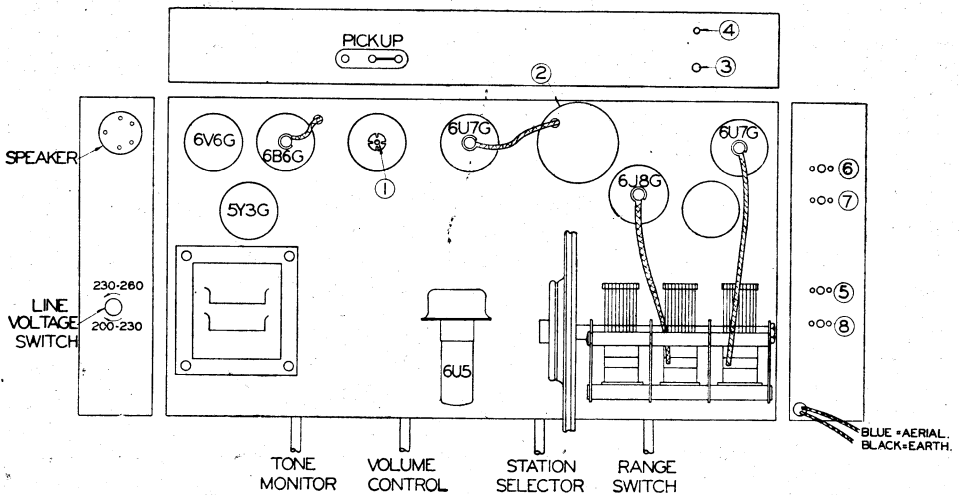


# Stromberg-Carlson

SERVICE BULLETIN, No. 640  
STROMBERG-CARLSON

## Stromberg-Carlson Model 640 Superheterodyne

A.C. DUAL WAVE RECEIVER



### Chassis of Model 640.

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# RECEIVER ALIGNMENT INSTRUCTIONS:

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

Refer to the chassis drawing 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 KC and connect it to the grid of the 6J8G through a condenser of about .05 Mfd. capacity. With a thin screw-driver adjust the brass screw (1) on the 2nd I.F. transformer for maximum gain. Then adjust the two hexagonal headed "iron" cores (2) in the side of the 1st I.F. transformer.

**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 blue aerial wire 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 (4) in the oscillator coil by means of the brass screw at the back of the chassis.

(b) Turn the test oscillator to 1400 K.C., and set the receiver dial pointer to 1400 K.C. Adjust the oscillator trimmer (3) to resonance. Then adjust the aerial trimmer (5) and RF trimmer (6) for maximum signal.

Repeat operations (a) and (b).

**SHORT WAVE BAND:** Turn the wave range switch clockwise to the S.W. position. Replace the .0002 Mfd. condenser joining the test oscillator to the blue aerial wire 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. (7) and S.W. aerial trimmer (8) 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 13 metres, the other being the "image."

