Wulfsberg Electronics Division
A Chelton Group Company
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Cognizant Engineer:

DOES NOT CHANGE ORIGINAL APPROVAL

SERVICE BULLETIN

EQUIPMENT: RT-5000 DATE: November 9, 1998

BULLETIN NUMBER: WSB RT-5000-1

EFFECTIVITY

RT-5000 P/N 400-015525-0101, -0201, -0301, -0401 units not marked Mod 17.

RT-5000 P/N 400-015525-0501 units not marked Mod 13.

REASON

Changes will improve receiver performance when operating in close proximity to strong transmitters.

DESCRIPTION

This change affects both the receiver and synthesizer boards. The following changes are to be implemented on the receiver board:
The removal of a molded three lead "T" filter and replacing it with a two lead toroidal inductor on the receiver board. Additionally, replacing an existing toroidal inductor with an improved version.
The synthesizer board receives the following changes:
Five inductors are replaced with an improved version. Two tantalum capacitors are to be replaced with an improved version. Additionally, a new capacitor is to be installed.

COMPLIANCE

Recommended at next scheduled maintenance period.

WARRANTY INFORMATION

Units still in the warranty period may be returned for installation of this modification under the terms of the warranty agreement. Units should be sent to:

Wulfsberg Electronics Division
Attention: Repair and Overhaul Department
6400 Wilkinson Drive
Prescott, AZ 86301

APPROVAL

This modification does not affect the original approval.

REFERENCES

RT-5000 Installation Manual, drawing number 150-1355-000.

MODIFICATION PROCEDURE

1. Remove the bottom cover and remove screws from side cover as well as screws between cooling fins on top of radio. Fold open the chassis and remove the receiver/synthesizer module (unplug coax connectors from the bottom of receiver/synthesizer module before removal).
   If unit is –0501 version with second synthesized guard receiver, remove this module as well.
   Remove covers from both sides of receiver/synthesizer modules.

   CAUTION

   Any disassembly/assembly of the RT-5000 must be done at a static-safe workstation. Removed modules should be placed in antistatic bags when not installed in the unit.

2. Remove receiver board (300-015443-01/02) from module. (This involves removal of hex standoffs from receiver board as well as two brass feedthru screws and associated hardware.

3. Locate molded filter (F12). Remove and discard F12 and replace with L504 (P/N 118-116677-01). Place the leads of L504 in the two outer holes of

F12(Pins 1 and 3). Pin 2 has no connection. Mount L504 to board using RTV silicone sealer (16189-1).

4. Remove and discard toroidal inductor L111. Replace it with P/N 118-116677-01. RTV this part to the board.

5. Locate Capacitors C908 and C948 on the synthesizer board Assembly (300-015471-01/02). Remove and discard these parts and replace with P/N 210-014807-476.

6. Add Capacitor C950 (P/N 210-015976-226). Position the synthesizer module so that inductor L908 is in the lower right hand corner. Solder the positive lead of C950 (Dimple or "plus" mark on this end) to the left hand pad of C949. Solder the other lead of C950 to the right most pad of L908.

7. Locate inductors L902, L907, L908, L909, L910. Remove these and replace with improved part (P/N 118-116677-01 rev B). RTV these inductors to the board.

8. Reassemble the modules and reinstall module in radio (Be sure to reconnect the coax cables correctly).

9. Test receiver as detailed below.

10. Reassemble radio.

IDENTIFICATION PROCEDURE

For an RT-5000 P/N 400-015525-0101, -0201, -0301, -0401, stamp an X on the modification section of the Unit Serial Tag to indicate that Mod 17 is complete.

For an RT-5000 P/N 400-015525-0501, stamp an X on the modification section of the Unit Serial Tag to indicate that Mod 13 is complete.

TESTING PROCEDURE

Perform a complete functional test of the unit in accordance with RT-5000 functional test procedure:
With the radio set to receive standard bandwidth FM, perform receiver sensitivity test at the following frequencies: 40, 70, 140, and 300 MHz for the low split antenna port (N connector) and 540 and 820 MHz for the high split antenna port (TNC connector).
Procedure: Connect a SINAD meter to the receiver audio output and an FM modulated RF signal generator to the low split (N) or high split (TNC) antenna connector depending on the frequency to be measured.
Set the generator for a 1 kHz MODULATION frequency and 3 kHz DEVIATION, adjust the generator output level until a 12 dB SINAD reading is observed. The generator level should be –111.4 dBm or lower at each of the above test

frequencies. Note the test button must be pressed on the C-5000 control head to enable audio output.

MATERIAL INFORMATION

The parts required to modify an RT-5000, per this Service Bulletin, are available from Wulfsberg Electronics Division, at (502) 708-1518. The part numbers are as follows:

400-015525-0101, -0201, -0301, -0401:

ITEM	QUANTITY	PART NUMBERS	DESCRIPTION
1	7 each	118-116677-01	Inductor, toroid 136 µH
2	2 each	210-014807-476	Capacitor,tantalum 47 µF
3	1 each	210-015976-226	Capacitor,tantalum 22 µF
4	A/R	16189-1	RTV sealant

400-015525-0501:

ITEM	QUANTITY	PART NUMBERS	DESCRIPTION
1	14 each	118-116677-01	Inductor, toroid 136 µH
2	4 each	210-014807-476	Capacitor,tantalum 47 µF
3	2 each	210-015976-226	Capacitor,tantalum 22 µF
4	A/R	16189-1	RTV sealant