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**ANALOG MULTIPLEX TERMINAL EQUIPMENT  
COMMON EQUIPMENT  
SCANNER, TEST, AND ALARM CIRCUITS  
CHECK OF OPERATION OF 234A AMPLIFIER**

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The purpose of this test is to determine that the 234A amplifier used in LMX-1 and LMX-2 summary alarm circuits meets operational requirements. The 234A amplifier translates a pulse into a short circuit across an alarm relay, thereby causing the relay to release and register an alarm. The pulse can be supplied by the loss of pilot alarm circuit from a group or supergroup regulated receiving amplifier, by the end-of-range alarm circuit for a group bank shelf, or by a minor or major carrier alarm circuit.

This section is reissued to specify the correct alarm indications obtained with regulated group and supergroup amplifiers. Arrows are used to indicate significant changes. *Equipment Test Lists are not affected.*

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CHART	PAGE
1—LMX-1 Multiplex Terminal Summary Alarm Circuits . . . . .	1
2—LMX-2 Multiplex Terminal Summary Alarm Circuits . . . . .	3

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**CHART 1**

**LMX-1 MULTIPLEX TERMINAL SUMMARY ALARM CIRCUITS**

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This chart is a procedure for checking the operation of the 234A amplifier used in the LMX-1 multiplex terminal summary alarm circuits. The 234A amplifier is a plug-in unit located in regular alarm panel J68858AE or AL.

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STEP	PROCEDURE
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**Note:** If the requirements of this test cannot be met, remove and replace the PILOT & RANGE 234A amplifier.

**NOTICE**

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

## CHART 1 (Cont)

STEP	PROCEDURE
1	Observe the bay summary alarm lamp unit associated with the carrier alarm circuit under test.  <b>Requirements:</b> (a) The PILOT and RANGE summary alarm lamps are extinguished. (b) The visual and audible office alarms are retired.  <b>Note:</b> A 234A amplifier for carrier supply alarms and the associated summary alarm lamps are not required in LMX-1 terminals modified for supergroup regulation.
2	Proceed to Step 4 if the requirements of Step 1 are met. Otherwise, depress and release the RST pushbutton on the jack and control panel.  <b>Note:</b> If the FUSE alarm lamp is lighted, check the associated bay fuse panels for a blown fuse. When the blown fuse is replaced, the FUSE lamp will be extinguished and the office alarms will retire.
3	Repeat Step 1.
4	Depress and release the TST ALM pushbutton on the jack and control panel.  <b>Requirements:</b> (a) The PILOT and RANGE lamps are lighted (See <b>Note</b> in Step 1). (b) The office audible and visual alarms are functioning.
5	Depress and release the RST pushbutton on the jack and control panel.  <b>Requirements:</b> (a) The PILOT and RANGE lamps are extinguished. (b) The office audible and visual alarms are retired.
6	Set the SG rotary selector switch on the jack and control panel to the S position.
7	Depress the SELECT pushbutton.  <b>Caution:</b> <i>Before removing any patch plug, verify that the spare receiving supergroup bank is not in service.</i>
8	◆ Remove the patch plug between the SP SG BK IN jack and the jack for the connecting trunk to the spare transmitting supergroup bank.
9	Determine if the spare receiving supergroup bank contains a List 3 or List 4 supergroup regulated amplifier J68858AP2.  <b>Condition 1:</b>  <b>No</b> List 3 or List 4 supergroup regulated amplifier J68858AP2 in the spare receiving supergroup bank.

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**CHART 1 (Cont)**


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STEP	PROCEDURE
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**Requirements:** (a) The PILOT lamp lights.  
 (b) The office audible and visual alarms are activated.  
 (c) The RANGE lamp lights after approximately 15 seconds.

**Condition 2:**

One or more List 3 or List 4 supergroup regulated amplifiers in the spare receiving supergroup bank.

**Requirements:** (a) The PILOT lamp lights.  
 (b) The office audible and visual alarms are activated.♦

10 Restore the patch plug removed in Step 8.

11 ♦Depress and release the RST pushbutton on the jack and control panel.

**If Condition 1 in Step 9:**

**Requirements:** (a) The PILOT and RANGE lamps are extinguished.  
 (b) The office audible and visual alarms are retired.

