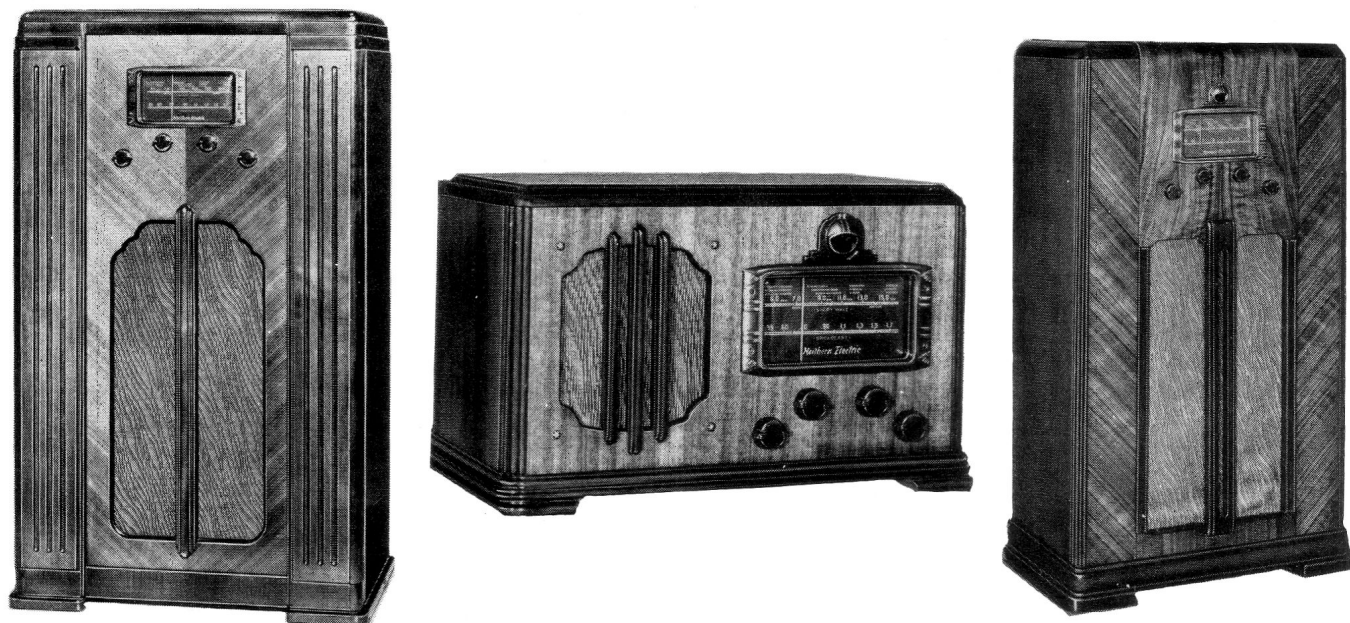


Models 832, 833, 633, 832A, 833A, 633A



Specifications

Frequency Range:

Broadcast—.537 to 1.715 megacycles.
Shortwave—5.7 to 15.6 megacycles.

I.F.:

470 K.C.

Tubes:

Type	Function
6A8	1st Detector
6J5	Oscillator
6K7	I.F. Amplifier
6H6	2nd Detector, A.V.C.
6K5G	1st A.F. Amplifier
6F6G	Output Amplifier
6U5	Tuning Indicator
5Y4G	Rectifier

Models 633, 633A, the 6U5 tuning indicator is omitted, and a type 6Q7G is used in place of the 6H6.

Power Supply:

Models 833, 832, 633: 105 to 125 volts A.C., 60 cycles.

Models 833A, 832A, 633A: 105 to 125 volts A.C., 25-60 cycles.

A.V.C.:

Applied to types 6A8 and 6K7, also 6U5 tuning indicator.

Controls:

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

Loudspeakers:

Models 832, 832A—Six inch electrodynamic.
Models 833, 833A—Eight inch electrodynamic enclosed in a tone chamber.
Models 633, 633A—Eight inch electrodynamic.

Cabinets:

Models 832, 832A—Table models.
Models 833, 833A—Console models.
Models 633, 633A—Console models.

GENERAL:—The Models 832 and 833 are eight tube a-c operated superheterodyne radio receivers. The Model 832 is mounted in a table cabinet and uses a six-inch electrodynamic loudspeaker. The Model 833, mounted in a console cabinet, uses an eight-inch electrodynamic loudspeaker and is equipped with a tone chamber. The Model 633 is a six-tube superheterodyne receiver, mounted in a console cabinet and using an eight-inch loudspeaker. It is very similar to the Model 833, the chief differences being that a different cabinet, without a tone chamber is used, the type 6U5 tuning indicator is omitted, and a type 6Q7G radiotron is used in place of the types 6H6 and 6K5G used in the larger receivers.

The dials are of the horizontal rectangular type, and are of edge-lighted etched glass. All calibrations are in megacycles. The band on which the receiver is operating is indicated by illumination of the windows beneath the calibrations on the Models 832 and 833 and by means of the pointer underneath the wavechange knob and a decalcomania label on the Model 633.

The tuning ranges are:—

Broadcast Band—537 to 1.715 megacycles.

Short Wave Band—5.7 to 15.6 megacycles.

The a-c load rating at 115 volts line for the Models 832 and 833 is 59 watts for the 60 cycle models and 62 watts for the 25 cycle models. The Model 633 requires 54 watts on 60 cycles and 57 watts on 25 cycles. Models 832, 833 and 633 are for use on 60 cycle supplies and Models 832A, 833A and 633A on supplies from 25 to 60 cycles.

