

**TYPE N1, O, AND ON CARRIER TELEPHONE SYSTEMS —
OVERALL CHANNEL LINE-UP
SPECIAL SERVICES CHANNEL UNIT — TRANSMITTING SECTION**

This section is reissued to clarify the use of enhanced line-up levels for data on the N1 carrier, to add a new carrier leak test, and to change the O and ON channel unit output test procedure and requirements. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

The 7-db enhanced line-up level for N1 special services channel unit provides improved signal-to-noise ratio for services where this is required. The enhanced line-up levels are specified for alternate voice/data and B1 data channel use. Other usage should be determined by the transmission engineering department.

Enhanced line-up levels are not provided for O and ON special services channel units, since the higher carrier sideband level provides nearly the same performance as do the enhanced levels of N1.

The voice frequency signals applied to the VF input of the special services channel unit are amplified and fed into the modulator. Jacks J1 and J2 permit measurement of the VF input, and jack J5 permits measurement of the amplifier output. The output of the amplifier is adjustable by means of the TRSG potentiometer.

The purpose of this test is to measure and adjust the transmitting section of the special services channel unit.

The F carrier frequency subassembly cannot be substituted for the FA unit.

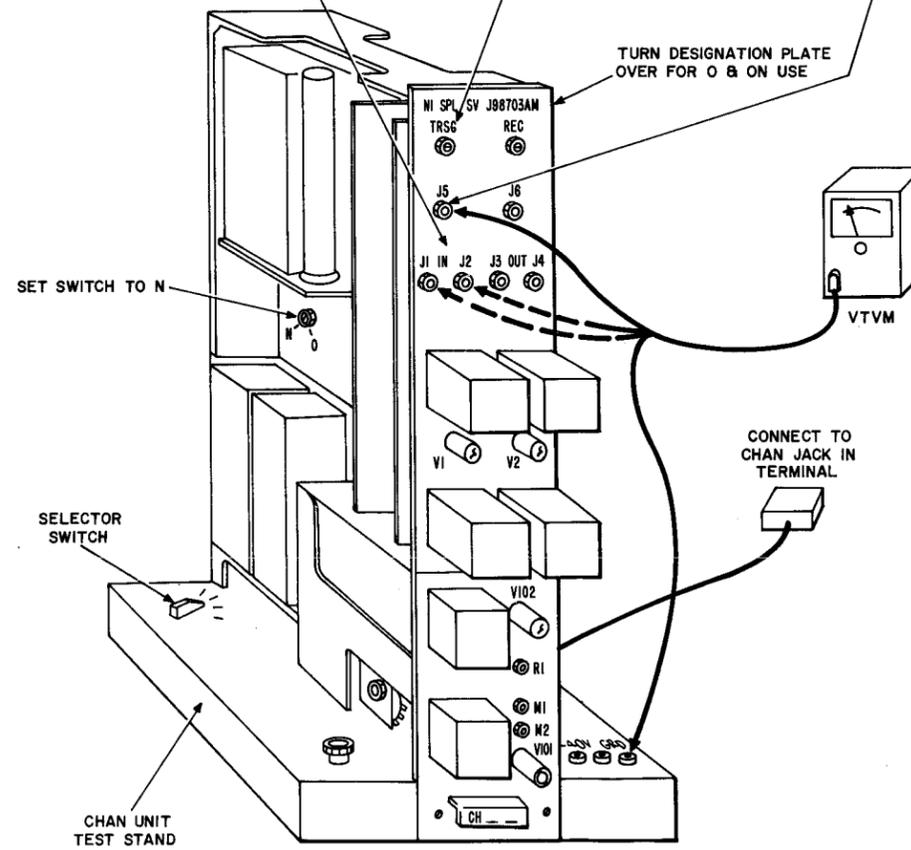
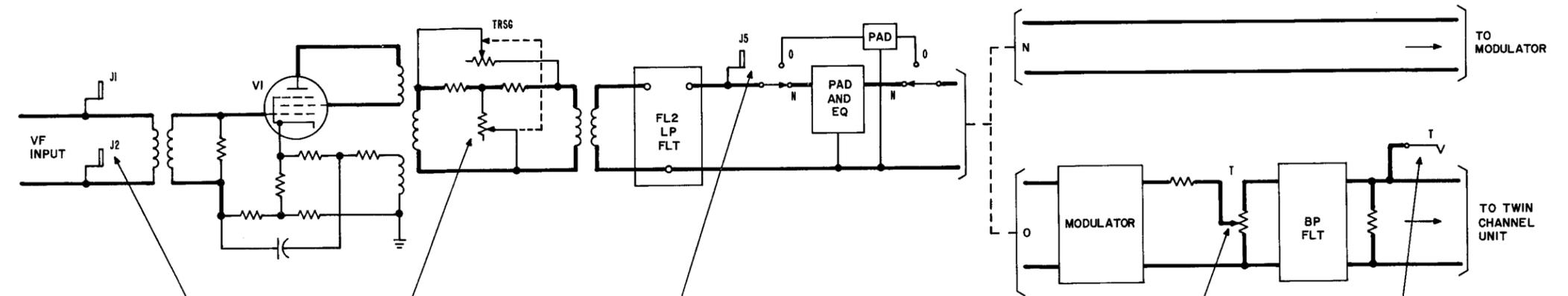
APPARATUS:

