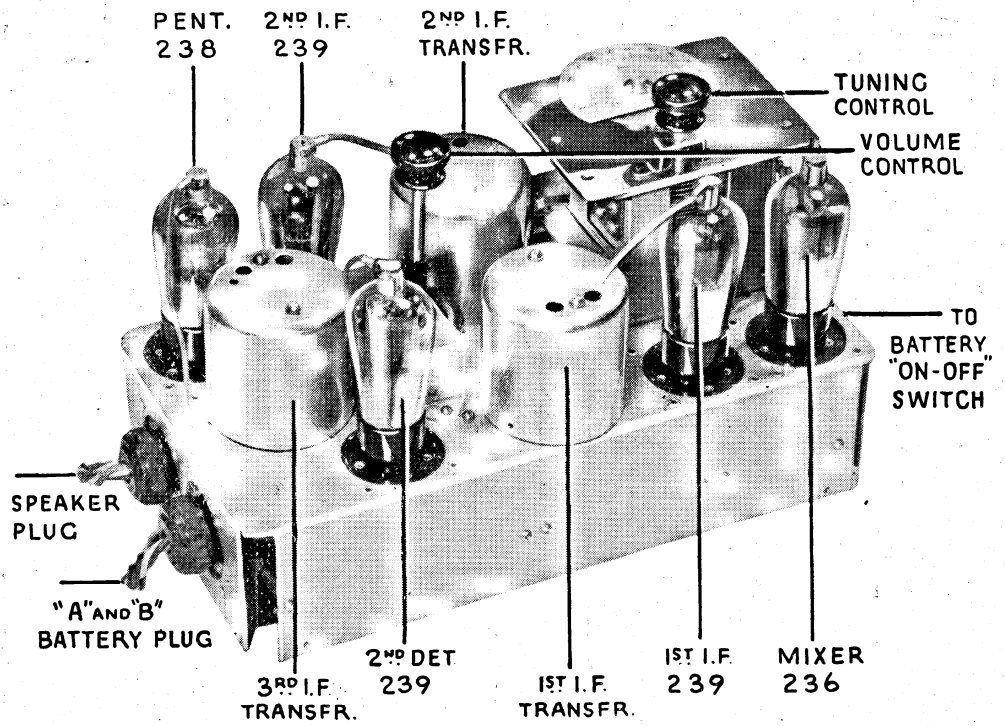
Stromberg-Carlson

SERVICE BULLETIN No. 572

Model 572
"Roamer" Radio Receiver
for Automobiles and Motor-Boats

BATTERY-OPERATED, SUPERHETERODYNE, FIVE VALVES.



Chassis of Model 572

This Service Bulletin is issued free of charge. Applications for additional copies should be made direct to Stromberg-Carlson (Australasia) Limited, 72-76 William Street, Sydney, New South Wales.

SERVICE BULLETIN No. 572 *(Continued)*

7. FAULTS.

(a) No Signals.

(i.) Examine battery connections to receiver, check "A" and "B" voltages at receiver end of cables. If test shows "no voltage" examine fuses and battery connections.

(ii.) Battery or speaker plugs not making proper contact.

(iii.) Valves faulty or failing to make contact in sockets.

(iv.) Defective by-pass condenser.

(v.) Defective resistor.

(vi.) Defective oscillator, R.F. or I.F. coils.

(b) Weak Signals.

(i.) Aerial trimmer not properly adjusted to aerial being used.

(ii.) Trimmer or gang out of adjustment (access to these is provided by removing the name plate on outer case).

(iii.) Weak batteries.

(iv.) Defective Speaker.

(v.) Defective Valves.

(c) Noise (from sources other than car ignition).

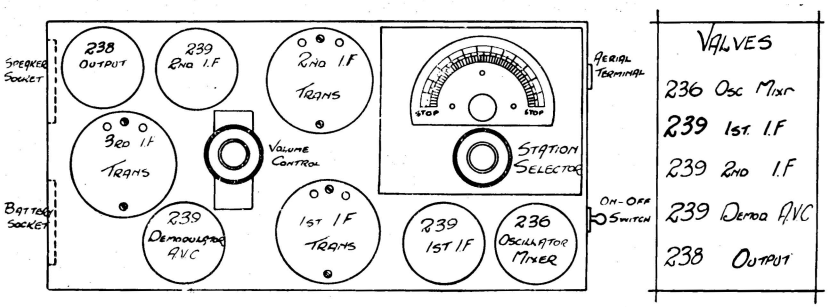
(i.) Aerial making intermittent contact with metal portions of car.

