

EVALUATION TEST PROCEDURES FOR THE APTT FRAME

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1. GENERAL

1.01 This section is an evaluation test procedure for the automatic progression trunk test frame (APTT). The tests are structured to determine if the basic features of the APTT are properly functioning by verifying lamp sequences for each type of test that the circuit can perform.

1.02 These test procedures are particularly applicable prior to any feature addition to the frame. However, they may be applied at any time to determine the general condition of the frame.

SECTION 218-080-301

1.03 This section is one of a series of BSP sections for evaluating the performance or determining the health of portions of the No. 5 Crossbar System. Each of these sections is referenced to Section 218-080-300 which appears in the ETL as mandatory work (MW) with a period of one month. This will serve to call attention to all sections monthly, so that the applicable sections can be applied, based on indications of potential problems.

2. EVALUATION PROCEDURE

A. General

2.01 This procedure verifies operation of the basic features of the APTT by checking for the proper sequence of lamp indications on 27 types of tests. APTT priming information for the applicable test is chosen such that all applicable common control circuits are selected at least once in the course of all tests, thus verifying the APTT's ability to work with each one.

2.02 Table A lists each test, the keys or switches which must be operated, the applicable lamp sequence chart, SD sequence chart, and reference notes.

B. Test Chart Preparation

2.03 A test setup chart should be prepared consisting of the priming digits necessary to perform each applicable test in Table A. The priming information is dependent on the vintage of the frame as follows:

- (a) For Issue 22 and earlier frames, as identified by the P1, P1A, or P0 200-type selectors *not* provided on the frame:

Use Section 218-220-301 Table A and Fig. 2, or SD-25938-01, Note 301A1.

- (b) For Issue 23 to 29 frames as identified by the P1 and P1A 200-type selectors provided on the frame:

Use Section 218-220-301 Table B and Fig. 2 and 3 or SD-25938-01, Note 301A2.

- (c) For Issue 30 and later frames as identified by the P0 200-type selector provided on the frame:

Use Section 218-220-301 Table C and Fig. 4 to 7 or SD-25938-01, Note 301B.

2.04 Vary the A, B, C, and the FTCD, TT, and TU priming digit information so that all trunk link frames and all AMA recorders are used at least once in the course of all tests.

2.05 From this test setup chart either prepare a tape or use the manual trunk selection feature. If the manual selection feature is used, a tape for at least one test should be used to verify that the TELETYPE® is functioning.

C. Test Procedure

2.05 For each test operate the keys or switches as shown in Table A and perform the following steps:

- (a) Operate the LP key. This key will cause lamps to show the operation of the steering control and register relays.
- (b) Operate the REP key. This key will cause the APTT to repeat the same test on the same trunk.
- (c) Operate the PC key if manual trunk selection is being used.
- (d) Operate the M0-11 key or switch for the marker to be used. Each M_ key or switch should be used at least once in the course of all tests to ensure that all markers will work with the APTT.

- (e) Operate the ST key. If a control tape is being used, the TELETYPE will start to read the tape and the information will be stored in the APTT. If manual trunk selection is being used, use the 10-button keyset to register the priming information in the APTT.

2.06 When the EOD (end-of-digits) lamp lights the APTT will seize a marker and will proceed to test the trunk. Use the appropriate lamp sequence charts, Fig. 1 to 26, to determine that the test is being made properly. In general it will be necessary to watch the lamp sequence several

times as the test repeats to verify that the operation sequence is correct.

2.07 It should be noted that certain lamps not identified in the lamp sequence charts may also light. These lamps are either unimportant to the test being verified or may be a result of different options or issues of the APTT. They should be ignored.

2.08 Release the REP key when satisfied that the APTT is functioning properly on the test being made. If a control tape is being used the APTT will advance to the next test. If manual

trunk selection is used the next set of priming digits should be keyed into the APTT.

2.09 If the test selector fails, see what position the OGT, STL, IA01, IA02, or CN selector is in, depending on type of test, and with the help of the SD-25938-01 D-sheet Notes 320 to 323 and 334 and E-sheet sequence charts, determine what relay failed to operate to advance the selector.

2.10 Experience has also shown that on initial application of these tests there is a high probability that some lamps will be burned out.

