TRAFFIC REGISTERS—PART 7

TESTS USING MASTER TEST FRAME

NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section is Part 7 of a series of sections that describe methods for testing traffic registers.

1.02 This section is reissued for the following reasons:

(a) To revise title

(b) To revise all tests to conform with Section 218-106-301

(c) To add Test I for testing traffic registers for priority line busy intercept calls.

This reissue affects Equipment Test List.

Since this issue is a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

PAGE

PAGE

I.   Overflow Count of Priority Line Busy Intercept Calls (PLI Lead):
This test checks that the overflow register operates when the marker routes a priority line to intercept when busy.   .   11

1.04   Table A indicates the tests that require actions and verifications at more than one location.

TABLE A

ACTIONS AND/OR VERIFICATIONS REQUIRED AT:	TESTS			
	A,B,C	D THROUGH G	H	I
Master Test Frame (MTF)	—	√	√	√
Marker Frame	—	√	—	√
Traffic Register Circuit	√	√	√	√
Incoming Intercept Trunk Circuit	√	—	—	—

√ As required.

1.05   Tests A, B, and C require actions at relays of incoming or intercept trunks. These trunks are not removed from service during the tests.

1.06   *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.

1.07   The manner of selecting some circuits and test conditions at the 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.

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

1.09   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 shown 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 2.07 and 2.08 is required when a portable test lamp is used to determine register operation.

(b) Two head telephone sets are required when a portable test 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.

TABLE B

APPARATUS	TESTS			
	A	D THROUGH G	H	I
Test Circuit (2.02)	—	√	√	√
Cord (2.03)	—	√	—	—
322A (make-busy) Plug (2.04)	—	√	—	√
651D Tool (2.05)	—	√	—	—
Tool (2.06)	√	—	—	√

√ As required.

2.02 Master test control circuit, SD-25800-01.

2.03 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, one 419A (test connector) tool (for use in connecting battery or ground to springs of nonwire-spring relays), and one 639A (relay contact connector) tool (for use in connecting battery or ground to springs of wire-spring relays).

2.04 322A (make-busy) plug has an insulated tip and a common ring and sleeve (used with 92- or similar type jacks).

2.05 651D tool is required to replace removable cover on wire-spring relays when connection is made to the springs.

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

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

2.08 38B lamp socket, equipped with a 2Y lamp (required when a portable test lamp is used).

3. PREPARATION

STEP	ACTION	VERIFICATION

All Tests

1a   If traffic registers are arranged for patching— At traffic register circuit— 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— At traffic register circuit— Operate C toggle switch to ON.

6c   If traffic registers are not arranged for patching— Determine from local office records functional designation of peg count BAT key associated with register to be tested.

STEP	ACTION	VERIFICATION
7c	At traffic register circuit— Operate BAT key associated with register to be tested.	
8d	If tests are to be performed without portable test lamp— Establish talking circuit between frames where test is to be performed and where observations are to be made.	
9e	If tests are to be performed with portable test 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, 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.	
16e	Observe scoring of register when using test lamp and proceed as follows: (a) For first observation of scoring of register, observe that portable test lamp indicates proper condition on common lead and that register scores as required. (b) For subsequent observations of scoring of same register, observe portable test lamp indications only.	
	Note: When the register to be tested scores at timed intervals, the portable test lamp will not flash with the scoring of the register.	

STEP	ACTION	VERIFICATION
17f	If tests are performed with portable test 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.
18g	If tests are performed with portable test 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.

Tests D Through I

19	At MTF— Restore all keys and switches.	
20	Momentarily operate RL key.	All lamps extinguished.
21	Select class of service and rate treatment having access to the trunk group associated with register to be tested.	
22h	If testing traffic registers in 4-wire offices— Operate 4W key.	
23i	If 4-wire switching multilevel route is selected— Select control digits for access to selected route.	

4. METHOD

STEP	ACTION	VERIFICATION

A. Peg Count Register for Incoming Intercept Calls Routed to an Operator (OR Lead)

Caution: Incoming trunk circuits are not removed from service for this test. Exercise caution not to interfere with service on a busy trunk. If a trunk is seized for service while being tested, discontinue the test until the trunk is idle.

19	At incoming intercepting trunk circuit associated with register being tested— Note position of ON key. Operate ON key if nonoperated.	
20	Block operated LS relay.	

