

# **AN/UYK-1**

A "STORED LOGIC" MULTIPLE PURPOSE COMPUTER

## **AN/UYK-1 (TRW-130) SYSTEM DIAGNOSTICS MANUAL**

M250-2U24



**Thompson Ramo Wooldridge Inc.**

**RW** DIVISION

8433 FALLBROOK AVENUE • CANOGA PARK, CALIFORNIA • DIAMOND 6-6000

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### APPENDIX A - ASSEMBLY FORMAT LOADER

### APPENDIX B - COMPUTER DIAGNOSTIC LISTING

This document describes the programs contained on the following library tapes:

1. 40021699 - Computer Diagnostic
2. 40021697 - Typewriter Diagnostic
3. 40021698 - Punch Diagnostic

For convenience, these programs are contained on a single tape in the above order.

## 1. TEST DESCRIPTION

The Computer Diagnostic Program thoroughly exercises and tests the computer hardware and circuitry to detect malfunctions. The program is divided into four categories:

- a. Bootstrap Loader Test
- b. Logand Logic Test
- c. Core Memory Test
- d. Input/Output Test

Each test represents a comprehensive examination of all the computer elements and is suitable for acceptance tests, readiness tests, or emergency diagnostic tests.

An executive routine allows the computer operator to select any test or combinations of tests that he desires. The operator can also select the method by which the diagnostic information is made available to him; that is, either typewriter or register neons. Because the tests are flexible, the operator can select certain parts of a test to be run, or he can rerun parts of tests in which errors have appeared.

### 1.1 BOOTSTRAP LOADER TEST

The purpose of the Bootstrap Loader Test is to determine whether or not the wired-in bootstrap is functioning correctly and to diagnose machine errors in the event of a malfunction.

The wired-in bootstrap loader is used to load a more sophisticated loader which, in turn, loads the AN/UYK Diagnostic Routine. Therefore, it is obvious that, if the wired-in bootstrap is not functioning correctly, the diagnostic routine is either inaccurately in core or is not in core at all and thus is of no use in diagnosing the errors in the bootstrap. It is up to the operator to manually display those locations occupied by the bootstrap loader to verify that the loader is properly in core.

### 1.1.1 Bootstrap Loader Operation

The AN/UYK-1 has a wired-in bootstrap routine. This routine reads three frames (words) for each word to be stored into memory. The low-order five bits of each frame are used. The first frame is read into cell 1 and the low-order five bits of cell 1 are placed in bits 1 to 5 of the assembled word. The next frame is read into cell 1 and the low-order five bits are placed into bits 6 to 10 of the assembled word. Finally, the third frame is read into cell 1 and the low-order five bits become bits 11 to 15 of the assembled word. The assembled words are stored sequentially starting at (17). Loading continues until the one's complement of the first word equals the address of the last word. The second word must be 00004. The carry indicator must be "cleared" (set to zero) before loading.

Raising the "Load" toggle switch on the AN/UYK-1 computer places the following program in core:

Location	Contents	Symbolic Command
00001	00002	PZE 2
00002	21010	EF DM 8
00003	40001	ØCT 40001
00004	27101	WI DL 1 First Frame
00005	75101	LA DL 1 Low-Order 5 Bits
00006	11145	SØ DM DR5 Shift into P
00007	27101	WI DL 1 Second Frame
00010	75101	LA DL 1 Next 5 Bits
00011	11145	SØ DM DR5 Shift into P
00012	27101	WI DL 1 Last Frame
00013	75101	LA DL 1
00014	11145	SØ DM DR5 Word is in P
00015	52517	SE IL 17 Store Word
00016	42006	SP DM AP Store Address
00017	00021	PZE 21 Contains Store Address
00020	20427	BR IM NQ Last Address
→ 00021	00000	PZE 77741 One's complement of Last Address
00022	00004	PZE 4
00023	00000	PZE First word of Prog.

## 1.2 LOGAND LOGIC TEST

The purpose of the Logand Logic Test is to detect and indicate errors occurring within a logand cycle.

Each of the eight address options is exercised with all of the primary and secondary commands which can legally be associated with it. These primary and secondary commands are executed at least once with each address option, but it is not contemplated to exercise each secondary command with every primary command. The logands of the "special" type are executed with at least three different conditions in the secondary field. At the beginning of the test for each address option, the control field operation is checked by a series of NØ primary and secondary commands containing each of the four (one only in the case of DL and IL address options) control field codes.

During this portion of the AN/UYK diagnostics, the operator causes the computer to enter the continuous interrupt mode by energizing the CONTINUOUS INTERRUPT switch on the front panel. Thus it is possible, by means of interrupt routines, to examine the contents of each of the six registers upon the completion of every logand and to compare these values with the correct values. If an error is encountered, the faulty logand and the basic operation initiated by the logand are printed out.

If a typewriter is not available, the operator can obtain the necessary information directly from the register neons.

Because of the flexibility of the tests, the operator can, by switch settings, select a single address option, a series of address options, or the entire set.

Being in the continuous interrupt mode, the program proceeds to an interrupt routine to evaluate the switch settings. The interrupt is then terminated and the first logand of the series is executed. After execution of this logand and every other logand in the test, an interrupt occurs causing execution of an interrupt routine. Each

logand must have its own unique interrupt routine because, although the form of all interrupts is essentially the same, the data contained within them for comparisons is different.

In the interrupt routines that check the accuracy of the registers after performance of a logand, the contents of the five registers E, M, P, A, T are compared with previously determined values. Since, with the address options DM, DP, DA, the test condition should not involve the E register, the quantities being compared must be differentiated, and branched on zero.

If all the registers are correct for a logand, the interrupt is terminated and the next logand is executed and tested. The process continues through all the logands in the address option being tested. If no errors are found, the typewriter prints out that the test was satisfactory. If the typewriter output was inhibited, the correctness of the test is recognized by the appearance of all zeros in the A register. The test then proceeds to the next address option requested.

If an error is found, the test being performed, the failing logand, and the address of the failing logand are printed on the typewriter. If typewriter output is suppressed, the number of the test being performed is displayed in the neons associated with the T register; the cell containing the failing logand is displayed in the neons associated with the P register; and the failing logand itself is displayed in the neons associated with the A register. In any case, the computer stops under control of a branch command in the flag search mode. The operator can then elect to clock-step through the failing logand or he can proceed to the next logand.

When all the selected address options have been tested, control passes to the next set of tests in the series as determined by the executive routine.

Because the DL address option must be used in the subsequent testing of the other address options, it is important that the DL option function correctly. Therefore, the DL option is the first

address option tested. Following the DL test, the remaining direct address options are tested: DM, DP, and DA. Finally, the indirect address options (IL, IM, IP, and IA) are tested.

The procedure in testing the logands is essentially the same for all eight address options, except that the DL option does not use a control field, and certain primary commands (LM or Load M) can be used only with the DL option.

Before any testing is done, the computer stops and waits for information. The operator then indicates with the toggle switches whether he wishes to have the entire set, or only specific address options, executed. A toggle switch is considered set when it is in the Up, or binary One, position. The table below interprets the switch settings. After the switches have been set, the operator sets the CONTINUOUS INTERRUPT switch to put the computer in operation.

<u>Switch No.</u>	<u>Meaning when Up</u>
1	DL address option
2	DM address option
3	DP address option
4	DA address option
5	IL address option
6	IM address option
7	IP address option
8	IA address option

#### 1.2.1 Logand Logic Test Printout

At the beginning of an address option test, the typewriter indicates the address option being tested so that, in cases where the address option contained no errors, the page appears as follows:

DM Address Option Now Operating  
No Errors

If errors are found, the page appears as follows:

DM ADDRESS OPTION TEST OPERATING  
LOCATION OF FAILING LOGAND  
XXXXX<sub>8</sub>

REGISTERS	L	A	P	M	T	CY	OV
EXPECTED RESULTS	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	X	X
ERRONEOUS RESULTS	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	X	X

SET TOGGLES

ZERO: TO CONTINUE

ONE: TO TRY LOGAND AGAIN

DEPRESS "FLAG"

### 1.3 CORE MEMORY TEST

The Core Memory Test tests the functioning of the core memory and of its associated read-and-write circuitry. The cells in the core are filled with specific bit patterns and are read out under various noise conditions while being checked for the gain or loss of bits. Any errors found in the test are printed on the typewriter or, if a typewriter is not available, are displayed on register neons.

The testing of the entire core is accomplished in two passes. On the first pass, the lower-half of the core (which does not contain the core memory test routine) is tested. On the second pass, the core memory test routine is moved to the lower-half of the core, and the upper-half is completely tested. The test routine itself consists of five subparts:

- a. Preliminary Test
- b. Delta Noise Test
- c. Circuit Noise Test
- d. Sense Amplifier Test
- e. Low-Flux Test

Before any testing is done, the computer stops and waits for information. The operator indicates with the toggle switches whether he wishes to have the entire set of tests, or specific tests, executed. A specific test is selected by setting the corresponding toggle switch. The table below interprets the switch settings:



Switch No.	Meaning when Up
1	Preliminary Test
2	Delta Noise Test
3	Circuit Noise Test
4	Sense Amplifier Test
5	Low-Flux Test

In the preliminary test, the memory is filled with all zero words, and a table search logand is used to test for a one-bit pickup. The memory is then filled with the complement of this, and is tested for the dropping of the one-bit. If an error is found in this test, or in any of the following tests, the address of the failing cell is printed by the typewriter. If the typewriter output is inhibited, the address of the failing cell is displayed in the A-register neons.

In the sense-winding noise test or the delta noise test, the memory is filled with the double checkerboard pattern which creates the maximum sense-winding noise during readout. The core memory of the AN/UYK-1 consists of planes of 128 words. The double checkerboard pattern then consists of alternating planes filled with zero words and minus-one words.

The sense amplifier test is similar to the sense-winding noise test except that the readout address sequence is selected so as to cause the same polarities in the sense windings to be selected; i. e., the cells of the planes containing all ones are read and checked, and then the cells of the planes containing all zero words are read and checked.

In the circuit noise test, the memory is filled with words containing a single One, and then a single zero in each word. This is done 15 times, once for each bit in a word. This type of test creates the maximum circuit and loading noise.

The low-flux test is accomplished by filling the memory with a zero complement word, except for a zero word which is read approximately 100,000 times repeatedly. This word is tested

each time it is read and, in addition, the entire core memory is read and checked at the end of the test.

### 1.3.1 Core Memory Test Printout

Before a test, the test name is typed. If no errors occur, there is no printout. Hence, if all tests were selected and if no errors occurred, the printout is:

```
PRELIMINARY TEST
DELTA NOISE TEST
CIRCUIT NOISE TEST
SENSE AMPLIFIER TEST
LOW FLUX TEST
```

If an error occurred, the printout for a given test is as follows:

```
PRELIMINARY TEST
ERROR ADDRESS          XXXXX8
ADDRESS CONTENTS      XXXXXXXXXXXXXXXXXXXX2
TEST WORD              XXXXXXXXXXXXXXXXXXXX2
PLACE CYCLE COUNT IN TOGGLE SWITCHES
```

```
DELTA NOISE TEST
LOCATION                XXXXX8
CONTENTS              XXXXX8
TEST NO.              XX8
PLACE CYCLE COUNT IN TOGGLE SWITCHES
```

```
CIRCUIT NOISE TEST
ERROR ADDRESS          XXXXX8
ADDRESS CONTENTS      XXXXXXXXXXXXXXXXXXXX8
TEST WORD              XXXXXXXXXXXXXXXXXXXX8
PLACE CYCLE COUNT IN TOGGLE SWITCHES
```

### SENSE AMPLIFIER TEST

LOCATION                XXXXX<sub>8</sub>  
CONTENTS              XXXXX<sub>8</sub>  
TEST NO.              XX<sub>8</sub>  
PLACE CYCLE COUNT IN TOGGLE SWITCHES

### LOW FLUX TEST

If an error is found in the cell in which a zero word was placed and then read out a million times, the typewriter types:

ERROR ADDRESS        XXXXX<sub>8</sub>  
ADDRESS CONTENTS    XXXXXXXXXXXXXXXXXXXX<sub>2</sub>  
MINOR CYCLE COUNT   XXXXX<sub>8</sub>  
MAJOR CYCLE COUNT   XXXXX<sub>8</sub>

### LOW FLUX TEST

If the error is in some other cell which was read after the cell containing zero was read a million times, the typewriter types:

ERROR ADDRESS        XXXXX<sub>8</sub>  
ADDRESS CONTENTS    XXXXXXXXXXXXXXXXXXXX<sub>2</sub>  
TEST WORD            XXXXXXXXXXXXXXXXXXXX<sub>2</sub>

Either one or both of these messages may be typed. Following the last error message, the typewriter types:

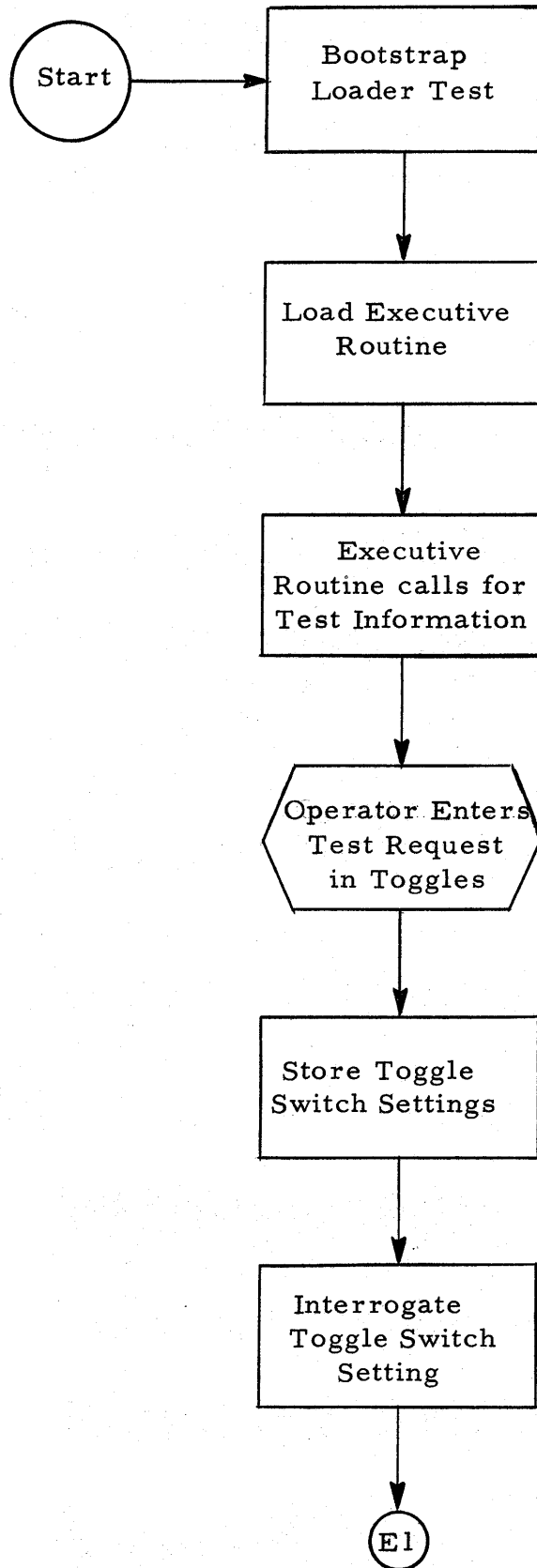
PLACE CYCLE COUNT IN TOGGLE SWITCHES

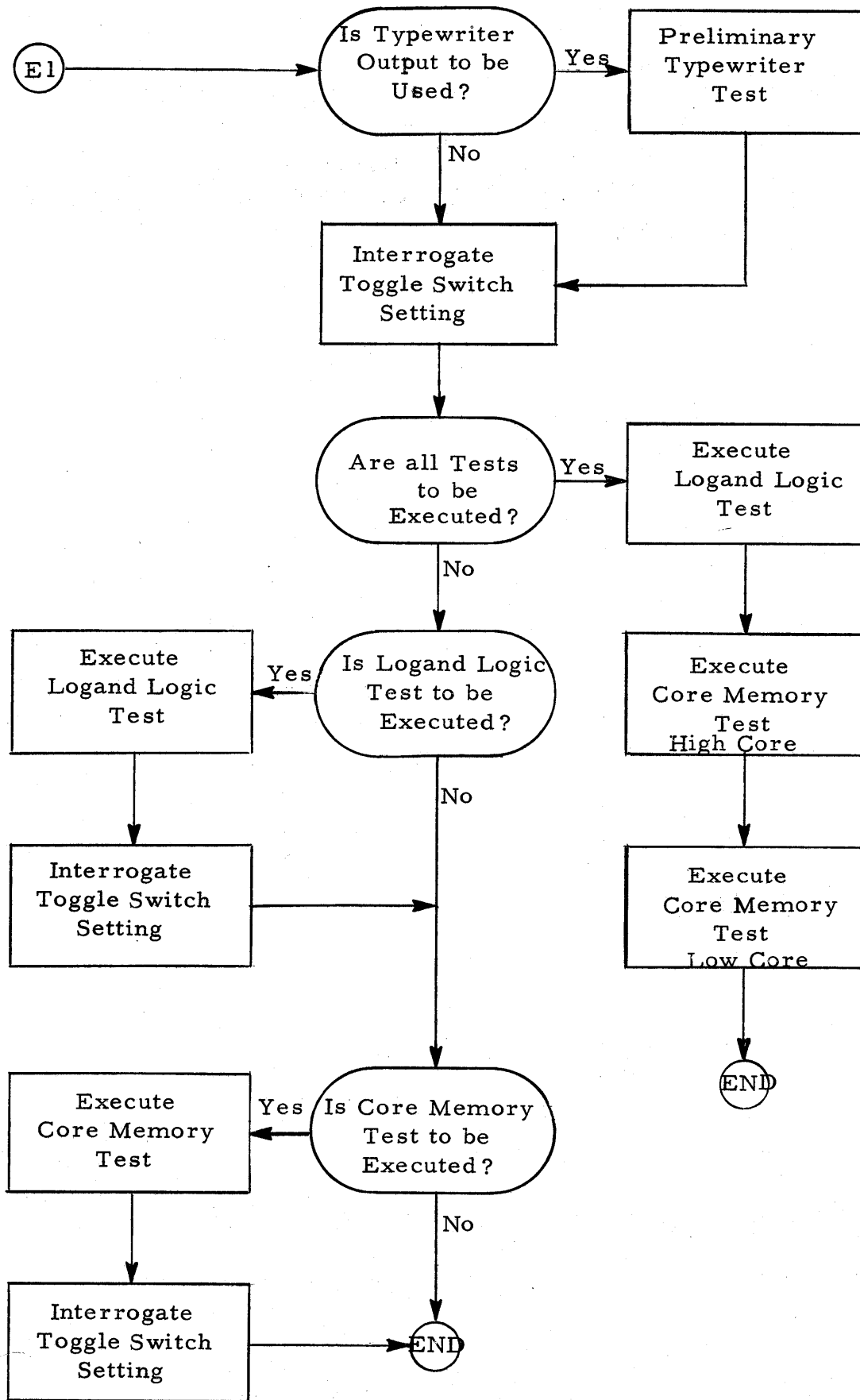
To recycle a test, set into the toggle switches an octal number corresponding to the number of times the test is to be run. Press the FLAG button. The test title is printed before each execution.

## 2. TEST PROGRAM FLOW CHARTS

### 2.1 DIAGNOSTIC PROGRAM PROCESS CHART

Logic flow of the diagnostic program is shown in the following flow charts.





AN/Uyk-1 Computer Diagnostic Process Chart (2 of 2)

## 2.2 DIAGNOSTIC EXECUTIVE ROUTINE

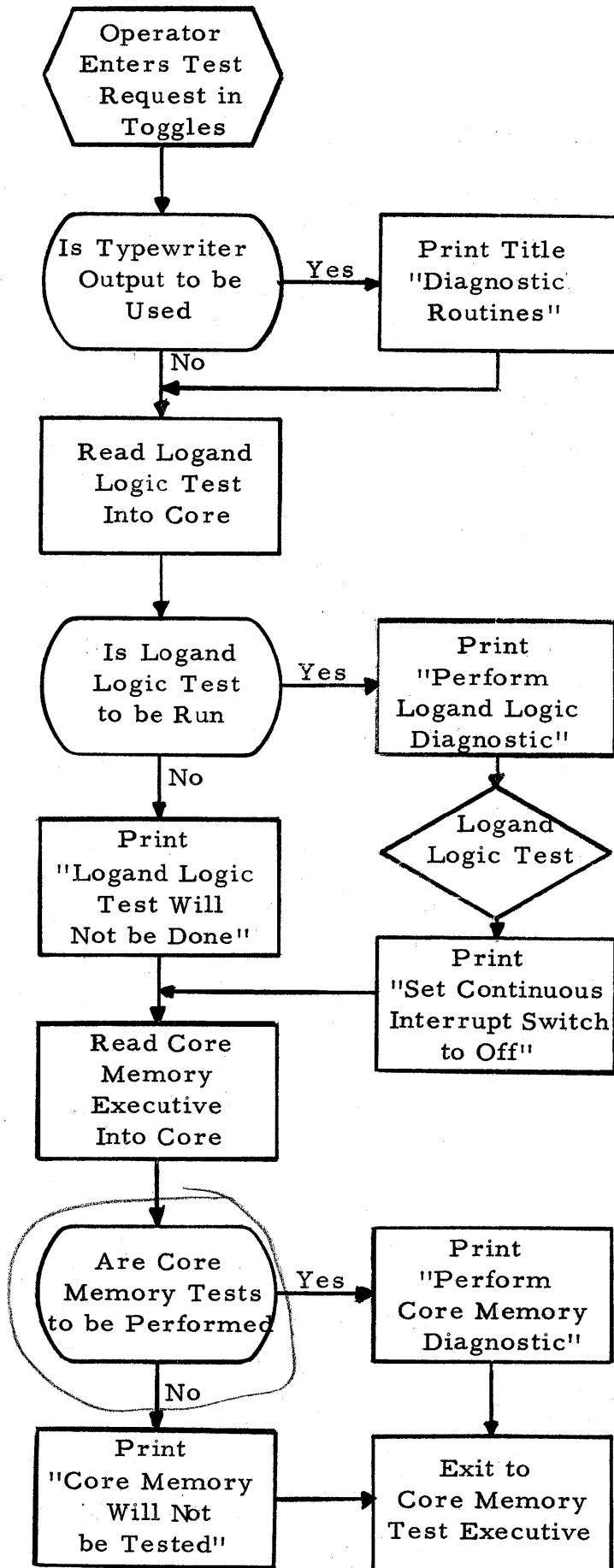
This routine controls and sequences the reading and performance of the routines included in the test and diagnostic section.

The operator has the option of selecting one of the tests, any combination of the tests, or all of them that evaluate the performance of the computer.

If a typewriter is not available, the operator can obtain directly from the register neons the necessary information for the routine.

The diagnostic executive routine is loaded by the bootstrap routine, after which it transfers control to the executive routine. The computer stops, waiting for information to be supplied by the operator via the toggle switches. The operator then indicates the tests he wants executed. After the switches have been set, the operator depresses the flag stop button to put the computer back into continuous operation.

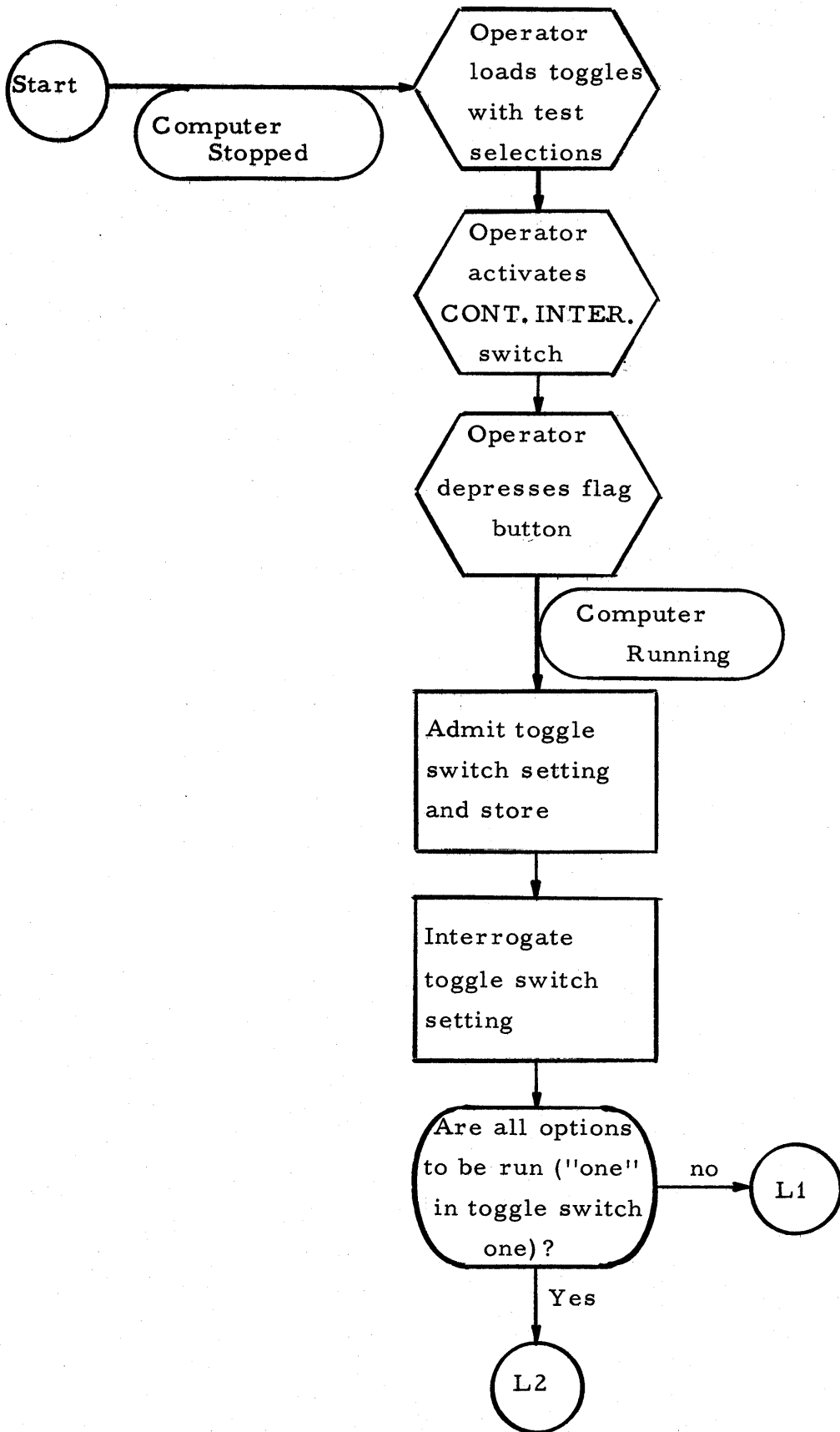
Switch No.	Meaning when Up
1	Perform logand logic test
2	Perform core memory test
3	
4	
5	
6	
-	
-	
15	Enable typewriter output





### 2.3 LOGAND LOGIC TEST

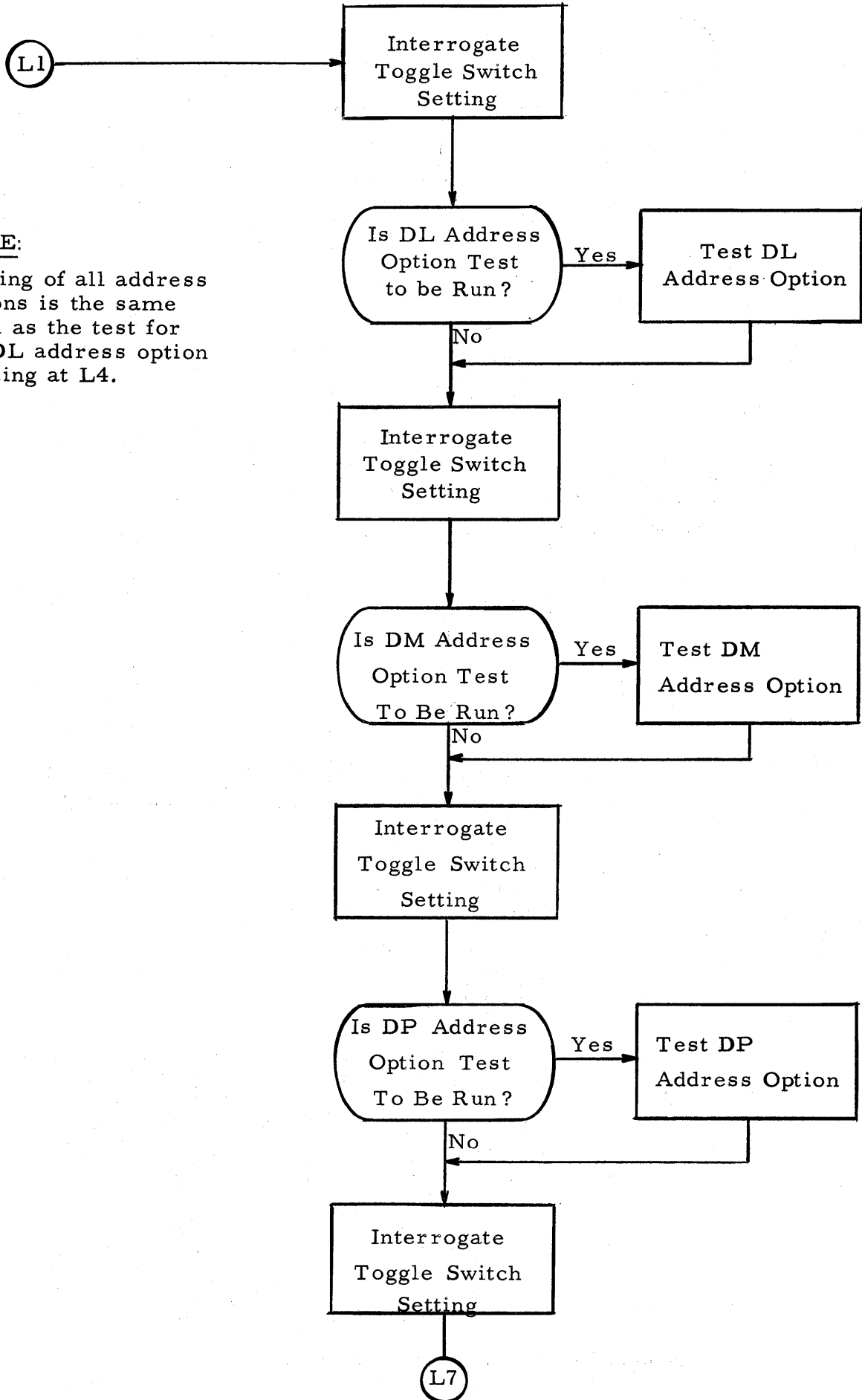
Function and operation of this test are given in Section 1.2.

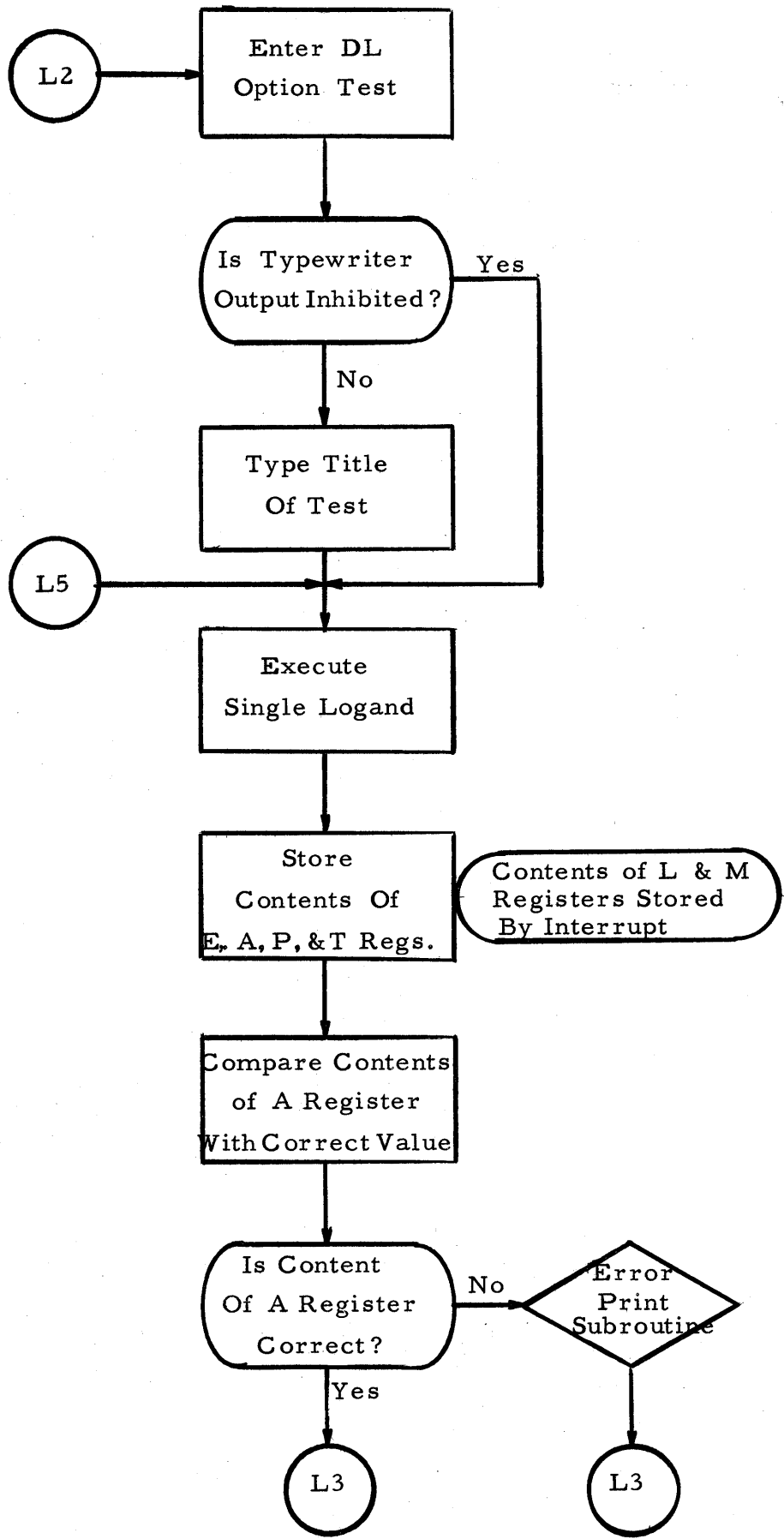


Logand Logic Test Flow Charts (1 of 11)

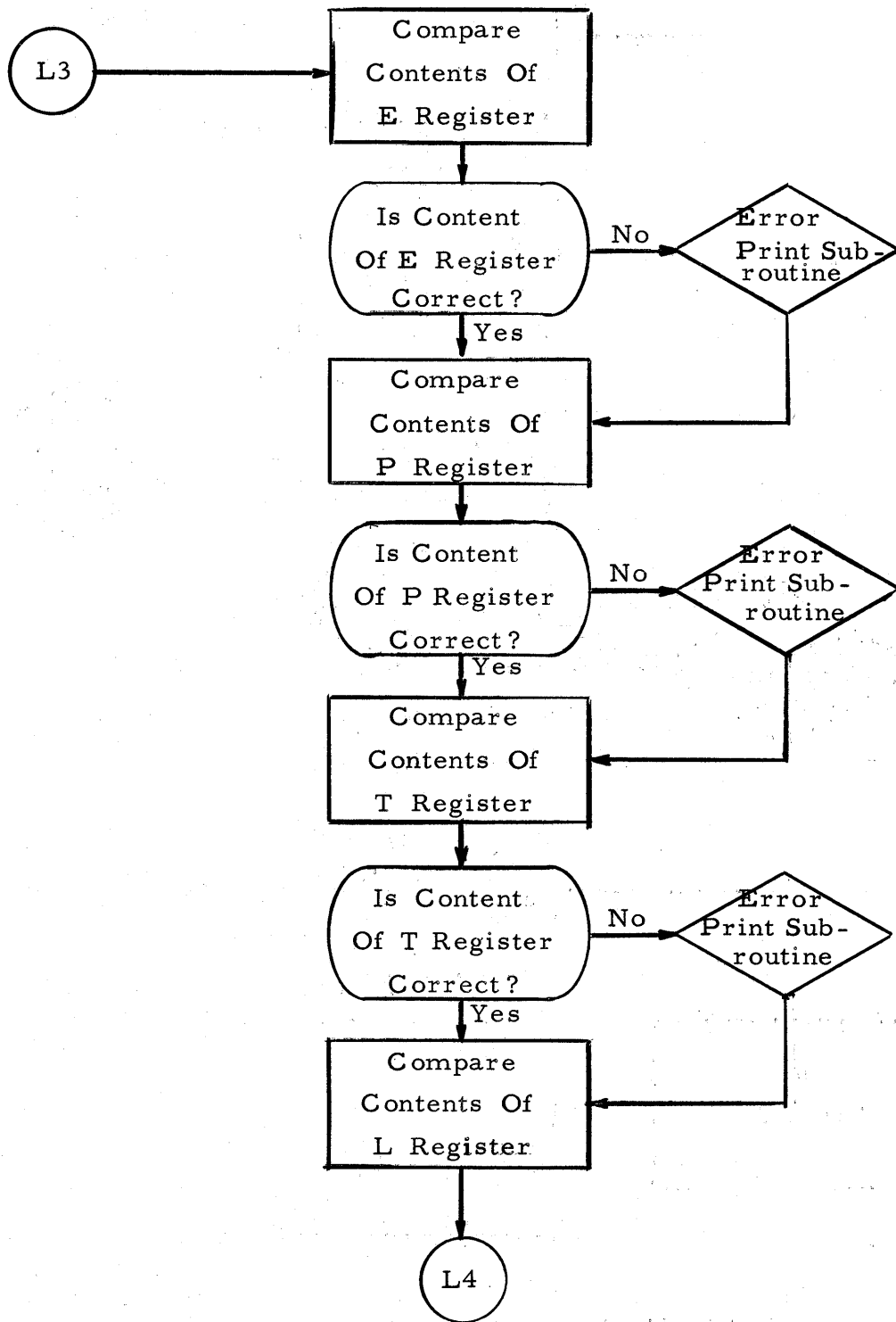
NOTE:

Testing of all address options is the same form as the test for the DL address option starting at L4.

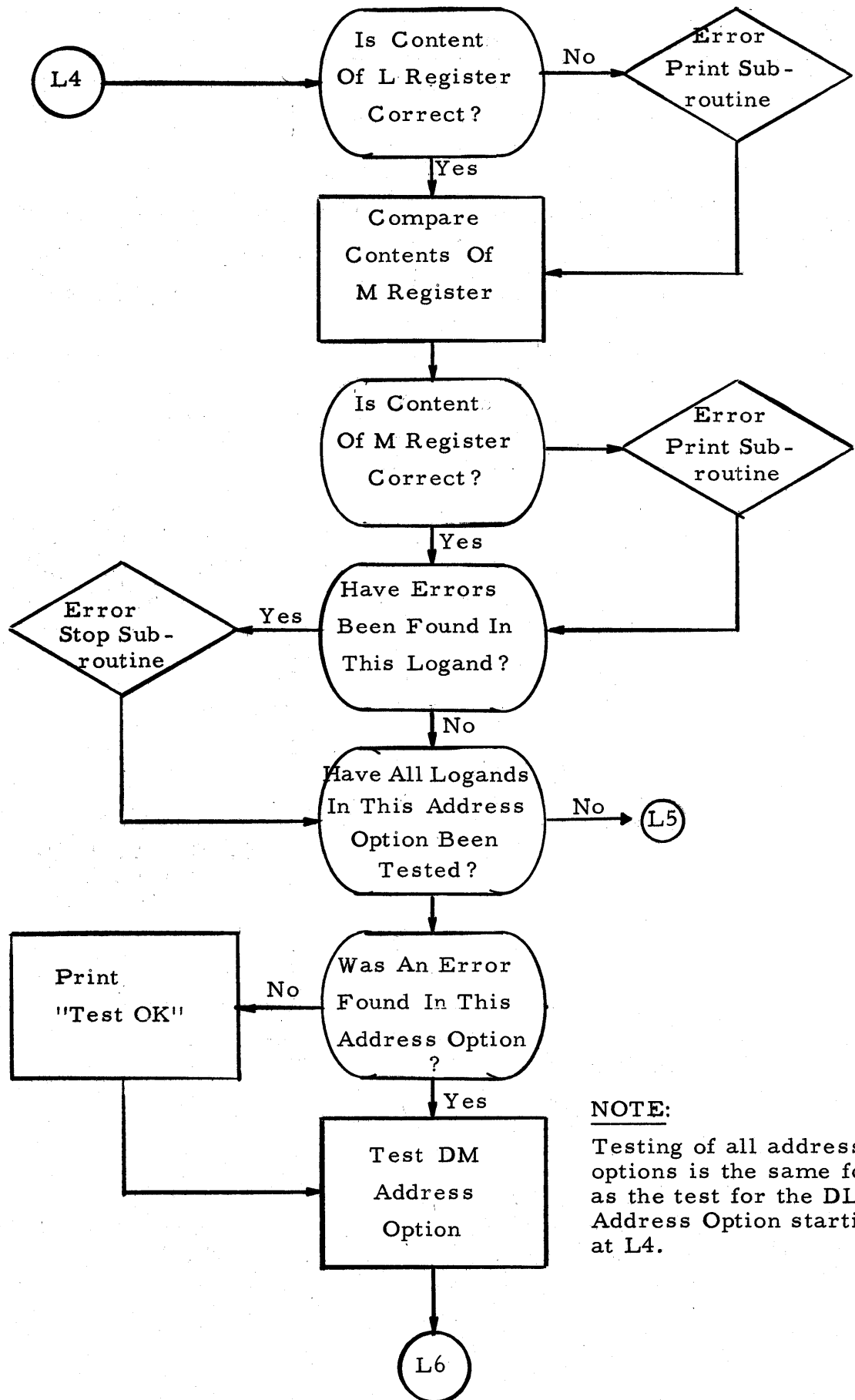




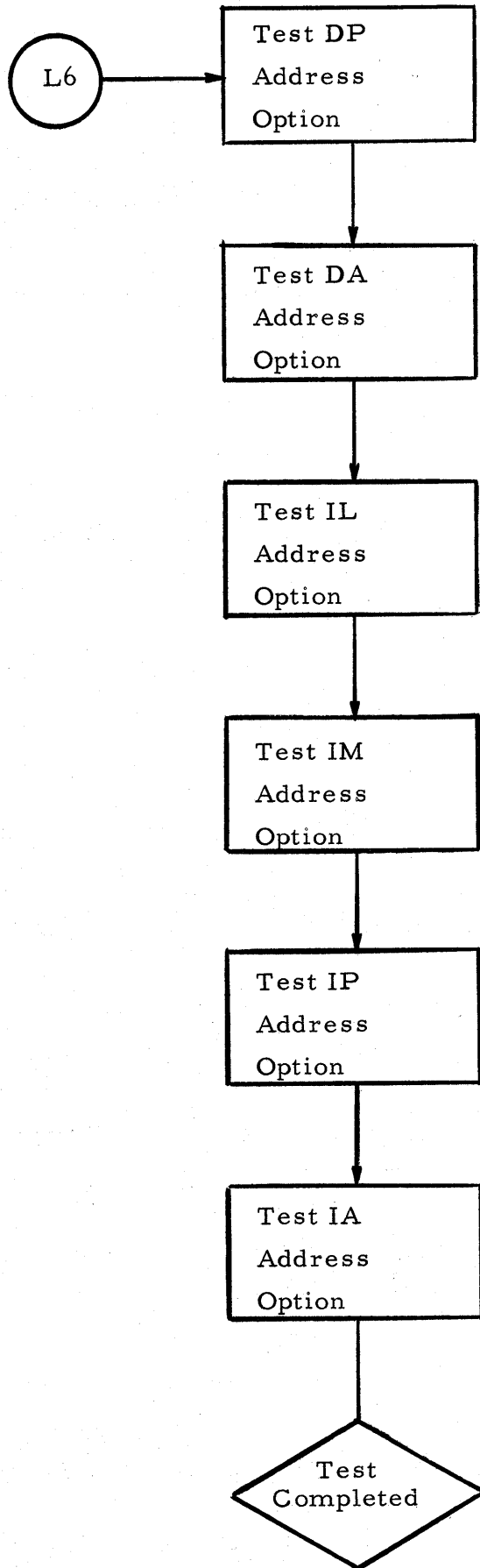
Logand Logic Test Flow Charts (3 of 11)

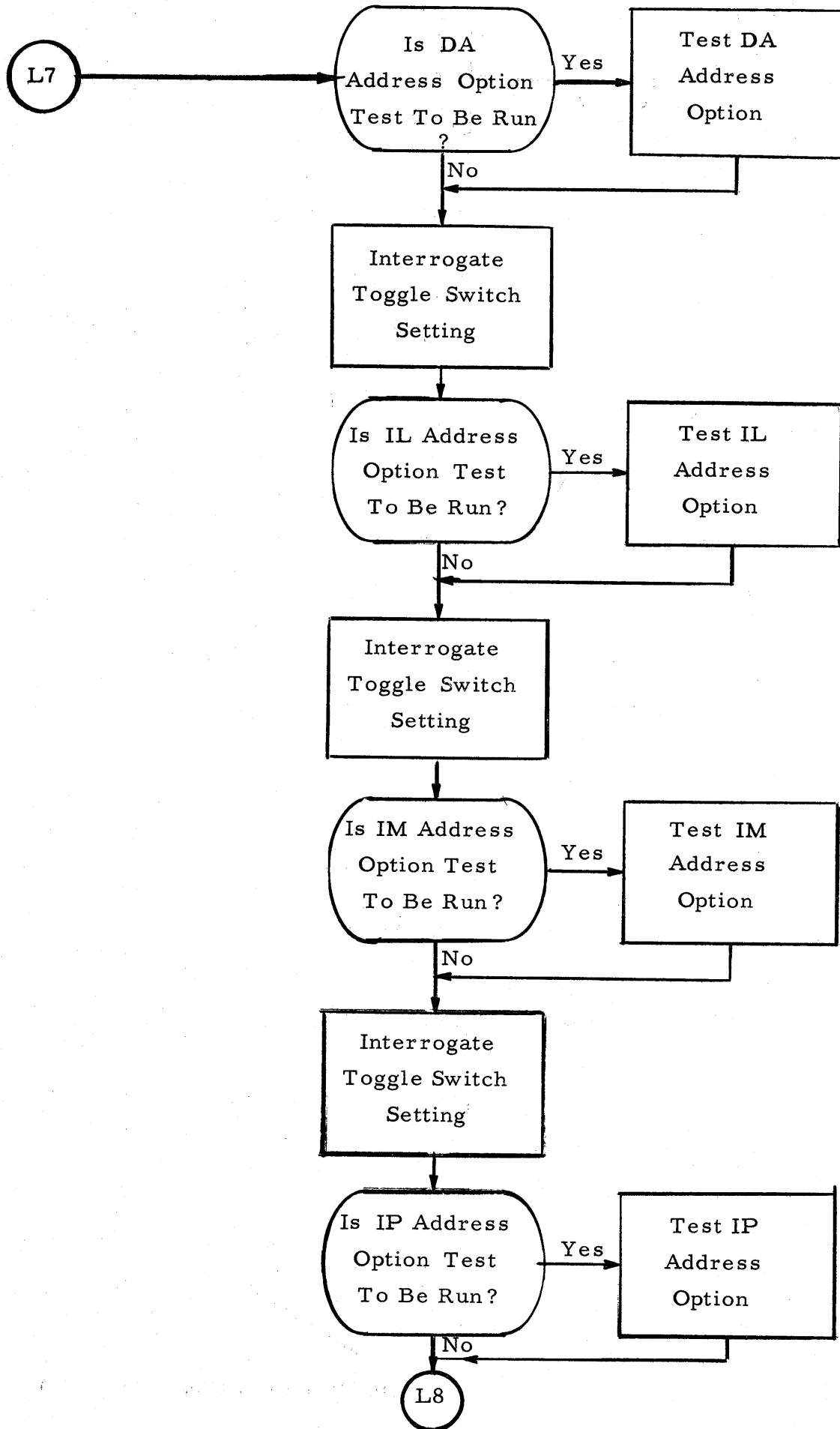


Logand Logic Test Flow Charts (4 of 11)

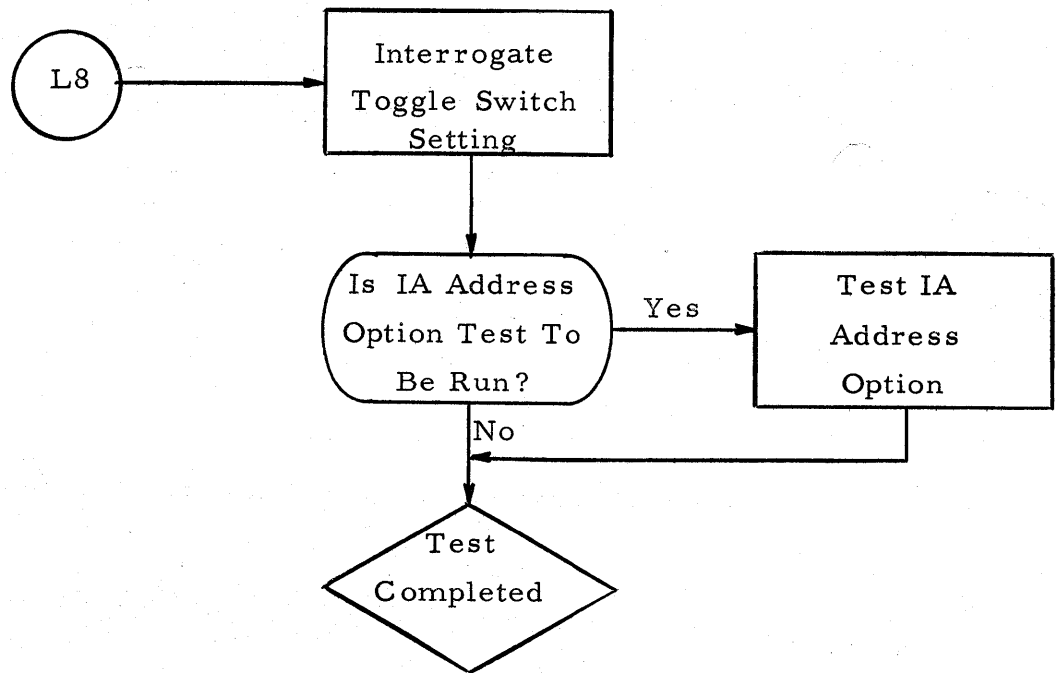


**NOTE:**  
 Testing of all address options is the same form as the test for the DL Address Option starting at L4.



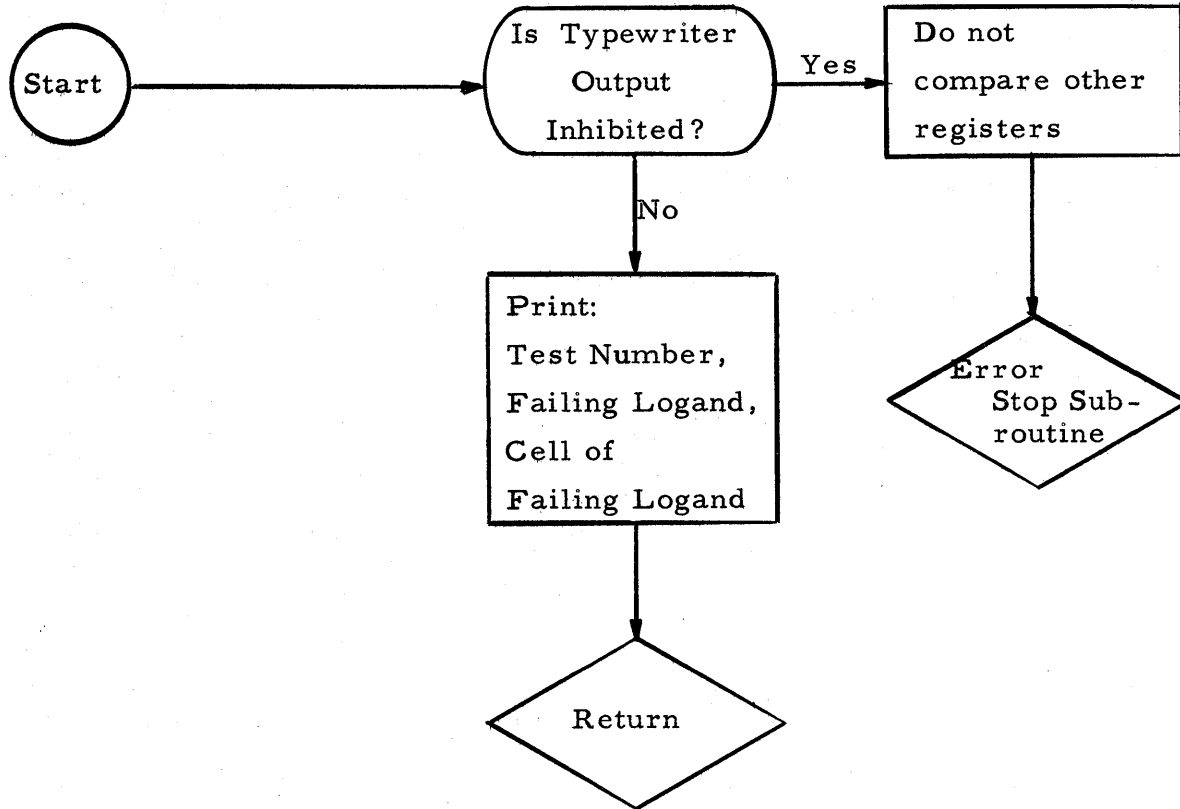






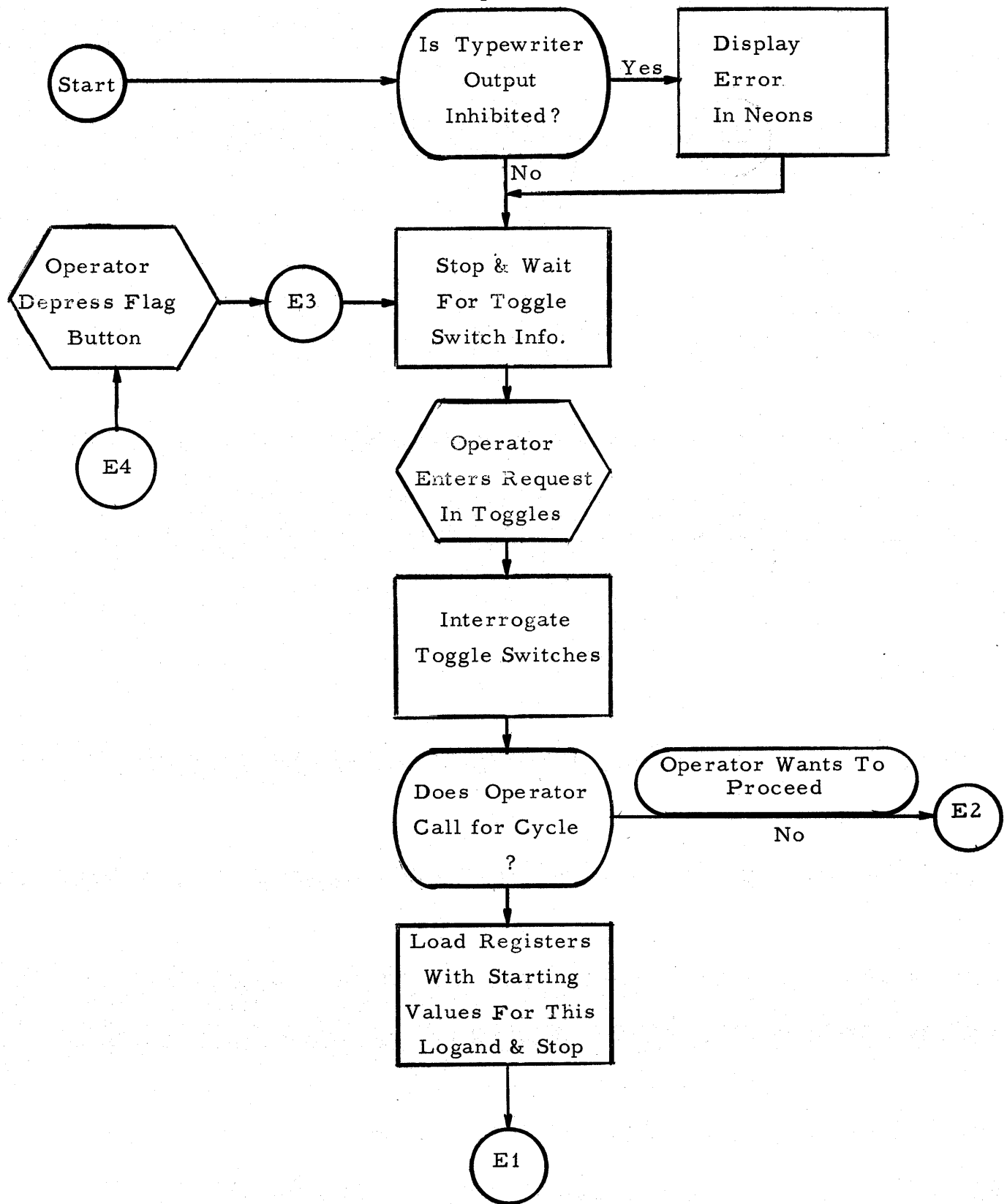
Logand Logic Test Flow Charts (8 of 11)

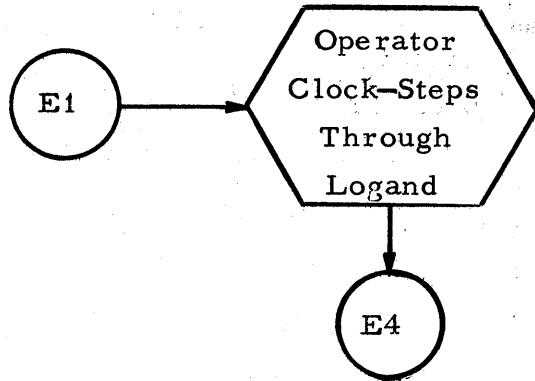
Error Print Subroutine



Logand Logic Test Flow Charts (9 of 11)

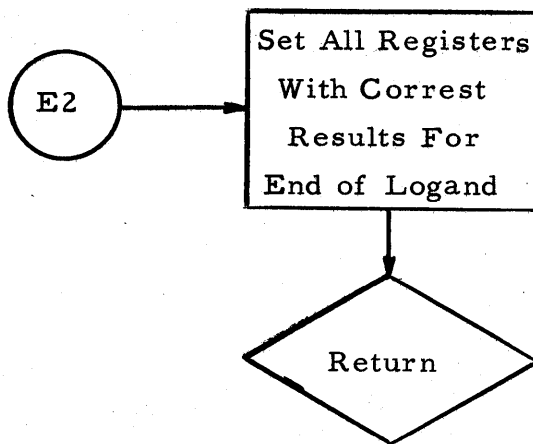
Error Stop Subroutine





NOTE:

M Register will contain Address E3



Logand Logic Test Flow Charts (11 of 11)

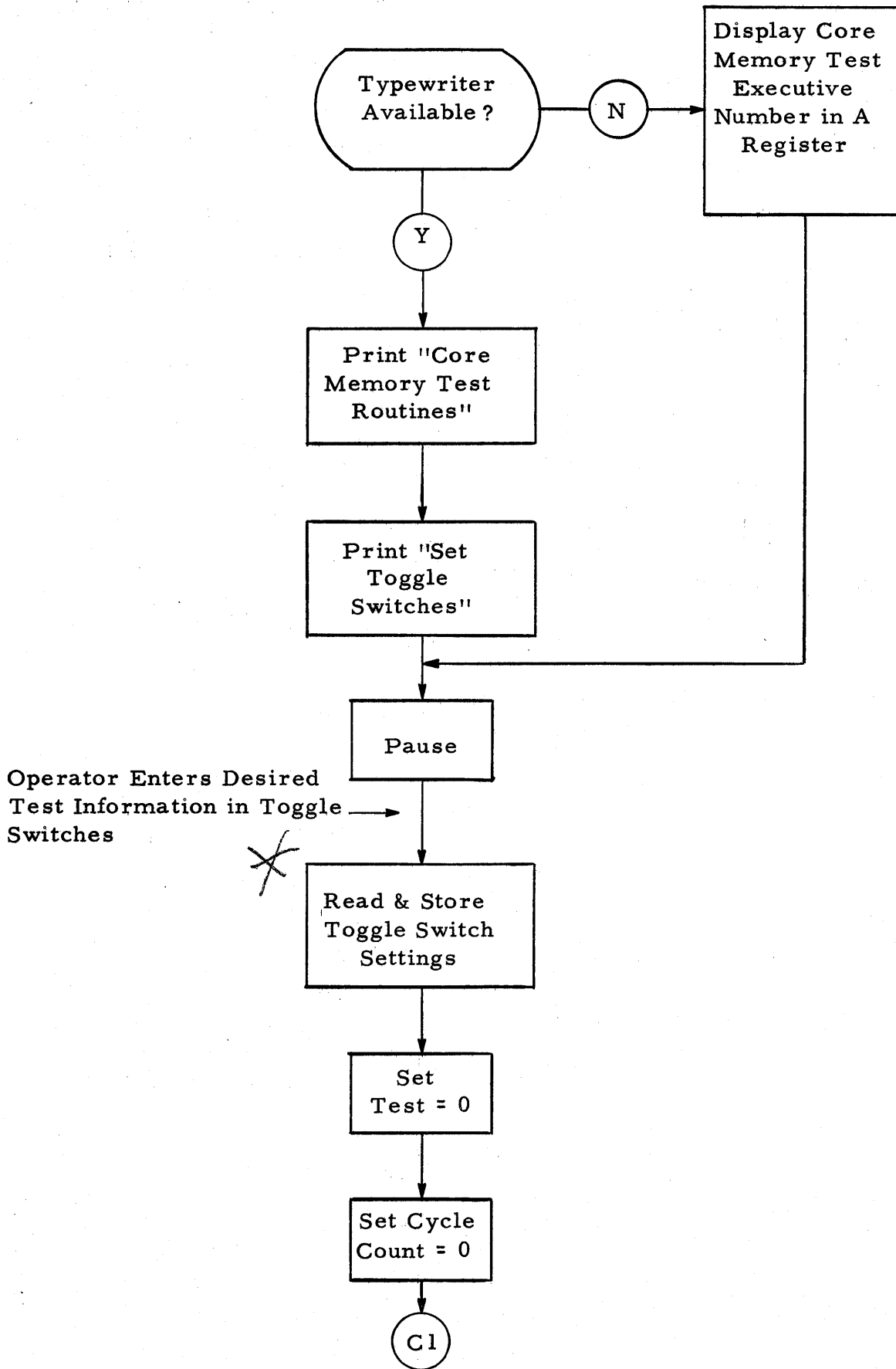
## 2.4 CORE MEMORY TEST EXECUTIVE ROUTINE

This routine controls the core memory diagnostic programs.

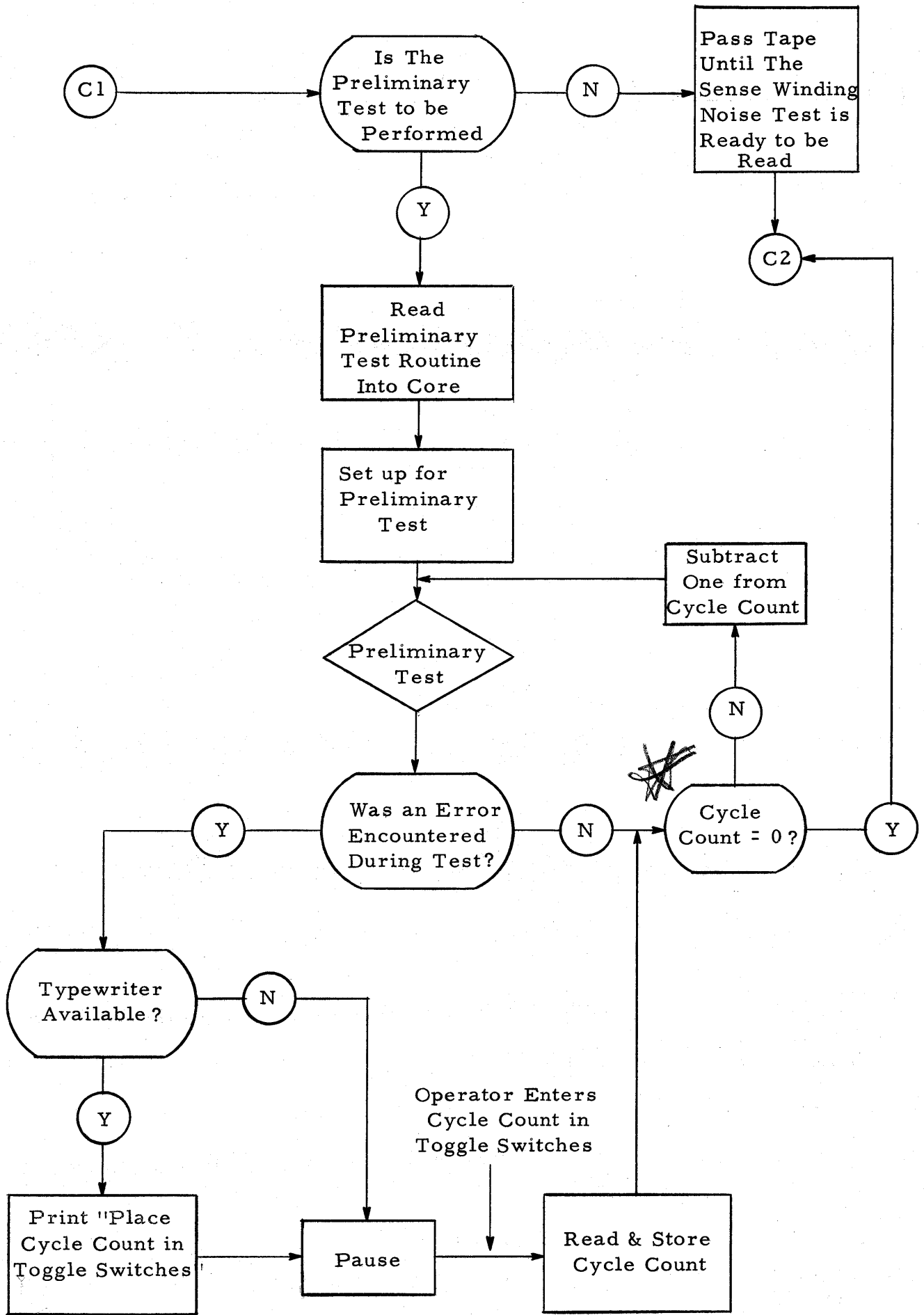
The operator has the option of selecting one of the tests, a combination of tests, or all of the them, via the toggle switches.

