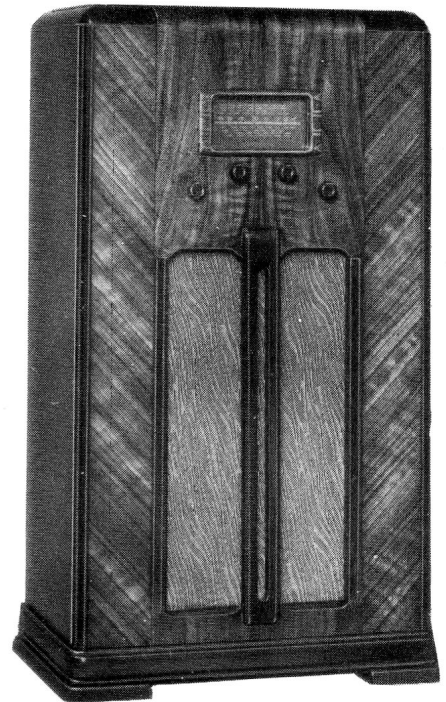
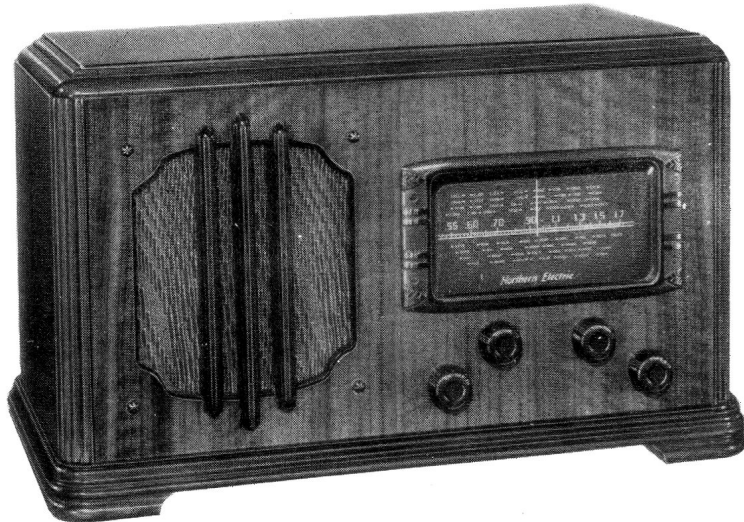


Models 634, 635

Battery Operated Radio Receivers



Specifications

Frequency Range:

.535 to 1.72 megacycles

I.F.:

470 K.C.

Tubes:

Type	Function
1D7G	Converter
1D5GP	I.F. Amplifier
1H6G	2nd Detector, A.V.C., 1st A.F. Amplifier
1H4G	2nd A.F. Amplifier
1H4G	} Push-Pull
1H4G	
	Output

Power Supply:

See schematic and battery connection diagram.

A.V.C.:

Full A.V.C. control is applied to types 1D7G and 1D5GP tubes.

Controls:

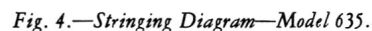
Left to Right—Volume control; tone control; battery switch; tuning control.

Loudspeakers:

Both models—8 inch permanent magnet.

Cabinets:

Model 634—Table model.
Model 635—Console model.