STEP	ACTION	VERIFICATION
21	Momentarily operate AN relay.	At traffic register circuit—Register scored once.
22	Remove blocking tool from LS relay.	
23	Restore ON key to position noted in Step 19.	
24	Repeat Steps 19 through 23 for each trunk circuit associated with register being tested.	
25	Restore all keys; remove all patching cords.	

B. Peg Count Register for Incoming Intercept Calls Routed to an Announcement Machine (MR Lead)

Caution: Incoming trunk circuits are not removed from service for this test. Exercise caution not to interfere with service on a busy trunk. If a trunk is seized for service while being tested, discontinue the test until the trunk is idle.

STEP	ACTION	VERIFICATION
19	At incoming intercepting trunk circuit associated with register being tested—Momentarily operate CT relay.	At traffic register circuit—Register scored once.
20	Repeat Step 19 for each trunk circuit associated with register being tested.	
21	Restore all keys; remove all patching cords.	

C. Peg Count Register for Incoming Intercept Calls Routed to an Announcement Machine and Then Transferred to an Operator (TOR Lead)

Caution: Incoming trunk circuits are not removed from service for this test. Exercise caution not to interfere with service on a busy trunk. If a trunk is seized for service while being tested, discontinue the test until the trunk is idle.

STEP	ACTION	VERIFICATION
19	At incoming intercepting trunk circuit associated with register being tested—Momentarily operate TO relay.	At traffic register circuit—Register scored once.
20	Repeat Step 19 for each incoming intercepting trunk circuit associated with the register being tested.	
21	Restore all keys; remove all patching cords.	

STEP	ACTION	VERIFICATION

D. Peg Count Register for Vacant Code Intercept (VCI Lead)

STEP	ACTION	VERIFICATION
24	Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.	
25	Select marker made busy.	
26j	If marker made busy is nonwire-spring-relay type and is arranged to prevent scoring vacant code intercept peg count register on test calls— At marker frame— Ground 5T of MT14 relay.	
27k	If marker made busy is wire-spring-relay type— At marker frame— Ground 9 of MT17 relay.	
28	Select A through G digits as required for vacant 1, 2, or 3 digit office code and any line numericals.	
29	At MTF— Select incoming class of call with translator indication as required for access to office code.	
30	Select any trunk link frame.	
31	Select incoming trunk class as required for access to office code.	
32	Momentarily operate ST key.	At traffic register circuit— Register scored once.
33	At MTF— Momentarily operate RL key.	All lamps extinguished.
34	At marker frame— Remove test connection from MT14 or MT17 relay.	
35	At MTF— Remove plug from M_MB or M_C_MB jack.	
36	Repeat Steps 24 through 35 for each combined or completing marker associated with register being tested.	
37	Restore all keys; set all switches to OFF; remove all patching cords.	

STEP	ACTION	VERIFICATION

E. Peg Count Register for Denied Code Intercept (DCI Lead)

STEP	ACTION	VERIFICATION
24	Insert make-busy plug into M_MB or M_C_MB jack for combined or completing marker associated with register being tested.	
25	Select marker made busy.	
26j	If marker made busy is nonwire-spring-relay type and is arranged to prevent scoring denied code intercept peg count register on test calls— At marker frame— Ground 5T of MT14 relay.	
27k	If marker made busy is wire-spring-relay type— At marker frame— Ground 9 of MT17 relay.	
28	Select A through G digits as required to direct call to diverted route.	
29	At MTF— Select incoming class of call with translator indication as required for access to office code.	
30	Select any trunk link frame.	
31	Select incoming trunk class as required for access to office code.	
32	Momentarily operate ST key.	At traffic register circuit— Register scored once.
33	At MTF— Momentarily operate RL key.	All lamps extinguished.
34	At marker frame— Remove ground from MT14 or MT17 relay.	
35	At MTF— Remove plug from M_MB or M_C_MB jack.	
36	Repeat Steps 24 through 35 for each combined or completing marker associated with register being tested.	
37	Restore all keys; set all switches to OFF; remove all patching cords.	

