

L MULTIPLEX TERMINALS
LMX-2 (L60A/L120A)
RECEIVING CIRCUITS
GROUP DEMODULATOR
IN-SERVICE GAIN TESTS

This section provides the procedures for conducting in-service gain tests of the L60A/L120A terminal receiving group bank circuits. The purpose of this test is to measure and, if necessary, adjust the gain of each group demodulator circuit on an in-service basis using the pilot measuring equipment.

The L60A and L120A multiplex terminals require a gain of 23 dB in each group demodulator circuit. The group bank translates the 312- to 552-kHz band received from the supergroup equipment into five basic 60- to 108-kHz group bands. Amplification is provided by a B2 regulated amplifier, the output of which is maintained automatically at -5 dBm by the group pilot.

The pilot measuring equipment (alarm and test panel) used in this test is part of the L60A and L120A terminals and includes group and supergroup pilot and gain measuring circuits. In this test, the power level of the input signal to the receiving group bank is verified as being correct before any adjustments are made on the group demodulator. Then the transmission through the group demodulator is checked and, if necessary, adjusted.

This section is reissued to change the requirements of the group pilot and group gain meters and to expand procedural steps. Arrows are used to indicate significant changes. *Equipment Test Lists are not affected.*

APPARATUS:

J68867E Alarm and Test Panel (part of L60A/L120A Multiplex Terminal Bay)

In addition to the above, a suitable transmission measuring unit may be required. Refer to Section 356-010-500 and select, from available test equipment, a receiving unit having the following capabilities:

Receiving test equipment capable of detecting, from 75-ohm circuits, signals between 315 kHz and 520 kHz at a power level of -48 dBm.

P2BJ Cord

STEP	PROCEDURE
	<p>Note: In these tests it is assumed that the group pilot and group gain measuring circuits meet calibration requirements. Refer to Section 356-294-501 (group pilot) and Section 356-294-502 (group gain), if necessary.</p> <p>A. Input Test</p> <p>1 Position the alarm and test panel selector switch to the supergroup and group to be tested.</p> <p>2 Read the SUPERGROUP PILOT-DB meter.</p> <p>Requirement: $\pm 0 \pm 0.1$ dB.</p> <p>3 If the requirement of Step 2 is met, proceed to Step 4. If it is not met, perform tests as prescribed in Section 356-283-501.</p> <p>B. Gain Test</p> <p>4 Read the GROUP PILOT-DB meter.</p> <p>Requirement: $\pm 0 \pm 0.1$ dB.</p> <p>5 If the requirement of Step 4 is met, proceed to Step 7. If it is not met, slowly adjust the GR OUTPUT control on the associated group regulated amplifier for a reading as close to zero as possible, but in no case outside the ± 0.1 dB limit.</p> <p>Note: Allow approximately 15 seconds after each readjustment to permit the regulator to stabilize.</p> <p>6 If the requirement of Step 4 cannot be met, remove the group demodulator under test from service and make tests as prescribed in Section 356-284-502.</p> <p>7 Read the GROUP GAIN meter.</p> <p>Requirement: ± 2 dB HIGH GAIN to 2 dB LOW GAIN.</p> <p>8 If the requirement of Step 7 is met, proceed to Step 14. If it is not met, proceed as follows for the group demodulator under test.</p> <p>Group 1: Remove the associated group receiving bank from service and make tests as prescribed in Section 356-284-502.</p> <p>Groups 2 through 5: Verify that the input pilot level requirement for the group demodulator under test is met. Proceed to Step 9.</p> <p>9 Set up and calibrate the receiving test equipment for a 75-ohm terminated measurement of -48 dBm at the input pilot frequency listed in Table A for the group demodulator circuit under test.</p> <p>10 Make patch designated (1) in Fig. 1.</p>

STEP	PROCEDURE				
TABLE A					
FREQUENCY TRANSLATION (GROUP DEMODULATORS)					
INPUT PILOT FREQUENCY (KHZ) FOR GROUPS 1 THROUGH 5					
1	2	3	4	5	OUTPUT PILOT FREQUENCY (KHZ)
315.92	363.92	411.92	459.92	507.92	104.08
328	376	424	472	520	92
11	Measure the group demodulator input pilot frequency at the SG DEM OUT B jack.				
Requirement: -48 dBm \pm 0.1 dB.					
12	If the requirement of Step 11 is met, remove the associated group receiving bank from service and make tests as prescribed in Section 356-284-502. If it is not met, localize and correct the pilot level irregularity. Repeat Step 7.				
13	Remove patch designated (1) in Fig. 1.				
14	Repeat Steps 4 through 13, as required, for each group demodulator circuit to be tested.				

