

TYPE N AND ON2 CARRIER TELEPHONE SYSTEMS
DEVIATION REGULATOR
MAINTENANCE TESTS AND ADJUSTMENTS
CHECK OF NETWORK REGULATING CIRCUIT

The characteristics of the four shape networks are controlled by four indirectly heated thermistors. Each thermistor is heated by a dc voltage supplied by an associated control circuit unit. This in-service test is a continuity check of each of the thermistor heater circuits and a check of the output range of the four control circuit units. Fig. 1 gives the testing arrangements for this test.

APPARATUS

3AF Test Set

STEP	PROCEDURE
1	Set the 3AF test set as follows: (a) Turn the rotary switch to the REG CUR position. (b) Operate the toggle switch to the 40 MA position.
2	Insert the P1 plug of the 3AF test set in the TST jacks of the shape network to be tested. See Fig. 1(a) for the test set arrangement.
3	Measure the regulating current to the shape network thermistor on the 40 MA scale. If the current is less than 10 MA, operate the toggle switch to the 10 MA scale and read. Record the reading. Requirement: The routine requirements are satisfied if a reading of any value is obtained. This assures continuity in the thermistor circuit.
4	On the 3AF test set: (a) Set the CAL potentiometer to the approximate value of current recorded in Step 3 above (the values are indicated on the calibrated dial). (b) Insert the P2 plug in the TST PWR jack on the front of the deviation regulator filter and network panel. (c) Set the rotary switch to the ALIGN position. This transfers control of the thermistor to the test set; and the meter reads the current being supplied to the thermistor by the test set. See Fig. 1(b) for the test set arrangement. (d) Adjust the CAL potentiometer to the exact value of current recorded in Step 3.
5	Short the IN jacks of the network being tested.
6	Press the ADJ button on the 3AF test set. See Fig. 1(c) for the test set arrangement. The test set meter should indicate a current reading of — Requirement: 7.0 + 1.0 MA

STEP	PROCEDURE
7	<p>If the current reading exceeds the required limits, proceed as follows:</p> <p>(a) Operate the 3AF test set toggle switch to the 40 MA position, and vary the ADJ potentiometer on the control amplifier from the extreme counterclockwise to the extreme clockwise position. The range between the lowest current reading to the highest current reading should be —</p> <p>Requirement: 20.0 MA</p> <p>(b) If the range limits cannot be met, check the control amplifier for trouble. If the limits are met, readjust the ADJ potentiometer on the control amplifier for an average reading of —</p> <p>Requirement: 7.0 ± 0.5 MA</p>
8	Remove the P1 plug from the TST jack of the shape network under test.
9	Repeat Steps 1 through 7 on all of the shape networks to be tested.
10	Disconnect the 3AF test set.

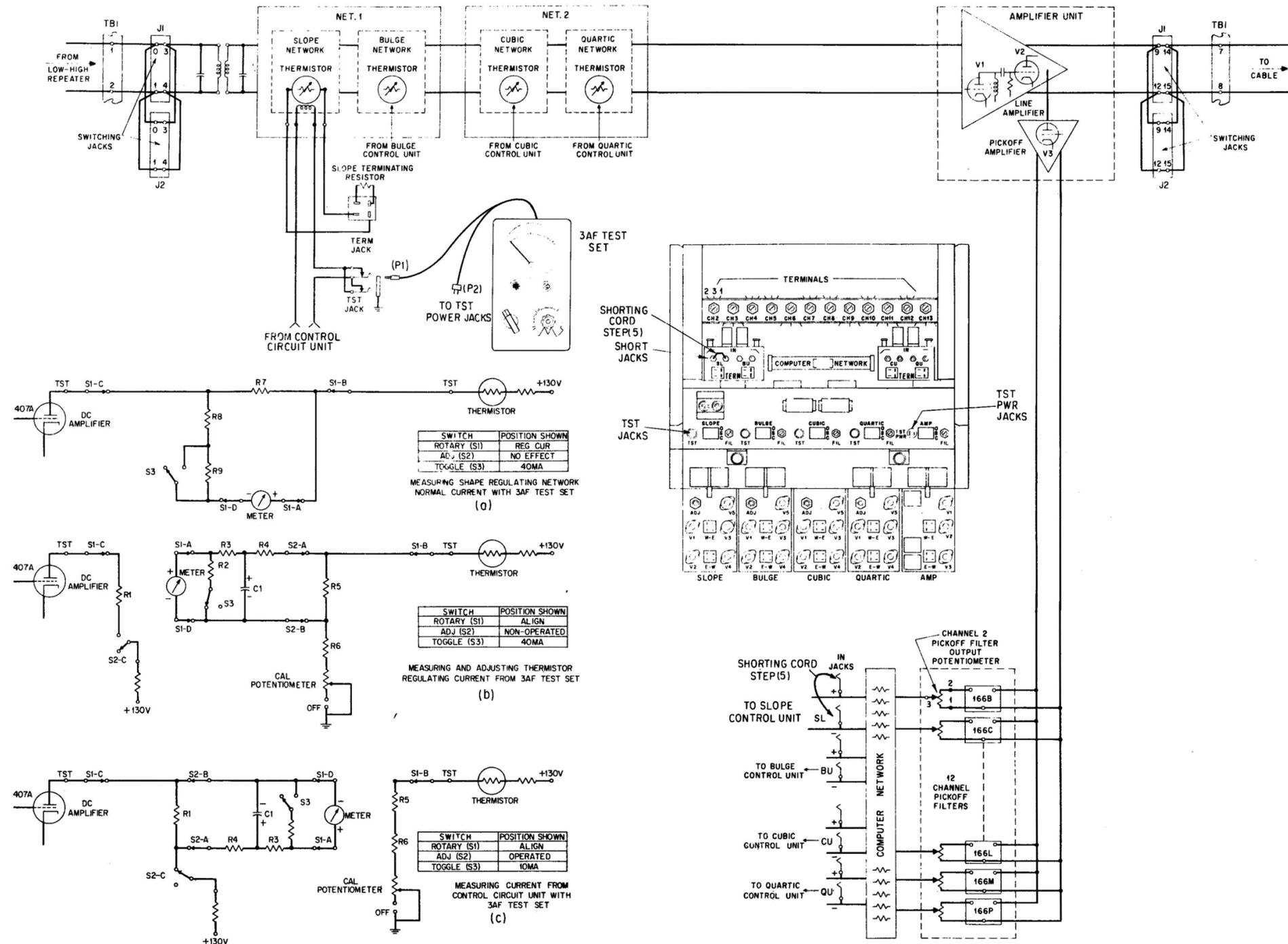


Fig. 1 - Testing Arrangements for Checking Network Regulating Circuits