Installation Engineering Handbook 62
Western Electric Company, Incorporated
Columbus Works

Section 225.4
8-24-73

TERMINATING MARKER AND TERMINATING MARKER APPLIQUE TESTS ROUTINE

Replaces: Section 225.4
Dated: 6-18-71

CONTENTS

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1. GENERAL INFORMATION

1.1 Refer to Terminating Marker and Terminating Marker Applique Tests per Section 225 for information on Setting Up Test Calls, Lamp Indications, rotating channels, using regular and emergency lockout circuits, rotating marker connector test choices of markers, Test Equipment, Records and Requirements, and Test Set Up. This section describes the Routine Tests to be made.

1.2 Circuit Test: A circuit test consists of making the tests described in Paragraphs 2, 3, 4, 5 and, when DID is furnished, 6 once on one circuit. On one routine cycle block operated relay XS1 of the marker to simulate the condition of heavy traffic operation on the marker. Observe that relay HTR operates momentarily on this condition.

2. CALLS TO EQUIPPED HUNDRED BLOCKS

2.1 Satisfactorily complete a test call to a cross-connected line in each hundred block except where the hundred block is split, in which case a call should be completed to a line in each twenty block.

2.11 Select cross-connected line numbers so that, the test calls on each routine cycle are distributed over the following equipment:

(1) PBX, ring and tip lines to operate marker relays LC 0-19 on their P, S, and T windings.

(2) A, B, C and D line link frames of each line choice.

(3) Line link horizontal groups to operate marker relays (CA) 0-9 and (CB) 0-9 on their P and S windings.

(4) Twenty blocks (marker relays TB 0-4).

(5) The numerical positions in the twenty block (marker relays LO-19). All tens digit keys (T) 0-9 and units using repetitive numbers such as 22, 33, etc., where possible.

NOTE A: To complete test calls to hundred blocks in the "extra number series", select line numbers in the regular number series which are cross-connected for jump hunting, (NF-JF and NC-JC). This serves to complete a test call to the hundred block jumped from and the hundred block jumped to.

NOTE B: If the marker serves two 10,000 number series, it is not necessary to make test calls to all hundred blocks on each routine test cycle. Divide the hundred blocks into two groups. Each group may consist of hundred blocks in both 10,000 number series. Complete test calls to alternate groups of hundred blocks on alternate cycles of the routine test.

NOTE C: Operate key OAB for the test calls to line numbers associated with 10,000 number series B when incoming and line link frames common to number series A and B are provided.

Operate key F-10 for the test calls to line numbers associated with 10,000 number series B when individual incoming and line link frames are provided for number series A and B.

NOTE D: If the marker serves physical and theoretical offices, use key IPT on at least one cycle for the test calls to all hundred blocks. On at least one cycle of test, operate key IP for the test calls to all hundred blocks, except those associated with theoretical office line numbers. On at least one cycle of test operate key IT for the test calls to all hundred blocks, except those associated with physical office line numbers.

NOTE E: Requirements (1), (2) and (3) (under 2.11) can be met by completing test calls to line numbers cross-connected at the block relay frames as indicated on the checking chart.

NOTE F: Requirements (4) and (5) (under 2.11) can be met by completing test calls to all the line numbers listed in any one of columns a-e (under line numbers) on the Routine Test Call Chart, which is a part of this section.

NOTE G: Requirements for split hundred blocks can be met by completing test calls to any horizontal line of numbers (one from each of columns a-e).

NOTE H: The Routine Test Call Chart is arranged to record test call numbers for; all hundred blocks, overflow, overflow test, busy line test, regular intercept, and trouble intercept.

NOTE I: The number (3480) on the Routine Test Call Chart serves as an example of recording test call numbers, and the requirements covered by the number. The requirements may be checked as covered on the checking chart, Figure 1.

3. OVERFLOW

3.1 Make busy all channels between an incoming link frame and a line link frame used for test, by inserting 349A make busy plugs into jacks SS-0-9 of the line link frame. Make a test call to a tip or a ring (NF-TF or NF-RF) party line number associated with the line link frame. Observe lamps as follows: OF, TC, RV, RC, CON, GT2, IF- and RL followed by TRL light. NCG-, LCF- and TBK do not light.