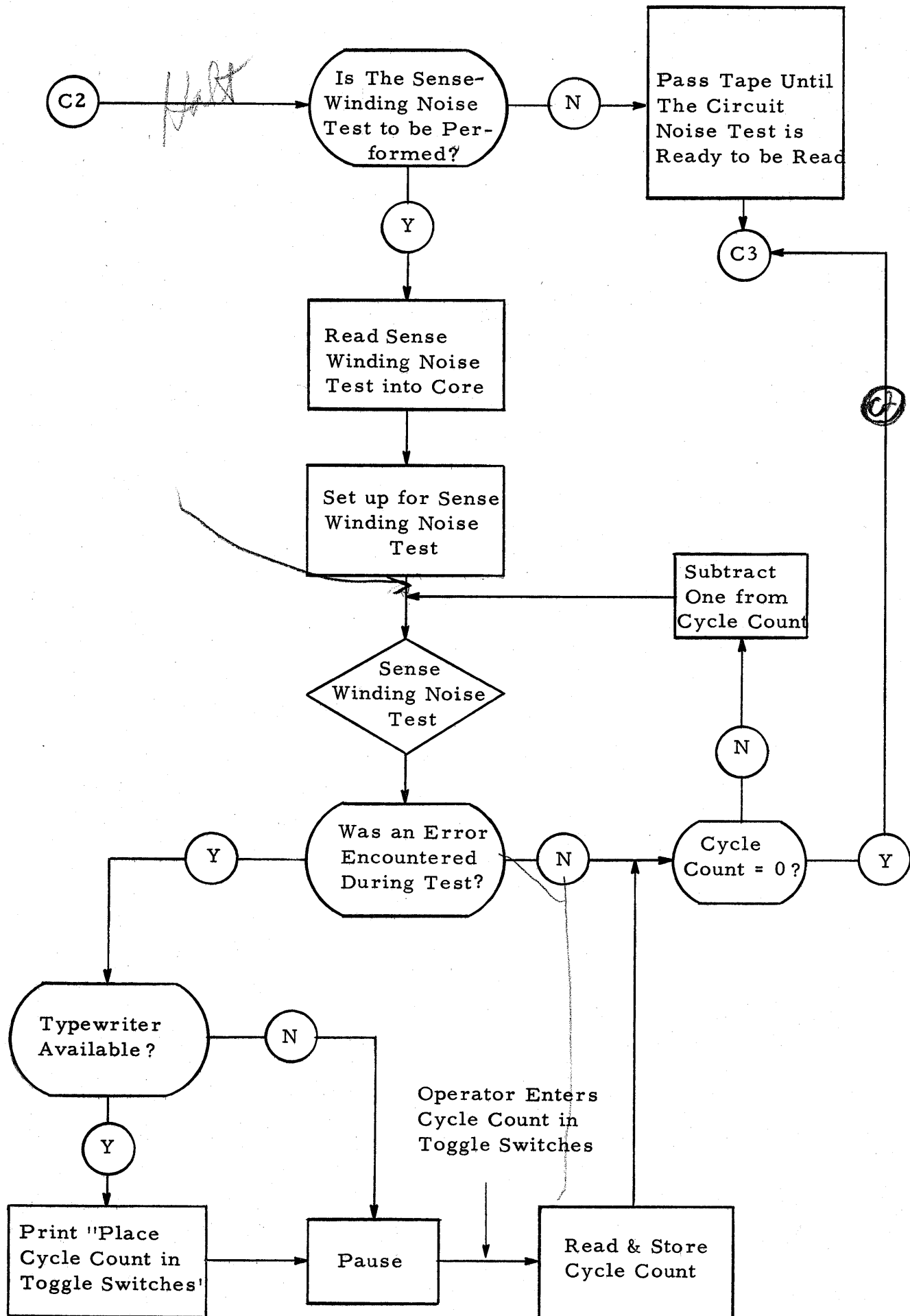
The switch settings are as follows:

Switch No.	Meaning when Up
1	Preliminary Test
2	Delta Noise Test
3	Circuit Noise Test
4	Sense Amplifier Test
5	Low-Flux Test
15	Test Upper Core

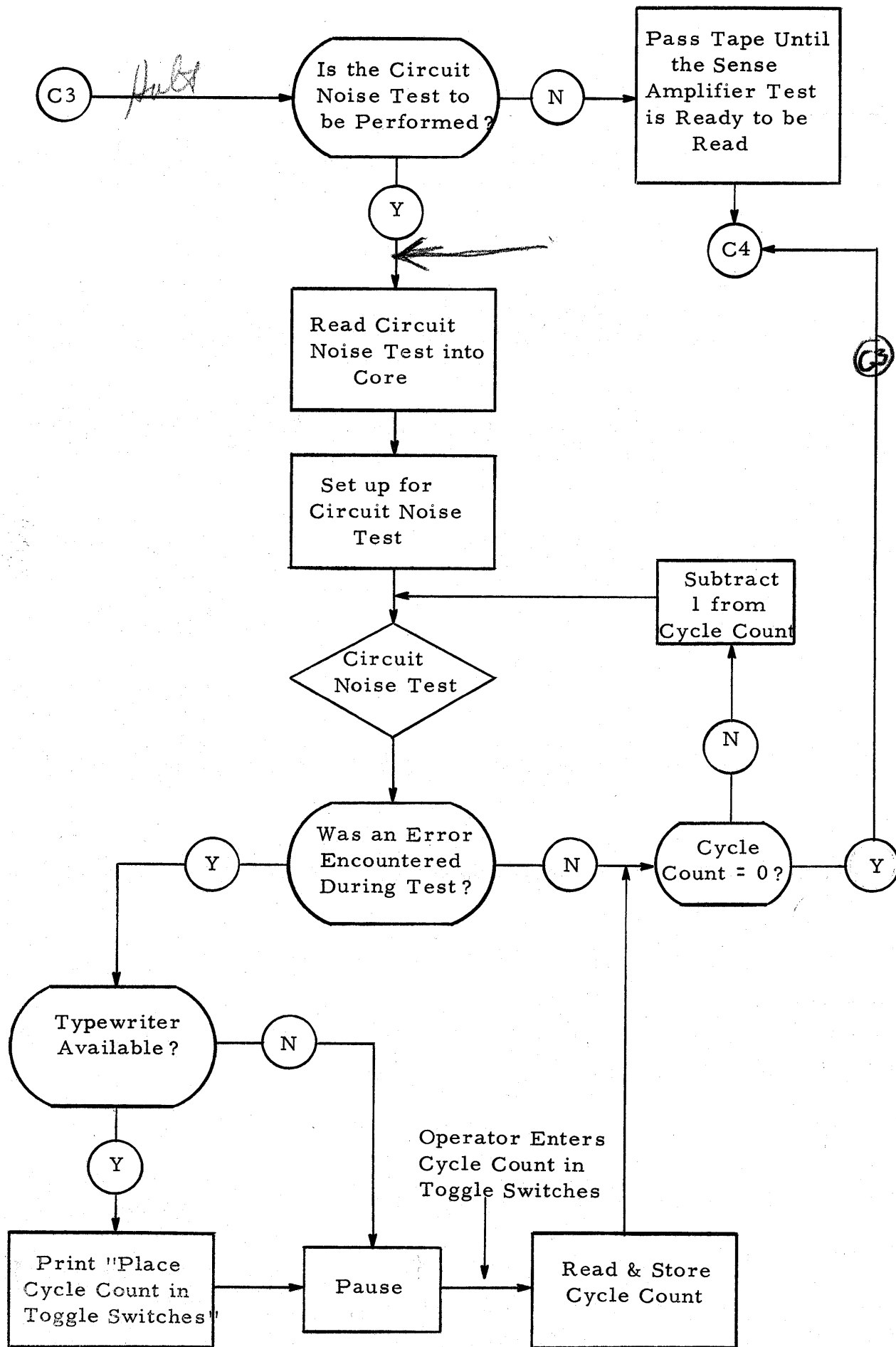


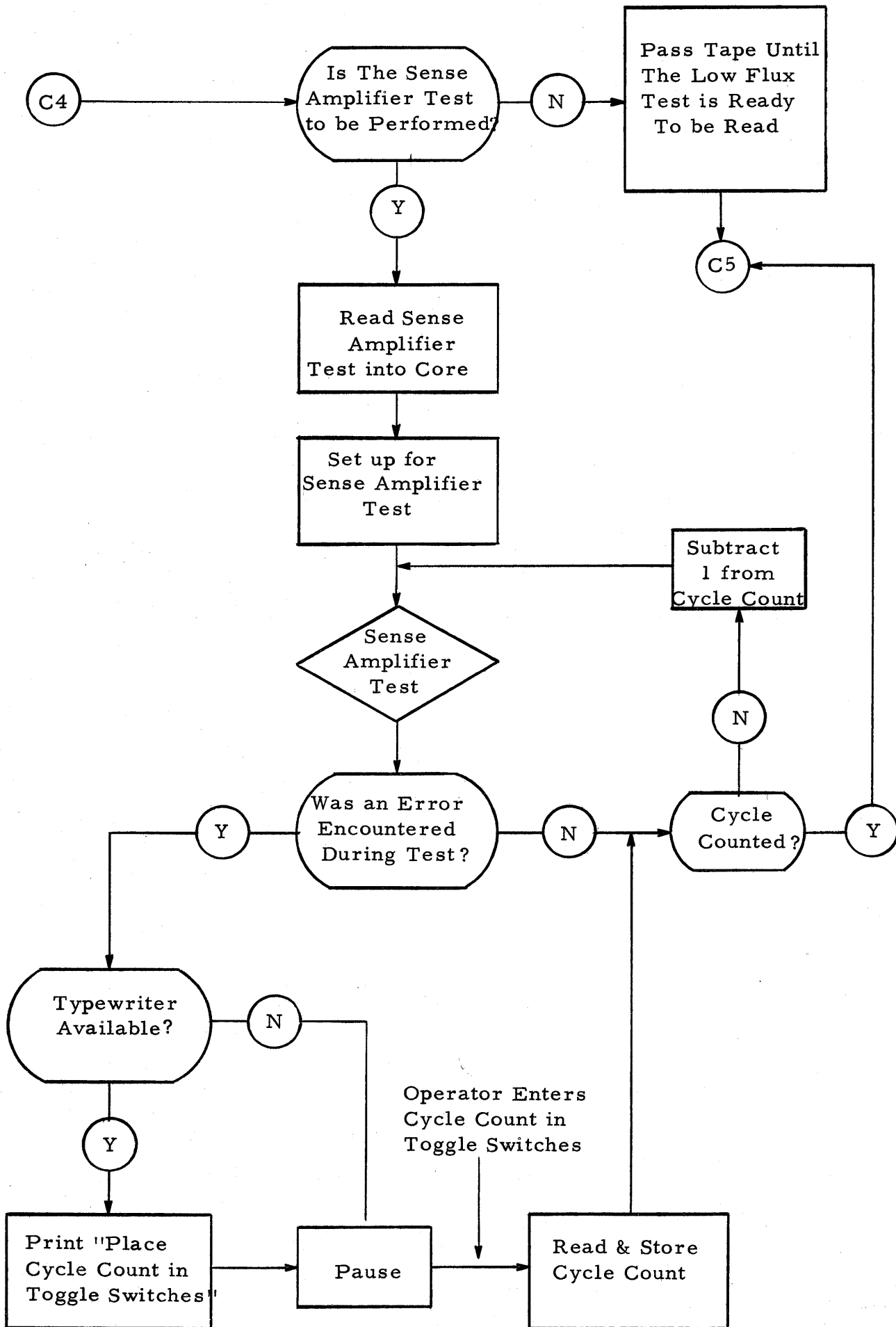
Core Memory Test Executive Routine (1 of 7)

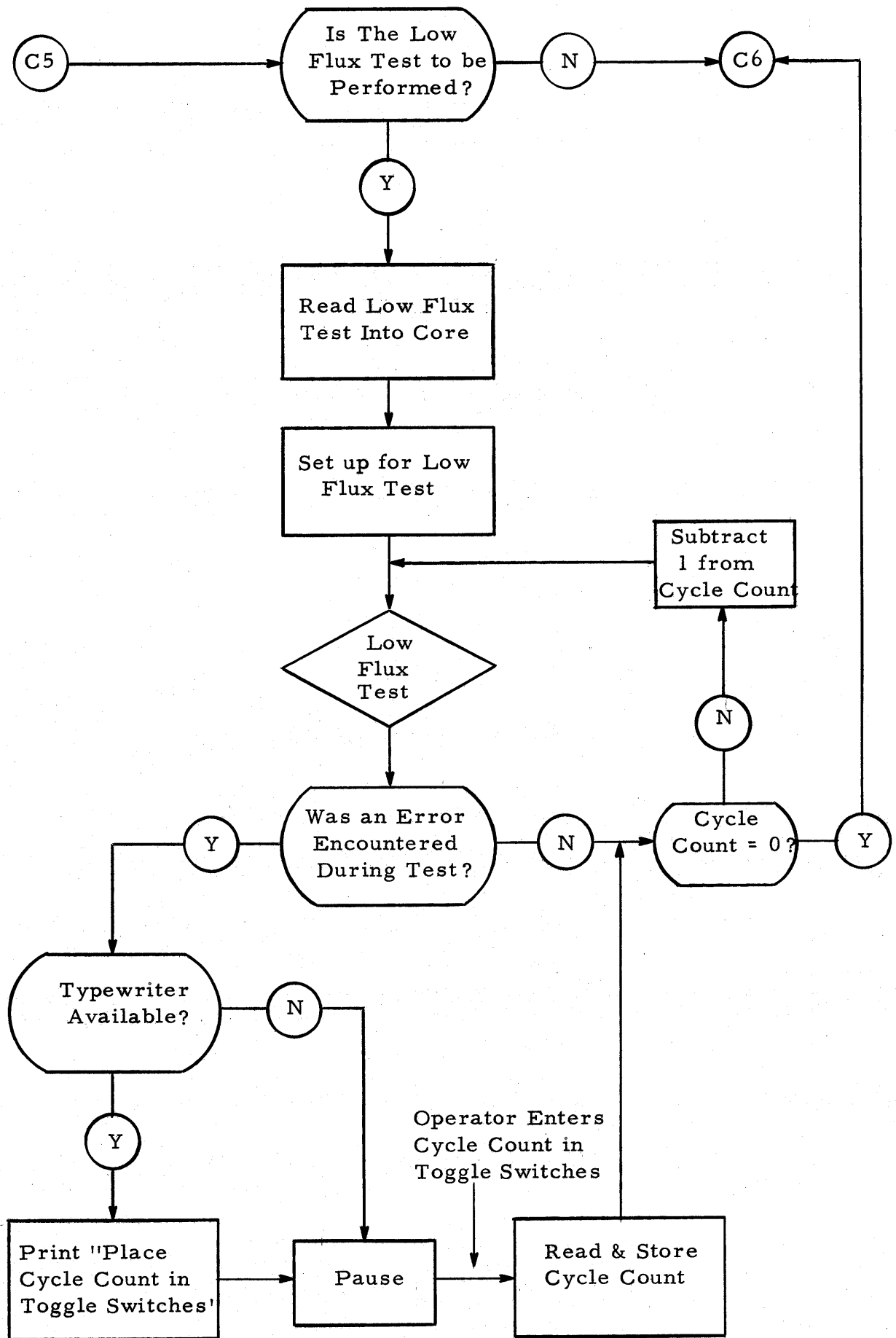




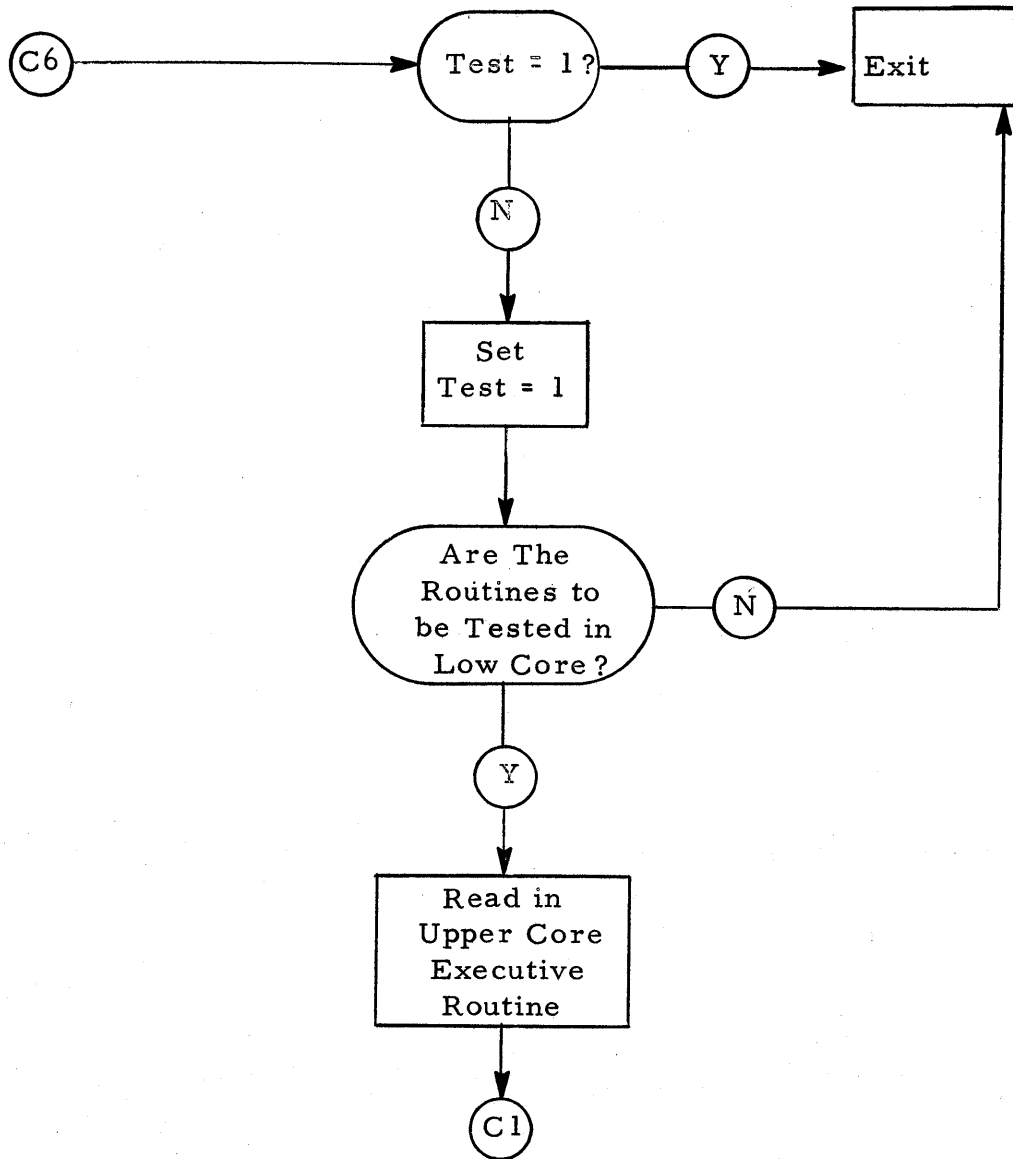




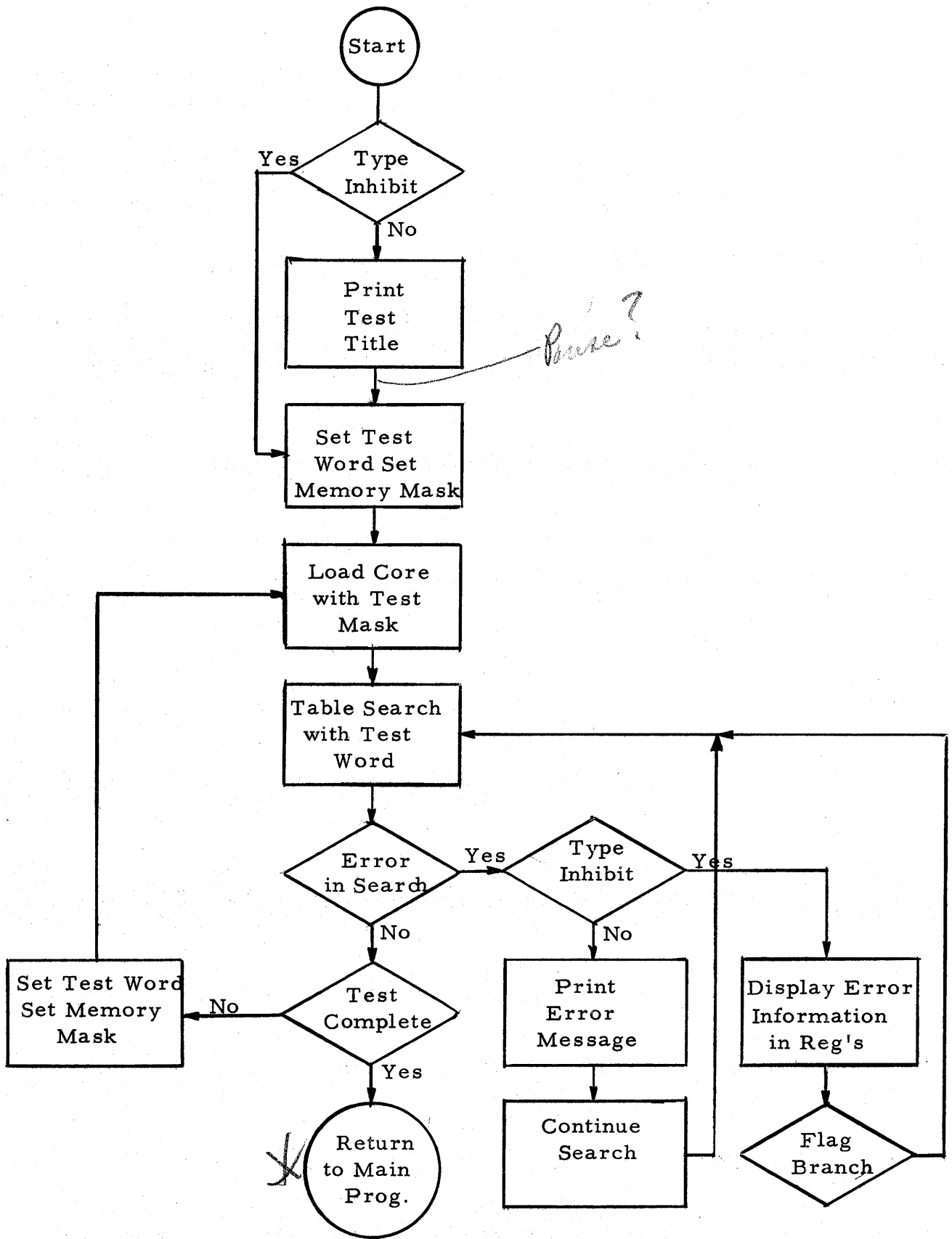




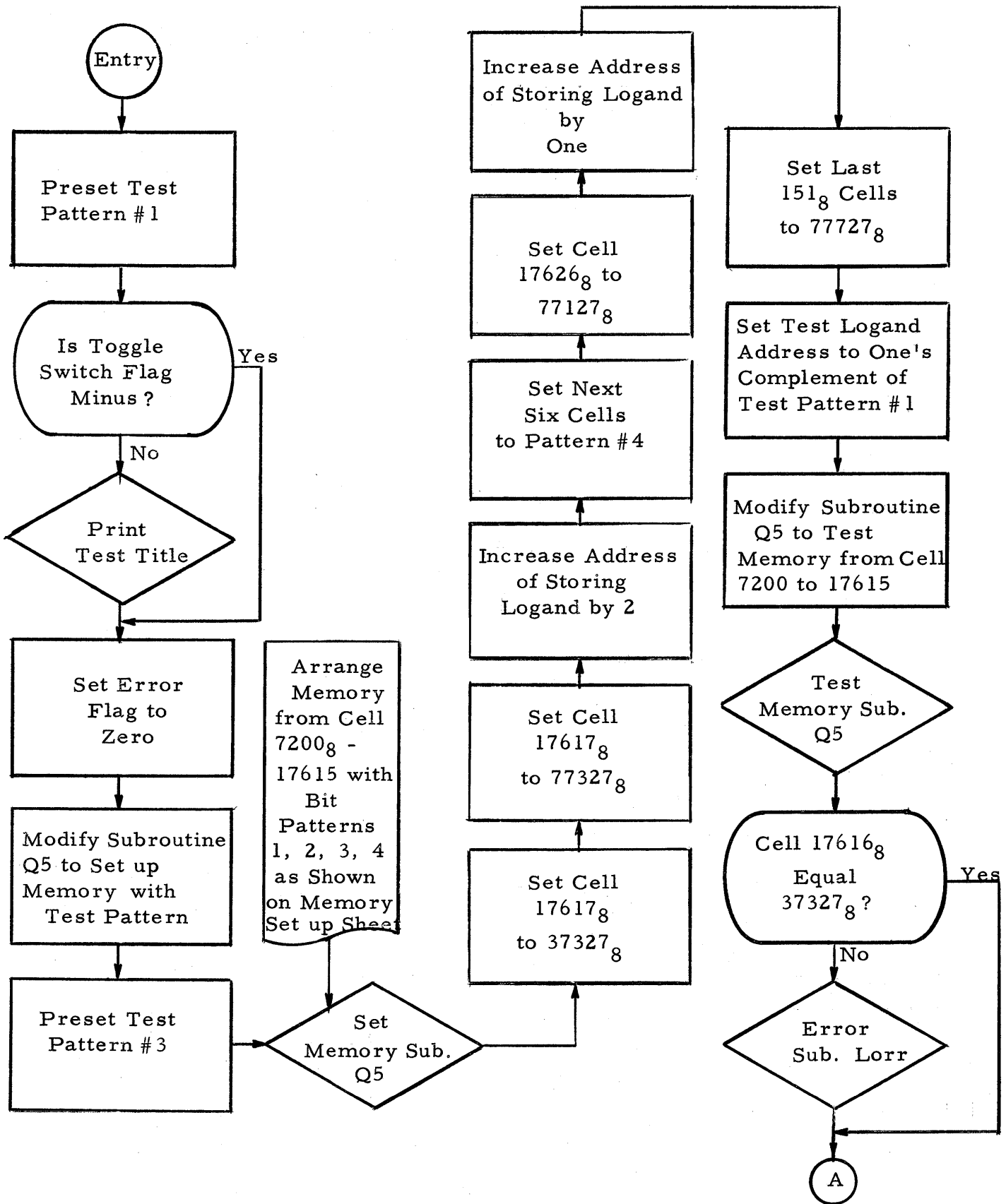
Core Memory Test Executive Routine (6 of 7)



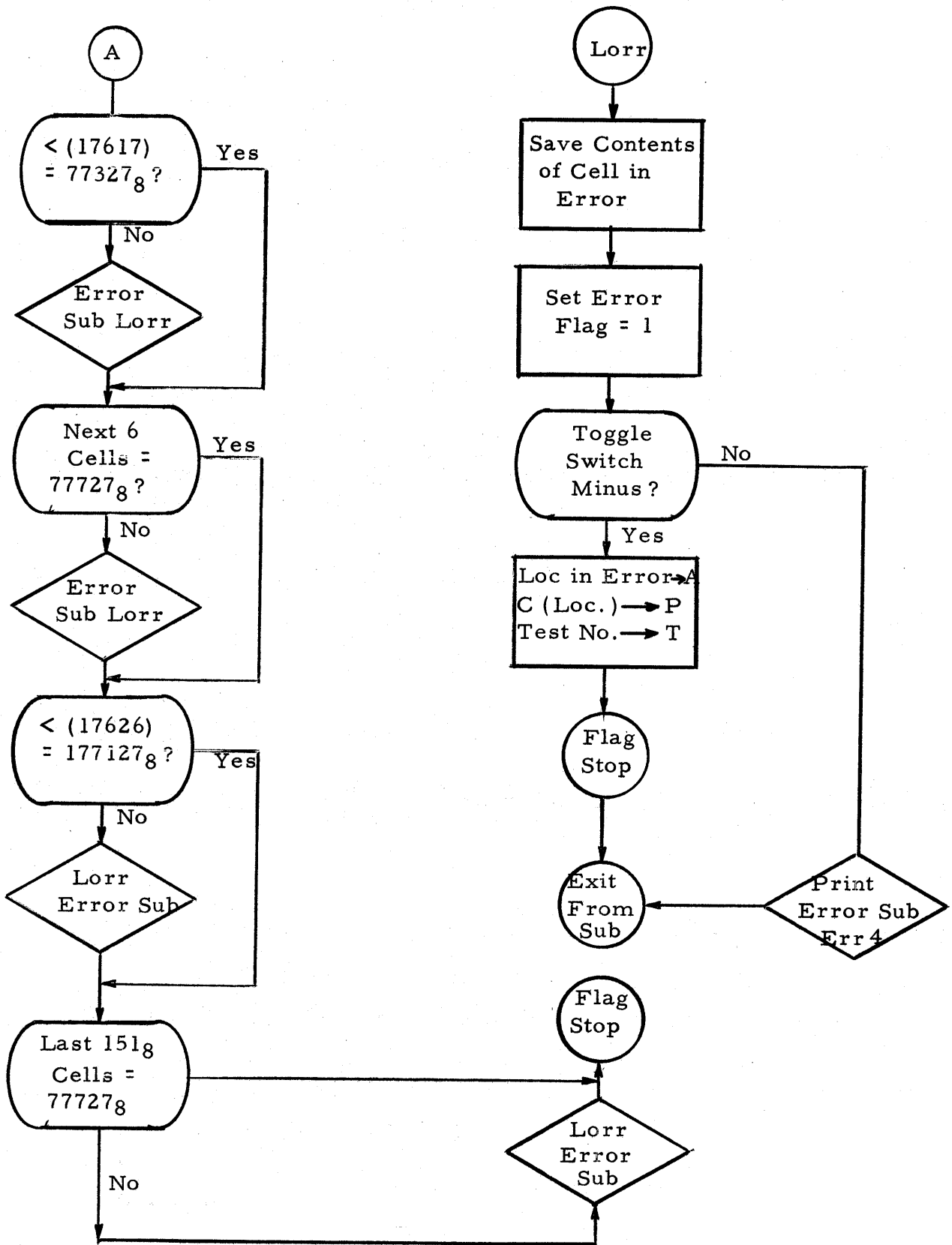
Core Memory Test Executive Routine (7 of 7)



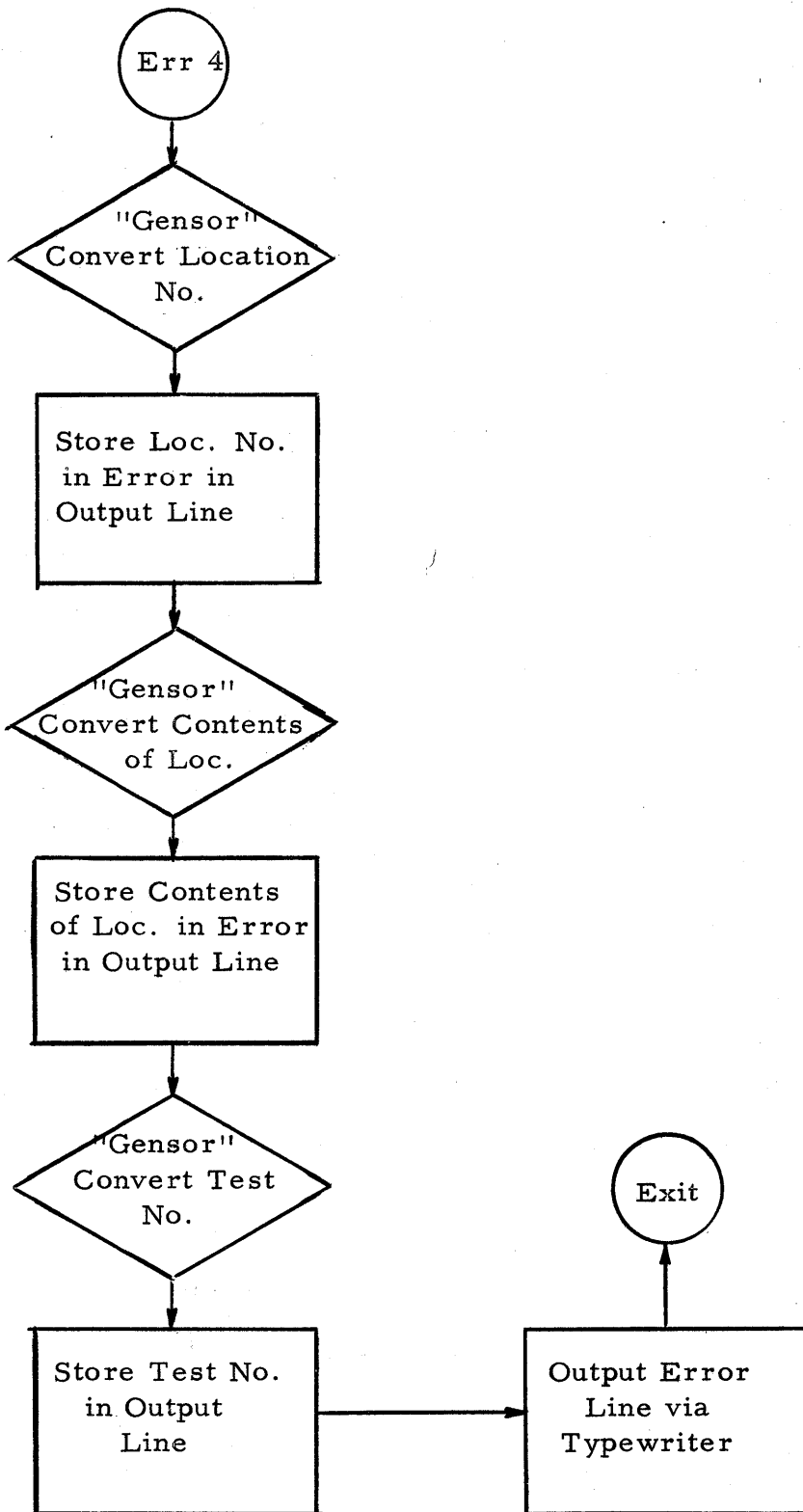
2.5 Preliminary Test



2.6 Delta Noise Test(1 of 4)



2.6 Delta Noise Test (2 of 4)



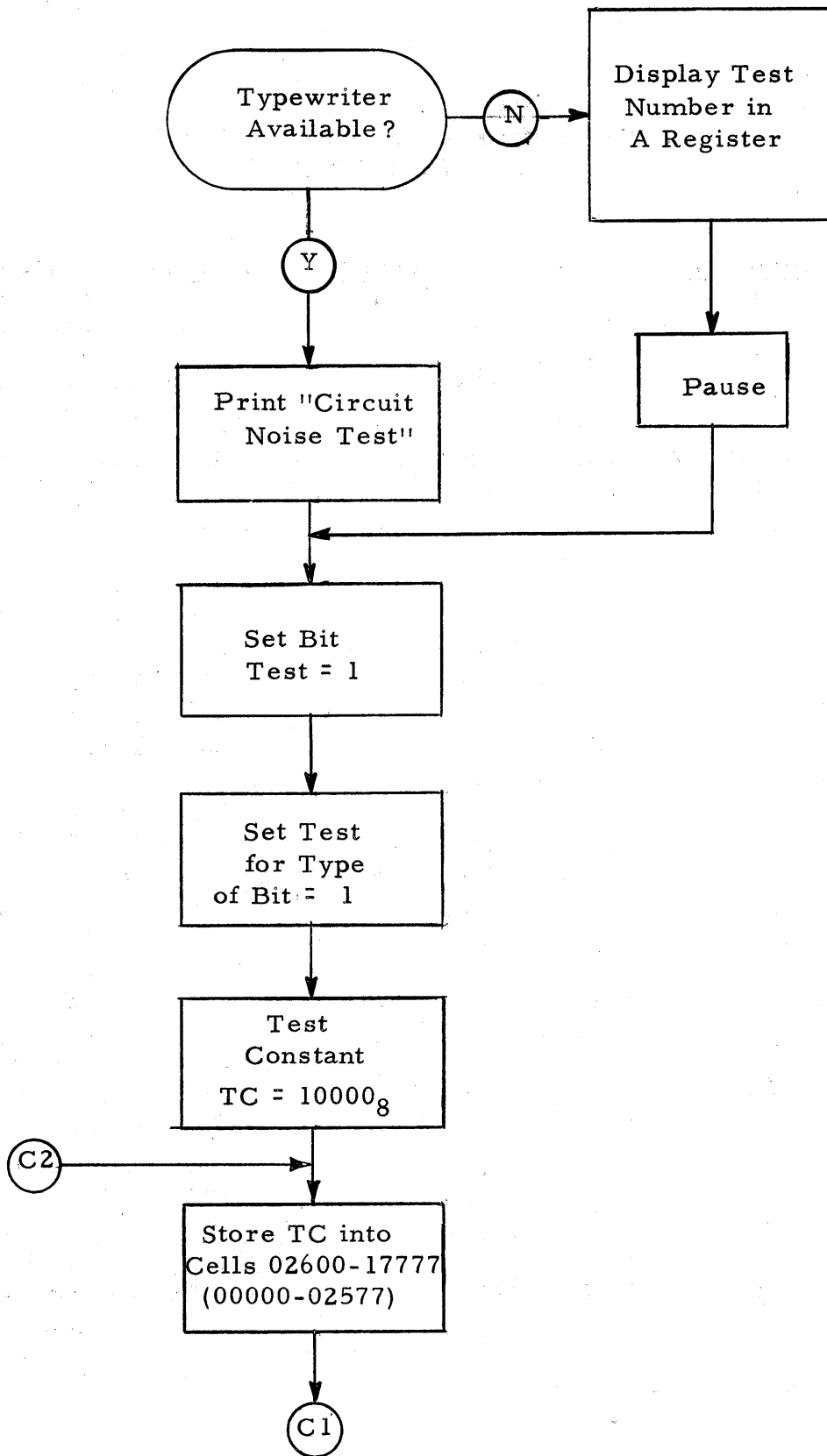
2.6 Delta Noise Test (3 of 4)



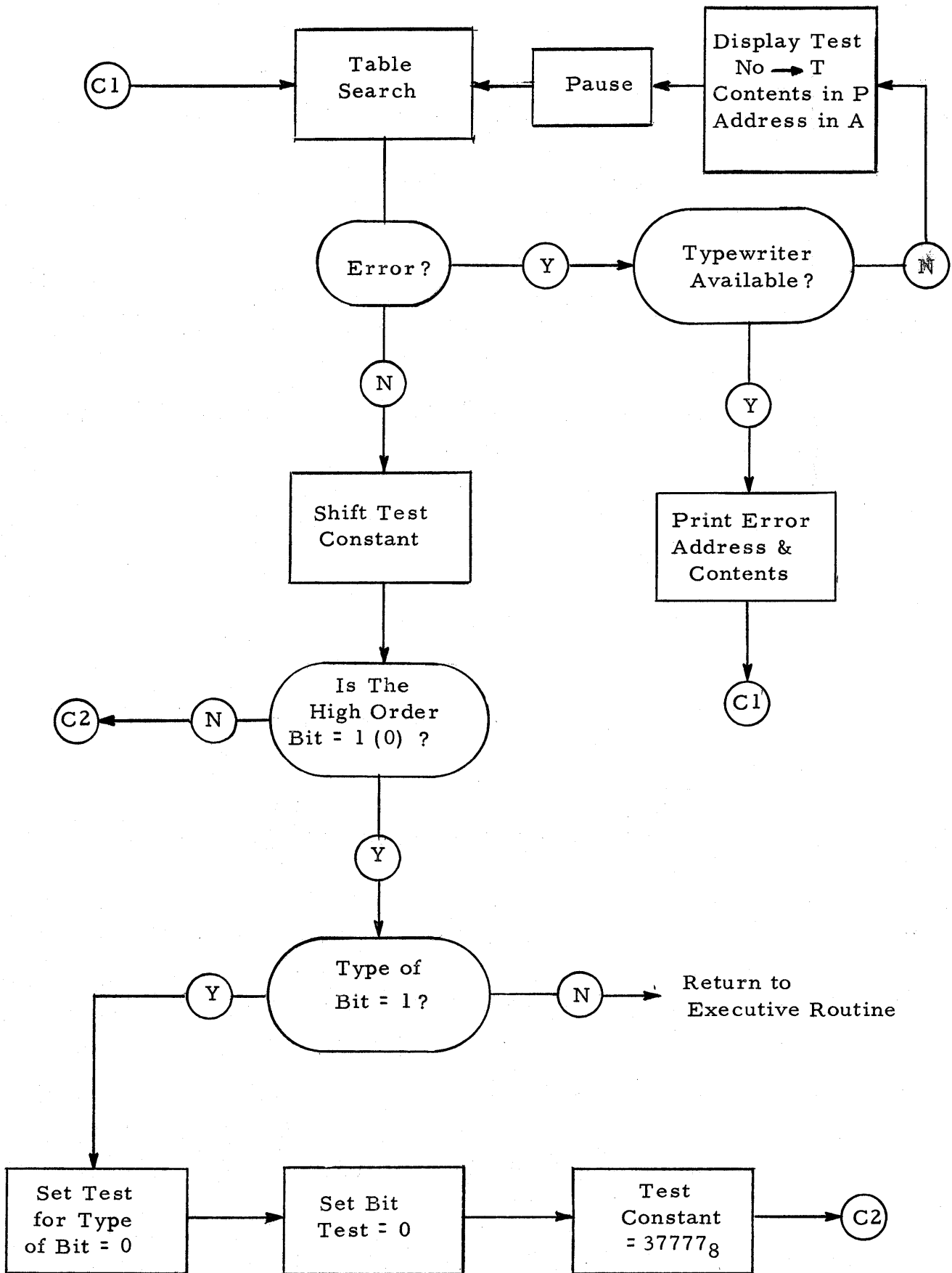
MEMORY SETUP FOR DELTA NOISE  
SENSE AMPLIFIER TESTS

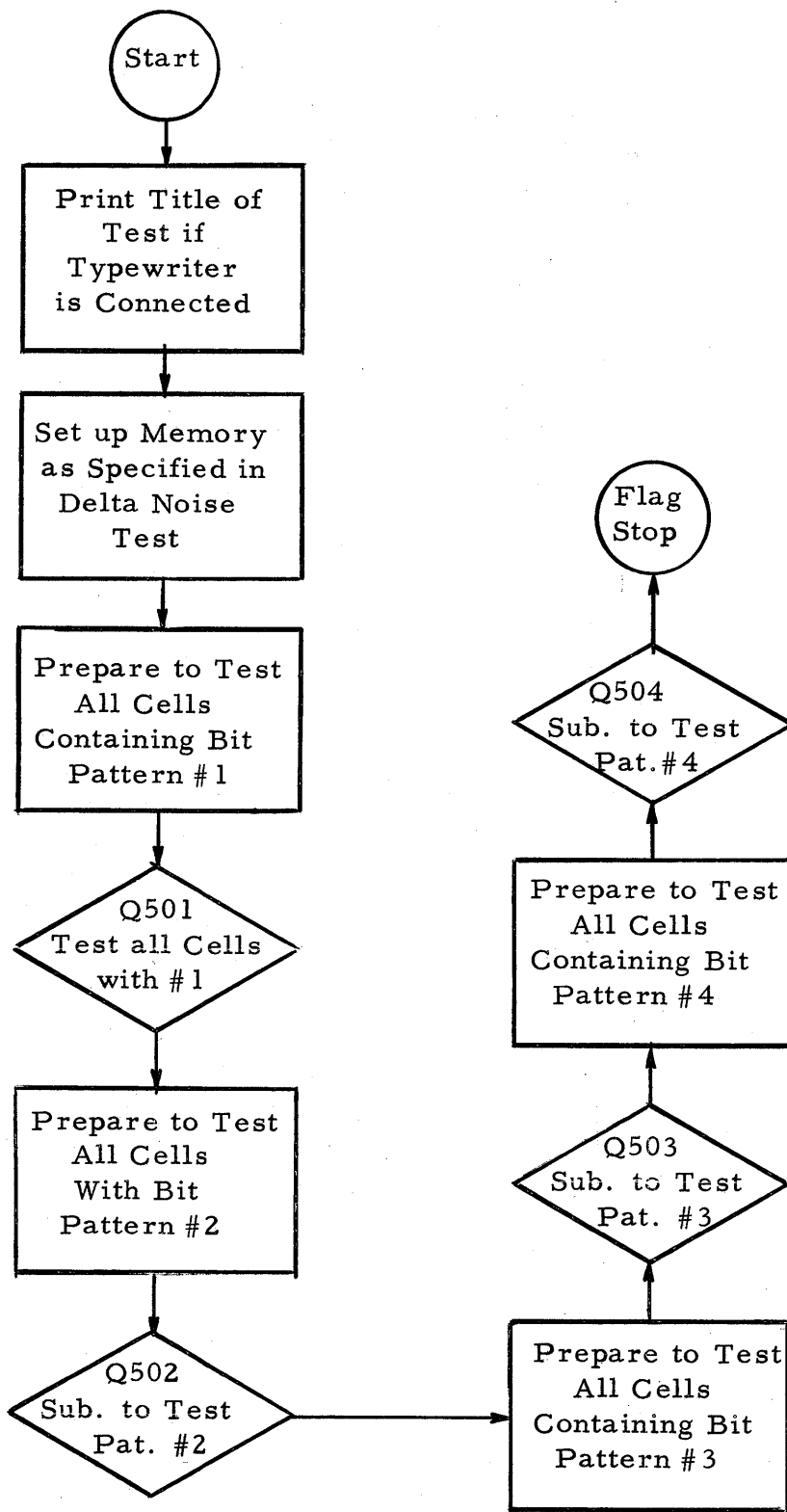
Address	Memory	Address	Memory	Address	Memory
0 - 177	1	5600 - 5627	1	11200 - 11377	3
200 - 377	2	5630 - 5637	2	11400 - 11577	4
400 - 577	1	5640 - 5127	1	11600 - 11777	3
600 - 1177	2	5730 - 5737	2	12000 - 12177	4
1200 - 1377	1	5740 - 5777	1	12200 - 12377	3
1400 - 1577	2	6000 - 6177	2	12400 - 12577	4
1600 - 1777	1	6200 - 6377	1	12600 - 13177	3
2000 - 2177	2	6400 - 6577	2	13200 - 13377	4
2200 - 2377	1	6600 - 7027	1	13400 - 13577	3
2400 - 2577	2	7030 - 7037	2	13600 - 13777	4
2600 - 3177	1	7040 - 7127	1	14000 - 14177	3
3200 - 3377	2	7130 - 7137	2	14200 - 14377	4
3400 - 3577	1	7150 - 7177	1	14400 - 14577	3
3600 - 3777	2	7200 - 7227	2	14600 - 15177	4
4000 - 4177	1	7230 - 7237	1	15200 - 15377	3
4200 - 4377	2	7240 - 7327	2	15400 - 15577	4
4400 - 4577	1	7330 - 7337	1	15600 - 15777	3
4600 - 5027	2	7430 - 7377	2	16000 - 16177	4
5030 - 5037	1	7400 - 7427	1	16200 - 16377	3
5040 - 5127	2	7430 - 7437	2	16400 - 16577	4
5130 - 5137	1	7400 - 7527	1	16600 - 17177	3
5140 - 5177	2	7530 - 7537	2	17200 - 17377	4
5200 - 5227	1	7540 - 7577	1	17400 - 17577	3
5230 - 5237	2	7600 - 7627	2	17600 - 17615	4
5240 - 5327	1	7630 - 7637	1	17616	37327 <sub>8</sub>
5330 - 5227	2	7640 - 7727	2	17617	77327 <sub>8</sub>
5340 - 5337	1	7730 - 7737	1	17620 - 17625	4
5400 - 5377	2	7740 - 7777	2	17626	77127 <sub>8</sub>
5430 - 5427	1	10000 - 10017	3	17627 - 17777	4
5440 - 5437	2	10020 - 10377	4	25202 <sub>8</sub> 1	50 <sub>8</sub> = 3
5530 - 5527	1	10400 - 10577	3	52575 <sub>8</sub> 2	77727 <sub>8</sub> = 4
5540 - 5537	2	10600 - 11177	4	NOTE: All addresses are octal	

2.6 Delta Noise Test (4 of 4)

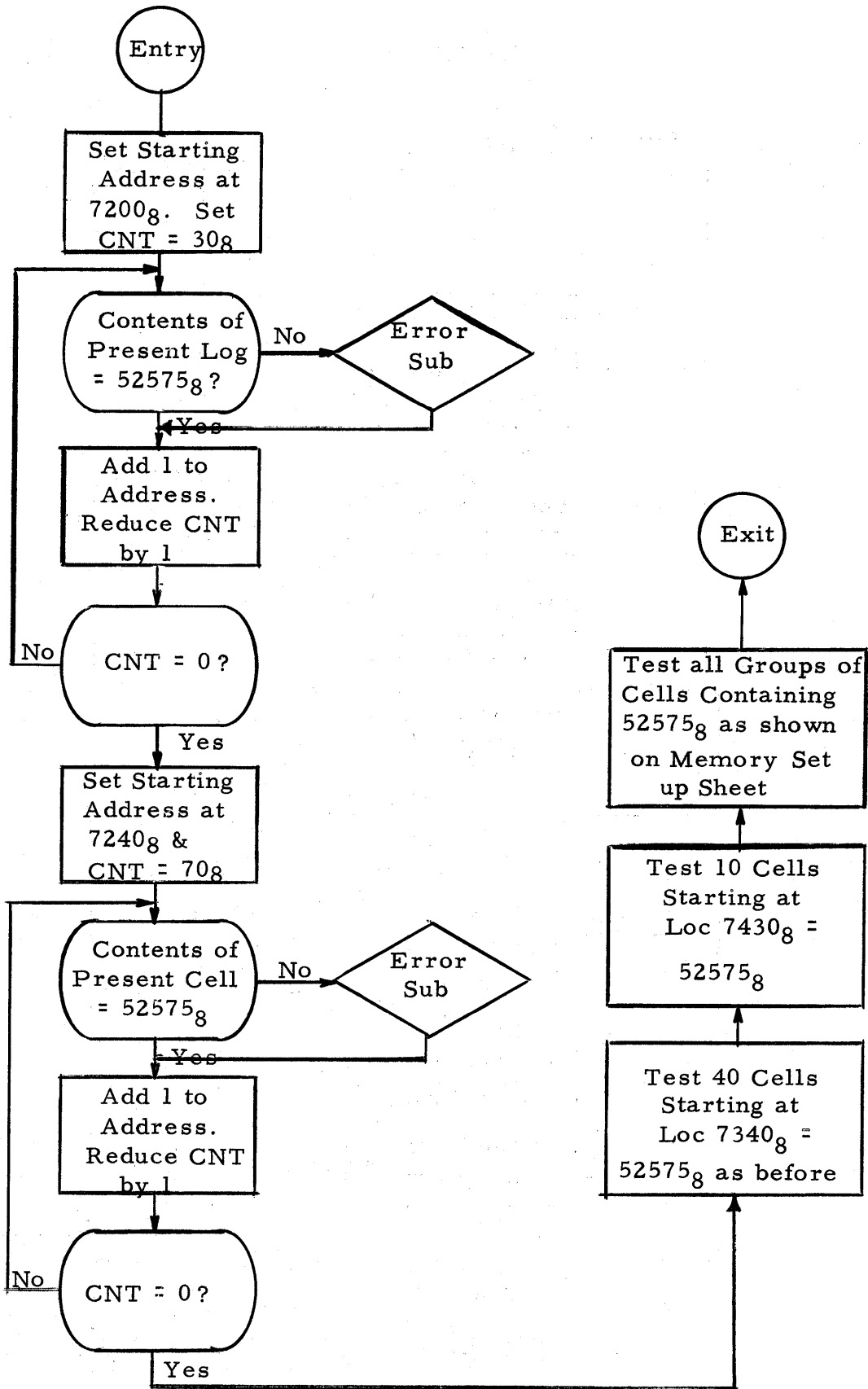


2.7 Circuit Noise Test(1 of 2)

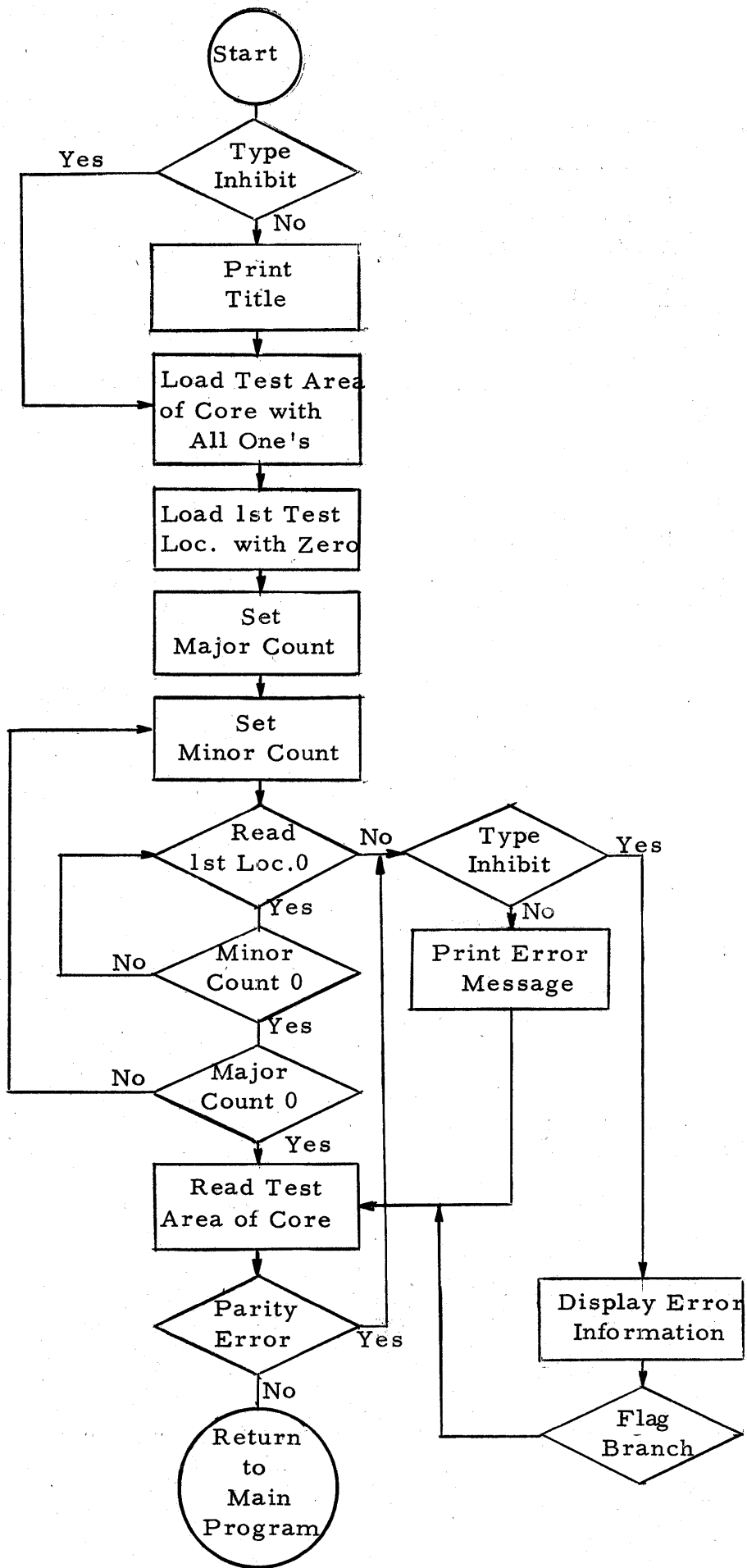




2.8 Sense Amplifier Test (1 of 2)



2.8 Sense Amplifier (2 of 2)



### 3. AN/UYK-1 DIAGNOSTIC PROGRAM OPERATING INSTRUCTIONS

Initial AN/UYK-1, TRW-140 Switch Configuration

#### TRW-140

Place Diagnostic Tape on Reader

Input Control Switch to Paper Tape

Off-Line, On-Line Switch to On-Line

Binary-Other to Binary

Reader Power to ON

Typewriter Output to ON

Typewriter Power to ON

#### AN/UYK-1

Run/Stop to Stop

Continuous Interrupt Down

## OPERATING INSTRUCTION

<u>Action</u>	<u>Result</u>								
1. Push spring-loaded LOAD switch up.	Bootstrap loader placed in core, location 0 to $23_8$ . M register = 2.								
2. Press FLAG button.	Secondary bootstrap and loader read into core, location $200_8$ to $550_8$ . M register = 201.								
3. Press FLAG button.	Diagnostic Main Executive program and print program read into core locations 620 to $1742_8$ . M register = $621_8$ .								
4. Set toggle switches for selected tests.	<table><thead><tr><th>Switch No.*</th><th>Meaning</th></tr></thead><tbody><tr><td>1</td><td>Perform logand logic test</td></tr><tr><td>2</td><td>Perform core memory test</td></tr><tr><td>15</td><td>Select typewriter</td></tr></tbody></table>	Switch No.*	Meaning	1	Perform logand logic test	2	Perform core memory test	15	Select typewriter
Switch No.*	Meaning								
1	Perform logand logic test								
2	Perform core memory test								
15	Select typewriter								
5. Press FLAG button.	Message DIAGNOSTIC ROUTINES are typed. Logand logic diagnostic program is read into core, locations 5670 to $13717_8$ . M register = $651_8$ .								
6. Press FLAG button.	If, in step 4, the logand logic test was not selected, the following message is typed: LOGAND LOGIC DIAGNOSTIC WILL NOT BE PERFORMED. Core Memory Test Executive program is read into core, locations 1750 to $2357_8$ . M register = $715_8$ .								

---

\* Toggle switches are numbered right to left (1 to 15). Test is selected when switch is set in the up position.



Action

Result

If, in step 4, the logand logic test was selected, the following message is typed:

PERFORM LOGAND LOGIC DIAGNOSTIC  
LOGAND LOGIC TEST

SELECT TESTS IN TOGGLE SWITCHES

Set CONTINUOUS INTERRUPT switch to CONTINUOUS. M register appears to contain  $5737_8$ .

7. Set toggle switch to select logand tests.

Switch No.*	Meaning
1	DL Address Option Test
2	DM Address Option Test
3	DP Address Option Test
4	DA Address Option Test
5	IL Address Option Test
6	IM Address Option Test
7	IP Address Option Test
8	IA Address Option Test

8. Set CONTINUOUS INTERRUPT switch up.

The selected tests are executed in sequence. Before each test, the following message is typed:

XX ADDRESS OPTION TEST OPERATING.

If the diagnostic program detects no error, the comment

NO ERRORS

is typed.

---

\* Toggle switches are numbered right to left (1 to 15). Test is selected when switch is set in the up position.

- | <u>Action</u>                            | <u>Result</u>   |
|--|---|
| 9. Take action as specified in printout. | If the diagnostic program detects no error, the following message is typed: |

XX ADDRESS OPTION TEST OPERATING  
LOCATION OF FAILING LOGAND  
XXXXX<sub>8</sub>

REGISTERS	L	A	P	M	T	CY	OV
EXPECTED RESULTS	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	X <sub>2</sub>	X <sub>2</sub>
ERRONEOUS RESULTS	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	XXXXX <sub>8</sub>	X <sub>2</sub>	X <sub>2</sub>

SET TOGGLES  
ZERO:  
ONE:  
DEPRESS "FLAG"

After all selected tests are completed, the following message is typed:  
PLACE CONTINUOUS INTERRUPT SWITCH TO OFF.  
M register = 201<sub>8</sub>.

- |   |   |
|---|---|
| 10. Set CONTINUOUS INTERRUPT switch in the down position.<br>Press FLAG button. | The Core Memory Executive program is read into core, locations 1750 to 235 <sub>8</sub> . M register = 715 <sub>8</sub> . |
|---|---|

- |                        |  |
|------------------------|--|
| 11. Press FLAG button. | If, in step 4, the memory test was not selected, the following message is typed: |
|------------------------|--|

CORE MEMORY DIAGNOSTIC WILL NOT BE TESTED.

M register = 201<sub>8</sub>. The diagnostic test is now completed, since no memory tests have been selected.

If, in step 4, the memory test was selected, the following message is typed:

PERFORM CORE MEMORY DIAGNOSTIC CORE MEMORY TEST ROUTINES.  
SET TOGGLE SWITCHES.

M register = 2005<sub>8</sub>.

Action

12. Set toggle switches to select memory tests.

Result

Switch No.	Meaning
1	Preliminary Test
2	Delta Noise Test
3	Circuit Noise Test
4	Sense Amplifier Test
5	Low-Flux Test
15	Perform Test in Low Core

13. Press FLAG button.

Switch settings are interrupted by the Core Memory Executive program, and the Preliminary Test is read into core, location 2570 to 3141<sub>8</sub>. The computer halts with M register = 2022<sub>8</sub>.

If the Preliminary Test was not selected in step 12, the Delta Noise Test is read into core, locations 2570 to 3516<sub>8</sub>. The computer halts with M register = 2140<sub>8</sub>. Continue to step 15.

If the Preliminary Test was selected, the following message is typed:  
 PRELIMINARY TEST,  
 and the program is executed.

14. Set toggle switches and press FLAG button as required for this test.\*

If an error occurs, the following message is typed:

```

ERROR ADDRESS      XXXXX8
ADDRESS CONTENTS  XXXXXXXXXXXXXXXX2
TEST WORD         XXXXXXXXXXXXXXXX2
PLACE CYCLE COUNT IN TOGGLE SWITCHES
  
```

The computer halts with M register = 2114<sub>8</sub>

---

\* Number in toggle switches determines number of times test is performed.

Action

Result

15. Press FLAG button.

When Preliminary Test is completed, Delta Noise Test is loaded into core, location 2570 to 3516<sub>8</sub>. The computer halts with M register = 2140<sub>8</sub>.

Delta Noise Test is executed if selected. Before test, the following message is typed:

DELTA NOISE TEST

If the test is not selected, the Circuit Noise Test is read into core, location 2570 to 3163<sub>8</sub>. Continue to step 17.

The computer halts with the M register = 2140<sub>8</sub>.

16. Set toggle switches and press FLAG button as required for this test.

If an error occurs, the following message is typed:

LOCATION XXXXX<sub>8</sub>  
CONTENTS XXXXX<sub>8</sub>  
TEST NO. XX<sub>8</sub>

PLACE CYCLE COUNT IN TOGGLE SWITCHES

The computer halts with the M register = 2114<sub>8</sub>.

When the Delta Noise Test is completed, the Circuit Noise Test is read into core, locations 2570 to 3163<sub>8</sub>. The computer halts with the M register = 2140<sub>8</sub>.

17. Press FLAG button.

The Circuit Noise Test is executed if selected. Before test, the following message is typed:

CIRCUIT NOISE TEST.

Action

18. Set toggle switches and press FLAG button as required for this test.

19. Press FLAG button.

20. Set toggle switches and press FLAG button as required for this test.

Result

If the Circuit Noise Test is not selected, the Sense Amplifier Test is read into core, location 2570 to 4075<sub>8</sub>. The computer halts with M register = 2140<sub>8</sub>. Continue to step 19.

If an error occurs, the following message is typed:

ERROR ADDRESS        XXXXX<sub>8</sub>  
ADDRESS CONTENTS    XXXXXXXXXXXXXXXXXX<sub>2</sub>  
TEST WORD            XXXXXXXXXXXXXXXXXX<sub>2</sub>  
PLACE CYCLE COUNT IN TOGGLE SWITCHES

The computer halts with M register = 2114<sub>8</sub>.

When the Circuit Noise Test is completed, the Sense Amplifier Test is read into core, locations 2570 to 4075<sub>8</sub>. The computer halts with M register = 2140<sub>8</sub>.

The Sense Amplifier Test is executed if selected. Before the test, the following message is typed:

SENSE AMPLIFIER TEST

If the Sense Amplifier Test is not selected, the Low-Flux Test is read into core, locations 2570 to 3343<sub>8</sub>. The computer halts with M register = 2140<sub>8</sub>. Continue to step 21.

If an error occurs, the following message is typed:

LOCATION    XXXXX<sub>8</sub>  
CONTENTS  XXXXX<sub>8</sub>  
TEST NO.    XX<sub>8</sub>  
PLACE CYCLE COUNT IN TOGGLE SWITCHES

The computer halts with M register = 2114<sub>8</sub>.

Action

Result

When the Sense Amplifier Test is completed, the Low-Flux Test is read into core, locations 2570 to 3343<sub>8</sub>. The computer halts with M register = 2140<sub>8</sub>.

21. Press FLAG button.

Low-Flux Test is executed if selected. Before the test, the following message is typed:

LOW FLUX TEST

If the Low-Flux Text is not selected, the High-Core Loader is read into core, locations 17055 to 17425<sub>8</sub>. The computer halts with M register = 2301<sub>8</sub>. Continue to step 23.

22. Set toggle switches and press FLAG button as required for this test.

If an error occurs, one of the following messages is typed:

\*ERROR ADDRESS            XXXXX<sub>8</sub>  
ADDRESS CONTENTS        XXXXXXXXXXXXXXXXXX<sub>2</sub>  
MINOR CYCLE COUNT       XXXXX<sub>8</sub>  
MAJOR CYCLE COUNT       XXXXX<sub>8</sub>  
PLACE CYCLE COUNT IN TOGGLE SWITCHES

or

\*\*ERROR ADDRESS           XXXXX<sub>8</sub>  
ADDRESS CONTENTS        XXXXXXXXXXXXXXXXXX<sub>2</sub>  
TEST WORD                XXXXXXXXXXXXXXXXXX<sub>2</sub>  
PLACE CYCLE COUNT IN TOGGLE SWITCHES

When the Low-Flux Test is completed, the High-Core Loader is read into core, locations 17055 to 17425<sub>8</sub>. The computer halts with M register = 2301<sub>8</sub>.

---

\* This message is typed when an error is found in the cell in which a zero word was placed and then read out a million times.

\*\* This message is typed when an error is in some other cell which was read after the cell containing zero was read a million times.

Action

23. Press FLAG button.

Result

The memory tests selected are performed to test the lower portion of memory. Printout is identical to the testing of the upper portion of memory.

When all tests are completed, the computer halts with M register =  $7562_8$ .

## 4. TYPEWRITER DIAGNOSTIC TEST

### 4.1 GENERAL

This routine checks out transmission of all characters on the typewriter. It is run in flag mode.

The first part types (in the letters mode) the alphabet from A to Z, a space; then, in the figures mode, the numbers 0 to 9 are typed, followed by the special characters including a space and carriage return. This is repeated S times, where S is the setting of the switches.

Each character is typed by the appropriate teletype code to the typewriter. The character is then "echo-checked" by the echo-checking device, which reads back in the character converted to six-bit Hollerith code. If this code is correct for the outputted character, the program continues. If it is incorrect, a flag stop is reached. The character transmitted to the typewriter for which an erroneous six-bit character is received is displayed in the A register.

The second part of the test types in alternate letters-figures mode all the characters, in the following sequence:

A0B1C2D3E4F5G6H7I8J9K-L=M:N\$O P+QR'S(T)U.V, W%~~X~~\*Y/Z

After the program is loaded, the following stops may occur:

<u>M Register</u>	<u>Branch to</u>	<u>Meaning</u>
01001	Continue	Set number in switches
01022	Continue	Set number in switches
01177	Second part of test	Set number in switches

#### Error Stops

01063	Continue	Offending character in A register
01136	Continue	Offending character in A register
01244	Continue	Offending character in A register
01265	Continue	Offending character in A register



## 4.2 LOADING PROCEDURE

- a. Set RUN switch on TRW-130 Computer to STOP position.
- b. Set TRW-140 by the following:

### SYSTEM SWITCHES

1. CODE CONVERT to Off (down)
2. ON LINE-OFF LINE to ON LINE
3. POWER ON to POWER ON
4. INPUT CONTROL to PAPER TAPE

### PAPER TAPE SWITCHES

1. BINARY-OTHER to BINARY
2. PUNCH to Off (down)
3. READER to POWER ON

### TYPEWRITER

1. ECHO CHECK to Off (down)
2. OUTPUT to OUTPUT
3. POWER ON to POWER ON

- c. Place Typewriter Program on Tape Reader.
- d. Rewind tape to first character on tape.
- e. Set LOAD button on TRW-130 Computer to LOAD, then release it.
  - (1) The bootstrap is loaded into the TRW-130 Computer.
  - (2) M register reads 00002.
- f. Press FLAG button. The typewriter test routine is loaded into computer. M register reads 01001.

### NOTE

This address is one more than the address of the first instruction.

- g. Set ECHO CHECK switch to ECHO CHECK.
- h. Press FLAG button. The typewriter prints:

### TYPEWRITER TEST

Computer stops with 01022 in the M register.

- i. Enter into toggle switches the number of lines of printing desired.
- j. Press FLAG button. Typewriter prints as many times as in step i:

ABCDEFGHIJKLMN OPQRST UVWXYZ 0123456789-=:.\$@+#!'().,%\*/

Computer stops with 01177 in the M register.

- k. Press FLAG button. Typewriter prints as many times as in step i:

A0B1C2D3E4F5G6H7I8J9K-L=M:N\$O P+QR'S(T)U.V,W%X\*Y/Z

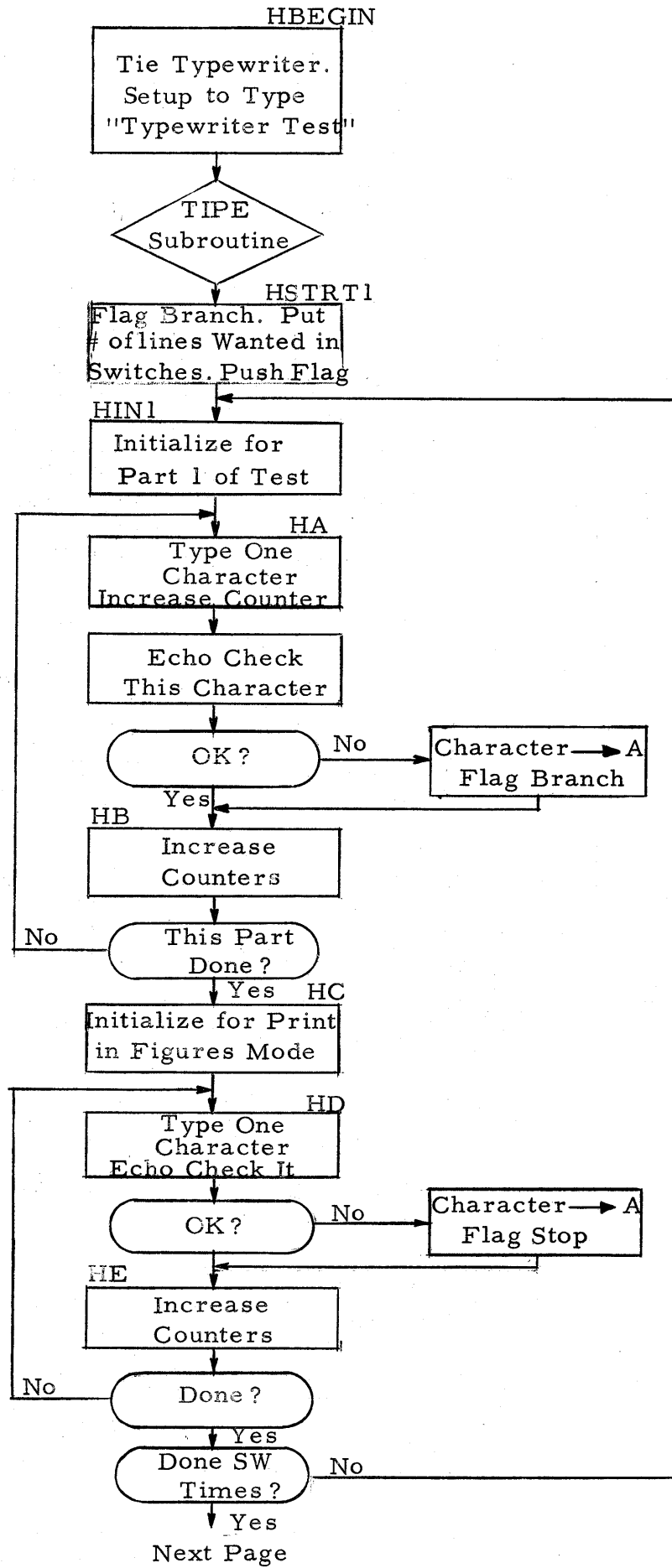
Typewriter then prints:

END OF TEST

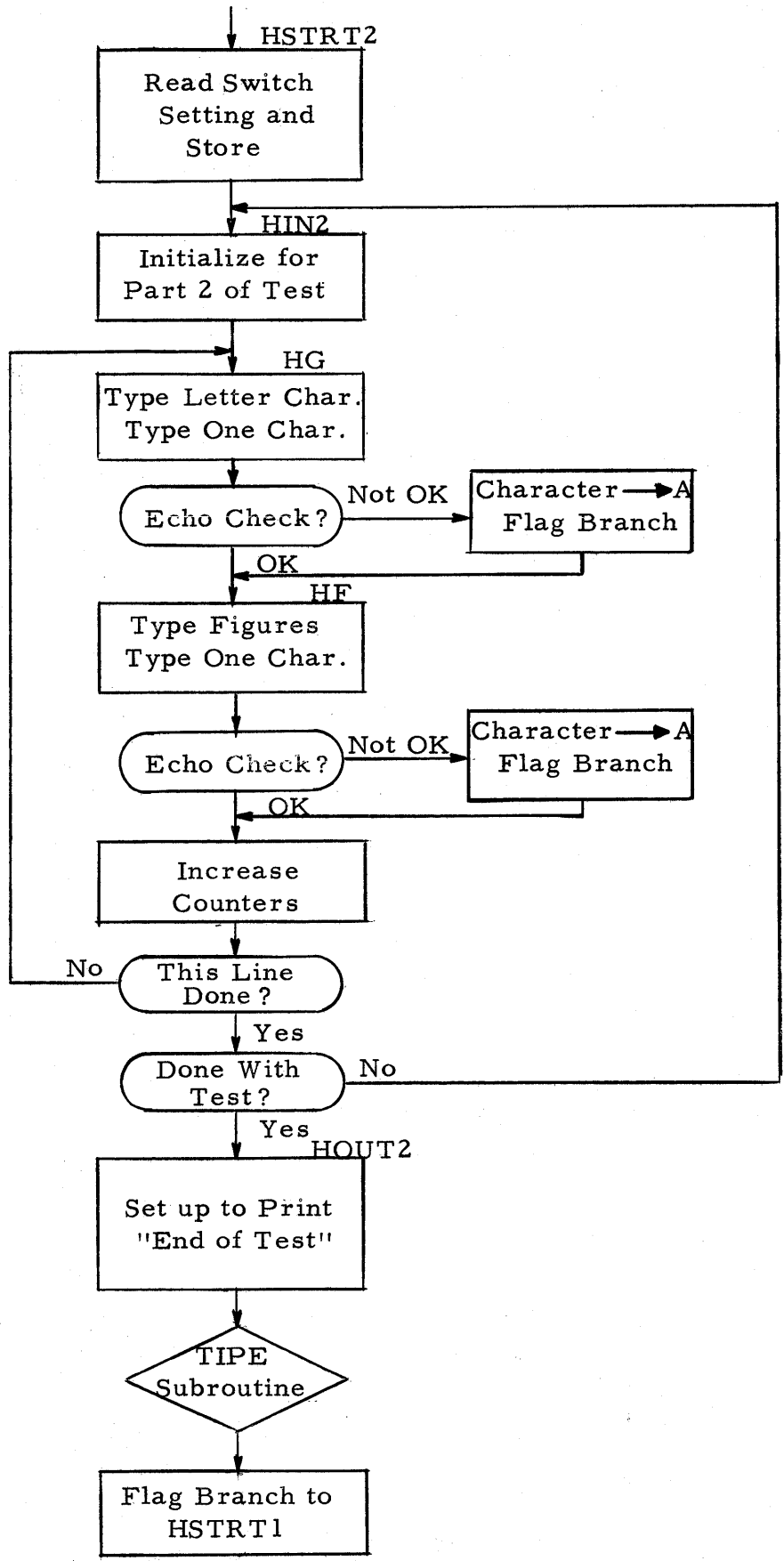
following the last entry of step k.

