INCOMING REGISTER PRETRANSLATOR SD-27969-01
TESTS USING OFFICE TEST FRAME
TEST CIRCUIT SD-27633-01 (J23260)
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing incoming register pretranslators SD-27969-01 used to determine the number of digits to be received by dial pulse incoming registers on incoming toll, tandem, or CAMA class calls.

1.02 The reasons for reissuing this section are listed as follows. Revision arrows are used to emphasize the more significant changes. This reissue does not affect Equipment Test Lists.

(a) To revise all tests to permit the selection of pretranslators made busy at the office test frame.

(b) To make minor changes as required.

1.03 The tests covered are:

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1.04 All tests covered in this section should be made during periods of light traffic.

1.05 The tests requiring action and/or verification at more than one location are listed in Table A.

1.06 From office records, for each of the transmitting leads listed in Table D, record an associated code which, when translated, will cause that transmitting lead(s) to be grounded.

1.07 From office records, for each of the incompleted codes listed in Table E, record a code and also the designation of transmitting lead(s) grounded.

1.08 When performing Tests A through H the traffic register associated with the incoming register PD lead will score on each test call.

1.09 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 3 or 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.

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.

2.02 Office test frame, SD-27633-01 (J23260)

2.03 Trouble indicator and connector circuit, SD-27634-01.

2.04 Blocking and insulating tools. Use tools and apply as covered in Section 069-020-801.

2.05 Patching cord, P34 cord, 8 feet long, equipped with two 310 plugs (3P6E cord).

2.06 Patching cord, W3M cord, 15 feet long, equipped with one 310 plug, three 360 tools

TABLE A

ACTION AND/OR VERIFICATION REQUIRED AT:	TESTS										
	A	B	C	D	E	F	G	H	I	J	K
Office Test Frame (OTF)	√	√	√	√	√	√	√	√			
Trouble Indicator and Connector Circuit (TIC)	–	√	√	√	√	√	√	√	√	√	–
Jack, Lamp, and Key Circuit	√	√	√	√	√	√	√	√	√	√	√
Pretranslator	–	–	√	√	√	√	√	–	√	√	√
Relay Rack	√	√	√	√	√	√	√	√	–	–	–
Incoming Register	√	√	√	–	√	–	–	√	–	–	–

√ As required

TABLE B

APPARATUS	TESTS										
	A	B	C	D	E	F	G	H	I	J	K
Test Circuit (2.02)	1	1	1	1	1	1	1	1			
Trouble Indicator (2.03)	1	1	1	1	1	1	1	1	1	1	
322A (make-busy) Plug	√	√	√	√	√	√	√	√	√	√	√
32A Test Set	1	1									
Blocking and Insulating Tools (2.04)		√	√	√	√	√	√	√	√		√
KS-3008 Stopwatch or Equivalent									1		
Patching Cord (2.05)	√	√	√	√	√	√	√	√			
Patching Cord (2.06)	√	√	√	√	√	√	√	√			
Cord (2.07)										2	
Cord (2.08)											1

√ As required

(3W4B cord), and one KS-6278 connecting clip (to connect SP jack to unit terminal strip).

2.07 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one 419A (test connector) tool and one KS-6278 connecting clip (for making test connections to terminal strip and relay contact springs).

2.08 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, and one 411A (test pick) tool (for making test connections to fuse alarm bar).

3. PREPARATION

Tests A, D, E, F

Refer to ▶paragraphs 1.04 through 1.09.◀

STEP	ACTION	VERIFICATION
Tests A Through H		
1	At OTF— Restore all keys and switches.	All lamps extinguished.
2	Set RSG switch to select incoming register group having access to incoming register pretranslator to be tested.	
3	Set RSS switch to select incoming register to be used for test.	
4	▶From office records, select a tandem or intertoll trunk having access to selected incoming register.	