- 1 — Hewlett-Packard 400-type Vacuum Tube Voltmeter (VTVM)
- 1 — W2DW Cord
- 1 — Channel Unit Test Stand (J98705M)
- 1 — P19A Cord
- 1 — 262B plug (used to terminate 600 ohms)

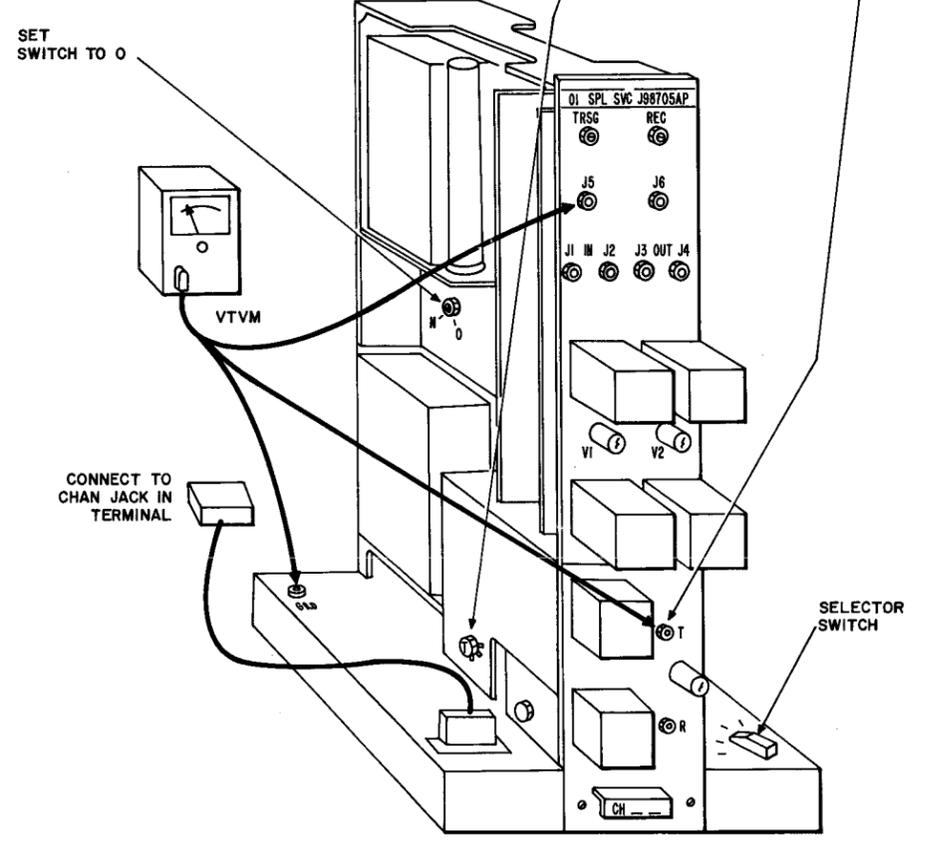
STEP	PROCEDURE
1	The channel must be out of service. Before the test stand is used with a special service channel unit, the 130v, 1/8 ampere fuse should be replaced with a 3/8 ampere fuse.
2	Connect 1000-cycle, -16.0 dbm test tone to the MOD IN jack of the channel at the patch bay or the VF IN jack of the channel unit test stand. In a -13 and +4 office the level should be -13 dbm at the MOD IN jack.

