# L MULTIPLEX TERMINALS

# LMX-1

# TERMINAL CIRCUITS

# TESTS

# TERMINAL COMPENSATING NETWORKS

The purpose of this test is to adjust the supergroup compensating network.

This section supersedes Section 356-127-501. *Equipment Test Lists are affected.*

Supergroup compensating networks are provided to adjust the terminal impedance at frequencies used for L1 carrier line pilots. For carrier terminals arranged for 8-supergroup operation, three adjustments are provided. These adjustments are located at frequencies of 64, 2064, and 3096 kHz. When a terminal is arranged for 10-supergroup operation, an additional adjustment is provided at 556 kHz.

## APPARATUS

*Transmission Test Equipment* having the following capabilities (Section 356-010-500):

*Sending Test Equipment*

Output:

      (a) Frequency range: 64 to 3096 kHz

      (b) Power: −10 dBm

      (c) Impedance: 75 ohms

*Receiving Test Equipment*

Input:

      (a) Frequency range: 64 to 3096 kHz

      (b) Power: −50 dBm to −30 dBm

      (c) Impedance: 75 ohms

*P2BJ Cords*

*75-ohm resistor,* such as type 106A

*P-265974 tool*

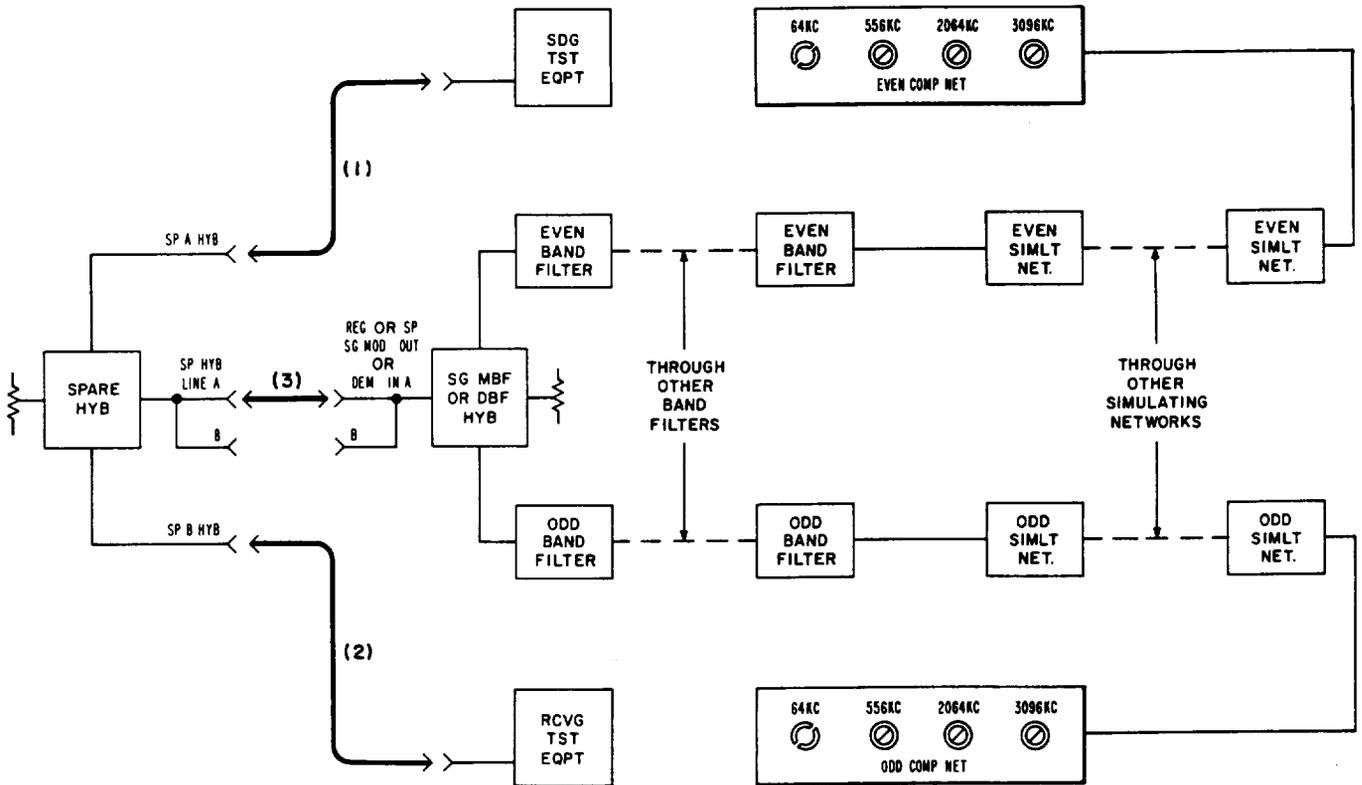| STEP | PROCEDURE |
|------|-----------|
| | *Note:* If supergroup 2 is the only supergroup equipped, the tests in this section are not required. |
| 1 | Check that the spare hybrid coil meets the balance requirements of Section 356-018-505. |
| 2 | If no odd supergroups are equipped with supergroup compensating networks, check that a 75-ohm resistor is connected across terminals 7 and 8 of the SG MBF HYB coil. If odd supergroups are equipped with supergroup compensating networks, disconnect the wire from terminal 8 of the SG MBF HYB coil and connect a 75-ohm 106A resistor, or equivalent, across terminals 7 and 8. |
| 3 | Calibrate the receiving test equipment for a 75-ohm terminated measurement of 64 kHz at −34 dBm. |
| 4 | Calibrate the sending test equipment for an output of 64 kHz at −10 dBm. |
| 5 | Connect the test equipment according to patches (1) and (2) in Fig. 1. Connect patch (3) from the SP HYB LINE jack to the REG SG MOD OUT jack. |