TABLE A
APTT TEST TABLE

TEST NUMBER	LAMP SEQUENCE CHART	KEYS OR SWITCHES OPERATED	LAMP SEQUENCE CHART	SD SEQUENCE CHART	E SHEET NUMBER	NOTE ON D SHEETS	TEST TABLE NOTES
1	OGT-AMA Charge	RTL, CH, AMA	1	8	8, 9, 11, 12	323	
2	OGT-AMA Cancel Disc. Entry	RTL, CH, AMA, CDE	2	8	8, 9, 11, 12	323	
3	OGT-AMA Timed Release Orig. Hold	RTL, CH, AMA, TRO	3	8	8, 9, 11, 16C	323	
4	OGT-AMA Trunk Identity Check	RTL, CH, AMA, T1C	4	8	8	323	
5	OGT-AMA Noncharge	RTL, NC, AMA	5	8	8, 9, 10	323	
6	OGT-FR Charge	RTL, CH, FR	6	8	8, 9, 10	323	
7	OGT-FR Noncharge	RTL, NC, FR	7	8	8, 9, 10	323	
8	OGT-COIN Charge	RTL, CH, CN	8	8	8, 9, 10, 13	323	
9	OGT-COIN Overtime	RTL, OTC, CN	9	8	8, 9, 16A, 16B	323, 334	
10	OGT-COIN Noncharge	RTL, NC, CN	10	8	8, 9, 10	323	
11	ITDO-SYN Test Line	TL	11	4	5, 6	320	
12	ITDO-NON SYNC Test Line	TL	12	4	5, 6	320	
13	ITDO-SXS Test Line	TL	13	4	5, 6	320	
14	ITDO-Busy Line	BL	14	5	6		
15	ITDO-Continuity and Polarity	CP	15	7	7		
16	IA01-Test Line	TL	16	3	3, 4	321	
17	IA02-AMA Charge	RTL, CH, AMA	17	9	17, 20, 21, 19	322	
18	IA02-AMA Timed Release Term. Hold	RTL, CH, AMA, TRT	18	9	17, 20, 22	322	
19	IA02-AMA Noncharge	RTL, NC, AMA	19	9	17, 18	322	
20	IA02-FR Charge	RTL, CH, FR	20	9	17, 19	322	
21	IA02-FR Noncharge	RTL, NC, FR	21	9	17, 18	322	
22	IA02-COIN Charge	RTL, CH, CN	22	9	17, 19	322	
23	IA02-COIN Noncharge	RTL, NC, CN	23	9	17, 18	322	
24	ITDO-Centrex Transfer	TL	24	4&20	5, 43	320	1
25	IA02-Centrex Transfer	RTL, CH, FR	25	9&21A	17, 43	320	2
26	IA02-Intra-CTX Repeated Supv.	RTL, CH, FR	26	9&21A	17, 44	322	2
27	LLP	RTL, CH, FR, LLP		18	42		3, 4

Notes:

1. Test when trunk groups to a centrex office are provided.
2. Test when centrex features are provided.
3. Test when LLP is provided.
4. Observe the following sequence of events to confirm correct LLP operation.
Position of OGT selector:
 - a. LLS relay operates if diode in line circuit is not reversed.
 - b. LLS relay releases if diode in line circuit is not shorted.
 - c. DRR relay operates and releases D relay in line circuit.
 - d. CS or E relay in line circuit operates and operates relay LLCS.
 - e. CS or E relay in line circuit releases and releases relay LLCS.

