

**TRAFFIC REGISTERS—PART 4**  
**TESTS USING MASTER TEST FRAME**  
**NO. 5 CROSSBAR OFFICES**

**1. GENERAL**

**PAGE**

1.01 This section is Part 4 of a series of sections that describe methods for testing traffic registers.

R0-3 groups operate when an originating register group-busy condition is encountered by a dial tone or combined marker. . . . . 9

1.02 This section is reissued to make changes and additions to Test F.

**E. Deleted.**

This reissue does not affect Equipment Test Lists.

**F. Peg Count Register For Announcement or No-Such Number Tone on Request for Coin Deposit—Dial-Tone-First (PC Lead):** This test checks that the peg count register operates after a timing interval when either an announcement or no-such-number tone is returned to customer on coin request. . . . . 10

1.03 The tests covered are:

**PAGE**

**A. Peg Count Register for Abandoned Partial Dial Peg Count (APD, APPB Leads):** This test checks that the peg count register operates when a call is abandoned during DP dialing or TOUCH-TONE® keying. . . . .

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**B. Load Indicating Register for Originating Registers (LD Lead):** This test checks that the load indicating register operates once every second while more than a predetermined number of originating registers are busy. . . . .

7

**C. Peg Count Register for DDD Calls Which Progress to Nine Digits and are Then Abandoned (EAPD Lead):** This test checks that the peg count register operates on DDD calls which are abandoned after nine digits are dialed. . . . .

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**D. Overflow Register for Originating Registers (BD, BMF, BR- Leads):** This test checks that the overflow register and DP, MF, and

1.04 Table A lists locations where actions and verifications are required during tests.

TABLE A

ACTION AND/OR VERIFICATION REQUIRED AT:	TESTS	
	A,B, C,F	D
Traffic Register Cabinet	✓	✓
Master Test Frame (MTF)	✓	✓
Marker Circuit		✓
Traffic Register Circuit	✓	✓
Switchboard		✓

✓ As required.

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**SECTION 218-232-505**

**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** The manner of selecting some circuits and test conditions at the master test frame (MTF) and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

**1.07** The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

**1.08** Local instructions should be followed for recording and reporting any register operations caused by performing these tests.

**2. APPARATUS**

**2.01** The apparatus required for each test is listed in Table B. The details of each item are covered in the paragraph indicated by the number in parentheses. In addition, the following apparatus may also be required.

- (a) Apparatus covered in 2.14 and 2.15 is required when a portable lamp is used to determine register operation.
- (b) Two head telephone sets are required when a portable lamp is not used.
- (c) A 32A test set is required when the master test frame is controlled from a remote point.
- (d) Two 26 cords are required in offices where it is necessary to patch the traffic register to the circuit under test and to patch the traffic register to a battery supply.

**2.02** MTF master test control circuit, SD-25800-01.

**TABLE B**

APPARATUS	TESTS				
	A	B	C	D	F
Control Circuit (2.02)	1	1	1	1	1
Test Circuit (2.03)	1*		1*		1*
Test Set (2.04)	1†		1†		1†
Test Circuit (2.05)	2†		2†		2†
Test Circuit (2.06)	1†		1†		1†
Handset (2.07)	1†		1†		1†
Cord (2.08)	1†		1†		1†
Cord (2.09)				1	
Cord (2.10)	1†		1†		1†
Stopwatch (2.11)		1			1
322A (make-busy) Plug	√	√	√	√	√
Tools (2.12)				√	
Cord (2.13)	√	√	√	√	√
Lamp (2.14)	√	√	√	√	√

√ As required.

\* For use when automatic monitor, register and sender test circuit is used to test originating registers.

† For use when register test set circuit is used to test originating registers.

**2.03** Automatic monitor, register, and sender test circuit, SD-25680-01.

**2.04** Test set circuit for register and CAMA sender circuits (test set), J24756B (SD-25676-01).

**2.05** Test circuit for register and CAMA sender circuits, SD-25988-01.

**2.06** Trunk test circuit, SD-25918-01.

**2.07** 1011G dial hand test set (handset), equipped with a 2W38A cord assembly consisting of a W2CK cord, 310 plug, and 471A jack (to listen for dial tone).