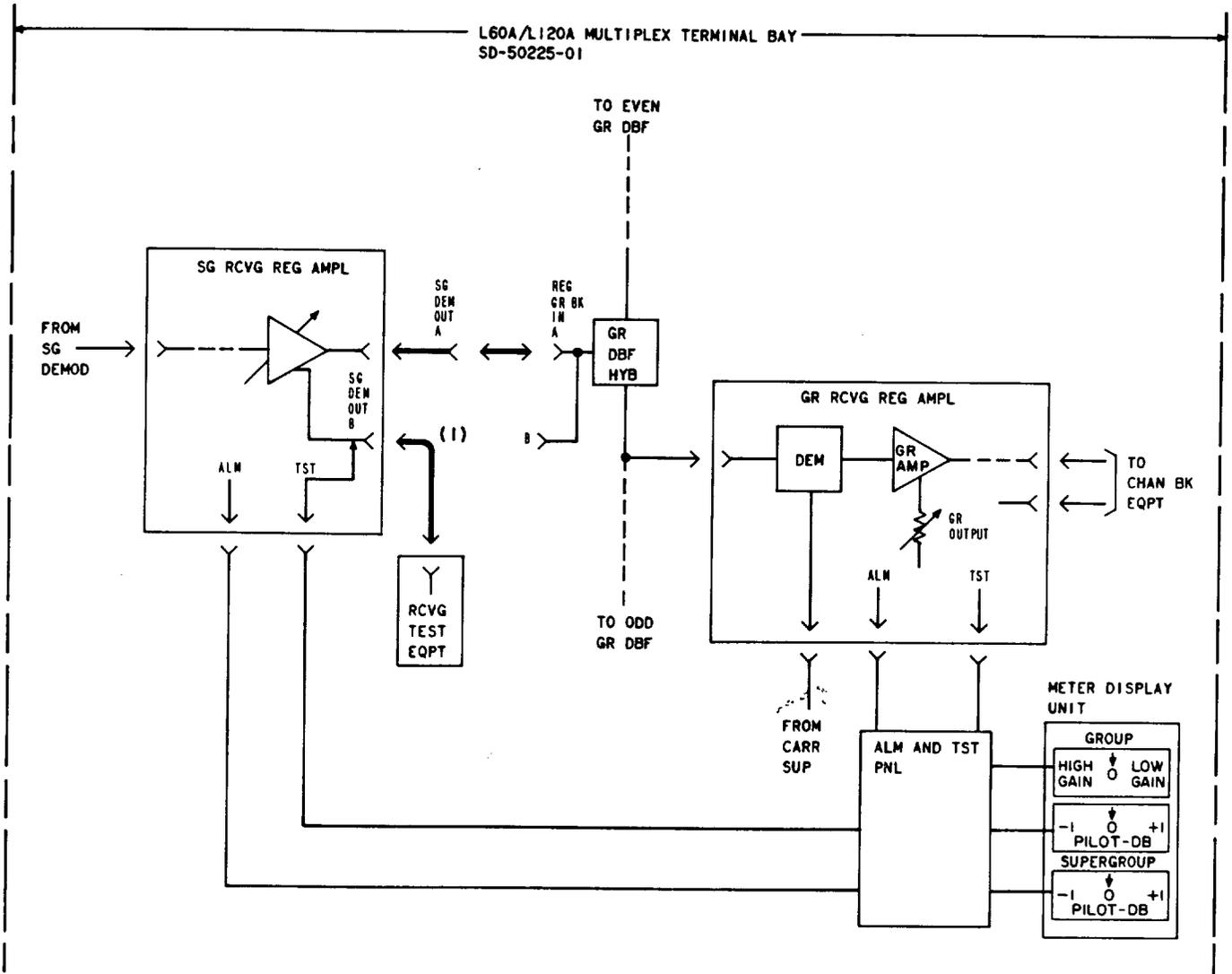


Fig. 1—L60A/L120A Multiplex Terminal Receiving Circuits—Group Demodulator In-Service Gain Adjustment