3.11 On alternate cycles make the test described in Paragraph 3.1 to line numbers above and below 500 in any block of 1000 numbers.

3.12 Insert make busy plugs into jacks SS-0-9 of the line link frame or frames associated with the first two line numbers of a PBX group, (not an allotted PBX group). Make a test call to the first line number. Observe test results as described in Paragraph 3.1.

3.2 On one routine test cycle make a test call to the overflow signal test line number and observe that lamps OF, TC, RV, RC, CON, GT2, RL and TRL light.

3.21 On one cycle of the routine test, operate keys GT and TR2 and make a test call to each line number on the routine test call chart which is associated with a coin line link frame. Observe that lamps OF, TC, RV, RC, CON, GT2, RL and TRL light. Restore keys GT and TR2.

NOTE: The test described in Paragraph 3.21 is required only when marker circuit Figure AG is specified.

4. BUSY LINE

4.1 On the first cycle of routine test, make a test call to a line number in each position of the twenty block, that is, positions 0-19. On each of the twenty calls operate the corresponding NS key. (NS-0-19). Make the test calls in the order 0-19 and restore the operated NS key after each call. Observe lamps as follows: BB, RV, TC, IF, CKG, K1, K2, K3, LE, TE, CON, GT2 and RL light; NGC, LCF and TBK do not light.

4.2 Repeat the test but do not restore the operated NS key after each test call.

4.3 Repeat the test but in the reverse order, that is 19-0 and do not restore the operated NS key after each test call.

4.4 After the first routine cycle make only one busy line test call. This call may be to a line in any position on the twenty block but on successive cycles a line in a different position should be used. Make this call in the manner described in Paragraph 4.1.

5. INTERCEPT

5.1 Regular Intercept

NOTE 1: Calls are intercepted under the following conditions:

NF - CROSS CONNECTIONS

LC	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	WDG
HG																					P
RF																					S
TF																					T

Line Line Frames

NC - CROSS CONNECTIONS

A																					
B																					
C																					
D																					

HG	0	1	2	3	4	5	6	7	8	9	WDG.
A											P
B											CA
C											S
D											P
											CB
											S

FIGURE 1

(a) Calls to unequipped 500 selection relays (FH) 0-9, (FH) 0'-9' (FHB) 0-9 and (FHB) 0'-9' are intercepted. The cross connections for these cases are BN to B.

(b) Calls to unequipped 100 blocks in equipped 500 blocks are intercepted. The cross connections for these cases are HB to B.

(c) Calls to unassigned lines in equipped 100 blocks are intercepted. (Unassigned lines have their cross connections in the number group connector omitted.)

(d) For markers serving physical and theoretical offices. (Fig. G.)

(1) Calls for a physical office line number (IP relay operated) routed to a hundred block relay which returns a theoretical number signal (TN relay operated) to the marker are intercepted.

(2) Calls for a theoretical office line number (IT relay operated) routed to a hundred block relay which returns a physical number signal (PN relay operated) to the marker are intercepted.

(e) Calls to line numbers having the sleeve lead open between the marker and the line hold magnet are intercepted.

NOTE 2:

(a) Cross connections are made to punching groups LIN for FS and MAN calls, and to punching groups TIN for TOL calls.

(b) Fig. H of the marker is cross-connected for one or two 10,000 number series without theoretical office.

(c) Fig. G of the marker is cross-connected for one or two 10,000 number series having a theoretical office in either one or both of the 10,000 number series.

(d) Two routes for each office served by the marker are required; namely, LIN and TIN.

(e) Each route requires cross connections as follows:

ST to NG-ST (0-24 Number Group)
HB to NG-HB (0-24 Hundred Block)
TB to TB (0- 4 Twenty Block)
L to L (0-19 Line Terminal)

(f) Refer to Section 225 for lamp signals and key operations to select the 10,000 number series and the office, physical or theoretical, of the number series.

