

**TRANSLATORS AND DECODERS**  
**OPERATION TESTS**  
**USING AUTOMATIC TEST CIRCUIT SD-32365-01**  
**STEP-BY-STEP COMMON CONTROL OFFICES**

**1. GENERAL**

**1.01** This section describes a method of testing operational features of the translator and decoder circuits using automatic test circuit (SD-32365-01). Translator features as used in TOUCH-TONE calling only or translator and decoder features as used in controlled outpulsing with or without TOUCH-TONE calling are tested in this section. Foreign area translator features are tested in Test Q.

**1.02** The tests covered are:

**A. *Translator Seizure and Service Code:*** This test determines that a translator will be seized and, upon receipt of a 3-digit code, will furnish the test circuit with the appropriate called number structure information for a 3-digit service code.

**B. *Reverting Code:*** This test checks that the translator will furnish the test circuit with the expected number of digits on a reverting code.

**C. *Office and Area Code:*** This test checks that the translator will furnish the test circuit with the expected number of digits after translating the office or area code digits.

**D. *Interchangeable Area and Office Code:*** This test checks that the translator will recognize an interchangeable code and furnish interchangeable code information.

**E. *Vacant Code:*** This test checks that the translator will recognize a vacant code and give the proper indication to the test circuit.

**F. *Permanent Signal:*** This test checks that the translator will respond to a permanent signal indication from the register and transmit a permanent signal code to the test circuit.

**G. *Zero Operator Route:*** This test checks that the translator and decoder function to transmit the proper routing information when a zero is dialed or keyed.

**H. *3-Digit Service Code:*** This test checks that the translator and decoder function to transmit the proper routing information when a 3-digit service code is dialed or keyed.

**I. *Reverting Code:*** This test checks that the translator and decoder function to transmit the proper routing information when a 4- or 5-digit reverting code is dialed or keyed.

**J. *Information Routes:*** This test checks that the translator and decoder function to transmit the proper routing information when a local, home area, or foreign area information code is dialed or keyed.

**K. *Nonsender Routes:*** This test checks that the translator and decoder function to transmit the proper routing information when a 7- or 10-digit nonsender class call is dialed or keyed. It also checks functions when simulated busy conditions exist.

**L. *Controlled Outpulsing Routes:*** This test checks that the translator and decoder function to transmit the proper routing information when a 7- or 10-digit sender class call is dialed or keyed. It also checks that when certain busy indications are simulated, the decoder will transmit alternate route information.

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## SECTION 227-725-503

**M. Interchangeable Code Routes:** This test checks that the translator and decoder function to transmit the proper routing information when an interchangeable code is dialed or keyed.

**N. Class Screening:** This test checks that the translator and decoder will recognize a certain class of service and transmit the proper routing based on the dialed or keyed number and the originating class of service.

**O. Cancel Alternate Route Control:** This test checks that the translator and decoder function to transmit intercept or announcement trunk routing when an alternate route is called for with the corresponding CAR- key operated.

**P. Permanent Signal Routing:** This test checks that the translator and decoder function to transmit the proper routing when a permanent signal indication is received.

**Q. Foreign Area Translator Routes:** This test checks that the translator and decoder will recognize an area code which requires foreign area translation and will use a foreign area translator for office code translation.

**R. Miscellaneous Routing:** This test checks that the translator and decoder function to transmit the proper routing for miscellaneous conditions such as class cross and decoder trouble release.

**1.03** Tests A through F apply to those offices arranged for TOUCH-TONE calling only. Test Chart A is used with Tests A through F. Tests G through R apply to those offices arranged for controlled outpulsing with or without TOUCH-TONE calling. Test Chart B is used for Tests G through R.

**1.04** Test Charts A and B provide spaces for listing specific test numbers to be keyed or dialed, depending on local conditions. The test charts should be filled out from local records in

accordance with the instructions provided in Part 5, Preparation of Test Chart.

**1.05** Tests D and M should be performed if interchangeable office and area codes exist.

**1.06** Tests F and P should be performed if office is equipped with permanent signal holding trunks.

**1.07** Test Q should be performed if office is equipped with foreign area translators.

**1.08** The trouble ticketer may be made busy to the decoder under test during testing. This is done at the jack, key, and lamp circuit by inserting a make-busy plug into the TTMB DR- jack corresponding to the decoder under test.

