MULTIFREQUENCY OUTGOING SENDERS SD-26051-01 AND SD-25580-01 TESTS USING THE AUTOMATIC MONITOR, REGISTER, AND SENDER TEST CIRCUIT SD-25680-01 NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section provides the information to test multifrequency outgoing senders (SD-26051-01) and (SD-25580-01) using the automatic monitor register, and sender test circuit.

1.02 The reasons for reissuing this section are listed as follows. Revision arrows are used to emphasize the more significant changes. This reissue affects Equipment Test Lists.

(a) To revise Test J to delete reference to operation of all CTR_ keys.

(b) To revise Test L and add Test L.1 to include provisions for testing when both stuck sender trunk identification and alarm surveillance and control features are provided.

(c) To revise Test O to include optional checks for the elimination of sender plant registration when the sender is made busy on MTF test calls and TUR maintenance busy indications in offices equipped with alarm surveillance and control feature.

(d) To make minor changes as required.

1.03 The tests covered are:

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1.04 Tests W, X, and Y are to be performed on wire-spring relay type senders equipped with a frequency generator.

1.05 Test W will normally be used to make a comparative frequency test of an oscillator output. When the results of this test are not within the limits specified or when a precise measurement of a frequency is required, Test Y should be performed.

1.06 If the oscillator output voltage or frequency is not within the limits specified in the tests, the required corrective measures are given in the circuit notes which are part of SD-26051-01.

1.07 Tests K, L, and ⧫L.1⧫ require verification at sender being tested.

1.08 Tests H, J, K, N, and O should be made as rapidly as possible since other senders must be made busy.

1.09 For Tests A through N, P through V, and Z through AG , charts are furnished with spaces provided for listing specific priming information for each test, depending on local conditions. These charts should be filled out from local records in accordance with instructions provided in Part 5, PREPARATION OF TEST CHART.

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 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.

1.11 Local instructions should be followed for recording and reporting plant register operations for registers associated with sender SS leads.

1.12 The manner of selecting some circuits and test conditions at the master test frame (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.

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

1.14 Tests J, K, L, and ⧫L.1⧫ should be performed in the off-busy hours.

1.15 On Issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as

well as the 18 discontinued lamps, such as DT, ORIG, ITDO, ITNP, OGT, etc.

1.16 When performing Test H, it should be observed that the TK1 lamp ***does not flash*** and the TK lamp ***does not light*** even up to a short 10 second interval. If these lamps should light as the circuit advances, it indicates that the D relay in the ***trunk circuit*** is ***not*** being held over the D lead by the AMA relay in the sender, after the EP and AU relays in the sender have been operated by the marker.

2. APPARATUS

Tests A Through N, P Through V, Z Through AG

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

Tests A, C Through N, P Through V, Z Through AG

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

Tests B, K, L, ▶L.1,◀ N

2.03 Trunk test circuit, SD-25918-01.

Tests B, H, J, K, L, ▶L.1,◀ N, O, P, S.1, W, X, Y, AA, AC, AD

2.04 322A (make-busy) plugs as required.

Tests B, H, J, K, L, ▶L.1,◀ P, S.1, AA, AC, AD

2.05 KS-3008 stopwatch or equivalent.

Tests B, L, O, P, S.1 W, X, Y, AA, AC, AD

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

Test N

2.07 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and two KS-6278 connecting clips (to connect ground).

Tests O, W

2.08 67C test set or equivalent, (for checking the presence or absence of ground), equipped with two 624B tools (to make test connections to terminals arranged for solderless wrapped connections).

Test X

2.09 Electron tube voltmeter, Voltohmyst, RCA WV-98A senior, or equivalent (for measuring oscillator output voltage).

2.10 Load resistor, 19LM or equivalent, 275 ohms ±1 percent.

Tests X, Y

2.11 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one 624B tool, and one KS-6278 connecting clip.

2.12 Load resistor, 19SE or equivalent, 1100 ohms ±1 percent.

Test Y

2.13 Frequency meter, Berkley EPUT or Hewlett-Packard 521C with 10-second gates.

2.14 Testing cord, Pomona Electronics—MG-C-BNC-36 cable assembly, 3 feet long, equipped with one UG-88C coaxial connector and two alligator clips (red clip connected to cable center conductor, black clip connected to shield) (for use with Berkley EPUT meter).

2.15 Testing cord, Hewlett-Packard 11001A cable assembly, 45 inches long, equipped with one UG-88C coaxial connector and one dual banana plug (plug nearest knurled section connected to cable center conductor) (for use with Hewlett-Packard 521C).

2.16 Two No. 60 Mueller clips for use with Hewlett-Packard 11001A cable assembly.

3. PREPARATION

STEP	ACTION	VERIFICATION
	Note: Refer to paragraphs 1.11 through 1.16.	
	Tests A Through N, P Through V, Z Through AG	
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select sender to be tested.	
4	Select marker.	
5	Select route advance.	
6a	▶If office is equipped with stuck sender trunk identifier circuit— Release SSI, ACTR keys.	
	All Tests Except L, L.1, O, W, X, Y	
7b	If CTR_ key associated with sender under test is operated (pulled-out)— Release (push-in) CTR_ key.◀	
	Tests A, C Through N, P Through V, Z Through AG	
8	Select SDR class of test.	
9	Operate MAC key.	
	Note: Allow 1 minute for tubes to heat.	
10	Operate STT key.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Regular Calls	
	AMA Calls and DDD AMA or CAMA Calls	
11	Operate keys and set switches in accordance with Test Chart Test 1.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	

STEP	ACTION	VERIFICATION
13d	If check of transverter leads is not required— At MTF— Momentarily operate ST key.	
14d	Momentarily operate ST key.	OK lamp lighted.
15d	Momentarily operate RL key.	OK lamp extinguished.
16e	If trouble record is required to check transverter leads— Operate REC key.	
17e	Momentarily operate ST key.	OK lamp lighted. Two trouble records taken. Calling line location, OBS or NOB, CP_, MB_, RNT0, 1, or 2, RN_, and LST, L5D, 4DG, or 5DG designations perforated on each record. SRT, MKR, called number, called number class, TP or RP, OSG_, SSA or SSB, OS_ designations perforated on first record. TV, 2L or 4L, TPT or RPT, FP_, CN_, S_, and called number (when test is an observed 2-line entry, or a 4- or 5-line entry call) designation perforated on second record.
18e	Momentarily operate RL key.	OK lamp extinguished.
19e	Restore REC key.	
20c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
21	Repeat Steps 11 through 20c, as required for Tests 2 through 45.	
Non-AMA Calls and 2-Way or Intertoll Trunk Calls		
22	Operate keys and set switches in accordance with Test Chart Test 46.	
23c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
24	At MTF— Momentarily operate ST key.	OK lamp lighted.
25	Momentarily operate RL key.	OK lamp extinguished.

STEP	ACTION	VERIFICATION
26c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
27	Repeat Steps 22 through 26c as required for Tests 47 through 66.	
	Coin Zone Trunk Calls	
28	Operate keys and set switches in accordance with Test Chart Test 67.	
29d	If check of transverter leads is not required— At MTF— Momentarily operate ST key.	
30d	When TK1 lamp lights second time— Operate OPA key.	
31d	When TK1 lamp lights third time— Restore OPA key.	OK lamp lighted.
32d	Momentarily operate RL key.	OK lamp extinguished.
33e	If trouble record is required to check transverter leads— Operate REC key.	
34e	Momentarily operate ST key.	TK1 lamp momentarily lighted.
35e	When TK1 lamp lights second time— Operate OPA key.	
36e	When TK1 lamp lights third time— Restore OPA key.	OK lamp lighted. Two trouble records taken. Calling line location, OBS or NOB, CP_, MB_, RNT0, 1, or 2, RN_, and LST, L5D, 4DG, or 5DG designations perforated on each record. SRT, MKR, called number, called number class, TP or RP, OSG_, SSA or SSB, OS_ designations perforated on first record. TV, 2L or 4L, TPT or RPT, FR_, CN_, S_, and called number (when test is an observed 2-line entry, or a 4- or 5-line entry call) designation perforated on second record.
37e	Momentarily operate RL key.	OK lamp extinguished.
38e	Restore REC key.	

STEP	ACTION	VERIFICATION
39	Repeat Steps 28 through 38e, as required for Tests 68 and 69.	
	Tandem Trunk Calls—Non AMA	
40	Operate keys and set switches in accordance with Test Chart Test 70.	
41c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
42	At MTF— Momentarily operate ST key.	OK lamp lighted.
43	Momentarily operate RL key.	OK lamp extinguished.
44c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
45	Repeat Steps 40 through 44c, as required for Test 71.	
	CCSA Tandem Trunk Calls—AMA	
46	Operate keys and set switches in accordance with Test Chart Test 72.	
47c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
48d	If check of transverter leads is not required— At MTF— Momentarily operate ST key.	OK lamp lighted.
49d	Momentarily operate RL key.	OK lamp extinguished.
50e	If trouble record is required to check transverter leads— Operate REC key.	
51e	Momentarily operate ST key.	OK lamp lighted. Two trouble records taken. Calling line location, OBS or NOB, CP_, MB_, RNT0, 1, or 2, RN_, and LST, L5D, 4DG, or 5DG designations perforated on each record. SRT, MKR, called number, called number

STEP	ACTION	VERIFICATION
		class, TP or RP, OSG_, SSA or SSB, OS_ designations perforated on first record. TV, 2L or 4L, TPT or RPT, FR_, CN_, S_, and called number (when test is an observed 2-line entry, or a 4- or 5-line entry call) designation perforated on second record.
52e	Momentarily operate RL key.	OK lamp extinguished.
53e	Restore REC key.	
54c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
55	Repeat Steps 46 through 54c, as required for test 73.	
Trunks To TSPS No. 1 Calls		
56	Operate keys and set switches in accordance with Test Chart Test 74.	
57	At MTF— Momentarily operate ST key.	OK lamp lighted.
58	Momentarily operate RL key.	OK lamp extinguished.
59	Repeat Steps 56 through 58, as required for Test 75.	
All Calls		
60	At MTF— Restore all keys and switches not required in next test.	
61a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
62	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
B. Trunk Test—Open Trunk		
7	Operate keys and set switches in accordance with Test Chart Test 76.	
8	Select ITDO class of test.	

