TYPE N AND ON2 CARRIER TELEPHONE SYSTEMS
DEVIATION REGULATOR
REMOVING UNITS FROM SERVICE
SWITCHING A DEVIATION REGULATOR

The 2M repeater switching set, normally used for switching N carrier repeaters, is used for switching a deviation regulator from service. However, since it is not practical to bypass the deviation regulator with an alternate regulator unit, an ED-92717-01, GR5 adapter plug is plugged into the alternate repeater jacks in the 2M set to provide continuity while switching.

Although a deviation regulator may be switched without an interruption of transmission, the regulation and equalization provided by the regulator will be lost temporarily. In order to insure that this loss of regulation and equalization will not interrupt transmission on some channels, the regulating current of each shape network must be checked before the switching procedure is performed.

IMPORTANT: Hits will very probably occur on any telegraph, telephoto, SAGE or other data circuits present on the N carrier telephone system involved in this operation. Except for cases of emergency, the control office for the system should be notified before the procedures described below are followed.

APPARATUS:

3AF Test Set
2M Switching Set, with PWR Cord
ADPTR Plug
W20C Cord

STEP	PROCEDURE
	(A) Checking the Regulating Current to Shape Network
1	Prepare the 3AF test set as follows: (a) Operate the CAL potentiometer to the OFF position. (b) Set the toggle switch to the 40 MA position. (c) Set the rotary switch to the REG CUR position.
2	Insert the plug (P1) of the test set into the TST jack associated with the slope control circuit unit. See Fig. 1(a).
3	Read the current on the 40 MA meter scale; if the current is less than 10 ma, operate the toggle switch to the 10 MA scale. Record the value of current measured.

STEP	PROCEDURE
4	Repeat Steps (2) and (3) on the bulge, cubic, and quartic shape network circuits. ***Requirements:*** (a) If all four current readings are between 2.0 to 10.0 ma the deviation regulator may be switched without too great a loss of equalization. Proceed with the switching procedure described below. (b) If any of the shape network regulating currents are outside the limits of 2 to 10 ma the regulator should not be switched from service except in case of emergency.
5	Disconnect the 3AF test set.
	(B) Switching the Regulator from Service
1	Prepare the 2M switching set as follows: (a) Insert the ADPTR plug into the ALT REP jack of the 2M set. (b) Operate the W-E toggle switch to the REG position. (c) Turn the W-E gain potentiometer maximum clockwise (10 position). (d) Connect the PWR cord from the BAT jack to the power supply jack of the local office battery. (e) Connect the 2J test set to the switching set TEST jacks. Adjust the 2J test set for a W-E output reading.
2	Check that both CONNECTOR plugs are in place in jacks J1 and J2 in the deviation regulator. Remove the CONNECTOR plug from jack J1.
3	Connect a W20C cord from the REG REP jack of the 2M set to jack J1.
4	Remove the remaining CONNECTOR plug from jack J2. The deviation regulator is now in the condition shown in Fig. 1(b).
5	Adjust the switching set rotary test switch to the W-E ALT position. Unless there is trouble in the high-frequency line preceding the deviation regulator, the 2J test set should indicate a reading of approximately +12 dbm.
6	Operate the W-E toggle switch on the switching set to the ALT position. The 2J test set should still indicate a reading of approximately +12 dbm. (If no reading is indicated the W-E toggle switch on the switching set should be operated back to the REG position and the switching set arrangement checked for trouble before the switch is again attempted.)
7	The regulator is now switched from service. It is bridged across the line and terminated in 135 ohms, as shown in Fig. 1(c).
8	Disconnect the 2J test set from the switching set TEST jacks.
	(C) Restoring the Regulator to Service
1	Connect the 2J test set to the TEST jacks on the switching set. Adjust the 2J test set for a W-E output reading.

