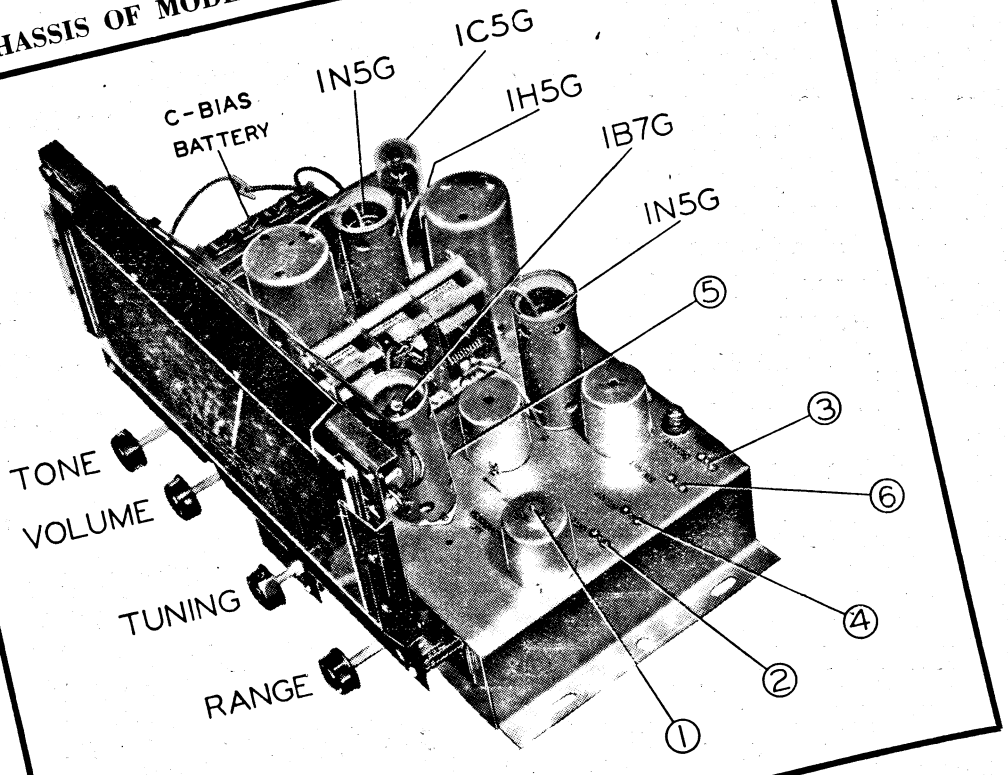
Stromberg-Carlson

SERVICE MANUAL

Stromberg-Carlson Model 700 5-Valve Superheterodyne Battery Dual-Wave Receiver

CHASSIS OF MODEL 700



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STROMBERG-CARLSON

RECEIVER ALIGNMENT INSTRUCTIONS:

MODEL 700

The adjustment of the trimmers should only be undertaken by a qualified service man equipped with a calibrated test oscillator.

Refer to the photograph on the front page for the location of the various trimmers referred to by numbers in the next paragraphs.

I.F.: Turn the volume control fully clockwise and the wave range switch counter-clockwise. Set the test oscillator to 458 K.C. and connect it to the grid of the 1B7G through a condenser of about .05 Mfd. capacity. Then adjust the four hexagonal iron cores in the I.F. Transformers for maximum gain. These are accessible through apertures on the side of the I.F. Cans.

BROADCAST BAND: First make sure that when the gang condenser plates are fully meshed the dial pointer is on the line at the 550 K.C. end of the dial scale.

Connect the test oscillator to the aerial terminal on the receiver by a standard dummy aerial, or else a .0002 Mfd. condenser.

(a) Turn the receiver and test oscillator both to 600 K.C. While rocking the gang back and forth through resonance adjust the iron core in the oscillator coil by means of the brass screw (1).

(b) Turn the test oscillator to 1400 K.C. and set the receiver dial pointer to 1400 K.C. Adjust the oscillator trimmer (2) to resonance. Then adjust the aerial trimmer (3) and RF trimmer (4) for maximum signal.

Repeat operations (a) and (b).

SHORT WAVE BAND: Turn the wave range switch counter-clockwise to the S.W. position. Replace the .0002 Mfd. condenser joining the test oscillator to the aerial terminal by a 400 or 500 ohm carbon resistor.

