

L MULTIPLEX TERMINALS
LMX-1
CARRIER AND PILOT SUPPLY
64-KHZ FREQUENCY COMPARATOR CIRCUIT
BEAT FREQUENCY TEST

At a controlled supply, the frequency comparator [FREQ COMP ()] circuit compares the locally generated 64-kHz signal with the 64-kHz synchronizing signal received over the L1 line or with the 64-kHz signal received from the 4-kHz master supply circuit.

The rectified output current of the 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 FREQ COMP () circuit and compensates for the difference in frequency between the two signals.

Note: Any supply *not* controlled by a motor-driven capacitor is a free-running supply and is considered a master supply.

This section contains part of the information previously contained in Section 356-084-501 which has been divided into two sections. The remaining part, end-of-range alarm tests, is now in Section 356-183-502. **Equipment Test Lists are affected.**

This test indicates the degree of synchronism between the locally generated 64-kHz signal and the incoming 64-kHz synchronizing signal. A 1R or 1AC tube test set is connected to the F TST or S TST jacks of the FREQ COMP () circuit under test in order to observe beats in the cathode current. The slower the beat, the nearer the two signals are to being synchronous.

APPARATUS:

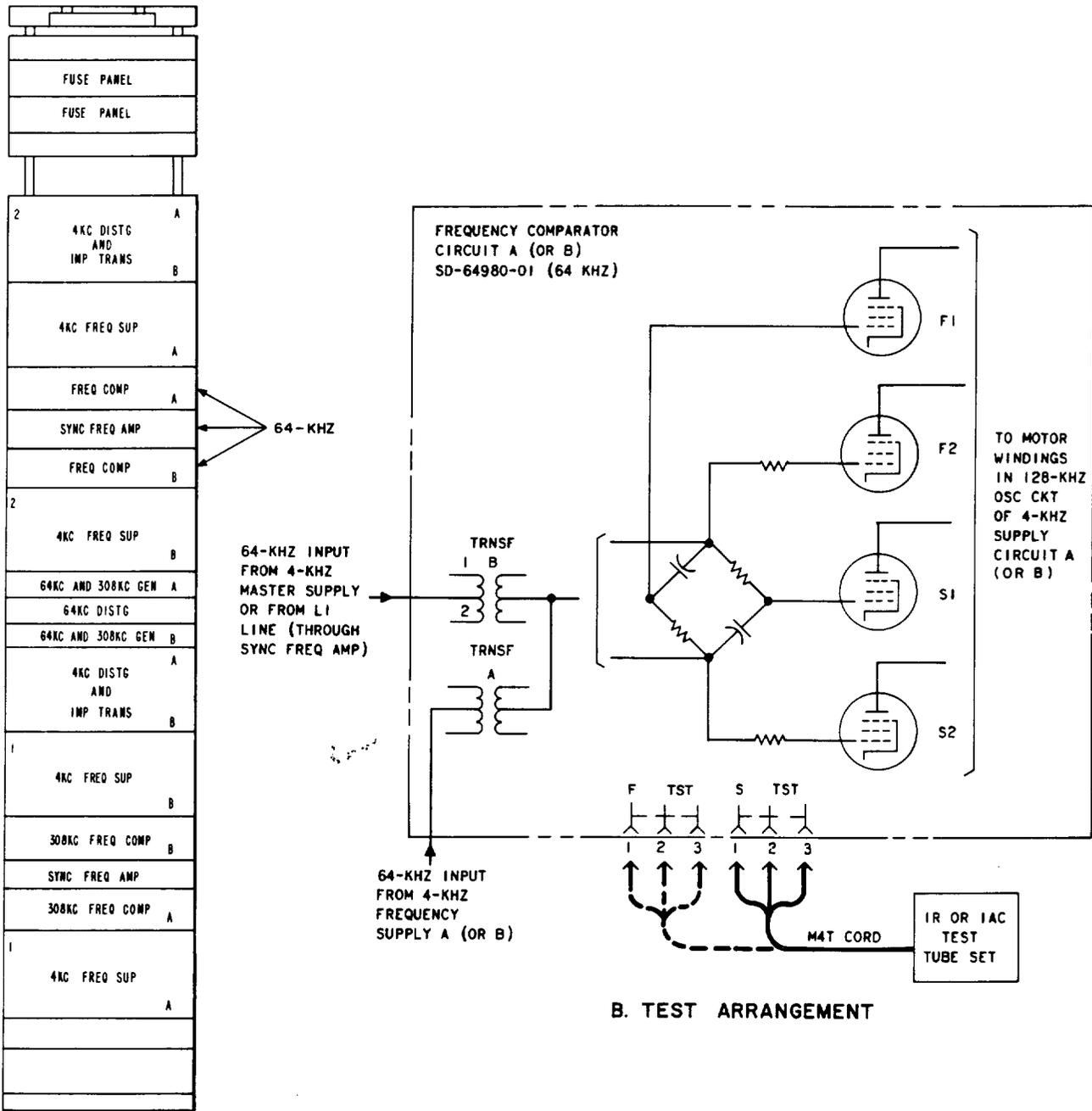
1R or 1AC Tube Test Set

M4T Cord

STEP	PROCEDURE
1	Connect the 1R or 1AC tube test set to the F TST or S TST jacks of the FREQ COMP circuit to be tested. (See Fig. 1.) Note: Refer to Section 103-427-100 for operating procedures of the tube test set.

SECTION 356-183-501

STEP	PROCEDURE
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.
3	If the requirements of Step 2 are met, proceed to Step 6. If they are not met, make tube tests <i>on an out-of-service basis</i> 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 FREQ COMP circuit being tested.
5	If a CC capacitor or a CU motor is replaced, make the end-of-range alarm test as prescribed in Section 356-183-502.
6	Disconnect the 1R or 1AC tube test set.



A. EQUIPMENT ARRANGEMENT

B. TEST ARRANGEMENT

Fig. 1—64-KHZ Frequency Comparator Circuit—Beat Frequency Test