



A.W.A.

ALL TRANSISTOR PRESSMATIC CAR RADIO

Model PK1 Series

ISSUED BY AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

GENERAL DESCRIPTION

This model is a 10 transistor permeability tuned superheterodyne car radio designed for the reception of the Medium Wave Broadcasting Band. The receiver operates from 12 volt supply, a polarity switch selecting either positive or negative earth.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Frequency Range	525-1,620 Kc/s
Intermediate Frequency	455 Kc/s
Battery Voltage	12 Volts
Battery Polarity	+ or — Earth
Battery Consumption	0.5 Amps. (No signal)
Loudspeakers:	
PK1A 6" x 4"	52837
PK1B 7" x 5"	52838
PK1C 9" x 6"	52839
V. C. Impedance	15 ohms at 400 c.p.s.
Undistorted Power Output	5 watts.

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.

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. 34787, is available comprising a 7" x 5" 15 ohm speaker, baffle and fader control unit.

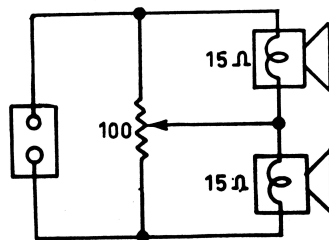


FIG. 1

Controls:

Manual Tuning, Volume, Tone, Press-button Power, Press-button Tuning. (Set of 5).

Transistor and Diode Complement:

AWV 2N1637	R. F. Amplifier
AWV 2N1639	Oscillator
AWV 2N1638 or AS34	A. G. C. Clamp
AWV 2N1639	Converter
AWV 2N1638	1st I.F. Amplifier
AWV 2N1638	2nd I.F. Amplifier
AWV 2N591	1st Audio Amplifier
AWV 2N591	2nd Audio Amplifier
AWV 2N301	P-P Audio Output
AWV 2N301	
AWV 1N87A	Detector

A.W.A. PK1 SERIES

A57

ALIGNMENT PROCEDURE

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.

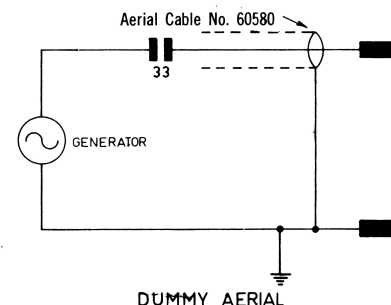
It is especially important that adjustments should not be altered unless the correct instruments, listed below, are used.

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 control in the 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.
I.F. Alignment Tool No. 39462.



A. GENERAL.

ALIGNMENT TABLE

ALIGNMENT ORDER	CONNECT GENERATOR TO:	TUNE GENERATOR TO:	TUNE RECEIVER TO:	ADJUST FOR MAX. PEAK OUTPUT
1	R. F. 2 Trimmer (C10) *	455 Kc/s	H. F. Limit	TR4 Primary Core (Bottom)
2	R. F. 2 Trimmer (C10) *	455 Kc/s	H. F. Limit	TR3 Secondary Core (Top)
3	R. F. 2 Trimmer (C10) *	455 Kc/s	H. F. Limit	TR3 Primary Core (Bottom)
4	R. F. 2 Trimmer (C10) *	455 Kc/s	H. F. Limit	TR2 Secondary Core (Top)
5	R. F. 2 Trimmer (C10) *	455 Kc/s	H. F. Limit	TR2 Primary Core (Bottom)
Repeat the above adjustments until maximum output is obtained.				
6	Aerial Terminal via Dummy Aerial	1,620 Kc/s (Accurate)	H. F. Limit	Oscillator Trimmer (C16)
7	Aerial Terminal via Dummy Aerial	1,500 Kc/s	1,500 Kc/s	R. F. 1 Trimmer (C8)
8	Aerial Terminal via Dummy Aerial	1,500 Kc/s	1,500 Kc/s	R. F. 2 Trimmer (C10)
9	Aerial Terminal via Dummy Aerial	1,500 Kc/s	1,500 Kc/s	Aerial Trimmer (C1)
10	Aerial Terminal via Dummy Aerial	600 Kc/s	600 Kc/s	Osc. Padder (L2) †

Repeat adjustments 6, 7, 8, 9 and 10 until no further improvement is possible.