STEP	ACTION	VERIFICATION
	At distant office— Have selected trunk made busy.	
5	At OTF—◆ Operate ITT, 3D, MCB, CB keys.	
6	Operate MKR_ key to select a completing marker.	
7	Set PS switch to 15pps, 65 percent break position.	
8	Set L_L switch to position 0.	
9a	If trunk selected has incoming reverse battery supervision— At relay rack frame— Patch ITT jack to T jack or trunk.	
10a	At OTF— Operate ITT1 key.	
11b	If trunk selected has incoming CX or SX supervision— At relay rack frame— Patch T1, T2 jacks to T1, T2 jacks of trunk.	
12b	At OTF— Operate ITT2 key.	
13c	If trunk selected is bylink— Operate BL key.	
14c	Patch BL jack to SP jack.	
15c	At relay rack frame— Patch to SP jack and connect sleeve to terminal 42 on trunk unit terminal strip.	
16d	If trunk selected does not require a start dial signal— At OTF— Operate ONHK key.	
17e	If trunk selected has A relay ground shunt— Operate GS key.	
18f	If trunk selected has short conductor loop— Operate SLP key.	
19g	If trunk selected has pad control— Operate TP0 key.	

STEP	ACTION	VERIFICATION
Tests B Through G		
20	At TIC— Operate TIR AR key to release alarms after a timed interval.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Translation Feature		
20	♦At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.♦
21	At OTF— Set ♦A, B, C♦ DIAL switches for first code listed in Table D.	
22	♦At incoming register frame—♦ Insert plug of 32A test set into RC jack.	
23	Momentarily operate white (ST) button on 32A test set.	Observe that PST, PRL relays operated, and relays designated the same as transmitting leads(s) grounded operated.
24	Momentarily operate red (RL) button on 32A test set.	Incoming register released.
25	Repeat Steps 21 through 24 for each code remaining in Table D, then codes in Table E.	
26	Remove plug of 32A test set from RC jack.	
27	At relay rack frame— Remove patch cord(s) used for test.	
28c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
29	♦At distant office— Have trunk used in test restored to service.	
30	At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.♦
31	At OTF— Restore all keys and switches.	

STEP	ACTION	VERIFICATION
B. Open Receiving Lead Check Feature		
21	Momentarily operate RLS key.	All lamps extinguished.
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At OTF— Set ▶A, B, C,◀ DIAL switches for any code.	
24	At incoming register frame— Insert plug of 32A test set into RC jack.	
25	Block operated BS relay.	
26	Momentarily operate white (ST) button on 32A test set.	Incoming register seized.
27	When AS relay operates— ***Immediately*** remove blocking tool from BS relay.	At TIC— Display registered. PRT_ lamp lighted. PRL, A_ lamps ***not*** lighted.
28	Momentarily operate RLS key.	Display released.
29	At incoming register frame— Momentarily operate red (RL) button.	Incoming register released.
30	Remove plug of 32A test set from RC jack.	
31	At relay rack frame— Remove patch cord(s) used for test.	
32a	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
33	▶At distant office— Have trunk used in test restored to service.	
34	At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀
35	At OTF— Restore all keys and switches.	
36	At TIC— Restore TIR AR key.	

STEP	ACTION	VERIFICATION
C. Open Release Lead Check Feature		
21	Momentarily operate RLS key.	All lamps extinguished.
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At OTF— Set ▶A, B, C◀ DIAL switches for any code.	
24	At pretranslator under test— Insulate 8M of ATC relay. ***Caution: When insulating movable springs of wire-spring-type relays, use care not to dislodge the movable spring from the groove of the comb.***	
25	At OTF— Operate ST key.	At TIC— Display registered. PRT_, CMC, CM_, T0K lamps lighted. PRL lamp ***not*** lighted.
26	Momentarily operate RLS key.	Display released.
27	At OTF— Restore ST key.	All lamps extinguished.
28	At pretranslator under test— Remove insulator from 8M of ATC relay.	
29	At relay rack frame— Remove patch cord(s) used for test.	
30c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
31	▶At distant office— Have trunk used in test restored to service.	
32	At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀
33	At OTF— Restore all keys and switches.	
34	At TIC— Restore TIR AR key.	