Set the test oscillator to 14 metres, tune it in on the receiver and adjust the S.W. R.F. (5) and S.W. aerial trimmer (6) for maximum gain while rotating the gang through resonance. The test oscillator will be picked up in two adjacent spots near 14 metres. The correct one to use is nearer 15 metres, the other being the "image."

No S.W. oscillator trimmer or variable padder is employed so this completes the alignment.

CIRCUIT CODE MODEL 700

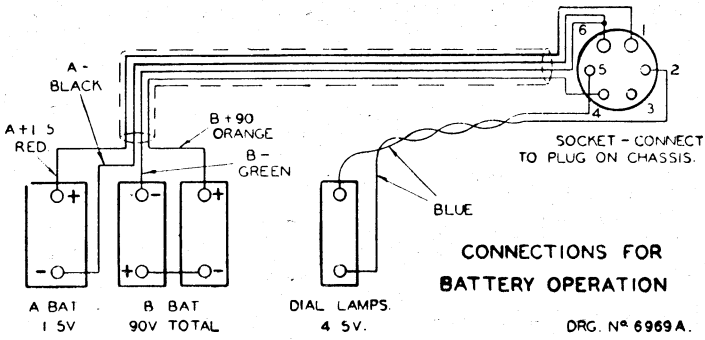
No.	Part No.	DESCRIPTION
		CAPACITORS
1.	3038	3 mmF.
2.	2543	Air Trimmer 15P.
3.	2667	0.05 mF. 200V.
4.	2676	0.004
5.	6786	3 Gang Type "H." C.
6.	2306	0.1 μF. 200V.
7.	3038	3 mmF.
8.	2543	Air Trimmer 15P.
9.	2667	0.05 mF. 200V.
10.	2543	Air Trimmer 15P.
11.	2676	0.004
12.	6786	3 Gang Type "H." C.
13.	2582	100 mmF.
14.	6786	3 Gang Type "H." C.
15.	2543	Air Trimmer 15P.
16.	2974	440 mmF. ± 2½%
17.	4250	0.01 mF.
18.	2863	100 mmF. ± 2½%
19.	2863	100 mmF. ± 2½%
20.	2306	0.1 mF. 200V.
21.	2863	100 mmF. ± 2½%
22.	2863	100 mmF. ± 2½%
23.	2583	250 mmF.
24.	2662	0.004 mF. 200V.
25.	6567	0.001 mF. 200V.
26.	2582	100 mmF.
27.	6367	0.001 mF. 200V.
28.	2581	0.002 mF. 200V.
29.	2696	0.02 mF. 200V.
30.	2543	Air Trimmer. 15P.
31.	4176	8 mF. 350 P.V.

No.	Part No.	DESCRIPTION
		RESISTORS
40.	2569	0.25 Meg. 1/3W.
41.	2550	0.1 Meg. 1/3W.
42.	2569	0.25 Meg. 1/3W.
43.	2612	50 w. 1/3W.
44.	2614	0.15 Meg. 1/3W.
45.	6114	0.07 Meg. 1/3W.
46.	6705	1 Meg. Volume Control *
47.	6136	5 Meg. 1/3W.
48.	6499	2 Meg. 1/3W.
49.	2614	0.15 Meg. 1/3W.
50.	6499	2 Meg. 1/3W.
51.	2571	1 Meg. 1/3W.
52.	6499	2 Meg. 1/3W.
53.	6114	0.07 Meg. 1/3W.
54.	6210	1000 w. 1/3W.
55.	5710	0.3 w. — wire wound. * (Tap at 0.5 meg.)
		MISCELLANEOUS
60.	6623	B.C. Antenna Coil
61.	6788	S.W. Antenna Coil
62.	6790	B.C. Detector Coil
63.	6787	S.W. Detector Coil
64.	6754	B.C. Oscillator Coil
65.	6789	S.W. Oscillator Coil
66.	6161	1st I.F. Transformer
67.	6162	2nd I.F. Transformer
68.	6828	Speaker 15,000 w. (Permag).
70.	6447	Glass Dial Scale

VALVES AND VOLTAGES: The location of the valves is shown in the photograph on page 1.

