

Grigsby-Grunow Co.

Model: 86

Chassis:

Year: Pre March 1934

Power:

Circuit:

IF:

Tubes:

Bands:

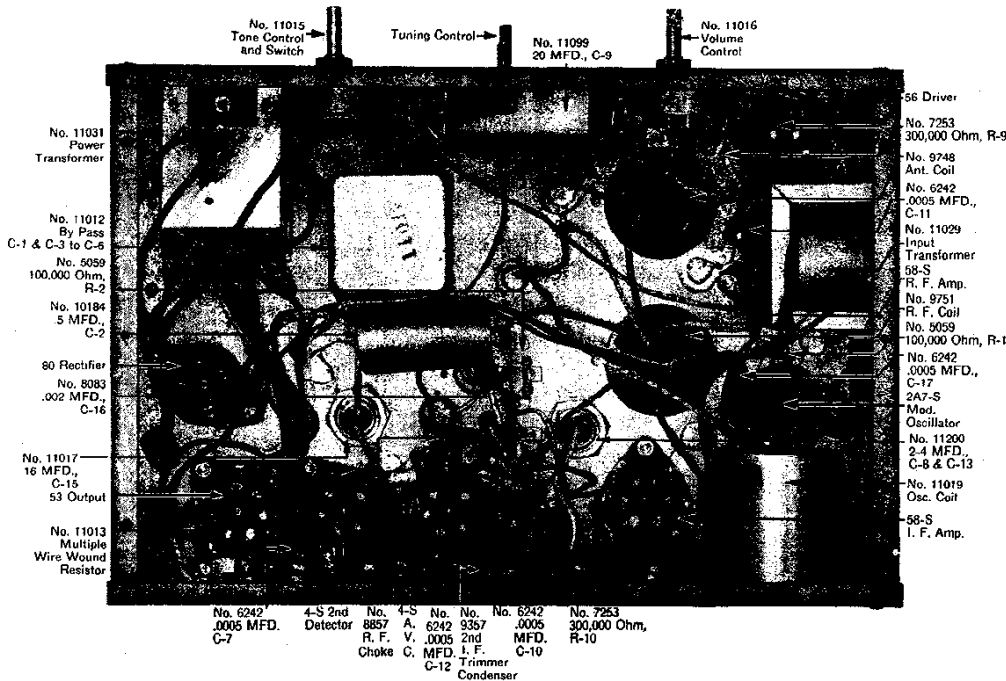
Resources

Riders Volume 4 - MAJESTIC 4-30

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MODEL 85, 86, 998
(Chassis 800)
Chassis view, Voltage
Notes, Parts List

GRIGSBY - GRUNOW CO.



CHASSIS 800

Models 85, 86 and 998

TABLE OF VOLTAGES

Tube Type	Purpose	Plate	Screen D.C.	Cathode D.C.	Grid D.C.
58-S	R. F. Amp.	250 D.C.	103	0	-3
2A7-S	Modulator	250 D.C.	103	0	-3
	Oscillator	103 D.C.	...	0	0
58-S	I. F. Amp.	250 D.C.	103	0	-3
4-S	2nd Det.	0 D.C.	...	12.5	...
4-S	A. V. C.	0 D.C.	...	12.5	...
56	Driver	245 D.C.	...	12.5	0
53	Output	245 D.C.	...	-3	-3
80	Rectifier	315 A.C.

Line Voltage—115 Volts A.C.

THE CIRCUIT

Chassis 800 provides full range tone control, police call reception, excellent automatic volume control and class "B" output from a single tube. Due to the dual operation of one of the tubes, nine tube performance is realized.

The intermediate frequency is 175 K. C. The tuning range is .535 to 1730 K. C. A separate 4-S tube is used for the audio or signal channel, and another 4-S tube for the automatic volume control.

CLASS "B" OUTPUT

Part of the circuit consists of class "B" amplification for which a type 56 tube is used as a driver and a type 53 tube as the output. This output tube is a double triode amplifier having two plates and two control grids, thus doing the work of two tubes and making possible tremendous output.

ALIGNMENT PROCEDURE

The receiver must be aligned with the volume control in maximum position.