STEP	ACTION	VERIFICATION
D. Open Transmitting Lead Check Feature		
21	Momentarily operate RLS key.	All lamps extinguished.
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At OTF— Set ▶A, B, C◀ DIAL switches for a code which, when translated, grounds the CM3 transmitting lead only. (Refer to Table D or E.)	
24	At pretranslator under test— Insulate 9M and 11M of ATC relay. ***Caution: When insulating movable springs of wire-spring-type relays, use care not to dislodge the movable spring from the groove of the comb.***	
25	At OTF— Operate ST key.	At TIC— Display registered. PRT_ lamp lighted. CM3, CMK lamps not lighted.
26	Momentarily operate RLS key.	Display released.
27	At OTF— Restore ST key.	All lamps extinguished.
28	At pretranslator under test— Block operated TR2 relay.	
29	At OTF— Set ▶A, B, C◀ DIAL switches for a code which, when translated, grounds only the CMA transmitting lead. (Refer to Table D or E.)	
30	At OTF— Operate ST key.	At TIC— Display registered. PRT_ lamp lighted. CM_, CMK lamps ***not*** lighted.
31	Momentarily operate RLS key.	Display released.
32	At OTF— Restore ST key.	All lamps extinguished.
33	Repeat Steps 29 through 32 for CMB transmitting lead.	

STEP	ACTION	VERIFICATION
34	At pretranslator under test— Remove insulator from 9M and 11M of ATC relay and blocking tool from TR2 relay.	
35	At relay rack frame— Remove patch cord(s) used for test.	
36c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
27	▶At distant office— Have trunk used in test restored to service.	
38	At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀
39	At OTF— Restore all keys and switches.	
40	At TIC— Restore TIR AR key.	

E. No Locking Ground on Transmitting Lead Check Feature

21	Momentarily operate RLS key.	All lamps extinguished.
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At OTF— Set ▶A, B, C◀ DIAL switches for code which, when translated, grounds the CM3 transmitting lead only. (Refer to Table A or B.)	
24	At incoming register under test— Insulate the contacts of the following relays: 1M of CM3 1M of CMA 1M of CMB ***Caution: When insulating movable springs of wire-spring-type relays, use care not to dislodge the movable spring from the groove of the comb.***	
25	At OTF— Operate ST key.	At TIC— Display registered.

STEP	ACTION	VERIFICATION
		CM3, PRT_ lamps lighted. CMK lamp ***not*** lighted.
26	Momentarily operate RLS key.	Display released.
27	At OTF— Restore ST key.	All lamps extinguished.
28	At petranslator under test— Block operated TR2 relay.	
29	At OTF— when translated, grounds only the CMA transmitting lead. (Refer to Table D or E.)	
30	At OTF— Operate ST key.	At TIC— Display registered. CM_, PRT_, lamps lighted. CMK lamp ***not*** lighted.
31	Momentarily operate RLS key.	Display released.
32	At OTF— Restore ST key.	All lamps extinguished.
33	Repeat Steps 29 through 32 for CMB transmitting lead.	
34	At pretranslator under test— Remove blocking tool from TR2 relay.	
35	At incoming register under test— Remove insulators from the following relay contacts: 1M of CM3 1M of CMA 1M of CMB	
36	At relay rack frame— Remove patch cord(s) used for test.	
37c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
38	⧫At distant office— Have trunk used in test restored to service.	
39	At jack, lamp, and key circuit— Remove make busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.⧫

STEP	ACTION	VERIFICATION
40	At OTF— Restore all keys and switches.	
41	At TIC— Restore TIR AR key.	

