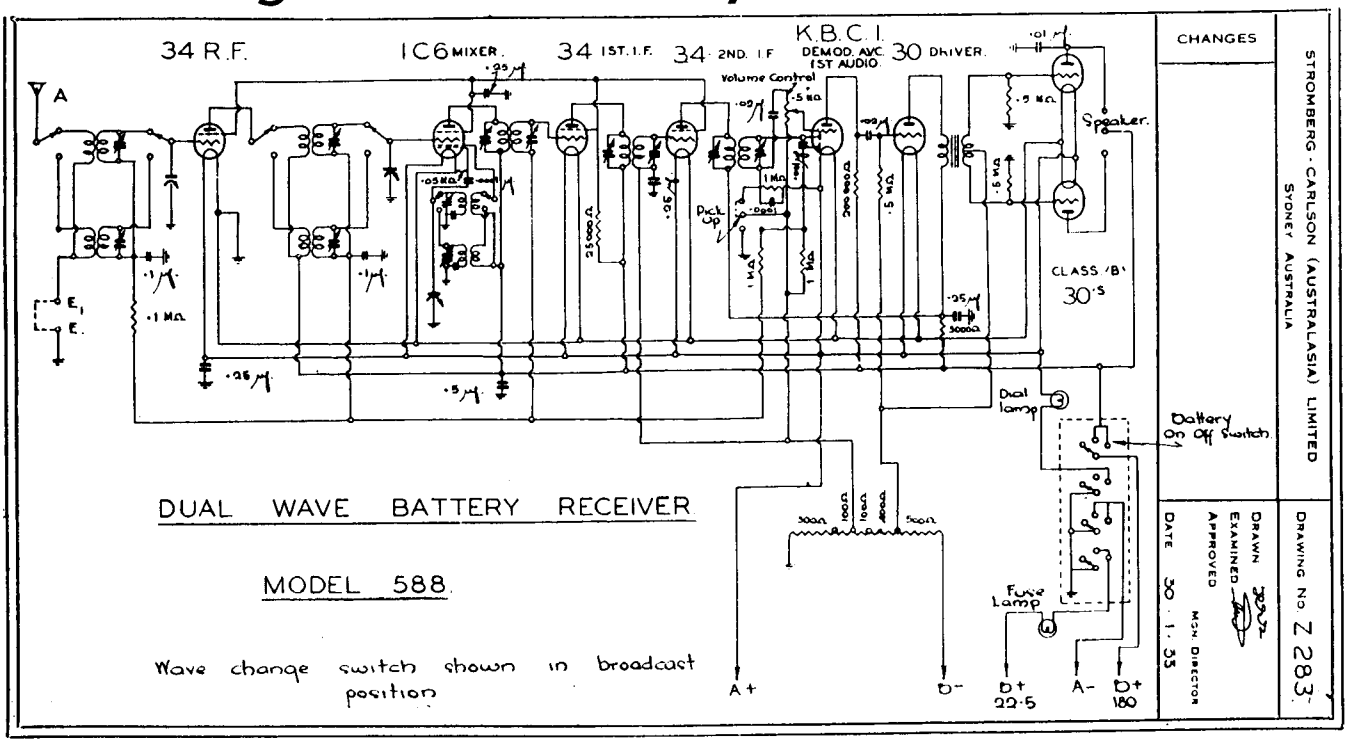
"Stromberg-Carlson" Battery Dual-Wave Model 588



Stromberg-Carlson model "588" is an eight-valve battery-operated receiver which was released early in 1935. It is designed for coverage of the 19-53 metres short-wave band in addition to the usual "broadcast" band. Power supply is obtained from a two-volt accumulator ("A") and four series-connected 45 v. dry batteries ("B").

This model is housed in an upright console-type cabinet and uses a "Selectorlite" dial of the restricted-vision type. Four controls are fitted, these being for tuning (dual-ratio); volume, wave-change; and battery switching (with extra position for dial-lamp control). The wave-change switch also serves to mask the dial illumination to suit the band in use.

The speaker fitted to this receiver is an 8-inch permanent magnet type with an input transformer to match 8,000 ohms.

