



**Wulfsberg Electronics Division**  
**A Chelton Group Company**  
6400 Wilkinson • Prescott, AZ 86301 • U.S.A.  
Telephone: (520) 708-1650 • Fax: (520) 541-7627

Cognizant Engineer: 

DOES NOT CHANGE ORIGINAL APPROVAL

# SERVICE BULLETIN

EQUIPMENT: RT-450 PA ASSEMBLY      DATE: January 27, 1999

BULLETIN NUMBER: WSB RT-450-1

## EFFECTIVITY

Any RT-450 that requires replacement of Power Amplifier (PA) board (P/N 300-2237-000).

## REASON

To provide replacement PA board for non-repairable original PA board.

## DESCRIPTION

This modification consists of removing the RT-450 PA Module P/N 300-2237-000, and replacing it with a RT-406F PA Module P/N 300-015920-01.

## COMPLIANCE

As required by customer.

## APPROVAL

This replacement procedure does not affect the original approval.

## REFERENCES

RT-450 Maintenance Manual, P/N 150-0102-000.  
RT-406F Maintenance Manual, P/N 150-1332-000.  
FLEXCOMM I Transceiver System Installation Manual, P/N 150-040011-000.



## **REMOVAL PROCEDURE**

### **CAUTION**

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

1. Remove R/T Module chassis on the R/T-450 to gain access to the back side of the PA.
2. Remove the standoffs and screw from PA front side.
3. Desolder center conductor of N-type receptacle J12 (Figure 1, callout 1) on PA front side and ground strap (Figure 2, callout 1) on PA back side in order to remove connector and bracket assembly from the RT-450 PA.
4. Desolder PA RF Injection coax (Figure 1, callout 2) from RF fence at entrance to PA on front side.
5. Desolder and lift Receive RF coax from land E14 next to relay K1 (Figure 2, callout 2) on the back side of PA.
6. Desolder wire W5 (ORG/WHT) from power resistor R1 on end with capacitor C36 (Figure 2, callout 3) on the back side of PA.
7. Desolder wire W4 (WHT/GRY) from land E2 (Figure 2, callout 4) on back side of PA.
8. Desolder wire W2 (VIO/WHT) from land E3 (Figure 2, callout 5) on back side of PA.
9. Desolder wires W3 (YEL/WHT) and W1 (BLU/WHT) (Figure 2, callout 6) on back side of PA.
10. Remove PA assembly from module.