**If Condition 2 in Step 9:**

**Requirements:** (a) The PILOT lamp is extinguished.  
 (b) The office audible and visual alarms are retired.♦

12 Depress the SCAN pushbutton.

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**CHART 2****LMX-2 MULTIPLEX TERMINAL SUMMARY ALARM CIRCUITS**

This chart is a procedure for checking the operation of the 234A amplifiers used in the LMX-2 multiplex terminal summary alarm circuits. The 234A amplifiers are plug-in units located in regulator alarm panel J68858AE or AL.

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STEP	PROCEDURE
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**Note:** If the requirements of this test cannot be met, remove and replace the corresponding PILOT & RANGE or CARRIER 234A amplifier.

## CHART 2 (Cont)

STEP	PROCEDURE
1	Observe the bay summary alarm lamp unit associated with the carrier alarm circuit under test.  <b>Requirements:</b> (a) The CARRIER, PILOT, and RANGE summary alarm lamps are extinguished. (b) The visual and audible office alarms are retired.
2	Proceed to Step 4 if the requirements of Step 1 are met. Otherwise, depress and release the RST pushbutton on the jack and control panel.  <b>Note:</b> If the FUSE alarm lamp is lighted, check the associated bay fuse panels for a blown fuse. When the blown fuse is replaced, the FUSE lamp will be extinguished and the office alarms will retire.
3	Repeat Step 1.
4	Depress and release the TST ALM pushbutton on the jack and control panel.  <b>Requirements:</b> (a) The PILOT lamp is lighted. (b) The office audible and visual alarms are functioning.
5	Depress and release the RST pushbutton on the jack and control panel.  <b>Requirements:</b> (a) The PILOT lamp is extinguished. (b) The office audible and visual alarms are retired.
6	Proceed to Step 7 if the jack and control panel is equipped with an EOR LMP TST pushbutton. Otherwise, proceed to Step 9.
7	Depress and hold the EOR LMP TST pushbutton.  <b>Requirement:</b> The associated EOR lamp is lighted.
8	Release the EOR LMP TST pushbutton.
9	Set the SG rotary selector switch on the jack and control panel to the S position.
10	Depress the SELECT pushbutton.  <b>Caution:</b> Before removing any patch plug or plug-in unit, verify that service will not be affected.
11	◆ Remove the patch plug between the SP GR BK IN jack and the jack for the connecting trunk to the spare transmitting group bank.

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**CHART 2 (Cont)**


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STEP	PROCEDURE
12	<p>Determine if the spare receiving group bank contains a List 4 or List 5 group regulated amplifier J68858AM2.</p> <p><b>Condition 1:</b></p> <p><i>No</i> List 4 or List 5 group regulated amplifier J68858AM2 in the spare receiving group bank.</p> <p><b>Requirements:</b> (a) The PILOT lamp lights.  (b) The office audible and visual alarms are activated.  (c) The RANGE lamp lights after approximately 15 seconds.</p> <p><b>Note:</b> If RANGE lamp does not light, verify that nominal gain of the group amplifier and end-of-range adjustment of 234B amplifier meet the requirements in Section 356-012-502.</p> <p><b>Condition 2:</b></p> <p>One or more List 4 or List 5 group regulated amplifiers J68858AM2 in the spare receiving group bank.</p> <p><b>Requirements:</b> (a) The PILOT lamp lights.  (b) The office audible and visual alarms are activated.</p>
13	Restore the patch plug removed in Step 11.
14	Depress and release the RST pushbutton.
	<b>If Condition 1 in Step 12:</b>
	<p><b>Requirements:</b> (a) The PILOT and RANGE lamps are extinguished.  (b) The office audible and visual alarms are retired.</p>
	<b>If Condition 2 in Step 12:</b>
	<p><b>Requirements:</b> (a) The PILOT lamp is extinguished.  (b) The office audible and visual alarms are retired.♦</p>
15	<p>Remove the 12 KC AMPL that is in the <i>standby</i> condition from the primary group carrier supply panel.</p> <p><b>Note:</b> The 12 KC AMPL in the standby condition is indicated by the lighted AMPL STBY lamp.</p> <p><b>Requirements:</b> (a) The CARRIER alarm lamp lights.  (b) The office audible and visual alarms are functioning.</p>

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CHART 2 (Cont)

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STEP	PROCEDURE
16	Restore the 12 KC AMPL to its position in the primary group carrier supply panel.
17	Depress and release the RST pushbutton.  <i>Requirements:</i> (a) The CARRIER alarm lamp is extinguished. (b) The office audible and visual alarms are deactivated.
18	Depress the SCAN pushbutton.

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