

Models 800, 800A, 801, 801A

Radio Receivers

Specifications

Frequency Range:

Purple Band: Low frequency—190 to 410 K.C.

Broadcast—Buff: 540 to 1700 K.C.

Shortwave—Green: 1.7 to 5.5 megacycles.

Shortwave—Red: 5.5 to 22 megacycles.

I.F.:

465 K.C.

Tubes:

Type	Function
6K7	R.F. Amplifier
6A8	1st Detector
6C5	Oscillator
6K7	I.F. Amplifier
6H6	2nd Detector
6F5	1st A.F. Amplifier
6F6	Output
80	Power Rectifier

Power Supply:

Models 800, 801—105 to 125 volts A.C., 60 cycles.

Models 800A, 801A—105 to 125 volts A.C., 25 cycles.

A.V.C.:

Applied on tubes type 6K7, R.F., and 6K7 I.F. amplifier.

Controls:

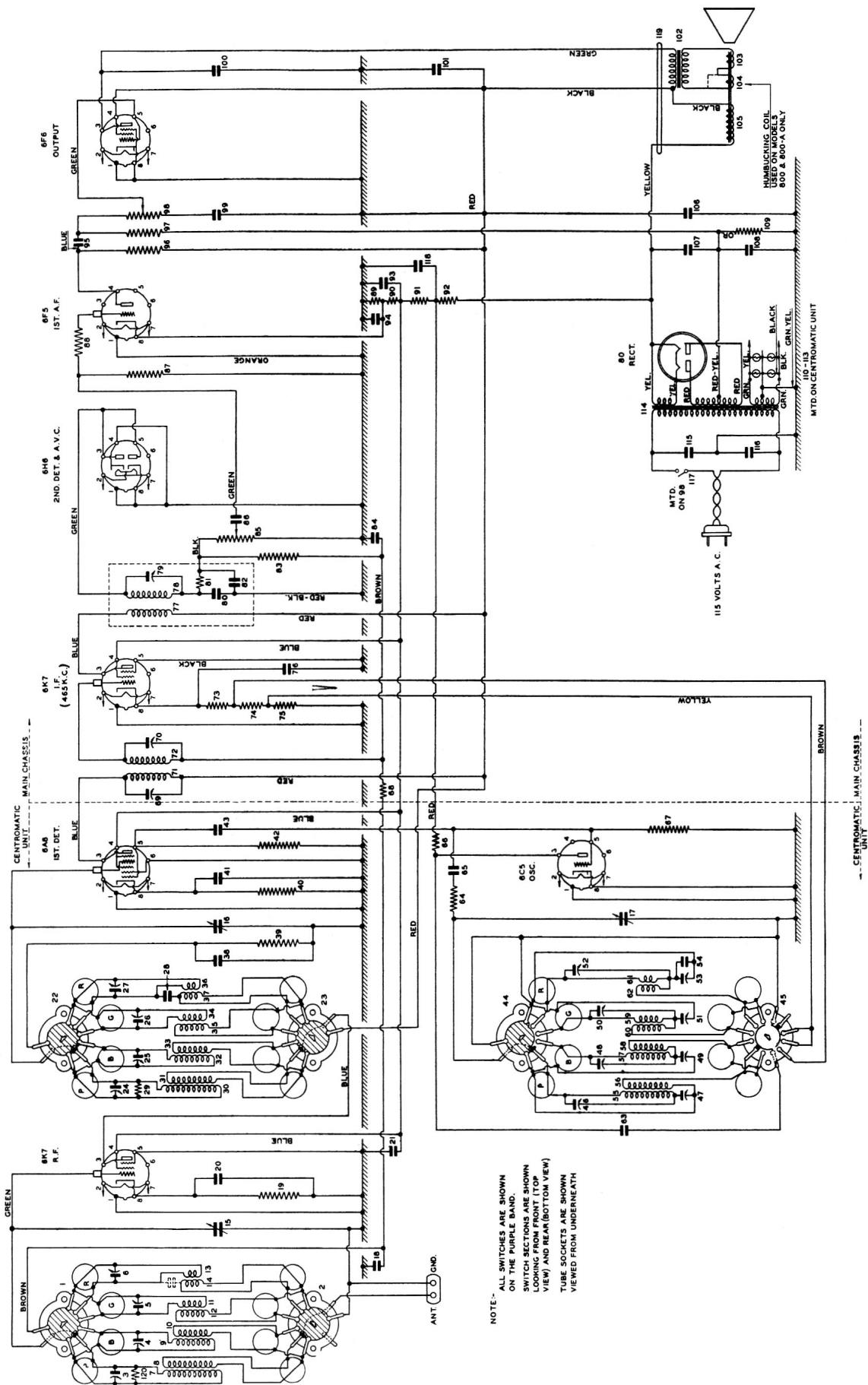
Left to Right—Volume control; wave change switch; tuning control; tone control and A.C. switch.

