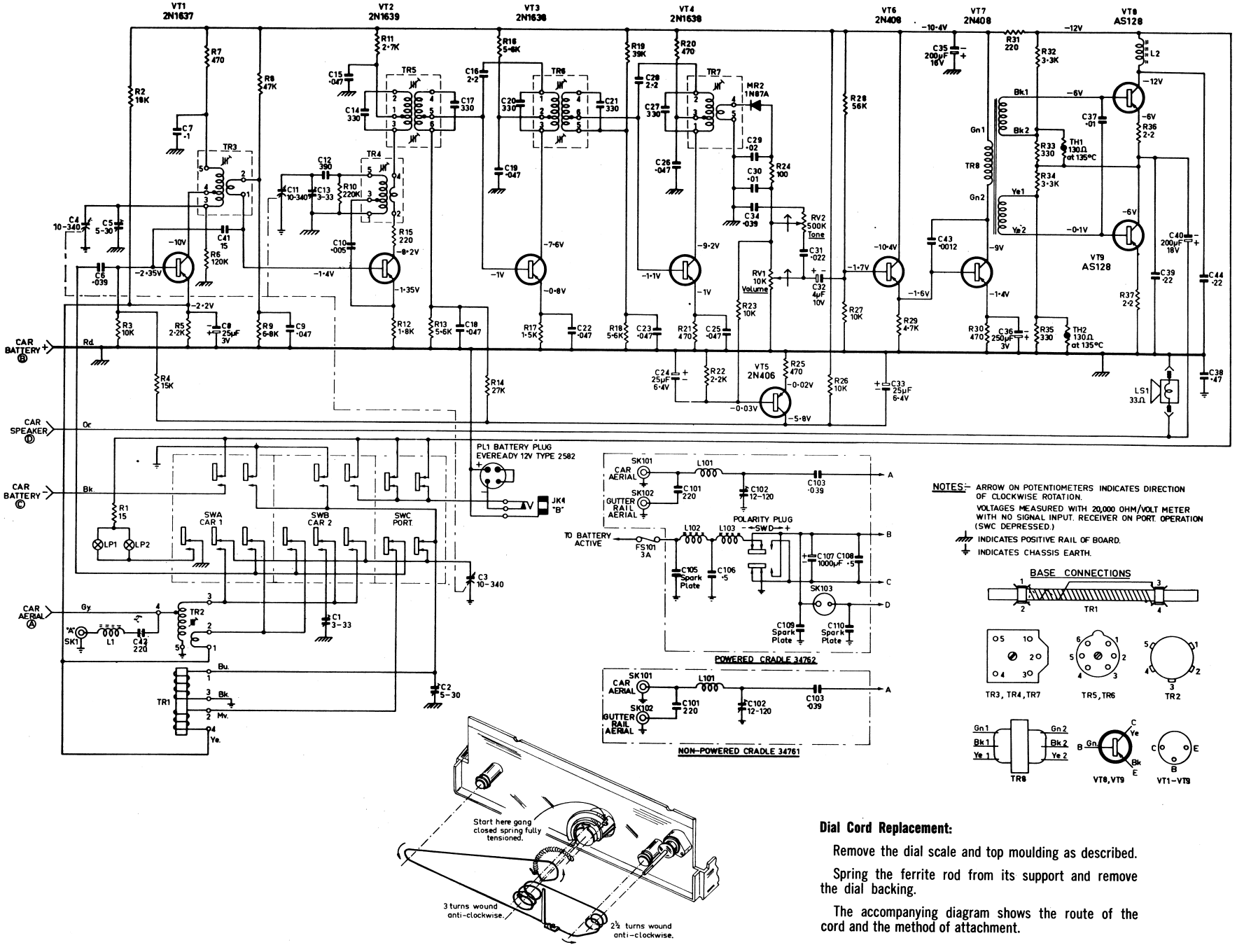


NOTES:- ARROW ON POTENTIOMETERS INDICATES DIRECTION OF CLOCKWISE ROTATION.

VOLTAGES MEASURED WITH 20,000 OHM/VOLT METER WITH NO SIGNAL INPUT. RECEIVER ON PORT. OPERATION (SWC DEPRESSED.)

INDICATES POSITIVE RAIL OF BOARD.

INDICATES CHASSIS EARTH.

BASE CONNECTIONS

Dial Cord Replacement:

Remove the dial scale and top moulding as described.

Spring the ferrite rod from its support and remove the dial backing.

The accompanying diagram shows the route of the cord and the method of attachment.

A.W.A. CRUISER 9
CAR PORTABLE
MODEL 2151A

ISSUED BY AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

GENERAL DESCRIPTION

The AWA Cruiser 9 is a nine transistor and one diode battery operated portable in an aluminium die cast case.