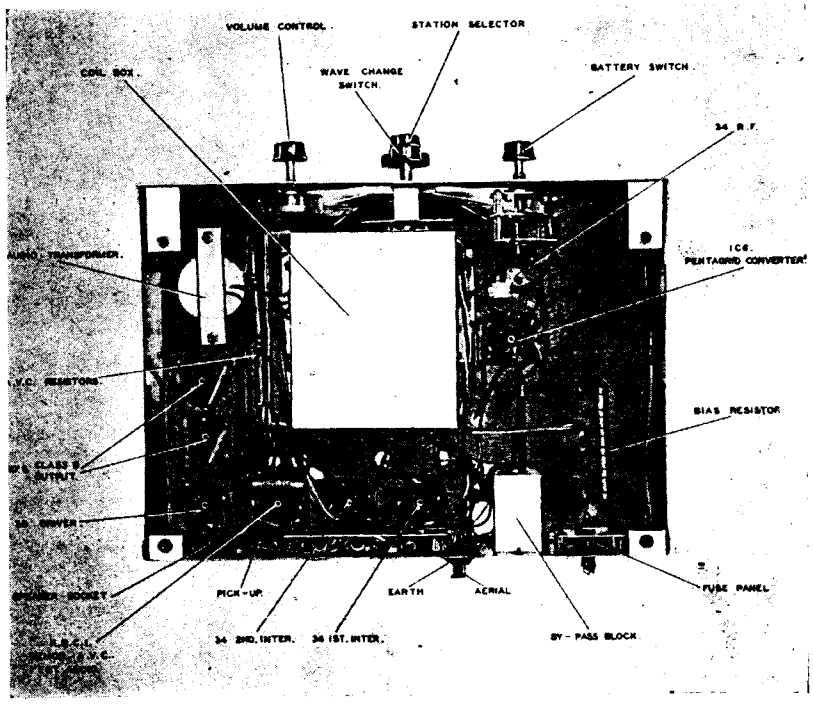
The circuit of this receiver is quite "modern" in nature. A pentagrid converter (type 1C6) is used and the intermediate-frequency is **460 KC.** Two I.F. amplifier stages are employed and the A.V.C. action is delayed by biassing the rectifier diode from a tapping on the main bias resistor; this tapping also serves to fixed-bias the second I.F. and A.F. amplifier stages. No "C" battery is required, as all bias voltages are obtained from the drop across a resistor shunted across the first 22.5 volt section of the "B" battery. No other "B" supply tappings are required except the 180 volt positive and negative connections. The output stage of the receiver consists of a pair of type 30 triodes operated in Class "B."

The R.F. and mixer tuning circuits for Model "588" are housed in a "tuning-box" located under the chassis. This also contains all trimmers and padders. As mentioned previously, the I.F. employed is **460 KC.**

Points to watch are the fuse lamp in the 22.5 volt "B" lead and the wiring of the four-section battery and dial-lamp switch. In addition, it should be carefully noted that the "B" negative lead must be completely isolated from earth or chassis, as any short-circuit between these points will cut out the bias voltages and severe distortion and "excessive 'B'" drain will result.

(Above) Circuit diagram of Stromberg-Carlson dual-wave, battery-operated model 588.

(Below) Under-chassis layout of Stromberg-Carlson model 588, showing valve positions and controls.