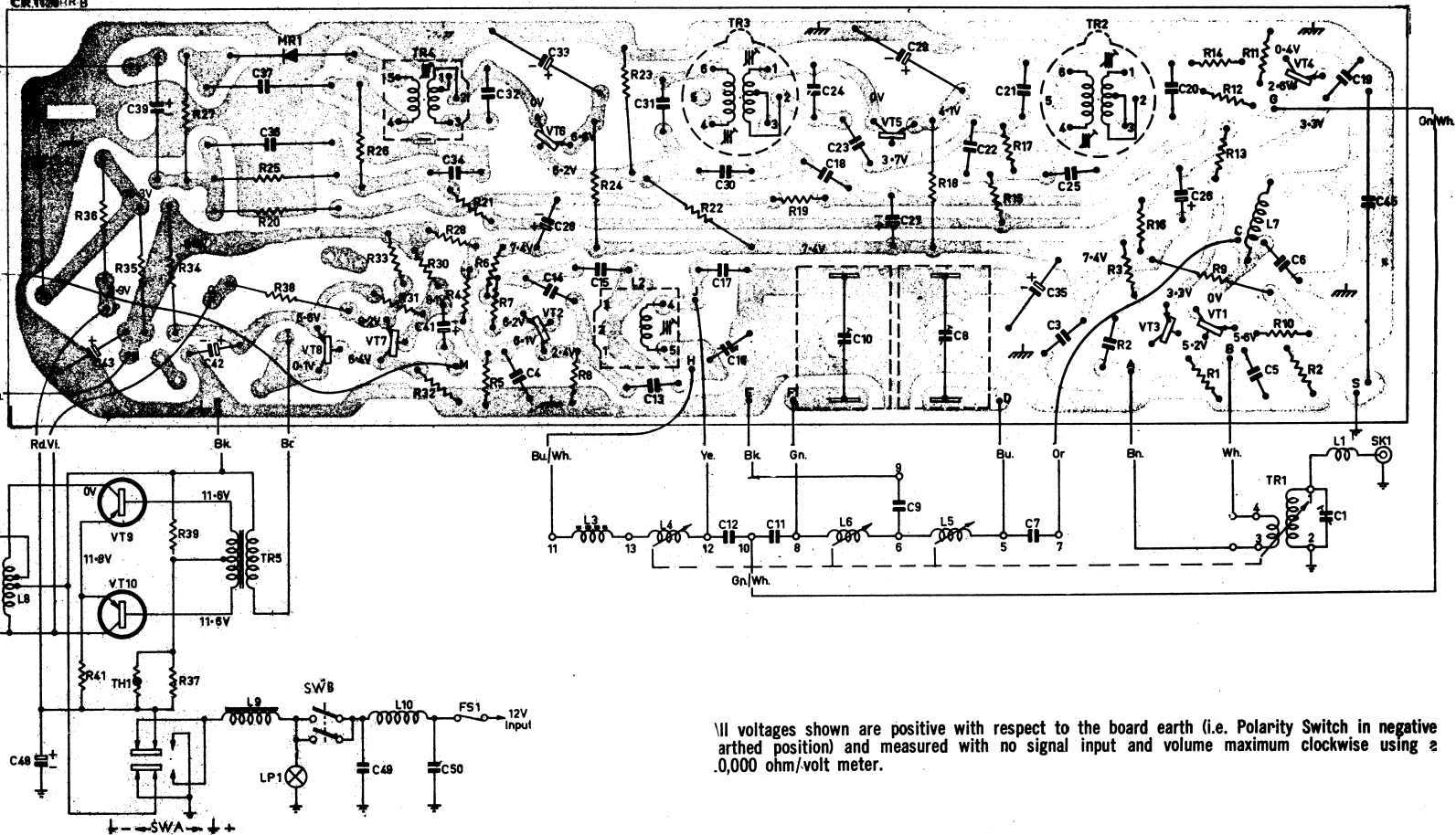
* A 0.01 μ F capacitor should be connected in series with the high side of the generator.

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

B. **CALIBRATION ALIGNMENT:** With the receiver connected to an aerial the dial scale calibration may be checked and corrected if necessary. The pointer position may be altered on turning a screw driver in the slot provided at the rear end of the pointer.

C. **TUNER ALIGNMENT:** Adjustment of the tuning cores should not be made unless a coil has been replaced or it is suspected that the alignment has been interfered with, in which case carefully follow the procedure below.

1. Adjust the tuner to the H.F. end stop and back all cores out of the coils as far as possible.
2. Tune the signal generator accurately to 1,620 Kc/s and adjust the oscillator, R.F. and aerial trimmers for maximum output.
3. Tune the signal generator accurately to 600 Kc/s and the core carriage to a point 0.680" from the H.F. end stop. Adjust the oscillator, R.F. and aerial cores for maximum output.
4. Tune the signal generator to 1,620 Kc/s and tuner to H.F. end stop. Re-adjust the oscillator trimmer for maximum output.
5. Tune the signal generator and tuner to 1,500 Kc/s and adjust the R.F. and aerial trimmers for maximum output.
6. Repeat steps 3, 4 and 5 until no further improvement is obtained.
7. Check the L.F. end frequency with the carriage fully in. This should be 520 ± 5 Kc/s. If necessary adjust the oscillator padder core to tune to 520 Kc/s and repeat steps 3, 4 and 5 above until no further improvement is obtained.
8. Seal the tuning core studs.



† All voltages shown are positive with respect to the board earth (i.e. Polarity Switch in negative arthed position) and measured with no signal input and volume maximum clockwise using a 20,000 ohm/volt meter.