NOTE 3: Observe the following results of the tests described in Paragraphs: 5.11, 5.12, 5.14, 5.15 and 5.16.

(a) The test call completes to the intercept route for the 10,000 number series and the office (A physical, A theoretical, B physical, or B theoretical) as keyed.

(b) The TH, H, T, U and F lamps light to agree with the corresponding keys as operated.

(c) Lamp LIN lights on FS and MAN test calls.

(d) Lamp TIN lights on TOL test calls.

(e) Lamps: NGC, HB, HP and L light to agree with the route as determined by the number group, hundred block, twenty block and the line terminal cross connections respectively, as made to punching group LIN for FS and MAN test calls and to punching group TIN for TOL test calls.

(f) Other lamps light as described in Section 225.

5.11 Unequipped 500 Block Intercept

5.111 Make three test calls to an unequipped 500 block. Operate class of call keys FS, MAN and TOL, one key for each of the three test calls. Observe test results a-e inclusive as described in Note 3 under 5.1. Make the three test calls to a different unequipped 500 block on each routine cycle.

5.112 These test calls may be confined to physical intercept routes; that is 10,000 number series B physical office as served by the marker.

5.113 If the number of unequipped 500 blocks is greater than the required number of routine cycles, test the remaining unequipped 500 blocks on a supplementary test basis. In this case make only one test call to each with FS, MAN or TOL key operated.

5.12 Unequipped 100 Block Intercept

5.121 Make three test calls to a line number in an unequipped 100 block in an equipped 500 block. The test may be confined to physical routes. Operate class of call keys FS, MAN and TOL, one for each of the three test calls. Observe test results a-e inclusive as described in Note 3, under 5.1.

5.122 Make the three test calls to a different unequipped 100 block on each routine test cycle. If the number of unequipped 100 blocks in equipped 500 blocks is greater than the required number of routine test cycles; test the remaining unequipped 100 blocks on a supplementary test basis, making only one test call to each; with FS, MAN or TOL key operated.

5.123 On one cycle of test, when Fig. H of the marker is used, observe that the number group connector for route LIN of 10,000 number series A or B is momentarily seized for test calls to 10,000 number series A or B respectively; regardless of the class of call key (FS, MAN or TOL) operated. When Fig. G of the marker is used; observe that the number group for route LIN of 10,000 series A physical office is momentarily seized, regardless of the number series keys, office selection keys and class of call keys operated.

5.124 On one cycle of the routine test, if Fig. G of the marker is used, operate key IPT and observe that the test calls complete to the physical intercept route associated with the 10,000 number series containing the unequipped 500 block under test.

5.13 Special Intercept Route for Unequipped 500 and 100 Blocks

NOTE: When a special temporary route to intercept is provided, all or part of the calls for unequipped 500 and 100 blocks are routed to intercept via SD-25438-01. This arrangement requires cross connections as follows:

(a) BN to the winding of relay FH shown on SD-25438-01, used as unequipped number relay, instead of BN to B.

(b) ST for the unequipped 100 block, of the marker FH relay to ST of FH relay shown on SD-25438-01, used as unequipped number relay, instead of HB to B.

(c) ST of relay FH shown on SD-25438-01 to one of SH-0-19.

(d) SH-ST, SH-HB, SH-TB and SH-AL to ALC-ST, ALC-HB, ALC-TB and AF respectively.

(e) AL1-ST, AL1-HB and AL1-TB to one of NG-ST-0-24, NG-HB-0-24 and TB-0-4 respectively.

5.131 Make three test calls to an unequipped 500 block. Operate class of call keys FS, MAN and TOL, one for each of the three test calls. Observe the following test results:

(a) The test calls complete to the common special intercept route.

(b) The 10,000 number series lamp indication agrees with the 10,000 number series containing the unequipped block of numbers under test.

(c) Lamps AL and FL light.

(d) Lamp TC lights with the FS key operated.

(e) Lamps NGC, HB and TB light to agree with the route as determined by the number group, hundred block and twenty block cross connections as made to; AL1-ST, AL1-HB and AL1-TB respectively.