CIRCUIT:—Models 832 and 833 (Refer to Fig. 6—Schematic Circuit Diagram)—The iron-cored broadcast antenna transformer uses both inductive coupling between the primary and secondary, items 1 and 2, and capacity coupling through item 4. The broadcast and short-wave

antenna transformer primaries are connected in series from the antenna to ground, short wave signals being bypassed around the broadcast primary by the capacitor, item 5. Item 8 switches the antenna transformer secondary while item 25 performs the same function for the oscillator plate windings, items 15 and 18. The gang capacitor consists of two sections, items 10 and 20. The broadcast oscillator coil, item 18, consists of a single winding and obtains its feed-back from the voltage across the lag capacitor, item 19. The type 6J5 oscillator uses plate tuning which makes for greater stability on the short-wave band. Oscillator voltage from the grid of the oscillator is injected into the type 6A8 first detector, by direct coupling with its oscillator grid. The intermediate frequency is selected by the double tuned I.F. amplifier, item 31, and amplified by the type 6K7 I.F. amplifier. This tube is in turn coupled to the type 6H6 second detector by a second double tuned I.F. transformer, item 39. The signal developed across diode load resistor is fed to the type 6K5G first audio amplifier through the coupling capacitor, item 53, and volume control, item 54. The type 6K5G is in turn resistance capacitance coupled to the type 6F6G output amplifier through the tone control which consists of items 60 and 61. The output and power supply circuits are conventional. Bias voltage is obtained across resistors, items 71 and 72, and from the bias cell, item 55. Full automatic volume control is applied to both the type 6A8 and type 6K7 through the filter, items 48 and 27. The type 6U5 tuning indicator is also operated by a.v.c. voltage. When the receiver is tuned to a signal, the rise in a.v.c. voltage decreases the current through the resistor, item 49. This causes the plate voltage to rise which results in the illuminated segment of the indicator reaching a maximum.

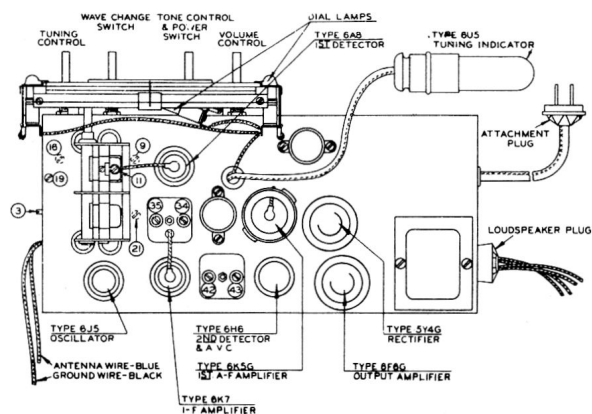


Fig. 1.—Chassis Layout Showing Controls and Tube Locations—Model 832.

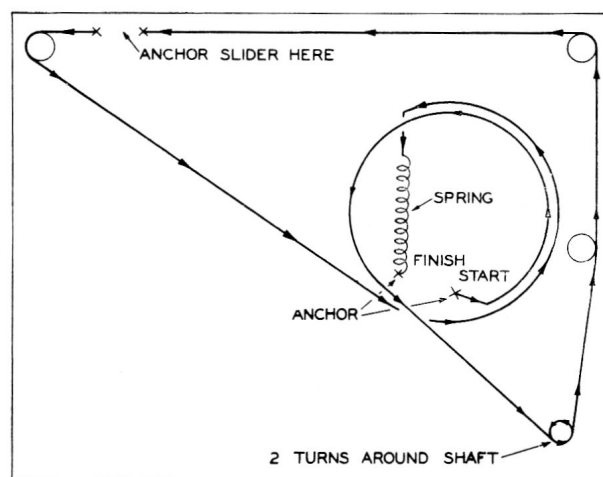


Fig. 4.—Stringing Diagram—Model 832.

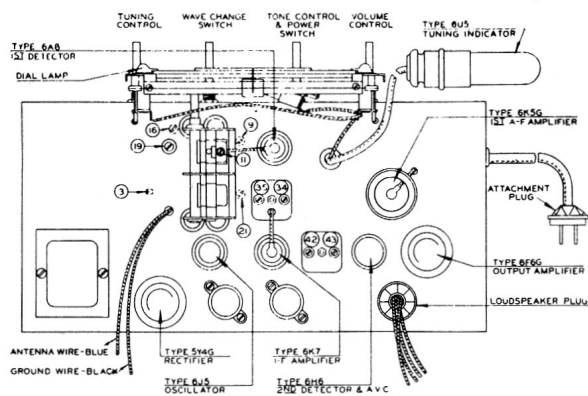
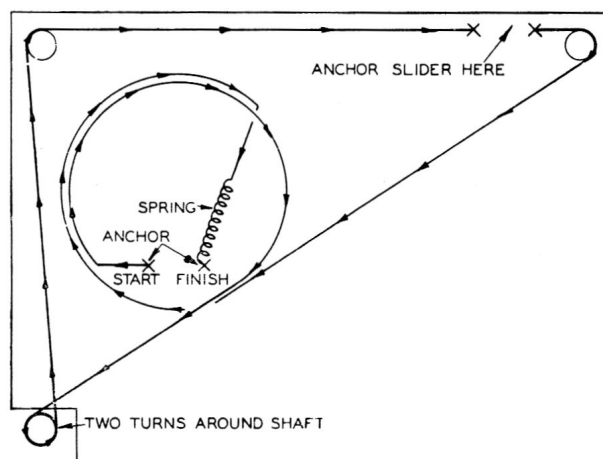


Fig. 2.—Chassis Layout Showing Controls and Tube Locations—Model 833.



