TD-3 MICROWAVE RADIO
HOT STANDBY/SPACE DIVERSITY
OVERALL SWITCHING
TESTING AND REPLACEMENT OF
THE J68434B PILOT DETECTOR

This section describes the procedure for testing and replacing the J68434B pilot detector unit.

This issue will affect the Equipment Test List.

Caution 1: Testing and replacement of the J68434B pilot detector unit can be performed on an in-service basis. CARE MUST BE EXERCISED IN ORDER TO AVOID A SERVICE INTERRUPTION.

Caution 2: When performing these procedures, local and remote alarms will be activated. Notify the alarm center that these procedures are in progress, and request that the alarms be turned over to local control.

CHART **PAGE**

CHART 1

TESTING THE J68434B PILOT DETECTOR UNIT FOR SYSTEMS EQUIPPED WITH 300A SWITCHING

APPARATUS:

1—63A 10-dB Pad

1—Patch Cord, as required

Note 1: These tests require the momentary removal of the 8.7-MHz pilot from the radio channels. In addition, during the tests the pilot is operating at a reduced level. In order to avoid erroneous

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switching of the 300A receiving switch (at the receiving end of the route), the 300A is force-switched to channel A. Pilot fail alarms on the 300A receiving switch will occur. These alarms should be ignored.

Note 2: The transmitting wire-line entrance links and FM transmitters should have proper gains before proceeding. In addition, the 8.7-MHz pilot should have the proper level at the 300A transmitting switch panel. If in doubt, refer to the applicable sections and perform maintenance as required.

Note 3: These tests should not be performed if there is an alarm condition present. Check for alarm conditions by monitoring the status of the indicating lamps on the TRMTR portion of the J68434A switch control unit. All alarms shall be cleared before proceeding with these tests.

STEP	PROCEDURE
1	At the receiving end of the route, force-switch the 300A receiving switch to channel A.
2	At the transmitting main station, force-switch the RF switch to the REG position.
3	At the transmitting 300A switch panel, remove the 443A patch plug between the PIL OUT and HYB IN jacks.
4	Connect the 10-dB 63A pad between the PIL OUT and HYB IN jacks on the transmitting 300A switch. ***Note:*** The purpose of this step is to reduce the pilot level by 10 dB.
5	At the transmitting main station, observe the status of the REG and STBY PILOT FAIL indicating lamps on the J68434B pilot detector unit. Perform Step 6 for lamps that are lit. Perform Step 7 for lamps that are extinguished.
6	For each lamp that is lit, adjust the associated PILOT TRP control clockwise until the PILOT FAIL lamp extinguishes. Then slowly adjust the control counterclockwise until the lamp just illuminates. Proceed with Step 8. If the adjustment cannot be made, replace the unit as outlined in Chart 3.
7	For each lamp that is extinguished, adjust the associated PILOT TRP control counterclockwise until the PILOT FAIL lamp just illuminates. Proceed with Step 8. If the adjustment cannot be made, replace the unit as outlined in Chart 3.
8	On the transmitting 300A switch panel, remove the 10-dB pad installed in Step 4 and replace the 443A patch plug removed in Step 3.
9	At the transmitting main station, observe the status of the REG and STBY PILOT FAIL indicating lamps on the J68434B pilot detector unit.

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STEP	PROCEDURE
	Requirement: The lamps shall be extinguished. If the requirement is met, proceed with Step 10. If the requirement is not met, replace the unit as outlined in Chart 3.
10	At the transmitting main station, return the RF switch to the AUTO mode.
11	At the receiving end of the route, return the receiving 300A switch to the AUTO mode.
12	This completes the pilot detector tests. If no other tests are to be performed, notify the control office that the tests have been completed.

CHART 2

TESTING THE J68434B PILOT DETECTOR UNIT FOR SYSTEMS EQUIPPED WITH 401B SWITCHING

APPARATUS:

1—63A 5-dB Pad

1—Patch Cord, as required

Note 1: These tests require the momentary removal of the 8.8-MHz pilot from the radio channels. In addition, during the tests the pilot is operating at a reduced level. In order to avoid erroneous switching of the 401B receiving switch (at the receiving end of the route), the 401B is force-switched to channel A. Pilot fail alarms on the 401B receiving switch will occur. These alarms should be ignored.

Note 2: The transmitting wire-line entrance links and FM transmitters should have proper gains before proceeding. In addition, the 8.8-MHz pilot should have the proper level at the 401B transmitting switch panel. If in doubt, refer to the applicable sections and perform maintenance as required.

