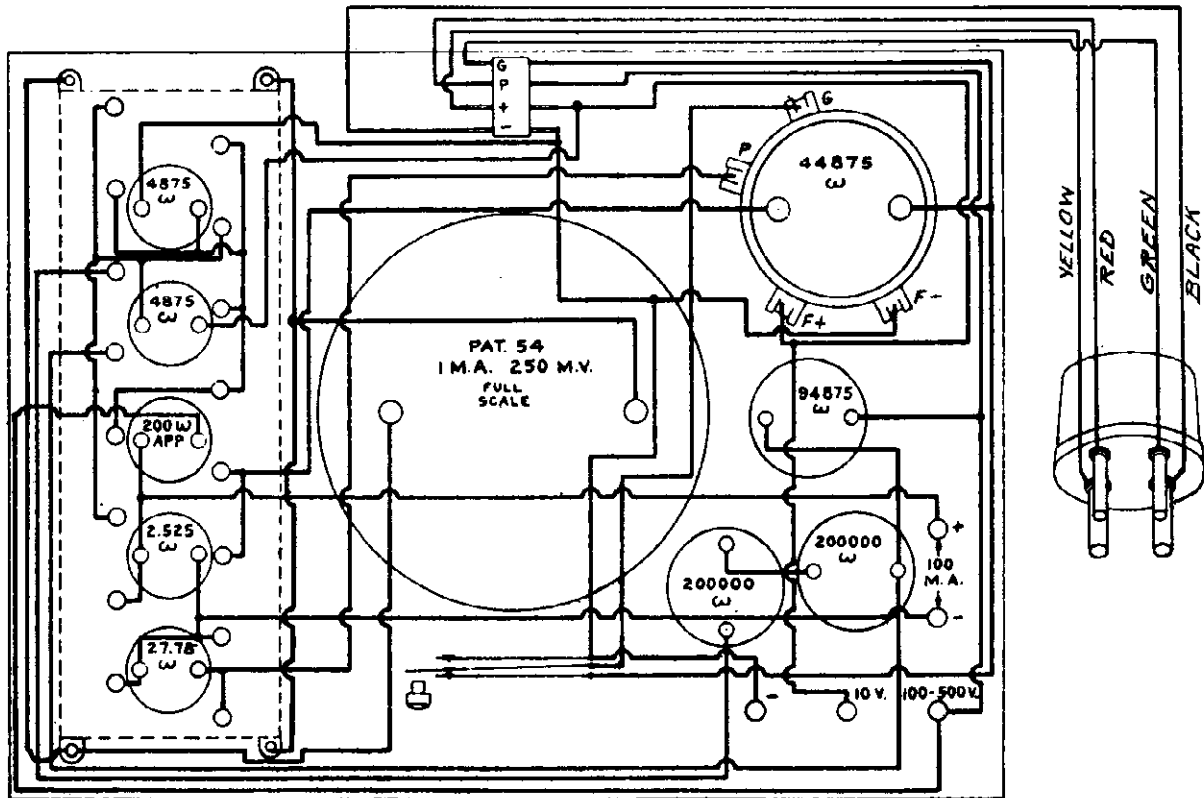
MODEL Jewell  
Test Panel



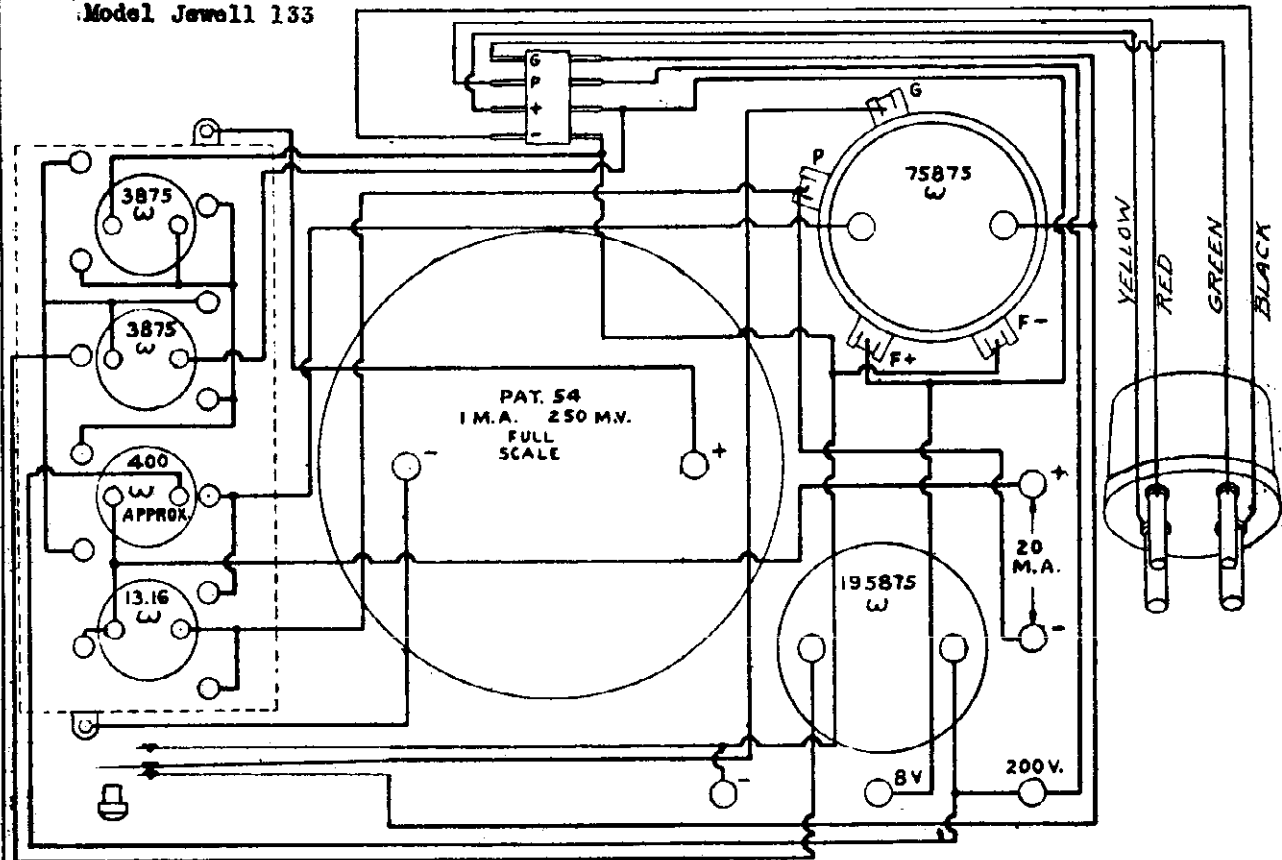
1,000.Ω 408.Ω 6440.Ω 18948.Ω 20,000.Ω

MODEL Jewell 133  
MODEL Jewell 133-A

WESTON ELECTRICAL INSTRUM'T CORP.



Model Jewell 133

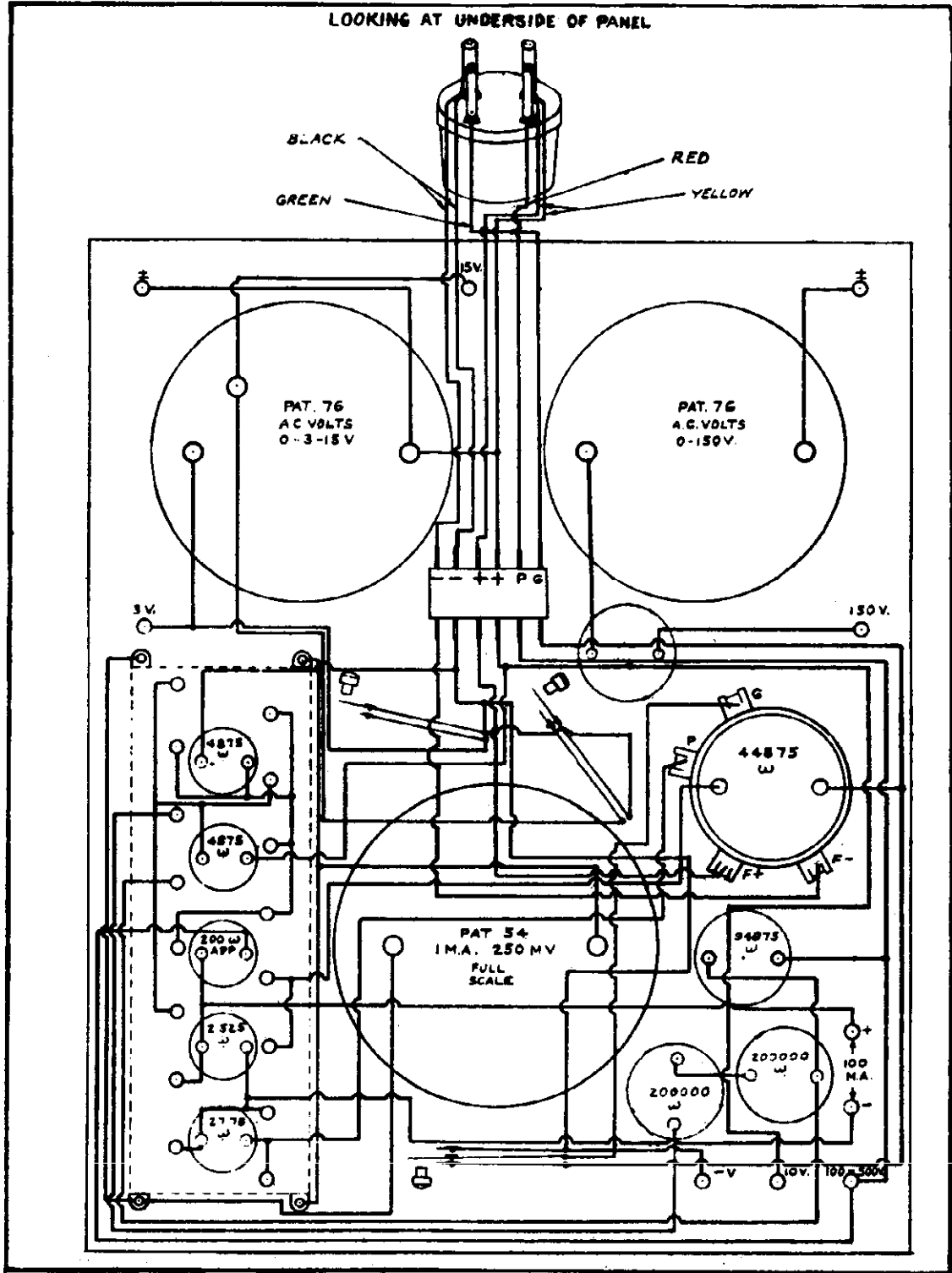


Model Jewell 133-A



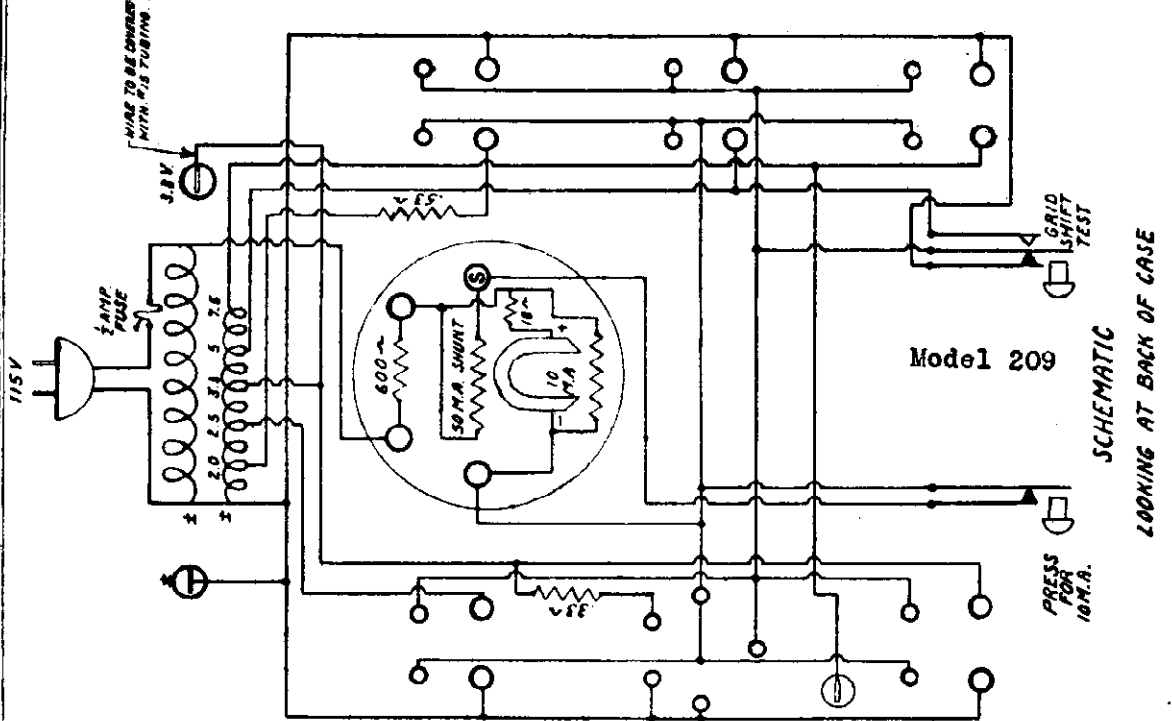
WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Jewell 157



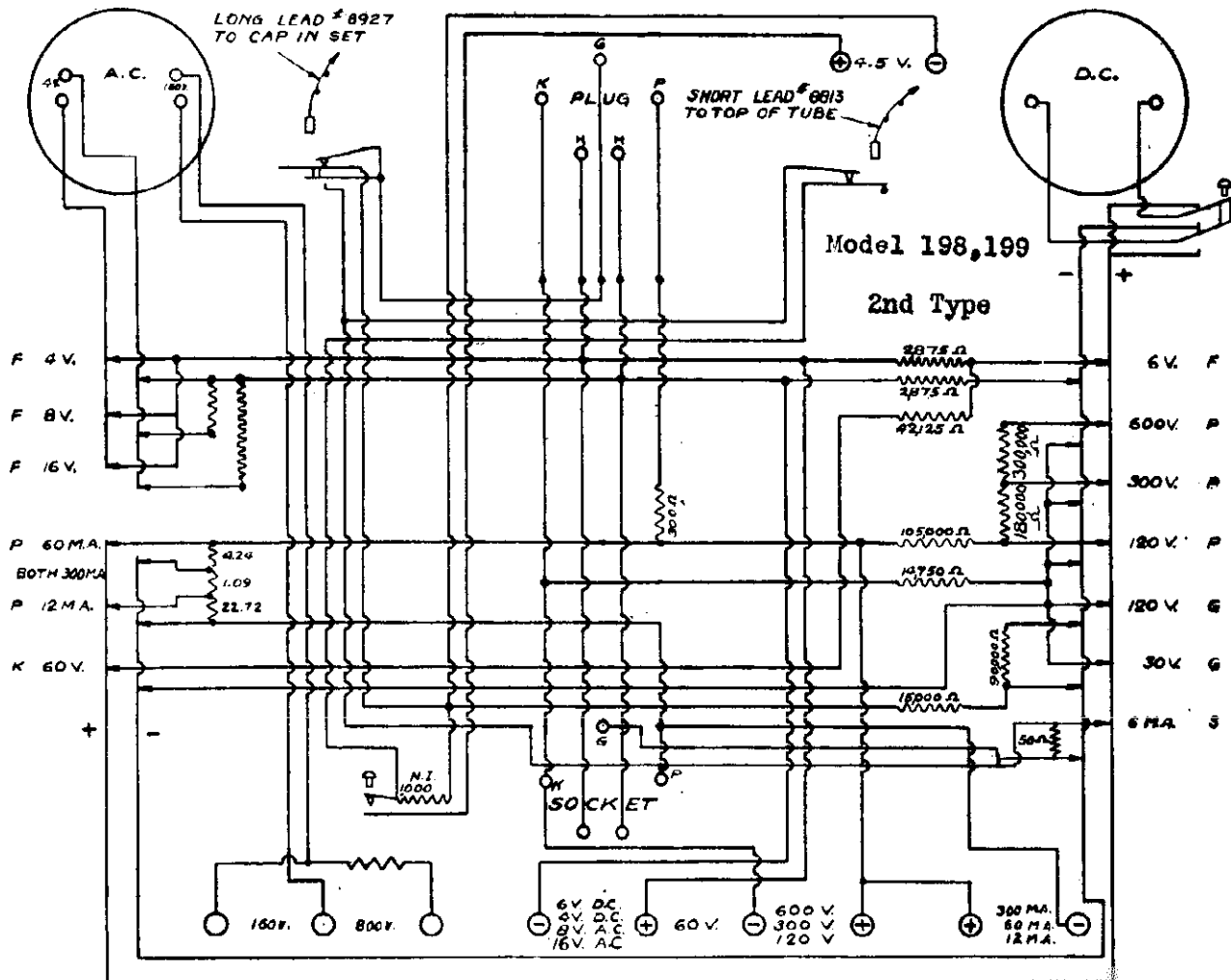
MODEL Jewell  
198,199  
2nd Type  
MODEL Jewell 209

WESTON ELECTRICAL INSTRUM'T CORP.



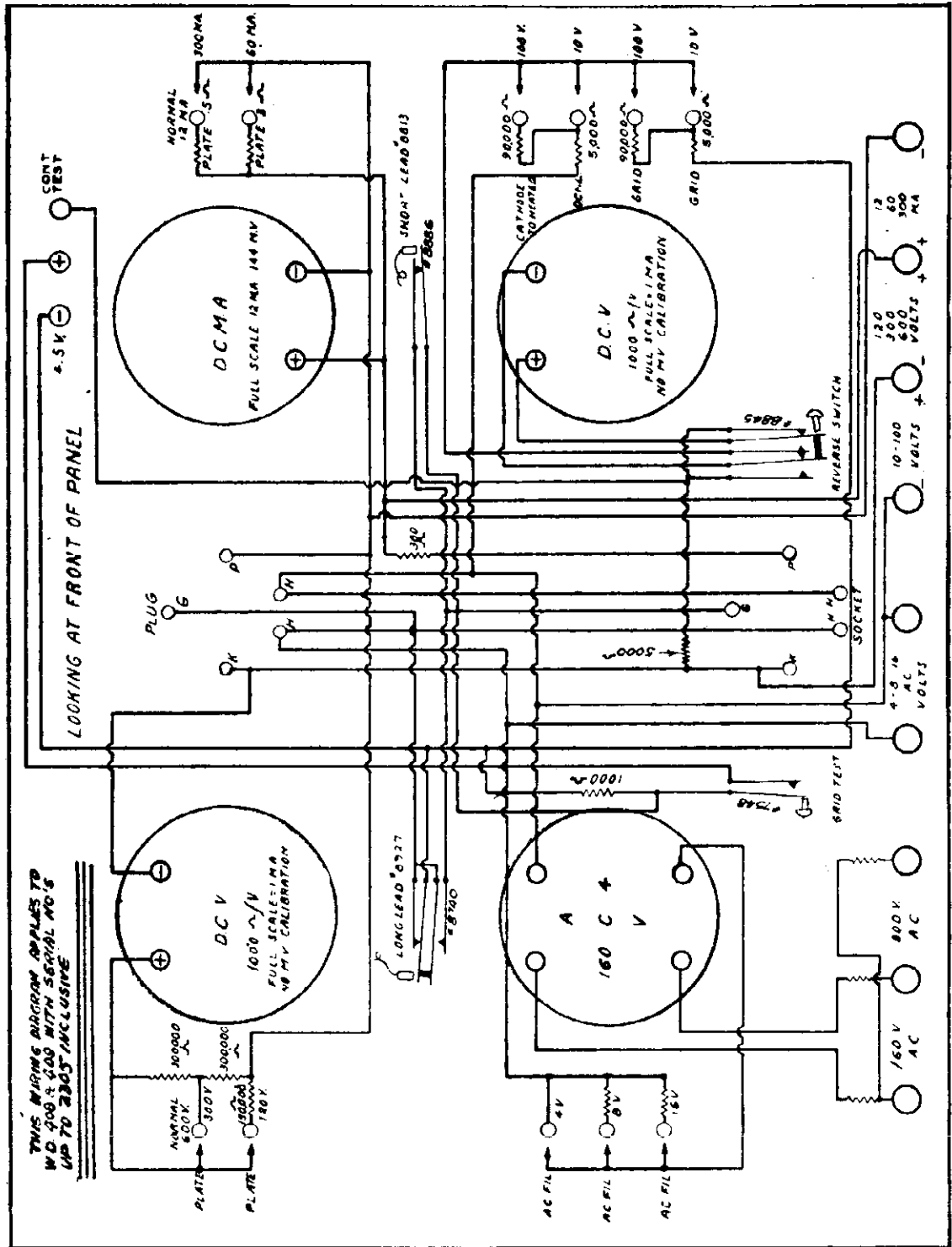
SCHEMATIC  
LOOKING AT BACK OF CASE

THIS DIAGRAM APPLIES TO ALL PAT. 209 WITH SERIAL NO 8371 AND OVER FOR PAT. 209 WITH SERIAL NO 4972 TO SERIAL NO 6371 SEE W.D. 209 ISSUE 7. FOR PAT. 209 WITH SERIAL NO UNDER 4972 SEE W.D. 209 ISSUE 5.



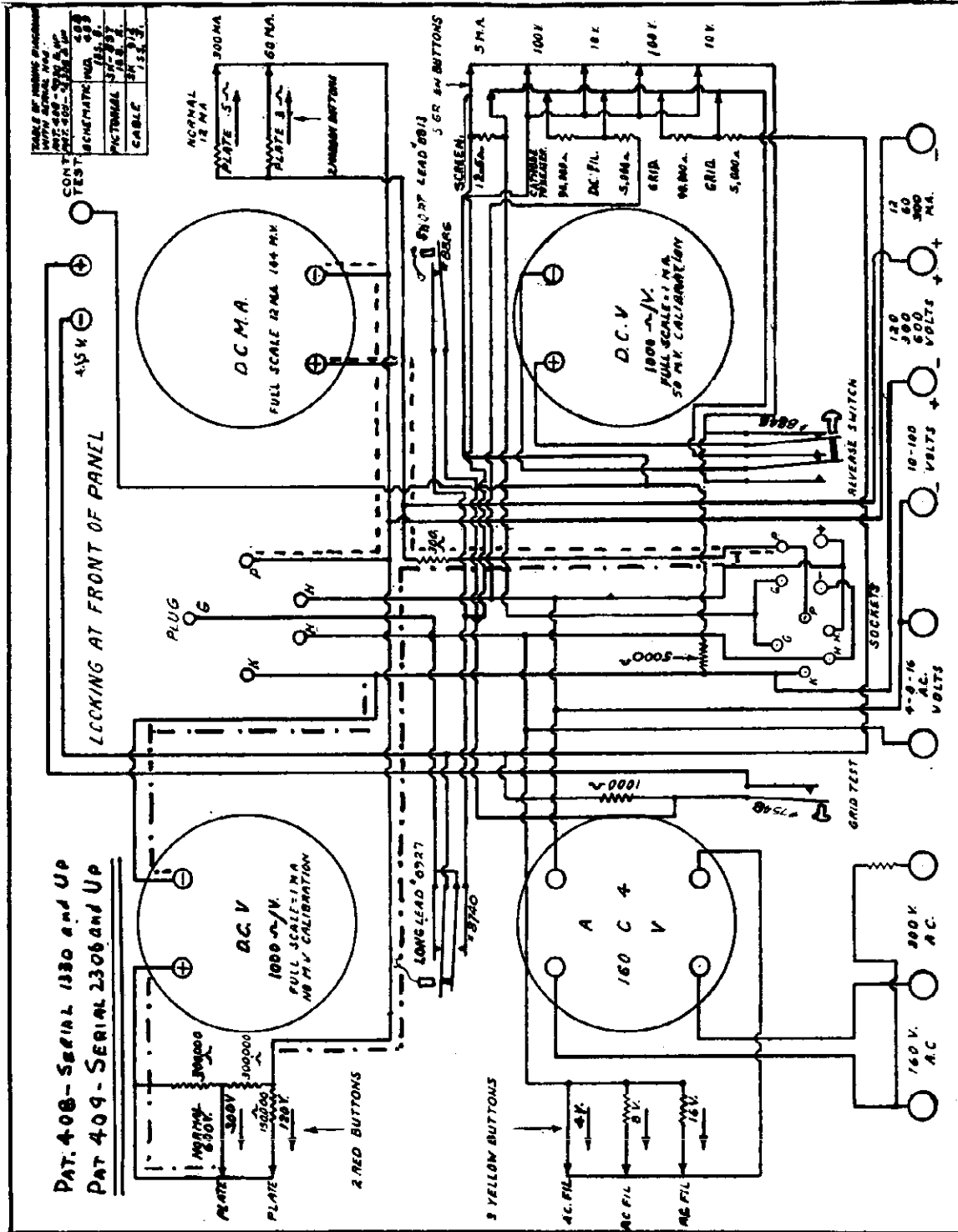
WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Jewell  
408,409  
1st Type



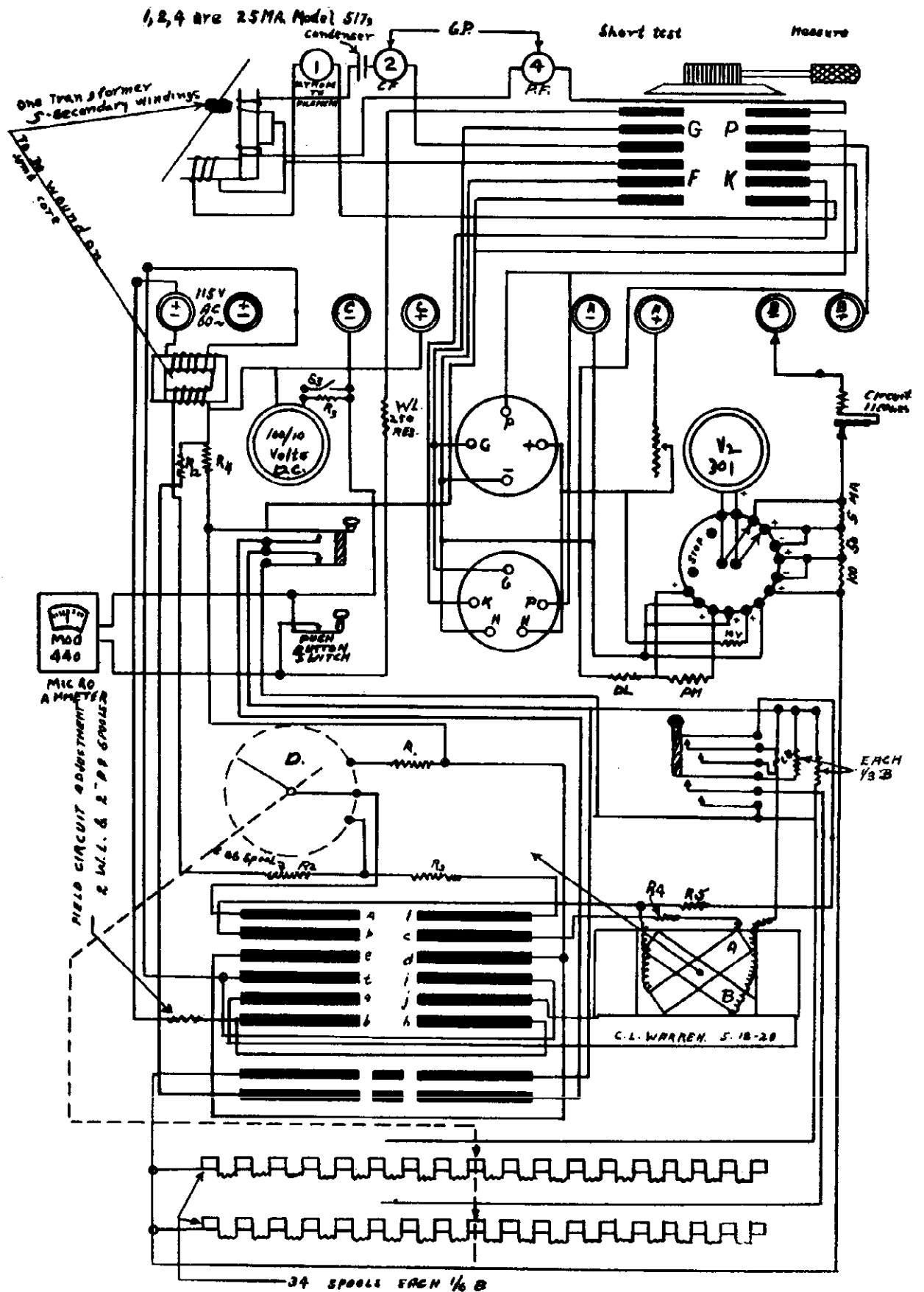
MODEL Jewell  
408,409  
2nd Type

WESTON ELECTRICAL INSTRUM'T CORP.



MODEL Weston.  
526 Type 7

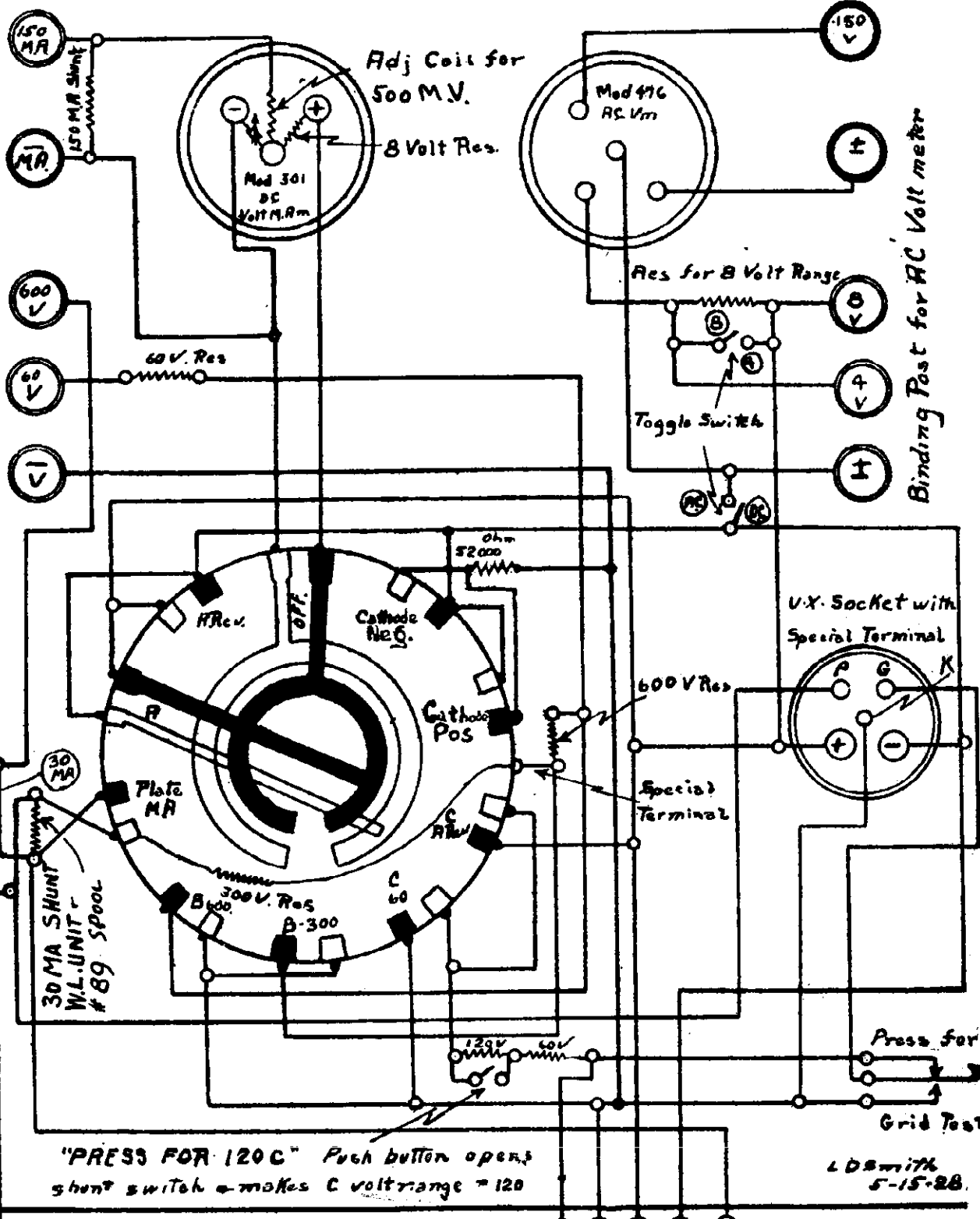
WESTON ELECTRICAL INSTRUM'T CORP.



WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Weston  
537

150 MA SHUNT - # 88 SPOOL  
TOGGLE SWITCH  
BINDING POST FOR D.C. VOLT-MILLIAMMETER



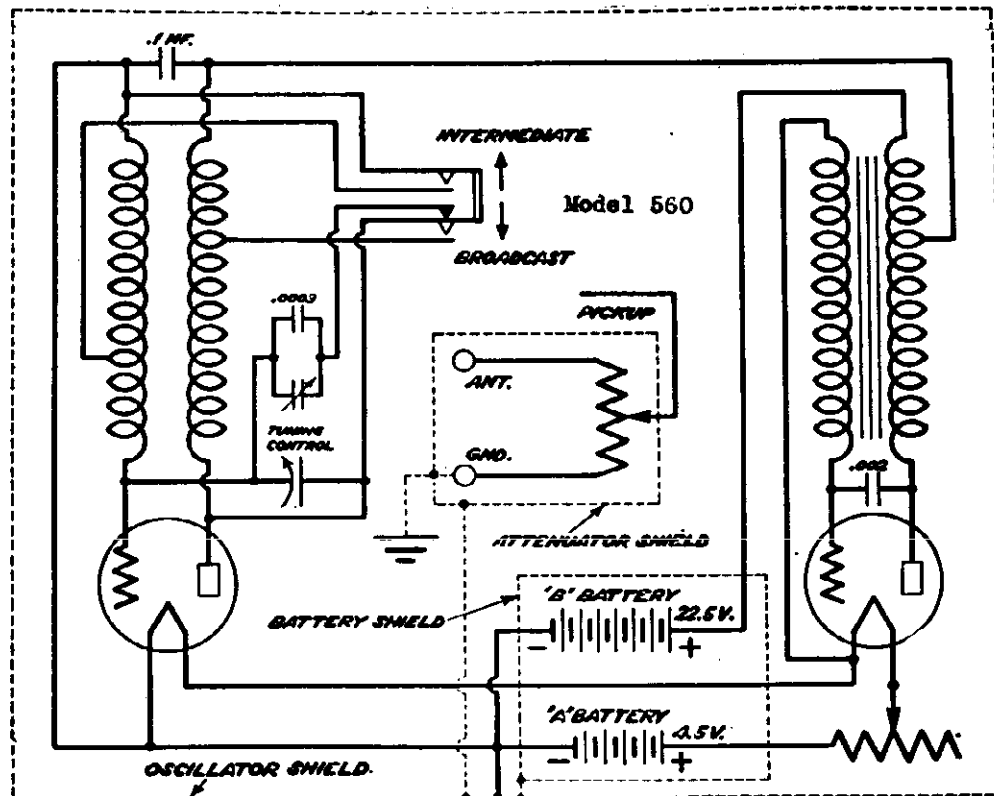
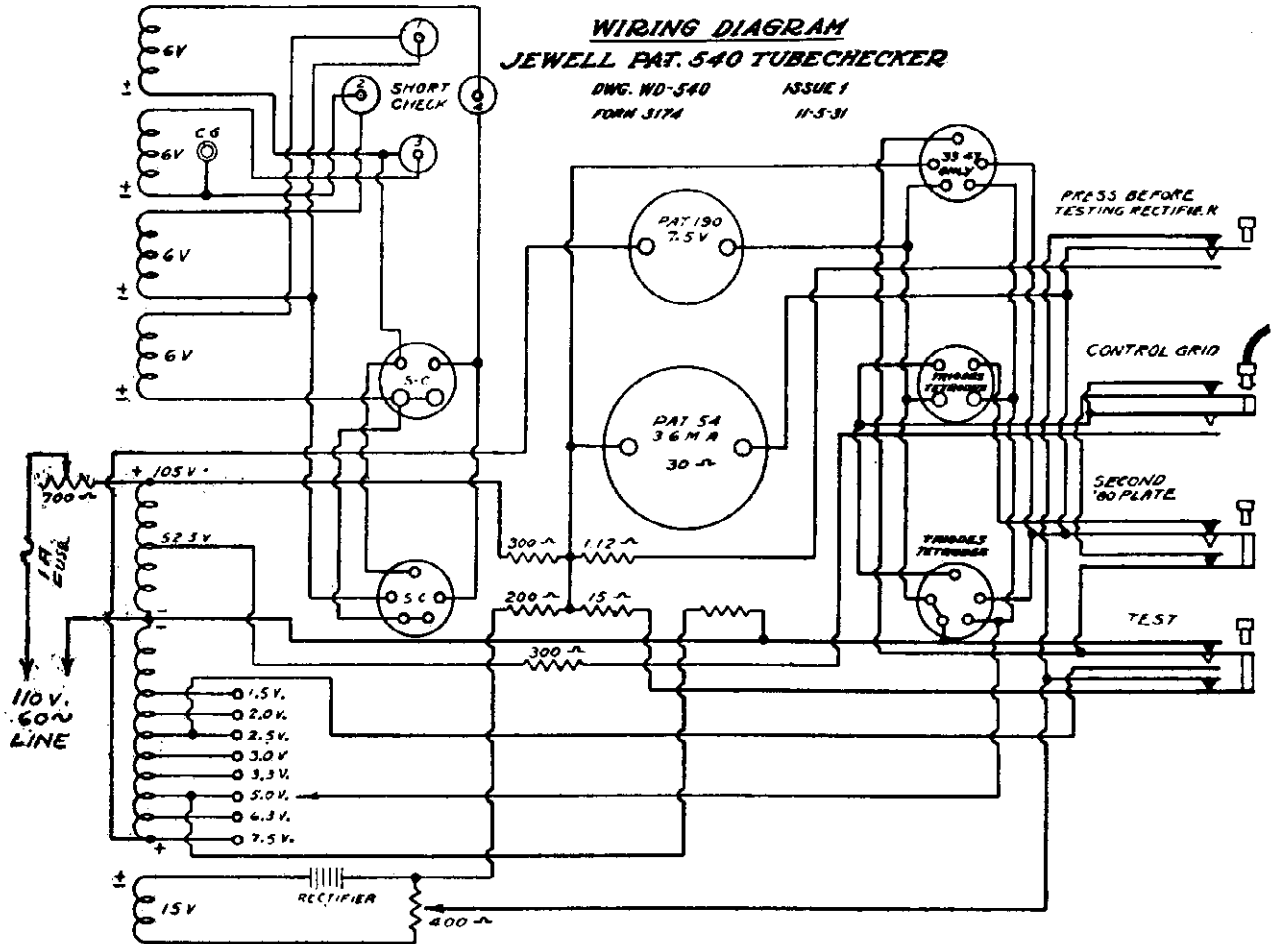
Grid  
Cathode  
Plate  
Negative Filament

WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Jewell  
540  
MODEL Jewell  
560

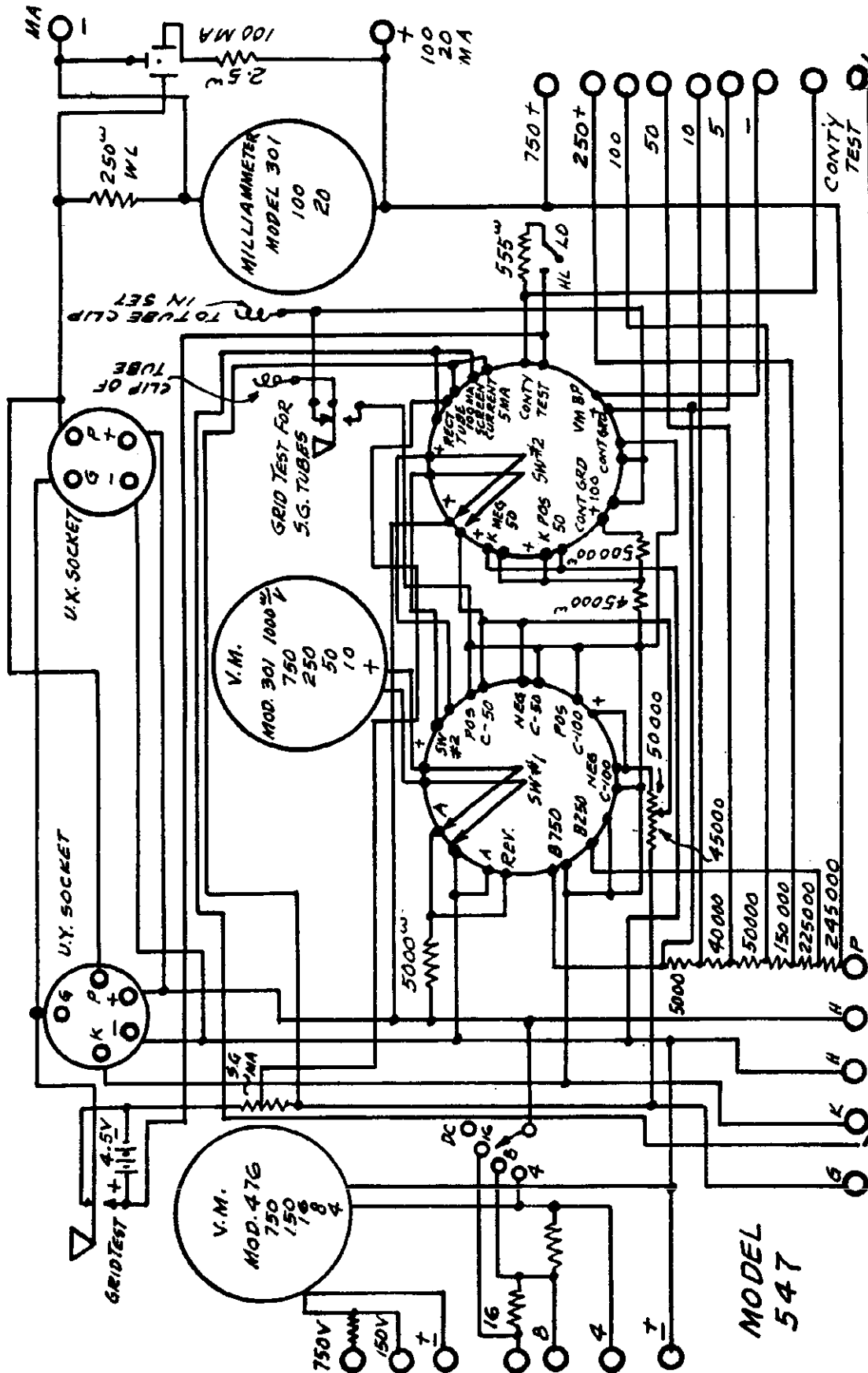
**WIRING DIAGRAM**  
**JEWELL PAT. 540 TUBE CHECKER**

DWG. WD-540      ISSUE 1  
FORM 3174      11-5-31



MODEL Weston  
547

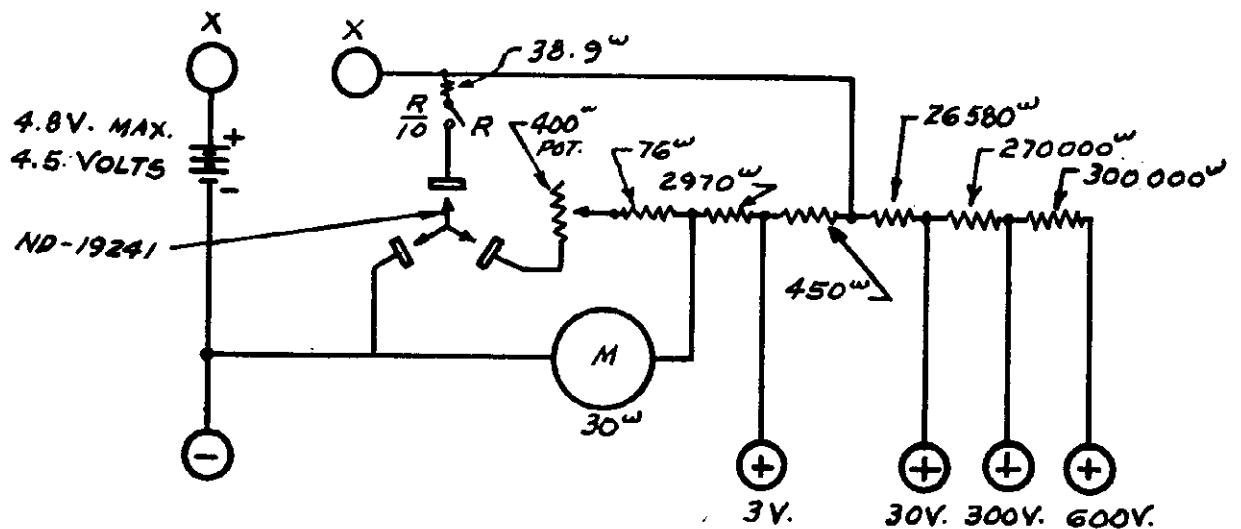
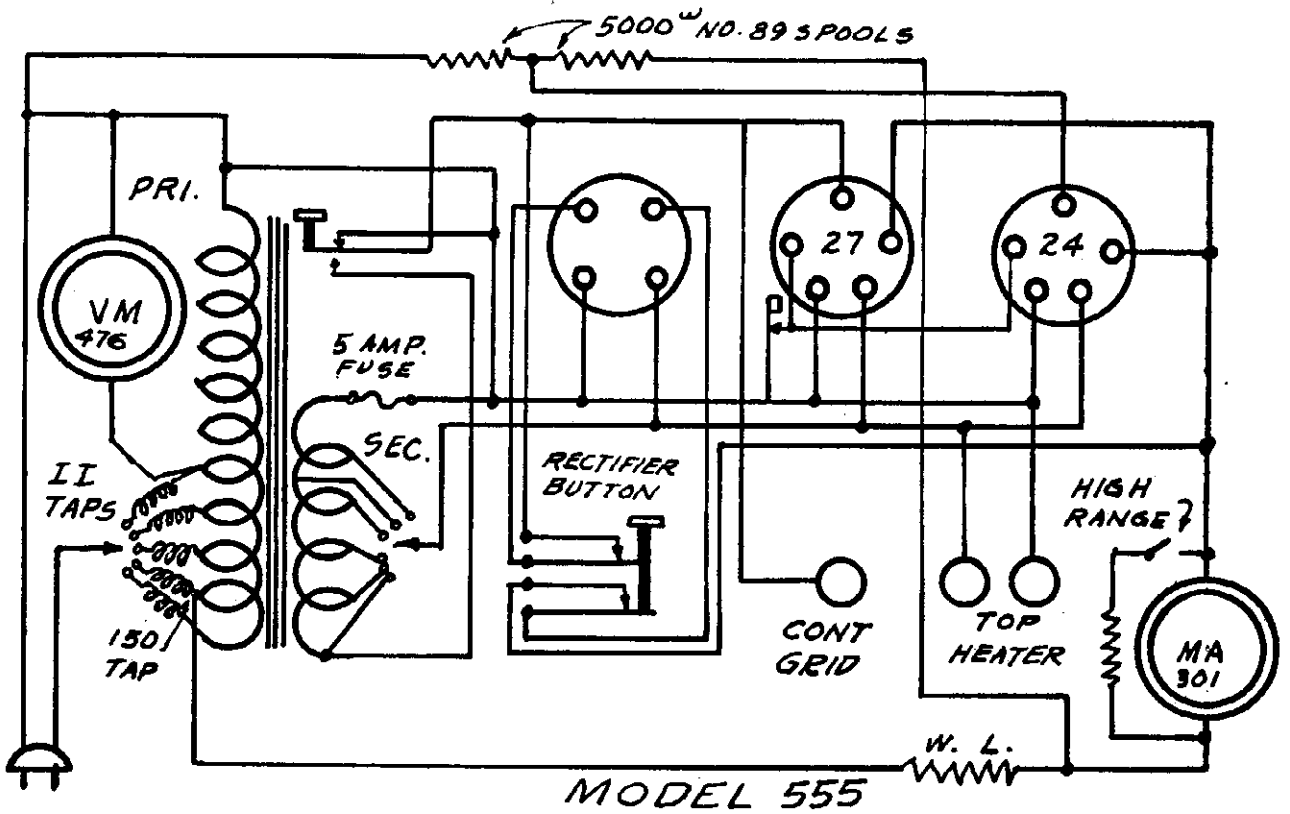
WESTON ELECTRICAL INSTRUM'T CORP.



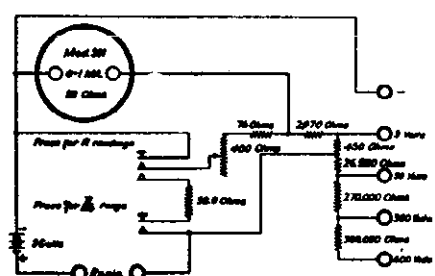
MODEL  
547



MODEL Weston 555  
 MODEL Weston 564 WESTON ELECTRICAL INSTRUM'T CORP.



MODEL 564 OHMMETER & VOLTMETER



Schematic diagram of the Weston Model 564 Volt-Ohmmeter. Note the connections of the toggle switches in the center



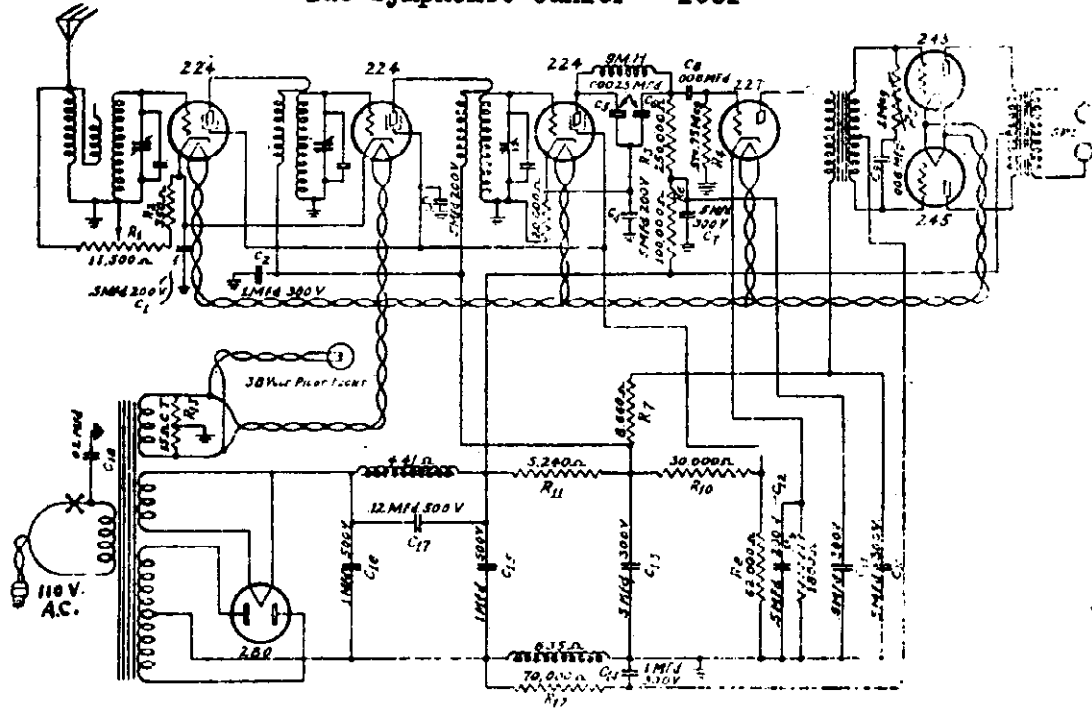




WHOLESALE RADIO SERVICE CO., INC.

Duo-Symphonic Junior - 1931

MODEL Duo-Symphonic Junior 1931  
MODEL Great Duo-Symphonic

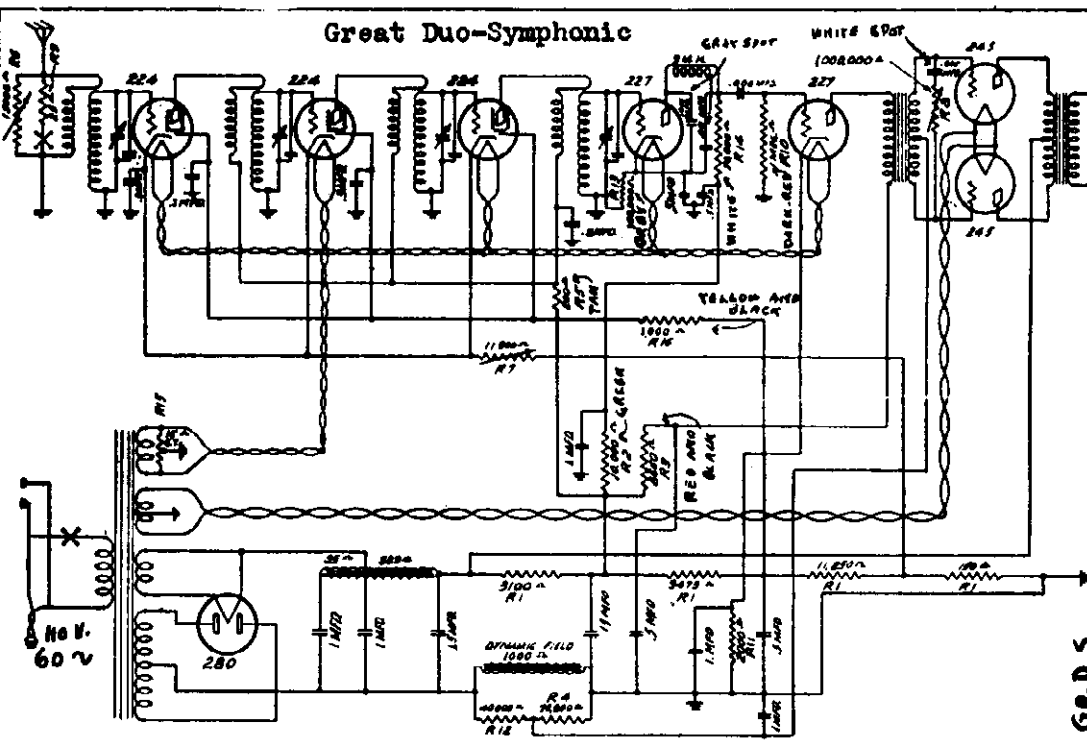


Line Voltage 120.  
Vol. Control Full

D. S. JR 1931

SPECIFICATIONS		TUNING RANGE		SELECTIVITY		SIGNAL TO NOISE RATIO		POWER OUTPUT	
TYPE	VALUE	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Power	30 W	100	150	10	20	10	20	10	20
Frequency	530 - 1600 KC	530	1600	10	20	10	20	10	20
Bandwidth	10 KC	10	10	10	10	10	10	10	10
Gain	20 DB	20	20	20	20	20	20	20	20
Distortion	5%	5	5	5	5	5	5	5	5
Efficiency	50%	50	50	50	50	50	50	50	50
Modulation	100%	100	100	100	100	100	100	100	100
Harmonics	-20 DB	-20	-20	-20	-20	-20	-20	-20	-20
Intermodulation	-20 DB	-20	-20	-20	-20	-20	-20	-20	-20
Spurious	-20 DB	-20	-20	-20	-20	-20	-20	-20	-20
Drift	0.1%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Temperature	25°C	25	25	25	25	25	25	25	25
Humidity	50%	50	50	50	50	50	50	50	50
Vibration	0.1 G	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Shock	10 G	10	10	10	10	10	10	10	10
Life	10,000 HRS	10000	10000	10000	10000	10000	10000	10000	10000
Warranty	1 YEAR	1	1	1	1	1	1	1	1

Great Duo-Symphonic



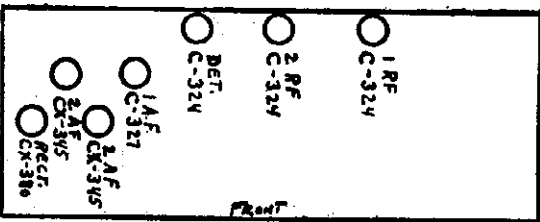
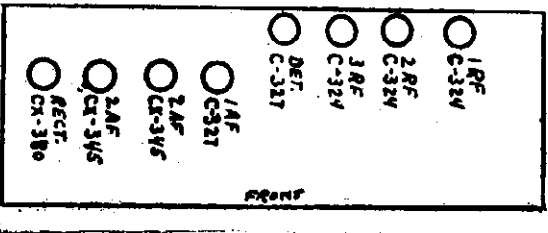
Line Voltage 117.  
Vol. Control Full

G. D. S.

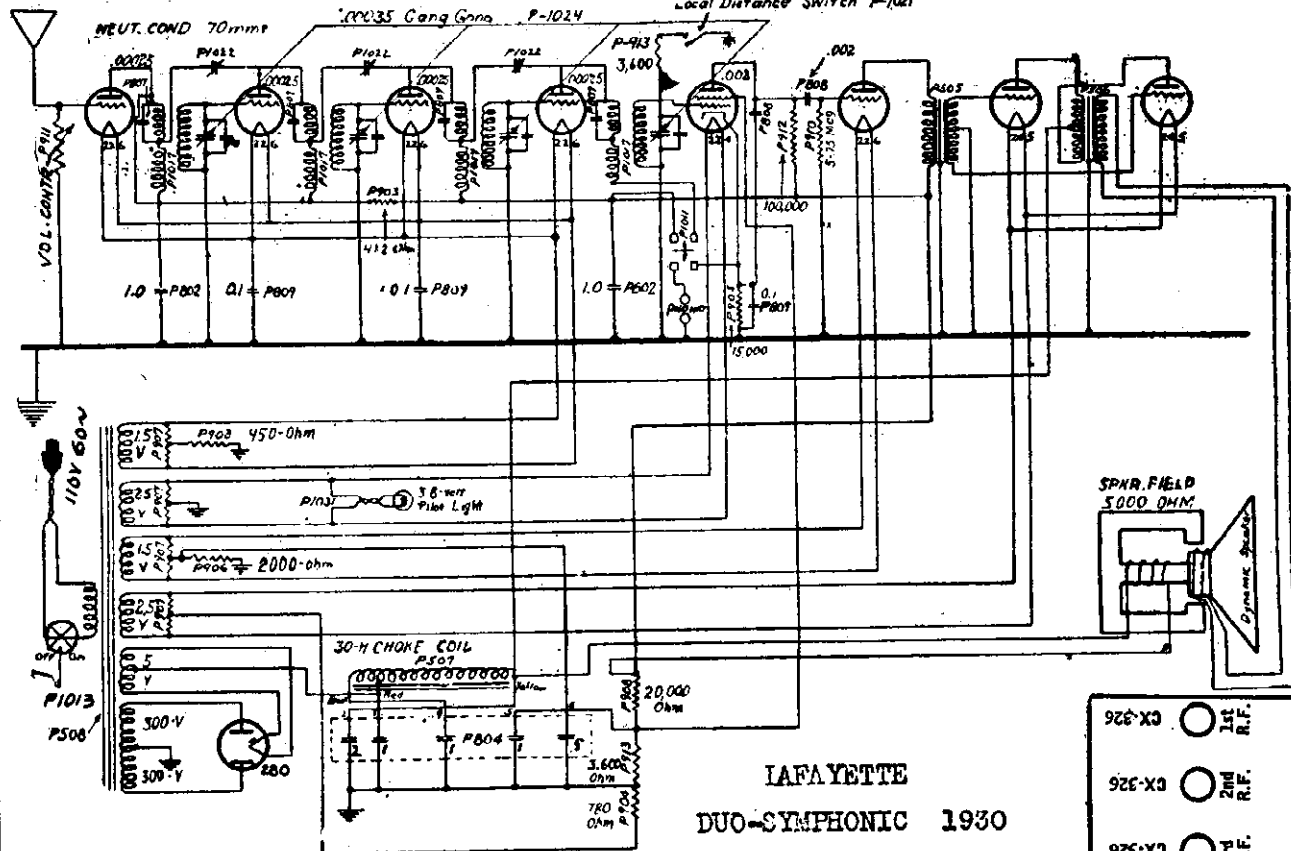
SPECIFICATIONS		TUNING RANGE		SELECTIVITY		SIGNAL TO NOISE RATIO		POWER OUTPUT	
TYPE	VALUE	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Power	30 W	100	150	10	20	10	20	10	20
Frequency	530 - 1600 KC	530	1600	10	20	10	20	10	20
Bandwidth	10 KC	10	10	10	10	10	10	10	10
Gain	20 DB	20	20	20	20	20	20	20	20
Distortion	5%	5	5	5	5	5	5	5	5
Efficiency	50%	50	50	50	50	50	50	50	50
Modulation	100%	100	100	100	100	100	100	100	100
Harmonics	-20 DB	-20	-20	-20	-20	-20	-20	-20	-20
Intermodulation	-20 DB	-20	-20	-20	-20	-20	-20	-20	-20
Spurious	-20 DB	-20	-20	-20	-20	-20	-20	-20	-20
Drift	0.1%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Temperature	25°C	25	25	25	25	25	25	25	25
Humidity	50%	50	50	50	50	50	50	50	50
Vibration	0.1 G	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Shock	10 G	10	10	10	10	10	10	10	10
Life	10,000 HRS	10000	10000	10000	10000	10000	10000	10000	10000
Warranty	1 YEAR	1	1	1	1	1	1	1	1

Great Duo-Symphonic

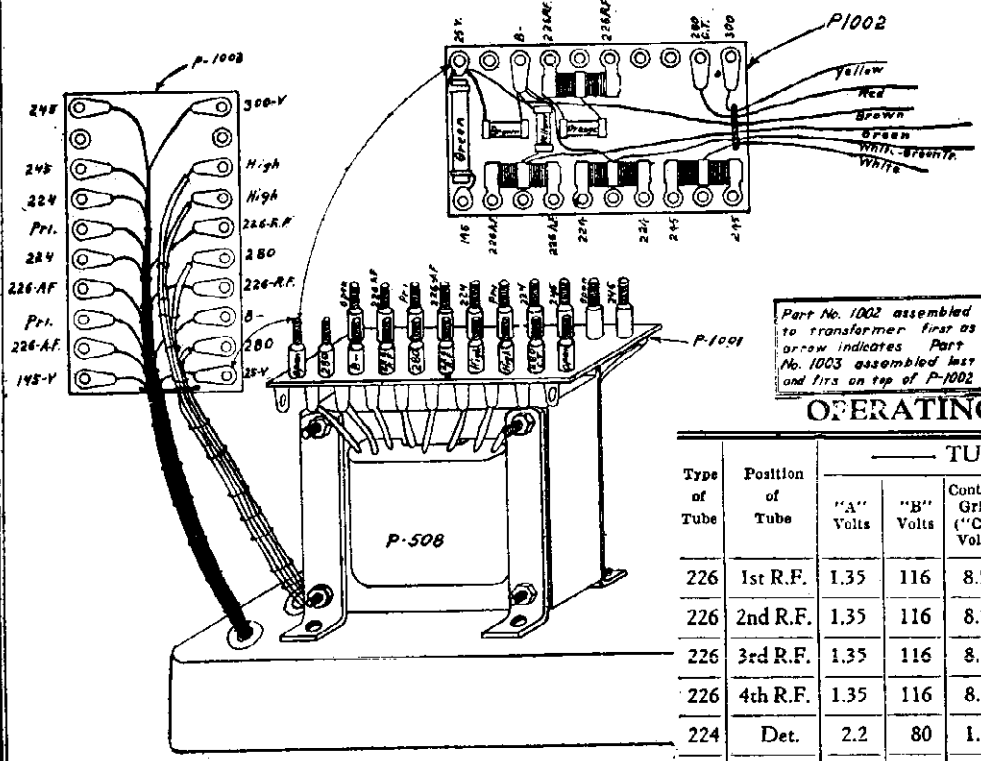
Duo-Symphonic Junior - 1931



MODEL Duo-Symphonic 1930 WHOLESALE RADIO SERVICE CO., INC.



LAFAYETTE DUO-SYMPHONIC 1930



Power Transformer and Terminal Plate Assembly.

- 92C-X3 1st R.F.
- 92E-X3 2nd R.F.
- 92C-X3 3rd R.F.
- 92E-X3 4th R.F.
- C-324 Det.
- 92C-X3 1st A.F.
- 92E-X3 2nd A.F.
- 92C-X3 2nd A.F.
- 92C-X3 Rect.

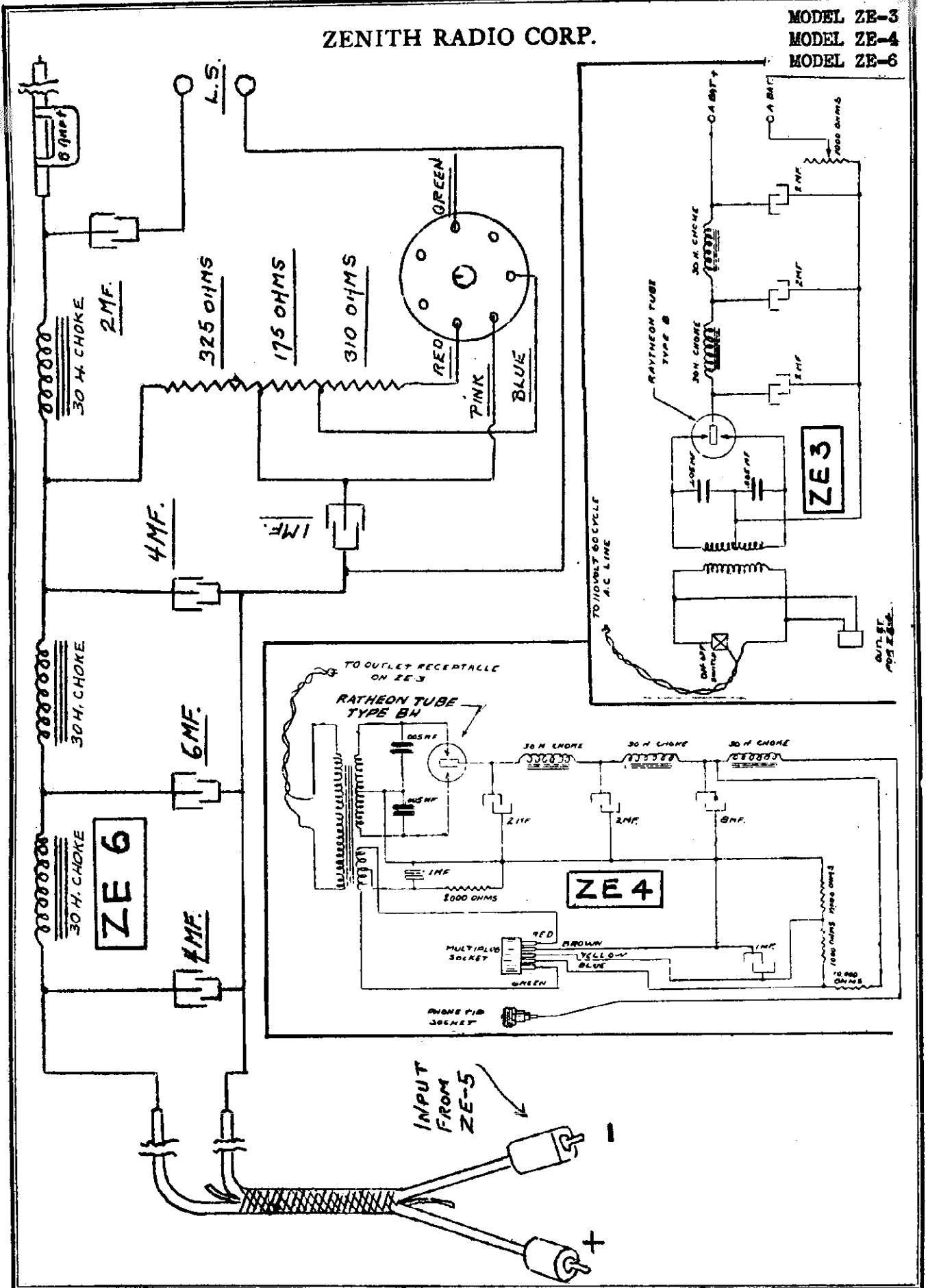
OPERATING VOLTAGES

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		Low To READIN DUE RE Resistance Coupling		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.	4.5						84	

Line Voltage During Test—115 Volts.