STEP	ACTION	VERIFICATION
9	Operate TTL, TLK keys.	
10	Insert make-busy plug into MB_ jack of sender under test.	
11	At trunk test circuit— Block nonoperated ITDO relay.	
12	At MTF— Momentarily operate ST key; ***start timing.***	***With marker on light traffic*** In 2.5 to 4.5 seconds— Overflow tone heard. Trouble record taken. TGT, sender, trunk number designations perforated. ***Note:*** If trouble record is not taken within 4.5 seconds, ensure that marker is in light traffic by making it busy. Repeat test.
13	Momentarily operate RL key.	Overflow tone silenced.
14	Operate HTR key.	
15	Momentarily operate ST key; ***start timing.***	***With marker on heavy traffic*** In 14 to 22 seconds— TO_ lamp momentarily lighted. Overflow tone heard.
16	Momentarily operate RL key.	Overflow tone silenced.
17	Restore HTR key.	
18	Repeat Steps 7 through 17, as required for Test 77.	
19	Remove blocking tool from ITDO relay.	
20	Remove make-busy plug from MB_ jack of sender under test.	
21	Restore all keys and switches not required in next test.	
22a	◗If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
23	Operate (pull-out) CTR_ key associated with sender under test, if required.◖	

STEP	ACTION	VERIFICATION
C. Abandoned Call—AMA		
11	Operate keys and set switches in accordance with Test Chart Test 78.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	At MTF— Momentarily operate ST key.	OK lamp lighted.
14	Momentarily operate RL key.	OK lamp extinguished.
15c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
16	At MTF— Restore all keys and switches not required in next test.	
17a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
18	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
D. Abandoned Call—Non-AMA		
11	Operate keys and set switches in accordance with Test Chart Test 79.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	At MTF— Momentarily operate ST key.	OK lamp lighted.
14	Momentarily operate RL key.	OK lamp extinguished.
15c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	

STEP	ACTION	VERIFICATION
16	At MTF— Restore all keys and switches not required in next test.	
17a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
18	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
E. AMA Transverter Trouble Release—Noncoin Zone		
11	Operate keys and set switches in accordance with Test Chart Test 80.	
12	Momentarily operate ST key.	OK lamp lighted. Overflow tone heard.
13	Momentarily operate RL key.	OK lamp extinguished. Overflow tone silenced.
14	Restore TOF key, if operated.	
15	Restore all keys and switches not required in next test.	
16a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
F. AMA Transverter Trouble Release—Coin Zone		
11	Operate keys and set switches in accordance with Test Chart Test 81.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Restore all keys and switches not required in next test.	
15a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key as required.	
16	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	

STEP	ACTION	VERIFICATION
G. Delay Pulsing of Last Digit on AMA Call		
11	Operate keys and set switches in accordance with Test Chart Test 82.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Restore all keys and switches not required in next test.	
15a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
16	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
H. No-Pulse AMA Call		
	Note: Refer to paragraph 1.16.	
11c	If sender is not arranged for reduced timing interval and is not arranged to indicate when it is connected to transverter— Operate keys and set switches in accordance with Test Chart Test 83.	
12c	Momentarily operate ST key.	OK lamp lighted. Overflow tone not heard.
13c	Momentarily operate RL key.	OK lamp extinguished.
14d	If sender is arranged to reduce timing interval and is arranged to release if timing circuit functions before connection is made to transverter— Operate keys and set switches in accordance with Test Chart Test 84.	
15d	Insert make-busy plugs into MB_ jacks of all senders that use same transverter-connector as sender under test (refer to paragraph 1.08).	
16d	Momentarily operate ST key; ***start timing.***	In 7 to 11 seconds— TO_ lamp lighted. Overflow tone not heard. ***Note:*** Immediately after verification of this step, proceed to next step to prevent transverter timeout.

STEP	ACTION	VERIFICATION
17d	Momentarily operate RL key.	All lamps extinguished.
18d	Remove make-busy plugs from MB_ jacks of all senders.	
19	Restore all keys and switches not required in next test.	
20a	⧫If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
21	Operate (pull-out) CTR_ key associated with sender under test, if required.⧫	
I. Reversed Trunk Test		
11	Operate keys and set switches in accordance with Test Chart Test 85.	
12	Momentarily operate ST key.	OK lamp lighted. Overflow tone heard.
13	Momentarily operate RL key.	OK lamp extinguished. Overflow tone silenced.
14	Repeat Steps 11 through 13, as required for Test 86.	
15	Restore all keys and switches not required in next test.	
16a	⧫If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.⧫	
J. Timing Features—Noncoin Zone		
11	Operate keys and set switches in accordance with Test Chart Test 87.	
12c	If 2-way trunk is used for selecting outgoing route— At distant office— Have trunk removed from service.	
13	At MTF— Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 14 to 22 seconds—

STEP	ACTION	VERIFICATION
		OK lamp lighted. Overflow tone heard.
14	Momentarily operate RL key.	All lamps extinguished. Overflow tone silenced.
15	Restore TMT, SDT1 keys.	
16	Insert make-busy plugs into MB_ jacks of all senders that use same transverter-connector as sender under test (refer to paragraph 1.08).	
17	Operate SDT3, STVT keys.	
18	Momentarily operate ST key; ***start timing.***	TK1 lamp momentarily lighted. In 7 to 11 seconds— OK lamp lighted.
19	Momentarily operate RL key.	OK lamp extinguished.
20	Restore SDT3, STVT keys.	
21	Remove make-busy plugs from MB_ jacks of all senders.	
22c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
23	Operate keys and set switches in accordance with Test Chart Test 88.	
24c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
25	At MTF— Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 14 to 22 seconds— OK lamp lighted. Overflow tone heard.
26	Momentarily operate RL key.	All lamps extinguished. Overflow tone silenced.
27c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	

STEP	ACTION	VERIFICATION
28	Restore all keys and switches not required in next test.	
29a	⧫If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key as required.	
30	Operate (pull-out) CTR_ key associated with sender under test, if required.⧫	
	K. Timing Features—Coin Zone	
11	Operate keys and set switches in accordance with Test Chart Test 89.	
12	Momentarily operate ST key.	TMT lamp lighted.
13	Operate OPA key; ***start timing.***	In 25 to 48 seconds— TO_ lamp ***not*** lighted.
14	Momentarily operate RL key.	TMT lamp extinguished.
15	Restore OPA key.	
16	Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 25 to 48 seconds— TO_ lamp lighted. ***Note:*** If an all-senders-busy condition is encountered by a marker at this time, the sender will release.
17	Operate OPA key.	TO_ lamp extinguished.
18	Restore OPA key; ***start timing.***	In 12 to 24 seconds— TO_ lamp momentarily lighted. Overflow tone heard. OK lamp lighted.
19	Momentarily operate RL key.	All lamps extinguished. Overflow tone silenced.
20	Insert make-busy plugs into MB_ jacks of all senders that use same transverter-connector as sender under test (refer to paragraph 1.07).	
21	Restore SDT1, TMT keys.	
22	Operate SDT3, STVT, AAT keys.	

STEP	ACTION	VERIFICATION
23	Momentarily operate ST key; ***start timing.***	At sender under test— In 7 to 11 seconds— TM relay momentarily operated. ***Note:*** Immediately after verification of this step, proceed to Step 24 to prevent transverter timeout.
24	At MTF— Operate TVR key; ***start timing.***	OK lamp lighted. In 14 to 22 seconds after TM relay momentarily operated in Step 23— TO_ lamp lighted.
25	Restore AAT key.	TO_ lamp extinguished.
26	Momentarily operate RL key.	OK lamp extinguished.
27	Restore SDT3, STVT keys.	
28	Remove make-busy plugs from MB_ jacks of all senders.	
29	Operate keys and set switches in accordance with Test Chart Test 90.	
30	Momentarily operate ST key.	TMT lamp lighted.
31	Operate OPA key; ***start timing.***	In 25 to 48 seconds— TO_ lamp ***not*** lighted.
32	Momentarily operate RL key.	TMT lamp extinguished.
33	Restore OPA key.	
34	Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 25 to 48 seconds— TO_ lamp lighted. ***Note:*** If an all-senders-busy condition is encountered by a marker at this time, the sender will release.
35	Operate OPA key.	TO_ lamp extinguished.
36	Restore OPA key; ***start timing.***	In 12 to 24 seconds— TO_ lamp momentarily lighted. Overflow tone heard. OK lamp lighted.
37	Momentarily operate RL key.	All lamps extinguished. Overflow tone silenced.