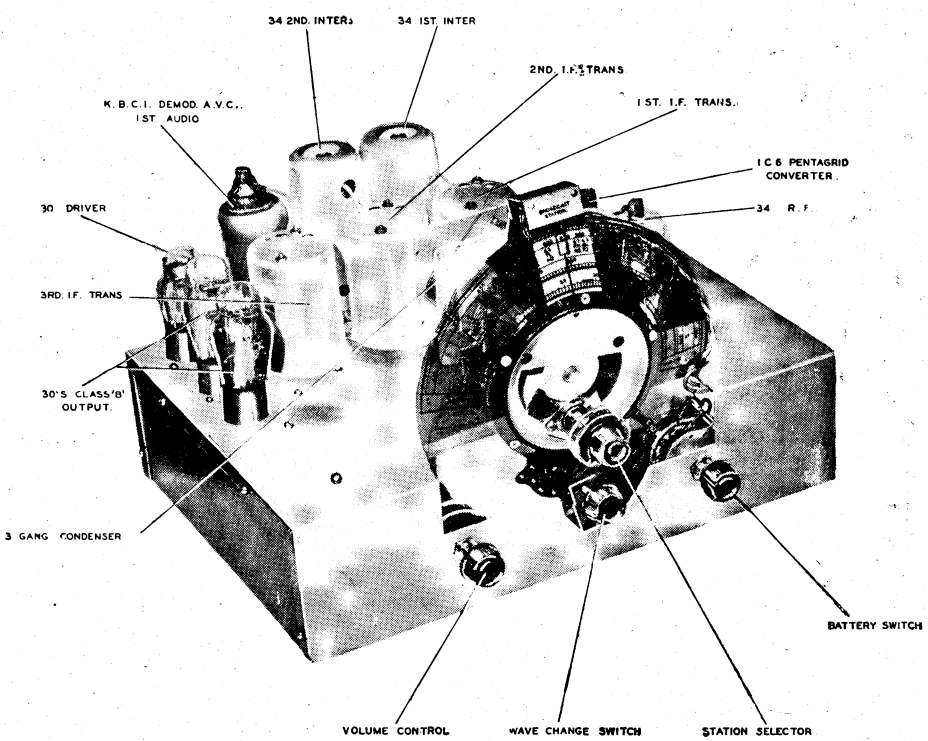


Stromberg-Carlson

STROMBERG-CARLSON
SERVICE BULLETIN, No. 588

Stromberg-Carlson Model 588 Superheterodyne

DUAL-WAVE BATTERY-OPERATED RECEIVER.



Chassis of Model 588

This Service Bulletin is issued free of charge to all authorised Stromberg-Carlson Dealers. Applications for additional copies should be made direct to the nearest Distributor.

Stromberg-Carlson (Australasia) Ltd. reserves the right to make changes in design details at any time without incurring any obligations to install same on radio receivers previously sold.

SERVICE BULLETIN, No. 588 *(Continued)*

6. VOLTAGES:

Valve.	Plate.	Screen.	Bias.
34 R.F.	157½ V.	—	-3 V.
1C6 Tetrode section ..	157½ V.	—	-3 V.
Oscillator „ ..	157½ V.	—	—
34 1st I.F.	157½ V.	—	-3 V.
34 2nd I.F.	157½ V.	—	-3 V.
KBC1S Detector	157½ V. (through 200,000 ohms.)	—	-3 V.
30 Driver	157½ V.	—	-15 V.
30 Class B.	157½ V.	—	-15 V.

All screens are series fed from 157½ volts through 25,000 ohms.