(f) Lamp L-0 lights.

(g) The test results are the same for either position of the allotter.

(h) Other lamps light as described in Section 225.

5.132 Repeat the test described in Paragraph 5.131 to an unequipped 100 block in an equipped 500 block.

5.133 Make the tests described in Paragraphs 5.131 and 5.132 to a different unequipped 500 block and a different unequipped 100 block on each routine test cycle. If the number of unequipped 500 or 100 blocks is greater than the number of routine test cycles required, test the remaining unequipped 500 and 100 blocks on a supplementary test basis.

5.134 On one cycle of test, make the tests described in Paragraph 5.131 to each twenty block in an unequipped 100 block in an equipped 500 block.

5.14 Unassigned Line Number Intercept

NOTE: The line numbers used for this test must have their NF and NC cross connections open at the block relay frames, NS cross connections at the LDF may be omitted. The tests described in Paragraphs 5.143, 5.144 and 5.145 are required only when Fig. G of the marker is provided.

5.141 Make three test calls to an unassigned line number in an equipped twenty block. Operate class of call keys FS, MAN and TOL, one for each of the three test calls. Observe test results a-e inclusive as described in Note 3 under 5.1.

5.142 Make the three test calls to a different office on each routine test cycle, namely, offices: A physical, A theoretical, B physical and B theoretical; as served by the marker on the particular job.

5.143 On one cycle of the routine test, complete six test calls to a physical (PN) line number in 10,000 number series A, operate a pair of keys for each of the test calls as follows: (FS-IP), (FS-IPT), MAN-IP), (MAN-IPT), (TOL-IP) and (TOL-IPT). Repeat the test calls to a PN line number associated with 10,000 number series B, as required. Observe test results a-e inclusive as described in Note 3, under Paragraph 5.1.

5.144 On one cycle of the routine test, complete six test calls to a theoretical (TN) line number in 10,000 number series A, operate a pair of keys for each of the test calls as follows: (FS-IT), (FS-IPT), (MAN-IT), (MAN-IPT), (TOL-IT) and (TOL-IPT). Repeat the test calls to a TN line number associated with 10,000 number series B, as required. Observe test results a-e inclusive as described in Note 3, under Paragraph 5.1.

5.145 On one cycle of the routine test complete nine test calls to a common (physical - theoretical, (PTN) line number in 10,000 number series A, operate a pair of keys for each of the test calls as follows: (FS-IP), (FS-IT), (FS-IPT), (MAN-IP), (MAN-IT), (MAN-IPT), (TOL-IP), (TOL-IT) and (TOL-IPT). Repeat the test calls to a PTN line number in 10,000 number series B, as required. Observe test results a-e inclusive as described in Note 3 under Paragraph 5.1.

5.15 Restricted Service Intercept

NOTE A: This test is required only when Fig. G of the marker is equipped.

NOTE B: The NF and NC cross connections at the block relay frame must be connected for the line numbers used for this test. The NS cross connection at the LDF may be omitted.

5.151 Make three test calls to a line number located in a hundred block which returns a theoretical number (TN) signal to the marker. (This signal operates relay TN of the marker.) Operate office selection keys (refer to Section 225) so that the marker receives an incoming physical signal. (IP relay operated.) Operate class of call keys FS, MAN and TOL, one key for each of the three test calls. Observe test results a-e inclusive as described in Note 3, under 5.1.

5.152 Repeat the test, but reverse the signals, that is, operate office selection keys to that the marker receives an incoming theoretical signal (IT relay operated) and call a line number located in a hundred block which returns a physical number signal (PN relay operated) to the marker. Observe the same test results.

5.16 Open Sleeve Lead Intercept

NOTE 1:

(a) This is a supplementary test.

(b) The NF and NC cross connections at the block relay frame must be connected for the line numbers used for this test.

(c) The NS cross connection at the LDF must be open for this test.

(d) To permit this test to be made using the trouble indicator, make test connections in the marker as follows:

Insulate 6B contact of relay GLH1, connect 7B contact of relay GLH1 to 3B contact of relay IN. Insulate 3B and 4B contacts of HF4 relay using KS-7188 paper.

