TYPE N1, O AND ON CARRIER TELEPHONE SYSTEMS
OVER-ALL CHANNEL LINE-UP
SUMMARY CHARTS — LINE-UP AND MAINTENANCE
N1 CARRIER — AMPLAS CHANNEL UNIT WITHOUT SIGNALING (J98703BP)

This section is reissued to relax the E1-E2 requirements, to show the current model in Fig. 1, and to make other minor changes.

This section consists of an over-all diagram of the amplas channel unit without signaling and charts giving the tests required for line-up and maintenance of the unit. Chart I is provided for the standard testing arrangement, Chart II is provided for locations where the Mobile Carrier Test Bay is used.

The circuits used in the amplas channel are the same as those used in the J98703AP channel unit without signaling; only the manufacturing technique has been changed.

These channel units should not be intermixed with other types of channel units in a terminal using a blower because they will block the air flow. They should also not be used in terminals where the air temperature (6′ above the floor, in the center of the aisle) is higher than that shown in Table A.

It will be necessary to refer to associated sections in this division of practices for the detailed procedure, and for steps to be taken where requirements are not met. Familiarity with the sections covering the testing methods in detail is essential before this section is used.

The tests should be completed in numerical sequence with testing equipment that has been accurately calibrated.

APPARATUS:

1 — Hewlett-Packard 400-type Vacuum Tube Voltmeter (VTVM)

1 — 3A Noise Measuring Set

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

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

1 — Channel Unit Test Stand (J98705M)

1 — P19A Cord (used with channel test stand)

1 — 262 Plug (600 ohms to terminate channel VF output)

CHART 1

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER AMPLAS CHANNEL UNIT WITHOUT SIGNALING (J98703BP)

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	For Maintenance only. 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 TP7		
3	Compressor Gain		Yes	VTVM	—	F	At least +8.5 db	—	—	COMP pot. at max. output	Send 1000~ at −16 dbm at VF IN.	362-025-502
							+7.5 to +8.5 db	+8.0 db	COMP			
4	Received Channel Carrier		Yes	VTVM	—	R1	−13.0 to −29.0 db	—	—	REG pot. set for maximum output		362-030-501
							−28.0 to −38.0 db	−33.0 db	REG			
5	Demodulator Output		Yes	VTVM	1000~Tone	TP8	+11.0 to +14.0 db	—	—	***Distant End:*** Send 1000~at −16 dbm at VF IN or MOD IN jack.		
6	Expandor Output		Yes	VTVM	1000~Tone	E1-E2	+8.5 to +11.5 dbm	+10.0 dbm	EXP	***Distant End:*** Send 1000~at −16 dbm at VF IN or MOD IN jack. ***Testing End:*** For line-up turn REC pot. extreme clockwise; 600 ohms in VF OUT or DEMOD OUT jack.		362-305-501
7	Channel Regulation	a	Yes	VTVM	1000~Tone	R1	—	−41.0 db	REG	***Distant End:*** Send 1000~at −16 dbm at VF IN or MOD IN jack. ***Testing End:*** 600 ohms in VF OUT or DEMOD OUT jack.		362-030-501
		b				E1-E2	+9.0 to +10.5 dbm	—	—			
		c				R1	—	−33.0 db	REG			
8	Channel Noise		No	3A Noise Set	—	DEMOD OUT Jacks	C-Msg — 36 dbrn max. 3 kc Flat — 45 dbrn max.		—	***Distant End:*** Terminate channel MOD IN jack in 600 ohms. ***Testing End:*** Turn REC pot. maximum clockwise.		362-305-510
9	Channel Net Loss		No	Transmission Meas. Set	1000~Tone	DEMOD OUT Jacks	—	+7.0 dbm (+4.0 dbm)	REC	***Distant End:*** Send 1000~at −16 dbm at VF IN or MOD IN jack.		362-305-512

Note: The final adjustment of the REG and EXP potentiometer (Tests 4 and 6) should be made with the test stand switch in the N1-O1 NORM position (not N1-LOOP).