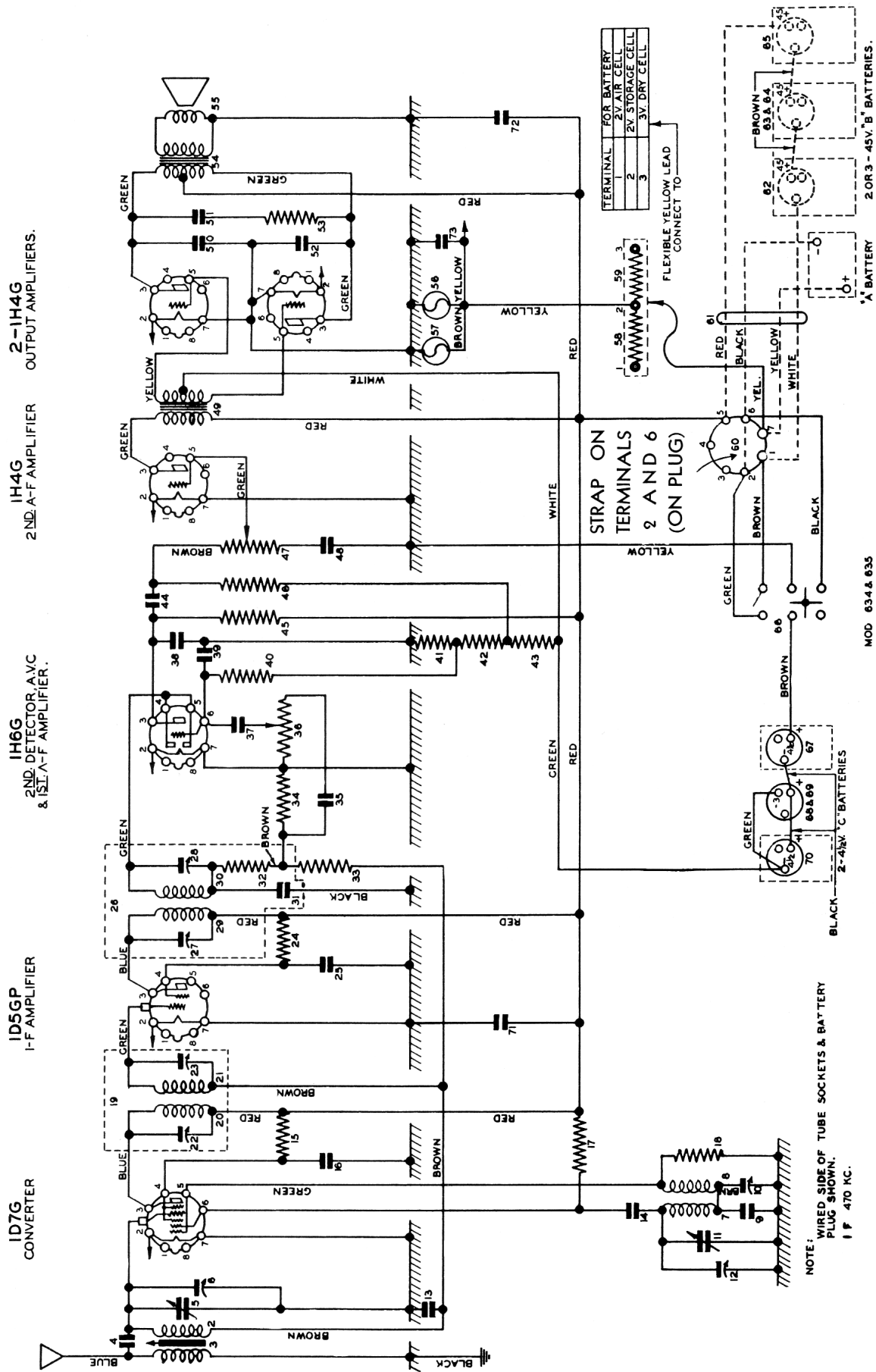


Fig 5.—Schematic Circuit Diagram.

Heavy dotted lines indicate wires not in chassis.