Cabinets:

Models 800, 800A: Table models.

Models 801, 801A: Console models.

MODELS 800 AND 801 RADIO RECEIVERS



Schematic Diagram—Models 800-801 Receivers.

REPLACEMENT PARTS LIST

Schematic Designation	Value and Description	Part Number
1	Antenna switch, grid section...	K-1826-1
2	Antenna switch, primary section.....	K-1826-1
3	Capacitor, variable; 3-25 mmf..	K-1458-6
4	Capacitor, variable; 3-25 mmf..	K-1458-6
5	Capacitor, variable; 3-25 mmf..	K-1458-6
6	Capacitor, variable; 3-25 mmf..	K-1458-6
7	Antenna R.F. trans., secondary.....	Purple band } ..RC-9580-A
8	Antenna R.F. trans., primary.....	
9	Antenna R.F. trans., secondary.....	Buff band } ..RC-9577-A
10	Antenna R.F. trans., primary.....	
11	Antenna R.F. trans., secondary.....	Green band } ..RC-9574-A
12	Antenna R.F. trans., primary.....	
13	Antenna R.F. trans., secondary.....	Red band } ..RC-9571-A
14	Antenna R.F. trans., primary.....	
15	Three gang capacitor; 448 mmf max.....	K-1824
16		
17	Capacitor; .05 mf; 175 volts....	K-1831-8
18	Resistor; 300 ohms; 1/8 watt....	K-1836-20
19	Capacitor; .05 mf; 175 volts....	K-2227-8
20	Capacitor; .05 mf; 175 volts....	K-2227-8
21	R.F. amplifier switch; grid section.....	K-1826-1
22	R.F. amplifier switch; plate section.....	K-1826-1
23	Capacitor; variable; 1.5-10 mmf.....	K-1458-5
24	Capacitor; variable; 1.5-10 mmf.....	K-1458-5
25	Capacitor; variable; 1.5-10 mmf.....	K-1458-5
26	Capacitor; variable; 3-25 mmf..	K-1458-6
27	Capacitor; fixed; 6 mmf.....	K-1838
28	Resistor; 1/10 meg; 1/2 watt....	K-2226-5
29	R.F. transformer, secondary.....	purple band } ..RC-9581-A
30	R.F. transformer, primary.....	
31	R.F. transformer, secondary.....	buff band } ..RC-9578-A
32	R.F. transformer, primary.....	
33	R.F. transformer, secondary.....	green band } ..RC-9575-A
34	R.F. transformer, primary.....	
35	R.F. transformer, secondary.....	red band } ..RC-9572-A
36	R.F. transformer, primary.....	
37	R.F. transformer, secondary.....	