STEP	ACTION	VERIFICATION
38	Restore all keys and switches not required in next test.	
39a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
40	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
L. Cancel Timed Release and Alarm		
11c	▶If office is equipped with alarm surveillance and control feature and the interface and control circuit is arranged to control the sender timed release feature— Request remote alarm center by telephone to release stuck sender holding feature, if activated. ***Note:*** The stuck sender trunk identifier circuit is disabled when the stuck sender holding feature is activated at the remote alarm center.◀	REM lamp extinguished.
12	Operate keys and set switches in accordance with Test Chart Test 91.	
13d	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk remove from service.	
14e	At MTF— If CTR_ key associated with sender under test is released (pushed-in)— Operate (pull-out) CTR_ key.	
15f	If stop sender progress feature (YC option) is provided— At sender under test— Block nonoperated BS steering relay.	
16f	At MTF— Momentarily operate ST key; ***start timing.***	In 14 to 22 seconds— TO_ lamp lighted. At sender under test— TRL, PG1 relays operated.
17f	Remove blocking tool from BS relay.	TRL, PG1 relays remain operated.
18f	At MTF— Momentarily operate RL key.	

STEP	ACTION	VERIFICATION
19f	At MTF— Restore (push-in) CTR_ key.	TO_ lamp extinguished. At sender under test— TRL, PG1 relays released.
20f	Operate (pull-out) CTR_ key.	
21	Operate DISC, TMT keys.	
22	Momentarily operate ST key; ***start timing.***	In 14 to 22 seconds— TO_ lamp lighted. Overflow tone not heard. In 10 to 15 seconds after TO_ lamp lighted— R-S-TOA lamp lighted. Major alarm sounds. ***Note:*** If R-S-TOA lamp lights in less than 10 seconds, it may be necessary to repeat test because another circuit may have seized common alarm circuit.
23	Insert make-busy plug into MB_ jack of sender under test.	R-S-TOA lamp extinguished. Major alarm silenced.
24	Restore (push-in) CTR_ key.	OK lamp lighted.
25	Momentarily operate RL key.	All lamps extinguished.
26	Remove make-busy plug from MB_ jack of sender under test.	
27	Restore DISC key.	
28g	If alarm sending circuit is provided— Operate (pull-out) CTR_ key of sender under test.	
29g	Operate transfer key to DB position (if provided) or to TR position. ***Note:*** All alarms will be transferred while key is operated.	
30g	Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 14 to 22 seconds— Overflow tone heard. OK lamp lighted.
31g	Operate DISC key.	Overflow tone silenced.
32g	Momentarily operate RL key.	All lamps extinguished.
33g	Operate transfer key to NTR position.	

STEP	ACTION	VERIFICATION
34g	Momentarily operate RL key.	
35g	Restore DISC key.	
36d	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
37	Repeat Steps 11c through 36d, as required for Test 92.	
38	At MTF— Restore all keys and switches not required in next test.	
39a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	REM lamp lighted.
40c	If office is equipped with alarm surveillance and control feature and the interface and control circuit is arranged to control the sender timed release feature— Advise remote alarm center by telephone to reactivate stuck sender holding feature, if required.	
41e	If CTR_ key associated with sender under test is released (pushed-in)— Operate (pull-out) CTR_ key, if required.◀	

L.1 ▶Stuck Sender Trunk Identification

11c	If office is equipped with alarm surveillance and control feature and the interface and control circuit is arranged to control the sender timed release feature— Request remote alarm center by telephone to release stuck sender holding feature, if activated. ***Note:*** The stuck sender trunk identifier circuit is disabled when the stuck sender holding feature is activated at the remote alarm center.	REM lamp extinguished.
12	Operate keys and set switches in accordance with Test Chart Test 93.	
13d	If 2-way trunk is used for selected outgoing route—	

STEP	ACTION	VERIFICATION
	At distant office— Have trunk removed from service.	
14e	At MTF— If CTR_ key associated with sender under test is released (pushed-in)— Operate (pull-out) CTR_ key.	
15	Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 20 to 32 seconds— TO_ lamp lighted. In 10 to 15 seconds— R-S-TOA lamp lighted. Major alarm sounds. R-S-TOA lamp extinguished. Major alarm silenced.
16	Insert make-busy plug into MB_ jack associated with sender under test.	
17	Operate SSI key.	SSTI lamp lighted. In 20 to 25 seconds— LH/RH, FT_, FU_, SW_, VU_ lamps lighted indicating OSL switch and vertical associated with stuck sender. If LLP is provided— SWT_ lamp lighted. ***Note:*** If no sender is stuck, the END lamp will light at the end of the scan cycle and remain lighted until the SSI key is restored.
18	Restore SSI key.	SSTI, LH/RH, FT_, FU_, SW_, VU_ lamps extinguished. If LLP is provided— SWT_ lamp extinguished.
19	Restore (push-in) CTR_ key associated with sender under test.	OK lamp lighted.
20	Momentarily operate RL key.	All lamps extinguished.
21	Remove make-busy plug from MB_ jack associated with sender under test.	
22f	If automatic tracing feature is provided— Operate ACTR key.	
23f	Momentarily operate ST key; ***start timing.***	TMT lamp lighted. In 20 to 25 seconds— MN-SSTI lamp lighted. Minor alarm sounded.

STEP	ACTION	VERIFICATION
		Trouble record taken. SSTI, OSG_, SSA/SSB, OS_ designations perforated indicating sender group assignment. LH/RH, FT_, FU_, SW_, VU_ designations perforated indicating OSL switch and vertical associated with stuck sender. If LLP is provided— SWT_ designation perforated.
24f	Restore ACTR key.	
25f	Momentarily operate SSTI-AR key.	MN-SSTI lamp extinguished. Minor alarm silenced.
26f	Momentarily operate RL key.	All lamps extinguished.
27d	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
28	Repeat Steps 11c through 27d as required for Test 94.	
29	At MTF— Restore all keys and switches not required in next test.	
30	Operate SSI or ACTR key, as required for manual or automatic stuck sender trunk identification.	
31c	If office is equipped with alarm surveillance and control feature and the interface and control circuit is arranged to control the sender timed release feature— Request remote alarm center by telephone to reactivate stuck sender holding feature, if required.	REM lamp lighted.
32	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
M. Marker Reorder		
11	Operate keys and set switches in accordance with Test Chart Test 95.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	

STEP	ACTION	VERIFICATION
13	Momentarily operate ST key.	OK lamp lighted. Overflow tone heard.
14	Momentarily operate RL key.	OK lamp extinguished. Overflow tone silenced.
15c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
16	Repeat Steps 11 through 15c, as required for Test 96.	
17	Restore all keys and switches not required in next test.	
18a	♦If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
19	Operate (pull-out) CTR_ key associated with sender under test, if required.♦	

N. Multifrequency Current Supply Trouble Release

11	Operate keys and set switches in accordance with Test Chart Test 97.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	Insert make-busy plug into MB_ jack of each sender of subgroup in which sender under test appears (refer to paragraph 1.07).	
14d	If 1-4, 2-5, 3-6 keys are provided— At multifrequency current supply bay— Operate 1-4, 2-5, or 3-6 keys associated with sender under test.	
15e	If sender is nonwire-spring-relay type— At sender under test— Connect ground to terminal 22 of terminal strip C of sender under test.	
16f	If sender is wire-spring-relay type— At sender under test— Connect ground to terminal 15 of terminal strip C of sender under test.	

STEP	ACTION	VERIFICATION
17	At MTF— Momentarily operate ST key.	Overflow tone heard.
18	At monitor frame— Momentarily operate TRR1 relay.	At MTF— Trouble record taken. TI, SRT, MOS, FR_, CN_, S_ designations perforated indicating location of sender under test on sender connector frame.
19	Momentarily operate RL key.	All lamps extinguished. Overflow tone silenced.
20	Remove make-busy plugs from MB_ jacks.	
21	At sender under test— Remove testing cord from terminal strip.	
22d	If 1-4, 2-5, 3-6 keys are provided— At multifrequency current supply bay— Restore 1-4, 2-5, or 3-6 keys.	
23c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
24	Repeat Steps 11 through 23c, as required for Test 98.	
25	Restore all keys and switches not required in next test.	
26a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
27	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
O. Sender Busy		
1	At sender frame— When sender to be tested is idle— Block operated SB relay.	
2	At MTF— Insert make-busy plugs into MB_ jacks of all other senders in subgroup associated with sender under test (refer to paragraph 1.07).	At sender frame— ***Nonwire-spring-relay type senders*** ▶Check for absence of ground on terminal 19 of terminal strip C and terminals 29 and 30 of terminal strip D on sender control unit.◀ ***Wire-spring-relay type senders*** Check for absence of ground on terminals 16,

STEP	ACTION	VERIFICATION
		26 of terminal strip A and terminal 17 of terminal strip B on sender control unit
3	At MTF— Insert make-busy plug into MB_ jack of sender under test.	
4	At sender under test— Remove blocking tool from SB relay.	At sender frame— ***Nonwire-spring-relay type senders*** Check for absence of ground on terminal 19 of terminal strip C and terminals 29 and 30 of terminal strip D on sender control unit. ***Wire-spring-relay type senders*** Check for absence of ground on terminals 16, 26 of terminal strip A and terminal 17 of terminal strip B on sender control unit.
5	At MTF— Remove make-busy plug from MB_ jack associated with sender under test.	At sender frame— ***Nonwire-spring-relay type senders*** Check for presence of ground on terminal 19 of terminal strip C and terminals 29 and 30 of terminal strip D on sender control unit. ***Wire-spring-relay type senders*** Check for presence of ground on terminals 16, 26 of terminal strip A and terminal 17 of terminal strip B on sender control unit.
6a	If option is provided for elimination of stuck sender plant registration on test calls when sender is made busy at MTF— At MTF— Insert make-busy plug into MB_ jack of sender under test.	
7a	At sender under test— Block operated CT, TRL relays.	***Nonwire-spring-relay type senders*** Check for absence of ground on terminal 32 of terminal strip D on sender control unit. ***Wire-spring-relay type senders.*** Check for absence of ground on terminal 36 of terminal strip A on sender control unit.
8a	At MTF— Remove make-busy plug from MB_ jack of sender under test.	At sender frame— ***Nonwire-spring-relay type senders*** Check for presence of ground on terminal 32 of terminal strip D on sender control unit. ***Wire-spring-relay type senders*** Check for presence of ground on terminal 36 of terminal strip A on sender control unit.
9a	At sender under test— Remove blocking tool(s) placed in Step 7a.	