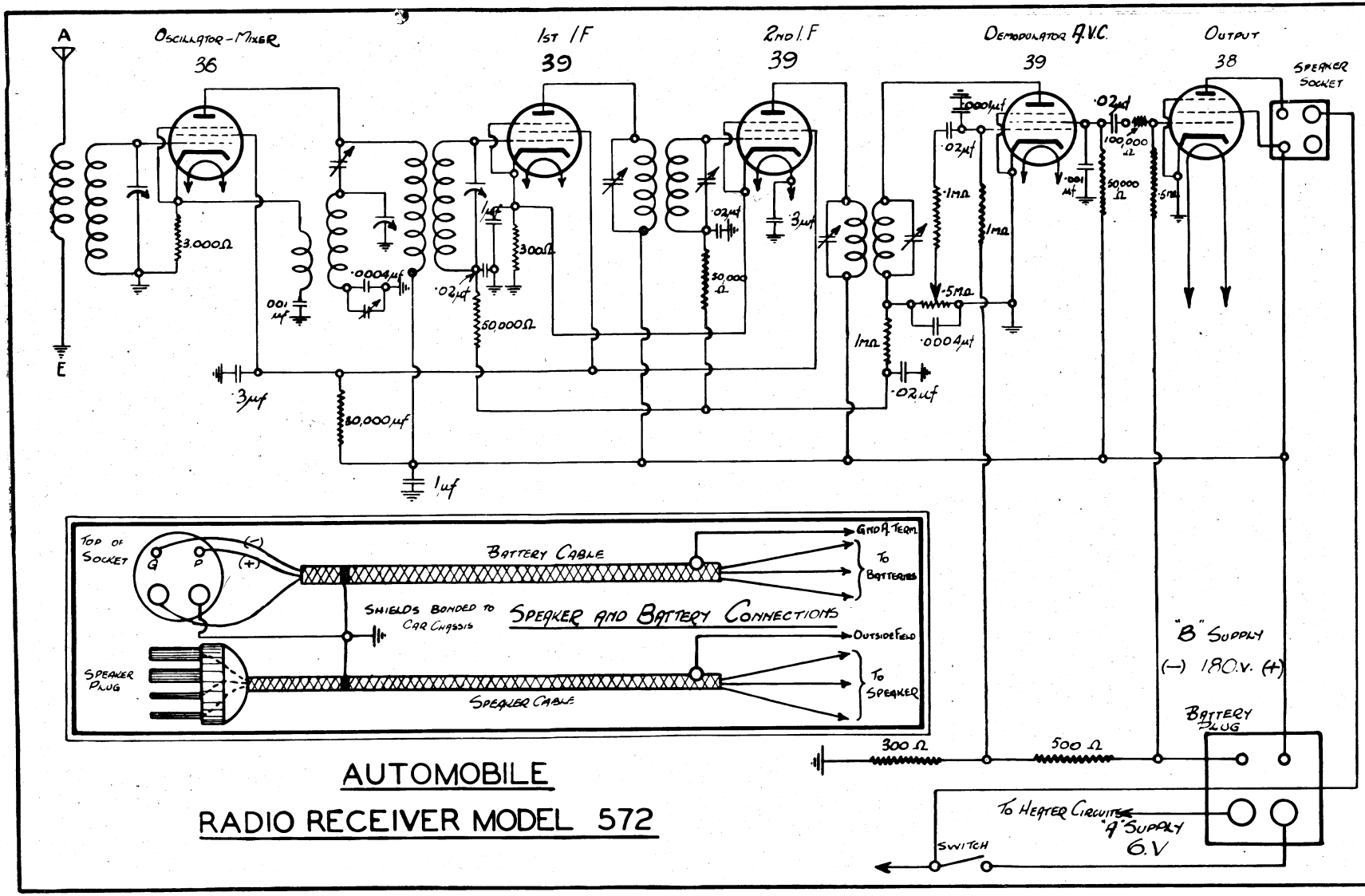
(ii.) Defective valves or loose valve sockets.

(iii.) Defective resistors, or units touching metal frame of receiver.

(iv.) Defective battery connections, or loose bonding to car chassis.

(v.) Loose or high resistance joints.





Changes

Stromberg Carlson Australasia Limited
Sydney Australia

Drawing No 7

Drawn INS
Examined S.F.T.
Approved
Date 8-10-32
Director

SERVICE BULLETIN No. 572 *(Continued)*

Function of Valve.	Type of Valve.
Oscillator-Mixer	236
1st I.F.	239
2nd I.F.	239
Detector and A.V.C.	239
Output Pentode	238

5. OPERATION.

To facilitate operation, the Controls are located upon the top of the receiver and consist of Volume and Tuning Controls only. Both the driver and the front-seat passenger can tune-in without inspecting the tuning-dial if necessary.