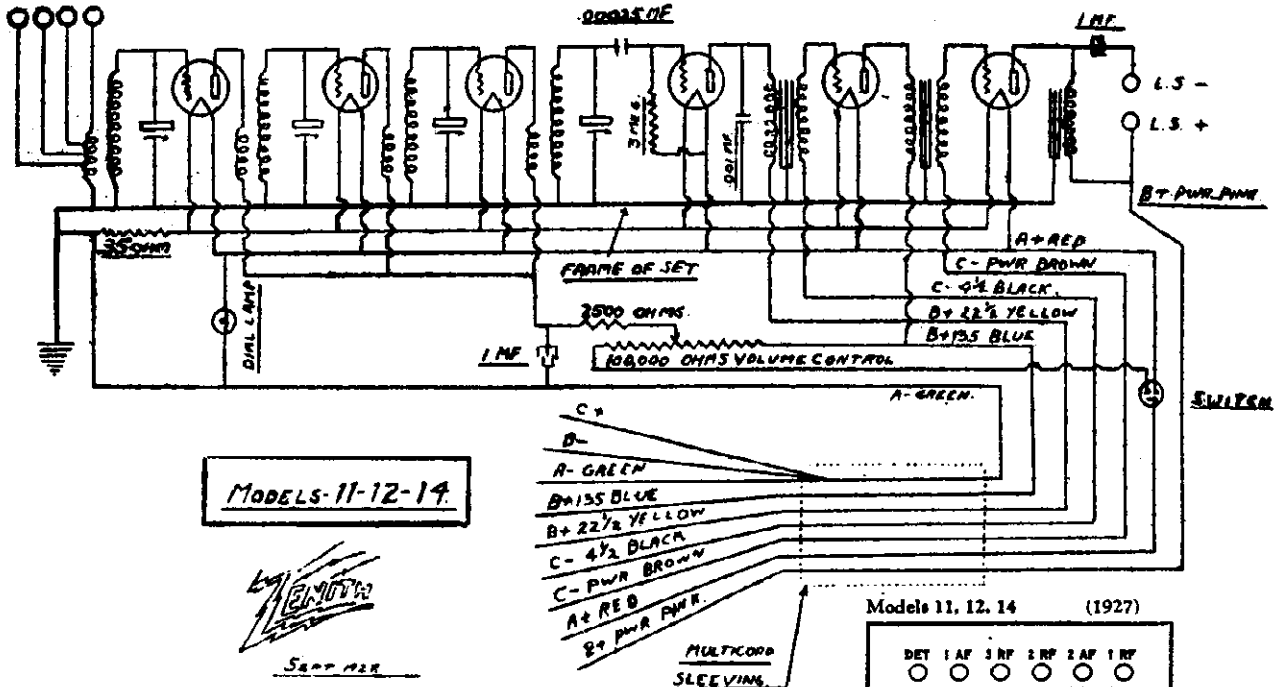
ZENITH RADIO CORP.

MODEL ZE-3  
MODEL ZE-4  
MODEL ZE-6



ZENITH RADIO CORP.

MODEL 11,12,14  
1st Type  
Receiver Schematic  
MODEL 12  
2nd Type  
Receiver Schematic

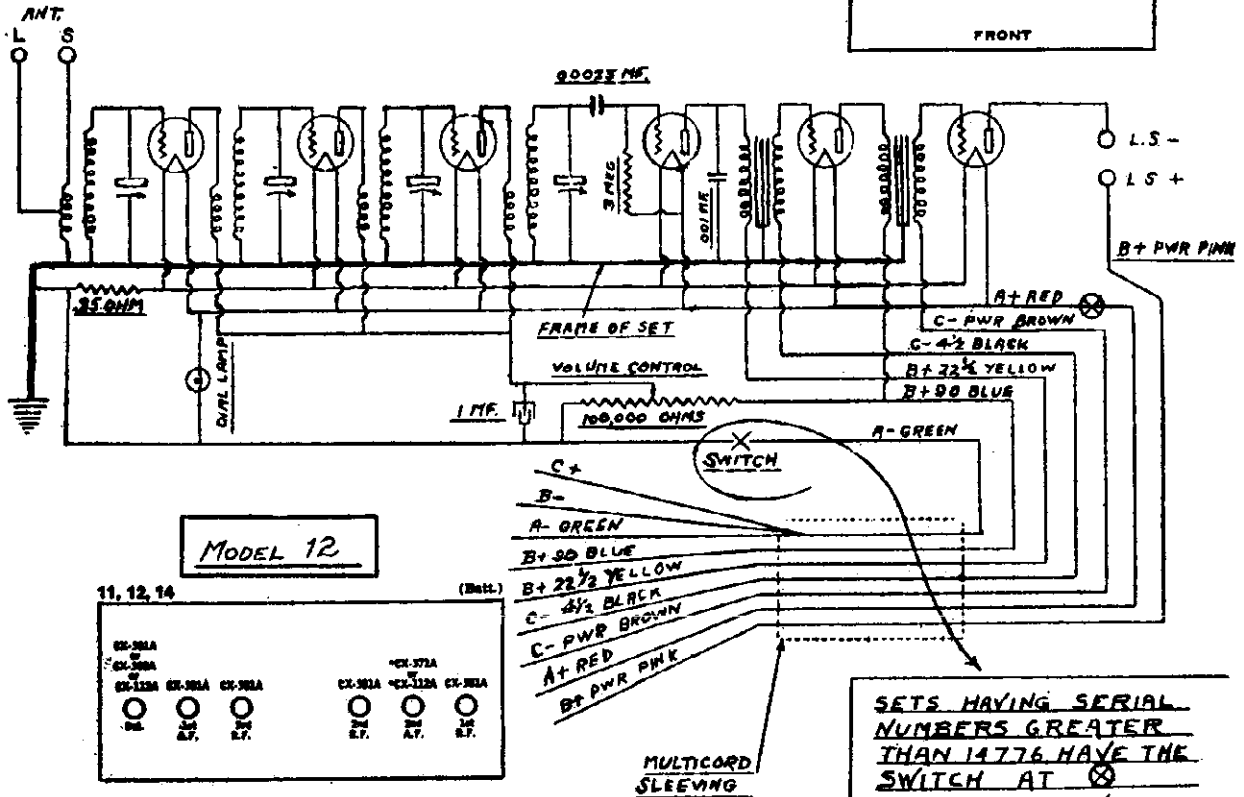


Models 11, 12, 14 (1927)

DET	1 AF	3 RF	2 RF	2 AF	1 RF
'01A	'01A	'01A	'01A	'12A	'01A
OR					'01A
'08A					'71A

PILOT 6.0 V.

FRONT



11, 12, 14 (Batt.)

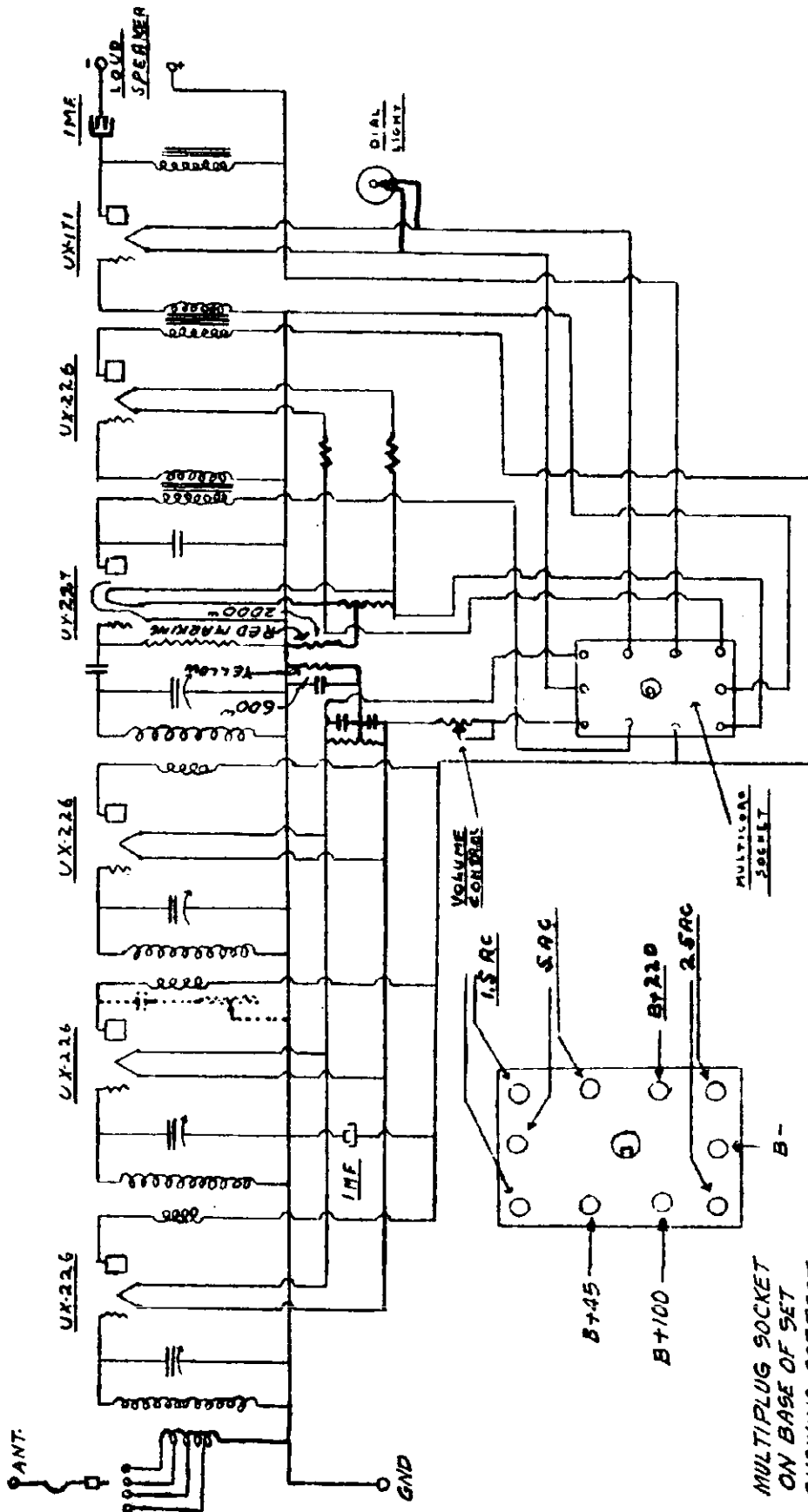
CS-301A	CS-301A	CS-301A	CS-301A	CS-301A	CS-301A	CS-301A	CS-301A	CS-301A	CS-301A
'01A	'01A	'01A	'01A	'01A	'01A	'01A	'01A	'01A	'01A

SETS HAVING SERIAL NUMBERS GREATER THAN 14776 HAVE THE SWITCH AT X IN THE A+ WIRE



ZENITH RADIO CORP

MODEL 11-E, 14-E  
Receiver Schematic



Models 11E, 14E, (1927)

DET 1 AF	22	26	28	26	26	71A	26
DET 2 RF	22	26	28	26	26	71A	26
DET 3 RF	22	26	28	26	26	71A	26
DET 2 AT	22	26	28	26	26	71A	26
DET 1 RF	22	26	28	26	26	71A	26

PILOT 6.0 V

RECT	28
FRONT	28

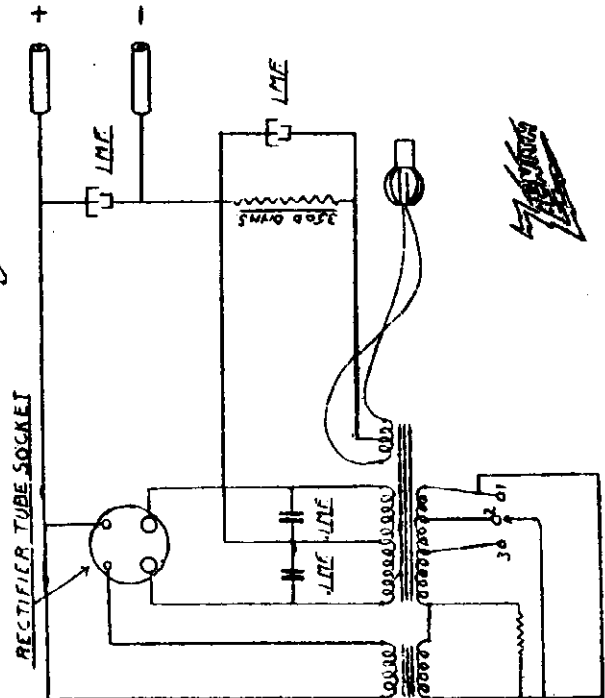
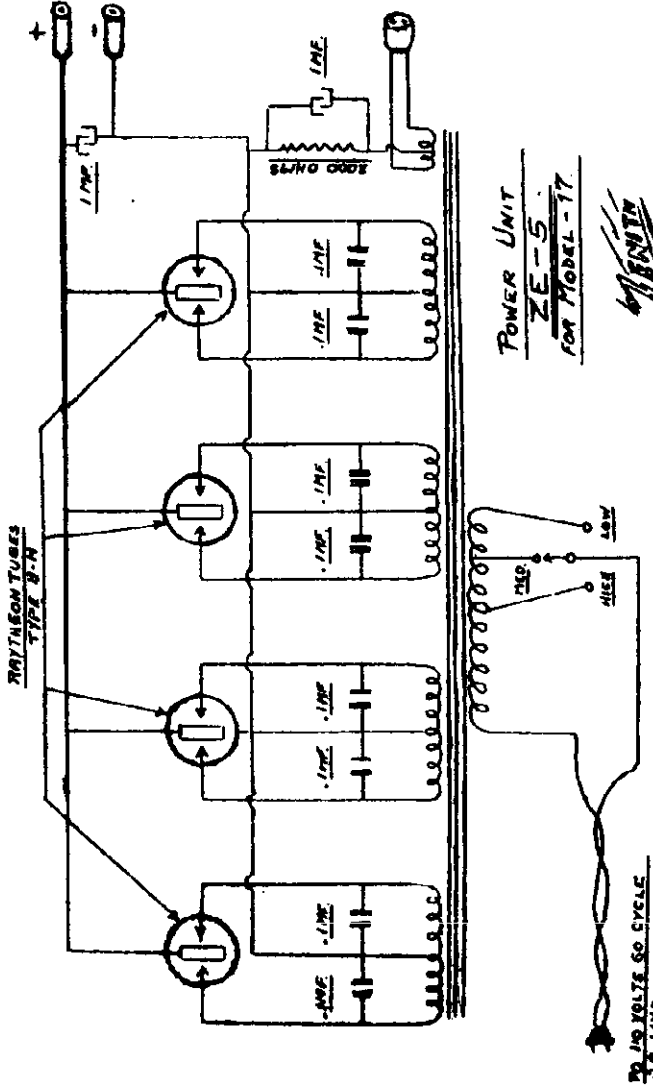
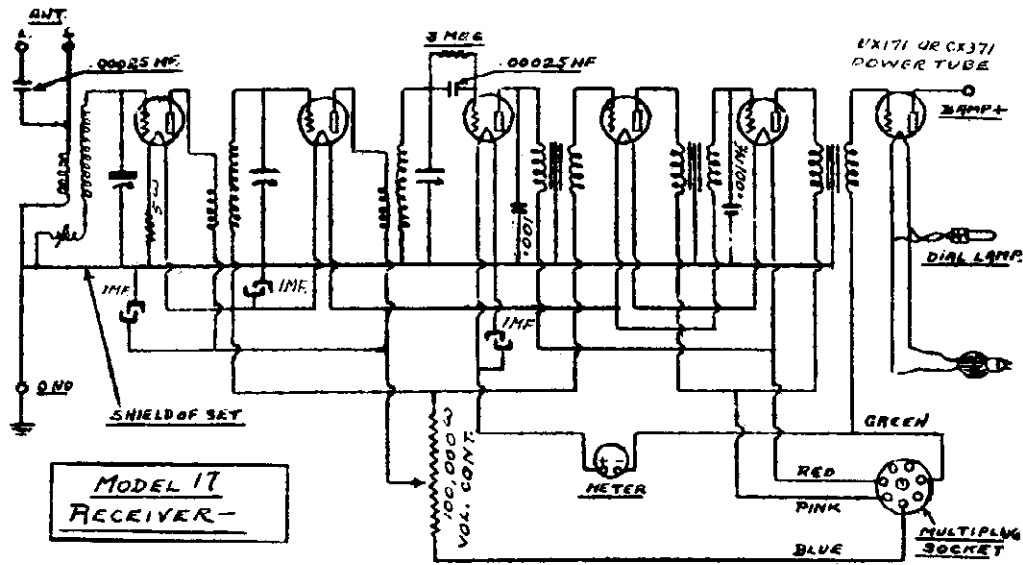
VOLUME CONTROL SHOWN  
IN DOTTED LINES USED  
ON MODELS 11E ABOVE  
48657 TO 51050 AND  
14E FROM 605420 TO 607147

MULTIPLUG SOCKET  
ON BASE OF SET  
SHOWING CORRECT  
VOLTAGES UNDER  
LOAD OF SET

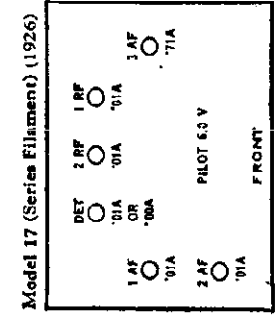
RECT. TUBE IS IN  
POWER PACK

MODEL 17 Schematic  
MODEL ZE-5 Power Units

ZENITH RADIO CORP.

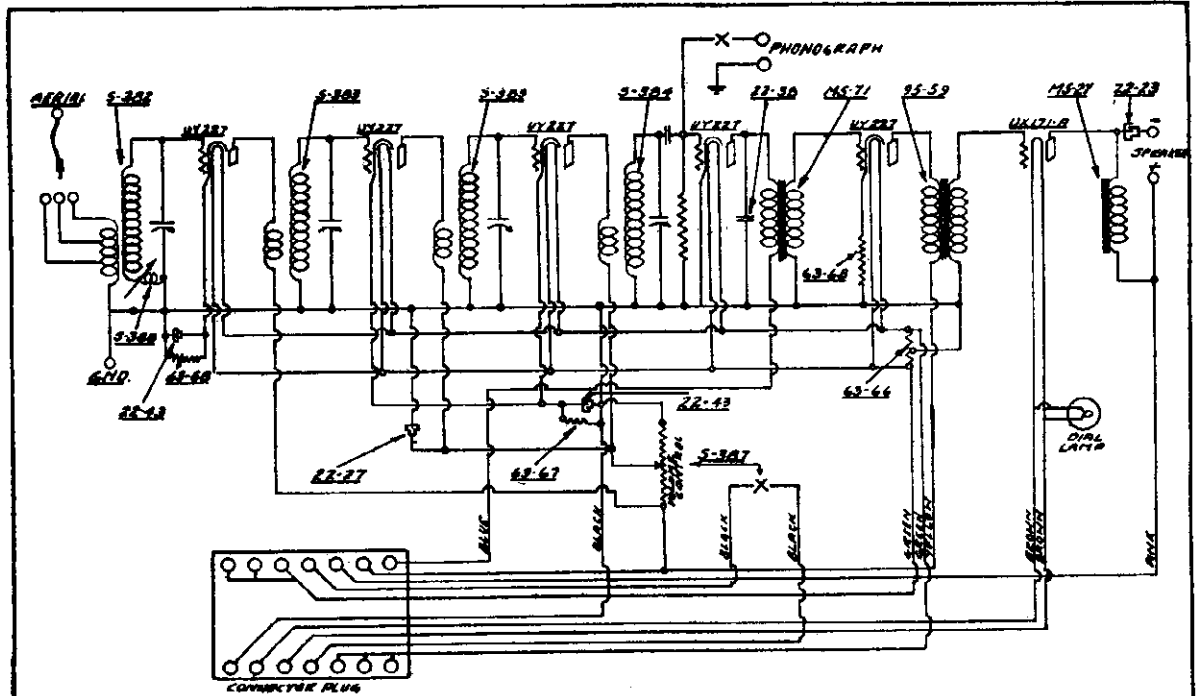


SPECIAL ZE-5  
POWER SUPPLY  
USING SINGLE  
RECTIFYING TUBE

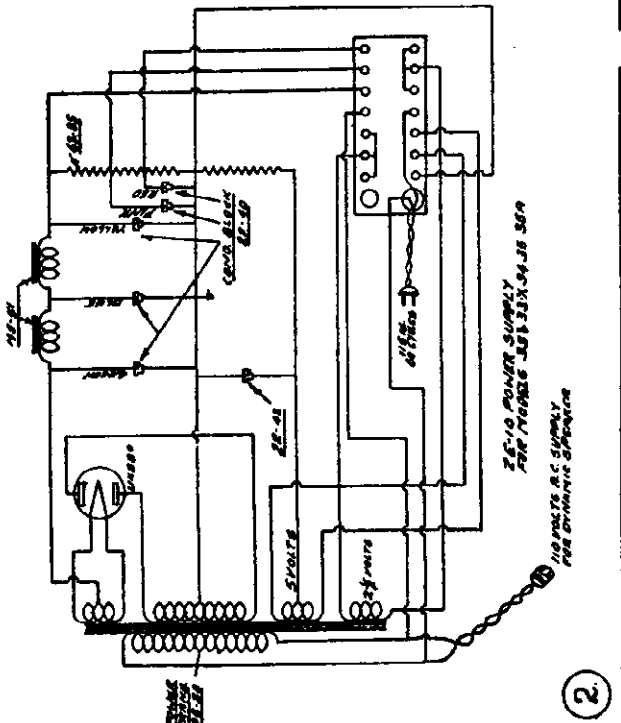


ZENITH RADIO CORP.

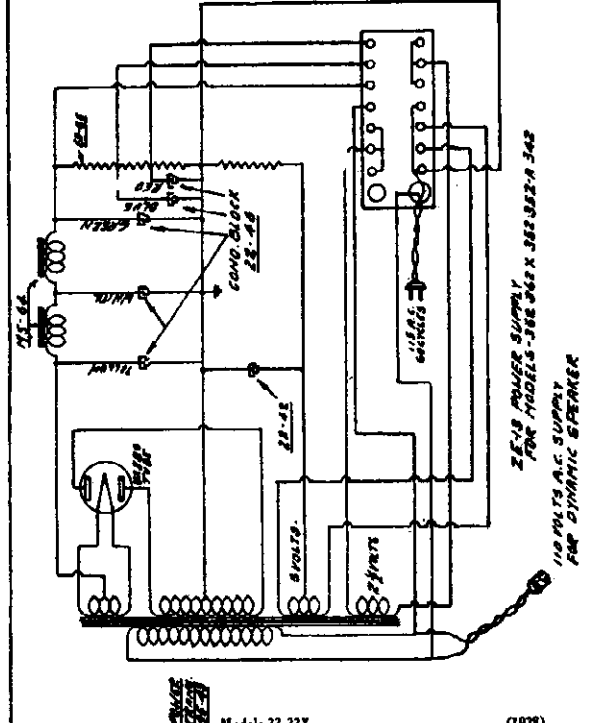
MODEL 33-X, 362-X  
MODEL ZE-10  
MODEL ZE-13



WIRING DIAGRAM  
MODELS 33X-362X  
6 TUBE ELECTRIC SET



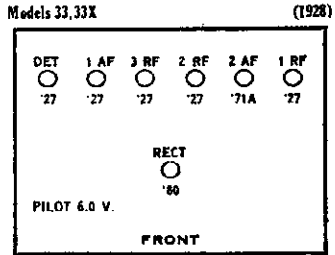
ZE-10 POWER SUPPLY  
FOR MODELS 33X-362X  
110 VOLTS A.C. SUPPLY  
FOR DYNAMIC SPEAKER



ZE-13 POWER SUPPLY  
FOR MODELS 33X-362X  
110 VOLTS A.C. SUPPLY  
FOR DYNAMIC SPEAKER

ZENITH—Models 33X-362X  
Line Voltage 115

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE (BY REF. DET. EYE)	READINGS PMU IN SOCKET OF SET									
			TUBE OUT			TUBE IN TESTER						
			A VOLTS	B VOLTS	C VOLTS	A VOLTS	B VOLTS	C VOLTS	NORMAL PLATE MAGN. VOLTS	PLATE MAGN. TEST VOLTS	PLATE MAGN. CHANGE	PLATE MAGN. CHANGE
1	227	1st. R.F.	2.05	102	6	2.9	4.1	1.2				
2	227	2nd. R.F.	2.05	102	5	3.8	6.8	3.0				
3	227	3rd. R.F.	2.05	102	5	3.8	6.8	3.0				
4	227	Detector	2.00	40	0	2.3	2.5	0.2				
5	227	1st. A.F.	2.05	34	0	2.6	3.7	1.1				
6	171A	2nd. A.F.	4.90	170	35	17.0	18.0	1.0				
7	280	Rectifier	4.50	-	-	20.0	-	-				



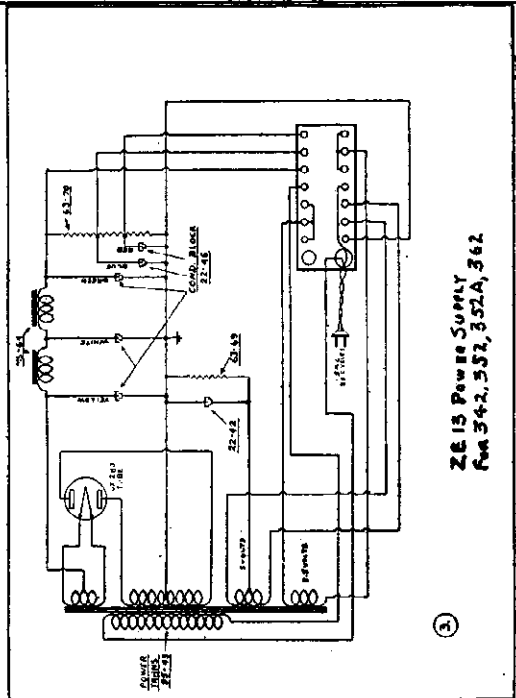
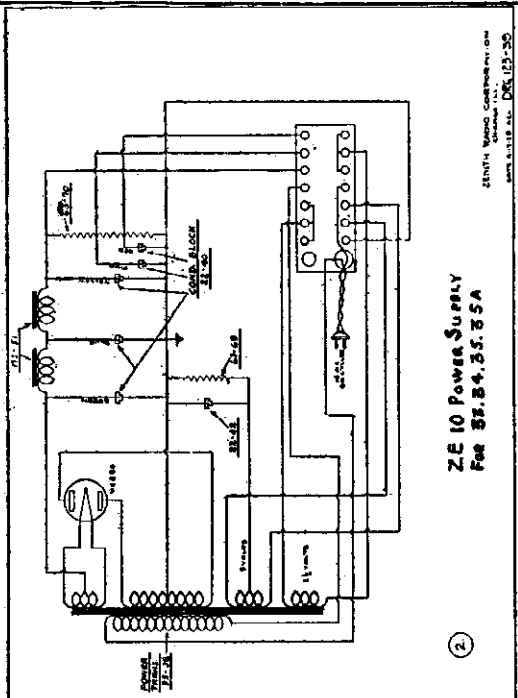
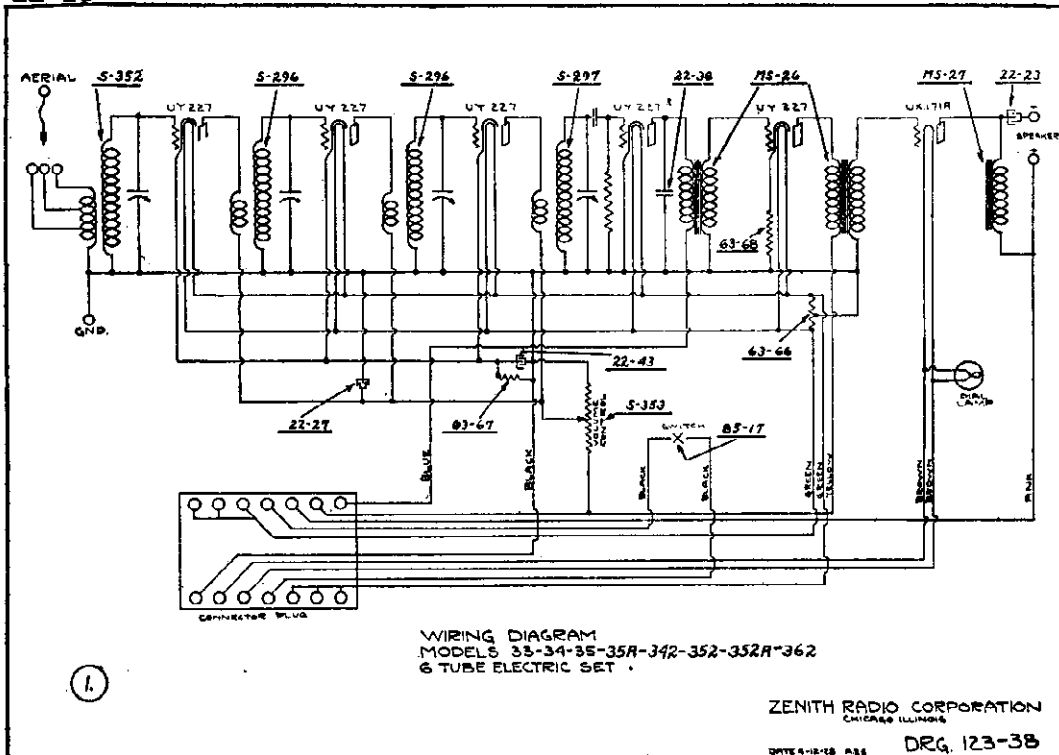
CX-380 used in separate power unit.





MODELS 33, 34, 35, 35-A, 342,  
352, 352-A, 362  
MODELS ZE-10  
MODEL ZE-13

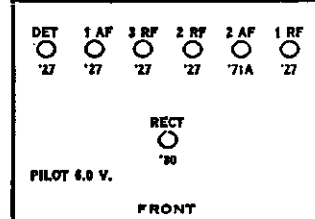
ZENITH RADIO CORP.



ZENITH—Models 33-34-35-35A-342-352-352A-362  
Line Voltage 115—Volume Control Full for R. F. and  
Center for A. F. on All Models

Models 34, 35, 35A, 342, 352, 352A, 362 (1928)

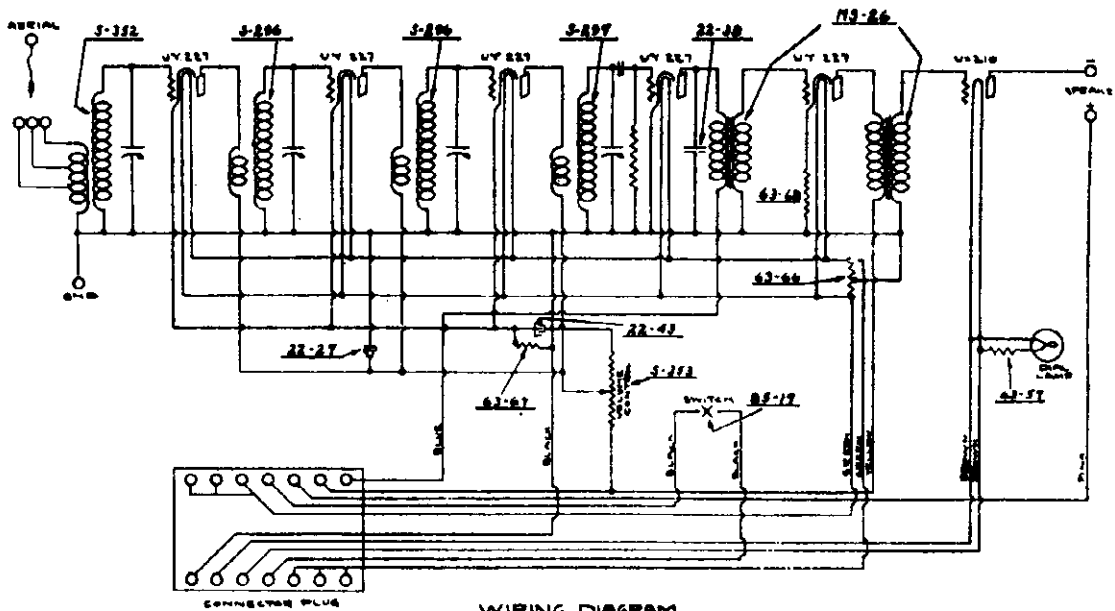
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST, 2ND, DET., ETC.	READINGS, PLUG IN SOCKET OF SET							
			TUBE OUT			TUBE IN TESTER				
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHARGE
1	227	1st. R.F.	2.0	110	6	—	3.2	6.2	3.0	
2	227	2nd. R.F.	2.0	110	6	—	3.2	6.2	3.0	
3	227	3rd. R.F.	2.0	110	6	—	3.2	6.2	3.0	
4	227	detector	2.0	45	0	—	3.2	3.4	2.0	
5	227	1st. A.F.	2.0	105	6	—	3.2	4.5	1.3	
6	171A	2nd. A.F.	4.75	180	40	—	15.0	16.0	1.0	
7	850	Rectifier	4.9	—	—	—	22.0	—	—	



CX-380 used in separate power unit.