REPLACEMENT PARTS LIST

Item	Description	Part No
1	Ant. Transformer Primary...	K-3831-3
2	Ant. Transformer Secondary...	
3	Iron Core.....	
4	Coupling Capacitor—5 mmf.	
5	Gang Cap. Sect., 466 mmf. max	Part of K-3853-2
6	Trimmer Cap., 2.5-15 mmf. max	Part of K-3853-2
7	Osc. Coil—Plate Winding...	K-4009
8	Osc. Coil—Grid Winding...	
9	Capacitor, 250 mmf. Mica.....	K-1611-14
10	Lag Trimmer Capacitor	K-3324-3
11	Trimmer Capacitor, 2.5-15 mmf.	Part of K-3853-2
12	Gang Cap. Sect., 466 mmf. max.	Part of K-3853-2
13	Capacitor .05 mf. 200 volts	K-2227-8
14	Capacitor, 100 mmf. Mica.....	K-1611-2
15	Resistor, 75,000 ohms.....	K-2226-27
16	Capacitor, .1 mf. 200 volt	K-2227-9
17	Resistor, 30,000 ohms.....	K-2226-44
18	Resistor, 50,000 ohms.....	K-2226-6
19	1st I.F. Transformer Assy.	K-3984
20	Primary—I.F. Transformer..	Part of } K-3985
21	Secondary—I.F. Transformer	
22	Trimmer Cap., 30-130 mmf....	Part of } K-2134-1
23	Trimmer Cap., 30-130 mmf....	
24	Resistor, 50,000 ohms.....	K-2226-6
25	Capacitor, .1 mf. 200 volt	K-2227-9
26	2nd I.F. Transformer Assy.....	K-3986
27	Primary—I.F. Transformer ..	Part of } K-3985
28	Secondary—I.F. Transformer.	
29	Trimmer Cap., 30-130 mmf.	Part of } K-2932-1
30	Trimmer Cap., 30-130 mmf.	
31	Cap., 100 mmf. Part of K-3986..	K-2932-1
32	Resistor, 50,000 ohms Part of K-3986..	K-2226-6
33	Resistor, 2 megohms.....	K-2226-1
34	Resistor, .5 megohm.....	K-2226-3
35	Capacitor, .02 mf. 200 volt.....	K-2227-7
36	Volume Control, 2 megohm	Part of K-3838
37	Capacitor, .02 mf. 200 volt	K-2227-7
38	Capacitor, 100 mmf. mica.....	K-1611-2
39	Capacitor, 100 mmf. mica.....	K-1611-2
40	Resistor, 2 megohms.....	K-2226-1
41	Resistor, 1000 ohms	K-2226-16
42	Resistor, 3000 ohms	K-2226-29
43	Resistor, 3000 ohms	K-2226-29
44	Capacitor, .01 mf, 200 volt.....	K-2227-6
45	Resistor, .25 megohm	K-2226-4
46	Resistor, .5 megohm.....	K-2226-3
47	Tone Control, .25 megohm.....	K-4014
48	Capacitor, .001 mf. 400 volt.....	K-2228-1
49	Input Transformer Assy.....	K-2496-4
50	Capacitor, Mica, 500 mmf.....	K-1611-6
51	Capacitor, .003 mf. 400 volt.....	K-2228-3
52	Capacitor, Mica, 500 mmf.....	K-1611-6
53	Resistor, 20,000 ohms.....	K-2226-8
54	Output Transformer Assy.....	K-4046-2
55	Loudspeaker Assy. (P.M.), Model 635	K-3994-1
55a	Loudspeaker Assy. (P.M.), Model 634	K-3994-2

Item	Description	Part No
56	Dial Lamp (2.0 volt).....	K-2589-1
57	Dial Lamp (2.0 volt).....	K-2589-1
58	Resistor, 0.5 ohm	K-2252-10
59	Resistor, 1.6 ohms.....	K-2252-9
60	Battery Plug.....	K-4004
	Battery Plug Receptacle (Lever contact)	K-4007
61	Battery Cable.....	K-4005
62	"B" Battery Plug.....	K-2457
63	"B" Battery Plug.....	K-2457
64	Dummy "B" Battery Socket.....	K-2942
65	"B" Battery Plug	K-2457
66	Battery Switch.....	K-4020
67	"C" Battery Plug.....	K-2515
68	"C" Battery Plug.....	K-2515
69	Dummy "C" Battery Socket.....	K-4064
70	"C" Battery Plug.....	K-2515
71	Capacitor, .1 mf. 200 volt.....	K-2227-9
72	Electrolytic Capacitor, 30 mf, 150 P.V.	K-4013
73	Capacitor, .5 mf. 200 volt	K-2227-11