LAMP SEQUENCE CHART #1

OGT-AMA

Charge

OPERATE KEYS OR SWITCHES
RTL
CH
AMA

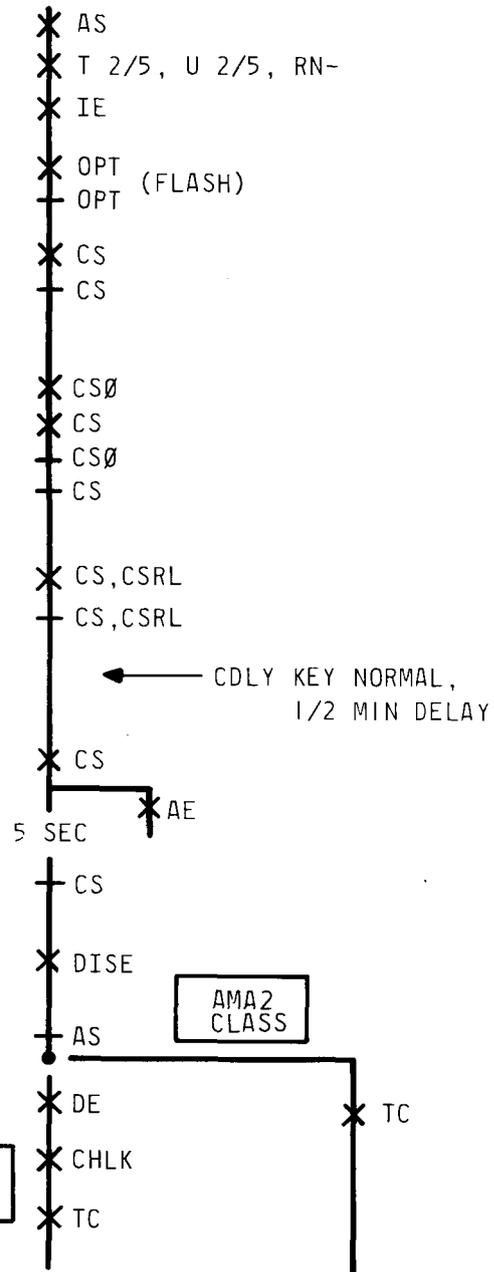


Fig. 1

LAMP SEQUENCE CHART #2 OGT-AMA Cancel Disconnect Entry

OPERATE KEYS OR SWITCHES
RTL
CH
AMA
CDE

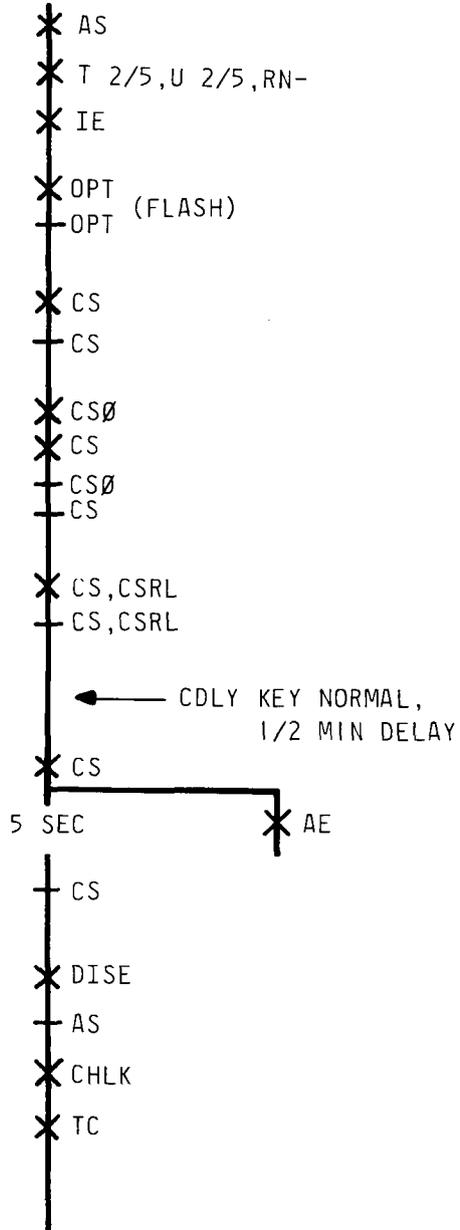


Fig. 2

LAMP SEQUENCE CHART #4
OGT-AMA
Trunk Identity Check

OPERATE KEYS OR SWITCHES
RTL
CH
AMA
TIC

- X AS
- X T 2/5, U 2/5, RN-
- X IE
- X DISE
- X CHLK
- X TC

Fig. 4

LAMP SEQUENCE CHART #5
 OGT-AMA
 Noncharge

OPERATE KEYS OR SWITCHES
RTL
NC
AMA