**2.08** Testing cord, 20-conductor cord, 6 feet long, equipped with one KS-13875 plug and one KS-13895 plug (W20C cord) (for connecting the test

set to the test circuit for register and CAMA sender circuits).

**2.09** Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord), one 419A (test connector) tool, and one KS-6278 connecting clip.

**2.10** Patching cord, P3K cord, 6 feet long, equipped with a 310 plug on each end ([3P15A cord] for patching ORT and RC jacks).

**2.11** KS-3008 stopwatch or equivalent.

**2.12** Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

**2.13** W2W cord, 10 feet long, equipped with a 310 plug, two 360-type tools (2W17C cords), two KS-6278 connecting clips, and two 108 cord tips (required when a portable test lamp is used).

**2.14** 38B lamp socket, equipped with a 2Y lamp (required when a portable test lamp is used).

**3. PREPARATION**

STEP	ACTION	VERIFICATION
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**All Tests**

- |    |   |  |
|----|---|--|
| 1a | If traffic registers are arranged for patching—<br>At traffic register cabinet—<br>Insert cord tip of 26 patching cord into P-jack for circuit associated with register to be tested.   |  |
| 2a | Insert cord tip on other end of 26 patching cord into black jack associated with register to be tested (black jack is located on mounting plate with register).   |  |
| 3a | Insert cord tip of 26 cord into red jack on mounting plate with register to be tested.  |  |
| 4a | Insert cord tip on other end of 26 cord into any S- jack located at bottom of jack field.   |  |
| 5b | If traffic registers are arranged for patching and if battery supply for register to be tested is controlled by C- toggle switch—<br>At traffic register cabinet—<br>If C- toggle switch is in OFF position—<br>Set to ON position. |  |
| 6c | If traffic registers are not arranged for patching—<br>Determine from local office records, the functional designation of peg count BAT key associated with register to be tested.  |  |
| 7c | At traffic register circuit—<br>Operate BAT key associated with register to be tested.  |  |

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STEP	ACTION	VERIFICATION
8d	If tests are to be performed without portable lamp— Establish talking circuit between frames where test is to be performed and where observations are to be made.	
<b>All Tests Except B</b>		
9e	If tests are to be performed with portable lamp— At frame where action is to be taken— Insert plug of 2W17C cord, equipped with two KS-6278 connecting clips, into SP jack of miscellaneous circuit.	
10e	Determine from circuit drawing of circuit associated with register to be tested, the location of terminal on terminal strip at which common lead to traffic register circuit is connected.	
11e	Connect one lead of 2W17C cord to terminal on terminal strip determined in Step 10e.	
12e	Connect other lead of 2W17C cord to battery.	
13e	Connect leads of 38B lamp socket to leads of another 2W17C cord equipped with two KS-6278 connecting clips.	
14e	Insert plug of this 2W17C cord into any appearance of selected SP jack of miscellaneous circuit close to position where test is to be performed.	
15e	Place lamp so that it can be easily observed.	
16f	If tests are performed with portable lamp and circuit associated with register to be tested removes ground from common lead to traffic register circuit to operate register— Observe lamp when register operates.	Lamp extinguished.
17g	If tests are performed with portable lamp and circuit associated with register to be tested applies ground to common lead to traffic register circuit to operate register— Observe lamp when register operates.	Lamp lighted.
18e	If tests are to be performed with portable lamp— To observe scoring of register when using	

STEP	ACTION	VERIFICATION
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test lamp, proceed as follows: (a) for first observation of scoring of register, observe that test lamp indicates proper condition on common lead and that register scores as required; (b) for subsequent observations of scoring of same register, observe lamp indications only.

**Note:** When the register to be tested scores at timed intervals, the test lamp will not flash with the scoring of the register.

19 At MTF—  
Restore all keys and switches.

20 Momentarily operate RL key.

All lamps extinguished.

**Tests A, C, D**

21h If testing traffic registers in 4-wire offices—  
At MTF—  
Operate 4W key.