Computer stops with 01022 in the M register.

- l. To resume test, press FLAG button.



TRW-185 Typewriter Diagnostic Flow Chart (1 of 2)



TRW-185 Typewriter Diagnostic Flow Chart (2 of 2)

01000	01000	ORG	512	
01000	25110	HBEGIN CF	DL	8
01001	21010	EF	DM	8
01002	40100	OCT		40100
01003	70000	LT	DM	NO
01004	01344	PZE		HTWIX
01005	75000	LA	DM	NO
01006	01337	PZE		HTWI
01007	47400	RP	IM	NO
01010	01352	PZE		TIPE
01011	75000	LA	DM	NO
01012	00037	OCT		37
01013	50121	SA	DL	\$T7
01014	75000	LA	DM	NO
01015	00033	OCT		33
01016	50122	SA	DL	\$T8
01017	20060	HSTRT1 BR	DM F	UN
01020	01021	PZE		*+1
01021	25122	CF	DL	18
01022	75060	LA	DM B	NO
01023	50117	SA	DL	\$T5
01024	44075	ZE	DM B	LA
01025	50400	SA	IM	NO
01026	01435	PZE		HL
01027	25110	CF	DL	8
01030	21010	EF	DM	8
01031	40100	OCT		40100
01032	44075	HINI ZE	DM B	LA
01033	50400	SA	IM	NO
01034	01432	PZE		HK
01035	75000	LA	DM	NO
01036	01437	PZE		HTAB1+1
01037	50400	SA	IM	NO
01040	01044	PZE		HNA
01041	23121	WO	DL	\$T7
01042	27123	WI	DL	\$T9
01043	23400	HA WO	IM	NO
01044	66666	HNA OCT		66666
01045	52415	SE	IM	LA
01046	01044	PZE		HNA
01047	66060	AP	DM B	NO
01050	27113	WI	DL	\$T1
01051	75113	LA	DL	\$T1
01052	65060	CS	DM B	NO
01053	61200	AI	DP	NO

ROW 1112

ROW 1112

ROW 1112

SET UP TOGGLES

NO OF TIMES

TIE 0 TYPEWRITER INIT

HTAB1+1 TO NA

CHAR. LOADED BUMP COUNTER

ECHO CHECK

01054	20024		BR	DM	AZ	
01055	01062		PZE		HB	
01056	64060		AT	DM B	NO	
01057	70113		LT	DL	\$T1	
01060	20060		BR	DM F	UN	STOP
01061	01062		PZE		**+1	
01062	75400	HB	LA	IM	NO	BUMP COUNTER BY 3
01063	01044		PZE		HNA	
01064	73000		AS	DM	NO	
01065	00003		OCT		3	
01066	50400		SA	IM	NO	
01067	01044		PZE		HNA	
01070	75400		LA	IM	NO	K+1 TO K
01071	01432		PZE		HK	
01072	73000		AS	DM	NO	
01073	00001		PZE		I	
01074	50400		SA	IM	NO	
01075	01432		PZE		HK	
01076	65060		CS	DM B	NO	
01077	61400		AI	IM	NO	
01100	01433		PZE		HKAY1	
01101	20024		BR	DM	AZ	IS HK=HKAY 1.
01102	01105		PZE		HC	OUT IF YES
01103	20020		BR	DM	UN	
01104	01043		PZE		HA	GO BACK
01105	44075	HC	ZE	DM B	LA	0 TO HK
01106	50400		SA	IM	NO	
01107	01432		PZE		HK	
01110	75000		LA	DM	NO	HTAB1+3 TO NB
01111	01441		PZE		HTAB1+3	
01112	50400		SA	IM	NO	
01113	01117		PZE		HNB	
01114	23122		WD	DL	\$T8	
01115	27123		WI	DL	\$T9	
01116	23400	HD	WD	IM	NO	
01117	66666	HNB	OCT		66666	CHAR. LOADED
01120	52415		SE	IM	LA	
01121	01117		PZE		HNB	
01122	66060		AP	DM B	NO	
01123	27114		WI	DL	\$T2	ECHO CHECK
01124	75114		LA	DL	\$T2	
01125	65060		CS	DM B	NO	
01126	61200		AI	DP	NO	
01127	20024		BR	DM	AZ	
01130	01135		PZE		HE	

01131	64060		AT	DM B	NO	
01132	70114		LT	DL	\$T2	
01133	20060		BR	DM F	UN	
01134	01135		PZE		**+1	
01135	75400	HE	LA	IM	NO	NB+3 TO NB
01136	01117		PZE		HNB	
01137	73000		AS	DM	NO	
01140	00003		PZE		3	
01141	50400		SA	IM	NO	
01142	01117		PZE		HNB	
01143	75400		LA	IM	NO	K+1 TO K.
01144	01432		PZE		HK	
01145	73000		AS	DM	NO	
01146	00001		PZE		1	
01147	50400		SA	IM	NO	
01150	01432		PZE		HK	
01151	65060		CS	DM B	NO	IS 5=KAY2
01152	61400		AI	IM	NO	
01153	01434		PZE		HKAY2	
01154	20024		BR	DM	AZ	
01155	01160		PZE		HF	OUT IF YES
01156	20020		BR	DM	UN	
01157	01116		PZE		HD	GO BACK
01160	75400	HF	LA	IM	NO	HL+1 TO HL
01161	01435		PZE		HL	
01162	73000		AS	DM	NO	
01163	00001		PZE		1	
01164	50400		SA	IM	NO	
01165	01435		PZE		HL	
01166	65060		CS	DM B	NO	
01167	61117		AI	DL	\$T5	
01170	20024		BR	DM	AZ	
01171	01174		PZE		**+3	
01172	20020		BR	DM	UN	
01173	01032		PZE		HINI	
01174	20060	HSTRT2	BR	DM F	UN	SET TOGGLES
01175	01176		PZE		**+1	
01176	25122		CF	DL	18	TOGGLES TO T5
01177	75060		LA	DM B	NO	
01200	50117		SA	DL	\$T5	
01201	44075		ZE	DM B	LA	
01202	50400		SA	IM	NO	0 TO HL
01203	01435		PZE		HL	
01204	25110		CF	DL	8	
01205	21010		EF	DM	8	

01206	40100		OCT		40100	
01207	44075	HIN2	ZE	DM B	LA	INIT
01210	50400		SA	IM	NO	
01211	01432		PZE		HK	O TO HK
01212	75000		LA	DM	NO	
01213	01437		PZE		HTAB1+1	
01214	50400		SA	IM	NO	
01215	01225		PZE		HNC	
01216	75000		LA	DM	NO	
01217	01441		PZE		HTAB1+3	
01220	50400		SA	IM	NO	
01221	01246		PZE		HND	
01222	23121	HG	WO	DL	\$T7	TYPE LETTERS
01223	27123		WI	DL	\$T9	
01224	23400		WO	IM	NO	
01225	66666	HNC	OCT		66666	CHAR. LOADED
01226	52415		SE	IM	LA	
01227	01225		PZE		HNC	HNC+1 TO HNC
01230	66060		AP	DM B	NO	
01231	27113		WI	DL	\$T1	ECHO CHECK
01232	75113		LA	DL	\$T1	
01233	65060		CS	DM B	NO	
01234	61200		AI	DP	NO	
01235	20024		BR	DM	AZ	
01236	01243		PZE		HF2	
01237	64060		AT	DM B	NO	
01240	70113		LT	DL	\$T1	
01241	20060		BR	DM F	UN	
01242	01243		PZE		*+1	
01243	23122	HF2	WO	DL	\$T8	TYPE FIGS
01244	27123		WI	DL	\$T9	
01245	23400		WO	IM	NO	
01246	66666	HND	OCT		66666	CHAR. LOADED
01247	52415		SE	IM	LA	HND+1 TO HND
01250	01246		PZE		HND	
01251	66060		AP	DM B	NO	
01252	27114		WI	DL	\$T2	
01253	75114		LA	DL	\$T2	
01254	65060		CS	DM B	NO	
01255	61200		AI	DP	NO	
01256	20024		BR	DM	AZ	
01257	01264		PZE		HH	
01260	64060		AT	DM B	NO	
01261	70114		LT	DL	\$T2	
01262	20060		BR	DM F	UN	



01263	01264		PZE		**1	
01264	75400	HH	LA	IM	NO	BUMP HNC AND
01265	01246		PZE		HND	HND BY 3.
01266	73000		AS	DM	NO	
01267	00001		PZE		1	
01270	50400		SA	IM	NO	
01271	01225		PZE		HNC	
01272	73000		AS	DM	NO	
01273	00002		PZE		2	
01274	50400		SA	IM	NO	
01275	01246		PZE		HND	
01276	75400		LA	IM	NO	HK+1 TO HK.
01277	01432		PZE		HK	
01300	73000		AS	DM	NO	
01301	00001		PZE		1	
01302	50400		SA	IM	NO	
01303	01432		PZE		HK	
01304	65060		CS	DM B	NO	
01305	61400		AI	IM	NO	IS HK=HKAY2.
01306	01434		PZE		HKAY2	
01307	20024		BR	DM	AZ	
01310	01313		PZE		HOUT1	OUT
01311	20020		BR	DM	UN	
01312	01222		PZE		HG	BACK
01313	75400	HOUT1	LA	IM	NO	
01314	01435		PZE		HL	
01315	73000		AS	DM	NO	
01316	00001		PZE		1	
01317	50400		SA	IM	NO	
01320	01435		PZE		HL	
01321	65060		CS	DM B	NO	
01322	61117		AI	DL	\$T5	
01323	20024		BR	DM	AZ	
01324	01327		PZE		HOUT2	
01325	20020		BR	DM	UN	
01326	01207		PZE		HIN2	
01327	70000	HOUT2	LT	DM	NO	
01330	01351		PZE		HTW2X	
01331	75000		LA	DM	NO	
01332	01345		PZE		HTW2	
01333	47400		RP	IM	NO	
01334	01352		PZE		TIPE	
01335	20020		BR	DM	UN	
01336	01017		PZE		HSTR1	
01337	05741	HTW1	OCT		5741	CR LTRS T

01340	52660		OCT		52660	YPE
01341	62514		OCT		62514	WRI
01342	03012		OCT		3012	TER
01343	10060		OCT		10060	OTE
01344	50042	HTW1X	OCT		50042	
01345	05760	HTW2	OCT		5760	CR LTRS E
01346	15104		OCT		15104	NDO
01347	07304		OCT		7304	OFO
01350	03024		OCT		3024	TES
01351	02104	HTW2X	OCT		02104	
01352	01355	TIPE	PZE		*+3	
01353	47400		RP	IM	NO	
01354	01352		PZE		TIPE	
01355	62000		LP	DM	NO	
01356	01364		PZE		TIPE2	
01357	52400		SE	IM	NO	
01360	01427		PZE		SOUDEX	
01361	40062		ST	DM B	LP	
01362	20020		BR	DM	UN	
01363	01366		PZE		SOUO	
01364	20020	TIPE2	BR	DM	UN	
01365	01353		PZE		TIPE+1	
01366	66067	SOUO	AP	DM B	CC	
01367	50006		SA	DM C	AP	
01370	66666	SOUO1	OCT		66666	
01371	50400		SA	IM C	NO	
01372	01374		PZE		SOUO2	
01373	75400	SOUO6	LA	IM C	NO	
01374	66666	SOUO2	OCT		66666	
01375	52400		SE	IM C	NO	
01376	01374		PZE		SOUO2	
01377	50006		SA	DM C	AP	
01400	66666	SOUO3	OCT		66666	
01401	11065		SO	DM D	L5	
01402	50000		SA	DM C	NO	
01403	66666	SOUO4	OCT		66666	
01404	11065		SO	DM D	L5	
01405	50000		SA	DM C	NO	
01406	66666	SOUO5	OCT		66666	
01407	23400		WO	IM C	NO	
01410	01403		PZE		SOUO4	
01411	27123		WI	DL	\$T9	
01412	23400		WO	IM C	NO	
01413	01406		PZE		SOUO5	
01414	27123		WI	DL	\$T9	

Code	Value	Label	Category	Count	NO. OF TIMES.
01415	23400	WO	IM C	NO	
01416	01400	PZE		SOU03	
01417	27123	WI	DL	\$T9	
01420	20033	BR	DM	TL	
01421	01420	PZE		*-1	
01422	75400	LA	IM C	NO	
01423	01374	PZE		SOU02	
01424	73400	AS	IM C	NO	
01425	01370	PZE		SOU01	
01426	20024	BR	DM	AZ	
01427	66666	SOUDEX	OCT	66666	
01430	20020	BR	DM	UN	
01431	01373	PZE		SOU06	
01432	00000	HK	PZE		
01433	00033	HKAY1	PZE	27	
01434	00033	HKAY2	PZE	27	
01435	00000	HL	PZE		
01436	00000	HTAB1	OCT	0	
01437	00030		OCT	30	A
01440	00021		OCT	21	A
01441	00015		OCT	15	0
01442	00060		OCT	60	0
01443	00023		OCT	23	B
01444	00022		OCT	22	B
01445	00035		OCT	35	1
01446	00001		OCT	1	1
01447	00016		OCT	16	C
01450	00023		OCT	23	C
01451	00031		OCT	31	2
01452	00002		OCT	2	2
01453	00022		OCT	22	D
01454	00024		OCT	24	D
01455	00020		OCT	20	3
01456	00003		OCT	3	3
01457	00020		OCT	20	E
01460	00025		OCT	25	E
01461	00012		OCT	12	4
01462	00004		OCT	4	4
01463	00026		OCT	26	F
01464	00026		OCT	26	F
01465	00001		OCT	1	5
01466	00005		OCT	5	5
01467	00013		OCT	13	G
01470	00027		OCT	27	G
01471	00025		OCT	25	6

01472	00006	OCT	6	6
01473	00005	OCT	5	H
01474	00030	OCT	30	H
01475	00034	OCT	34	7
01476	00007	OCT	7	7
01477	00014	OCT	14	I
01500	00031	OCT	31	I
01501	00014	OCT	14	8
01502	00010	OCT	10	8
01503	00032	OCT	32	J
01504	00041	OCT	41	J
01505	00003	OCT	3	9
01506	00011	OCT	11	9
01507	00036	OCT	36	K
01510	00042	OCT	42	K
01511	00030	OCT	30	-
01512	00040	OCT	40	-
01513	00011	OCT	11	L
01514	00043	OCT	43	L
01515	00023	OCT	23	QUEST
01516	00013	OCT	13	QUEST
01517	00007	OCT	7	M
01520	00044	OCT	44	M
01521	00016	OCT	16	COLON
01522	00017	OCT	17	COLON
01523	00006	OCT	6	N
01524	00045	OCT	45	N
01525	00022	OCT	22	\$
01526	00053	OCT	53	\$
01527	00003	OCT	3	O
01530	00046	OCT	46	O
01531	00026	OCT	26	EXCLAM
01532	00014	OCT	14	EXCLAM
01533	00015	OCT	15	P
01534	00047	OCT	47	P
01535	00013	OCT	13	AND
01536	00020	OCT	20	AND
01537	00035	OCT	35	Q
01540	00050	OCT	50	Q
01541	00005	OCT	5	HASH
01542	00012	OCT	12	HASH
01543	00012	OCT	12	R
01544	00051	OCT	51	R
01545	00032	OCT	32	APOSTROPHE
01546	00032	OCT	32	APOSTROPHE

01547	00024	OCT	24	S
01550	00062	OCT	62	S
01551	00036	OCT	36	(
01552	00074	OCT	74	(
01553	00001	OCT	1	T
01554	00063	OCT	63	T
01555	00011	OCT	11	)
01556	00034	OCT	34	)
01557	00034	OCT	34	U
01560	00064	OCT	64	U
01561	00007	OCT	7	.
01562	00033	OCT	33	.
01563	00017	OCT	17	V
01564	00065	OCT	65	V
01565	00006	OCT	6	,
01566	00073	OCT	73	,
01567	00031	OCT	31	W
01570	00066	OCT	66	W
01571	00024	OCT	24	BELL
01572	00015	OCT	15	BELL
01573	00027	OCT	27	X
01574	00067	OCT	67	X
01575	00017	OCT	17	SEMI COLON
01576	00054	OCT	54	SEMI COLON
01577	00025	OCT	25	Y
01600	00070	OCT	70	Y
01601	00027	OCT	27	/
01602	00061	OCT	61	/
01603	00021	OCT	21	Z
01604	00071	OCT	71	Z
01605	00004	OCT	4	BLANK
01606	00000	OCT	0	BLANK
01607	00004	OCT	4	SPACE
01610	00000	OCT	0	SPACE
01611	00002	OCT	2	CR
01612	00057	OCT	57	CR
01613	00004	OCT	4	SPACE
01614	00000	OCT	0	SPACE
01615	00002	OCT	2	CR
01616	00057	OCT	57	CR
01617	01000	END	HBEGIN	

## 5. PUNCH DIAGNOSTIC TEST

### 5.1 GENERAL

This test tests the capabilities of the punch under such conditions as continuous lengthy punching in various formats. Upon selection of the punch pattern desired, the program on each cycle punches out approximately 115 feet. This tape can then be read back into the computer by way of the bootstrap loader; it is subsequently checked for validity by a program punched on the front of that tape.

### 5.2 LOADING PROCEDURE

- a. Set RUN switch on TRW-130 Computer to STOP position.
- b. Set TRW-140 by the following:

#### SYSTEM SWITCHES

1. CODE CONVERT to Off (down)
2. ON LINE-OFF LINE to ON LINE
3. POWER ON to POWER ON
4. INPUT CONTROL to PAPER TAPE

#### PAPER TAPE SWITCHES

1. BINARY-OTHER to BINARY
2. PUNCH to Off (down)
3. READER to POWER ON

#### TYPEWRITER

1. ECHO CHECK to Off (down)
2. OUTPUT to OUTPUT
3. POWER ON to POWER ON

- c. Turn reader power on.
- d. Place Punch Program on Tape Reader.
- e. Set FORWARD-REWIND switch to REWIND, and rewind tape to first character on tape. Then set FORWARD-REWIND to FORWARD.
- f. Set LOAD button on TRW-130 Computer to LOAD, then release it.

- g. Press FLAG button. The program is loaded into TRW-130 Computer. The M register reads 01001.
- h. Set FORWARD-REWIND switch to REWIND and rewind program tape and then remove.
- i. Set PUNCH on TRW-140 to POWER ON.
- j. Push punch leader button, and punch approximately 10 feet of leader.
- k. Thread tape from punch through braking arms to left-hand reel.
- l. Set INPUT CONTROL on TRW-140 to KEYBOARD.
- m. Press FLAG button. The typewriter prints:  

PUNCH TEST WORD
- n. Type a five-digit octal number.
- o. Set INPUT CONTROL to PAPER TAPE. The punch punches approximately 115 feet of tape of the selected test word.  

The punched tape can be read back into the computer by the following procedure, or a new test word may be punched in series by the procedure in step u. through ac.
- p. Rewind punched tape into reader.
- q. Set LOAD button on TRW-130 Computer to LOAD, then release it.
- r. Press FLAG button. The tape stops with 01204 in the M register.
- s. Press FLAG button. The typewriter prints:  

END OF TEST

If an error occurs, the tape stops with 01214 in the M register.

The address + 1 of the incorrect word is contained in the P register.

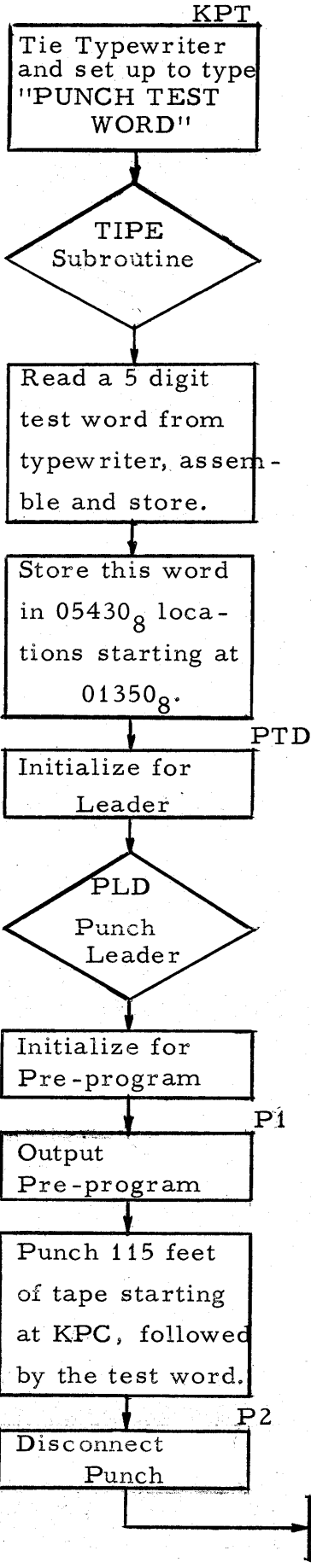
The incorrect contents of the address are contained in the A register.

- t. To restart test, press FLAG button.
- u. Set INPUT CONTROL to KEYBOARD.
- v. Press FLAG button. The typewriter prints:  
PUNCH TEST WORD
- w. Type a five-digit octal number.
- x. Set INPUT CONTROL to PAPER TAPE. The punch punches approximately 115 feet of tape of the selected test word.
- y. Repeat steps u. through x. as many times as desired.
- z. Rewind punched tape.
- aa. Set LOAD button to LOAD and release.
- ab. Press FLAG button. The tape stops after reading the first test word with 01053 in the M register.
- ac. Press FLAG button. The typewriter prints:  
END OF TEST

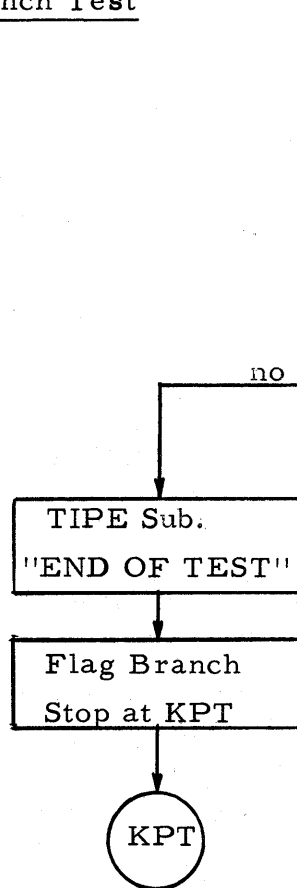
Each test word is read into the computer, as indicated in steps aa. through ac.



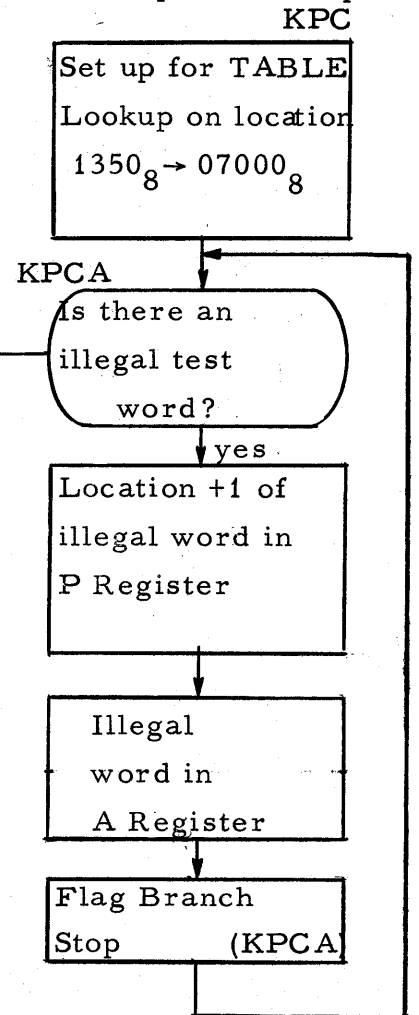
Punch Output



Punch Test



Check punched output.



	01000		ORG	512	
	01350	TEMP	EQUB	01350	
01000	25110	KPT	CF DL	8	
01001	21010		EF DM	8	
01002	40100		OCT	40100	
01003	75000		LA DM	NO	
01004	01235		PZE	KTW	
01005	70000		LT DM	NO	
01006	01243		PZE	KTWX	
01007	47400		RP IM	NO	
01010	01251		PZE	TIPE	
01011	21010		EF DM	8	
01012	40003		OCT	40003	
01013	27113		WI DL	\$T1	
01014	27114		WI DL	\$T2	
01015	27115		WI DL	\$T3	
01016	27116		WI DL	\$T4	
01017	27117		WI DL	\$T5	
01020	75113		LA DL	\$T1	
01021	11043		SD DM D	R3	
01022	75114		LA DL	\$T2	
01023	11043		SD DM D	R3	
01024	75115		LA DL	\$T3	
01025	11043		SD DM D	R3	
01026	75116		LA DL	\$T4	
01027	11043		SD DM D	R3	
01030	75117		LA DL	\$T5	
01031	11043		SD DM D	R3	
01032	67066		CC DM B	AP	
01033	50400		SA IM	NO	
01034	01204		PZE	KPC+1	
01035	50400		SA IM	NO	
01036	01350		PZE	TEMP	
01037	75000		LA DM	NO	
01040	01350		PZE	TEMP	
01041	70000		LT DM	NO	
01042	70777		OCT	70777	X
01043	32603		MV IP	NV	
01044	75000		LA DM	NO	
01045	01203		PZE	KPC	
01046	50113		SA DL	\$T1	
01047	75000		LA DM	NO	
01050	07000		DCT	7000	X
01051	50114		SA DL	\$T2	
01052	20020		BR DM	UN	

01053	01054		PZE		PTD
			PROGRAM	TAPE	DUMP
01054	25110	PTD	CF	DL	8
01055	21010		EF	DM	8
01056	40020		OCT		40020
01057	75000		LA	DM	NO
01060	01135		PZE		PCH
01061	50116		SA	DL	\$T4
01062	47400		RP	IM	NO
01063	01117		PZE		PLD
01064	75000	P1	LA	DM	NO
01065	76574		NAD		PREN+2
01066	50400		SA	IM	NO
01067	01154		PZE		PCH2
01070	75114		LA	DL	\$T2
01071	67013		CC	DM	AS
01072	77777		OCT		77777
01073	50400		SA	IM	NO
01074	01163		PZE		PRED
01075	50114		SA	DL	\$T2
01076	75113		LA	DL	\$T1
01077	50400		SA	IM	NO
01100	01165		PZE		PRES
01101	75000		LA	DM	NO
01102	01160		PZE		PRE
01103	57116		RM	DL	\$T4
01104	75114		LA	DL	\$T2
01105	50400		SA	IM	NO
01106	01154		PZE		PCH2
01107	75113		LA	DL	\$T1
01110	57116		RM	DL	\$T4
01111	47400		RP	IM	NO
01112	01117		PZE		PLD
01113	21010	P2	EF	DM	8
01114	40000		OCT		40000
01115	20060		BR	DM F	UN
01116	01000		PZE		KPT
01117	01122	PLD	PZE		PLDR
01120	47400		RP	IM	NO
01121	01117		PZE		PLD
01122	62000	PLDR	LP	DM	NO
01123	77737		OCT		77737
01124	23000	PLD1	WO	DM	NO
01125	00000		PZE		

OUTPUT LEADER

OUTPUT PRE PROG

DISCONNECT CODE FOR TRW-140

PUNCH LEADER

01126	60240		NO	DP N	NO
01127	42075		SP	DM B	LA
01130	20034		BR	DM	AN
01131	01124		PZE		PLD1
01132	20020		BR	DM	UN
01133	01120		PZE		PLDR-2
01134	57116		RM	DL	\$T4
01135	67315	PCH	CC	DA	LA
01136	42115		SP	DL	\$T3
01137	44062		ZE	DM B	LP
01140	03065		SC	DM D	L5
01141	42121		SP	DL	\$T7
01142	11052		SO	DM D	R10
01143	50120		SA	DL	\$T6
01144	44075		ZE	DM B	LA
01145	11065		SO	DM D	L5
01146	50117		SA	DL	\$T5
01147	23117		WO	DL	\$T5
01150	23120		WO	DL	\$T6
01151	23121		WO	DL	\$T7
01152	75115		LA	DL	\$T3
01153	20427		BR	IM	NQ
01154	00000	PCH2	PZE		
01155	01135		PZE		PCH
01156	20020		BR	DM	UN
01157	01134		PZE		PCH-1
01160	77733	PRE	OCT		77733
01161	00004		OCT		00004
01162	75000		LA	DM	NO
01163	00000	PRED	PZE		
01164	60000		NO	DM	NO
01165	00000	PRES	PZE		
01166	52117		SE	DL	15
01167	50121		SA	DL	17
01170	75000		LA	DM	NO
01171	20060		BR	DM F	UN
01172	50125		SA	DL	21
01173	75000		LA	DM	NO
01174	21010		EF	DM	8
01175	50123		SA	DL	19
01176	75000		LA	DM	NO
01177	40000		OCT		40000
01200	50124		SA	DL	20
01201	20020		BR	DM	UN
01202	00004	PREN	PZE		4

COMPARAND

LOC. 21  
 22  
 23 START LOC.  
 24 END - 1  
 25  
 26 START - 0  
 27  
 30  
 31  
 32  
 33  
 34  
 35  
 36  
 37  
 DISCONNECT CODE FOR TRW-140  
 41  
 42  
 43

Address	Value	Label	Field 1	Field 2	Field 3	Notes
01203	75007	KPC	LA	DM	CC	
01204	00000		PZE			TEST WORD
01205	64015		AT	DM	LA	
01206	01350		PZE		TEMP	
01207	62000		LP	DM	NO	
01210	70777		OCT		70777	X
01211	20031		BR	DM	OV	
01212	01213		PZE		**+1	
01213	36607	KPCA	TB	IP	NQ	
01214	20031		BR	DM	OV	
01215	01223		PZE		KPCB	
01216	73000		AS	DM	NO	
01217	77777		OCT		77777	
01220	75300		LA	DA	NO	
01221	20060		BR	DM F	UN	
01222	01213		PZE		KPCA	
01223	21010	KPCB	EF	DM	8	
01224	40100		OCT		40100	
01225	75000		LA	DM	NO	
01226	01244		PZE		KTE	
01227	70000		LT	DM	NO	
01230	01250		PZE		KTEX	
01231	47400		RP	IM	NO	
01232	01251		PZE		TIPE	
01233	20060		BR	DM F	UN	
01234	01000		PZE		KPT	
01235	05755	KTW	OCT		05755	CR, LT, P
01236	70316		OCT		70316	U, N, C
01237	12201		OCT		12201	H, SP, T
01240	41201		OCT		41201	E, S, T
01241	11443		OCT		11443	SP, W, O
01242	25104		OCT		25104	R, D, SP
01243	11544	KTWX	OCT		11544	SP, FG, SP
01244	05760	KTE	OCT		05760	CR, LT, E
01245	15104		OCT		15104	N, D, SP
01246	07304		OCT		07304	O, F, SP
01247	03024		OCT		03024	T, E, S
01250	02204	KTEX	OCT		02204	T, SP, SP
01251	01254	TIPE	PZE		**+3	
01252	47400		RP	IM	NO	
01253	01251		PZE		TIPE	
01254	62000		LP	DM	NO	
01255	01263		PZE		TIPE2	
01256	52400		SE	IM	NO	
01257	01323		PZE		SOUOEX	

01260	40062		ST	DM B	LP
01261	20020		BR	DM	UN
01262	01265		PZE		SOUO
01263	20020	TIPE2	BR	DM	UN
01264	01252		PZE		TIPE+1
01265	66067	SOUO	AP	DM B	CC
01266	50006		SA	DM C	AP
01267	66666	SOUO1	OCT		66666
01270	50400		SA	IM C	NO
01271	01273		PZE		SOUO2
01272	75400	SOUO6	LA	IM C	NO
01273	66666	SOUO2	OCT		66666
01274	52400		SE	IM C	NO
01275	01273		PZE		SOUO2
01276	50006		SA	DM C	AP
01277	66666	SOUO3	OCT		66666
01300	11065		SO	DM D	L5
01301	50000		SA	DM C	NO
01302	66666	SOUO4	OCT		66666
01303	11065		SO	DM D	L5
01304	50000		SA	DM C	NO
01305	66666	SOUO5	OCT		66666
01306	23400		WO	IM C	NO
01307	01302		PZE		SOUO4
01310	23400		WO	IM C	NO
01311	01305		PZE		SOUO5
01312	23400		WO	IM C	NO
01313	01277		PZE		SOUO3
01314	20033		BR	DM	TL
01315	01314		PZE		*-1
01316	75400		LA	IM C	NO
01317	01273		PZE		SOUO2
01320	73400		AS	IM C	NO
01321	01267		PZE		SOUO1
01322	20024		BR	DM	AZ
01323	66666	SOUOEX	OCT		66666
01324	20020		BR	DM	UN
01325	01272		PZE		SOUO6
01326	01000		END		KPT

APPENDIX A

ASSEMBLY FORMAT LOADER

## APPENDIX A

This program is a general upper or lower core loader for AN/UYK-1 or MASS assembled formats. This program is necessary because of the format on the tape of the information blocks. These contain the initial address of up to 10 data words followed by a check sum.

This program is located in the addresses shown in the write-up for use during the diagnostic operation.



## 1. ASSEMBLY FORMAT LOADER

The loader loads job programs in teletype code into the computer, converts the teletype codes to binary, and stores them in the specified locations. Programs to be loaded must be prepared in the format compatible with the AN/UYK-1 Assembler output or the MASS output and the 063 card-to-tape process. It is to be noted that the loader still reads five-level codes (since the job program is still prepared in the same manner).

The load programs for lower and upper core are identical in the symbolic program. Only the origin of each is different.

## 2. CORE USAGE

The origin of the low-core loader is 200 (octal) and extends to location 550 (octal). The high-core loader occupies cells 17055 (octal) through 17425 (octal).

## 3. PROGRAM SPECIFICATIONS

### 3.1 OPERATING INSTRUCTIONS

The loader is read into core by the wired-in bootstrap. The RUN-STOP switch is set to STOP, the LOAD switch is set up, and the FLAG button is pressed. When the loader has been read in, the computer stops on a flag branch to symbolic address BCOV of the load program (octal location 200 for lower core and 17055 for upper core). The M register reads 201 and 17056, respectively. To proceed, press the FLAG button. The loader loads in the job program and stops on a flag branch to the address specified by the job program (on the END card).

### 3.2 SPECIAL PROGRAM STOPS

#### a. Illegal Check Sum

The load program makes use of two special halts, or flag branches. If an illegal check sum is obtained during the loading process, the program disconnects the reader from the computer; displays in the A register the last address in which an input data word was stored; and stops on a flag branch (octal location 423 for lower core, 17230 for upper core) to the next instruction. To continue loading regardless of the error, press the FLAG button. The program reconnects the reader to the computer, and then continues.

#### b. Illegal Characters

If an illegal teletype code is detected by the program during the load operation, the program disconnects the reader from the computer; displays in the A register the last address in which data was stored; and halts on a flag branch (octal location 471 for lower core, 17346 for upper core). To continue loading regardless of the error, press the FLAG button. The program reconnects the reader to the computer, ignores the remainder of that card (or block), and searches for the next card.

## 4. PAPER TAPE FORMAT OF MASS ASSEMBLED PROGRAM

The following general information may prove helpful in detecting errors on paper tapes being read by the load program:

Outside of teletype control characters, the octal deck paper tape contains the following:

1. An ID block containing in teletype code the information appearing in columns 7-15 of the control card.

2. A series of program blocks each of which has the following format:

Characters 1-3:	\$DB
Character 4:	Space
Characters 5-6:	The data word count
Characters 7-11:	The octal address into which the first data word on the card is to be stored.
Characters 13-72:	Up to 10 words of data in octal follow character 12. Each word will be five octal digits and will be followed by a space. If less than 10 words of real data are in the card, enough dummy words of data, consisting entirely of spaces, are entered to bring the count up to 10. Note that characters 5-6 give the count of real data words.
Characters 73-77:	A check sum formed by summing the octal address in characters 7-11 and the words of real data, treating each as a 15-bit positive number with end carry from bit 15 into bit 1. This check sum was formed while the words were still in binary form.

3. The last program block is followed by an end (or transfer) block which contains

The paper tape contains this information in teletype code. An AN/UYK-1 loader and translator is available to load this program tape into the AN/UYK-1 and convert it into binary. Thus the paper tape can be used as input to the AN/UYK-1 or to produce IBM cards through the use of the 047.

If cards are produced from the paper tape, the deck consists of an ID card followed by program cards, with the last card being a transfer card. Punching an "N" in column 4 of any program card causes the check sum to be ignored. Obviously, correction cards can be punched and added before the transfer card, just as in ordinary binary decks.

If an octal deck is to be used on the AN/UYK-1, the ID card must be at the head of the deck, when translation is made from cards to paper tape via 063. If an octal deck is to be used for a MASS run,

the original ID card must be removed and the standard MASS ID and control cards must be used.

When the 063 card-to-tape machine reaches column 80 of the input octal card, the following teletype codes are automatically punched on the tape:

Carriage return	(02)
Line feed	(10)
Letters	(37)
Letters	(37)

Translation of the next card begins in column 1 and the card image on tape appears as

```

Figures)  $
Q      )
Letters
D
B
space (or N, if a corrected card was inserted)
Figs
X      )
X      )   No. of data words on card
Y      )
Y      )   address into which data is to be stored
Y      )
Y      )
Y      )
space
figures
D      )
D      )
D      )   1st data word to be stored
D      )
D      )
space
figures
D      )
D      )
D      )   second data word to be stored
D      )
D      )
-----
C      )
C      )
C      )
C      )   check sum (last word in block)
C      )
carriage return
line feed
letter shift

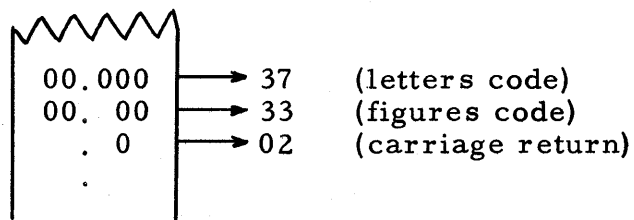
```

Once a new card (or block) has been read, every character on the card is controlled by the program. Any other sequence of codes produces illegal character stops.

Following is the five-level teletype code (given as octal numbers) which must be used to decode the paper tape.

<u>LETTERS (Lower Case)</u>		<u>FIGURES (Upper Case)</u>	
Line Feed	10	Line Feed	10
Carriage Return	02	Carriage Return	02
Letters	37	Figures	33
Space	04	Space	04
a	30	0	15
b	23	1	35
c	16	2	31
d	22	3	20
e	20	4	12
f	26	5	01
g	13	6	25
h	05	7	34
i	14	8	14
j	32	9	03
k	36	+	13
l	11	-	30
m	07	*	17
n	06	\$	22
o	03	,	06
p	15	.	07
q	35	/	27
r	12	)	11
s	24	(	36
t	01	=	23
u	34		
v	17		
w	31		
x	27		
y	25		
z	21		

Paper tape punches must be read in the following manner:



	00200		ORG		128
00200	75000	BCCV	LA	DM C	NO
00201	00204		PZE		BCOV1
00202	50101		SA	DL	\$MIB
00203	00500		IT	IL	0
00204	67015	BCCV1	CC	DM	LA
00205	00210		PZE		BCOV2
00206	50107		SA	DL	07
00207	00506		IT	IL	06
00210	25110	BCCV2	CF	DL	8
00211	21010		EF	DM	8
00212	40001		OCT		40001
00213	27173	BCCV5	WE	DL	\$RET
00214	75173		LA	DL	\$RET
00215	20427		BR	IM	NQ
00216	77775		OCT		77775
00217	00213		PZE		BCOV5
00220	27173	BCCV7	WE	DL	\$RET
00221	75173		LA	DL	\$RET
00222	20427		BR	IM	NQ
00223	77744		OCT		77744
00224	00220		PZE		BCOV7
00225	27173	BCCV8	WE	DL	\$RET
00226	75173		LA	DL	\$RET
00227	20427		BR	IM	NQ
00230	77742		OCT		77742
00231	00220		PZE		BCOV7
00232	27173	BCCV9	WE	DL	\$RET
00233	75173		LA	DL	\$RET
00234	20427		BR	IM	NQ
00235	77740		OCT		77740
00236	00220		PZE		BCOV7
00237	27173	BCCV10	WE	DL	\$RET
00240	75173		LA	DL	\$RET
00241	20426		BR	IM	EQ
00242	77755		OCT		77755
00243	00251		PZE		BCOV11
00244	20426		BR	IM	EQ
00245	77753		OCT		77753
00246	00426		PZE		BCOV27
00247	20020		BR	DM	UN
00250	00220		PZE		BCOV7
00251	27173	BCCV11	WE	DL	\$RET
00252	75173		LA	DL	\$RET
00253	20427		BR	IM	NQ

INHIBIT INTERRUPT TYPE 2

CHANNEL SELECT

TIE COMMAND  
 PAPER TAPE CONNECT  
 READ A CHAR  
 LOA REG A WITH A CHAR  
 =  
 CARRIAGE RETURN (OCT 02)

READ A CHAR  
 LOAD CHAR INTO REG A  
 =  
 FIGS (OCT 33)

READ A CHAR  
 LOA A CHAR INTO REG A  
 NOT=  
 Q ,OCT 35 .

BRANCH - NOT EQUAL  
 READ A CHAR  
 LOA A REG WITH THE CHAR  
 =  
 LETTERS (OCT 37)

BRANCH - NOT EQUAL  
 READ A CHAR  
 LOAD REG A WITH THE CHAR  
 =  
 D=OCT 22

IF S BRANCH  
 END

START AGAIN  
 READ A CHAR  
 LOADA A REG WITH THE CHAR

00254	77754		OCT		77754	B= (OCT 23)
00255	00220		PZE		BCOV7	BRANCH - NOT EQUAL
00256	27400	BCOV12	WI	IM	NO	READ CHECK SUM INDICATOR
00257	00371		PZE		BCOV30+1	
00260	27173		WI	DL	\$RET	FIGS
00261	27173		WI	DL	\$RET	FIRST CHAR. OF NO. OF WORDS ON CARD
00262	75173		LA	DL	\$RET	
00263	20426		BR	IM	EQ	
00264	77774		OCT		77774	IS IT=9
00265	00220		PZE		BCOV7	PASS UP REMAINING WORDS
00266	67015		CC	DM	LA	LOAD RETURN ADDRESS
00267	00274		PZE		BCOV13	
00270	50400		SA	IM	NO	STORE RETURN ADDRESS
00271	00455		PZE		BCONTC+2	
00272	20020		BR	DM	UN	PERFORM TABLE LOOK UP ON CHAR
00273	00437		PZE		BCONTB	
00274	11023	BCOV13	SO	DM S	L3	
00275	50407		SA	IM	CC	
00276	00307		PZE		BCOV14+1	XXX000=(AL)
00277	27173		WI	DL	\$RET	READ NEW CHAR
00300	75000		LA	DM	NO	
00301	00306		PZE		BCOV14	
00302	50400		SA	IM	NO	SET EXIT
00303	00455		PZE		BCONTC+2	
00304	20020		BR	DM	UN	
00305	00437		PZE		BCONTB	
00306	73000	BCOV14	AS	DM	NO	
00307	00000		OCT		0	
00310	67013		CC	DM	AS	
00311	00001		OCT		1	
00312	50400		SA	IM	NO	NR OF WORDS/CARD COMPLEMENTED
00313	00526		PZE		BCONZ	
00314	44400		ZE	IM	NO	44400
00315	00540		PZE		BCONY	
00316	47407	BCOV15	RP	IM	CC	
00317	00537		PZE		BCONZ1	
00320	75162	BCOV16	LA	DL	\$AL	
00321	50400		SA	IM	NO	
00322	00335		PZE		BCOV19	
00323	73400		AS	IM	NO	
00324	00540		PZE		BCONY	
00325	50400		SA	IM	NO	
00326	00540		PZE		BCONY	
00327	27173	BCOV17	WI	DL	\$RET	SPACE
00330	27173		WI	DL	\$RET	FIGS

00331	47407		RP	DM	CC	
00332	00537		PZE		BCONZ1	
00333	75162	BCCV18	LA	DL	\$AL	LOAD CONVERTED WORD
00334	50400		SA	DM	NO	STORE
00335	00000	BCCV19	PZE		0	
00336	52400		SE	DM	NO	
00337	00335		PZE		BCOV19	INCREMENTED ADDRESS
00340	73400		AS	DM	NO	ADD TO CHECK SUM
00341	00540		PZE		BCONY	
00342	50400		SA	DM	NO	STORE AT CHECK SUM LOCATION
00343	00540		PZE		BCONY	
00344	20032	BCCV20	BR	DM	CY	CHECK CARRY
00345	00360		PZE		BCOV22	YES, END-AROUND-CARRY
00346	75400	BCCV21	LA	DM	NO	NO, COUNT NR WDS/CARD
00347	00526		PZE		BCONZ	
00350	73000		AS	DM	NO	
00351	00001		OCT		I	
00352	20024		BR	DM	AZ	IS IT THE LAST WD ON CARD
00353	00370		PZE		BCOV30	YES
00354	50400		SA	DM	NO	NO, STORE NR BACK
00355	00526		PZE		BCONZ	
00356	20020		BR	DM	UN	
00357	00327		PZE		BCOV17	
00360	75400	BCCV22	LA	DM	NO	ADD I TO CHECK SUM
00361	00540		PZE		BCONY	
00362	73000		AS	DM	NO	
00363	00001		OCT		I	
00364	50400		SA	DM	NO	STORE CHECK SUM
00365	00540		PZE		BCONY	
00366	20020		BR	DM	UN	RETURN TO LOOP
00367	00346		PZE		BCOV21	
00370	67015	BCCV30	CC	DM	LA	PERFORM CHECK SUM OR NOT
00371	00000		PZE		0	
00372	20427		BR	DM	NQ	
00373	77773		OCT		77773	(04=SPACE)
00374	00220		PZE		BCOV7	NO
00375	27173	BCCV35	WI	DL	\$RET	READ A CHAR
00376	75173		LA	DL	\$RET	LOAD A REG WITH THE CHAR
00377	20427		BR	DM	NQ	
00400	77744		OCT		77744	IS IT FIGS
00401	00375		PZE		BCOV35	
00402	47407	BCCV23	RP	DM	CC	
00403	00537		PZE		BCONZ1	
00404	75407	BCCV24	LA	DM	CC	COMPLEMENT CHECK SUM
00405	00540		PZE		BCONY	



00406	50400	SA	IM	NO
00407	00412	PZE		BCOV25
00410	75162	LA	DL	\$AL
00411	20426	BR	IM	EQ
00412	00000	BCOV25	PZE	0
00413	00220		PZE	BCOV7
00414	21010	BCOV26	EF DM	8
00415	40000		OCT	40000
00416	75400	LA	IM	NO
00417	00335		PZE	BCOV19
00420	20060	BR	DM F	UN
00421	00422		PZE	*+1
00422	21010		EF DM	8
00423	40001		OCT	40001
00424	20020		BR DM	UN
00425	00220		PZE	BCOV7
00426	27173	BCOV27	WI DL	\$RET
00427	75173		LA DL	\$RET
00430	20427		BR IM	NQ
00431	77744		OCT	77744
00432	00426		PZE	BCOV27
00433	47407	BCOV28	RP IM	CC
00434	00537		PZE	BCONZ1
00435	20020	BCOV29	BR DM	UN
00436	00541		PZE	BCOV36
00437	20031	BCONTB	BR DM	OV
00440	00441		PZE	*+1
00441	75173		LA DL	\$RET
00442	67064		CC DM B	AT
00443	75007		LA DM	CC
00444	00540		PZE	BTABL+9
00445	66015		AP DM	LA
00446	00527		PZE	BTABL
00447	36606		TB IP	EQ
00450	20031		BR DM	OV
00451	00456		PZE	BCONTD
00452	73000		AS DM	NO
00453	77250	BCONTC	NAD	BTABL+1
00454	20020		BR DM	UN
00455	00000		PZE	0
00456	21010	BCONTD	EF DM	8
00457	40000		OCT	40000
00460	75000		LA DM	NO
00461	00476		PZE	BCOVW
00462	50400	SA	IM	NO

CHECK SUMS=

CHECK SUM THIS PROGRAM OBTAINED (COMP)  
YES, JUMP TO READ NEXT CARD  
ILLEGAL CHECK SUM

NEXT ADDRESS FOR STORAGE

LOAD A REG WITH THE CHAR

=FIGS  
NO

TURN OFF OVFL0

LOAD A WITH SEARCH WORD (03)  
(T)=\$RET (OCT 03) 77742  
LOAD P WITH LAST ADDRESS AND COMPLEMENT IT  
(P)=BTABL+9  
LOAD A WITH ADDRESS OF FIRST ENTRY IN TABLE  
(A)=BTABL  
DO TABLE SEARCH  
CHECK WHETHER EQUALITY FOUND OR NOT

EXIT (PRESET)  
ILLEGAL CHARA

00463	00537		PZE		BCONZ1	
00464	75400		LA	IM	NO	
00465	00335		PZE		BCOV19	
00466	20060		BR	DM F	UN	
00467	00470		PZE		++1	
00470	21010		EF	DM	8	
00471	40001		OCT		40001	
00472	20020		BR	DM	UN	
00473	00220		PZE		BCOV7	
00474	47407		RP	IM	CC	
00475	00537		PZE		BCONZ1	
00476	44162	BCOVW	ZE	DL	\$AL	READ AND CONVERT, PACK A WORD
00477	75000		LA	DM	NO	LOAD NR TIMES TO SHIFT
00500	77773		OCT		77773	(4)
00501	50170		SA	DL	56	50170
00502	27173	BCOVW1	WI	DL	\$RET	READ A CHAR
00503	67015		CC	DM	LA	
00504	00511		PZE		BCOVW2	LOAD RETURN ADDRESS
00505	50400		SA	IM	NO	
00506	00455		PZE		BCONTC+2	STORE RETURN ADDRESS
00507	20020		BR	DM	UN	
00510	00437		PZE		BCONTB	JUMP TO TABLE LOOK-UP
00511	73162	BCOVW2	AS	DL	\$AL	
00512	50162		SA	DL	\$AL	
00513	75170		LA	DL	56	75170
00514	73000		AS	DM	NO	73000
00515	00001		OCT		1	00001
00516	50170		SA	DL	56	50170
00517	20024		BR	DM	AZ	IS WORD PACKED FULL
00520	00474	BCOVW3	PZE		BCOVW-2	
00521	75162		LA	DL	\$AL	NO
00522	11023		SO	DM S	L3	SHIFT LEFT 3 PLACES
00523	50162		SA	DL	\$AL	
00524	20020		BR	DM	UN	
00525	00502		PZE		BCOVW1	
00526	00000	BCONZ	PZE		0	NR WDS PER CARD
00527	00015	BTABL	OCT		15	0
00530	00035		OCT		35	1
00531	00031		OCT		31	2
00532	00020		OCT		20	3
00533	00012		OCT		12	4
00534	00001		OCT		01	5
00535	00025		OCT		25	6
00536	00034		OCT		34	7
00537	00476	BCONZ1	PZE		BCOVW	

00540	00000	BCONY	OCT		0	CHECK SUM ADDRESS
00541	75162	BCOV36	LA	DL	\$AL	
00542	50400		SA	IM	NO	
00543	00547		PZE		BCOV40	
00544	21010		EF	DM	8	
00545	40000		OCT		40000	
00546	20060	BCOV39	BR	DM F	UN	
00547	00000	BCOV40	PZE		0	
00550	00200		END		128	

	17055		ORG		7725
17055	75000	BCOV	LA	DM C	NO
17056	17061		PZE		BCOV1
17057	50101		SA	DL	\$MIB
17060	00500		IT	IL	0
17061	67015	BCOV1	CC	DM	LA
17062	17065		PZE		BCOV2
17063	50107		SA	DL	07
17064	00506		IT	IL	06
17065	25110	BCOV2	CF	DL	8
17066	21010		EF	DM	8
17067	40001		OCT		40001
17070	27173	BCOV5	WI	DL	\$RET
17071	75173		LA	DL	\$RET
17072	20427		BR	IM	NQ
17073	77775		OCT		77775
17074	17070		PZE		BCOV5
17075	27173	BCOV7	WI	DL	\$RET
17076	75173		LA	DL	\$RET
17077	20427		BR	IM	NQ
17100	77744		OCT		77744
17101	17075		PZE		BCOV7
17102	27173	BCOV8	WI	DL	\$RET
17103	75173		LA	DL	\$RET
17104	20427		BR	IM	NQ
17105	77742		OCT		77742
17106	17075		PZE		BCOV7
17107	27173	BDOV9	WI	DL	\$RET
17110	75173		LA	DL	\$RET
17111	20427		BR	IM	NQ
17112	77740		OCT		77740
17113	17075		PZE		BCOV7
17114	27173	BCOV10	WI	DL	\$RET
17115	75173		LA	DL	\$RET
17116	20426		BR	IM	EQ
17117	77755		OCT		77755
17120	17126		PZE		BCOV11
17121	20426		BR	IM	EQ
17122	77753		OCT		77753
17123	17303		PZE		BCOV27
17124	20020		BR	DM	UN
17125	17075		PZE		BCOV7
17126	27173	BCOV11	WI	DL	\$RET
17127	75173		LA	DL	\$RET
17130	20427		BR	IM	NQ

INHIBIT INTERRUPT TYPE 2

CHANNEL SELECT  
TIB COMMAND  
PAPER TAPE CONNECT  
READ A CHAR  
LOA REG A WITH A CHAR  
=  
CARRIAGE RETURN (OCT 02)

READ A CHAR  
LOAD CHAR INTO REG A  
=  
FIGS (OCT 33)  
NO  
READ A CHAR  
LOA A CHAR INTO REG A  
NOT=  
Q ,OCT 35 .  
BRANCH - NOT EQUAL  
READ A CHAR  
LOA A REG WITH THE CHAR  
=  
LETTERS (OCT 37)  
BRANCH - NOT EQUAL  
READ A CHAR  
LOAD REG A WITH THE CHAR  
=  
D=OCT 22

IF S BRANCH  
END

START AGAIN  
READ A CHAR  
LOAD A REG WITH THE CHAR

17131	77754		OCT		77754
17132	17075		PZE		BCOV7
17133	27400	BCOV12	WI	IM	NO
17134	17246		PZE		BCOV30+1
17135	27173		WI	DL	\$RET
17136	27173		WI	DL	\$RET
17137	75173		LA	DL	\$RET
17140	20426		BR	IM	EQ
17141	77774		OCT		77774
17142	17075		PZE		BCOV7
17143	67015		CC	DM	LA
17144	17151		PZE		BCOV13
17145	50400		SA	IM	NO
17146	17332		PZE		BCONTC+2
17147	20020		BR	DM	UN
17150	17314		PZE		BCONTB
17151	11023	BCOV13	SO	DM S	L3
17152	50407		SA	IM	CC
17153	17164		PZE		BCOV14+1
17154	27173		WI	DL	\$RET
17155	75000		LA	DM	NO
17156	17163		PZE		BCOV14
17157	50400		SA	IM	NO
17160	17332		PZE		BCONTC+2
17161	20020		BR	DM	UN
17162	17314		PZE		BCONTB
17163	73000	BCOV14	AS	DM	NO
17164	00000		OCT		0
17165	67013		CC	DM	AS
17166	00001		OCT		F
17167	50400		SA	IM	NO
17170	17403		PZE		BCONZ
17171	44400		ZE	IM	NO
17172	17415		PZE		BCONY
17173	47407	BCOV15	RP	IM	CC
17174	17414		PZE		BCONZ1
17175	75162	BCOV16	LA	DL	\$AL
17176	50400		SA	IM	NO
17177	17212		PZE		BCOV19
17200	73400		AS	IM	NO
17201	17415		PZE		BCONY
17202	50400		SA	IM	NO
17203	17415		PZE		BCONY
17204	27173	BCOV17	WI	DL	\$RET
17205	27173		WI	DL	\$RET

B= (OCT 23)  
 BRANCH - NOT EQUAL  
 READ CHECK SUM INDICATOR

FIGS  
 FIRST CHAR. OF NO. OF WORDS ON CARD

IS IT=9  
 PASS UP REMAINING WORDS  
 LOAD RETURN ADDRESS

STORE RETURN ADDRESS

PERFORM TABLE LOOK UP ON CHAR

XXX000=(AL)  
 READ NEW CHAR

SET EXIT

NR OF WORDS/CARD COMPLEMENTED  
 44400

SPACE  
 FIGS

17206	47407		RP	BM	CC	
17207	17414		PZE		BCONZ1	
17210	75162	BCOV18	LA	DL	\$AL	LOAD CONVERTED WORD
17211	50400		SA	BM	NO	STORE
17212	00000	BCOV19	PZE		0	
17213	52400		SE	BM	NO	
17214	17212		PZE		BCOV19	INCREMENTED ADDRESS
17215	73400		AS	BM	NO	ADD TO CHECK SUM
17216	17415		PZE		BCONY	
17217	50400		SA	BM	NO	STORE AT CHECK SUM LOCATION
17220	17415		PZE		BCONY	
17221	20032	BCOV20	BR	DM	CY	CHECK CARRY
17222	17235		PZE		BCOV22	YES, END-AROUND-CARRY
17223	75400	BCOV21	LA	BM	NO	NO, COUNT NR WDS/CARD
17224	17403		PZE		BCONZ	
17225	73000		AS	DM	NO	
17226	00001		OCT		1	
17227	20024		BR	DM	AZ	IS IT THE LAST WD ON CARD
17230	17245		PZE		BCOV30	YES
17231	50400		SA	BM	NO	NO, STORE NR BACK
17232	17403		PZE		BCONZ	
17233	20020		BR	DM	UN	
17234	17204		PZE		BCOV17	
17235	75400	BCOV22	LA	BM	NO	ADD 1 TO CHECK SUM
17236	17415		PZE		BCONY	
17237	73000		AS	DM	NO	
17240	00001		OCT		1	
17241	50400		SA	BM	NO	STORE CHECK SUM
17242	17415		PZE		BCONY	
17243	20020		BR	DM	UN	RETURN TO LOOP
17244	17223		PZE		BCOV21	
17245	67015	BCOV30	CC	DM	LA	PERFORM CHECK SUM OR NOT
17246	00000		PZE		0	
17247	20427		BR	BM	NQ	
17250	77773		OCT		77773	(04=SPACE)
17251	17075		PZE		BCOV7	NO
17252	27173	BCOV35	HI	DL	\$RET	READ A CHAR
17253	75173		LA	DL	\$RET	LOAD A REG WITH THE CHAR
17254	20427		BR	BM	NQ	
17255	77744		OCT		77744	IS IT FIGS
17256	17252		PZE		BCOV35	
17257	47407	BCOV23	RP	BM	CC	
17260	17414		PZE		BCONZ1	
17261	75407	BCOV24	LA	BM	CC	COMPLEMENT CHECK SUM
17262	17415		PZE		BCONY	

17263	50400	SA	IM	NO
17264	17267	PZE		BCOV25
17265	75162	LA	DL	\$AL
17266	20426	BR	IM	EQ
17267	00000	BCOV25	PZE	0
17270	17075		PZE	BCOV7
17271	21010	BCOV26	EF	DM
17272	40000		OCT	40000
17273	75400	LA	IM	NO
17274	17212		PZE	BCOV19
17275	20060	BR	DM F	UN
17276	17277		PZE	**1
17277	21010		EF	DM
17300	40001		OCT	40001
17301	20020	BR	DM	UN
17302	17075		PZE	BCOV7
17303	27173	BCOV27	WI	DL
17304	75173		LA	DL
17305	20427		BR	IM
17306	77744		OCT	77744
17307	17303		PZE	BCOV27
17310	47407	BCOV28	RP	IM
17311	17414		PZE	BCONZ1
17312	20020	BCOV29	BR	DM
17313	17416		PZE	BCOV36
17314	20031	BCONTB	BR	DM
17315	17316		PZE	**1
17316	75173		LA	DL
17317	67064		CC	DM B
17320	75007		LA	DM
17321	17415		PZE	BTABL+9
17322	66015		AP	DM
17323	17404		PZE	BTABL
17324	36606		TB	IP
17325	20031		BR	DM
17326	17333		PZE	BCONTD
17327	73000		AS	DM
17330	60373	BCONTC	NAD	
17331	20020		BR	DM
17332	00000		PZE	0
17333	21010	BCONTD	EF	DM
17334	40000		OCT	40000
17335	75000		LA	DM
17336	17353		PZE	BCOVW
17337	50400	SA	IM	NO

CHECK SUMS=

CHECK SUM THIS PROGRAM OBTAINED (COMP)  
 YES, JUMP TO READ NEXT CARD  
 ILLEGAL CHECK SUM

NEXT ADDRESS FOR STORAGE

LOAD A REG WITH THE CHAR

=FIGS  
 NO

TURN OFF OVFL0

LOAD A WITH SEARCH WORD (03)  
 (T)=\$RET (OCT 03) 77742  
 LOAD P WITH LAST ADDRESS AND COMPLEMENT IT  
 (P)=BTABL+9  
 LOAD A WITH ADDRESS OF FIRST ENTRY IN TABLE  
 (A)=BTABL  
 DO TABLE SEARCH  
 CHECK WHETHER EQUALITY FOUND OR NOT

EXIT (PRESET)  
 ILLEGAL CHARA

17340	17414		PZE		BCONZ1	
17341	75400		LA	IM	NO	
17342	17212		PZE		BCOV19	
17343	20060		BR	DM F	UN	
17344	17345		PZE		**1	
17345	21010		EF	DM	8	
17346	40001		OCT		40001	
17347	20020		BR	DM	UN	
17350	17075		PZE		BCOV7	
17351	47407		RP	IM	CC	
17352	17414		PZE		BCONZ1	
17353	44162	BCOVW	ZE	DL	\$AL	READ AND CONVERT, PACK A WORD
17354	75000		LA	DM	NO	LOAD NR TIMES TO SHIFT
17355	77773		OCT		77773	(4)
17356	50170		SA	DL	56	50170
17357	27173	BCOVW1	WI	DL	\$RET	READ A CHAR
17360	67015		CC	DM	LA	
17361	17366		PZE		BCOVW2	LOAD RETURN ADDRESS
17362	50400		SA	IM	NO	
17363	17332		PZE		BCONTC+2	STORE RETURN ADDRESS
17364	20020		BR	DM	UN	
17365	17314		PZE		BCONTB	JUMP TO TABLE LOOK-UP
17366	73162	BCOVW2	AS	DL	\$AL	
17367	50162		SA	DL	\$AL	
17370	75170		LA	DL	56	75170
17371	73000		AS	DM	NO	73000
17372	00001		OCT		1	00001
17373	50170		SA	DL	56	50170
17374	20024		BR	DM	AZ	IS WORD PACKED FULL
17375	17351	BCOVW3	PZE		BCOVW-2	
17376	75162		LA	DL	\$AL	NO
17377	11023		SO	DM S	L3	SHIFT LEFT 3 PLACES
17400	50162		SA	DL	\$AL	
17401	20020		BR	DM	UN	
17402	17357		PZE		BCOVW1	
17403	00000	BCONZ	PZE		0	NR WDS PER CARD
17404	00015	BTABL	OCT		15	0
17405	00035		OCT		35	1
17406	00031		OCT		31	2
17407	00020		OCT		20	3
17410	00012		OCT		12	4
17411	00001		OCT		01	5
17412	00025		OCT		25	6
17413	00034		OCT		34	7
17414	17353	BCONZ1	PZE		BCOVW	



REM HIGH CORE LOADER

REM	ADDRESS	OPERATION	OPERATION	OPERATION	OPERATION	CHECK SUM ADDRESS
17415	00000	BCONY	OCT			0
17416	75162	BCOV36	LA	DL		\$AL
17417	50400		SA	IM		NO
17420	17424		PZE			BCOV40
17421	21010		E6	DM		8
17422	40000		OCT			40000
17423	20060	BCOV39	BR	DM F		UN
17424	00000	BCOV40	PZE			0
17425	17055		END			7725

APPENDIX B

COMPUTER DIAGNOSTIC LISTINGS

## APPENDIX B

### 1. Computer Diagnostic Listings

The following two sections of assembly listings consist of

#### a. Section 1

- (1) Diagnostic Executive (Page 1)
- (2) Logand Logic Test (Page 16)
- (3) Low Core Memory Test Executive (Page 86)
- (4) Preliminary Test (Page 92)
- (5) Delta Noise Test (Page 98)
- (6) Circuit Noise Test (Page 109)
- (7) Sense Amplifier Test (Page 115)
- (8) Low Flux Test (Page 131)
- (9) High Core Loader (Page 140)

#### b. Section 2

- (1) High Core Memory Test Executive (Page 1)
- (2) Preliminary Test (Page 16)
- (3) Delta Noise Test (Page 22)
- (4) Circuit Noise Test (Page 32)
- (5) Sense Amplifier Test (Page 38)
- (6) Low Flux Test (Page 53)

**SECTION 1**

00620	00620		ORG		400
00620	20020	MAIN	BR	DM	UN
00621	00622		PZE		*+1
00622	25124		CF	DL	20
00623	25122		CF	DL	18
00624	75067		LA	DM B	CC
00625	50000		SA	DM C	NO
00626	66666	TSWCH	OCT		66666
00627	20034		BR	DM	AN
00630	00646		PZE		ZEBRA
00631	25110		CF	DL	8
00632	21010		EF	DM	8
00633	20002		OCT		20002
00634	75000		LA	DM C	NO
00635	00646		PZE		ZEBRA
00636	50400		SA	IM C	NO
00637	01234		PZE		SOUDEX
00640	75000		LA	DM C	NO
00641	01005		PZE		TITLE+7
00642	62000		LP	DM C	NO
00643	00776		PZE		TITLE
00644	20020		BR	DM	UN
00645	01133		PZE		SOUO
00646	20020	ZEBRA	BR	DM	UN
00647	00200		OCT		200
00650	25110	RTRELL	CF	DL	8
00651	21010		EF	DM	8
00652	20002		OCT		20002
00653	75400		LA	IM C	NO
00654	00626		PZE		TSWCH
00655	11036		SO	DM S	L14
00656	20035		BR	DM	AP
00657	00742		PZE		DOLOLO
00660	75400		LA	IM	NO
00661	00626		PZE		TSWCH
00662	20034		BR	DM	AN
00663	00712		PZE		ZZZZA
00664	75000		LA	DM C	NO
00665	00676		PZE		CORREC
00666	50400		SA	IM C	NO
00667	01234		PZE		SOUDEX
00670	75000		LA	DM C	NO
00671	01031		PZE		NOLL+19
00672	62000		LP	DM C	NO
00673	01006		PZE		NOLL

INFORMATION IN TOGGLE SWITCHES

PRINT TITLE

READ LOGAND LOGIC TEST

YES

NO-TYPEWRITER CONNECTED

NO GO TO NET TEST

YES-

TYPE THAT LOGAND LOGIC TEST

WILL NOT BE DONE

00674	20020		BR	DM	UN
00675	01133		PZE		SOUD
00676	20020	CORREC	BR	DM	UN
00677	00200		OCT		200
00700	75000	READCM	LA	DM	NO
00701	00712		PZE		ZZZZZA
00702	50400		SA	IM	NO
00703	01234		PZE		SOUDEX
00704	75000		LA	DM	NO
00705	01132		PZE		ZZAC
00706	62000		LP	DM	NO
00707	01112		PZE		ZZAB
00710	20020		BR	DM	UN
00711	01133		PZE		SOUD
00712	20060	ZZZZZA	BR	DM F	UN
00713	00200		OCT		200
00714	25110	RTRECM	CF	DL	8
00715	21010		EF	DM	8
00716	20002		OCT		20002
00717	75400		LA	IM C	NO
00720	00626		PZE		TSWCH
00721	20034		BR	DM	AN
00722	01750		PZE		CMST
00723	11001		SO	DM S	R1
00724	20021		BR	DM	AD
00725	00730		PZE		*+3
00726	20020		BR	DM	UN
00727	00760		PZE		DOCM
00730	75000		LA	DM C	NO
00731	01750		PZE		CMST
00732	50400		SA	IM C	NO
00733	01234		PZE		SOUDEX
00734	75000		LA	DM C	NO
00735	01054		PZE		NOCM+18
00736	62000		LP	DM C	NO
00737	01032		PZE		NOCM
00740	20020		BR	DM	UN
00741	01133		PZE		SOUD
00742	75400	DOLOLO	LA	IM	NO
00743	00626		PZE		TSWCH
00744	20034		BR	DM	AN
00745	05670		OCT		05670
00746	75000		LA	DM C	NO
00747	05670		OCT		05670
00750	50400		SA	IM C	NO

IS THE CORE MEMORY TEST TO BE DONE

YES  
NO

PRINT CORE MEMORY TEST WILL  
NOT BE DONE

WILL BE DONE

00751	01234	PZE		SOUDEX
00752	75000	LA	DM C	NO
00753	01073	PZE		YESLL+14
00754	62000	LP	DM C	NO
00755	01055	PZE		YESLL
00756	20020	BR	DM	UN
00757	01133	PZE		SOUO
00760	75400	DOCM	LA IM	NO
00761	00626	PZE		TSWCH
00762	20034	BR	DM	AN
00763	01750	PZE		CMST
00764	75000	LA	DM C	NO
00765	01750	PZE		CMST
00766	50400	SA	IM C	NO
00767	01234	PZE		SOUDEX
00770	75000	LA	DM C	NO
00771	01111	PZE		YESCM+13
00772	62000	LP	DM C	NO
00773	01074	PZE		YESCM
00774	20020	BR	DM	UN
00775	01133	PZE		SOUO
00776	32005	TITLE	OCT	32005
00777	20514		OCT	20514
01000	41464		OCT	41464
01001	74422		OCT	74422
01002	77340		OCT	77340
01003	23447		OCT	23447
01004	74420		OCT	74420
01005	61237		OCT	61237
01006	32026	NOLL	OCT	32026
01007	62612		OCT	62612
01010	40277		OCT	40277
01011	56026		OCT	56026
01012	62610		OCT	62610
01013	45767		OCT	45767
01014	00000		OCT	00000
01015	12412		OCT	12412
01016	31031		OCT	31031
01017	51710		OCT	51710
01020	45767		OCT	45767
01021	01350		OCT	01350
01022	55337		OCT	55337
01023	56020		OCT	56020
01024	63737		OCT	63737
01025	56035		OCT	56035

PRINT CORE MEMORY TEST WILL  
BE DONE

CR	LC	D
I	A	G
N	O	S
T	I	C
UC	SP	LC
R	O	U
T	I	N
E	S	UC
CR	LC	L
O	G	A
N	D	UC
SP	LC	L
O	G	I
C	UC	SP
LC	LC	LC
D	I	A
G	N	D
S	T	I
C	UC	SP
LC	W	I
L	L	UC
O	T	UC
SP	LC	B