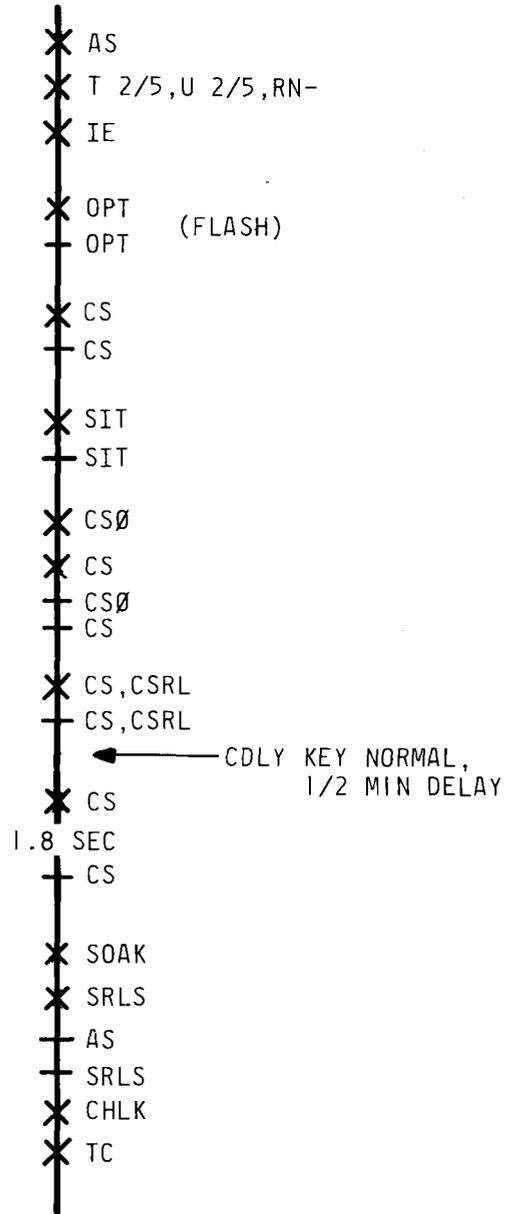


Fig. 5

LAMP SEQUENCE CHART #6
 OGT-FR
 Charge

OPERATE KEYS OR SWITCHES
RTL
CH
FR

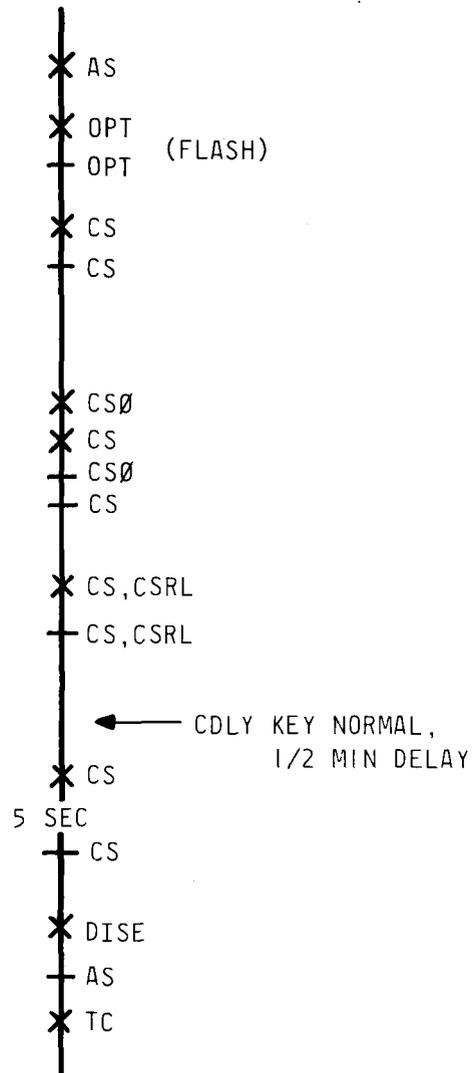


Fig. 6

LAMP SEQUENCE CHART #7
 OGT-FR
 Noncharge

OPERATE KEYS OR SWITCHES
RTL
NC
FR

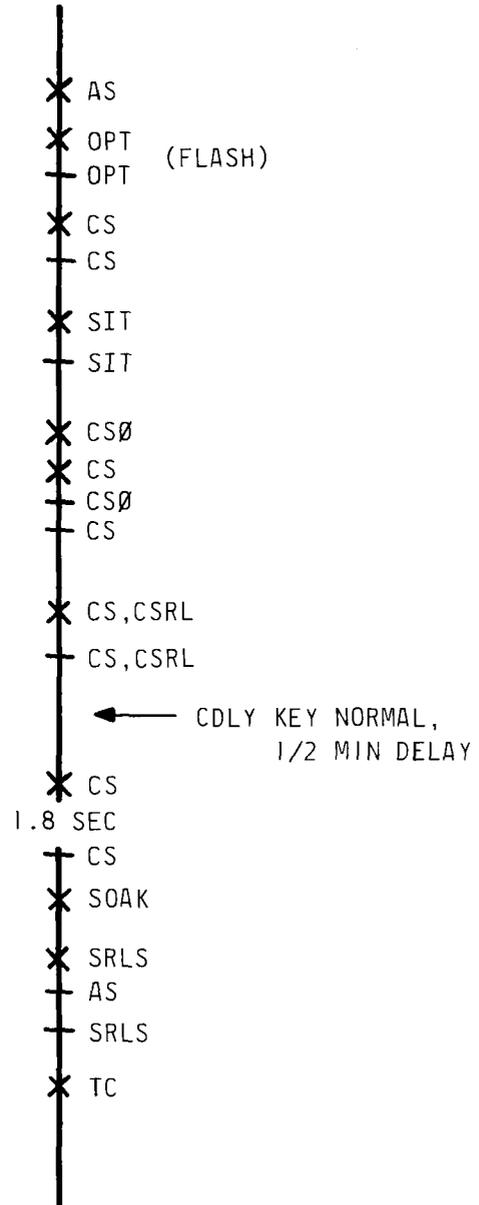


Fig. 7

LAMP SEQUENCE CHART #8
OGT-COIN
Charge

OPERATE KEYS OR SWITCHES
RTL
CH
CN

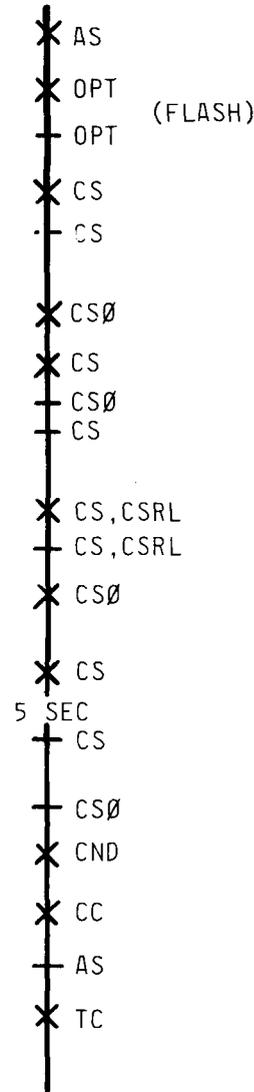
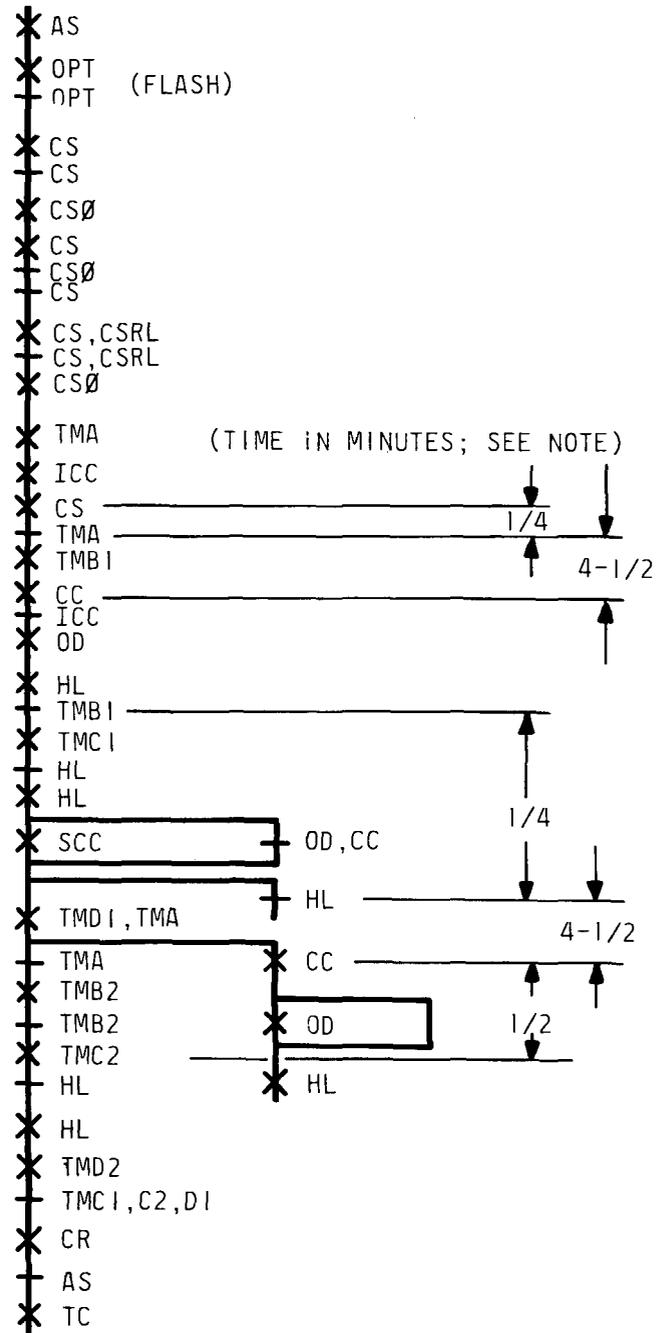


Fig. 8

LAMP SEQUENCE CHART #9 OGT COIN - Overtime