LOOKING FROM REAR OF CHASSIS
Fig. 5.—Stringing Diagram—Models 833 and 633.

Model 633 (Refer to Fig. 7—Schematic Circuit Diagram).—Examination of the circuit of the Model 633 will reveal that it is identical with that of the Models 832 and 833 apart from the facts that the type 6U5 tuning indicator is omitted and the type 6Q7G diode detector and triode amplifier combines the functions of the types 6H6 and 6K5G.

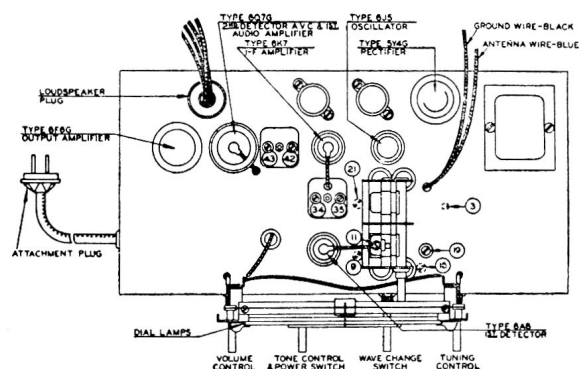


Fig. 3.—Chassis Layout Showing Controls and Tube Locations—Model 633.