**1.09** The tests in this section are made on a direct seizure and test basis by the automatic test circuit. The originating register circuit and the translator connector-decoder connector circuit are bypassed in these tests. Each test is made on a manual basis and requires the setting of the switches and keys for the tests together with the manual selection of the particular translator and decoder to be tested.

**1.10 Lettered Steps:** A letter a, b, c, etc, added to a step number in Part 4 of this section, indicates an action which may or may not be required, depending 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

### All Tests

**2.01** Automatic Test Circuit, SD-32365-01.

**3. PREPARATION**

STEP	ACTION	VERIFICATION
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**All Tests**

- |   |  |  |
|---|--|--|
| 1 | At automatic test circuit —<br>Restore all test circuit keys and switches to normal.             |  |
| 2 | Operate PDT switch to position corresponding to translator or translator and decoder under test. |  |

**Tests G through R**

- |   |   |  |
|---|---|--|
| 3 | Operate CLU switch to position corresponding to desired class of service. |  |
|---|---|--|

**4. METHOD**

STEP	ACTION	VERIFICATION
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**Tests A through F**

- |    |   |                                  |
|----|---|----------------------------------|
| 3  | At automatic test circuit —<br>Operate TDT switch to position indicated in Test Chart A.                  |                                  |
| 4  | Operate digit register switches for test number as indicated in Test Chart A.                             |                                  |
| 5  | Operate arbitrary digit switches and class keys for the expected routing in accordance with Test Chart A. |                                  |
| 6  | Momentarily operate TDT key.  | TDK, DRL lamps light.            |
| 7  | Momentarily operate DRL key.  | Test circuit restores to normal. |
| 8a | If no further tests are to be made —<br>Restore all keys and switches to normal.                          |                                  |

**Tests G through R**

*Caution: Before performing Test O, consult with the traffic department in accordance with local instructions.*

- |   |  |  |
|---|--|--|
| 4 | At automatic test circuit —<br>Operate TDT switch to position indicated in Test Chart B. |  |
| 5 | Operate digit register switches for test number as indicated in Test Chart B.            |  |

STEP	ACTION	VERIFICATION
6	Operate arbitrary digit switches and class keys for the expected routing in accordance with Test Chart B.	
7	Momentarily operate TDT key.	TDK, DRL lamps light.
8	Momentarily operate DRL key.	Test circuit restores to normal.
9a	If no further tests are to be made — Restore all keys and switches to normal.	

**5. PREPARATION OF TEST CHART**

**5.01** The test charts at the end of this section are intended for use as particular number charts. These charts show test circuit keys and switches to be operated for each test. Information obtained from local records should be used to fill in the test charts.

**5.02** In Test Chart A, the columns for the digit register switches should be filled out in accordance with the explanation of the type of test call as listed in Table A.

**5.03** In Test Chart B, the columns for digit register switches, arbitrary digit switches, and code class keys should be filled out in accord-

ance with the explanation of the type of test call and the type of routing as listed in Table B.

**5.04** In Test Chart B, certain test numbers are designated as sender calls (SDO key operated) with no indication of the type of outpulsing, which will vary between offices. When MF outpulsing is required, the STGO and the BR10, CR10, or DR10 keys should be operated. When stop-go dial pulse outpulsing is required, the STGO, DPC, and the BR10, CR10, or DR10 keys should be operated.

**5.05** In Test O, the CAR- keys are located at the miscellaneous relay rack.

TABLE A

BSP TEST	TEST NO.	PREFIX DIGIT 0/1	TYPE CALL
A	1		3-digit service code 11X or X11
B	2		4-digit reverting code 11XX
	3		5-digit reverting code 11XXX
C	4		7-digit local call
	5	1	7-digit home area call
	6	0	7-digit home area call
	7		10-digit EAS call
	8	1	10-digit foreign area call
	9	0	10-digit foreign area call
D	10		7-digit nontoll with interchangeable code
	11	1	7-digit home area call with interchangeable code
	12	0	7-digit home area call with interchangeable code
	13	1	10-digit multmessage unit call
	14	1	10-digit foreign area call with interchangeable code
	15	0	10-digit foreign area call with interchangeable code
E	16		7-digit vacant code number
F	17		Permanent signal—no digits. Set arbitrary digit switches for 1-, 2-, or 3-digit route, as required.

