
TYPE NI, O, AND ON CARRIER TELEPHONE SYSTEMS
OVERALL CHANNEL LINEUP
SUMMARY CHARTS—LINEUP AND MAINTENANCE
O AND ON CARRIER—CHANNEL UNIT WITHOUT SIGNALING (J98705AS)

This section consists of an overall diagram of the channel unit (Fig. 1) and charts giving the tests required for lineup and maintenance of the channel unit without signaling. Chart I is provided for the standard test arrangement; Chart II is provided for locations where the mobile carrier test bay is used.

This section is reissued to reflect current reference information and to make other changes. Arrows indicate changes in text, and shading indicates changes in Charts I and II. This reissue affects Equipment Test Lists.

The compressor and the carrier subassemblies of the J98705AS channel unit are identical to those used in J98705D message channel unit. The expander subassembly of the J98705AS unit has no provision for signaling.

It will be necessary to refer to associated sections for the detailed procedures and for steps to be taken when 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-type Noise Measuring Set (NMS)
 - 1—W2DW Cord (to connect VTVM to test points)
 - 1—Transmission Measuring Set (type 40B, 21A, or equivalent, 600 ohms) (TMS)
 - 1—Channel Unit Test Stand (J98705M)
 - 1—P19A Cord (used with channel test stand)
 - 1—262B Plug (600 ohms to terminate channel voice-frequency output)
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CHART I

LINEUP AND MAINTENANCE FOR O AND ON CARRIER — CHANNEL UNIT WITHOUT SIGNALING (J98705AS)

TEST	PURPOSE OF TEST	TEST STAND REQD	MEAS EQPT 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	Compressor Output	Yes	VTVM	—	TP6	At least +9.5 dB	—	—	COMP pot. at maximum output.	Send 1000 Hz at VF IN jack 0 dBm (2-wire) -16 dBm (4-wire)	362-115-501
						+8.3 to +9.7 dB	9.0 dB				
2	Message Output	Yes	VTVM	—	T Jack	-40.0 to -42.0 dB	-41 dB	T	Selector on test stand to 01 TERM.	362-115-502	
3	Carrier Leak	Yes	VTVM 262B Plug	—	T Jack	Less than -66 dB	—	—	Terminate VF IN with 600 ohms. Selector switch on test stand to 01 TERM.		
						Less than -54 dB	—	—	Selector switch to N1-01 NORMAL.		
4	Expander Output	Yes	VTVM 262B Plug	1000-Hz Tone	E1-E2	+8.5 to +11.5 dB	+10 dB	R	Distant End: Send 1000 Hz { at 0 dBm, 2-wire at -16 dBm, 4-wire	362-305-501	
5	Receiving Level	No	VTVM	1000-Hz Tone	R Jack	+8 to +14 dB	—	—	Testing End: See Note 1. Terminate VF OUT with 600 ohms.		
6	Channel Net Gain	No	TMS	1000-Hz Tone	(2W) MOD IN (4W) DEMOD OUT	—	Value Circuit Order	REC	Distant End: Send 1000 Hz { at 0 dBm, 2-wire at -16 dBm, 4-wire	362-305-512	
									Testing End: See Note 2. Set spare 2-wire channels to -10 dBm.		
7	Channel Noise	No	3-Type NMS	262B Plug	(2W) MOD IN (4W) DEMOD OUT	See Section 362-305-510 for requirements.		—	Distant End: Terminate channel with 600 ohms.	362-305-510	

Note 1: The test and readjust values shown are for use when the EXP potentiometer is strapped out. If the EXP potentiometer is not strapped out, refer to the reference section for adjustment procedures.

Note 2: The channel net gain should be remeasured and adjusted to the required net gain one week after channel alignment if tubes were changed, and one day after alignment if no tubes were changed.

