

**K AND L MULTIPLEX TERMINALS
COMMON EQUIPMENT
A1, A2, A3, A4, AND A5 CHANNEL BANKS
IN-SERVICE 104-KHZ CARRIER LEAK TEST**

The A-type channel bank (Fig. 1) is a frequency-division multiplex terminal that translates 12 voice-frequency (VF) channels to the 60- to 108-kHz group band in its transmitting section and translates the 60- to 108-kHz group band to 12 VF channels in its receiving section.

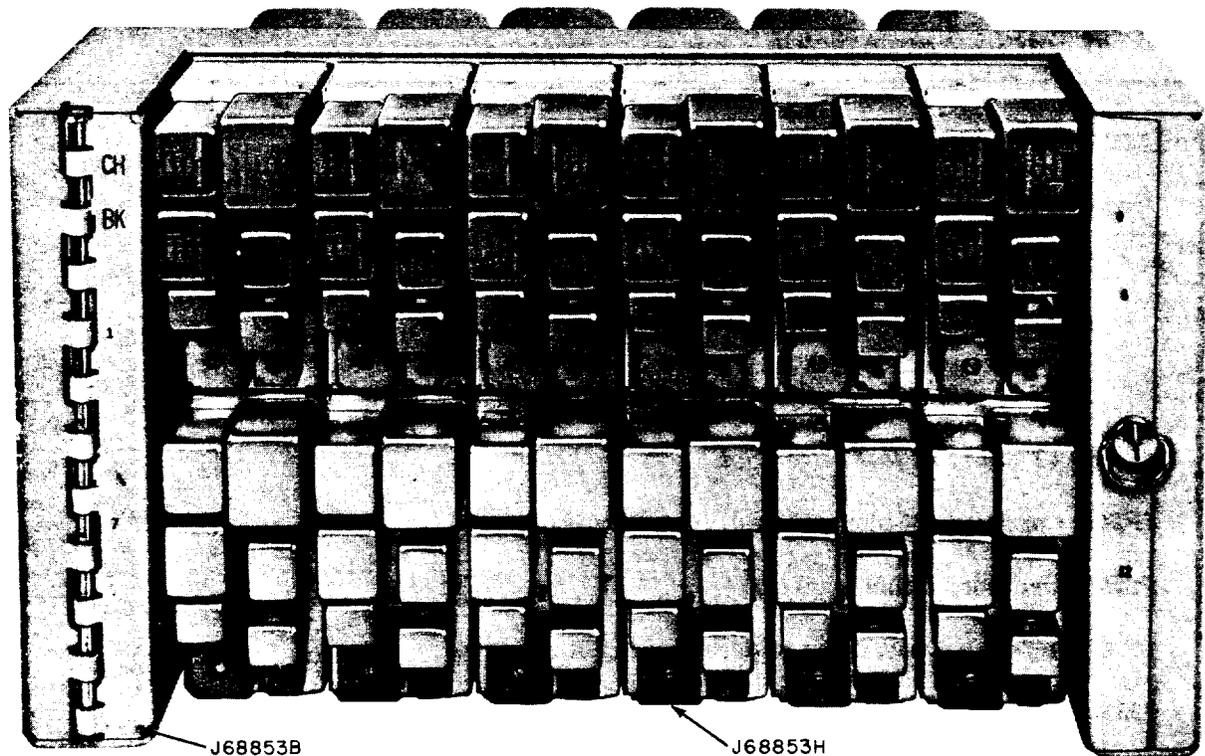


Fig. 1—J68853B 12-Channel A5 Bank Equipped With J68853H Modems—Front View

For proper operation, leakage of the channel-2 carrier signal (via the channel-2 modulator) must be kept at a low value to avoid interference (in the group band) between the channel-2 carrier (104.00 kHz) and the 104.08-kHz pilot, and thus prevent errors in group and supergroup pilot regulation.

SECTION 356-015-503

This section provides procedures for performing in-service tests to insure that the carrier leak is below the maximum acceptable level.