7. COMPONENTS.

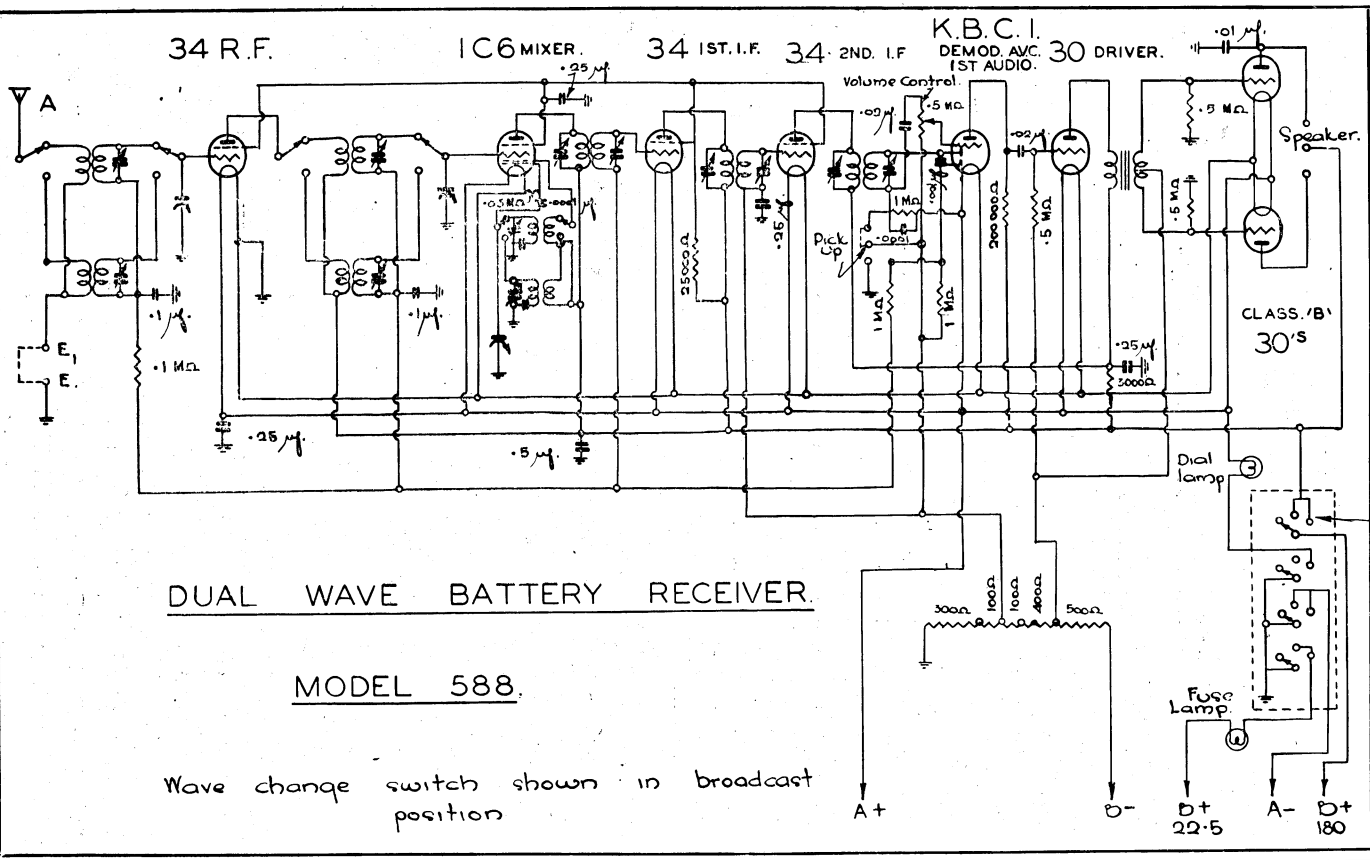
The following list of components is given to facilitate the servicing of the receiver and as a guide to replacement.

The numbers refer to the position of the component on the assembly panel.

1. Blank.
2. 25,000 ohms.
3. 1 megohm.
4. .0001 mf.
5. .02 mf.
6. 200,000 ohms.
7. .02 mf.
8. ½ megohm.
9. Blank.

N.B.—BEFORE LEAVING A STROMBERG-CARLSON RADIO RECEIVER IN A CUSTOMER'S HOME, SEE THAT EVERYBODY WHO IS LIKELY TO HANDLE THE RECEIVER FULLY UNDERSTANDS ITS OPERATION. BY SO DOING MANY UNNECESSARY SERVICE CALLS WILL BE AVOIDED.

W. A. PEPPERDAY & CO. LTD.,
757a George Street, Sydney



DUAL WAVE BATTERY RECEIVER.

MODEL 588.