CHART II
LINEUP AND MAINTENANCE FOR O AND ON CARRIER — CHANNEL UNIT WITHOUT SIGNALING (J98705AS)
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
			2W	4W		TEST	READJUST			
1	Compressor Output	5	1	5	TP6	At least +9.5 dB	—	—	COMP pot. at maximum output.	362-115-501
						+8.3 to +9.7 dB	9.0 dB	COMP		
2	Message Output	5	1	5	T Jack	-40.0 to -42.0 dB	-41 dB	T	Selector on test stand to 01 TERM.	362-115-502
3	Carrier Leak	5	3	T Jack	Less than -66 dB	—	—	Terminate VF IN with 600 ohms. Selector switch to N1-01 NORMAL.	—	
					Less than -54 dB	—	—			
4	Expander Output	6	3	5	E1-E2	+8.5 to +11.5 dB	+10 dB	R	<i>Distant End:</i> Send 1000 Hz { at 0 dBm, 2-wire at -16 dBm, 4-wire	362-305-501
5	Receiving Level	5	See Note 1	R Jack	+8 to +14 dB	—	—	<i>Testing End:</i> See Note 3.		
6	Channel Net Gain See Note 2	7	2	6	(4W) VF OUT	4-Wire	+7.0	REC	<i>Distant End:</i> Send 1000 Hz { at 0 dBm, 2-wire at -16 dBm, 4-wire	362-305-512
					(2W) VF IN	2-Wire	Circuit Order			
7	Channel Noise	This test to be made only at voice-frequency patch bay.								362-305-510

Note 1: VF PATH switch, not used for these tests, can be left in any position except 2 or 6.

Note 2: Make final adjustment with a TMS at the voice-frequency patch bay.

Note 3: The test and readjust values shown are for use when the EXP potentiometer is strapped out. If the EXP potentiometer is not strapped out, refer to the reference section for adjustment procedures.

Note 4: The channel net gain should be remeasured and adjusted to the required net gain one week after channel alignment if tubes were changed, and one day after alignment if no tubes were changed.