CHART 1

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER AMPLAS CHANNEL UNIT WITHOUT SIGNALING (J98703BP)

TABLE A

DO NOT USE AMPLAS CHANNELS (J98703BP) IN TERMINALS WHERE TEMPERATURE EXCEEDS THAT SHOWN.	°F IN J98703	
	AT AND AW BAYS	A MOUNTING
Amplas (BP) channels alone or mixed with Channels w/o Signaling (AP), thru (AH) and/or Special Service (AM) channels.	105°	95°
Mixed with Schedule A&B Program (W), Program Reversing (Y), Schedule C&D Program (TA), and/or Message (FA) channels.	90°	80°

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER A

TEST	PURPOSE OF TEST		TEST STAND REQ.	MEAS. EQUIP. REQUIRED		MEASURE TEST POINT TO GRD. OR BETWEEN TEST POINTS	REQUIRED
				TESTING END	DISTANT END		TEST
1	Channel Carrier Output		Yes	VTVM	—	M2	Recorded Value ±0.5 db
2	Channel Carrier Leak		Yes	VTVM	—	M2	At least 18 db be
3	Compressor Gain		Yes	VTVM	—	F	At least +8.5 db
							+7.5 to +8.5 db
4	Received Channel Carrier		Yes	VTVM	—	R1	−13.0 to −29.0 db
							−28.0 to −38.0 db
5	Demodulator Output		Yes	VTVM	1000~Tone	TP8	+11.0 to +14.0 db
6	Expandor Output		Yes	VTVM	1000~Tone	E1-E2	+8.5 to +11.5 dbm
7	Channel Regulation	a	Yes	VTVM	1000~Tone	R1	—
		b				E1-E2	+9.0 to +10.5 dbm
		c				R1	—
8	Channel Noise		No	3A Noise Set	—	DEMOD OUT Jacks	C-Msg — 3 kc Flat —
9	Channel Net Loss		No	Transmission Meas. Set	1000~Tone	DEMOD OUT Jacks	—

Note: The final adjustment of the REG and EXP potentiometer (Tests 4 and 6) should be made with the test stand switch in the N1-O1 NORM position (not N1-LOOP).

CHART II

LINE-UP AND MAINTENANCE TESTS FOR N1 CARRIER AMPLAS CHANNEL UNIT WITHOUT SIGNALING (J98703BP)

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			
1	Carrier Output		5	*	M2	Recorded Value ±0.5 db	Recorded Value	MOD	For initial line-up see 362-025-501.	025-501
2	Carrier Leak		5	*	M2	At least 18 db below TEST 1	—	—	Ground TP7	
3	Compressor Gain		5	5	F	At least +8.5 db	—	—	COMP pot. at max. output	025-502
						+7.5 to +8.5 db	+8.0 db	COMP		
4	Received Carrier		5	*	R1	−13.0 to −29.0 db	—	—	REG pot. set for max. output	030-501
						−28.0 to −38.0 db	−33.0 db	REG		
5	Demod Output		5	*	TP8	+11.0 to +14.0 db	—	—	***Distant End:*** Send 1000~ at −16 dbm.	
6	Expandor Output		6	5	E1-E2	+8.5 to +11.5 dbm	+10.0 dbm	EXP	***Distant End:*** Send 1000~ at −16 dbm. ***Testing End:*** Turn REC pot. max. cw.	305-501
7	Channel Regulation	a	5	*	R1	—	−41.0 db	REG		030-501
		b	6	5	E1-E2	+9.0 to +10.5 dbm	—	—		
		c	5	*	R1	—	−33.0 db	REG		
8	Channel Noise				THIS TEST TO BE MADE AT THE VF PATCH BAY ONLY.					305-510
9	Channel Net Loss **		7	6	—	—	+7.0 dbm (+4.0 dbm)	REC	***Distant End:*** Send 1000~ at −16 dbm.	305-512

Note: The final adjustment of the REG and EXP potentiometer (Tests 4 and 6) should be made with the test stand switch in the N1-01 NORM position (not N1-LOOP).

*VF PATH switch not used for these tests, can be left in any position except 2 or 6.