MODEL 35-F, 35-AP, 352-P, 352-AP  
 MODEL ZE-11 for 35-F, 35-AP, 37-A ZENITH RADIO CORP.  
 MODEL ZE-14 for 352-P, 352-AP

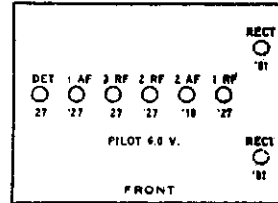


ZENITH—Models 35P-35AP-37A-352P-352AP  
 Line Voltage 115

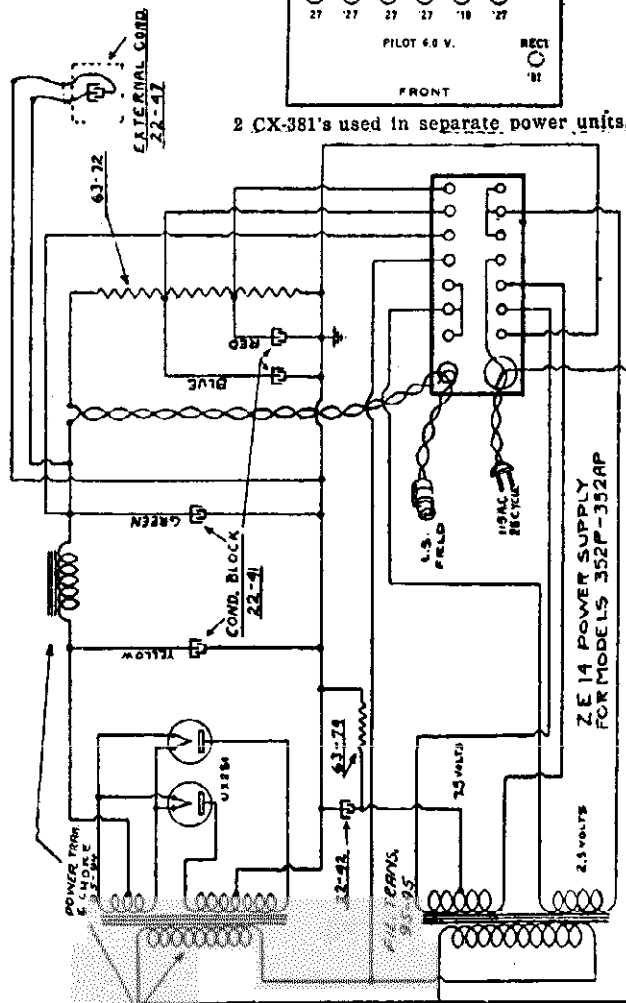
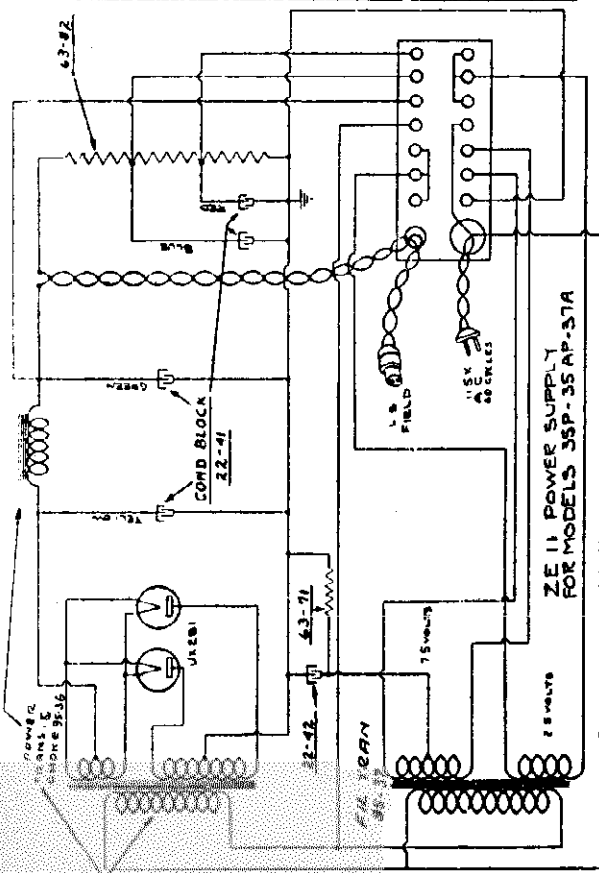
WIRING DIAGRAM  
 MODELS 35P-35AP-352P-352AP  
 6 TUBE ELECTRIC SET

Models 35AP, 35P, 37A, 352P, 352AP (1928)

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET						TUBE IN TEST			
			A VOLTS	B VOLTS	C VOLTS	D VOLTS	E VOLTS	CATHODE VOLTS	PLURAL PLATE MA	PLATE MA	PLATE MA CHARGE	PLATE MA CHARGE
1	227	1st. R.F.	2.0	100	6	—	—	3.0	6.0	3.0		
2	227	2nd. R.F.	2.0	100	6	—	—	3.0	6.0	3.0		
3	227	3rd. R.F.	2.0	100	6	—	—	3.0	6.0	3.0		
4	227	DETECTOR	2.0	22	6	—	—	3.0	6.0	3.0		
5	227	1st. A.F.	2.0	100	6	—	—	3.0	6.0	3.0		
6	210	2nd. A.F.	7.25	400	32	—	—	20.0	22.0	4.0		
7	281	—	7.25	—	—	—	—	45.0	—	—		
8	281	—	7.25	—	—	—	—	45.0	—	—		



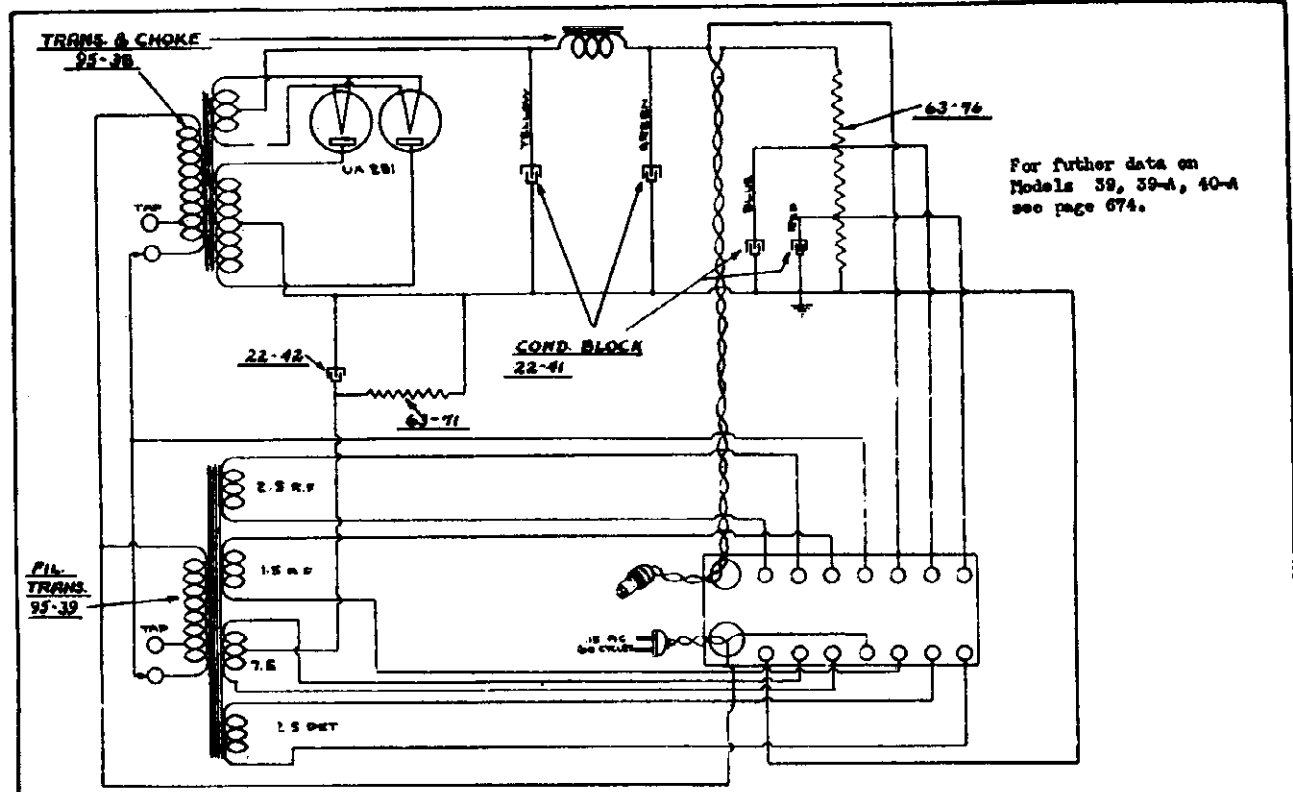
2 CX-381's used in separate power units.





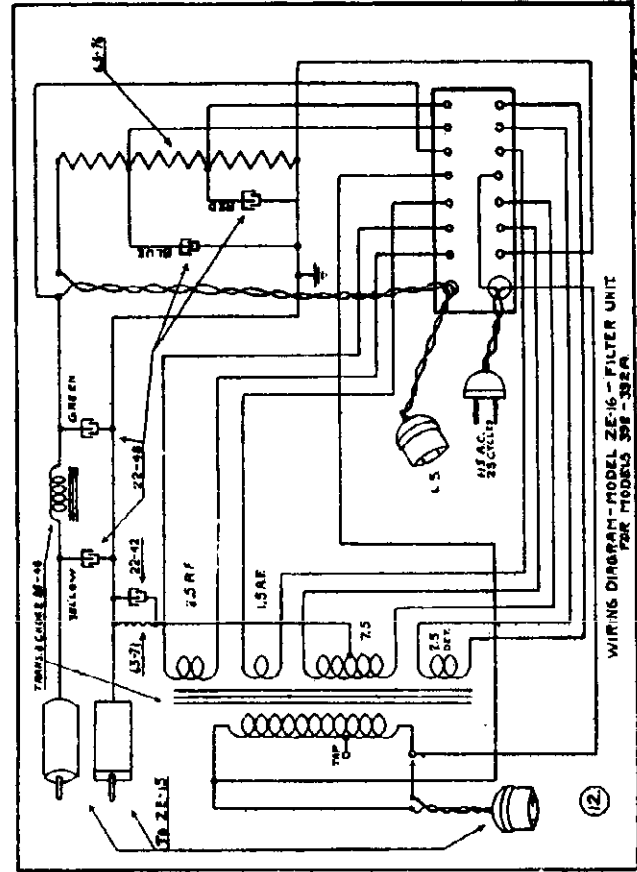
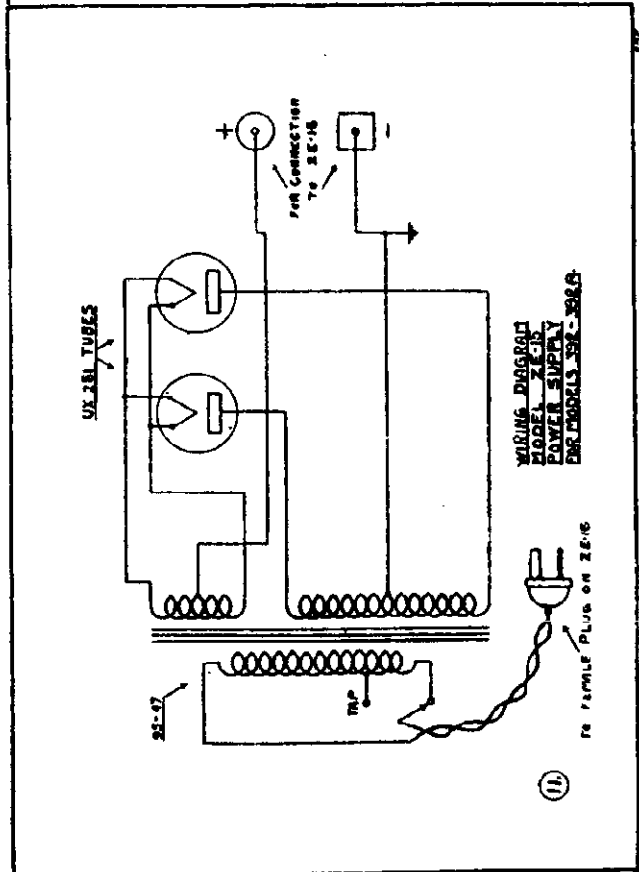


MODEL ZE-12 for 39, 39-A, 40-A  
 MODEL ZE-15 for 392, 392-A ZENITH RADIO CORP.  
 MODEL ZE-16 Filter for above



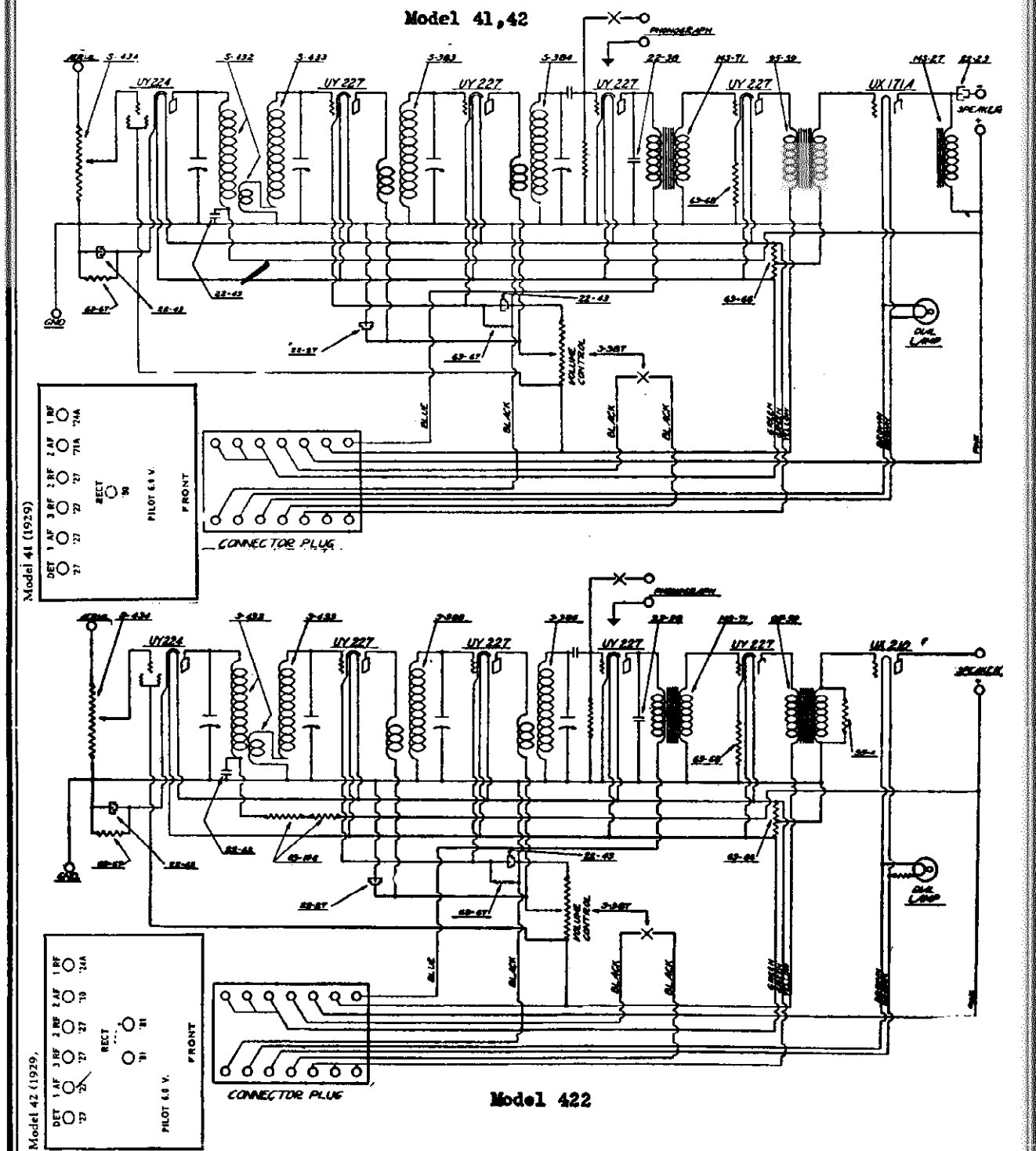
For further data on Models 39, 39-A, 40-A see page 674.

ZE-12 POWER SUPPLY FOR MODELS 39-39-A-40-A



ZENITH RADIO CORP.

MODEL 41,42  
MODEL 422



ZENITH—MODEL 42

Type Tube	Position of Tube	"A" Vts.	"B" Vts.	"C" Vts.	Plate MA.	Screen Grid	Cath. Volts
'24	1 R. F.	1.90	214	3	3.4	94	+2.2
'27	2 R. F.	1.90	80	4	3.5		+4
'27	3 R. F.	1.90	85	4	3.5		+4
'27	Det.	1.90	35		2.2		+4
'27	1 Aud.	1.90	78	4	2.5		+4
'10	2 Aud.	6.9	420	31	20		
'81	Rect.	6.9			45		
'81					45		

LV-115. Volume Control Max.

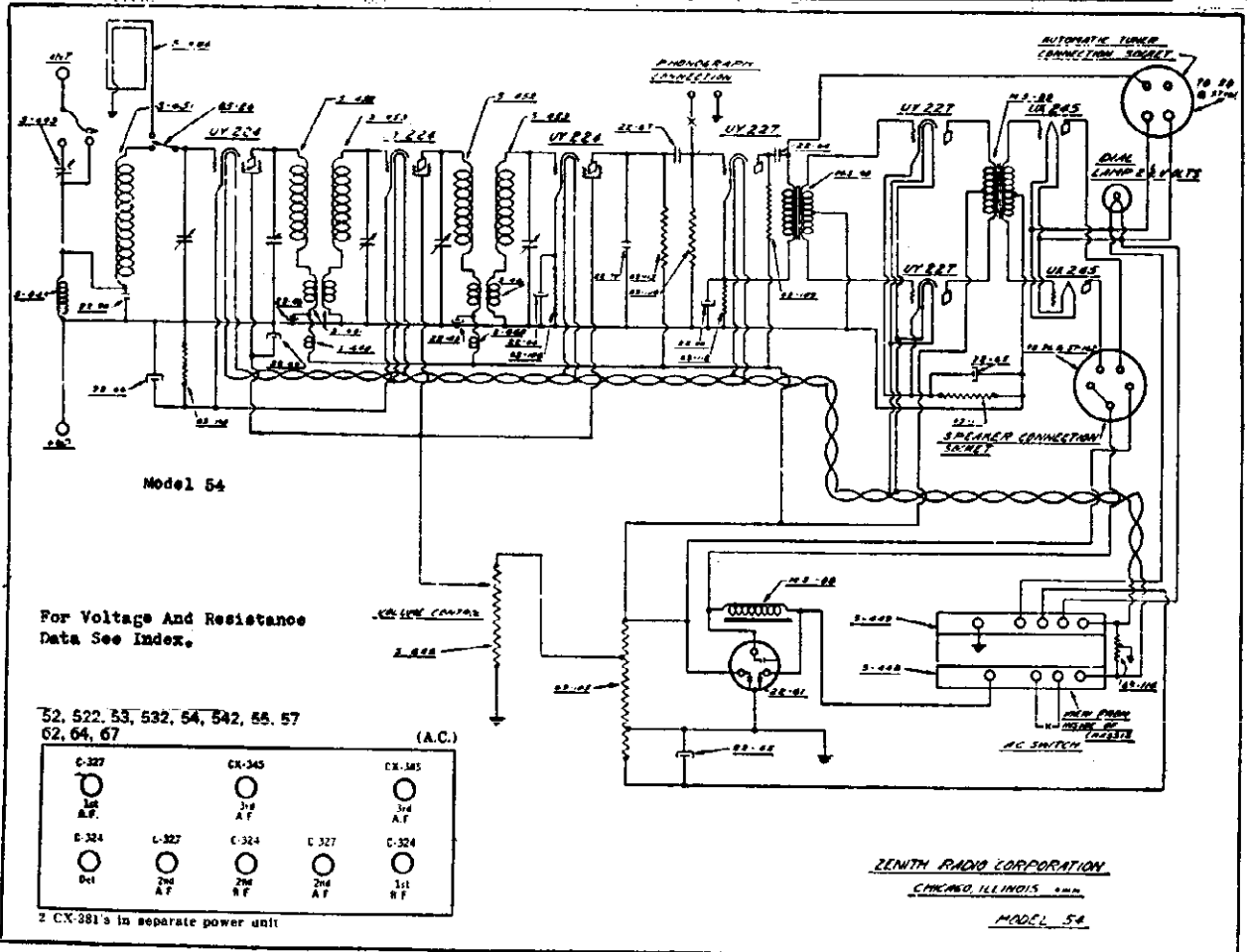
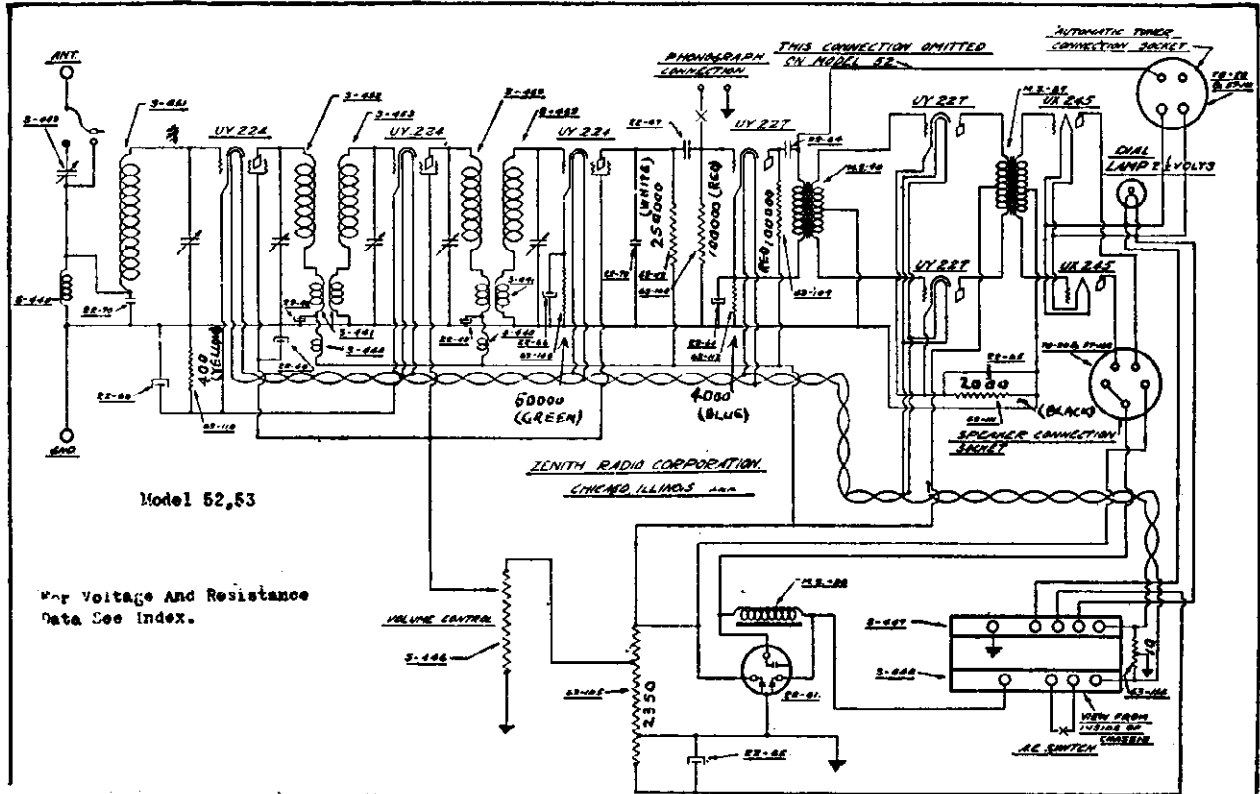
ZENITH—MODEL 41

Type Tube	Position of Tube	"A" Vts.	"B" Vts.	"C" Vts.	Plate MA.	Screen Grid	Cath. Volts
'24	1 R. F.	1.95	200	2	3	98	+2
'27	2 R. F.	2	95	4.5	4		+4.5
'27	3 R. F.	2	95	4.5	4		+4.5
'27	Det.	1.95	38		2.1		+4.5
'27	1 Aud.	2	89	4.5	3		+4.5
'71A	2 Aud.	4.2	145	29	14.5		
'80	Rect.	4.1			17.8		

LV-110. Volume Control Max.

MODEL 52,53  
MODEL 54  
Schematic

ZENITH RADIO CORP.



52, 522, 53, 532, 54, 542, 55, 57  
62, 64, 67

(A.C.)				
C-327	CX-345	CX-345	CX-345	
1st A.F.	2nd A.F.	2nd A.F.	2nd A.F.	
C-324	C-327	C-324	C-327	C-324
Det	2nd A.F.	2nd R.F.	2nd A.F.	1st R.F.

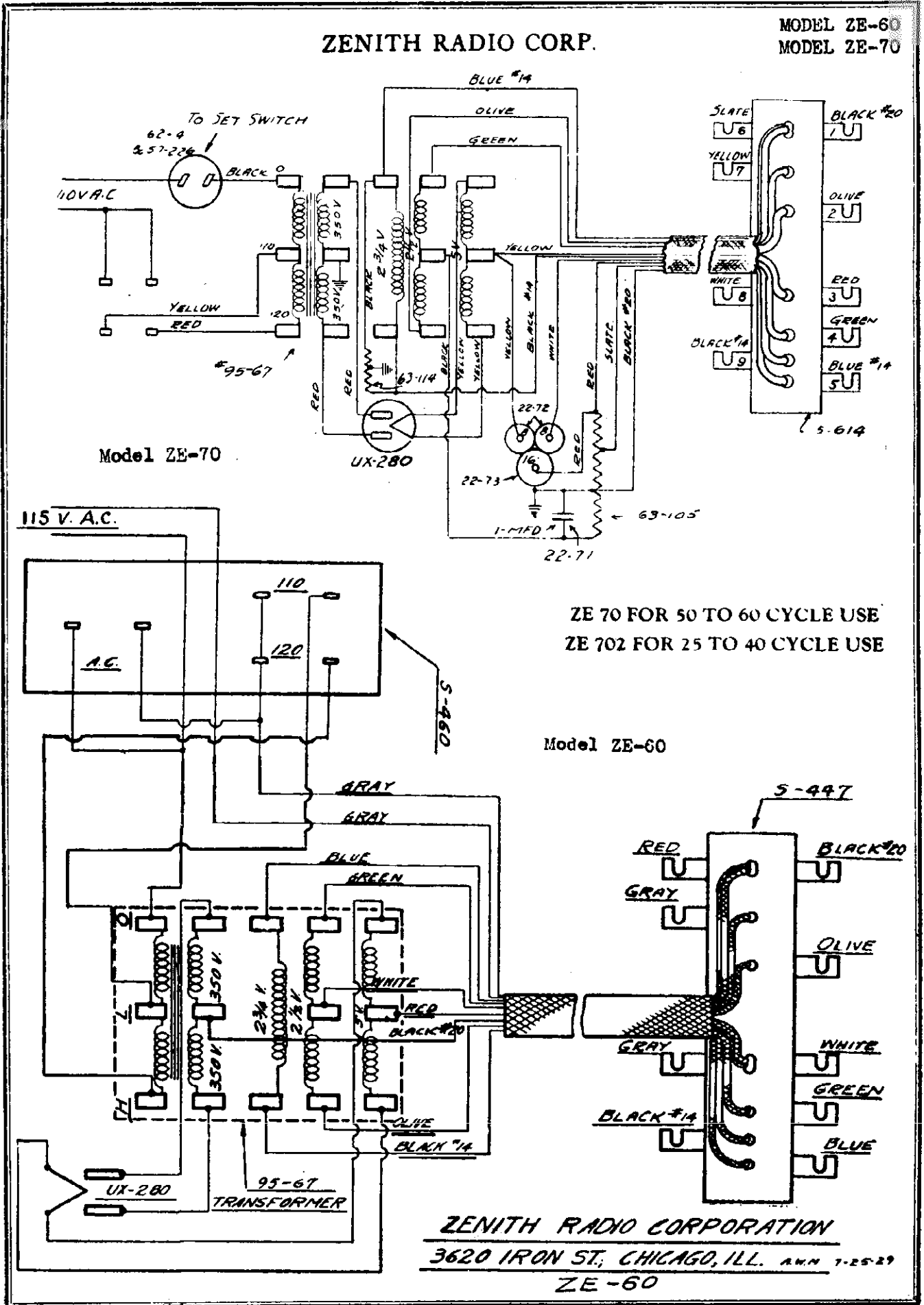
2 CX-381's in separate power unit





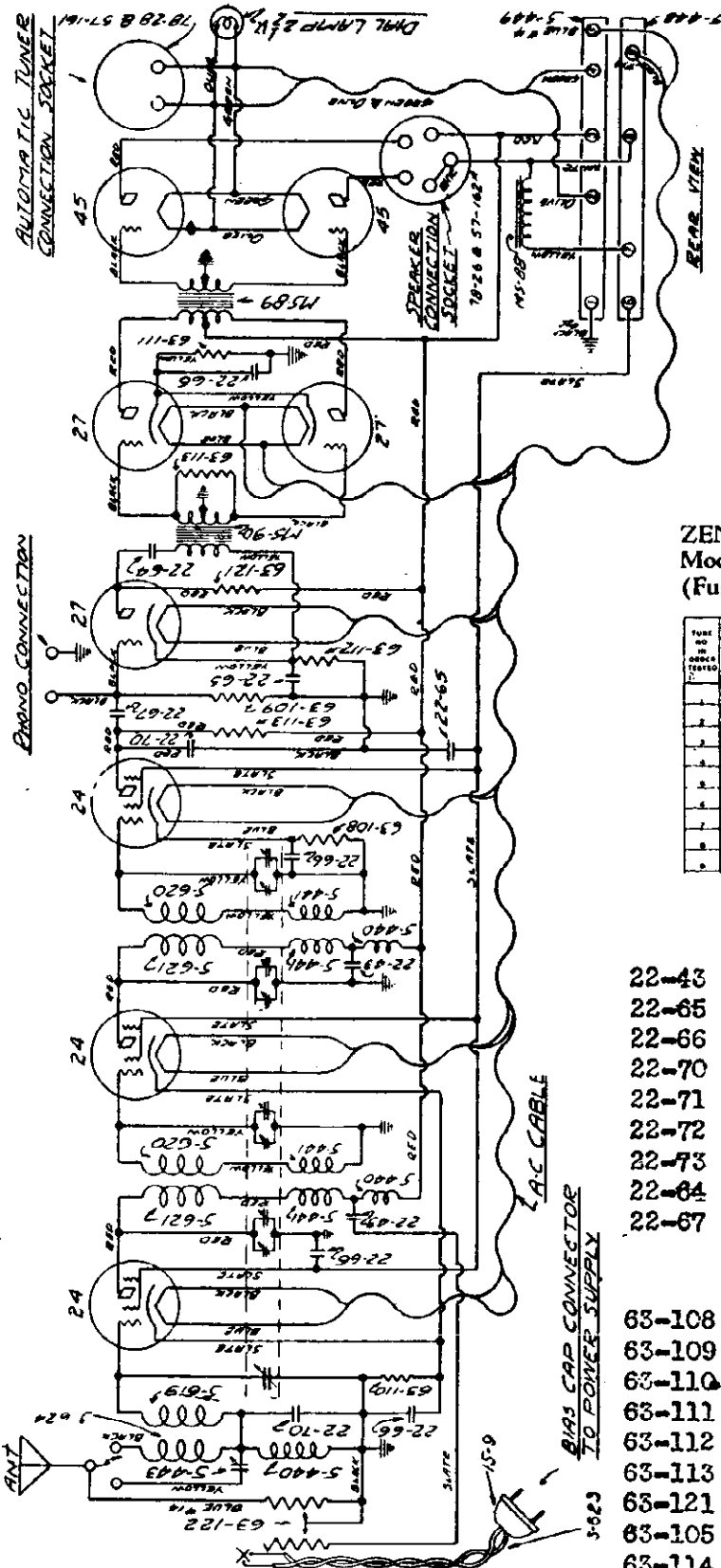
# ZENITH RADIO CORP.

MODEL ZE-60  
MODEL ZE-70

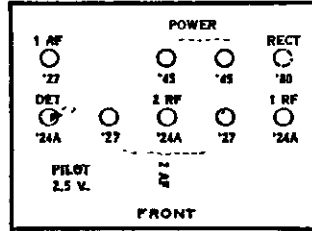


MODEL 71, 72, 73, 77, 712,  
722, 732, 777  
Schematic - Voltage  
Electrical Values

ZENITH RADIO CORP.



Models 50, 60, 70 Series (1930)



For wiring diagram of  
the power pack ZE-70  
and ZE-702 for series  
70 receivers see  
Index

ZENITH—Models 71, 72, 73 and 77—60 Cycle  
Models 712, 722, 732 and 777—25 Cycle  
(Fuse in 110 Volt Clips—Line Volts 110)

TUBE NO. IN SOCKET (TYPE)	TYPE OF TUBE	PARTION OF TUBE IN SET	OPERATING VOLTAGES					MILLIAMPERES	TUBE TEST	PART. CONN. (CHANGES)
			FILAMENT OR HEATER	PLATE OR ANODE	CONTROL GRID—SPACE GRID—SCREEN GRID*	ADJ. GRID—BIAS—SCREEN GRID*	CATHODE TO HEATER			
1	224	1 R.F.	2.5	105	2	55	2.5	-	2.5	
2	224	2 R.F.	2.5	145	2	55	2.5	-	5.0	
3	224	Det.	2.5	100	-	5	5	-	.1	
4	227	1 A.F.	2.5	65	-	25	5	-	1.5	
5	227	PP-End	2.5	150	-	15	15	-	3.4	
6	227	PP-End	2.5	160	-	15	15	-	3.4	
7	245	PP-PWR	2.5	260	-	5E	-	-	3A	
8	245	PP-PWR	2.5	260	-	5E	-	-	3E	
9	248	Rect.	5.0	-	-	-	-	-	-	

CONDENSER SPECIFICATIONS

- 22-43 .25 mf (2)
- 22-65 1. (double)
- 22-66 .2 (quadruple)
- 22-70 .001 (2)
- 22-71 1.
- 22-72 8. (2)
- 22-73 16.
- 22-64 .03
- 22-67 .15

RESISTOR SPECIFICATIONS

- 63-108 50000 ohms Green
- 63-109 100000 ohms Red
- 63-110 400 ohms Yellow
- 63-111 2000 ohms Black
- 63-112 4000 ohms Blue
- 63-113 250000 ohms White
- 63-121 100000 ohms Pink
- 63-105 voltage divider
- 63-114 10 ohms Center Tap



## INSTALLATION OF TONE CONTROL ON MODEL 70 SERIES

Remove variable condenser shield. Unsolder lead from lower terminal on rocking stator and pull this lead through the base to under side of chassis.

