

**TYPE N1 CARRIER TELEPHONE SYSTEM — TERMINAL EQUIPMENT  
TESTS AND ADJUSTMENTS — GENERAL  
ELECTRON TUBE CATHODE ACTIVITY MEASUREMENTS**

This test describes the procedure for measuring the cathode activity of the electron tubes in the N1 carrier group equipment without interruption to service.

The electron tubes are tested in their sockets without interruption to service using 2K Tube Test Set. *Caution should be exercised, however, to avoid causing hits on systems carrying SAGE or telegraph transmissions.*

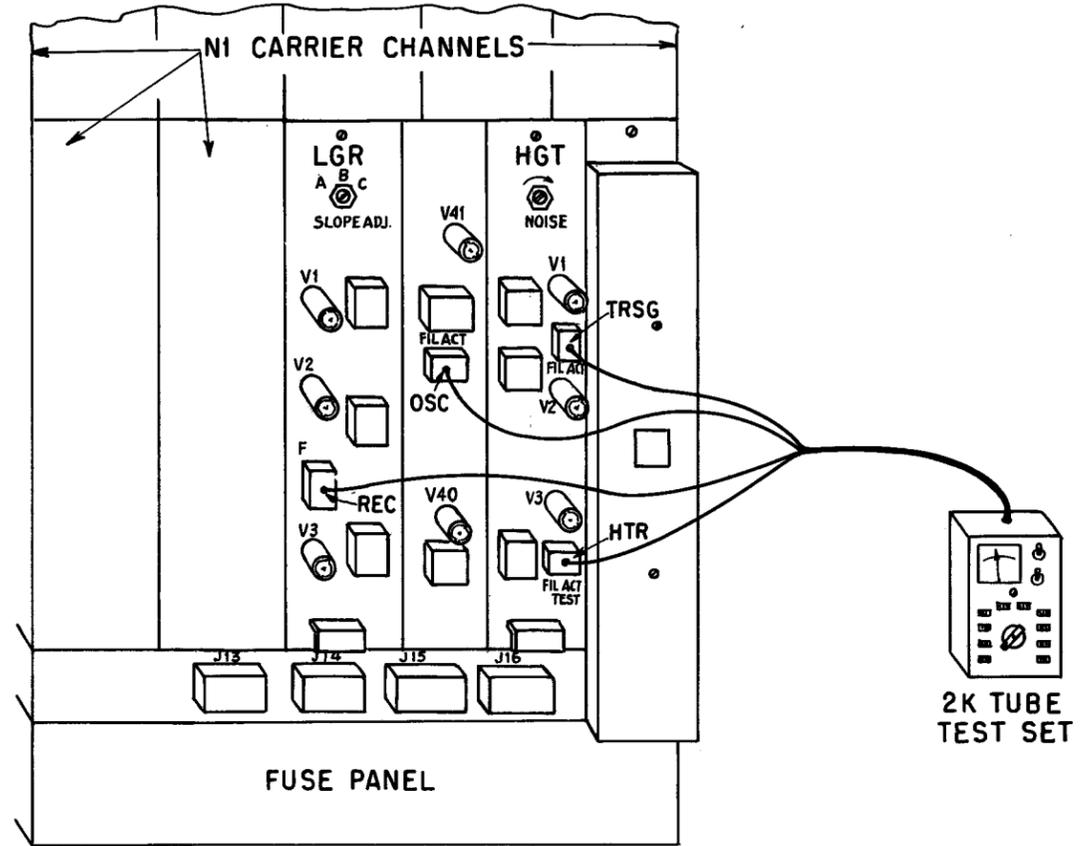
Before defective tubes are replaced, an auxiliary group unit must be substituted for the regular working group unit through the use of a 2N switching set to avoid interruption of service.

**APPARATUS:**

1 — 2K Tube Test Set (J94002K)

STEP	PROCEDURE
1	<i>Before connecting</i> the 2K test set to the group unit to be tested, set the ADJ-NORM toggle switch to NORM and turn the control knobs associated with the selector switch positions to the extreme left position.
2	Connect the TRSG, REC, OSC, and HTR plugs into the FIL ACT jacks on the group unit to be tested as shown in the sketch.
3	Set the RED-WHITE switch to RED.
4	Set the selector switch successively to all positions from V1 TRANS to HTR and at each position adjust the associated control knob to obtain a full scale reading (0%) on the meter. Adjust the controls slowly to minimize the effect on the group unit. If difficulty is experienced in obtaining a full scale reading for the V1 TRANS tube, <i>do not</i> change the NOISE control if any channels are in service. In this case omit the test on the V1 TRANS tube.
5	After the control knob associated with the HTR selector switch position has been adjusted to full scale reading, set the ADJ-NORM switch to ADJ, and adjust the ACT ADJ control so that the meter reads 10 per cent.

STEP	PROCEDURE
6	Allow 2 minutes for the electron tubes to reach a stable condition and then set the selector switch successively to each of the RED positions and read the meter. <i>Requirement:</i> See Table A.
7	Set the ADJ-NORM switch to NORM and allow 2 minutes for the heater voltage to return to normal.
8	Operate RED-WHITE switch to WHITE, and repeat Steps 4 and 5.
9	Allow 2 minutes for the electron tubes to reach a stable condition and then set the selector switch successively to each of the WHITE positions and read the meter. <i>Requirement:</i> See Table A.
10	Remove the test set connections from the test jacks of the group units.
Replace all electron tubes which do not meet requirements using a 2N switching set and an alternate group unit to avoid interruption to service. The use of the 2N switching set is covered in another section in this division of practices.	



TEST SET-UP FOR GROUP UNIT CATHODE ACTIVITY TEST

TABLE A  
CATHODE ACTIVITY REQUIREMENTS

V3 HIGH GRP TRANS.	0-22%
V40 OSC. TUBE	0-18%
V41A OSC. TUBE	0-2%
V41B OSC. TUBE	0-10%
ALL OTHER TUBES	0-26%