**Fig. 1—Measurement and Adjustment of Terminal Compensating Networks—Test Setup**

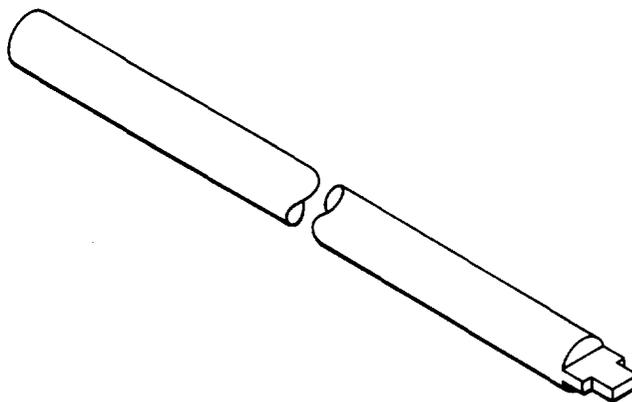| STEP | PROCEDURE |
|---|---|
| 6 | Measure and record the output power.<br><br>**Requirement:** See Table A.<br><br><div align="center">**TABLE A**</div><br>| TEST FREQUENCY (KHZ) | OUTPUT POWER REQUIREMENTS | |<br>| | 8-SUPERGROUP OFFICE | 10-SUPERGROUP OFFICE |<br>| 64 | Less than −34 dBm* | Less than −44 dBm |<br>| 556 | Not required | Less than −30 dBm |<br>| 2064 | Less than −34 dBm | Less than −37 dBm |<br>| 3096 | Less than −34 dBm | Less than −36 dBm |<br><br>* Example: −35 dBm is less than −34 dBm. |
| 7 | If the requirement of Step 6 is not met, adjust the 64 KC screw in the side of the regular EVEN COMP NET. to obtain maximum loss. Verify that the strapping of the compensating network is in accordance with the circuit drawing.<br><br>**Note:** The screw adjustment designated 64 KC must be adjusted with a P-265974 tool (Fig. 2). |



**Fig. 2—P-265974 Tool**

| STEP | PROCEDURE |
|------|-----------|
| 8 | Repeat Steps 3 through 5 for frequencies of 556, 2064, and 3096 kHz. |
| 9 | Measure and record the output power at each frequency.<br><br>***Requirement:*** See Table A. |
| 10 | If the requirement of Step 9 is not met, adjust the corresponding screw in the side of the regular EVEN COMP NET. to obtain maximum loss. Verify that the strapping of the compensating network is in accordance with the circuit drawing. |
| 11 | Restore the wiring on the SG MBF HYB coil removed in Step 2. Measure and record the output power at the four frequencies.<br><br>***Requirement:*** See Table A. |
| 12 | If the requirements of Step 11 are not met, adjust the corresponding screw in the side of the regular ODD COMP NET. to obtain maximum loss.<br><br>***Caution: Do not readjust the EVEN COMP NET. during or after adjustment of the ODD COMP NET.*** |
| 13 | Repeat Steps 2 through 8 on the spare supergroup transmitting compensating networks by connecting patch (3) from the SP HYB LINE jack to the SP SG MOD OUT jack. |
| 14 | Repeat Steps 2 through 8 on the regular supergroup receiving compensating networks by connecting patch (3) from the SP HYB LINE jack to the REG SG DEM IN jack. |
| 15 | Repeat Steps 2 through 8 on the spare supergroup receiving compensating networks by connecting patch (3) from the SP HYB LINE jack to the SP SG DEM IN jack. |
| 16 | Remove all patches and restore service to normal. |