STEP	ACTION	VERIFICATION
10b	If option is provided for TUR maintenance busy indication in offices equipped with alarm surveillance and control feature— At MTF— Insert make-busy plug into MB_ jack of sender under test.	At sender frame— ***Nonwire-spring-relay type senders*** Check for presence of ground on terminal 5 of terminal strip D on sender control unit. ***Wire-spring-relay type senders*** Check for presence of ground on terminal 32 of terminal strip A of sender control unit.
11b	At MTF— Remove make-busy plug from MB_ jack of sender under test.	At sender frame— ***Nonwire-spring-relay type senders*** Check for absence of ground on terminal 5 of terminal strip D on sender control unit. ***Wire-spring-relay type senders*** Check for absence of ground on terminal 32 of terminal strip A of sender control unit.
12b	At sender under test— Block operated TRL relay.	At MTF— TO_ lamp lighted. Major alarm sounded. At sender frame— ***Nonwire-spring-relay type senders*** Check for presence of ground on terminal 5 of terminal strip D on sender control unit. ***Wire-spring-relay type senders*** Check for presence of ground on terminal 32 of terminal strip A of sender control unit.
13b	Remove blocking tool placed in Step 12b.	At MTF— TO_ lamp extinguished. Major alarm silenced.
14	Remove all make-busy plugs placed in Step 2.	

P. Intersender Timing—Wire-Spring-Relay Type and Nonwire-Spring-Relay Type Arranged for Intersender Timing

11	Operate keys and set switches in accordance with Test Chart Test 99.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	Insert make-busy plug into MB_ jack of sender under test.	
14	At relay rack frame— At outgoing sender group release circuit— Block operated R_ relay of sender group associated with sender under test.	

STEP	ACTION	VERIFICATION
15d	If noncoin zone trunk is selected— At MTF— Momentarily operate ST key; ***start timing.***	In 4 to 8 seconds— Overflow tone heard.
16e	If coin zone trunk or junctor is selected— At MTF— Momentarily operate ST key, ***start timing.***	In 4 to 8 seconds— Overflow tone not heard.
17e	Operate OPA key.	
18e	Restore OPA key; ***start timing.***	In 4 to 8 seconds— Overflow tone heard.
19	Momentarily operate RL key.	Overflow tone silenced.
20	At relay rack frame— At outgoing sender group release circuit— Remove blocking tool from R_ relay.	
21	At MTF— Remove make-busy plug from MB_ jack associated with sender under test.	
22c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
23	Repeat Steps 11 through 22c, as required for Test 100.	
24	Restore all keys and switches not required in next test.	
25a	▮If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
26	Operate (pull-out) CTR_ key associated with sender under test, if required.▮	

Q. ANI—Automatically Identified Call

11	Operate keys and set switches in accordance with Test Chart Test 101.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	Momentarily operate ST key.	OK lamp lighted.

STEP	ACTION	VERIFICATION
14	Momentarily operate RL key.	OK lamp extinguished.
15d	If trouble record is required to check transverter leads— Operate REC key.	
16d	Momentarily operate ST key.	OK lamp lighted. Two trouble records taken. FR_, CN_, S_, calling line location, OBS or NOB, CP_, MB_, RNT0, 1, or 2, RN_, and LST, L5D, 4DG, or 5DG designations perforated on each record. SRT, MKR, called number, called number class, TP or RP designations perforated on first record. TV, 2L or 4L, TPT or RPT, and called number (when test is an observed 2-line entry, or a 4- or 5-line entry call) designation perforated on second record.
17d	Momentarily operate RL key.	OK lamp extinguished.
18d	Restore REC key.	
19c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
20	Repeat Steps 11 through 19c, as required for Tests 102 through 135.	
21	Restore all keys and switches not required in next test.	
22a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
23	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	

R. ANI—Automatically Identified Call Failure

11	Operate keys and set switches in accordance with Test Chart Test 136.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	

STEP	ACTION	VERIFICATION
13	Momentarily operate ST key.	OK lamp lighted.
14	Momentarily operate RL key.	OK lamp extinguished.
15c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
16	Repeat Steps 11 through 15c, as required for Test 137.	
17	Restore all keys and switches not required in next test.	

S. ANI—Operator Identified Call

11	Operate keys and set switches in accordance with Test Chart Test 138.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	Momentarily operate ST key.	OK lamp lighted.
14	Momentarily operate RL key.	OK lamp extinguished.
15c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
16	Repeat Steps 11 through 15c, as required for Test 139.	
17	Restore all keys and switches not required in next test.	
18a	◗If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key as required.	
19	Operate (pull-out) CTR_ key associated with sender under test, if required.◖	

S.1 ANI—Identification Failure After Sender Time-Out

11c	If sender is arranged to send an identification failure digit forward when the sender times out awaiting a transverter—	

STEP	ACTION	VERIFICATION
	Operate keys and set switches in accordance with Test Chart Test 140.	
12d	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13c	If sender is arranged to send an identification failure digit forward when the sender times out awaiting a transverter— At MTF— Insert make-busy plug into MB_ jack of sender under test.	
14e	If sender is nonwire-spring-relay type— At sender under test— Insulate contacts 3-4T and 5-6B of STT relay.	
15f	If sender is wire-spring-relay type— At sender under test— Insulate contacts 1M and 10M of STT relay.	
16c	If sender is arranged to send an identification failure digit forward when the sender times out awaiting a transverter— Momentarily operate ST key; ***start timing.***	Within 6.3 to 12 seconds— OK lamp lighted.
17c	Momentarily operate RL key.	OK lamp extinguished.
18d	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
19c	If sender is arranged to send an identification failure digit forward when the sender times out awaiting a transverter— Repeat Steps 11c through 18d, as required for Test 141.	
20c	At sender under test— Remove insulators from STT relay.	
21c	At MTF— Remove make-busy plug from MB_ jack of sender under test.	
22c	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
23a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key as required.	
24	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
T.	**Zero Operator Call Routed to a Traffic Service Position Which Requires Automatically Identified Calling Number**	
11	Operate keys and set switches in accordance with Test Chart Test 142.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Repeat Steps 11 through 13, as required for Test 143.	
15	Restore all keys and switches not required in next year.	
16a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
U.	**Zero Operator Call Routed to a Traffic Service Position Which Requires Operator Identified Calling Number**	
11	Operate keys and set switches in accordance with Test Chart Test 144.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Repeat Steps 11 through 13, as required for Test 145.	
15	Restore all keys and switches not required in next test.	
16a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	

STEP	ACTION	VERIFICATION
17	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
V. Special Start Signal (ANI) Via Crossbar Tandem TSP		
11	Operate keys and set switches in accordance with Test Chart Test 146.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Repeat Steps 11 through 13, as required for Tests 147 through 149.	
15	Restore all keys and switches not required in next test.	
16a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
W. Comparative Frequency Test		
1	At MTF— Insert make-busy plug into MB_ jack of sender under test.	
2	Insert make-busy plug into MB_ jack of sender (having oscillators known to be at proper frequencies) to be compared with sender being tested.	
3	At each sender made busy— Block operated ON relay.	
4	Connect one lead of 67C test set to terminal 12 of terminal strip M of one sender.	
5	Connect other lead of 67C test set to terminal 12 of terminal strip M of other sender.	
	Note: If senders are not within reach of the cords, locally available cords may be used to extend the reach of the cord provided with the test set.	

STEP	ACTION	VERIFICATION
6	Listen for beat frequency.	Oscillator frequency is satisfactory if beats can be counted (usually 5 or less per second). ***Note:*** Refer to paragraph 1.06.
7	Remove test set connections.	
8	Repeat Steps 4 through 7 to test each frequency, substituting in turn the following terminals: 15, 21, 22, 25, 35, for terminal 12 of terminal strip M in Step 4.	
9	Remove all test cords.	
10	Remove blocking tools from ON relay.	
11	At MTF— Remove make-busy plugs from MB_ jacks of all senders.	