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

# CIRCUIT CODE MODEL 640

No.	Part No.	DESCRIPTION.	No.	Part No.	DESCRIPTION.
<b>CAPACITORS.</b>			<b>RESISTORS.</b>		
1.	2543	Air Trimmer 15P.	50.	2550	100,000 w. 1/3W.
2.	2543	Air Trimmer 15P.	51.	2728	600 w. 1/3W.
3.	2667	.05 mF. 200V.	52.	2549	50,000 w. 1/3W.
4.	6171	3 Gang Type "H." C.	53.	2700	300 w. 1/3W.
5.	2306	.1 mF. 200V.	54.	2612	50 w. 1/3W.
6.	2543	Air Trimmer 15P.	55.	5825	25,000 w. 1W.
7.	6171	3 Gang Type "H," C.	56.	5424	400 w. 1/3W.
8.	2543	Air Trimmer 15P.	57.	4484	50,000 w. 1W.
9.	2306	.1 mF. 200V.	58.	6133	1 Meg. Volume Control. <sup>* Tap at</sup> .5 Meg
10.	2579	.05 mf. 400V.	59.	2549	50,000 w. 1/3W.
11.	2863	100 mmf. $\pm 2\frac{1}{2}\%$ .	60.	2569	250,000 w. 1/3W.
12.	2863	100 mmf. $\pm 2\frac{1}{2}\%$ .	61.	2571	1 Meg. 1/3W.
13.	2667	.05 mF. 200V.	62.	2571	1 Meg. 1/3W.
14.	2582	100 mmf.	63.	2549	50,000 w. 1/3W.
15.	6171	3 Gang Type "H." C.	64.	2698	4,000 w. 1/3W.
16.	2543	Air Trimmer 15P.	65.	4486	250,000 w. 1W.
17.	2974	440 mmf. $\pm 2\frac{1}{2}\%$ .	66.	2570	500,000 w. 1/3W.
18.	6495	.0035 mF.	67.	2614	150,000 w. 1/3W.
19.	2580	.01 mF. 400V.	68.	2571	1 Meg. 1/3W.
20.	2306	.1 mF. 200V.	69.	2547	2,000 w. 1/3W.
21.	2658	150 mmf. $\pm 2\frac{1}{2}\%$ .	70.	2550	100,000 w. 1/3W.
22.	2583	250 mmf.	71.	6494	150,000 w. 1W.
23.	2580	.01 mF. 400V.	72.	6494	150,000 w. 1W.
24.	2580	.01 mF. 400V.	80.	6312	B.C. Aerial Coil.
25.	2662	.004 mF. 400V.	81.	6309	S.W. Aerial Coil.
26.	2646	500 mmf.	82.	6307	B.C. Detector Coil.
27.	2580	.01 mF. 400V.	83.	6310	S.W. Detector Coil.
28.	2576	10 mF. 25V.	84.	2954	1st I.F. Transformer.
29.	6496	.15 mF. 200V.	85.		B.C. Oscillator Coil.
30.		16 mF. 525PV.	86.	6308	S.W. Oscillator Coil.
31.	2466	8 mF. 525PV.	87.	6311	2nd I.F. Transformer
32.	2582	100 mmf.	88.		Speaker, 5,000 w.
33.	2847	.003 mF. 600V.	89.	6374	Field, 1,500 w.
			90.	6375	Power Transformer.
			91.	6303	Glass Dial Scale.

\* In some Receivers Item 58 was 1 Meg. tapped at .25 Meg., 59 was 2500 w. 1/3W., 24 was .025 mF. 400V.

**LINE VOLTAGE SWITCH:** This is located on the end of the chassis beneath the power transformer. Always operate the receiver on the tapping nearest to but not greater than the line voltage in the district. When leaving the factory the switch is set to the 230-260 volt tap.

**WHEN MAKING ADJUSTMENTS SEE THAT THE POWER PLUG IS COMPLETELY REMOVED FROM THE SOCKET OF THE POWER SUPPLY.**

If necessary, remove the cover plate on the end of the chassis and turn the switch to the required tap. Turn clockwise for 200-230V. and counter-clockwise for 230-260V.

**VOLTAGES:** These were measured with a line voltage of 240 and a voltmeter having a resistance of 1000 ohms per volt. All readings were measured between the points indicated, and chassis.

The location of all valves is shown on the front page.

	VALVE	PLATE	SCREEN	CATHODE
6J8G	Mixer	250	70	3
	Oscillator Section	170	—	—
6U7G	I.F.	250	70	3
6B6G	Dem. A.V.C. 1st Audio	120	—	1.25
6V6G	Output	235	250	0*

\*The grid bias for the 6V6G cannot be directly measured on an ordinary voltmeter. It is derived from the voltage drop (95 volts) across the speaker field situated in the negative HT lead.

To reduce this voltage to a suitable value for bias two resistors of 1 megohm and 0.15 megohm are connected in series across the field and their common point gives 13 volts bias for the 6V6G.