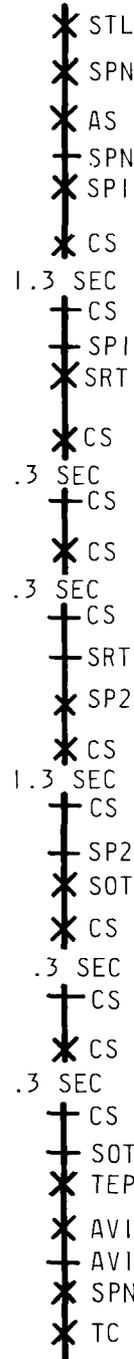
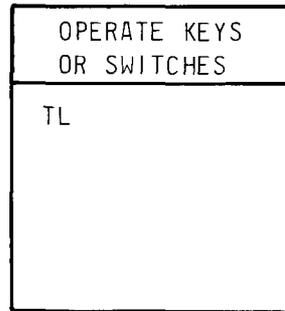
OPERATE KEYS OR SWITCHES
RTL
OTC
CN



NOTE:
 TIMES SHOWN ARE APPROXIMATE
 AND ARE FOR 5 MINUTES INITIAL
 AND 5 MINUTES SUBSEQUENT
 DEPOSIT CHECKS. IF OTHER
 THAN THIS, DEDUCT THE
 DIFFERENCE FROM THE 4 1/2
 MINUTE TIME.

Fig. 9

LAMP SEQUENCE CHART #11
 ITDO
 Syn. Test Line



NOTE:
 TIMES SHOWN ARE NOT TO
 BE TIMED BY THE TESTER
 BUT ARE SHOWN TO INDICATE
 THE DIFFERENCE IN LENGTH
 OF TIME THAT THE CS LAMP
 IS LIGHTED. (LONG OR
 SHORT TIME.)