**Make final adjustment with a transmission measuring set at the VF Patch Bay.

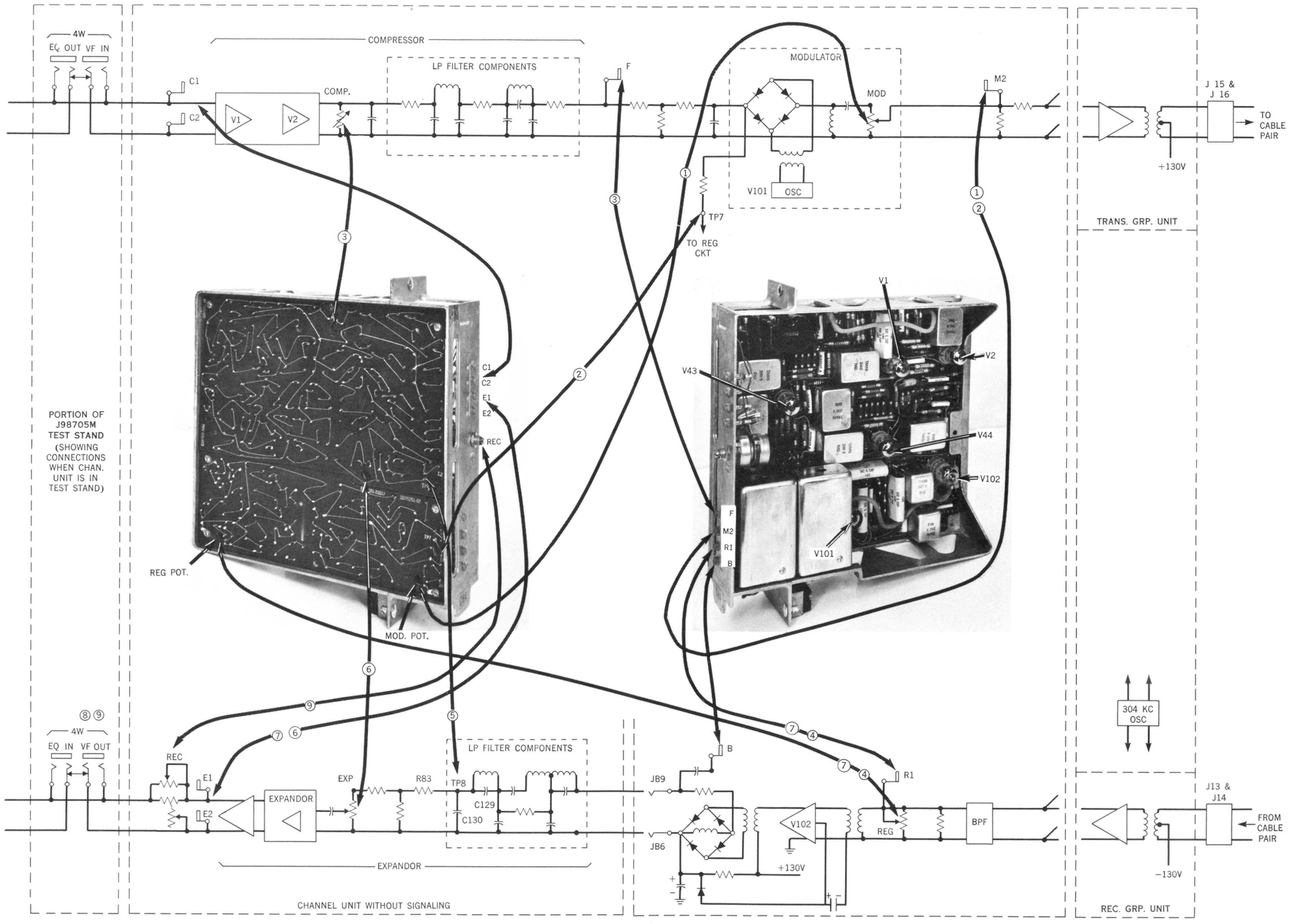

Fig. 1 – Line-Up and Maintenance Tests for N1 Carrier Amplas Channel Unit Without Signaling (J98703BP)