01026	61767		OCT	61767	E	UC	SP
01027	01730		OCT	01730	LC	T	E
01030	51730		OCT	51730	S	T	E
01031	12000		OCT	12000	D	LC	LC
01032	32022	NOCM	OCT	32022			
01033	62470		OCT	62470	D	R	E
01034	77340		OCT	77340	UC	SP	LC
01035	03401		OCT	03401	M	E	M
01036	62453		OCT	62453	O	R	Y
01037	77340		OCT	77340	UC	SP	LC
01040	12412		OCT	12412	D	I	A
01041	31031		OCT	31031	G	N	O
01042	51710		OCT	51710	S	T	I
01043	45767		OCT	45767	C	UC	SP
01044	01350		OCT	01350	LC	W	I
01045	55337		OCT	55337	L	L	UC
01046	56020		OCT	56020			
01047	63737		OCT	63737	D	T	UC
01050	56035		OCT	56035	SP	LC	B
01051	61767		OCT	61767	E	UC	SP
01052	01730		OCT	01730	LC	T	E
01053	51730		OCT	51730	S	T	E
01054	12000		OCT	12000	D	LC	LC
01055	32016	YESLL	OCT	32016	CR	LC	P
01056	60446		OCT	60446	E	R	F
01057	62441		OCT	62441	D	R	M
01060	77340		OCT	77340	WC	SP	LC
01061	00026		OCT	00026	LC	LC	L
01062	62612		OCT	62612	D	G	A
01063	40277		OCT	40277	N	D	UC
01064	56026		OCT	56026	SP	LC	L
01065	62610		OCT	62610	D	G	I
01066	45767		OCT	45767	C	UC	SP
01067	00000		OCT	00000	LC	LC	LC
01070	12412		OCT	12412	D	I	A
01071	31031		OCT	31031	G	N	O
01072	51710		OCT	51710	S	T	I
01073	44000		OCT	44000	C	LC	LC
01074	32016	YESCM	OCT	32016	CR	LC	P
01075	60446		OCT	60446	E	R	F
01076	62441		OCT	62441	D	R	M
01077	77340		OCT	77340	UC	SP	LC
01100	00022		OCT	00022	LC	LC	C
01101	62470		OCT	62470	D	R	E
01102	77340		OCT	77340	UC	SP	LC



01103	03401		OCT	03401	M	E	M
01104	62453		OCT	62453	O	R	Y
01105	77340		OCT	77340	UC	SP	LC
01106	12412		OCT	12412	D	I	A
01107	31031		OCT	31031	G	N	O
01110	51710		OCT	51710	S	T	I
01111	44000		OCT	44000	C	LC	LC
01112	32016	ZZAB	OCT	32016			
01113	54522		OCT	54522			
01114	61767		OCT	61767			
01115	01131		OCT	01131			
01116	41710		OCT	41710			
01117	41447		OCT	41447			
01120	51767		OCT	51767			
01121	00420		OCT	00420			
01122	75411		OCT	75411			
01123	22356		OCT	22356			
01124	75767		OCT	75767			
01125	01227		OCT	01227			
01126	21722		OCT	21722			
01127	65767		OCT	65767			
01130	01731		OCT	01731			
01131	77340		OCT	77340			
01132	62306	ZZAC	OCT	62306			

		PAGE			
01133	67100	SOU0	CC	DL	0
01134	50006		SA	DM C	AP
01135	66666	SOU01	OCT		66666
01136	50400		SA	IM C	NO
01137	01153		PZE		SOU02
01140	75400		LA	IM	NO
01141	00626		PZE		TSWCH
01142	20034		BR	DM	AN
01143	01233		PZE		SOUDEX-1
01144	21010		EF	DM	8
01145	40100		OCT		40100
01146	75000		LA	DM C	NO
01147	01240		PZE		SOU0C+3
01150	50400		SA	IM C	NO
01151	01235		PZE		SOU0C
01152	75400	SOU06	LA	IM C	NO
01153	66666	SOU02	OCT		66666
01154	52400		SE	IM C	NO
01155	01153		PZE		SOU02
01156	50006		SA	DM C	AP
01157	66666	SOU03	OCT		66666
01160	44075		ZE	DM B	LA
01161	11065		SO	DM D	L5
01162	50000		SA	DM C	NO
01163	66666	SOU04	OCT		66666
01164	11065		SO	DM D	L5
01165	50000		SA	DM C	NO
01166	66666	SOU05	OCT		66666
01167	75000		LA	DM	NO
01170	00037		OCT		37
01171	46400		XE	IM	NO
01172	01157		PZE		SOU03
01173	46400		XE	IM	NO
01174	01166		PZE		SOU05
01175	20031		BR	DM	DV
01176	01177		PZE		*+1
01177	75407		LA	IM	CC
01200	01163		PZE		SOU04
01201	47400		RP	IM	NO
01202	01235		PZE		SOU0C
01203	75407		LA	IM	CC
01204	01166		PZE		SOU05
01205	47400		RP	IM	NO
01206	01235		PZE		SOU0C

TIE TYPE WRITER

01207	75407	LA	IM	CC	
01210	01157	PZE		SOU03	
01211	47400	RP	IM	NO	
01212	01235	PZE		SOU0C	
01213	20033	BR	DM	TL	
01214	01213	PZE		*-1	
01215	75400	LA	IM C	NO	
01216	01153	PZE		SOU02	
01217	73400	AS	IM C	NO	
01220	01135	PZE		SOU01	
01221	20031	BR	DM	OV	
01222	01223	PZE		*+1	
01223	20024	BR	DM	AZ	
01224	01227	PZE		*+3	
01225	20020	BR	DM	UN	
01226	01152	PZE		SOU06	
01227	23000	WO	DM	NO	
01230	00004	PZE		4	
01231	21010	EF	DM	8	
01232	40100	OCT		40100	
01233	20020	BR	DM	UN	
01234	00000	SOUDEX PZE			EXIT
01235	01240	SOU0C PZE		*+3	
01236	47400	RP	IM	NO	
01237	01235	PZE		SOU0C	
01240	20427	BR	IM	NQ	
01241	00000	PZE		0	
01242	01245	PZE		*+3	
01243	44400	ZE	IM	NO	
01244	01255	PZE		SOU10	
01245	20427	BR	IM	NQ	
01246	00037	OCT		37	
01247	01254	PZE		SOU9	
01250	62000	LP	DM	NO	
01251	40000	OCT		40000	
01252	52400	SE	IM	NO	
01253	01255	PZE		SOU10	
01254	20430	SOU9 BR	IM	EN	
01255	00000	SOU10 PZE		0	
01256	01331	PZE		SOU14	
01257	70004	LT	DM	AT	
01260	01354	PZE		SOU0L	LETTERS
01261	62000	LP	DM	NO	
01262	76365	NAD		SOU0X+2	
01263	36606	TB	IP	EQ	

01264	20031		BR	DM	OV	
01265	01303		PZE		SOU11	FIGURES
01266	60013		NO	DM	AS	
01267	77777		OCT		77777	
01270	67335		CC	DA H	LA	
01271	20427		BR	IM	NQ	
01272	77762		OCT		77762	
01273	01276		PZE		*+3	NOT CR
01274	60060	SOU10A	NO	DM B	NO	
01275	60060		NO	DM B	NO	
01276	66013		AP	DM	AS	
01277	00040		PZE		32	
01300	23300		WO	DA	NO	
01301	20020		BR	DM	UN	
01302	01236		PZE		SOUOC+1	END OF LT
01303	23000	SOU11	WO	DM	NO	
01304	00033		OCT		33	
01305	75000		LA	DM	NO	
01306	01317		PZE		SOU12	
01307	62000		LP	DM	NO	
01310	76450		NAD		SOU13	
01311	36606		TB	IP	EQ	
01312	23300		WO	DA	NO	
01313	23000		WO	DM	NO	
01314	00037		OCT		37	
01315	20020		BR	DM	UN	
01316	01236		PZE		SOUOC+1	
01317	00002	SOU12	OCT		02	(
01320	00000		OCT		0	
01321	00036		OCT		36	
01322	00023		OCT		23	)
01323	00000		OCT		0	
01324	00011		OCT		11	
01325	00034		OCT		34	
01326	00000		OCT		0	
01327	00006		OCT		06	
01330	00000	SOU13	OCT		0	
01331	70004	SOU14	LT	DM	AT	FIG
01332	01354		PZE		SOUOL	
01333	62000		LP	DM	NO	
01334	76362		NAD		SOUOX+5	
01335	36606		TB	IP	EQ	
01336	60013		NO	DM	AS	
01337	77777		OCT		77777	
01340	67335		CC	DA H	LA	

01341	20426	BR	IM	EQ	
01342	77762	OCT		77762	
01343	01274	PZE		SOU10A	
01344	75005	LA	DM	CS	
01345	01354	PZE		SOUOL	
01346	71000	AM	DM	NO	
01347	01451	PZE		SOUOF	
01350	42073	SP	DM B	AS	
01351	23300	WD	DA	NO	
01352	20020	BR	DM	UN	END OF FG.
01353	01236	PZE		SOUOC+1	
01354	00015	SOUOL	OCT	15	CR
01355	00000		OCT	0	LT
01356	00037		OCT	37	FG
01357	00012		OCT	12	A
01360	00035		OCT	35	B
01361	00022		OCT	22	C
01362	00005		OCT	05	D
01363	00030		OCT	30	E
01364	00006		OCT	06	F
01365	00014		OCT	14	G
01366	00032		OCT	32	H
01367	00010		OCT	10	I
01370	00004		OCT	04	J
01371	00025		OCT	25	K
01372	00026		OCT	26	L
01373	00001		OCT	01	M
01374	00020		OCT	20	N
01375	00031		OCT	31	O
01376	00016		OCT	16	P
01377	00033		OCT	33	Q
01400	00011		OCT	11	R
01401	00024		OCT	24	S
01402	00036		OCT	36	T
01403	00007		OCT	07	U
01404	00003		OCT	03	V
01405	00027		OCT	27	W
01406	00021		OCT	21	X
01407	00013		OCT	13	Y
01410	00017		OCT	17	Z
01411	00002	SOUOX	OCT	02	
01412	00023		OCT	23	
01413	00034		OCT	34	
01414	00002		OCT	02	CR
01415	00037		OCT	37	LT

01416	00033	OCT	33	FG
01417	00030	OCT	30	A
01420	00023	OCT	23	B
01421	00016	OCT	16	C
01422	00022	OCT	22	D
01423	00020	OCT	20	E
01424	00026	OCT	26	F
01425	00013	OCT	13	G
01426	00005	OCT	05	H
01427	00014	OCT	14	I
01430	00032	OCT	32	J
01431	00036	OCT	36	K
01432	00011	OCT	11	L
01433	00007	OCT	07	M
01434	00006	OCT	06	N
01435	00003	OCT	03	O
01436	00015	OCT	15	P
01437	00035	OCT	35	Q
01440	00012	OCT	12	R
01441	00024	OCT	24	S
01442	00001	OCT	01	T
01443	00034	OCT	34	U
01444	00017	OCT	17	V
01445	00031	OCT	31	W
01446	00027	OCT	27	X
01447	00025	OCT	25	Y
01450	00021	OCT	21	Z
01451	00002	OCT	02	CR
01452	00037	OCT	37	LT
01453	00033	OCT	33	FG
01454	00017	OCT	17	*
01455	00004	OCT	04	SP
01456	00016	OCT	16	COLON
01457	00022	OCT	22	\$
01460	00004	OCT	04	SP
01461	00024	OCT	24	PERCENT
01462	00013	OCT	13	+
01463	00013	OCT	13	+
01464	00014	OCT	14	8
01465	00012	OCT	12	4
01466	00001	OCT	01	5
01467	00025	OCT	25	6
01470	00035	OCT	35	1
01471	00015	OCT	15	0
01472	00003	OCT	03	9

01473	00027	OCT	27	/
01474	00004	OCT	04	SP
01475	00004	OCT	04	SP
01476	00005	OCT	05	NUMBER
01477	00032	OCT	32	APOSTROPHE
01500	00034	OCT	34	7
01501	00016	OCT	16	COLON
01502	00004	OCT	04	
01503	00004	OCT	04	
01504	00030	OCT	30	-
01505	00021	OCT	21	PAREN
01506	00031	OCT	31	2
01507	00020	OCT	20	3
01510	00007	OCT	07	.
01511	00000	PZE		
01512	00000	PZE		
01513	00000	PZE		
01514	00000	PZE		

		PAGE			GENERATE SORBAN CODE FOR NUMBERS AND PACK	
01515	62000	SOR0	LP	DM	NO	
01516	00005		PZE		5	
01517	42000	GENSOR	SP	DM	NO	GENERATE SOROBAN CODE FOR NUMBERS AND PACK
01520	66666	SOR1	OCT		66666	NO. OF CHARACTERS
01521	50400		SA	IM	NO	
01522	01611		PZE		SOR5	INPUT WORD
01523	40400		ST	IM	NO	
01524	01722		PZE		SOR16	RETURN ADDRESS
01525	75400		LA	IM	NO	
01526	01520		PZE		SOR1	
01527	73000		AS	DM	NO	
01530	77773		OCT		77773	
01531	20024		BR	DM	AZ	
01532	01551		PZE		SOR2	5 CHARACTER BRANCH
01533	75007		LA	DM	CC	
01534	01741		PZE		TABBEG+6	
01535	50400		SA	IM	NO	
01536	01741		PZE		TABEND	
01537	75000		LA	DM	NO	
01540	00006		OCT		00006	
01541	50400		SA	IM	NO	
01542	01644		PZE		SOR10	
01543	75400		LA	IM	NO	
01544	01742		PZE		SHIFTO	
01545	73000		AS	DM	NO	
01546	00001		OCT		00001	
01547	20020		BR	DM	UN	
01550	01565		PZE		SOR3	
01551	75007	SOR2	LA	DM	CC	
01552	01735		PZE		TABBEG+2	
01553	50400		SA	IM	NO	
01554	01741		PZE		TABEND	
01555	75000		LA	DM	NO	
01556	00002		OCT		00002	
01557	50400		SA	IM	NO	
01560	01644		PZE		SOR10	
01561	75400		LA	IM	NO	
01562	01742		PZE		SHIFTO	
01563	73000		AS	DM	NO	
01564	00003		OCT		00003	
01565	50400	SOR3	SA	IM	NO	
01566	01612		PZE		SOR6	
01567	75000		LA	DM	NO	



01570	01733		PZE		TABBEG
01571	50400		SA	IM	NO
01572	01656		PZE		SOR12
01573	75000		LA	DM	NO
01574	00002		OCT		00002
01575	50400		SA	IM	NO
01576	01625		PZE		SOR8
01577	75400		LA	IM	NO
01600	01520		PZE		SOR1
01601	50400		SA	IM	NO
01602	01701		PZE		SOR14+3
01603	75000		LA	DM	NO
01604	01740		OCT		01740
01605	50400		SA	IM	NO
01606	01621		PZE		SOR7
01607	44075	SOR4	ZE	DM B	LA
01610	62000		LP	DM	NO
01611	66666	SOR5	OCT		66666
01612	66666	SOR6	OCT		66666
01613	73000		AS	DM	NO
01614	01723		PZE		SORTAB
01615	64315		AT	DA	LA
01616	40400		ST	IM	NO
01617	01611		PZE		SOR5
01620	73000		AS	DM	NO
01621	66666	SOR7	OCT		66666
01622	50400		SA	IM	NO
01623	01621		PZE		*-2
01624	75000		LA	DM	NO
01625	66666	SOR8	OCT		66666
01626	73000		AS	DM	NO
01627	77777		OCT		77777
01630	20024		BR	DM	AZ
01631	01643		PZE		SOR9
01632	50400		SA	IM	NO
01633	01625		PZE		SOR8
01634	75400		LA	IM	NO
01635	01621		PZE		SOR7
01636	11025		SD	DM S	L5
01637	50400		SA	IM	NO
01640	01621		PZE		SOR7
01641	20020		BR	DM	UN
01642	01607		PZE		SOR4
01643	75000	SOR9	LA	DM	NO
01644	66666	SOR10	OCT		66666

01645	73000		AS	DM	NO
01646	77777		OCT		77777
01647	50400		SA	IM	NO
01650	01644		PZE		SOR10
01651	20024		BR	DM	AZ
01652	01676		PZE		SOR14
01653	75400	SOR11	LA	IM	NO
01654	01621		PZE		SOR7
01655	50400		SA	IM	NO
01656	66666	SOR12	OCT		66666
01657	52400		SE	IM	NO
01660	01656		PZE		*-2
01661	75400		LA	IM	NO
01662	01644		PZE		SOR10
01663	20024		BR	DM	AZ
01664	01716		PZE		SOR15
01665	75000		LA	DM	NO
01666	00003		OCT		00003
01667	50400		SA	IM	NO
01670	01625		PZE		SOR8
01671	44075		ZE	DM B	LA
01672	50400		SA	IM	NO
01673	01621		PZE		SOR7
01674	20020		BR	DM	UN
01675	01607		PZE		SOR4
01676	75000	SOR14	LA	DM	NO
01677	77773		OCT		77773
01700	73000		AS	DM	NO
01701	66666		OCT		66666
01702	20024		BR	DM	AZ
01703	01653		PZE		SOR11
01704	75400		LA	IM	NO
01705	01621		PZE		SOR7
01706	11012		SO	DM S	R10
01707	11032		SO	DM S	L10
01710	73000		AS	DM	NO
01711	01367		OCT		01367
01712	50400		SA	IM	NO
01713	01621		PZE		SOR7
01714	20020		BR	DM	UN
01715	01653		PZE		SOR11
01716	75400	SOR15	LA	IM	NO
01717	01733		PZE		TABBEG
01720	70200		LT	DP	NO
01721	20020		BR	DM	UN

01722	66666	SOR16	OCT	66666
01723	00020	SORTAB	OCT	20
01724	00001		OCT	01
01725	00002		OCT	02
01726	00023		OCT	23
01727	00004		OCT	04
01730	00025		OCT	25
01731	00026		OCT	26
01732	00007		OCT	07
01733	66666	TABBEG	OCT	66666
01734	66666		OCT	66666
01735	66666		OCT	66666
01736	66666		OCT	66666
01737	66666		OCT	66666
01740	66666		OCT	66666
01741	66666	TABEND	OCT	66666
01742	11060	SHIFTO	OCT	11060

FINAL EXIT  
 SOROBAN TYPEWRITER CODE TABLE

PACKED SOROBAN CODE

SHIFT LEFT ZERO INSTRUCTION  
 END GENERATE SORBAN CODE FOR NUMBERS AND PACK

		PAGE	LOGAND LOGIC TEST	
05670		ORG		3000
00040	TEMP	EQU		32
00041	T0	EQU		33
00042	T1	EQU		34
00043	T2	EQU		35
00044	T3	EQU		36
00045	IP1	EQU		37
00046	IP2	EQU		38
00047	IP3	EQU		39
00050	IP4	EQU		40
00051	IP5	EQU		41
00052	PRES1	EQU		42
00053	PRES2	EQU		43
00054	TE	EQU		44
00055	TA	EQU		45
00056	TP	EQU		46
00057	TM	EQU		47
00060	TT	EQU		48
00061	CY	EQU		49
00062	OV	EQU		50
00063	ERR	EQU		51
00064	TERR	EQU		52
00065	IP6	EQU		53
00066	PER	EQU		54
00067	T4	EQU		55
05670	25110	LLT	CF DL	8
05671	21010		EF DM	8
05672	20002		OCT	20002
05673	75400		LA IM	NO
05674	00626		PZE	TSWCH
05675	20034		BR DM	AN
05676	05711		PZE	LL1
05677	75000		LA DM	NO
05700	05711		PZE	LL1
05701	50400		SA IM	NO
05702	01234		PZE	SOUOEX
05703	62000		LP DM	NO
05704	07621		PZE	PLL
05705	75000		LA DM	NO
05706	07667		PZE	PLLX
05707	20020		BR DM	UN
05710	01133		PZE	SOUO
05711	75000	LL1	LA DM	NO

ERROR

HEADING

R START HERE FOR NO HEADING

05712	05715	PZE		*+3	
05713	50101	SA	DL	1	
05714	10501	TM	IL	1	
05715	75000	LA	DM	NO	
05716	05733	PZE		LL2	
05717	50101	SA	DL	1	
05720	75000	LA	DM	NO	FOR LLT
05721	07564	PZE		LTSP+1	
05722	62000	LP	DM	NO	
05723	00040	PZE		TEMP	
05724	70000	LT	DM	NO	
05725	70157	NAD		LTSP+30	
05726	32603	MV	IP	NV	
05727	75000	LA	DM	NO	
05730	77776	OCT		77776	
05731	20020	BR	DM	UN	
05732	05727	PZE		*-3	
05733	25122	LL2	CF	DL	18
05734	52166	SE	DL	PER	
05735	76166	XA	DL	PER	
05736	20024	BR	DM	AZ	
05737	05776	PZE		LL3	
05740	75000	LA	DM	NO	
05741	07112	PZE		DL3	
05742	50143	SA	DL	T2	
05743	75000	LA	DM	NO	PDL
05744	05755	PZE		LL2A	
05745	50400	SA	IM	NO	
05746	01234	PZE		SOUDEX	
05747	62000	LP	DM	NO	
05750	07670	PZE		PDL	
05751	75000	LA	DM	NO	
05752	07706	PZE		PDLX	
05753	20020	BR	DM	UN	
05754	01133	PZE		SOUO	
05755	75000	LL2A	LA	DM	NO
05756	07152	PZE		DLX+1	
05757	50400	SA	IM	NO	
05760	06747	PZE		DLR2	
05761	75000	LA	DM	NO	
05762	10264	PZE		LTDL	
05763	50152	SA	DL	PRES1	
05764	50153	SA	DL	PRES2	
05765	75000	LA	DM	NO	
05766	07047	PZE		DLT	

05767	50400		SA	IM	NO
05770	06342		PZE		DLR+1
05771	75141		LA	DL	TO
05772	62141		LP	DL	TO
05773	70141		LT	DL	TO
05774	20020		BR	DM	UN
05775	06341		PZE		DLR
05776	75000	LL3	LA	DM	NO
05777	77775		OCT		77775
06000	44164		ZE	DL	TERR
06001	56166		DX	DL	PER
06002	20024		BR	DM	AZ
06003	06037		PZE		LL4
06004	75000		LA	DM	NO
06005	06016		PZE		LL3A
06006	50400		SA	IM	NO
06007	01234		PZE		SOUOEX
06010	75000		LA	DM	NO
06011	07725		PZE		PDMX
06012	62000		LP	DM	NO
06013	07707		PZE		PDM
06014	20020		BR	DM	UN
06015	01133		PZE		SOUO
06016	75000	LL3A	LA	DM	NO
06017	07370		PZE		DMX+1
06020	50400		SA	IM	NO
06021	06747		PZE		DLR2
06022	75000		LA	DM	NO
06023	07154		PZE		DMT
06024	50400		SA	IM	NO
06025	06342		PZE		DLR+1
06026	75000		LA	DM	NO
06027	11211		PZE		LTDM
06030	50152		SA	DL	PRES1
06031	50153		SA	DL	PRES2
06032	75141		LA	DL	TO
06033	62141		LP	DL	TO
06034	70141		LT	DL	TO
06035	20020		BR	DM	UN
06036	06341		PZE		DLR
06037	75000	LL4	LA	DM	NO
06040	77773		OCT		77773
06041	56166		DX	DL	PER
06042	20024		BR	DM	AZ
06043	06077		PZE		LL5

PDM

06044	75000	LA	DM	NO	PDP
06045	06056	PZE		LL4A	
06046	50400	SA	IM	NO	
06047	01234	PZE		SOUDEX	
06050	75000	LA	DM	NO	
06051	07744	PZE		PDPX	
06052	62000	LP	DM	NO	
06053	07726	PZE		PDP	
06054	20020	BR	DM	UN	
06055	01133	PZE		SOUO	
06056	75000	LL4A	LA	DM	NO
06057	07405	PZE		DPX+1	
06060	50400	SA	IM	NO	
06061	06747	PZE		DLR2	
06062	75000	LA	DM	NO	
06063	07373	PZE		DPT	
06064	50400	SA	IM	NO	
06065	06342	PZE		DLR+1	
06066	75000	LA	DM	NO	
06067	12613	PZE		LTDP	
06070	50152	SA	DL	PRES1	
06071	50153	SA	DL	PRES2	
06072	75141	LA	DL	TO	
06073	70141	LT	DL	TO	
06074	62145	LP	DL	IPI	
06075	20020	BR	DM	UN	
06076	06341	PZE		DLR	
06077	75000	LL5	LA	DM	NO
06100	77767	OCT		77767	
06101	56166	DX	DL	PER	
06102	20024	BR	DM	AZ	
06103	06137	PZE		LL6	
06104	75000	LA	DM	NO	PDA
06105	06116	PZE		LL5A	
06106	50400	SA	IM	NO	
06107	01234	PZE		SOUDEX	
06110	75000	LA	DM	NO	
06111	07763	PZE		PDAX	
06112	62000	LP	DM	NO	
06113	07745	PZE		PDA	
06114	20020	BR	DM	UN	
06115	01133	PZE		SOUO	
06116	75000	LL5A	LA	DM	NO
06117	07426	PZE		DATX+1	
06120	50400	SA	IM	NO	

06121	06747	PZE		DLR2	
06122	75000	LA	DM	NO	
06123	07410	PZE		DAT	
06124	50400	SA	IM	NO	
06125	06342	PZE		DLR+1	
06126	75000	LA	DM	NO	
06127	12730	PZE		LTDA	
06130	50152	SA	DL	PRES1	
06131	50153	SA	DL	PRES2	
06132	75145	LA	DL	IPI	
06133	62141	LP	DL	TO	
06134	70141	LT	DL	TO	
06135	20020	BR	DM	UN	
06136	06341	PZE		DLR	
06137	75000	LL6	LA	DM	NO
06140	77757	OCT		77757	
06141	56166	DX	DL	PER	
06142	20024	BR	DM	AZ	
06143	06177	PZE		LL7	
06144	75000	LA	DM	NO	PIL
06145	06156	PZE		LL6A	
06146	50400	SA	IM	NO	
06147	01234	PZE		SOUOEX	
06150	75000	LA	DM	NO	
06151	10002	PZE		PILX	
06152	62000	LP	DM	NO	
06153	07764	PZE		PIL	
06154	20020	BR	DM	UN	
06155	01133	PZE		SOUO	
06156	75000	LL6A	LA	DM	NO
06157	07434	PZE		ILTX+1	
06160	50400	SA	IM	NO	
06161	06747	PZE		DLR2	
06162	75000	LA	DM	NO	
06163	07430	PZE		ILT	
06164	50400	SA	IM	NO	
06165	06342	PZE		DLR+1	
06166	75000	LA	DM	NO	
06167	13101	PZE		LTIL	
06170	50152	SA	DL	PRES1	
06171	50153	SA	DL	PRES2	
06172	75141	LA	DL	TO	
06173	62141	LP	DL	TO	
06174	70141	LT	DL	TO	
06175	20020	BR	DM	UN	



06176	06341		PZE		DLR
06177	75000	LL7	LA	DM	NO
06200	77737		OCT		77737
06201	56166		DX	DL	PER
06202	20024		BR	DM	AZ
06203	06237		PZE		LL8
06204	75000		LA	DM	NO
06205	06216		PZE		LL7A
06206	50400		SA	IM	NO
06207	01234		PZE		SOUDX
06210	75000		LA	DM	NO
06211	10021		PZE		PIMX
06212	62000		LP	DM	NO
06213	10003		PZE		PIM
06214	20020		BR	DM	UN
06215	01133		PZE		SOUD
06216	75000	LL7A	LA	DM	NO
06217	07501		PZE		IMX+1
06220	50400		SA	IM	NO
06221	06747		PZE		DLR2
06222	75000		LA	DM	NO
06223	07436		PZE		IMT
06224	50400		SA	IM	NO
06225	06342		PZE		DLR+1
06226	75000		LA	DM	NO
06227	13144		PZE		LTIM
06230	50152		SA	DL	PRES1
06231	50153		SA	DL	PRES2
06232	75141		LA	DL	TO
06233	62141		LP	DL	TO
06234	70141		LT	DL	TO
06235	20020		BR	DM	UN
06236	06341		PZE		DLR
06237	75000	LL8	LA	DM	NO
06240	77677		OCT		77677
06241	56166		DX	DL	PER
06242	20024		BR	DM	AZ
06243	06277		PZE		LL9
06244	75000		LA	DM	NO
06245	06256		PZE		LL8A
06246	50400		SA	IM	NO
06247	01234		PZE		SOUDX
06250	75000		LA	DM	NO
06251	10040		PZE		PIPX
06252	62000		LP	DM	NO

PIM

PIP

06253	10022		PZE		PIP
06254	20020		BR	DM	UN
06255	01133		PZE		SOUO
06256	75000	LL8A	LA	DM	NO
06257	07544		PZE		IPX+1
06260	50400		SA	IM	NO
06261	06747		PZE		DLR2
06262	75000		LA	DM	NO
06263	07504		PZE		IPT
06264	50400		SA	IM	NO
06265	06342		PZE		DLR+1
06266	75000		LA	DM	NO
06267	13324		PZE		LTIP
06270	50152		SA	DL	PRES1
06271	50153		SA	DL	PRES2
06272	75141		LA	DL	TO
06273	62151		LP	DL	IP5
06274	70141		LT	DL	TO
06275	20020		BR	DM	UN
06276	06341		PZE		DLR
06277	75000	LL9	LA	DM	NO
06300	77577		OCT		77577
06301	56166		DX	DL	PER
06302	20024		BR	DM	AZ
06303	06337		PZE		L10
06304	75000		LA	DM	NO
06305	06316		PZE		LL9A
06306	50400		SA	IM	NO
06307	01234		PZE		SOUDEX
06310	75000		LA	DM	NO
06311	10057		PZE		PIAX
06312	62000		LP	DM	NO
06313	10041		PZE		PIA
06314	20020		BR	DM	UN
06315	01133		PZE		SOUO
06316	75000	LL9A	LA	DM	NO
06317	07562		PZE		IATX+1
06320	50400		SA	IM	NO
06321	06747		PZE		DLR2
06322	75000		LA	DM	NO
06323	07547		PZE		IAT
06324	50400		SA	IM	NO
06325	06342		PZE		DLR+1
06326	75000		LA	DM	NO
06327	13603		PZE		LTIA

PIA

06330	50152		SA	DL	PRES1	
06331	50153		SA	DL	PRES2	
06332	75151		LA	DL	IP5	
06333	62141		LP	DL	TO	
06334	70141		LT	DL	TO	
06335	20020		BR	DM	UN	
06336	06341		PZE		DLR	
06337	20020	L10	BR	DM	UN	
06340	00700		PZE		READCM	END OF PROGRAM
06341	67007	DLR	CC	DM	CC	
06342	07047		PZE		DLT	
06343	52101		SE	DL	1	
06344	20031		BR	DM	OV	
06345	06346		PZE		*+1	
06346	44100		ZE	DL	0	
06347	44161		ZE	DL	CY	
06350	44162		ZE	DL	OV	
06351	10501	DLR1	TM	IL	1	
06352	60100		NO	DL	0	
06353	52154		SE	DL	TE	E
06354	50155		SA	DL	TA	A
06355	42156		SP	DL	TP	P
06356	60101		NO	DL	1	
06357	52157		SE	DL	TM	M
06360	40160		ST	DL	TT	T
06361	44163		ZE	DL	ERR	
06362	20032		BR	DM	CY	DCR1+1
06363	06367		PZE		DLCY	
06364	44161		ZE	DL	CY	
06365	20020		BR	DM	UN	
06366	06372		PZE		DLCY+3	
06367	75000	DLCY	LA	DM	NO	
06370	00001		PZE		1	
06371	50161		SA	DL	CY	
06372	20031		BR	DM	OV	
06373	06377		PZE		DLOV	TEST OVERFLOW
06374	44162		ZE	DL	OV	
06375	20020		BR	DM	UN	
06376	06402		PZE		*+4	
06377	75000	DLOV	LA	DM	NO	
06400	00001		OCT		00001	
06401	50162		SA	DL	OV	
06402	62152		LP	DL	PRES1	
06403	75154	DLRE	LA	DL	TE	
06404	67100		CC	DL	0	

06405	20626		BR	IP	EQ	DLRE
06406	06410		PZE		DLRA	
06407	42163		SP	DL	ERR	
06410	75155	DLRA	LA	DL	TA	
06411	67100		CC	DL	O	
06412	20626		BR	IP	EQ	DLRA
06413	06415		PZE		DLRP	
06414	42163		SP	DL	ERR	
06415	75156	DLRP	LA	DL	TP	
06416	67100		CC	DL	O	
06417	20626		BR	IP	EQ	DLRP
06420	06422		PZE		DLRM	
06421	42163		SP	DL	ERR	
06422	75157	DLRM	LA	DL	TM	
06423	67100		CC	DL	O	
06424	20626		BR	IP	EQ	DLRM
06425	06427		PZE		DLRT	
06426	42163		SP	DL	ERR	
06427	75160	DLRT	LA	DL	TT	
06430	67100		CC	DL	O	
06431	20626		BR	IP	EQ	DLRT
06432	06434		PZE		DLC	
06433	42163		SP	DL	ERR	
06434	75161	DLC	LA	DL	CY	
06435	67100		CC	DL	O	
06436	20626		BR	IP	EQ	
06437	06441		PZE		DLF	
06440	42163		SP	DL	ERR	
06441	75162	DLF	LA	DL	OV	
06442	67100		CC	DL	O	
06443	20626		BR	IP	EQ	
06444	06446		PZE		DLRTB	
06445	42163		SP	DL	ERR	
06446	42140	DLRTB	SP	DL	TEMP	
06447	75163		LA	DL	ERR	
06450	20024		BR	DM	AZ	
06451	06740		PZE		DLRTD	NO ERRORS
06452	75000		LA	DM	NO	
06453	00001		PZE		1	
06454	73164		AS	DL	TERR	
06455	50164		SA	DL	TERR	
06456	75152		LA	DL	PRES1	M ADDRESS
06457	73000		AS	DM	NO	
06460	77774		OCT		77774	
06461	75300		LA	DA	NO	

06462	50163	SA	DL	ERR	
06463	70000	LT	DM	NO	
06464	06467	PZE		*+3	
06465	20020	BR	DM	UN	R
06466	01515	PZE		SORO	
06467	50400	SA	IM	NO	
06470	10075	PZE		PFL	
06471	40200	ST	DP	NO	
06472	75552	LA	IL	PRES1	PEX-L
06473	70000	LT	DM	NO	
06474	06477	PZE		*+3	
06475	20020	BR	DM	UN	R
06476	01515	PZE		SORO	
06477	50400	SA	IM	NO	
06500	10142	PZE		PEX	
06501	40200	ST	DP	NO	
06502	75152	LA	DL	PRES1	PEX+1-A
06503	73000	AS	DM	NO	
06504	00001	PZE		1	
06505	75300	LA	DA	NO	
06506	70000	LT	DM	NO	
06507	06512	PZE		*+3	
06510	20020	BR	DM	UN	R
06511	01515	PZE		SORO	
06512	50400	SA	IM	NO	
06513	10145	PZE		PEX+3	
06514	40200	ST	DP	NO	
06515	75152	LA	DL	PRES1	PEX+2-P
06516	73000	AS	DM	NO	
06517	00002	PZE		2	
06520	75300	LA	DA	NO	
06521	70000	LT	DM	NO	
06522	06525	PZE		*+3	
06523	20020	BR	DM	UN	R
06524	01515	PZE		SORO	
06525	50400	SA	IM	NO	
06526	10150	PZE		PEX+6	
06527	40200	ST	DP	NO	
06530	75152	LA	DL	PRES1	PEX+3-M
06531	73000	AS	DM	NO	
06532	00003	PZE		3	
06533	75300	LA	DA	NO	
06534	70000	LT	DM	NO	
06535	06540	PZE		*+3	
06536	20020	BR	DM	UN	R

06537	01515	PZE		SORO	
06540	50400	SA	IM	NO	
06541	10153	PZE		PEX+9	PEX+4-T
06542	40200	ST	DP	NO	
06543	75152	LA	DL	PRES1	
06544	73000	AS	DM	NO	
06545	00004	PZE		4	
06546	75300	LA	DA	NO	
06547	70000	LT	DM	NO	
06550	06553	PZE		**3	
06551	20020	BR	DM	UN	R
06552	01515	PZE		SORO	
06553	50400	SA	IM	NO	
06554	10156	PZE		PEX+12	
06555	40200	ST	DP	NO	
06556	75152	LA	DL	PRES1	PEX+5-CY
06557	73000	AS	DM	NO	
06560	00005	PZE		5	
06561	75300	LA	DA	NO	
06562	20021	BR	DM	AD	
06563	06570	PZE		**5	
06564	75000	LA	DM	NO	
06565	41777	OCT		41777	ZERO
06566	20020	BR	DM	UN	
06567	06572	PZE		**3	
06570	75000	LA	DM	NO	
06571	03777	OCT		03777	
06572	50400	SA	IM	NO	
06573	10161	PZE		PEX+15	
06574	75152	LA	DL	PRES1	PEX+6-OV
06575	73000	AS	DM	NO	
06576	00006	PZE		6	
06577	75300	LA	DA	NO	
06600	20021	BR	DM	AD	
06601	06606	PZE		**5	
06602	75000	LA	DM	NO	
06603	41777	OCT		41777	ZERO
06604	20020	BR	DM	UN	
06605	06610	PZE		**3	
06606	75000	LA	DM	NO	
06607	03777	OCT		03777	
06610	50400	SA	IM	NO	
06611	10163	PZE		PEX+17	
06612	75154	LA	DL	TE	TE
06613	70000	LT	DM	NO	

06614	06617	PZE		**3	
06615	20020	BR	DM	UN	R
06616	01515	PZE		SORO	
06617	50400	SA	IM	NO	
06620	10174	PZE		PBB	
06621	40200	ST	DP	NO	
06622	75155	LA	DL	TA	TA
06623	70000	LT	DM	NO	
06624	06627	PZE		**3	
06625	20020	BR	DM	UN	R
06626	01515	PZE		SORO	
06627	50400	SA	IM	NO	
06630	10177	PZE		PBB+3	
06631	40200	ST	DP	NO	
06632	75156	LA	DL	TP	TP
06633	70000	LT	DM	NO	
06634	06637	PZE		**3	
06635	20020	BR	DM	UN	R
06636	01515	PZE		SORO	
06637	50400	SA	IM	NO	
06640	10202	PZE		PBB+6	
06641	40200	ST	DP	NO	
06642	75157	LA	DL	TM	TM
06643	70000	LT	DM	NO	
06644	06647	PZE		**3	
06645	20020	BR	DM	UN	R
06646	01515	PZE		SORO	
06647	50400	SA	IM	NO	
06650	10205	PZE		PBB+9	
06651	40200	ST	DP	NO	
06652	75160	LA	DL	TT	TT
06653	70000	LT	DM	NO	
06654	06657	PZE		**3	
06655	20020	BR	DM	UN	R
06656	01515	PZE		SORO	
06657	50400	SA	IM	NO	
06660	10210	PZE		PBB+12	
06661	40200	ST	DP	NO	
06662	75161	LA	DL	CY	PBB+5-CY
06663	20021	BR	DM	AD	
06664	06671	PZE		**5	
06665	75000	LA	DM	NO	
06666	41777	OCT		41777	
06667	20020	BR	DM	UN	
06670	06673	PZE		**3	

06671	75000	LA	DM	NO
06672	03777	OCT		03777
06673	50400	SA	IM	NO
06674	10213	PZE		PBB+15
06675	75162	LA	DL	OV
06676	20021	BR	DM	AD
06677	06704	PZE		*+5
06700	75000	LA	DM	NO
06701	41777	OCT		41777
06702	20020	BR	DM	UN
06703	06706	PZE		*+3
06704	75000	LA	DM	NO
06705	03777	OCT		03777
06706	50400	SA	IM	NO
06707	10215	PZE		PBB+17
06710	75000	LA	DM	NO
06711	06722	PZE		DLRTC
06712	50400	SA	IM	NO
06713	01234	PZE		SOUDEX
06714	75000	LA	DM	NO
06715	10254	PZE		PNGX
06716	62000	LP	DM	NO
06717	10060	PZE		PNG
06720	20020	BR	DM	UN
06721	01133	PZE		SOUO
06722	20060	DLRTC	BR DM F	UN
06723	06724	PZE		DLRTC+2
06724	25122	CF	DL	18
06725	75060	LA	DM B	NO
06726	20021	BR	DM	AD
06727	06732	PZE		DLOOP
06730	20020	BR	DM	UN
06731	06740	PZE		DLRTD
06732	75153	DLOOP	LA DL	PRES2
06733	73000	AS	DM	NO
06734	77771	OCT		77771
06735	50153	SA	DL	PRES2
06736	20020	BR	DM	UN
06737	06751	PZE		DLR2A
06740	62140	DLRTD	LP DL	TEMP
06741	42152	DLRTA	SP DL	PRES1
06742	75153	LA	DL	PRES2
06743	73000	AS	DM	NO
06744	00003	PZE		3
06745	75307	LA	DA	CC

PBB+6-OV



06746	20436		BR	IM	NH
06747	07152	DLR2	PZE		DLX+1
06750	07000		PZE		DLR3
06751	62153	DLR2A	LP	DL	PRES2
06752	60200		NO	DP C	NO
06753	52100		SE	DL	0
06754	75200		LA	DP C	NO
06755	50155		SA	DL	TA
06756	60200		NO	DP C	NO
06757	52156		SE	DL	TP
06760	60200		NO	DP	NO
06761	52101		SE	DL	1
06762	70200		LT	DP C	NO
06763	75200		LA	DP	NO
06764	50161		SA	DL	CY
06765	75200		LA	DP	NO
06766	73000		AS	DM	NO
06767	37777		OCT		37777
06770	75161		LA	DL	CY
06771	73000		AS	DM	NO
06772	77777		OCT		77777
06773	75155		LA	DL	TA
06774	60156		NO	DL	TP
06775	43153		HP	DL	PRES2
06776	20020		BR	DM	UN
06777	06351		PZE		DLR1
07000	75153	DLR3	LA	DL	PRES2
07001	73000		AS	DM	NO
07002	00007		PZE		7
07003	50153		SA	DL	PRES2
07004	75164		LA	DL	TERR
07005	20024		BR	DM	AZ
07006	07011		PZE		*+3
07007	20020		BR	DM	UN
07010	05776		PZE		LL3
07011	44062		ZE	DM B	LP
07012	75000		LA	DM C	NO
07013	77777		OCT		77777
07014	70000		LT	DM	NO
07015	00377		OCT		00377
07016	66013		AP	DM C	AS
07017	00001		OCT		1
07020	66013		AP	DM C	AS
07021	77777		OCT		77777
07022	64001		AT	DM	AI

CY

OV

TOTAL ERRORS

07023	77777	OCT		77777					
07024	64060	AT	DM B	NO					
07025	20024	BR	DM	AZ					
07026	07031	PZE		**3					
07027	20020	BR	DM	UN					
07030	07016	PZE		**10					
07031	75000	LA	DM	NO					
07032	07043	PZE		DLR4					
07033	50400	SA	IM	NO					
07034	01234	PZE		SOUDEX					
07035	75000	LA	DM	NO					
07036	07620	PZE		PTEX					
07037	62000	LP	DM	NO					
07040	07614	PZE		PTE					
07041	20020	BR	DM	UN					
07042	01133	PZE		SOUO					
07043	20020	DLR4	BR	DM	UN				
07044	05776	PZE		LL3					
07045	44075	ZE	DM B	LA					
07046	62070	LP	DM B	LT					
07047	60142	DLT	NO	DL	TI	R			
07050	55142		RA	DL	TI	R	0	1	
07051	66141		AP	DL	TO	R		0	1
07052	47142		RP	DL	TI	R	1		0
07053	45142		RT	DL	TI	R	0		
07054	64141		AT	DL	TO	R	0	1	
07055	51142		HA	DL	TI	R	1	0	
07056	43142		HP	DL	TI	R	0	0	1
07057	42142		SP	DL	TI	R	1		
07060	70142		LT	DL	TI	R	0		1
07061	44142		ZE	DL	TI	R	0		
07062	41142		HT	DL	TI	R	1		0
07063	62141		LP	DL	TO	R			0
07064	75142		LA	DL	TI	R		1	
07065	50142		SA	DL	TI	R			
07066	70142		LT	DL	TI	R	1	1	0
07067	40142		ST	DL	TI	R			
07070	46142		XE	DL	TI	R		1	
07071	73142		AS	DL	TI	R		2	
07072	76142		XA	DL	TI	R		1	
07073	66141		AP	DL	TO	R		0	1
07074	54142		ME	DL	TI	R			
07075	74142		MA	DL	TI	R		1	
07076	56142		DX	DL	TI	R		0	
07077	63142		AL	DL	TI	R		1	



07155	60040		NO	DM N	NO	R	0						
07156	60060		NO	DM B	NO	R	ERROR						DM+3
07157	60020		NO	DM H	NO	R	(DMA)						DM+4
07160	75060	DMA	LA	DM B	NO	R				(DMA)			DM+6
07161	74000		MA	DM C	NO	R				77777			
07162	02717		OCT		02717	R							
07163	67060		CC	DM B	NO	R				+0			
07164	20024		BR	DM	AZ	R							
07165	07167		PZE		DMB	R	DMB						
07166	60060		NO	DM B	NO	R							
07167	20034	DMB	BR	DM	AN	R							
07170	00000		PZE			R	ERROR						
07171	20021		BR	DM	AD	R							
07172	00000		PZE			R	ERROR						
07173	20035		BR	DM	AP	R							
07174	07176		PZE		DMC	R							
07175	60060		NO	DM B	NO	R	ERROR						
07176	20032	DMC	BR	DM	CY	R							
07177	00000		PZE			R							
07200	62000		LP	DM	NO	R						12	
07201	00012		PZE		10	R							
07202	66060		AP	DM B	NO	R			12		0		
07203	64060		AT	DM B	NO	R			0				12
07204	44060		ZE	DM B	NO	R							
07205	45060		RT	DM B	NO	R			12				0
07206	47060		RP	DM B	NO	R			0			12	
07207	43060		HP	DM B	NO	R			12			0	
07210	51060		HA	DM B	NO	R			0		12		
07211	55060		RA	DM B	NO	R			12		0		
07212	70060		LT	DM B	NO	R			0				12
07213	44060		ZE	DM B	NO	R							
07214	41060		HT	DM B	NO	R			12				0
07215	40060		ST	DM B	NO	R			0				0
07216	62000		LP	DM C	NO	R			1			1	
07217	00001		PZE		1	R							
07220	73060		AS	DM B	NO	R				1			
07221	65060		CS	DM B	NO	R				77776			
07222	63060		AL	DM B	NO	R				77777			
07223	61060		AI	DM B	NO	R				0			
07224	50060		SA	DM B	NO	R			0			1	
07225	42060		SP	DM B	NO	R			1				
07226	71060		AM	DM B	NO	R				2			
07227	67060		CC	DM B	NO	R				77775			
07230	61000		AI	DM C	NO	R							
07231	40000		OCT		40000	R				37775			

07232	20031		BR	DM	OV	R			
07233	00000		PZE			R	ERROR		
07234	73000		AS	DM	C NO	R		3	40000
07235	00003		PZE		3	R			
07236	20031		BR	DM	OV	R			
07237	07241		PZE		DMD	R			
07240	60060		NO	DM	B NO	R	ERROR		
07241	20034	DMD	BR	DM	AN	R			
07242	07244		PZE		DME	R			
07243	60000		NO	DM	NO	R	ERROR		
07244	67060	DME	CC	DM	B NO	R			37777
07245	42076		SP	DM	B XA	R			0
07246	46060		XE	DM	B NO	R		0	0
07247	74000		MA	DM	C NO	R		4	4
07250	00004		PZE		4	R			
07251	56060		DX	DM	B NO	R		4	0
07252	76060		XA	DM	B NO	R		4	4
07253	66060		AP	DM	B NO	R			1 4
07254	54060		ME	DM	B NO	R		5	1
07255	60075		NO	DM	B LA	R			5
07256	60066		NO	DM	B AP	R			4 5
07257	60064		NO	DM	B AT	R			0 4
07260	60074		NO	DM	B MA	R			5
07261	60073		NO	DM	B AS	R			12
07262	60065		NO	DM	B CS	R			5
07263	60071		NO	DM	B AM	R			5
07264	60077		NO	DM	B CH	R			0
07265	60061		NO	DM	B AI	R			5
07266	60063		NO	DM	B AL	R			77772
07267	60067		NO	DM	B CC	R			5 5
07270	60062		NO	DM	B LP	R			5
07271	60070		NO	DM	B LT	R			5
07272	60067		NO	DM	B CC	R			2
07273	11001		SO	DM	S R1	R			1 2
07274	11041		SO	DM	D R1	R			2
07275	11021		SO	DM	S L1	R			4 4
07276	11061		SO	DM	D L1	R			
07277	03004		SC	DM	S R4	R			
07300	03024		SC	DM	S L4	R			
07301	03043		SC	DM	D R3	R			40000 40000
07302	03063		SC	DM	D L3	R			4 4
07303	07001		RC	DM	S 1	R			
07304	60060		NO	DM	B NO	R	ERROR		
07305	01033	DMJ	FL	DM	S L11	R			
07306	11021		SO	DM	S L1	R			40000

07307	13002		NR	DM S	R2	R				70000		
07310	11001		SO	DM S	R1	R				34000		
07311	13002		NR	DM S	R2	R				07000		
07312	44066		ZE	DM B	AP	R		07000	0			
07313	15056		MP	DM D	14	R			0		70000	
07314	47060		RP	DM B	NO	R						
07315	17056		MS	DM D	14	R						
07316	62015		LP	DM	LA	R						
07317	20000		OCT		20000							
07320	44060		ZE	DM B	NO	R						
07321	60000		NO	DM C	NO	R						
07322	57777		OCT		57777							
07323	05061		DV	DM D	1	R						
07324	75005		LA	DM C	CS	R						
07325	00000		PZE			R						
07326	20034		BR	DM	AN	R						
07327	07331		PZE		DMF	R						
07330	60060		NO	DM B	NO	R	ERROR					
07331	20021	DMF	BR	DM	AD	R						
07332	07334		PZE		DMG	R						
07333	60060		NO	DM B	NO	R						
07334	20024	DMG	BR	DM	AZ	R						
07335	00000		PZE			R	ERROR					
07336	20035		BR	DM	AP	R						
07337	00000		PZE			R	ERROR					
07340	20032		BR	DM	CY	R						
07341	07343		PZE		DMH	R						
07342	60060		NO	DM B	NO	R	ERROR					
07343	67067	DMH	CC	DM B	CC	R						
07344	62167		LP	DL	T4	R	77777	77777	77777		DMH+1	5
07345	03077		SC	DM D	L15	R	77777	77777	77777		DMH+2	5
07346	01077		FL	DM D	L15	R	77777	77777	0		DMH+3	5
07347	11057		SO	DM D	R15	R	77777	0	77777		DMH+4	5
07350	11077		SO	DM D	L15	R	77777	77777	0		DMH+5	5
07351	03077		SC	DM D	L15	R	77777	0	77777		DMH+6	5
07352	66060		AP	DM B	NO	R	77777	77777	0		DMH+7	5
07353	13057		NR	DM D	R15	R	77777	77777	77777		DMH+8	5
07354	44075		ZE	DM B	LA	R	0	0	77777		DMH+9	5
07355	13057		NR	DM D	R15	R	0	0	0		DMH+10	5
07356	01077		FL	DM D	L15	R	0	0	0		DMH+11	5
07357	15057		MP	DM D	15	R	0	0	0		DMH+12	5
07360	17057		MS	DM D	15	R	0	0	0		DMH+13	5
07361	60167		NO	DL	T4	R	77777	0	0		DMH+14	5
07362	05076		DV	DM D	14	R	77777	0	0		DMH+15	5
07363	62060		LP	DM B	NO	R	77777		77777		DMH+16	5

07364	15041		MP	DM	D	1	R	77777	37777	77777	DMH+17	5
07365	44075		ZE	DM	B	LA	R	0	0	77777	DMH+20	5
07366	60167		NO	DL		T4	R	77777	0	77777	DMH+21	5
07367	17041	DMX	MS	DM	D	1	R	77777	77777	77777	DMH+22	5
07370	44075		ZE	DM	B	LA						
07371	62070		LP	DM	B	LT						
07372	62145		LP	DL		IP1						
07373	60260	DPT	NO	DP	B	NO	R		0	0	T0	0
07374	60240		NO	DP	N	NO	R				T1	
07375	60220		NO	DP	H	NO	R		1		T1	
07376	60200		NO	DP		NO	R	1		0	T2	DPT+4 0
07377	51260		HA	DP	B	NO	R	0		1	T2	DPT+5 0
07400	51250		HA	DP	N	LT	R	1		0	T3	DPT+6 1
07401	55220		RA	DP	H	NO	R	0		DL2	T3	DPT+7 1
07402	51220		HA	DP	H	NO	R	DL2		0	T3	DPT+8 1
07403	44060		ZE	DM	B	NO	R	0		0	T3	DPT+9 1
07404	75200	DPX	LA	DP		NO	R	DL2		DL2	T4	DPT+10 2
07405	44075		ZE	DM	B	LA						
07406	62070		LP	DM	B	LT						
07407	75145		LA	DL		IP1						
07410	60360	DAT	NO	DA	B	NO	R		0	0	T0	
07411	66060		AP	DM	B	NO	R			T0	0	
07412	60340		NO	DA	N	NO	R					
07413	66060		AP	DM	B	NO	R			T1	0	
07414	60320		NO	DA	H	NO	R		1	0	T1	
07415	44066		ZE	DM	B	AP	R		0	T1	0	
07416	60300		NO	DA		NO	R	1		0	T2	DAT+7 0
07417	42360		SP	DA	B	NO	R	DAT+8		T2	0	DAT+8 0
07420	51355		HA	DA	N	LA	R	0		0	T3	DATA+9 0
07421	55220		RA	DP	H	NO	R	0		DL2	T3	DATA+100
07422	66060		AP	DM	B	NO	R	0		T3	DL2	DAT+11 0
07423	51320		HA	DA	H	NO	R	DL2		0	T3	DAT+12 0
07424	50066		SA	DM	B	AP	R	0		T3	0	DAT+13 0
07425	75300	DATX	LA	DA		NO	R	DL2		DL2	T4	DAT+14 0
07426	44075		ZE	DM	B	LA						
07427	62070		LP	DM	B	LT						
07430	75546	ILT	LA	IL		IP2	R	1		1	T2	ILT+1 0
07431	50545		SA	IL		IP1	R	1		1	T1	ILT+2 0
07432	75141		LA	DL		T0	R	1		1	T1	ILT+3 0
07433	44141	ILTX	ZE	DL		T0	R	0		1	T1	ILT+4 0
07434	44075		ZE	DM	B	LA						
07435	62070		LP	DM	B	LT						
07436	60460	IMT	NO	IM	B	NO	R		T1		T1	
07437	00042		PZE			T1	R					
07440	60440		NO	IM	N	NO	R		T1		T2	

07441	00042		PZE		T1	R													
07442	60420		NO	IM H	NO	R		1				T1							
07443	00042		PZE		T1	R													
07444	60400		NO	IM C	NO	R		1				T2							
07445	00042		PZE		T1	R	1		0			T2							IMT+8 0
07446	75060		LA	DM B	NO	R	1		1			T2							IMT+9 0
07447	44142		ZE	DL	T1	R	0		1			T2							IMT+10 0
07450	50407		SA	IM	CC	R	1		77776			T2							IMT+12 0
07451	00042		PZE		T1	R													
07452	70142		LT	DL	T1	R	1		77776			T2							IMT+13 1
07453	20426		BR	IM	EQ	R	IMT1		77776			T2							IMT1 1
07454	00001		PZE		1	R													
07455	07457		PZE		IMT1	R													
07456	60060		NO	DM B	NO	R	ERROR												
07457	20427	IMT1	BR	IM	NQ	R	0		77776			T2							IMT2 1
07460	00002		PZE		2	R													
07461	07463		PZE		IMT2	R													
07462	00000		PZE			R	ERROR												
07463	20436	IMT2	BR	IM	NH	R	IMT3		77776			T2							IMT3 1
07464	00001		PZE		1	R													
07465	07467		PZE		IMT3	R													
07466	60060		NO	DM B	NO	R	ERROR												
07467	20437	IMT3	BR	IM	NL	R	0		77776			T2							IMT4 1
07470	00002		PZE		2	R													
07471	07473		PZE		IMT4	R													
07472	00000		PZE		0	R	ERROR												
07473	24426	IMT4	SK	IM	EQ	R	1		77776			T2							IMT5 1
07474	00001		PZE		1	R													
07475	60060		NO	DM B	NO	R	ERROR												
07476	24427	IMT5	SK	IM	NQ	R	1		77776			T2							IMX 1
07477	00001		PZE		1	R													
07500	60060	IMX	NO	DM B	NO	R	1		77776			T2							IMX+1 1
07501	44075		ZE	DM B	LA														
07502	62070		LP	DM B	LT														
07503	62151		LP	DL	IP5														
07504	60660	IPT	NO	IP B	NO	R	0		T0			IP2							IPT+1 0
07505	60640		NO	IP N	NO	R	0		T2			IP3							+2 0
07506	60620		NO	IP H	NO	R	0		T0			IP4							+3 0
07507	60600		NO	IP	NO	R	1		T2			IP5							+4 0
07510	51142		HA	DL	T1	R	T2		1			IP5							+5 0
07511	62165		LP	DL	IP6	R	IP2		1			IP2							+6 0
07512	52600		SE	IP	NO	R	1		T2			IP3							+7 0
07513	44177		ZE	DL	63	R	0		T2			IP3							+8 0
07514	75146		LA	DL	IP2	R	1		T1			IP3							+9 0
07515	62000		LP	DM	NO	R	63		T1			63							+11 0



07516	00077		PZE		63								
07517	70000		LT	DM	NO	R	(T1+3)	T1	63	+13	(T1+3)		
07520	77733		NAD		T1+3								
07521	32603		MV	IP	NV	R	DL2	T3	65	+14	(T1+3)		
07522	60177		NO	DL	63	R	1	T3	65	+15	(T1+3)		
07523	62000		LP	DM	NO	R	(IP4)	T3	(IP4)	IPT+17	(T1+3)		
07524	77730		NAD		IP4	R							
07525	75151		LA	DL	IP5	R	IP1	IP1	(IP4)	IPT+18	(T1+3)		
07526	70000		LT	DM	NO	R	77736	IP1	(IP4)	IPT+20	77736		
07527	77736		OCT		77736	R							
07530	36606		TB	IP	EQ	R	T1	IP2	(IP4)	IPT+21	77736		
07531	36606		TB	IP	EQ	R	T1	IP4	(IP4)	IPT+22	77736		
07532	75000		LA	DM	NO	R	IP4	IP4	(IP4)	IPT+24	77736		
07533	00050		PZE		IP4								
07534	20031		BR	DM	OV	R	IPT1	IP4	(IP4)	IPT1	77736		
07535	07537		PZE		IPT1	R							
07536	60060		NO	DM B	NO	R	ERROR						
07537	62000	IPT1	LP	DM	NO	R	IP3	IP4	IP3	IPT1+2	77736		
07540	00047		PZE		IP3	R							
07541	30606		MH	IP	EQ	R	IP1	IP5	IP5	IPT1+3	T1		
07542	75151		LA	DL	IP5	R	IP1	IP1	IP5	IPT1+4	T1		
07543	34617	IPX	SR	IP	NL	R	T1	IP4	IP5	IPT1+5	T0		
07544	44075		ZE	DM B	LA								
07545	62070		LP	DM B	LT								
07546	75151		LA	DL	IP5								
07547	60760	IAT	NO	IA B	NO	R	0	T0	IP2	IAT+1	0		
07550	66060		AP	DM B	NO	R	0	IP2	T0	IAT+2	0		
07551	60740		NO	IA N	NO	R	0	T2	IP3	+3	0		
07552	66060		AP	DM B	NO	R	0	IP3	T2	+4	0		
07553	60720		NO	IA H	NO	R	0	T0	IP4	+5	0		
07554	66060		AP	DM B	NO	R	0	IP4	T0	+6	0		
07555	60700		NO	IA	NO	R	1	T2	IP5	+7	0		
07556	41142		HT	DL	T1	R	0	T2	IP5	+8	1		
07557	75165		LA	DL	IP6	R	IP2	IP2	IP5	+9	1		
07560	40700		ST	IA	NO	R	1	T2	IP3	+10	1		
07561	75142	IATX	LA	DL	T1	R							
07562	20060		BR	DM F	UN								
07563	05670	LTSP	PZE		LLT								
07564	00000		PZE					TEMP					
07565	00000		PZE					T0					
07566	00001		PZE		1			T1					
07567	07112		PZE		DL3			NEXT,	DL3+1	T2			
07570	07113		PZE		DL2			T3					
07571	00041		PZE		T0	R		IP1					
07572	00042		PZE		T1	R		IP2					

07573	00041	PZE	TO	R	IP3	
07574	00042	PZE	T1	R	IP4	
07575	00045	PZE	IP1		IP5	
07576	10264	PZE	LTDL		PRES1	
07577	10264	PZE	LTDL		PRES2	
07600	00000	PZE			TE	
07601	00000	PZE			TA	
07602	00000	PZE			TP	
07603	00000	PZE			TM	
07604	00000	PZE			TT	
07605	00000	PZE			CARRY	CY
07606	00000	PZE			OV	
07607	00000	PZE			ERR	
07610	00000	PZE			TERR	
07611	00046	PZE	IP2		IP6	
07612	00377	OCT	00377		PER	
07613	77777	OCT	77777			
07614	00660	PTE	OCT		NO ERROR	
07615	63767		OCT			
07616	01411		OCT			
07617	23451		OCT			
07620	00024	PTEX	OCT			
07621	00666	PLL	OCT		LOGAND LOGIC TEST TITLE	
07622	62612		OCT			
07623	40277		OCT			
07624	56026		OCT			
07625	62610		OCT			
07626	45767		OCT			
07627	01730		OCT			
07630	51715		OCT			
07631	51426		OCT			
07632	61136		OCT			
07633	77340		OCT			
07634	75424		OCT			
07635	75237		OCT			
07636	56010		OCT			
07637	41767		OCT			
07640	01731		OCT			
07641	30626		OCT			
07642	61767		OCT			
07643	01227		OCT			
07644	21722		OCT			
07645	65424		OCT			
07646	77100		OCT			
07647	33767		OCT			

07650	00015	OCT	00015
07651	51436	OCT	51436
07652	77340	OCT	77340
07653	21036	OCT	21036
07654	60451	OCT	60451
07655	16736	OCT	16736
07656	77340	OCT	77340
07657	51350	OCT	51350
07660	75132	OCT	75132
07661	77340	OCT	77340
07662	75477	OCT	75477
07663	56022	OCT	56022
07664	63036	OCT	63036
07665	21007	OCT	21007
07666	62364	OCT	62364
07667	77362	PLLX OCT	77362
07670	00640	PDL OCT	00640
07671	13337	OCT	13337
07672	56012	OCT	56012
07673	12251	OCT	12251
07674	61224	OCT	61224
07675	77340	OCT	77340
07676	62736	OCT	62736
07677	21460	OCT	21460
07700	77340	OCT	77340
07701	75424	OCT	75424
07702	75767	OCT	75767
07703	01456	OCT	01456
07704	60452	OCT	60452
07705	74420	OCT	74420
07706	30000	PDLX OCT	30000
07707	00640	PDM OCT	00640
07710	12077	OCT	12077
07711	56012	OCT	56012
07712	12251	OCT	12251
07713	61224	OCT	61224
07714	77340	OCT	77340
07715	62736	OCT	62736
07716	21460	OCT	21460
07717	77340	OCT	77340
07720	75424	OCT	75424
07721	75767	OCT	75767
07722	01456	OCT	01456
07723	60452	OCT	60452
07724	74420	OCT	74420

DL ADDRESS OPTION TEST OPERATING

DM ADDRESS OPTION TEST OPERATING

07725	30000	PDMX	OCT	30000
07726	00640	PDP	OCT	00640
07727	12737		OCT	12737
07730	56012		OCT	56012
07731	12251		OCT	12251
07732	61224		OCT	61224
07733	77340		OCT	77340
07734	62736		OCT	62736
07735	21460		OCT	21460
07736	77340		OCT	77340
07737	75424		OCT	75424
07740	75767		OCT	75767
07741	01456		OCT	01456
07742	60452		OCT	60452
07743	74420		OCT	74420
07744	30000	PDPX	OCT	30000
07745	00640	PDA	OCT	00640
07746	12537		OCT	12537
07747	56012		OCT	56012
07750	12251		OCT	12251
07751	61224		OCT	61224
07752	77340		OCT	77340
07753	62736		OCT	62736
07754	21460		OCT	21460
07755	77340		OCT	77340
07756	75424		OCT	75424
07757	75767		OCT	75767
07760	01456		OCT	01456
07761	60452		OCT	60452
07762	74420		OCT	74420
07763	30000	PDAX	OCT	30000
07764	00640	PIL	OCT	00640
07765	21337		OCT	21337
07766	56012		OCT	56012
07767	12251		OCT	12251
07770	61224		OCT	61224
07771	77340		OCT	77340
07772	62736		OCT	62736
07773	21460		OCT	21460
07774	77340		OCT	77340
07775	75424		OCT	75424
07776	75767		OCT	75767
07777	01456		OCT	01456
10000	60452		OCT	60452
10001	74420		OCT	74420

DP ADDRESS OPTION TEST OPERATING

DA ADDRESS OPTION TEST OPERATING

IL ADDRESS OPTION TEST OPERATING

10002	30000	PILX	OCT	30000
10003	00640	PIM	OCT	00640
10004	20077		OCT	20077
10005	56012		OCT	56012
10006	12251		OCT	12251
10007	61224		OCT	61224
10010	77340		OCT	77340
10011	62736		OCT	62736
10012	21460		OCT	21460
10013	77340		OCT	77340
10014	75424		OCT	75424
10015	75767		OCT	75767
10016	01456		OCT	01456
10017	60452		OCT	60452
10020	74420		OCT	74420
10021	30000	PIMX	OCT	30000
10022	00640	PIP	OCT	00640
10023	20737		OCT	20737
10024	56012		OCT	56012
10025	12251		OCT	12251
10026	61224		OCT	61224
10027	77340		OCT	77340
10030	62736		OCT	62736
10031	21460		OCT	21460
10032	77340		OCT	77340
10033	75424		OCT	75424
10034	75767		OCT	75767
10035	01456		OCT	01456
10036	60452		OCT	60452
10037	74420		OCT	74420
10040	30000	PIPX	OCT	30000
10041	00640	PIA	OCT	00640
10042	20537		OCT	20537
10043	56012		OCT	56012
10044	12251		OCT	12251
10045	61224		OCT	61224
10046	77340		OCT	77340
10047	62736		OCT	62736
10050	21460		OCT	21460
10051	77340		OCT	77340
10052	75424		OCT	75424
10053	75767		OCT	75767
10054	01456		OCT	01456
10055	60452		OCT	60452
10056	74420		OCT	74420

IM ADDRESS OPTION TEST OPERATING

IP ADDRESS OPTION TEST OPERATING

IA ADDRESS OPTION TEST OPERATING

10057	30000	PIAX	OCT	30000
10060	00666	PNG	OCT	00666
10061	63112		OCT	63112
10062	74431		OCT	74431
10063	41767		OCT	41767
10064	01446		OCT	01446
10065	77340		OCT	77340
10066	14510		OCT	14510
10067	54420		OCT	54420
10070	31767		OCT	31767
10071	01331		OCT	01331
10072	30520		OCT	30520
10073	13767		OCT	13767
10074	57367		OCT	57367
10075	57367	PFL	OCT	57367
10076	57367		OCT	57367
10077	00651		OCT	00651
10100	60610		OCT	60610
10101	51730		OCT	51730
10102	23237		OCT	23237
10103	57367		OCT	57367
10104	57367		OCT	57367
10105	57367		OCT	57367
10106	57367		OCT	57367
10107	56026		OCT	56026
10110	77367		OCT	77367
10111	57367		OCT	57367
10112	57340		OCT	57340
10113	25767		OCT	25767
10114	57367		OCT	57367
10115	57367		OCT	57367
10116	00737		OCT	00737
10117	57367		OCT	57367
10120	57367		OCT	57367
10121	56001		OCT	56001
10122	77367		OCT	77367
10123	57367		OCT	57367
10124	57340		OCT	57340
10125	75767		OCT	75767
10126	57340		OCT	57340
10127	44577		OCT	44577
10130	57340		OCT	57340
10131	62140		OCT	62140
10132	00670		OCT	00670
10133	42730		OCT	42730

LOCATION OF FAILING LOGAND

REGISTERS

CY +15  
OV +17

10134	45730	OCT	45730
10135	13767	OCT	13767
10136	00470	OCT	00470
10137	50366	OCT	50366
10140	75237	OCT	75237
10141	57367	OCT	57367
10142	57367	PEX OCT	57367
10143	57367	OCT	57367
10144	57367	OCT	57367
10145	57367	OCT	57367
10146	57367	OCT	57367
10147	57367	OCT	57367
10150	57367	OCT	57367
10151	57367	OCT	57367
10152	57367	OCT	57367
10153	57367	OCT	57367
10154	57367	OCT	57367
10155	57367	OCT	57367
10156	57367	OCT	57367
10157	57367	OCT	57367
10160	57367	OCT	57367
10161	57367	OCT	57367
10162	57367	OCT	57367
10163	57367	OCT	57367
10164	00670	OCT	00670
10165	22471	OCT	22471
10166	41431	OCT	41431
10167	17237	OCT	17237
10170	56011	OCT	56011
10171	61207	OCT	61207
10172	55724	OCT	55724
10173	77367	OCT	77367
10174	57367	PBB OCT	57367
10175	57367	OCT	57367
10176	57367	OCT	57367
10177	57367	OCT	57367
10200	57367	OCT	57367
10201	57367	OCT	57367
10202	57367	OCT	57367
10203	57367	OCT	57367
10204	57367	OCT	57367
10205	57367	OCT	57367
10206	57367	OCT	57367
10207	57367	OCT	57367
10210	57367	OCT	57367

10211	57367	OCT	57367	
10212	57367	OCT	57367	
10213	57367	OCT	57367	+15
10214	57367	OCT	57367	
10215	57367	OCT	57367	+17
10216	00664	OCT	00664	
10217	61737	OCT	61737	
10220	56036	OCT	56036	
10221	62614	OCT	62614	
10222	55424	OCT	55424	PBB
10223	33767	OCT	33767	
10224	00770	OCT	00770	
10225	23477	OCT	23477	
10226	57127	OCT	57127	
10227	01731	OCT	01731	
10230	77340	OCT	77340	
10231	45460	OCT	45460	
10232	74420	OCT	74420	
10233	17415	OCT	17415	
10234	77340	OCT	77340	
10235	63030	OCT	63030	
10236	77367	OCT	77367	
10237	45340	OCT	45340	
10240	74453	OCT	74453	
10241	77340	OCT	77340	
10242	55454	OCT	55454	
10243	25005	OCT	25005	
10244	77340	OCT	77340	
10245	24612	OCT	24612	
10246	21015	OCT	21015	
10247	13416	OCT	13416	
10250	23424	OCT	23424	
10251	51767	OCT	51767	
10252	36006	OCT	36006	
10253	54514	OCT	54514	
10254	76740	OCT	76740	
10255	00000	PZE		L
10256	00000	PZE		A
10257	00000	PZE		P
10260	07047	PZE	DLT	M
10261	00000	PZE		T
10262	00000	PZE	0	
10263	00000	PZE	0	
10264	00001	PZE	1	L
10265	00000	PZE		A