X. Oscillator Output Voltage

1	At MTF— Insert make-busy plug into MB_ jack of sender under test.	
2	At sender under test— Using 893 cords, connect 275 - ohm resistor to terminals 11, 12 of terminal strip M of MF supply unit. ***Note:*** 624B tools provide means for connecting to M_ terminals, KS-6278 connecting clips provide means for connecting to resistor.	
3	Set voltmeter to read AC volts in accordance with approved procedure for particular meter being used.	
4	Block operated ON relay.	
5	Connect voltmeter GND terminal to side of resistor connected to terminal 11 of terminal strip M of MF supply unit.	
6	Touch voltmeter probe to side of resistor connected to terminal 12 of terminal strip M of MF supply unit.	Output voltage is between 1.25 and 1.75 volts.
7	Remove connection from terminal 12 and connect in turn to terminal 15, 21, 22, 25,	***Note:*** If output voltage of any of the six oscillators is not within the limits specified,

STEP	ACTION	VERIFICATION
	and 35 of terminal strip M, repeating Step 6 for each connection.	proceed as outlined in notes accompanying schematic drawing (refer to paragraph 1.05).
8	Remove all test connections.	
9	Remove blocking tool from ON relay.	
10	At MTF— Remove make-busy plug from MB_ jack associated with sender under test.	
Y. Frequency Test Using the Frequency Meter		
1	At MTF— Insert make-busy plug into MB_ jack of sender under test.	
2	At sender under test— Connect one end of 1100 ohm resistor to terminal 11 (ground) of terminal strip M of MF supply unit, using 893 cord. ***Note:*** 624B tool provides means for connecting to M_ terminals, KS-6278 connecting clips provide means for connecting to resistor.	
3	Connect remaining end of 1100-ohm resistor to first terminal in Table A using 893 cord.	
4	Connect testing cord to frequency meter.	
5	Connect clip associated with center conductor of testing cord to same side of 1100-ohm resistor as in Step 3.	
6	Connect clip associated with shield of testing cord to ground side of 1100-ohm resistor as in Step 2.	
7	Block operated ON relay.	
8	Measure frequency.	Frequency is within limits indicated in Table A.
9a	▶If output frequency is not within limits as specified in Table A, refer to paragraph 1.06.◀ ***Caution: Any adjustment of the output frequency using the Berkley EPUT or Hewlett-Packard frequency meter must be performed during periods of***	

STEP	ACTION	VERIFICATION
	light traffic to avoid service interruptions.	
10	Move test connection to next terminal indicated in Table A.	
11	Repeat Steps 8 through 10 until all frequencies are tested.	
12	Remove all test connections.	
13	Remove blocking tool from ON relay.	
14	At MTF— Remove make-busy plug from MB_ jack of sender under test.	

Z. Special Start Signal (ANI) to TSPS No. 1

11	Operate keys and set switches in accordance with Test Chart Test 150.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Repeat Steps 11 through 13, as required for Tests 151 through 157.	
15	Restore all keys and switches not required in next test.	
16a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	

TABLE A

M-TERMINAL	OSCILLATOR OUTPUT FREQUENCY	MAXIMUM PERMISSABLE VARIATION (HZ ±1 PERCENT)
M12	700	698 to 705
M15	900	897 to 906
M21	1100	1097 to 1108
M22	1300	1296 to 1309
M25	1500	1495 to 1510
M35	1700	1695 to 1712

STEP	ACTION	VERIFICATION
AA.	**Intersender Timing—Automatic Intercept System**	
11	Operate keys and set switches in accordance with Test Chart Test 158.	
12	Operate PBXH, NTLS keys.	
13	Set TBT, TBU switches as required to select tens block within circuit group for access to circuit under test.	
14	Select units digit in tens block selected.	
15c	If line circuit group is allotted— Operate NGT, NG_ keys (for all but selected number group frame).	
16	Momentarily operate ST key.	OK lamp lighted.
17	Momentarily operate RL key.	All lamps extinguished.
18	Operate keys and set switches in accordance with Test Chart Test 159.	
19	Insert make-busy plug into MB_ jack associated with sender under test.	
20	At relay rack frame— At outgoing sender group release circuit— Block operated R_ relay of sender group associated with sender under test.	
21	At MTF— Momentarily operate ST key; ***start timing.***	In 14 to 22 seconds— OK lamp lighted. Overflow tone heard.
22	Momentarily operate RL key.	OK lamp extinguished. Overflow tone silenced.
23	At relay rack frame— At outgoing sender group release circuit— Remove blocking tool from R_ relay.	
24	At MTF— Remove make-busy plug from MB_ jack of sender under test.	
25	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
26a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
27	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	
AB. IDDD-LAMA Calls		
11	Operate keys and set switches in accordance with Test Chart Test 160.	
12	Operate REC key.	
13	Momentarily operate ST key.	OK lamp lighted. Two trouble records taken. FR_, CN_, S_, calling line location, OBS or NOB, CP_, MB_, RNT0, 1, or 2, RN_, and LST, L5D, 4DG, or 5DG designations perforated on each record. SRT, MKR, called number, called number class, TP or RP designations perforated on first record. TV, 2L or 4L, TPT or RPT, and called number (when test is an observed 2-line entry, or a 4- or 5-line entry call) designation perforated on second record.
14	Momentarily operate RL key.	All lamps extinguished.
15	Repeat Steps 11 through 14, as required for Tests 161 through 169.	
16	Restore all keys and switches not required in next test.	
AC. IDDD-LAMA Gateway Timing		
11	Operate keys and set switches in accordance with Test Chart Test 170.	
12	Momentarily operate ST key; ***start timing.***	TMT lamp lighted. Overflow tone heard. For Test 170— In 14 to 29 seconds— OK lamp lighted. For Test 171— In 7 to 14 seconds— OK lamp lighted.

STEP	ACTION	VERIFICATION
13	Momentarily operate RL key.	All lamps extinguished. Overflow tone silenced.
14	Repeat Steps 11 through 13, as required for Test 171.	
15	Restore all keys and switches not required in next test.	
16a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	

AD. IDDD-TSPS Call

11	Operate keys and set switches in accordance with Test Chart Test 172.	
12	Operate REC key.	
13	Momentarily operate ST key.	OK lamp lighted. Two trouble records taken. FR_, CN_, S_, calling line location, OBS or NOB, CP_, MB_, RNT0, 1, or 2, RN_, and LST, L5D, 4DG, or 5DG designations perforated on each record. SRT, MKR, called number, called number class, TP or RP designations perforated on first record. TV, 2L or 4L, TPT or RPT, and called number (when test is an observed 2-line entry, or a 4- or 5-line entry call) designation perforated on second record.
14	Momentarily operate RL key.	All lamps extinguished.
15	Repeat Steps 11 through 14, as required for Tests 173 through 181.	
16	Restore all keys and switches not required in next test.	
17a	▶If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key as required.	
18	Operate (pull-out) CTR_ key associated with sender under test, if required.◀	

STEP	ACTION	VERIFICATION
AE. Directory Assistance Charging		
11	Operate keys and set switches in accordance with Test Chart Test 182.	
12c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk removed from service.	
13	Operate REC key.	
14	Momentarily operate ST key.	OK lamp lighted. Two trouble records taken. ***Both trouble records*** FR_, CN_, S_, calling line location, OBS or NOB, *(RNT0, 1, or 2), RN_ designations perforated. If test is for 411 or 555-1212 ***observed*** or ***nonobserved*** 2-line entry— CP3, MB6, LST designations perforated. If test is for 555-1212 ***observed*** or ***nonobserved*** 4-line entry— CP3, MB9, 4DG designations perforated. ***First trouble record*** ****Note: RNT0, 1, or 2 are not perforated if office has less than 10*** recorders. SRT, MKR, called number, called number class, TP or RP designations perforated. ***Second trouble record*** TV, 2L or 4L, TPT or RPT designations perforated. If test is for 411 or 555-1212 ***observed*** or ***nonobserved*** 2-line entry— Called number designations ***not*** perforated. If test is for 555-1212 ***observed*** or ***nonobserved*** 4-line entry— Called number designations perforated.
15	Momentarily operate RL key.	OK lamp extinguished.
16c	If 2-way trunk is used for selected outgoing route— At distant office— Have trunk restored to service.	
17	Repeat Steps 11 through 16c as required for Tests 183 through 185.	

STEP	ACTION	VERIFICATION
18	Restore all keys and switches not required in next test.	
19a	♦If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
20	Operate (pull-out) CTR_ key associated with sender under test, if required.♦	
AF.	**211 Code Routed to a Traffic Service Position as a Zero Operator Call**	
11	Operate keys and set switches in accordance with Test Chart Test 186.	
12	Momentarily operate ST key.	OK lamp lighted.
13	Momentarily operate RL key.	OK lamp extinguished.
14	Repeat Steps 11 through 13, as required for Test 187.	
15	Restore all keys and switches not required in next test.	
16a	♦If office is equipped with stuck sender trunk identifier circuit— Operate SSI or ACTR key, as required.	
17	Operate (pull-out) CTR_ key associated with sender under test, if required.♦	
AG.	**Digit 8 Access Call to Enhanced Private Switched Communications Systems (EPSCS) No. 1 ESS**	
11	Operate keys and set switches in accordance with Test Chart Test 188.	
12	At distant office— Have trunk removed from service.	
13	Momentarily operate ST key.	OK lamp lighted.
14	Momentarily operate RL key.	OK lamp extinguished.
15	At distant office— Have trunk restored to service.	
16	Restore all keys and switches not required in next test.	

5. PREPARATION OF TEST CHART

5.01 The Test Chart is used as a particular number chart and provides the priming information required for each test. Information obtained from local office records should be used to fill in the Test Chart in the following manner:

(a) ***Selection of a Particular Trunk:*** When it is desired to use a particular trunk for test, select the trunk as follows:

Note: When 2-way trunks are required to be used for the selected outgoing route, a particular trunk must always be selected.

(1) Consult local office records for location of desired trunk. Whenever possible, avoid the use of 2-way and intertoll trunks.

(2) In the TRUNK SELECTION column, record trunk location.