**Tests A, C, F**

22 Select marker.

23 Select class of service and rate treatment as required.

24 Select OR class of test.

25 Select class of call and translator indication as required for access to selected route.

26 Select originating register group associated with lead being tested.

27 Operate GPA/GPB key as required for access to selected originating register group.

28 Operate FS, TS keys.

29 Select originating register in group associated with lead being tested.

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
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**4. METHOD**

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
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**A. Peg Count Register for Abandoned Partial Dial  
Peg Count (APD, APPB Leads)**

**Using Automatic Monitor, Register, and Sender Test  
Circuit**

- |     |   |   |
|-----|---|---|
| 30  | Operate STT, RAB keys.  |   |
| 31  | Operate A_ digit (2 through 7).   |   |
| 32i | If testing APD lead—<br>Operate 7 MIN key.  |   |
| 33j | If testing APPB lead—<br>Operate PB key.  |   |
| 34  | Momentarily operate ST key.   | At traffic register cabinet—<br>Register scored once. |
| 35  | At MTF—<br>Momentarily operate RL key.  | All lamps extinguished.                               |
| 36  | Repeat Steps 28, 34, 35 for all originating registers in group associated with lead being tested. |   |
| 37  | Restore all keys and switches.  |   |
| 38  | Remove all patching cords used for test.  |   |

**Using Register and CAMA Sender Test Set**

- |     |  |  |
|-----|--|--|
| 39  | Patch RC jack to RC jack on test set.  |  |
| 40k | If testing traffic registers in 2-wire offices—<br>At test set—<br>Patch handset to PLS jack; set MON/TALK switch to TALK. |  |
| 41h | If testing traffic registers in 4-wire offices—<br>Patch handset to ORT1 jack.   |  |
| 42i | If testing APD lead—<br>At MTF—<br>Patch ORT jack to ORT jack on test set.   |  |
| 43i | At test set—<br>Set L switch to 0.   |  |

STEP	ACTION	VERIFICATION
44j	If testing APPB lead— At MTF— Patch IRT jack to IRT jack on test set.	
45j	Operate PB, RP keys.	
46	At test set— Momentarily operate STT key.	At MTF— AS lamp lighted. Dial tone heard.
47i	If testing APD lead— At test set— Dial one digit (2 through 7) using 10 PPS dial.	
48j	If testing APPB lead— At test set— Key one digit (2 through 7).	
49	Operate DIS key.	At traffic register cabinet— Register scored once.
50	At test set— Momentarily operate RL key.	All lamps extinguished.
51	Repeat Steps 28, 46 through 48j for all originating registers in group associated with lead being tested.	
52	Restore all keys and switches.	
53	Remove all patching cords used for test.	

**B. Load Indicating Register for Originating Registers (LD Lead)**

9	Determine from office records minimum number of originating registers required to be busy to operate traffic register.	
10e	If SD-25890-01 or SD-25672-01 is provided— At traffic register circuit— Block nonoperated E relay for originating registers associated with traffic register being tested.	
11f	If SD-25892-01 is provided— At traffic register circuit— Block nonoperated A relay for originating registers associated with traffic register being tested.	

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STEP	ACTION	VERIFICATION
	<b>Caution: Do not hold originating registers busy longer than necessary, as this may interfere with traffic.</b>	
12	At MTF— Insert make-busy plugs into ORMB- jacks to make busy required number of originating registers as determined in Step 9.	At traffic register cabinet— Register scores at 1-second intervals.
13	At MTF— Remove plug from one ORMB- jack.	At traffic register cabinet— Register stops scoring.
14	At MTF— Remove plugs from all ORMB- jacks.	
15	At traffic register circuit— Remove blocking tool from A or E relay.	
16	Restore all keys and switches.	
17	Remove all patching cords used for test.	

**C. Peg Count Register for DDD Calls Which Progress to Nine Digits and are Then Abandoned (FAPD Lead)**

**Using Automatic Monitor, Register, and Sender Test Set**

30	Operate STT, RAB, 7 MIN keys.	
31	Operate A_ through K_ digits as required for a foreign area code test number.	
32	Momentarily operate ST key.	At traffic register cabinet— Register scored once.
33	At MTF— Momentarily operate RL key.	All lamps extinguished.
34	Repeat Steps 28, 32, 33 for all originating registers in group associated with lead being tested.	
35	Restore all keys and switches.	
36	Remove all patching cords used for test.	