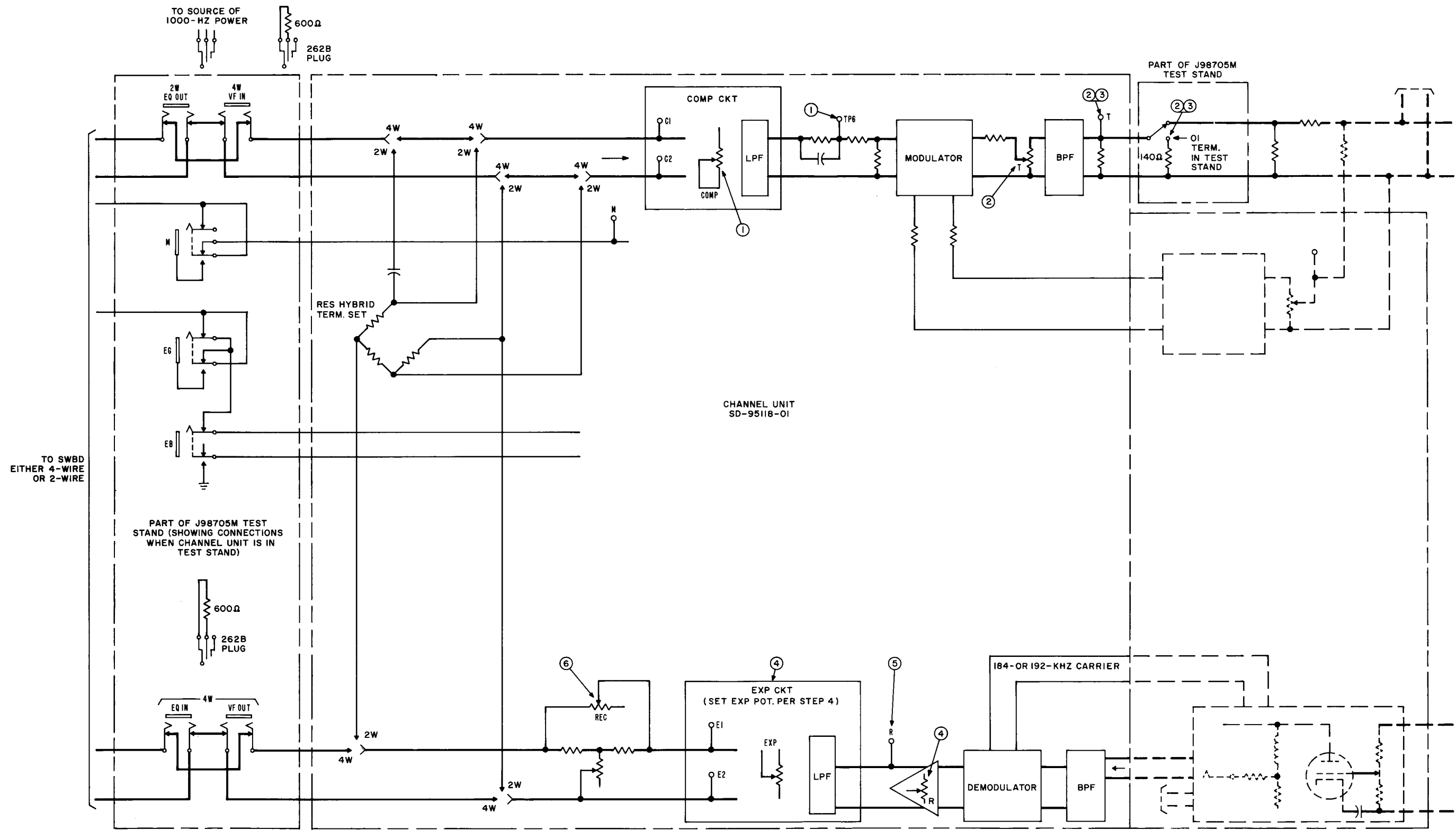


Fig. 1—Schematic Diagram—Channel Unit Without Signaling (J98705AS)