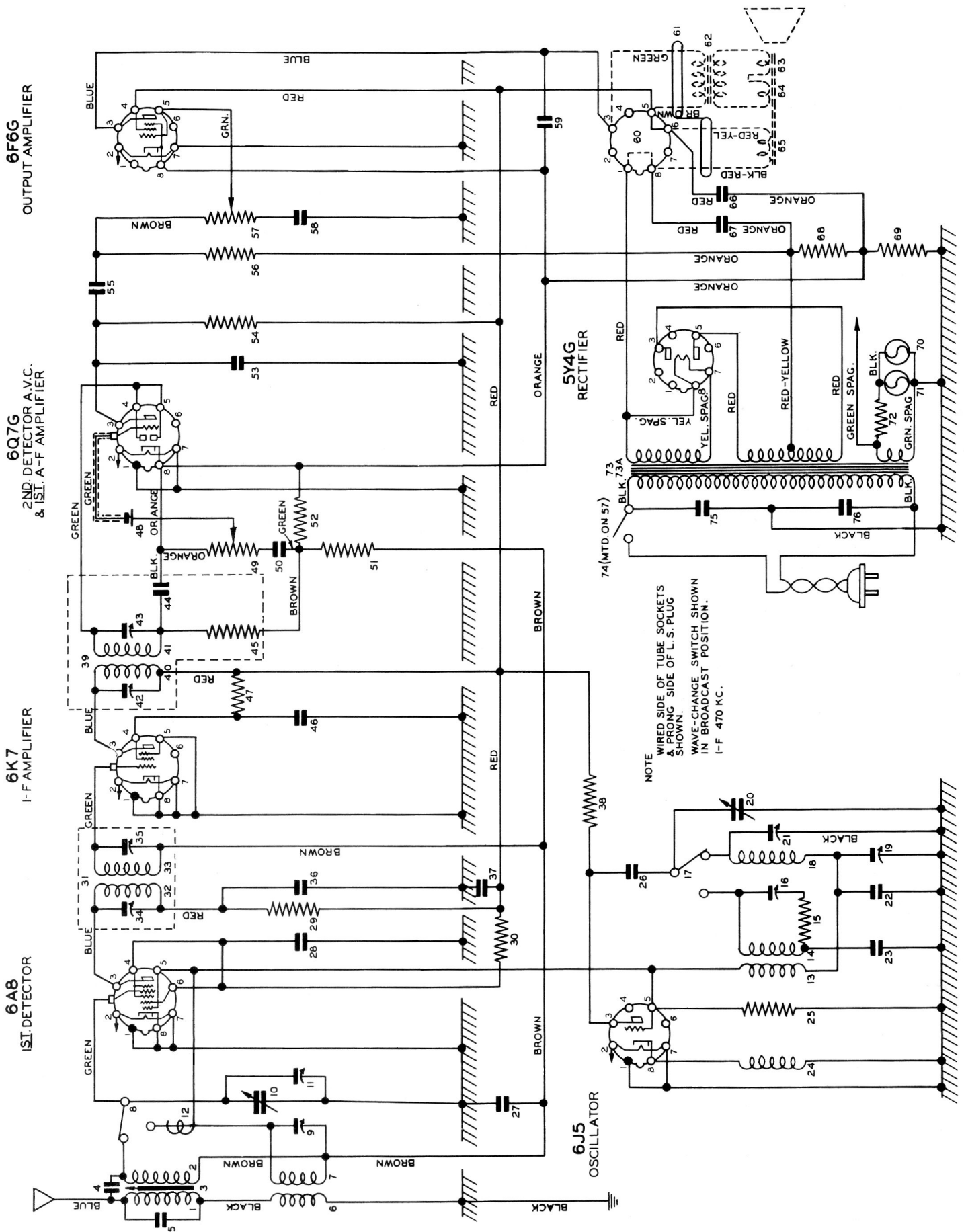


Fig. 7—Schematic Circuit Diagram of Model 633

REPLACEMENT PARTS LIST

MODELS 832, 833

Item	Description	Part No.	Item	Description	Part No.
1	Bdct. Ant. Trans. Primary	K-3831-1	65	Output Transformer Assy., Model 832	K-2718-10
2	Bdct. Ant. Trans. Secondary		65a	Output Transformer Assy., Model 833	K-2718-11
3	Iron Core		66	Voice Coil & Dphm. Assy., Model 832	K-3952
4	Coupling Capacitor, mica, 6 mmf.		66a	Voice Coil & Dphm. Assy., Model 833	K-3483-2
5	Capacitor, mica, 100 mmf.	K-1611-2	67	Humbucking Coil	
6	S.W. Ant. Trans. Primary	K-3833	68	Field Coil, Model 832	K-3953
7	S.W. Ant. Trans. Secondary		68a	Field Coil, Model 833	K-3378-3
8	Switch Section (Part of)	K-3856	69	Elect. Capacitor—18 mf. 260 P.V.	K-3785
9	Trimmer Capacitor, 13-50 mmf.	K-3860-3	70	Elect. Capacitor—16 mf. 410 P.V.	K-3784
10	Gang Cap. Sec. 466 mmf. max. (Part of)	K-3853-1	71	Resistor, 230 ohms	K-2226-23
11	Trimmer Capacitor, 2.5-15 mmf. (Part of)	K-3853-1	72	Resistor, 150 ohms	K-2363-37
12	Choke Coil	K-3935	73	Dial lamp (6.3 volts)	K-2589-3
13	Resistor, 50,000 ohms	K-2226-6	75		
14	S.W. Osc. Coil, Grid Winding	K-3834	76	Resistance Wire, 1.1 ohms(8 in.)...	K-3436-26
15	S.W. Osc. Coil, Plate Winding		77	Power Transformer Assembly 60 cycles	K-3700-8
16	Trimmer Capacitor, 13-50 mmf.	K-3860-3	77a	Power Transformer Assembly 25 cycles	K-3700-9
17	Resistor, 5 ohms	K-2252-13	78	A.C. Switch	(Part of) K-3857
18	Bdct. Osc. Coil	K-3832	79	Buffer Capacitor, .025 mf, 525 volts..	K-3750
19	Lag Trimmer Capacitor, 45-115 mmf.	K-3860-4	80	Buffer Capacitor, .025 mf, 525 volts..	
20	Gang Cap. Sec 466 mmf. max. (Part of)	K-3853-1	MISCELLANEOUS:—		
21	Trimmer Capacitor, 13-50mmf.	K-3860-3	Tube Sockets	K-1924-1	
22	Lag Capacitor, mica, 3850 mmf.	K-1952-22	Insulator Single Stand-Off	K-2594	
23	Lag Capacitor, mica, 330 mmf.	K-1611-33	Tube Shield Base	K-2390-2	
24	Capacitor, mica, 50 mmf.	K-1611-1	Hook (dial cord)	K-4021	
25	Switch Section (Part of)	K-3856	Dial Frame Assy. (Model 832 only)..	K-3818-1	
26	Twisted Wire Capacitor		Spring (dial)	K-3923	
27	Capacitor, .05 mf, 200 volts	K-2227-8	Slider & Ind. Assy. (832 only)	K-4012-2	
28	Capacitor, .1 mf, 200 volts	K-2227-9	Spring and Slider	K-3915	
29	Resistor, 20,000 ohms	K-1870-16	Vernier Drive	K-3824	