1. Supply a 175 K. C. signal to 2A7-S converter grid and adjust the 3 I. F. aligning condensers for maximum sensitivity. Use a weak signal that is just strong enough to give a reading on the output meter.
2. Turn the gang condenser completely in mesh. Set the dial to the gauge mark beyond 540 K. C. and secure it to the gang condenser shaft.
3. With the gang condenser completely out of mesh, supply a 1730 K. C. signal to the input of the receiver and align the 3 gang condenser trimmers for maximum sensitivity.

*Note—Paragraph No. 2 is only followed when it is necessary to replace or recalibrate the dial.

ALWAYS USE A GOOD OUTPUT METER TO INDICATE MAXIMUM SENSITIVITY.

CHASSIS PARTS

PART No.	DESCRIPTION	DEALER'S NET PRICE
9748	Antenna Coil	\$0.51
11012	By-Pass Condenser Assembly, C-1 and C-3 to C-6	1.23
7210	Condenser Assembly for I. F., ADJUSTABLE	.14
10184	Condenser, Electrolytic	.22
11200	2-4 MFD., C-8 and C-13	.61
11017	16 MFD., C-15	1.20
11099	20 MFD., C-9	.48
6242	Condenser, Mica	
8083	.0005 MFD., C-7, 10, 11, 12, 17	.12
11022	.002 MFD., C-16	.14
11022	Condenser, Gang	2.49
11025	Dial and Drive Assembly	.70
1741	Dial Light, 2.5 Volt. See Main Catalog Page 95	
7821	I. F. Transformer Assembly, 1st	1.09
11014	I. F. Transformer Coil, 2nd	.49
11019	Oscillator Coil	.39
RESISTORS		
5059	100,000 Ohm, R-1, 2	.13
7253	300,000 Ohm, R-9, 10	.12
11013	Multiple, Wire Wound, R-3 to R-8	.78
8857	R. F. Choke Coil Assembly	.32
9751	R. F. Coil	.51
TRANSFORMERS		
11029	Input Audio	1.22
11031	Power, 115 Volt, 60 Cycle	2.55
11036	Power, Universal, 110-240 Volts, 25-133 Cycle	7.41
11015	Tone Control and Line Switch	.45
TUBE SOCKETS		
11011	4 Prong, Rectifier	.07
8852	5 Prong	.08
8851	6 Prong	.08
11010	7 Prong, for 2A7 and 53	.08
11016	Volume Control	.66

MODEL G-22-L SPEAKER

11054	Model G-22-L Speaker Complete	\$6.12
9118	Cone Assembly	.73
8361	Condenser Assembly, .07 MFD., C-14	.23
8925	Field Coil (970 Ohm)	1.40
8932	Gasket for Cone	.11
9149	Output Transformer	.97

CABINET PARTS MODEL 998

68308	Model 998 Cabinet Only	\$0.02
2537	Chassis Mounting Screws	.21
68306	Escutcheon Plate—Chromium	.04
2455	Escutcheon Screws—Chromium	Per 10 .04
2841	Fancy Head Thru Bolts for Speaker	.04
67327	Grill Cloth, 20 1/2" H. x 11 1/2" W.	Per Sq. Ft. .20
68302	Knob for Controls	.08
2626	Rubber Washers for Mounting Chassis	.01

GRIGSBY - GRUNOW CO.

MODEL 85, 86, 998
(Chassis 800)
Schematic, Parts List
Socket layout,
Point-to-point data

RESISTANCE VALUES

ANTENNA COIL
Primary21 ohms
Secondary5.3 ohms

R. F. COIL
Primary142 ohms
Secondary5.2 ohms

OSCILLATOR COIL
Primary2.6 ohms
Secondary2.3 ohms

1ST I. F. TRANSFORMER
Primary89 ohms
Secondary92 ohms

2ND I. F. TRANSFORMER
Primary140 ohms
A. V. C. Secondary .70 ohms
Audio Secondary .70 ohms

R. F. C. 85 ohms

INPUT TRANSFORMER
Primary780 ohms
Total Secondary282 ohms

OUTPUT TRANSFORMER
Primary395 ohms

POWER TRANSFORMER
Primary4.3 ohms
Heater0.35 ohms
Rectifier Filament .17 ohms
Hi-Volt Sec. (total) 320 ohms