Prior to making the tests and adjustments in this section, ensure that

- (a) The channel bank under test is in-service and operating properly.
- (b) All test equipment has been calibrated.

Note 1: If desired, the steps in the procedure in this section can be bypassed by referring to Fig. 2.

Note 2: Equipment specifications given in the apparatus list indicate only the *minimum* requirements for the test.

Note 3: The CH BK OUT ALT jack referred to in this test is located in the high-frequency (HF) patch bay.

This section is issued to update the test and to renumber the section from 356-015-520 to 356-015-503. **Equipment Test Lists are affected.**

APPARATUS

Receiving Test Equipment (RTE) (Section 356-010-500):

Frequency: 104.00 and 104.08 kHz

Power: -72 to -85 dBm

Impedance: 75 ohms unbalanced

J68858AT (58AT) Pilot Filter Set

3P20B Cord (for 135-ohm patches)

P2BJ Cord (for 75-ohm patches)

258C Plugs (dummy), if the requirement is not met

323A Plug (135-ohm termination), if the 31-type TMS is used

STEP	PROCEDURE
1	Adjust the RTE as follows: Impedance: 75 ohms unbalanced Frequency: 104.08 kHz Power: -72.0 dBm

STEP	PROCEDURE
2	Connect the RTE to the 104.08-kHz pilot MEAS jack on the 58AT pilot filter set [patch (1), Fig. 2].
3	Connect the 104.08 KC PIL IN jack (58AT pilot filter set) to the CH BK OUT ALT jack [patch (2), Fig. 2].
	Caution: Connect to the CH BK OUT ALT jack last to prevent possible hits on data and carrier telegraph circuits.
4	Carefully adjust the RTE frequency control for a maximum indication of the 104.08-kHz pilot.