30	Resistor, 1000 ohms	K-2226-16	Bracket (Glass Holder) (Model 832)...	K-3824-1	
31	1st I.F. Trans. Assembly (complete) ..	K-3836	Bracket (Glass Holder) (Model 833)...	K-3825-2	
32	1st I.F. Transformer Primary	K-3835	Wave Change Indicator	K-3826	
33	1st I.F. Transformer Secondary		Dial Cable	K-1929	
34	Trimmer Capacitor, 30-130 mmf.	K-2134-1	Dial Spring	K-3790	
35	Trimmer Capacitor, 30-130 mmf.		Dial Scale	K-3827	
36	Capacitor, .05 mf, 200 volts	K-2227-8	Dial Backing	K-3830-2	
37	Capacitor, .1 mf, 200 volts	K-2227-9	Arm and Bushing Assy.	K-3919-2	
38	Resistor, 20,000 ohms	K-2226-8	Lamp Sockets	K-2835-2	
39	2nd I.F. Trans. Assembly (complete) ..	K-3838	Light Shields	K-3874	
40	2nd I.F. Transformer Primary	K-3837	Tuning Eye Clamp	K-3899	
41	1nd I.F. Transformer Secondary		Tuning Eye Thumbscrew	K-3900	
42	Trimmer Capacitor, 30-130 mmf.	K-2932-1	Tuning Eye Socket	K-3906	
43	Trimmer Capacitor, 30-130 mmf.		Tuning Eye Steel Cap.	K-3905	
44	Capacitor, 100 mmf. mica	K-1611-2	Slider and Ind. Assy. (Model 833)	K-4012-2	
45	Resistor, 30,000 ohms	K-2226-6	Pin	K-3976	
46	Resistor, 50,000 ohms	K-2226-6	Tube Shield	K-2267-1	
47	Capacitor, .1 mf, 200 V	K-2227-9	Grid Clips	K-3030-2	
48	Resistor, 2 megohms	K-2226-1	Capacitor Clamps	K-2520-1	
49	Resistor, 1 megohm	K-2226-2	Terminals	K-2725	
50	Socket (Tuning Indicator)	K-3906	A.C. Cord Clips	K-4025	
51	Cable (Tuning Indicator)		Mounting Clips for bias cell	K-3809	
52	Resistor, .5 megohm	K-2226-3	Dial Frame Assy. (Model 833)	K-3818-2	
53	Capacitor, .02 mf, 200 volts	K-2227-7	Tone Chamber Back (Model 833) (No label)	K-3232-5	
54	Volume Control, 2 megohms	K-3858	Screw (Mounting K-3232-5)	K-3354-12	
55	Bias Cell (1.25 volt)	K-3810	Autowasher (for K-3354-12)—	K-3353-2	
56	Capacitor, 100 mmf. mica	K-1611-2	Label "Mirrophonic"	K-3376	
57	Resistor, 0.25 megohm	K-2226-4	Escutcheon	K-3839-4	
58	Capacitor, .02 mf, 400 volts	K-2228-7	Knob—Tuning	K-3961-2	
59	Resistor, 0.25 megohm	K-2226-4	Knob—"Tone-Off"	K-3961-5	
60	Tone Control, 1/4 megohm (Part of) ..	K-3857	Knob—"Band"	K-3961-8	
61	Capacitor, .001 mf, 400 volts	K-2228-1	Knob—"Volume"	K-3961-11	
62	Capacitor, .003 mf, 400 volts	K-2228-3	Felt Washers for Knobs	K-2491-4	
63	Loudspeaker Plug	K-2678	Instruction Folder (English)	K-3884	
64	Loudspeaker Cable		Tuning Wrenches (All Models)	K-836	