Turn chassis up side down; remove the two machine screws from rear side of coil assembly base on the first R. F. coil can only

With chassis inverted, multicoord terminal strip facing the operator, remove the one machine screw from right hand end of chassis which is screwed through the chassis frame and into the R. F. coil assembly base.

Unsolder the two remaining leads, coming from the first R. F. coil can; the one at the antenna choke terminal; the other at the S. A. tip jack; also the copper shielding on lead going through 1st R. F. coil can.

The R. F. coil assembly base may now be forced back about one-half inch and this will permit the 1st R. F. coil can and its base to be lifted upward from the chassis.

Measure off a point midway between the volume control shaft and the rocking stator shaft centers; and 15/16" from chassis bottom (base plate removed.)

Center punch and drill a .378" dia. hole to take the 500,000 ohm variable resistor tone control shaft, and mount so soldering terminals on same point toward, and are next to the volume control.

Be sure the Textolite Insulating Strip is attached to the back of the tone control unit to prevent the terminals from shorting out when the R. F. coil can is again installed.

Mount the .01 mfd. fixed condenser by soldering one of its terminals directly to one of the outside terminals of the six point audio transformer; be sure to get the secondary side, or grid of the 245 output tube.

This condenser will be self-supporting.

Wire from the remaining .01 fixed condenser terminal to any one of the two terminals on the variable resistance tone control unit

Wire from the remaining terminal on this unit to the other side of the same secondary winding direct on six point audio transformer, or grid of the other 245 output tube.

Technically speaking this produces a series circuit consisting of a .01 mfd. fixed condenser and a 500,000 ohm variable resistor in shunt to the secondary circuit of the six point audio transformer, or from grid to grid of the 245 output tubes.

Run your two twisted leads through the slot in the R. F. coil assembly base, behind and to the right of the 1st R.F. socket (still viewing the chassis as before - inverted.)

Press the Textolite Insulating Strip on the back of the tone control unit into place and inspect to see that no terminals are shorted.

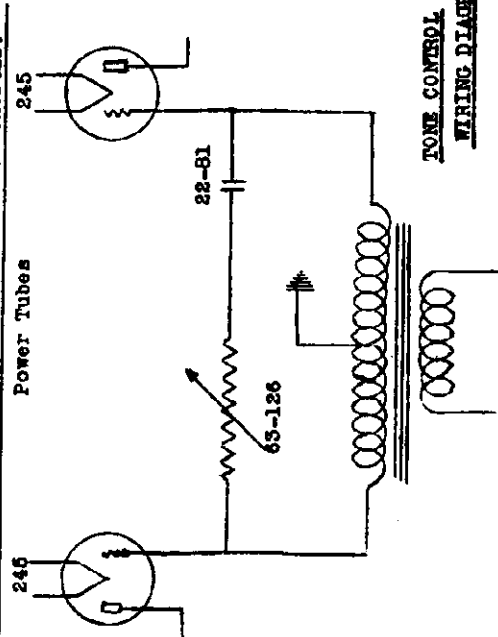
Replace the 1st R.F. coil can and base by first threading through the leads in the assembly base and work the coil can base in to place.

Insert the two screws you removed from this point on the base. Force the coil assembly base back into position, and insert the mesh screw into same through chassis end.

Resolder all leads previously removed and put condenser shield in place. Be sure to resolder the copper shielding on the lead from 1st R.F. coil can previously unsoldered.

Turning tone control knob clockwise produces the treble effect and counter-clockwise the bass.

A small tone control escutcheon plate will be included and should be mounted on the cabinet panel to read correctly, the cabinet panel having been drilled with a 5/8" hole 1 1/16" from base centrally located between the resonance and volume controls.

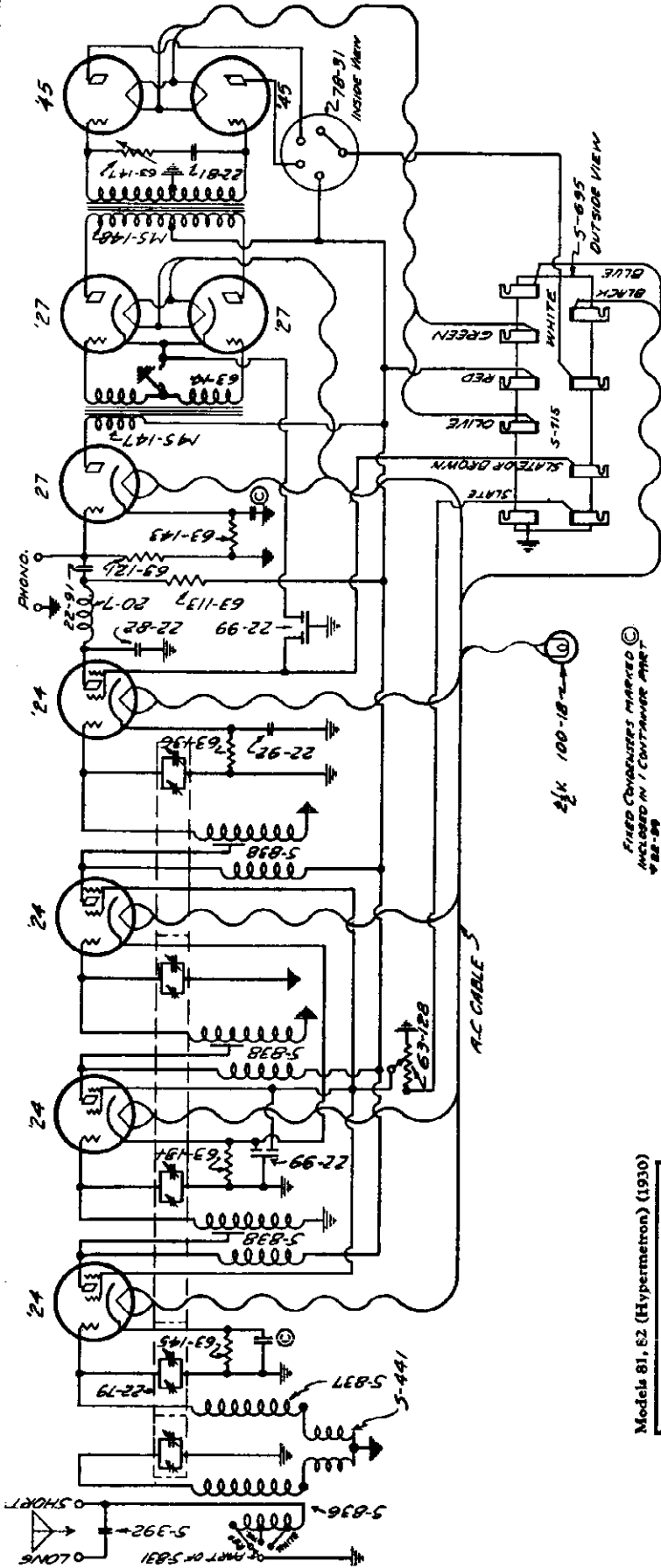


# ZENITH RADIO CORP.

MODEL 70  
Tone Control  
Installation

MODEL 80 Hypermetron  
Schematic

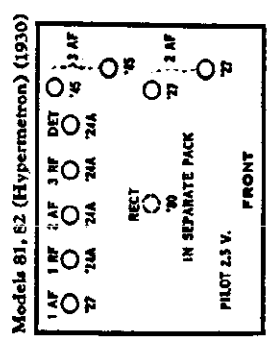
ZENITH RADIO CORP.



FILED COMPONENTS MARKED ©  
INCLUDED IN 1 CONTAINER MARKED  
✓ 12-29

SIZE	COLOR	USED FOR
# 20	RED	+180. R.F. & R.F. PLATE LEAD.
# 20	WHITE	+250 FILTER CHOKE.
# 20	YELLOW	AUDIO CATHODES.
# 20	SLATE	SCREENS & CATHODES R.F.
# 20	BLACK	AUDIO GRID LEADS, GRID COMMON.
# 20	GREEN & OLIVE	POWER FILAS. & PILOT LIGHT.
# 14	BLACK	224 & 227 FILAMENTS.
# 14	BLUE	" " "
# 20	BROWN OR SLATE	224 DET. SCREEN.

ZENITH RADIO CORP.  
CHICAGO, ILL.  
MODEL 80  
HYPERMETRON



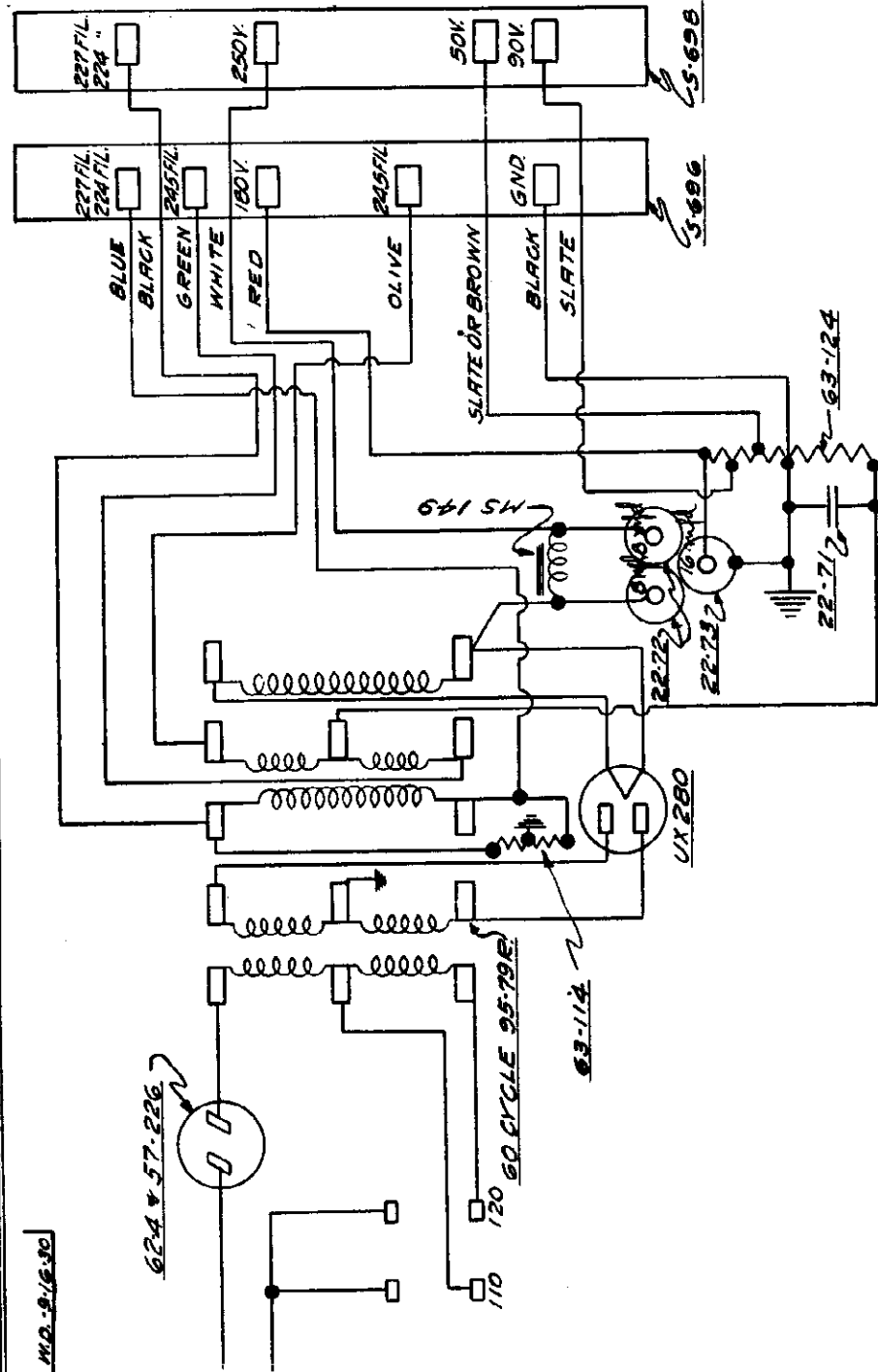
MODELS 82, 89 (60 cycle) and 822, 892 (25 cycle) ZENITH HYPER METRON RECEIVERS.

Models 82 and 89 Zenith Receivers operate on 105 to 125 volts, 50 to 60 cycle alternating current. Models 822 and 892 operate on 105 to 125 volts, 25 to 40 cycle alternating current (A. C.) The power supply ZE80 is used on 50 to 60 cycle current. The power supply ZE802 is used on 25 to 40 cycle current.

ZENITH RADIO CORP.

MODEL ZE-80  
Schematic  
Parts List

VIEW FACING OUTSIDE  
OF POWER SUPPLY.



POWER SUPPLY - ZE 80

78-32	Four Prong Socket for Rectifier.....	.15
95-79	Power Transformer..... (60 Cycle).....	13.90
95-93	Power Transformer..... (25 Cycle).....	13.50
136-2	2 Amp Fuse.....	.10
S-696	Terminal Strip Assem..... (Five).....	.70
S-698	Terminal Strip Assem..... (Four).....	.70
S-700	Fuse Receptacle & A.C. Outlet Plate.....	.20
MS-149	Power Choke.....	3.50

22-71	1. mf Condenser..... (Power Bias).....	1.10
22-72	8. " " "..... (Electrolytic).....	2.50
22-73	16. " " "..... (Electrolytic).....	5.50
Note: 16 mf Condenser can be identified by Blue marking on anode		
63-114	10 Ohm Center Tap Resistor.....	.40
63-124	10,450 " Voltage Divider.....	1.60
57-226	Bias Plate.....	.04
57-242	Bias Socket & Guide Plate.....	.01

MODEL 80 Hypermetron  
Parts List

## ZENITH RADIO CORP.

## HYPERMETRON

## Variable Condenser Assembly

22-79	Five Gang Variable Condenser.....	20.00
S-829	Dial Drum Assembly.....	1.50
26-21	Calibrated Dial Strip.....	.20
S-703	Dial Lamp Bracket.....	.45
100-18	2½ Volt Dial Lamp.....	.25
11-2	Dial Control Cable.....	.05
80-70	Dial Control Cable Tension Spring.....	.01

## Fixed Condensers

22-81	Single .01 mf Condenser.....(Tone Control Cond.)	.85
22-82	Single .001 " " .....	.30
22-91	Single .03 " " .....	.50
22-92	Single .5 " " .....	.75
22-99	Dual .1 " " .....	.75
S-392	Antenna Series Condenser.....	.10

## Resistors

63-113	250M Ohm Resistor.....(Red, Green End, Yellow Dot)..	.35
63-121	100M " " .....	.35
63-131	400 " " .....	.35
63-136	50M " " .....	.35
63-143	4M " " .....	.35
63-145	800 " " .....	.35
63-146	2000 " " .....	.35

## R.F. Coils

S-441	R. F. Coupling Coil.....	1.00
S-836	Preselector Coil.....	1.40
S-837	1st R. F. Coil.....(Coil Only)	1.00
S-838	2nd, 3rd R. F. & Det. Coils.....(" " )	1.00
20-7	Detector Choke.....	.50
20-8	R. F. Choke.....	.50

## Shields &amp; Bases

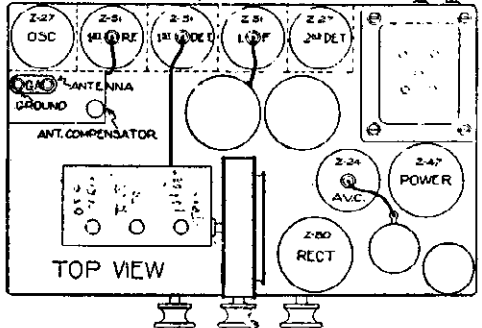
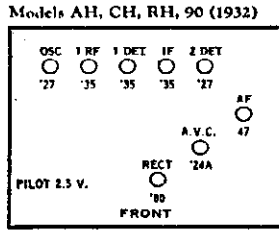
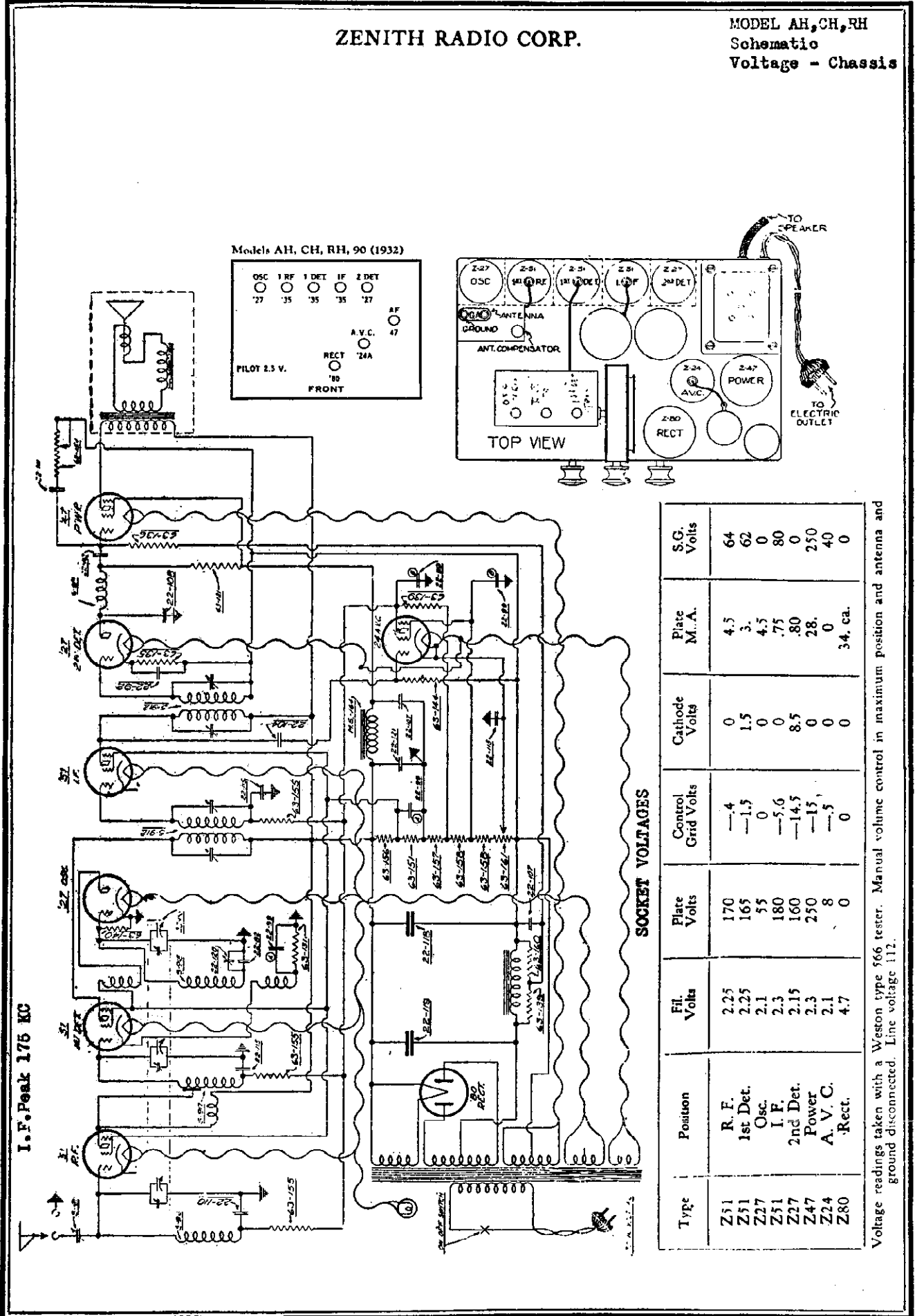
4-87	Tube Shield Can Base.....	.05
126-62	Coil " " " .....	.05
126-59	R. F. Coil Shield Can.....	.25
126-61	Tube Shield Can.....	.20
MS-153	Variable Condenser Shield.....	.75

## Miscellaneous

44-4	Phono Connector Base.....	.30
78-30	Five Prong Floating Socket.....	.20
78-31	Five Prong Stationary Socket.....	.20
78-32	Four Prong Stationary Socket.....	.20
57-161	UY Socket Guide Plate.....	.01
57-242	Four & Five Prong Socket Guide Plates.....	.03
63-128	Volume Control.....	1.50
63-147	Tone Control.....	1.25
85-26	Three Point Switch Base Less Shaft.....	.45
143-9	Three Point Switch Bushing with Contact Arm.....	.35
117-31	Three Point Switch Lever Arm.....	.01
S-695	Multicord & Terminal Plate Assembly.....	2.00
S-715	Multicord Terminal Plate Only.....	.50
52-23	Multicord only.....	1.25
MS-147	1st Stage Push Pull Transformer...(5 Lead).....	5.50
MS-148	2nd Stage Push Pull Transformer...(6 Lead).....	5.50

ZENITH RADIO CORP.

MODEL AH, CH, RH  
Schematic  
Voltage - Chassis



SOCKET VOLTAGES

Type	Position	Fil. Volts	Plate Volts	Control Grid Volts	Cathode Volts	Plate M. A.	S.G. Volts
Z51	R. F.	2.25	170	-4	0	4.5	64
Z51	1st Det.	2.25	165	-1.5	1.5	3.	62
Z27	Osc.	2.1	55	0	0	4.5	0
Z51	I. F.	2.3	180	-5.0	0	.75	80
Z27	2nd Det.	2.15	160	-14.5	8.5	28.	250
Z47	Power	2.3	250	-15	0	0	40
Z24	A. V. C.	2.1	8	-5	0	0	0
Z80	Rect.	4.7	0	0	0	3.4 ca.	0

Voltage readings taken with a Weston type 566 tester. Manual volume control in maximum position and antenna and ground disconnected. Line voltage 112.

I. F. Peak 175 KC

MODELS AH, CH, RH  
**Parts List**  
**Servicing Data**

**ZENITH RADIO CORP.**

**I-F. ADJUSTMENT**

The intermediate transformers employed between the 1st detector and I. F. tube and between the I. F. tube and 2nd detector have been accurately peaked to 175 kilocycles on a temperature controlled crystal oscillator before leaving the factory and unless the service man has an oscillator which is accurately calibrated at 175 kilocycles and feels that the intermediates are at fault, their adjustment should never be changed. However, in cases where it is necessary the test oscillator is first set to 175 kilocycles and coupled to the grid terminal of the first detector through a .00025 mf. fixed series condenser. The ground lead of the test oscillator is connected to the ground post of the receiver. (Indicated at point "A" in figure 2.) For this operation the oscillator tube of the receiver should be removed. Do not connect the test oscillator direct to grid of the first detector tube without the series condenser being in the grid lead, since by so doing, the bias resistor will be shorted out. Four adjusting screws are provided under the chassis (see figure 3). These verniers tune the plate circuit of the first detector, grid and plate circuits of the I. F. stage and grid circuit of the 2nd detector. (See wiring diagram.) Beginning at the second detector grid vernier, each adjusting screw is, in turn, set for maximum output. For best results the verniers should be gone over twice in the same rotation, always keeping the output from the test oscillator at the weakest possible strength.

**BALANCING CHASSIS**

Every Zenette Superheterodyne is carefully balanced on laboratory equipment before the set leaves the factory and should not require further attention. However, in the event that some part of the receiver has been changed or the adjustments shifted by mishandling it may be done as follows: Procure an oscillator which is calibrated to 1500 and 550 kilocycles. It is necessary that it be accurate, otherwise the receiver dial cannot be set properly. It will be best to remove the chassis from the cabinet for this operation in order to reach the oscillator padding condenser adjustment. (See figure 4.) The test oscillator should be coupled to the antenna and ground posts of the receiver by the two leads now being furnished by the manufacturers of commercial oscillators. Although very good results may be had simply by judging audibility from the speaker, a more accurate method is to employ an output meter attached to the speaker transformer.

Before balancing any Zenette Superheterodyne the tuning condenser gang should be turned to maximum mesh position, namely the 550 kilocycle end of the scale. When the condenser is turned as far as it will go in this direction the dial index light must point to a position one division or channel beyond the 550 kilocycle line on the dial. If this condition does not already exist the index bracket should be adjusted up or down as the case may be.

The test oscillator should first be set to exactly 1500 kilocycles and attached to the antenna and ground posts, after which the receiver dial is also set to the 1500 kilocycle marking. With the manual volume control set to maximum volume, the oscillator trimmer (see figure 3) is adjusted to give maximum response in the speaker or greatest deflection of the output meter, if one is used. This vernier is extremely sharp and, therefore, great care should be used in its adjustment. The first detector section is next (see figure 3). This is the right hand section from the front. Its trimmer must also be varied for maximum response.

It will be noted that the center section of the condenser gang does not have a vernier adjustment. This is provided by the antenna compensating condenser. This section will automatically resonate by adjusting the antenna compensator after the set is connected to the aerial which is to be permanently employed. It is done by tuning to a very weak station at between 1500 and 1300 kilocycles on the dial and turning the manual volume control to the position of maximum volume. The compensator knob varies the capacity of a small series condenser and should be turned for greatest signal strength by turning first to the right and then to the left and allowed to stay at a point of maximum volume.

After making the above adjustment at 1500 kilocycles it will be necessary to then set the test oscillator at 550 kilocycles. Tune the set to 550 kilocycles and rock the receiver dial back and forth over the test oscillator signal at the same time adjusting the oscillator paddler condenser (see figure 4). An adjustment of the paddler will be found which gives maximum output. When this has been done it is necessary to go back to 1500 kilocycles on both the test oscillator and the dial and readjust the oscillator vernier if necessary.

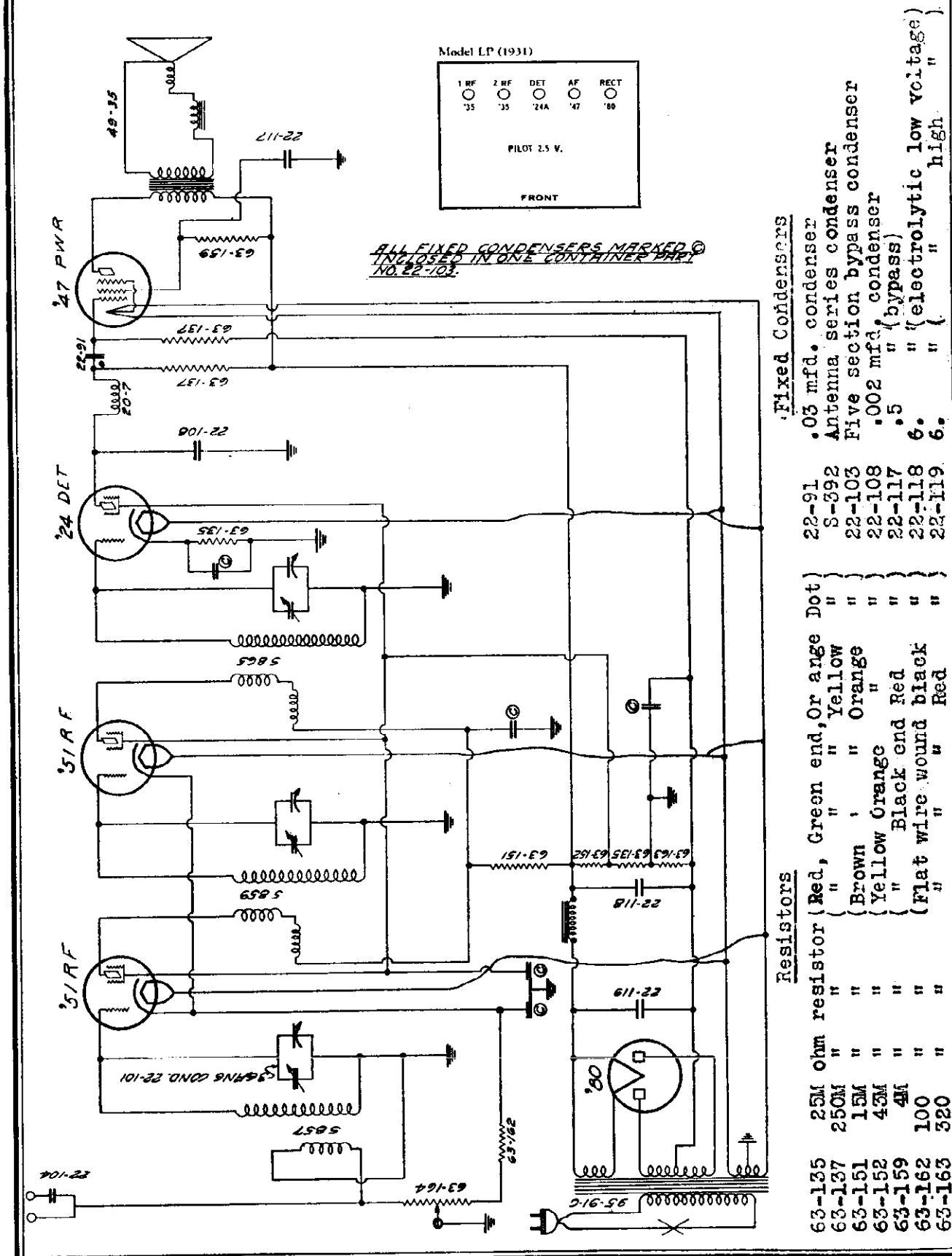
In case a test oscillator is not available the service man may use a weak station on the low frequency end and another station on the high frequency end with the manual volume control in the maximum position.

**RESISTORS**

No.	PART	DESCRIPTION	No.	PART
63-121	100M ohm	Detector Plate.....	22-82	.001 mf
63-131	400 ohm	1st Det. Cathode.....	22-92	.5 mf
63-135	25M ohm	Power Tube Grid.....	22-99	.1 mf (Dual)
63-136	50M ohm	A. V. C. Plate.....	22-104	.0001 mf
63-139	500M ohm	Power Tube Grid.....	22-107	.5 mf
63-140	1 meg. ohm	Osc. Grid.....	22-108	.001 mf
63-144	3 meg. ohm	A. V. C. Grid.....	22-110	.1 mf
63-151	15M ohm	Voltage Divider.....	22-111	.03 mf
63-155	1M ohm	R. F. 1st Det. I. F.....	22-112	.1 mf
63-156	10M ohm	Voltage Divider.....	22-115	1 mf
63-157	100 ohm	Voltage Divider.....	22-118	6. mf Electrolytic..A.V.
63-158	1700 ohm	Voltage Divider.....	22-119	6. mf Electrolytic..A.V.
63-160	100M ohm	Power Tube Bias.....	22-121	8. mf

ZENITH RADIO CORP.

MODEL LP  
Schematic  
Parts List



Fixed Condensers

22-91	.03 mfd. condenser
S-392	Antenna series condenser
22-103	Five section bypass condenser
22-108	.002 mfd. condenser
22-117	.5 " (bypass)
22-118	6. " (electrolytic low voltage)
22-119	6. " high

Resistors

63-135	25M ohm resistor (Red, Green end, Or ange Dot)
63-137	" " " " Yellow " " "
63-151	" " " " Brown " " Orange " " "
63-152	" " " " Yellow Orange " " " " "
63-159	" " " " Black end Red " " " "
63-162	" " " " Flat wire wound black " " " "
63-163	" " " " Red " " " Red " " " "

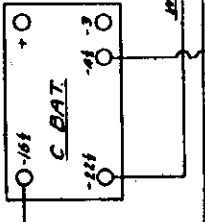
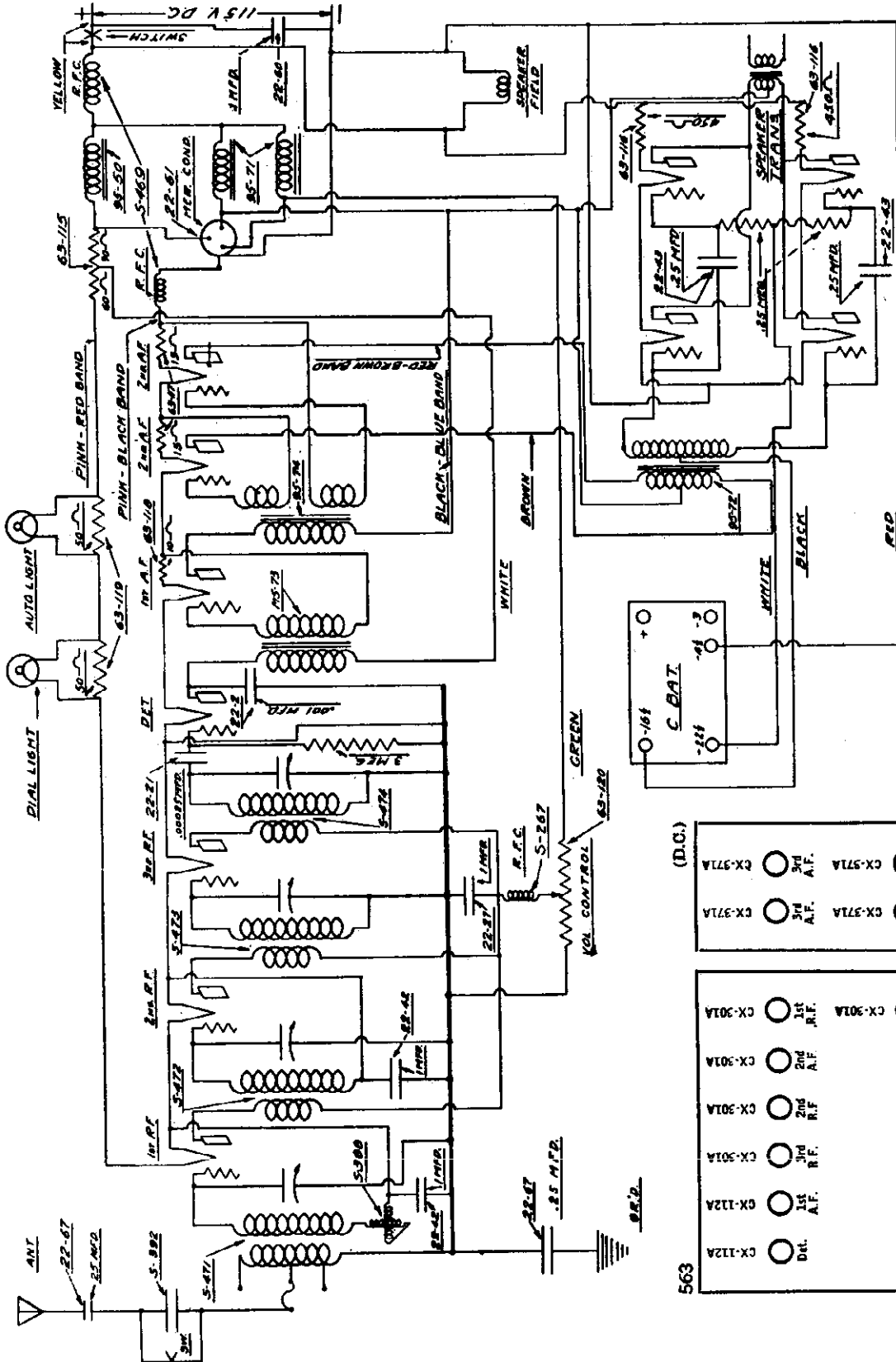






MODEL 563 DC  
Schematic

ZENITH RADIO CORP.