STEP	PROCEDURE
2	Adjust the switching set rotary test switch to the W-E ALT position. The switching set should indicate a reading of approximately +12 dbm.
3	Adjust the switching set rotary switch to the W-E REG position.
4	Operate the W-E toggle switch on the switching set to the REG position. The regulator is now back in service. See Fig. 1(b).
5	The 2J test set should still indicate a reading of approximately +12 dbm. (If no reading is indicated the W-E toggle switch on the switching set should be operated back to the ALT position and the deviation regulator checked for trouble before the switch is again attempted.)
6	Insert a CONNECTOR plug into jack J2 on the deviation regulator.
7	Remove the PWR cord from the BAT jacks; and disconnect the W20C cord from jack J1 on the regulator.
8	Insert a CONNECTOR plug into jack J1.

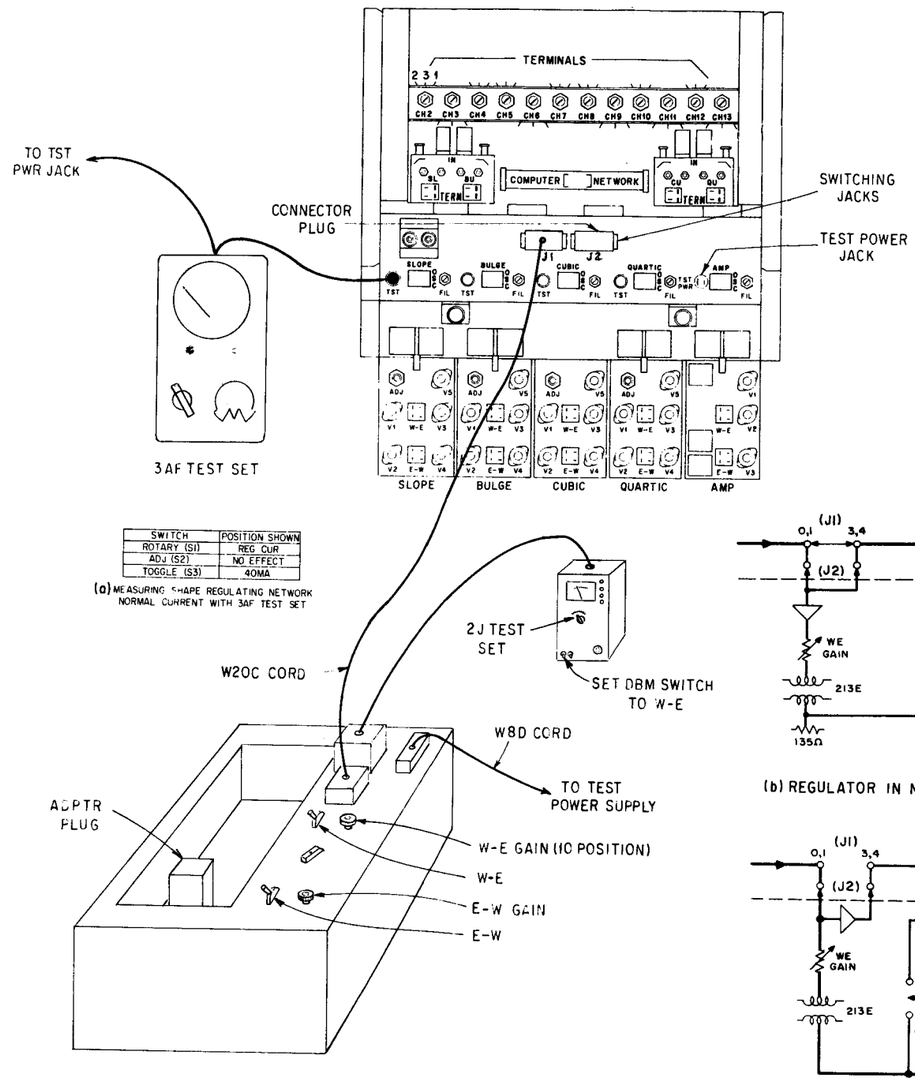

Fig. 1—Test Set Arrangements for Switching a Deviation Regulator