DIAL PULSE INCOMING REGISTERS TESTS USING OFFICE TEST FRAME NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing dial pulse incoming registers using the office test frame in No. 5 crossbar offices.

1.02 This section is reissued to incorporate material from the addendum in its proper location. In this process marginal arrows have been omitted.

1.03 The tests covered are:

A. Regular Call: The following features are checked: (1) Registration of the trunk link frame number. (2) Registration of pulses for each digit. (3) Registration of numericals on a two-out-of-five code basis.

B. Special Call: This test checks the ability of the register to select a special marker.

C. Number of Digits to be Received: This test checks the ability of the register to seize the marker when it has received all the digits required for the code or trunk class.

D. Link Release and Verification of Trouble Indicating Leads: This test checks that the register times out and calls in the trouble indicator and releases when the CK relay fails to operate in the register.

E. Double Connection: This test checks that the register recognizes a double connection in the incoming register link switch and times out and calls in the trouble indicator.

F. Abandoned Call: This test checks the ability of the register to release on abandoned calls.

G. Reorder: This test checks the ability of the register to recognize a failure to receive pulses when pulsing is expected.

H. Over-all Time-out: This test checks that the over-all timer causes a trouble release within the required time interval.

I. Common Alarm Timing: This test checks that the common alarm circuit is operated by the register in the allotted time.

J. AC, RV, and LR Timers: This test checks the timing interval of the AC, RV, and LR timers.

1.04 Test B requires action and verification at the incoming register link frame and at local test desk.

1.05 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Parts 3 and 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.

1.06 Local instruction should be followed for recording and reporting any register operations caused by performing these tests.

2. APPARATUS

All Tests Except B and J

2.01 Office test frame (OTF).

Tests A and C Through I

2.02 Patching cord, P3D cord, 6 feet long, equipped with two 309 plugs (3P3A cord), as required.

2.03 Patching cords as required, P3E cord, 8 feet long, equipped with two 310 plugs (3P6E cord).

2.04 Patching cord, W3M cord, 15 feet long, equipped with one 310 plug and three 360 tools (3W4B cord) and one KS-6248 connecting clip (used to connect SP jack to unit terminal strip).

Tests B, D, E, H, and I

2.05 Blocking and Insulating Tools, as required. Use tools and apply, as covered in Section 069-020-801.

Tests G Through I

2.06 KS-3008 Stop watch, or equivalent.

Tests I and J

2.07 No. 322A make-busy plug.

Test J

2.08 Test Set for Timing Tests J24753A (SD-25707-01).

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests Except B and J		
1	At jack lamp and key circuit — Using P3D patch cord, interconnect the IR jack in the MB2 field and the IRMB-jack of the register being tested.	
2	Using P3D patch cord, interconnect the IR jacks in the MB1 field and the IRMB-jacks of all other registers of the same type as register being tested.	
3	From office records select an incoming trunk served by register under test and have trunk made busy at distant office.	
4	At relay rack — Using P3E patch cord, interconnect the ITT and T jack of trunk to be used in test.	
5	At office test frame (OTF) — Operate ITT and ITT1 keys.	
6a	If trunk used in test is by-link — Operate BL key.	
7a	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
8a	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
9b	If trunk used in test does not require a start dial signal — Operate ONHK key.	
10c	If trunk used in test has A- relay ground shunt — Operate GS key.	

