

---

**TD-3 MICROWAVE RADIO**  
**J68386A AND J68386B TRANSMITTER-RECEIVER BAYS**  
**TRANSMITTER TESTS**  
**USING KRUSE 52011 IF/RF TEST SET**  
**IF RETURN LOSS MEASUREMENTS**

---

This appendix describes the procedures for measuring the return loss of the various IF units in the transmitter portion of the radio bay.

The preliminary checks in Section 411-402-500 must be completed before performing the tests in this appendix.

The recommended maintenance interval for these tests is given in the Equipment Test List.

*Caution: These tests are performed on an out-of-service basis. Obtain a release from the designated control office and remove the channel from service as directed by local practice.*

---

**CHART A**

**IF LIMITER**

---

**APPARATUS:**

1—Kruse 52011 IF/RF Test Set

---

**STEP**

**PROCEDURE**

---

- 1 Prepare for return loss test in accordance with Exhibit 1.
- 2 Remove the cable from the IF IN jack of the IF limiter and connect it to a 19A 20-dB pad. Remove the cables from the IF OUT and MON OUT jacks and terminate the jacks with 368A plugs.
- 3 Measure the return loss at the IF IN jack of the IF limiter.

*Requirement: 34 dB minimum between 60 and 80 MHz.*

If the requirement is not met, adjust the IN RL1 and IN RL2 controls for the best return loss. If the requirement still is not met, replace the IF limiter with a spare and repeat Steps 2 and 3.

**NOTICE**

Not for use or disclosure outside the  
Bell System except under written agreement

Printed in U.S.A.

---

CHART A (Contd)

---

| STEP | PROCEDURE   |
|------|---|
| 4    | Measure the return loss at the IF OUT jack with terminations on the IF IN and MON OUT jacks.<br><br><i>Requirement: 29 dB minimum between 60 and 80 MHz</i><br><br>If this requirement is not met, adjust the OUT RL1 and OUT RL2 controls for the best return loss. If the requirement still is not met, replace the IF limiter with a spare and repeat Steps 2 through 4. |
| 5    | Restore the normal connections to the IF IN, IF OUT, and MON OUT jacks on the IF limiter.   |

---

CHART B

IF CARRIER RESUPPLY

---

APPARATUS:

1—Kruse 52011 IF/RF Test Set

---

| STEP | PROCEDURE  |
|------|--|
| 1    | Remove the normal connection from the IF OUT jack and insert a 368A plug. Connect per Exhibit 1.   |
| 2    | Measure the return loss at the input of the cable connected to the carrier resupply IF IN jack. (Use the P49Q681 adapter.)<br><br><i>Requirement: 34 dB minimum between 60 and 80 MHz</i><br><br>If this requirement is not met, check the return loss at the IF IN jack. If the requirement is now met, replace the connecting cable with a new cable.<br><br>If the requirement still is not met, remove the IF carrier resupply from the bay and remove the cover on the side nearest the IF jacks. Connect the test set to measure the return loss at the end of the cable which is normally connected to the IF IN jack. Apply power to the IF carrier resupply. Adjust capacitor C42 for the best return loss when the cover is in place.<br><br>If the requirement still is not met, replace the carrier resupply with a spare unit and repeat Steps 1 and 2. |
| 3    | Measure the return loss at the IF OUT jack with the IF IN jack terminated.   |

---

CHART B (Contd)

---

STEP

PROCEDURE

---

*Requirement: 34 dB minimum between 60 and 80 MHz*

If this requirement is not met, replace the carrier resupply unit and repeat Steps 1 through 3.

- 4 Restore the normal connection between the IF IN jack on the carrier resupply and the IF OUT jack on the IF limiter.
- 

CHART C

IF DRIVER AMPLIFIER AND TRANSMITTER MODULATOR

---

APPARATUS

- 1—Kruse 52011 IF/RF Test Set
- 

STEP

PROCEDURE

---

- 1 Measure the return loss at the input to the cable normally connected to the IF driver amplifier IF IN jack. (Use the P49Q681 adapter.)

*Requirement: 34 dB minimum between 60 and 80 MHz*

If this requirement is not met, adjust RL1 and RL2 for the best return loss. If the requirement still is not met, check the return loss at the IF IN jack. If the requirement is now met, replace the connecting cable with a new one. If the requirement still is not met, replace the IF driver amplifier with a spare (see Section 411-406-503) and repeat Step 1.

- 2 Restore the normal connections between the IF IN jack on the IF driver amplifier and the IF OUT jack on the carrier resupply.
-