(D.C.)

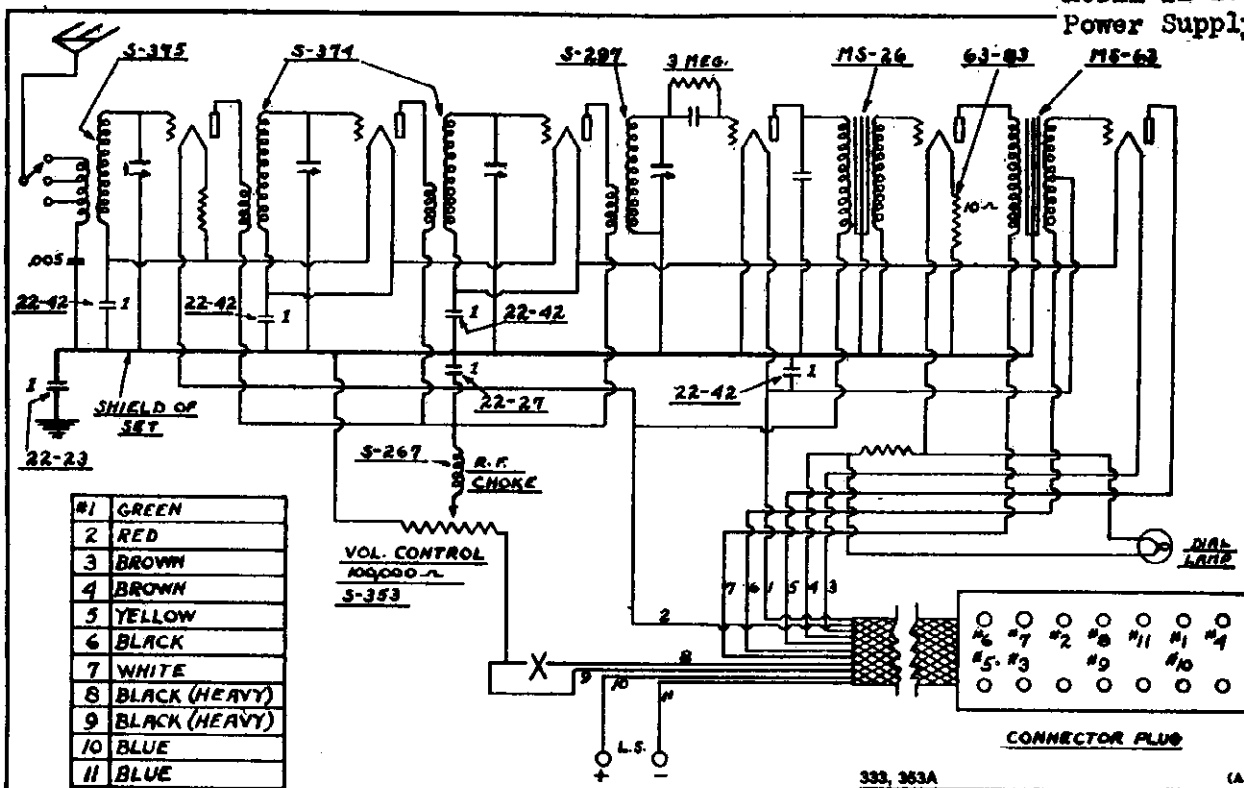
○ CX-371A	1st A.F.	○ CX-371A	2nd A.F.
○ CX-371A	2nd A.F.	○ CX-371A	3rd A.F.

○ CX-301A	1st R.F.	○ CX-301A	2nd A.F.
○ CX-301A	2nd A.F.	○ CX-301A	3rd R.F.
○ CX-301A	3rd R.F.	○ CX-112A	1st A.F.
○ CX-112A	1st A.F.	○ CX-112A	Det.

563

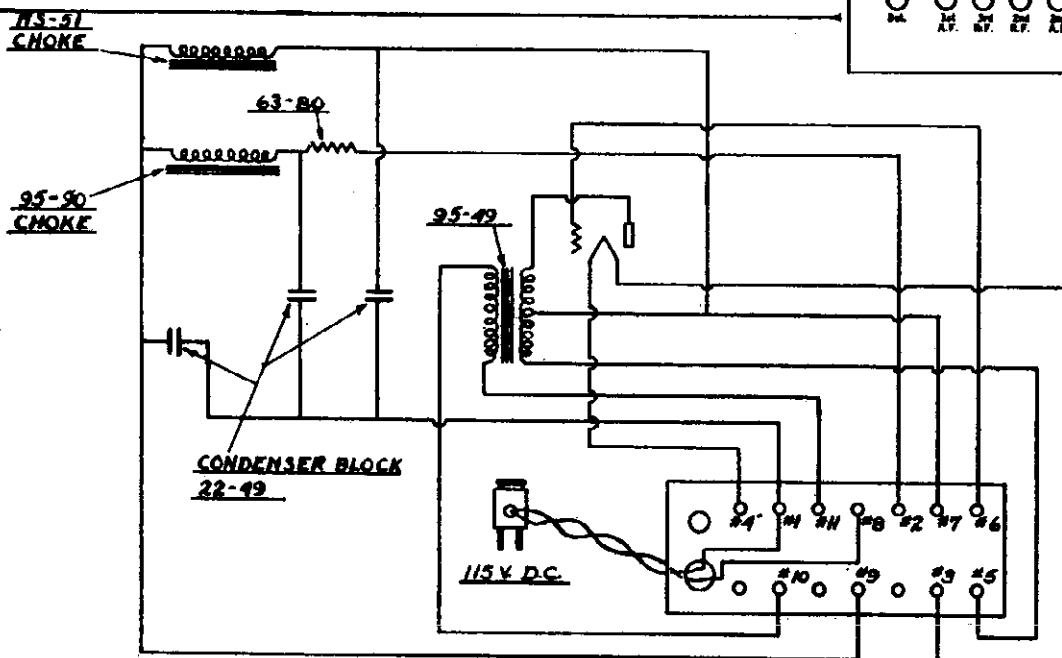
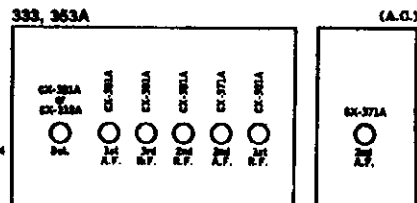
ZENITH RADIO CORP.

MODEL 333-353A  
Schematic  
MODEL ZE 17  
Power Supply



WIRING DIAGRAM  
MODEL 333-353A  
6 TUBE D.C. SET.

(13)

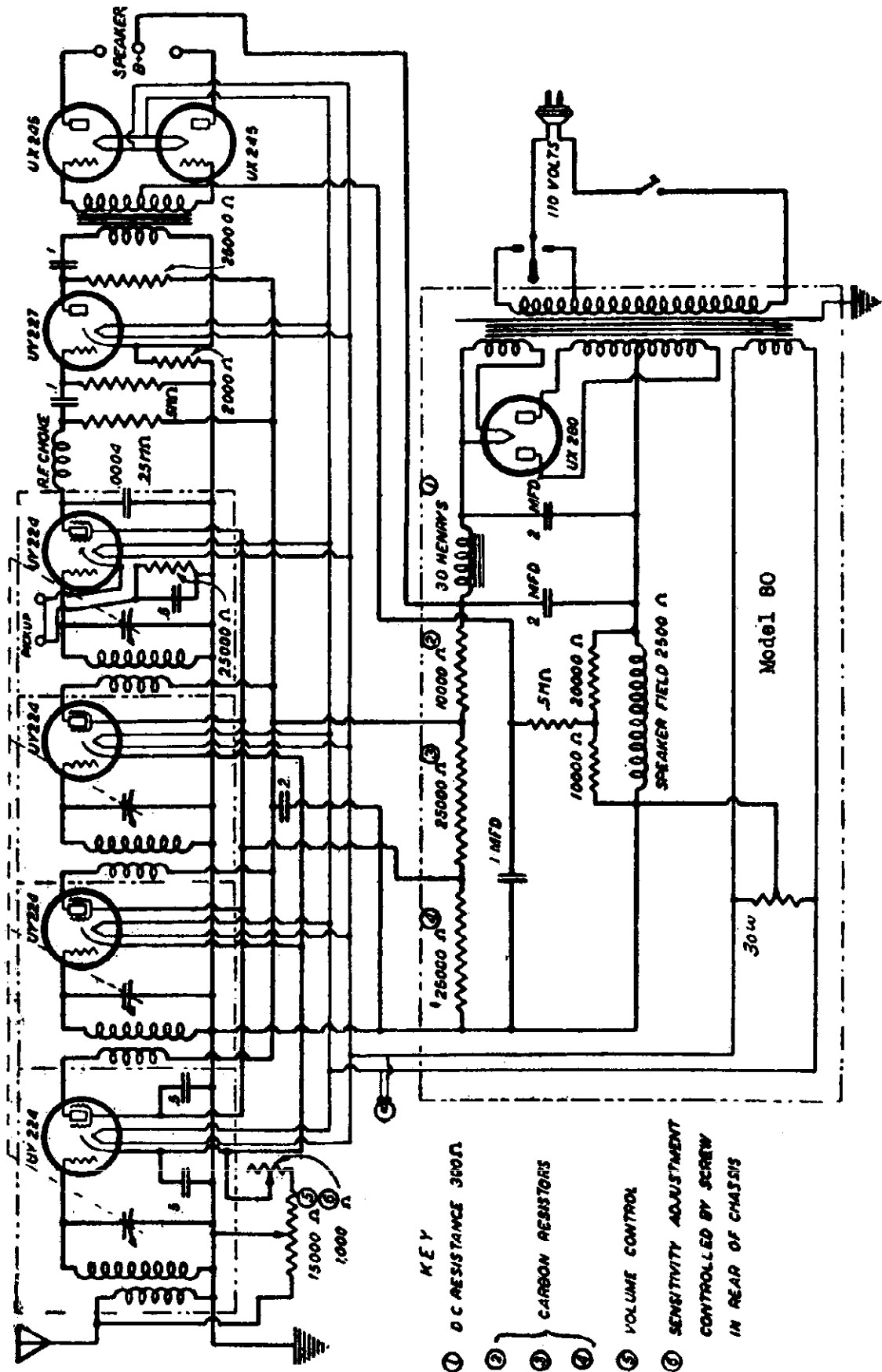


WIRING DIAGRAM  
MODEL ZE 17  
POWER SUPPLY FOR  
MODELS 333-353A

ZENITH RADIO CORPORATION  
CHICAGO ILL.



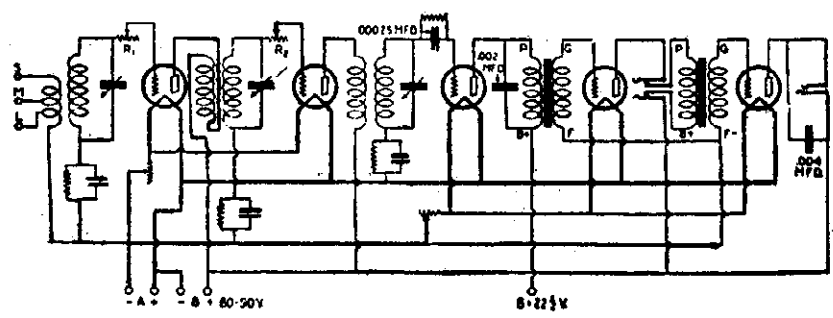
NATHANIEL BALDWIN & CO.



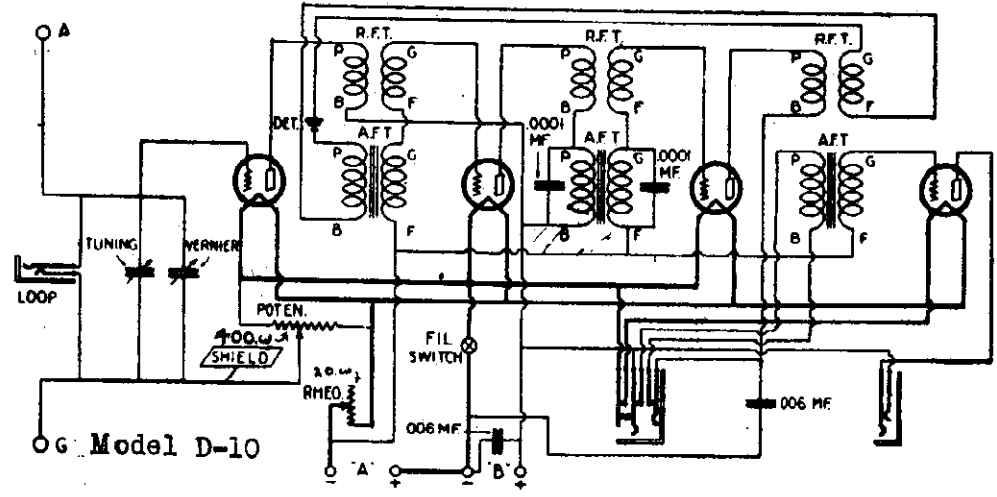


DEFOREST RADIO CORPORATION

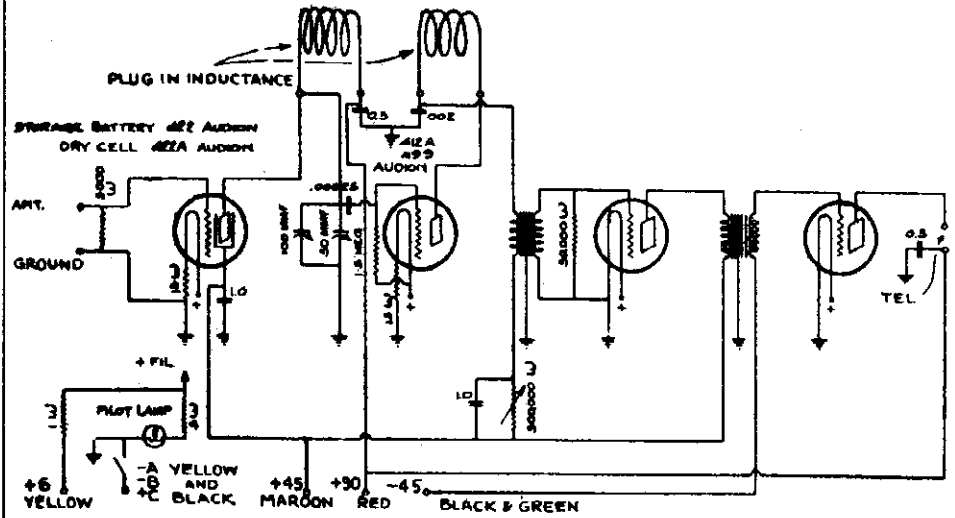
MODEL F-5  
MODEL D-10  
MODEL CS-5  
MODEL D-17



Model F-5

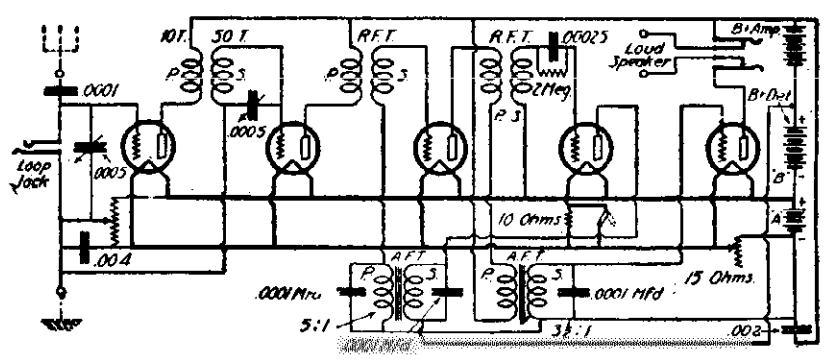


Model D-10



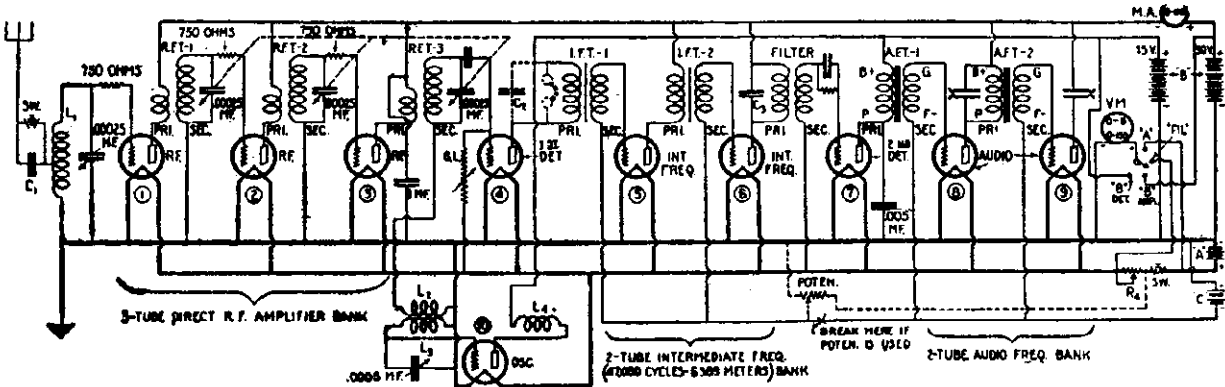
Model CS-5

Model D-17



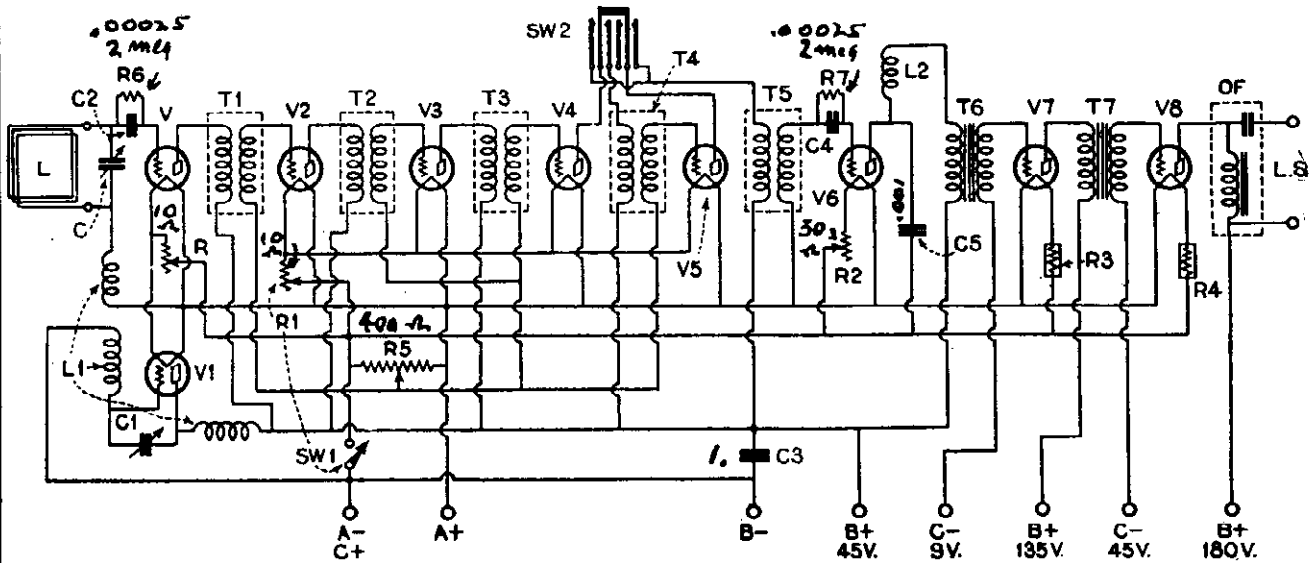
EXPERIMENTERS INFORMATION  
SERVICE  
RADIART LABORATORIES

Model Navy C-10



The Experimenters' Information Service Navy Model C-10 super-heterodyne designed for a wave-length range from 600 meters down to 50 meters, the band being covered through the employment of interchangeable coils.

Model Magnaformer 9-8



Schematic diagram of the Magnaformer 9-8 Receiver. By means of the cam switch SW2 one stage of I.F. amplification can be cut out. This switch is mounted on the front panel of the receiver, below the drum dials.

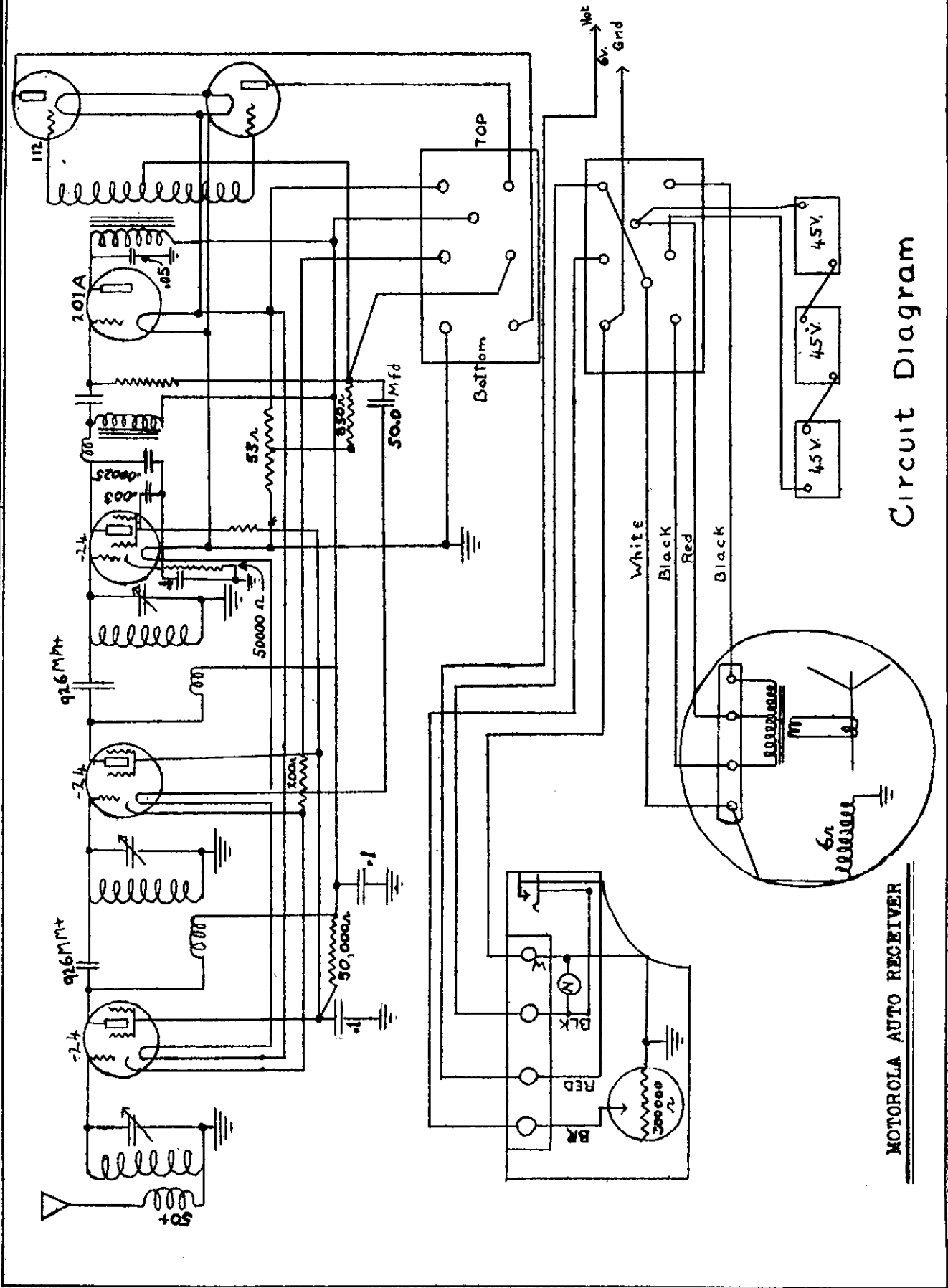






GALVIN MFG. CO.

MODEL Motorola  
Auto Receiver

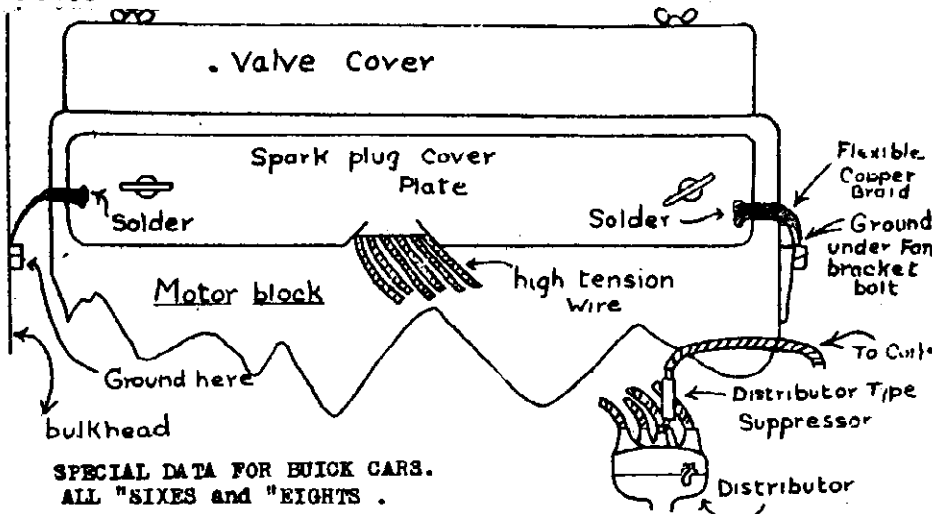


Circuit Diagram

MOTOROLA AUTO RECEIVER

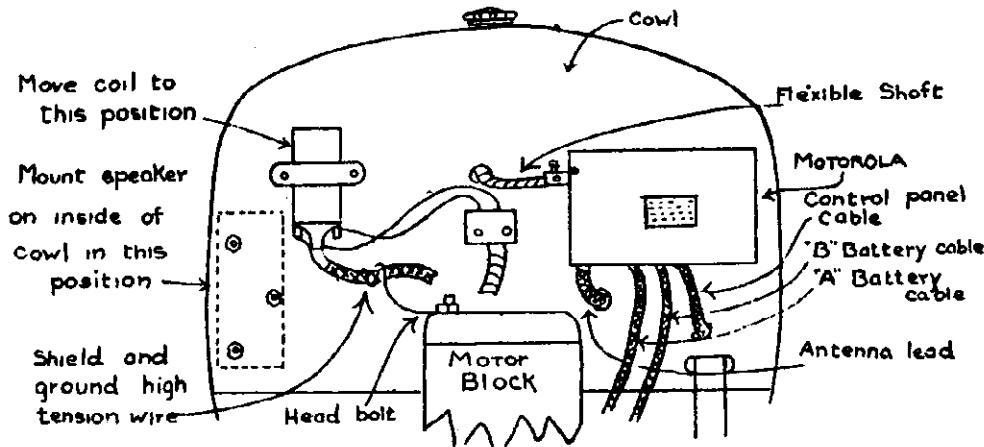
**MODEL Motorola  
Auto Receiver  
Notes**

**GALVIN MFG. CO.**



**SPECIAL DATA FOR BUICK CARS.  
ALL "SIXES and "EIGHTS .**

- (a) The above illustrates a method of grounding the spark plug cover plate found on all Buick cars. Do not be misled by the fact that this plate is apparently grounded by the two aluminum wing nuts holding it to side of motor, for this is in no way a ground for the type of current radiating from spark plugs which cause radio interference. Soldering flexible jumpers to this cover plate and grounding same under motor or chassis bolts will in every case help eliminate motor noise in radio reception.
- (b) As a further help on the new Model Buick Eights, it will be found advisable to solder copper bonds to all the control shafts passing through bulkhead and grounding these to bulkhead. By "control shafts" we mean choke rods, carburetor heat control, motor temperature indicator, etc.



**SPECIAL DATA FOR MODEL "A" FORD CARS**

The above illustrates the proper mounting of a Motorola receiver on a Model "A" Ford car. On inspection you will note that it is necessary to move the ignition coil over to side of cowl. This is done for two reasons, one to make room for the flexible shaft to pass through cowl and the other to help in elimination of motor noise.

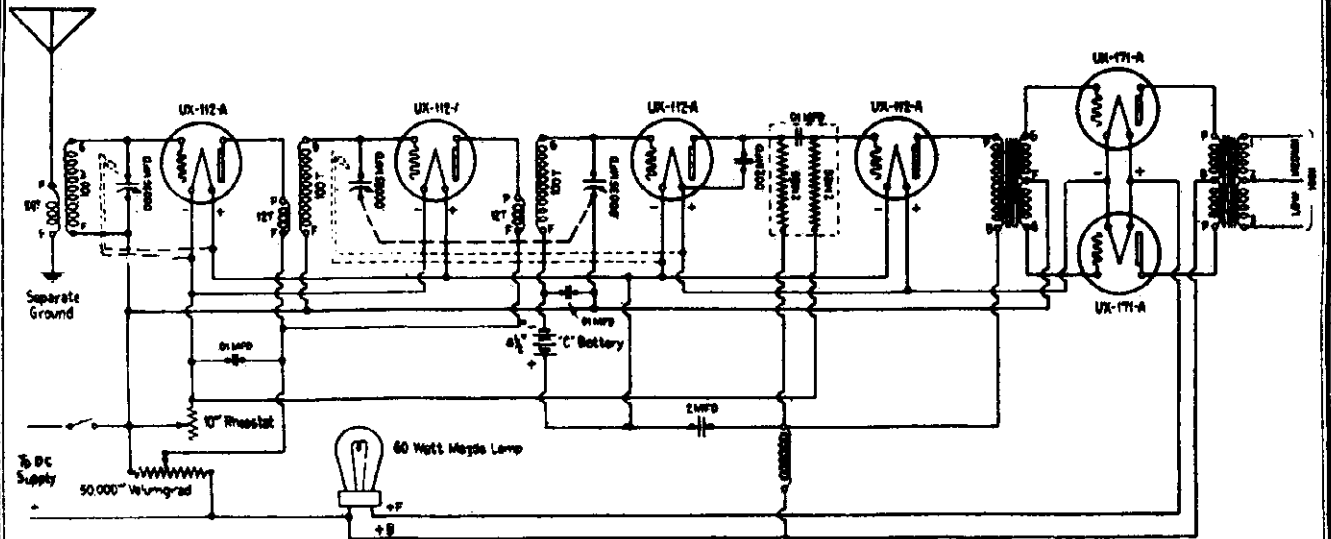
It is advisable to shield the high tension lead from coil to distributor and ground this shielding to motor block as per diagram.

The speaker will be found to mount best on the inside of cowl to the right side of car above foot board.

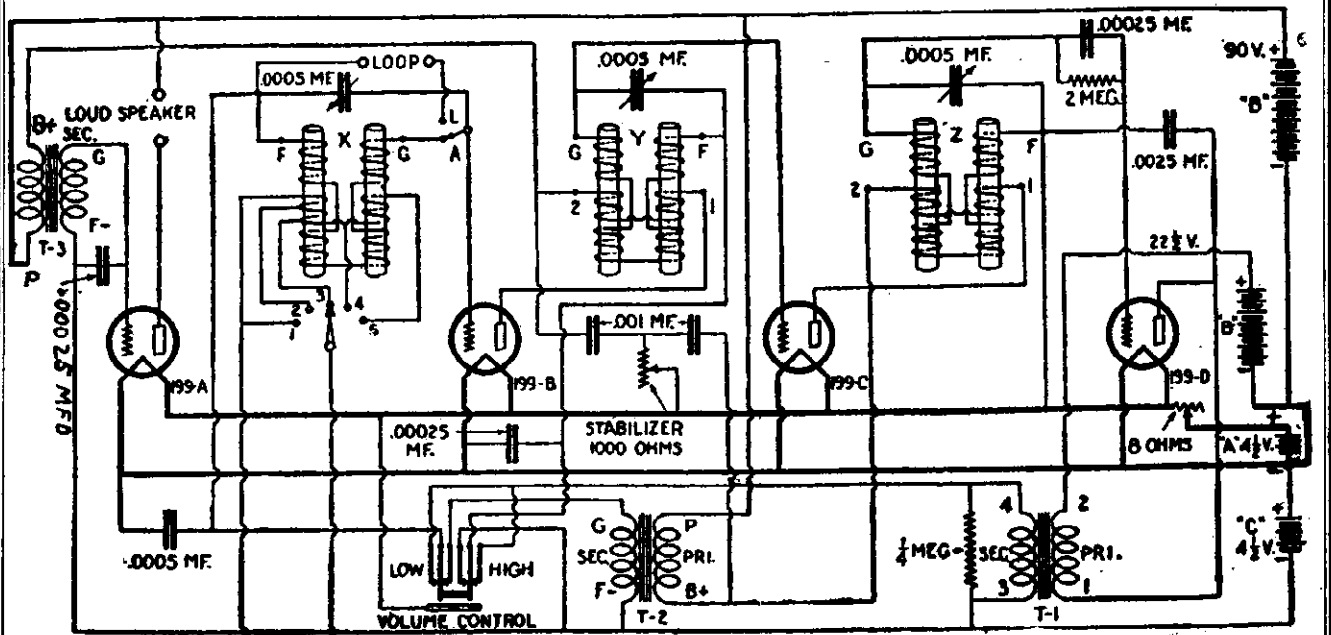
maximum signal obtainable. If operation is satisfactory to this point, the volume should be turned all the way on, the station selector knob turned to a point where no signal is received, the motor of car started and there should be no motor noise noticeable.