(3) In the MISCELLANEOUS KEYS AND/OR SWITCHES column, record FS, TS keys.

(4) Record CX key when trunk selected requires CX supervision.

(5) Record C2OH key when 2-way or intertoll trunk is selected.

(6) Record GPA or GPB key when the trunks served by the sender are in allotted groups.

(7) Record CC4 when coin zone trunk or junctor arranged for local zone calls are selected.

(b) When it is necessary to simulate a test call from an incoming trunk to reach a desired outgoing tandem or intertoll trunk, select an incoming subclass of test required for the selected route.

(c) For non-DDD calls, record the called A_, B_, and C_ digits for an office code that can be reached by the sender.

(d) For DDD calls, record the called A_, B_, and C_ digits for the area code sent by the sender and the office code D_, E, and F_ digits.

(e) Record originating class of call and translator indication required by the marker to select a route and sender group.

(f) Record the various classes of service for line locations and routes selected. When office is provided with rate treatment, record various rate treatments.

(g) Record any arbitrary digits used (for information only).

(h) Record the line location if a specific calling line location is required.

(i) Record NTC key in MISCELLANEOUS KEYS AND/OR SWITCHES column when a specific line location (h) is required.

(j) Record the calling customer directory number in DIGITS—CODE AND NUMBER (CALLING NUMBER) column.

5.02 ***For Test A:***

(1) Determine from local office records the following:

(a) The office code for each office that can be reached by the sender being tested on an AMA or non-AMA basis.

(b) The DDD codes being sent by the sender.

(2) For Tests 1 through 34, apply (a), (c), and (e) through (i) of paragraph 5.01, selecting AMA office codes and classes of services that will check all office code (A_, B_, and C_), class (CL_), and deletion (DL_) leads used for this type of call.

(3) For Tests 35 through 44, apply (a) (d), and (e) through (i) of paragraph 5.01, selecting DDD codes used with AMA or CAMA and classes of service. When call is AMA, record SDT1, REC keys in MISCELLANEOUS KEYS AND/OR SWITCHES column.

(4) For Tests 45 through 62, apply (a) through (i) of paragraph 5.01, selecting office codes and classes of service that do not require AMA.

(5) For Tests 63 through 66, apply (a) through (i) of paragraph 5.01, selecting office codes

and classes of service that require 2-way or intertoll routing.

(6) For Tests 67 and 68, apply (a) through (i) of paragraph 5.01, selecting office codes and classes of service that require coin zone trunk or junctor routing.

(7) For Test 69, apply (a) through (i) of paragraph 5.01, selecting office code and class of service that requires local coin zone trunk or junctor routing.

(8) For Tests 70 and 71, apply (a) through (i) of paragraph 5.01, selecting office code and class of service that require tandem trunk routing (non-AMA).

(9) For Tests 72 and 73, apply (a) through (i) of paragraph 5.01, selecting office code and class of service for CCSA AMA tandem trunk routing.

(10) For Tests 74 and 75, apply (a) through (i) of paragraph 5.01, selecting office code and class of service for routing via trunks to TSPS No. 1.

5.03 ***For Test B:***

(1) Do not use 2-way, intertoll, or coin zone trunks.

(2) Apply (a) through (i) of paragraph 5.01.

5.04 ***For Test C:***

(1) Apply (a) through (i) of paragraph 5.01, selecting an AMA office code, class of service, and a particular trunk.

5.05 ***For Test D:***

(1) This test cannot be made on ANI calls.

(2) Apply (a) through (i) of paragraph 5.01, selecting a non-AMA office code, class of service, and a particular trunk.

5.06 ***For Test E:***

(1) Do not use 2-way or intertoll trunks.

(2) Apply (a) through (i) of paragraph 5.01, selecting an office code and class of service for a detail-billed AMA call. When a bulk-billed AMA call must be used, record TOF key in MISCELLANEOUS KEYS AND/OR SWITCHES column.

5.07 ***For Test F:***

(1) Apply (a) through (i) of paragraph 5.01, selecting an office code using AMA and class of service that will select a coin-zone trunk.

5.08 ***For Test G:***

(1) Do not use 2-way or intertoll trunk.

(2) Apply (a) through (i) of paragraph 5.01, selecting an AMA office code and class of service.

5.09 ***For Test H:***

(1) Do not use 2-way or intertoll trunk.

(2) Apply (a) through (i) of paragraph 5.01, selecting an office code using AMA and interoffice trunk requiring AMA routing.

(3) When senders are not arranged for reduced timing interval, perform Test 83.

(4) When senders are arranged for reduced timing interval, perform Test 84.

5.10 ***For Test I:***

(1) Do not use 2-way or intertoll trunks.

(2) For AMA offices, apply (a) through (i) of paragraph 5.01, selecting an AMA office code and class of service.

(3) For non-AMA offices, apply (a) through (i) of paragraph 5.01, selecting a non-AMA office code and class of service.

5.11 ***For Tests J, L, ◗L.1◖ M, P:***

(1) Tests L and ◗L.1◖ cannot be made on coin zone trunks or trunks with CX supervision.

(2) For AMA offices, apply (a) through (i) of paragraph 5.01, selecting an AMA interoffice code and class of service.

(3) For non-AMA offices, apply (a) through (i) of paragraph 5.01, selecting a non-AMA interoffice code and class of service.

5.12 ***For Test K:***

(1) For AMA offices, apply (a) through (i) of paragraph 5.01, selecting an AMA office code and class of service that will select a coin zone trunk or junctor.

(2) For non-AMA offices, apply (a) through (i) of paragraph 5.01, selecting a non-AMA office code and class of service that will select a coin zone trunk or junctor.

5.13 ***For Test N:***

(1) For AMA offices, apply (a) through (i) of paragraph 5.01, selecting an AMA office code and class of service.

(2) For non-AMA offices, apply (a) through (i) of paragraph 5.01, selecting a non-AMA office code and class of service.

5.14 ***For Test Q:***

(1) Determine from local office records, the office code that can be reached by the sender being tested on an ANI basis.

(2) Apply (a) through (j) of paragraph 5.01, selecting office codes and an individual or 2-party class of service.

5.15 ***For Test R:***

(1) Apply (a) through (j) of paragraph 5.01, selecting an office code that will select a trunk assigned to ANI and an individual or 2-party line class of service.

5.16 ***For Test S:***

(1) Apply (a) through (j) of paragraph 5.01, selecting an office code that will select a trunk assigned to ANI and a multiparty class of service that cannot be automatically identified.

5.17 ***For Test S.1:***

(1) Apply (a) through (j) of paragraph 5.01, selecting an office code that will select a trunk assigned to ANI and an individual or 2-party line class of service.

5.18 ***For Test T:***

(1) Select an individual or 2-party class of service.

(2) Apply (a), (e), (h), (i), and (j) of paragraph 5.01.

5.19 ***For Test U:***

(1) Select a multiparty class of service.

(2) Apply (a), (e), (h), (i), and (j) of paragraph 5.01.

5.20 ***For Test V:***

(1) Select a coin class of service and an office code requiring service by a traffic service position via crossbar tandem.

(2) Apply (a), (e), (h), (i), ad (j) of paragraph 5.01.

5.21 ***For Test Z:***

(1) For Tests 150, 151, 152, and 153 select a coin class of service and an office code requiring service by TSPS No. 1.

(2) For Tests 154, 155, 156, and 157, select a noncoin class of service and an office code requiring service by TSPS No. 1.

(3) Apply (a), (e), (h), (i), and (j) of paragraph 5.01.

5.22 ***For Test AA:***

(1) Record A_, through G_, DIGITS—CODES(S) AND NUMBER (CALLED NUMBER) and a class of service that will route the call to Automatic Intercept System—blank, regular, or trouble intercept.

(2) Apply (a), (c), (e), (f), (g) of paragraph 5.01.

(3) Select an incoming subclass of test.

5.23 ***For Tests AB and AC:***

(1) Apply (a), (b), and (e) through (j) of paragraph 5.01.

(2) Record working country codes under DIGITS—CODE(s) AND NUMBER (CALLED NUMBER) column as follows:

(a) When country code is one digit, record A digit of code and any B and C digits that the marker will not recognize as another working or unused code.

(b) When country code is two digits, record A and B digits of code and any C digit that the marker will not recognize as another working code or unused code.

(c) When country code is three digits, record A, B, and C digits of the code.

5.24 ***For Test AD:***

(1) Apply (a), (b), and (e) through (j) of paragraph 5.01.

(2) Record working country codes and national numbers under DIGITS—CODE(S) AND NUMBER (CALLED NUMBER) column as follows:

(a) When country code is one digit, record A digit of code and B through M digits of the national number as required.

(b) When country code is two digits, record A and B digits of code and C through M digits of the national number as required.

(c) When country code is three digits, record A, B, and C digits of code and D through M digits of the national number as required.

5.25 ***For Test AE:***

(1) Apply (a), (e), (f), (h), and (i) of paragraph 5.01, selecting a class of service requiring AMA routing.

5.26 ***For Test AF:***

(1) Apply (a), (e), (h), and (i) of paragraph 5.01.

5.27 ***For Test AG:***

(1) Apply (a), (e), (f), (h), (i), and (j) of paragraph 5.01.