Wave change switch shown in broadcast position

CHANGES

STROMBERG-CARLSON (AUSTRALASIA) LIMITED
SYDNEY. AUSTRALIA

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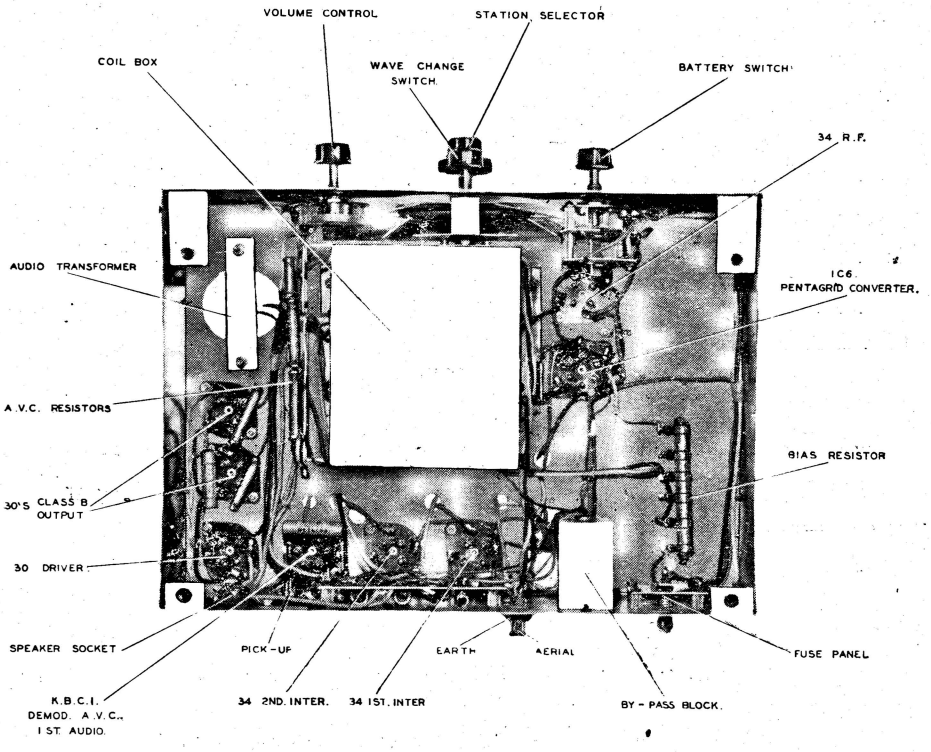
APPROVED
MGN. DIRECTOR
DATE 30 · 1 · 35.

DRAWING No. Z 283.

SERVICE BULLETIN, No. 588 *(Continued)*

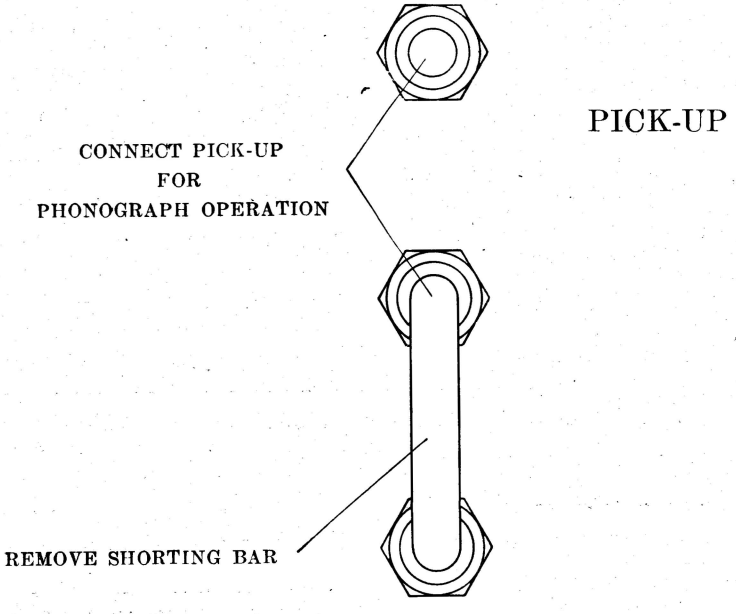


5. PICK-UP JACKS:

Provision is made at the back of the Chassis for the attachment of a Phonograph Pick-up. To operate the pick-up, remove the metal bar between the centre and bottom jacks, and connect the leads from the pick-up to the centre and top jacks, as illustrated.

The metal bar must be replaced when the Receiver is again required for radio operation.

The Volume Control on the Receiver may be used to regulate the audio output from the pick-up.



SERVICE BULLETIN, No. 588 *(Continued)*

Stromberg-Carlson Model 588 Superheterodyne

DUAL-WAVE BATTERY-OPERATED RECEIVER.

1. GENERAL DESCRIPTION OF RECEIVER:

This 8-valve, two-band battery-operated superheterodyne Receiver provides excellent reception of both standard wave and short-wave broadcasting stations. One band is the usual broadcast band from 200 to 500 metres, and the other a short-wave band from 19-53 metres. This latter band includes the four important internationally assigned short-wave broadcast bands at 19, 25, 31 and 49 metres, respectively.

High sensitivity, excellent selectivity, automatic volume control, and good fidelity characterise this receiver. The tuning ranges are quickly interchangeable by means of a rotary switch. Ease and convenience of operation are assured by the dual ratio drive and the Selectorlite dial, which indicates the range in operation by illuminating the corresponding portion of the dial.

