MANUFACTURERS AWA SUPERVISED SERVICE

A.W.A.
ALL TRANSISTOR CAR RADIO
Model 2501AZ

This corresponds with the Ford Cortina Car Radio Model CB—18805—C

ISSUED BY AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

WARNING: This receiver is for positive earth operation only. Connection of wrong polarity will cause damage to the receiver.

GENERAL DESCRIPTION

This model is a six transistor, manual, permeability tuned superheterodyne car radio designed for the reception of the Medium Wave Band.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Frequency Range	525 - 1620 Kc/s
Intermediate Frequency	455 Kc/s
Battery Voltage	12 Volts
Battery Consumption	0.8 Amps.
Battery Polarity	Positive earth
Speaker 7" x 5"	50055W
Speaker Impedence	15 ohms at 400 c.p.s.
Undistorted Power Output	2 watts

Transistor Complement:

AWV 2N1637	R.F. Amplifier
AWV 2N1639	Converter
AWV 2N1638	I.F. Amplifier
AWV 2N408	Audio Amplifier
AWV 2N649	Driver (NPN)
AWV 2N301	Output

Two IN87A (or equivalent) diodes are used as Detector and A.G.C.

TWO SPEAKER OPERATION

The common practice of connecting a second speaker in parallel with the existing one can be tolerated in a receiver having a valve output stage; however, impedance matching is more important in a receiver having a transistor output stage and, in this case, any reduction in the correct loading of 15 ohms will result in considerable distortion.

If a second speaker is desired, it can be connected as shown in fig. 1, utilising a fader control. For this purpose a special kit No. 36276 is available comprising a 7" x 5" 15 ohm speaker, baffle and fader unit.

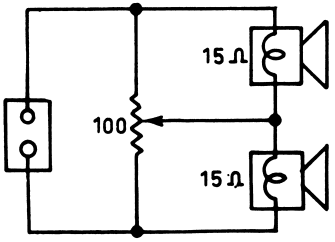


FIG. 1

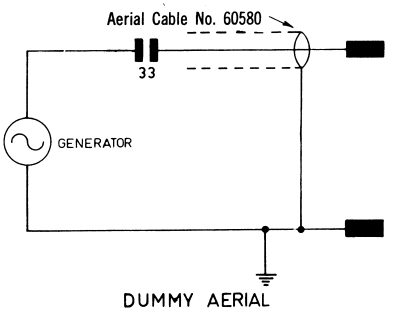
Manufacturer's Setting of Adjustments:

The receiver is tested by the manufacturer with precision instruments and all adjusting screws, except the aerial trimmer, are sealed. Re-alignment should be necessary only 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 the correct testing instruments listed below are used.

For all alignment operations connect the "low" side of the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid a.g.c. action. Also keep the volume and tone controls in their maximum clockwise position.

When the generator is connected to the aerial terminal, use the dummy aerial as shown in the diagram.



Testing Instruments:

Signal Generator—modulated 400 c.p.s.
or Modulated Oscillator
Dummy Aerial—see diagram
Output Meter—15 ohms impedance.

ALIGNMENT TABLE

A. GENERAL

Alignment Order	Connect High Side of Generator to:	Tune Generator to:	Tune Receiver to:	Adjust for Max. Peak Output
1	Collector of VT1*	455 Kc/s	L.F. Limit	TR3 Sec. (Top)
2	Collector of VT1*	455 Kc/s	L.F. Limit	TR3 Prim. (Bottom)
3	Collector of VT1*	455 Kc/s	L.F. Limit	TR2 Sec. (Top)
4	Collector of VT1*	455 Kc/s	L.F. Limit	TR2 Prim. (Bottom)
	Repeat the above adjustments until no further improvement is possible.			
5	Aerial Terminal via Dummy Aerial	1620 Kc/s	H.F. Limit	H.F. Osc. Adj. (C11)
6	Aerial Terminal via Dummy Aerial	1500 Kc/s	1500 Kc/s	H.F. R.F. Adj. (C7)
7	Aerial Terminal via Dummy Aerial	1500 Kc/s	1500 Kc/s	H.F. Aer. Adj. (C1)
8	Aerial Terminal via Dummy Aerial	600 Kc/s	600 Kc/s	L.F. Osc. Padder Adj. (L3)†
	Repeat adjustments 5, 6, 7 and 8 until no further improvement is possible.			
9	Calibration Alignment: With the receiver connected to an aerial, the dial scale calibration should now be checked and corrected if necessary. The pointer may be moved relative to the dial scale by sliding it along the dial cord.			

* A 0.01μf capacitor should be connected in series with the high side of the generator.

