L MULTIPLEX TERMINALS

LMX-1

CARRIER AND PILOT SUPPLY

308-KHZ FREQUENCY COMPARATOR CIRCUIT

BEAT FREQUENCY TEST

At a controlled supply, the frequency comparator [308-KHZ FREQ COMP ( )] circuit compares a locally generated 308-kHz signal with the 308-kHz synchronizing signal received over the L3 line.

The rectified output current of the 308-KHZ FREQ COMP ( ) circuit is derived from the difference in frequency between the two input signals. This output current operates a motor-driven capacitor in the 128-kHz oscillator of the 4-kHz primary frequency supply (PFS-1) circuit associated with the 308-KHZ FREQ COMP ( ) circuit and compensates for the difference in frequency between the two signals.

This section contains part of the information previously contained in Section 356-085-501 which has been divided into two sections. The remaining part, end-of-range alarm tests, is now in Section 356-184-502. ***Equipment Test Lists are affected.***

This test indicates the degree of synchronism between the locally generated 308-kHz signal and the incoming 308-kHz synchronizing signal. A 1R or 1AC tube test set is connected to the TST jacks of the 308-KHZ FREQ COMP ( ) circuit being tested to observe beats in the cathode current. The slower the beat, the nearer the two signals are to being synchronous.

APPARATUS:

1R or 1AC Tube Test Set

M4T Cord

STEP	PROCEDURE
1	Connect the 1R or 1AC tube test set to the TST jacks of the 308-KHZ FREQ COMP circuit being tested. (See Fig. 1.) *Note:* Refer to Section 103-427-100 for operating procedures of the tube test set.
2	Observe the tube test set meter indication. ***Requirements:*** (a) Between 0 and 600 millivolts indication. (b) The time for one complete cycle shall be greater than 5 minutes.

STEP	PROCEDURE
3	If the requirements of Step 2 are met, proceed to Step 6. If they are not met, make tube tests ***on an out-of-service basis*** as prescribed in Section 356-051-501.
4	If the results of the tube tests were good or if tubes were replaced and the requirements of Step 2 still cannot be met, suspect a "frozen" (CC) capacitor or a burned-out sync (CU) motor in the 4-kHz primary frequency supply circuit associated with the 308-KHZ FREQ COMP circuit being tested.
5	If a CC capacitor or a CU motor is replaced, make the end-of-range alarm tests prescribed in Section 356-184-502.
6	Disconnect the 1R or 1AC tube test set.

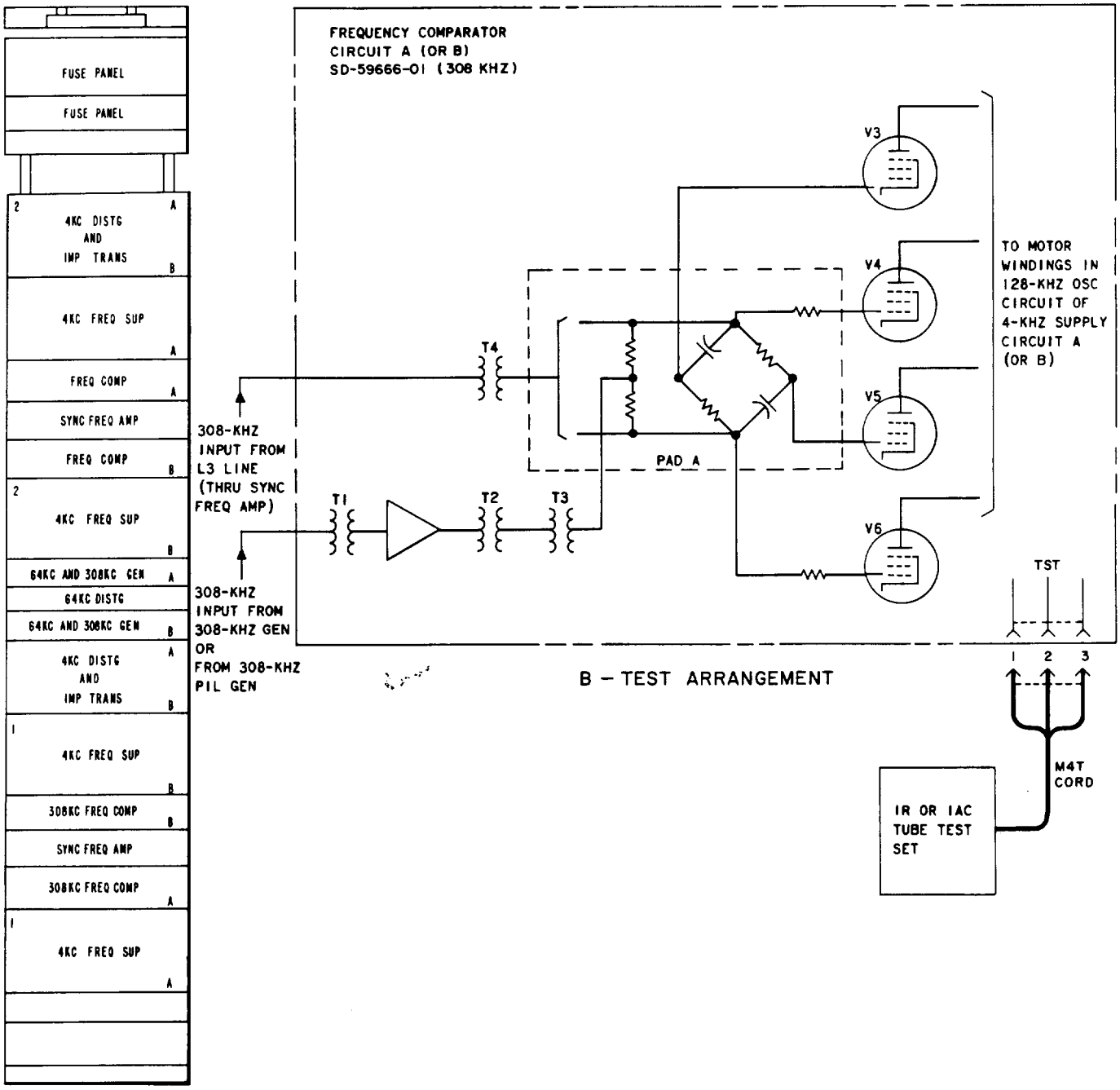

Fig. 1—308-KHZ Frequency Comparator Circuit—Beat Frequency Test