Both ranges are accurately calibrated—the short-wave band in metres, and the broadcast band in metres and kilocycles. All important broadcast stations are marked on the dial.

The short-wave range has the location of the 19, 25, 31 and 49 metre bands indicated by heavy black lines.

2. DESCRIPTION OF ELECTRICAL CIRCUIT:

In this model, the valves have been chosen and the circuit so designed as to give the greatest efficiency consistent with low "A" and "B" battery consumption. The eight valves are operated at 2 volts and .58 amperes.

The "B" battery drain is approximately 15 milliamperes.

The circuit is of the superheterodyne type, and consists of an R.F. amplifying stage using a type 34 valve, a combined detector-oscillator stage using a 1C6 valve, two I.F. amplifying stages using type 34 valves, a combined diode second detector, A.V.C. and 1st audio stage using a type KBC1S valve (Philips series) a single driver stage using a type 30 valve, and a class "B" output system using two type 30 valves.

3. INSTALLATION INSTRUCTIONS:

(a) Aerial.

The sensitivity of this model is such that for broadcasting reception a well-insulated wire about 20 or 30 feet in length, placed along the picture moulding in a room, or beneath the carpet, will prove satisfactory. Care should be taken to place all such indoor aerials as far away as possible from electric light or power conduits, and, in particular, clear of all unshielded flexible leads, since these latter are prolific radiators of undesirable electrical impulses.

An outdoor aerial is the most efficient, and is strongly recommended, especially for long-distance daylight reception on the broadcast band. The length of this aerial should be from 30 to 50 feet. In noisy areas (due to electrical interference) the aerial should be erected as far as possible from and at right-angles to any electric power or light mains.

As a further precaution against undesirable pick-up, the lead-in should be a special shielded type as employed in the "Stromberg-

Carlson Aerial Noise Eliminator Kit." Details of this type of aerial may be had on application to Stromberg-Carlson (Australasia), Limited.

Do not use shielded lead-in wire for short-wave reception.

(b) Earth.

The chassis should be connected to earth by means of an insulated wire attached to a water pipe by an approved clamp. It is preferable to connect the earth lead to the last section of the pipe where it enters the ground, thus avoiding the high resistance contacts at the joints. Should a water system not be available, an efficient earth may be obtained by driving a metal pipe or burying about four square feet of metal sheeting in moist earth; the connection to the metal should preferably be soldered.

(c) Batteries.

(i) "A" battery.—This consists of a 2-volt 40-60 ampere-hour accumulator.

(ii.) "B" and "C" batteries.—these comprise 4 heavy duty or super 45-volt batteries.

To join the battery leads correctly to the batteries, reference should be made to the designation tabs to the leads and to the colour code, as shown in the circuit diagram on Page 2 hereof.

The four "B" batteries may be housed in the back of the cabinet on the lower shelf—two on the right, and two on the left hand side of the loud-speaker.

The "A" battery may then be placed in between the "B" batteries, or on the floor immediately behind the cabinet.

(d) Trimmer Adjustments.

The trimmer capacitors on the variable condenser, coil assembly, and the trimmer capacitors on the Intermediate Frequency Transformers (tuned to 450 k.c.) are adjusted and sealed at the factory at the time of calibration. These adjustments should on no account be touched or seals broken unless a specially calibrated oscillator and indicating instrument are available, whereby such adjustments can be successfully carried out.

In any repairs or adjustments the above remarks in regard to the coil assembly and intermediate transformer should be carefully noted.

4. OPERATION:

(a) Battery Switch.

A three position operating switch is used. When turned fully to the left, the receiver is switched off; both the "A" and "B" battery supplies being disconnected. When turned fully to the right, the receiver is ready to operate, and a pilot light is switched on. After tuning to the required station, the switch should then be turned to the centre position. This will extinguish the pilot light only, so removing drain from the battery, and the set will operate in the normal manner.

(b) Automatic Volume Control.

This Model is so designed that the signal voltages fed to the audio system, tend to adjust themselves to a constant level. This signal level is manually controlled and should be adjusted to the desired volume on a station of moderate or high power. The automatic feature will then tend to maintain this volume at a constant level on different signals of wide variations in intensity.

The effects of fading being thus reduced to an absolute minimum, constant attention to the volume control is obviated, especially on the reception of weak and distant stations.