PNGX

LTDL



10266	00000	PZE		P
10267	07050	PZE	DLT+1	M
10270	00000	PZE		T
10271	00000	PZE	0	
10272	00000	PZE	0	
10273	00000	PZE	0	
10274	00001	PZE	1	
10275	00000	PZE	0	
10276	07051	PZE	DLT+2	
10277	00000	PZE	0	
10300	00000	PZE	0	
10301	00000	PZE	0	
10302	00000	PZE	0	
10303	00000	PZE	0	
10304	00001	PZE	1	
10305	07052	PZE	DLT+3	
10306	00000	PZE	0	
10307	00000	PZE	0	
10310	00000	PZE	0	
10311	00001	PZE	1	
10312	00000	PZE	0	
10313	00000	PZE	0	
10314	07053	PZE	DLT+4	
10315	00000	PZE	0	
10316	00000	PZE	0	
10317	00000	PZE	0	
10320	00000	PZE	0	
10321	00000	PZE	0	
10322	00000	PZE	0	
10323	07054	PZE	DLT+5	
10324	00001	PZE	1	
10325	00000	PZE	0	
10326	00000	PZE	0	
10327	00000	PZE	0	
10330	00001	PZE	1	
10331	00000	PZE	0	
10332	07055	PZE	DLT+6	
10333	00000	PZE	0	
10334	00000	PZE	0	
10335	00000	PZE	0	
10336	00001	PZE	1	
10337	00000	PZE	0	
10340	00000	PZE	0	
10341	07056	PZE	DLT+7	
10342	00000	PZE	0	

10343	00000	PZE	0
10344	00000	PZE	0
10345	00000	PZE	0
10346	00000	PZE	0
10347	00001	PZE	1
10350	07057	PZE	DLT+8
10351	00000	PZE	0
10352	00000	PZE	0
10353	00000	PZE	0
10354	00001	PZE	1
10355	00000	PZE	0
10356	00001	PZE	1
10357	07060	PZE	DLT+9
10360	00000	PZE	0
10361	00000	PZE	0
10362	00000	PZE	0
10363	00001	PZE	1
10364	00000	PZE	0
10365	00001	PZE	1
10366	07061	PZE	DLT+10
10367	00001	PZE	1
10370	00000	PZE	0
10371	00000	PZE	0
10372	00000	PZE	0
10373	00000	PZE	0
10374	00001	PZE	1
10375	07062	PZE	DLT+11
10376	00001	PZE	1
10377	00000	PZE	0
10400	00000	PZE	0
10401	00001	PZE	1
10402	00000	PZE	0
10403	00001	PZE	1
10404	07063	PZE	DLT+12
10405	00000	PZE	0
10406	00000	PZE	0
10407	00000	PZE	0
10410	00000	PZE	0
10411	00000	PZE	0
10412	00000	PZE	0
10413	07064	PZE	DLT+13
10414	00000	PZE	0
10415	00000	PZE	0
10416	00000	PZE	0
10417	00001	PZE	1

10420	00001	PZE	1
10421	00000	PZE	0
10422	07065	PZE	DLT+14
10423	00000	PZE	0
10424	00000	PZE	0
10425	00000	PZE	0
10426	00001	PZE	1
10427	00001	PZE	1
10430	00000	PZE	0
10431	07066	PZE	DLT+15
10432	00000	PZE	0
10433	00000	PZE	0
10434	00000	PZE	0
10435	00001	PZE	1
10436	00001	PZE	1
10437	00000	PZE	0
10440	07067	PZE	DLT+16
10441	00001	PZE	1
10442	00000	PZE	0
10443	00000	PZE	0
10444	00001	PZE	1
10445	00001	PZE	1
10446	00000	PZE	0
10447	07070	PZE	DLT+17
10450	00001	PZE	1
10451	00000	PZE	0
10452	00000	PZE	0
10453	00001	PZE	1
10454	00001	PZE	1
10455	00000	PZE	0
10456	07071	PZE	DLT+18
10457	00001	PZE	1
10460	00000	PZE	0
10461	00000	PZE	0
10462	00001	PZE	1
10463	00002	PZE	2
10464	00000	PZE	0
10465	07072	PZE	DLT+19
10466	00001	PZE	1
10467	00000	PZE	0
10470	00000	PZE	0
10471	00001	PZE	1
10472	00001	PZE	1
10473	00000	PZE	0
10474	07073	PZE	DLT+20

10475	00001	PZE	1
10476	00000	PZE	0
10477	00000	PZE	0
10500	00000	PZE	0
10501	00000	PZE	0
10502	00001	PZE	1
10503	07074	PZE	DLT+21
10504	00001	PZE	1
10505	00000	PZE	0
10506	00000	PZE	0
10507	00001	PZE	1
10510	00000	PZE	0
10511	00001	PZE	1
10512	07075	PZE	DLT+22
10513	00001	PZE	1
10514	00000	PZE	0
10515	00000	PZE	0
10516	00001	PZE	1
10517	00001	PZE	1
10520	00001	PZE	1
10521	07076	PZE	DLT+23
10522	00001	PZE	1
10523	00000	PZE	0
10524	00000	PZE	0
10525	00001	PZE	1
10526	00000	PZE	0
10527	00001	PZE	1
10530	07077	PZE	DLT+24
10531	00001	PZE	1
10532	00000	PZE	0
10533	00000	PZE	0
10534	00001	PZE	1
10535	00001	PZE	1
10536	00001	PZE	1
10537	07100	PZE	DLT+25
10540	00001	PZE	1
10541	00000	PZE	0
10542	00000	PZE	0
10543	00001	PZE	1
10544	00002	PZE	2
10545	00001	PZE	1
10546	07101	PZE	DLT+26
10547	00001	PZE	1
10550	00000	PZE	0
10551	00000	PZE	0

10552	00001	PZE	1
10553	00003	PZE	3
10554	00001	PZE	1
10555	07102	PZE	DLT+27
10556	00001	PZE	1
10557	00000	PZE	0
10560	00000	PZE	0
10561	00001	PZE	1
10562	00003	PZE	3
10563	00001	PZE	1
10564	07103	PZE	DLT+28
10565	00001	PZE	1
10566	00000	PZE	0
10567	00000	PZE	0
10570	00000	OCT	0
10571	77774	OCT	77774
10572	00001	OCT	1
10573	07104	PZE	DLT+29
10574	00001	OCT	1
10575	00001	PZE	1
10576	00000	PZE	0
10577	00000	OCT	0
10600	77775	OCT	77775
10601	00001	OCT	1
10602	07105	PZE	DLT+30
10603	00001	OCT	1
10604	00000	PZE	0
10605	00000	PZE	0
10606	00000	OCT	0
10607	00002	OCT	2
10610	00001	OCT	1
10611	07106	PZE	DLT+31
10612	00001	OCT	1
10613	00000	PZE	0
10614	00000	PZE	0
10615	00000	OCT	0
10616	77775	OCT	77775
10617	00001	OCT	1
10620	07107	PZE	DLT+32
10621	00001	PZE	1
10622	00000	PZE	0
10623	00000	PZE	0
10624	07110	PZE	DLT+33
10625	77775	OCT	77775
10626	00001	OCT	1

DLT+29 AREA

R

10627	07112	PZE	DL3	
10630	00001	PZE	1	
10631	00000	PZE	0	
10632	00000	PZE	0	
10633	07113	PZE	DL3+1	
10634	77775	OCT	77775	
10635	00001	OCT	1	
10636	07110	PZE	DLT+33	R
10637	00001	PZE	1	
10640	00000	PZE	0	
10641	00000	PZE	0	
10642	07113	PZE	DL3+1	
10643	77775	OCT	77775	
10644	00001	OCT	1	
10645	07113	PZE	DL3+1	
10646	00001	PZE	1	
10647	00000	PZE	0	
10650	00000	PZE	0	
10651	07113	PZE	DL2	
10652	77775	OCT	77775	
10653	00001	OCT	1	
10654	07114	PZE	DL2+1	R
10655	00001	PZE	1	
10656	00000	PZE	0	
10657	00000	PZE	0	
10660	00000	PZE	0	L
10661	00000	PZE	0	A
10662	00001	PZE	1	P
10663	07115	PZE	DL2+2	M
10664	00001	PZE	1	T
10665	00000	PZE	0	CY
10666	00000	PZE	0	OV
10667	77777	OCT	77777	L
10670	77777	OCT	77777	A
10671	00001	PZE	1	P
10672	07116	PZE	DL2+3	M
10673	00001	PZE	1	T
10674	00000	PZE	0	CY
10675	00000	PZE	0	OV
10676	77777	OCT	77777	L
10677	00000	PZE	0	A
10700	00001	PZE	1	P
10701	07117	PZE	DL2+4	M
10702	00001	PZE	1	T
10703	00000	PZE	0	CY

10704	00000	PZE	0	OV
10705	00000	PZE	0	L
10706	77777	OCT	77777	A
10707	00001	PZE	1	P
10710	07120	PZE	DL2+5	M
10711	00001	PZE	1	T
10712	00000	PZE	0	CY
10713	00000	PZE	0	OV
10714	77777	OCT	77777	L
10715	77777	OCT	77777	A
10716	00001	PZE	1	P
10717	07121	PZE	DL2+6	M
10720	00001	PZE	1	T
10721	00000	PZE	0	CY
10722	00000	PZE	0	OV
10723	77777	OCT	77777	L
10724	00000	PZE	0	A
10725	00001	PZE	1	P
10726	07122	PZE	DL2+7	M
10727	00001	PZE	1	T
10730	00000	PZE	0	CY
10731	00000	PZE	0	OV
10732	00000	PZE	0	L
10733	00000	PZE	0	A
10734	00001	PZE	1	P
10735	07123	PZE	DL2+8	M
10736	00001	PZE	1	T
10737	00000	PZE	0	CY
10740	00000	PZE	0	OV
10741	00000	PZE	0	L
10742	00000	PZE	0	A
10743	00001	PZE	1	P
10744	07124	PZE	DL2+9	M
10745	00001	PZE	1	T
10746	00000	PZE	0	CY
10747	00000	PZE	0	OV
10750	77777	OCT	77777	L
10751	77777	OCT	77777	A
10752	00001	PZE	1	P
10753	07125	PZE	DL2+10	M
10754	00001	PZE	1	T
10755	00000	PZE	0	CY
10756	00000	PZE	0	OV
10757	77777	OCT	77777	L
10760	77777	OCT	77777	A

10761	00001	PZE	1	P
10762	07126	PZE	DL2+11	M
10763	00001	PZE	1	T
10764	00000	PZE	0	CY
10765	00000	PZE	0	OV
10766	00001	PZE	1	L
10767	00000	PZE	0	A
10770	00001	PZE	1	P
10771	07127	PZE	DL2+12	M
10772	00001	PZE	1	T
10773	00001	PZE	1	CY
10774	00000	PZE	0	OV
10775	77777	OCT	77777	L
10776	77777	OCT	77777	A
10777	00001	PZE	1	P
11000	07130	PZE	DL2+13	M
11001	00001	PZE	1	T
11002	00000	PZE	0	CY
11003	00000	PZE	0	OV
11004	00000	OCT	0	L
11005	77777	OCT	77777	A
11006	00001	PZE	1	P
11007	07131	PZE	DL2+14	M
11010	00001	PZE	1	T
11011	00000	PZE	0	CY
11012	00000	PZE	0	OV
11013	00001	PZE	1	L
11014	00000	PZE	0	A
11015	00001	PZE	1	P
11016	07132	PZE	DL2+15	M
11017	00001	PZE	1	T
11020	00001	PZE	1	CY
11021	00000	PZE	0	OV
11022	77777	OCT	77777	L
11023	00000	PZE	0	A
11024	00001	PZE	1	P
11025	07133	PZE	DL2+16	M
11026	00001	PZE	1	T
11027	00001	PZE	1	CY
11030	00000	PZE	0	OV
11031	77777	OCT	77777	L
11032	00000	PZE	0	A
11033	00001	PZE	1	P
11034	07134	PZE	DL2+17	M
11035	00001	PZE	1	T



11036	00001	PZE	1	CY
11037	00000	PZE	0	OV
11040	00000	PZE	0	L
11041	77777	OCT	77777	A
11042	00001	PZE	1	P
11043	07135	PZE	DL2+18	M
11044	00001	PZE	1	T
11045	00000	PZE	0	CY
11046	00000	PZE	0	OV
11047	00000	PZE	0	L
11050	00000	PZE	0	A
11051	00001	PZE	1	P
11052	07136	PZE	DL2+19	M
11053	00001	PZE	1	T
11054	00000	PZE	0	CY
11055	00000	PZE	0	OV
11056	77777	OCT	77777	L
11057	77777	OCT	77777	A
11060	00001	PZE	1	P
11061	07137	PZE	DL2+20	M
11062	00001	PZE	1	T
11063	00000	PZE	0	CY
11064	00000	PZE	0	OV
11065	00000	PZE	0	L
11066	00000	PZE	0	A
11067	00001	PZE	1	P
11070	07140	PZE	DL2+21	M
11071	00001	PZE	1	T
11072	00000	PZE	0	CY
11073	00000	PZE	0	OV
11074	77777	OCT	77777	L
11075	77777	OCT	77777	A
11076	00001	PZE	1	P
11077	07141	PZE	DL2+22	M
11100	00001	PZE	1	T
11101	00000	PZE	0	CY
11102	00000	PZE	0	OV
11103	00000	PZE	0	L
11104	00000	PZE	0	A
11105	00001	PZE	1	P
11106	07142	PZE	DL2+23	M
11107	00001	PZE	1	T
11110	00001	PZE	1	CY
11111	00000	PZE	0	OV
11112	77777	OCT	77777	L

11113	77777	OCT	77777	A
11114	00001	PZE	1	P
11115	07143	PZE	DL2+24	M
11116	00001	PZE	1	T
11117	00001	PZE	1	CY
11120	00000	PZE	0	OV
11121	00000	PZE	0	L
11122	00000	PZE	0	A
11123	00001	PZE	1	P
11124	07144	PZE	DL2+25	M
11125	00001	PZE	1	T
11126	00001	PZE	1	CY
11127	00000	PZE	0	OV
11130	00000	PZE	0	L
11131	77777	OCT	77777	A
11132	00001	PZE	1	P
11133	07145	PZE	DL2+26	M
11134	00001	PZE	1	T
11135	00000	PZE	0	CY
11136	00000	PZE	0	OV
11137	00000	PZE	0	L
11140	00000	PZE	0	A
11141	00001	PZE	1	P
11142	07146	PZE	DL2+27	M
11143	00001	PZE	1	T
11144	00000	PZE	0	CY
11145	00000	PZE	0	OV
11146	77777	OCT	77777	L
11147	00000	OCT	0	A
11150	77777	OCT	77777	P
11151	07147	PZE	DL2+28	M
11152	00001	PZE	1	T
11153	00000	PZE	0	CY
11154	00000	PZE	0	OV
11155	77777	OCT	77777	L
11156	00000	PZE	0	A
11157	77777	OCT	77777	P
11160	07150	PZE	DL2+29	M
11161	77777	OCT	77777	T
11162	00000	PZE	0	CY
11163	00000	PZE	0	OV
11164	00000	PZE	0	L
11165	00000	PZE	0	A
11166	00000	PZE	0	P
11167	07151	PZE	DL2+30	M

11170	77777	OCT	77777	T
11171	00000	PZE	0	CY
11172	00000	PZE	0	OV
11173	00000	PZE	0	L
11174	00000	PZE	0	A
11175	00000	PZE	0	P
11176	07152	PZE	DL2+31	M
11177	00000	PZE	0	T
11200	00000	PZE	0	CY
11201	00000	PZE	0	OV
11202	00000	PZE		L
11203	00000	PZE		A
11204	00000	PZE		P
11205	07154	PZE	DMT	M
11206	00000	PZE		T
11207	00000	PZE	0	
11210	00000	PZE	0	
11211	00000	OCT	00000	L
11212	00000	OCT	00000	A
11213	00000	OCT	00000	P
11214	07155	PZE	DMT+1	M
11215	00000	OCT	00000	T
11216	00000	PZE	0	
11217	00000	PZE	0	
11220	00000	OCT	00000	L
11221	00000	OCT	00000	A
11222	00000	OCT	00000	P
11223	07157	PZE	DMT+3	M
11224	00000	OCT	00000	T
11225	00000	PZE	0	
11226	00000	PZE	0	
11227	75060	OCT	75060	L
11230	00000	OCT	00000	A
11231	00000	OCT	00000	P
11232	07160	PZE	DMT+4	M
11233	00000	OCT	00000	T
11234	00000	PZE	0	
11235	00000	PZE	0	
11236	75060	OCT	75060	L
11237	75060	OCT	75060	A
11240	00000	OCT	00000	P
11241	07161	PZE	DMT+5	M
11242	00000	OCT	00000	T
11243	00000	PZE	0	
11244	00000	PZE	0	

LTDM

11245	02717	OCT	02717	L
11246	77777	OCT	77777	A
11247	00000	OCT	00000	P
11250	07163	PZE	DMT+7	M
11251	00000	OCT	00000	T
11252	00000	PZE	0	
11253	00000	PZE	0	
11254	02717	OCT	02717	L
11255	00000	OCT	00000	A
11256	00000	OCT	00000	P
11257	07164	PZE	DMT+8	M
11260	00000	OCT	00000	T
11261	00000	PZE	0	
11262	00000	PZE	0	
11263	07167	PZE	DMT+11	L
11264	00000	OCT	00000	A
11265	00000	OCT	00000	P
11266	07167	PZE	DMT+11	M
11267	00000	OCT	00000	T
11270	00000	PZE	0	
11271	00000	PZE	0	
11272	00000	OCT	00000	L
11273	00000	OCT	00000	A
11274	00000	OCT	00000	P
11275	07171	PZE	DMT+13	M
11276	00000	OCT	00000	T
11277	00000	PZE	0	
11300	00000	PZE	0	
11301	00000	OCT	00000	L
11302	00000	OCT	00000	A
11303	00000	OCT	00000	P
11304	07173	PZE	DMT+15	M
11305	00000	OCT	00000	T
11306	00000	PZE	0	
11307	00000	PZE	0	
11310	07176	PZE	DMT+18	L
11311	00000	OCT	00000	A
11312	00000	OCT	00000	P
11313	07176	PZE	DMT+18	M
11314	00000	OCT	00000	T
11315	00000	PZE	0	
11316	00000	PZE	0	
11317	00000	OCT	00000	L
11320	00000	OCT	00000	A
11321	00000	OCT	00000	P

11322	07200	PZE	DMT+20	M
11323	00000	OCT	00000	T
11324	00000	PZE	0	
11325	00000	PZE	0	
11326	00012	OCT	00012	L
11327	00000	OCT	00000	A
11330	00012	OCT	00012	P
11331	07202	PZE	DMT+22	M
11332	00000	OCT	00000	T
11333	00000	PZE	0	
11334	00000	PZE	0	
11335	00012	OCT	00012	L
11336	00012	OCT	00012	A
11337	00000	OCT	00000	P
11340	07203	PZE	DMT+23	M
11341	00000	OCT	00000	T
11342	00000	PZE	0	
11343	00000	PZE	0	
11344	00012	OCT	00012	L
11345	00000	OCT	00000	A
11346	00000	OCT	00000	P
11347	07204	PZE	DMT+24	M
11350	00012	OCT	00012	T
11351	00000	PZE	0	
11352	00000	PZE	0	
11353	00000	OCT	00000	L
11354	00000	OCT	00000	A
11355	00000	OCT	00000	P
11356	07205	PZE	DMT+25	M
11357	00012	OCT	00012	T
11360	00000	PZE	0	
11361	00000	PZE	0	
11362	00012	OCT	00012	L
11363	00000	OCT	00000	A
11364	00000	OCT	00000	P
11365	07206	PZE	DMT+26	M
11366	00000	OCT	00000	T
11367	00000	PZE	0	
11370	00000	PZE	0	
11371	00000	OCT	00000	L
11372	00000	OCT	00000	A
11373	00012	OCT	00012	P
11374	07207	PZE	DMT+27	M
11375	00000	OCT	00000	T
11376	00000	PZE	0	

11377	00000	PZE	0	
11400	00012	OCT	00012	L
11401	00000	OCT	00000	A
11402	00000	OCT	00000	P
11403	07210	PZE	DMT+28	M
11404	00000	OCT	00000	T
11405	00000	PZE	0	
11406	00000	PZE	0	
11407	00000	OCT	00000	L
11410	00012	OCT	00012	A
11411	00000	OCT	00000	P
11412	07211	PZE	DMT+29	M
11413	00000	OCT	00000	T
11414	00000	PZE	0	
11415	00000	PZE	0	
11416	00012	OCT	00012	L
11417	00000	OCT	00000	A
11420	00000	OCT	00000	P
11421	07212	PZE	DMT+30	M
11422	00000	OCT	00000	T
11423	00000	PZE	0	
11424	00000	PZE	0	
11425	00012	OCT	00012	L
11426	00000	OCT	00000	A
11427	00000	OCT	00000	P
11430	07213	PZE	DMT+31	M
11431	00012	OCT	00012	T
11432	00000	PZE	0	
11433	00000	PZE	0	
11434	00000	OCT	00000	L
11435	00000	OCT	00000	A
11436	00000	OCT	00000	P
11437	07214	PZE	DMT+32	M
11440	00012	OCT	00012	T
11441	00000	PZE	0	
11442	00000	PZE	0	
11443	00012	OCT	00012	L
11444	00000	OCT	00000	A
11445	00000	OCT	00000	P
11446	07215	PZE	DMT+33	M
11447	00000	OCT	00000	T
11450	00000	PZE	0	
11451	00000	PZE	0	
11452	00000	OCT	00000	L
11453	00000	OCT	00000	A

11454	00000	OCT	00000	P
11455	07216	PZE	DMT+34	M
11456	00000	OCT	00000	T
11457	00000	PZE	0	
11460	00000	PZE	0	
11461	00001	OCT	00001	L
11462	00000	OCT	00000	A
11463	00001	OCT	00001	P
11464	07220	PZE	DMT+36	M
11465	00000	OCT	00000	T
11466	00000	PZE	0	
11467	00000	PZE	0	
11470	00001	OCT	00001	L
11471	00001	OCT	00001	A
11472	00001	OCT	00001	P
11473	07221	PZE	DMT+37	M
11474	00000	OCT	00000	T
11475	00000	PZE	0	
11476	00000	PZE	0	
11477	00001	OCT	00001	L
11500	77776	OCT	77776	A
11501	00001	OCT	00001	P
11502	07222	PZE	DMT+38	M
11503	00000	OCT	00000	T
11504	00001	PZE	1	
11505	00000	PZE	0	
11506	00001	OCT	00001	L
11507	77777	OCT	77777	A
11510	00001	OCT	00001	P
11511	07223	PZE	DMT+39	M
11512	00000	OCT	00000	T
11513	00000	PZE	0	
11514	00000	PZE	0	
11515	00001	OCT	00001	L
11516	00000	OCT	00000	A
11517	00001	OCT	00001	P
11520	07224	PZE	DMT+40	M
11521	00000	OCT	00000	T
11522	00001	PZE	1	
11523	00000	PZE	0	
11524	00000	OCT	00000	L
11525	00000	OCT	00000	A
11526	00001	OCT	00001	P
11527	07225	PZE	DMT+41	M
11530	00000	OCT	00000	T

11531	00001	PZE	1	
11532	00000	PZE	0	
11533	00001	OCT	00001	L
11534	00000	OCT	00000	A
11535	00001	OCT	00001	P
11536	07226	PZE	DMT+42	M
11537	00000	OCT	00000	T
11540	00001	PZE	1	
11541	00000	PZE	0	
11542	00001	OCT	00001	L
11543	00002	OCT	00002	A
11544	00001	OCT	00001	P
11545	07227	PZE	DMT+43	M
11546	00000	OCT	00000	T
11547	00000	PZE	0	
11550	00000	PZE	0	
11551	00001	OCT	00001	L
11552	77775	OCT	77775	A
11553	00001	OCT	00001	P
11554	07230	PZE	DMT+44	M
11555	00000	OCT	00000	T
11556	00000	PZE	0	
11557	00000	PZE	0	
11560	40000	OCT	40000	L
11561	37775	OCT	37775	A
11562	00001	OCT	00001	P
11563	07232	PZE	DMT+46	M
11564	00000	OCT	00000	T
11565	00001	PZE	1	
11566	00000	PZE	0	
11567	00000	OCT	00000	L
11570	37775	OCT	37775	A
11571	00001	OCT	00001	P
11572	07234	PZE	DMT+48	M
11573	00000	OCT	00000	T
11574	00001	PZE	1	
11575	00000	PZE	0	
11576	00003	OCT	00003	L
11577	40000	OCT	40000	A
11600	00001	OCT	00001	P
11601	07236	PZE	DMT+50	M
11602	00000	OCT	00000	T
11603	00000	PZE	0	
11604	00001	PZE	1	
11605	07241	PZE	DMT+53	L



11606	40000	OCT	40000	A
11607	00001	OCT	00001	P
11610	07241	PZE	DMT+53	M
11611	00000	OCT	00000	T
11612	00000	PZE	0	
11613	00000	PZE	0	
11614	07244	PZE	DMT+56	L
11615	40000	OCT	40000	A
11616	00001	OCT	00001	P
11617	07244	PZE	DMT+56	M
11620	00000	OCT	00000	T
11621	00000	PZE	0	
11622	00000	PZE	0	
11623	07244	PZE	DMT+56	L
11624	37777	OCT	37777	A
11625	00001	OCT	00001	P
11626	07245	PZE	DMT+57	M
11627	00000	OCT	00000	T
11630	00000	PZE	0	
11631	00000	PZE	0	
11632	00001	OCT	00001	L
11633	00000	OCT	00000	A
11634	00001	OCT	00001	P
11635	07246	PZE	DMT+58	M
11636	00000	OCT	00000	T
11637	00000	PZE	0	
11640	00000	PZE	0	
11641	00000	OCT	00000	L
11642	00000	OCT	00000	A
11643	00001	OCT	00001	P
11644	07247	PZE	DMT+59	M
11645	00000	OCT	00000	T
11646	00000	PZE	0	
11647	00000	PZE	0	
11650	00004	OCT	00004	L
11651	00004	OCT	00004	A
11652	00001	OCT	00001	P
11653	07251	PZE	DMT+61	M
11654	00000	OCT	00000	T
11655	00000	PZE	0	
11656	00000	PZE	0	
11657	00004	OCT	00004	L
11660	00000	OCT	00000	A
11661	00001	OCT	00001	P
11662	07252	PZE	DMT+62	M

11663	00000	OCT	00000	T
11664	00000	PZE	0	
11665	00000	PZE	0	
11666	00004	OCT	00004	L
11667	00004	OCT	00004	A
11670	00001	OCT	00001	P
11671	07253	PZE	DMT+63	M
11672	00000	OCT	00000	T
11673	00000	PZE	0	
11674	00000	PZE	0	
11675	00004	OCT	00004	L
11676	00001	OCT	00001	A
11677	00004	OCT	00004	P
11700	07254	PZE	DMT+64	M
11701	00000	OCT	00000	T
11702	00000	PZE	0	
11703	00000	PZE	0	
11704	00005	OCT	00005	L
11705	00001	OCT	00001	A
11706	00004	OCT	00004	P
11707	07255	PZE	DMT+65	M
11710	00000	OCT	00000	T
11711	00000	PZE	0	
11712	00000	PZE	0	
11713	00005	OCT	00005	L
11714	00005	OCT	00005	A
11715	00004	OCT	00004	P
11716	07256	PZE	DMT+66	M
11717	00000	OCT	00000	T
11720	00000	PZE	0	
11721	00000	PZE	0	
11722	00005	OCT	00005	L
11723	00004	OCT	00004	A
11724	00005	OCT	00005	P
11725	07257	PZE	DMT+67	M
11726	00000	OCT	00000	T
11727	00000	PZE	0	
11730	00000	PZE	0	
11731	00005	OCT	00005	L
11732	00000	OCT	00000	A
11733	00005	OCT	00005	P
11734	07260	PZE	DMT+68	M
11735	00004	OCT	00004	T
11736	00000	PZE	0	
11737	00000	PZE	0	

11740	00005	OCT	00005	L
11741	00005	OCT	00005	A
11742	00005	OCT	00005	P
11743	07261	PZE	DMT+69	M
11744	00004	OCT	00004	T
11745	00000	PZE	0	
11746	00000	PZE	0	
11747	00005	OCT	00005	L
11750	00012	OCT	00012	A
11751	00005	OCT	00005	P
11752	07262	PZE	DMT+70	M
11753	00004	OCT	00004	T
11754	00000	PZE	0	
11755	00000	PZE	0	
11756	00005	OCT	00005	L
11757	77765	OCT	77765	A
11760	00005	OCT	00005	P
11761	07263	PZE	DMT+71	M
11762	00004	OCT	00004	T
11763	00001	PZE	1	
11764	00000	PZE	0	
11765	00005	OCT	00005	L
11766	77773	OCT	77773	A
11767	00005	OCT	00005	P
11770	07264	PZE	DMT+72	M
11771	00004	OCT	00004	T
11772	00000	PZE	0	
11773	00000	PZE	0	
11774	00005	OCT	00005	L
11775	00004	OCT	00004	A
11776	00005	OCT	00005	P
11777	07265	PZE	DMT+73	M
12000	00004	OCT	00004	T
12001	00000	PZE	0	
12002	00000	PZE	0	
12003	00005	OCT	00005	L
12004	00011	OCT	00011	A
12005	00005	OCT	00005	P
12006	07266	PZE	DMT+74	M
12007	00004	OCT	00004	T
12010	00000	PZE	0	
12011	00000	PZE	0	
12012	00005	OCT	00005	L
12013	00016	OCT	00016	A
12014	00005	OCT	00005	P

12015	07267	PZE	DMT+75	M
12016	00004	OCT	00004	T
12017	00000	PZE	0	
12020	00000	PZE	0	
12021	00005	OCT	00005	L
12022	77761	OCT	77761	A
12023	00005	OCT	00005	P
12024	07270	PZE	DMT+76	M
12025	00004	OCT	00004	T
12026	00000	PZE	0	
12027	00000	PZE	0	
12030	00005	OCT	00005	L
12031	77761	OCT	77761	A
12032	00005	OCT	00005	P
12033	07271	PZE	DMT+77	M
12034	00004	OCT	00004	T
12035	00000	PZE	0	
12036	00000	PZE	0	
12037	00005	OCT	00005	L
12040	77761	OCT	77761	A
12041	00005	OCT	00005	P
12042	07272	PZE	DMT+78	M
12043	00005	OCT	00005	T
12044	00000	PZE	0	
12045	00000	PZE	0	
12046	00005	OCT	00005	L
12047	00016	OCT	00016	A
12050	00005	OCT	00005	P
12051	07273	PZE	DMT+79	M
12052	00005	OCT	00005	T
12053	00000	PZE	0	
12054	00000	PZE	0	
12055	00005	OCT	00005	L
12056	00007	OCT	00007	A
12057	00005	OCT	00005	P
12060	07274	PZE	DMT+80	M
12061	00005	OCT	00005	T
12062	00000	PZE	0	
12063	00000	PZE	0	
12064	00005	OCT	00005	L
12065	00003	OCT	00003	A
12066	40002	OCT	40002	P
12067	07275	PZE	DMT+81	M
12070	00005	OCT	00005	T
12071	00000	PZE	0	

12072	00000	PZE	0	
12073	00005	OCT	00005	L
12074	00006	OCT	00006	A
12075	40002	OCT	40002	P
12076	07276	PZE	DMT+82	M
12077	00005	OCT	00005	T
12100	00000	PZE	0	
12101	00000	PZE	0	
12102	00005	OCT	00005	L
12103	00015	OCT	00015	A
12104	00004	OCT	00004	P
12105	07277	PZE	DMT+83	M
12106	00005	OCT	00005	T
12107	00000	PZE	0	
12110	00000	PZE	0	
12111	00005	OCT	00005	L
12112	64000	OCT	64000	A
12113	00004	OCT	00004	P
12114	07300	PZE	DMT+84	M
12115	00005	OCT	00005	T
12116	00000	PZE	0	
12117	00000	PZE	0	
12120	00005	OCT	00005	L
12121	00015	OCT	00015	A
12122	00004	OCT	00004	P
12123	07301	PZE	DMT+85	M
12124	00005	OCT	00005	T
12125	00000	PZE	0	
12126	00000	PZE	0	
12127	00005	OCT	00005	L
12130	40001	OCT	40001	A
12131	50000	OCT	50000	P
12132	07302	PZE	DMT+86	M
12133	00005	OCT	00005	T
12134	00000	PZE	0	
12135	00000	PZE	0	
12136	00005	OCT	00005	L
12137	00015	OCT	00015	A
12140	00004	OCT	00004	P
12141	07303	PZE	DMT+87	M
12142	00005	OCT	00005	T
12143	00000	PZE	0	
12144	00000	PZE	0	
12145	00005	OCT	00005	L
12146	00015	OCT	00015	A

12147	00004	OCT	00004	P
12150	07305	PZE	DMT+89	M
12151	00005	OCT	00005	T
12152	00000	PZE	0	
12153	00000	PZE	0	
12154	01021	OCT	01021	L
12155	32000	OCT	32000	A
12156	00004	OCT	00004	P
12157	07306	PZE	DMJ+1	M
12160	00005	OCT	00005	T
12161	00000	PZE	0	
12162	00000	PZE	0	
12163	01021	OCT	01021	L
12164	64000	OCT	64000	A
12165	00004	OCT	00004	P
12166	07307	PZE	DMJ+2	M
12167	00005	OCT	00005	T
12170	00000	PZE	0	
12171	00000	PZE	0	
12172	01021	OCT	01021	L
12173	75000	OCT	75000	A
12174	00004	OCT	00004	P
12175	07310	PZE	DMJ+3	M
12176	00005	OCT	00005	T
12177	00000	PZE	0	
12200	00000	PZE	0	
12201	01021	OCT	01021	L
12202	36400	OCT	36400	A
12203	00004	OCT	00004	P
12204	07311	PZE	DMJ+4	M
12205	00005	OCT	00005	T
12206	00000	PZE	0	
12207	00000	PZE	0	
12210	01021	OCT	01021	L
12211	07500	OCT	07500	A
12212	00004	OCT	00004	P
12213	07312	PZE	DMJ+5	M
12214	00005	OCT	00005	T
12215	00000	PZE	0	
12216	00000	PZE	0	
12217	00000	OCT	00000	L
12220	00004	OCT	00004	A
12221	07500	OCT	07500	P
12222	07313	PZE	DMJ+6	M
12223	00005	OCT	00005	T

12224	00000	PZE	0	
12225	00000	PZE	0	
12226	00000	OCT	00000	L
12227	00000	OCT	00000	A
12230	00010	OCT	00010	P
12231	07314	PZE	DMJ+7	M
12232	00005	OCT	00005	T
12233	00000	PZE	0	
12234	00000	PZE	0	
12235	00010	OCT	00010	L
12236	00000	OCT	00000	A
12237	00000	OCT	00000	P
12240	07315	PZE	DMJ+8	M
12241	00005	OCT	00005	T
12242	00000	PZE	0	
12243	00000	PZE	0	
12244	00010	OCT	00010	L
12245	00000	OCT	00000	A
12246	00000	OCT	00000	P
12247	07316	PZE	DMJ+9	M
12250	00005	OCT	00005	T
12251	00000	PZE	0	
12252	00000	PZE	0	
12253	20000	OCT	20000	L
12254	20000	OCT	20000	A
12255	20000	OCT	20000	P
12256	07320	PZE	DMJ+11	M
12257	00005	OCT	00005	T
12260	00000	PZE	0	
12261	00000	PZE	0	
12262	00000	OCT	00000	L
12263	20000	OCT	20000	A
12264	20000	OCT	20000	P
12265	07321	PZE	DMJ+12	M
12266	00005	OCT	00005	T
12267	00000	PZE	0	
12270	00000	PZE	0	
12271	57777	OCT	57777	L
12272	20000	OCT	20000	A
12273	20000	OCT	20000	P
12274	07323	PZE	DMJ+14	M
12275	00005	OCT	00005	T
12276	00000	PZE	0	
12277	00000	PZE	0	
12300	57777	OCT	57777	L

12301	37777	OCT	37777	A
12302	00001	OCT	00001	P
12303	07324	PZE	DMJ+15	M
12304	00005	OCT	00005	T
12305	00000	PZE	0	
12306	00000	PZE	0	
12307	00000	OCT	00000	L
12310	77777	OCT	77777	A
12311	00001	OCT	00001	P
12312	07326	PZE	DMJ+17	M
12313	00005	OCT	00005	T
12314	00001	PZE	1	
12315	00000	PZE	0	
12316	07331	PZE	DMF	L
12317	77777	OCT	77777	A
12320	00001	OCT	00001	P
12321	07331	PZE	DMJ+20	M
12322	00005	OCT	00005	T
12323	00001	PZE	1	
12324	00000	PZE	0	
12325	07334	PZE	DMG	L
12326	77777	OCT	77777	A
12327	00001	OCT	00001	P
12330	07334	PZE	DMJ+23	M
12331	00005	OCT	00005	T
12332	00001	PZE	1	
12333	00000	PZE	0	
12334	00000	OCT	00000	L
12335	77777	OCT	77777	A
12336	00001	OCT	00001	P
12337	07336	PZE	DMJ+25	M
12340	00005	OCT	00005	T
12341	00001	PZE	1	
12342	00000	PZE	0	
12343	00000	OCT	00000	L
12344	77777	OCT	77777	A
12345	00001	OCT	00001	P
12346	07340	PZE	DMJ+27	M
12347	00005	OCT	00005	T
12350	00001	PZE	1	
12351	00000	PZE	0	
12352	07343	PZE	DMH	L
12353	77777	OCT	77777	A
12354	00001	OCT	00001	P
12355	07343	PZE	DMJ+30	M



12356	00005	OCT	00005	T
12357	00001	PZE	1	
12360	00000	PZE	0	
12361	07343	PZE	DMH	L
12362	77777	OCT	77777	A
12363	00001	OCT	00001	
12364	07344	PZE	DMJ+31	M
12365	00005	OCT	00005	T
12366	00000	PZE	0	T
12367	00000	PZE	0	
12370	77777	OCT	77777	L
12371	77777	OCT	77777	A
12372	77777	OCT	77777	P
12373	07345	PZE	DMH+2	M
12374	00005	PZE	5	T
12375	00000	PZE	0	CY
12376	00000	PZE	0	OV
12377	77777	OCT	77777	L
12400	77777	OCT	77777	A
12401	77777	OCT	77777	P
12402	07346	PZE	DMH+3	M
12403	00005	PZE	5	T
12404	00000	PZE	0	CY
12405	00000	PZE	0	OV
12406	01060	OCT	01060	L
12407	77777	OCT	77777	A
12410	00000	PZE	0	P
12411	07347	PZE	DMH+4	M
12412	00005	PZE	5	T
12413	00000	PZE	0	CY
12414	00000	PZE	0	OV
12415	01060	OCT	01060	L
12416	00000	PZE	0	A
12417	77777	OCT	77777	P
12420	07350	PZE	DMH+5	M
12421	00005	PZE	5	T
12422	00000	PZE	0	CY
12423	00000	PZE	0	OV
12424	01060	OCT	01060	L
12425	77777	OCT	77777	A
12426	00000	PZE	0	P
12427	07351	PZE	DMH+6	M
12430	00005	PZE	5	T
12431	00000	PZE	0	CY
12432	00000	PZE	0	OV

12433	01060	OCT	01060	L
12434	00000	OCT	0	A
12435	77777	OCT	77777	P
12436	07352	PZE	DMH+7	M
12437	00005	PZE	5	T
12440	00000	PZE	0	CY
12441	00000	PZE	0	OV
12442	01060	OCT	01060	L
12443	77777	OCT	77777	A
12444	00000	PZE	0	P
12445	07353	PZE	DMH+8	M
12446	00005	PZE	5	T
12447	00000	PZE	0	CY
12450	00000	PZE	0	OV
12451	01060	OCT	01060	L
12452	77777	OCT	77777	A
12453	77777	OCT	77777	P
12454	07354	PZE	DMH+9	M
12455	00005	PZE	5	T
12456	00000	PZE	0	CY
12457	00000	PZE	0	OV
12460	00000	PZE	0	L
12461	00000	PZE	0	A
12462	77777	OCT	77777	P
12463	07355	PZE	DMH+10	M
12464	00005	PZE	5	T
12465	00000	PZE	0	CY
12466	00000	PZE	0	OV
12467	00000	PZE	0	L
12470	00000	PZE	0	A
12471	00000	PZE	0	P
12472	07356	PZE	DMH+11	M
12473	00005	PZE	5	T
12474	00000	PZE	0	CY
12475	00000	PZE	0	OV
12476	01060	OCT	01060	L
12477	00000	PZE	0	A
12500	00000	PZE	0	P
12501	07357	PZE	DMH+12	M
12502	00005	PZE	5	T
12503	00000	PZE	0	CY
12504	00000	PZE	0	OV
12505	01060	OCT	01060	L
12506	00000	PZE	0	A
12507	00000	PZE	0	P

12510	07360	PZE	DMH+13	M
12511	00005	PZE	5	T
12512	00000	PZE	0	CY
12513	00000	PZE	0	OV
12514	01060	OCT	01060	L
12515	00000	PZE	0	A
12516	00000	PZE	0	P
12517	07361	PZE	DMH+14	M
12520	00005	PZE	5	T
12521	00000	PZE	0	CY
12522	00000	PZE	0	OV
12523	77777	OCT	77777	L
12524	00000	PZE	0	A
12525	00000	PZE	0	P
12526	07362	PZE	DMH+15	M
12527	00005	PZE	5	T
12530	00000	PZE	0	CY
12531	00000	PZE	0	OV
12532	77777	OCT	77777	L
12533	00000	PZE	0	A
12534	00000	PZE	0	P
12535	07363	PZE	DMH+16	M
12536	00005	PZE	5	T
12537	00000	PZE	0	CY
12540	00000	PZE	0	OV
12541	77777	OCT	77777	L
12542	00000	OCT	0	A
12543	77777	OCT	77777	P
12544	07364	PZE	DMH+17	M
12545	00005	PZE	5	T
12546	00000	PZE	0	CY
12547	00000	PZE	0	OV
12550	77777	OCT	77777	L
12551	37777	OCT	37777	A
12552	77777	OCT	77777	P
12553	07365	PZE	DMH+18	M
12554	00005	PZE	5	T
12555	00000	PZE	0	CY
12556	00000	PZE	0	OV
12557	00000	PZE	0	L
12560	00000	PZE	0	A
12561	77777	OCT	77777	P
12562	07366	PZE	DMH+19	M
12563	00005	PZE	5	T
12564	00000	PZE	0	CY

12565	00000	PZE	0	OV
12566	77777	OCT	77777	L
12567	00000	OCT	0	A
12570	77777	OCT	77777	P
12571	07367	PZE	DMH+20	M
12572	00005	PZE	5	T
12573	00000	PZE	0	CY
12574	00000	PZE	0	OV
12575	77777	OCT	77777	L
12576	77777	OCT	77777	A
12577	77777	OCT	77777	P
12600	07370	PZE	DMH+21	M
12601	00005	PZE	5	T
12602	00000	PZE	0	CY
12603	00000	PZE	0	OV
12604	00000	PZE		L
12605	00000	PZE		A
12606	00041	PZE	TO	P
12607	07373	PZE	DPT	M
12610	00000	PZE		T
12611	00000	PZE	0	
12612	00000	PZE	0	
12613	00000	PZE		L
12614	00000	OCT	00000	A
12615	00041	OCT	00041	P
12616	07374	PZE	DPT+1	M
12617	00000	OCT	00000	T
12620	00000	PZE	0	
12621	00000	PZE	0	
12622	00000	PZE		L
12623	00000	OCT	00000	A
12624	00042	OCT	00042	P
12625	07375	PZE	DPT+2	M
12626	00000	OCT	00000	T
12627	00000	PZE	0	
12630	00000	PZE	0	
12631	00001	OCT	00001	L
12632	00000	OCT	00000	A
12633	00042	OCT	00042	P
12634	07376	PZE	DPT+3	M
12635	00000	OCT	00000	T
12636	00000	PZE	0	
12637	00000	PZE	0	
12640	00001	PZE	1	L
12641	00000	PZE	0	A

LTDP

12642	00043	PZE	T2	P
12643	07377	PZE	DPT+4	M
12644	00000	PZE	0	T
12645	00000	PZE	0	
12646	00000	PZE	0	
12647	00000	PZE	0	L
12650	00001	PZE	1	A
12651	00043	PZE	T2	P
12652	07400	PZE	DPT+5	M
12653	00000	PZE	0	T
12654	00000	PZE	0	
12655	00000	PZE	0	
12656	00001	PZE	1	L
12657	00000	PZE	0	A
12660	00044	PZE	T3	P
12661	07401	PZE	DPT+6	M
12662	00001	PZE	1	T
12663	00000	PZE	0	
12664	00000	PZE	0	
12665	00000	PZE	0	L
12666	07113	PZE	DL2	A
12667	00044	PZE	T3	P
12670	07402	PZE	DPT+7	M
12671	00001	PZE	1	T
12672	00000	PZE	0	
12673	00000	PZE	0	
12674	07113	PZE	DL2	L
12675	00000	PZE	0	A
12676	00044	PZE	T3	P
12677	07403	PZE	DPT+8	M
12700	00001	PZE	1	T
12701	00000	PZE	0	
12702	00000	PZE	0	
12703	00000	PZE	0	L
12704	00000	PZE	0	A
12705	00044	PZE	T3	P
12706	07404	PZE	DPT+9	M
12707	00001	PZE	1	T
12710	00000	PZE	0	
12711	00000	PZE	0	
12712	07113	PZE	DL2	L
12713	07113	PZE	DL2	A
12714	00045	PZE	T3+1	P
12715	07405	PZE	DPT+10	M
12716	00001	PZE	1	T

12717	00000	PZE	0	
12720	00000	PZE	0	
12721	00000	PZE		L
12722	00041	PZE	TO	A
12723	00000	PZE		P
12724	07410	PZE	DAT	M
12725	00000	PZE		T
12726	00000	PZE	0	
12727	00000	PZE	0	
12730	00000	LTDA PZE		L
12731	00000	OCT	00000	A
12732	00041	OCT	00041	P
12733	07411	PZE	DAT+1	M
12734	00000	OCT	00000	T
12735	00000	PZE	0	
12736	00000	PZE	0	
12737	00000	OCT	00000	
12740	00041	OCT	00041	A
12741	00000	OCT	00000	P
12742	07412	PZE	DAT+2	M
12743	00000	OCT	00000	T
12744	00000	PZE	0	
12745	00000	PZE	0	
12746	00000	OCT	00000	
12747	00000	OCT	00000	A
12750	00042	OCT	00042	P
12751	07413	PZE	DAT+3	M
12752	00000	OCT	00000	T
12753	00000	PZE	0	
12754	00000	PZE	0	
12755	00000	OCT	00000	
12756	00042	OCT	00042	A
12757	00000	OCT	00000	P
12760	07414	PZE	DAT+4	M
12761	00000	OCT	00000	T
12762	00000	PZE	0	
12763	00000	PZE	0	
12764	00001	OCT	00001	L
12765	00000	OCT	00000	A
12766	00042	OCT	00042	P
12767	07415	PZE	DAT+5	M
12770	00000	OCT	00000	T
12771	00000	PZE	0	
12772	00000	PZE	0	
12773	00000	OCT	00000	L

12774	00042	OCT	00042	A
12775	00000	OCT	00000	P
12776	07416	PZE	DAT+6	M
12777	00000	OCT	00000	T
13000	00000	PZE	0	
13001	00000	PZE	0	
13002	00001	PZE	1	L
13003	00000	PZE	0	A
13004	00043	PZE	T2	P
13005	07417	PZE	DAT+7	M
13006	00000	PZE	0	T
13007	00000	PZE	0	
13010	00000	PZE	0	
13011	07420	PZE	DAT+8	L
13012	00043	PZE	T2	A
13013	00000	PZE	0	P
13014	07420	PZE	DAT+8	M
13015	00000	PZE	0	T
13016	00000	PZE	0	
13017	00000	PZE	0	
13020	00000	PZE	0	L
13021	00000	PZE	0	A
13022	00044	PZE	T3	P
13023	07421	PZE	DAT+9	M
13024	00000	PZE	0	T
13025	00000	PZE	0	
13026	00000	PZE	0	
13027	00000	PZE	0	L
13030	07113	PZE	DL2	A
13031	00044	PZE	T3	P
13032	07422	PZE	DAT+10	M
13033	00000	PZE	0	T
13034	00000	PZE	0	
13035	00000	PZE	0	
13036	00000	PZE	0	L
13037	00044	PZE	T3	A
13040	07113	PZE	DL2	P
13041	07423	PZE	DAT+11	M
13042	00000	PZE	0	T
13043	00000	PZE	0	
13044	00000	PZE	0	
13045	07113	PZE	DL2	L
13046	00000	PZE	0	A
13047	00044	PZE	T3	P
13050	07424	PZE	DAT+12	M

13051	00000	PZE	0	T
13052	00000	PZE	0	
13053	00000	PZE	0	
13054	00000	PZE	0	L
13055	00044	PZE	T3	A
13056	00000	PZE	0	P
13057	07425	PZE	DAT+13	M
13060	00000	PZE	0	T
13061	00000	PZE	0	
13062	00000	PZE	0	
13063	07113	PZE	DL2	L
13064	07113	PZE	DL2	A
13065	00045	PZE	T3+1	P
13066	07426	PZE	DAT+14	M
13067	00000	PZE	0	T
13070	00000	PZE	0	
13071	00000	PZE	0	
13072	00000	PZE	0	L
13073	00000	PZE	0	A
13074	00000	PZE	0	P
13075	07430	PZE	ILT	M
13076	00000	PZE	0	T
13077	00000	PZE	0	
13100	00000	PZE	0	
13101	00001	PZE	1	L
13102	00001	PZE	1	A
13103	00043	PZE	T2	P
13104	07431	PZE	ILT+1	M
13105	00000	PZE	0	T
13106	00000	PZE	0	
13107	00000	PZE	0	
13110	00001	PZE	1	L
13111	00001	PZE	1	A
13112	00042	PZE	T1	P
13113	07432	PZE	ILT+2	M
13114	00000	PZE	0	T
13115	00000	PZE	0	
13116	00000	PZE	0	
13117	00001	PZE	1	L
13120	00001	PZE	1	A
13121	00042	PZE	T1	P
13122	07433	PZE	ILT+3	M
13123	00000	PZE	0	T
13124	00000	PZE	0	
13125	00000	PZE	0	

LTIL



13126	00000	PZE	0	L
13127	00001	PZE	1	A
13130	00042	PZE	T1	P
13131	07434	PZE	ILT+4	M
13132	00000	PZE	0	T
13133	00000	PZE	0	
13134	00000	PZE	0	L
13135	00000	PZE	0	A
13136	00000	PZE	0	P
13137	00000	PZE	0	M
13140	07436	PZE	IMT	T
13141	00000	PZE	0	
13142	00000	PZE	0	
13143	00000	PZE	0	
13144	00000	PZE		L
13145	00000	OCT	00000	A
13146	00042	OCT	00042	P
13147	07440	PZE	IMT+2	M
13150	00000	OCT	00000	T
13151	00000	PZE	0	
13152	00000	PZE	0	
13153	00000	OCT	00000	L
13154	00000	OCT	00000	A
13155	00043	OCT	00043	P
13156	07442	PZE	IMT+4	M
13157	00000	OCT	00000	T
13160	00000	PZE	0	
13161	00000	PZE	0	
13162	00001	OCT	00001	L
13163	00000	OCT	00000	A
13164	00042	OCT	00042	P
13165	07444	PZE	IMT+6	M
13166	00000	OCT	00000	T
13167	00000	PZE	0	
13170	00000	PZE	0	
13171	00001	OCT	00001	L
13172	00000	OCT	00000	A
13173	00043	OCT	00043	P
13174	07446	PZE	IMT+8	M
13175	00000	OCT	00000	T
13176	00000	PZE	0	
13177	00000	PZE	0	
13200	00001	PZE	1	L
13201	00001	PZE	1	A
13202	00043	PZE	T2	P

LTIM

13203	07447	PZE	IMT+9	M
13204	00000	PZE	0	T
13205	00000	PZE	0	
13206	00000	PZE	0	
13207	00000	PZE	0	L
13210	00001	PZE	1	A
13211	00043	PZE	T2	P
13212	07450	PZE	IMT+10	M
13213	00000	PZE	0	T
13214	00000	PZE	0	
13215	00000	PZE	0	
13216	00001	PZE	1	L
13217	77776	OCT	77776	A
13220	00043	PZE	T2	P
13221	07452	PZE	IMT+12	M
13222	00000	PZE	0	T
13223	00000	PZE	0	
13224	00000	PZE	0	
13225	00001	PZE	1	L
13226	77776	OCT	77776	A
13227	00043	PZE	T2	P
13230	07453	PZE	IMT+13	M
13231	00001	PZE	1	T
13232	00000	PZE	0	
13233	00000	PZE	0	
13234	07457	PZE	IMT1	L
13235	77776	OCT	77776	A
13236	00043	PZE	T2	P
13237	07457	PZE	IMT1	M
13240	00001	PZE	1	T
13241	00000	PZE	0	
13242	00000	PZE	0	
13243	07463	PZE	IMT2	L
13244	77776	OCT	77776	A
13245	00043	PZE	T2	P
13246	07463	PZE	IMT2	M
13247	00001	PZE	1	T
13250	00000	PZE	0	
13251	00000	PZE	0	
13252	07467	PZE	IMT3	L
13253	77776	OCT	77776	A
13254	00043	PZE	T2	P
13255	07467	PZE	IMT3	M
13256	00001	PZE	1	T
13257	00000	PZE	0	

13260	00000	PZE	0	
13261	07473	PZE	IMT4	L
13262	77776	OCT	77776	A
13263	00043	PZE	T2	P
13264	07473	PZE	IMT4	M
13265	00001	PZE	1	T
13266	00000	PZE	0	
13267	00000	PZE	0	
13270	00001	PZE	1	L
13271	77776	OCT	77776	A
13272	00043	PZE	T2	P
13273	07476	PZE	IMT5	M
13274	00001	PZE	1	T
13275	00000	PZE	0	
13276	00000	PZE	0	
13277	00001	PZE	1	L
13300	77776	OCT	77776	A
13301	00043	PZE	T2	P
13302	07500	PZE	IMX	M
13303	00001	PZE	1	T
13304	00000	PZE	0	
13305	00000	PZE	0	
13306	00001	PZE	1	L
13307	77776	OCT	77776	A
13310	00043	PZE	T2	P
13311	07501	PZE	IMX+1	M
13312	00001	PZE	1	T
13313	00000	PZE	0	
13314	00000	PZE	0	
13315	00000	PZE	0	L
13316	00000	PZE	0	A
13317	00045	PZE	IP1	P
13320	07504	PZE	IP1	M
13321	00000	PZE	0	T
13322	00000	PZE	0	
13323	00000	PZE	0	
13324	00000	PZE	0	L
13325	00041	PZE	TO	A
13326	00046	PZE	IP2	P
13327	07505	PZE	IP1+1	M
13330	00000	PZE	0	T
13331	00000	PZE	0	
13332	00000	PZE	0	
13333	00000	PZE	0	L
13334	00043	PZE	T2	A

LTIP

13335	00047	PZE	IP3	P
13336	07506	PZE	IPT+2	M
13337	00000	PZE	0	T
13340	00000	PZE	0	
13341	00000	PZE	0	
13342	00000	PZE	0	L
13343	00041	PZE	T0	A
13344	00050	PZE	IP4	P
13345	07507	PZE	IPT+3	M
13346	00000	PZE	0	T
13347	00000	PZE	0	
13350	00000	PZE	0	
13351	00001	PZE	1	L
13352	00043	PZE	T2	A
13353	00051	PZE	IP5	P
13354	07510	PZE	IPT+4	M
13355	00000	PZE	0	T
13356	00000	PZE	0	
13357	00000	PZE	0	
13360	00043	PZE	T2	L
13361	00001	PZE	1	A
13362	00051	PZE	IP5	P
13363	07511	PZE	IPT+5	M
13364	00000	PZE	0	T
13365	00000	PZE	0	
13366	00000	PZE	0	
13367	00046	PZE	IP2	L
13370	00001	PZE	1	A
13371	00046	PZE	IP2	P
13372	07512	PZE	IPT+6	M
13373	00000	PZE	0	T
13374	00000	PZE	0	
13375	00000	PZE	0	
13376	00001	PZE	1	L
13377	00043	PZE	T2	A
13400	00047	PZE	IP3	P
13401	07513	PZE	IPT+7	M
13402	00000	PZE	0	T
13403	00000	PZE	0	
13404	00000	PZE	0	
13405	00000	PZE	0	
13406	00043	PZE	T2	
13407	00047	PZE	IP3	
13410	07514	PZE	IPT+8	
13411	00000	PZE	0	

13412	00000	PZE	0	
13413	00000	PZE	0	
13414	00042	PZE	T1	
13415	00042	PZE	T1	
13416	00047	PZE	IP3	
13417	07515	PZE	IPT+9	
13420	00000	PZE	0	
13421	00000	PZE	0	
13422	00000	PZE	0	
13423	00077	PZE	63	L
13424	00042	PZE	T1	A
13425	00077	PZE	63	P
13426	07517	PZE	IPT+11	M
13427	00000	PZE	0	T
13430	00000	PZE	0	
13431	00000	PZE	0	
13432	77733	NAD	T1+3	L
13433	00042	PZE	T1	A
13434	00077	PZE	63	P
13435	07521	PZE	IPT+13	M
13436	77733	NAD	T1+3	T
13437	00000	PZE	0	
13440	00000	PZE	0	
13441	07113	PZE	DL2	L
13442	00044	PZE	T3	A
13443	00101	PZE	65	P
13444	07522	PZE	IPT+14	M
13445	77733	NAD	T1+3	T
13446	00000	PZE	0	
13447	00000	PZE	0	
13450	00001	PZE	1	L
13451	00044	PZE	T3	A
13452	00101	PZE	65	P
13453	07523	PZE	IPT+15	M
13454	77733	NAD	T1+3	T
13455	00000	PZE	0	
13456	00000	PZE	0	
13457	77730	NAD	IP4	L
13460	00044	PZE	T3	A
13461	77730	NAD	IP4	P
13462	07525	PZE	IPT+17	M
13463	77733	NAD	T1+3	T
13464	00000	PZE	0	
13465	00000	PZE	0	
13466	00045	PZE	IP1	L

13467	00045	PZE	IP1	A
13470	77730	NAD	IP4	P
13471	07526	PZE	IPT+18	M
13472	77733	NAD	T1+3	T
13473	00000	PZE	0	
13474	00000	PZE	0	
13475	77736	OCT	77736	L
13476	00045	PZE	IP1	A
13477	77730	NAD	IP4	P
13500	07530	PZE	IPT+20	M
13501	77736	OCT	77736	T
13502	00000	PZE	0	
13503	00000	PZE	0	
13504	00042	PZE	T1	L
13505	00046	PZE	IP2	A
13506	77730	NAD	IP4	P
13507	07531	PZE	IPT+21	M
13510	77736	OCT	77736	T
13511	00000	PZE	0	
13512	00000	PZE	0	
13513	00041	PZE	T0	L
13514	00047	PZE	IP3	A
13515	77730	NAD	IP4	P
13516	07532	PZE	IPT+22	M
13517	77736	OCT	77736	T
13520	00000	PZE	0	
13521	00001	PZE	1	
13522	00050	PZE	IP4	L
13523	00050	PZE	IP4	A
13524	77730	NAD	IP4	P
13525	07534	PZE	IPT+24	M
13526	77736	OCT	77736	T
13527	00000	PZE	0	
13530	00001	PZE	1	
13531	07537	PZE	IPT1	L
13532	00050	PZE	IP4	A
13533	77730	NAD	IP4	P
13534	07537	PZE	IPT1	M
13535	77736	OCT	77736	T
13536	00000	PZE	0	
13537	00000	PZE	0	
13540	00047	PZE	IP3	L
13541	00050	PZE	IP4	A
13542	00047	PZE	IP3	P
13543	07541	PZE	IPT1+2	M

13544	77736	OCT	77736	T
13545	00000	PZE	0	
13546	00000	PZE	0	
13547	00045	PZE	IP1	L
13550	00051	PZE	IP5	A
13551	00051	PZE	IP5	P
13552	07542	PZE	IPT1+3	M
13553	77735	NAD	T2	T
13554	00000	PZE	0	
13555	00000	PZE	0	
13556	00045	PZE	IP1	L
13557	00045	PZE	IP1	A
13560	00051	PZE	IP5	P
13561	07543	PZE	IPT1+4	M
13562	77735	NAD	T2	T
13563	00000	PZE	0	
13564	00000	PZE	0	
13565	00042	PZE	T1	L
13566	00046	PZE	IP2	A
13567	00051	PZE	IP5	P
13570	07544	PZE	IPT1+5	M
13571	77736	NAD	T1	T
13572	00000	PZE	0	
13573	00000	PZE	0	
13574	00000	PZE	0	L
13575	00045	PZE	IP1	A
13576	00000	PZE	0	P
13577	07547	PZE	IAT	M
13600	00000	PZE	0	T
13601	00000	PZE	0	
13602	00000	PZE	0	
13603	00000	LTIA PZE	0	L
13604	00041	PZE	T0	A
13605	00046	PZE	IP2	P
13606	07550	PZE	IAT+1	M
13607	00000	PZE	0	T
13610	00000	PZE	0	
13611	00000	PZE	0	
13612	00000	PZE	0	L
13613	00046	PZE	IP2	A
13614	00041	PZE	T0	P
13615	07551	PZE	IAT+2	M
13616	00000	PZE	0	T
13617	00000	PZE	0	
13620	00000	PZE	0	

13621	00000	PZE	0	L
13622	00043	PZE	T2	A
13623	00047	PZE	IP3	P
13624	07552	PZE	IAT+3	M
13625	00000	PZE	0	T
13626	00000	PZE	0	
13627	00000	PZE	0	
13630	00000	PZE	0	L
13631	00047	PZE	IP3	A
13632	00043	PZE	T2	P
13633	07553	PZE	IAT+4	M
13634	00000	PZE	0	T
13635	00000	PZE	0	
13636	00000	PZE	0	
13637	00000	PZE	0	L
13640	00041	PZE	T0	A
13641	00050	PZE	IP4	P
13642	07554	PZE	IAT+5	M
13643	00000	PZE	0	T
13644	00000	PZE	0	
13645	00000	PZE	0	
13646	00000	PZE	0	L
13647	00050	PZE	IP4	A
13650	00041	PZE	T0	P
13651	07555	PZE	IAT+6	M
13652	00000	PZE	0	T
13653	00000	PZE	0	
13654	00000	PZE	0	
13655	00001	PZE	1	L
13656	00043	PZE	T2	A
13657	00051	PZE	IP5	P
13660	07556	PZE	IAT+7	M
13661	00000	PZE	0	T
13662	00000	PZE	0	
13663	00000	PZE	0	
13664	00000	PZE	0	L
13665	00043	PZE	T2	A
13666	00051	PZE	IP5	P
13667	07557	PZE	IAT+8	M
13670	00001	PZE	1	T
13671	00000	PZE	0	
13672	00000	PZE	0	
13673	00046	PZE	IP2	L
13674	00046	PZE	IP2	A
13675	00051	PZE	IP5	P



13676	07560	PZE	IAT+9	M
13677	00001	PZE	1	T
13700	00000	PZE	0	
13701	00000	PZE	0	
13702	00001	PZE	1	L
13703	00043	PZE	T2	A
13704	00047	PZE	IP3	P
13705	07561	PZE	IAT+10	M
13706	00001	PZE	1	T
13707	00000	PZE	0	
13710	00000	PZE	0	
13711	00001	PZE	1	L
13712	00001	PZE	1	A
13713	00047	PZE	IP3	P
13714	07562	PZE	IAT+11	M
13715	00001	PZE	1	T
13716	00000	PZE	0	
13717	00000	PZE	0	

PAGE  
CORE MEMORY TEST EXECUTIVE

01750	01750		ORG		1000		
01750	75400	CMST	LA	IM C	NO		
01751	00626		PZE		TSWCH		
01752	50000		SA	DM	NO		
01753	66666	TSWCH2	OCT		66666		
01754	11001		SO	DM S	R1		00005
01755	50000		SA	DM C	NO		00006
01756	66666	AAA	OCT		66666		00007
01757	20021		BR	DM	AD		00008
01760	02012		PZE		AUXTSW+1		
01761	75400		LA	IM C	NO	IS THE TYPEWRITER CONNECTED	00010
01762	00626		PZE		TSWCH		
01763	20034		BR	DM	AN		
01764	02002		PZE		TPNOON	TYPEWRITER NOT ON	00040
01765	25110		CF	DL	8		
01766	21010		EF	DM	8		
01767	20002		OCT		20002		
01770	75000		LA	DM	NO		
01771	02002		PZE		TPNOON		
01772	50400		SA	IM	NO		
01773	01234		PZE		SOUDEX		
01774	75000		LA	DM	NO		
01775	02326		PZE		CMTRT+19		
01776	62000		LP	DM	NO		
01777	02303		PZE		CMTRT		
02000	20020		BR	DM	UN		
02001	01133		PZE		SOUO		
02002	20060	TPNOON	BR	DM F	UN		
02003	02004		PZE		*+1		
02004	25122		CF	DL	18		
02005	75067		LA	DM B	CC		
02006	50000		SA	DM	NO		
02007	66666	TOSWCH	OCT		66666	STORED	00260
02010	50000		SA	DM C	NO		00270
02011	66666	AUXTSW	OCT		66666		00280
02012	44075		ZE	DM B	LA		
02013	50400		SA	IM C	NO	R THEN STORED IN CYCLE	00310
02014	02302		PZE		CYCOU	COUNT AND TEST	00320
02015	50400		SA	IM C	NO	R	00330
02016	02247		PZE		TEST		00340
02017	20020	AAA1	BR	DM	UN		00350
02020	00200		OCT		200		00360
02021	75400	BBI	LA	IM C	NO		00435

02022	01756		PZE		AAA				00436
02023	20021		BR	DM	AD				00437
02024	02121		PZE		SENWIN				
02025	75400		LA	IM C	NO	R	IS THE PRELIMINARY TEST TO BE PERFORMED		00440
02026	02011		PZE		AUXTSW				00450
02027	20021		BR	DM	AD				00460
02030	02121		PZE		SENWIN		NO PRELIMINARY TEST PERFORM TEST		00470
02031	44015	PRLOOP	ZE	DM C	LA				00480
02032	66666		OCT		66666				00490
02033	50000		SA	DM C	NO	R	SET FLAG (WAS THERE AN ERROR) TO ZERO		00500
02034	66666	FLAG	OCT		66666				00510
02035	20020		BR	DM	UN				00520
02036	02570		PZE		PT				
02037	75400	EXPREL	LA	IM C	NO	R	EXIT FROM TEST TEST FLAG TO SEE IF STILL ZERO		00540
02040	02034		PZE		FLAG				00550
02041	20024		BR	DM	AZ		FLAG IS ZERO		00560
02042	02047		PZE		PRECC				00570
02043	75000		LA	DM C	NO	R	FLAG NOT ZERO(ERROR)		00580
02044	02047		PZE		PRECC				00590
02045	20020		BR	DM	UN		GO TO SUBROUTINE TO READ IN THE CYCLE COUNT		00600
02046	02061		PZE		SETCC				00610
02047	75400	PRECC	LA	IM C	NO	R	IS THE CYCLE COUNT ZERO		00620
02050	02302		PZE		CYCOU				00630
02051	20024		BR	DM	AZ				00640
02052	02121		PZE		SENWIN		YES		00650
02053	73000		AS	DM C	NO	R	NO - REDUCE COUNT BY ONE		00660
02054	77777		OCT		77777				00670
02055	50400		SA	IM C	NO	R			00680
02056	02302		PZE		CYCOU				00690
02057	20020		BR	DM	UN		GO TO START OF THE TEST TO RERUN		00700
02060	02031		PZE		PRLOOP				00710
02061	50400	SETCC	SA	IM C	NO	R	SET UP FOR PRINTING THE MESSAGE TO THE OPERATOR		00720
02062	02120		PZE		EXITCC				00730
02063	75400		LA	IM	NO				
02064	02302		PZE		CYCOU				
02065	20024		BR	DM	AZ				
02066	02071		PZE		*+3				
02067	20020		BR	DM	UN				
02070	02047		PZE		PRECC				
02071	75400		LA	IM C	NO	R	FOR CYCLING		00740
02072	01753		PZE		TSWCH2				
02073	20034		BR	DM	AN				
02074	02111		PZE		TYNOON		NO		00770
02075	21010		EF	DM	8				
02076	20002		OCT		20002				00830

02077	75000		LA	DM	NO			
02100	02111		PZE		TYNOON			
02101	50400		SA	IM	NO			
02102	01234		PZE		SOUOEX			
02103	75000		LA	DM	NO			
02104	02353		PZE		CYMES+16			
02105	62000		LP	DM	NO			
02106	02333		PZE		CYMES			
02107	20020		BR	DM	UN			
02110	01133		PZE		SOUO			
02111	20060	TYNOON	BR	DM F	UN			
02112	02113		PZE		*+1			
02113	25122		CF	DL	18			
02114	75060		LA	DM B	NO			
02115	50400	NEXTLO	SA	IM C	NO	R	TOGGLE SWITCH SETTINGS ARE STORED	00890
02116	02302		PZE		CYCOU			00900
02117	20020		BR	DM	UN			00910
02120	66666	EXITCC	OCT		66666			00920
02121	75000	SENWIN	LA	DM C	NO			00970
02122	02202		PZE		CIRNOS			00980
02123	50400		SA	IM C	NO	R		00990
02124	02151		PZE		REXIT1			01000
02125	50400		SA	IM C	NO	R		01010
02126	02173		PZE		REXIT2			01020
02127	75000		LA	DM C	NO	R	ENTRANCE ADDRESS TO SENSE	01030
02130	02570		OCT		02570			
02131	50400		SA	IM C	NO	R		01050
02132	02157		PZE		ROUENT			01060
02133	20020		BR	DM	UN			01070
02134	02135		PZE		TESTLP		GO TO SUBROUTINE TO CHECK IF TEST IS TO BE PERFORMED	01071
02135	20020	TESTLP	BR	DM	UN			01090
02136	00200		OCT		200			01100
02137	75400	BB2	LA	IM C	NO			01110
02140	01756		PZE		AAA			01120
02141	20021		BR	DM	AD			01130
02142	02150		PZE		REXIT1-1			01140
02143	75400		LA	IM C	NO	R	LOAD SWITCH SETTINGS	01180
02144	02011		PZE		AUXTSW			01190
02145	11001		SD	DM S	R1	R	SHIFT RIGHT ONE	01200
02146	50400		SA	IM C	NO	R	STORE REVISED SETTINGS	01210
02147	02011		PZE		AUXTSW			01220
02150	20021		BR	DM	AD		IS THIS TEST TO BE PERFORMED	01230
02151	66666	REXIT1	OCT		66666		NO	01240
02152	44015	CYLOOP	ZE	DM C	LA	R	YES	01250
02153	66666		OCT		66666			01260