Note 3: These tests should not be performed if there is an alarm condition present. Check for alarm conditions by monitoring the status of the indicating lamps on the TRMTR portion of the J68434A switch control unit. All alarms shall be cleared before proceeding with these tests.

CHART 2 (Cont)

STEP	PROCEDURE
1	At the receiving end of the route, force-switch the 401B receiving switch to channel A.
2	At the transmitting main station, force-switch the RF switch to the REG position.
3	At the transmitting 401B switch panel, remove the 513A patch plug between the CP01 jack of the pilot oscillator and the transmitting CP01 jack.
4	Connect the 5-dB 63A pad between the pilot oscillator CP01 jack and the transmitting CP01 jack. ***Note:*** The purpose of this step is to reduce the pilot level by 5 dB.
5	At the transmitting main station, observe the status of the REG and STBY PILOT FAIL indicating lamps on the J68434B pilot detector unit. Perform Step 6 for lamps that are lit. Perform Step 7 for lamps that are extinguished.
6	For each lamp that is lit, adjust the associated PILOT TRP control clockwise until the PILOT FAIL lamp extinguishes. Then slowly adjust the control counterclockwise until the lamp just illuminates. Proceed with Step 8. If the adjustment cannot be made, replace the unit as outlined in Chart 3.
7	For each lamp that is extinguished, adjust the associated PILOT TRP control counterclockwise until the PILOT FAIL lamp just illuminates. Proceed with Step 8. If the adjustment cannot be made, replace the unit as outlined in Chart 3.
8	On the transmitting 401B switch panel, remove the 5-dB pad installed in Step 4 and replace the 513A patch plug removed in Step 3.
9	At the transmitting main station, observe the status of the REG and STBY PILOT FAIL indicating lamps on the J68434B pilot detector unit. ***Requirement:*** The lamps shall be extinguished. If the requirement is met, proceed with Step 10. If the requirement is not met, replace the unit as outlined in Chart 3.
10	At the transmitting main station, return the RF switch to the AUTO mode.
11	At the receiving end of the route, return the receiving 401B switch to the AUTO mode.
12	This completes the pilot detector tests. If no other tests are to be performed, notify the control office that the tests have been completed.

CHART 3

REPLACEMENT OF THE J68434B PILOT DETECTOR UNIT

APPARATUS:

1—187A Adapter

1—188A Adapter

Note: The operation of the RF switch may cause a momentary alarm at the switching system receiving switch (at the receiving end of the route). The alarm should be ignored if it occurs during this procedure. In order to avoid erroneous switching of the receiving switch, the switch is force-switched to channel A.

Caution: The removal and replacement of the J68434B pilot detector unit is done in service by maintaining service on the STBY radio transmitter. THESE PROCEDURES MUST BE PERFORMED IN SEQUENCE. FAILURE TO DO SO WILL RESULT IN A SERVICE INTERRUPTION.

STEP	PROCEDURE
1	At the receiving end of the route, force-switch the switching system receiving switch to channel A.
2	At the transmitting main station, force-switch the RF switch to the REG position.
3	On the rear of the J68434B pilot detector unit, remove the normal connections to the STBY IF IN and STBY IF OUT jacks.
4	Connect the cord removed from the STBY IF IN jack together with the cord removed from the STBY IF OUT jack using a 187A adapter plugged into a 188A adapter.
5	On the standby bay radio transmitter, verify the presence of RF output from the standby transmitter by observing the TRMTR OUT panel meter indication on the standby bay meter panel. ***Caution: Do not proceed unless the standby radio transmitter output is verified.***
6	Force-switch the RF switch to the STBY position.
7	The pilot detector unit may now be removed by disconnecting the cords at the REG IF IN and REG IF OUT jacks and the PWR connector on the rear of the unit.
8	Install the new unit, and reconnect the cords and connector removed in Step 7.

CHART 3 (Cont)

STEP	PROCEDURE
9	On the regular bay radio transmitter, verify the presence of RF output from the regular transmitter by observing the TRMTR OUT panel meter indication on the regular bay meter panel.
	Caution: Do not proceed unless the regular radio transmitter output is verified.
10	Force-switch the RF switch to the REG position.
11	On the rear of the new unit, install the cords removed in Step 3.
12	Repeat Step 5, and then proceed to Step 13.
13	This completes the installation of the new pilot detector unit. Perform the tests outlined in Chart 1 or Chart 2 of this section.