

---

**L MULTIPLEX TERMINALS**  
**LMX-2**  
**SUPERGROUP CARRIER SUPPLY**  
**MODULATOR TRANSISTOR PERFORMANCE TEST**

---

In the L1860A multiplex terminals, the carrier frequencies (Fig. 1) for supergroups D25 through D28 are derived from the 1040-kHz output of the 80-kHz harmonic generator and the carrier frequencies of supergroups 15, 16, 17, and 18, respectively. In the D25, D26, and D28 modulators, two transistors in a balanced switching arrangement mix signals. The D27 modulator is different in that mixing is accomplished by a balanced diode modulator feeding a one-transistor amplifier. The output of each modulator is fed to individual distribution modules, selected by one half section of a supergroup carrier supply filter, amplified, refiltered by the second half section of the carrier filter, and reamplified by the power amplifier for connection to the supergroup distribution buses. A lamp associated with each distribution module provides an output failure indication *when lighted*.

The working conditions of the transistors in the supergroup carrier supply modulators are determined on an in-service basis by checking the emitter current. The voltage drop across a resistor in the emitter circuit is measured.

This section is reissued to change the volt-ohm-milliammeter negative (-) lead connection to reduce the possibility of a service interruption during test. Arrows are used to indicate significant changes. *Equipment Test Lists are not affected.*

---

**APPARATUS:**

*Volt-Ohm-Milliammeter (VOM) KS-14510* or suitable *dc voltmeter* with a sensitivity of at least 20,000 ohms per volt.

---

**STEP**

**PROCEDURE**

- 
- | <b>STEP</b> | <b>PROCEDURE</b>  |
|-------------|---|
| 1           | Remove the front-panel cable duct coverplate adjacent to the left side of supergroup carrier supply unit J68857C to expose terminal board TB40. |
| 2           | Set the VOM selector switch to the 3 DC VOLTS position.   |
| 3           | Make patch (1) in Fig. 2 on the supergroup carrier supply distribution module associated with the carrier supply modulator to be tested.        |
- 

**NOTICE**

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

STEP	PROCEDURE
	<b>Note:</b> Connect test lead to the VOM first and then connect test lead to the appropriate COM 2 test point.
4	Refer to Table A and determine the proper terminal for the carrier supply modulator to be tested.
	<b>Caution:</b> <i>Shorting of the terminal board lugs in the following step will cause a service interruption.</i>
5	Make patch (2) in Fig. 2 at terminal board TB40.♦
	<b>Note:</b> Observe meter polarity when connecting the VOM test leads.
6	Measure the dc voltage of the carrier supply modulator under test.
	<b>Requirement:</b> Between +0.5 and +2.0 Vdc
7	Proceed to Step 10 if the requirement is met. Otherwise, perform the following steps, as necessary, to meet the requirement.
8	Make tests on associated supergroups 15, 16, 17, and 18 as prescribed in Section 356-270-503.
9	Perform trouble location procedures in accordance with Section 356-270-505.
10	Remove patches (1) and (2) in Fig. 2.
11	Repeat Steps 3 through 10 for each carrier supply modulator to be tested.
12	Replace the front-panel cable duct coverplate removed in Step 1.