VALVE.	PLATE.	SCREEN.	BIAS.
1N5GT R.F.	90	90	—
1B7GT Mixer	90	35	—
Triode Section	90	—	—
1N5GT I.F.	90	90	—
1H5GT Dem. AVC. Audio	30	—	—
1C5G Output	90	90	–9

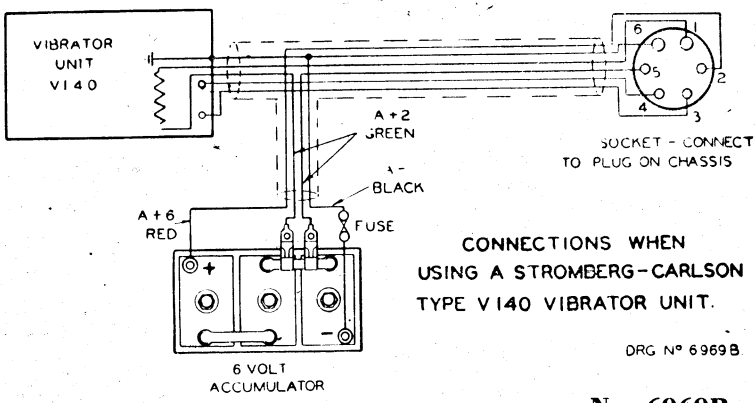
All voltages were measured with a voltmeter having a resistance of 1000 ohms per volt between the point indicated and chassis.



CONNECTIONS FOR
BATTERY OPERATION

DRG. Nº 6969A.

No. 6969A.



CONNECTIONS WHEN
USING A STROMBERG-CARLSON
TYPE V140 VIBRATOR UNIT.

DRG Nº 6969B

No. 6969B.

* Conversion to vibrator operation involves merely the unplugging of the battery cable from the chassis and the substitution of a similar cable from the Vibrator Unit. The normal battery switch on the receiver is already wired to control the V.140 Unit, and so no extra switches are required.

Circuit diagrams reproduced herewith show the correct methods of connection for either battery or vibrator operation. Care should be taken not to touch the 2-volt clips on the wrong battery terminals in the case of vibrator operation.

BATTERY OPERATION! The following Batteries are recommended:

"A" Battery—1.5 volt. Type X250 Ever-Ready or Equivalent Type.

"B" Battery—Two 45 volt. Type S.D.45 Ever-Ready or Equivalent Type.

"C" Battery—9 volt. Type W9S Ever-Ready or Equivalent Type.

Dial Lamp Battery. 4.5 volt. Type 126 Ever-Ready or Equivalent Type.

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* Receivers with serial numbers below 75470 are not provided with a cable plug, and use 3.5 volt 0.2 amp. dial lamps with a 3 volt dial lamp battery. The V.140 Unit cannot be as readily attached to them.

OPERATION: Looking at the front of the chassis and reading from left to right, the four controls are as follows:—

On-Off Switch, Volume Control, Station Selector, Wave Change Switch.

ON-OFF SWITCH: This has four positions. When turned fully to the left the receiver is switched off. When in the centre position the receiver is switched on, and the dial illuminated. After tuning to the required station turn the switch to the third (right) position. This will extinguish the dial lamps only. The fourth position connects Tone Control circuit.

DIAL LAMP BATTERY: In order to reduce the "A" Battery drain as much as possible, the Dial Lamps are arranged to draw their energy from an entirely separate source. This takes the form of a 4.5 volt battery (Eveready No. 126 or Equivalent). If longer life is required, three larger capacity 1½ volt cells may be wired in series and stood in a convenient part of the cabinet.

The Dial Lamp battery leads are the two twisted blue leads emerging from the Battery Cable Assembly.

