TYPE N1, O AND ON CARRIER TELEPHONE SYSTEMS
OVER-ALL CHANNEL LINE-UP
SUMMARY CHARTS — LINE-UP AND MAINTENANCE
N1 CARRIER — SCHEDULE C AND D PROGRAM CHANNEL UNIT (J98703TA)

This section is reissued to change the voice-frequency testing levels and to add Chart II.

This section consists of an over-all diagram of the channel unit and charts giving the tests required for line-up and maintenance of the Schedule C and D Program Channel Unit.

Notes:

1. Complete the tests in numerical order.
2. All testing equipment must be accurately calibrated.
3. Set the switch (T, TA) on the expandor 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).
4. Channels with modified regulators (blue label on handle) are tested as Modified Units; channels with unmodified regulators (silver or no label on handle) are tested as Original Units.
5. Chart I is provided for use with the standard test arrangement; Chart II is provided for locations where the Mobile Carrier Test Bay is used.

APPARATUS:

1 — Hewlett-Packard 400-Type Vacuum Tube Voltmeter

1 — W2DW Cord (used to connect the VTVM to test points)

1 — Channel Unit Test Stand (J98705M)

1 — KS-14510 Volt-Ohm-Milliammeter, or equivalent (20,000 ohms per volt)

1 — 21A TMS Oscillator, or equivalent

1 — 600-Ohm Attenuator

1 — P19A Cord (used with channel test stand)

1 — Transmission Measuring Set (21A TMS, 40B, or equivalent, 600 ohms)

1 — 262 Plug (600-ohm termination)

CHART I

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER SCHEDULE C & D PROGRAM CHANNEL (J98703TA)

TEST	PURPOSE OF TEST		TEST STAND REQ	MEAS. EQUIP. REQUIRED		MEASURE TEST POINT TO GRD. OR BETWEEN TEST POINTS	REQUIRED VALUE		ADJUST	TEST CONDITIONS AND REMARKS		SECTION REFERENCE
				TESTING END	DISTANT END		TEST	READJUST				
1	Channel Carrier Output		Yes	VTVM	—	M2	Recorded Value ±0.5 db	Recorded Value	MOD	Maintenance requirements. For initial line-up see 362-025-501.		362-025-501
2	Channel Carrier Leak		Yes	VTVM	—	M2	At least 18 db below TEST 1	—	—	Ground M1 jack (original units) or TP7 (modified units).		
3	Compressor Gain		Yes	VTVM	—	M	At least +3.0 db	—	—	COMP pot. max.	Send 1000~ at −27 dbm.	362-320-504
							+2.0 to +3.0 db	+2.5 db	COMP			
4	Received Channel Carrier		Yes	VTVM	—	R1	***Line-up:*** −13.0 to −24.0 db ***Maintenance:*** Recorded Value ±5.0 db		—	Modified units — set REG pot. for maximum reading.		362-030-501
5	Channel Regulator	Original	Yes	Volt-ohm-meter	—	R2 Jack to +130V Jack in Test Stand	2.6 to 3.4 volts	3.0 volts	REG	***Caution: Approximately 125 volts on R2 jack. Insert test cord in R2 jack last.***		
		Modified	Yes	VTVM	—	R1	−28.0 to −38.0 db	−33.0 db	REG			
6	Demodulator Output		Yes	VTVM	1000~ Tone	Term 6 of FL42 (168E)	+11.0 to +14.0 db	—	—			
7	Expandor Output		Yes	VTVM	1000~ Tone	E1-E2	−3.0 to −5.0 db	−4.0 db	EXP	***Testing End:*** Terminate DEMOD OUT in 600 ohms.	***Distant End:*** Send 1000~ at −27 dbm.	
8	Channel Regulation (Modified units only)	a	Yes	VTVM	1000~ Tone	R1	—	−41.0 db	REG			362-320-504
		b				E1-E2	−3.5 to −4.5 db	—	—			
		c				R1	—	−33.0 db	REG			
9	Channel Frequency Characteristics		Yes	21A TMS	21A TMS	DEMOD OUT at distant end	200~ −2.5 to −5.5 dbm 300~ −3.0 to −5.0 dbm 2000~ −3.0 to −5.0 dbm 3000~ −2.5 to −5.5 dbm 3500~ −2.5 to −5.5 dbm		C12, C13 or C14 at Trans. end	Make over-all frequency run using −27.0 dbm input in MOD IN jack.		362-320-505

