PLANT REGISTERS—PART 12

TESTS USING MASTER TEST FRAME

NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section is Part 12 in a series of sections that describe methods for testing plant registers.

1.02 This issue affects Equipment Test Lists.

1.03 The tests covered are:

PAGE

AS. International Direct Distance Dialing Sender Time-Out Register (IDTO Register)—Using Automatic Monitor, Register and Sender Test Circuit: This test checks that a plant register operates on sender time-out when an overflow condition to the gateway office is encountered following first-stage outpulsing. 4

AT. International Direct Distance Dialing Sender Time-Out Register (IDTO Register)—Using Sender Test Circuit: This test checks that a plant register operates on sender time-out when an overflow condition to the gateway office is encountered following first-stage outpulsing. 5

AU. Automatic Identified Outward Dialing A1 or A2 Translator Number Identification Request and Number Identification Request Failure Registers (NIR, NIRF Registers): This test checks that a plant register operates to record the number of AMA requests for station identification and to record the number of failures encountered on AMA requests for station identification. 7

AV. PBX Automatic Identified Outward Dialing A1 Station Identification Request and Failure-to-Store Registers (PBX, FS Registers): This test checks that a plant register operates on service requests to enter station identification information in memory or on station identification request failures. . . . 8

AW. PBX Automatic Identified Outward Dialing A2 Station Identification Request Register (PBX Register): This test checks that a plant register operates on service requests to enter station identification information in memory. 8

AX. PBX Automatic Identified Outward Dialing A2 Failure-to-Store Register (FS Register): This test checks that a plant register operates to record the number of failures to enter station identification information in memory. 9

AY. Access Group Controller Alarm Register (AGCA Register): This test checks that the AGCA plant register operates when an alarm condition is present in the access group controller circuit. 10

1.04 Plant registers are located either in a self-contained register cabinet and referred to as the plant register circuit or just above the trouble recorder perforator on the master test frame trouble recorder bay.

1.05 The tests listed in Table A require actions or verifications at locations other than the master test frame (MTF) or plant register cabinet (PRC) as indicated.

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

TABLE A

ACTION AND/OR VERIFICATION REQUIRED AT:	TESTS				
	AU	AV	AW	AX	AY
AIOD Translator Frame	√				
AIOD Station Identification Test Circuit		√	√	√	
Access Group Controller Circuit					√

√As required.

1.07 ***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.

1.08 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.

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

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 2.07 and 2.08 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 MTF is controlled from a remote point.

TABLE B

APPARATUS	TESTS						
	AS	AT	AU	AV	AW	AX	AY
Test Circuit (2.02)	1	1	1				
Test Circuit (2.03)	1						
Test Circuit (2.04)		1					
Test Set (2.05)		1					
Cord (2.06)		2					
Cord (2.09)			1				1
Tool (2.10)			2				2
Test Circuit (2.11)				1			
Test Circuit (2.12)					1	1	
322A (make-busy) Plug			1				

2.02 Master test control circuit SD-25800-01.

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

2.04 Sender test circuit SD-25675-01 (for use when the automatic monitor, register and sender test circuit is not provided).

2.05 Sender test set J24756A (SD-25674-01) (for use with the sender test circuit when the

automatic monitor, register and sender test circuit is not provided).

2.06 Patching cord, 20-conductor, 6 feet long, equipped with one KS-13875 plug and one KS-13895 plug (W20C cord) (for patching sender test circuit to sender test set [two cords]).

2.07 Two W2W cords, 10 feet long, each 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).

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

2.09 Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two 639A tools (for use in interconnecting springs of wire-spring-type relays).

2.10 651-type tool (required to replace removable cover on wire-spring relays when connection is made to the fixed springs).