Schematic Designation	Value and Description	Part Number
38	Capacitor; .05 mf; 175 volts....	K-1831-8
39	Resistor; 5000 ohms; 1/2 watt....	K-2226-12
40	Resistor; 300 ohms; 1/2 watt....	K-2226-20
41	Capacitor; .05 mf; 175 volts....	K-2227-8
42	Resistor; 1/10 meg; 1/2 watt....	K-2226-5
43	Capacitor; mica; 65 mmf.....	K-1611-8
44	Oscillator switch; grid section..	K-1826-3
45	Oscillator switch; plate section.....	K-1826-2
46	Capacitor, dual } 10-35 mmf }	K-1835-1
47	Capacitor, dual } 6-150 mmf }	
48	Capacitor, dual } 5-25 mmf }	K-1835-2
49	Capacitor, dual } 300-600 mmf }	
50	Capacitor, dual } 3-15 mmf }	K-1835-4
51	Capacitor, dual } 800-1600 mmf }	
52	Capacitor, dual } 1.5-10 mmf }	K-1835-3
53	Capacitor, dual } 800-1600 mmf }	
54	Capacitor, mica; 2000 mmf.....	K-1952-7
55	Oscillator grid coil } purple band }	..RC-9582-A
56	Oscillator plate coil } buff band }	
57	Oscillator grid coil } buff band }	..RC-9579-A
58	Oscillator plate coil } green band }	
59	Oscillator grid coil } green band }	..RC-9576-A
60	Oscillator plate coil } red band }	
61	Oscillator grid coil } red band }	..RC-9573-A
62	Oscillator plate coil } buff band }	
63	Capacitor; .05 mf; 175 volts....	K-1831-8
64	Resistor; 50 ohms; 1/2 watt....	K-2226-25
65	Capacitor, mica; 65 mmf.....	K-1611-8
66	Resistor; 5000 ohms; 1 watt....	K-2363-1
67	Resistor; 50,000 ohms; 1/2 watt..	K-2226-6
68	Resistor; 1/10 meg; 1/2 watt....	K-2226-5
69	Capacitor, var. dual. (30-100 mmf).....	K-1600-1
70	Capacitor, var. dual (30-100 mmf).....	
71	1st I.F. transformer, primary..	K-1668-1
72	1st I.F. transformer, secondary }	
73	Resistor; 400 ohms; 1/2 watt....	K-2226-19
74	Resistor; 1000 ohms; 1/2 watt....	K-2226-16
75	Resistor; 5000 ohms; 1/2 watt....	K-2226-12
76	Capacitor; .05 mf; 175 volts....	K-2227-8
77	2nd I.F. transformer, primary }	K-1927-1
78	2nd I.F. transformer, second-ary).....	
79	Capacitor, variable, 25-100 mmf.....	K-1600-3
80	Capacitor; mica; 50 mmf.....	K-1611-1
81	Resistor; 1/10 meg; 1/2 watt....	K-2226-5
82	Capacitor; mica; 100 mmf.....	K-1611-2
83	Resistor; 1 meg; 1/2 watt....	K-2226-2
84	Capacitor; .05 mf; 175 volts....	K-2227-8
85	Volume control, 1/4 meg. var...	K-1649-2
86	Capacitor; .02 mf; 350 volts....	K-2228-7
87	Resistor; 1 meg; 1/2 watt.....	K-2226-2
88	Resistor; 1/10 meg; 1/2 watt....	K-2226-5
89	Resistor; 300 ohms; 1/2 watt....	K-2226-20
90	Resistor; 30,000 ohms; 1 watt..	K-2363-3
91	Resistor; 10,000 ohms; 1 watt..	K-2363-21

