

PLANT REGISTERS—PART 5
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section is Part 5 in a series of sections that describe methods for testing plant registers.

register fails to perform its functions within its allotted operating time. It also checks that a plant register operates in a Phase III centrex office if a transfer register fails to perform its functions within the allotted operating time after line identification has been satisfactorily made.

9

1.02 This issue affects Equipment Test Lists.

1.03 The tests in this section were formerly covered in Section 218-233-501.

1.04 The tests covered are:

PAGE

T. Transfer Register Usage Register (TRPC Register)—Using Register and CAMA Sender Test Set: This test checks that a plant register operates to record the number of times a transfer register is seized on service calls in Phase I, II, or III centrex offices.

4

U. Transfer Register Trouble Register (TRR Register)—Using Automatic Monitor, Register and Sender Test Circuit: This test checks that a plant register operates in a Phase I or II centrex office if a transfer register fails to perform its functions within the allotted operating time. It also checks that a plant register operates in a phase III centrex office if a transfer register fails to perform its functions within the allotted operating time after line identification has been satisfactorily made.

7

V. Transfer Register Trouble Register (TRR Register)—Using Register and CAMA Sender Test Set: This test checks that a plant register operates in a Phase I or II centrex office if a transfer

1.05 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 (MTF) trouble recorder bay.

1.06 Table A indicates the tests requiring action and verification at more than one location.

TABLE A

ACTION AND/OR VERIFICATION REQUIRED AT:	TESTS		
	T	U	V
Master Test Frame	✓	✓	✓
Transfer Register	—	✓	✓
Plant Register 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

SECTION 218-233-505

letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

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

1.09 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.

1.10 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.

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

2.04 Test circuit for register and CAMA sender circuits SD-25988-01.

2.05 Test set circuit for register and CAMA sender circuits (test set) SD-25676-01 (for

TABLE B

APPARATUS	TESTS		
	T	U	V
Test Circuit (2.02)	1	1	1
Test Circuit (2.03)		1	
Test Circuit (2.04)	1		1
Test Set (2.05)	1		1
Cord (2.06)	1		1
Tools (2.09)		1	1
Dial Hand Test Set (2.10)	1		1
322 (make-busy) Plug	✓	✓	✓

✓As required.

use with the test circuit for register and CAMA sender circuits).

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

2.07 Two testing cords, 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 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

2.10 1011G dial hand test set (handset), equipped with a 2W38A cord assembly consisting of one W2CK cord, one 310 plug, and one 471 jack.

3. PREPARATION

STEP	ACTION	VERIFICATION
-------------	---------------	---------------------

All Tests

Note: Refer to 1.09 and 1.10.

- | | | |
|----|--|--|
| 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 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 leads and that register scores as required.
(b) For subsequent observations of scoring of | |

SECTION 218-233-505

STEP	ACTION	VERIFICATION
	same register, observe portable test lamp indications only.	
	<i>Note:</i> When the register to be tested scores at timed intervals, the portable test lamp will flash with the scoring of the register.	
10	At MTF— Restore all keys and switches.	
11	Momentarily operate RL key.	All lamps extinguished.

4. METHOD

STEP	ACTION	VERIFICATION
T. Transfer Register Usage Register (TRPC Register)—Using Register and CAMA Sender Test Set		

Common to Phase I, II, and III Centrex Offices

12	Insert make-busy plug into TFRMB- jack for transfer register selected for this portion of test.	
13	Select transfer register.	
14	Patch IRT jack of test set to IRT jack of test circuit for register and CAMA sender circuits.	
15c	If transfer register selected for test is TOUCH-TONE® type— At test set— Operate PB, RP keys.	
16	Patch handset to PLS jack; set MON/TALK switch to TALK.	
17	At MTF— Operate TIR key.	

Phase I and II Centrex Offices

18	Set TCL switch to 0.	
19	At test set— Set L switch to 1.	
20	Momentarily operate STT key.	RR lamp lighted. Dial tone heard.

STEP	ACTION	VERIFICATION
		At MTF— IRT, IRON lamps lighted.
21	At test set— Dial (using 10 pps dial) or key digit 0.	Dial tone silenced. RR lamp extinguished. At MTF— IRT, IRON lamps extinguished. At plant register circuit— TRPC plant register associated with transfer register marker connector containing transfer register under test scored once.
22	At test set— Momentarily operate RL key.	
23	At MTF— Remove make-busy plug from TFRMB- jack.	
24	Repeat Steps 12 through 23 for all transfer registers to be tested.	
25	Insert make-busy plug into TFRMB- jack for transfer register selected for this portion of test.	
26	Insert make-busy plugs into TRMC-MB jacks associated with a completing marker in all equipped transfer register marker connectors, excluding marker connector containing transfer register selected.	
27	Insert make-busy plugs into TRMC-MB jacks associated with all markers, excluding marker selected for test in transfer register marker connector containing transfer register selected for test.	
	Note: The test procedures outlined in the preceding steps will force remaining transfer registers in marker connector to compete for marker selected for test. This marker will not be available in any other connector.	
28	Repeat Steps 12 through 23.	
	Note: Plant register associated with transfer register marker connector used for this portion of test will score each time test is performed with separate marker selected.	
29	Repeat Steps 26 and 27 for all combined or completing markers.	