**Using Register and CAMA Sender Test Set**

37	Patch RC jack to RC jack on test set.	
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STEP	ACTION	VERIFICATION
38	Patch ORT jack to ORT jack on test set.	
39i	If testing traffic registers in 2-wire offices— At test set— Patch handset to PLS jack; set MON/TALK switch to TALK.	
40h	If testing traffic registers in 4-wire offices— Patch handset to ORT1 jack.	
41	Set L switch to 0.	
42	Momentarily operate STT key.	At MTF— AS lamp lighted. Dial tone heard.
43	At test set— Dial nine digits of a foreign area code test number using 10 PPS dial.	
44	Operate DIS key.	At traffic register cabinet— Register scored once.
45	At test set— Momentarily operate RL key.	All lamps extinguished.
46	Repeat Steps 28, 42 through 45 for all originating registers in group associated with lead being tested.	
47	Restore all keys and switches.	
48	Remove all patching cords used for test.	
<b>D. Overflow Register for Originating Registers (BD, BMF, BR- Leads)</b>		
22	Insert make-busy plug into MMB_ jack of marker associated with lead being tested.	
23	At marker frame— Block nonoperated MT13 relay.	
24i	If marker is wire-spring-relay type— Connect ground to 7F of MT relay.	
25i	At MTF— Select marker.	
26	Select line location of an originating line.	
27	Select DT class of test.	

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STEP	ACTION	VERIFICATION
28	Select route advance 1 to simulate all-originating- registers busy.	
29	Select originating register group associated with lead being tested.	
30	Momentarily operate ST key.	Minor alarm sounds. ORB lamp lighted. At traffic register cabinet— Register scored once.
31	At MTF— Momentarily operate TR-AR key.	Minor alarm silenced. ORB lamp extinguished.
32j	If switchboard auxiliary signal circuit is provided— Observe associated LR- lamp.	LR- lamp lighted.
33j	Momentarily operate associated RL- key.	LR- lamp extinguished.
34	At MTF— Momentarily operate RL key.	All lamps extinguished.
35	At marker frame— Remove blocking tool from MT13 relay.	
36i	If marker is wire-spring-relay type— Remove ground connection from 7F of MT relay.	
37	Remove make-busy plug from MMB- jack of marker.	
38	Restore all keys and switches.	
39	Remove all patching cords used for test.	
<b>E. Deleted</b>		
<b>F. Peg Count Register for Announcement or No-Such Number Tone on Request for Coin Deposit—Dial Tone First (PC Lead)</b>		
<b>Using Automatic Monitor, Register, and Sender Test Circuit</b>		
30	Operate STT, CN, CNTT, 7 MIN, MOTL keys.	
31	Select A_ through G_ digits for office code and any four numerals.	
32	Momentarily operate ST key; <i>start timing.</i>	MST1 lamp lighted. If originating register arranged for no-such

STEP	ACTION	VERIFICATION
		number tone for coin deposit request— In 9.3 to 17.5 seconds— No-such number tone heard. At traffic register cabinet— Register scored once. If register arranged for announcement for coin deposit request— In 3.0 to 4.5 seconds— Announcement heard. At traffic register cabinet— Register scored once.♦
33	At MTF— Momentarily operate RL key.	All lamps extinguished.
34	Repeat Steps 22 through 33 for each originating register associated with lead being tested.	
35	Restore all keys and switches.	
36	Remove all patching cords used for test.	

#### Using Register and CAMA Sender Test Set

37	Patch RC jack to RC jack on test set.	
38	Patch ORT jack to ORT jack on test set.	
39	At test set— Patch handset to PLS jack; set MON/TALK switch to TALK.	
40	Set L switch to 0.	
41	Momentarily operate STT key.	At MTF— AS lamp lighted. Dial tone heard.
42	At test set— Dial office code and any four numerals using 10 PPS dial; <i>start timing</i> .	♦If originating register arranged for no such-number tone for coin deposit request— In 9.3 to 17.5 seconds— No-such-number tone heard. At traffic register cabinet— Register scored once. If register arranged for announcement for coin deposit request— In 3.0 to 4.5 seconds— Announcement heard. At traffic register cabinet— Register scored once.♦

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
43	At test set— Momentarily operate RL key.	All lamps extinguished.
44	Repeat Steps 29, 41 through 43 for each originating register associated with lead being tested.	
45	Restore all keys and switches.	
46	Remove all patching cords used for test.	