REPLACEMENT PARTS LIST—continued

Schematic Designation	Value and Description	Part Number
92	Resistor; 7,000 ohms; 2 watts...	K-1095-4
93	Capacitor; .25 mf; 175 volts....	K-2227-10
94	Capacitor; .05 mf; 175 volts....	K-2227-8
95	Capacitor; .02 mf; 350 volts....	K-2228-7
96	Resistor; 1/2 meg; 1/4 watt.....	K-2226-4
97	Resistor; 1/2 meg; 1/8 watt.....	K-2226-4
98	Tone control, variable, 1/4 meg..	K-1923-1
99	Capacitor; .001 mf; 350 volts....	K-2228-1
100	Capacitor; .005 mf; 350 volts....	K-2228-5
101	Capacitor; .05 mf; 350 volts....	K-2228-8
102	Output transformer (Models 800-800A only).....	K-1794-1
102	Output transformer (Models 801-801A only).....	K-1858-2
103	Voice coil and diaphragm (Models 800-800A only)....	K-1791-1
103	Voice coil and diaphragm (Models 801-801A only)....	No. 102283
104	Hum-bucking coil (Models 800-800A only).....	K-1793-1
105	Field coil (1800 ohms) (Models 800-800A only)....	K-1792-1
105	Field coil (1875 ohms) (Models 801-801A only)....	K-1860-1
106	Capacitor, filter, 8 mf, 300 V (regulating).....	K-1841
107	Capacitor, filter, 12 mf; 450 volts.....	K-1854
108	Capacitor (dry elect), 10 mf; 25 volts.....	K-3442-2
109	Resistor (wire wound), 300 ohms.....	K-1891
110 } 111 } 112 } 113 }	Dial lamps—3.2 volts.....	K-1024-5
114	Power transformer—60 cycle....	K-1652-2
114	Power transformer—25 cycle....	K-1652-3
115	Capacitor; .025 mf; 1100 volts, a.c.....	K-1750
116	Capacitor; .025 mf; 1100 volts, a.c.....	
117	Switch (on-off)..... Part of	K-1923-1
118	Capacitor—4 mf (dry), 450 volts.....	K-1934
119	Loudspeaker cable.....	K-1773-2
120	Resistor; 1/10 meg; 1/2 watt....	K-2226-5

Value and Description	Part Number
MISCELLANEOUS:—(Not included in schematic designations).	
Complete turret assembly (centro-matic unit) (including base, tuning gang, 3 tube sockets, 3 coil shields, 3 coil switch sections)....	K-1819-2
Coil-switch assembly—Ant. R.F. transformer.....	K-1818-1
Coil-switch assembly—R.F. amplifier..	K-1818-2
Coil-switch assembly—Oscillator....	K-1818-3
Shield cans, for coil-switch sections..	CV-9586
Antenna terminal strip.....	K-1916-1
Dial lamp sockets.....	K-1850
Dial assembly complete (including K-1964 and HG-9545-A).....	K-1844-1
Dial and mask assembly.....	K-1844-1
Dial housing.....	HG-9545-A
Dial indicator disc.....	SI-9524
Band shutter.....	DC-953-A
Washer (.01") (between dial indicator and shutter disc).....	K-1945
Wave change switch shaft only.....	SH-9520
Bronze cable (21 3/4" long) (cut to length).....	K-1928
Spring retainers.....	FL-952
Spring.....	SP-9514
Main drive disc.....	DC-951
Set screw for drive disc (10/32 x 5/16")..	K-1849-5
Spring buttons —(trimounts).....	SP-1005
Pulley assembly (eccentric).....	PU-958-A
Rubber wheel assembly.....	BG-9514
Reduction drive assembly (including shaft).....	K-1815
Knob for tuning control (base portion).....	K-1278-1
Knob for tuning control (vernier)....	K-1278-9
Knob for wave change switch.....	K-1278-4
Knob for volume and tone control....	K-1278-6
Retaining spring cover for K-1815 reduction drive.....	K-1988
Set screw for K-1278-1 (per dozen)...	K-1521-5
Grid clips for metal tubes.....	K-1821
Tube socket (octal base).....	K-1924-1
Tube socket, four contact (rectifier)..	K-1194-2
Screw for chassis mounting.....	K-1122-12
Insulator for octal base socket.....	K-1944
Tuning wrench.....	K-836
Replacement tube for K-836.....	K-836-A
Washer, (dial).....	K-1206-13

REALIGNING INSTRUCTIONS:—

1. F. ALIGNMENT:—

- (a) Set signal generator to 465 K.C., and connect output through 0.1 mf. capacitor to the grid cap of the first detector, type 6A8.
- (b) Adjust trimmers, items 69, 70 and 79, for maximum output, with wave-change switch in broadcast position and gang closed.
- (c) Reduce the output from the oscillator to as low a value as will give an output reading and check the adjustments. All trimmers should peak properly.