SPEAKER
Field Coil970 ohms
Voice Coil2.25 ohms

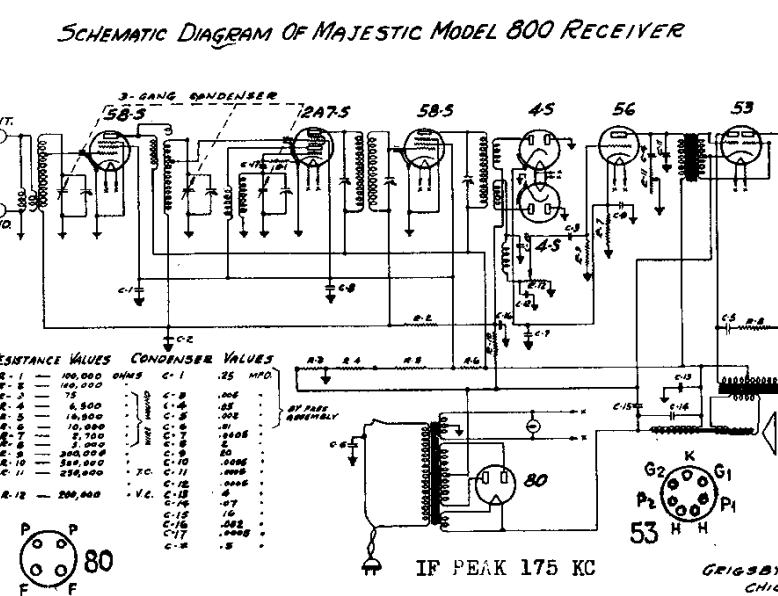
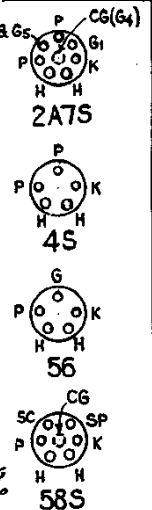


Fig-183

REVISED	ISS. MEMO
9-6-33	1 22.57
9-21-33	2 28.85
10-10-33	3 28.87

RESISTANCE VALUES CONDENSER VALUES

R-1	100,000	C-1	.25 MFD
R-2 <td>100,000 <td>C-2 <td>.05</td> </td></td>	100,000 <td>C-2 <td>.05</td> </td>	C-2 <td>.05</td>	.05
R-3 <td>75 <td>C-3 <td>.05</td> </td></td>	75 <td>C-3 <td>.05</td> </td>	C-3 <td>.05</td>	.05
R-4 <td>6,800 <td>C-4 <td>.05</td> </td></td>	6,800 <td>C-4 <td>.05</td> </td>	C-4 <td>.05</td>	.05
R-5 <td>16,800 <td>C-5 <td>.05</td> </td></td>	16,800 <td>C-5 <td>.05</td> </td>	C-5 <td>.05</td>	.05
R-6 <td>10,000 <td>C-6 <td>.05</td> </td></td>	10,000 <td>C-6 <td>.05</td> </td>	C-6 <td>.05</td>	.05
R-7 <td>2,700 <td>C-7 <td>.05</td> </td></td>	2,700 <td>C-7 <td>.05</td> </td>	C-7 <td>.05</td>	.05
R-8 <td>300,000 <td>C-8 <td>.05</td> </td></td>	300,000 <td>C-8 <td>.05</td> </td>	C-8 <td>.05</td>	.05
R-9 <td>300,000 <td>C-9 <td>.05</td> </td></td>	300,000 <td>C-9 <td>.05</td> </td>	C-9 <td>.05</td>	.05
R-10 <td>250,000 <td>C-10 <td>.05</td> </td></td>	250,000 <td>C-10 <td>.05</td> </td>	C-10 <td>.05</td>	.05
R-11 <td>250,000 <td>C-11 <td>.05</td> </td></td>	250,000 <td>C-11 <td>.05</td> </td>	C-11 <td>.05</td>	.05
R-12 <td>200,000 <td>C-12 <td>.05</td> </td></td>	200,000 <td>C-12 <td>.05</td> </td>	C-12 <td>.05</td>	.05
		C-13 <td>.05</td>	.05
		C-14 <td>.05</td>	.05
		C-15 <td>.05</td>	.05
		C-16 <td>.05</td>	.05
		C-17 <td>.05</td>	.05
		C-18 <td>.05</td>	.05