Design features include the following provisions:

(1) Operation as a portable with self-contained dry battery with provision for connecting a mains operated battery saver.
(2) operation as a car portable using a gutter rail aerial.
(3) Operation as a car radio using a non-powered cradle accessory and gutter rail or fixed car aerial.
(4) Operation as a car radio using a powered cradle accessory connecting to car battery, car speaker and gutter rail or fixed car aerial.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Frequency Range ..... 525-1620 Kc/s
Intermediate Frequency ..... 455 Kc/s

Battery Complement:

Internal ..... 12V Eveready type 2582
External (with powered cradle accessory) 12V positive or negative earth

Battery Consumption:

Internal battery ..... for 50mW output = 28mA
for full output ..... = 90mA
From car battery with extension speaker
for 50mW output = 250mA
for full output ..... = 420mA

Undistorted Power Output:

from internal battery ..... = 400mW
From car battery without extension speaker ..... = 400mW
From car battery with extension speaker = 1.0W

Speaker:

6" x 4" 50261
VC Impedance at 400 c/s ..... 33 ohms
VC Impedance of extension car speaker ..... 15 ohms

Controls:

Tuning, Tone, Volume, 4 Press Buttons. The functions of the Press Buttons are as follows:—

OFF. Depressing switches the receiver OFF.

PORT. When depressed the receiver switches on for normal portable operation.

CAR 2. Provides operation in a car:—
(a) As a portable but using a gutter rail aerial.
(b) In a lockable, non-powered cradle using either a gutter rail or car radio aerial.

Depressing this button switches the receiver on, using its own battery and speaker, but disconnects and short circuits the ferrite rod aerial.

CAR 1. This button is only used when the portable is operated in a 12 Volt powered cradle connected to the car battery.

Depressing disconnects and short circuits the ferrite rod aerial, disconnects the portable battery, makes connection to the car aerial terminals for use of gutter rail or car radio aerials and switches on the dial lamps.

If required an extension speaker, having a 15 ohm voice coil impedance, may be fitted. This, in parallel with the 33 ohm in-built speaker, modifies the output impedance to produce 1.0 Watts audio output.

ALIGNMENT PROCEDURE

Manufacturer's Setting of Adjustments:

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Re-alignment should only be necessary when components in tuned circuits are repaired or replaced or when it is found that the seals over the adjusting screws have been broken. It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and can only be re-adjusted by skilled operators using special equipment.

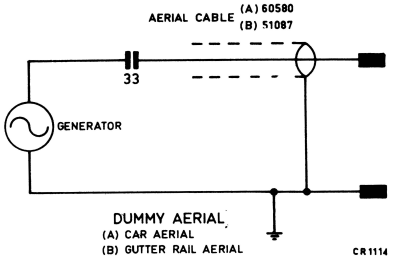
For all alignment operations, keep the generator output as low as possible to avoid a.g.c. action and set the volume control in the maximum clockwise position.

Testing Instruments:

Signal Generator—modulated 400 c.p.s., or,
Modulated Oscillator. If the modulated oscillator is used connect a 0.22 megohms non-inductive resistor across the output terminals.

Output Meter—30 ohms impedance.

I.F. Alignment Tool—Part No. 39462.



