

**RADIO SET PRC-F1**  
**'IN-PRODUCTION' CHANGE TO AGC CIRCUIT**  
**MODIFICATION INSTRUCTION**

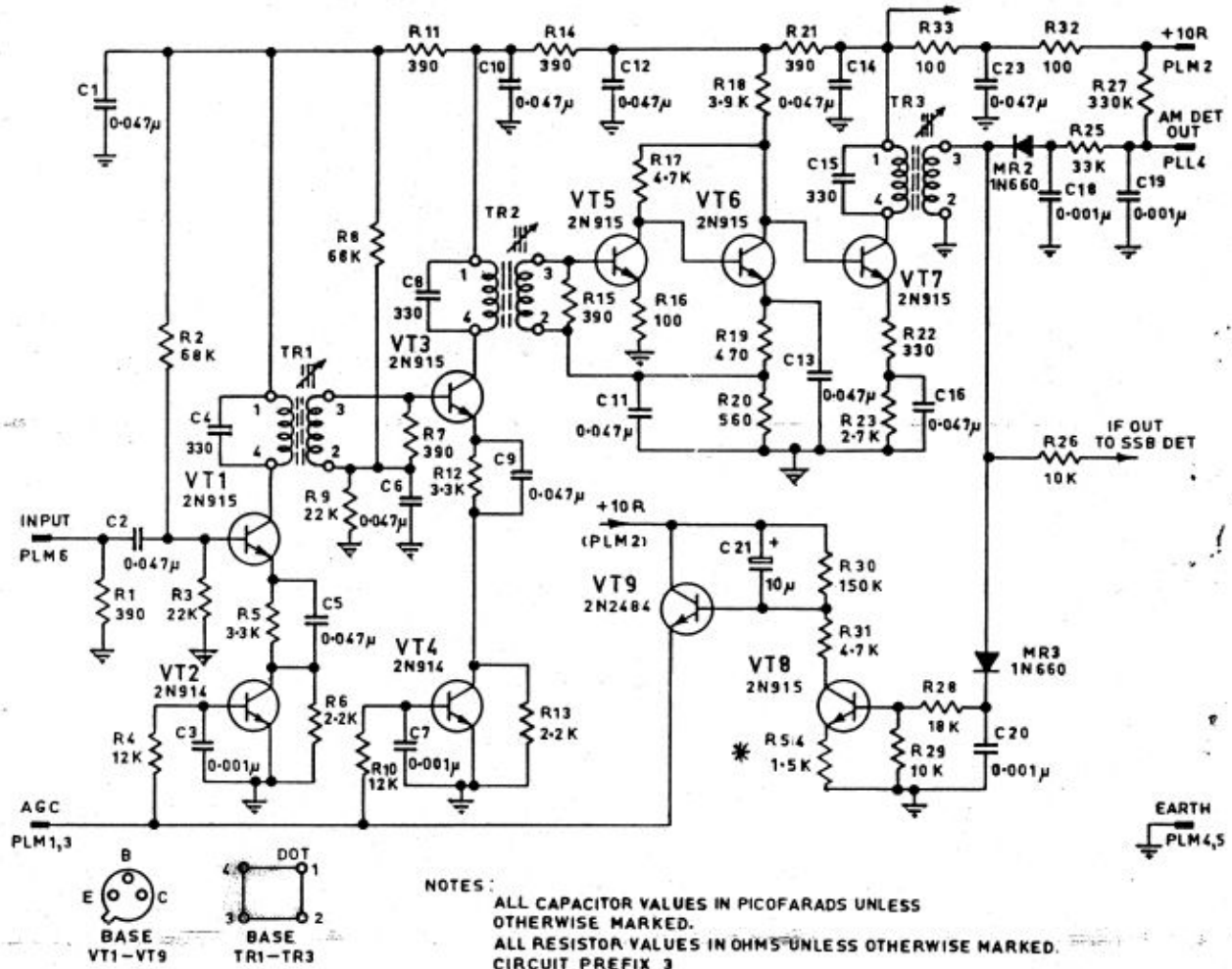
Reference: A. *Manufacturers Change PRC-1050.*  
B. *EMEI TELS F 572 fig 34.*

**Summary**

1. A 'production' modification, applicable to the receiver AGC circuit, has been incorporated in Radio Sets PRC-F1 from Serial No 350 onwards. The modification comprises the fitting of a 1.5 KΩ resistor (R54) in series with the emitter of AGC control transistor VT8 (Receiver IF, AGC, BFO Circuit Card 3CB1) to prevent low frequency flutter at certain levels of receiver input in the NCW mode.

