

L MULTIPLEX TERMINALS
LMX-1
RECEIVING CIRCUITS
AUXILIARY AMPLIFIER
GAIN TEST

PURPOSE OF TEST

To determine that the amplifier meets its gain requirements.

REASON FOR ISSUE

To reorganize and update the 356 division. The information in this section supersedes similar information in Section 356-126-504. *Equipment Test Lists are affected.*

SYNOPSIS (Figures 1 and 2)

The auxiliary amplifier raises the level of the 60- to 108-kHz group band, received from the group demodulator, to the -5 dBm power level required at the input of either a channel bank or group connector.

The amplifier is nonregulated and provides a nominal gain of 37 dB in two stages. The gain is adjustable, by means of the GAIN control, with a range of approximately 33 dB to 44 dB, thereby providing compensation for equipment variation.

The hybrid output transformer has two outputs. One output is connected to the GR DEM OUT jacks where connection is made either to a channel bank or group connector. The second output is connected to the scanner circuit, either directly or through the hybrid of a branching and bridging circuit.

METHOD OF TESTING

The lead on terminal 2 of the input transformer is removed and a test signal inserted across terminals 1 and 2. The test signal is monitored at the GR DEM OUT jack with the GAIN control positioned first for maximum gain and then for minimum gain.

APPARATUS

Sending Test Equipment (Section 356-010-500)

Output:

(a) Frequency range: 95 kHz

APPARATUS (Cont):

(b) Power: -60 dBm

(c) Impedance: 135 ohms

Receiving Test Equipment (Section 356-010-500)

Input:

(a) Frequency range: 95 kHz

(b) Power: 0 dBm

(c) Impedance: 75 ohms

3P20B Cord

2W24A Cord

STEP	PROCEDURE
	<p>Note: Perform this test only when the requirements of Section 356-120-502 cannot be met.</p> <p>1 Verify that the equipment to be tested is out-of-service.</p> <p>2 Prepare the receiving test equipment (RTE) to measure 95 kHz at 0 dBm.</p> <p>3 Prepare the sending test equipment (STE) to deliver 95 kHz at -60 dBm.</p> <p>4 Remove the equipment cover.</p> <p>5 Disconnect, by unsoldering, the wire from terminal 2 of the input (IN) transformer.</p> <p>6 Connect the STE to terminals 1 and 2 of the (IN) transformer [patch (1), Fig. 2].</p> <p>7 Set the GAIN control to its maximum clockwise position.</p> <p>8 Connect the RTE to the GR DEM OUT jack of the circuit being tested [patch (2), Fig. 2].</p> <p>9 Increase the power of the input test signal until 0 dBm is measured on the RTE.</p> <p>10 Measure and record the gain of the amplifier.</p> <p>Requirement: At least 43.5 dB of gain</p> <p>Example: 43.5 dB in attenuator = 43.5 dB amplifier gain.</p> <p>11 Set the GAIN control to its maximum counterclockwise position.</p>

STEP	PROCEDURE
12	Measure the gain of the amplifier. Requirement: At least 11 dB less than the value in Step 10
13	Disconnect all test equipment [patches (1) and (2), Fig. 2].
14	Connect, by soldering, the wire (removed in Step 4) to terminal 2 of the (IN) transformer.
15	Replace the equipment cover.
16	Perform out-of-service tests in Section 356-120-503.