♦ TABLE A ♦

VOM TEST LEAD CONNECTION	
SUPERGROUP CARRIER SUPPLY MODULATOR	TB40 TERMINAL POSITIVE (+)
D25	11
D26	10
D27	9
D28	8

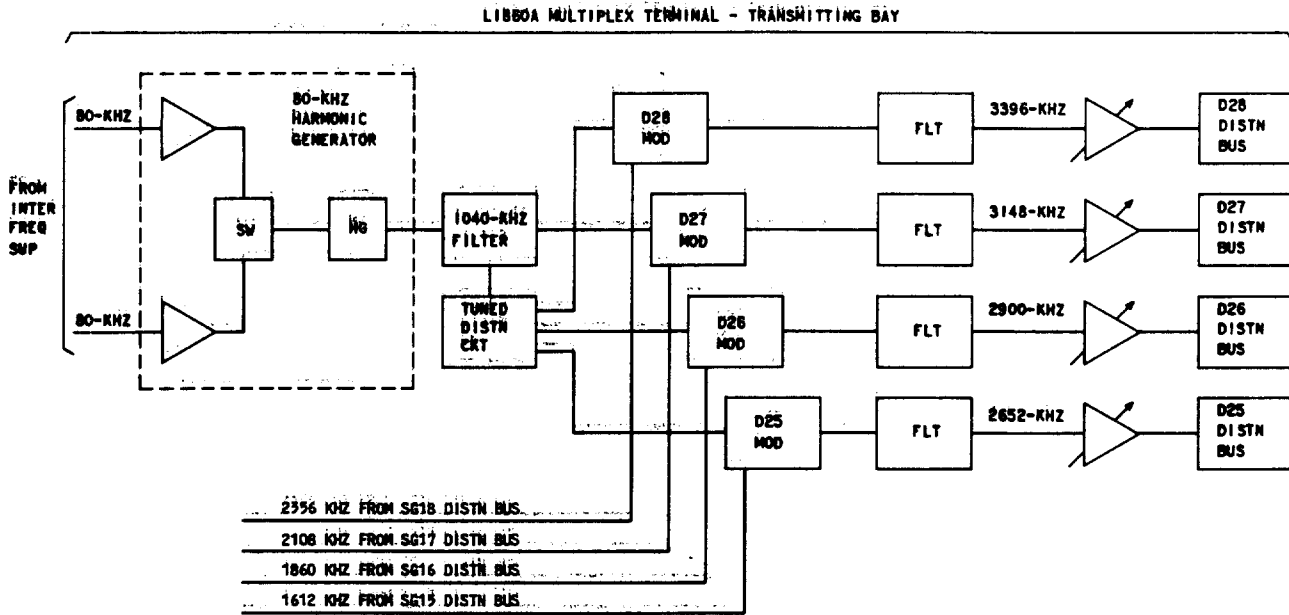


Fig. 1—Supergroup Carrier Supply J68857C

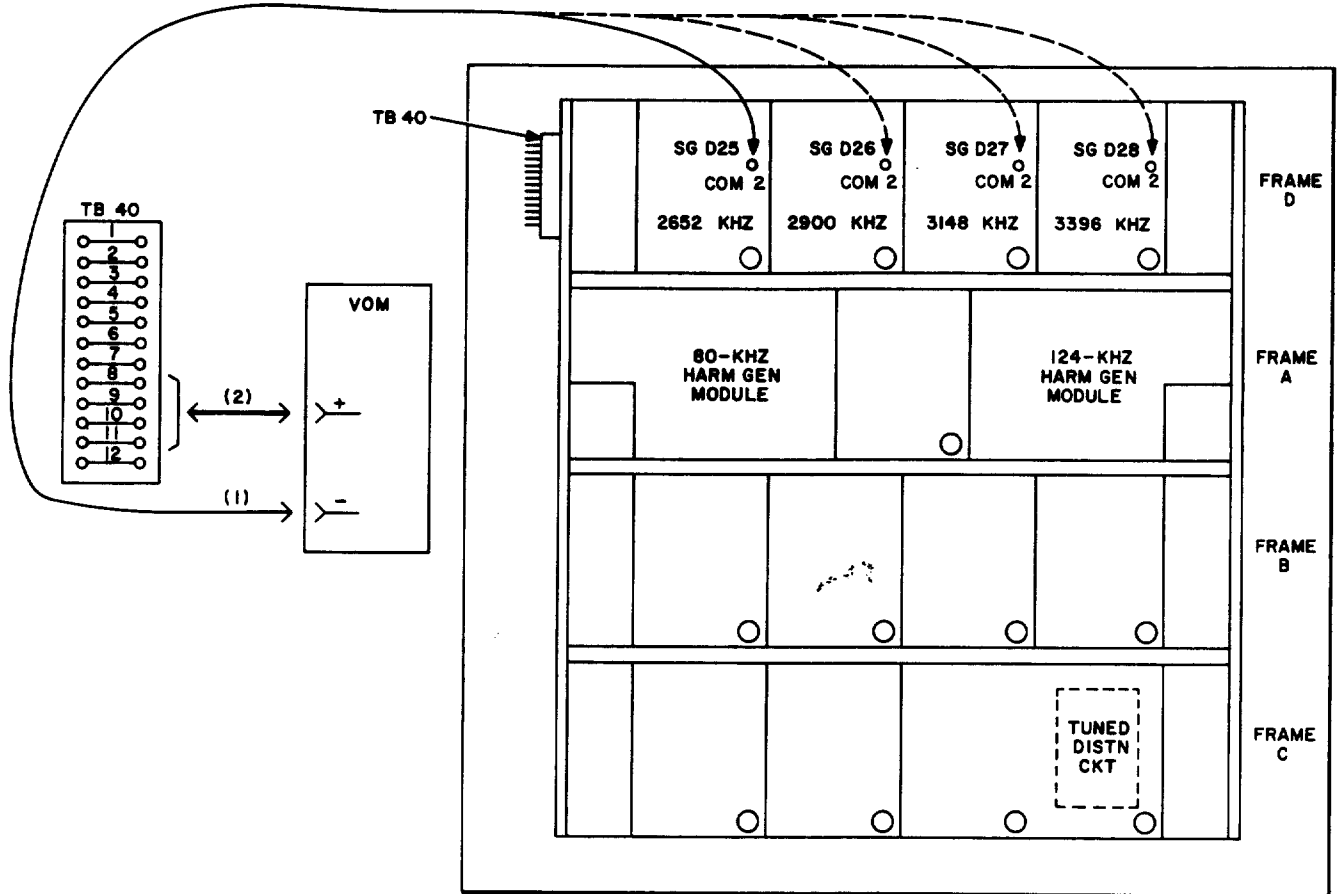


Fig. 2—Measurements at Supergroup Carrier Supply J68857C4