The Battery "On-Off" Switch is located at the side of the receiver in a convenient position.

6. VOLTAGES.

All voltages given in the table below are those which should be obtained when using a 0-60-120-300 volt voltmeter having a resistance of 1,000 ohms per volt. Voltages shown below 60 are to be read on the 0-60 scale, those below 120 on the 0-120 scale, and those above 120 on the 0-300 scale. It is important to note that other voltmeters having different internal resistances will give voltage readings different from those mentioned in the following table. Therefore a 1,000 ohm per volt voltmeter should be used.

VOLTAGES — With 180 Volts Total Supply.

Valve	Filament.	Plate Volts	Screen Volts	Bias	Plate Current
Oscillator-Mixer 236	6.0	165	85	5	1.5 m.a.
I.F. 239	6.0	165	85	3 (min.)	4.0 m.a.
I.F. 239	6.0	165	85	3 (min.)	4.0 m.a.
Det. A.V.C. 239	6.0	80 (Screen Terminal)	——	7	1.6 m.a.
Pentode 238	6.0	165	160	17	8.5 m.a.

SERVICE BULLETIN No. 572 *(Continued)*

2. BATTERIES:—

(i.) "A" Battery.—The receiver is designed to operate from the 6-volt car battery. The grounded polarity of a car battery differs in the various makes, some being grounded at the positive pole, others at the negative pole.

The "A" battery lead from the receiver is of the shielded type. The inner and insulated lead should be joined to the ungrounded pole of the car battery whilst the outer shield should be connected to the grounded pole.

(ii.) "B" Batteries.—The receiver is designed to operate from 180 volts with a total drain of 20 milliamps. Four blocks of 45 volt "B" batteries connected in series and connected as per diagram, will automatically supply both "B" and "C" voltages to the receiver in the correct proportion.

The placement of the batteries is mostly a matter of convenience, and the diagram on Page 5 shows the various positions in a car which may conveniently house the batteries.

The leads from the batteries to the receiver are to be of the shielded type and the cable shielding should be electrically bonded to the car chassis.

(iii.) Fuses are supplied with battery cables, one in the "A" battery and one in the "B" battery cable. These fuses should be placed as close to their respective batteries as possible, and are a protection against short circuits in the receiver, components or cables themselves. Should one of these fuses "blow," the cause should be ascertained before it is replaced. The fuses are housed in an insulated rod and can be removed by unscrewing knurled end section.

Note.—Approved battery eliminators which are capable of supplying 180 volts and 20 m.a., may be used instead of the "B" batteries. Such units must be housed in watertight and electrically shielded cases, and, as in the case of batteries, all leads must be shielded and the shields electrically bonded to the car chassis.

3. LOUD-SPEAKER.

The speaker is a specially designed dynamic type for automobile receivers, the field of which operates from the 6-volt car battery. The logical and recommended placement of the speaker unit is under the dash on the opposite side to the driver. A shielded cable is supplied for connection to the receiver. This cable may be run in a channel in the floor boards under the mat or taken through and below the boards. The former method is recommended, as it keeps the cable clear of moisture. The speaker itself is housed in a special wooden unit, ready to be attached by means of bolts, to the bulkhead.

4. VALVES.

All automobile receivers leaving the factory are equipped with valves which have been tested and matched to the receiver which they accompany. The photograph on Page 1 shows the exact location of the valves, whilst the schedule given on Page 7 shows their type and function.

The valves used are of the six-volt type, and on account of their mechanical robustness are ideally adapted to withstand vibration.

SERVICE BULLETIN No. 572 *(Continued)*

(a) Placement of Receiver.

The Receiver is designed in compact form and is totally enclosed in a metal case of such proportions that it may easily be placed in a position that no interference is caused with the car carrying capacity or leg-room. In the majority of motor-cars the most convenient spot is on the floor board between the front seat and the gear-change unit, as shown in the illustration on page 3. In this position it may be affixed to the floor by the special angle-brackets which are already welded to the sides of the metal cabinet.

If, however, this location is not suitable, there are numerous other positions which will suggest themselves when the design of the particular motor-car is examined.

(b) Aerial.