5.161 Make three test calls to a ring or tip line number in each office (AP, AT, BP and BT) served by the marker. Operate class of call keys FS, MAN and TOL, one key for each of the three test calls. As soon as GLH1 relay operates during each test call withdraw insulator from between 3B and 4B contacts of the HF4 relay. Observe test results a-e as described in Note 3, under 5.1. Remove the test connections.

5.162 Open Sleeve Intercept (Special Route)

When special temporary routes to intercept are provided, the FS and MAN test calls to lines with open sleeves are routed to intercept via SD-25438-01.

5.163 With this arrangement lamp LIN does not light with class of call keys FS and MAN, and lamps: NGC, HB, HP and L light to agree with the routes as determined by the number group, hundred block, twenty block and line terminal cross connections respectively; as made to punching groups: LOS for a single office; LOS-A or LOS-B for number series A or B respectively; or LOS-A physical, LOS-A theoretical, LOS-B physical or LOS-B theoretical for test calls to offices AP, AT, BP, and BT respectively.

5.164 When subscribers lines are used with SD-25438-01 instead of intercept trunk circuits, observe that lamps TC and RC light with class of call key FS operated on test calls to ring party lines.

5.2 Trouble Intercept

NOTE A: Cross connections are made to punching groups LTI for FS and MAN calls and to punching groups TTI for TOL calls.

NOTE B: Fig. C of the marker is cross-connected to serve one 10,000 number series.

NOTE C: Fig. D of the marker is cross-connected to serve two 10,000 number series.

NOTE D: Two routes for each 10,000 number series are required, namely LTI and TTI.

NOTE E: Each route requires cross-connections as follows:

ST to NG-ST (0-24 Number Group)
HP to NG-HB (0-24 Hundred Block)
TB to TB (0- 4 Twenty Block)
L to L (0-19 Line Terminal)

NOTE F: The NF and NC cross connections at the block relay frame must be connected for the line numbers used for this test.

NOTE G: Refer to Note (C) under 2.11 for key operations to select 10,000 number series (A or B) required for test.

NOTE H: Cancel continuity test on markers 2-9 if tip (NF-TF) party line numbers are used for this test.

5.21 Operate key PU and make three test calls to an individual line number in each 10,000 line number series served by the marker. Operate class of call keys FS, MAN and TOL, one key for each of the three test calls.

5.22 On one cycle, cancel continuity test on markers 2-9 if ring (NF-RF) party line numbers are used for this test.

5.23 Observe the following results of the tests.

(a) The test call completes to the 10,000 number series as keyed.

(b) The TH, H, T, U and F lamps light to agree with the corresponding keys as operated.

(c) Lamp LTI lights on FS and MAN test calls.

(d) Lamp TTI lights on TOL test calls.

(e) Lamps NGC, HB, HP and L light to agree with the route as determined by the number group, hundred block, twenty block, and line terminal cross connections respectively, as made to punching group LTI for FS and MAN test calls and to punching group TTI for TOL test calls.

(f) Relay CCT operates on tests of markers 0 and 1 and does not operate on tests of markers 2-9 inclusive.

(g) Other lamps light as described in Section 225.

5.24 To prove that relay PUI operated holds the incoming link frame busy until the crosspoints have opened on a call rerouted to trouble intercept, perform the following test on one routine cycle; block the PUI relay operated and the NK relay normal. Check that battery is present on contact 9B of the CK7 relay. Operate relay SDT and check that battery is removed from 9B of the CK7 relay. Release relay SDT and check that battery is reconnected to contact 9B of relay CK7. Release relay PUI and remove the block from relay NK.

5.3 On one cycle of the routine test, operate keys GT and TR2 and start a test call to each line number on the routine test call chart which is associated with a coin line link frame. Restore key GT when the NG lamp associated with the first NG seized by the marker has been observed to light momentarily. Observe that the test calls are completed, lamps TR2 and RL followed by TRL light and that lamps TH, H, T, U and F light to agree with the corresponding keys as operated, also observe that lamps HGC, HB, HP and L light to agree with the route as determined by the ST, HB, TB and L cross connections, respectively, as specified for terminals ST, HB, TB and L of marker relay BBT. Restore key TR2.

