ORIGINATING REGISTER, OUTPULSING CONTROLLER PULSING TESTS USING AUTOMATIC TEST CIRCUIT SD-32365-01 STEP-BY-STEP COMMON CONTROL OFFICES

1. GENERAL

1.01 This section describes a method of testing the originating register outpulsing controller pulse generator and pulse repeating relays using the automatic test circuit.

1.02 The tests covered are:

A. Pulse Generator Loop Pulsing: This test checks the pulsing speed and percent break of the register pulse generator for loop pulsing operation.

B. Pulse Generator MF and KP Pulsing: This test checks the pulsing speed and percent break of the register pulse generator for multifrequency (MF) operation.

C. L1 Relay Pulse Repeat: This test checks that the register L1 relay will repeat dial pulses under nominal and marginal conditions.

1.03 Test B applies only to offices equipped for controlled outpulsing.

1.04 Refer to Section 163-653-501 for pulse checking test set use and application, Section 040-012-711 for pulse repeating requirements for 221-type relays, and Section 040-236-701 for requirements and adjusting procedures for 221-type relays.

1.05 A particular originating register may be manually selected for testing as follows:

(a) Determine register location from local records.

(b) Operate PC key.

(c) Operate S-PCS key sufficient times to select the desired pair of select magnets ORC and ORC′, 0 to 9.

(d) Operate H-PCS key sufficient times to select the desired pair of hold magnets ORC and ORC′, 0 to 9.

(e) Operate XC-PCS key sufficient times to advance the crosspoint steering to the desired register location. Rapid selection of select and hold magnets may be accomplished in (c) and (d) above by holding operated S-PCR and H-PCR keys, respectively, until the desired locations are reached. Lamps associated with each select and hold magnet are provided at the test panel to facilitate the register selection.

1.06 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 4 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

All Tests

2.01 Automatic test circuit, SD-32365-01.

2.02 Pulse checking test set, J94723A (SD-96362-01).

2.03 Two patching cords, P3K cord, 6 feet long, equipped with two 310 plugs (3P15A cord) (used for connecting battery and input pulsing to pulse checking test set).

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	At automatic test circuit — Connect BAT G jack of pulse checking test set to 48-volt battery jack.	
2	Calibrate pulse checking test set in accordance with test set requirements or Section 163-653-501.	
3	Connect P jack of pulse checking test set to B jack on automatic test circuit.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Pulse Generator Loop Pulsing	
4	At automatic test circuit — Operate PG, PLK keys.	
5a	If a particular register is to be tested — Operate PC key.	
6a	Operate S-PCS, H-PCS, XC-PCS keys to select particular register.	Corresponding SEL-, H-, XP- lamps light.
7	At pulse checking test set — Operate SCALE switch to 20.	
8	Operate PPS key.	
9	Check loop pulsing requirements as shown in timing requirements chart SD-32351-01.	
10	At automatic test circuit — Operate ST key.	Loop pps requirements met.
11	At pulse checking test set — Operate PCB key.	Loop percent break requirements met.
12	Operate PPS key.	
13b	If automatic test circuit is to advance to next register — Momentarily operate CA key.	Automatic test circuit advances to next register.
14b	Repeat Steps 9 through 12.	
15c	If no other tests are to be made — Remove all cords and restore all keys.	

STEP	ACTION	VERIFICATION
	B. Pulse Generator MF and KP Pulsing	
4	At automatic test circuit — Operate PG, MFP keys.	
5a	If a particular register is to be tested — Operate PC key.	
6a	Operate S-PCS, H-PCS, XC-PCS keys to select particular register.	Corresponding SEL-, H-, XP- lamps light.
7	At pulse checking test set — Operate SCALE switch to 20.	
8	Operate PPS key.	
9	Check MF pulsing requirements as shown in timing requirements chart SD-32351-01.	
10	At automatic test circuit — Operate ST key.	MF pps requirements met.
11	At pulse checking test set — Operate PCB key.	MF percent break requirements met.
12	Operate PPS key.	
13	At automatic test circuit — Restore MFP key.	
14	Check MFKP pulsing requirements as specified in timing requirements chart SD-32351-01.	
15	Operate MFKP key.	MFKP pps requirements met.
16	At pulse checking test set — Operate PCB key.	MFKP percent break requirements met.
17	Operate PPS key.	
18b	If automatic test circuit is to advance and test next register — Momentarily operate CA key.	Automatic test circuit advances to next register.
19b	Repeat Steps 9 through 17.	
20c	If no other tests are to be made — Remove all cords and restore all keys.	

STEP	ACTION	VERIFICATION
	C. L1 Relay Pulse Repeat	
4	At automatic test circuit — Operate DPR, PLK keys.	
5a	If a particular register is to be tested — Operate PC key.	
6a	Operate S-PCS, H-PCS, XC-PCS to select particular register.	Corresponding SEL-, H-, XP- lamps light.
7	At pulse checking test set — Operate SCALE switch to 20.	
8	Operate PPS key.	
9	Check pps and percent break timing requirements chart SD-32365-01.	
10	At automatic test circuit — Operate ST key.	10 pps nominal pulsing requirements met.
11	At pulse checking test set — Operate PCB key.	10 pps nominal percent break requirements met.
12	Operate PPS key.	
13	At automatic test circuit — Operate LP key.	
14	Check pps and percent break requirements chart SD-32365-01.	12 pps loop pulsing requirements met.
15	At pulse checking test set — Operate PCB key.	12 pps loop pulsing percent break requirements met.
16	Restore LP key.	
17	At pulse checking test set — Operate PPS key.	
18	Check leak requirement pps and percent break timing requirements chart SD-32365-01.	
19	At automatic test circuit — Operate LK key.	Leak pulsing requirements met.
20	At pulse checking test set — Operate PCB key.	Leak percent break requirements met.
21	Operate PPS key.	
22b	If automatic test circuit is to advance to next register — Momentarily operate CA key.	Automatic test circuit advances to next register.
23b	Repeat Steps 9 through 22.	
24c	If no other tests are to be made — Remove all cords and restore all keys.	