02154	50400	SA	IM C	NO	R	SET FLAG TO ZERO	01270
02155	02034	PZE		FLAG			01280
02156	20020	BR	DM	UN		PERFORM TEST	01290
02157	66666	ROUENT	OCT	66666			01300
02160	75400	EXITRO	LA	IM C	R	EXIT FROM TEST	01310
02161	02034		PZE	FLAG		IS THE FLAG ZERO (NO ERROR)	01320
02162	20024		BR	DM		YES	01330
02163	02170		PZE	TESTCC			01340
02164	75000		LA	DM C	R	NO	01350
02165	02170		PZE	TESTCC			01360
02166	20020		BR	DM		GO TO ROUTINE TO READ IN THE	01370
02167	02061		PZE	SETCC		CYCLE COUNT FROM TOGGLE	01380
02170	75400	TESTCC	LA	IM C	R	SWITCHES	01390
02171	02302		PZE	CYCOU		IS THE CYCLE COUNT ZERO	01400
02172	20024		BR	DM		YES-RETURN	01410
02173	66666	REXIT2	OCT	66666		NO-DECREMENT COUNT BY ONE	01420
02174	73000		AS	DM C	R	STORE	01430
02175	77777		OCT	77777			01440
02176	50400		SA	IM C	R		01450
02177	02302		PZE	CYCOU			01460
02200	20020		BR	DM		AND RETURN TO REPEAT	01470
02201	02152		PZE	CYLOOP		TEST	01480
02202	75000	CIRNOS	LA	DM C			01530
02203	02216		PZE	SENAMP		LINK TO NEXT ROUTINE	01540
02204	50400		SA	IM C	R		01550
02205	02151		PZE	REXIT1		RETURN	01560
02206	50400		SA	IM C	R		01570
02207	02173		PZE	REXIT2		RETURN	01580
02210	75000		LA	DM C	R		01590
02211	02570		PZE	CNT		FIRST LOCATION OF CIRCUIT NOISE	01600
02212	50400		SA	IM C	R	TEST	01610
02213	02157		PZE	ROUENT		GO TO SUBROUTINE TO SEE IF	01620
02214	20020		BR	DM		TEST IS TO BE PERFORMED	01630
02215	02135		PZE	TESTLP			01640
02216	75000	SENAMP	LA	DM C			01690
02217	02232		PZE	LOWFLX		LINK TO THE NEXT ROUTINE	01700
02220	50400		SA	IM C	R	LOW FLUX TEST	01710
02221	02151		PZE	REXIT1			01720
02222	50400		SA	IM C	R		01730
02223	02173		PZE	REXIT2			01740
02224	75000		LA	DM C	R		01750
02225	02570		OCT	02570			
02226	50400		SA	IM C	R	NOISE TEST	01770
02227	02157		PZE	ROUENT			01780
02230	20020		BR	DM		GO TO SUBROUTINE TO SEE IF	01790

02231	02135	PZE		TESTLP					
02232	75000	LOWFLX	LA	DM C	NO		TEST IS TO BE PERFORMED		01800
02233	02246	PZE		TSTEST					01850
02234	50400	SA	IM C	NO		R	LINK TO NEXT ROUTINE		01860
02235	02151	PZE		REXIT1			(ARE WE DONE)		01870
02236	50400	SA	IM C	NO		R			01880
02237	02173	PZE		REXIT2					01890
02240	75000	LA	DM C	NO		R			01900
02241	02570	PZE		LFT					01910
02242	50400	SA	IM C	NO		R	FIRST LOCATION OF LOW FLUX TEST		01920
02243	02157	PZE		ROUENT					01930
02244	20020	BR	DM	UN					01940
02245	02135	PZE		TESTLP			GO TO SUBROUTINE TO SEE IF		01950
02246	75000	TSTEST	LA	DM C	NO	R	TEST IS TO BE PERFORMED		01960
02247	66666	TEST	OCT	66666			LOAD THE TEST WORD		01970
02250	20021	BR	DM	AD					01980
02251	02300	PZE		OUT			IS THE WORD ONE		01990
02252	75400	LA	IM C	NO		R	YES DONE		02000
02253	02007	PZE		TOSWCH			IS THE CORE MEMORY TEST TO		02050
02254	20034	BR	DM	AN			BE PERFORMED IN LOW		02060
02255	02272	PZE		ZAZA			CORE		02070
02256	20020	ZAZART	BR	DM	UN				
02257	00200	OCT		200					
02260	21010	EF	DM	8					
02261	40005	OCT		40005					
02262	21010	EF	DM	8					
02263	40000	OCT		40000					
02264	20060	BR	DM F	UN					
02265	00200	OCT		200					
02266	20020	BB9	BR	DM	UN				02120
02267	00200	OCT		200					
02270	20020	BB4	BR	DM	UN				
02271	07300	OCT		07300					
02272	75000	ZAZA	LA	DM	NO				
02273	00001	OCT		1					
02274	50400	SA	IM	NO					
02275	01756	PZE		AAA					
02276	20020	BR	DM	UN					
02277	02256	PZE		ZAZART					
02300	20020	OUT	BR	DM	UN				
02301	17055	OCT		17055					
02302	66666	CYCOU	OCT	66666					
02303	32022	CMTRT	OCT	32022					03310
02304	62470	OCT		62470					
02305	77340	OCT		77340					

02306	03401	OCT	03401
02307	62453	OCT	62453
02310	77340	OCT	77340
02311	75424	OCT	75424
02312	75767	OCT	75767
02313	00471	OCT	00471
02314	17710	OCT	17710
02315	41424	OCT	41424
02316	33230	OCT	33230
02317	75767	OCT	75767
02320	01731	OCT	01731
02321	30626	OCT	30626
02322	61767	OCT	61767
02323	01227	OCT	01227
02324	21722	OCT	21722
02325	65424	OCT	65424
02326	32655	OCT	32655
02327	00000	OCT	0
02330	00000	OCT	0
02331	00000	OCT	0
02332	00000	OCT	0
02333	32016	CYMES OCT	32016
02334	54522	OCT	54522
02335	61767	OCT	61767
02336	01113	OCT	01113
02337	45330	OCT	45330
02340	77340	OCT	77340
02341	45447	OCT	45447
02342	41737	OCT	41737
02343	56010	OCT	56010
02344	41767	OCT	41767
02345	01731	OCT	01731
02346	30626	OCT	30626
02347	61767	OCT	61767
02350	01227	OCT	01227
02351	21722	OCT	21722
02352	65424	OCT	65424
02353	32655	OCT	32655
02354	00000	OCT	0
02355	00000	OCT	0
02356	00000	OCT	0
02357	00000	OCT	0

		PAGE	PRELIMINARY TEST	TOEVS
	02570		ORG 1400	
02570	75000	PT	LA DM C NO	R PRELIMINARY TEST
02571	00000		OCT 00000	
02572	50400		SA IM C NO	R
02573	02034		PZE FLAG	CORE MEMORY ERROR INDICATOR
02574	75400		LA IM C NO	R
02575	00626		PZE TSWCH	
02576	20034		BR DM AN	
02577	03044		PZE PT17	NO TYPE BRANCH
02600	25110		CF DL 8	
02601	21010		EF DM 8	
02602	20002		OCT 20002	
02603	75000		LA DM NO	LOAD REGISTERS FOR SOUO
02604	02615		PZE **9	
02605	50400		SA IM NO	
02606	01234		PZE SOUDEX	RETURN ADDRESS
02607	62000		LP DM NO	
02610	03066		PZE PT40	BEGIN PRINT ADDRESS
02611	75000		LA DM NO	
02612	03074		PZE PT40+6	END PRINT ADDRESS
02613	20020		BR DM UN	
02614	01133		PZE SOUO	UNPACK SOROBAN CODE AND PRINT
02615	75000	PT1	LA DM C NO	R
02616	00001		OCT 00001	INTERNAL CYCLE INDICATOR
02617	50400		SA IM C NO	R
02620	03031		PZE PT16	INTERNAL CYCLE INDICATOR
02621	75000		LA DM C NO	R
02622	00000		OCT 00000	INITIAL TEST WORD
02623	50400		SA IM C NO	R
02624	02632		PZE PT4	
02625	75000	PT2	LA DM C NO	R
02626	07200		OCT 07200	INITIALIZE TEST AREA
02627	50400		SA IM C NO	R
02630	02634		PZE PT5	
02631	75000	PT3	LA DM C NO	R
02632	66666	PT4	OCT 66666	MODIFIED TEST WORD
02633	50400		SA IM C NO	R
02634	66666	PT5	OCT 66666	MODIFIED TEST AREA ADDRESS
02635	52415		SE IM C LA	R
02636	02634		PZE PT5	ADD ONE TO ADDS
02637	73000		AS DM C NO	R
02640	60000		OCT 60000	
02641	20024		BR DM AZ	



02642	02645	PZE		PT6	TEST AREA LOADED BRANCH
02643	20020	BR	DM	UN	
02644	02631	PZE		PT3	CONTINUE LOADING TEST AREA BRANCH
02645	75000	LA	DM C	NO	R
02646	07200	OCT		07200	
02647	50400	SA	IM C	NO	R
02650	02657	PZE		PT8	
02651	20031	BR	DM	OV	LOAD REGISTERS FOR TABLE SEARCH
02652	02653	PZE		**+1	
02653	75407	LA	IM C	CC	R
02654	02632	PZE		PT4	
02655	64020	AT	DM H	NO	R
02656	75000	LA	DM C	NO	R
02657	66666	OCT		66666	
02660	62000	LP	DM C	NO	R
02661	57776	OCT		57776	
02662	36607	TB	IP	NQ	TABLE SEARCH
02663	25120	CF	DL	16	
02664	64027	AT	DM H	CC	R
02665	50000	SA	DM C	NO	R
02666	66666	OCT		66666	TABLE SEARCH TEST WORD
02667	20031	BR	DM	OV	
02670	03030	PZE		PT15	TEST AREA OK BRANCH
02671	64020	AT	DM H	NO	R
02672	50400	SA	IM C	NO	R
02673	02657	PZE		PT8	CONTINUE TABLE SEARCH ADDRESS
02674	73000	AS	DM C	NO	R
02675	77777	OCT		77777	
02676	50000	SA	DM C	NO	R
02677	66666	OCT		66666	ADDRESS OF BAD CELL
02700	75300	LA	DA C	NO	
02701	50000	SA	DM	NO	
02702	66666	OCT		66666	CONTENTS OF BAD CELL
02703	75000	LA	DM C	NO	R
02704	00001	OCT		00001	
02705	50400	SA	IM C	NO	R
02706	02034	PZE		FLAG	CORE MEMORY INDICATOR
02707	75400	LA	IM C	NO	R
02710	00626	PZE		TSWCH	
02711	20034	BR	DM	AN	
02712	03054	PZE		PT18	NO TYPE BRANCH
02713	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
02714	02677	PZE		PT11	INPUT WORD FOR GENSOR
02715	62000	LP	DM	NO	
02716	00005	OCT		00005	NO. OF CHARACTERS

02717	70000	LT	DM	NO
02720	02723	PZE		**+3
02721	20020	BR	DM	UN
02722	01517	PZE		GENSOR
02723	70400	LT	IM	NO
02724	01741	PZE		TABEND
02725	67015	CC	DM	LA
02726	01733	PZE		TABBEG
02727	62000	LP	DM	NO
02730	03104	PZE		PT41A
02731	32603	MV	IP	NV
02732	75000	LA	DM	NO
02733	02744	PZE		**+9
02734	50400	SA	IM	NO
02735	01234	PZE		SOUDEX
02736	62000	LP	DM	NO
02737	03075	PZE		PT41
02740	75000	LA	DM	NO
02741	03105	PZE		PT41+8
02742	20020	BR	DM	UN
02743	01133	PZE		SOUO
02744	75400	LA	IM	NO
02745	02702	PZE		PT9
02746	62000	LP	DM	NO
02747	00017	OCT		00017
02750	70000	LT	DM	NO
02751	02754	PZE		**+3
02752	20020	BR	DM	UN
02753	01517	PZE		GENSOR
02754	70400	LT	IM	NO
02755	01741	PZE		TABEND
02756	67015	CC	DM	LA
02757	01733	PZE		TABBEG
02760	62000	LP	DM	NO
02761	03116	PZE		PT42A
02762	32603	MV	IP	NV
02763	75000	LA	DM	NO
02764	02775	PZE		**+9
02765	50400	SA	IM	NO
02766	01234	PZE		SOUDEX
02767	62000	LP	DM	NO
02770	03106	PZE		PT42
02771	75000	LA	DM	NO
02772	03123	PZE		PT42+13
02773	20020	BR	DM	UN

RETURN ADDRESS

MOVE GENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS

UNPACK SOROBAN CODE AND PRINT  
LOAD REGISTERS FOR GENSOR  
INPUT WORD FOR GENSOR

NO. OF CHARACTERS

RETURN ADDRESS

MOVE GENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS

02774	01133	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
02775	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
02776	02666	PZE		PT10	INPUT WORD FOR GENSOR
02777	62000	LP	DM	NO	
03000	00017	OCT		00017	NO. OF CHARACTERS
03001	70000	LT	DM	NO	
03002	03005	PZE		*+3	RETURN ADDRESS
03003	20020	BR	DM	UN	
03004	01517	PZE		GENSOR	
03005	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
03006	01741	PZE		TABEND	END MOVE ADDRESS
03007	67015	CC	DM	LA	
03010	01733	PZE		TABBEG	START MOVE ADDRESS
03011	62000	LP	DM	NO	
03012	03134	PZE		PT43A	MOVE TO ADDRESS
03013	32603	MV	IP	NV	
03014	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
03015	03026	PZE		*+9	
03016	50400	SA	IM	NO	
03017	01234	PZE		SOUDEX	RETURN ADDRESS
03020	62000	LP	DM	NO	
03021	03124	PZE		PT43	BEGIN PRINT ADDRESS
03022	75000	LA	DM	NO	
03023	03141	PZE		PT43+13	END PRINT ADDRESS
03024	20020	BR	DM	UN	
03025	01133	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
03026	20020	BR	DM	UN	
03027	02651	PZE		PT7	CONTINUE TABLE SEARCH BRANCH
03030	75000	LA	DM C	NO	R
03031	66666	OCT		66666	INTERNAL CYCLE INDICATOR
03032	20024	BR	DM	AZ	
03033	02037	PZE		EXPREL	RETURN TO MAIN PROGRAM
03034	44400	ZE	IM C	NO	R
03035	03031	PZE		PT16	SET INTERNAL CYCLE INDICATOR
03036	75000	LA	DM C	NO	R
03037	77777	OCT		77777	
03040	50400	SA	IM C	NO	R
03041	02632	PZE		PT4	SET SECOND CYCLE TEST WORD
03042	20020	BR	DM	UN	
03043	02625	PZE		PT2	RESET TEST AREA BRANCH
03044	62000	LP	DM C	NO	R
03045	00000	OCT		00000	NO TITLE TYPE
03046	70000	LT	DM C	NO	R
03047	00000	OCT		00000	
03050	75000	LA	DM C	NO	R

03051	70707		DCT		70707	
03052	20060		BR	DM F	UN	
03053	02615		PZE		PT1	
03054	70400	PT18	LT	IM C	NO	R
03055	02666		PZE		PT10	TEST WORD
03056	75400		LA	IM C	NO	R
03057	02677		PZE		PT11	BAD CELL
03060	60400		NO	IM C	NO	R
03061	02702		PZE		PT9	CONTENTS
03062	43000		HP	DM C	NO	R
03063	10101		DCT		10101	
03064	20060		BR	DM F	UN	
03065	02651		PZE		PT7	
03066	32016	PT40	DCT		32016	CR-LC-P
03067	23426		DCT		23426	R-E-L
03070	20050		DCT		20050	I-M-I
03071	40511		DCT		40511	N-A-R
03072	27767		DCT		27767	Y-UC-SPACE
03073	01730		DCT		01730	LC-T-E
03074	51700		DCT		51700	S-T-LC
03075	32030	PT41	DCT		32030	CR-LC-E
03076	22471		DCT		22471	R-R-D
03077	23767		DCT		23767	R-UC-SPACE
03100	00505		DCT		00505	LC-A-D
03101	12470		DCT		12470	D-R-E
03102	51237		DCT		51237	S-S-UC
03103	57367		DCT		57367	SPACE-SPACE-SPACE
03104	57367	PT41A	DCT		57367	SPACE-SPACE-SPACE
03105	57367		DCT		57367	SPACE-SPACE-SPACE
03106	32012	PT42	DCT		32012	CR-LC-A
03107	12251		DCT		12251	D-D-R
03110	61224		DCT		61224	E-S-S
03111	77340		DCT		77340	UC-SPACE-LC
03112	45460		DCT		45460	C-O-N
03113	75420		DCT		75420	T-E-N
03114	75237		DCT		75237	T-S-UC
03115	57367		DCT		57367	SPACE-SPACE-SPACE
03116	57367	PT42A	DCT		57367	SPACE-SPACE-SPACE
03117	57367		DCT		57367	SPACE-SPACE-SPACE
03120	57367		DCT		57367	SPACE-SPACE-SPACE
03121	57367		DCT		57367	SPACE-SPACE-SPACE
03122	57367		DCT		57367	SPACE-SPACE-SPACE
03123	57367		DCT		57367	SPACE-SPACE-SPACE
03124	32036	PT43	DCT		32036	CR-LC-T
03125	61236		DCT		61236	E-S-T

03126	77340	OCT	77340	UC-SPACE-LC
03127	57451	OCT	57451	W-O-R
03130	13767	OCT	13767	D-UC-SPACE
03131	57367	OCT	57367	SPACE-SPACE-SPACE
03132	57367	OCT	57367	SPACE-SPACE-SPACE
03133	57367	OCT	57367	SPACE-SPACE-SPACE
03134	57367	PT43A OCT	57367	SPACE-SPACE-SPACE
03135	57367	OCT	57367	SPACE-SPACE-SPACE
03136	57367	OCT	57367	SPACE-SPACE-SPACE
03137	57367	OCT	57367	SPACE-SPACE-SPACE
03140	57367	OCT	57367	SPACE-SPACE-SPACE
03141	57367	OCT	57367	SPACE-SPACE-SPACE

		PAGE	DELTA NOISE TEST			
	02570		ORG	1400		
02570	75000	DIL	LA DM	NO		
02571	25202		OCT	25202	R	
02572	50400		SA IM C	NO	R	0450
02573	03252		PZE	D001L		0040
02574	75400		LA IM	NO		
02575	00626		PZE	TSWCH		
02576	20034		BR DM	AN		
02577	02602	LPNTL	PZE	LPNTL+3		
02600	47400		RP IM	NO		
02601	03347		PZE	PNTL		
02602	44400		ZE IM	NO		
02603	02034		PZE	FLAG		
02604	75000		LA DM C	NO	R	0060
02605	03172		PZE	QL		
02606	50400		SA IM C	NO	R	0120
02607	03014		PZE	D004L		
02610	50400		SA IM C	NO	R	0140
02611	03115		PZE	D008L		
02612	50400		SA IM C	NO	R	0160
02613	03235		PZE	D009L		
02614	75000		LA DM	NO		
02615	00050		OCT	50		
02616	50400		SA IM	NO		
02617	03004		PZE	D004L-8		
02620	47400		RP IM C	NO	R	0180
02621	03071		PZE	Q5L		
02622	75000		LA DM C	NO	R	0200
02623	37327		OCT	37327	R	0210
02624	50400		SA IM C	NO	R	0220
02625	17616		OCT	17616	R	0230
02626	75000		LA DM C	NO	R	0240
02627	77327		OCT	77327	R	0250
02630	50400		SA IM C	NO	R	0260
02631	17617		OCT	17617	R	0270
02632	75400		LA IM C	NO		0271
02633	03150		PZE	DN02L		
02634	73000		AS DM C	NO		0273
02635	00002		PZE	2		0274
02636	50400		SA IM C	NO		0275
02637	03150		PZE	DN02L		
02640	75000		LA DM C	NO	R	17620-17625
02641	00006		OCT	6	R	0280
						0290

02642	50400	SA	IM C	NO	R		0300
02643	03107	PZE		DYL			
02644	47400	RP	IM C	NO	R		0320
02645	03172	PZE		QL			
02646	75000	LA	DM C	NO	R		0340
02647	77127	OCT		77127	R		0350
02650	50400	SA	IM C	NO	R		0360
02651	17626	OCT		17626	R		0370
02652	75400	LA	IM C	NO			0371
02653	03150	PZE		DN02L			
02654	73000	AS	DM C	NO			0373
02655	00001	PZE		1			0374
02656	50400	SA	IM C	NO			0375
02657	03150	PZE		DN02L			
02660	75000	LA	DM C	NO	R	17627-17777	0380
02661	00151	OCT		151	R		0390
02662	50400	SA	IM C	NO	R		0400
02663	03107	PZE		DYL			
02664	47400	RP	IM C	NO	R		0420
02665	03172	PZE		QL			
02666	75000	LA	DM C	NO	R	START SET UP FOR TESTING MEM.	0440
02667	52575	OCT		52575	R		0030
02670	50400	SA	IM C	NO	R		0460
02671	03252	PZE		D001L			
02672	75000	LA	DM C	NO	R		0480
02673	03275	PZE		Q4L			
02674	50400	SA	IM C	NO	R		0540
02675	03014	PZE		D004L			
02676	50400	SA	IM C	NO	R		0560
02677	03115	PZE		D008L			
02700	50400	SA	IM C	NO	R		0580
02701	03235	PZE		D009L			
02702	75000	LA	DM	NO			
02703	77727	OCT		77727			
02704	50400	SA	IM	NO			
02705	03004	PZE		D004L-8			
02706	47400	RP	IM C	NO	R	TEST MEMORY	0600
02707	03071	PZE		Q5L			
02710	75400	LA	IM C	NO	R	TEST 17616	0620
02711	17616	OCT		17616	R		0630
02712	20427	BR	IM	NQ	R		0640
02713	40450	OCT		40450	R		0650
02714	03276	PZE		ES01L			
02715	75400	LA	IM	NO			
02716	03150	PZE		DN02L			

D005L

02717	73000	AS	DM	NO		
02720	00001	PZE		1		
02721	50400	SA	IM	NO		
02722	03150	PZE		DN02L		
02723	75400	LA	IM	NO		
02724	17617	OCT		17617	R	0680
02725	20427	BR	IM	NQ	R	0690
02726	00450	OCT		450	R	0700
02727	03302	PZE		ES02L		
02730	75400	D006L	LA	IM C	NO	0720
02731	03150	PZE		DN02L		
02732	73000	AS	DM C	NO		0722
02733	00001	PZE		1		
02734	50400	SA	IM C	NO		0724
02735	03150	PZE		DN02L		
02736	75000	LA	DM C	NO		0726
02737	00006	OCT		6	R	0730
02740	50400	SA	IM C	NO	R	0740
02741	03107	PZE		DYL		
02742	47400	RP	IM C	NO	R	0760
02743	03275	PZE		Q4L		
02744	75400	LA	IM C	NO	R	0710
02745	17626	OCT		17626	R	0720
02746	20427	BR	IM	NQ	R	0730
02747	00650	OCT		650	R	0740
02750	03306	PZE		ES03L		
02751	75400	D007L	LA	IM	NO	
02752	03150	PZE		DN02L		
02753	73000	AS	DM C	NO		0762
02754	00001	PZE		1		0763
02755	50400	SA	IM C	NO		0764
02756	03150	PZE		DN02L		
02757	75000	LA	DM C	NO		0766
02760	00151	OCT		151	R	0770
02761	50400	SA	IM C	NO	R	0780
02762	03107	PZE		DYL		
02763	47400	RP	IM C	NO	R	0800
02764	03275	PZE		Q4L		
02765	20020	BR	DM	UN		
02766	02160	PZE		EXITRO		
02767	47400	RP	IM C	NO	R	1010
02770	03071	PZE		Q5L		
02771	75000	DNTL	LA	DM	NO	
02772	07200	OCT		7200		
02773	50400	SA	IM C	NO	R	1050

TEST 17620-17625

TEST 17626



02774	03150	PZE		DN02L			
02775	47400	RP	IM	NO	R	7200-7377	1416
02776	03223	PZE		Q2L			
02777	47400	RP	IM	NO	R	7400-7577	1422
03000	03223	PZE		Q2L			
03001	47400	RP	IM	NO	R	7600-7777	1426
03002	03223	PZE		Q2L			
03003	75000	LA	DM C	NO	R	10000-10020	1432
03004	77727	OCT		77727			
03005	50400	SA	IM C	NO	R		1436
03006	03252	PZE		D001L			
03007	75000	LA	DM C	NO	R		1442
03010	00020	OCT		20	R		1444
03011	50400	SA	IM C	NO	R		1446
03012	03107	PZE		DYL			
03013	47400	RP	IM	NO	R		1460
03014	03172	PZE		QL			
03015	75000	LA	DM C	NO	R		1480
03016	00360	OCT		360	R		1490
03017	47400	RP	IM	NO	R		1500
03020	03240	PZE		Q3L			
03021	75000	LA	DM C	NO	R		1520
03022	00200	OCT		200	R		1530
03023	47400	RP	IM	NO	R		1540
03024	03240	PZE		Q3L			
03025	75000	LA	DM C	NO	R		1560
03026	00400	OCT		400	R		1570
03027	47400	RP	IM	NO	R		1580
03030	03240	PZE		Q3L			
03031	47400	RP	IM	NO	R	11200-12577	1600
03032	03142	PZE		Q1L			
03033	75000	LA	DM C	NO	R	12600-13177	1620
03034	00400	OCT		400	R		1630
03035	47400	RP	IM	NO	R		1640
03036	03240	PZE		Q3L			
03037	47400	RP	IM	NO	R	13200-14577	1660
03040	03142	PZE		Q1L			
03041	75000	LA	DM C	NO	R	14600-15177	1680
03042	00400	OCT		400	R		1690
03043	47400	RP	IM	NO	R		1700
03044	03240	PZE		Q3L			
03045	47400	RP	IM	NO	R	15200-16577	1720
03046	03142	PZE		Q1L			
03047	75000	LA	DM C	NO	R	16600-17177	1740
03050	00400	OCT		400	R		1750

03051	47400		RP	IM	NO	R		1760
03052	03240		PZE		Q3L			
03053	75000		LA	DM C	NO	R	17200-17377	1780
03054	00200		OCT		200	R		1790
03055	47400		RP	IM	NO	R		1800
03056	03240		PZE		Q3L			
03057	75000		LA	DM C	NO	R	17400 17577	1820
03060	00200		OCT		200	R		1830
03061	47400		RP	IM	NO	R		1840
03062	03240		PZE		Q3L			
03063	75000		LA	DM C	NO	R	17600-17615	1860
03064	00016		OCT		16	R		1870
03065	47400		RP	IM	NO	R		1880
03066	03240		PZE		Q3L			
03067	20020		BR	DM	UN			
03070	02767		PZE		DNTL-2			
03071	02771	Q5L	PZE		DNTL			
03072	47400		RP	IM C	NO	R		2010
03073	03142		PZE		Q1L			
03074	75000	DNT4L	LA	DM	NO			
03075	00003		PZE		3	R		2040
03076	50000		SA	DM C	NO	R		2050
03077	03077	DZL	PZE		DZL			
03100	75000	DNT1L	LA	DM	NO			
03101	00002		PZE		2	R		2080
03102	50000		SA	DM C	NO	R		2090
03103	03103	DXL	PZE		DXL			
03104	75000	DNT2L	LA	DM	NO			
03105	00200		PZE		128	R		2120
03106	50000		SA	DM C	NO	R		2130
03107	03107	DYL	PZE		DYL			
03110	75407		LA	IM C	CC	R	COMPLIMENT (D001)	2150
03111	03252		PZE		D001L			
03112	50400		SA	IM C	NO	R		2170
03113	03252		PZE		D001L			
03114	47400		RP	IM	NO	R	CALLING SEQ FOR DNT3	2190
03115	03172	D008L	PZE		QL			
03116	75400		LA	IM C	NO	R	REDUCE X BY 1	2210
03117	03103		PZE		DXL			
03120	73000		AS	DM C	NO	R		2230
03121	77777		OCT		77777			
03122	50407		SA	IM C	CC	R		
03123	03103		PZE		DXL			
03124	20427		BR	IM	NQ			
03125	00000		OCT		0			

03126	03104		PZE		DNT2L			
03127	75400		LA	IM C	NO	R	REDUCE Z BY 1	2300
03130	03077		PZE		DZL			
03131	73000		AS	DM C	NO	R		2320
03132	77777		OCT		77777			
03133	50407		SA	IM C	CC	R		
03134	03077		PZE		DZL			
03135	20427		BR	IM	NQ			
03136	00000		OCT		0			
03137	03100		PZE		DNT1L			
03140	20020		BR	DM	UN			
03141	03072		PZE		DNT4L-2			
03142	03074	Q1L	PZE		DNT4L			
03143	47400		RP	IM	NO	R		3010
03144	03172		PZE		QL			
03145	75400	DNT3L	LA	IM	NO			
03146	03252		PZE		D001L			
03147	50400		SA	IM C	NO	R	STORE A IN CORE	3050
03150	03150	DN02L	PZE		DN02L			
03151	75400		LA	IM C	NO	R	ADD 1 TO DN02	3070
03152	03150		PZE		DN02L			
03153	73000		AS	DM C	NO	R		3090
03154	00001		PZE		1	R		3100
03155	50400		SA	IM C	NO	R		3110
03156	03150		PZE		DN02L			
03157	75400		LA	IM C	NO	R	REDUCE Y BY 1	3130
03160	03107		PZE		DYL			
03161	73000		AS	DM C	NO	R		3150
03162	77777		OCT		77777			
03163	50407		SA	IM C	CC	R		
03164	03107		PZE		DYL			
03165	20427		BR	IM	NQ	R		
03166	00000		OCT		0			
03167	03145		PZE		DNT3L			
03170	20020		BR	DM	UN			
03171	03143		PZE		DNT3L-2			
03172	03145	QL	PZE		DNT3L			
03173	47400		RP	IM	NO			
03174	03223		PZE		Q2L			
03175	75000	DNT5L	LA	DM	NO			
03176	00030		PZE		24	R		4040
03177	47400		RP	IM	NO	R		4050
03200	03240		PZE		Q3L			
03201	75000		LA	DM C	NO	R		4070
03202	00010		PZE		8	R		4080

03203	47400		RP	IM	NO	R		4090
03204	03240		PZE		Q3L			
03205	75000		LA	DM C	NO	R		4110
03206	00070		PZE		56	R		4120
03207	47400		RP	IM	NO	R		4130
03210	03240		PZE		Q3L			
03211	75000		LA	DM C	NO	R		4150
03212	00010		PZE		8	R		4160
03213	47400		RP	IM	NO	R		4170
03214	03240		PZE		Q3L			
03215	75000		LA	DM C	NO	R		4190
03216	00040		PZE		32	R		4200
03217	47400		RP	IM	NO	R		4210
03220	03240		PZE		Q3L			
03221	20020		BR	DM	UN			
03222	03173		PZE		DNT5L-2			
03223	03175	Q2L	PZE		DNT5L			
03224	47400		RP	IM	NO	R		5010
03225	03240		PZE		Q3L			
03226	50400	DNT6L	SA	IM	NO			
03227	03107		PZE		DYL			
03230	75407		LA	IM C	CC	R		5050
03231	03252		PZE		D001L			
03232	50400		SA	IM C	NO	R		5070
03233	03252		PZE		D001L	R		5080
03234	47400		RP	IM	NO	R		5090
03235	03172	D009L	PZE		QL	R		5100
03236	20020		BR	DM	UN			
03237	03224		PZE		DNT6L-2			
03240	03226	Q3L	PZE		DNT6L			
03241	47400		RP	IM	NO	R		6010
03242	03275		PZE		Q4L			
03243	75400	DNT7L	LA	IM	NO			
03244	03150		PZE		DN02L			
03245	50400		SA	IM C	NO		6050	
03246	03250		PZE		DNT7L+5			
03247	75400		LA	IM C	NO	R		6070
03250	03246		PZE		DNT7L+3			
03251	20427		BR	IM	NQ	R	INSERT FOUR INSTRUCTIONS	6090
03252	03252	D001L	PZE		D001L			
03253	03312		PZE		ES04L			
03254	75400	ES05L	LA	IM	NO			
03255	03150		PZE		DN02L			
03256	73000		AS	DM C	NO	R		6140
03257	00001		PZE		1	R		6150

03260	50400		SA	IM C	NO	R	6160
03261	03150		PZE		DN02L		
03262	75400		LA	IM C	NO	R	6180
03263	03107		PZE		DYL		
03264	73000		AS	DM C	NO	R	6200
03265	77777		OCT		77777		
03266	50407		SA	IM C	CC	R	
03267	03107		PZE		DYL		
03270	20427		BR	IM	NQ		
03271	00000		OCT		0		
03272	03243		PZE		DNT7L		
03273	20020		BR	DM	UN		
03274	03241		PZE		DNT7L-2		
03275	03243	Q4L	PZE		DNT7L		
03276	47400	ES01L	RP	IM	NO		
03277	03316		PZE		LORRL		
03300	20020		BR	DM	UN		
03301	02715		PZE		D005L		
03302	47400	ES02L	RP	IM	NO		
03303	03316		PZE		LORRL		
03304	20020		BR	DM	UN		
03305	02730		PZE		D006L		
03306	47400	ES03L	RP	IM	NO		
03307	03316		PZE		LORRL		
03310	20020		BR	DM	UN		
03311	02751		PZE		D007L		
03312	47400	ES04L	RP	IM	NO		
03313	03316		PZE		LORRL		
03314	20020		BR	DM	UN		
03315	03254		PZE		ES05L		
03316	03321	LORRL	PZE		LORRL+3		
03317	47400		RP	IM	NO		
03320	03316		PZE		LORRL		
03321	50400		SA	IM	NO		
03322	03342		PZE		EESL		
03323	75000		LA	DM	NO		
03324	00001		OCT		1		
03325	50400		SA	IM	NO		
03326	02034		PZE		FLAG		
03327	75400		LA	IM	NO	SET FLAG=1	
03330	00626		PZE		TSWCH		
03331	20034		BR	DM	AN		
03332	03337		PZE		ESS04L		
03333	47400		RP	IM	NO		
03334	03417		PZE		ERR4L		

03335	20020		BR	DM	UN		
03336	03317		PZE		LORRL+1		
03337	75400	ESS04L	LA	IM	NO		
03340	03150		PZE		DN02L		
03341	62000		LP	DM	NO		
03342	00000	EESL	PZE				
03343	70000		LT	DM C	NO		6233
03344	00010	EEESL	PZE		8		
03345	20060		BR	DM F	UN		6235
03346	03317		PZE		LORRL+1		
03347	03352	PNTL	PZE		PNTL+3		
03350	47400		RP	IM	NO		
03351	03347		PZE		PNTL		
03352	25110		CF	DL	8		
03353	21010		EF	DM	8		
03354	20002		OCT		20002		
03355	75000		LA	DM	NO	PNT+6	
03356	03350		PZE		PNTL+1		
03357	50400		SA	IM	NO		
03360	01234		PZE		SOUOEX		
03361	62000		LP	DM	NO		
03362	03367		PZE		ADDL		
03363	75000		LA	DM	NO		
03364	03376		PZE		ADDL+7		
03365	20020		BR	DM	UN		
03366	01133		PZE		SOUO		
03367	00015	ADDL	OCT		00015		
03370	00270		OCT		00270	LC-D-E	
03371	55712		OCT		55712	L-T-A	
03372	77340		OCT		77340	UC-SP-LC	
03373	41450		OCT		41450	N-O-I	
03374	51437		OCT		51437	S-E-UC	
03375	56036		OCT		56036	SP-LC-T	
03376	61236		OCT		61236	E-S-T	
03377	47400		RP	IM	NO	PRINT ROUTINE COMMON TO ALL 4 TESTS	
03400	03416		PZE		PRINTL		
03401	62000	ERR04L	LP	DM	NO		
03402	00005		PZE		5		
03403	75400		LA	IM	NO		
03404	03150	ERR14L	PZE		DN02L		
03405	70000		LT	DM	NO		
03406	03411		PZE		RETURL		
03407	20020		BR	DM	UN		
03410	01515		PZE		SORO		
03411	75400	RETURL	LA	IM	NO		

03412	01733		PZE		TABBEG	
03413	70200		LT	DP	NO	RET+2
03414	20020		BR	DM	UN	
03415	03377		PZE		ERR04L-2	
03416	03401	PRINTL	PZE		ERR04L	
03417	03422	ERR4L	PZE		**3	
03420	47400		RP	IM	NO	
03421	03417		PZE		ERR4L	
03422	25110		CF	DL	8	SET UP LOCATION NO. TITLE
03423	21010		EF	DM	8	
03424	20002		OCT		20002	
03425	75000		LA	DM	NO	SET UP LOCATION NO.
03426	03150		PZE		DN02L	
03427	50400		SA	IM	NO	
03430	03404		PZE		ERR14L	
03431	47400		RP	IM	NO	
03432	03416		PZE		PRINTL	
03433	50400		SA	IM	NO	
03434	03500		PZE		LADL+6	
03435	40200		ST	DP	NO	
03436	75000		LA	DM	NO	SET UP CONTENTS NO.
03437	03342		PZE		EESL	
03440	50400		SA	IM	NO	
03441	03404		PZE		ERR14L	
03442	47400		RP	IM	NO	
03443	03416		PZE		PRINTL	
03444	50400		SA	IM	NO	
03445	03506		PZE		LADAL+4	
03446	40200		ST	DP	NO	
03447	75000		LA	DM	NO	SET UP CASE NO
03450	03344		PZE		EEESL	
03451	50400		SA	IM	NO	
03452	03404		PZE		ERR14L	
03453	47400		RP	IM	NO	
03454	03416		PZE		PRINTL	
03455	50400		SA	IM	NO	
03456	03515		PZE		LADBL+5	
03457	40200		ST	DP	NO	
03460	75000		LA	DM	NO	
03461	03420		PZE		ERR4L+1	
03462	50400		SA	IM	NO	
03463	01234		PZE		SOUDEX	
03464	62000		LP	DM	NO	
03465	03472		PZE		LADL	
03466	75000		LA	DM	NO	

03467	03516		PZE	LADBL+6	
03470	20020		BR DM	UN	
03471	01133		PZE	SOUO	
03472	32026	LADL	OCT	32026	CR-LC-L
03473	63112		OCT	63112	O-C-A
03474	74431		OCT	74431	T-I-O
03475	41767		OCT	41767	N-UC-A
03476	01031		OCT	01031	LC-N-O
03477	77627		OCT	77627	UC--SR
03500	57367		OCT	57367	SP
03501	57367		OCT	57367	SP
03502	32022	LADAL	OCT	32022	CR-LC-C
03503	63036		OCT	63036	O-N-T
03504	61036		OCT	61036	E-N-T
03505	51767		OCT	51767	S-UC-S
03506	57367		OCT	57367	SP
03507	57367		OCT	57367	SP
03510	32036	LADBL	OCT	32036	CR-LC-T
03511	61236		OCT	61236	E-S-T
03512	77340		OCT	77340	UC-SP-LC
03513	41477		OCT	41477	N-O-UC
03514	71377		OCT	71377	--SP-UC
03515	57367		OCT	57367	SP
03516	57367		OCT	57367	SP



		PAGE	CORE MEMORY CIRCUIT NOISE TEST		TOEVS
	02570	ORG		1400	
02570	75000	CNT	LA	DM C NO	R CIRCUIT NOISE TEST
02571	00000	OCT		00000	
02572	50400	SA	IM C	NO	R
02573	02034	PZE		FLAG	CORE MEMORY ERROR INDICATOR
02574	75400	LA	IM C	NO	R
02575	00626	PZE		TSWCH	
02576	20034	BR	DM	AN	
02577	03065	PZE		CNT19	NO TYPE BRANCH
02600	25110	CF	DL	8	
02601	21010	EF	DM	8	
02602	20002	OCT		20002	
02603	75000	LA	DM	NO	LOAD REGISTERS FOR SOUD
02604	02615	PZE		**9	
02605	50400	SA	IM	NO	
02606	01234	PZE		SOUDEX	RETURN ADDRESS
02607	62000	LP	DM	NO	
02610	03107	PZE		CNT40	BEGIN PRINT ADDRESS
02611	75000	LA	DM	NO	
02612	03116	PZE		CNT40+7	END PRINT ADDRESS
02613	20020	BR	DM	UN	
02614	01133	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
02615	75000	CNT1	LA	DM C NO	R
02616	20034	OCT		20034	BRANCH INSTRUCTION
02617	50400	SA	IM C	NO	R
02620	03037	PZE		CNT16	BIT TEST
02621	75000	LA	DM C	NO	R
02622	00001	OCT		00001	INTERNAL CYCLE INDICATOR
02623	50400	SA	IM C	NO	R
02624	03046	PZE		CNT18	INTERNAL CYCLE INDICATOR
02625	75000	LA	DM C	NO	R
02626	40000	OCT		40000	INITIAL TEST WORD
02627	50400	SA	IM C	NO	R
02630	02636	PZE		CNT4	
02631	75000	CNT2	LA	DM C NO	R
02632	07200	OCT		07200	INITIALIZE TEST AREA
02633	50400	SA	IM C	NO	R
02634	02640	PZE		CNT5	
02635	75000	CNT3	LA	DM C NO	R
02636	66666	CNT4	OCT	66666	MODIFIED TEST WORD
02637	50400	SA	IM C	NO	R
02640	66666	CNT5	OCT	66666	MODIFIED TEST AREA ADDRESS
02641	52415	SE	IM C	LA	R

02642	02640		PZE		CNT5		ADD ONE TO ADDS
02643	73000		AS	DM C	NO	R	
02644	60000		OCT		60000		
02645	20024		BR	DM	AZ		TEST AREA LOADED BRANCH
02646	02651		PZE		CNT6		
02647	20020		BR	DM	UN		CONTINUE LOADING TEST AREA BRANCH
02650	02635		PZE		CNT3		
02651	75000	CNT6	LA	DM C	NO	R	
02652	07200		OCT		07200		
02653	50400		SA	IM C	NO	R	
02654	02663		PZE		CNT8		
02655	20031	CNT7	BR	DM	OV		LOAD REGISTERS FOR TABLE SEARCH
02656	02657		PZE		**1		
02657	75407		LA	IM C	CC	R	
02660	02636		PZE		CNT4		
02661	64020		AT	DM H	NO	R	
02662	75000		LA	DM C	NO	R	
02663	66666	CNT8	OCT		66666		
02664	62000		LP	DM C	NO	R	
02665	57776		OCT		57776		
02666	36607		TB	IP	NQ		TABLE SEARCH
02667	25120		CF	DL	16		
02670	64027		AT	DM H	CC	R	
02671	50000		SA	DM C	NO	R	
02672	66666	CNT10	OCT		66666		TABLE SEARCH TEST WORD
02673	20031		BR	DM	OV		
02674	03034		PZE		CNT15		TEST AREA OK BRANCH
02675	64020		AT	DM H	NO	R	
02676	50400		SA	IM C	NO	R	
02677	02663		PZE		CNT8		CONTINUE TABLE SEARCH ADDRESS
02700	73000		AS	DM C	NO	R	
02701	77777		OCT		77777		
02702	50000		SA	DM C	NO	R	
02703	66666	CNT11	OCT		66666		ADDRESS OF BAD CELL
02704	75300		LA	DA C	NO	R	
02705	50000		SA	DM	NO		
02706	66666	CNT9	OCT		66666		CONTENTS OF BAD CELL
02707	75000		LA	DM C	NO	R	
02710	00001		OCT		00001		
02711	50400		SA	IM C	NO	R	
02712	02034		PZE		FLAG		CORE MEMORY INDICATOR
02713	75400		LA	IM C	NO	R	
02714	00626		PZE		TSWCH		
02715	20034		BR	DM	AN		
02716	03075		PZE		CNT20		NO TYPE BRANCH

02717	75400	LA	IM	NO
02720	02703	PZE		CNT11
02721	62000	LP	DM	NO
02722	00005	OCT		00005
02723	70000	LT	DM	NO
02724	02727	PZE		++3
02725	20020	BR	DM	UN
02726	01517	PZE		GENSOR
02727	70400	LT	IM	NO
02730	01741	PZE		TABEND
02731	67015	CC	DM	LA
02732	01733	PZE		TABBEG
02733	62000	LP	DM	NO
02734	03126	PZE		CNT41A
02735	32603	MV	IP	NV
02736	75000	LA	DM	NO
02737	02750	PZE		++9
02740	50400	SA	IM	NO
02741	01234	PZE		SOUOEX
02742	62000	LP	DM	NO
02743	03117	PZE		CNT41
02744	75000	LA	DM	NO
02745	03127	PZE		CNT41+8
02746	20020	BR	DM	UN
02747	01133	PZE		SOUO
02750	75400	LA	IM	NO
02751	02706	PZE		CNT9
02752	62000	LP	DM	NO
02753	00017	OCT		00017
02754	70000	LT	DM	NO
02755	02760	PZE		++3
02756	20020	BR	DM	UN
02757	01517	PZE		GENSOR
02760	70400	LT	IM	NO
02761	01741	PZE		TABEND
02762	67015	CC	DM	LA
02763	01733	PZE		TABBEG
02764	62000	LP	DM	NO
02765	03140	PZE		CNT42A
02766	32603	MV	IP	NV
02767	75000	LA	DM	NO
02770	03001	PZE		++9
02771	50400	SA	IM	NO
02772	01234	PZE		SOUOEX
02773	62000	LP	DM	NO

LOAD REGISTERS FOR GENSOR  
INPUT WORD FOR GENSOR

NO. OF CHARACTERS

RETURN ADDRESS

MOVE GENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS

UNPACK SOROBAN CODE AND PRINT  
LOAD REGISTERS FOR GENSOR  
INPUT WORD FOR GENSOR

NO. OF CHARACTERS

RETURN ADDRESS

MOVE GENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

02774	03130	PZE		CNT42
02775	75000	LA	DM	NO
02776	03145	PZE		CNT42+13
02777	20020	BR	DM	UN
03000	01133	PZE		SOUO
03001	75400	LA	IM	NO
03002	02672	PZE		CNT10
03003	62000	LP	DM	NO
03004	00017	OCT		00017
03005	70000	LT	DM	NO
03006	03011	PZE		*+3
03007	20020	BR	DM	UN
03010	01517	PZE		SENSOR
03011	70400	LT	IM	NO
03012	01741	PZE		TABEND
03013	67015	CC	DM	LA
03014	01733	PZE		TABBEG
03015	62000	LP	DM	NO
03016	03156	PZE		CNT43A
03017	32603	MV	IP	NV
03020	75000	LA	DM	NO
03021	03032	PZE		*+9
03022	50400	SA	IM	NO
03023	01234	PZE		SOUOEX
03024	62000	LP	DM	NO
03025	03146	PZE		CNT43
03026	75000	LA	DM	NO
03027	03163	PZE		CNT43+13
03030	20020	BR	DM	UN
03031	01133	PZE		SOUO
03032	20020	BR	DM	UN
03033	02655	PZE		CNT7
03034	75400	LA	IM C	NO
03035	02636	PZE		CNT4
03036	03001	SC	DM S	R1
03037	66666	OCT		66666
03040	03045	PZE		CNT17
03041	50400	SA	IM C	NO
03042	02636	PZE		CNT4
03043	20020	BR	DM	UN
03044	02631	PZE		CNT2
03045	75000	LA	DM C	NO
03046	66666	OCT		66666
03047	20024	BR	DM	AZ
03050	02160	PZE		EXITRO

BEGIN PRINT ADDRESS

END PRINT ADDRESS

UNPACK SOROBAN CODE AND PRINT  
LOAD REGISTERS FOR GENSOR  
INPUT WORD FOR GENSOR

NO. OF CHARACTERS

RETURN ADDRESS

MOVE GENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS

UNPACK SOROBAN CODE AND PRINT

CONTINUE TABLE SEARCH BRANCH

R

R

MODIFY TEST WORD

COMPLETE SUBCYCLE BRANCH

R

SET NEW TEST NUMBER

R

INTERNAL CYCLE INDICATOR

RETURN TO MAIN PROGRAM

03051	44400		ZE	IM C	NO
03052	03046		PZE		CNT18
03053	75000		LA	DM C	NO
03054	20035		OCT		20035
03055	50400		SA	IM C	NO
03056	03037		PZE		CNT16
03057	75000		LA	DM C	NO
03060	37777		OCT		37777
03061	50400		SA	IM C	NO
03062	02636		PZE		CNT4
03063	20020		BR	DM	UN
03064	02631		PZE		CNT2
03065	62000	CNT19	LP	DM C	NO
03066	00000		OCT		00000
03067	70000		LT	DM C	NO
03070	00000		OCT		00000
03071	75000		LA	DM C	NO
03072	00707		OCT		00707
03073	20060		BR	DM F	UN
03074	02615		PZE		CNT1
03075	70400	CNT20	LT	IM C	NO
03076	02672		PZE		CNT10
03077	75400		LA	IM C	NO
03100	02703		PZE		CNT11
03101	60400		NO	IM C	NO
03102	02706		PZE		CNT9
03103	43000		HP	DM C	NO
03104	10101		OCT		10101
03105	20060		BR	DM F	UN
03106	02655		PZE		CNT7
03107	32022	CNT40	OCT		32022
03110	20462		OCT		20462
03111	16436		OCT		16436
03112	77340		OCT		77340
03113	41450		OCT		41450
03114	51437		OCT		51437
03115	56036		OCT		56036
03116	61236		OCT		61236
03117	32030	CNT41	OCT		32030
03120	22471		OCT		22471
03121	23767		OCT		23767
03122	00505		OCT		00505
03123	12470		OCT		12470
03124	51237		OCT		51237
03125	57367		OCT		57367

R	SET INTERNAL CYCLE INDICATOR
R	SET BRANCH INSTRUCTION
R	
R	SET SECOND CYCLE TEST WORD
R	RESET TEST AREA BRANCH
R	NO TITLE TYPE
R	
R	
R	TEST WORD
R	BAD CELL
R	CONTENTS
R	
	CR-LC-C
	I-R-C
	U-I-T
	UC-SPACE-LC
	N-O-I
	S-E-UC
	SPACE-LC-T
	E-S-T
	CR-LC-E
	R-R-O
	R-UC-SPACE
	LC-A-D
	D-R-E
	S-S-UC
	SPACE-SPACE-SPACE

03126	57367	CNT41A	OCT	57367	SPACE-SPACE-SPACE
03127	57367		OCT	57367	SPACE-SPACE-SPACE
03130	32012	CNT42	OCT	32012	CR-LC-A
03131	12251		OCT	12251	D-D-R
03132	61224		OCT	61224	E-S-S
03133	77340		OCT	77340	UC-SPACE-LC
03134	45460		OCT	45460	C-O-N
03135	75420		OCT	75420	T-E-N
03136	75237		OCT	75237	T-S-UC
03137	57367		OCT	57367	SPACE-SPACE-SPACE
03140	57367	CNT42A	OCT	57367	SPACE-SPACE-SPACE
03141	57367		OCT	57367	SPACE-SPACE-SPACE
03142	57367		OCT	57367	SPACE-SPACE-SPACE
03143	57367		OCT	57367	SPACE-SPACE-SPACE
03144	57367		OCT	57367	SPACE-SPACE-SPACE
03145	57367		OCT	57367	SPACE-SPACE-SPACE
03146	32036	CNT43	OCT	32036	CR-LC-T
03147	61236		OCT	61236	E-S-T
03150	77340		OCT	77340	UC-SPACE-LC
03151	57451		OCT	57451	W-O-R
03152	13767		OCT	13767	D-UC-SPACE
03153	57367		OCT	57367	SPACE-SPACE-SPACE
03154	57367		OCT	57367	SPACE-SPACE-SPACE
03155	57367		OCT	57367	SPACE-SPACE-SPACE
03156	57367	CNT43A	OCT	57367	SPACE-SPACE-SPACE
03157	57367		OCT	57367	SPACE-SPACE-SPACE
03160	57367		OCT	57367	SPACE-SPACE-SPACE
03161	57367		OCT	57367	SPACE-SPACE-SPACE
03162	57367		OCT	57367	SPACE-SPACE-SPACE
03163	57367		OCT	57367	SPACE-SPACE-SPACE

		PAGE	SENSE	AMPLIFIER TEST		
	02570		ORG	1400		
02570	75000	D2	LA	DM C NO	R	SENSE AMPLIFIER TEST
02571	25202		OCT	25202		
02572	50400		SA	IM C NO	R	0040
02573	03652		PZE	D001	R	0050
02574	75400		LA	IM NO		
02575	00626		PZE	TSWCH		
02576	20034		BR	DM AN		
02577	02602	LPNT	PZE	LPNT+3		
02600	47400		RP	IM NO		
02601	03725		PZE	PNT		PRINT TEST TITLE
02602	44400		ZE	IM NO		SET FLAG TO ZERO
02603	02034		PZE	FLAG		
02604	75000		LA	DM C NO	R	0060
02605	03572		PZE	Q	R	0070
02606	50400		SA	IM C NO	R	0120
02607	03414		PZE	D004	R	0130
02610	50400		SA	IM C NO	R	SET UP MEMORY
02611	03515		PZE	D008	R	0150
02612	50400		SA	IM C NO	R	0160
02613	03635		PZE	D009	R	0170
02614	75000		LA	DM NO		
02615	00050		OCT	50		
02616	50400		SA	IM NO		
02617	03404		PZE	D004-8		
02620	47400		RP	IM C NO	R	SET UP MEMORY
02621	03471		PZE	Q5	R	0180
02622	75000		LA	DM C NO	R	0190
02623	37327		OCT	37327	R	CONT SET UP MEMORY
02624	50400		SA	IM C NO	R	0200
02625	17616		OCT	17616	R	0210
02626	75000		LA	DM C NO	R	0220
02627	77327		OCT	77327	R	0230
02630	50400		SA	IM C NO	R	0240
02631	17617		OCT	17617	R	0250
02632	75400		LA	IM C NO		0260
02633	03550		PZE	DN02		0270
02634	73000		AS	DM C NO		0271
02635	00002		PZE	2		0272
02636	50400		SA	IM C NO		0273
02637	03550		PZE	DN02		0274
02640	75000		LA	DM C NO	R	0275
02641	00006		OCT	6	R	0276
						17620-17625
						0280
						0290

02642	50400	SA	IM C	NO	R		0300
02643	03507	PZE		DY	R		0310
02644	47400	RP	IM C	NO	R		0320
02645	03572	PZE		Q	R		0330
02646	75000	LA	DM C	NO	R		0340
02647	77127	OCT		77127	R		0350
02650	50400	SA	IM C	NO	R		0360
02651	17626	OCT		17626	R		0370
02652	75400	LA	IM C	NO			0371
02653	03550	PZE		DN02			0372
02654	73000	AS	DM C	NO			0373
02655	00001	PZE		I			0374
02656	50400	SA	IM C	NO			0375
02657	03550	PZE		DN02			0376
02660	75000	LA	DM C	NO	R	17627-17777	0380
02661	00151	OCT		151	R		0390
02662	50400	SA	IM C	NO	R		0400
02663	03507	PZE		DY	R		0410
02664	47400	RP	IM C	NO	R		0420
02665	03572	PZE		Q	R		0430
02666	75000	LA	DM C	NO		TEST ALL 1	
02667	52575	OCT		52575			
02670	50400	SA	IM C	NO			
02671	03652	PZE		D001			
02672	47400	RP	IM C	NO			
02673	03033	PZE		Q501			
02674	75000	LA	DM C	NO		TEST ALL 2	
02675	25202	OCT		25202			
02676	50400	SA	IM C	NO			
02677	03652	PZE		D001			
02700	47400	RP	IM C	NO			
02701	03074	PZE		Q502			
02702	75000	LA	DM C	NO		TEST ALL 3	
02703	77727	OCT		77727			
02704	50400	SA	IM	NO			
02705	03652	PZE		D001			
02706	47400	RP	IM C	NO			
02707	03141	PZE		Q503			
02710	75000	LA	DM C	NO		TEST ALL 4	
02711	00050	OCT		50			
02712	50400	SA	IM	NO			
02713	03652	PZE		D001			
02714	47400	RP	IM C	NO			
02715	03242	PZE		Q504			
02716	20020	BR	DM	UN			



02717	02160		PZE		EXITRO
02720	02723	Q400	PZE		Q400+3
02721	47400		RP	IM	NO
02722	02720		PZE		Q400
02723	50400		SA	IM	NO
02724	03550		PZE		DN02
02725	75000		LA	DM	NO
02726	00400		OCT		400
02727	47400		RP	IM	NO
02730	03022		PZE		Q301
02731	20020		BR	DM	UN
02732	02721		PZE		Q400+1
02733	02736	Q200	PZE		Q200+3
02734	47400		RP	IM	NO
02735	02733		PZE		Q200
02736	50400		SA	IM	NO
02737	03550		PZE		DN02
02740	75000		LA	DM	NO
02741	00200		OCT		200
02742	47400		RP	IM	NO
02743	03022		PZE		Q301
02744	20020		BR	DM	UN
02745	02734		PZE		Q200+1
02746	02751	Q10	PZE		Q10+3
02747	47400		RP	IM	NO
02750	02746		PZE		Q10
02751	50400		SA	IM	NO
02752	03550		PZE		DN02
02753	75000		LA	DM	NO
02754	00010		OCT		10
02755	47400		RP	IM	NO
02756	03022		PZE		Q301
02757	20020		BR	DM	UN
02760	02747		PZE		Q10+1
02761	02764	Q70	PZE		Q70+3
02762	47400		RP	IM	NO
02763	02761		PZE		Q70
02764	50400		SA	IM	NO
02765	03550		PZE		DN02
02766	75000		LA	DM	NO
02767	00070		OCT		70
02770	47400		RP	IM	NO
02771	03022		PZE		Q301
02772	20020		BR	DM	UN
02773	02762		PZE		Q70+1

02774	02777	Q40	PZE		Q40+3
02775	47400		RP	IM	NO
02776	02774		PZE		Q40
02777	50400		SA	IM	NO
03000	03550		PZE		DN02
03001	75000		LA	DM	NO
03002	00040		OCT		40
03003	47400		RP	IM	NO
03004	03022		PZE		Q301
03005	20020		BR	DM	UN
03006	02775		PZE		Q40+1
03007	03010	Q30	PZE		Q30+1
03010	47400		RP	IM	NO
03011	03007		PZE		Q30
03012	50400		SA	IM	NO
03013	03550		PZE		DN02
03014	75000		LA	DM	NO
03015	00030		OCT		30
03016	47400		RP	IM	NO
03017	03022		PZE		Q301
03020	20020		BR	DM	UN
03021	03010		PZE		Q30+1
03022	03025	Q301	PZE		Q301+3
03023	47400		RP	IM	NO
03024	03022		PZE		Q301
03025	50400		SA	IM	NO
03026	03507		PZE		DY
03027	47400		RP	IM	NO
03030	03675		PZE		Q4
03031	20020		BR	DM	UN
03032	03023		PZE		Q301+1
03033	03036	Q501	PZE		Q501+3
03034	47400		RP	IM	NO
03035	03033		PZE		Q501
03036	75000		LA	DM	NO
03037	07230		OCT		7230
03040	47400		RP	IM	NO
03041	02746		PZE		Q10
03042	75000		LA	DM	NO
03043	07330		OCT		7330
03044	47400		RP	IM	NO
03045	02746		PZE		Q10
03046	75000		LA	DM	NO
03047	07400		OCT		7400
03050	47400		RP	IM	NO

TEST 1

03051	03007	PZE		Q30
03052	75000	LA	DM	NO
03053	07440	OCT		7440
03054	47400	RP	IM	NO
03055	02761	PZE		Q70
03056	75000	LA	DM	NO
03057	07540	OCT		7540
03060	47400	RP	IM	NO
03061	02774	PZE		Q40
03062	75000	LA	DM	NO
03063	07630	OCT		7630
03064	47400	RP	IM	NO
03065	02746	PZE		Q10
03066	75000	LA	DM	NO
03067	07730	OCT		7730
03070	47400	RP	IM	NO
03071	02746	PZE		Q10
03072	20020	BR	DM	UN
03073	03034	PZE		Q501+1
03074	03077	PZE		Q502+3
03075	47400	RP	IM	NO
03076	03074	PZE		Q502
03077	75000	LA	DM	NO
03100	07200	OCT		7200
03101	47400	RP	IM	NO
03102	03007	PZE		Q30
03103	75000	LA	DM	NO
03104	07240	OCT		7240
03105	47400	RP	IM	NO
03106	02761	PZE		Q70
03107	75000	LA	DM	NO
03110	07340	OCT		7340
03111	47400	RP	IM	NO
03112	02774	PZE		Q40
03113	75000	LA	DM	NO
03114	07430	OCT		7430
03115	47400	RP	IM	NO
03116	02746	PZE		Q10
03117	75000	LA	DM	NO
03120	07530	OCT		7530
03121	47400	RP	IM	NO
03122	02746	PZE		Q10
03123	75000	LA	DM	NO
03124	07600	OCT		7600
03125	47400	RP	IM	NO

Q502

TEST 2

03126	03007	PZE		Q30
03127	75000	LA	DM	NO
03130	07640	OCT		7640
03131	47400	RP	IM	NO
03132	02761	PZE		Q70
03133	75000	LA	DM	NO
03134	07740	OCT		7740
03135	47400	RP	IM	NO
03136	02774	PZE		Q40
03137	20020	BR	DM	UN
03140	03075	PZE		Q502+1
03141	03144	PZE		Q503+3
03142	47400	RP	IM	NO
03143	03141	PZE		Q503
03144	75000	LA	DM	NO
03145	10000	OCT		10000
03146	47400	RP	IM	NO
03147	02746	PZE		Q10
03150	75000	LA	DM	NO
03151	10010	OCT		10010
03152	47400	RP	IM	NO
03153	02746	PZE		Q10
03154	75000	LA	DM	NO
03155	10400	OCT		10400
03156	47400	RP	IM	NO
03157	02733	PZE		Q200
03160	75000	LA	DM	NO
03161	11200	OCT		11200
03162	47400	RP	IM	NO
03163	02733	PZE		Q200
03164	75000	LA	DM	NO
03165	11600	OCT		11600
03166	47400	RP	IM	NO
03167	02733	PZE		Q200
03170	75000	LA	DM	NO
03171	12200	OCT		12200
03172	47400	RP	IM	NO
03173	02733	PZE		Q200
03174	75000	LA	DM	NO
03175	12600	OCT		12600
03176	47400	RP	IM	NO
03177	02720	PZE		Q400
03200	75000	LA	DM	NO
03201	13400	OCT		13400
03202	47400	RP	IM	NO

Q503

TEST 3

03203	02733	PZE		Q200
03204	75000	LA	DM	NO
03205	14000	OCT		14000
03206	47400	RP	IM	NO
03207	02733	PZE		Q200
03210	75000	LA	DM	NO
03211	14400	OCT		14400
03212	47400	RP	IM	NO
03213	02733	PZE		Q200
03214	75000	LA	DM	NO
03215	15200	OCT		15200
03216	47400	RP	IM	NO
03217	02733	PZE		Q200
03220	75000	LA	DM	NO
03221	15600	OCT		15600
03222	47400	RP	IM	NO
03223	02733	PZE		Q200
03224	75000	LA	DM	NO
03225	16200	OCT		16200
03226	47400	RP	IM	NO
03227	02733	PZE		Q200
03230	75000	LA	DM	NO
03231	16600	OCT		16600
03232	47400	RP	IM	NO
03233	02733	PZE		Q200
03234	75000	LA	DM	NO
03235	17400	OCT		17400
03236	47400	RP	IM	NO
03237	02733	PZE		Q200
03240	20020	BR	DM	UN
03241	03142	PZE		Q503+1
03242	03245	PZE		Q504+3
03243	47400	RP	IM	NO
03244	03242	PZE		Q504
03245	75000	LA	DM	NO
03246	10020	OCT		10020
03247	50400	SA	IM	NO
03250	03550	PZE		DN02
03251	75000	LA	DM	NO
03252	00360	OCT		360
03253	47400	RP	IM	NO
03254	03022	PZE		Q301
03255	75000	LA	DM	NO
03256	10600	OCT		10600
03257	47400	RP	IM	NO

Q504

TEST 4

03260	02720	PZE		Q400
03261	75000	LA	DM	NO
03262	11400	OCT		11400
03263	47400	RP	IM	NO
03264	02733	PZE		Q200
03265	75000	LA	DM	NO
03266	12000	OCT		12000
03267	47400	RP	IM	NO
03270	02733	PZE		Q200
03271	75000	LA	DM	NO
03272	12400	OCT		12400
03273	47400	RP	IM	NO
03274	02733	PZE		Q200
03275	75000	LA	DM	NO
03276	13200	OCT		13200
03277	47400	RP	IM	NO
03300	02733	PZE		Q200
03301	75000	LA	DM	NO
03302	13600	OCT		13600
03303	47400	RP	IM	NO
03304	02733	PZE		Q200
03305	75000	LA	DM	NO
03306	14200	OCT		14200
03307	47400	RP	IM	NO
03310	02733	PZE		Q200
03311	75000	LA	DM	NO
03312	14600	OCT		14600
03313	47400	RP	IM	NO
03314	02720	PZE		Q400
03315	75000	LA	DM	NO
03316	15400	OCT		15400
03317	47400	RP	IM	NO
03320	02733	PZE		Q200
03321	75000	LA	DM	NO
03322	16000	OCT		16000
03323	47400	RP	IM	NO
03324	02733	PZE		Q200
03325	75000	LA	DM	NO
03326	16400	OCT		16400
03327	47400	RP	IM	NO
03330	02733	PZE		Q200
03331	75000	LA	DM	NO
03332	17200	OCT		17200
03333	47400	RP	IM	NO
03334	02733	PZE		Q200

03335	75000	LA	DM	NO		
03336	17600	OCT		17600		
03337	50400	SA	IM	NO		
03340	03550	PZE		DN02		
03341	75000	LA	DM	NO		
03342	00016	OCT		16		
03343	47400	RP	IM	NO		
03344	03022	PZE		Q301		
03345	75000	LA	DM	NO		
03346	17620	OCT		17620		
03347	50400	SA	IM	NO		
03350	03550	PZE		DN02		
03351	75000	LA	DM	NO		
03352	00006	OCT		6		
03353	47400	RP	IM	NO		
03354	03022	PZE		Q301		
03355	75000	LA	DM	NO		
03356	17627	OCT		17627		
03357	50400	SA	IM	NO		
03360	03550	PZE		DN02		
03361	75000	LA	DM	NO		
03362	00151	OCT		151		
03363	47400	RP	IM	NO		
03364	03022	PZE		Q301		
03365	20020	BR	DM	UN		
03366	03243	PZE		Q504+1		
03367	47400	RP	IM C	NO	R	1010
03370	03471	PZE		Q5	R	1020
03371	75000	LA	DM C	NO	R	1030
03372	07200	OCT		7200		
03373	50400	SA	IM C	NO	R	1050
03374	03550	PZE		DN02	R	1060
03375	47400	RP	IM	NO	R	7200-7377
03376	03623	PZE		Q2	R	1420
03377	47400	RP	IM	NO	R	7400-7577
03400	03623	PZE		Q2	R	1424
03401	47400	RP	IM	NO	R	7600-7777
03402	03623	PZE		Q2	R	1430
03403	75000	LA	DM C	NO	R	10000-10020
03404	77727	OCT		77727		
03405	50400	SA	IM C	NO	R	1436
03406	03652	PZE		D001	R	1440
03407	75000	LA	DM C	NO	R	1442
03410	00020	OCT		20	R	1444
03411	50400	SA	IM C	NO	R	1446

03412	03507		PZE		DY	R		1450
03413	47400		RP	IM	NO	R		1460
03414	03572	D004	PZE		Q	R		1470
03415	75000		LA	DM C	NO	R		1480
03416	00360		OCT		360	R		1490
03417	47400		RP	IM	NO	R		1500
03420	03640		PZE		Q3	R		1510
03421	75000		LA	DM C	NO	R		1520
03422	00200		OCT		200	R		1530
03423	47400		RP	IM	NO	R		1540
03424	03640		PZE		Q3	R		1550
03425	75000		LA	DM C	NO	R		1560
03426	00400		OCT		400	R		1570
03427	47400		RP	IM	NO	R		1580
03430	03640		PZE		Q3	R		1590
03431	47400		RP	IM	NO	R	11200-12577	1600
03432	03542		PZE		Q1	R		1610
03433	75000		LA	DM C	NO	R	12600-13177	1620
03434	00400		OCT		400	R		1630
03435	47400		RP	IM	NO	R		1640
03436	03640		PZE		Q3	R		1650
03437	47400		RP	IM	NO	R	13200-14577	1660
03440	03542		PZE		Q1	R		1670
03441	75000		LA	DM C	NO	R	14600-15177	1680
03442	00400		OCT		400	R		1690
03443	47400		RP	IM	NO	R		1700
03444	03640		PZE		Q3	R		1710
03445	47400		RP	IM	NO	R	15200-16577	1720
03446	03542		PZE		Q1	R		1730
03447	75000		LA	DM C	NO	R	16600-17177	1740
03450	00400		OCT		400	R		1750
03451	47400		RP	IM	NO	R		1760
03452	03640		PZE		Q3	R		1770
03453	75000		LA	DM C	NO	R	17200-17377	1780
03454	00200		OCT		200	R		1790
03455	47400		RP	IM	NO	R		1800
03456	03640		PZE		Q3	R		1810
03457	75000		LA	DM C	NO	R	17400 17577	1820
03460	00200		OCT		200	R		1830
03461	47400		RP	IM	NO	R		1840
03462	03640		PZE		Q3	R		1850
03463	75000		LA	DM C	NO	R	17600-17615	1860
03464	00016		OCT		16	R		1870
03465	47400		RP	IM	NO	R		1880
03466	03640		PZE		Q3	R		1890



03467	20020		BR	DM	UN				
03470	03367		PZE		DNT-2	R			1910
03471	03371	Q5	PZE		DNT	R			1920
03472	47400		RP	IM C	NO	R			2010
03473	03542		PZE		Q1	R			2020
03474	75000	DNT4	LA	DM C	NO	R	SET Z CNT T03		2030
03475	00003		PZE		3	R			2040
03476	50000		SA	DM C	NO	R			2050
03477	03477	DZ	PZE		DZ	R	Z CNT		2060
03500	75000	DNT1	LA	DM C	NO	R	SET X CNT		2070
03501	00002		PZE		2	R			2080
03502	50000		SA	DM C	NO	R			2090
03503	03503	DX	PZE		DX	R	X CNT		2100
03504	75000	DNT2	LA	DM C	NO	R	SET Y CNT		2110
03505	00200		PZE		128	R			2120
03506	50000		SA	DM C	NO	R			2130
03507	03507	DY	PZE		DY	R	Y CNT		2140
03510	75407		LA	IM C	CC	R	COMPLIMENT (D001)		2150
03511	03652		PZE		D001	R			2160
03512	50400		SA	IM C	NO	R			2170
03513	03652		PZE		D001	R			2180
03514	47400		RP	IM	NO	R	CALLING SEQ FOR DNT3		2190
03515	03572	D008	PZE		Q	R			2200
03516	75400		LA	IM C	NO	R	REDUCE X BY 1		2210
03517	03503		PZE		DX	R			2220
03520	73000		AS	DM C	NO	R			2230
03521	77777		OCT		77777				
03522	50407		SA	IM C	CC	R			
03523	03503		PZE		DX	R			2260
03524	20427		BR	IM	NQ				
03525	00000		OCT		0				
03526	03504		PZE		DNT2	R			2290
03527	75400		LA	IM C	NO	R	REDUCE Z BY 1		2300
03530	03477		PZE		DZ	R			2310
03531	73000		AS	DM C	NO	R			2320
03532	77777		OCT		77777				
03533	50407		SA	IM C	CC	R			
03534	03477		PZE		DZ	R			2350
03535	20427		BR	IM	NQ				
03536	00000		OCT		0				
03537	03500		PZE		DNT1	R			2380
03540	20020		BR	DM	UN				
03541	03472		PZE		DNT4-2	R			2400
03542	03474	Q1	PZE		DNT4	R			2410
03543	47400		RP	IM	NO	R			3010

03544	03572		PZE		Q	R		3020
03545	75400	DNT3	LA	IM C	NO	R	LOAD A	3030
03546	03652		PZE		D001	R		3040
03547	50400		SA	IM C	NO	R	STORE A IN CORE	3050
03550	03550	DN02	PZE		DN02	R	LOC IS PRESET	3060
03551	75400		LA	IM C	NO	R	ADD 1 TO DN02	3070
03552	03550		PZE		DN02	R		3080
03553	73000		AS	DM C	NO	R		3090
03554	00001		PZE		1	R		3100
03555	50400		SA	IM C	NO	R		3110
03556	03550		PZE		DN02	R		3120
03557	75400		LA	IM C	NO	R	REDUCE Y BY 1	3130
03560	03507		PZE		DY	R		3140
03561	73000		AS	DM C	NO	R		3150
03562	77777		OCT		77777			
03563	50407		SA	IM C	CC	R		
03564	03507		PZE		DY	R		3180
03565	20427		BR	IM	NQ	R		
03566	00000		OCT		0			
03567	03545		PZE		DNT3	R		3210
03570	20020		BR	DM	UN			
03571	03543		PZE		DNT3-2	R		3230
03572	03545	Q	PZE		DNT3	R		3240
03573	47400		RP	IM	NO	R		4010
03574	03623		PZE		Q2	R		4020
03575	75000	DNT5	LA	DM C	NO	R		4030
03576	00030		PZE		24	R		4040
03577	47400		RP	IM	NO	R		4050
03600	03640		PZE		Q3	R		4060
03601	75000		LA	DM C	NO	R		4070
03602	00010		PZE		8	R		4080
03603	47400		RP	IM	NO	R		4090
03604	03640		PZE		Q3	R		4100
03605	75000		LA	DM C	NO	R		4110
03606	00070		PZE		56	R		4120
03607	47400		RP	IM	NO	R		4130
03610	03640		PZE		Q3	R		4140
03611	75000		LA	DM C	NO	R		4150
03612	00010		PZE		8	R		4160
03613	47400		RP	IM	NO	R		4170
03614	03640		PZE		Q3	R		4180
03615	75000		LA	DM C	NO	R		4190
03616	00040		PZE		32	R		4200
03617	47400		RP	IM	NO	R		4210
03620	03640		PZE		Q3	R		4220

03621	20020		BR	DM	UN			
03622	03573		PZE		DNT5-2	R		4240
03623	03575	Q2	PZE		DNT5	R		4250
03624	47400		RP	IM	NO	R		5010
03625	03640		PZE		Q3	R		5020
03626	50400	DNT6	SA	IM C	NO	R		5030
03627	03507		PZE		DY	R		5040
03630	75407		LA	IM C	CC	R		5050
03631	03652		PZE		D001	R		5060
03632	50400		SA	IM C	NO	R		5070
03633	03652		PZE		D001	R		5080
03634	47400		RP	IM	NO	R		5090
03635	03572	D009	PZE		Q	R		5100
03636	20020		BR	DM	UN			
03637	03624		PZE		DNT6-2	R		5120
03640	03626	Q3	PZE		DNT6	R		5130
03641	47400		RP	IM	NO	R		6010
03642	03675		PZE		Q4	R		6020
03643	75400	DNT7	LA	IM	NO	R		6030
03644	03550		PZE		DN02	R	CURRENT MEM LOC BEING TESTED	6040
03645	50400		SA	IM C	NO			6050
03646	03650		PZE		DNT7+5			6060
03647	75400		LA	IM C	NO	R		6070
03650	03646		PZE		DNT7+3	R		6080
03651	20427		BR	IM	NQ	R	INSERT FOUR INSTRUCTIONS	6090
03652	03652	D001	PZE		D001	R	COMPLIMENT OF NO BEING TESTED	6100
03653	03676		PZE		ES04	R	NOT EQUAL GO TO ERROR SUB	6110
03654	75400	ES05	LA	IM C	NO	R		6120
03655	03550		PZE		DN02	R		6130
03656	73000		AS	DM C	NO	R		6140
03657	00001		PZE		1	R		6150
03660	50400		SA	IM C	NO	R		6160
03661	03550		PZE		DN02	R		6170
03662	75400		LA	IM C	NO	R		6180
03663	03507		PZE		DY	R		6190
03664	73000		AS	DM C	NO	R		6200
03665	77777		OCT		77777			
03666	50407		SA	IM C	CC	R		
03667	03507		PZE		DY	R		6230
03670	20427		BR	IM	NQ			
03671	00000		OCT		0			
03672	03643		PZE		DNT7	R		6260
03673	20020		BR	DM	UN			
03674	03641		PZE		DNT7-2	R		6280
03675	03643	Q4	PZE		DNT7	R		6290

03676	50400	ES04	SA	IM	NO	SENSE AMPLIFIER	
03677	03717		PZE		EES		
03700	75000		LA	DM	NO	SET FLAG EQUAL 1	
03701	00001		OCT		1		
03702	50400		SA	IM	NO		
03703	02034		PZE		FLAG		
03704	75400		LA	IM	NO	SET FLAG=1	
03705	00626		PZE		TSWCH		
03706	20034		BR	DM	AN		
03707	03714		PZE		ESS04		
03710	47400		RP	IM	NO		
03711	03776		PZE		ERR4		
03712	20020		BR	DM	UN		
03713	03654		PZE		ES05		
03714	75400	ESS04	LA	IM	NO		
03715	03550		PZE		DN02		6232
03716	62000		LP	DM	NO		
03717	00000	EES	PZE				
03720	70000		LT	DM C	NO		6233
03721	00011		PZE		9		
03722	20060		BR	DM F	UN		6235
03723	03654		PZE		ES05		6260
03724	00011	EEES	PZE		9		
03725	03730	PNT	PZE		PNT+3	PRINT SENSE AMPLIFIER TEST	
03726	47400		RP	IM	NO		
03727	03725		PZE		PNT		
03730	25110		CF	DL	8		
03731	21010		EF	DM	8		
03732	20002		OCT		20002		
03733	75000		LA	DM	NO	PNT+6	
03734	03726		PZE		PNT+1		
03735	50400		SA	IM	NO		
03736	01234		PZE		SOUDEX		
03737	62000		LP	DM	NO		
03740	03745		PZE		ADD		
03741	75000		LA	DM	NO		
03742	03755		PZE		ADD+8		
03743	20020		BR	DM	UN		
03744	01133		PZE		SOUO		
03745	00015	ADD	OCT		00015		
03746	51420		OCT		51420	S-E-N	
03747	51437		OCT		51437	SP-LC-A	
03750	56012		OCT		56012	M-P-L	
03751	02726		OCT		02726	I-F-I	
03752	20310		OCT		20310	E-R-UC	

03753	60477		OCT	60477
03754	56036		OCT	56036
03755	61236		OCT	61236
03756	47400		RP IM	NO
03757	03775		PZE	PRINT
03760	62000	ERR04	LP DM	NO
03761	00005		PZE	5
03762	75400		LA IM	NO
03763	03550	ERR14	PZE	DN02
03764	70000		LT DM	NO
03765	03770		PZE	RETURN
03766	20020		BR DM	UN
03767	01515		PZE	SORO
03770	75400	RETURN	LA IM	NO
03771	01733		PZE	TABBEG
03772	70200		LT DP	NO
03773	20020		BR DM	UN
03774	03756		PZE	ERR04-2
03775	03760	PRINT	PZE	ERR04
03776	04001	ERR4	PZE	*+3
03777	47400		RP IM	NO
04000	03776		PZE	ERR4
04001	25110		CF DL	8
04002	21010		EF DM	8
04003	20002		OCT	20002
04004	75000		LA DM	NO
04005	03550		PZE	DN02
04006	50400		SA IM	NO
04007	03763		PZE	ERR14
04010	47400		RP IM	NO
04011	03775		PZE	PRINT
04012	50400		SA IM	NO
04013	04057		PZE	LAD+6
04014	40200		ST DP	NO
04015	75000		LA DM	NO
04016	03717		PZE	EES
04017	50400		SA IM	NO
04020	03763		PZE	ERR14
04021	47400		RP IM	NO
04022	03775		PZE	PRINT
04023	50400		SA IM	NO
04024	04065		PZE	LADA+4
04025	40200		ST DP	NO
04026	75000		LA DM	NO
04027	03724		PZE	EEES

SP-LC-T  
E-S-T

PRINT ROUTINE COMMON TO ALL 4 TESTS

RET+2

SET UP LOCATION NO. TITLE

SET UP LOCATION NO.