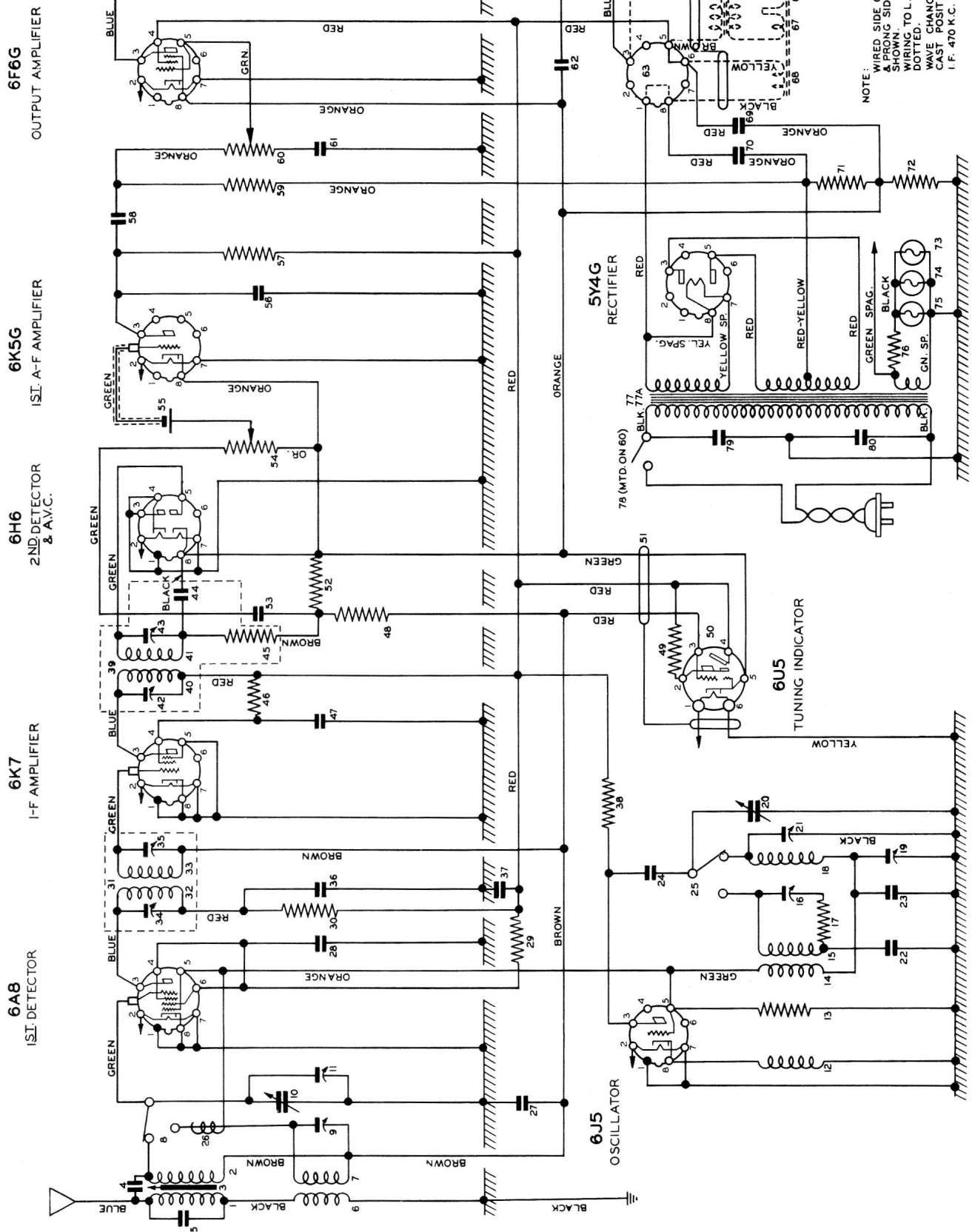


Fig. 6.—Schematic Circuit Diagram of Models 832 - 833

SOCKET RESISTANCE READINGS TO GROUND — OHMS MODEL 633

TUBE	TOP CAP. (Cont. Grid)	PIN No. 1 (Shell)	PIN No. 2 (Heater)	PIN No. 3 (Plate)	PIN No. 4 (Screen)	PIN No. 5	PIN No. 6	PIN No. 7 (Heater)	PIN No. 8 (Cathode)
Type 6A8 1st Detector	2.5 meg.	0	60 cy. .14 25 cy. .19	3200 ①	22,200 ①	50,000	22,200 ①	0	0
Type 6J5 Oscillator	—	0	60 cy. .14 25 cy. .19	22,200 ①	—	50,000	—	0	.08
Type 6K7 I.F. Amplifier	2.5 meg.	0	60 cy. .14 25 cy. .19	2,200 ①	52,200 ①	0	—	0	0
Type 6Q7G 2nd Detector	2 meg. ②	0	60 cy. .14 25 cy. .19	.25 meg. ①	.55 meg.	.55 meg.	—	0	150
Type 6F6G Output Amplifier	—	—	60 cy. .14 25 cy. .19	2,440 ①	2,200 ①	.25 meg.	—	0	150
Type 5Y4G Rectifier	—	—	—	60 cy. 630 25 cy. 743	—	60 cy. 630 25 cy. 743	—	60 cy. .19 25 cy. .23 ①	0 ①

① These measurements were made to pin No. 8 of the type 5Y4G rectifier.

② This reading was taken from the high end of the volume control, item 54, to ground. Note that it is most important to avoid connecting an ohmmeter to the top cap of the type 6K5G, since the reading would be erroneous due to the bias cell voltage and since the resultant load on the bias cell might damage it seriously.

SOCKET RESISTANCE READINGS TO GROUND — OHMS MODELS 832 & 833

TUBE	TOP CAP. (Cont. Grid)	PIN No. 1 (Shell)	PIN No. 2 (Heater)	PIN No. 3 (Plate)	PIN No. 4 (Screen)	PIN No. 5	PIN No. 6	PIN No. 7 (Heater)	PIN No. 8 (Cathode)
Type 6A8 1st Detector	2.5 meg.	0	60 cy. .14 25 cy. .19	3200 ①	22,200 ①	50,000	22,200 ①	0	0
Type 6J5 Oscillator	—	0	60 cy. .14 25 cy. .19	22,200 ①	—	50,000	—	0	.08
Type 6K7 I.F. Amplifier	2.5 meg.	0	60 cy. .14 25 cy. .19	2,200 ①	52,200 ①	0	—	0	0
Type 6H6 2nd Detector	—	0	60 cy. .14 25 cy. .19	0	0	55,000	—	0	150
Type 6K5G 1st A.F. Amplifier	2 meg. ②	—	60 cy. .14 25 cy. .19	.25 meg. ①	—	—	—	0	150
Type 6F6G Output Amplifier	—	—	60 cy. .14 25 cy. .19	2,440 ①	2,200 ①	.25 meg.	—	0	150
Type 6U5 Tuning Indicator	—	60 cy. .14 25 cy. .19	1 meg. ①	2.5 meg.	2,200 ①	150	0	—	—
Type 5Y4G Rectifier	—	—	—	60 cy. 630 25 cy. 743	—	60 cy. 630 25 cy. 743	—	60 cy. .19 25 cy. .23 ①	0 ①

① These measurements were made to pin No. 8 of the type 5Y4G rectifier.

② This reading was taken from the high end of the volume control, item 54, to ground. Note that it is most important to avoid connecting an ohmmeter to the top cap of the type 6K5G, since the reading would be erroneous due to the bias cell voltage and since the resultant load on the bias cell might damage it seriously.