STEP	ACTION	VERIFICATION
11d	If trunk used in test has short conductor loop — Operate SLP key.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Regular Call	
12	At OTF — Operate MKR- key associated with a completing marker.	
13	Operate CB key.	
14	Operate -D key depending on incoming class of trunk used in test.	
15	Operate A- through K- DIAL switches, as required, to select any digits to be used in test.	
16	Operate ST key.	IS lamp lights until end of pulsing. At trouble indicator and connector (TIC) — Display registered. A- through K- lamps light corresponding to digits set up on A- through K- DIAL switches. TF 2/5 lamps light identifying trunk link frame number of trunk used in test.
17	At OTF — Restore ST key.	
18	At TIC — Operate RLS key momentarily.	Display released.
19	At OTF — Operate 10PPS key.	
20	Repeat Steps 15 through 18.	
21e	If no other tests are to be made — At relay rack — Remove patch cord from ITT, T, SP jacks, and from unit terminal strip, as required.	
22e	At jack lamp and key circuit — Remove patch cords from IR, IRMB, TM, and SP jacks, as required.	
23e	Have trunk used in test restored to service.	
24e	At OTF — Restore all keys.	

STEP	ACTION	VERIFICATION
	B. Special Call	
1	From office records, select a no-test trunk from the local test desk and determine incoming register link (IRL) appearance.	
2	At IRL for trunk selected — Block operated RB- relays associated with register being tested in all horizontal groups except the one serving the trunk used in test.	
3	Block operated RB- relays associated with all other registers for the horizontal group serving the trunk used in test.	
4	At local test desk — Place test call to any test line using trunk selected for test.	Call completes to test line.
5	Release test connection.	
6	At IRL — Remove blocking tools from RB- relays.	
	C. Number of Digits to be Received	
12	At OTF — Operate -D key depending on incoming class of trunk used in test.	
13	Operate DIAL A- through K- switches, as required, to select terminating test line number.	
14	Operate R± or T± key, depending on type of ringing expected for terminating test line number used.	
15	Operate ST key.	TOK lamp lights.
16	Restore ST key.	TOK lamp extinguished.
17	At relay rack — Remove patch cord from ITT, T, SP jacks, and from unit terminal strip as required.	
18	Have trunk used in test restored to service.	
19	Repeat Steps 3 through 18 for each equipped incoming class, substituting in Step 3 an incoming trunk having the incoming class desired.	
20e	If no other tests are to be made — At jack lamp and key circuit — Remove patch cords from IR, IRMB-, SP and TM jacks, as required.	

STEP	ACTION	VERIFICATION
21e	At OTF — Restore all keys.	

D. Link Release and Verification of Trouble Indicating Leads

12	At jack lamp and key circuit — Restore CLLR key if operated.	
13	At register under test — Block CK relay nonoperated.	
14	At OTF — Operate ST key.	At TIC — Display registered. INC, DCK, and LR lamps light. CN and RG- lamps light identifying register under test.
15	Restore ST key.	
16	At TIC — Operate RLS key momentarily.	Display released.
17	At register under test — Remove blocking tool from CK relay.	
18e	If no other tests are to be made — At relay rack — Remove patch cord from ITT, T, SP jacks, and from unit terminal strip, as required.	
19e	At jack lamp and key circuit — Remove patch cords from IR, IRMB-, SP, and TM jacks, as required.	
20	Have trunk used in test restored to service.	
21e	At OTF — Restore all keys.	

E. Double Connection

12	At jack lamp and key circuit — Restore CLLR key if operated.	
13	At register under test — Block DCK relay nonoperated.	
14	At OTF — Operate ST key.	At TIC — Display registered. INC and LR lamps light. DCK lamp not lighted.
15	Restore ST key.	
16	At TIC — Operate RLS key momentarily.	Display released.
17	At register under test — Remove blocking tool from DCK relay.	

STEP	ACTION	VERIFICATION
18e	If no other tests are to be made — At relay rack — Remove patch cords from ITT, T, SP jacks, and from unit terminal strip, as required.	
19	At jack lamp and key circuit — Remove patch cords from IR, IRMB-, SP and TM jacks, as required.	
20e	Have trunk used in test restored to service.	
21e	At OTF — Restore all keys.	

