TYPE N1, O AND ON CARRIER TELEPHONE SYSTEMS

OVER-ALL CHANNEL LINE-UP

SUMMARY CHARTS—LINE-UP AND MAINTENANCE

O AND ON CARRIER—SCHEDULE C AND D PROGRAM CHANNEL (J98705AT)

This section consists of an overall diagram of the channel unit (see Fig. 1) and Charts 1 and 2 giving the tests required for line-up and maintenance of the J98705AT Schedule C and D Program Channel.

This section is reissued to add Test 7, Expandor Output, to Charts 1 and 2. Shading is used to indicate changes to Charts 1 and 2. This reissue affects the Equipment Test List.

Chart 1 is provided for the standard testing arrangement; Chart 2 is provided for locations where the mobile carrier test bay is used.

It will be necessary to refer to associated sections for the detailed procedures 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: (Required at the transmitting and receiving terminals)

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

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

1—262B Plug (600-ohm termination)

1—21A Transmission Measuring Set (21A TMS) or equivalent oscillator

1—Channel Unit Test Stand (J98705M). Use 3/8A fuse in place of the 1/8A fuse for the tests performed in this section.

1—P19A Cord (used with channel test stand)

CHART 1

LINE-UP AND MAINTENANCE TESTS FOR O AND ON CARRIER — SCHEDULE C AND D PROGRAM CHANNEL (J98705AT)

TEST	PURPOSE OF TEST	TEST STAND REQ'D	MEAS. EQUIP. TESTING END	REQUIRED DISTANT END	MEASURE TEST POINT TO GRD. OR BETWEEN TEST POINTS	REQUIRED VALUE		ADJUST	TEST CONDITIONS AND REMARKS		SECTION REFERENCE
						TEST	READJUST				
1	Compressor Output	Yes	VTVM	—	TP6	At least —11.5 dB	—	—	COMP pot. maximum Test stand to N1-01 NORM	Send 1000~ at —27 dBm at VF IN jack	362-320-501
						—	—12.0 dB	COMP	—		
2(a)	C and D Program Carrier Level	Yes	VTVM	—	T Jack	—42.0 to —43.0 dB	—42.5 dB	T	—		
						—42.5 ±0.1 dB	—	—	Test stand to 01 TERM		
2(b)	Alternate Voice, Data, FAA or Data only Carrier Level	Yes	VTVM	—	T Jack	—46.0 to —47.0 dBm	—46.5 dB	T	—	Send 1000~ at —27 dBm at VF IN jack	
						—46.5 ±0.1 dB	—	—	Test stand to 01 TERM		
3	Carrier Leak	Yes	VTVM 262B Plug	—	T Jack	Less than —66.0 dB	—	—	Terminate VF IN with 600 ohms Turn selector on test stand to 01 TERM		
						Less than —54.0 dB			Turn selector switch to N1-01 NORM		
4	1000 Hz Output	Yes	21A TMS	21A TMS	E1-E2	—	—3.0 dBm	R	***Testing End:*** Adjust EXP, R and REC potentiometers per section reference.	***Distant End:*** Send 1000~ at —27 dBm at VF IN jack	
					VF OUT	—	—4.0 dBm	REC			
5	Channel Equalization	Yes	21A TMS	21A TMS	VF OUT	—3.0 to —5.0 dBm		High, Low Equalizers	Receiving terminal	***Distant End:*** Send frequencies at —27 dBm at VF IN jack ***Both ends:*** Test stands to N1-01 NORM	***Frequencies*** Hz 200 300 400 500 1000 1500 2000 2500 3000 3400 3500 1000
								Midband Equalizer	Transmitting terminal		
6	Channel Net Gain and Frequency Measurement	No	21A TMS	21A TMS	DEMOD OUT	—3.0 to —5.0 dBm at each test frequency except:	—	—	***Distant End:*** Send frequencies at —27 dBm at MOD IN jack Channel units in terminal bay		
						1000 Hz —4.0 dBm	—4.0 dBm	REC			
7	Expandor Output	No	VTVM	21A TMS	E1-E2	—2.0 to —4.0 dB	—	—	***Distant End:*** Send 1000 Hz tone at —27dBm at MOD IN jack Channel unit or equivalent VF IN jack.		
					DEMOD OUT	—4.0 dBm	—4.0 dBm	REC			

