

**TYPE N1, O AND ON CARRIER TELEPHONE SYSTEMS —
OVER-ALL CHANNEL LINE-UP
TYPE N CARRIER — SCHEDULE C AND D PROGRAM CHANNEL UNIT (J98703TA)
EQUALIZER ADJUSTMENT AND OVER-ALL TRANSMISSION FREQUENCY
CHARACTERISTICS**

This section is reissued to clarify the tests and requirements of N carrier channels used for schedule C or D program service.

A complete schedule C or D program channel may consist of an N carrier channel in tandem with channels of other carrier or voice-frequency facilities. The tests and requirements covered herein apply only to the N carrier channel. For requirements and limits of the over-all circuit or network, reference should be made to the appropriate Bell System Practice.

The over-all frequency characteristics of the schedule C and D program channel unit can be equalized in the 200- to 3500-cycle bandwidth. The equalizer consists of three capacitors (C12, C13 and C14) across terminals 1 and 4 of the 168D filter (FL1) in the compressor subassembly.

The purpose of this test is to check the over-all transmission frequency characteristics and adjust the equalizer of the channel. These tests should be made only when the tests on the channel and system have been made and are within requirements.

APPARATUS:

- 1 — 19C Oscillator, or equivalent
- 1 — Transmission Measuring Set, Type 40B, or equivalent (600-ohm termination)
- 1 — Channel Unit Test Stand (J98705M)
- 1 — Hewlett-Packard, Model 400C or 400D Vacuum Tube Voltmeter
- 1 — 600-Ohm Attenuator, 5A or equivalent

Note: It is important that the oscillator be properly adjusted and calibrated to make certain that the correct frequencies are obtained.

STEP	PROCEDURE
1	Place the program channel unit in the channel unit test stand and connect the test stand to the channel jack in the N1 terminal.
2	Set the switch (T, TA) on the expander subassembly to T where the carrier subassembly is the F type (ED-92319-01), or to TA for a type FA carrier subassembly (ED-92691-01).
3	Operate the switch on the channel unit test stand to N1-F NORM for type F carrier subassembly, or to N1-FA NORM for type FA carrier subassembly.
4	Set the oscillator frequency to 1000 cycles and the output through the attenuator so that the input to VF IN jack is -27.0 dbm.

PROCEDURE

Connect a transmission measuring set to the DEMOD OUT jack

Level -4.0 dbm
 Accuracy -4.0 ± 1.0 dbm

Measure frequency characteristics by sending the frequencies
 at level into the VF IN jack and measuring at DEMOD

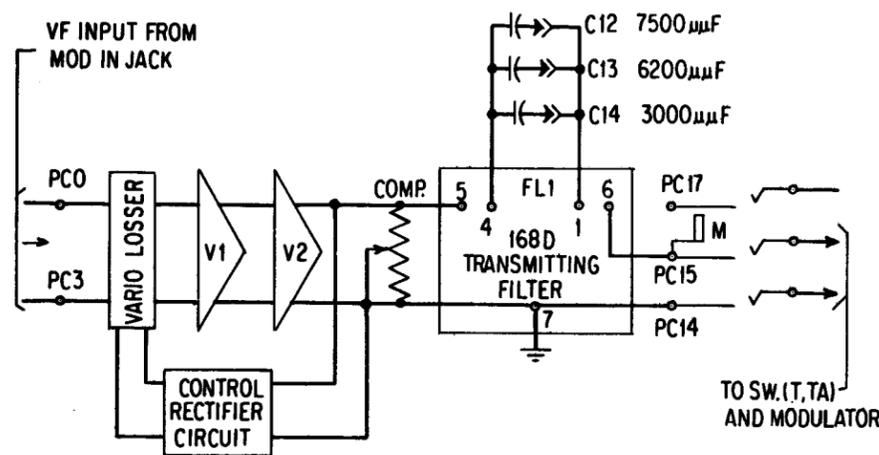
Table I.
 Adjust C14 capacitors at the sending end, to meet the require-
 ments. Capacitance reduces the loss at 3500 cycles.