Different cars will have different types of antennae and their capacities with respect to the frame of the car will be different, therefore it will be necessary to phase the antenna with the set. Remove the four screws holding the set lid in place, turning the set on and tuning to a very weak station. Adjust with a screw driver the small trimming condenser, to t;

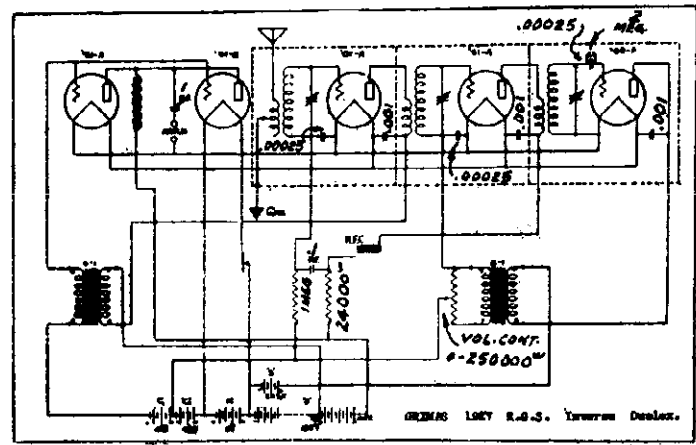
DAVID GRIMES, INC.



GRIMES 110 Volt D.C. - ("NEW YORKER")

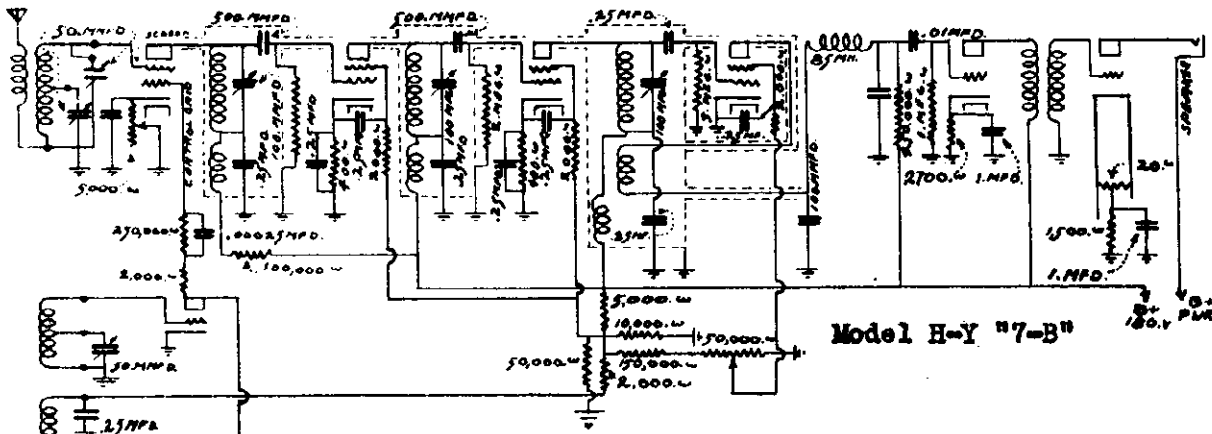
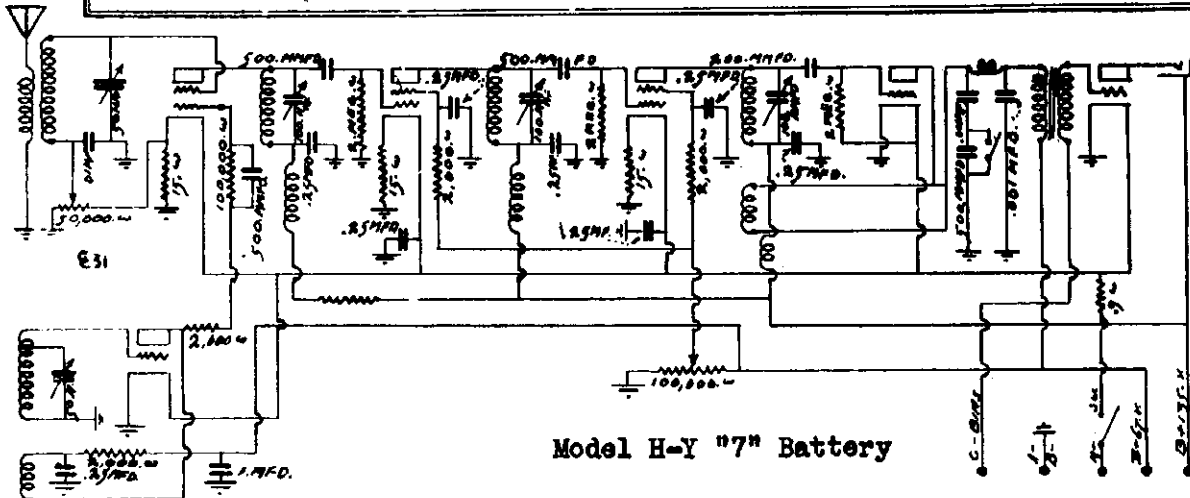
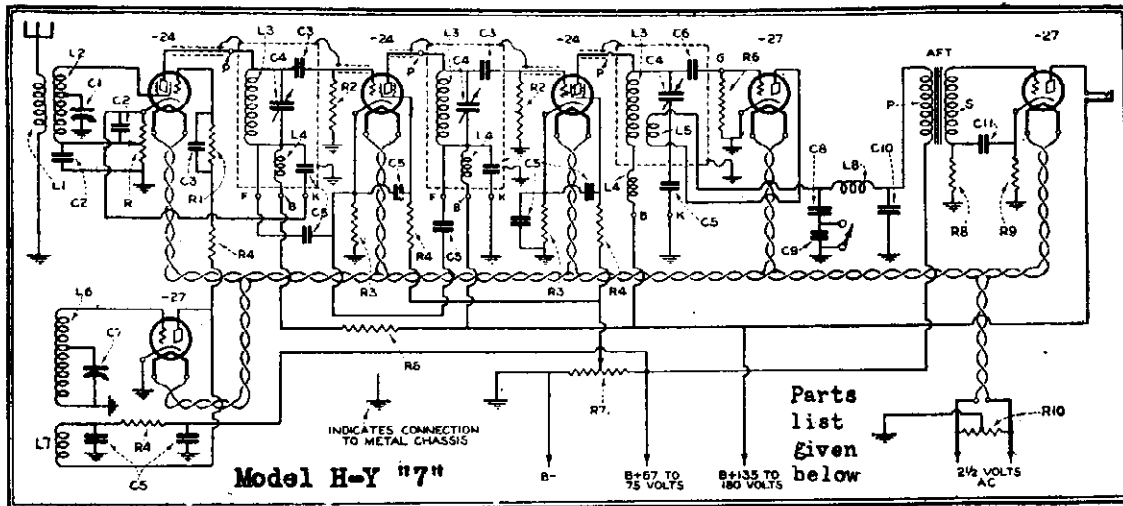


AERIAL G GROUND GRIMES Type 4-DL Inverse Duplex (Reflex) Circuit



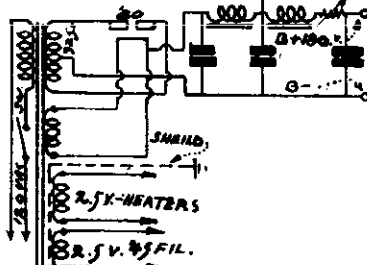
GRIMES LNEY R.D.S. Inverse Duplex

# HATRY & YOUNG

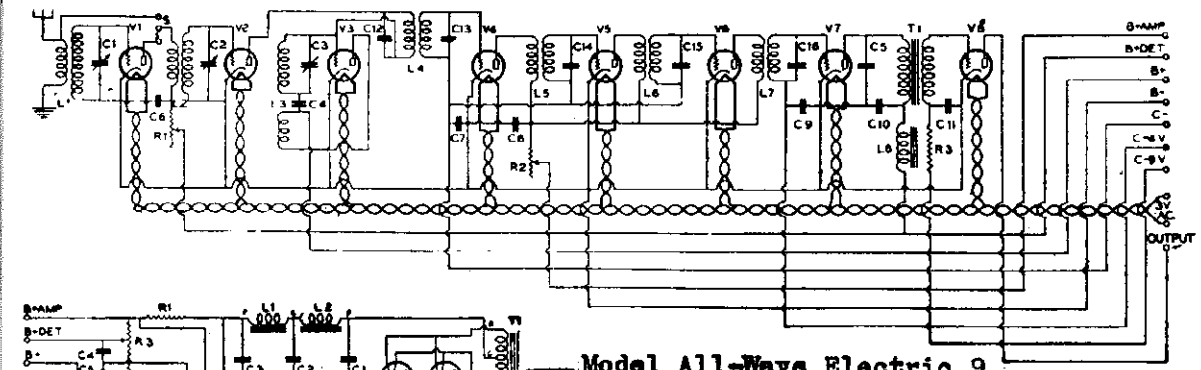


- Model H-Y #7-B Power Pack**
- R1—100,000-ohm Durham metallic leak.
  - R2—2-megohm Durham metallic leak.
  - R3—400-ohm Electrad suppressor resistance.
  - R4—2,000-ohm Electrad suppressor resistance.
  - R5—25,000-ohm Durham metallic.
  - R6—3-megohm Durham metallic.
  - R7—25,000-ohm Electrad royalty potentiometer.
  - R8—50,000-ohm Durham metallic.
  - R9—2,250-ohm Durham metallic.
  - R10—10-ohm centre-tapped Yaxley.

- C1—50 mmfd. midget pilot.
- C2—.01 mfd. Sangamo fixed condenser.
- C3—.0005 mfd. Sangamo fixed condenser.
- C4—100 mmfd. Hammarlund equalizer, range with L3 about 1650-1475 kc.
- C5—.25 mfd. Sprague midget fixed condenser.
- C6—.0002 mfd. Sangamo fixed condenser.
- C7—Same as C1.
- C8—.00015 Sangamo.
- C9—.00005 mfd. Sangamo.
- C10—.001 mfd. Sangamo.
- C11—1 mfd. Flechtheim.
- R—5,000-ohm Electrad royalty potentiometer.



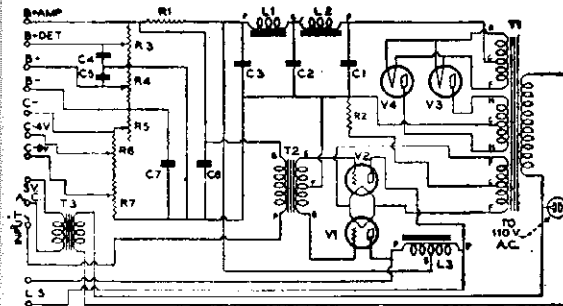
# R. E. LACAULT



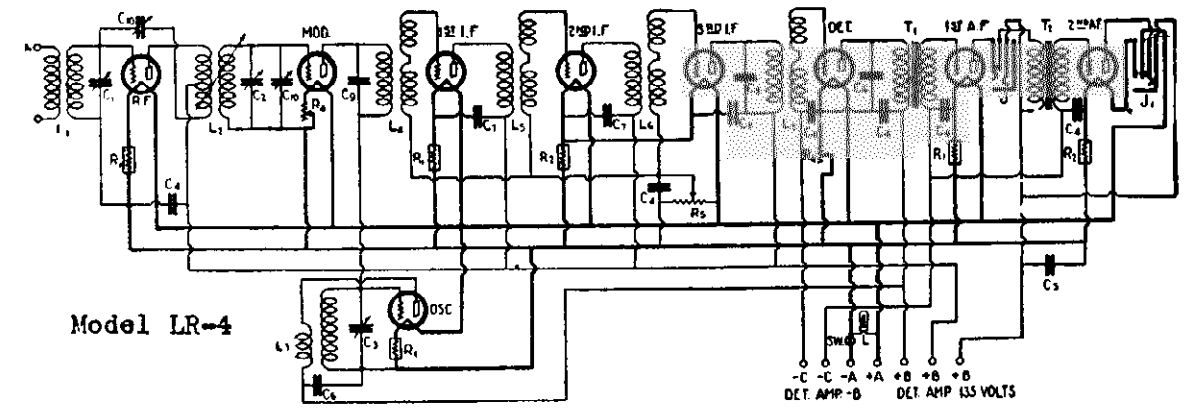
**Model All-Wave Electric 9**

- C1, C2 and C3—Variable condensers, .0001 mfd.
- L1 to L7—R.E.L. plug-in coils;
- L8—Audio-frequency choke;
- T1—Audio-frequency transformer;
- R1 and R2—Variable resistors;
- C4—Fixed condenser, .001 mfd.
- C5—Fixed condenser, .002 mfd.
- C6 to C9—By-pass condensers, .5 mfd., 100 volts;
- C10 and C11—By-pass condensers, 1 mfd., 400 volts;
- C12 to C16—Fixed condensers, .00025 mfd.
- V1 to V8—Heated cathode a.c. tubes;
- R3—Fixed resistor, 100,000 ohms;
- R4—Fixed resistor, 100,000 ohms;
- 1 Front panel;
- 1 Sub-base panel;
- 10 Binding posts;
- 2 Stage shields;
- 8 Coil sockets;
- 8 Tube sockets;
- 1 Drum dial;
- 1 Grid-leak mounting;
- 2 Condenser extension shafts;
- 2 Tip Jack and plugs;

- The parts required for building the amplifier-power unit are as follows:
- T1—Full-wave, power transformer;
- T2—Push-pull, audio-frequency transformer;
- T3—Filament transformer;
- L1 and L2—Audio frequency chokes;
- L3—Center-tapped, audio-frequency choke;
- C1, C2 and C3—Filter condensers, 2 mfd., 5,000 volts;
- R1—Fixed resistor, 4,000 ohms, 50 watts;
- R2—Fixed resistor, 750 ohms, 25 watts;
- R3 and R4—Variable resistors, 10,000 ohms;
- R5—Rheostat, 60 ohms;
- R6 and R7—Variable resistors, 500 ohms;
- C4 to C7—Fixed condensers, 1 mfd., 400 volts;
- V1 and V2—Power tubes, '10 type;
- V3 and V4—Rectifier tubes, '81 type;
- 4 Tube sockets;
- 12 Binding posts;
- 1 Front panel;
- 1 Sub-base panel;
- 1 110-volt receptacle.

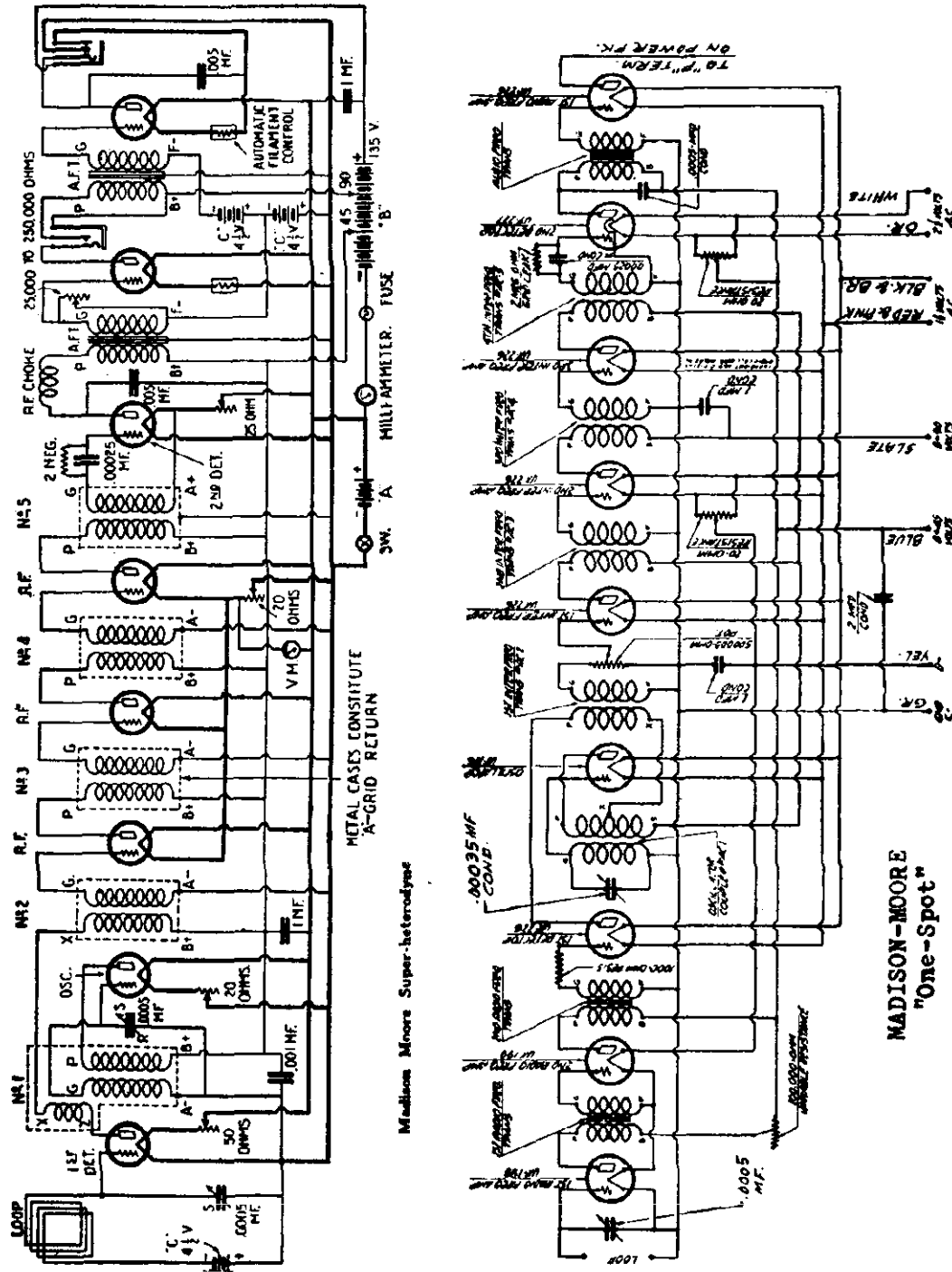


**Model LR-4**



**Model L-2 Ultradyne (Improved)**

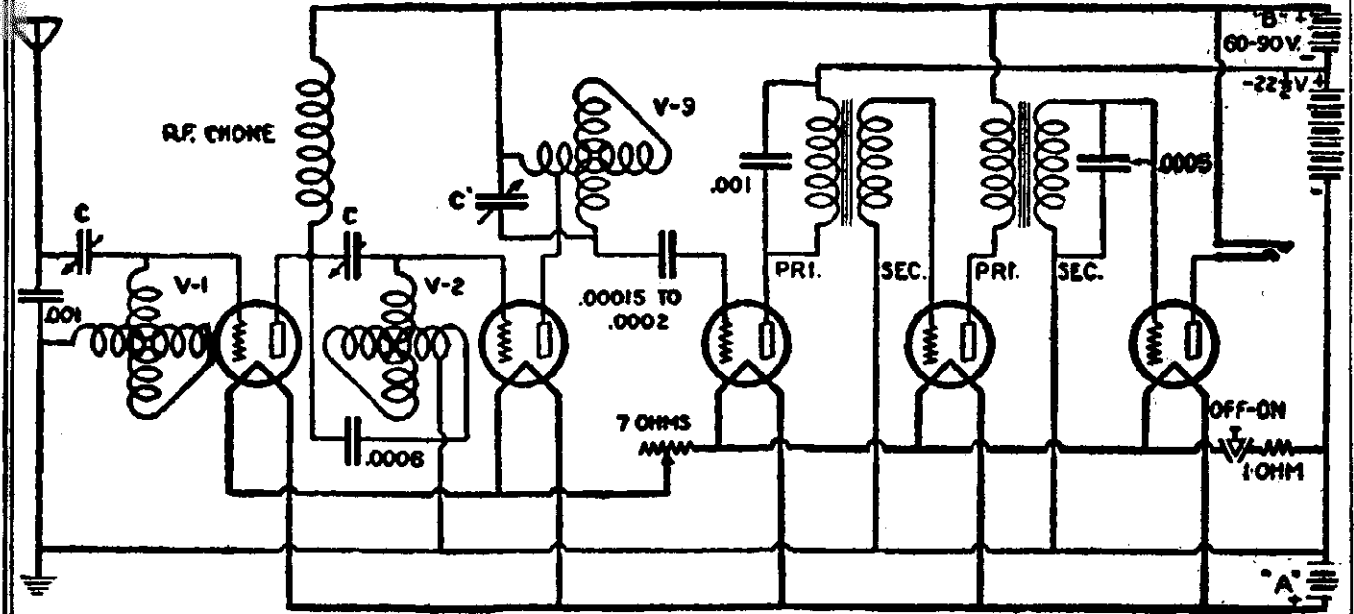
# MADISON-MOORE



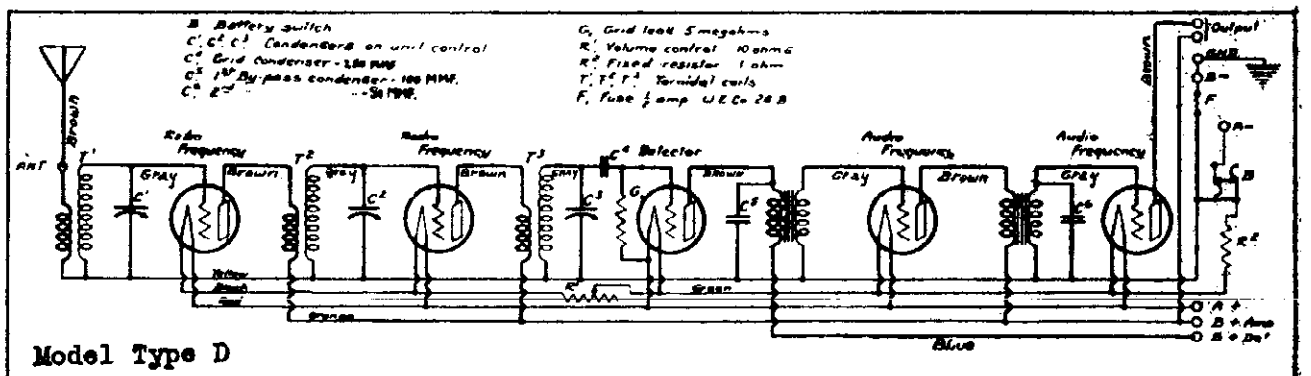
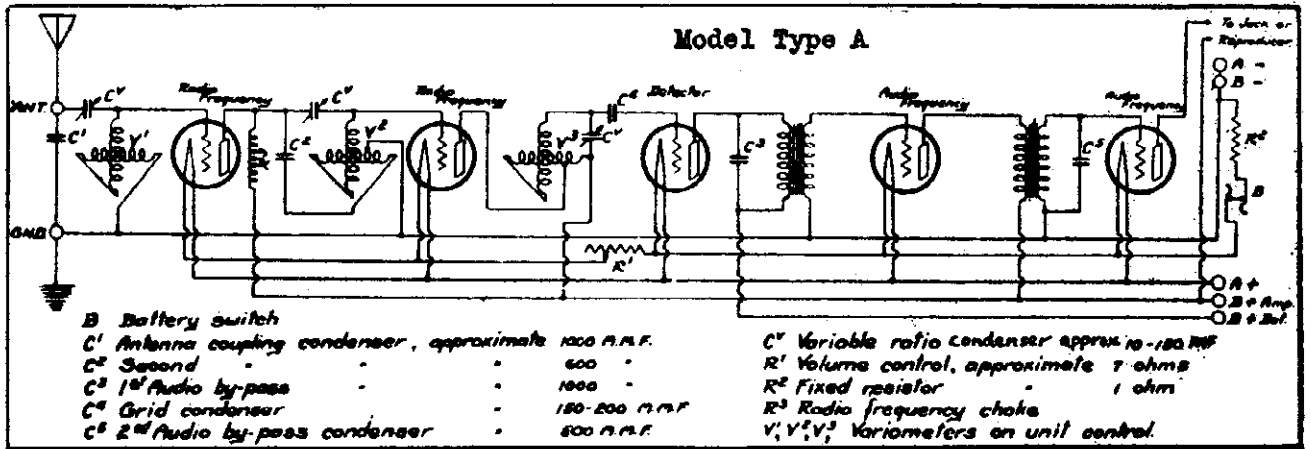


THE MAGNAVOX CO.

MODEL "One Dial"  
 MODEL "A"  
 MODEL "D"

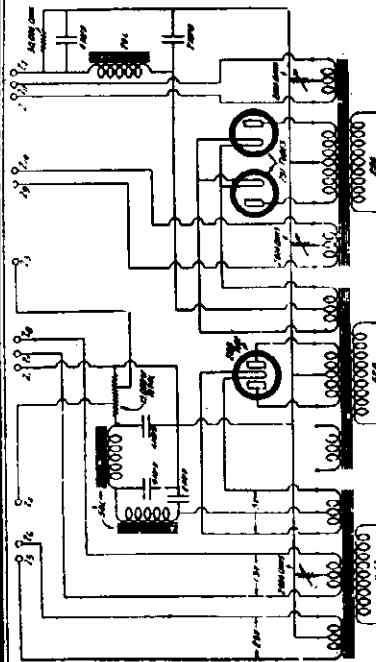


Model "One Dial"

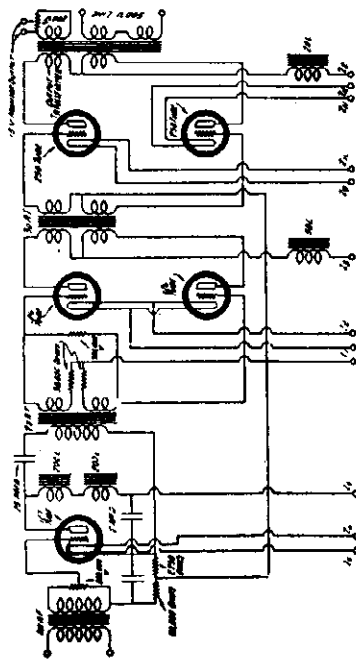


MAJOR LABORATORIES

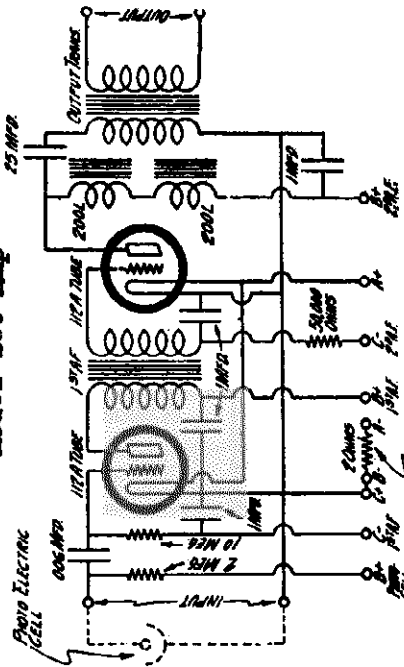
Model 12



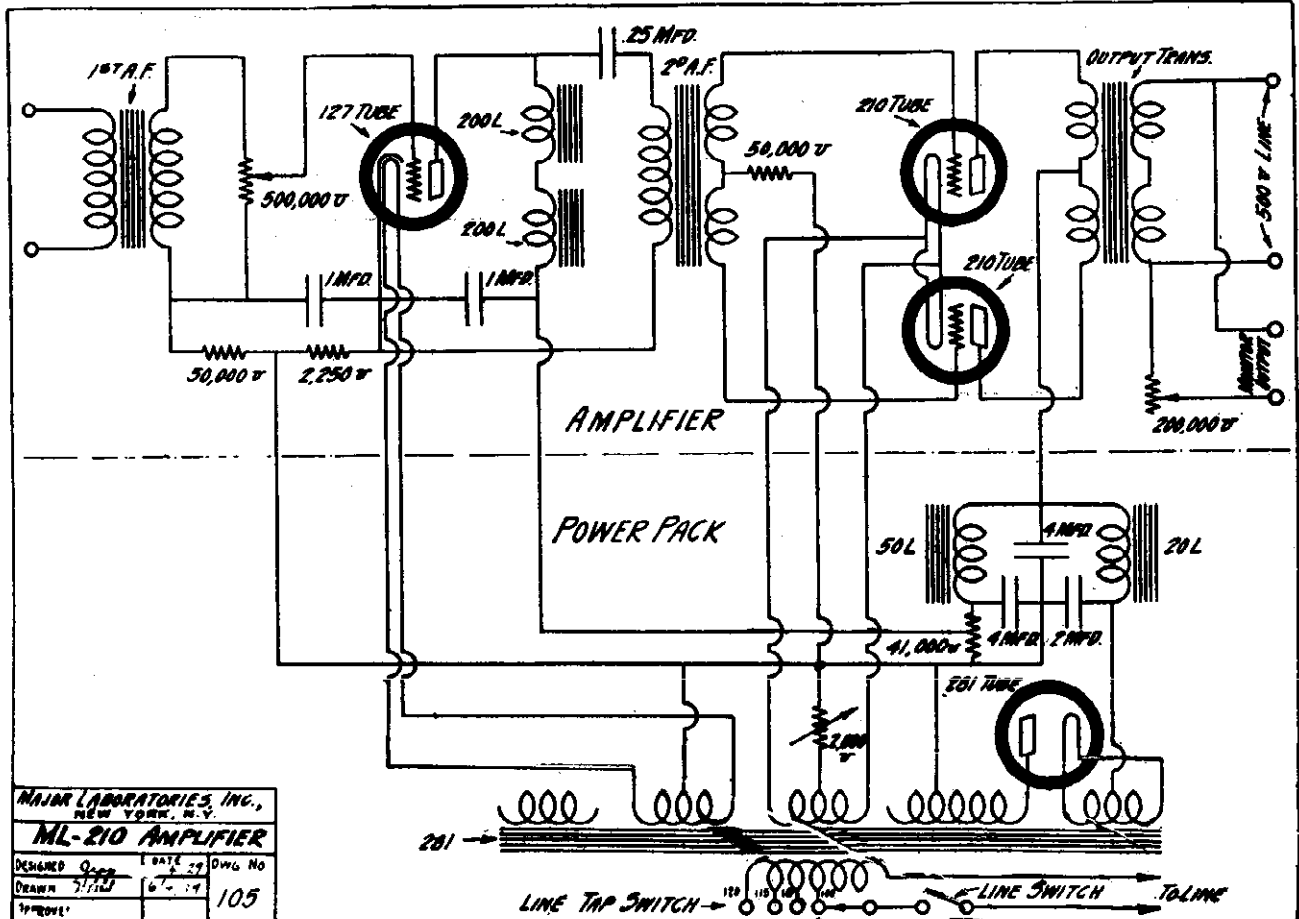
Model 250 Power Amplifier Power Supply.