Fig. 11

LAMP SEQUENCE CHART #12
ITDO
Non Syn. Test Line

OPERATE KEYS OR SWITCHES
TL

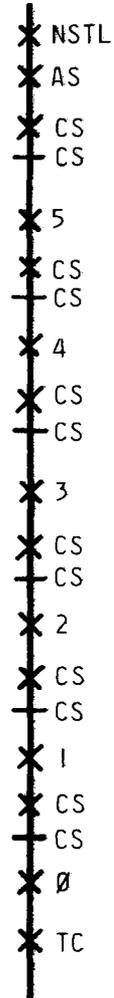


Fig. 12

LAMP SEQUENCE CHART #13
ITDO
S X S Test Line

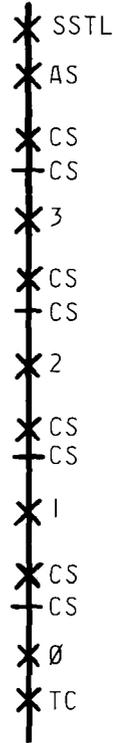
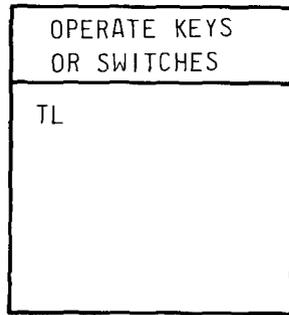


Fig. 13

LAMP SEQUENCE CHART #14 ITDO Busy Line

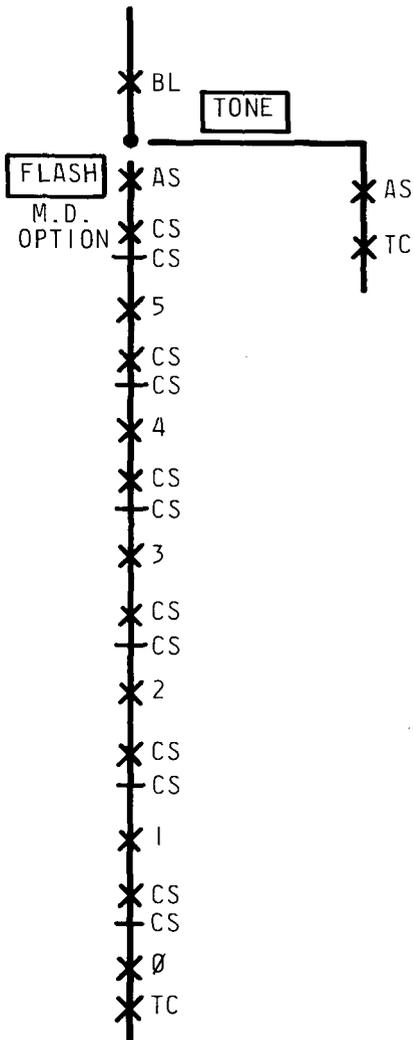
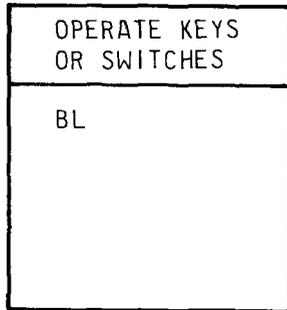


Fig. 14

LAMP SEQUENCE CHART #15
ITDO
Continuity Polarity

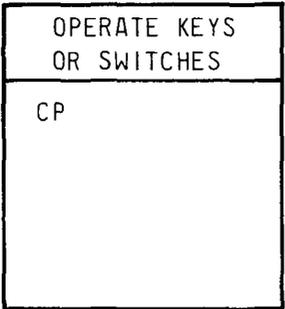
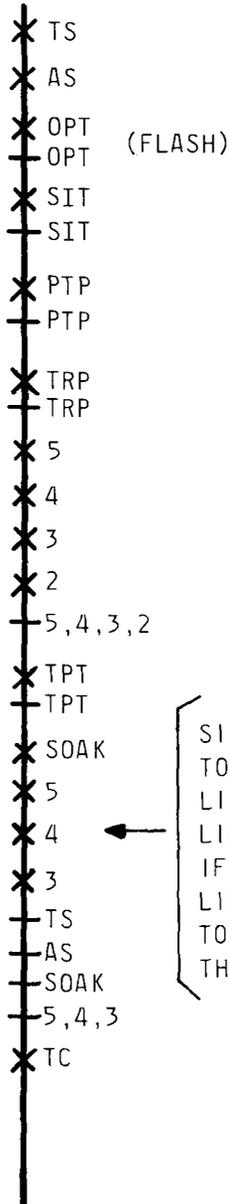
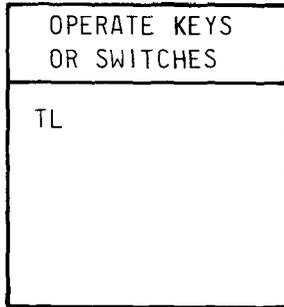


Fig. 15

LAMP SEQUENCE CHART #16

IAOI

Test Line



SI RELAY IN TRUNK STARTS TO RELEASE WHEN 5 LAMP LIGHTS. 4 & 3 MAY NOT LIGHT IF SI RELEASES. IF 2 LIGHTS SLSI WILL LIGHT INDICATING A SLOW TO RELEASE SI RELAY IN THE TRUNK.