TEST CHART

BSP TEST	TEST TITLE	TEST NO.	MTF PRIMING INFORMATION: LINE LOCATION: FRAME NO. TENS	FRAME NO. UNITS	VERT GR TENS	VERT GR UNITS	HOR GR	VERT FILE	TRUNK SELECTION: TRK LK	TRK NO.	CLASS OF SERVICE	RATE TREAT.	ARBITRARY DIGITS: AR	BR	CR	DIGITS—CODE(S) AND NUMBER (CALLED NUMBER): A	B	C	D	E	F	G	H	J	K	SUB-CLASS OF TEST	CLASS OF CALL	TRANSLATOR INDICATION	DIGITS—CODE AND NUMBER (CALLING NUMBER): CRX	CNA	CNB	CNC	CND	CNE	CNF	CNG	MISCELLANEOUS KEYS AND/OR SWITCHES					TEST NO.	BSP TEST
A	Regular Call	1	0	0	0	0	0	0											1	3	6	0															SDT1	NTC				1	A
		2	1*	1*	0	1	1	1											3	6	0	7															SDT1	NTC				2	
		3	2*	2*	0	2	2	2											6	0	7	1															SDT1	NTC				3	
		4	3*	3*	0	3	3	3											7	1	3	6															SDT1	NTC				4	
		5	4*	4*	0	4*	4	4											0	7	1	3															SDT1	NTC				5	
		6	5*	5*	0	5*	5	0											1	2	3	4															SDT1	NTC				6	
		7	0	6*	0	6*	6	1											1	2	3	4															SDT1	NTC				7	
		8	1*	7*	0	7*	7	2											1	2	3	4															SDT1	NTC				8	
		9	2*	8*	0	8*	8	3											1	2	3	4															SDT1	NTC				9	
		10	3*	9*	0	9*	9	4											1	2	3	4															SDT1	NTC				10	
		11	4*	0	1*	0	0	0											1	2	3	4															SDT1	NTC				11	
		12	5*	0	1*	1	0	1											1	2	3	4															SDT1	NTC				12	
		13																	1	2	3	4															SDT1					13	
		14																	1	2	3	4															SDT1					14	
		15																	1	2	3	4															SDT1					15	
		16																	1	2	3	4															SDT1					16	
		17																	1	2	3	4															SDT1					17	
		18																	1	2	3	4															SDT1					18	
		19																	1	2	3	4															SDT1					19	
		20																	1	2	3	4															SDT1					20	
		21																	1	2	3	4															SDT1					21	
		22																	1	2	3	4															SDT1					22	
		23																	1	2	3	4															SDT1					23	
		24																	1	2	3	4															SDT1					24	
		25																	1	2	3	4															SDT1					25	
		26																	1	2	3	4															SDT1					26	
		27																	1	2	3	4															SDT1					27	
		28																	1	2	3	4															SDT1					28	
		29																	1	2	3	4															SDT1					29	
		30																	1	2	3	4															SDT1					30	

* If not equipped, use 0.

TEST CHART (Cont)

BSP TEST	TEST TITLE	TEST NO.	MTF PRIMING INFORMATION																																					TEST NO.	BSP TEST
			LINE LOCATION						TRUNK SELECTION		CLASS OF SERVICE	RATE TREAT.	ARBITRARY DIGITS			DIGITS–CODE(S) AND NUMBER (CALLED NUMBER)										SUB-CLASS OF TEST	CLASS OF CALL	TRANSLATOR INDICATION	DIGITS–CODE AND NUMBER (CALLING NUMBER)								MISCELLANEOUS KEYS AND/OR SWITCHES							
			FRAME NO.		VERT GR		HOR GR	VERT FILE	TRK LK	TRK NO.			AR	BR	CR	A	B	C	D	E	F	G	H	J	K				CRX	CNA	CNB	CNC	CND	CNE	CNF	CNG							
			TENS	UNITS	TENS	UNITS																																			
A (Cont)	Regular Call	31																	1	2	3	4															SDT1					31	A (Cont)
	AMA	32																	1	2	3	4															SDT1					32	
		33																	1	2	3	4															SDT1					33	
		34																	1	2	3	4															SDT1					34	
		35																				3	6	0	7																	35	
		36																				6	0	7	1																	36	
		37																				0	7	1	3																	37	
	DDD	38																				7	1	3	6																	38	
	AMA or CAMA	39																				1	3	6	0																	39	
		40																				1	2	3	4																	40	
		41																				1	2	3	4																	41	
		42																				1	2	3	4																	42	
		43																				1	2	3	4																	43	
		44																				1	2	3	4																	44	
		45																				1	2	3	4																	45	
		46																				1	2	3	4																	46	
		47																	1	3	6	0																			47	
		48																	3	6	0	7																			48	
		49																	6	0	7	1																			49	
		50																	0	7	1	3																			50	
		51																	7	1	3	6																			51	
		52																	1	2	3	4																			52	
	Non-AMA	53																	1	2	3	4																			53	
		54																	1	2	3	4																			54	
		55																	1	2	3	4																			55	
		56																	1	2	3	4																			56	
		57																	1	2	3	4																			57	
		58																	1	2	3	4																			58	
		59																	1	2	3	4																			59	
		60																	1	2	3	4																			60	

TEST CHART (Cont)

BSP TEST	TEST TITLE	TEST NO.	MTF PRIMING INFORMATION																																TEST NO.	BSP TEST
			LINE LOCATION						TRUNK SELECTION		CLASS OF SERVICE	RATE TREAT.	ARBITRARY DIGITS			DIGITS–CODE(S) AND NUMBER (CALLED NUMBER)										SUB-CLASS OF TEST	CLASS OF CALL	TRANSLATOR INDICATION	DIGITS–CODE AND NUMBER (CALLING NUMBER)								MISCELLANEOUS KEYS AND/OR SWITCHES					
			FRAME NO.		VERT GR		HOR GR	VERT FILE	TRK LK	TRK NO.			AR	BR	CR	A	B	C	D	E	F	G	H	J	K					CRX	CNA	CNB	CNC	CND	CNE	CNF	CNG						
			TENS	UNITS	TENS	UNITS																																
A (Cont)	Regular Call Non-AMA	61																	1	2	3	4															61	A (Cont)
		62																	1	2	3	4															62	
		63																	1	2	3	4															63	
	2-Way	64																	1	2	3	4															64	
	or	65																	1	2	3	4															65	
	Intertoll	66																	1	2	3	4															66	
	Coin Zone	67																	1	2	3	4															67	
	Trunks	68																	1	2	3	4															68	
		69																	1	2	3	4															69	
	Tandem Trks	70																	1	2	3	4															70	
	Non-AMA	71																	1	2	3	4															71	
	CCSA Tandem Trks	72																	1	2	3	4													SDT1				72	
	AMA	73																	1	2	3	4													SDT1				73	
	Trks to	74																	1	2	3	4													CX				74	
	TSPS No. 1	75																	1	2	3	4													CX				75	
B	Truck Test– AMA	76																	1	2	3	4													SDT1				76	B
	Open Trunk Non-AMA	77																	1	2	3	4																	77	
C	Abandoned Call– AMA	78																	1	2	3	4													SDT3	ABN			78	C
D	Abandoned Call– Non-AMA	79																	1	2	3	4													ABN				79	D
E	AMA Transverter Trouble Release– Noncoin Zone	80	0	7	0	3	9	2			00		LT-1			2	3	6	1	2	3	4				OSS	5GA-B		20S–							SDT2	MOTL			80	E
F	AMA Transverter Trouble Release– Coin Zone	81																	1	2	3	4													SDT2	MOTL			81	F
G	Delay Pulsing of Last Digit on AMA Call	82																	1	2	3	4													SDT3				82	G
H	No-Pulse AMA Call	83																	1	2	3	4													SDT2	MOTL	TOF	ND	83	H
		84																	1	2	3	4													SDT3	MOTL	STVT	ND	84	
I	Reversed Trunk AMA	85																	1	2	3	4													SDT1	MOTL	OTR		85	I
	Test Non-AMA	86																	1	2	3	4													OTR	MOTL			86	
J	Timing Features AMA	87																	1	2	3	4													SDT1	MOTL	TMT		87	J
	Noncoin Zone Non-AMA	88																	1	2	3	4													TMT	MOTL			88	
K	Timing Features AMA	89																	1	2	3	4													SRT1	MOTL	TMT		89	K
	Coin Zone Non-AMA	90																	1	2	3	4													TMT	MOTL			90	
L	Cancel Timed Release AMA	91																	1	2	3	4													SDT1	MOTL			91	L
	and Alarm Non-AMA	92																	1	2	3	4													MOTL				92	
L.1	Stuck Sender Trunk AMA	93																	1	2	3	4													SDT1	MOTL			93	L.1
	Identification Non-AMA	94																	1	2	3	4													MOTL				94	

TEST CHART (Cont)