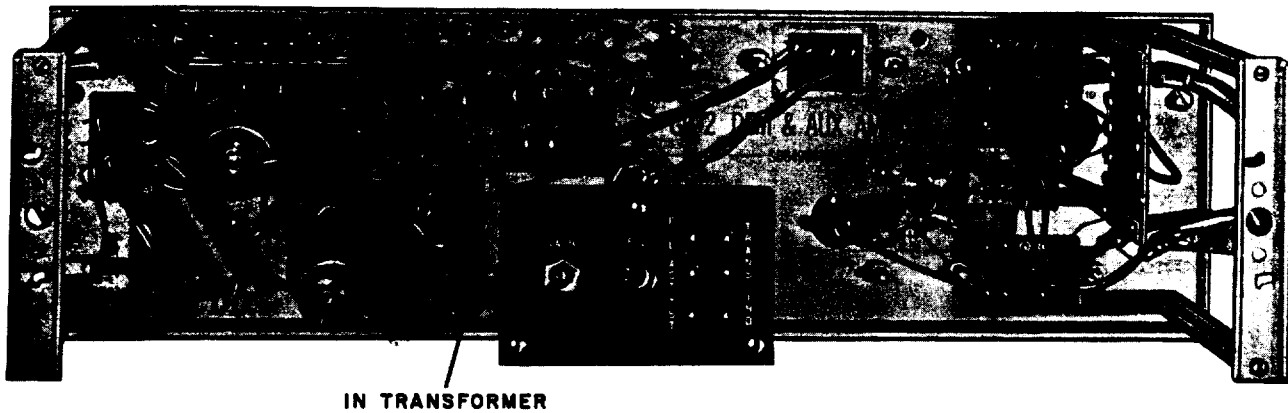


Fig. 1—Group Demodulation and Auxiliary Amplifier—Cover Removed

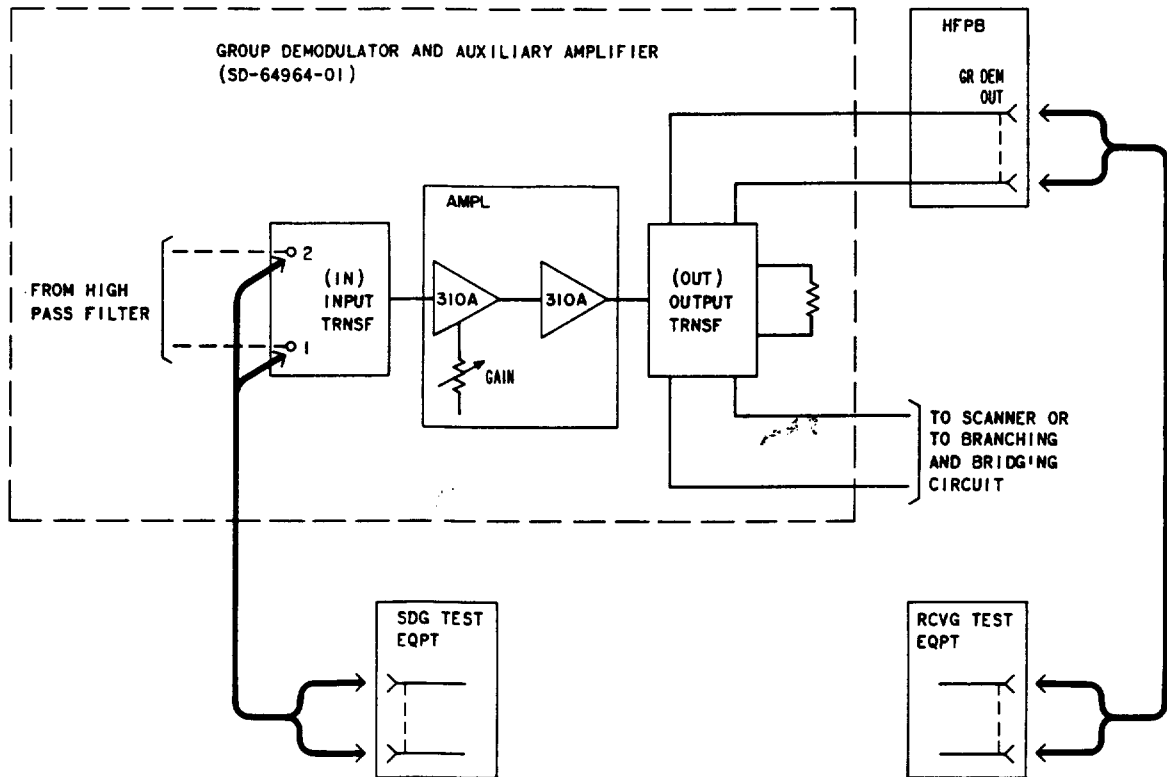


Fig. 2—Test Connections—Auxiliary Amplifier Gain Test