

A.W.A.
ALL TRANSISTOR CAR RADIO
Models MF4D and PF5D

(These correspond to Ford Falcon Radio Models XR-18805-B and XR-18805-A respectively.)

WARNING: These receivers are for 12 volt negative earth operation only. Connection of wrong polarity will cause damage to the receiver.

ISSUED BY AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

GENERAL DESCRIPTION

Model MF4D is a six transistor manual permeability tuned superheterodyne car radio. (3 Star Model).
Model PF5D is a six transistor press-button permeability tuned superheterodyne car radio. (3 Star Model).
Model MF20D is a six transistor manual permeability tuned superheterodyne car radio. (3 Star Model).

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Frequency Range 525-1,620 Kc/s
Intermediate Frequency 455 Kc/s
Battery Voltage 12 Volts
Battery Polarity Negative Earth
Battery Consumption 0.8 Amps

TWO SPEAKER OPERATION

It is essential that the load impedance be matched correctly to the transistor output stage as any reduction in the correct load of 15 ohms due to the connection of another speaker in parallel with the existing one will result in loss of power output and increased 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 control unit.

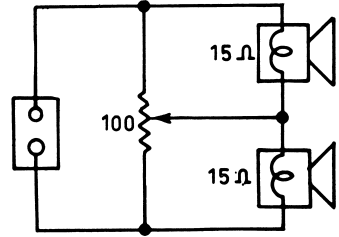


FIG. 1

Controls:
MF4D—Power/Volume, Tone, Tuning.
PF5D—Manual Tuning, Power/Volume, Tone.
Press-button Tuning (Set of 5).
Loudspeaker 8" x 4" 50263W
V.C. Impedance 15 ohms at 400 C.P.S.
Undistorted Power Output 2 Watts
Transistor and Diode Complement:
AWV 2N1637 R.F. Amplifier.
AWV 2N1639 Converter.
AWV 2N1638 1st I.F. Amplifier.
AWV 2N408 Audio Amplifier.
AWV 2N649 Driver.
AWV 2N301 Output.
AWV 1N87A A.G.C.
AWV 1N87A Detector.

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.

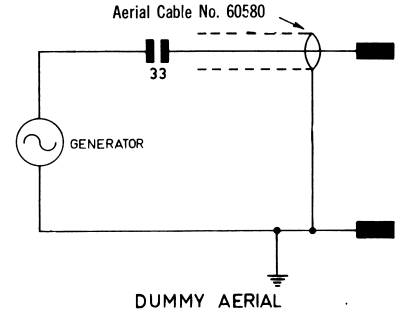
It is especially important that adjustments should not be altered unless the correct instruments, listed below, are used.

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.