MISCELLANEOUS:

Sockets.....	K-1924-1
Tube Shield Base.....	K-2390-2
Battery Terminal Strip.....	K-2763
Battery Plug.....	K-4004
Single Stand-offs.....	K-2594
Light Shield.....	K-3874
Dial Frame (634 only).....	K-3818-4
Dial Frame (635 only).....	K-3818-3
Spring for Drive Pulley	K-3923
Pulley.....	K-3682
Slider and Indicator Assy.....	K-4012-2
Dial Cable.....	K-1929
Dial Scale.....	K-4008
Dial Backing.....	K-3830-1
Drive Assy.....	K-4056
Lamp Sockets.....	K-2835-2
Tube Shield.....	K-2267-2
Grid Clips.....	K-3030-2
Receptacle & Cable Assy.....	K-4006
D. E. Clamp.....	K-2520-1
Cord Tip.....	K-3314
Chassis Mounting Screws.....	K-1122-12
Chassis Mounting Washers.....	K-1725-2
Chassis Mounting Lock Washers.....	K-1348-7
Escutcheon Mounting Screws.....	K-3764-3
Escutcheon.....	K-3839-5
Knob—"Tuning".....	K-3961-2
Knob—"Tone".....	K-3961-7
Knob—"On-Off".....	K-3961-6
Knob—"Volume".....	K-3961-11
Felt Washers (for Knobs).....	K-2491-4
Instruction Folder (English).....	K-4018
"Mirrophonic" Label.....	K-4066
Tuning Wrench (all models).....	K-836

SOCKET VOLTAGE AND CURRENT READINGS

These readings were taken with a "B" battery of 98 volts and an "A" storage cell of 2.15 volts. Voltage readings can be duplicated using any good voltmeter having a resistance of 1000 ohms per volt, such as the Weston Model 663 Volt-Ohmmeter or the Weston Model 772 having a resistance of 20,000 ohms per volt. Current readings can be duplicated with the Model 772 using a Model 666-1A Adapter. When taking readings with the analyzer adapter, connect a 0.1 mf. capacitor from the grid of the tube in the analyzer to the chassis, to prevent oscillation.

TUBE	VOLTAGES				CURRENTS—M.A.		
	Heater (A.C.)	Screen	Plate	Grid	Screen	PLATE	
						Normal Bias	Bias red. 4½ V.
Type 1D7G Converter	2.15	30	98	—	.61	1.2	1.7
Type 1D5GP I.F. Amplifier	2.15	43	98	—	.95	2.8	3.0
Type 1H6G 2nd Det. & 1st A.F.	2.15	—	27	1.1 ①	—	.17	.26
Type 1H4G Driver	2.15	—	94	4.3 ②	—	3.2	8.3
Type 1H4G Output Amplifier	2.15	—	98	7.5 ③	—	.83	3.8
Type 1H4G Output Amplifier	2.15	—	98	7.5 ③	—	.88	3.8

Anode Grid Voltage — 59 volts

Anode Grid Current — 0.68 milliampere.

① Measured across resistor Item 41.

② Measured across resistors Items 41 and 42.

③ Measured across resistors Items 41, 42 and 43.

SOCKET RESISTANCE READINGS — OHMS

TUBE	TOP CAP (Cont. Grid)	PIN No. 1 N. C.	PIN No. 2 Filament	PIN No. 3 Plate	PIN No. 4 Screen	PIN No. 5	PIN No. 6	PIN No. 7 Filament	PIN No. 8 N. C.
Type 1D7G Converter	2.5 meg.	—	0 ①	12.5 ②	75,000 ②	50,000	30,000 ②	0	—
Type 1D5GP I.F. Amplifier	2.5 meg.	—	0 ①	12.5 ②	50,000 ②	—	—	0	—
Type 1H6G 2nd Det. A.V.C. & 1st A.F. Amplifier	—	—	0 ①	.25 meg. ②	.55 meg.	.55 meg.	2 meg.	0	—
Type 1H4G 2nd A.F. Amplifier	—	—	0 ①	633 ②	—	.25 meg.	—	0	—
Type 1H4G Push Pull Output Amp.	—	—	0 ①	292 ②	—	7855	—	0	—
Type 1H4G Push Pull Output Amp.	—	—	0 ①	292 ②	—	7855	—	0	—

These readings were taken with battery switch in "off" position, batteries disconnected and with the tone control in the extreme counter-clockwise position.