TABLE B

BSP TEST	TEST NO.	PREFIX DIGIT 0/1	TYPE OF TEST NUMBER — DIGIT REGISTER SWITCHES	TYPE OF ROUTING — ARBITRARY DIGIT SWITCHES & CODE CLASS KEYS
G	1		Digit 0—zero operator call	1-, 2-, or 3-digit route
H	2		3-digit service code (11X or X11) sender or nonsender class	Noncoin service code route
	3		3-digit service code (11X or X11) sender or nonsender class	Coin service code route
I	4		4-digit reverting code (11XX) sender class	Reverting code route
	5		4-digit reverting code (11XX) nonsender class	Reverting code route
	6		5-digit reverting code (11XXX) sender class	Reverting code route
	7		5-digit reverting code (11XXX) nonsender class	Reverting code route
J	8		Local information code (411) nonsender class	Local information route
	9	1	Home area information code (1 + 411) sender or nonsender class	Home area information route
	10	1	Foreign area information code (1+NXX+411) sender class	Foreign area information route
	11	1	Foreign area information code (1+NXX+411) nonsender class	Foreign area information route
K	12		7-digit nonsender class with no alternate route	Initial route digits
	13	√	10-digit nonsender class with no alternate route	Initial route digits
	14		7-digit nonsender class with alternate route	Initial route digits
	15	√	10-digit nonsender class with alternate route	Initial route digits
	16	√	7-digit nonsender class with no alternate route	Overflow route digits—busy indication on seizure
	17	√	10-digit nonsender class with no alternate route	Overflow route digits—busy indication on seizure
	18	√	7-digit nonsender class with alternate route	Alternate route digits—busy indication—route advance on seizure
	19	√	10-digit nonsender class with alternate route	Alternate route digits—busy indication—route advance on seizure
L	20	√	7-digit sender class—MF outpulsing—no alternate route	Initial route digits—busy indication on seizure
	21	√	7-digit sender class—DP (no stop-go) outpulsing—no alternate route	Initial route digits—busy indication on seizure
	22	√	7-digit sender class—DP (stop-go) outpulsing—no alternate route	Initial route digits—busy indication on seizure
	23	√	10-digit sender class—MF outpulsing—no alternate route	Initial route digits—busy indication on seizure
	24	√	10-digit sender class—DP (no stop-go) outpulsing—no alternate route	Initial route digits—busy indication on seizure

TABLE B (Cont)

BSP TEST	TEST NO.	PREFIX DIGIT 0/1	TYPE OF TEST NUMBER — DIGIT REGISTER SWITCHES	TYPE OF ROUTING — ARBITRARY DIGIT SWITCHES & CODE CLASS KEYS
	25	✓	10-digit sender class—DP (stop-go) outpulsing—no alternate route	Initial route digits—busy indication on seizure
	26	✓	7-digit sender class—MF outpulsing—alternate route available	Initial route digits—busy indication on seizure
	27	✓	7-digit sender class—DP (no stop-go) outpulsing—alternate route available	Initial route digits—busy indication on seizure
	28	✓	7-digit sender class—DP (stop-go) outpulsing—alternate route available	Initial route digits—busy indication on seizure
	29	✓	10-digit sender class—MF outpulsing—alternate route available	Initial route digits—busy indication on seizure
	30	✓	10-digit sender class—DP (no stop-go) outpulsing—alternate route available	Initial route digits—busy indication on seizure
	31	✓	10-digit sender class—DP (stop-go) outpulsing—alternate route available	Initial route digits—busy indication on seizure
	32	✓	7-digit sender class—MF outpulsing—alternate route available	Alternate route digits—busy after release, decoder reseized
	33	✓	7-digit sender class—DP (no stop-go) outpulsing—alternate route available	Alternate route digits—busy after release, decoder reseized
	34	✓	7-digit sender class—DP (stop-go) outpulsing—alternate route available	Alternate route digits—busy after release, decoder reseized
	35	✓	10-digit sender class—MF outpulsing—alternate route available	Alternate route digits—busy after release, decoder reseized
	36	✓	10-digit sender class—DP (no stop-go) outpulsing—alternate route available	Alternate route digits—busy after release, decoder reseized
	37	✓	10-digit sender class—DP (stop-go) outpulsing—alternate route available	Alternate route digits—busy after release, decoder reseized
M	38	✓	7-digit interchangeable code with different routes—initial sender class with alternate route	Alternate route digits—busy indication on seizure, route advance
	39	✓	10-digit interchangeable code with different routes—initial sender class with alternate route	Alternate route digits—busy indication on seizure, route advance
	40	✓	7-digit interchangeable code with same routes—initial sender class with alternate route	Alternate route digits—initial route busy, decoder reseized
	41	✓	10-digit interchangeable code with same routes—initial sender class with alternate route	Alternate route digits—initial route busy, decoder reseized
	42	✓	10-digit interchangeable code with different routes	Initial route digits
N	43		10-digit extended area code—flat rate originating class	Charge route digits
	44		10-digit extended area code—extended area service originating class	Noncharge route digits