REPLACEMENT PARTS LIST

MODEL 633

Item	Description	Part No.	Item	Description	Part No.
1	Bdct. Ant. Trans. Primary.....	K-3831-1	56	Resistor, 0.25 megohm.....	K-2226-4
2	Bdct. Ant. Trans. Secondary.....		57	Tone Control, 0.25 megohm Part of K-3857	
3	Iron Core.....		58	Capacitor, .002 mf, 400 volts.....	K-2228-2
4	Coupling Capacitor, Mica, 6mmf....	K-1611-2	59	Capacitor, .003 mf, 400 volts.....	K-2228-3
5	Capacitor, mica, 100 mmf.....		60	Loudspeaker Plug.....	K-2678
6	Ant.S.W. Trans. Primary.....	K-3833	61	Loudspeaker Cable.....	
7	S.W. Ant. Trans. Secondary.....		62	Output Transformer Assembly.....	K-2718-11
8	Switch Section.....	Part of K-3856	63	Voice Coil and Diaphragm Assy....	K-3483-1
9	Trimmer Capacitor, 13-50 mmf.....	K-3860-3	64	Humbucking Coil.....	
10	Gang Cap. Sec. 466 mmf. max. Part of K-3853-1		65	Field Coil.....	K-3378-3
11	Trimmer Capacitor, 2.5-15 mmf. Part of K-3853-1		66	Elect. Capacitor, 18 mf, 260 P.V....	K-3785
12	Twisted Wire Capacitor.....		67	Elect. Capacitor, 16 mf, 410 P.V....	K-3784
13	S.W. Osc. Coil Grid Winding.....	K-3834	68	Resistor, 230 ohms.....	K-2226-23
14	S.W. Osc. Coil Plate Winding.....		69	Resistor, 150 ohms.....	K-2226-37
15	Resistor, 5 ohms.....	K-2252-13	70	Dial Lamp (6.3 volt).....	K-2589-3
16	Trimmer Capacitor, 13-50 mmf.....	K-3860-3	71		
17	Switch Section.....	Part of K-3856	72	Resistance Wire, 1.1 ohms (8 in.)	K-3436-26
18	Bdct. Osc. Coil.....	K-3832	73	Power Transformer—60 cycles.....	K-3700-8
19	Lag Trimmer Capacitor, 45-115 mmf.	K-3860-4	73a	Power Transformer—25 cycles.....	K-3700-9
20	Gang Cap. Section, 466 mmf. Part of K-3853-1		74	A.C. Switch.....	Part of K-3857
21	Trimmer Capacitor, 13-50 mmf.....	K-3860-3	75	Buffer Capacitor, .025 mf, 525 volts	K-3750
22	Lag Capacitor, mica, 330 mmf....	K-1611-33	76	Buffer Capacitor, .025 mf, 525 volts.	
23	Lag Capacitor, mica, 3850 mmf....	K-1952-22			
24	Choke Coil.....	K-3935			
25	Resistor, 50,000 ohms.....	K-2226-6			
26	Capacitor, mica, 50 mmf.....	K-1611-1			
27	Capacitor, .05 mf, 200 volts.....	K-2227-8			
28	Capacitor, .1 mf, 200 volts.....	K-2227-9			
29	Resistor, 1000 ohms.....	K-2226-16			
30	Resistor, 20,000 ohms.....	K-1870-16			
31	1st I.F. Trans. Assembly (complete)	K-3836			
32	1st I.F. Trans. Primary.....	Part of K-3835			
33	1st I.F. Trans. Secondary.....				
34	Trimmer Cap., 30-130 mmf....	Part of K-3836			
35	Trimmer Cap., 30-130 mmf....				
36	Capacitor, .05 mf, 200 volts.....	K-2227-8			
37	Capacitor, .1 mf, 200 volts.....	K-2227-9			
38	Resistor, 20,000 ohms.....	K-2226-8			
39	2nd I.F. Transformer Assy.(complete)	K-3838			
40	2nd I.F. Transformer Primary.....	Part of K-3837			
41	2nd I.F. Trans. Secondary.....				
42	Trimmer Cap., 30-130 mmf....	Part of K-2932-1			
43	Trimmer Cap., 30-130 mmf....				
44	Cap., 100 mmf, mica [Part of K-3838]	K-1611-2			
45	Resistor, 50,000 ohms [Part of K-3838]	K-2226-6			
46	Capacitor, .1 mf, 200 volts.....	K-2227-9			
47	Resistor, 50,000 ohms.....	K-2226-6			
48	Bias Cell (1.25 volt).....	K-3810			
49	Volume Control, 2 megohms.....	K-3858			
50	Capacitor, .02 mf, 200 volts.....	K-2227-7			
51	Resistor, 2 megohms.....	K-2226-1			
52	Resistor, .05 megohm.....	K-2226-3			
53	Capacitor, 100 mmf, mica.....	K-1611-2			
54	Resistor, 0.25 megohm.....	K-2226-4			
55	Capacitor, .02 mf, 400 volts.....	K-2228-7			

MISCELLANEOUS

Tube Sockets.....	K-1924-1
Insulator Single Stand-off.....	K-2594
Tube Shield Base.....	K-2390-2
Spring (Dial).....	K-3923
Spring and Slider.....	K-3915
Vernier Drive.....	K-3824
Dial Cable.....	K-1929
Dial Scale.....	K-3827
Dial Backing.....	K-3830-2
Lamp Sockets.....	K-2835-2
Slider & Ind. Assy.....	K-4012-2
Pin.....	K-3976
Tube Shield.....	K-2267-1
Grid Clips.....	K-3030-2
Capacitor Clamps.....	K-2520-1
Terminals.....	K-2725
A.C. Cord Clips.....	K-4025
Mounting Clips for Bias Cell.....	K-3809
Screw (Mounting K-3232-5).....	K-3354-12
Autowasher (for K-3354-12).....	K-3353-2
Label "Mirrophonic".....	K-3376
Knob—"Tuning".....	K-3861-2
Knob—"Tone Off".....	K-3961-5
Knob—"Band".....	K-3961-8
Knob—"Volume".....	K-3961-11
Felt Washers for Knobs.....	K-2491-4
Escutcheon.....	K-3839-5
Dial Frame Assy.....	K-3818-3
Dial Backing.....	K-3830-1
Instruction Folder (English).....	K-3945
Tuning Wrenches (All models).....	K-836

REALIGNING INSTRUCTIONS

To secure full advantage of the performance characteristics of these receivers, any realignment necessary should be carried out carefully. A reliable test oscillator or signal generator and also an output meter should be employed. A signal generator utilizing harmonics to cover the short wave band should not be used.

I.F. ALIGNMENT:

- (a) Set the signal generator to 470 kc. and connect its output through a 0.1 mf. capacitor to the grid cap of the first detector (type 6A8 tube). Set the receiver dial to about 600 kc. and turn the wave change switch to the broadcast position.
- (b) Adjust trimmers, items 34, 35, 42 and 43 for maximum output.
- (c) Reduce the output from the generator to as low a value as will give an output reading and check the adjustments. All trimmers should peak properly.

R.F. ALIGNMENT—Broadcast Band:

- (a) With the gang all in, check the position of the pointer. It should line up with the end of the

calibration line. Put the wave change switch in the broadcast position.