SET UP CONTENTS NO.

SET UP CASE NO

04030	50400		SA	IM	NO	
04031	03763		PZE		ERR14	
04032	47400		RP	IM	NO	
04033	03775		PZE		PRINT	
04034	50400		SA	IM	NO	
04035	04074		PZE		LADB+5	
04036	40200		ST	DP	NO	
04037	75000		LA	DM	NO	
04040	03777		PZE		ERR4+1	
04041	50400		SA	IM	NO	
04042	01234		PZE		SOUDEX	
04043	62000		LP	DM	NO	
04044	04051		PZE		LAD	
04045	75000		LA	DM	NO	
04046	04075		PZE		LADB+6	
04047	20020		BR	DM	UN	
04050	01133		PZE		SOUO	
04051	32026	LAD	OCT		32026	CR-LC-L
04052	63112		OCT		63112	O-C-A
04053	74431		OCT		74431	T-I-O
04054	41767		OCT		41767	N-UC-A
04055	01031		OCT		01031	LC-N-O
04056	77627		OCT		77627	UC--SR
04057	57367		OCT		57367	SP
04060	57367		OCT		57367	SP
04061	32022	LADA	OCT		32022	CR-LC-C
04062	63036		OCT		63036	O-N-T
04063	61036		OCT		61036	E-N-T
04064	51767		OCT		51767	S-UC-S
04065	57367		OCT		57367	SP
04066	57367		OCT		57367	SP
04067	32036	LADB	OCT		32036	CR-LC-T
04070	61236		OCT		61236	E-S-T
04071	77340		OCT		77340	UC-SP-LC
04072	41477		OCT		41477	N-O-UC
04073	71377		OCT		71377	--SP-UC
04074	57367		OCT		57367	SP
04075	57367		OCT		57367	SP

		PAGE	CORE MEMORY LOW FLUX TEST		TOEVS
	02570	DRG		1400	
02570	75000	LFT	LA	DM C NO	R LOW FLUX TEST
02571	00000		OCT	00000	
02572	50400		SA	IM C NO	R
02573	02034		PZE	FLAG	CORE MEMORY ERROR INDICATOR
02574	44000		ZE	DM C NO	R
02575	00000	LFT1	OCT	00000	
02576	75400		LA	IM C NO	R
02577	00626		PZE	TSWCH	
02600	20034		BR	DM AN	
02601	03201		PZE	LFT28	NO TYPE BRANCH
02602	25110		CF	DL 8	
02603	21010		EF	DM 8	
02604	20002		OCT	20002	
02605	75000		LA	DM NO	LOAD REGISTERS FOR SOUD
02606	02617		PZE	*+9	
02607	50400		SA	IM NO	
02610	01234		PZE	SOUDEX	RETURN ADDRESS
02611	62000		LP	DM NO	
02612	03242		PZE	LFT40	BEGIN PRINT ADDRESS
02613	75000		LA	DM NO	
02614	03250		PZE	LFT40+6	END PRINT ADDRESS
02615	20020		BR	DM UN	
02616	01133		PZE	SOUO	UNPACK SOROBAN CODE AND PRINT
02617	75000	LFT2	LA	DM C NO	R
02620	07200		OCT	07200	INITIALIZE TEST AREA
02621	50400		SA	IM C NO	R
02622	02626		PZE	LFT5	
02623	75000	LFT3	LA	DM C NO	R LOAD TEST AREA WITH 7777
02624	77777	LFT4	OCT	77777	
02625	50400		SA	IM C NO	R
02626	66666	LFT5	OCT	66666	
02627	52415		SE	IM C LA	R
02630	02626		PZE	LFT5	
02631	73000		AS	DM C NO	R
02632	60000		OCT	60000	
02633	20024		BR	DM AZ	
02634	02637		PZE	LFT6	TEST AREA LOADED BRANCH
02635	20020		BR	DM UN	
02636	02623		PZE	LFT3	
02637	44400	LFT6	ZE	IM C NO	R LOAD 00000 AT 07200
02640	07200	LFT7	OCT	07200	
02641	75000		LA	DM C NO	R

02642	00050		OCT		00050		MAJOR COUNT
02643	50400	LFT8	SA	IM C	NO	R	
02644	02664		PZE		LFT12		
02645	75000		LA	DM C	NO	R	
02646	60650		OCT		60650		MINOR COUNT
02647	64415	LFT9	AT	IM C	LA	R	
02650	07200		OCT		07200		
02651	20024		BR	DM	AZ		
02652	02655		PZE		LFT10		
02653	20020		BR	DM	UN		
02654	03152		PZE		LFT26		
02655	64013	LFT10	AT	DM C	AS	R	
02656	77777		OCT		77777		
02657	20024		BR	DM	AZ		
02660	02663		PZE		LFT11		
02661	20020		BR	DM	UN		
02662	02647		PZE		LFT9		
02663	75000	LFT11	LA	DM C	NO	R	
02664	66666	LFT12	OCT		66666		
02665	73000		AS	DM C	NO	R	
02666	77777		OCT		77777		
02667	20024		BR	DM	AZ		
02670	02673		PZE		LFT13		
02671	20020		BR	DM	UN		
02672	02643		PZE		LFT8		
02673	75000	LFT13	LA	DM C	NO	R	
02674	07201		OCT		07201		
02675	50400		SA	IM C	NO	R	
02676	02705		PZE		LFT15		
02677	60207	LFT14	NO	DP C	CC	R	LOAD REGISTERS FOR TABLE SEARCH
02700	20031		BR	DM	OV		
02701	02702		PZE		**+1		
02702	70000		LT	DM C	NO	R	
02703	00000		OCT		00000		
02704	75000		LA	DM C	NO	R	
02705	66666	LFT15	OCT		66666		
02706	62000		LP	DM C	NO	R	
02707	57776		OCT		57776		
02710	36607		TB	IP	NQ		TABLE SEARCH
02711	25120		CF	DL	16		
02712	64027		AT	DM H	CC	R	
02713	50000		SA	DM C	NO	R	
02714	66666	LFT17	OCT		66666		
02715	20031		BR	DM	OV		
02716	03240		PZE		LFT30		



02717	64020		AT	DM	H	NO	R
02720	50400		SA	IM	C	NO	R
02721	02705		PZE			LFT15	
02722	73000		AS	DM	C	NO	R
02723	77777		OCT			77777	
02724	50000		SA	DM	C	NO	R
02725	66666	LFT18	OCT			66666	
02726	75300		LA	DA	C	NO	R
02727	50000		SA	DM		NO	
02730	66666	LFT16	OCT			66666	CONTENTS OF BAD CELL
02731	75000	LFT19	LA	DM	C	NO	R
02732	00001		OCT			00001	
02733	50400		SA	IM	C	NO	R
02734	02034		PZE			FLAG	CORE MEMORY INDICATOR
02735	75400		LA	IM	C	NO	R
02736	00626		PZE			TSWCH	
02737	20034		BR	DM		AN	
02740	03211		PZE			LFT29	NO TYPE BRANCH
02741	75400		LA	IM		NO	LOAD REGISTERS FOR GENSOR
02742	02725		PZE			LFT18	INPUT WORD FOR GENSOR
02743	62000		LP	DM		NO	
02744	00005		OCT			00005	NO. OF CHARACTERS
02745	70000		LT	DM		NO	
02746	02751		PZE			*+3	RETURN ADDRESS
02747	20020		BR	DM		UN	
02750	01517		PZE			GENSOR	
02751	70400		LT	IM		NO	MOVE GENSOR WORD TO OUTPUT
02752	01741		PZE			TABEND	END MOVE ADDRESS
02753	67015		CC	DM		LA	
02754	01733		PZE			TABBEG	START MOVE ADDRESS
02755	62000		LP	DM		NO	
02756	03260		PZE			LFT41A	MOVE TO ADDRESS
02757	32603		MV	IP		NV	
02760	75000		LA	DM		NO	LOAD REGISTERS FOR SQUO
02761	02772		PZE			*+9	
02762	50400		SA	IM		NO	
02763	01234		PZE			SQUOEX	RETURN ADDRESS
02764	62000		LP	DM		NO	
02765	03251		PZE			LFT41	BEGIN PRINT ADDRESS
02766	75000		LA	DM		NO	
02767	03261		PZE			LFT41+8	END PRINT ADDRESS
02770	20020		BR	DM		UN	
02771	01133		PZE			SQUO	UNPACK SOROBAN CODE AND PRINT
02772	75400		LA	IM		NO	LOAD REGISTERS FOR GENSOR
02773	02730		PZE			LFT16	INPUT WORD FOR GENSOR

02774	62000	LP	DM	NO	
02775	00017	OCT		00017	NO. OF CHARACTERS
02776	70000	LT	DM	NO	
02777	03002	PZE		*+3	RETURN ADDRESS
03000	20020	BR	DM	UN	
03001	01517	PZE		SENSOR	
03002	70400	LT	IM	NO	MOVE SENSOR WORD TO OUTPUT
03003	01741	PZE		TABEND	END MOVE ADDRESS
03004	67015	CC	DM	LA	
03005	01733	PZE		TABBEG	START MOVE ADDRESS
03006	62000	LP	DM	NO	
03007	03272	PZE		LFT42A	MOVE TO ADDRESS
03010	32603	MV	IP	NV	
03011	75000	LA	DM	NO	LOAD REGISTERS FOR SOUD
03012	03023	PZE		*+9	
03013	50400	SA	IM	NO	RETURN ADDRESS
03014	01234	PZE		SOUOEX	
03015	62000	LP	DM	NO	BEGIN PRINT ADDRESS
03016	03262	PZE		LFT42	
03017	75000	LA	DM	NO	END PRINT ADDRESS
03020	03277	PZE		LFT42+13	
03021	20020	BR	DM	UN	UNPACK SOROBAN CODE AND PRINT
03022	01133	PZE		SOUD	
03023	75400	LA	IM C	NO	R
03024	02575	PZE		LFT1	
03025	20024	BR	DM	AZ	
03026	03117	PZE		LFT24	NO LOW FLUX ERROR BRANCH
03027	75000	LA	DM C	NO	R ERROR AT 02600
03030	00000	OCT		00000	
03031	50400	SA	IM C	NO	R
03032	02575	PZE		LFT1	
03033	75400	LA	IM	NO	LOAD REGISTERS FOR SENSOR
03034	03160	PZE		LFT27	INPUT WORD FOR SENSOR
03035	62000	LP	DM	NO	
03036	00005	OCT		00005	NO. OF CHARACTERS
03037	70000	LT	DM	NO	
03040	03043	PZE		*+3	RETURN ADDRESS
03041	20020	BR	DM	UN	
03042	01517	PZE		SENSOR	
03043	70400	LT	IM	NO	MOVE SENSOR WORD TO OUTPUT
03044	01741	PZE		TABEND	END MOVE ADDRESS
03045	67015	CC	DM	LA	
03046	01733	PZE		TABBEG	START MOVE ADDRESS
03047	62000	LP	DM	NO	
03050	03327	PZE		LFT44A	MOVE TO ADDRESS

03051	32603	MV	IP	NV	
03052	75000	LA	DM	NO	LOAD REGISTERS FOR SOUD
03053	03064	PZE		*+9	
03054	50400	SA	IM	NO	
03055	01234	PZE		SOUDEX	RETURN ADDRESS
03056	62000	LP	DM	NO	
03057	03316	PZE		LFT44	BEGIN PRINT ADDRESS
03060	75000	LA	DM	NO	
03061	03330	PZE		LFT44+10	END PRINT ADDRESS
03062	20020	BR	DM	UN	
03063	01133	PZE		SOUD	UNPACK SOROBAN CODE AND PRINT
03064	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
03065	02664	PZE		LFT12	INPUT WORD FOR GENSOR
03066	62000	LP	DM	NO	
03067	00005	OCT		00005	NO. OF CHARACTERS
03070	70000	LT	DM	NO	
03071	03074	PZE		*+3	RETURN ADDRESS
03072	20020	BR	DM	UN	
03073	01517	PZE		GENSOR	
03074	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
03075	01741	PZE		TABEND	END MOVE ADDRESS
03076	67015	CC	DM	LA	
03077	01733	PZE		TABBEG	START MOVE ADDRESS
03100	62000	LP	DM	NO	
03101	03342	PZE		LFT45A	MOVE TO ADDRESS
03102	32603	MV	IP	NV	
03103	75000	LA	DM	NO	LOAD REGISTERS FOR SOUD
03104	03115	PZE		*+9	
03105	50400	SA	IM	NO	
03106	01234	PZE		SOUDEX	RETURN ADDRESS
03107	62000	LP	DM	NO	
03110	03331	PZE		LFT45	BEGIN PRINT ADDRESS
03111	75000	LA	DM	NO	
03112	03343	PZE		LFT45+10	END PRINT ADDRESS
03113	20020	BR	DM	UN	
03114	01133	PZE		SOUD	UNPACK SOROBAN CODE AND PRINT
03115	20020	BR	DM	UN	
03116	02673	PZE		LFT13	
03117	75400	LFT24	LA	IM	LOAD REGISTERS FOR GENSOR
03120	02714	PZE		LFT17	INPUT WORD FOR GENSOR
03121	62000	LP	DM	NO	
03122	00017	OCT		00017	NO. OF CHARACTERS
03123	70000	LT	DM	NO	
03124	03127	PZE		*+3	RETURN ADDRESS
03125	20020	BR	DM	UN	

03126	01517	PZE		GENSOR	
03127	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
03130	01741	PZE		TABEND	END MOVE ADDRESS
03131	67015	CC	DM	LA	
03132	01733	PZE		TABBEG	START MOVE ADDRESS
03133	62000	LP	DM	NO	
03134	03310	PZE		LFT43A	MOVE TO ADDRESS
03135	32603	MV	IP	NV	
03136	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
03137	03150	PZE		**9	
03140	50400	SA	IM	NO	
03141	01234	PZE		SOUOEX	RETURN ADDRESS
03142	62000	LP	DM	NO	
03143	03300	PZE		LFT43	BEGIN PRINT ADDRESS
03144	75000	LA	DM	NO	
03145	03315	PZE		LFT43+13	END PRINT ADDRESS
03146	20020	BR	DM	UN	
03147	01133	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
03150	20020	BR	DM	UN	
03151	02677	PZE		LFT14	
03152	50400	LFT26 SA	IM C	NO	R
03153	02730	PZE		LFT16	CONTENTS OF BAD CELL
03154	64025	AT	DM H	CS	R
03155	71000	AM	DM C	NO	R
03156	60650	OCT		60650	
03157	50000	SA	DM C	NO	R
03160	66666	LFT27 OCT		66666	MINOR COUNT
03161	75405	LA	IM C	CS	R
03162	02664	PZE		LFT12	
03163	71000	AM	DM C	NO	R
03164	00050	OCT		00050	
03165	50400	SA	IM C	NO	R
03166	02664	PZE		LFT12	
03167	75000	LA	DM C	NO	R
03170	07200	OCT		07200	ADDRESS OF BAD CELL
03171	50400	SA	IM C	NO	R
03172	02725	PZE		LFT18	
03173	75000	LA	DM C	NO	R
03174	00001	OCT		00001	
03175	50400	SA	IM C	NO	R
03176	02575	PZE		LFT1	
03177	20020	BR	DM	UN	
03200	02731	PZE		LFT19	
03201	62000	LFT28 LP	DM C	NO	R NO TITLE TYPE
03202	00000	OCT		00000	

03203	70000		LT	DM C	NO	R
03204	00000		OCT		00000	
03205	75000		LA	DM C	NO	R
03206	00777		OCT		00777	
03207	20060		BR	DM F	UN	
03210	02617		PZE		LFT2	
03211	70400	LFT29	LT	IM C	NO	R
03212	02714		PZE		LFT17	
03213	75400		LA	IM C	NO	R
03214	02725		PZE		LFT18	
03215	60400		NO	IM C	NO	R
03216	02730		PZE		LFT16	
03217	43000		HP	DM C	NO	R
03220	10101		OCT		10101	
03221	20060		BR	DM F	UN	
03222	03223		PZE		*+1	
03223	75400		LA	IM	NO	
03224	02575		PZE		LFT1	
03225	20024		BR	DM	AZ	
03226	02677		PZE		LFT14	
03227	44075		ZE	DM B	LA	
03230	50400		SA	IM	NO	
03231	02575		PZE		LFT1	
03232	75400		LA	IM	NO	
03233	03160		PZE		LFT27	
03234	70400		LT	IM	NO	
03235	02664		PZE		LFT12	
03236	20060		BR	DM F	UN	
03237	02677		PZE		LFT14	
03240	20020	LFT30	BR	DM	UN	
03241	02160		PZE		EXITRD	RETURN TO MAIN PROGRAM
03242	32026	LFT40	OCT		32026	CR-LC-L
03243	63377		OCT		63377	O-W-UC
03244	56006		OCT		56006	SPACE-LC-F
03245	54361		OCT		54361	L-U-X
03246	77340		OCT		77340	UC-SPACE-LC
03247	75424		OCT		75424	T-E-S
03250	74000		OCT		74000	T-LC-LC
03251	32030	LFT41	OCT		32030	CR-LC-E
03252	22471		OCT		22471	R-R-O
03253	23767		OCT		23767	R-UC-SPACE
03254	00505		OCT		00505	LC-A-D
03255	12470		OCT		12470	D-R-E
03256	51237		OCT		51237	S-S-UC
03257	57367		OCT		57367	SPACE-SPACE-SPACE

03260	57367	LFT41A	OCT	57367	SPACE-SPACE-SPACE
03261	57367		OCT	57367	SPACE-SPACE-SPACE
03262	32012	LFT42	OCT	32012	CR-LC-A
03263	12251		OCT	12251	D-D-R
03264	61224		OCT	61224	E-S-S
03265	77340		OCT	77340	UC-SPACE-LC
03266	45460		OCT	45460	C-O-N
03267	75420		OCT	75420	T-E-N
03270	75237		OCT	75237	T-S-UC
03271	57367		OCT	57367	SPACE-SPACE-SPACE
03272	57367	LFT42A	OCT	57367	SPACE-SPACE-SPACE
03273	57367		OCT	57367	SPACE-SPACE-SPACE
03274	57367		OCT	57367	SPACE-SPACE-SPACE
03275	57367		OCT	57367	SPACE-SPACE-SPACE
03276	57367		OCT	57367	SPACE-SPACE-SPACE
03277	57367		OCT	57367	SPACE-SPACE-SPACE
03300	32036	LFT43	OCT	32036	CR-LC-T
03301	61236		OCT	61236	E-S-T
03302	77340		OCT	77340	UC-SPACE-LC
03303	57451		OCT	57451	W-O-R
03304	13767		OCT	13767	D-UC-SPACE
03305	57367		OCT	57367	SPACE-SPACE-SPACE
03306	57367		OCT	57367	SPACE-SPACE-SPACE
03307	57367		OCT	57367	SPACE-SPACE-SPACE
03310	57367	LFT43A	OCT	57367	SPACE-SPACE-SPACE
03311	57367		OCT	57367	SPACE-SPACE-SPACE
03312	57367		OCT	57367	SPACE-SPACE-SPACE
03313	57367		OCT	57367	SPACE-SPACE-SPACE
03314	57367		OCT	57367	SPACE-SPACE-SPACE
03315	57367		OCT	57367	SPACE-SPACE-SPACE
03316	32001	LFT44	OCT	32001	CR-LC-M
03317	21031		OCT	21031	I-N-O
03320	23767		OCT	23767	R-UC-SPACE
03321	01113		OCT	01113	LC-C-Y
03322	45330		OCT	45330	C-L-E
03323	77340		OCT	77340	UC-SPACE-LC
03324	45447		OCT	45447	C-O-U
03325	41737		OCT	41737	N-T-UC
03326	57367		OCT	57367	SPACE-SPACE-SPACE
03327	57367	LFT44A	OCT	57367	SPACE-SPACE-SPACE
03330	57367		OCT	57367	SPACE-SPACE-SPACE
03331	32001	LFT45	OCT	32001	CR-LC-M
03332	24231		OCT	24231	A-J-O
03333	23767		OCT	23767	R-UC-SPACE
03334	01113		OCT	01113	LC-C-Y

03335	45330	OCT	45330	C-L-E
03336	77340	OCT	77340	UC-SPACE-LC
03337	45447	OCT	45447	C-O-U
03340	41737	OCT	41737	N-T-UC
03341	57367	OCT	57367	SPACE-SPACE-SPACE
03342	57367	LFT45A OCT	57367	SPACE-SPACE-SPACE
03343	57367	OCT	57367	SPACE-SPACE-SPACE

		PAGE		HIGH CORE LOADER	
	17055		ORG	7725	
17055	75000	BCOV	LA DM C	NO	INHIBIT INTERRUPT TYPE 2
17056	17061		PZE	BCOV1	
17057	50101		SA DL	\$MIB	
17060	00500		IT IL	0	
17061	67015	BCOV1	CC DM	LA	
17062	17065		PZE	BCOV2	
17063	50107		SA DL	07	
17064	00506		IT IL	06	
17065	25110	BCOV2	CF DL	8	CHANNEL SELECT
17066	21010		EF DM	8	TIE COMMAND
17067	40001		OCT	40001	PAPER TAPE CONNECT
17070	27173	BCOV5	WI DL	\$RET	READ A CHAR
17071	75173		LA DL	\$RET	LOA REG A WITH A CHAR
17072	20427		BR IM	NQ	=
17073	77775		OCT	77775	CARRIAGE RETURN (OCT 02)
17074	17070		PZE	BCOV5	
17075	27173	BCOV7	WI DL	\$RET	READ A CHAR
17076	75173		LA DL	\$RET	LOAD CHAR INTO REG A
17077	20427		BR IM	NQ	=
17100	77744		OCT	77744	FIGS (OCT 33)
17101	17075		PZE	BCOV7	NO
17102	27173	BCOV8	WI DL	\$RET	READ A CHAR
17103	75173		LA DL	\$RET	LOA A CHAR INTO REG A
17104	20427		BR IM	NQ	NOT=
17105	77742		OCT	77742	Q ,OCT 35 .
17106	17075		PZE	BCOV7	BRANCH - NOT EQUAL
17107	27173	BCOV9	WI DL	\$RET	READ A CHAR
17110	75173		LA DL	\$RET	LOA A REG WITH THE CHAR
17111	20427		BR IM	NQ	=
17112	77740		OCT	77740	LETTERS (OCT 37)
17113	17075		PZE	BCOV7	BRANCH - NOT EQUAL
17114	27173	BCOV10	WI DL	\$RET	READ A CHAR
17115	75173		LA DL	\$RET	LOAD REG A WITH THE CHAR
17116	20426		BR IM	EQ	=
17117	77755		OCT	77755	D=OCT 22
17120	17126		PZE	BCOV11	
17121	20426		BR IM	EQ	
17122	77753		OCT	77753	IF S BRANCH
17123	17303		PZE	BCOV27	END
17124	20020		BR DM	UN	
17125	17075		PZE	BCOV7	START AGAIN
17126	27173	BCOV11	WI DL	\$RET	READ A CHAR



17127	75173		LA	DL	\$RET
17130	20427		BR	IM	NQ
17131	77754		OCT		77754
17132	17075		PZE		BCOV7
17133	27400	BCOV12	WI	IM	NO
17134	17246		PZE		BCOV30+1
17135	27173		WI	DL	\$RET
17136	27173		WI	DL	\$RET
17137	75173		LA	DL	\$RET
17140	20426		BR	IM	EQ
17141	77774		OCT		77774
17142	17075		PZE		BCOV7
17143	67015		CC	DM	LA
17144	17151		PZE		BCOV13
17145	50400		SA	IM	NO
17146	17332		PZE		BCONTC+2
17147	20020		BR	DM	UN
17150	17314		PZE		BCONTB
17151	11023	BCOV13	SO	DM S	L3
17152	50407		SA	IM	CC
17153	17164		PZE		BCOV14+1
17154	27173		WI	DL	\$RET
17155	75000		LA	DM	NO
17156	17163		PZE		BCOV14
17157	50400		SA	IM	NO
17160	17332		PZE		BCONTC+2
17161	20020		BR	DM	UN
17162	17314		PZE		BCONTB
17163	73000	BCOV14	AS	DM	NO
17164	00000		OCT		0
17165	67013		CC	DM	AS
17166	00001		OCT		1
17167	50400		SA	IM	NO
17170	17403		PZE		BCONZ
17171	44400		ZE	IM	NO
17172	17415		PZE		BCONY
17173	47407	BCOV15	RP	IM	CC
17174	17414		PZE		BCONZ1
17175	75162	BCOV16	LA	DL	\$AL
17176	50400		SA	IM	NO
17177	17212		PZE		BCOV19
17200	73400		AS	IM	NO
17201	17415		PZE		BCONY
17202	50400		SA	IM	NO
17203	17415		PZE		BCONY

LOADA A REG WITH THE CHAR

B= (OCT 23)  
 BRANCH - NOT EQUAL  
 READ CHECK SUM INDICATOR

FIGS  
 FIRST CHAR. OF NO. OF WORDS ON CARD

IS IT=9  
 PASS UP REMAINING WORDS  
 LOAD RETURN ADDRESS

STORE RETURN ADDRESS

PERFORM TABLE LOOK UP ON CHAR

XXX000={AL}  
 READ NEW CHAR

SET EXIT

NR OF WORDS/CARD COMPLEMENTED

44400

17204	27173	BCOV17	WI	DL	\$RET
17205	27173		WI	DL	\$RET
17206	47407		RP	IM	CC
17207	17414		PZE		BCONZ1
17210	75162	BCOV18	LA	DL	\$AL
17211	50400		SA	IM	NO
17212	00000	BCOV19	PZE		0
17213	52400		SE	IM	NO
17214	17212		PZE		BCOV19
17215	73400		AS	IM	NO
17216	17415		PZE		BCONY
17217	50400		SA	IM	NO
17220	17415		PZE		BCONY
17221	20032	BCOV20	BR	DM	CY
17222	17235		PZE		BCOV22
17223	75400	BCOV21	LA	IM	NO
17224	17403		PZE		BCONZ
17225	73000		AS	DM	NO
17226	00001		OCT		1
17227	20024		BR	DM	AZ
17230	17245		PZE		BCOV30
17231	50400		SA	IM	NO
17232	17403		PZE		BCONZ
17233	20020		BR	DM	UN
17234	17204		PZE		BCOV17
17235	75400	BCOV22	LA	IM	NO
17236	17415		PZE		BCONY
17237	73000		AS	DM	NO
17240	00001		OCT		1
17241	50400		SA	IM	NO
17242	17415		PZE		BCONY
17243	20020		BR	DM	UN
17244	17223		PZE		BCOV21
17245	67015	BCOV30	CC	DM	LA
17246	00000		PZE		0
17247	20427		BR	IM	NQ
17250	77773		OCT		77773
17251	17075		PZE		BCOV7
17252	27173	BCOV35	WI	DL	\$RET
17253	75173		LA	DL	\$RET
17254	20427		BR	IM	NQ
17255	77744		OCT		77744
17256	17252		PZE		BCOV35
17257	47407	BCOV23	RP	IM	CC
17260	17414		PZE		BCONZ1

SPACE  
FIGS

LOAD CONVERTED WORD  
STORE

INCREMENTED ADDRESS  
ADD TO CHECK SUM

STORE AT CHECK SUM LOCATION

CHECK CARRY  
YES, END-AROUND-CARRY  
NO, COUNT NR WDS/CARD

IS IT THE LAST WD ON CARD  
YES  
NO, STORE NR BACK

ADD 1 TO CHECK SUM

STORE CHECK SUM

RETURN TO LOOP

PERFORM CHECK SUM OR NOT  
  
(04=SPACE)  
NO  
READ A CHAR  
LOAD A REG WITH THE CHAR

IS IT FIGS

17261	75407	BCOV24	LA	IM	CC
17262	17415		PZE		BCONY
17263	50400		SA	IM	NO
17264	17267		PZE		BCOV25
17265	75162		LA	DL	\$AL
17266	20426		BR	IM	EQ
17267	00000	BCOV25	PZE		0
17270	17075		PZE		BCOV7
17271	21010	BCOV26	EF	DM	8
17272	40000		OCT		40000
17273	75400		LA	IM	NO
17274	17212		PZE		BCOV19
17275	20060		BR	DM F	UN
17276	17277		PZE		*+1
17277	21010		EF	DM	8
17300	40001		OCT		40001
17301	20020		BR	DM	UN
17302	17075		PZE		BCOV7
17303	27173	BCOV27	WI	DL	\$RET
17304	75173		LA	DL	\$RET
17305	20427		BR	IM	NQ
17306	77744		OCT		77744
17307	17303		PZE		BCOV27
17310	47407	BCOV28	RP	IM	CC
17311	17414		PZE		BCONZ1
17312	20020	BCOV29	BR	DM	UN
17313	17416		PZE		BCOV36
17314	20031	BCONTB	BR	DM	OV
17315	17316		PZE		*+1
17316	75173		LA	DL	\$RET
17317	67064		CC	DM B	AT
17320	75007		LA	DM	CC
17321	17415		PZE		BTABL+9
17322	66015		AP	DM	LA
17323	17404		PZE		BTABL
17324	36606		TB	IP	EQ
17325	20031		BR	DM	OV
17326	17333		PZE		BCONTD
17327	73000		AS	DM	NO
17330	60373	BCONTC	NAD		BTABL+1
17331	20020		BR	DM	UN
17332	00000		PZE		0
17333	21010	BCONTD	EF	DM	8
17334	40000		OCT		40000
17335	75000		LA	DM	NO

COMPLEMENT CHECK SUM

CHECK SUMS=

CHECK SUM THIS PROGRAM OBTAINED (COMP)  
YES, JUMP TO READ NEXT CARD  
ILLEGAL CHECK SUM

NEXT ADDRESS FOR STORAGE

LOAD A REG WITH THE CHAR

=FIGS  
NO

TURN OFF OVFL0

LOAD A WITH SEARCH WORD (03)  
(T)=\$RET (OCT 03) 77742  
LOAD P WITH LAST ADDRESS AND COMPLEMENT IT  
(P)=BTABL+9  
LOAD A WITH ADDRESS OF FIRST ENTRY IN TABLE  
(A)=BTABL  
DO TABLE SEARCH  
CHECK WHETHER EQUALITY FOUND OR NOT

EXIT (PRESET)  
ILLEGAL CHARA

17336	17353	PZE		BCOVW	
17337	50400	SA	IM	NO	
17340	17414	PZE		BCONZ1	
17341	75400	LA	IM	NO	
17342	17212	PZE		BCOV19	
17343	20060	BR	DM F	UN	
17344	17345	PZE		**+1	
17345	21010	EF	DM	8	
17346	40001	OCT		40001	
17347	20020	BR	DM	UN	
17350	17075	PZE		BCOV7	
17351	47407	RP	IM	CC	
17352	17414	PZE		BCONZ1	
17353	44162	BCOVW	ZE DL	\$AL	READ AND CONVERT, PACK A WORD
17354	75000	LA	DM	NO	LOAD NR TIMES TO SHIFT
17355	77773	OCT		77773	(4)
17356	50170	SA	DL	56	50170
17357	27173	BCOVW1	WI DL	\$RET	READ A CHAR
17360	67015	CC	DM	LA	
17361	17366	PZE		BCOVW2	LOAD RETURN ADDRESS
17362	50400	SA	IM	NO	
17363	17332	PZE		BCONTC+2	STORE RETURN ADDRESS
17364	20020	BR	DM	UN	
17365	17314	PZE		BCONTB	JUMP TO TABLE LOOK-UP
17366	73162	BCOVW2	AS DL	\$AL	
17367	50162	SA	DL	\$AL	
17370	75170	LA	DL	56	75170
17371	73000	AS	DM	NO	73000
17372	00001	OCT		1	00001
17373	50170	SA	DL	56	50170
17374	20024	BR	DM	AZ	IS WORD PACKED FULL
17375	17351	BCOVW3	PZE	BCOVW-2	
17376	75162	LA	DL	\$AL	NO
17377	11023	SO	DM S	L3	SHIFT LEFT 3 PLACES
17400	50162	SA	DL	\$AL	
17401	20020	BR	DM	UN	
17402	17357	PZE		BCOVW1	
17403	00000	BCONZ	PZE	0	NR WDS PER CARD
17404	00015	BTABL	OCT	15	0
17405	00035		OCT	35	1
17406	00031		OCT	31	2
17407	00020		OCT	20	3
17410	00012		OCT	12	4
17411	00001		OCT	01	5
17412	00025		OCT	25	6

17413	00034		OCT		34	7
17414	17353	BCONZ1	PZE		BCOVW	
17415	00000	BCONY	OCT		0	CHECK SUM ADDRESS
17416	75162	BCOV36	LA	DL	\$AL	
17417	50400		SA	IM	NO	
17420	17424		PZE		BCOV40	
17421	21010		EF	DM	8	
17422	40000		OCT		40000	
17423	20020	BCOV39	BR	DM	UN	
17424	00000	BCOV40	PZE		0	
17425	00620		END	S	MAIN	

**SECTION 2**

		PAGE	UPPER CORE	MEMORY TEST EXECUTIVE	
	07300		ORG	3776	
07300	75400	CMST	LA IM C	NO	
07301	00626		OCT	00626	
07302	50000		SA DM	NO	
07303	66666	TSWCH	OCT	66666	
07304	75400		LA IM	NO	
07305	02007		OCT	02007	
07306	50000		SA DM	NO	
07307	66666	TOSWCH	OCT	66666	
07310	50000		SA DM	NO	
07311	66666	AUXTSW	OCT	66666	
07312	75000		LA DM	NO	
07313	00001		OCT	1	
07314	50400		SA IM	NO	
07315	07344		PZE	FLAG	
07316	75400		LA IM	NO	
07317	01756		OCT	1756	
07320	50000		SA DM C	NO	00006
07321	66666	AAA	OCT	66666	00007
07322	20021		BR DM	AD	00008
07323	07327		PZE	AAA1	00009
07324	44075		ZE DM B	LA	
07325	50400		SA IM C	NO	R THEN STORED IN CYCLE
07326	07563		PZE	CYCOU	COUNT AND TEST
07327	20020	AAA1	BR DM	UN	00310
07330	17055		OCT	17055	00320
07331	75400	BB1	LA IM C	NO	00350
07332	07321		PZE	AAA	00435
07333	20021		BR DM	AD	00436
07334	07431		PZE	SENWIN	00437
07335	75400		LA IM C	NO	R IS THE PRELIMINARY TEST TO
07336	07311		PZE	AUXTSW	BE PERFORMED
07337	20021		BR DM	AD	00440
07340	07431		PZE	SENWIN	00450
07341	44015	PRLOOP	ZE DM C	LA	NO PRELIMINARY TEST
07342	66666		OCT	66666	PERFORM TEST
07343	50000		SA DM C	NO	R
07344	66666	FLAG	OCT	66666	SET FLAG (WAS THERE AN ERROR)
07345	20020		BR DM	UN	TO ZERO
07346	12574		PZE	PT	00460
07347	75400	EXPREL	LA IM C	NO	R EXIT FROM TEST
07350	07344		PZE	FLAG	TEST FLAG TO SEE IF STILL
07351	20024		BR DM	AZ	ZERO

07352	07357	PZE		PRECC	FLAG IS ZERO	00570
07353	75000	LA	DM C	NO	R FLAG NOT ZERO(ERROR)	00580
07354	07357	PZE		PRECC		00590
07355	20020	BR	DM	UN	GO TO SUBROUTINE TO READ IN	00600
07356	07371	PZE		SETCC	THE CYCLE COUNT	00610
07357	75400	PRECC	LA IM C	NO	R	00620
07360	07563	PZE		CYCOU	IS THE CYCLE COUNT ZERO	00630
07361	20024	BR	DM	AZ	YES	00640
07362	07431	PZE		SENWIN	R NO - REDUCE COUNT BY ONE	00650
07363	73000	AS	DM C	NO		00660
07364	77777	OCT		77777	R	00670
07365	50400	SA	IM C	NO		00680
07366	07563	PZE		CYCOU		00690
07367	20020	BR	DM	UN	GO TO START OF THE TEST TO	00700
07370	07341	PZE		PRLOOP	RERUN	00710
07371	50400	SETCC	SA IM C	NO	R SET UP FOR PRINTING THE	00720
07372	07430	PZE		EXITCC	MESSAGE TO THE OPERATOR	00730
07373	75400	LA	IM	NO		
07374	07563	PZE		CYCOU		
07375	20024	BR	DM	AZ		
07376	07401	PZE		*+3		
07377	20020	BR	DM	UN		
07400	07357	PZE		PRECC		
07401	75400	LA	IM C	NO	R FOR CYCLING	00740
07402	07303	PZE		TSWCH		
07403	20034	BR	DM	AN		
07404	07421	PZE		TYNOON	NO	00770
07405	21010	EF	DM	8		
07406	20002	OCT		20002		00830
07407	75000	LA	DM	NO		
07410	07421	PZE		TYNOON		
07411	50400	SA	IM	NO		
07412	07712	PZE		SOUDEX		
07413	75000	LA	DM	NO		
07414	07604	PZE		CYMES+16		
07415	62000	LP	DM	NO		
07416	07564	PZE		CYMES		
07417	20020	BR	DM	UN		
07420	07611	PZE		SOUO		
07421	20060	TYNOON	BR DM F	UN		
07422	07423	PZE		*+1		
07423	25122	CF	DL	18		
07424	75060	LA	DM B	NO		
07425	50400	SA	IM	NO		
07426	07563	PZE		CYCOU		



07427	20020		BR	DM	UN			00910
07430	66666	EXITCC	OCT		66666			00920
07431	75000	SENWIN	LA	DM C	NO			00970
07432	07512		PZE		CIRNOS			00980
07433	50400		SA	IM C	NO	R		00990
07434	07461		PZE		REXIT1			01000
07435	50400		SA	IM C	NO	R		01010
07436	07503		PZE		REXIT2			01020
07437	75000		LA	DM C	NO	R	ENTRANCE ADDRESS TO SENSE	01030
07440	12574		OCT		12574			
07441	50400		SA	IM C	NO	R		01050
07442	07467		PZE		ROUENT			01060
07443	20020		BR	DM	UN		GO TO SUBROUTINE TO CHECK IF	01070
07444	07445		PZE		TESTLP		TEST IS TO BE PERFORMED	01071
07445	20020	TESTLP	BR	DM	UN			01090
07446	17055		OCT		17055			
07447	75400	BB2	LA	IM C	NO			01110
07450	07321		PZE		AAA			01120
07451	20021		BR	DM	AD			01130
07452	07460		PZE		REXIT1-1			01140
07453	75400		LA	IM C	NO	R	LOAD SWITCH SETTINGS	01180
07454	07311		PZE		AUXTSW			01190
07455	11001		SD	DM S	R1	R	SHIFT RIGHT ONE	01200
07456	50400		SA	IM C	NO	R	STORE REVISED SETTINGS	01210
07457	07311		PZE		AUXTSW			01220
07460	20021		BR	DM	AD		IS THIS TEST TO BE PERFORMED	01230
07461	66666	REXIT1	OCT		66666		NO	01240
07462	44015	CYLOOP	ZE	DM C	LA	R	YES	01250
07463	66666		OCT		66666			01260
07464	50400		SA	IM C	NO	R	SET FLAG TO ZERO	01270
07465	07344		PZE		FLAG			01280
07466	20020		BR	DM	UN		PERFORM TEST	01290
07467	66666	ROUENT	OCT		66666			01300
07470	75400	EXITRO	LA	IM C	NO	R	EXIT FROM TEST	01310
07471	07344		PZE		FLAG		IS THE FLAG ZERO (NO ERROR)	01320
07472	20024		BR	DM	AZ			01330
07473	07500		PZE		TESTCC		YES	01340
07474	75000		LA	DM C	NO	R	NO	01350
07475	07500		PZE		TESTCC			01360
07476	20020		BR	DM	UN		GO TO ROUTINE TO READ IN THE	01370
07477	07371		PZE		SETCC		CYCLE COUNT FROM TOGGLE	01380
07500	75400	TESTCC	LA	IM C	NO	R	SWITCHES	01390
07501	07563		PZE		CYCOU		IS THE CYCLE COUNT ZERO	01400
07502	20024		BR	DM	AZ			01410
07503	66666	REXIT2	OCT		66666		YES-RETURN	01420

07504	73000		AS	DM C	NO	R	NO-DECREMENT COUNT BY ONE	01430
07505	77777		OCT		77777		STORE	01440
07506	50400		SA	IM C	NO	R		01450
07507	07563		PZE		CYCOU			01460
07510	20020		BR	DM	UN		AND RETURN TO REPEAT	01470
07511	07462		PZE		CYLOOP		TEST	01480
07512	75000	CIRNOS	LA	DM C	NO			01530
07513	07526		PZE		SENAMP		LINK TO NEXT ROUTINE	01540
07514	50400		SA	IM C	NO	R		01550
07515	07461		PZE		REXIT1		RETURN	01560
07516	50400		SA	IM C	NO	R		01570
07517	07503		PZE		REXIT2		RETURN	01580
07520	75000		LA	DM C	NO	R		01590
07521	12574		PZE		CNT		FIRST LOCATION OF CIRCUIT NOISE	01600
07522	50400		SA	IM C	NO	R	TEST	01610
07523	07467		PZE		ROUENT		GO TO SUBROUTINE TO SEE IF	01620
07524	20020		BR	DM	UN		TEST IS TO BE PERFORMED	01630
07525	07445		PZE		TESTLP			01640
07526	75000	SENAMP	LA	DM C	NO			01690
07527	07542		PZE		LOWFLX		LINK TO THE NEXT ROUTINE	01700
07530	50400		SA	IM C	NO	R	LOW FLUX TEST	01710
07531	07461		PZE		REXIT1			01720
07532	50400		SA	IM C	NO	R		01730
07533	07503		PZE		REXIT2			01740
07534	75000		LA	DM C	NO	R		01750
07535	12574		OCT		12574			
07536	50400		SA	IM C	NO	R	NOISE TEST	01770
07537	07467		PZE		ROUENT			01780
07540	20020		BR	DM	UN		GO TO SUBROUTINE TO SEE IF	01790
07541	07445		PZE		TESTLP		TEST IS TO BE PERFORMED	01800
07542	75000	LOWFLX	LA	DM C	NO			01850
07543	07556		PZE		TSTEST		LINK TO NEXT ROUTINE	01860
07544	50400		SA	IM C	NO	R	(ARE WE DONE)	01870
07545	07461		PZE		REXIT1			01880
07546	50400		SA	IM C	NO	R		01890
07547	07503		PZE		REXIT2			01900
07550	75000		LA	DM C	NO	R		01910
07551	12574		PZE		LFT		FIRST LOCATION OF LOW FLUX TEST	01920
07552	50400		SA	IM C	NO	R		01930
07553	07467		PZE		ROUENT			01940
07554	20020		BR	DM	UN		GO TO SUBROUTINE TO SEE IF	01950
07555	07445		PZE		TESTLP		TEST IS TO BE PERFORMED	01960
07556	20020	TSTEST	BR	DM	UN			
07557	17055		OCT		17055			
07560	20060	BB10	BR	DM F	UN			

07561	07560		PZE	*-1
07562	66666	TEST	OCT	66666
07563	66666	CYCOU	OCT	66666
07564	32016	CYMES	OCT	32016
07565	54522		OCT	54522
07566	61767		OCT	61767
07567	01113		OCT	01113
07570	45330		OCT	45330
07571	77340		OCT	77340
07572	45447		OCT	45447
07573	41737		OCT	41737
07574	56010		OCT	56010
07575	41767		OCT	41767
07576	01731		OCT	01731
07577	30626		OCT	30626
07600	61767		OCT	61767
07601	01227		OCT	01227
07602	21722		OCT	21722
07603	65424		OCT	65424
07604	32655		OCT	32655
07605	00000		OCT	0
07606	00000		OCT	0
07607	00000		OCT	0
07610	00000		OCT	0

01980  
03310

			PAGE		
07611	67100	SOU0	CC	DL	0
07612	50006		SA	DM C	AP
07613	66666	SOU01	OCT		66666
07614	50400		SA	IM C	NO
07615	07631		PZE		SOU02
07616	75400		LA	IM	NO
07617	07303		PZE		TSWCH
07620	20034		BR	DM	AN
07621	07711		PZE		SOUDEX-1
07622	21010		EF	DM	8
07623	40100		OCT		40100
07624	75000		LA	DM C	NO
07625	07716		PZE		SOUOC+3
07626	50400		SA	IM C	NO
07627	07713		PZE		SOUOC
07630	75400	SOU06	LA	IM C	NO
07631	66666	SOU02	OCT		66666
07632	52400		SE	IM C	NO
07633	07631		PZE		SOU02
07634	50006		SA	DM C	AP
07635	66666	SOU03	OCT		66666
07636	44075		ZE	DM B	LA
07637	11065		SO	DM D	L5
07640	50000		SA	DM C	NO
07641	66666	SOU04	OCT		66666
07642	11065		SO	DM D	L5
07643	50000		SA	DM C	NO
07644	66666	SOU05	OCT		66666
07645	75000		LA	DM	NO
07646	00037		OCT		37
07647	46400		XE	IM	NO
07650	07635		PZE		SOU03
07651	46400		XE	IM	NO
07652	07644		PZE		SOU05
07653	20031		BR	DM	OV
07654	07655		PZE		*+1
07655	75407		LA	IM	CC
07656	07641		PZE		SOU04
07657	47400		RP	IM	NO
07660	07713		PZE		SOUOC
07661	75407		LA	IM	CC
07662	07644		PZE		SOU05
07663	47400		RP	IM	NO
07664	07713		PZE		SOUOC

TIE TYPE WRITER

07665	75407	LA	IM	CC	
07666	07635	PZE		SOU03	
07667	47400	RP	IM	NO	
07670	07713	PZE		SOU0C	
07671	20033	BR	DM	TL	
07672	07671	PZE		*-1	
07673	75400	LA	IM C	NO	
07674	07631	PZE		SOU02	
07675	73400	AS	IM C	NO	
07676	07613	PZE		SOU01	
07677	20031	BR	DM	OV	
07700	07701	PZE		**1	
07701	20024	BR	DM	AZ	
07702	07705	PZE		**3	
07703	20020	BR	DM	UN	
07704	07630	PZE		SOU06	
07705	23000	WO	DM	NO	
07706	00004	PZE		4	
07707	21010	EF	DM	8	
07710	40100	OCT		40100	
07711	20020	BR	DM	UN	
07712	00000	SOU0EX PZE			EXIT
07713	07716	SOU0C PZE		**3	
07714	47400	RP	IM	NO	
07715	07713	PZE		SOU0C	
07716	20427	BR	IM	NQ	
07717	00000	PZE		0	
07720	07723	PZE		**3	
07721	44400	ZE	IM	NO	
07722	07733	PZE		SOU10	
07723	20427	BR	IM	NQ	
07724	00037	OCT		37	
07725	07732	PZE		SOU9	
07726	62000	LP	DM	NO	
07727	40000	OCT		40000	
07730	52400	SE	IM	NO	
07731	07733	PZE		SOU10	
07732	20430	SOU9 BR	IM	EN	
07733	00000	SOU10 PZE		0	
07734	10007	PZE		SOU14	
07735	70004	LT	DM	AT	
07736	10032	PZE		SOU0L	LETTERS
07737	62000	LP	DM	NO	
07740	67707	NAD		SOU0X+2	
07741	36606	TB	IP	EQ	

07742	20031		BR	DM	OV	
07743	07761		PZE		SOU11	FIGURES
07744	60013		NO	DM	AS	
07745	77777		OCT		77777	
07746	67335		CC	DA H	LA	
07747	20427		BR	IM	NQ	
07750	77762		OCT		77762	
07751	07754		PZE		**+3	NOT CR
07752	60060	SOU10A	NO	DM B	NO	
07753	60060		NO	DM B	NO	
07754	66013		AP	DM	AS	
07755	00040		PZE		32	
07756	23300		WO	DA	NO	
07757	20020		BR	DM	UN	
07760	07714		PZE		SOUOC+1	END OF LT
07761	23000	SOU11	WO	DM	NO	
07762	00033		OCT		33	
07763	75000		LA	DM	NO	
07764	07775		PZE		SOU12	
07765	62000		LP	DM	NO	
07766	67772		NAD		SOU13	
07767	36606		TB	IP	EQ	
07770	23300		WO	DA	NO	
07771	23000		WO	DM	NO	
07772	00037		OCT		37	
07773	20020		BR	DM	UN	
07774	07714		PZE		SOUOC+1	
07775	00002	SOU12	OCT		02	(
07776	00000		OCT		0	
07777	00036		OCT		36	)
10000	00023		OCT		23	
10001	00000		OCT		0	
10002	00011		OCT		11	
10003	00034		OCT		34	,
10004	00000		OCT		0	
10005	00006		OCT		06	
10006	00000	SOU13	OCT		0	
10007	70004	SOU14	LT	DM	AT	FIG
10010	10032		PZE		SOUOL	
10011	62000		LP	DM	NO	
10012	67704		NAD		SOUOX+5	
10013	36606		TB	IP	EQ	
10014	60013		NO	DM	AS	
10015	77777		OCT		77777	
10016	67335		CC	DA H	LA	

10017	20426	BR	IM	EQ	
10020	77762	OCT		77762	
10021	07752	PZE		SOU10A	
10022	75005	LA	DM	CS	
10023	10032	PZE		SOUOL	
10024	71000	AM	DM	NO	
10025	10127	PZE		SOUOF	
10026	42073	SP	DM B	AS	
10027	23300	WO	DA	NO	
10030	20020	BR	DM	UN	END DF FG.
10031	07714	PZE		SOUOC+1	
10032	00015	SOUOL	OCT	15	CR
10033	00000		OCT	0	LT
10034	00037		OCT	37	FG
10035	00012		OCT	12	A
10036	00035		OCT	35	B
10037	00022		OCT	22	C
10040	00005		OCT	05	D
10041	00030		OCT	30	E
10042	00006		OCT	06	F
10043	00014		OCT	14	G
10044	00032		OCT	32	H
10045	00010		OCT	10	I
10046	00004		OCT	04	J
10047	00025		OCT	25	K
10050	00026		OCT	26	L
10051	00001		OCT	01	M
10052	00020		OCT	20	N
10053	00031		OCT	31	O
10054	00016		OCT	16	P
10055	00033		OCT	33	Q
10056	00011		OCT	11	R
10057	00024		OCT	24	S
10060	00036		OCT	36	T
10061	00007		OCT	07	U
10062	00003		OCT	03	V
10063	00027		OCT	27	W
10064	00021		OCT	21	X
10065	00013		OCT	13	Y
10066	00017		OCT	17	Z
10067	00002	SOUOX	OCT	02	
10070	00023		OCT	23	
10071	00034		OCT	34	
10072	00002		OCT	02	CR
10073	00037		OCT	37	LT

10074	00033	OCT	33	FG
10075	00030	OCT	30	A
10076	00023	OCT	23	B
10077	00016	OCT	16	C
10100	00022	OCT	22	D
10101	00020	OCT	20	E
10102	00026	OCT	26	F
10103	00013	OCT	13	G
10104	00005	OCT	05	H
10105	00014	OCT	14	I
10106	00032	OCT	32	J
10107	00036	OCT	36	K
10110	00011	OCT	11	L
10111	00007	OCT	07	M
10112	00006	OCT	06	N
10113	00003	OCT	03	O
10114	00015	OCT	15	P
10115	00035	OCT	35	Q
10116	00012	OCT	12	R
10117	00024	OCT	24	S
10120	00001	OCT	01	T
10121	00034	OCT	34	U
10122	00017	OCT	17	V
10123	00031	OCT	31	W
10124	00027	OCT	27	X
10125	00025	OCT	25	Y
10126	00021	OCT	21	Z
10127	00002 / SOUOF	OCT	02	CR
10130	00037	OCT	37	LT
10131	00033	OCT	33	FG
10132	00017	OCT	17	*
10133	00004	OCT	04	SP
10134	00016	OCT	16	COLON
10135	00022	OCT	22	\$
10136	00004	OCT	04	SP
10137	00024	OCT	24	PERCENT
10140	00013	OCT	13	+
10141	00013	OCT	13	+
10142	00014	OCT	14	8
10143	00012	OCT	12	4
10144	00001	OCT	01	5
10145	00025	OCT	25	6
10146	00035	OCT	35	1
10147	00015	OCT	15	0
10150	00003	OCT	03	9



10151	00027	OCT	27	/
10152	00004	OCT	04	SP
10153	00004	OCT	04	SP
10154	00005	OCT	05	NUMBER
10155	00032	OCT	32	APOSTROPHE
10156	00034	OCT	34	7
10157	00016	OCT	16	COLON
10160	00004	OCT	04	
10161	00004	OCT	04	
10162	00030	OCT	30	-
10163	00021	OCT	21	PAREN
10164	00031	OCT	31	2
10165	00020	OCT	20	3
10166	00007	OCT	07	.
10167	00000	PZE		
10170	00000	PZE		
10171	00000	PZE		
10172	00000	PZE		

		PAGE			GENERATE SORBAN CODE FOR NUMBERS AND PACK
10173	62000	SOR0	LP DM	NO	
10174	00005		PZE	5	
10175	42000	GENSOR	SP DM	NO	GENERATE SOROBAN CODE FOR NUMBERS AND PACK
10176	66666	SOR1	OCT	66666	NO. OF CHARACTERS
10177	50400		SA IM	NO	
10200	10267		PZE	SOR5	INPUT WORD
10201	40400		ST IM	NO	
10202	10400		PZE	SOR16	RETURN ADDRESS
10203	75400		LA IM	NO	
10204	10176		PZE	SOR1	
10205	73000		AS DM	NO	
10206	77773		OCT	77773	
10207	20024		BR DM	AZ	
10210	10227		PZE	SOR2	5 CHARACTER BRANCH
10211	75007		LA DM	CC	
10212	10417		PZE	TABBEG+6	
10213	50400		SA IM	NO	
10214	10417		PZE	TABEND	
10215	75000		LA DM	NO	
10216	00006		OCT	00006	
10217	50400		SA IM	NO	
10220	10322		PZE	SOR10	
10221	75400		LA IM	NO	
10222	10420		PZE	SHIFTO	
10223	73000		AS DM	NO	
10224	00001		OCT	00001	
10225	20020		BR DM	UN	
10226	10243		PZE	SOR3	
10227	75007	SOR2	LA DM	CC	
10230	10413		PZE	TABBEG+2	
10231	50400		SA IM	NO	
10232	10417		PZE	TABEND	
10233	75000		LA DM	NO	
10234	00002		OCT	00002	
10235	50400		SA IM	NO	
10236	10322		PZE	SOR10	
10237	75400		LA IM	NO	
10240	10420		PZE	SHIFTO	
10241	73000		AS DM	NO	
10242	00003		OCT	00003	
10243	50400	SOR3	SA IM	NO	
10244	10270		PZE	SOR6	
10245	75000		LA DM	NO	

10246	10411		PZE		TABBEG
10247	50400		SA	IM	NO
10250	10334		PZE		SOR12
10251	75000		LA	DM	NO
10252	00002		OCT		00002
10253	50400		SA	IM	NO
10254	10303		PZE		SOR8
10255	75400		LA	IM	NO
10256	10176		PZE		SOR1
10257	50400		SA	IM	NO
10260	10357		PZE		SOR14+3
10261	75000		LA	DM	NO
10262	01740		OCT		01740
10263	50400		SA	IM	NO
10264	10277		PZE		SOR7
10265	44075	SOR4	ZE	DM B	LA
10266	62000		LP	DM	NO
10267	66666	SOR5	OCT		66666
10270	66666	SOR6	OCT		66666
10271	73000		AS	DM	NO
10272	10401		PZE		SORTAB
10273	64315		AT	DA	LA
10274	40400		ST	IM	NO
10275	10267		PZE		SOR5
10276	73000		AS	DM	NO
10277	66666	SOR7	OCT		66666
10300	50400		SA	IM	NO
10301	10277		PZE		*-2
10302	75000		LA	DM	NO
10303	66666	SOR8	OCT		66666
10304	73000		AS	DM	NO
10305	77777		OCT		77777
10306	20024		BR	DM	AZ
10307	10321		PZE		SOR9
10310	50400		SA	IM	NO
10311	10303		PZE		SOR8
10312	75400		LA	IM	NO
10313	10277		PZE		SOR7
10314	11025		SO	DM S	L5
10315	50400		SA	IM	NO
10316	10277		PZE		SOR7
10317	20020		BR	DM	UN
10320	10265		PZE		SOR4
10321	75000	SOR9	LA	DM	NO
10322	66666	SOR10	OCT		66666

10323	73000		AS	DM	NO
10324	77777		OCT		77777
10325	50400		SA	IM	NO
10326	10322		PZE		SOR10
10327	20024		BR	DM	AZ
10330	10354		PZE		SOR14
10331	75400	SOR11	LA	IM	NO
10332	10277		PZE		SOR7
10333	50400		SA	IM	NO
10334	66666	SOR12	OCT		66666
10335	52400		SE	IM	NO
10336	10334		PZE		*-2
10337	75400		LA	IM	NO
10340	10322		PZE		SOR10
10341	20024		BR	DM	AZ
10342	10374		PZE		SOR15
10343	75000		LA	DM	NO
10344	00003		OCT		00003
10345	50400		SA	IM	NO
10346	10303		PZE		SOR8
10347	44075		ZE	DM B	LA
10350	50400		SA	IM	NO
10351	10277		PZE		SOR7
10352	20020		BR	DM	UN
10353	10265		PZE		SOR4
10354	75000	SOR14	LA	DM	NO
10355	77773		OCT		77773
10356	73000		AS	DM	NO
10357	66666		OCT		66666
10360	20024		BR	DM	AZ
10361	10331		PZE		SOR11
10362	75400		LA	IM	NO
10363	10277		PZE		SOR7
10364	11012		SO	DM S	R10
10365	11032		SO	DM S	L10
10366	73000		AS	DM	NO
10367	01367		OCT		01367
10370	50400		SA	IM	NO
10371	10277		PZE		SOR7
10372	20020		BR	DM	UN
10373	10331		PZE		SOR11
10374	75400	SOR15	LA	IM	NO
10375	10411		PZE		TABBEG
10376	70200		LT	DP	NO
10377	20020		BR	DM	UN

10400	66666	SOR16	OCT	66666
10401	00020	SORTAB	OCT	20
10402	00001		OCT	01
10403	00002		OCT	02
10404	00023		OCT	23
10405	00004		OCT	04
10406	00025		OCT	25
10407	00026		OCT	26
10410	00007		OCT	07
10411	66666	TABBEG	OCT	66666
10412	66666		OCT	66666
10413	66666		OCT	66666
10414	66666		OCT	66666
10415	66666		OCT	66666
10416	66666		OCT	66666
10417	66666	TABEND	OCT	66666
10420	11060	SHIFTO	OCT	11060

FINAL EXIT  
 SOROBAN TYPEWRITER CODE TABLE

PACKED SOROBAN CODE

SHIFT LEFT ZERO INSTRUCTION

END GENERATE SOROBAN CODE FOR NUMBERS AND PACK

		PAGE	PRELIMINARY TEST	TOEVS
	12574		ORG 5500	
12574	75000	PT	LA DM C NO	R PRELIMINARY TEST
12575	00000		OCT 00000	
12576	50400		SA IM C NO	R
12577	07344		PZE FLAG	CORE MEMORY ERROR INDICATOR
12600	75400		LA IM C NO	R
12601	07303		PZE TSWCH	
12602	20034		BR DM AN	
12603	13050		PZE PT17	NO TYPE BRANCH
12604	25110		CF DL 8	
12605	21010		EF DM 8	
12606	20002		OCT 20002	
12607	75000		LA DM NO	LOAD REGISTERS FOR SOUO
12610	12621		PZE **9	
12611	50400		SA IM NO	
12612	07712		PZE SOUDEX	RETURN ADDRESS
12613	62000		LP DM NO	
12614	13072		PZE PT40	BEGIN PRINT ADDRESS
12615	75000		LA DM NO	
12616	13100		PZE PT40+6	END PRINT ADDRESS
12617	20020		BR DM UN	
12620	07611		PZE SOUO	UNPACK SOROBAN CODE AND PRINT
12621	75000	PT1	LA DM C NO	R
12622	00001		OCT 00001	INTERNAL CYCLE INDICATOR
12623	50400		SA IM C NO	R
12624	13035		PZE PT16	INTERNAL CYCLE INDICATOR
12625	75000		LA DM C NO	R
12626	00000		OCT 00000	INITIAL TEST WORD
12627	50400		SA IM C NO	R
12630	12636		PZE PT4	
12631	75000	PT2	LA DM C NO	R
12632	00000		OCT 00000	
12633	50400		SA IM C NO	R
12634	12640		PZE PT5	
12635	75000	PT3	LA DM C NO	R
12636	66666	PT4	OCT 66666	MODIFIED TEST WORD
12637	50400		SA IM C NO	R
12640	66666	PT5	OCT 66666	MODIFIED TEST AREA ADDRESS
12641	52415		SE IM C LA	R
12642	12640		PZE PT5	ADD ONE TO ADDS
12643	73000		AS DM C NO	R
12644	70600		OCT 70600	
12645	20024		BR DM AZ	

