

## L60A/L120A LMX-2 CARRIER TERMINAL TRANSMITTING CIRCUITS GROUP MODULATOR OUT-OF-SERVICE GAIN ADJUSTMENT

The purpose of this test is to measure and adjust the gain of each group circuit in a group bank at the pilot frequency and to check the frequency characteristic of each group circuit.

This section is reissued to delete reference to the direct method of measurement. *Equipment Test Lists are not affected.*

The design of the L60A and L120A terminals requires a net gain of 17.0 dB in each group modulator. The group bank accepts five channel bank outputs, each of which contains a 60- to 108-kHz band of frequencies. The inputs to the group bank are individually amplified by an adjustable group amplifier and are translated into five adjacent bands in the 312- to 522-kHz band. This band is amplified by the transmitting intermediate fixed-gain amplifier to a transmission level of -25 dB at the GR BK OUT jack. This level is required at the input of the supergroup modulator. The group transmitting amplifier, which has a nominal gain of 8.2 dB, is adjustable over a 4-dB range. The ADJ potentiometer on each group transmitting amplifier may be adjusted to provide the correct overall gain for the modulator and to compensate for equipment variations. The group bank must be removed from service before this test can be performed.

**Caution:** *This procedure is furnished only for installation and, after service is established, only where the need for trouble locating is serious enough for the subscriber to relinquish service on the system during the trouble-locating period.*

### APPARATUS

**Transmission test equipment:** Refer to Section 356-010-500 and select, from available equipment, sending and receiving units having the following capabilities:

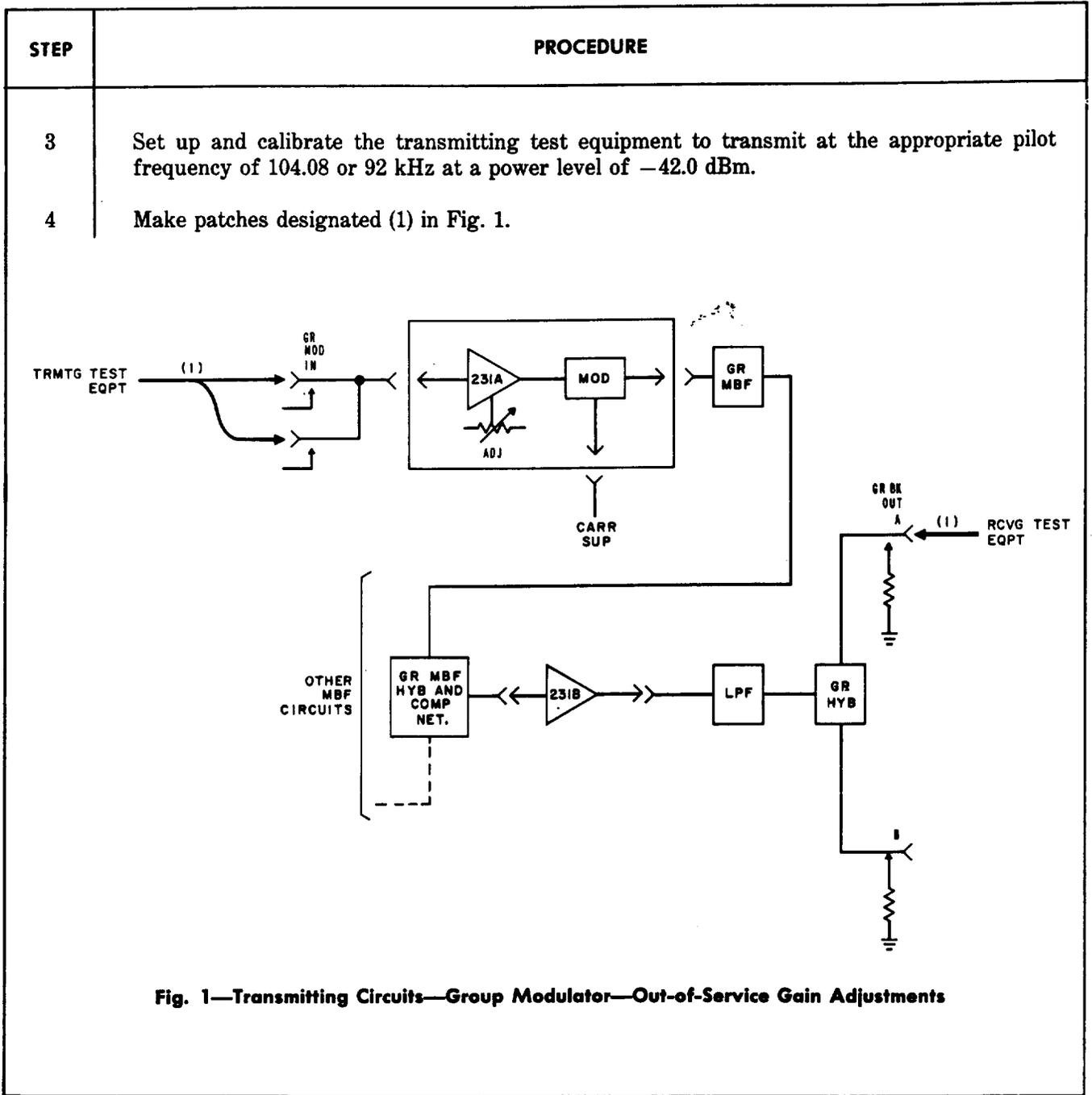
**Sending test equipment (STE)** capable of delivering, into 135-ohm circuits, signals between 63 and 520 kHz at a power of -42 dBm.

**Receiving test equipment (RTE)** capable of detecting, from 75-ohm circuits, signals between 63 and 520 kHz at -25 dBm.

STEP	PROCEDURE
1	Check that the equipment to be tested is out of service.
2	Set up and calibrate the RTE for a measurement of -25 dBm at the appropriate frequency listed for the group and pilot under test.

**SECTION 356-281-503**

GR NO.	1	2	3	4	5
Translated 104.08-kHz Frequency	315.92	363.92	411.92	459.92	507.92
Translated 92-kHz Frequency	328.00	376.00	424.00	472.00	520.00



**Fig. 1—Transmitting Circuits—Group Modulator—Out-of-Service Gain Adjustments**

STEP	PROCEDURE					
5	Measure the output power at the GR BK OUT A jack for the group under test.  <b>Requirement:</b> $-25.0 \text{ dBm} \pm 0.05 \text{ dB}$					
6	If the requirement of Step 5 is not met, adjust the ADJ control in the appropriate group transmitting amplifier to meet the requirement.					
7	Set up and calibrate the transmitting test equipment for a frequency of 95 kHz at a power level of $-42.0 \text{ dBm}$ .					
8	Set up and calibrate the RTE for a measurement at the appropriate frequency listed for the group under test.					
INPUT FREQUENCY (KHZ)		OUTPUT FREQUENCY (KHZ)				
		GR 1	GR 2	GR 3	GR 4	GR 5
95		325	373	421	469	517
9	Measure and record the output power at the GR BK OUT A jack for the group under test.					
10	Set up test equipment and perform measurements as in Steps 7 and 8 for the following frequencies.					
INPUT FREQUENCY (KHZ)		OUTPUT FREQUENCY (KHZ)				
		GR 1	GR 2	GR 3	GR 4	GR 5
63		357	405	453	501	549
107		313	361	409	457	505
11	<b>Requirement:</b> The output of each group shall be within $+0.2 \text{ dB}$ to $-1.0 \text{ dB}$ of that recorded in Step 9.					
	Remove all patches and restore service to normal.					