SERVICING CENTER TESTS USING 5U (J98705U) TEST SET

J98703AC DEVIATION REGULATOR—N CARRIER SYSTEM

J98703AD CONTROL UNIT TESTS

The control unit of the deviation regulator receives signals in two groups from the computer. Each group is amplified and then rectified so as to obtain two dc voltages of opposite polarities and uses the resultant net dc voltage to control the operating current of a network thermistor. Four of these control units are used in the feed-back path of a deviation regulator.

The tests outlined herein are designed to check the operation of the positive and negative amplifiers and the dc amplifier of a control unit.

APPARATUS:

1—Vacuum Tube Voltmeter
1—Oscillator
1—P2OD Cord
2—P2BP Cords
1—124C Adapter
1—Volt-Ohm-Milliammeter
1—1 mf Capacitor (150 V.) for nonregenerative gain tests
(Capacitor may have Alligator clips on each end)
2—Shorting Cords (any length)

STEP	PROCEDURE
1	Switches A and B on 5U test set on OFF position.
2	Connect control unit, oscillator, and vacuum tube voltmeter to 5U test as shown on associated sketches.
3	Adjust filament and check plate voltage. ***Requirement:*** Filament 38.5 volts Plate 128 - 130 volts
4	Make tests as outlined in chart.
5	For nonregenerative gain test on positive AMP of unit, disconnect C9 from grid of V5. Connect negative side of C9 to ground with a shorting cord. Bypass terminal 1 of ADJ pot. to ground with a 1 mf capacitor. See Fig. 1.
6	For trans. gain test on positive AMP of unit, remove the bypass capacitor from terminal 1 of ADJ pot. to ground.
7	For nonregenerative gain test on negative AMP of unit, connect a 1 mf bypass capacitor from the junction of R22 and the cathode of V3 to ground. See Fig. 2.

STEP	PROCEDURE
8	For trans. gain test on negative AMP of unit, remove the 1 mf bypass capacitor from R22 to ground.
9	For DC amp output test connect a shorting cord from the CARR FREQ ALM jack on the 5U test set to the junction of C11 and R13. Connect a shorting cord from the −1V jack on the 5U test set to the disconnected grid lead of V5. *Turn power off before making these connections.* See Fig. 3. ***Note:*** Positive AMP consists of V1 and V2. The gain can be adjusted by ADJ pot. The dc output is "+." Negative AMP consists of V3 and V4. This is a fixed gain amp. The dc output is "−."

PURPOSE OF TEST	SWITCH POS C	SWITCH POS D	ATT SET (DB)	CAL (DB)	OSC FREQ (KC)	TEST LIMITS (DCV) MIN	TEST LIMITS (DCV) MAX	TS TST	TEST CONDITIONS AND REMARKS
1. NON-REGEN. GAIN (POS AMP)	5	7	70	−3.0					See Test Proc. 5. Meas. DC volts across C9.
					100	21.0	37.0		Measured value between these limits is P value.
					300	P −13.0	P +1.0		
2. TRANS GAIN (POS AMP)	5	7	50	−3.0					See Test Proc. 6. Meas. DC volts across C9.
					216	50.0			ADJ pot. in max. clockwise position.
							30.0		ADJ pot. in max. counter-clockwise position.
3. NON-REGEN. GAIN (NEG AMP)	2	7	70	−3.0					See Test Proc. 7. Meas. DC volts across C28.
					100	24.0	40.0		Measured value between these limits is M value.
					300	M −16.0	M +2.0		
4. TRANS GAIN (NEG AMP)	2	7	50	−3.0	216	30.0	40.0		See Test Proc. 8. Meas. DC volts across C28.
5. DC AMP OUTPUT	6	OFF				7.0	13.0		See Test Proc. 9. Meas. DC volts across R13.

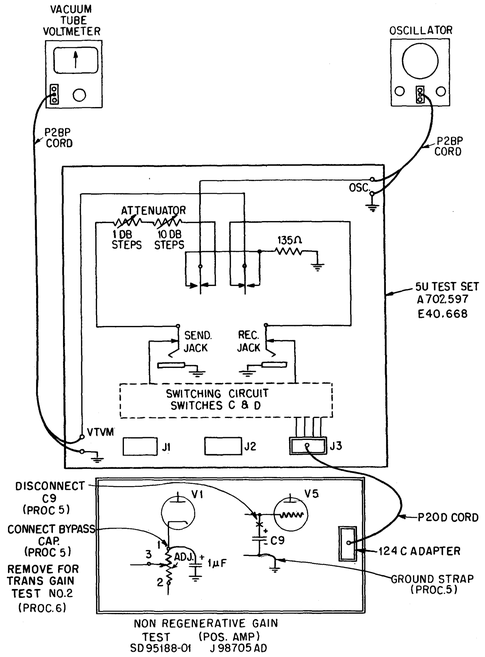

Figure 1

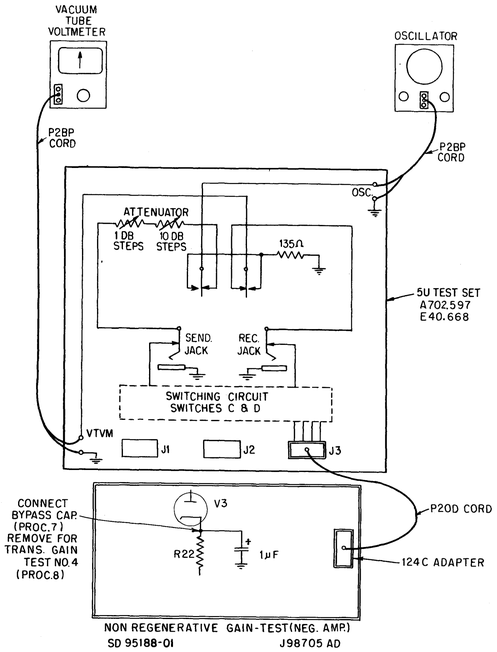

Figure 2

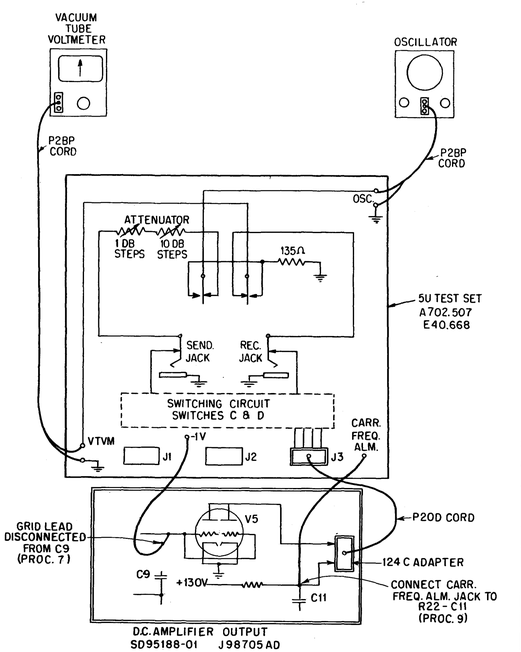

Figure 3