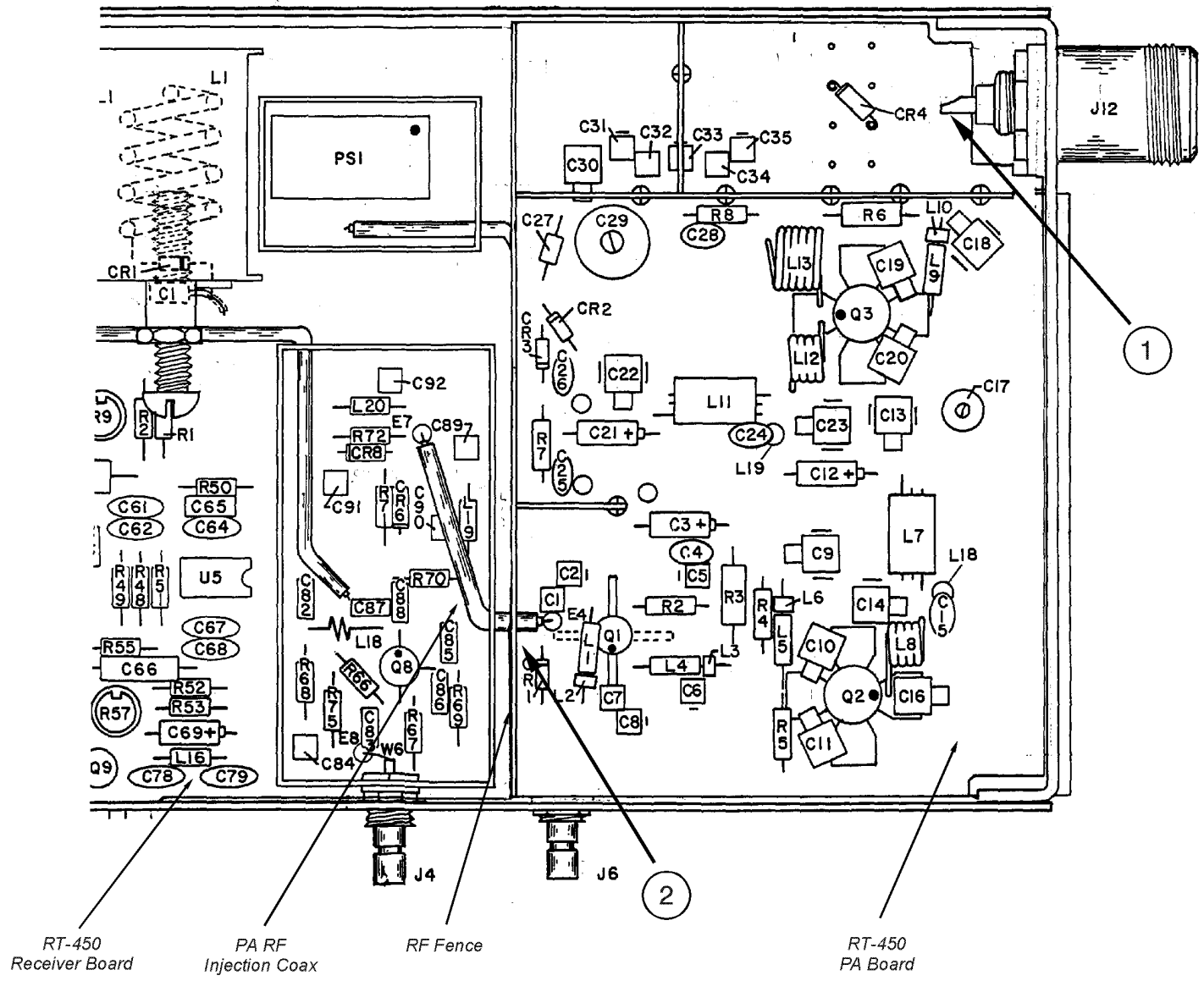


Figure 1. RT-450 R/T Module (Front Side)