NOTE: This test is required only when marker circuit figure AH is specified.

6. AUTOMATIC INTERCEPT SERVICE

6.1 Regular Intercept

6.11 Determine for each marker two or three intercept numbers for each class of intercept (0, 1 and 3) from the local Telephone Office Records. If the office contains both theoretical and physical numbers, determine the intercept numbers from both group of numbers.

6.12 Apply Paragraphs 4 to 4.08 of Section 225, Handbook 62 to an intercept number.

6.13 Operate key PU when call is made to a plugged-up number. Otherwise key PU should be normal.

6.14 Apply Paragraphs 4.07 to 4.08 of Section 225, Handbook 62. Verify lamp AIS, IK and the lamp designating the class of intercept light. The class of intercept and office code 2 out of 5 lamps are lighted at the Outgoing Sender Test Circuit (27965-01). Verify that a LS- and S- lamp light at the Terminating Sender Test Frame.

6.15 Momentarily operate the RL key to restore the trouble indicator circuit to normal.

6.16 Repeat Paragraphs 6.12 to 6.15 for all intercept numbers determined in Paragraph 6.11.

6.2 Trouble Indication Lamps

6.21 Block relay TIL operated in the Automatic Intercept Service Control and Connector Circuit (27961-01).

6.22 Apply Paragraphs 6.12 to 6.15 to a known intercept number. Verify that the TH, T, H and U two out of five indication lamps are lighted in the Outgoing Sender Test Circuit.

6.23 Release relay TIL and momentarily operate key RL. Verify all lamps extinguished.

6.24 Repeat Paragraphs 6.21 to 6.23 to all TH, H, T and U two out of five indication lamps are tested.

6.3 Terminating Marker Auxiliary Digit Registration and Translation Circuit Fuse Alarms

6.31 Verify relays FA1 and FA2 are operated in the TMADRT Circuit.

6.32 Momentarily release relay FA1. Verify the associated marker is removed from service in the same manner as a blown fuse in the marker. A red FA- lamp lights.

6.33 Repeat Paragraph 6.32 for relay FA2.

7. CALLING LINE IDENTIFICATION

7.1 Record at TTI Only (Option IU)

7.11 At the TTI, set up a number on the TH, H, T and U switches corresponding to a number cross-connected for Calling Line Identification at the Block Relay Frame.

7.12 Operate key ST. Lamp CLI is lighted and display includes the called number, terminating marker group, office within the marker group and the incoming frame.

7.13 Momentarily operate key RL. All lamps are extinguished.

7.14 At the TTI, make any non-CLI test call to register a display. Do not release display.

7.15 Insert a make busy plug into jack CLB. From an office telephone call a test number arranged for CLI. Verify that lamp CLI is not lighted, lamp DL for associated marker is lighted and display on TTI is not released.

7.16 Remove plug from CLB jack. From an office telephone call a test number arranged for CLI. Verify that previous display on TTI is released, CLI display is registered as described in Paragraph 7.12 and the major alarm sounds.

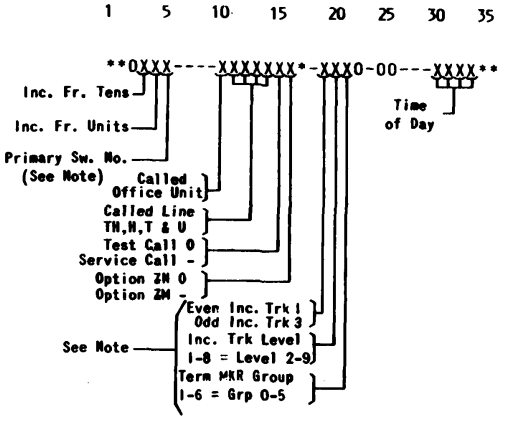
7.17 Operate key RL at TTI. Alarm is silenced and all lamps are extinguished.