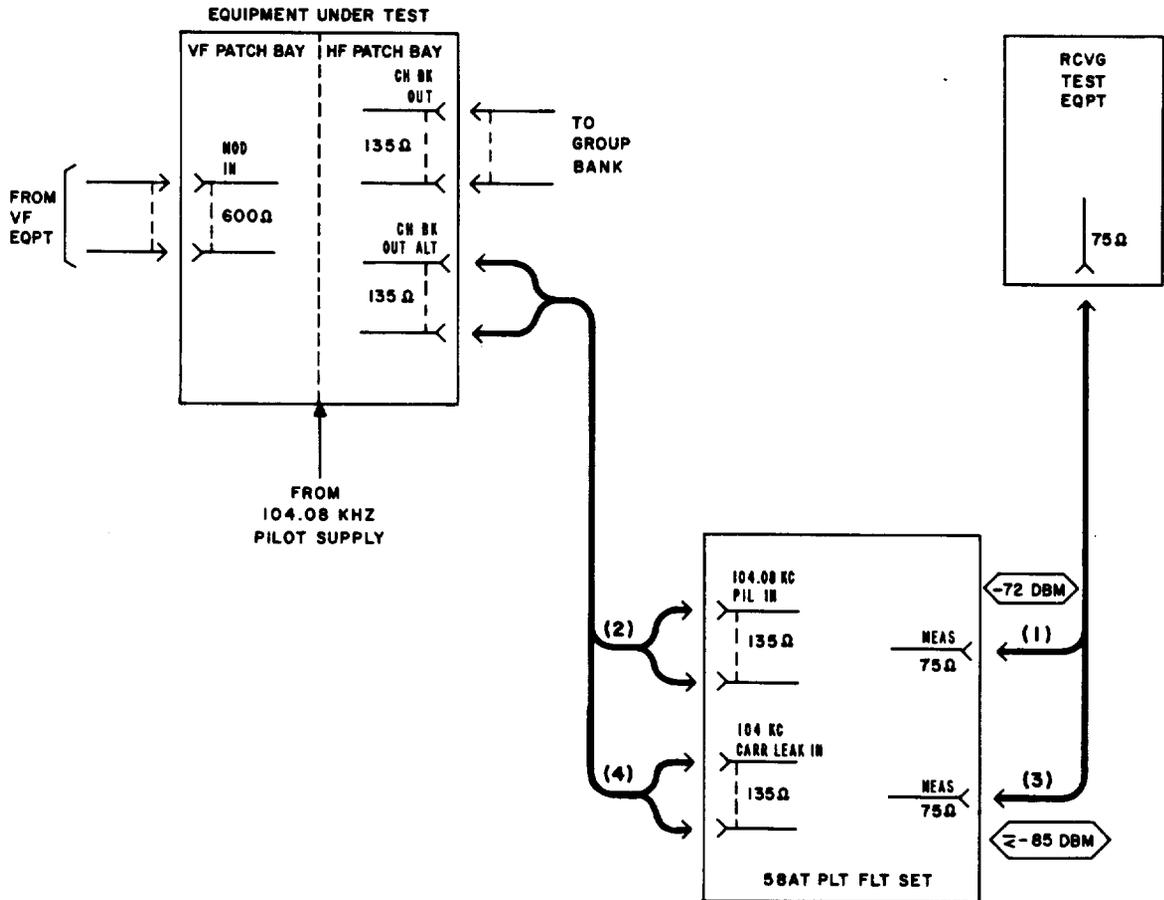


Fig. 2—Patching Diagram—104-kHz Carrier Leak Test

STEP	PROCEDURE
	<p>Note: This adjustment locates the 104.08-kHz pilot to prevent mistaking it for the channel-2 carrier in Step 8.</p>
5	<p>Remove patches (2) and (1), Fig. 2.</p>
	<p>Caution: Remove patch (2) from the CH BK OUT ALT jack first to prevent possible hits on data and carrier telegraph circuits.</p>
6	<p>Connect the RTE to the 104.00-kHz carrier leak MEAS jack on the 58AT pilot filter set [patch (3), Fig. 2].</p>
7	<p>Connect the 104 KC CARR LEAK IN jack (58AT pilot filter set) to the CH BK OUT ALT jack [patch (4), Fig. 2].</p>
	<p>Caution: Connect to the CH BK OUT ALT jack last to prevent possible hits on data and carrier telegraph circuits.</p>
8	<p>Carefully adjust the RTE frequency control for a maximum indication of the channel-2 carrier (104.00 kHz at approximately -85 dBm).</p>
9	<p>Measure the 104.00-kHz signal power.</p>
	<p>Requirement: -85 dBm or less (-86 dBm is less)</p>
	<p>Note 1: This requirement includes a 10-dB insertion loss in the 58AT pilot filter set.</p>
	<p>Note 2: If the RTE indication is fluctuating due to voice-frequencies on the channel, observe the RTE meter until a reasonably steady indication is obtained.</p>
10	<p>If the requirement of Step 9 is not met, proceed as follows:</p> <ol style="list-style-type: none"> (a) Remove channels 1 and 2 from service. (b) Insert 258C dummy plugs in the MOD IN jacks for channels 1 and 2. (c) Repeat Step 9. (d) If the requirement of Step 9 cannot be met, <ol style="list-style-type: none"> (1) Replace the channel-2 modulator varistor in an A1, A2, A3, or A4 channel bank. (2) Replace the channel-2 plug-in modem in an A5 channel bank. <p>Note: If the channel-2 modem meets the -69 dBm carrier leak requirement specified in Section 356-015-501, it can be exchanged for the modem in any other channel meeting the -75 dBm carrier leak requirement for channel 2 (-85 dBm via the 58AT pilot filter set).</p> <ol style="list-style-type: none"> (3) Repeat Step 9. (4) Remove the plugs inserted in Step 10(b). (5) Return channels 1 and 2 to service.

STEP	PROCEDURE
11	Remove patches (4) and (3), Fig. 2. <i>Caution: Remove patch (4) from the CH BK OUT ALT jack first to prevent possible hits on data and carrier telegraph circuits.</i>
12	Repeat Steps 1 through 11 for all other channel banks to be tested.