Table B (Cont)

TABLE B (Cont)

BSP TEST	TEST NO.	PREFIX DIGIT 0/1	TYPE OF TEST NUMBER — DIGIT REGISTER SWITCHES	TYPE OF ROUTING — ARBITRARY DIGIT SWITCHES & CODE CLASS KEYS
O	45	√	7-digit sender class with alternate route corresponding to CAR 0 key.	Intercept or announcement trunk route
	46	√	7-digit sender class with alternate route corresponding to CAR 1 key.	Intercept or announcement trunk route
	47	√	7-digit sender class with alternate route corresponding to CAR 2 key.	Intercept or announcement trunk route
	48	√	7-digit sender class with alternate route corresponding to CAR 3 key.	Intercept or announcement trunk route
	49	√	7-digit sender class with alternate route corresponding to CAR 4 key.	Intercept or announcement trunk route
	50	√	7-digit sender class with alternate route corresponding to CAR 5 key.	Intercept or announcement trunk route
	51	√	7-digit sender class with alternate route corresponding to CAR 6 key.	Intercept or announcement trunk route
	52	√	7-digit sender class with alternate route corresponding to CAR 7 key.	Intercept or announcement trunk route
	53	√	7-digit sender class with alternate route corresponding to CAR 8 key.	Intercept or announcement trunk route
	54	√	7-digit sender class with alternate route corresponding to CAR 9 key.	Intercept or announcement trunk route
P	55		Permanent signal (no digits)	Permanent signal route
Q	56		10-digit sender class with area code corresponding to foreign area translator 0	Initial route digits translated from office code
	57	√	10-digit sender class with area code corresponding to foreign area translator 0	Initial route digits translated from office code
	58	√	10-digit sender class with area code corresponding to foreign area translator 1	Initial route digits translated from office code
	59	√	10-digit sender class with area code corresponding to foreign area translator 2	Initial route digits translated from office code
	60	√	10-digit sender class with area code corresponding to foreign area translator 3	Initial route digits translated from office code
	61	√	10-digit sender class with area code corresponding to foreign area translator 4	Initial route digits translated from office code
	62	√	10-digit sender class with alternate route and area code corresponding to foreign area translator 0	Alternate route digits translated from office code

Table B (Cont)

TABLE B (Cont)

BSP TEST	TEST NO.	PREFIX DIGIT 0/1	TYPE OF TEST NUMBER — DIGIT REGISTER SWITCHES	TYPE OF ROUTING — ARBITRARY DIGIT SWITCHES & CODE CLASS KEYS
	63	√	10-digit sender class with alternate route and area code corresponding to foreign area translator 1	Alternate route digits translated from office code
	64	√	10-digit sender class with alternate route and area code corresponding to foreign area translator 2	Alternate route digits translated from office code
	65	√	10-digit sender class with alternate route and area code corresponding to foreign area translator 3	Alternate route digits translated from office code
	66	√	10-digit sender class with alternate route and area code corresponding to foreign area translator 4	Alternate route digits translated from office code
R	67	√	7-digit sender class call (class crossed leads)	Initial routing nontoll, zero operator, or intercept route
	68	1	10-digit sender class toll number (coin originating class)	Intercept or operator route digits
	69		7-digit nonsender class vacant code	Vacant code routing
	70		7-digit sender class call	Initial route digits. Translator trouble release with second trial indication on reseizure.