- (b) Couple the signal generator to the antenna (blue) lead through a 100 mmf. mica capacitor. Connect the ground (black) lead to ground.
- (c) Set the generator and receiver to 600 kc. Adjust trimmer, item 19, to tune in the signal. Adjust the iron core of the antenna coil, item 3, for maximum sensitivity.
- (d) Set the generator receiver to 1600 kc. Adjust trimmer, item 21, to bring in the signal and then adjust trimmer, item 11, for maximum sensitivity.
- (e) Recheck at 600 kc. and repeat if necessary.

R.F. ALIGNMENT—Short Wave Band:

- (a) Substitute a 400 ohm carbon resistor for the capacitor in the lead from the signal generator. Turn the wave change switch to the short-wave position.
- (b) Set the generator and receiver to 15 mc. Adjust trimmer, item 16, to bring in the signal. Then adjust trimmer, item 9, for maximum sensitivity while rocking the gang. Check for image at 15.9 mc.

D.C. RESISTANCE OF COILS — OHMS

Description	Resistance
Broadcast Antenna Transformer, Primary...	14.9
Broadcast Antenna Transformer, Secondary.	2.6
Broadcast Osc. Coil, Plate Winding.....	6.6
S.W. Antenna Transformer, Primary.....	.05
S.W. Antenna Transformer, Secondary.....	.04
S.W. Osc. Coil, Plate Winding.....	.08
S.W. Osc. Coil, Grid Winding.....	.04
1st I.F. Transformer, Primary.....	12.5
1st I.F. Transformer, Secondary.....	12.5
2nd I.F. Transformer, Primary.....	12.5
2nd I.F. Transformer, Secondary.....	12.5
Output Transformer, Primary.....	240
Output Transformer, Secondary.....	0.22
Loudspeaker Field Coil.....	2200

Description	Resistance
Loudspeaker H.B. Coil.....	.07
Loudspeaker Voice Coil (impedance 1.8 ohms at 400 cycles) { Model 832 }	1.3
Loudspeaker H.B. Coil.....	.1
Loudspeaker Voice Coil (impedance 1.82 ohms at 400 cycles) { Models 633 and 833 }	1.8
Power Transformer, Primary (60 cycles)....	8.9
Power Transformer, Primary (25 cycles)....	12.3
Power Transformer, H.V. Sec. (60 cycles)...	50.0
Power Transformer, H.V. Sec. (25 cycles)...	72.6
Power Transformer Heaters (60 cycles)....	.14
Power Transformer Heaters (25 cycles)....	.19
Power Transformer Rectifier (60 cycles)....	.19
Power Transformer Rectifier (25 cycles)....	.23

SOCKET VOLTAGE READINGS — MODELS 832 AND 833

These readings were taken with the gang capacitor all in, wave-change switch on the broadcast band and line voltage of 115 volts. They can be duplicated with any good volt-ohmmeter such as the Weston Model 663 or the Weston Model 772 and a Weston Model 666 socket selector. When taking readings with the selector attachment, connect a 0.1 mf. capacitor from the grid of the tube in the selector to the chassis, to prevent oscillation.

TUBES	VOLTAGES					CURRENTS—M.A.		
						Screen	PLATE	
	Heater A-C	Plate	Screen	Grid	Cathode		Normal Bias	Bias red. 4½V.
Type 6A8 1st Detector	6.3	165	75	—2.8 ①	0	3.25	4.6	7.4
Type 6J5 Oscillator	6.3	65	—	0	0	—	5.5	6.1
Type 6K7 I.F. Amplifier	6.3	175	85	—2.8 ①	0	1.7	7.2	7.5
Type 6H6 Second Detector & A.V.C.	6.3	—	—	—	—2.8 ①	—	—	—
Type 6K5G 1st A.F. Amplifier	6.3	70	—	— ③	—2.8 ①	—	0.4	0.7
Type 6F6G Output Amplifier	6.3	165	175	—12.0 ②	—2.8 ①	4.0	24.5	29
Type 6U5 Tuning Indicator	6.3	35	175 (Target)	—	—2.8 ①	1.4 (Target)	.17	—
Type 5Y4G Rectifier	5.0	—	—	—	308	—	Plate No. 1 24.0	Plate No. 2 27

① Measured across resistor, Item 72.

② Measured across resistors, Items 71 and 72.

③ Do not attempt to measure this voltage with a voltmeter since the resultant load on the bias cell might seriously damage it.

SOCKET VOLTAGE READINGS — MODEL 633

TUBE	VOLTAGES					CURRENTS—M.A.		
						Screen	PLATE	
	Heater A-C	Plate	Screen	Grid	Cathode		Normal Bias	Bias red. 4½ V.
Type 6A8 1st Detector	6.3	165	75	—2.8 ①	0	3.25	4.6	7.4
Type 6J5 Oscillator	6.3	65	—	0	0	—	5.5	6.1
Type 6K7 I.F. Amplifier	6.3	175	85	—2.8 ①	0	1.7	7.2	7.5
Type 6Q7G 2nd Detector & A.V.C.	6.3	70	—	— ③	—2.8 ①	—	0.4	0.7
Type 6F6G Output Amplifier	6.3	165	175	—12.0 ②	—2.8 ①	4.0	24.5	29
Type 5Y4G Rectifier	5.0	—	—	—	308	—	Plate No. 1 24.0	Plate No. 2 27

① Measured across resistor, item 69.

② Measured across resistors, items 68 and 69.

③ Do not attempt to measure this voltage with a voltmeter since the resultant load in the bias cell might seriously damage it.