Check the terminal mounting at the transmitting end.
 Measure frequency characteristics by sending the frequencies
 into the MOD IN jack (in -13 and +4 offices send
 DEMOD OUT jack at distant end.

Table I.
 Adjust, readjust the C12, C13 and C14 capacitors and repeat

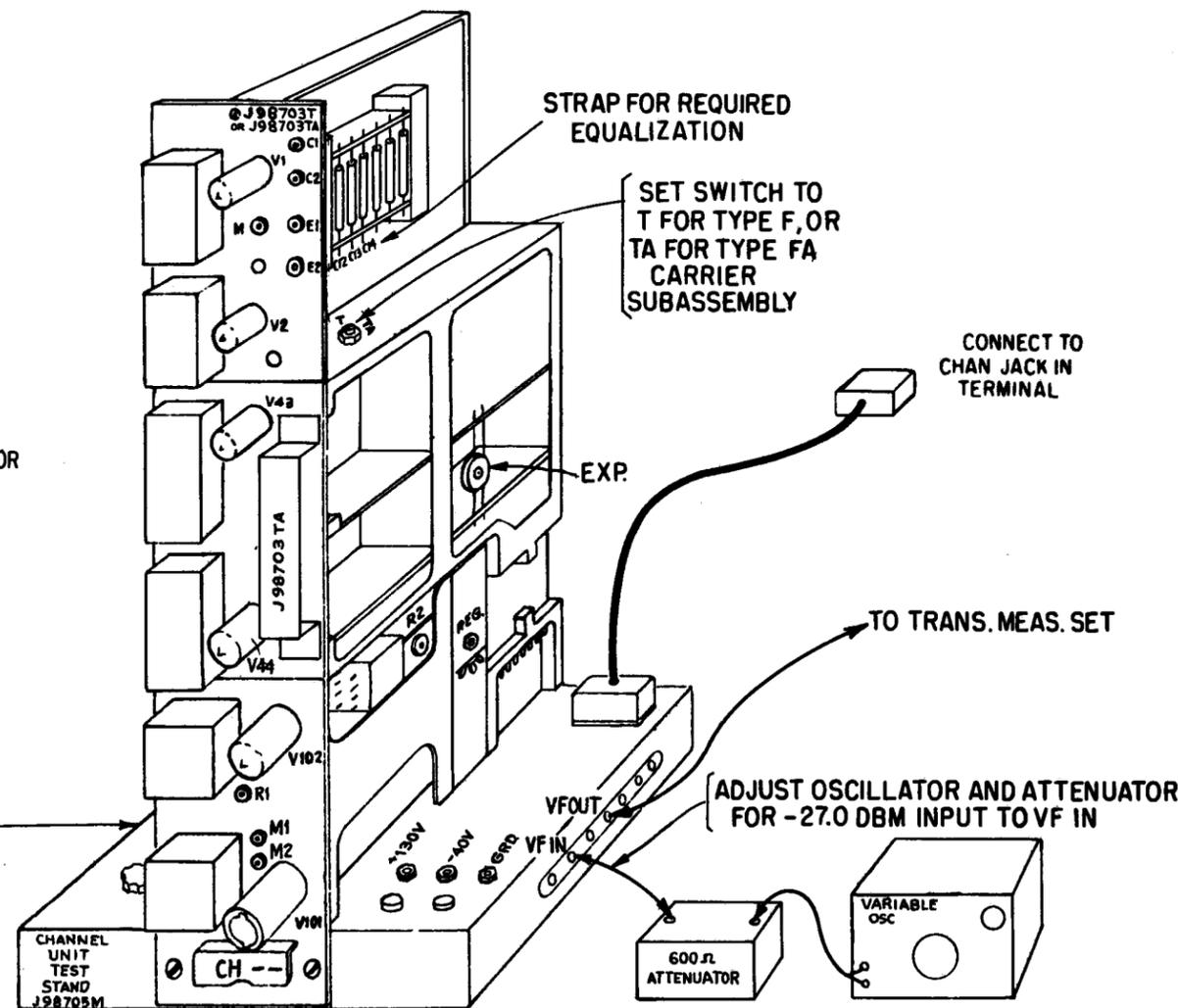
TABLE I

FREQUENCY IN CYCLES PER SECOND	PERMISSIBLE TRANSMISSION DEVIATION IN DB FROM 1000 CYCLES
200	0 ± 1.5
300	0 ± 1.0
2000	0 ± 1.0
3000	0 ± 1.5
3500	0 ± 1.5