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

B. TUNER ALIGNMENT

Adjustment of the tuning cores is needed only if a tuning core or coil has been replaced.
To make this adjustment proceed as follows:—

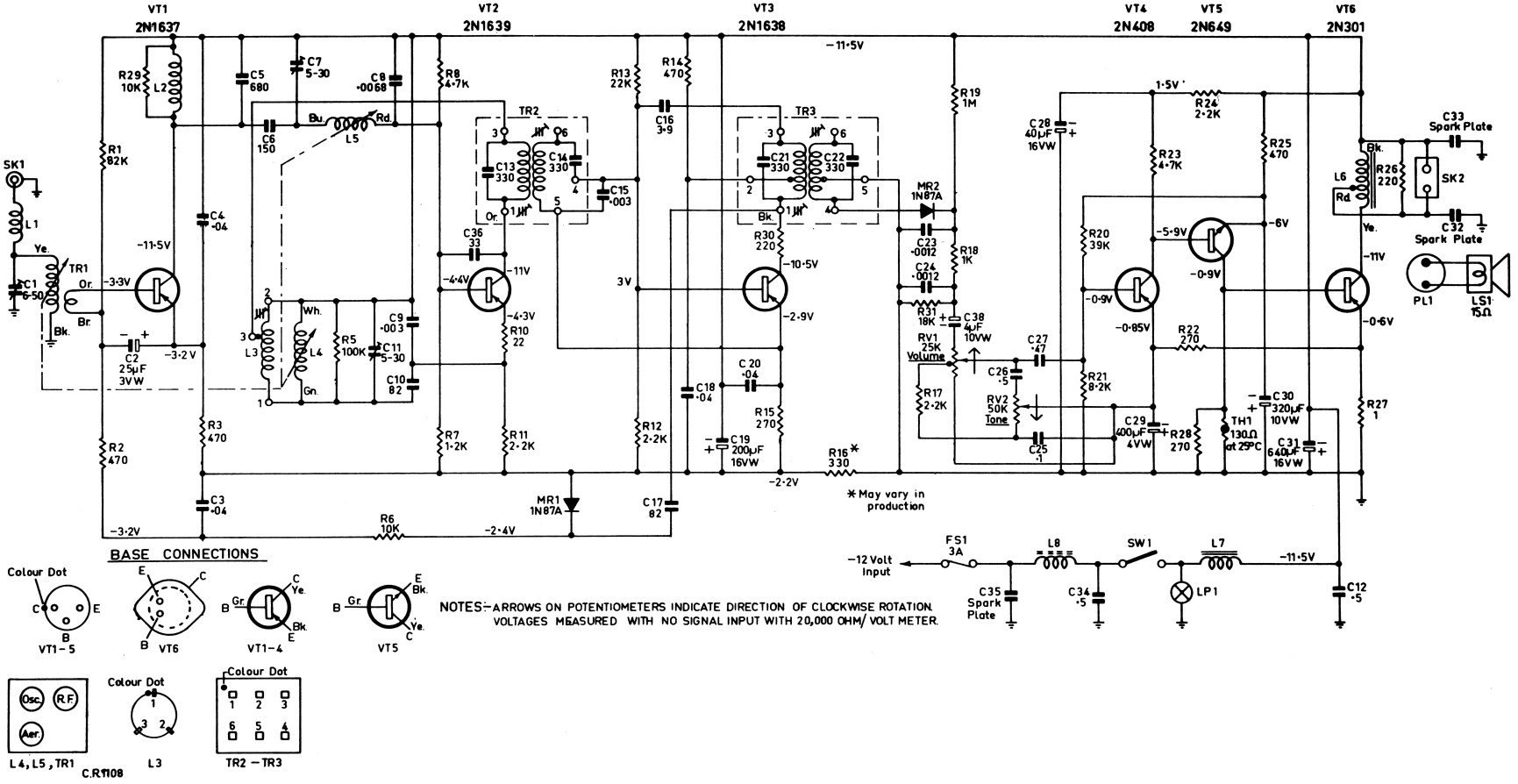
(1) Adjust the manual tuning control until a 0.560" gauge can be slipped between the core carriage and the front end of the slot in the tuner frame. Use the gauge as a feeler gauge.

(2) Tune the signal generator accurately to 980 Kc/s and conect it to the aerial terminal via the dummy aerial.
Adjust the oscillator core then the aerial and R.F. cores until the maximum output is obtained.

(3) Proceed with adjustments 5, 6, 7 and 8 in Table "A" and then repeat adjustment 2 above, if necessary

(4) Repeat step 3 as often as necessary until no further improvement is possible.

(5) Seal the tuning cores.



NOTES:- ARROWS ON POTENTIOMETERS INDICATE DIRECTION OF CLOCKWISE ROTATION.
VOLTAGES MEASURED WITH NO SIGNAL INPUT WITH 20,000 OHM/VOLT METER.