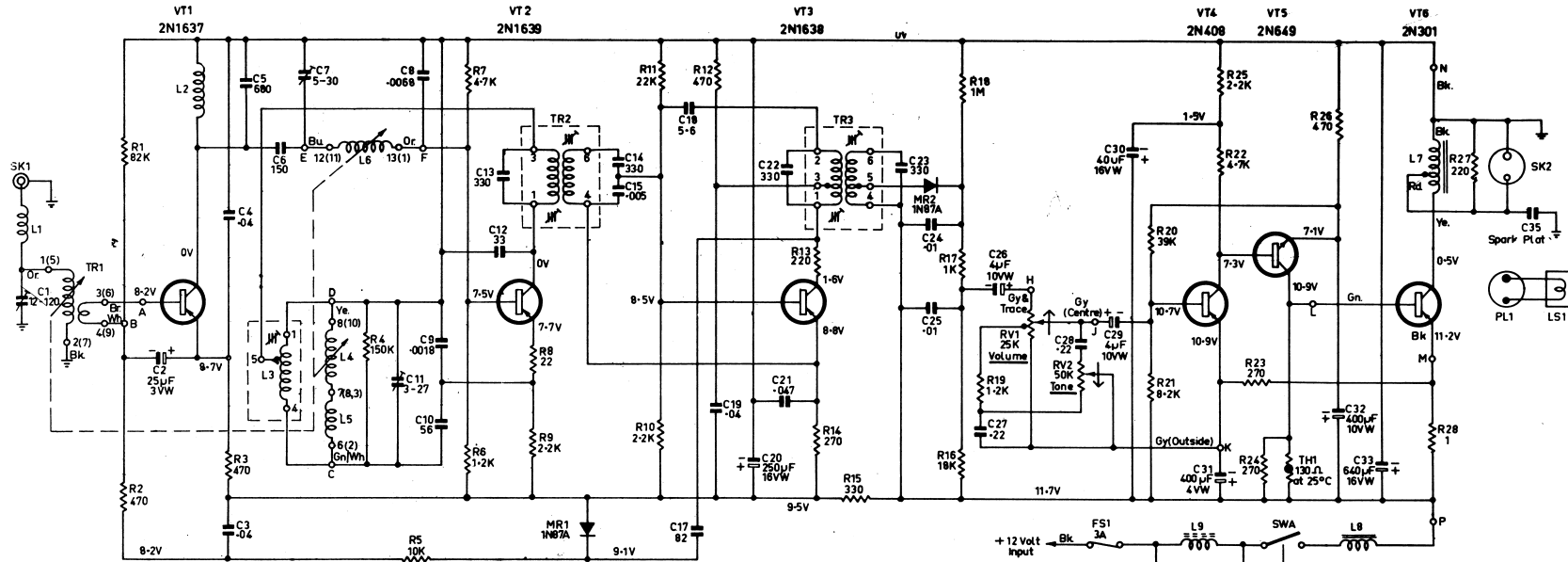
ALIGNMENT TABLE

ALIGN. ORDER	CONNECT GENERATOR TO:	TUNE GENERATOR TO:	TUNE RECEIVER TO:	ADJUST FOR MAX. PEAK OUTPUT:
1	Base of VT2*	455 Kc/s	H.F. Stop.	TR3 Secondary Core
2	Base of VT2*	455 Kc/s	H.F. Stop.	TR3 Primary Core
3	Base of VT2*	455 Kc/s	H.F. Stop.	TR2 Secondary Core
4	Base of VT2*	455 Kc/s	H.F. Stop.	TR2 Primary Core
Repeat the above adjustments until maximum output is obtained.				
5	Aerial Terminal	1,620 Kc/s (Accurate)	H.F. Limit	Osc. Trimmer (C11)
6	Via Dummy Aerial	1,500 Kc/s	1,500 Kc/s	R.F. Trimmer (C7)
7	Aerial Terminal	1,500 Kc/s	1,500 Kc/s	Aer. Trimmer (C1)
8	Via Dummy Aerial	600 Kc/s	600 Kc/s	Osc. Padder (L3)†
Repeat adjustments 5, 6, 7 and 8 until no further adjustment is possible.				

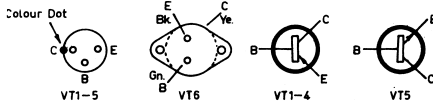
* A 0.01µF capacitor should be connected in series with the high side of the test instrument.
† Rock the tuning control back and forth through the signal.

B. CALIBRATION ALIGNMENT:

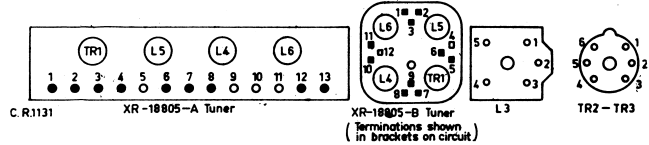
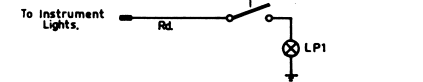
- MF4D, MF20D. With the receiver connected to an aerial, the dial scale calibration may be checked and corrected if necessary. The pointer may be moved relative to the dial scale by sliding it along the dial cord. PF5D. The pointer position may be altered by turning a screwdriver in the slot provided at the rear end of the pointer.
- C. TUNER ALIGNMENT: Adjustment of the tuner 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 and tuner to H.F. end stop and 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.



BASE CONNECTIONS



NOTES: Arrow on potentiometers indicates direction of clockwise rotation.
 Voltages measured with 20,000 ohm/volt meter with no signal input.



C.R.1131 XR-18805-A Tuner XR-18805-B Tuner L3 TR2-TR3
 Terminations shown (in brackets on circuit)