There are numerous methods of installing the aerial, but each type and make of motor-car should be treated according to its mechanical structure. The three following methods have been found satisfactory:—

(i.) Three to six square feet of fine mesh copper gauze inserted between the tonneau cloth and the wooden ribs of the car roof. In this case, care should be taken to see that no part of the gauze can get into contact with the metal portions of the car body. The aerial lead should be insulated flexible wire shielded with copper braid, should be soldered to the metal gauze, and brought down one of the upright channel ribs to the receiver. It is important that the copper braided shield of the lead be bonded to the car chassis at some convenient place. Before replacing the tonneau cloth, test for continuity between the gauze and the aerial lead, also see that there is no contact or leakage between aerial and aerial lead to car chassis.

(ii.) Ten to fifteen feet of insulated wire threaded through insulated supports which are clamped to the chassis beneath the floor boards. As in (i), the lead from the aerial proper must be of the shielded type and the outside braiding must be bonded to the car chassis.

(iii.) An aerial which is supported by stand-off insulators on top of the tonneau, as shown in the diagram on Page 5. It should be erected about 3 to 4 inches high and should consist of one single turn, looped around three sides of the car. The lead-in through the tonneau and the insulators should be arranged with cemented rubber bushings to render them watertight. The lead-in should be shielded.

(c) Lay-out of Components.

For the lay-out of components appearing on top of the chassis, reference should be made to the photograph on Page 1.

(d) Elimination of Interference.

(i.) Thoroughly clean the spark plugs and if any are old or burned, replace them.

(ii.) Check up the air-gap between the distributor rotor and the brush contacts; this should be about four thousandths of an inch. Where brush-type distributors are used see that the contact blocks and brushes are clean, and contact surfaces smooth.

SERVICE BULLETIN No. 572 *(Continued)*

(iii.) See that the brushes and commutator on the generator are clean and that they have smooth bearing surfaces so that sparking at this point is reduced to a minimum.

Having checked and rectified where necessary the foregoing, fit the suppressors (supplied with each receiver), one each on to each spark-plug terminal and one on to the centre or common lead from the distributor head.

Switch on the receiver at the "on-off" switch, turn volume control full on, and set the tuning-control in such a position that it does not bring in a station, and start car engine. If the interference is still excessive, proceed as follows:—

(iv.) By-pass with a 1-microfarad condenser either side of the ammeter to frame.

(v.) By-pass the leads on the generator to frame.

(vi.) Pipe lines and controls coming in from the engine compartment often carry interference. Placing one hand on the aerial terminal of the receiver (with aerial disconnected) and the other hand under the instrument panel, is a good method of finding the offending unit. A great increase in noise when the hand is near a radiating unit will indicate the source. Bond all such units to frame.

(vii.) Reversing the low tension leads to the transformer ignition coil often reduces interference.

(viii.) Where the ignition coil is mounted on the instrument panel, shield the coil and leads through to the engine compartment.

(ix.) Shield the high-tension lead from the coil to the distributor-head and, in some cases, the low-tension lead from the coil to the breaker.

(x.) Where a roof antenna is used, it may be necessary either to place a small choke in series with the dome-light circuit or insert a switch so that the circuit is disconnected when the receiver is in operation. By-passing this circuit may also prove effective.

(xi.) In special cases, where the interference is coming in over the battery leads, a small choke consisting of 20 turns of No. 18 cotton-covered wire, wound on a wooden former of about 3-inch diameter, placed in series with the "high" side of the "A" battery, will cure the trouble.