CABINET PARTS MODEL 85

PART No.	DESCRIPTION	DEALER'S NET PRICE
67650	Model 85 Cabinet Only	\$51.06
67651	Base Bracket, Right	.30
67640	Base Bracket, Left	.30
66588	Bullet Catches and Strike	.20
67627	Doors	2.99
67462	Door Pulls	.87
7888	Escutcheon Plate	.16
2455	Escutcheon Screws	Per 10 .04
67327	Grill Cloth, 12 3/4" H. x 14 3/4" W.	Per Sq. Ft. .20
67649	Hinge for Bottom, Specify Left or Right	.12
67648	Hinge, Left Top	.12
67652	Hinge, Right Top	.12
67641	Knob for Controls	.06
67637	Post, Right Front	.30
67639	Post, Right Rear	.27
67635	Post, Left Front	.30
67638	Post, Left Rear	.27

CABINET PARTS MODEL 86

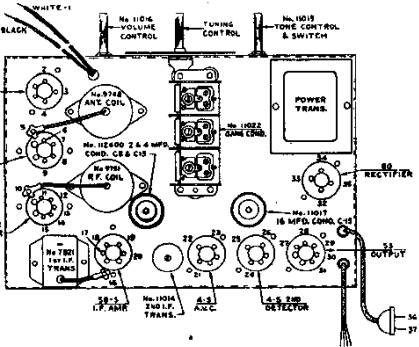
67546	Model 86 Cabinet Only	\$33.02
2537	Chassis Mounting Screws	.02
7888	Escutcheon Plate	.16
2455	Escutcheon Screws	Per 10 .04
2564	Fancy Head Thru Bolts for Speaker	Per 10 .10
67392	Grill Cloth, 18 1/2" H. x 10" W.	Per Sq. Ft. .21
10222	Knob for Controls	.07
2626	Rubber Washers for Mounting Chassis	.01

Schematic Diagram Chassis 800

RESISTANCE CHART

All readings are taken from designated points to ground except those marked with an asterisk (*) which are taken to terminal No. 33, with all tubes removed from their sockets, and the speaker connected in the circuit.

Terminal Number	Resistance In Ohms	If resistance differs greatly from value shown, check the following
1	21	Primary of Antenna coil.
2	2,700	R-7 and C-9.
3	300,000	R-9 and C-3.
4	Very high	C-4, C-11, C-13, C-14 and C-15.
4*	1,750	Primary of input transformer and field coil.
5	400,078.3	Secondary of ant. coil, C-2, R-2, C-16, R-10 and R-3.
6	0	Ground connection.
7	0	Ground connection.
8	23,000	R-4, R-5, C-7, C-13, C-1 and C-8.
8*	10,970	R-6, and field coil.
9*	1,112	Primary of R.F. coil and field coil.
10	400,078.3	Secondary of R.F. coil, C-2, R-2, C-16, R-10 and R-3.
11	0	Ground connection.
12	100,000	R-1 and C-17.
13	10,972.6	Primary of oscillator coil, R-6 and field coil.
14	Same as No. 8	
14*	Same as No. 8	
15	1,059	Primary of 1st I. F. Transformer and field coil.
16	400,127	Secondary of 1st I. F. Trans., R-2, C-16, R-10 and R-3.
17	0	Ground connection.
18	0	Ground connection.
19	Same as No. 8	
20	1,110	Primary of 2nd I. F. Transformer and field coil.
21	6,500	R-4 and C-7.
22	300,145	A. V. C. secondary of 2nd I. F. Trans., C-16, R-10 and R-3.
23	0	Ground connection.
24	0	Ground connection.
25	200,155	Audio secondary of 2nd I. F. Trans., R. F. C., C-10, C-12 and R-12.
26	0	Ground connection.
27	Very high	Primary of output trans. for ground, C-13 and C-15.
27*	1,167	Primary of output transformer and field coil.
28	216	Secondary of input transformer and R-3.
29	75	R-3.
30	Same as No. 28	
31	Same as No. 27	
31*	Same as No. 27	
32	Very high	C-15, C-14 and C-13.
33	Same as No. 32	
34	235	HI-voltage Secondary and R-3.
35	Same as No. 34	
36	Open	C-6, line switch and primary of power transformer.
37	Same as No. 36	



POWER TRANSFORMER COLOR CODE

115 Volts, 50-60 cycle
Primary Stranded yellow Heater Solid black
Hi-voltage Stranded red Heater C. T. Stranded black
Hi-voltage C. T. Stranded brown Rectifier filament .Solid yellow

Due to manufacturing tolerances on carton resistors, the readings given above may be expected to differ plus or minus 15 per cent.