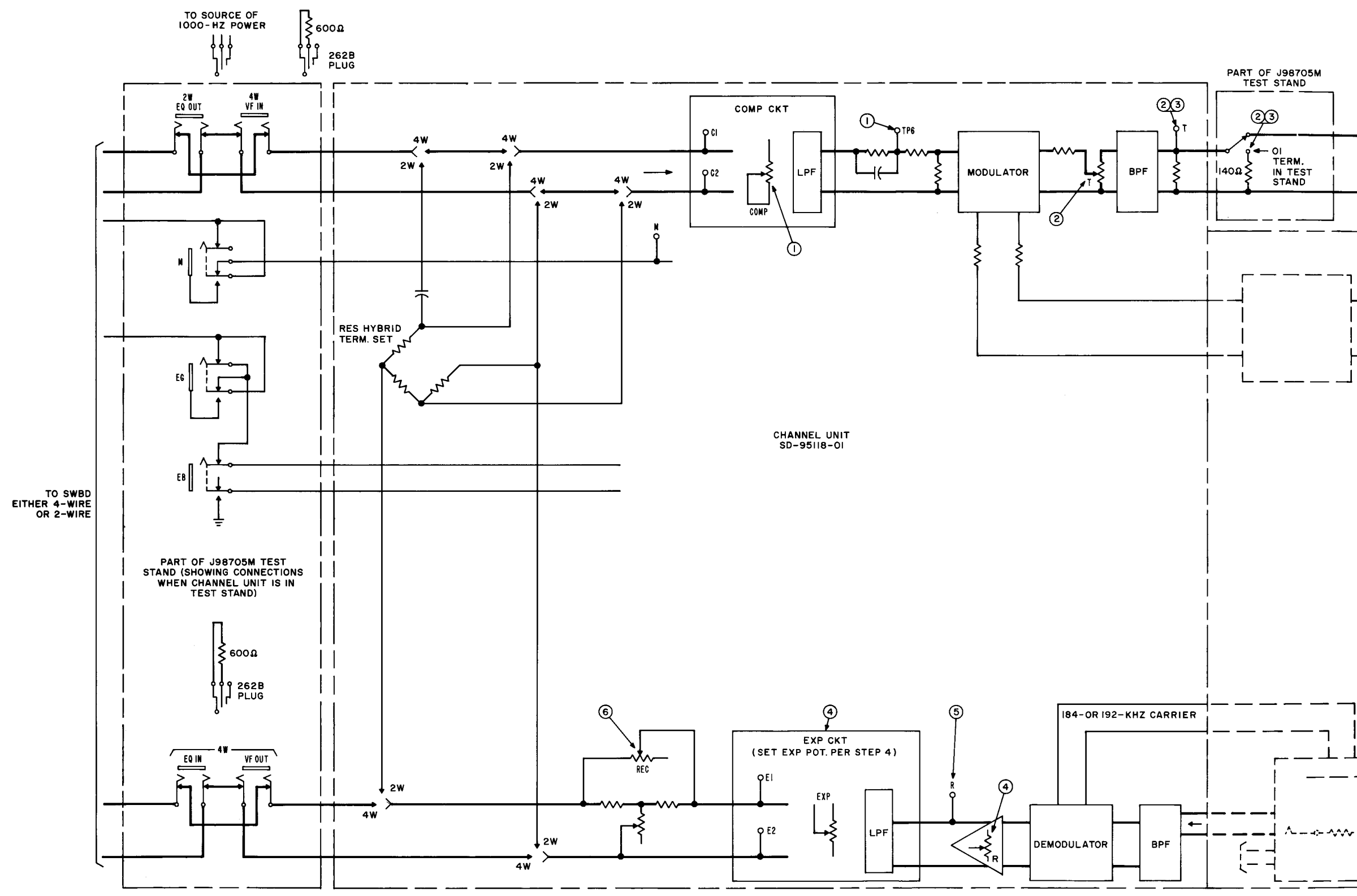
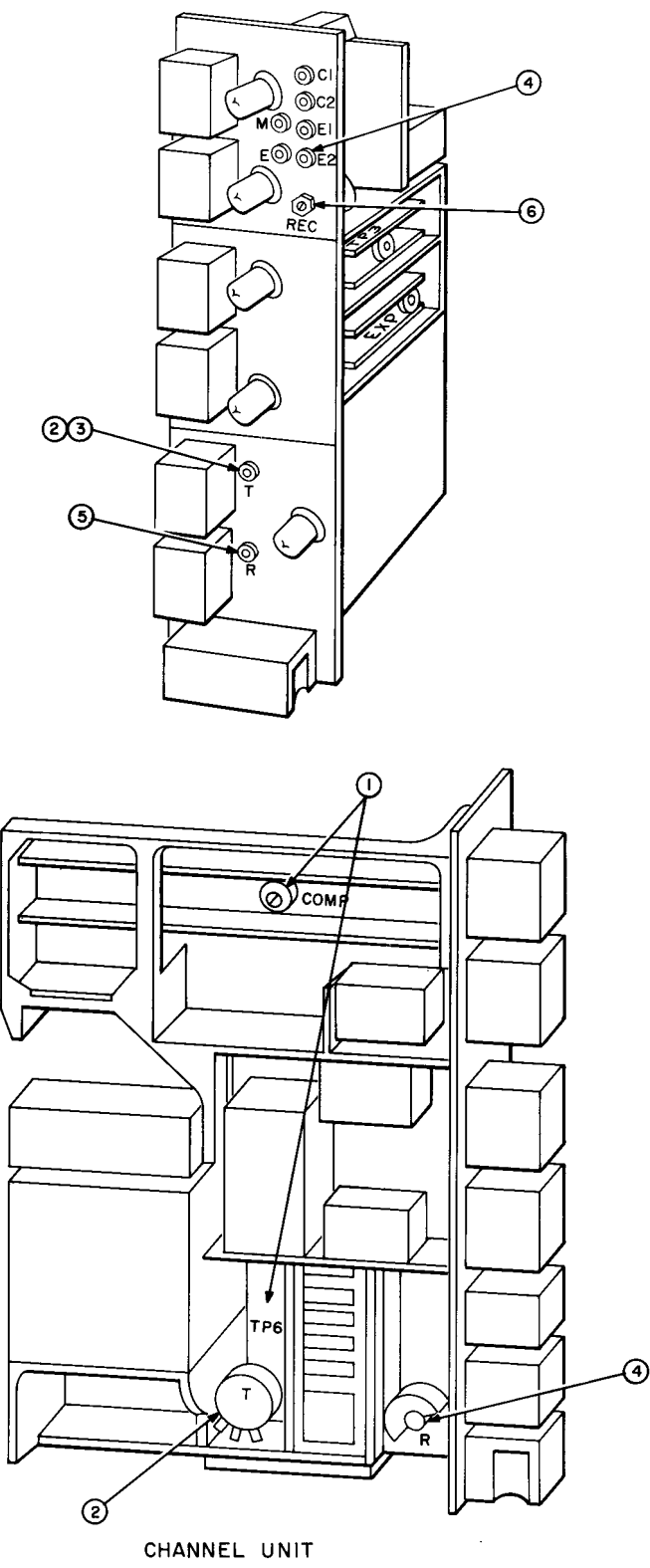


Fig. 1—Schematic Diagram of Channel Unit SD-95118-01 for Signaling (J98705M)