**Modification Record**

2. The above information relates to the 'strike-through' of figure 1 on the PRC-F1 front panel modification record plate (also circuit card 3-CB1(R54)- Mod 1) and is provided in this instruction for reference only. **RETROFIT MODIFICATION ACTION IS NOT TO BE ATTEMPTED IN WORKSHOPS.**



**FIG 1 - IF AMPLIFIER, AGC CIRCUIT AND AM DETECTOR (PART OF 3CB1)**

\* Resistor R54 (1.5 KΩ) incorporated in PRC-F1 equipments - serials 350 onwards  
(TSU 141/67)

**END**

Distribution - Class 11.2 - Code No 7

**RESTRICTED**

**RECEIVER-TRANSMITTER RADIO RT-F1**  
**CIRCUIT CHANGE TO IMPROVE 10 KHZ PULSE GENERATOR OPERATION**  
**MODIFICATION INSTRUCTION**

**Reference:** AC in WM 25895/1.

**Summary**

1. This instruction details the action required to overcome discrepancies in Radio Set PRC-F1 operation at all odd 10 KHz positions of the front panel frequency selector and provide improved operation of the 10 KHz Pulse Generator Circuit 9CB1.
2. The odd 10 KHz malfunction is attributed to the delayed operation of the 10 KHz blocking oscillator VT4-9CB1. The main factors concerned are :
  - a. Resistor R14-9CB1 increases in value and alters the triggering point (emitter bias) of VT4-9CB1.
  - b. Differences in pulse amplitude caused by the range of ferrite material used in the manufacture of transformer TR2-9CB1 alters the charge/discharge time of C8-9CB1 and the subsequent triggering point of VT4-9CB1.
3. In general, the output developed under these conditions produce a 6.666 KHz pulse which contains the 20 KHz spectrum but is devoid of 10 KHz points, hence the non-operation of the equipment at the odd 10 KHz frequency selector positions.
4. To compensate for variations in inductance of TR2-9CB1 and provide a suitable triggering time for VT4-9CB1; resistor R14-9CB1 (39 K ohms in existing circuit) is to be replaced with 33 K ohms.

Estimated manhours to perform : 0.5 (excluding drying and seal testing)

5. **Priority:** Group 1 - : To be implemented immediately in accordance with AHQ directive.
6. **Modification to be applied to:** All Radio Sets PRC-F1, on issue and in depot, bearing serial nos 1 to 500.
7. **Item affected:** 5820-66-025-4334 Receiver-Transmitter Radio RT-F1/PRC  
(5820-66-026-3316 Circuit Card Assembly 9CB1).
8. **Action required by:** R Aust Sigs and RAEME Field and Base Workshops in accordance with WKSP A 850.
9. **Stores required:** Available through normal RAAOC channels.
 

5905-66-031-5769	Resistor fixed film 33,000 ohms, ±5%, 1/4 watt	-	1
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10. **Stores removed:** To be disposed of as detailed in GEN P 050-P 059 series.
 

-	Resistor fixed film 39,000 ohms, ±5%, 1/4 watt	-	1
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**Modification Detail**

11.
  - a. Release the four captive screws securing the RT unit case to the front panel. Remove the case.
  - b. Remove and retain the screws and washers from the main (circuit card) screening cover. Carefully lift the cover free of the assembly.
  - c. Using the card extracting tool, withdraw Circuit Card 9CB1-10 KHz Pulse Generator (located on the extreme left of the assembly).
  - d. Identify resistor R14-39 K ohms (fig 1) and using a desoldering tool remove the 39 K ohms resistor.
  - e. Shape leads of the new 33 K ohms resistor and insert through the board holes, allow for approx 3/32 inch lead protrusion (under the board) on cutting. Bend pigtailed at approx 15° to the underside board surface; solder in position using a miniature iron. DO NOT OVERHEAT BOARD SURFACE AS FOIL DAMAGE MAY RESULT.
  - f. Inspect the resistor soldering to ensure that a firm physical and electrical connection exists, and printed circuit bridging has not occurred.

**Modification Record**

12.
  - a. When resistor replacement is complete, carefully scrape away figure 1 stencilled on circuit board 9CB1 (fig 1).
  - b. On the front panel flange modification record plate, strike through figure 2 thus.

**Functional Test**

13.
  - a. Replace the 10 KHz Pulse Generator - Circuit Board 9CB1 in the equipment.
  - b. Perform functional and performance tests as necessary to ensure that the equipment operates in all positions of the front panel frequency selector.
  - c. Replace circuit board screening cover and retaining screws and washers.
  - d. Dry out and seal test equipment. Carry out overall performance tests to ensure equipment serviceability.