ALIGNMENT TABLE

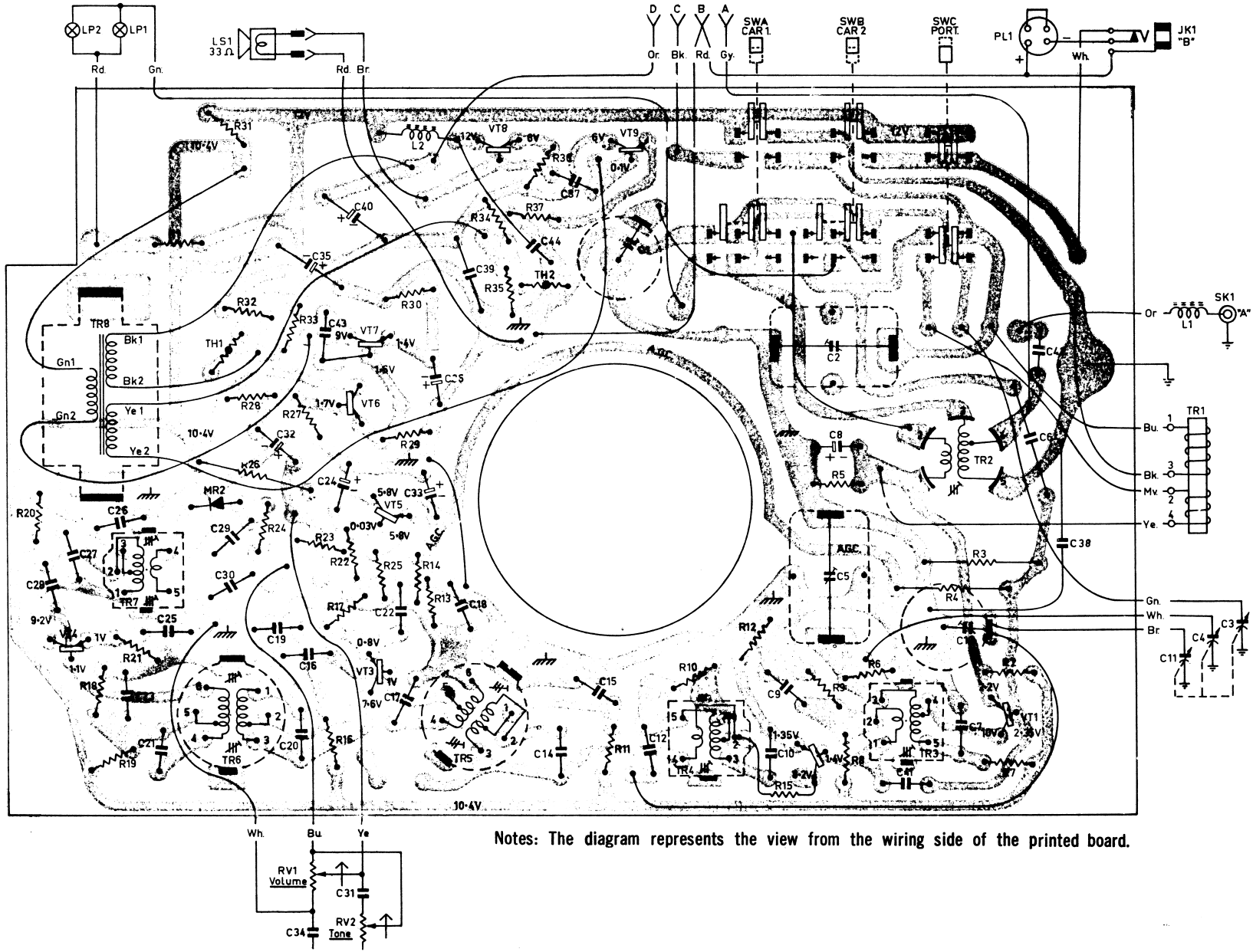
N.B.: The case front of the receiver, being in close proximity to the ferrite rod, causes an alteration in its inductance. To overcome any possibility of misalignment, a case front which has the speaker and fret removed, thus allowing access to the trimmers and cores, must be fitted during alignment.

Order:	Connect high side of Generator to:	Tune Generator to:	Tune Receiver to:	Adjust for Maximum Peak Output:
	Press the Port button.			
1	R.F. Section of Gang.	455 Kc/s	Gang fully closed	Cores in TR5, TR6 and TR7
	Repeat adjustment until maximum output is obtained.			
2	Inductively coupled to Ferrite Rod Aerial.*	1620 Kc/s	Gang fully open	H.F. Osc. Adj. (C13)
	Shunt R.F. Section of gang with 2.2K ohms resistor in series with a 0.1μf capacitor.			
3	Inductively coupled to Ferrite Rod Aerial.*	1500 Kc/s	1500 Kc/s	H.F. Aerial Adj. (C2)
4	Inductively coupled to Ferrite Rod Aerial.*	600 Kc/s	600 Kc/s	L.F. Osc. Core Adj. (TR4)‡
	Repeat adjustments 2, 3 and 4 as required and then remove shunt network.			
5	Inductively coupled to Ferrite Rod Aerial.*	600 Kc/s	600 Kc/s	L.F. R.F. Core Adj. (TR3)
6	Inductively coupled to Ferrite Rod Aerial.*	1500 Kc/s	1500 Kc/s	H.F. R.F. Adj. (C5)
	Repeat adjustments 5 and 6 as required. Insert portable into powered cradle 34762 and operate the receiver with the Car 1 button.			
7	Cradle Car Aerial Socket via dummy aerial (A).	600 Kc/s	600 Kc/s	L.F. Aerial Adj. (TR2)
8	Cradle Car Aerial Socket via dummy aerial (A).	1500 Kc/s	1500 Kc/s	Cradle H.F. Aerial Adj. (C102)
	Repeat adjustments 7 and 8 as required. Remove portable from cradle and operate receiver with the Car 2 button.			
9	"A" terminal on portable via dummy aerial (B).	1500 Kc/s	1500 Kc/s	H.F. Gutter Rail Aerial Adj. (C1)

* A coil comprising 3 turns of 16 gauge D.C.C. wire, about 12" in diameter, should be connected between the output terminals of the test instrument, placed concentric with the rod aerial and distant not less than 1 foot from it.

‡ Rock the tuning control back and forth through the signal.

A.W.A. MODEL 2151A



Notes: The diagram represents the view from the wiring side of the printed board.