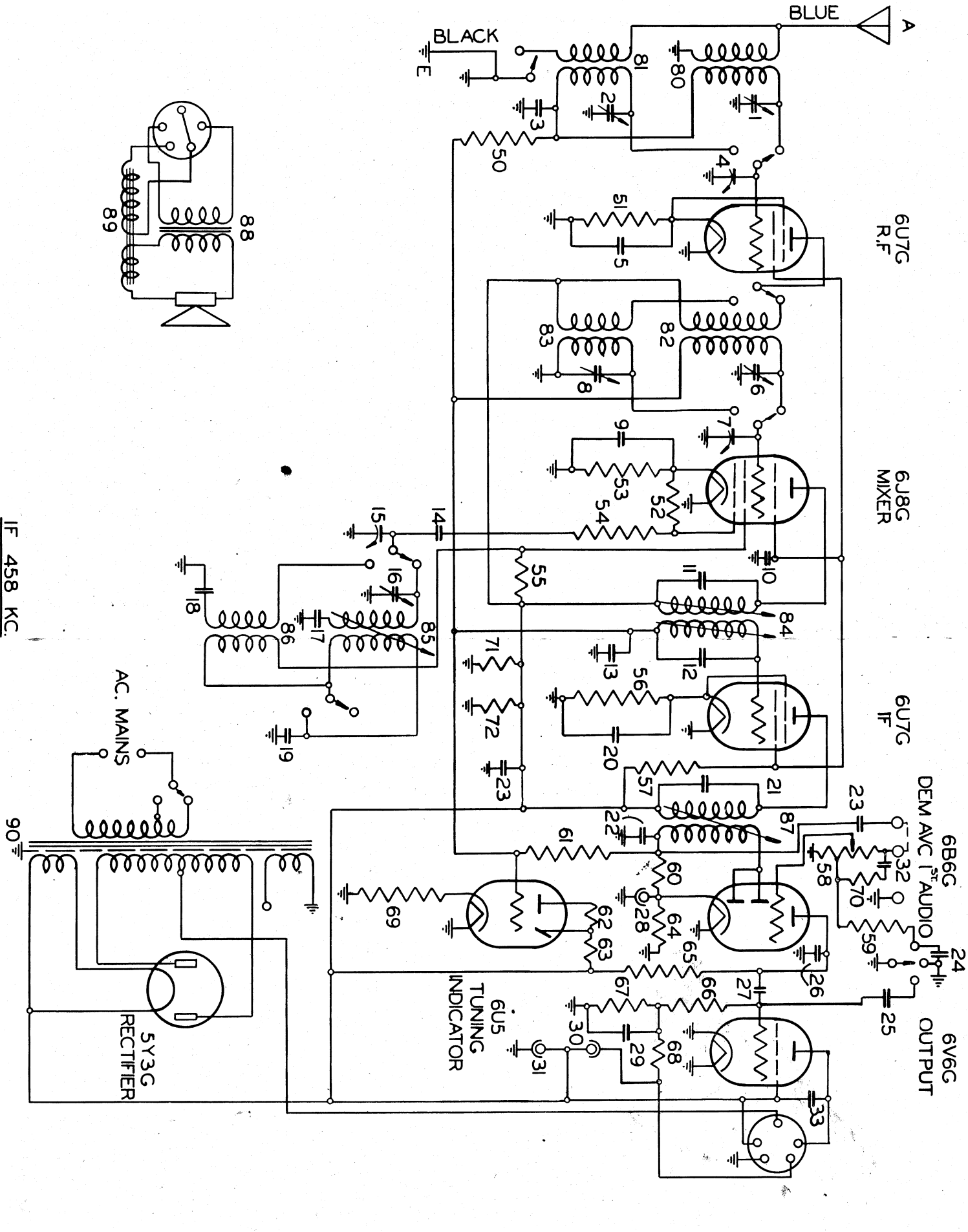
**GRAMOPHONE PICK-UP TERMINALS:** Are located at the back of the chassis. To use a pick-up, first remove the metal strap between the middle and left hand terminals, and connect the pick-up to the middle and right hand terminals. Should hum be present, reverse the two leads from the pick-up.

The metal strap must be replaced in its original position when radio reception is again required. The volume and tone controls both operate when the pick-up is in use.

**OPERATION:** Looking at the front of the chassis the four controls from left to right are Tone Monitor, Volume Control, Station Selector, Wave Range Switch.

**tone MONITOR:** Turn to the right to increase the high frequency response of the receiver.

**WAVE RANGE SWITCH:** This has two positions. Clockwise for reception of short wave stations between 13 and 35 metres, and counter-clockwise for the regular broadcast band 1600 to 550 k.c.



IF 458 KC.

BLUE A

BLACK E

6U7G R.F.

6J8G MIXER

6U7G IF

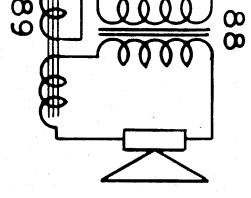
6B6G DEM AVC 1<sup>ST</sup> AUDIO

6V6G OUTPUT

6U5 TUNING INDICATOR

AC. MAINS

5Y3G RECTIFIER



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