Model 250 Amp



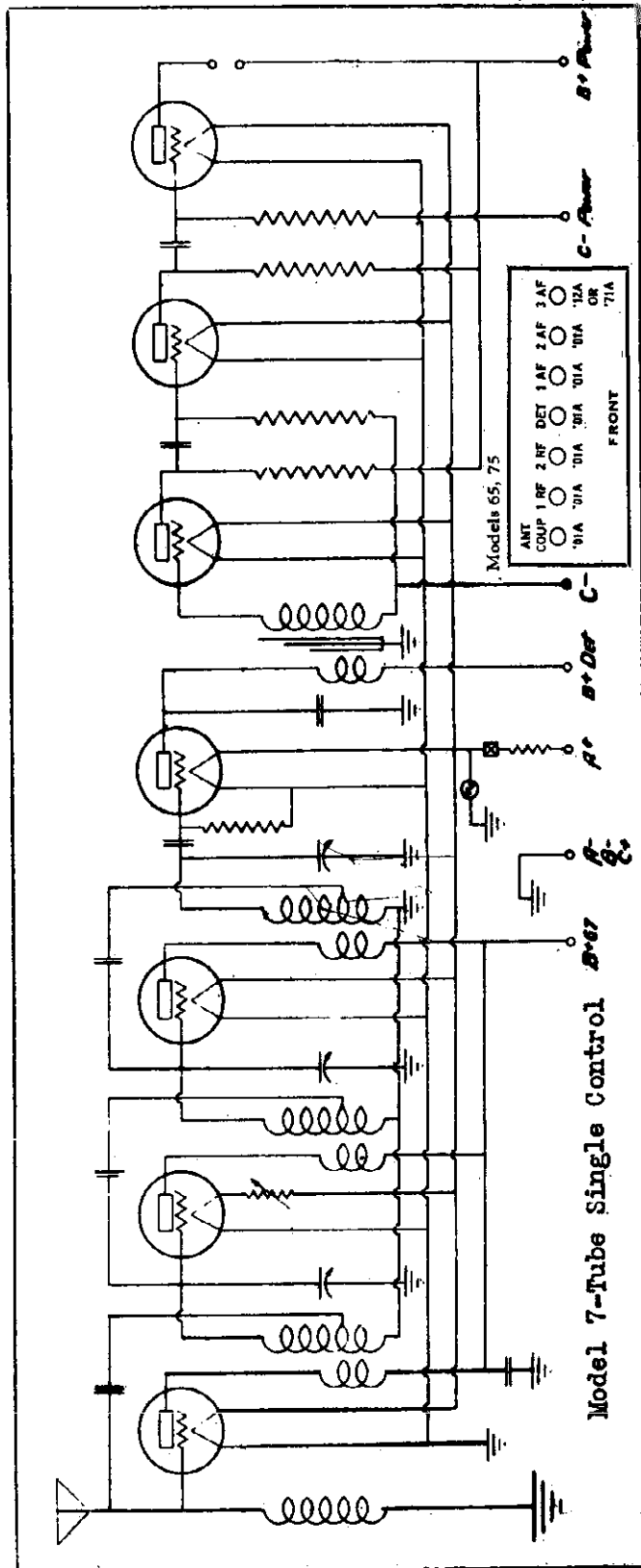
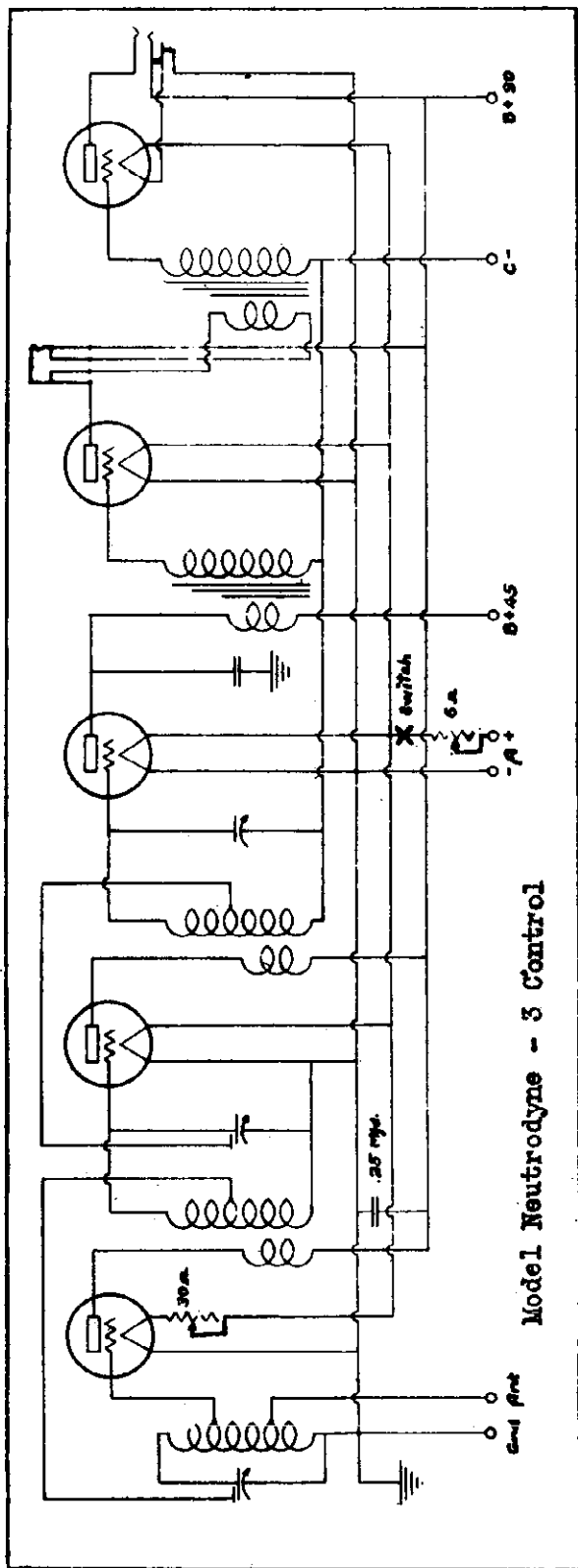
500 V LINE  
200,000 V



MAJOR LABORATORIES, INC.,  
NEW YORK, N.Y.  
**ML-210 AMPLIFIER**  
DESIGNED *Q. J.* DATE *2-27* DWG No  
DRAWN *J. J.* DATE *6-14* 105  
APPROVE:

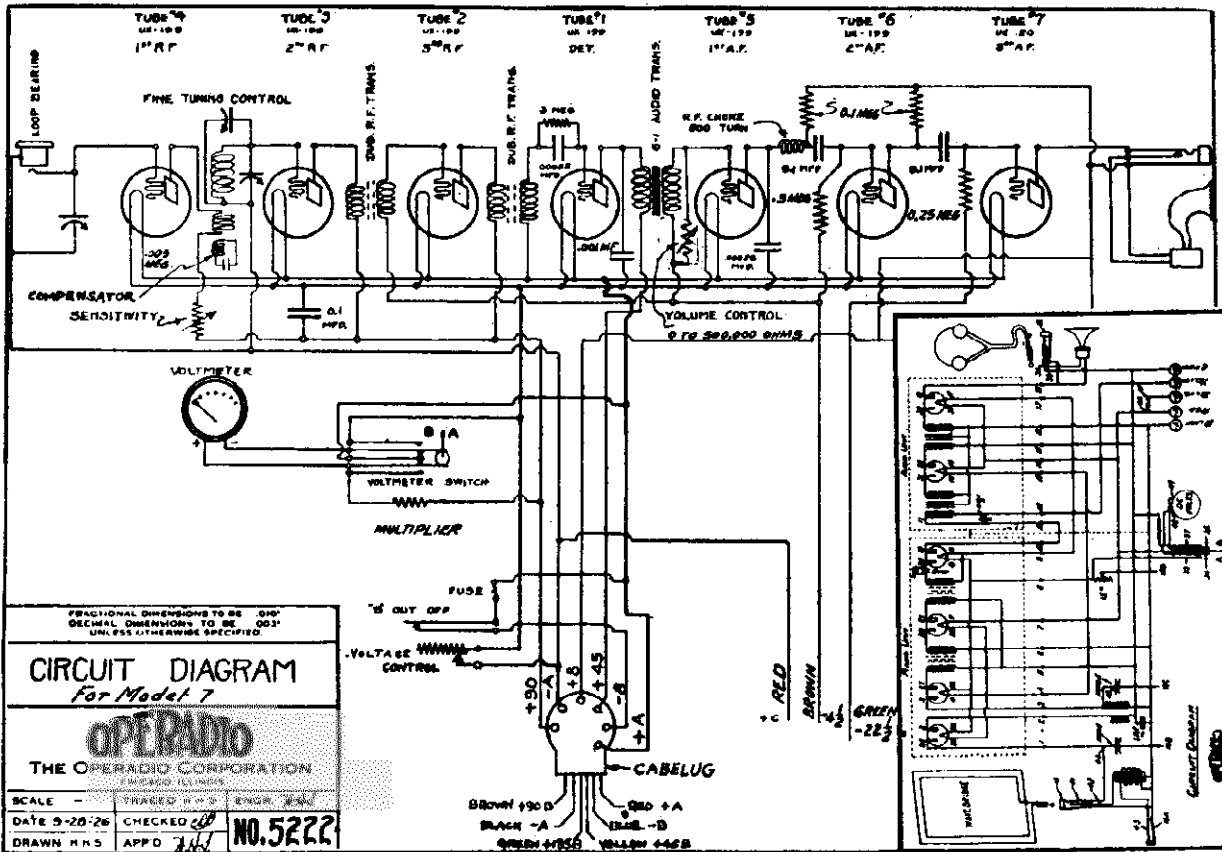
WILLIAM J. MURDOCK CO.

MODEL Neutrodyne  
 3 Control  
 MODEL 7 Tube  
 Single Control



OPERADIO CORP.

MODEL 1926  
 MODEL 1926  
 MODEL 7

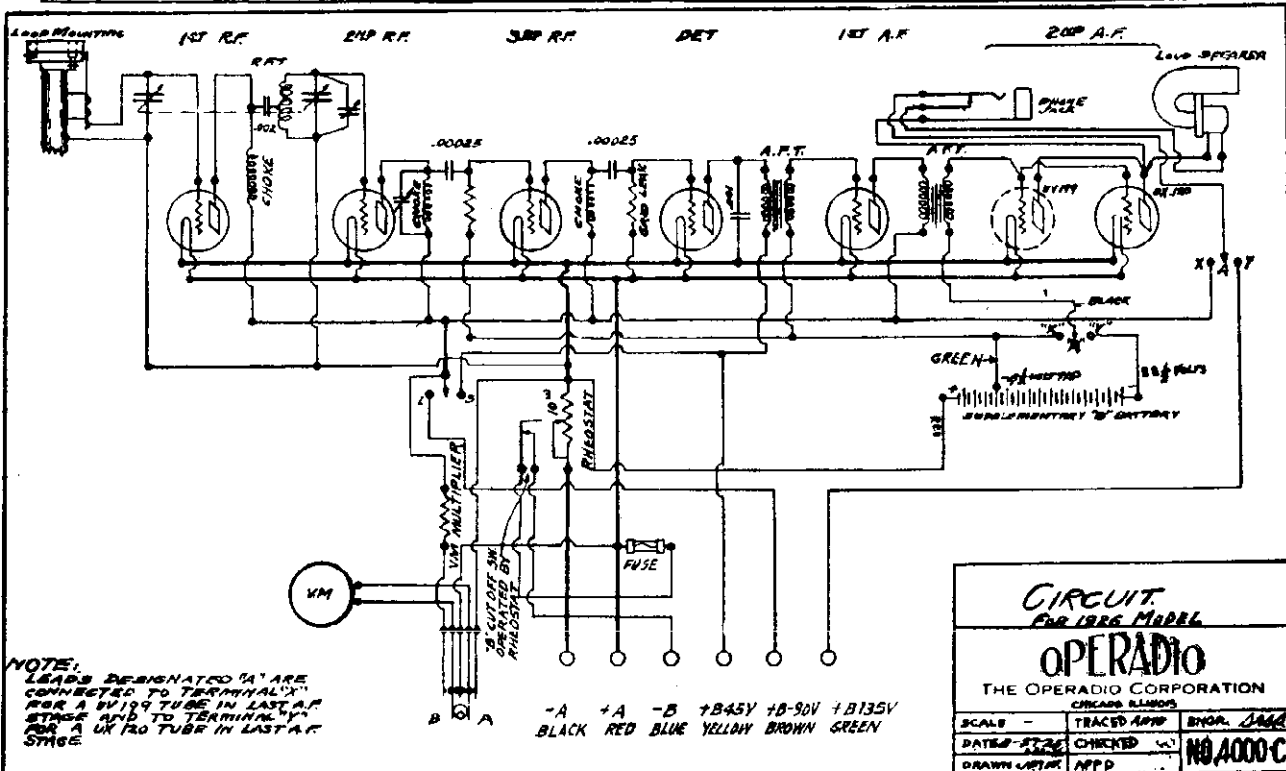


FRACTIONAL DIMENSIONS TO BE .010"  
 DECIMAL DIMENSIONS TO BE .001"  
 UNLESS OTHERWISE SPECIFIED

**CIRCUIT DIAGRAM**  
 For Model 7

**OPERADIO**  
 THE OPERADIO CORPORATION

SCALE - TRACED BY S. J. ENGR. J. S. J.  
 DATE 5-20-26 CHECKED BY J. S. J.  
 DRAWN HNS APPD. J. S. J. **NO. 5222**



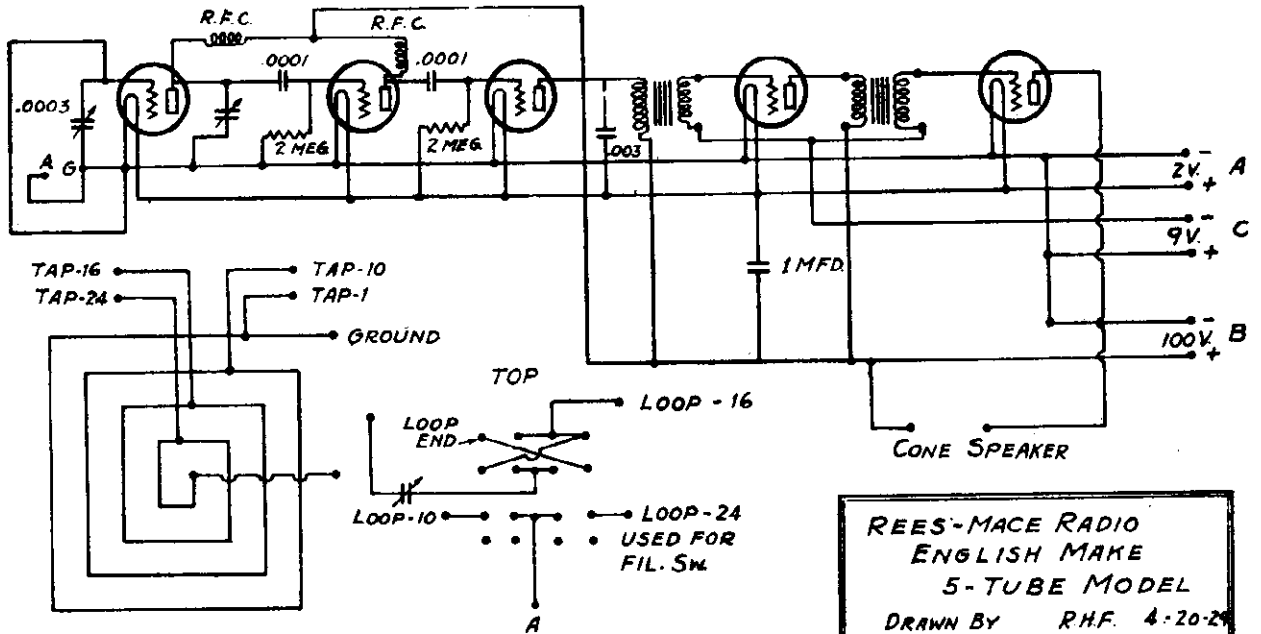
**NOTE:**  
 LEADS DESIGNATED 'A' ARE  
 CONNECTED TO TERMINAL 'X'  
 FOR A 6V199 TUBE IN LAST A.F.  
 STAGE AND TO TERMINAL 'Y'  
 FOR A 6X120 TUBE IN LAST A.F.  
 STAGE

**CIRCUIT**  
 FOR 1926 MODEL

**OPERADIO**  
 THE OPERADIO CORPORATION  
 CHICAGO, ILLINOIS

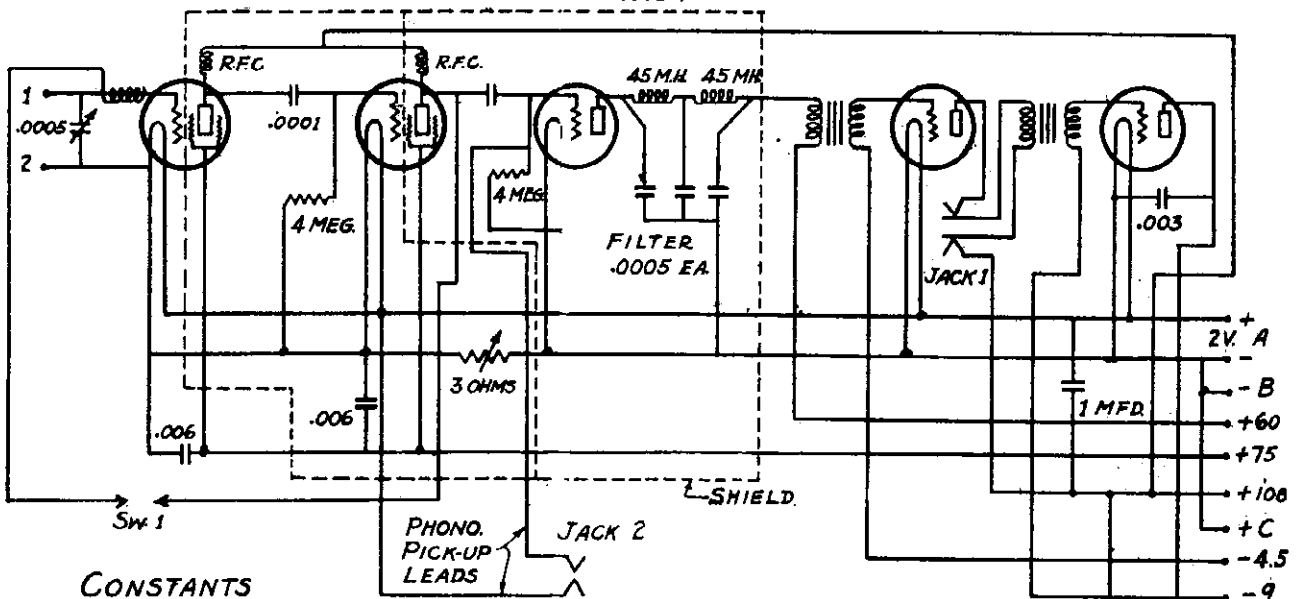
SCALE - TRACED BY S. J. ENGR. J. S. J.  
 DATE 5-20-26 CHECKED BY J. S. J.  
 DRAWN HNS APPD. J. S. J. **NO. 4000-C**

# REES-MACE



**REES-MACE RADIO  
ENGLISH MAKE  
5-TUBE MODEL**  
DRAWN BY R.H.F. 4-20-29  
CHECKED BY J.H.A. JR.

36T No. 24 D.C.C. WIRE The sets available only from John Wauerman N.Y.

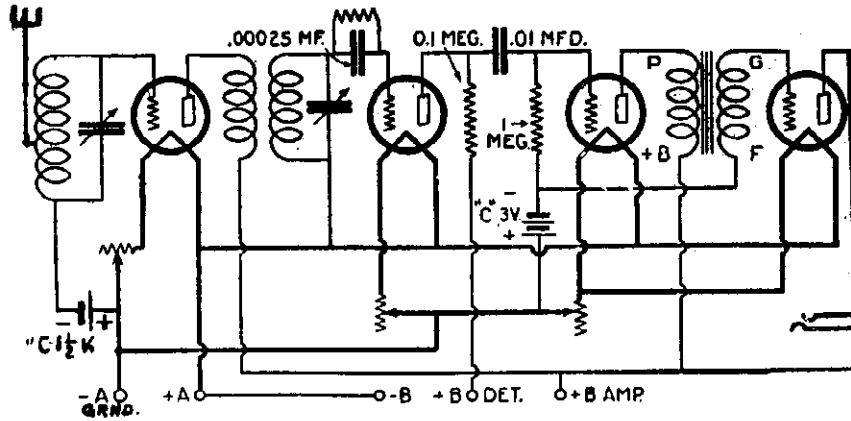


**CONSTANTS**  
NO. 1 AND 2 LOOP CONNECTIONS  
SW. 1 IS A PUSH PULL SWITCH WITH  
A VERY LOW CAPACITY  
TUBE SOCKET DATA

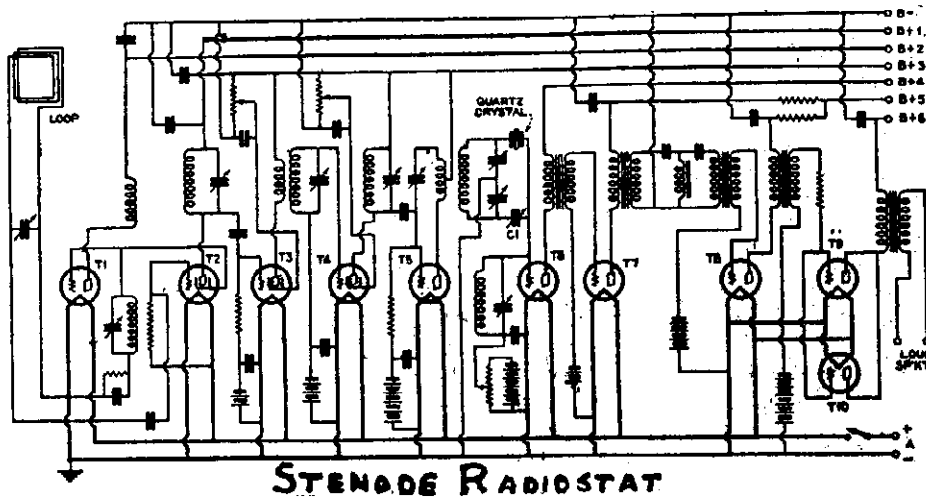
G F+ PLATE CONNECTION COMES  
F- S.G FROM TOP OF TUBE.

**REES-MACE RECEIVER  
FIVE TUBE IMPROVED  
SCREEN GRID  
ENGLISH MAKE**  
DRAWN BY R.H.F. 4-22-29  
CHECKED BY J.H.A. JR.

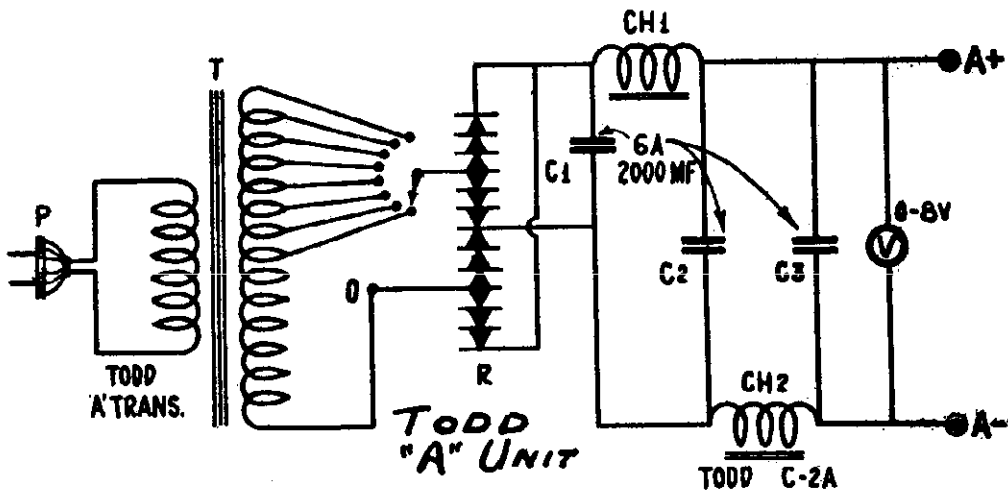
M. B. SLEEPER  
 STENODE RADIOSTAT  
 TODD ELECTRIC COMPANY



Sleeper RX-1 Receiving Circuit.



STENODE RADIOSTAT



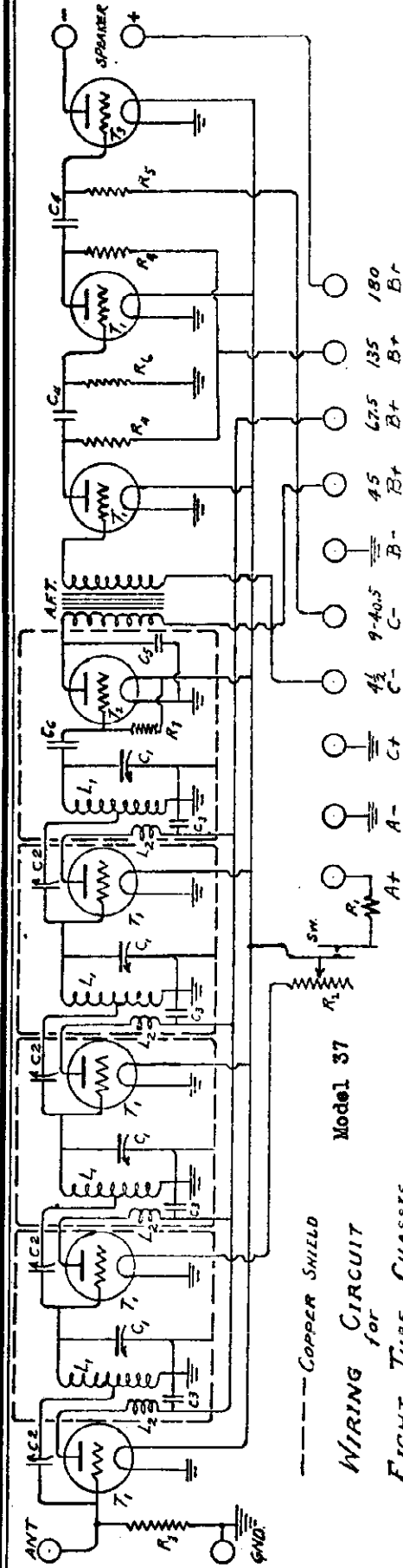






U. S. ELECTRIC CORP.

MODEL 17  
MODEL 37  
Schematic

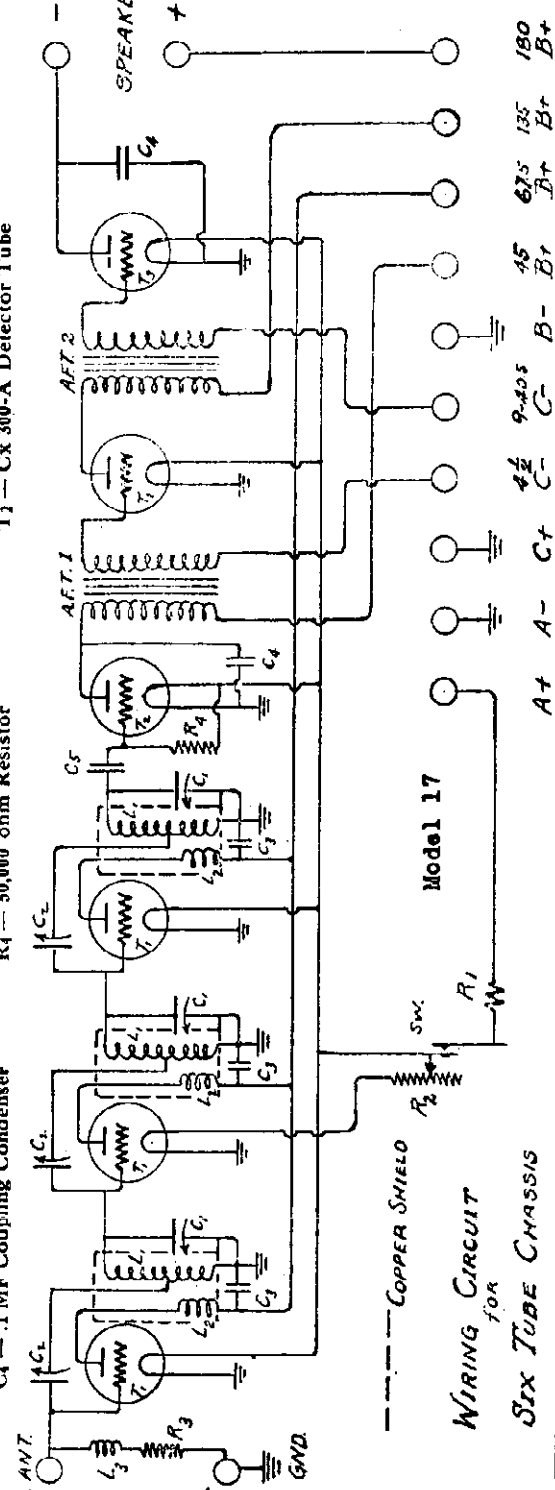
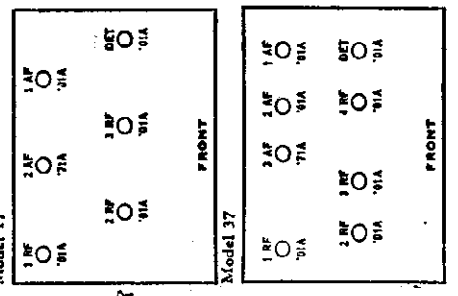


Model 37

WIRING CIRCUIT  
EIGHT TUBE CHASSIS

- L1 — Secondary of R. F. Transformer
- L2 — Primary of R. F. Transformer
- C1 — 500 MMF Variable Condenser
- C2 — Neutrodon Condenser
- C3 — 1. MF By Pass Condenser
- C4 — .1 MF Coupling Condenser
- C5 — .002 MF By Pass Condenser
- C6 — .0025 MF Grid Condenser
- R1 — Fil. Resistance Unit, 2.35 AMP
- R2 — 25 ohm Rheostat-Switch
- R3 — 5000 ohm Resistor
- R4 — 50,000 ohm Resistor
- R5 — 100,000 ohm Resistor
- R6 — 500,000 ohm Resistor
- R7 — 2 Meg ohm Grid Leak
- A.F.T. — Audio Transformer
- T1 — Cx 301-A Vacuum Tube
- T2 — Cx 300-A Detector Tube
- T3 — CX 112 or CX 371 Power Tube
- Ant — Antenna Post
- Gnd — Ground Post
- SW — Switch

- R3 — 350 ohm Resistor
- R4 — 2 Meg ohm Grid Leak
- A.F.T.1 — 1st Audio Transformer
- A.F.T.2 — 2nd Audio Transformer
- T1 — Cx 301-A Vacuum Tube
- T2 — Cx 300-A Detector Tube
- T3 — CX 112 or CX 371 Power Tube
- Ant — Antenna Post
- Gnd — Ground Post



Model 17

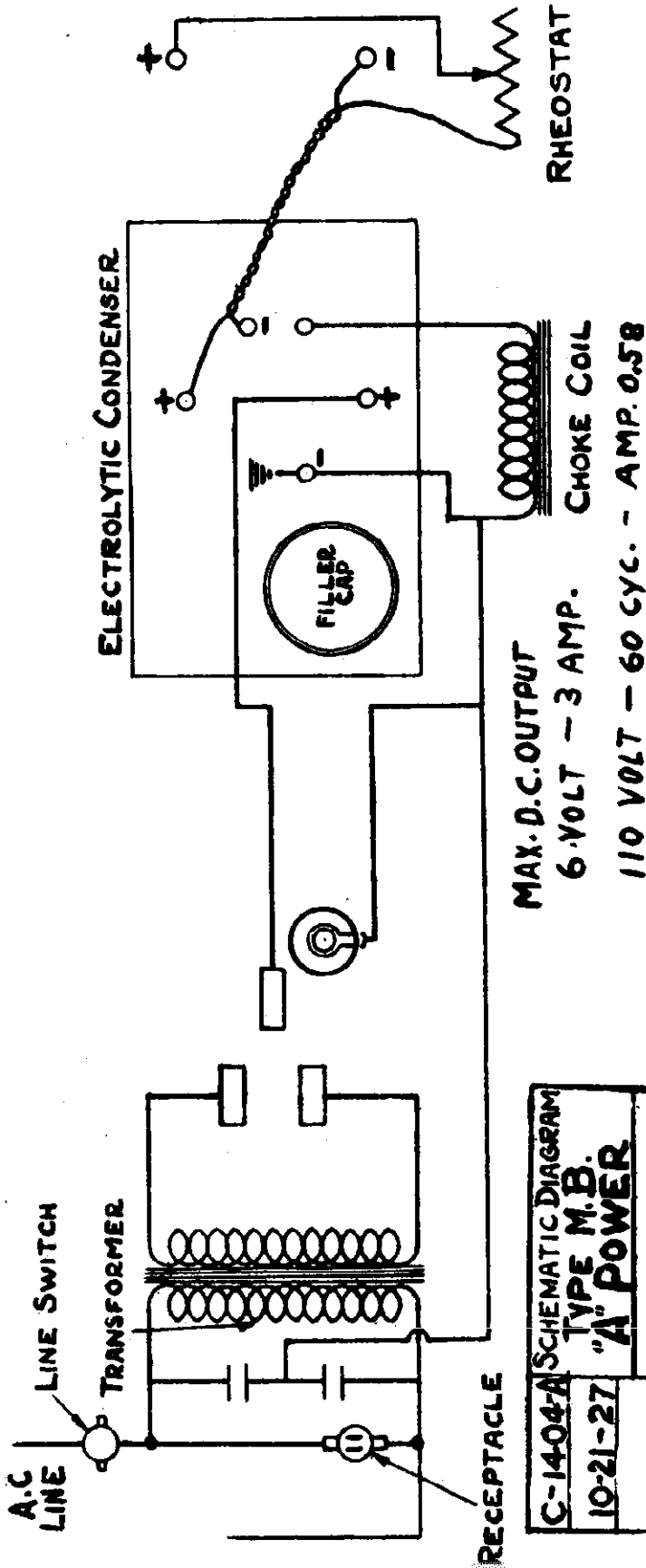
WIRING CIRCUIT  
SIX TUBE CHASSIS

- L1 — Secondary of R. F. Transformer
- L2 — Primary of R. F. Transformer
- L3 — Antenna Choke Coil
- C1 — 350M MF Variable Air Condenser
- C2 — Neutrodon Condenser
- C3 — 1. MF By Pass Condenser
- C4 — .0025 MF Grid Condenser
- R1 — Fil. Resistance Unit, 1.85 Amp.
- R2 — 25 ohm Rheostat Switch
- R3 — 350 ohm Resistor
- R4 — 350 ohm Resistor
- R5 — 500,000 ohm Resistor
- R6 — 2 Meg ohm Grid Leak
- A.F.T.1 — 1st Audio Transformer
- A.F.T.2 — 2nd Audio Transformer
- T1 — Cx 301-A Vacuum Tube
- T2 — Cx 300-A Detector Tube
- T3 — CX 112 or CX 371 Power Tube
- Ant — Antenna Post
- Gnd — Ground Post

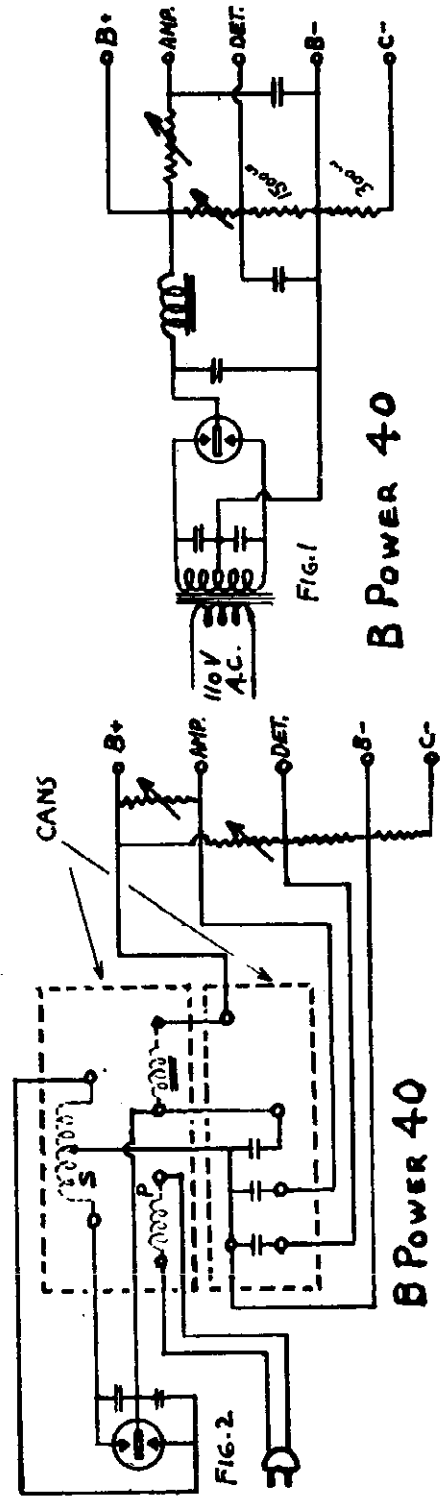
SIX TUBE CHASSIS

- T1 — Cx 300-A Detector Tube
- T2 — CX 112 or CX 371 Power Tube
- SW — Switch
- Ant — Antenna Post
- Gnd — Ground Post

VALLEY ELECTRIC CO.



C-1404-A SCHEMATIC DIAGRAM  
TYPE M.B.  
10-21-27  
"A" POWER  
CMT



# GEORGE W. WALKER CO.

MODEL Victoreen  
"Standard"  
MODEL Victoreen  
"Universal"