STEP	PROCEDURE																		
3	Rotate the N-O switch on the left side of the subassembly to the N position for N1 carrier and to O position for O and ON carriers. Transmitting VF Amplifier Output — (Fig. 1A for N1 Carrier, Fig. 1B for O and ON Carrier)																		
4	Connect the VTVM between jack J5 and chassis ground.																		
5	Adjust the TRSG potentiometer on the VF subassembly for a reading on the VTVM as indicated below.																		
	Requirements: <table data-bbox="259 672 1315 924"> <thead> <tr> <th colspan="2"></th> <th data-bbox="828 735 958 766">NORMAL USE</th> <th data-bbox="1120 672 1299 766">ALTERNATE VOICE/DATA, B1 DATA, OR SPECIAL APPLICATIONS</th> </tr> </thead> <tbody> <tr> <td data-bbox="259 777 406 808" rowspan="2">N1 Carrier</td> <td data-bbox="568 777 665 808">Line-up</td> <td data-bbox="812 777 909 808">+4.5 db</td> <td data-bbox="1104 777 1234 808">+11.5 db</td> </tr> <tr> <td data-bbox="568 808 730 840">Maintenance</td> <td data-bbox="812 808 990 840">+4.5 ± 0.5 db</td> <td data-bbox="1104 808 1315 840">+11.5 ± 0.5 db</td> </tr> <tr> <td data-bbox="259 850 487 882" rowspan="2">O and ON Carrier</td> <td data-bbox="568 850 665 882">Line-up</td> <td data-bbox="812 850 909 882">+8.0 db</td> <td></td> </tr> <tr> <td data-bbox="568 882 730 913">Maintenance</td> <td data-bbox="812 882 990 913">+8.0 ± 0.5 db</td> <td></td> </tr> </tbody> </table> <p data-bbox="235 945 1380 976">Note: If this requirement cannot be met, check the VF input at J1 and J2 with the VTVM.</p> <p data-bbox="235 1008 682 1039">Requirement: -16.5 ± 0.5 dbm.</p> <p data-bbox="235 1071 1088 1102">If this requirement is met, change tube V1 and again perform Step 5.</p>			NORMAL USE	ALTERNATE VOICE/DATA, B1 DATA, OR SPECIAL APPLICATIONS	N1 Carrier	Line-up	+4.5 db	+11.5 db	Maintenance	+4.5 ± 0.5 db	+11.5 ± 0.5 db	O and ON Carrier	Line-up	+8.0 db		Maintenance	+8.0 ± 0.5 db	
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6	Remove all test connections.																		
	Channel Unit Output — O and ON Carrier — (Fig. 1B)																		
7	Connect the VTVM between jack T and ground.																		
8	Turn the selector switch on the test stand to O1 TERM.																		
9	Observe VTVM reading. Requirements: Line-up -43.5 db Test -43.5 ± 1.0 db																		
10	Adjust T potentiometer to meet the requirement.																		
	Carrier Leak — O and ON Carrier — (Fig. 1B)																		
11	Remove the 1000-cycle tone from the VF IN jack and terminate the VF IN jack in 600 ohms with a 262B plug. Turn selector switch on the test stand to O1 TERM.																		
12	Observe VTVM reading. Requirement: Less than -66.0 db.																		

STEP	PROCEDURE
13	<p>Turn select switch on the test stand to N1-O1 NORMAL and again observe the VTVM reading.</p> <p>Requirement: Less than -54.0 db.</p> <p>Note: If a reading higher than -54.0 db is obtained, both twin channel units in the group should be pulled momentarily to determine if the twin channel oscillators are feeding power back through the combining multiple to T jack (out-of-service test). If T jack reading remains greater than -54.0 db, the group transmitting unit should be replaced.</p> <p>Note: Generally, a high transmitting group unit carrier leak accompanied by a high group oscillator output measurement indicates a defective varistor in the group transmitting unit.</p>
14	Remove all test connections.



A.-TRANSMITTING SECTION-
TESTS OF TYPE NI



B.-TRANSMITTING SECTION-
TESTS OF TYPE O AND ON

Fig. 1 — Special Service Channel Unit