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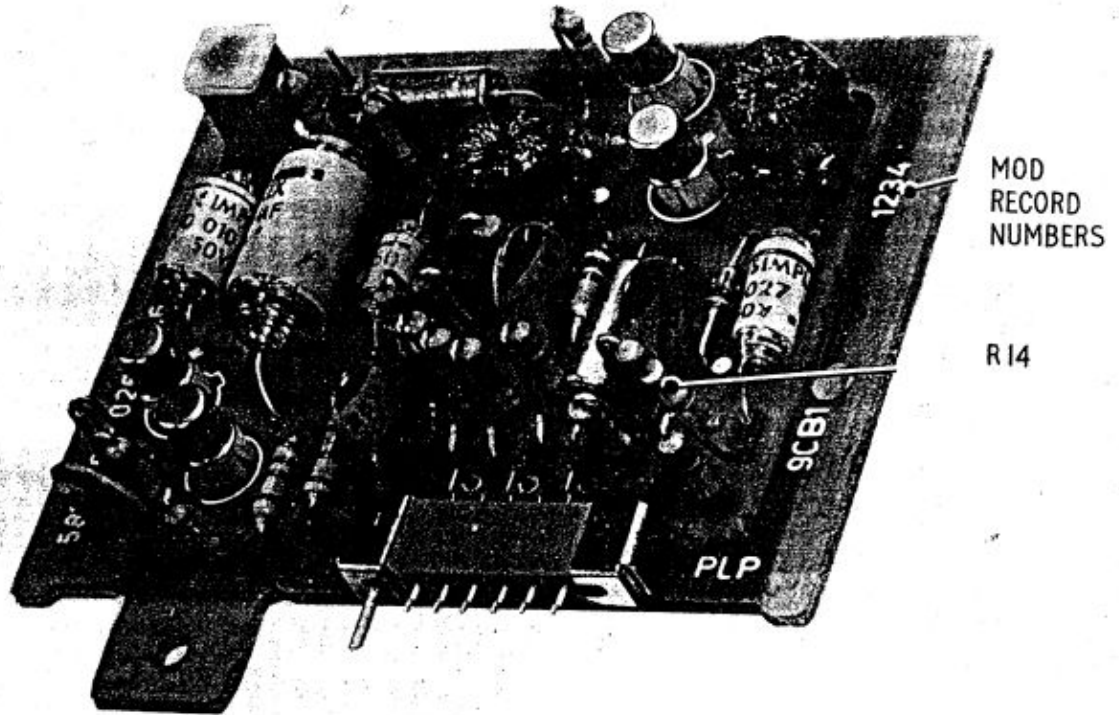


FIG 1 - CIRCUIT BOARD 9CB1 SHOWING POSITION OF RESISTOR R14 AND MODIFICATION RECORD NUMBERS (BEFORE MODIFICATION)

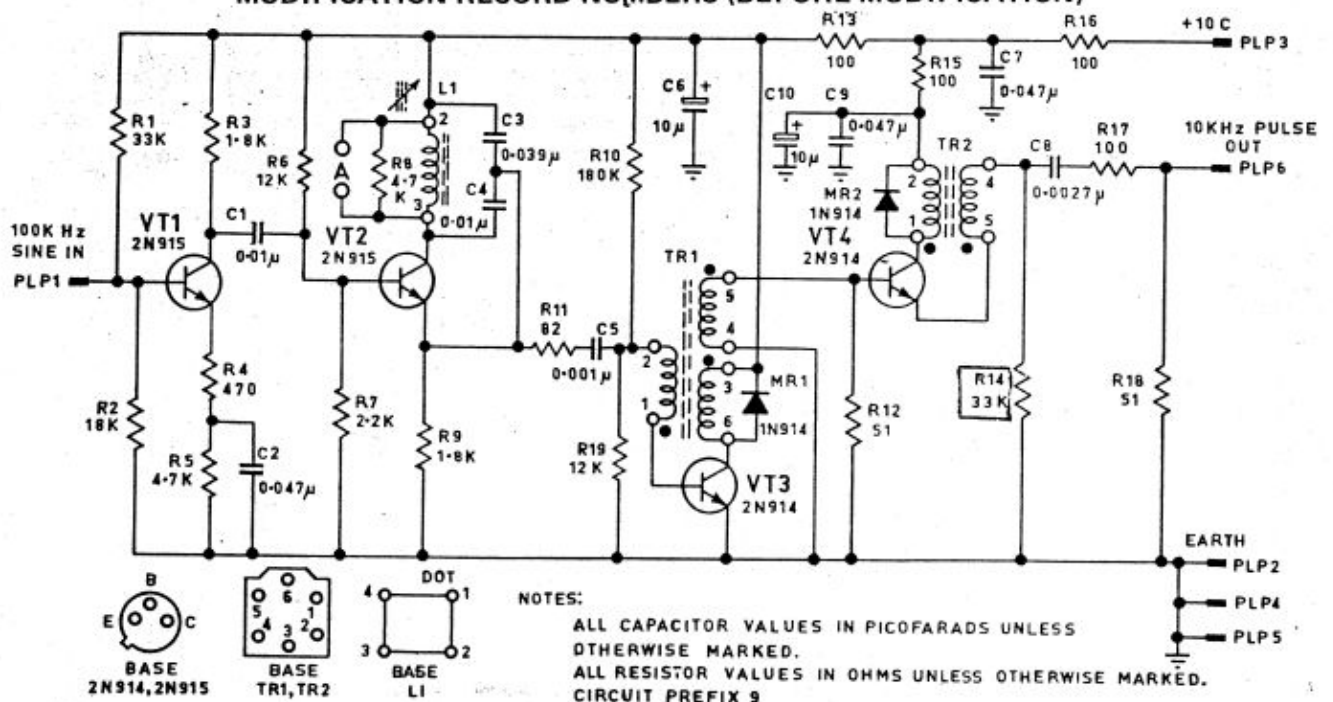


FIG 2 - 10 KHZ PULSE GENERATOR CIRCUIT 9CB1 (MODIFIED BY REPLACEMENT OF R 14).

(TSU 370/70)

END