2.11 AIOD station identification test circuit A1 SD-1C005-01.

2.12 AIOD station identification test circuit A2 SD-1C235-01.

3. PREPARATION

STEP	ACTION	VERIFICATION
	Note: Refer to 1.08 and 1.09.	
All Tests		
1a	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.	
2b	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.	
3b	Determine from circuit drawing of circuit associated with register to be tested, location of terminal on terminal strip at which plant register circuit is connected.	
4b	Connect one lead of 2W17C cord to terminal on terminal strip associated with plant register being tested.	
5b	Connect other lead of 2W17C cord to battery.	
6b	Connect leads of 38B lamp socket to leads of another 2W17C cord, equipped with two KS-6278 connecting clips.	
7b	Insert plug of this 2W17C cord into any appearance of selected SP jack of miscellaneous	

STEP	ACTION	VERIFICATION
	circuit close to position where test is to be performed.	
8b	Place portable test lamp so that it can be easily observed.	
9b	If tests are to be performed with portable test lamp— To observe scoring of register when using portable test lamp proceed as follows: (a) For first observation of scoring of register, observe that portable test lamp indicates proper condition on 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 flash with the scoring of the register.	
Tests AS, AT, AU		
10	At MTF— Restore all keys and switches.	
11	Momentarily operate RL key.	All lamps extinguished.
12c	If testing 4-wire switching systems— Operate 4W key.	
13c	Select control digits.	

4. METHOD

STEP	ACTION	VERIFICATION
AS.	**International Direct Distance Dialing Sender Time-Out Register (IDTO Register)—Using Automatic Monitor, Register and Sender Test Circuit**	
14	Select marker.	
15	Select MF sender arranged for IDDD.	
16	Select route advance.	
17	Select SDR class of test.	

STEP	ACTION	VERIFICATION
18	Select A- through L- digits as required for a working country code to direct call to a trunk route associated with sender group plant register under test.	
19	Select class of service and rate treatment as required.	
20	Select FAC class of call with a 11 translator indication.	
21d	If trunk group selected has allotted trunks and all trunks do not have access to sender group being tested— At MTF— Operate GPA/GPB key as required to select trunk group.	
22	Operate MAC key. ***Note:*** Allow 1 minute for tubes to heat.	
23	Operate STT, SID, TOF, SDT1 keys.	
24	Restore IDRC key, if operated.	
25	Momentarily operate ST key.	At plant register circuit— In 15 to 28 seconds— IDTO plant register associated with sender group under test scored once.
26	At MTF— Momentarily operate RL key.	All lamps extinguished.
27	Repeat Steps 12c through 26 for each sender associated with sender group plant register under test.	
28	Operate IRDC key to its original position.	
29	Restore all keys and switches not required in next test.	

AT. International Direct Distance Dialing Sender Time-Out Register (IDTO Register)—Using Sender Test Circuit

14	Select marker.	
15	Select MF sender arranged for IDDD.	

STEP	ACTION	VERIFICATION
16	Select A- through L- digits as required for a working country code to direct call to a trunk route associated with sender group plant register under test.	
17	Select FAC class of call with a 11 translator indication.	
18d	If trunk group selected has allotted trunks and all trunks do not have access to sender group being tested— Operate GPA/GPB key as required to select trunk group.	
19	Select SDT class of test.	
20	Select route advance.	
21	Select class of service and rate treatment as required.	
22	Patch SDT1, SDT2 jacks to sender test set SDT1, SDT2 jacks respectively.	
23	Operate SDT1 key.	
24	Set SDT switch to MF or MF OCX depending on supervision requirements of trunk group selected.	
25	Restore IDRC key, if operated.	
26	Momentarily operate ST key.	
27	At test set— When A lamp lights, operate and restore REV key.	At plant register circuit— In 15 to 28 seconds— IDTO plant register associated with sender group under test scored once.
28	At MTF— Momentarily operate RL key.	All lamps extinguished.
29	Repeat Steps 12c through 28 for each sender associated with sender group plant register under test.	
30	Operate IDRC key to its original position.	
31	Restore all keys and switches and remove all patching cords not required in next test.	

STEP	ACTION	VERIFICATION

AU. Automatic Identified Outward Dialing A1 or A2 Translator Number Identification Request and Number Identification Request Failure Registers (NIR, NIRF Registers)

14 Select transverter.

15d If office is arranged for LAMA—
Select TVT (AMA) class of test.

16d Operate 4DG, TLV keys.

17d Select message unit billing index.

18d Select code pattern 3.

19d Select recorder units digit.

20d Operate AD/OD key to select recorder tens digit.

21e If office is arranged for ANI—
Select TVT (ANI) class of test.