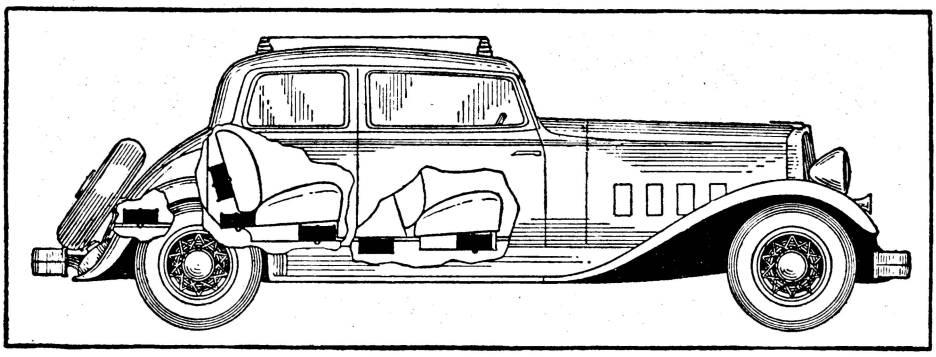
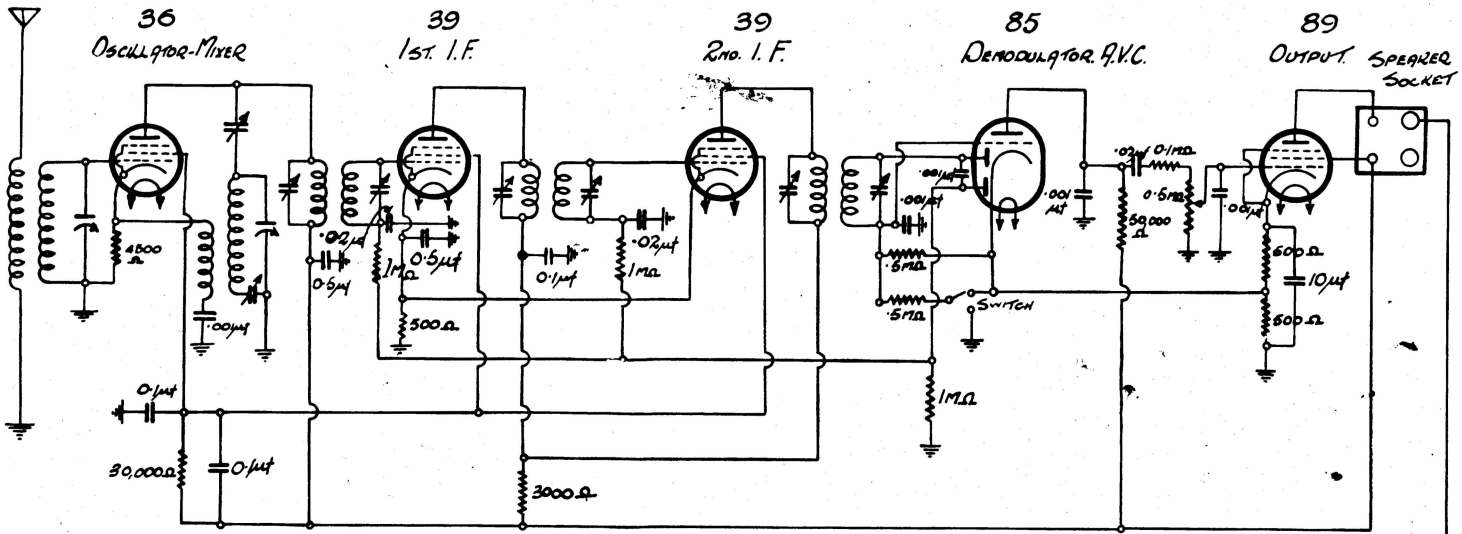
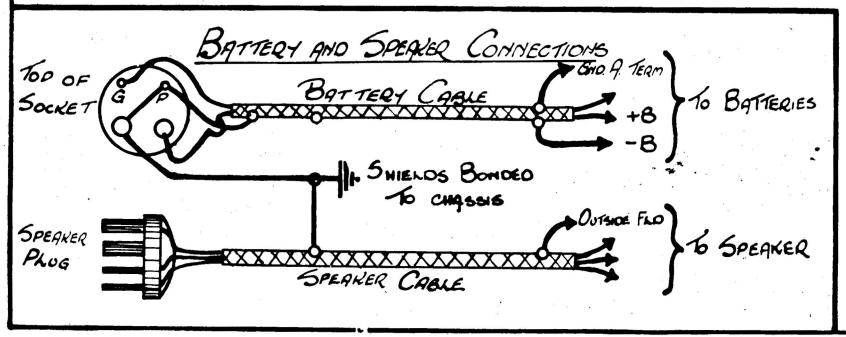
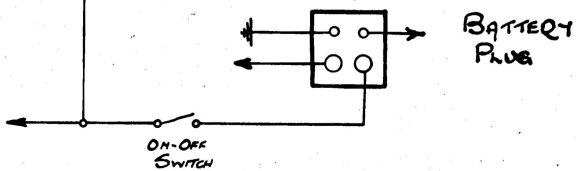


Diagram shows various positions which may conveniently house the "B" Batteries or "B" Battery Eliminator. The aerial on top of tonneau is as described in 1 (b) (iii.).

ROAMER RADIO RECEIVER MODEL 572







CHANGES

STROMBERG CARLSON (AUSTRALASIA) LIMITED
SYDNEY AUSTRALIA

DRAWN J.W.S.
ENGINEER S.P.M.
APPROVED
DIRECTOR
DATE 18-11-32

DRAWING No 7