COMPRESSOR BLOCK DIAGRAM SHOWING CAPACITORS ACROSS 168D FILTER FOR EQUALIZATION

SET SWITCH ON TEST STAND TO N1-F NORM FOR TYPE F, OR N1-FA NORM FOR TYPE FA CARRIER SUBASSEMBLY

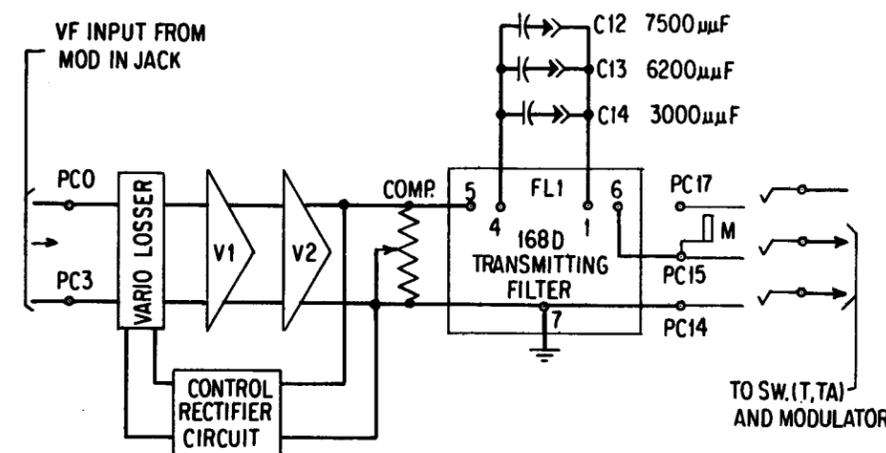


EQUALIZATION TEST OF SCHEDULE C&D PGM CHANNEL UNIT

STEP	PROCEDURE
5	<p>At the <i>distant terminal</i> connect a transmission measuring set to the DEMOD OUT jack and measure the output.</p> <p>Requirements:</p> <p style="padding-left: 40px;">Line-up -4.0 dbm Maintenance -4.0 ± 1.0 dbm</p>
6	<p>Check the over-all transmission frequency characteristics by sending the frequencies shown in Table I at -27.0 dbm level into the VF IN jack and measuring at DEMOD OUT jack at distant terminal.</p> <p>Requirements: See Table I.</p> <p>Adjust the C12, C13 and C14 capacitors at the sending end, to meet the requirements. Increasing the capacitance reduces the loss at 3500 cycles.</p>
7	Replace the channel unit in the terminal mounting at the transmitting end.
8	<p>Recheck the over-all transmission frequency characteristics by sending the frequencies shown in Table I at -27.0 dbm into the MOD IN jack (in -13 and +4 offices send -24 dbm) and measure at DEMOD OUT jack at distant end.</p> <p>Requirements: See Table I.</p> <p>If requirement is not met, readjust the C12, C13 and C14 capacitors and repeat Step 8.</p>

TABLE I

FREQUENCY IN CYCLES PER SECOND	PERMISSIBLE TRANSMISSION DEVIATION IN DB FROM 1000 CYCLES
200	0 ± 1.5
300	0 ± 1.0
2000	0 ± 1.0
3000	0 ± 1.5
3500	0 ± 1.5



COMPRESSOR BLOCK DIAGRAM SHOWING CAPACITORS ACROSS 168D FILTER FOR EQUALIZATION

SET SWITCH ON TEST STAND TO N1-F NORM FOR TYPE F, OR N1-FA NORM FOR TYPE FA CARRIER SUBASSEMBLY