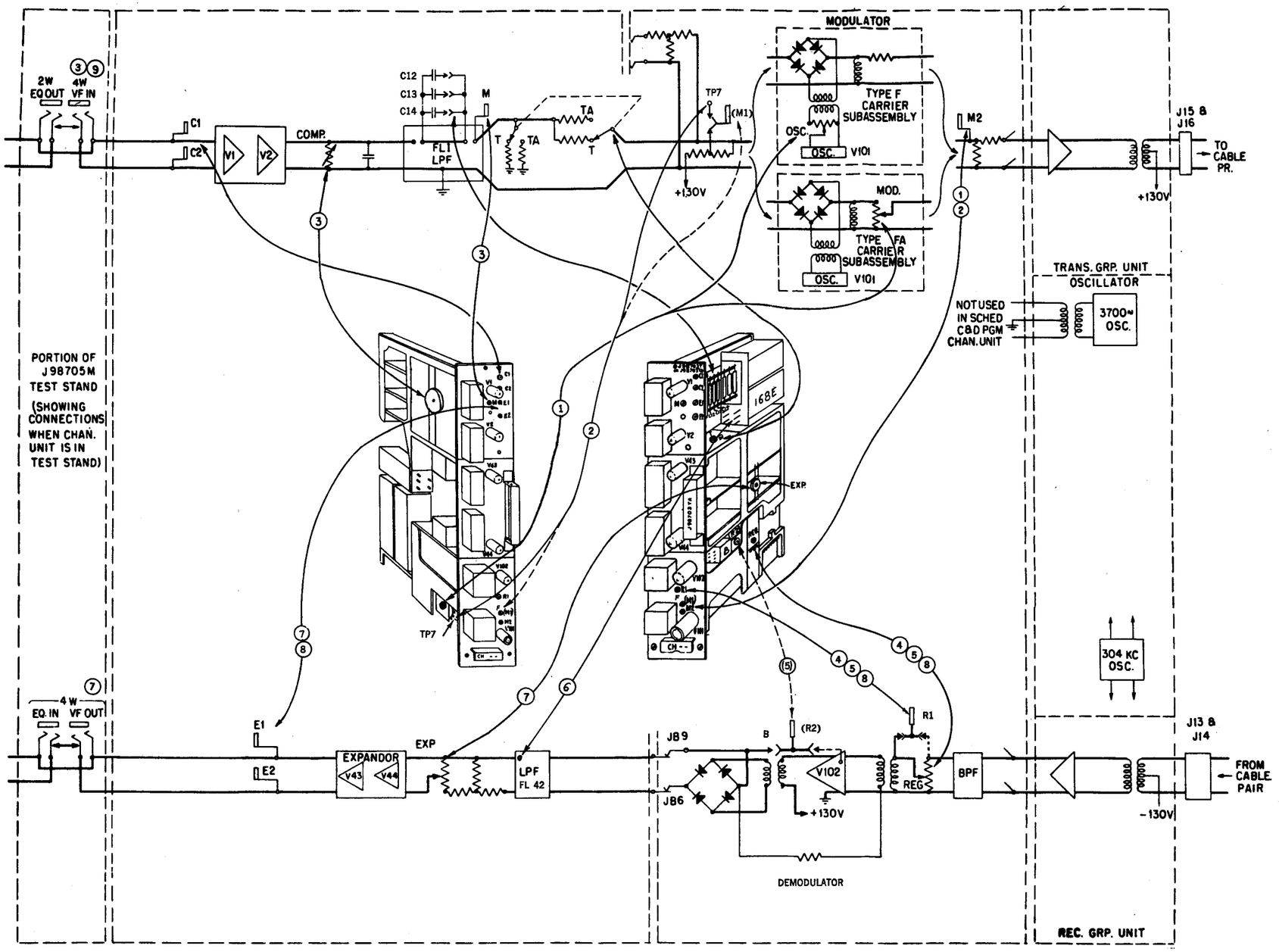
Note: Original units have a silver label (or no label) on the handle.
Modified units have a blue label on the handle.

CHART II

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER SCHEDULE C & D PROGRAM CHANNEL (J98703TA) USING THE MOBILE CARRIER TEST BAY

TEST	PURPOSE OF TEST		METER SWITCH	VF PATH SWITCH	MEASURE TEST POINT TO GRD. OR BETWEEN TEST POINTS	REQUIRED VALUE		ADJUST	TEST CONDITIONS AND REMARKS		SECTION REFERENCE 362-
						TEST	READJUST				
Note: For −27 dbm input, use an 11 db pad in series with the VF IN jack (use 5A attenuator, 1C pad $^{e}/_{w}$ 89BC resistor, or equivalent)											
1	Channel Carrier Output		5	*	M2	Recorded Value ±0.5 db	Recorded Value	MOD	Maintenance requirements. For initial line-up see 362-025-501.		025-501
2	Channel Carrier Leak		5	*	M2	At least 18 db below TEST 1	—	—	Ground M1 jack (original units) or TP7 (modified units).		
3	Compressor Gain		5	5	M	At least +3.0 db	—	—	COMP pot. at maximum output.		320-504
						+2.0 to +3.0 db	+2.5 db	COMP			
4	Received Channel Carrier		5	*	R1	***Line-up:*** −13.0 to −24.0 db ***Maintenance:*** Recorded Value ±5.0 db		—	Modified units — set REG pot. for maximum reading.		030-501
5	Channel Regulator	Orig.	3	*	R2	2.6 to 3.4 volts	3.0 volts	REG	***Caution: 125 volts on R2 jack.***		
		Mod.	5	*	R1	−28.0 to −38.0 db	−33.0 db	REG			
6	Demodulator Output		5	*	Term 6 of FL42 (168E)	+11.0 to +14.0 db	—	—		***Distant End:*** Send 1000~ at −27 dbm.	
7	Expandor Output		6	5	E1-E2	−3.0 to −5.0 db	—	EXP			320-504
8	Channel Regulation (Modified units only)	a	5	*	R1	—	−41.0 db	REG			320-504
		b	6	5	E1-E2	−3.5 to −4.5 dbm	—	—			
		c	5	*	R1	—	−33.0 db	REG			
9	Channel Frequency Characteristics		—	—	—	200~ −2.5 to −5.5 dbm 300~ −3.0 to −5.0 dbm 2000~ −3.0 to −5.0 dbm 3000~ −2.5 to −5.5 dbm 3500~ −2.5 to −5.5 dbm		C12,C13 or C14 at Trans. end	Make over-all frequency run using −27.0 dbm input in MOD IN jack (−24.0 dbm in a −13 and +4 office).		320-505

* VF PATH switch not used for these tests, can be left in any position except 2 or 6.
Original units have a silver label (or no label) on the handle.
Modified units have a blue label on the handle.



SCHEDULE C&D PROGRAM CHANNEL UNIT --- AND ( ) - ORIGINAL UNITS

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER SCHEDULE C AND D PROGRAM CHANNEL UNIT (J98703TA)