7.2 Record at TTI or Trouble Ticketer (Option IV)

7.201 At the TTI, set up a number on the TH, H, T and U switches corresponding to a number cross-connected for Calling Line Identification at the Block Relay Frame.

7.202 Operate key ST. Lamp CLI is lighted and display includes the called number, terminating marker group, office within the marker group and the incoming frame. A trouble ticket is printed as follows:

TERMINATING MARKER CALLING LINE RECORD



NOTE: ON A TTI TEST CALL THE PRIMARY SW NO., ODD OR EVEN TRUNK INDICATION AND INC TRK LEVEL INFORMATION IS NOT PRINTED. INSTEAD IN POSITION 6 a - IS PRINTED AND IN POSITIONS 20 AND 21 a 0 IS PRINTED

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7.203 *Operate key RL. All lamps are extinguished.*

7.204 *Insert a make busy plug into jack CTT. Operate key ST. A CLI display is registered at TTI only (no trouble ticket).*

7.205 *Operate key RL. All lamps are extinguished.*

7.206 *At the TTI, make any non-CLI test call to register a display. Do not release display.*

7.207 *Insert a make busy plug into jack CLB. From an office telephone call a test number arranged for CLI. Verify that lamp CLI is not lighted, lamp DL for associated marker is lighted and display on TTI is not released.*

7.208 *Remove plug from jack CLB. From an office telephone call a test number arranged for CLI. At the TTI verify that the previous display is released and a CLI display is registered as described in Paragraph 7.202 and the major alarm sounds.*

7.209 *Operate key RL at TTI. Alarm is silenced and all lamps are extinguished.*

7.210 *At the Trouble Ticketer Frame, insert a make busy plug into jack TTMB- for associated marker group. At the TTI, remove plug from jack CTT. From an office telephone call a test number arranged for CLI. Verify that a CLI display is registered at the TTI and the major alarm sounds.*

7.211 *Operate key RL at TTI. Alarm is silenced and all lamps are extinguished.*

7.212 *Remove plug from TTMB jack at Trouble Ticketer Frame. From an office telephone call a number arranged for CLI. Verify that trouble ticket is printed as described in Paragraph 7.202, the major alarm sounds and no display is registered at the TTI.*

7.213 *At the Trouble Ticketer Frame, operate key AR to retire alarms.*

7.214 *At the TTI, make any non-CLI test call to register a display. Insert plug into jack CLB. From an office telephone call a test number arranged for CLI. Verify that, a Trouble Ticket is printed as described in Paragraph 7.202, the major alarm sounds, the display at the TTI is not released and the associated marker DL lamp does not light.*

7.215 *Operate key AR at Trouble Ticketer Frame to retire alarms. Remove plug from CLB jack at TTI. Momentarily operate key RL to extinguish lamps at TTI.*

8. TERMINATING MARKER APPLIQUE

8.1 Test of Registration Chain for Crosses

8.11 Block normal marker relays CK1, CK4, CK5, TMW and TM8.

8.12 Connect Pencil Lamp Tool, R-1824, between -48V battery and contact 7T of relay RO.

8.13 Set up any assigned line number on the TH, H, T and U switches.

8.14 Momentarily operate key ST. Pencil Lamp Tool, R-1824, hereafter designated as Lamp, does not light.

8.15 Release relay CK1. Lamp lighted.

8.16 Repeat Steps 6.11, 6.14 and 6.15 using, one at a time, relays OAB, TH-, H-, T- and U- on successive calls instead of relay CK1.

8.17 Repeat Steps 6.11, 6.14 and 6.15 using, one at a time, relays THA1, THA2, THA4, THA8, HA1, HA2, HA4, HA5, HA5', TA1, TA2, TA4, TA5, UA1, UA2, UA4 and UA5 in the marker applique circuit on successive calls instead of relay CK1.

8.18 On completion of test, remove Lamp connections and all blocking tools.

8.19 Start a test call. Marker operates satisfactorily.

8.2 Direct In Dialing

NOTE 1: The BLK and CHG number calls per Paragraphs 8.22 and 8.23 require hundreds digit translation from the 101 ESS to complete.