SECTION 218-233-505

STEP	ACTION	VERIFICATION
30	Repeat Steps 12 through 23.	
31	Remove all make-busy plugs.	
32	Remove testing cord.	
33	Restore all keys and switches and remove all patching cords not required in next test.	
Phase III Centrex Office		
34	Set TCL switch to 0 or 1, respectively, for 4- or 5-digit retransfer class.	
35	At test set— Set L switch to 1.	
36	Momentarily operate STT key.	RR lamp lighted. Dial tone heard. At MTF— IRT, IRON lamps lighted.
37	At test set— Dial (using 10 pps dial) or key digit 0.	Dial tone silenced. RR lamp extinguished. At MTF— IRT, IRON lamps extinguished. At plant register circuit— TRPC plant register associated with transfer register marker connector containing transfer register under test scored once.
38	At test set— Momentarily operate RL key.	
39	At MTF— Remove make-busy plug from TFRMB- jack.	
40	Repeat Steps 12 through 17 and 34 through 39 for all transfer registers to be tested.	
41	Insert make-busy plug into TFRMB- jack for transfer register selected for this portion of test.	
42	Insert make-busy plugs into TRMC-MB jacks associated with a completing marker in all equipped transfer register marker connectors, excluding marker connector containing transfer register selected for test.	
43	Insert make-busy plugs into TRMC-MB jacks associated with transfer register marker	

STEP	ACTION	VERIFICATION
	connector containing transfer register selected for test and all equipped markers, excluding the marker selected for test.	
	<i>Note:</i> The test procedures outlined in the preceding steps will force remaining transfer register in marker connector to compete for marker selected for test. This marker will not be available in any other connectors.	
44	Repeat Steps 12 through 17 and 34 through 39.	
	<i>Note:</i> Plant register associated with transfer register marker connector used for this portion of test will score each time test is performed with separate marker selected.	
45	Repeat Steps 41 through 43 for each marker to be tested.	
46	Repeat Steps 12 through 17 and 34 through 39.	
47	Remove all make-busy plugs.	
48	Remove testing cords.	
49	Restore all keys and switches and remove all patching cords not required in next test.	

U. Transfer Register Trouble Register (TRR Register)—Using Automatic Monitor, Register and Sender Test Circuit Common to Phase I, II, and III Centrex Offices

- | | |
|-----|--|
| 12 | Insert make-busy plug into TFRMB- jack associated with register to be tested. |
| 13 | Select IR class of test. |
| 14 | Operate STT, TFR keys. |
| 15 | Select transfer register. |
| 16 | At register frame—
Block nonoperated OVL relay. |
| 17c | If TOUCH-TONE transfer register is being tested—
At MTF—
Operate PB key. |

SECTION 218-233-505

STEP	ACTION	VERIFICATION
Phase I and II Centrex Offices		
18	Select 4DT class of transfer.	
19	Operate NCSL key.	
20d	If transfer register selected is dial pulse— Operate PPS (15 MIN) key.	
21	Operate TRR0, RPS keys to simulate transfer register permanent signal condition.	
22	Momentarily operate ST key.	At plant register circuit— TRR plant register associated with transfer register group containing transfer register under test scored once.
23	At MTF— Momentarily operate RL key.	All lamps extinguished.
24	At register frame— Remove blocking tool from OVL relay.	
25	At MTF— Remove make-busy plug from TFRMB- jack.	
26	Repeat Steps 12 through 25 for all transfer registers to be tested.	
27	Restore all keys and switches and remove all patching cords not required in next test.	
Phase III Centrex Office		
28	Select MR class of transfer.	
29e	If dial pulse transfer register is being tested— Operate 24 MAX key.	
30	Operate NATT key.	
31	Operate TRR0, RPS keys to initiate permanent signal condition.	
32	Momentarily operate ST key.	At plant register circuit— TRR plant register associated with transfer register group containing transfer register under test scored once.
33	At MTF— Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
34	Remove make-busy plug from TFRMB- jack.	
35	Repeat Steps 12 through 17c and 28 through 34 for all transfer registers to be tested.	
36	Restore all keys and switches and remove all patching cords not required in next test.	

V. Transfer Register Trouble Register (TRR Register)—Using Register and CAMA Sender Test Set

Phase I, II, and III Centrex Offices

12	Insert make-busy plug into TFRMB- jack for transfer register selected for this portion of test.	
13	Select transfer register.	
14	Patch IRT jack of test set to IRT jack of test circuit for register and CAMA sender circuits.	
15c	If TOUCH-TONE transfer register is being tested— At test set— Operate PB, RP keys.	
16	Patch handset to PLS jack; set MON/TALK switch to TALK.	
17	At MTF— Operate TIR key.	
18	Set TCL switch to 0.	
19	Operate H, TLR keys.	
20	At test set— Set L switch to 0.	
21	At register frame— Block nonoperated OVL relay.	
22	At test set— Momentarily operate STT key; <i>start timing.</i>	RR lamp lighted. Dial tone heard. At MTF— IRON, IRT lamps lighted. At test set— In 12 to 19 seconds— Dial tone silenced.

SECTION 218-233-505

STEP	ACTION	VERIFICATION
		At plant register circuit— TRR plant register associated with transfer register group containing transfer register under test scored once.
23	At test set— Momentarily operate RL key.	All lamps extinguished.
24	At register frame— Remove blocking tool from OVL relay.	
25	At MTF— Remove make-busy plug from TFRMB- jack.	
26	Repeat Steps 12 through 25 for all transfer registers to be tested.	
27	Restore all keys and switches and remove all patching cords not required in next test.	