Fig. 16

LAMP SEQUENCE CHART #17
IAO2 - AMA
Charge

OPERATE KEYS OR SWITCHES
RTL
CH
AMA

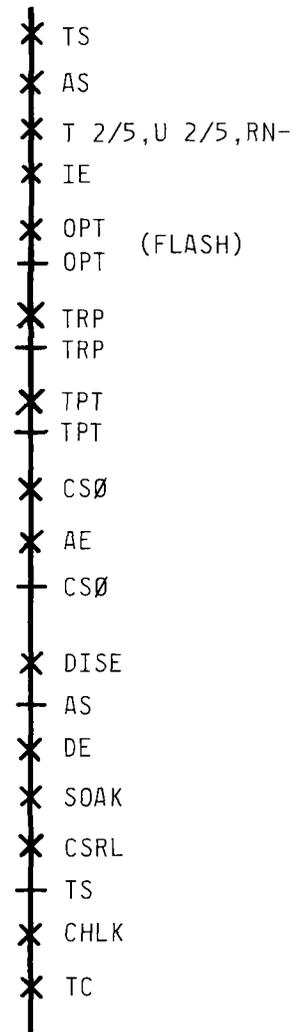


Fig. 17

LAMP SEQUENCE CHART #18
IA02 - AMA
Timed Release Terminating Hold

OPERATE KEYS OR SWITCHES
RTL
CH
AMA
TRT

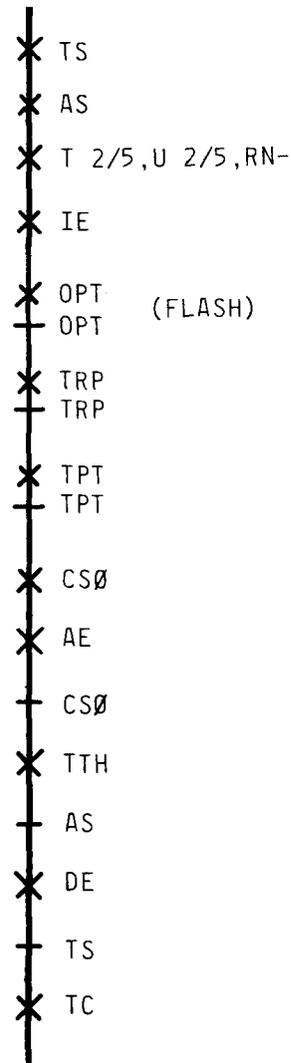


Fig. 18

LAMP SEQUENCE CHART #19
IAO2 - AMA
Noncharge

OPERATE KEYS OR SWITCHES
RTL
NC
AMA

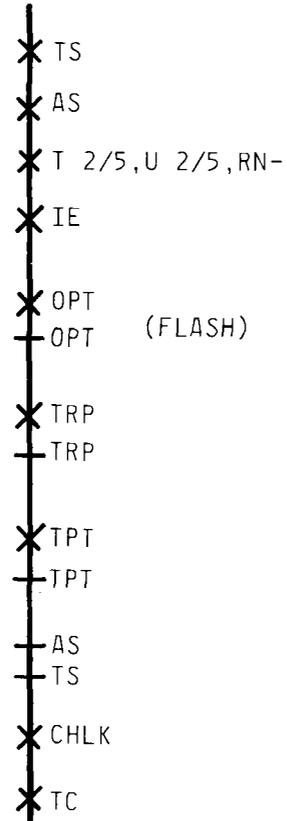


Fig. 19

LAMP SEQUENCE CHART #20
IAO2-FR
Charge

OPERATE KEYS OR SWITCHES
RTL
CH
FR

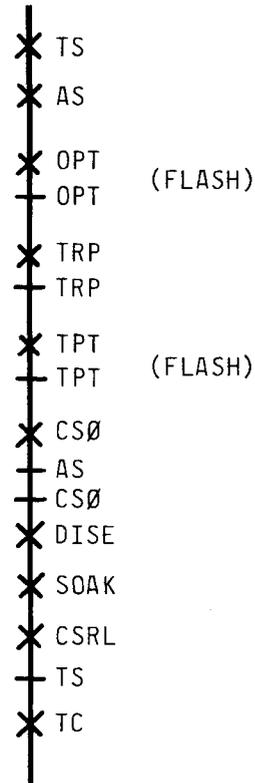


Fig. 20

LAMP SEQUENCE CHART #22
IAO2- COIN
Charge

OPERATE KEYS OR SWITCHES
RTL
CH
CN

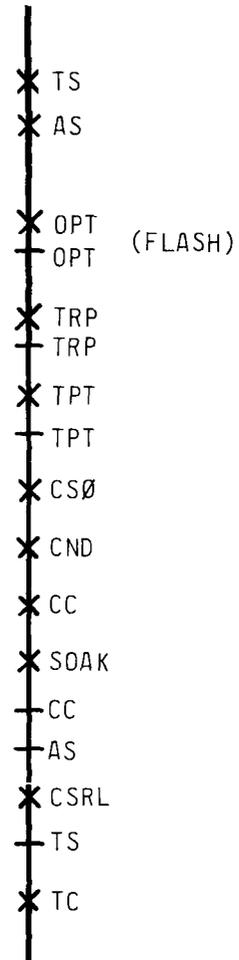


Fig. 21

LAMP SEQUENCE CHART #21
 IAO2-FR
 Noncharge

OPERATE KEYS OR SWITCHES