22e Operate ATLV key.

23 Select a line location for any trunk served by translator under test.

24 Select office designation of selected trunk.

25 Select A- through D- digits to correspond with numericals of trunk number expected by translation.

26 Operate TP, TSLT keys.

27 Select office index corresponding with translated office number.

28 Operate CTMB key.

29 Insert make-busy plug into AIODT-MB jack associated with translator under test.

Caution: Calls made by PBX stations will be completed by billing to the listed PBX directory number. This test should therefore be made as rapidly as possible to reduce to a minimum the number of calls billed in this manner.

STEP	ACTION	VERIFICATION
30	At AIOD translator frame— Interconnect 11 of TST, 11 of TNTO relays.	
31	At MTF— Momentarily operate ST key.	At plant register circuit— NIR, NIRF plant registers scored once.
32	At MTF— Momentarily operate RL key.	All lamps extinguished.
33	At AIOD translator frame— Remove test connection from TST, TNTO relays.	
34	At MTF— Remove make-busy plug from AIODT-MB jack.	
35	Restore all keys and switches not required in next test.	
AV.	**PBX Automatic Identified Outward Dialing A1 Station Identification Request and Failure-to-Store Registers (PBX, FS Registers)**	
10	At station identification test circuit— Momentarily operate PBX relay.	At plant register circuit— PBX plant register scored once.
11	At station identification test circuit— Momentarily operate FS relay.	At plant register circuit— FS plant register scored once.
AW.	**PBX Automatic Identified Outward Dialing A2 Station Identification Request Register (PBX Register)**	
10	At station identification test circuit— Set SW0 through SW40 switches to 0; set all other switches to OFF.	
11	Momentarily operate CLR switch.	All lamps extinguished.
12	Set AC switch to ON.	
13	Set TST switch to ON.	
14	Set SW0 switch to 1.	
15	Set SW1 through SW20 switches to 1 corresponding to selected test trunk number. ***Caution: Extreme caution must be used when performing this test so that the trunk number selected is not one assigned***	

STEP	ACTION	VERIFICATION
	to a working PBX data link since wrong billing can result.	
16	Set SW21 through SW40 switches to 1, corresponding to selected station number.	
17	Set DLN switch to 0.	
18	Momentarily operate LD switch.	Trunk number and station number lamps lighted associated with keys set to position 1.
19	Set PBX switch to ON.	At plant register circuit— PBX plant register scored once.
20	At station identification test circuit— Restore all switches.	
21	Momentarily operate CLR switch.	All lamps extinguished.
AX.	**PBX Automatic Identified Outward Dialing A2 Failure-to-Store Register (FS Register)**	
10	At station identification test circuit— Set SW0 through SW40 switches to 0; set all other switches to OFF.	
11	Momentarily operate CLR switch.	All lamps extinguished.
12	Set AC switch to ON.	
13	Set TST switch to ON.	
14	Set SW0 switch to 1.	
15	Set SW1 through SW20 switches to 1, corresponding to selected test trunk number. ***Caution: Extreme caution must be used when performing this test so that the trunk number selected is not one assigned to a working PBX data link since wrong billing can result.***	
16	Set SW21 through SW40 switches to 1 corresponding to selected station number.	
17	Momentarily operate LD switch.	Trunk number and station number lamps lighted associated with keys set to position 1.

STEP	ACTION	VERIFICATION
18	Set PBX switch to ON.	At plant register circuit— FS plant register scored once.
19	At station identification test circuit— Restore all switches.	
20	Momentarily operate CLR switch.	All lamps extinguished.
AY.	**Access Group Controller Alarm Register (AGCA Register)**	
10	At relay rack frame— Operate ALM-RLS TEST key associated with access group controller circuit under test.	
11	Connect 6 of T relay to 1 of ALM relay.	
12	Operate and hold ADD key.	At plant register circuit— In 9 to 23 seconds— AGCA plant register associated with access group controller circuit under test scored once.
13	At relay rack frame— Release ADD key.	
14	Momentarily operate SUB key.	
15	Remove test connection from T, ALM relays.	
16	Restore ALM-RLS TEST key.	
17	Repeat Steps 10 through 16 for each access group controller circuit to be tested for plant register operation.	