NOTE 2: The CHG number calls only apply when an existing 101 ESS is used to terminate a Direct Access from No. 1 Crossbar.

8.21 PBX Extension Number

8.211 Set up a working PBX extension number of any DID customer on the TH, H, T and U switches.

8.212 Set up the DID code by operating key OAB or inserting make busy plugs in jacks NSS.

NOTE: Consult local records to determine DID code for the selected customer.

8.213 Momentarily operate key ST. Lamps THC-, HC-, TC- and UC- lighted to display number group address of selected customer. On a DID-LLP or ESS call, the corresponding A-, B-, C- and D- lamps are lighted. On a DID-LLP call, the corresponding A'-, B'-, C'- and D'- lamps are also lighted.

8.214 Momentarily operate key RL. All lamps extinguished.

8.22 Changed Number Intercept

8.221 Set up a number on the TH, H, T and U switches which has been changed and will be intercepted in the DID Translator.

8.222 Momentarily operate key ST. Lamp CHG lighted.

8.223 Momentarily operate key RL. All lamps extinguished.

8.23 Blank Number Intercept

8.231 Set up a number on the TH, H, T and U switches which is blank in the DID Translator.

8.232 Momentarily operate key ST. Lamp BLK lighted.

8.233 Momentarily operate key RL. All lamps extinguished.

8.24 DID Misdirected Calls to Number Group Address of Line Circuits

8.241 Set up a number on the TH, H, T and U switches corresponding to the number group address of a line circuit.

NOTE Consult local office records to determine the required information.

8.242 Operate key MIT.

8.243 Momentarily operate key ST. Verify lamp LIN lighted.

8.244 Momentarily operate key RL. Verify all lamps extinguished.

8.245 Restore key MIT to normal.

8.25 DID Overflow

8.251 Set up a PBX extension number on the TH, H, T and U switches which corresponds to a DID number assigned for testing DID incoming overflow signal.

8.252 Set up the DID code by operating key OAB or inserting make busy plugs in jacks NSS.

NOTE: Consult local records to determine DID code for the selected number.

8.253 Momentarily operate key ST. Lamps OF and TC lighted. Lamp BB not lighted.

8.254 Momentarily operate key RL. All lamps extinguished.

8.255 Restore all operated keys and switches to normal.

9. BUSY LAMPS

NOTE: This is a supplementary test.

On one routine cycle operate the BAT key and check that busy lamps (NG) 0-24, (I) 0-19 and (LC) 0-19, as equipped, light to agree respectively with the number group connector, incoming link frame and line choice connector used on each test call.

Lines Presented in Script Indicate New or Changed Information

ATTACHMENT
Routine Test Call Chart on Page 11.

Manager, Crossbar Product Engineering
Control Center

Reason for Reissue:
To revise Paragraph 7.

ROUTINE TEST CALL CHART

225.4

LINE NUMBERS															HALF CHOICE-A										HALF CHOICE-B										LINE LINK HORIZONTAL GROUP (CA 0-9 & CB-0-9)				
#SER	OFF	a	#SER	OFF	b	#SER	OFF	c	#SER	OFF	d	#SER	OFF	e	FRAME-A						FRAME-B					HALF CHOICE-B	FRAME-C					FRAME-D									
		00			20			40			60	A	PN	3480					TO																				A5
		21			41			61			81			01																								
		42			62			82			02			22																								
		63			83			03			23			43																								
		84			04			24			44			64																								
		05			25			45			65			85																								
		26			46			66			86			06																								
		47			67			87			07			27																								
		68			88			08			28			48																								
		89			09			29			49			69																								
		10			30			50			70			90																								
		31			51			71			91			11																								
		52			72			92			12			32																								
		73			93			13			33			53																								
		94			14			34			54			74																								
		15			35			55			75			95																								
		36			56			76			96			16																								
		57			77			97			17			37																								
		78			98			18			38			58																								
		99			19			39			59			79																								

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