CHART 2

LINE-UP AND MAINTENANCE TESTS FOR O AND ON CARRIER—SCHEDULE C AND D PROGRAM CHANNEL (J98705AT) 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
					TEST	READJUST				
1	Compressor Output	5	5	TP6	At least −11.5 dB	—	—	COMP potentiometer maximum Test stand to N1-01 NORM		362-320-501
					—	−12.0 dB	COMP			
2(a)	C and D Program Carrier Level	5	5	T	−42.0 to −43.0 dB	−42.5 dB	T			
					−42.5 ±0.1 dB	—	—	Turn selector on test stand to 01 TERM		
2(b)	Alternate Voice, Data, FAA, or Data only Carrier Level	5	5	T Jack	−46.0 to −47.0 dB	−46.5 dB	T	—		
					−46.5 ±0.1 dB	—	—	Test stand to 01 TERM		
3	Carrier Leak	5	3	T	Less than −66.0 dB	—	—	Turn selector on test stand to 01 TERM		
					Less than −54.0 dB			Turn selector switch to N1-01 NORM		
4	1000 Hz Line-Up and Adjustment	7	6	E1-E2	—	−3.0 dBm	R	***Testing End:*** Adjust EXP, R and REC potentiometers per section reference	***Distant End:*** Send 1000 Hz at −27 dBm (See note)	
				VF OUT	—	−4.0 dBm	REC			
5	Channel Equalization	7	6	VF OUT	3.0 to 5.0 dB		High Low Equalizers	Receiving Terminal	***Distant End:*** Send tone at −27 dBm. (See note.) Send 200, 300, 400, 500, 1000, 1500, 2000, 2500, 3000, 3400, 3500.	
							Midband Equalizer	Transmitting Terminal		
6	Overall Frequency Response	—	—	—	−3.0 to −5.0 dBm at each test frequency except:	—	—	MOD IN to DEMOD OUT or equivalent jacks	***Distant End:*** Send tone at −27 dBm. (See note.) Send 200, 300, 400, 500, 1000, 1500, 2000, 2500, 3000, 3400, 3500, and 1000.	
					1000 Hz −4.0 dBm	−4.0 dBm	REC			
7	Expandor Output	7	6	E1-E2	−2.0 to −4.0 dBm	—	—	***Distant End:*** Send 1000 Hz tone at −27dBm MOD IN jack or equivalent VF IN jack.		
				VF OUT	−4.0 dBm	−4.0 dBm	REC			

Note: For −27 dBm input, use 11 dB pad in series with VF IN jack (use 5A attenuator, 1C pad equipped with 89BC resistor, or equivalent).

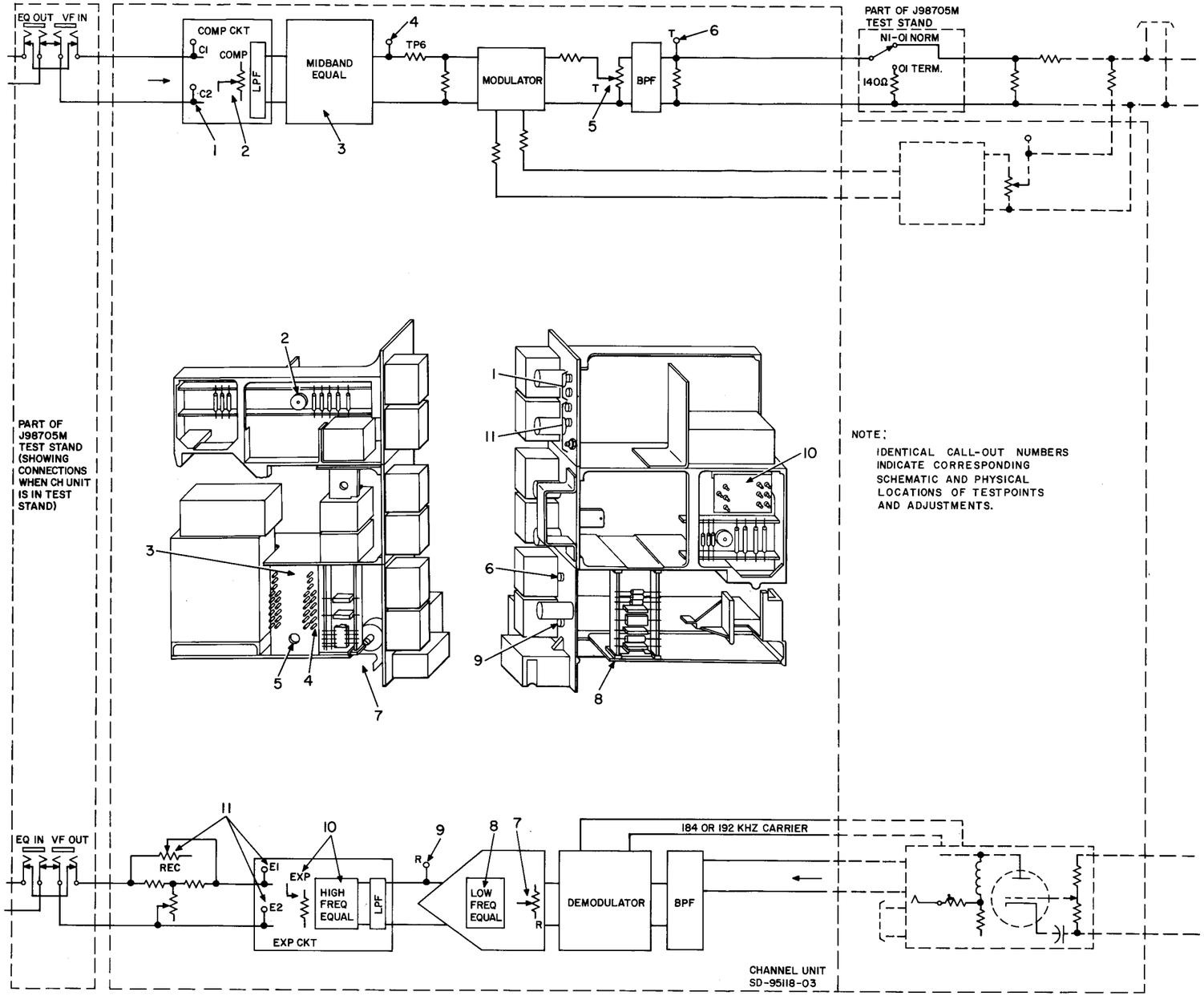

Fig. 1—Line-Up and Maintenance Tests — O and ON Carrier — Schedule C and D Program Channel (J98705AT)