① Measured to A+ with flexible connection in Socket No. 2.

② Measured to B+

REALIGNING INSTRUCTIONS

To secure full advantage of the performance characteristics of this receiver any realignment necessary should be carried out carefully. A reliable test oscillator or signal generator and also a high resistance output meter should be used.

I.F. ALIGNMENT:

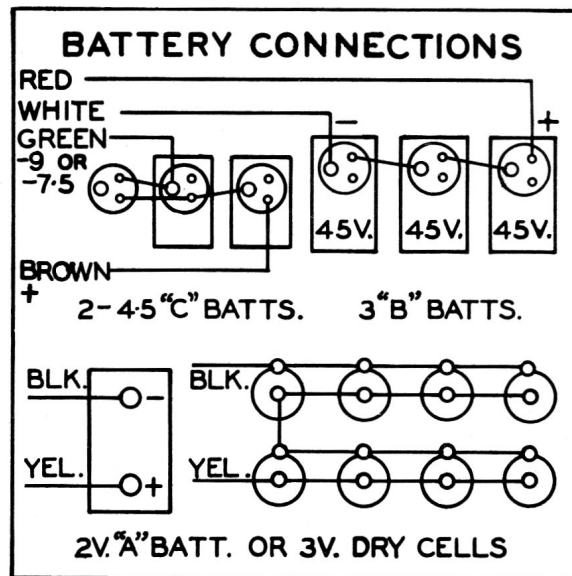
- (a) Set the signal generator to 470 kc. and connect its output through a 0.1 mf. capacitor to the grid cap of the type 1D7G converter tube. Set the receiver dial at 600 kc.
- (b) Adjust trimmers, items 22, 23, 27 and 28, until maximum sensitivity is obtained.
- (c) Reduce the output from the signal generator as low a value as will give an output reading and check the alignment of these four trimmers. All should peak properly.

R.F. ALIGNMENT:

- (a) With the gang all in, check the position of the pointer. It should line up with the end of the calibration line.
- (b) Couple the signal generator to the antenna lead (blue) through a 100 mmf. mica capacitor. Connect the ground lead (black) to ground.
- (c) Set the generator and the receiver at 600 kc. Adjust the lag trimmer capacitor, item 10, to bring in the signal.
- (d) Adjust the iron core, item 3, for maximum sensitivity.
- (e) Set the receiver and generator to 1600 kc. and adjust trimmer, item 12, to bring in the signal.
- (f) Adjust trimmer, item 6, for maximum sensitivity.
- (g) Recheck at 600 kc. and realign if necessary.

D.C. RESISTANCE OF COILS — OHMS

Item	Description	Resistance	Item	Description	Resistance
1	Antenna Transformer, primary.....	21.9	29	2nd I.F. Transformer, Secondary.....	12.5
2	Antenna Transformer, secondary.....	2.9	49	Input A.F. Transformer, Primary.....	633.
7	Oscillator Coil, plate winding.....	7.9		Input A.F. Transformer, Secondary.....	1710.
8	Oscillator Coil, grid winding.....	2.1	54	Output Transformer, Primary.....	584.
20	1st I.F. Transformer, Primary.....	12.5		Output Transformer, Secondary.....	0.4
21	1st I.F. Transformer, Secondary.....	12.5	55	Loudspeaker Voice Coil.....	2.0
28	2nd I.F. Transformer, Primary.....	12.5			



K4055-1

Battery Connections for Models 634 and 635 Receivers