NOTE:—Due to change in bias mentioned previously, the I. F. sensitivity will vary on the different bands, and will be least on the purple band, equal on the buff and green bands, and maximum on the red band.

PURPLE BAND:—

- (a) Connect signal generator to antenna terminal through a 200 mmf. (0.0002 mf) mica cap. Connect ground terminal to ground.
- (b) Set signal generator and receiver to 350 K.C., and adjust trimmers, items 46, 24 and 3, for maximum output.
- (c) Set signal generator and set to 140 K.C., and adjust lag condenser 47, at the same time slowly rocking the tuning condenser back and forth until the point of maximum sensitivity is obtained.
- (d) Go back to 350 K.C., and check alignment.
- (e) Return to 140 K.C., and check alignment.

BROADCAST, OR BUFF BAND:—

- (a) With signal generator still connected as above, set generator and receiver to 1600 K.C., with wave-change switch in broadcast position.
- (b) Adjust trimmers, items 48, 25 and 4, for maximum output.
- (c) Set generator and receiver for 600 K.C., and adjust lag condenser, item 49, at the same time slowly rocking the tuning condenser back and forth until the point of maximum sensitivity is obtained.
- (d) Go back to 1600 K.C., and check alignment.

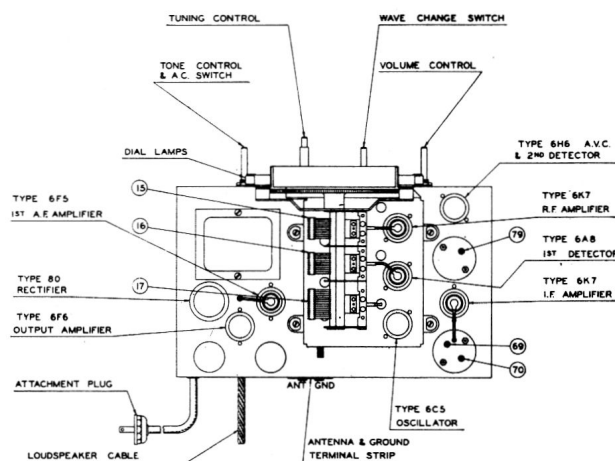
GREEN BAND:—

- (a) Connect signal generator to antenna terminal of receiver through a 400-ohm carbon resistor. Connect receiver ground terminal to ground. Put wave-change switch in green band position.
- (b) Set generator and receiver to 5000 K.C., and adjust trimmers, items 50, 26 and 5, for maximum output.
- (c) Set generator and receiver to 2000 K.C., and adjust lag condenser, item 51, at the same time rocking the tuning condenser back and forth until the point of maximum sensitivity is obtained.
- (d) Go back to 5000 K.C., and check the alignment.