RTL
NC
FR

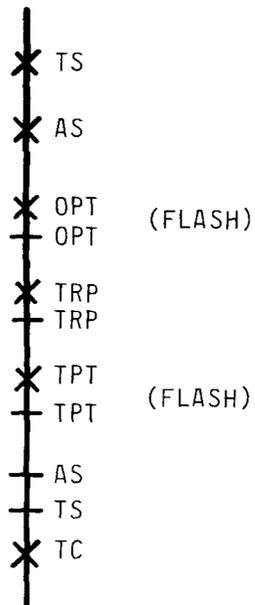


Fig. 22

LAMP SEQUENCE CHART #23
IA02-COIN
Noncharge

OPERATE KEYS OR SWITCHES
RTL
NC
CN

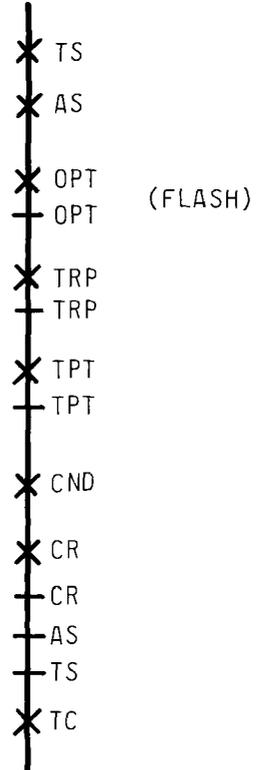
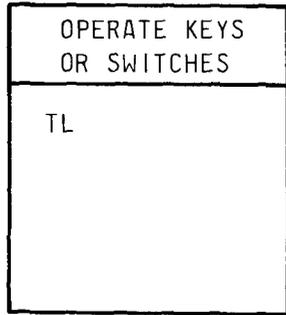


Fig. 23

LAMP SEQUENCE CHART #24

ITDO

Centrex Transfer



NOTE:
 TIMES SHOWN ARE NOT TO BE
 TIMED BY THE TESTER BUT
 ARE SHOWN TO INDICATE THE
 DIFFERENCE IN LENGTH OF
 TIME THAT THE CS LAMP IS
 LIT. (LONG OR SHORT TIME.)

Fig. 24

LAMP SEQUENCE CHART #25
IAO2
Centrex Transfer

OPERATE KEYS OR SWITCHES
RTL
CH
FR

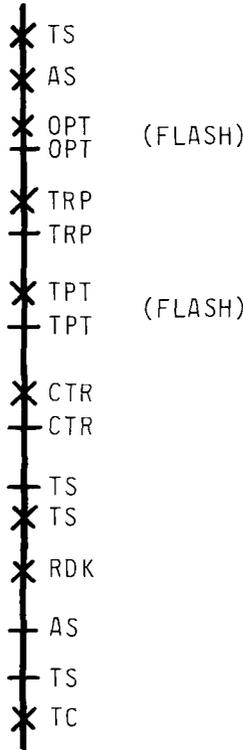


Fig. 25

LAMP SEQUENCE CHART #26

IAO2

Intra Centrex Repeated Supv.

OPERATE KEYS OR SWITCHES
RTL
CH
FR

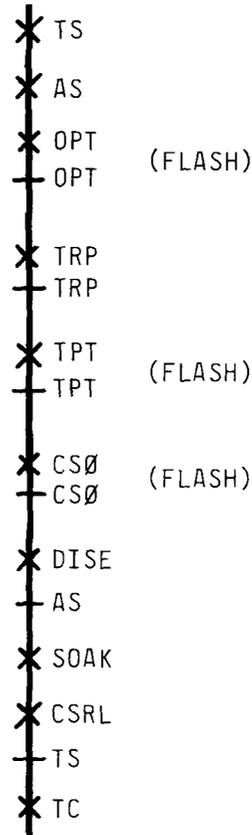


Fig. 26