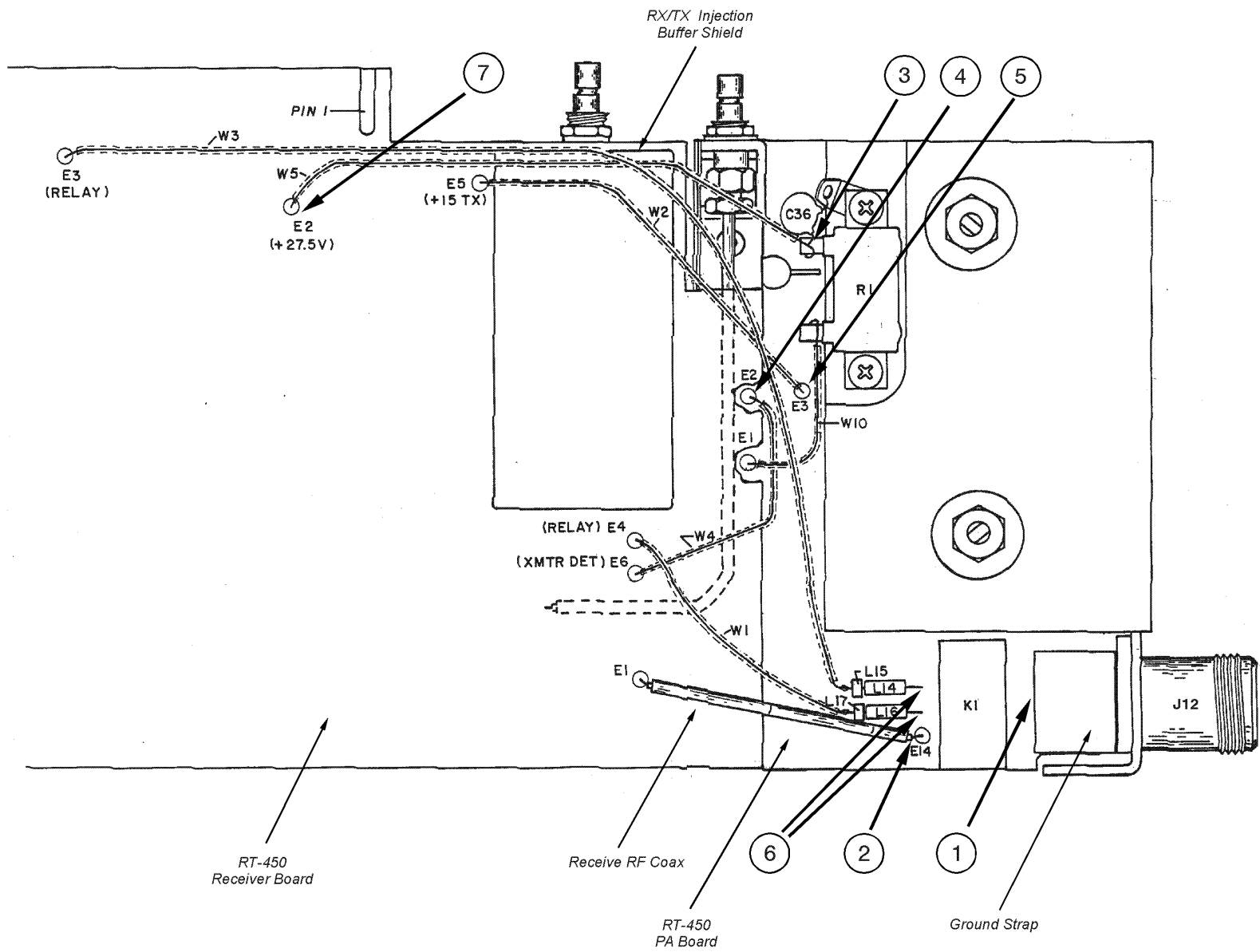


Figure 2. RT-450 R/T Module (Back Side)

## **REPLACEMENT PROCEDURE**

Use RT-406F PA , Wulfsberg P/N 300-015920-01 for replacement.

1. Install and solder N-type connector J12 (Figure 1, callout 1) and bracket assembly to RT-406 PA (Figure 3, callout 1).
2. Trim ½ inch from wire W2 (VIO/WHT) (refer to Figure 2). Solder onto land E5 (Figure 3, callout 2) on back side of PA.
3. Replace wire W5 (ORG/WHT) (refer to Figure 2) with a 4.5 inch length of 24 AWG stranded wire.  
Desolder original wire W5 from land E2 on the back side of RT-450 Receiver Board (Figure 2, callout 7).  
Solder one end of the replacement wire onto land E2 (Figure 3, callout 3) on back side of PA.  
Solder the other end of the replacement wire onto land E2 on the back side of RT-450 Receiver Board (Figure 2, callout 7).
4. Solder wire W4 (WHT/GRY) (refer to Figure 2) onto land E6 (Figure 3, callout 4) on back side of PA.
5. Solder wire W3 (YEL/WHT) (refer to Figure 2) onto land E3 (Figure 3, callout 5) on back side of PA. Apply RTV under the relay wire beads to secure wires.
6. Solder wire W1 (BLU/WHT) (refer to Figure 2) onto land E4 (Figure 3, callout 6) on back side of PA. Apply RTV under the relay wire beads to secure wires.
7. Solder Receive RF coax (refer to Figure 2) onto land E1 (Figure 3, callout 7) on back side of PA.
8. Install standoffs and screw to secure PA to receiver.
9. Solder RT-450 PA RF Injection coax (refer to Figure 1) to E7 (Figure 3, callout 8).
10. Secure wires W5, W4, W3, and W1 (refer to Figure 2) to the end of the TX/RX injection buffer shield using Tac Pac adhesive to prevent wires from crossing over the shield.
11. Verify that the coax shield on the Receive RF coax (refer to Figure 2) is soldered to the ground plane, and that the coax shield of the RT-450 PA RF Injection coax is soldered to the RF fence.