BSP TEST	TEST TITLE	TEST NO.	MTF PRIMING INFORMATION																														TEST NO.	BSP TEST
			LINE LOCATION						TRUNK SELECTION		CLASS OF SERVICE	RATE TREAT.	ARBITRARY DIGITS			DIGITS–CODE(S) AND NUMBER (CALLED NUMBER)										SUB-CLASS OF TEST	CLASS OF CALL	TRANSLATOR INDICATION	DIGITS–CODE AND NUMBER (CALLING NUMBER)								MISCELLANEOUS KEYS AND/OR SWITCHES							
			FRAME NO.		VERT GR		HOR GR	VERT FILE	TRK LK	TRK NO.			AR	BR	CR	A	B	C	D	E	F	G	H	J	K				CRX	CNA	CNB	CNC	CND	CNE	CNF	CNG								
			TENS	UNITS	TENS	UNITS																														
M	Marker Reorder AMA	95																	1	2	3	4													SDT1	MOTL	ROT			95	M
	Non-AMA	96																	1	2	3	4													ROT	MOTL				96	
N	Multifrequency AMA	97																	1	2	3	4													SDT1	MOTL				97	N
	Current Supply Non-AMA	98																	1	2	3	4													MOTL					98	
	Trouble Release																																								
P	Intersender AMA	99																	1	2	3	4													SDT1	MOTL	TMT			99	P
	Timing–Wire- Non-AMA	100																	1	2	3	4													MOTL	TMT				100	
	Spring-Relay Type and Nonwire-Spring-Relay Type Arranged for Intersender Timing																																								
Q	ANI–Automatically Identified Call	101	0	0	0	0	0	0											1	3	6	0							3							ANI	OBS				101	Q
		102	1*	1	0	1	1	1											3	6	0	7							0							ANI					102	
		103	2*	2	0	2	2	2											6	0	7	1							0							ANI					103	
		104	3*	3	0	3	3	3											0	7	1	3							0							ANI					104	
		105	4*	4*	0	4*	4	4											7	1	3	6							0							ANI					105	
		106	5*	5*	0	5*	5	0											1	2	3	4							0							ANI					106	
		107	0	6*	0	6*	6	1											1	2	3	4							0							ANI					107	
		108	1*	7*	0	7*	7	2											1	2	3	4							0							ANI					108	
		109	2*	8*	0*	8*	8	3											1	2	3	4							0							ANI					109	
		110	3*	9*	0*	9*	9	4											1	2	3	4							0							ANI					110	
		111	4*	0	1	0	0	0											1	2	3	4							0							ANI					111	
		112	5*	0	1	1	0	1											1	2	3	4							0							ANI					112	
		113																	1	2	3	4							0							ANI					113	
		114																	1	2	3	4							0							ANI					114	
		115																	1	2	3	4							0							ANI					115	
		116																	1	2	3	4							0							ANI					116	
		117																	1	2	3	4							0							ANI					117	
		118																	1	2	3	4							0							ANI					118	
		119																	1	2	3	4							0							ANI					119	
		120																	1	2	3	4							0							ANI					120	
		121																	1	2	3	4							0							ANI					121	
		122																	1	2	3	4							0							ANI					122	
		123																	1	2	3	4							0							ANI					123	
		124																	1	2	3	4							0							ANI					124	
		125																	1	2	3	4							0							ANI					125	

* If not equipped, use 0.

TEST CHART (Cont)

BSP TEST	TEST TITLE	TEST NO.	MTF PRIMING INFORMATION																																TEST NO.	BSP TEST
			LINE LOCATION						TRUNK SELECTION		CLASS OF SERVICE	RATE TREAT.	ARBITRARY DIGITS			DIGITS–CODE(S) AND NUMBER (CALLED NUMBER)										SUB-CLASS OF TEST	CLASS OF CALL	TRANSLATOR INDICATION	DIGITS–CODE AND NUMBER (CALLING NUMBER)								MISCELLANEOUS KEYS AND/OR SWITCHES						
			FRAME NO.		VERT GR		HOR GR	VERT FILE	TRK LK	TRK NO.			AR	BR	CR	A	B	C	D	E	F	G	H	J	K				CRX	CNA	CNB	CNC	CND	CNE	CNF	CNG							
			TENS	UNITS	TENS	UNITS																																
Q (Cont)	ANI–Automatically Identified Call	126																	1	2	3	4							0								ANI					126	Q
		127																	1	2	3	4							0								ANI					127	(Cont)
		128																	1	2	3	4							0								ANI					128	
		129																	1	2	3	4							0								ANI					129	
		130																	1	2	3	4							0								ANI					130	
		131																	1	2	3	4							0								ANI					131	
		132																	1	2	3	4							0								ANI					132	
		133																	1	2	3	4							0								ANI					133	
		134																	1	2	3	4							0								ANI					134	
		135																	1	2	3	4							0								ANI					135	
R	ANI–Automatically Identified Call Failure	136																	1	2	3	4							2								ANI	SDT2				136	R
		137																	1	2	3	4							5								ANI	OBS	SDT2			137	
S	ANI–Operator Identified Call	138																	1	2	3	4							4								ANI	OBS				138	S
		139																	1	2	3	4							1								ANI					139	
S.1	ANI–Identified Failure After Sender Time-Out	140																	1	2	3	4							2								ANI					140	S.1
		141																	1	2	3	4							5								ANI	OBS				141	
T	Zero Operator Call Routed to Traffic Service Position Which Requires Automatically Identified Calling Number	142														0											LT2	0								ANI					142	T
		143														0											LT2	3								ANI	OBS				143	
U	Zero Operator Call Routed to a Traffic Service position which Requires Operator Identified Calling Number	144														0											LT2	1								ANI					144	U
		145														0											LT2	4								ANI	OBS				145	
V	Special Start Signal (ANI) via Crossbar Tandem TSP Coin 0+	146																	1	2	3	4							LT2	0							ANI					146	V
	0+	147																	1	2	3	4							LT2	3							ANI	OBS				147	
	1+	148																	1	2	3	4							LT1	0							ANI					148	
	1+	149																	1	2	3	4							LT1	3							ANI	OBS				149	
Z	Special Start Signal (ANI) to TSPS No. 1 Coin 0+	150																	1	2	3	4							LT2	0							ANI	CX				150	Z
	0+	151																	1	2	3	4							LT2	3							ANI	OBS	CX			151	
	1+	152																	1	2	3	4							LT1	0							ANI	CX				152	
	1+	153																	1	2	3	4							LT1	3							ANI	OBS	CX			153	
	Noncoin 0+	154																	1	2	3	4							LT2	0							ANI	CX				154	
	0+	155																	1	2	3	4							LT2	3							ANI	OBS	CX			155	
	1+	156																	1	2	3	4							LT1	0							ANI	CX				156	
	1+	157																	1	2	3	4							LT1	3							ANI	OBS	CX			157	
AA	Intersender Timing–Automatic Intercept System	158																	1	2	3	4															MOTL	CX				158	AA
		159																	1	2	3	4															MOTL	CX	TMT			159	

TEST CHART (Cont)

BSP TEST	TEST TITLE	TEST NO.	MTF PRIMING INFORMATION																																			TEST NO.	BSP TEST
			LINE LOCATION						TRUNK SELECTION		CLASS OF SERVICE	RATE TREAT.	ARBITRARY DIGITS			DIGITS–CODE(S) AND NUMBER (CALLED NUMBER)												SUB-CLASS OF TEST	CLASS OF CALL	TRANSLATOR INDICATION	DIGITS–CODE AND NUMBER (CALLING NUMBER)								MISCELLANEOUS KEYS AND/OR SWITCHES						
			FRAME NO.		VERT GR		HOR GR	VERT FILE	TRK LK	TRK NO.			AR	BR	CR	A	B	C	D	E	F	G	H	J	K	L	M				CRX	CNA	CNB	CNC	CND	CNE	CNF	CNG							
			TENS	UNITS	TENS	UNITS																																		
AB	IDDD-LAMA Call	160																	6	0	7	1	3	6	0	7			FAC	11								SID	SDT1				160	AB
		161																	0	7	1	3	6	0	7	1			FAC	11								SID	SDT1				161	
		162																	7	1	3	6	0	7	1	3			FAC	11								SID	SDT1				162	
		163																	1	3	6	0	7	1	3	6			FAC	11								SID	SDT1				163	
		164																	3	6	0	7	1	3	6	0			FAC	11								SID	SDT1				164	
		165																	1	2	3	4	1	2	3	4			FAC	11								SID	SDT1				165	
		166																	1	2	3	4	1	2	3	4			FAC	11								SID	SDT1				166	
		167																	1	2	3	4	1	2	3	4			FAC	11								SID	SDT1				167	
		168																	1	2	3	4	1	2	3	4			FAC	11								SID	SDT1				168	
		169																	1	2	3	4	1	2	3	4			FAC	11								SID	SDT1				169	
AC	IDDD-Gateway Timing Timed on-hook	170																	1	2	3	4	1	2	3	4			FAC	11								TON	SID	MOTL			170	AC
	Timed off-hook	171																	1	2	3	4	1	2	3	4			FAC	11								TOF	SID	MOTL			171	
AD	IDDD-TSPS Call	172													1														FAC	11	3							ANI	CX	OBS			172	AD
		173													1														FAC	11	0							ANI	CX				173	
		174													1														FAC	11	0							ANI	CX				174	
		175													1														FAC	11	0							ANI	CX				175	
	Station-to-Station	176													1														FAC	11	0							ANI	CX				176	
		177													1														FAC	FVD	0							ANI	CX				177	
	PPCS	178													1														FAC	FVD	0							ANI	CX				178	
		179													1														FAC	FVD	0							ANI	CX				179	
		180													1														FAC	FVD	0							ANI	CX				180	
		181													1														FAC	FVD	0							ANI					181	
AE	Directory Assistance Charging	182														4	1	1																				SDT1					182	AE
	AMA	183														4	1	1																				SDT1	OBS				183	
		184														5	5	5	1	2	1	2																SDT1					184	
		185														5	5	5	1	2	1	2																SDT1	OBS				185	
AF	All Codes Routed to TSPS as "0" call	186														2	1	1													LT												186	AF
		187														2	1	1													LT										OBS			187	
AG	Digit 8 Access Call to Enhanced Private Switched Communications Systems (EPSCS) No. 1 ESS	188														8															LT3	0								ANI	EPS				188	AG