F. Open Trouble Release Lead Check Feature

21	Momentarily operate RLS key.	All lamps extinguished.
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At pretranslator under test— Insulate 4B of FA1 relay. ***Caution: When insulating movable springs of wire-spring-type relays, use care not to dislodge the movable spring from the groove of the comb.***	
24	Block nonoperated LKT relay.	
25	At OTF— Set ▶A, B, C◀ DIAL switches for code which, when translated, grounds CM3, CMA, or CMB transmitting lead. (Refer to Table D or E.)	
26	At OTF— Operate ST key.	At TIC— Display registered. CM_, CMC, PRT_ lamps lighted. PRL lamp ***not*** lighted.
27	At TIC— Momentarily operate RLS key.	Display released.
28	At OTF— Restore ST key.	All lamps extinguished.
29	At pretranslator under test— Remove insulator from 4B of FA1 relay and blocking tool from LKT relay.	
30	At relay rack frame— Remove patch cord(s) used for test.	
31c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	

STEP	ACTION	VERIFICATION
32	At distant office— Have trunk used in test restored to service.	
33	▶At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀
34	At OTF— Restore all keys and switches.	
35	At TIC— Restore TIR AR key.	

G. *Transfer Start Feature*

21	Momentarily operate RLS key.	All lamps extinguished.
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At pretranslator connector associated with pretranslator under test— Block operated TRS relay.	
24	At OTF— Set ▶A, B, C◀ DIAL switches for any code.	
25	At OTF— Operate ST key.	At TIC— Display registered. PRT_, TRS, CM_, TOK lamps lighted.
26	Momentarily operate RLS key.	Display released.
27	At OTF— Restore ST key.	All lamps extinguished.
28	At pretranslator connector associated with pretranslator under test— Remove blocking tool from TRS relay.	
29	At relay rack frame— Remove patch cord(s) used for test.	
30c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
31	▶At distant office— Have trunk used in test restored to service.	

STEP	ACTION	VERIFICATION
32	At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀
33	At OTF— Restore all keys and switches.	
34	At TIC— Restore TIR AR key.	

H. Display Lost Feature

20	At TIC— Momentarily operate RLS key.	All lamps extinguished.
21	Insert make-busy plug into TIC_MB PRT_ jack associated with pretranslator under test.	
22	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
23	At incoming register under test— Block nonoperated PRL relay.	
24	At OTF— Set ▶A, B, C◀ DIAL switches for any code.	
25	Operate ST key.	At TIC— PRT_DL lamp lighted.
26	Momentarily operate TIR_AR key.	PRT_DL lamp extinguished.
27	At OTF— Restore ST key.	All lamps extinguished.
28	At incoming register under test— Remove blocking tool from PRL relay.	
29	At relay rack frame— Remove patch cord(s) used for test.	
30c	If trunk selected is bylink— At OTF— Remove patch cord used for test.	
31	▶At distant office— Have trunk used in test restored to service.	
32	At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀

STEP	ACTION	VERIFICATION
33	At TIC— Remove make-busy plug from TIC_MB PRT_ jack.	
34	At OTF— Restore all keys and switches.	

I. Work Timer and Trouble Recorder Timer Features

1	At TIC— Insert make-busy plug into TIC_MB PRT_ jack associated with pretranslator under test.	
2	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
3	At pretranslator under test— Block nonoperated TR relay.	
4	Manually operate TM relay; ***start timing.***	In 230 to 290 milliseconds— WT relay operated.
5	Release TM relay.	
6	Remove blocking tool from TR relay.	
7	Block nonoperated TRST relay.	
8	Block operated TR relay; ***start timing.***	Minor alarm sounds. In 2.0 to 2.5 seconds— Major alarm sounds. TRT lamp lighted. At jack, lamp, and key circuit— TRR lamp lighted.
9	At pretranslator under test— Remove blocking tool from TR, TRST relays.	
10	Momentarily operate AR key.	Major alarm silenced. TRT lamp extinguished.
11	At TIC— Momentarily operate TIR_AR key.	Minor alarm silenced. At jack, lamp, and key circuit— TRR lamp extinguished.
12	Remove make-busy plug from TIC_MB PRT_ jack.	
13	▶At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀

STEP	ACTION	VERIFICATION
J. Trouble Detection Feature for False Ground or Crosses		
1	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀
2	At TIC— Operate TIR_AR key to release alarms after a timed interval.	
3	Momentarily operate RLS key.	All lamps extinguished.
4	At pretranslator under test— For first lead listed in Table C, momentarily ground the indicated relay contact.	At TIC— Display registered. PRT_, XX lamps lighted.
5	Momentarily operate RLS key.	Display released.
6	Repeat Steps 4 and 5 for each lead listed in Table C.	
7	▶At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀
8	At TIC— Restore TIR_AR key.	

TABLE C

LEAD UNDER TEST	GROUND RELAY CONTACTS
CMK	4 F of ATC
CM3	8 F of CMD
CMA	8 F of CMC
CMB	6 F of CMD
TR	4 F of FA1
TR1	8 F of TRT
PRL	4 F of TRT

STEP	ACTION	VERIFICATION
K. Make-Busy Feature		
1	▶At jack, lamp, and key circuit— Insert make-busy plug into PRTMB_ jack associated with pretranslator under test.	PRT_ lamp lighted.◀ At pretranslator under test— MB relay operated.
2	Momentarily connect battery to fuse alarm bar associated with pretranslator under test.	FA1 relay operated.
3	▶At jack, lamp, and key circuit— Remove make-busy plug from PRTMB_ jack associated with pretranslator under test.	PRT_ lamp extinguished.◀ At pretranslator under test— FA1, MB relays remain operated.
4	Insulate 3M, 5M, and 11M of TR relay. ***Caution: When insulating movable springs of wire-spring-type relays, use care not to dislodge the movable spring from the groove of the comb.***	
5	Block operated TR relay.	
6	Momentarily operate AR key.	FA1 relay released. MB relay remains operated.
7	Block operated TRL relay.	
8	Remove blocking tool then insulators from 3M, 5M, and 11M of TR relay.	MB relay remains operated.
9	Insulate 11M of TM relay.	
10	Block operated TM relay.	
11	Remove blocking tool from TRL relay.	MB relay remains operated.
12	Block operated the first pretranslator connector PF_ relay associated with pretranslator under test.	
13	Remove blocking tool then insulator from 11M of TM relay.	MB relay remains operated.
14	Block operated the second pretranslator connector PF_ relay associated with pretranslator under test.	
15	Remove blocking tool from first PF_ relay	MB relay remains operated.
16	Remove blocking tool from second PF_ relay.	MB relay released.

TABLE D

TRANSMITTING LEADS GROUNDED	CODE*		
	A	B	C
None	—	—	—
CMA	—	—	—
CMB	—	—	—
CM3	—	—	—
CMB & CMA	—	—	—
CM3 & CMB	—	—	—

*Pretranslators arranged for translation of 3-digit service codes, 3-digit local office codes and 3-digit NPA codes on TOL and TAN trunk classes.

TABLE E

CODE			TRANSMITTING LEADS GROUNDED	CODE			TRANSMITTING LEADS GROUNDED	CODE			TRANSMITTING LEADS GROUNDED
A	B	C		A	B	C		A	B	C	
0	—	—		—	0	—		—	—	0	
1	—	—		—	1	—		—	—	1	
2	—	—		—	1	1*		—	—	2	
3	—	—		—	2	—		—	—	3	
4	—	—		—	3	—		—	—	4	
5	—	—		—	4	—		—	—	5	
6	—	—		—	5	—		—	—	6	
7	—	—		—	6	—		—	—	7	
8	—	—		—	7	—		—	—	8	
9	—	—		—	8	—		—	—	9	
				—	9	—					

* List 3-digit codes which require A-, A-B-, or A-B-C- digit(s) for translation.
† List 3-digit codes which require A-B or A-B-C- digits for translation.
‡ List 3-digit codes which require A-B-C- digits for translation.
§ Record this code only when the code is an X11 code.