F. Abandoned Call

12	At OTF — Operate ST key.	IS lamp lights.
13	Immediately after IS lamp lights — Restore ST key.	IS lamp extinguished.
14e	If no other tests are to be made — At relay rack — Remove patch cord from ITT, T, SP jacks, and from unit terminal strip.	
15e	At jack lamp and key circuit — Remove patch cords from IR, IRMB-, SP, and TM jacks, as required.	
16e	Have trunk used in test restored to service.	
17e	At OTF — Restore all keys.	

G. Reorder

Permanent Signal

12	Operate DIAL A switch to position 2.	
13	Operate O key.	
14	Operate MF key.	
15	Operate ST key, ***start timing.***	IS lamp lights. In 20 to 32 seconds — Reorder tone heard. IS lamp extinguished.
16	Restore MF and ST keys.	Tone removed.

Interdigital Time-out

17	Operate ST key, ***start timing.***	IS and B lamps light. In 20 to 32 seconds — Reorder tone heard.
18	Restore ST key.	IS and B lamps extinguished. Tone removed.

STEP	ACTION	VERIFICATION
19e	If no other tests are to be made — At relay rack — Remove patch cords from ITT, T, SP jacks and from unit terminal strip, as required.	
20e	At jack lamp and key circuit — Remove patch cords from IR, IRMB-, SP, and TM jacks, as required.	
21e	Have trunk used in test restored to service.	
22e	At OTF — Restore all keys.	
	H. Over-all Time-out	
12	Operate DIAL A switch to position 2.	
13	Operate O key.	
14	Operate MF key.	
15	Operate ST key, ***start timing.***	IS lamp lights. In 20 to 32 seconds — Reorder tone heard. IS lamp extinguished.
16	Restore ST key.	Tone removed.
17	At relay rack — Block RB2 relay in group-busy circuit associated with register being tested.	
18	Operate ST key, ***start timing.***	IS lamp lights. In 4 to 7 seconds — Reorder tone heard. IS lamp extinguished.
19	Restore ST key.	Tone removed.
20	At relay rack — Remove blocking tool from RB2 relay.	
21e	If no other tests are to be made — At relay rack — Remove patch cord from ITT, T, SP jacks and from unit terminal strip, as required.	
22e	At jack lamp and key circuit — Remove patch cords from IR, IRMB-, SP, and TM jacks, as required.	
23e	Have trunk used in test restored to service.	
24e	At OTF — Restore all keys.	

STEP	ACTION	VERIFICATION
	I. Common Alarm Timing	
12	At OTF — Operate -D key depending on incoming class of trunk used in test.	
13	Operate A- through K- DIAL switches, as required, to select any digits to be used in test.	
14	At register under test — Block MST and RO relays nonoperated.	
15	Operate ST key, after ED lamp lights, ***start timing.***	ED lamp lights. At jack lamp and key circuit — In 20 to 30 seconds — TO lamp lights.
16	At jack lamp and key circuit — Remove patch cord from IR and IRMB- jacks associated with register under test.	In 10 to 15 seconds — R- S- TOA lamp lights. Major alarm sounds.
17	Insert make-busy plug into IRMB- jack associated with register under test.	R- S- TOA lamp extinguished. Major alarm silenced.
18	Restore ST key.	At OTF — ED lamp extinguished.
19	At register under test — Remove blocking tools from MST and RO relays.	At jack, lamp and key circuit — TO lamp extinguished.
20e	If no other tests are to be made — At relay rack — Remove patch cord from ITT, T, SP jacks, and from unit terminal strip, as required.	
21e	At jack lamp and key circuit — Remove patch cord from IR, IRMB-, SP, and TM jacks, as required.	
22e	Have trunk used in test restored to service.	
23e	At OTF — Restore all keys.	
	J. AC, RV, and LR Timers	
1	At jack lamp and key circuit — Insert make-busy plug into IRMB- jack associated with register being tested.	
2	At register under test — Measure AC, RV, LR timing interval, using the circuit requirements tables and timing test set.	
3	At jack lamp and key circuit — Remove make-busy plug from IRMB- jack.	