

TRANSISTOR CAR RADIOS

Models 967A and 967AZ

Model 967A corresponds to Ford Custom 300 and Fairlane 500, ARB9AA-18805-C

Model 967AZ corresponds to Ford Galaxie, GD-18805-A

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

GENERAL DESCRIPTION

These models are four valve and two transistor, press button permeability tuned superheterodyne car radios designed for the reception of the Medium Wave Band and operate directly from a 12 volt battery without a vibrator high voltage supply.

Features of design include: High gain I.F. transformers; press button permeability tuning unit with a high degree of electrical and mechanical stability; low drift oscillator circuit; transistor driver and output stages.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

Frequency Range	530-1650 Kc/s (566-182 Metres)
Intermediate Frequency	455 Kc/s
Battery Voltage	12 volts
Battery Consumption	1.4 amps

Loudspeaker:

9" x 6" Permanent Magnet	50101
V/C Impedance	15 ohms at 400 c.p.s.
Loudspeaker Choke	38195A
Undistorted Power Output	3 watts

Valves and Transistor Complement:

Radiotron 12BL6	R.F. Amplifier
Radiotron 12AD6	Converter
Radiotron 12BL6	I.F. Amplifier
Radiotron 12FK6	Detector, A.V.C., Audio Amplifier
AWV 2N591	Driver
AWV 2N301	Output

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, utilizing 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.

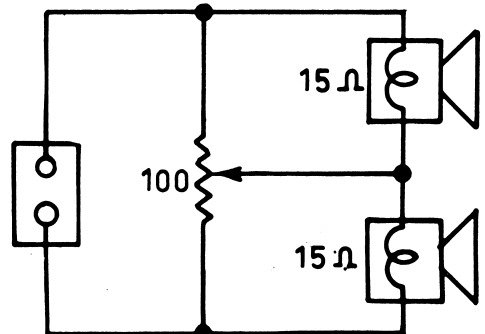
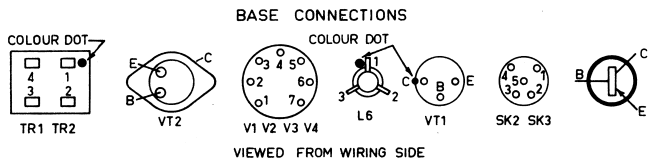
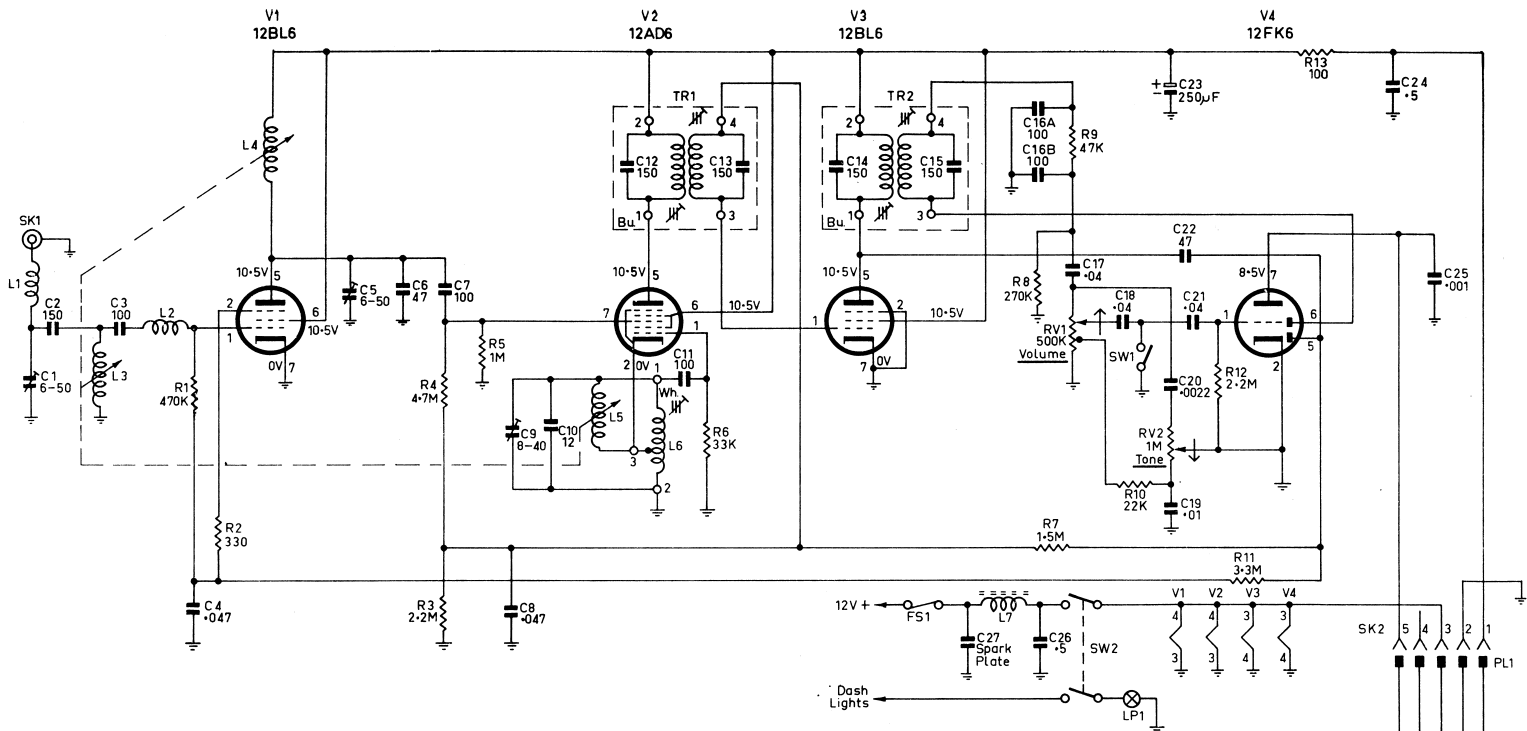