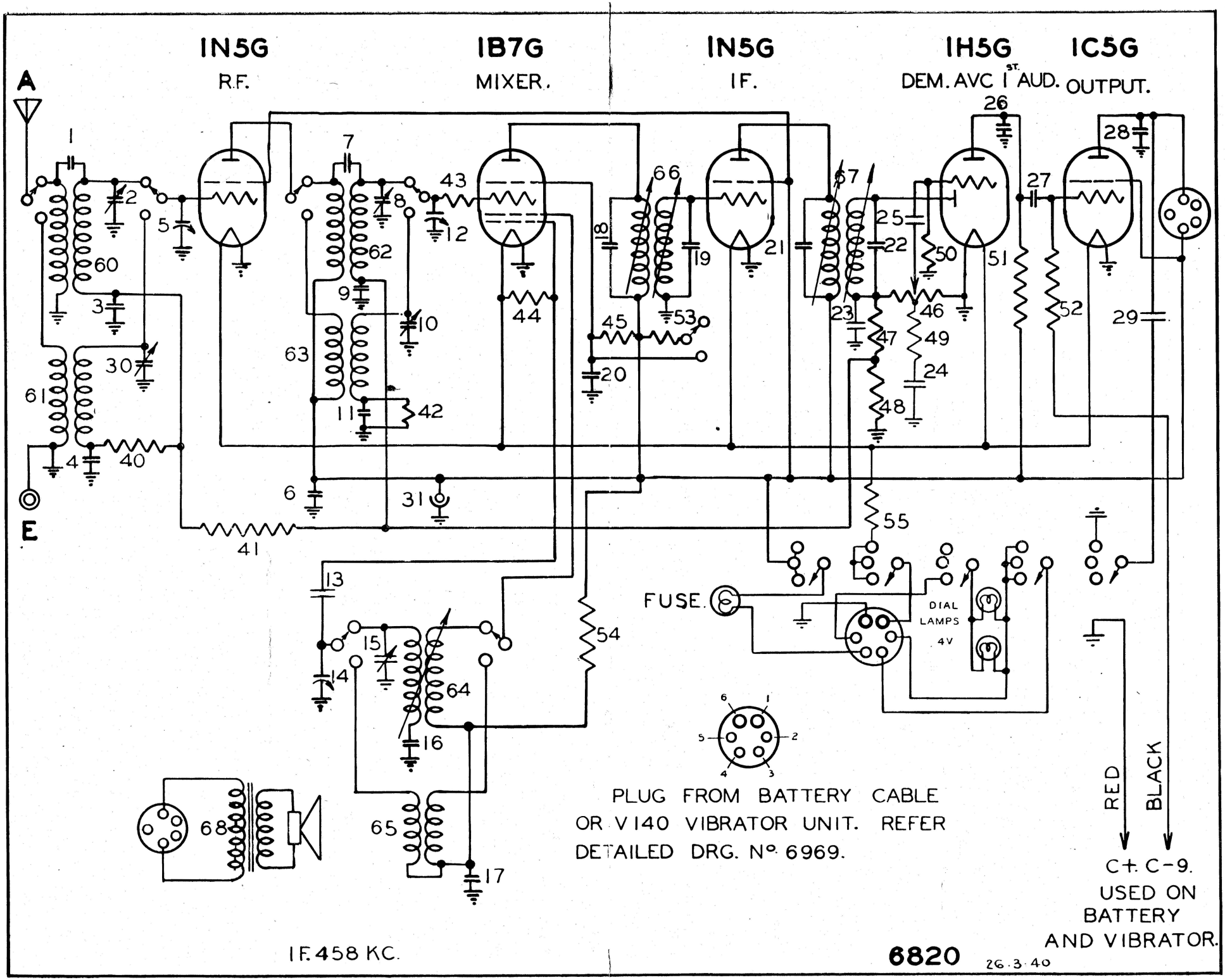
"C" (BIAS) BATTERY: This is accommodated in a special clip easily accessible above the chassis, and is connected to the circuit by two wires. The Red wire goes to the positive terminal and the Black to the –9 volt terminal. The battery type is Eveready W9S or its equivalent.

Care should be exercised whenever replacing this battery to ensure that the connections are correct. If these are reversed the "B" battery drain will be considerably increased, to the detriment of the life of both batteries and valves.

The Bias Battery should be changed whenever a "B" battery replacement occurs.

WAVE RANGE SWITCH: This has two positions. Counter-clockwise for reception of short wave stations between 13 and 35 metres, and clockwise for the regular broadcast band, 1600 to 550 K.C.

VIBRATOR OPERATION: This receiver is readily adaptable to Vibrator operation, in which case the "A", "B", and Dial Lamp batteries may be dispensed with for all time. The C-bias battery, however, is still required. The Stromberg-Carlson Vibrator Unit V.140 has been specially designed to permit this conversion, and operates entirely from a 6-volt storage battery.


1N5G
R.F.
1B7G
MIXER.
1N5G
I.F.
1H5G
DEM. AVC 1ST AUD.
1C5G
OUTPUT.
A
E
FUSE.
DIAL LAMPS 4V
PLUG FROM BATTERY CABLE OR V140 VIBRATOR UNIT. REFER DETAILED DRG. Nº 6969.
RED
BLACK
C+. C-9.
USED ON BATTERY AND VIBRATOR.
I.F. 458 KC.
6820
26.3.40