STEP	ACTION	VERIFICATION

F. Peg Count Register for Trouble Intercept (TBI Lead)

STEP	ACTION	VERIFICATION
24	Insert make-busy plug into M_MB or M_C_MB jack associated with combined or completing marker associated with register being tested.	
25	Select marker made busy.	
26j	If marker is nonwire-spring-relay type and is arranged to prevent scoring trouble intercept peg count register on test calls— At marker frame— Ground 5T of MT14 relay.	
27k	If marker is wire-spring-relay type— At marker frame— Ground 9 of MT17 relay.	
28	Select A through G digits as required for 1, 2, or 3 digit office code and any line numericals cross-connected for trouble intercept in number group.	
29	At MTF— Select incoming class of call with translator indication as required for access to office code.	
30	Select any trunk link frame.	
31	Select incoming trunk class as required for access to office code.	
32	Momentarily operate ST key.	At traffic register circuit— Register scored once.
33	At MTF— Momentarily operate RL key.	All lamps extinguished.
34	At marker frame— Remove ground from MT14 or MT17 relay.	
35	At MTF— Remove plug from M_MB or M_C_MB jack.	
36	Repeat Steps 24 through 35 for each combined or completing marker associated with register being tested.	
37	Restore all keys; set all switches to OFF; remove all patching cords.	

STEP	ACTION	VERIFICATION

G. Peg Count Register for Regular Intercept or Blank Number Intercept (RIA, BNA Leads)

STEP	ACTION	VERIFICATION
24	Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.	
25	Select marker made busy.	
26j	If marker is nonwire-spring-relay type and is arranged to prevent scoring regular intercept or blank number intercept peg count registers on test calls— At marker frame— Ground 5T of MT14 relay.	
27k	If marker is wire-spring-relay type— At marker frame— Ground 9 of MT17 relay.	
28	Select A through G digits as required for 1, 2, or 3 digit office code and any line numericals arranged for blank number or regular intercept in number group.	
29	At MTF— Select incoming class of call with translator indication as required for access to office code.	
30	Select any trunk link frame.	
31	Select incoming trunk class as required for access to office code.	
32	Momentarily operate ST key.	At traffic register circuit— Register scored once.
33	Momentarily operate RL key.	All lamps extinguished.
34	At marker frame— Remove ground from MT14 or MT17 relay.	
35	At MTF— Remove plug from M_MB or M_C_MB jack.	
36	Repeat Steps 24 through 35 for each combined or completing marker associated with register being tested.	
37	Restore all keys; set all switches to OFF; remove all patching cords.	

STEP	ACTION	VERIFICATION

H. Overflow Register for all Intercept Trunks Busy—Automatic Intercept Service (ITB Lead)

24   Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.

25   At MTF—
Select A through G digits as required for 1, 2, or 3 digit office code and first line number of blank number intercept trunks.

26   Select incoming class of call with translator indication as required for access to office code.

27   Select any trunk link frame.

28   Select incoming trunk class as required for access to office code.

29   Operate LB key.

30   Momentarily operate ST key.   At traffic register circuit—
Traffic register associated with ITB lead scored.

31   At MTF—
Momentarily operate RL key.   All lamps extinguished.

32   At MTF—
Remove plug from M_MB or M_C_MB jack.

33   Repeat Steps 23 through 32 for each combined or completing marker associated with register being tested.

34   Remove all keys; set all switches to OFF; remove all patching cords.

I. Overflow Count of Priority Line Busy Intercept Calls (PLI Lead)

Note: Select control digit for P0 priority.

24   At jack, lamp, and key circuit—
Insert make busy plug into M_ C_ MB jack of completing marker associated with register being tested.

25   At MTF—
Select incoming class of test.

STEP	ACTION	VERIFICATION
26	Select A through G digits as required, corresponding to directory number of auxiliary line being used for test.	
27	Select last line in tens block associated with directory number of auxiliary line being used for test.	
28	Select TOL incoming class of call with translator indication as required for completion to called line.	
29	Select incoming trunk class for completion to called line.	
30	Select any trunk line frame.	
31	Select marker used in test.	
32	Operate AD, PBXH keys.	
33	Set STS switch to 0.	
34	At marker selected for test— Block nonoperated MT17 relay.	
35	Momentarily operate ST key.	Overflow register scores once.
36	Momentarily operate RL key.	
37	At marker frame— Remove blocking tool from MT17 relay.	
38	At jack, lamp, and key circuit— Remove make-busy plug from M_MB or M_C_MB jack.	
39	At traffic register cabinet— Restore all keys and switches; remove all cords.	
40	At MTF— Restore all keys and switches.	