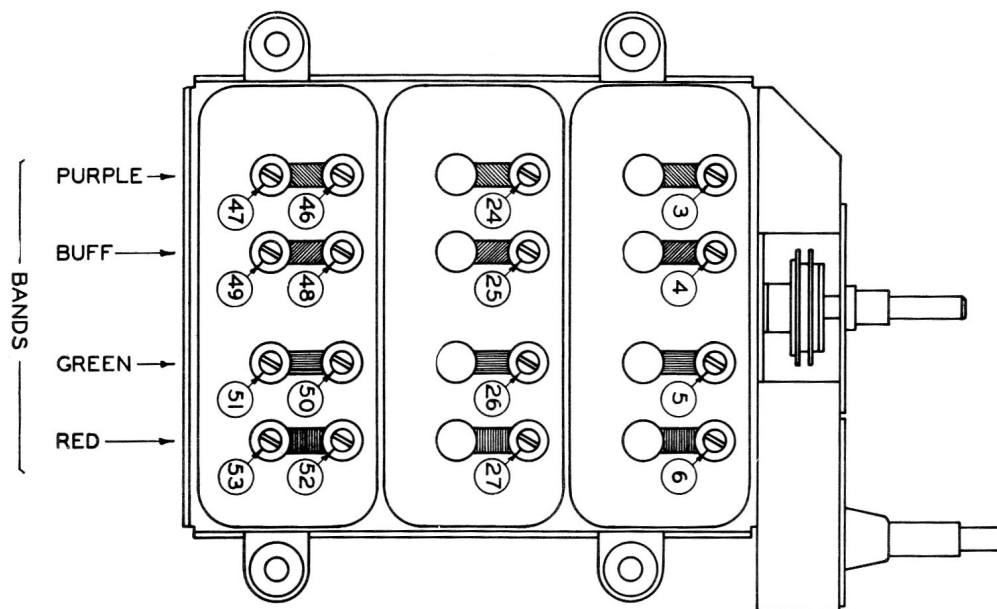
RED BAND:—

- (a) With generator still connected as for the green band, set wave change switch for red band.
- (b) Set signal generator and receiver to 18000 K.C., and adjust oscillator trimmer, item 52, to bring in maximum signal. Adjust trimmers, items 27 and 6, each in turn, at the same time slowly rocking the tuning condenser back and forth until the point of maximum sensitivity is obtained.
- (c) Set generator and receiver for 6500 K.C., and adjust the lag condenser, item 53, at the same time slowly rocking the tuning condenser back and forth until the point of maximum sensitivity is obtained.
- (d) Go back to 18000 K.C., and check the alignment.

NOTE:—Refer to Model 105 Receiver for exploded view of dial assembly parts.



Chassis Layout showing Top Aligning Positions.



Centromatic Unit showing Lower Realigning Positions.

VOLTAGE AND CURRENT READINGS

These readings were made on a production Model 800 chassis, with tone control treble, volume control maximum, wave-change switch in broadcast position and the gang capacitor closed. Voltage readings may be duplicated with a Weston Model 663 volt-ohmmeter, or any other good voltmeter having a resistance of 1000 ohms per volt.

Current readings may be duplicated on any good analyzer, such as the Weston Model 566 analyzer, used with the Model 666-1A (or 1-B) adapter. Line voltage 115 volts.

TUBE	Heater Volts A.C.	Plate Volts	Screen Volts	Cathode to Ground	Screen Current M. A.	Plate Current	
						Normal Bias	Bias red. 4.5 volts
6K7 R.F. Amplifier	6.75	245	80	1.5 (B)	1.1	4.7	8
6A8 1st Detector	6.75	245	67	2.5 (B)	4.8	5.0	9
6C5 Oscillator	6.75	90	...	0	...	8.5	9
6K7 I.F. Amplifier	6.75	250	80	4.0 (B)	.5	2.5	4.0
6H6 2nd Detector	6.75	—	—	—	—	—	—
6F5 1st A.F. Amplifier	6.75	90	—	.8 (B)	—	.6	.75
6F6 Output	6.75	235	245	18 (C)	6.3	30	33
80 Power Rectifier	5.05	...	...	380 (A)	—	—	—

All voltages measured on 250-volt scale, except those marked—

- (A) which was taken on 500-volt scale.
- (B) which was taken on 10-volt scale.
- (C) which was taken on 100-volt scale.

NOTE:—When taking current readings with the analyzer attachment, a 0.1 mfd. condenser should be connected between the grid of the tube being tested and ground, at the set, to prevent oscillation.