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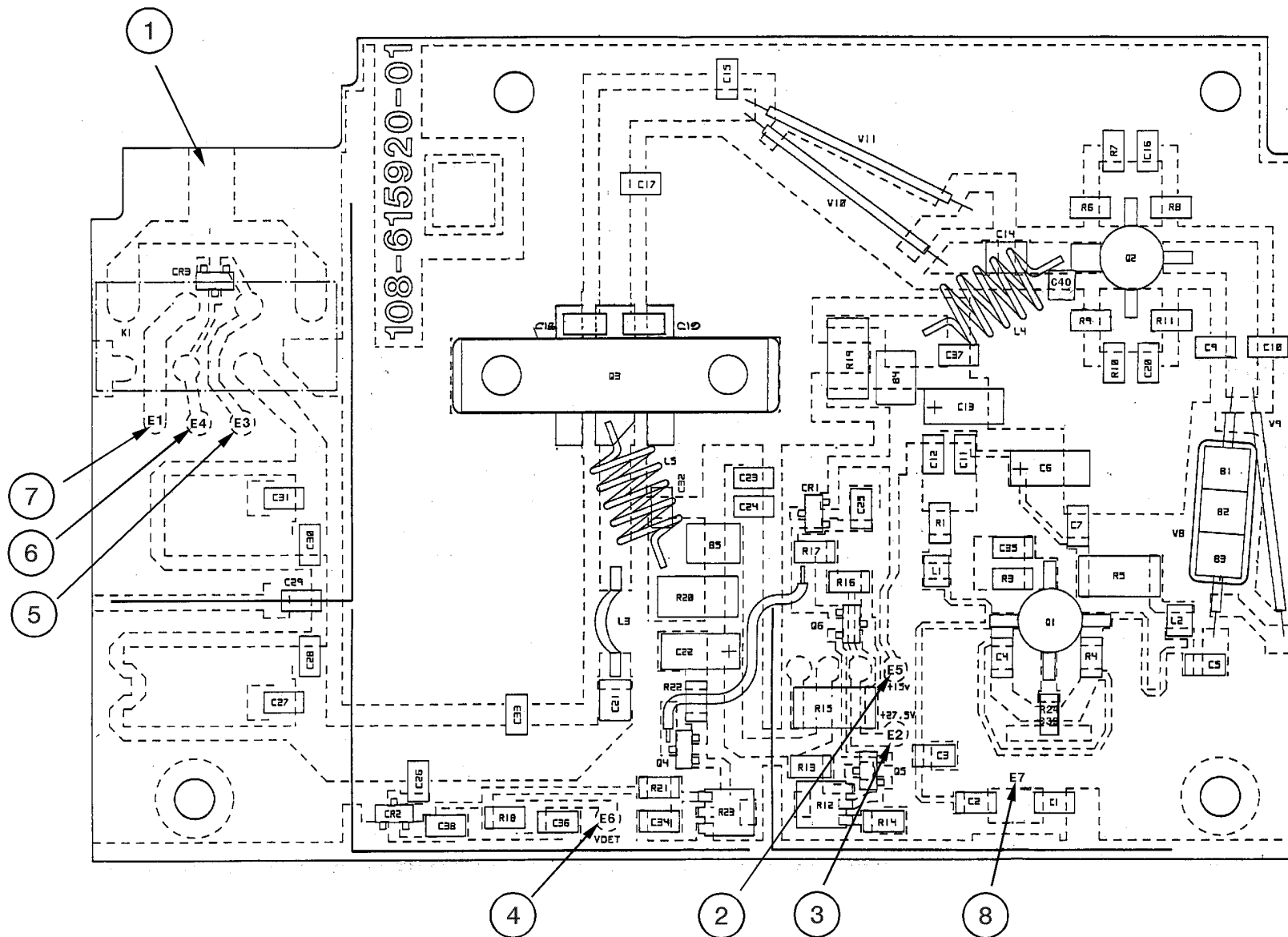


Figure 3. RT-406F PA Board

## **IDENTIFICATION PROCEDURE**

Stamp an X on the modification section of the Unit Serial Tag to indicate that Mod 9 is complete.

## **TESTING PROCEDURE**

Perform a complete functional test of the unit in accordance with the FLEXCOMM I Transceiver System Installation Manual.

## **MATERIAL INFORMATION**

The parts required to replace the PA module, per this Service Bulletin, are available from Wulfsberg Electronics Division, at (502) 708-1518. The part numbers are as follows:

<b><u>ITEM</u></b>	<b><u>QUANTITY</u></b>	<b><u>PART NUMBERS</u></b>	<b><u>DESCRIPTION</u></b>
1	1 each	300-015920-01	RT-406F PA assembly
2	1 each	N/A	24 AWG wire, 4.5 in. length
3	A/R	16012-3	Tac Pac Adhesive
4	A/R	16189-2	RTV Sealant Adhesive