FIG. 1



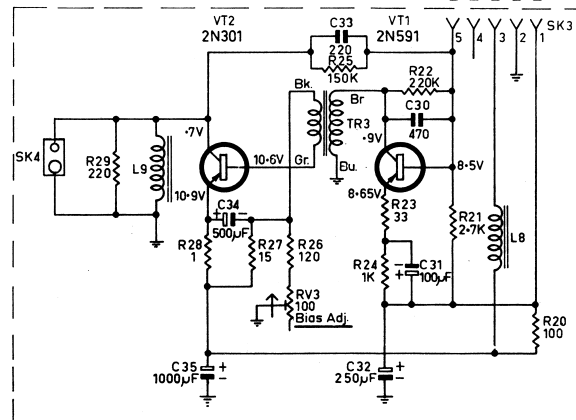
NOTES ARROWS ON POTENTIOMETERS INDICATE DIRECTION OF CLOCKWISE ROTATION.

ALL VOLTAGES ARE MEASURED WITH NO SIGNAL INPUT BY A 20,000 OHM/VOLT METER.

SOCKETS VIEWED FROM WIRING SIDE.

PLUGS VIEWED FROM PIN SIDE.

CR1090



ALIGNMENT PROCEDURE

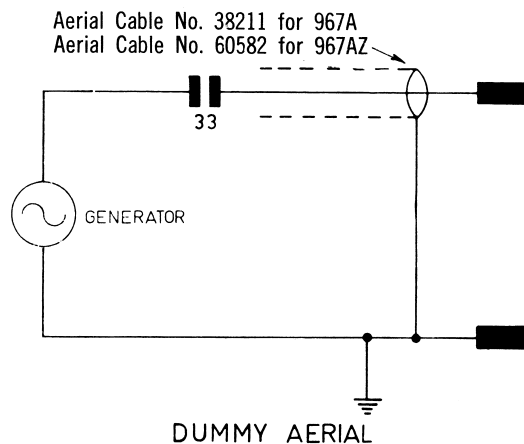
Manufacturer's Setting of Adjustments:

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 the adjustments should not be altered unless in association with the correct testing instruments listed below.

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.V.C. action.

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



Testing Instruments:

- (1) Signal Generator, modulated at 400 C.P.S. or
- (2) Modulated Oscillator.

ALIGNMENT TABLE

NOTE: The replacement of any valve in the receiver will not affect the alignment of the tuned circuits in any way providing the recommended Radiotron type is used.

A. GENERAL:

ALIGNMENT ORDER	Connect "High" side of Generator to:	Tune Generator to:	Tune Receiver to:	Adjust for Maximum Peak Output:
1	12AD6 Pin 7*	455 Kc/s.	L.F. Limit	TR2 Sec. Core (Top)
2	12AD6 Pin 7*	455 Kc/s.	L.F. Limit	TR2 Prim. Core (Bottom)
3	12AD6 Pin 7*	455 Kc/s.	L.F. Limit	TR1 Sec. Core (Top)
4	12AD6 Pin 7*	455 Kc/s.	L.F. Limit	TR1 Prim. Core (Bottom)
Repeat the above adjustments until maximum output is obtained.				
5	Aerial Terminal via Dummy Aerial.	1650 Kc/s. (accurate)	H.F. Limit	H.F. Osc. Adj. (C9)
6	Aerial Terminal via Dummy Aerial.	1500 Kc/s.	1500 Kc/s.	H.F. R.F. Adj. (C5)
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. (L6)§
Repeat adjustments 5, 6, 7 and 8 until no further adjustment 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 can be moved relative to the dial scale by turning the eccentric stud located underneath the rear end of the pointer arm.			

* A 0.01 μ f 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. TUNER ALIGNMENT:

The adjustment of the three tuning cores will be necessary only if a tuning core or coil has been replaced. To make this adjustment proceed as follows:

- (1) Adjust the manual drive control until a 0.560" gauge can be slipped into the left rear slot in front of the carriage lug. Use the 0.560" gauge in the manner of a feeler gauge.
- (2) Tune the signal generator accurately to 1000 Kc/s. and connect it to the aerial terminal via the dummy aerial.
- (3) Adjust the oscillator core, then the aerial and R.F. cores until the maximum output is obtained.
- (4) Proceed with adjustments 5, 6 and 7 in Table "A" and then repeat adjustment 3 above, if necessary.
- (5) Seal the tuning core studs.