12646	12651	PZE		PT6	TEST AREA LOADED BRANCH
12647	20020	BR	DM	UN	
12650	12635	PZE		PT3	CONTINUE LOADING TEST AREA BRANCH
12651	75000	LA	DM C	NO	R
12652	00000	OCT		00000	
12653	50400	SA	IM C	NO	R
12654	12663	PZE		PT8	
12655	20031	BR	DM	OV	LOAD REGISTERS FOR TABLE SEARCH
12656	12657	PZE		*+1	
12657	75407	LA	IM C	CC	R
12660	12636	PZE		PT4	
12661	64020	AT	DM H	NO	R
12662	75000	LA	DM C	NO	R
12663	66666	OCT		66666	
12664	62000	LP	DM C	NO	R
12665	70576	OCT		70576	
12666	36607	TB	IP	NQ	TABLE SEARCH
12667	25120	CF	DL	16	
12670	64027	AT	DM H	CC	R
12671	50000	SA	DM C	NO	R
12672	66666	OCT		66666	TABLE SEARCH TEST WORD
12673	20031	BR	DM	OV	
12674	13034	PZE		PT15	TEST AREA OK BRANCH
12675	64020	AT	DM H	NO	R
12676	50400	SA	IM C	NO	R
12677	12663	PZE		PT8	CONTINUE TABLE SEARCH ADDRESS
12700	73000	AS	DM C	NO	R
12701	77777	OCT		77777	
12702	50000	SA	DM C	NO	R
12703	66666	OCT		66666	ADDRESS OF BAD CELL
12704	75300	LA	DA C	NO	
12705	50000	SA	DM	NO	
12706	66666	OCT		66666	CONTENTS OF BAD CELL
12707	75000	LA	DM C	NO	R
12710	00001	OCT		00001	
12711	50400	SA	IM C	NO	R
12712	07344	PZE		FLAG	CORE MEMORY INDICATOR
12713	75400	LA	IM C	NO	R
12714	07303	PZE		TSWCH	
12715	20034	BR	DM	AN	NO TYPE BRANCH
12716	13060	PZE		PT18	LOAD REGISTERS FOR GENSOR
12717	75400	LA	IM	NO	INPUT WORD FOR GENSOR
12720	12703	PZE		PT11	
12721	62000	LP	DM	NO	
12722	00005	OCT		00005	NO. OF CHARACTERS

12723	70000	LT	DM	NO
12724	12727	PZE		**+3
12725	20020	BR	DM	UN
12726	10175	PZE		SENSOR
12727	70400	LT	IM	NO
12730	10417	PZE		TABEND
12731	67015	CC	DM	LA
12732	10411	PZE		TABBEG
12733	62000	LP	DM	NO
12734	13110	PZE		PT41A
12735	32603	MV	IP	NV
12736	75000	LA	DM	NO
12737	12750	PZE		**+9
12740	50400	SA	IM	NO
12741	07712	PZE		SOUOEX
12742	62000	LP	DM	NO
12743	13101	PZE		PT41
12744	75000	LA	DM	NO
12745	13111	PZE		PT41+8
12746	20020	BR	DM	UN
12747	07611	PZE		SOUO
12750	75400	LA	IM	NO
12751	12706	PZE		PT9
12752	62000	LP	DM	NO
12753	00017	OCT		00017
12754	70000	LT	DM	NO
12755	12760	PZE		**+3
12756	20020	BR	DM	UN
12757	10175	PZE		SENSOR
12760	70400	LT	IM	NO
12761	10417	PZE		TABEND
12762	67015	CC	DM	LA
12763	10411	PZE		TABBEG
12764	62000	LP	DM	NO
12765	13122	PZE		PT42A
12766	32603	MV	IP	NV
12767	75000	LA	DM	NO
12770	13001	PZE		**+9
12771	50400	SA	IM	NO
12772	07712	PZE		SOUOEX
12773	62000	LP	DM	NO
12774	13112	PZE		PT42
12775	75000	LA	DM	NO
12776	13127	PZE		PT42+13
12777	20020	BR	DM	UN

RETURN ADDRESS

MOVE SENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS

UNPACK SOROBAN CODE AND PRINT  
LOAD REGISTERS FOR SENSOR  
INPUT WORD FOR SENSOR

NO. OF CHARACTERS

RETURN ADDRESS

MOVE SENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS



13000	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
13001	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
13002	12672	PZE		PT10	INPUT WORD FOR GENSOR
13003	62000	LP	DM	NO	
13004	00017	OCT		00017	NO. OF CHARACTERS
13005	70000	LT	DM	NO	
13006	13011	PZE		*+3	RETURN ADDRESS
13007	20020	BR	DM	UN	
13010	10175	PZE		GENSOR	
13011	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
13012	10417	PZE		TABEND	END MOVE ADDRESS
13013	67015	CC	DM	LA	
13014	10411	PZE		TABBEG	START MOVE ADDRESS
13015	62000	LP	DM	NO	
13016	13140	PZE		PT43A	MOVE TO ADDRESS
13017	32603	MV	IP	NV	
13020	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
13021	13032	PZE		*+9	
13022	50400	SA	IM	NO	RETURN ADDRESS
13023	07712	PZE		SOUOEX	
13024	62000	LP	DM	NO	BEGIN PRINT ADDRESS
13025	13130	PZE		PT43	
13026	75000	LA	DM	NO	END PRINT ADDRESS
13027	13145	PZE		PT43+13	
13030	20020	BR	DM	UN	UNPACK SOROBAN CODE AND PRINT
13031	07611	PZE		SOUO	
13032	20020	BR	DM	UN	CONTINUE TABLE SEARCH BRANCH
13033	12655	PZE		PT7	
13034	75000	LA	DM C	NO	R INTERNAL CYCLE INDICATOR
13035	66666	OCT		66666	
13036	20024	BR	DM	AZ	RETURN TO MAIN PROGRAM
13037	07347	PZE		EXPREL	
13040	44400	ZE	IM C	NO	R SET INTERNAL CYCLE INDICATOR
13041	13035	PZE		PT16	
13042	75000	LA	DM C	NO	R
13043	77777	OCT		77777	
13044	50400	SA	IM C	NO	R
13045	12636	PZE		PT4	SET SECOND CYCLE TEST WORD
13046	20020	BR	DM	UN	
13047	12631	PZE		PT2	RESET TEST AREA BRANCH
13050	62000	LP	DM C	NO	R NO TITLE TYPE
13051	00000	OCT		00000	
13052	70000	LT	DM C	NO	R
13053	00000	OCT		00000	
13054	75000	LA	DM C	NO	R

13055	70707		OCT		70707	
13056	20060		BR	DM F	UN	
13057	12621		PZE		PT1	
13060	70400	PT18	LT	IM C	NO	R
13061	12672		PZE		PT10	TEST WORD
13062	75400		LA	IM C	NO	R
13063	12703		PZE		PT11	BAD CELL
13064	60400		NO	IM C	NO	R
13065	12706		PZE		PT9	CONTENTS
13066	43000		HP	DM C	NO	R
13067	10101		OCT		10101	
13070	20060		BR	DM F	UN	
13071	12655		PZE		PT7	
13072	32016	PT40	OCT		32016	CR-LC-P
13073	23426		OCT		23426	R-E-L
13074	20050		OCT		20050	I-M-I
13075	40511		OCT		40511	N-A-R
13076	27767		OCT		27767	Y-UC-SPACE
13077	01730		OCT		01730	LC-T-E
13100	51700		OCT		51700	S-T-LC
13101	32030	PT41	OCT		32030	CR-LC-E
13102	22471		OCT		22471	R-R-O
13103	23767		OCT		23767	R-UC-SPACE
13104	00505		OCT		00505	LC-A-D
13105	12470		OCT		12470	D-R-E
13106	51237		OCT		51237	S-S-UC
13107	57367		OCT		57367	SPACE-SPACE-SPACE
13110	57367	PT41A	OCT		57367	SPACE-SPACE-SPACE
13111	57367		OCT		57367	SPACE-SPACE-SPACE
13112	32012	PT42	OCT		32012	CR-LC-A
13113	12251		OCT		12251	D-D-R
13114	61224		OCT		61224	E-S-S
13115	77340		OCT		77340	UC-SPACE-LC
13116	45460		OCT		45460	C-O-N
13117	75420		OCT		75420	T-E-N
13120	75237		OCT		75237	T-S-UC
13121	57367		OCT		57367	SPACE-SPACE-SPACE
13122	57367	PT42A	OCT		57367	SPACE-SPACE-SPACE
13123	57367		OCT		57367	SPACE-SPACE-SPACE
13124	57367		OCT		57367	SPACE-SPACE-SPACE
13125	57367		OCT		57367	SPACE-SPACE-SPACE
13126	57367		OCT		57367	SPACE-SPACE-SPACE
13127	57367		OCT		57367	SPACE-SPACE-SPACE
13130	32036	PT43	OCT		32036	CR-LC-T
13131	61236		OCT		61236	E-S-T

13132	77340		OCT	77340	UC-SPACE-LC
13133	57451		OCT	57451	W-O-R
13134	13767		OCT	13767	D-UC-SPACE
13135	57367		OCT	57367	SPACE-SPACE-SPACE
13136	57367		OCT	57367	SPACE-SPACE-SPACE
13137	57367		OCT	57367	SPACE-SPACE-SPACE
13140	57367	PT43A	OCT	57367	SPACE-SPACE-SPACE
13141	57367		OCT	57367	SPACE-SPACE-SPACE
13142	57367		OCT	57367	SPACE-SPACE-SPACE
13143	57367		OCT	57367	SPACE-SPACE-SPACE
13144	57367		OCT	57367	SPACE-SPACE-SPACE
13145	57367		OCT	57367	SPACE-SPACE-SPACE

		PAGE	DELTA NOISE TEST			
	12574		ORG 5500			
12574	75000	DL	LA DM C NO	R	DELTA NOISE TEST	0020
12575	52575		OCT 52575	R		0030
12576	50400		SA IM C NO	R		0040
12577	13175		PZE D001L			
12600	75400		LA IM NO			
12601	07303		PZE TSWCH			
12602	20034		BR DM AN			
12603	12606	LPNTL	PZE LPNTL+3			
12604	47400		RP IM NO			
12605	13221		PZE PNTL			
12606	44400		ZE IM NO			
12607	07344		PZE FLAG			
12610	75000		LA DM C NO	R		0060
12611	13146		PZE QL			
12612	50400		SA IM C NO	R		0080
12613	12675		PZE D002L			
12614	50400		SA IM C NO	R		0100
12615	12707		PZE D003L			
12616	50400		SA IM C NO	R		0080
12617	12733		PZE D004L			
12620	50400		SA IM C NO	R		0100
12621	12747		PZE D005L			
12622	50400		SA IM C NO	R	SET UP MEMORY	0140
12623	13040		PZE D008L			
12624	50400		SA IM C NO	R		0160
12625	13160		PZE D009L			
12626	47400		RP IM C NO	R	SET UP MEMORY	0180
12627	13014		PZE Q5L			
12630	75000		LA DM C NO	R	START SET UP FOR TESTING MEM.	0440
12631	25202		OCT 25202	R		0450
12632	50400		SA IM C NO	R		0460
12633	13175		PZE D001L			
12634	75000		LA DM C NO	R		0480
12635	13220		PZE Q4L			
12636	50400		SA IM C NO	R		0500
12637	12675		PZE D002L			
12640	50400		SA IM C NO	R		0520
12641	12707		PZE D003L			
12642	50400		SA IM C NO	R		0500
12643	12733		PZE D004L			
12644	50400		SA IM C NO	R		0520
12645	12747		PZE D005L			

12646	50400		SA	IM C	NO	R		0560
12647	13040		PZE		D008L			
12650	50400		SA	IM C	NO	R		0580
12651	13160		PZE		D009L			
12652	47400		RP	IM C	NO	R	TEST MEMORY	0600
12653	13014		PZE		Q5L			
12654	20020		BR	DM	UN			
12655	07470		PZE		EXITRO			
12656	47400		RP	IM C	NO	R		1010
12657	13014		PZE		Q5L			
12660	75000	DNTL	LA	DM	NO			
12661	00000		OCT		0			
12662	50400		SA	IM C	NO	R		1050
12663	13124		PZE		DN02L			
12664	75000		LA	DM C	NO	R	2600-3177	1090
12665	00200		OCT		200	R		1385
12666	50400		SA	IM C	NO	R		1110
12667	13032		PZE		DYL			
12670	75407		LA	IM C	CC	R		1130
12671	13175		PZE		D001L			
12672	50400		SA	IM C	NO	R		1150
12673	13175		PZE		D001L			
12674	47400		RP	IM C	NO	R		1170
12675	13146	D002L	PZE		QL			
12676	75000		LA	DM C	NO	R	4600-4777	1210
12677	00200		OCT		200	R		1220
12700	50400		SA	IM C	NO	R		1230
12701	13032		PZE		DYL			
12702	75407		LA	IM C	CC	R		1250
12703	13175		PZE		D001L			
12704	50400		SA	IM C	NO	R		1270
12705	13175		PZE		D001L			
12706	47400		RP	IM	NO	R		1290
12707	13146	D003L	PZE		QL			
12710	75000		LA	DM C	NO	R	6000-6177	1380
12711	00200		OCT		200	R		1381
12712	47400		RP	IM C	NO	R		1382
12713	13163		PZE		Q3L			
12714	75000		LA	DM C	NO	R	6200-6377	1384
12715	00400		OCT		400	R		1100
12716	47400		RP	IM C	NO	R		1390
12717	13163		PZE		Q3L			
12720	47400		RP	IM	NO	R	3200-4577	1190
12721	13065		PZE		Q1L			
12722	75000		LA	DM C	NO	R	2600-3177	1090

12723	00400	OCT		400	R		1100
12724	50400	SA	IM C	NO	R		1110
12725	13032	PZE		DYL			
12726	75407	LA	IM C	CC	R		1130
12727	13175	PZE		D001L			
12730	50400	SA	IM C	NO	R		1150
12731	13175	PZE		D001L			
12732	47400	RP	IM C	NO	R		1170
12733	13146	D004L PZE		QL			
12734	47400	RP	IM	NO	R	3200-4577	1190
12735	13065	PZE		Q1L			
12736	75000	LA	DM C	NO	R	4600-4777	1210
12737	00200	OCT		200	R		1220
12740	50400	SA	IM C	NO	R		1230
12741	13032	PZE		DYL			
12742	75407	LA	IM C	CC	R		1250
12743	13175	PZE		D001L			
12744	50400	SA	IM C	NO	R		1270
12745	13175	PZE		D001L			
12746	47400	RP	IM	NO	R		1290
12747	13146	D005L PZE		QL			
12750	75407	LA	IM C	CC	R	COMPLIMENT D001	1310
12751	13175	PZE		D001L			
12752	50400	SA	IM C	NO	R		1330
12753	13175	PZE		D001L			
12754	47400	RP	IM	NO	R	5000-5177	1350
12755	13116	PZE		Q2L			
12756	47400	RP	IM	NO	R	5200-5377	1370
12757	13116	PZE		Q2L			
12760	47400	RP	IM C	NO	R	5400-5577	1372
12761	13116	PZE		Q2L			
12762	47400	RP	IM C	NO	R	5600-5777	1374
12763	13116	PZE		Q2L			
12764	75000	LA	DM C	NO	R	6000-6177	1380
12765	00200	OCT		200	R		1381
12766	47400	RP	IM C	NO	R		1382
12767	13163	PZE		Q3L			
12770	75000	LA	DM C	NO	R	6200-6377	1384
12771	00200	OCT		200	R		1385
12772	47400	RP	IM C	NO	R		1390
12773	13163	PZE		Q3L			
12774	75000	LA	DM C	NO	R	6400-6577	1392
12775	00200	OCT		200	R		1393
12776	47400	RP	IM C	NO	R		1394
12777	13163	PZE		Q3L			

13000	75000		LA	DM C	NO	R	6600 6777	1396
13001	00200		OCT		200	R		1397
13002	47400		RP	IM C	NO	R		1398
13003	13163		PZE		Q3L	R		1400
13004	75407		LA	IM C	CC	R	7000-7177	1402
13005	13175		PZE		D001L			
13006	50400		SA	IM C	NO	R		1406
13007	13175		PZE		D001L			
13010	47400		RP	IM	NO	R		1412
13011	13116		PZE		Q2L			
13012	20020		BR	DM	UN			
13013	12656		PZE		DNTL-2			
13014	12660	Q5L	PZE		DNTL			
13015	47400		RP	IM C	NO	R		2010
13016	13065		PZE		Q1L			
13017	75000	DNT4L	LA	DM	NO			
13020	00003		PZE		3	R		2040
13021	50000		SA	DM C	NO	R		2050
13022	13022	DZL	PZE		DZL			
13023	75000	DNT1L	LA	DM	NO			
13024	00002		PZE		2	R		2080
13025	50000		SA	DM C	NO	R		2090
13026	13026	DXL	PZE		DXL			
13027	75000	DNT2L	LA	DM	NO			
13030	00200		PZE		128	R		2120
13031	50000		SA	DM C	NO	R		2130
13032	13032	DYL	PZE		DYL			
13033	75407		LA	IM C	CC	R	COMPLIMENT (D001)	2150
13034	13175		PZE		D001L			
13035	50400		SA	IM C	NO	R		2170
13036	13175		PZE		D001L			
13037	47400		RP	IM	NO	R	CALLING SEQ FOR DNT3	2190
13040	13146	D008L	PZE		QL			
13041	75400		LA	IM C	NO	R	REDUCE X BY 1	2210
13042	13026		PZE		DXL			
13043	73000		AS	DM C	NO	R		2230
13044	77777		OCT		77777			
13045	50407		SA	IM C	CC	R		
13046	13026		PZE		DXL			
13047	20427		BR	IM	NQ			
13050	00000		OCT		0			
13051	13027		PZE		DNT2L			
13052	75400		LA	IM C	NO	R	REDUCE Z BY 1	2300
13053	13022		PZE		DZL			
13054	73000		AS	DM C	NO	R		2320

13055	77777		OCT		77777			
13056	50407		SA	IM C	CC		R	
13057	13022		PZE		DZL			
13060	20427		BR	IM	NQ			
13061	00000		OCT		0			
13062	13023		PZE		DNT1L			
13063	20020		BR	DM	UN			
13064	13015		PZE		DNT4L-2			
13065	13017	Q1L	PZE		DNT4L			
13066	47400		RP	IM	NO		R	4010
13067	13116		PZE		Q2L			
13070	75000	DNT5L	LA	DM	NO			
13071	00030		PZE		24		R	4040
13072	47400		RP	IM	NO		R	4050
13073	13163		PZE		Q3L			
13074	75000		LA	DM C	NO		R	4070
13075	00010		PZE		8		R	4080
13076	47400		RP	IM	NO		R	4090
13077	13163		PZE		Q3L			
13100	75000		LA	DM C	NO		R	4110
13101	00070		PZE		56		R	4120
13102	47400		RP	IM	NO		R	4130
13103	13163		PZE		Q3L			
13104	75000		LA	DM C	NO		R	4150
13105	00010		PZE		8		R	4160
13106	47400		RP	IM	NO		R	4170
13107	13163		PZE		Q3L			
13110	75000		LA	DM C	NO		R	4190
13111	00040		PZE		32		R	4200
13112	47400		RP	IM	NO		R	4210
13113	13163		PZE		Q3L			
13114	20020		BR	DM	UN			
13115	13066		PZE		DNT5L-2			
13116	13070	Q2L	PZE		DNT5L			
13117	47400		RP	IM	NO		R	3010
13120	13146		PZE		QL			
13121	75400	DNT3L	LA	IM	NO			
13122	13175		PZE		D001L			
13123	50400		SA	IM C	NO		R	STORE A IN CORE
13124	13124	DN02L	PZE		DN02L			3050
13125	75400		LA	IM C	NO		R	ADD 1 TO DN02
13126	13124		PZE		DN02L			3070
13127	73000		AS	DM C	NO		R	3090
13130	00001		PZE		1		R	3100
13131	50400		SA	IM C	NO		R	3110



13132	13124		PZE		DN02L			
13133	75400		LA	IM C	NO	R	REDUCE Y BY 1	3130
13134	13032		PZE		DYL			
13135	73000		AS	DM C	NO	R		3150
13136	77777		OCT		77777			
13137	50407		SA	IM C	CC	R		
13140	13032		PZE		DYL			
13141	20427		BR	IM	NQ	R		
13142	00000		OCT		0			
13143	13121		PZE		DNT3L			
13144	20020		BR	DM	UN			
13145	13117		PZE		DNT3L-2			
13146	13121	QL	PZE		DNT3L			
13147	47400		RP	IM	NO	R		5010
13150	13163		PZE		Q3L			
13151	50400	DNT6L	SA	IM	NO			
13152	13032		PZE		DYL			
13153	75407		LA	IM C	CC	R		5050
13154	13175		PZE		D001L			
13155	50400		SA	IM C	NO	R		5070
13156	13175		PZE		D001L			
13157	47400		RP	IM	NO	R		5090
13160	13146	D009L	PZE		QL			
13161	20020		BR	DM	UN			
13162	13147		PZE		DNT6L-2			
13163	13151	Q3L	PZE		DNT6L			
13164	47400		RP	IM	NO	R		6010
13165	13220		PZE		Q4L			
13166	75400	DNT7L	LA	IM	NO			
13167	13124		PZE		DN02L			
13170	50400		SA	IM C	NO			6050
13171	13173		PZE		DNT7L+5			
13172	75400		LA	IM C	NO	R		6070
13173	13171		PZE		DNT7L+3			
13174	20427		BR	IM	NQ	R	INSERT FOUR INSTRUCTIONS	6090
13175	13175	D001L	PZE		D001L			
13176	13371		PZE		ES04L			
13177	75400	ES05L	LA	IM	NO			
13200	13124		PZE		DN02L			
13201	73000		AS	DM C	NO	R		6140
13202	00001		PZE		1	R		6150
13203	50400		SA	IM C	NO	R		6160
13204	13124		PZE		DN02L			
13205	75400		LA	IM C	NO	R		6180
13206	13032		PZE		DYL			

13207	73000		AS	DM	C	NO	R
13210	77777		OCT			77777	
13211	50407		SA	IM	C	CC	R
13212	13032		PZE			DYL	
13213	20427		BR	IM		NQ	
13214	00000		OCT			0	
13215	13166		PZE			DNT7L	
13216	20020		BR	DM		UN	
13217	13164		PZE			DNT7L-2	
13220	13166	Q4L	PZE			DNT7L	
13221	13224	PNTL	PZE			PNTL+3	
13222	47400		RP	IM		NO	
13223	13221		PZE			PNTL	
13224	25110		CF	DL		8	
13225	21010		EF	DM		8	
13226	20002		OCT			20002	
13227	75000		LA	DM		NO	PNT+6
13230	13222		PZE			PNTL+1	
13231	50400		SA	IM		NO	
13232	07712		PZE			SOUOEX	
13233	62000		LP	DM		NO	
13234	13241		PZE			ADDL	
13235	75000		LA	DM		NO	
13236	13250		PZE			ADDL+7	
13237	20020		BR	DM		UN	
13240	07611		PZE			SOUO	
13241	00655	ADDL	OCT			655	
13242	00270		OCT			00270	LC-D-E
13243	55712		OCT			55712	L-T-A
13244	77340		OCT			77340	UC-SP-LC
13245	41450		OCT			41450	N-O-I
13246	51437		OCT			51437	S-E-UC
13247	56036		OCT			56036	SP-LC-T
13250	61236		OCT			61236	E-S-T
13251	47400		RP	IM		NO	PRINT ROUTINE COMMON TO ALL 4 TESTS
13252	13270		PZE			PRINTL	
13253	62000	ERR04L	LP	DM		NO	
13254	00005		PZE			5	
13255	75400		LA	IM		NO	
13256	13124	ERR14L	PZE			DN02L	
13257	70000		LT	DM		NO	
13260	13263		PZE			RETURL	
13261	20020		BR	DM		UN	
13262	10173		PZE			SORO	
13263	75400	RETURL	LA	IM		NO	

13264	10411	PZE		TABBEG	
13265	70200	LT	DP	NO	RET+2
13266	20020	BR	DM	UN	
13267	13251	PZE		ERR04L-2	
13270	13253	PRINTL	PZE	ERR04L	
13271	13274	ERR4L	PZE	**+3	
13272	47400	RP	IM	NO	
13273	13271	PZE		ERR4L	
13274	25110	CF	DL	8	SET UP LOCATION NO. TITLE
13275	21010	EF	DM	8	
13276	20002	OCT		20002	
13277	75000	LA	DM	NO	SET UP LOCATION NO.
13300	13124	PZE		DN02L	
13301	50400	SA	IM	NO	
13302	13256	PZE		ERR14L	
13303	47400	RP	IM	NO	
13304	13270	PZE		PRINTL	
13305	50400	SA	IM	NO	
13306	13352	PZE		LADL+6	
13307	40200	ST	DP	NO	
13310	75000	LA	DM	NO	SET UP CONTENTS NO.
13311	13412	PZE		EESL	
13312	50400	SA	IM	NO	
13313	13256	PZE		ERR14L	
13314	47400	RP	IM	NO	
13315	13270	PZE		PRINTL	
13316	50400	SA	IM	NO	
13317	13360	PZE		LADAL+4	
13320	40200	ST	DP	NO	
13321	75000	LA	DM	NO	SET UP CASE NO
13322	13417	PZE		EEESL	
13323	50400	SA	IM	NO	
13324	13256	PZE		ERR14L	
13325	47400	RP	IM	NO	
13326	13270	PZE		PRINTL	
13327	50400	SA	IM	NO	
13330	13367	PZE		LADBL+5	
13331	40200	ST	DP	NO	
13332	75000	LA	DM	NO	
13333	13272	PZE		ERR4L+1	
13334	50400	SA	IM	NO	
13335	07712	PZE		SOUDEX	
13336	62000	LP	DM	NO	
13337	13344	PZE		LADL	
13340	75000	LA	DM	NO	

13341	13370		PZE		LADBL+6	
13342	20020		BR	DM	UN	
13343	07611		PZE		SOUO	
13344	32026	LADL	OCT		32026	CR-LC-L
13345	63112		OCT		63112	O-C-A
13346	74431		OCT		74431	T-I-O
13347	41767		OCT		41767	N-UC-A
13350	01031		OCT		01031	LC-N-O
13351	77627		OCT		77627	UC--SR
13352	57367		OCT		57367	SP
13353	57367		OCT		57367	SP
13354	32022	LADAL	OCT		32022	CR-LC-C
13355	63036		OCT		63036	O-N-T
13356	61036		OCT		61036	E-N-T
13357	51767		OCT		51767	S-UC-S
13360	57367		OCT		57367	SP
13361	57367		OCT		57367	SP
13362	32036	LADBL	OCT		32036	CR-LC-T
13363	61236		OCT		61236	E-S-T
13364	77340		OCT		77340	UC-SP-LC
13365	41477		OCT		41477	N-O-UC
13366	71377		OCT		71377	--SP-UC
13367	57367		OCT		57367	SP
13370	57367		OCT		57367	SP
13371	50400	ES04L	SA	IM	NO	
13372	13412		PZE		EESL	
13373	75000		LA	DM	NO	SET FLAG EQUAL 1
13374	00001		OCT		1	
13375	50400		SA	IM	NO	
13376	07344		PZE		FLAG	
13377	75400		LA	IM	NO	SET FLAG=1
13400	07303		PZE		TSWCH	
13401	20034		BR	DM	AN	
13402	13407		PZE		ESS04L	
13403	47400		RP	IM	NO	
13404	13271		PZE		ERR4L	
13405	20020		BR	DM	UN	
13406	13177		PZE		ES05L	
13407	75400	ESS04L	LA	IM	NO	
13410	13124		PZE		DN02L	
13411	62000		LP	DM	NO	
13412	00000	EESL	PZE			
13413	70000		LT	DM C	NO	6233
13414	00011		PZE		9	
13415	20060		BR	DM F	UN	6235

13416	13177		PZE	ES05L
13417	00011	EEESL	PZE	9

		PAGE	CORE MEMORY CIRCUIT NOISE TEST		TOEVS
	12574	ORG		5500	
12574	75000	CNT	LA DM C	NO	R CIRCUIT NOISE TEST
12575	00000	OCT		00000	
12576	50400	SA IM C		NO	R
12577	07344	PZE		FLAG	CORE MEMORY ERROR INDICATOR
12600	75400	LA IM C		NO	R
12601	07303	PZE		TSWCH	
12602	20034	BR DM		AN	
12603	13071	PZE		CNT19	NO TYPE BRANCH
12604	25110	CF DL		8	
12605	21010	EF DM		8	
12606	20002	OCT		20002	
12607	75000	LA DM		NO	LOAD REGISTERS FOR SOUD
12610	12621	PZE		*+9	
12611	50400	SA IM		NO	
12612	07712	PZE		SOUDEX	RETURN ADDRESS
12613	62000	LP DM		NO	
12614	13113	PZE		CNT40	BEGIN PRINT ADDRESS
12615	75000	LA DM		NO	
12616	13122	PZE		CNT40+7	END PRINT ADDRESS
12617	20020	BR DM		UN	
12620	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
12621	75000	CNT1	LA DM C	NO	R
12622	20034	OCT		20034	BRANCH INSTRUCTION
12623	50400	SA IM C		NO	R
12624	13043	PZE		CNT16	BIT TEST
12625	75000	LA DM C		NO	R
12626	00001	OCT		00001	INTERNAL CYCLE INDICATOR
12627	50400	SA IM C		NO	R
12630	13052	PZE		CNT18	INTERNAL CYCLE INDICATOR
12631	75000	LA DM C		NO	R
12632	40000	OCT		40000	INITIAL TEST WORD
12633	50400	SA IM C		NO	R
12634	12642	PZE		CNT4	
12635	75000	CNT2	LA DM C	NO	R
12636	00000	OCT		00000	
12637	50400	SA IM C		NO	R
12640	12644	PZE		CNT5	
12641	75000	CNT3	LA DM C	NO	R
12642	66666	CNT4	OCT	66666	MODIFIED TEST WORD
12643	50400	SA IM C		NO	R
12644	66666	CNT5	OCT	66666	MODIFIED TEST AREA ADDRESS
12645	52415	SE IM C		LA	R

12646	12644		PZE		CNT5		ADD ONE TO ADDS
12647	73000		AS	DM C	NO	R	
12650	70600		OCT		70600		
12651	20024		BR	DM	AZ		
12652	12655		PZE		CNT6		TEST AREA LOADED BRANCH
12653	20020		BR	DM	UN		
12654	12641		PZE		CNT3		CONTINUE LOADING TEST AREA BRANCH
12655	75000	CNT6	LA	DM C	NO	R	
12656	00000		OCT		00000		
12657	50400		SA	IM C	NO	R	
12660	12667		PZE		CNT8		
12661	20031	CNT7	BR	DM	OV		LOAD REGISTERS FOR TABLE SEARCH
12662	12663		PZE		**+1		
12663	75407		LA	IM C	CC	R	
12664	12642		PZE		CNT4		
12665	64020		AT	DM H	NO	R	
12666	75000		LA	DM C	NO	R	
12667	66666	CNT8	OCT		66666		
12670	62000		LP	DM C	NO	R	
12671	70576		OCT		70576		
12672	36607		TB	IP	NQ		TABLE SEARCH
12673	25120		CF	DL	16		
12674	64027		AT	DM H	CC	R	
12675	50000		SA	DM C	NO	R	
12676	66666	CNT10	OCT		66666		TABLE SEARCH TEST WORD
12677	20031		BR	DM	OV		
12700	13040		PZE		CNT15		TEST AREA OK BRANCH
12701	64020		AT	DM H	NO	R	
12702	50400		SA	IM C	NO	R	
12703	12667		PZE		CNT8		CONTINUE TABLE SEARCH ADDRESS
12704	73000		AS	DM C	NO	R	
12705	77777		OCT		77777		
12706	50000		SA	DM C	NO	R	
12707	66666	CNT11	OCT		66666		ADDRESS OF BAD CELL
12710	75300		LA	DA C	NO	R	
12711	50000		SA	DM	NO		
12712	66666	CNT9	OCT		66666		CONTENTS OF BAD CELL
12713	75000		LA	DM C	NO	R	
12714	00001		OCT		00001		
12715	50400		SA	IM C	NO	R	
12716	07344		PZE		FLAG		CORE MEMORY INDICATOR
12717	75400		LA	IM C	NO	R	
12720	07303		PZE		TSWCH		
12721	20034		BR	DM	AN		
12722	13101		PZE		CNT20		NO TYPE BRANCH

12723	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
12724	12707	PZE		CNT11	INPUT WORD FOR GENSOR
12725	62000	LP	DM	NO	
12726	00005	OCT		00005	NO. OF CHARACTERS
12727	70000	LT	DM	NO	
12730	12733	PZE		**3	RETURN ADDRESS
12731	20020	BR	DM	UN	
12732	10175	PZE		GENSOR	
12733	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
12734	10417	PZE		TABEND	END MOVE ADDRESS
12735	67015	CC	DM	LA	
12736	10411	PZE		TABBEG	START MOVE ADDRESS
12737	62000	LP	DM	NO	
12740	13132	PZE		CNT41A	MOVE TO ADDRESS
12741	32603	MV	IP	NV	
12742	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
12743	12754	PZE		**9	
12744	50400	SA	IM	NO	RETURN ADDRESS
12745	07712	PZE		SOUDEX	
12746	62000	LP	DM	NO	
12747	13123	PZE		CNT41	BEGIN PRINT ADDRESS
12750	75000	LA	DM	NO	
12751	13133	PZE		CNT41+8	END PRINT ADDRESS
12752	20020	BR	DM	UN	
12753	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
12754	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
12755	12712	PZE		CNT9	INPUT WORD FOR GENSOR
12756	62000	LP	DM	NO	
12757	00017	OCT		00017	NO. OF CHARACTERS
12760	70000	LT	DM	NO	
12761	12764	PZE		**3	RETURN ADDRESS
12762	20020	BR	DM	UN	
12763	10175	PZE		GENSOR	
12764	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
12765	10417	PZE		TABEND	END MOVE ADDRESS
12766	67015	CC	DM	LA	
12767	10411	PZE		TABBEG	START MOVE ADDRESS
12770	62000	LP	DM	NO	
12771	13144	PZE		CNT42A	MOVE TO ADDRESS
12772	32603	MV	IP	NV	
12773	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
12774	13005	PZE		**9	
12775	50400	SA	IM	NO	RETURN ADDRESS
12776	07712	PZE		SOUDEX	
12777	62000	LP	DM	NO	



13000	13134	PZE		CNT42	BEGIN PRINT ADDRESS
13001	75000	LA	DM	NO	
13002	13151	PZE		CNT42+13	END PRINT ADDRESS
13003	20020	BR	DM	UN	
13004	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
13005	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
13006	12676	PZE		CNT10	INPUT WORD FOR GENSOR
13007	62000	LP	DM	NO	
13010	00017	OCT		00017	NO. OF CHARACTERS
13011	70000	LT	DM	NO	
13012	13015	PZE		*+3	RETURN ADDRESS
13013	20020	BR	DM	UN	
13014	10175	PZE		GENSOR	
13015	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
13016	10417	PZE		TABEND	END MOVE ADDRESS
13017	67015	CC	DM	LA	
13020	10411	PZE		TABBEG	START MOVE ADDRESS
13021	62000	LP	DM	NO	
13022	13162	PZE		CNT43A	MOVE TO ADDRESS
13023	32603	MV	IP	NV	
13024	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
13025	13036	PZE		*+9	
13026	50400	SA	IM	NO	RETURN ADDRESS
13027	07712	PZE		SOUOEX	
13030	62000	LP	DM	NO	
13031	13152	PZE		CNT43	BEGIN PRINT ADDRESS
13032	75000	LA	DM	NO	
13033	13167	PZE		CNT43+13	END PRINT ADDRESS
13034	20020	BR	DM	UN	
13035	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
13036	20020	BR	DM	UN	
13037	12661	PZE		CNT7	CONTINUE TABLE SEARCH BRANCH
13040	75400	CNT15	LA	IM C	R NO
13041	12642	PZE		CNT4	
13042	03001	SC	DM S	R1	R MODIFY TEST WORD
13043	66666	CNT16	OCT	66666	
13044	13051	PZE		CNT17	COMPLETE SUBCYCLE BRANCH
13045	50400	SA	IM C	NO	R
13046	12642	PZE		CNT4	SET NEW TEST NUMBER
13047	20020	BR	DM	UN	
13050	12635	PZE		CNT2	
13051	75000	CNT17	LA	DM C	R NO
13052	66666	CNT18	OCT	66666	INTERNAL CYCLE INDICATOR
13053	20024	BR	DM	AZ	
13054	07470	PZE		EXITRO	RETURN TO MAIN PROGRAM

13055	44400		ZE	IM C	NO	R	
13056	13052		PZE		CNT18	R	SET INTERNAL CYCLE INDICATOR
13057	75000		LA	DM C	NO	R	
13060	20035		OCT		20035	R	SET BRANCH INSTRUCTION
13061	50400		SA	IM C	NO	R	
13062	13043		PZE		CNT16	R	
13063	75000		LA	DM C	NO	R	
13064	37777		OCT		37777	R	
13065	50400		SA	IM C	NO	R	
13066	12642		PZE		CNT4	R	SET SECOND CYCLE TEST WORD
13067	20020		BR	DM	UN	R	
13070	12635		PZE		CNT2	R	RESET TEST AREA BRANCH
13071	62000	CNT19	LP	DM C	NO	R	NO TITLE TYPE
13072	00000		OCT		00000	R	
13073	70000		LT	DM C	NO	R	
13074	00000		OCT		00000	R	
13075	75000		LA	DM C	NO	R	
13076	00707		OCT		00707	R	
13077	20060		BR	DM F	UN	R	
13100	12621		PZE		CNT1	R	
13101	70400	CNT20	LT	IM C	NO	R	TEST WORD
13102	12676		PZE		CNT10	R	
13103	75400		LA	IM C	NO	R	BAD CELL
13104	12707		PZE		CNT11	R	
13105	60400		NO	IM C	NO	R	CONTENTS
13106	12712		PZE		CNT9	R	
13107	43000		HP	DM C	NO	R	
13110	10101		OCT		10101	R	
13111	20060		BR	DM F	UN	R	
13112	12661		PZE		CNT7	R	
13113	32022	CNT40	OCT		32022	R	CR-LC-C
13114	20462		OCT		20462	R	I-R-C
13115	16436		OCT		16436	R	U-I-T
13116	77340		OCT		77340	R	UC-SPACE-LC
13117	41450		OCT		41450	R	N-D-I
13120	51437		OCT		51437	R	S-E-UC
13121	56036		OCT		56036	R	SPACE-LC-T
13122	61236		OCT		61236	R	E-S-T
13123	32030	CNT41	OCT		32030	R	CR-LC-E
13124	22471		OCT		22471	R	R-R-O
13125	23767		OCT		23767	R	R-UC-SPACE
13126	00505		OCT		00505	R	LC-A-D
13127	12470		OCT		12470	R	D-R-E
13130	51237		OCT		51237	R	S-S-UC
13131	57367		OCT		57367	R	SPACE-SPACE-SPACE

13132	57367	CNT41A	OCT	57367	SPACE-SPACE-SPACE
13133	57367		OCT	57367	SPACE-SPACE-SPACE
13134	32012	CNT42	OCT	32012	CR-LC-A
13135	12251		OCT	12251	D-D-R
13136	61224		OCT	61224	E-S-S
13137	77340		OCT	77340	UC-SPACE-LC
13140	45460		OCT	45460	C-O-N
13141	75420		OCT	75420	T-E-N
13142	75237		OCT	75237	T-S-UC
13143	57367		OCT	57367	SPACE-SPACE-SPACE
13144	57367	CNT42A	OCT	57367	SPACE-SPACE-SPACE
13145	57367		OCT	57367	SPACE-SPACE-SPACE
13146	57367		OCT	57367	SPACE-SPACE-SPACE
13147	57367		OCT	57367	SPACE-SPACE-SPACE
13150	57367		OCT	57367	SPACE-SPACE-SPACE
13151	57367		OCT	57367	SPACE-SPACE-SPACE
13152	32036	CNT43	OCT	32036	CR-LC-T
13153	61236		OCT	61236	E-S-T
13154	77340		OCT	77340	UC-SPACE-LC
13155	57451		OCT	57451	W-O-R
13156	13767		OCT	13767	D-UC-SPACE
13157	57367		OCT	57367	SPACE-SPACE-SPACE
13160	57367		OCT	57367	SPACE-SPACE-SPACE
13161	57367		OCT	57367	SPACE-SPACE-SPACE
13162	57367	CNT43A	OCT	57367	SPACE-SPACE-SPACE
13163	57367		OCT	57367	SPACE-SPACE-SPACE
13164	57367		OCT	57367	SPACE-SPACE-SPACE
13165	57367		OCT	57367	SPACE-SPACE-SPACE
13166	57367		OCT	57367	SPACE-SPACE-SPACE
13167	57367		OCT	57367	SPACE-SPACE-SPACE

		PAGE	SENSE	AMPLIFIER TEST		
	12574		ORG	5500		
12574	75000	D	LA	DM C NO	R	SENSE AMPLIFIER TEST
12575	52575		OCT	52575	R	
12576	50400		SA	IM C NO	R	0030
12577	13224		PZE	D001	R	0040
12600	75400		LA	IM NO		0050
12601	07303		PZE	TSWCH		
12602	20034		BR	DM AN		
12603	12606	LPNT	PZE	LPNT+3		
12604	47400		RP	IM NO		
12605	13632		PZE	PNT		PRINT TEST TITLE
12606	44400		ZE	IM NO		
12607	07344		PZE	FLAG		
12610	75000		LA	DM C NO	R	0060
12611	13144		PZE	Q	R	0070
12612	50400		SA	IM C NO	R	0080
12613	12724		PZE	D002	R	0090
12614	50400		SA	IM C NO	R	0100
12615	12736		PZE	D003	R	0110
12616	50400		SA	IM C NO	R	0080
12617	12762		PZE	D004		
12620	50400		SA	IM C NO	R	0100
12621	12776		PZE	D005		
12622	50400		SA	IM C NO	R	SET UP MEMORY
12623	13067		PZE	D008	R	0140
12624	50400		SA	IM C NO	R	0150
12625	13207		PZE	D009	R	0160
12626	47400		RP	IM C NO	R	0170
12627	13043		PZE	Q5	R	0180
12630	75000		LA	DM C NO		TEST ALL 1
12631	52575		OCT	52575		
12632	50400		SA	IM C NO		
12633	13224		PZE	D001		
12634	47400		RP	IM C NO		
12635	13324		PZE	Q501		
12636	75000		LA	DM C NO		TEST ALL 2
12637	25202		OCT	25202		
12640	50400		SA	IM C NO		
12641	13224		PZE	D001		
12642	47400		RP	IM C NO		
12643	13471		PZE	Q502		
12644	20020		BR	DM UN		
12645	07470		PZE	EXITRO		

12646	12651	Q400	PZE		Q400+3
12647	47400		RP	IM	NO
12650	12646		PZE		Q400
12651	50400		SA	IM	NO
12652	13122		PZE		DN02
12653	75000		LA	DM	NO
12654	00400		OCT		400
12655	47400		RP	IM	NO
12656	12674		PZE		Q301
12657	20020		BR	DM	UN
12660	12647		PZE		Q400+1
12661	12664	Q200	PZE		Q200+3
12662	47400		RP	IM	NO
12663	12661		PZE		Q200
12664	50400		SA	IM	NO
12665	13122		PZE		DN02
12666	75000		LA	DM	NO
12667	00200		OCT		200
12670	47400		RP	IM	NO
12671	12674		PZE		Q301
12672	20020		BR	DM	UN
12673	12662		PZE		Q200+1
12674	12677	Q301	PZE		Q301+3
12675	47400		RP	IM	NO
12676	12674		PZE		Q301
12677	50400		SA	IM	NO
12700	13061		PZE		DY
12701	47400		RP	IM	NO
12702	13247		PZE		Q4
12703	20020		BR	DM	UN
12704	12675		PZE		Q301+1
12705	47400		RP	IM C	NO
12706	13043		PZE		Q5
12707	75000	DNT	LA	DM C	NO
12710	00000		OCT		0
12711	50400		SA	IM C	NO
12712	13122		PZE		DN02
12713	75000		LA	DM C	NO
12714	00200		OCT		200
12715	50400		SA	IM C	NO
12716	13061		PZE		DY
12717	75407		LA	IM C	CC
12720	13224		PZE		D001
12721	50400		SA	IM C	NO
12722	13224		PZE		D001

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2600-3177

1010  
1020  
1030  
  
1050  
1060  
1090  
1385  
1110  
1120  
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1140  
1150  
1160

12723	47400		RP	IM C	NO	R		1170
12724	13144	D002	PZE		Q	R		1180
12725	75000		LA	DM C	NO	R	4600-4777	1210
12726	00200		OCT		200	R		1220
12727	50400		SA	IM C	NO	R		1230
12730	13061		PZE		DY	R		1240
12731	75407		LA	IM C	CC	R		1250
12732	13224		PZE		D001	R		1260
12733	50400		SA	IM C	NO	R		1270
12734	13224		PZE		D001	R		1280
12735	47400		RP	IM	NO	R		1290
12736	13144	D003	PZE		Q	R		1300
12737	75000		LA	DM C	NO	R	6000-6177	1380
12740	00200		OCT		200	R		1381
12741	47400		RP	IM C	NO	R		1382
12742	13212		PZE		Q3	R		1383
12743	75000		LA	DM C	NO	R	6200-6377	1384
12744	00400		OCT		400	R		1100
12745	47400		RP	IM C	NO	R		1390
12746	13212		PZE		Q3	R		1391
12747	47400		RP	IM	NO	R	3200-4577	1190
12750	13114		PZE		Q1	R		1200
12751	75000		LA	DM C	NO	R	2600-3177	1090
12752	00400		OCT		400	R		1100
12753	50400		SA	IM C	NO	R		1110
12754	13061		PZE		DY	R		1120
12755	75407		LA	IM C	CC	R		1130
12756	13224		PZE		D001	R		1140
12757	50400		SA	IM C	NO	R		1150
12760	13224		PZE		D001	R		1160
12761	47400		RP	IM C	NO	R		1170
12762	13144	D004	PZE		Q	R		
12763	47400		RP	IM	NO	R	3200-4577	1190
12764	13114		PZE		Q1	R		1200
12765	75000		LA	DM C	NO	R	4600-4777	1210
12766	00200		OCT		200	R		1220
12767	50400		SA	IM C	NO	R		1230
12770	13061		PZE		DY	R		1240
12771	75407		LA	IM C	CC	R		1250
12772	13224		PZE		D001	R		1260
12773	50400		SA	IM C	NO	R		1270
12774	13224		PZE		D001	R		1280
12775	47400		RP	IM	NO	R		1290
12776	13144	D005	PZE		Q	R		
12777	75407		LA	IM C	CC	R	COMPLIMENT D001	1310

13000	13224		PZE		D001	R		1320
13001	50400		SA	IM C	NO	R		1330
13002	13224		PZE		D001	R		1340
13003	47400		RP	IM	NO	R	5000-5177	1350
13004	13175		PZE		Q2	R		1360
13005	47400		RP	IM	NO	R	5200-5377	1370
13006	13175		PZE		Q2	R		1371
13007	47400		RP	IM C	NO	R	5400-5577	1372
13010	13175		PZE		Q2	R		1373
13011	47400		RP	IM C	NO	R	5600-5777	1374
13012	13175		PZE		Q2	R		1375
13013	75000		LA	DM C	NO	R	6000-6177	1380
13014	00200		OCT		200	R		1381
13015	47400		RP	IM C	NO	R		1382
13016	13212		PZE		Q3	R		1383
13017	75000		LA	DM C	NO	R	6200-6377	1384
13020	00200		OCT		200	R		1385
13021	47400		RP	IM C	NO	R		1390
13022	13212		PZE		Q3	R		1391
13023	75000		LA	DM C	NO	R	6400-6577	1392
13024	00200		OCT		200	R		1393
13025	47400		RP	IM C	NO	R		1394
13026	13212		PZE		Q3	R		1395
13027	75000		LA	DM C	NO	R	6600 6777	1396
13030	00200		OCT		200	R		1397
13031	47400		RP	IM C	NO	R		1398
13032	13212		PZE		Q3	R		1400
13033	75407		LA	IM C	CC	R	7000-7177	1402
13034	13224		PZE		D001	R		1404
13035	50400		SA	IM C	NO	R		1406
13036	13224		PZE		D001	R		1410
13037	47400		RP	IM	NO	R		1412
13040	13175		PZE		Q2	R		1414
13041	20020		BR	DM	UN			
13042	12705		PZE		DNT-2			
13043	12707	Q5	PZE		DNT			
13044	47400		RP	IM C	NO	R		2010
13045	13114		PZE		Q1	R		2020
13046	75000	DNT4	LA	DM C	NO	R	SET Z CNT T03	2030
13047	00003		PZE		3	R		2040
13050	50000		SA	DM C	NO	R		2050
13051	13051	DZ	PZE		DZ	R	Z CNT	2060
13052	75000	DNT1	LA	DM C	NO	R	SET X CNT	2070
13053	00002		PZE		2	R		2080
13054	50000		SA	DM C	NO	R		2090

13055	13055	DX	PZE		DX	R	X CNT	2100
13056	75000	DNT2	LA	DM C	NO	R	SET Y CNT	2110
13057	00200		PZE		128	R		2120
13060	50000		SA	DM C	NO	R		2130
13061	13061	DY	PZE		DY	R	Y CNT	2140
13062	75407		LA	IM C	CC	R	COMPLIMENT (D001)	2150
13063	13224		PZE		D001	R		2160
13064	50400		SA	IM C	NO	R		2170
13065	13224		PZE		D001	R		2180
13066	47400		RP	IM	NO	R	CALLING SEQ FOR DNT3	2190
13067	13144	D008	PZE		Q	R		2200
13070	75400		LA	IM C	NO	R	REDUCE X BY 1	2210
13071	13055		PZE		DX	R		2220
13072	73000		AS	DM C	NO	R		2230
13073	77777		OCT		77777			
13074	50407		SA	IM C	CC	R		
13075	13055		PZE		DX	R		2260
13076	20427		BR	IM	NQ			
13077	00000		OCT		0			
13100	13056		PZE		DNT2	R		2290
13101	75400		LA	IM C	NO	R	REDUCE Z BY 1	2300
13102	13051		PZE		DZ	R		2310
13103	73000		AS	DM C	NO	R		2320
13104	77777		OCT		77777			
13105	50407		SA	IM C	CC	R		
13106	13051		PZE		DZ	R		2350
13107	20427		BR	IM	NQ			
13110	00000		OCT		0			
13111	13052		PZE		DNT1	R		2380
13112	20020		BR	DM	UN			
13113	13044		PZE		DNT4-2	R		2400
13114	13046	Q1	PZE		DNT4	R		2410
13115	47400		RP	IM	NO	R		3010
13116	13144		PZE		Q	R		3020
13117	75400	DNT3	LA	IM C	NO	R	LOAD A	3030
13120	13224		PZE		D001	R		3040
13121	50400		SA	IM C	NO	R	STORE A IN CORE	3050
13122	13122	DN02	PZE		DN02	R	LOC IS PRESET	3060
13123	75400		LA	IM C	NO	R	ADD 1 TO DN02	3070
13124	13122		PZE		DN02	R		3080
13125	73000		AS	DM C	NO	R		3090
13126	00001		PZE		1	R		3100
13127	50400		SA	IM C	NO	R		3110
13130	13122		PZE		DN02	R		3120
13131	75400		LA	IM C	NO	R	REDUCE Y BY 1	3130



13132	13061		PZE		DY	R	3140
13133	73000		AS	DM C	NO	R	3150
13134	77777		OCT		77777		
13135	50407		SA	IM C	CC	R	
13136	13061		PZE		DY	R	3180
13137	20427		BR	IM	NQ	R	
13140	00000		OCT		0		
13141	13117		PZE		DNT3	R	3210
13142	20020		BR	DM	UN		
13143	13115		PZE		DNT3-2	R	3230
13144	13117	Q	PZE		DNT3	R	3240
13145	47400		RP	IM	NO	R	4010
13146	13175		PZE		Q2	R	4020
13147	75000	DNT5	LA	DM C	NO	R	4030
13150	00030		PZE		24	R	4040
13151	47400		RP	IM	NO	R	4050
13152	13212		PZE		Q3	R	4060
13153	75000		LA	DM C	NO	R	4070
13154	00010		PZE		8	R	4080
13155	47400		RP	IM	NO	R	4090
13156	13212		PZE		Q3	R	4100
13157	75000		LA	DM C	NO	R	4110
13160	00070		PZE		56	R	4120
13161	47400		RP	IM	NO	R	4130
13162	13212		PZE		Q3	R	4140
13163	75000		LA	DM C	NO	R	4150
13164	00010		PZE		8	R	4160
13165	47400		RP	IM	NO	R	4170
13166	13212		PZE		Q3	R	4180
13167	75000		LA	DM C	NO	R	4190
13170	00040		PZE		32	R	4200
13171	47400		RP	IM	NO	R	4210
13172	13212		PZE		Q3	R	4220
13173	20020		BR	DM	UN		
13174	13145		PZE		DNT5-2	R	4240
13175	13147	Q2	PZE		DNT5	R	4250
13176	47400		RP	IM	NO	R	5010
13177	13212		PZE		Q3	R	5020
13200	50400	DNT6	SA	IM C	NO	R	5030
13201	13061		PZE		DY	R	5040
13202	75407		LA	IM C	CC	R	5050
13203	13224		PZE		D001	R	5060
13204	50400		SA	IM C	NO	R	5070
13205	13224		PZE		D001	R	5080
13206	47400		RP	IM	NO	R	5090

13207	13144	D009	PZE		Q	R		5100
13210	20020		BR	DM	UN			
13211	13176		PZE		DNT6-2	R		5120
13212	13200	Q3	PZE		DNT6	R		5130
13213	47400		RP	IM	NO	R		6010
13214	13247		PZE		Q4	R		6020
13215	75400	DNT7	LA	IM	NO	R		6030
13216	13122		PZE		DN02	R	CURRENT MEM LOC BEING TESTED	6040
13217	50400		SA	IM C	NO			6050
13220	13222		PZE		DNT7+5			6060
13221	75400		LA	IM C	NO	R		6070
13222	13220		PZE		DNT7+3	R		6080
13223	20427		BR	IM	NQ	R	INSERT FOUR INSTRUCTIONS	6090
13224	13224	D001	PZE		D001	R	COMPLIMENT OF NO BEING TESTED	6100
13225	14003		PZE		ES04	R	NOT EQUAL GO TO ERROR SUB	6110
13226	75400	ES05	LA	IM C	NO	R		6120
13227	13122		PZE		DN02	R		6130
13230	73000		AS	DM C	NO	R		6140
13231	00001		PZE		1	R		6150
13232	50400		SA	IM C	NO	R		6160
13233	13122		PZE		DN02	R		6170
13234	75400		LA	IM C	NO	R		6180
13235	13061		PZE		DY	R		6190
13236	73000		AS	DM C	NO	R		6200
13237	77777		OCT		77777			
13240	50407		SA	IM C	CC	R		
13241	13061		PZE		DY	R		6230
13242	20427		BR	IM	NQ			
13243	00000		OCT		0			
13244	13215		PZE		DNT7	R		6260
13245	20020		BR	DM	UN			
13246	13213		PZE		DNT7-2	R		6280
13247	13215	Q4	PZE		DNT7	R		6290
13250	13253	Q10	PZE		Q10+3			
13251	47400		RP	IM	NO			
13252	13250		PZE		Q10			
13253	50400		SA	IM	NO			
13254	13122		PZE		DN02			
13255	75000		LA	DM	NO			
13256	00010		OCT		10			
13257	47400		RP	IM	NO			
13260	12674		PZE		Q301			
13261	20020		BR	DM	UN			
13262	13251		PZE		Q10+1			
13263	13266	Q70	PZE		Q70+3			

13264	47400		RP	IM	NO
13265	13263		PZE		Q70
13266	50400		SA	IM	NO
13267	13122		PZE		DN02
13270	75000		LA	DM	NO
13271	00070		OCT		70
13272	47400		RP	IM	NO
13273	12674		PZE		Q301
13274	20020		BR	DM	UN
13275	13264		PZE		Q70+1
13276	13301	Q40	PZE		Q40+3
13277	47400		RP	IM	NO
13300	13276		PZE		Q40
13301	50400		SA	IM	NO
13302	13122		PZE		DN02
13303	75000		LA	DM	NO
13304	00040		OCT		40
13305	47400		RP	IM	NO
13306	12674		PZE		Q301
13307	20020		BR	DM	UN
13310	13277		PZE		Q40+1
13311	13312	Q30	PZE		Q30+1
13312	47400		RP	IM	NO
13313	13311		PZE		Q30
13314	50400		SA	IM	NO
13315	13122		PZE		DN02
13316	75000		LA	DM	NO
13317	00030		OCT		30
13320	47400		RP	IM	NO
13321	12674		PZE		Q301
13322	20020		BR	DM	UN
13323	13312		PZE		Q30+1
13324	13327	Q501	PZE		Q501+3
13325	47400		RP	IM	NO
13326	13324		PZE		Q501
13327	75000		LA	DM	NO
13330	00000		OCT		0
13331	47400		RP	IM	NO
13332	12661		PZE		Q200
13333	75000		LA	DM	NO
13334	00400		OCT		400
13335	47400		RP	IM	NO
13336	12661		PZE		Q200
13337	75000		LA	DM	NO
13340	01200		OCT		1200

TEST 1

13341	47400	RP	IM	NO
13342	12661	PZE		Q200
13343	75000	LA	DM	NO
13344	01600	OCT		1600
13345	47400	RP	IM	NO
13346	12661	PZE		Q200
13347	75000	LA	DM	NO
13350	02200	OCT		2200
13351	47400	RP	IM	NO
13352	12661	PZE		Q200
13353	75000	LA	DM	NO
13354	02600	OCT		2600
13355	47400	RP	IM	NO
13356	12646	PZE		Q400
13357	75000	LA	DM	NO
13360	03400	OCT		3400
13361	47400	RP	IM	NO
13362	12661	PZE		Q200
13363	75000	LA	DM	NO
13364	04000	OCT		4000
13365	47400	RP	IM	NO
13366	12661	PZE		Q200
13367	75000	LA	DM	NO
13370	04400	OCT		4400
13371	47400	RP	IM	NO
13372	12661	PZE		Q200
13373	75000	LA	DM	NO
13374	05030	OCT		5030
13375	47400	RP	IM	NO
13376	13250	PZE		Q10
13377	75000	LA	DM	NO
13400	05130	OCT		5130
13401	47400	RP	IM	NO
13402	13250	PZE		Q10
13403	75000	LA	DM	NO
13404	05200	OCT		5200
13405	47400	RP	IM	NO
13406	13311	PZE		Q30
13407	75000	LA	DM	NO
13410	05240	OCT		5240
13411	47400	RP	IM	NO
13412	13263	PZE		Q70
13413	75000	LA	DM	NO
13414	05340	OCT		5340
13415	47400	RP	IM	NO

400

13416	13276	PZE	Q40
13417	75000	LA DM	NO
13420	05430	OCT	5430
13421	47400	RP IM	NO
13422	13250	PZE	Q10
13423	75000	LA DM	NO
13424	05530	OCT	5530
13425	47400	RP IM	NO
13426	13250	PZE	Q10
13427	75000	LA DM	NO
13430	05600	OCT	5600
13431	47400	RP IM	NO
13432	13311	PZE	Q30
13433	75000	LA DM	NO
13434	05640	OCT	5640
13435	47400	RP IM	NO
13436	13263	PZE	Q70
13437	75000	LA DM	NO
13440	05740	OCT	5740
13441	47400	RP IM	NO
13442	13276	PZE	Q40
13443	75000	LA DM	NO
13444	06200	OCT	6200
13445	47400	RP IM	NO
13446	12661	PZE	Q200
13447	75000	LA DM	NO
13450	06600	OCT	6600
13451	47400	RP IM	NO
13452	12661	PZE	Q200
13453	75000	LA DM	NO
13454	07000	OCT	7000
13455	47400	RP IM	NO
13456	13311	PZE	Q30
13457	75000	LA DM	NO
13460	07040	OCT	7040
13461	47400	RP IM	NO
13462	13263	PZE	Q70
13463	75000	LA DM	NO
13464	07140	OCT	7140
13465	47400	RP IM	NO
13466	13276	PZE	Q40
13467	20020	BR DM	UN
13470	13325	PZE	Q501+1
13471	13474	PZE	Q502+3
13472	47400	RP IM	NO

Q502

TEST 2

13473	13471	PZE	Q502
13474	75000	LA DM	NO
13475	00200	OCT	200
13476	47400	RP IM	NO
13477	12661	PZE	Q200
13500	75000	LA DM	NO
13501	00600	OCT	600
13502	47400	RP IM	NO
13503	12646	PZE	Q400
13504	75000	LA DM	NO
13505	01400	OCT	1400
13506	47400	RP IM	NO
13507	12661	PZE	Q200
13510	75000	LA DM	NO
13511	02000	OCT	2000
13512	47400	RP IM	NO
13513	12661	PZE	Q200
13514	75000	LA DM	NO
13515	02400	OCT	2400
13516	47400	RP IM	NO
13517	12661	PZE	Q200
13520	75000	LA DM	NO
13521	03200	OCT	3200
13522	47400	RP IM	NO
13523	12661	PZE	Q200
13524	75000	LA DM	NO
13525	03600	OCT	3600
13526	47400	RP IM	NO
13527	12661	PZE	Q200
13530	75000	LA DM	NO
13531	04200	OCT	4200
13532	47400	RP IM	NO
13533	12661	PZE	Q200
13534	75000	LA DM	NO
13535	04600	OCT	4600
13536	47400	RP IM	NO
13537	12661	PZE	Q200
13540	75000	LA DM	NO
13541	05000	OCT	5000
13542	47400	RP IM	NO
13543	13311	PZE	Q30
13544	75000	LA DM	NO
13545	05040	OCT	5040
13546	47400	RP IM	NO
13547	13263	PZE	Q70

13550	75000	LA	DM	NO
13551	05140	OCT		5140
13552	47400	RP	IM	NO
13553	13276	PZE		Q40
13554	75000	LA	DM	NO
13555	05230	OCT		5230
13556	47400	RP	IM	NO
13557	13250	PZE		Q10
13560	75000	LA	DM	NO
13561	05330	OCT		5330
13562	47400	RP	IM	NO
13563	13250	PZE		Q10
13564	75000	LA	DM	NO
13565	05400	OCT		5400
13566	47400	RP	IM	NO
13567	13311	PZE		Q30
13570	75000	LA	DM	NO
13571	05440	OCT		5440
13572	47400	RP	IM	NO
13573	13263	PZE		Q70
13574	75000	LA	DM	NO
13575	05540	OCT		5540
13576	47400	RP	IM	NO
13577	13276	PZE		Q40
13600	75000	LA	DM	NO
13601	05630	OCT		5630
13602	47400	RP	IM	NO
13603	13250	PZE		Q10
13604	75000	LA	DM	NO
13605	05730	OCT		5730
13606	47400	RP	IM	NO
13607	13250	PZE		Q10
13610	75000	LA	DM	NO
13611	06000	OCT		6000
13612	47400	RP	IM	NO
13613	12661	PZE		Q200
13614	75000	LA	DM	NO
13615	06400	OCT		6400
13616	47400	RP	IM	NO
13617	12661	PZE		Q200
13620	75000	LA	DM	NO
13621	07030	OCT		7030
13622	47400	RP	IM	NO
13623	13250	PZE		Q10
13624	75000	LA	DM	NO

13625	07130		OCT		7130	
13626	47400		RP	IM	NO	
13627	13250		PZE		Q10	
13630	20020		BR	DM	UN	
13631	13472		PZE		Q502+1	
13632	13635	PNT	PZE		PNT+3	PRINT SENSE AMPLIFIER TEST
13633	47400		RP	IM	NO	
13634	13632		PZE		PNT	
13635	25110		CF	DL	8	
13636	21010		EF	DM	8	
13637	20002		OCT		20002	
13640	75000		LA	DM	NO	PNT+6
13641	13633		PZE		PNT+1	
13642	50400		SA	IM	NO	
13643	07712		PZE		SOUDEX	
13644	62000		LP	DM	NO	
13645	13652		PZE		ADD	
13646	75000		LA	DM	NO	
13647	13662		PZE		ADD+8	
13650	20020		BR	DM	UN	
13651	07611		PZE		SOUO	
13652	00015	ADD	OCT		00015	
13653	51420		OCT		51420	S-E-N
13654	51437		OCT		51437	SP-LC-A
13655	56012		OCT		56012	M-P-L
13656	02726		OCT		02726	I-F-I
13657	20310		OCT		20310	E-R-UC
13660	60477		OCT		60477	SP-LC-T
13661	56036		OCT		56036	E-S-T
13662	61236		OCT		61236	
13663	47400		RP	IM	NO	PRINT ROUTINE COMMON TO ALL 4 TESTS
13664	13702		PZE		PRINT	
13665	62000	ERR04	LP	DM	NO	
13666	00005		PZE		5	
13667	75400		LA	IM	NO	
13670	13122	ERR14	PZE		DN02	
13671	70000		LT	DM	NO	
13672	13675		PZE		RETURN	
13673	20020		BR	DM	UN	
13674	10173		PZE		SORO	
13675	75400	RETURN	LA	IM	NO	
13676	10411		PZE		TABBEG	
13677	70200		LT	DP	NO	RET+2
13700	20020		BR	DM	UN	
13701	13663		PZE		ERR04-2	



13702	13665	PRINT	PZE	ERR04
13703	13706	ERR4	PZE	*+3
13704	47400		RP IM	NO
13705	13703		PZE	ERR4
13706	25110		CF DL	8
13707	21010		EF DM	8
13710	20002		OCT	20002
13711	75000		LA DM	NO
13712	13122		PZE	DN02
13713	50400		SA IM	NO
13714	13670		PZE	ERR14
13715	47400		RP IM	NO
13716	13702		PZE	PRINT
13717	50400		SA IM	NO
13720	13764		PZE	LAD+6
13721	40200		ST DP	NO
13722	75000		LA DM	NO
13723	14024		PZE	EES
13724	50400		SA IM	NO
13725	13670		PZE	ERR14
13726	47400		RP IM	NO
13727	13702		PZE	PRINT
13730	50400		SA IM	NO
13731	13772		PZE	LADA+4
13732	40200		ST DP	NO
13733	75000		LA DM	NO
13734	14031		PZE	EEES
13735	50400		SA IM	NO
13736	13670		PZE	ERR14
13737	47400		RP IM	NO
13740	13702		PZE	PRINT
13741	50400		SA IM	NO
13742	14001		PZE	LADB+5
13743	40200		ST DP	NO
13744	75000		LA DM	NO
13745	13704		PZE	ERR4+1
13746	50400		SA IM	NO
13747	07712		PZE	SOUDEX
13750	62000		LP DM	NO
13751	13756		PZE	LAD
13752	75000		LA DM	NO
13753	14002		PZE	LADB+6
13754	20020		BR DM	UN
13755	07611		PZE	SOUO
13756	32026	LAD	OCT	32026

SET UP LOCATION NO. TITLE

SET UP LOCATION NO.

SET UP CONTENTS NO.

SET UP CASE NO

CR-LC-L

13757	63112		OCT		63112	O-C-A	
13760	74431		OCT		74431	T-I-O	
13761	41767		OCT		41767	N-UC-A	
13762	01031		OCT		01031	LC-N-O	
13763	77627		OCT		77627	UC--SR	
13764	57367		OCT		57367	SP	
13765	57367		OCT		57367	SP	
13766	32022	LADA	OCT		32022	CR-LC-C	
13767	63036		OCT		63036	O-N-T	
13770	61036		OCT		61036	E-N-T	
13771	51767		OCT		51767	S-UC-S	
13772	57367		OCT		57367	SP	
13773	57367		OCT		57367	SP	
13774	32036	LADB	OCT		32036	CR-LC-T	
13775	61236		OCT		61236	E-S-T	
13776	77340		OCT		77340	UC-SP-LC	
13777	41477		OCT		41477	N-O-UC	
14000	71377		OCT		71377	--SP-UC	
14001	57367		OCT		57367	SP	
14002	57367		OCT		57367	SP	
14003	50400	ES04	SA	IM	NO	SENSE AMPLIFIER	
14004	14024		PZE		EES		
14005	75000		LA	DM	NO	SET FLAG EQUAL 1	
14006	00001		OCT		1		
14007	50400		SA	IM	NO		
14010	07344		PZE		FLAG		
14011	75400		LA	IM	NO	SET FLAG=1	
14012	07303		PZE		TSWCH		
14013	20034		BR	DM	AN		
14014	14021		PZE		ESS04		
14015	47400		RP	IM	NO		
14016	13703		PZE		ERR4		
14017	20020		BR	DM	UN		
14020	13226		PZE		ES05		
14021	75400	ESS04	LA	IM	NO		
14022	13122		PZE		DN02		6232
14023	62000		LP	DM	NO		
14024	00000	EES	PZE				
14025	70000		LT	DM C	NO		6233
14026	00011		PZE		9		
14027	20060		BR	DM F	UN		6235
14030	13226		PZE		ES05		
14031	00011	EEES	PZE		9		6260

		PAGE	CORE MEMORY LOW FLUX TEST		TOEVS
	12574		ORG	5500	
12574	75000	LFT	LA	DM C NO	R LOW FLUX TEST
12575	00000		OCT	00000	
12576	50400		SA	IM C NO	R
12577	07344		PZE	FLAG	CORE MEMORY ERROR INDICATOR
12600	44000		ZE	DM C NO	R
12601	00000	LFT1	OCT	00000	
12602	75400		LA	IM C NO	R
12603	07303		PZE	TSWCH	
12604	20034		BR	DM AN	
12605	13204		PZE	LFT28	NO TYPE BRANCH
12606	25110		CF	DL 8	
12607	21010		EF	DM 8	
12610	20002		OCT	20002	
12611	75000		LA	DM NO	LOAD REGISTERS FOR SOUD
12612	12623		PZE	**9	
12613	50400		SA	IM NO	
12614	07712		PZE	SOUDEX	RETURN ADDRESS
12615	62000		LP	DM NO	
12616	13245		PZE	LFT40	BEGIN PRINT ADDRESS
12617	75000		LA	DM NO	
12620	13253		PZE	LFT40+6	END PRINT ADDRESS
12621	20020		BR	DM UN	
12622	07611		PZE	SOUO	UNPACK SOROBAN CODE AND PRINT
12623	75000	LFT2	LA	DM C NO	R
12624	00000		OCT	00000	
12625	50400		SA	IM C NO	R
12626	12632		PZE	LFT5	
12627	75000	LFT3	LA	DM C NO	R LOAD TEST AREA WITH 77777
12630	77777	LFT4	OCT	77777	
12631	50400		SA	IM C NO	R
12632	66666	LFT5	OCT	66666	
12633	52415		SE	IM C LA	R
12634	12632		PZE	LFT5	
12635	73000		AS	DM C NO	R
12636	70600		OCT	70600	
12637	20024		BR	DM AZ	
12640	12643		PZE	LFT6	TEST AREA LOADED BRANCH
12641	20020		BR	DM UN	
12642	12627		PZE	LFT3	
12643	44400	LFT6	ZE	IM C NO	R LOAD 00000 AT 00000
12644	00000	LFT7	OCT	00000	
12645	75000		LA	DM C NO	R

12646	00050		OCT		00050
12647	50400	LFT8	SA	IM C	NO
12650	12670		PZE		LFT12
12651	75000		LA	DM C	NO
12652	60650		OCT		60650
12653	64415	LFT9	AT	IM C	LA
12654	00000		OCT		00000
12655	20024		BR	DM	AZ
12656	12661		PZE		LFT10
12657	20020		BR	DM	UN
12660	13155		PZE		LFT26
12661	64013	LFT10	AT	DM C	AS
12662	77777		OCT		77777
12663	20024		BR	DM	AZ
12664	12667		PZE		LFT11
12665	20020		BR	DM	UN
12666	12653		PZE		LFT9
12667	75000	LFT11	LA	DM C	NO
12670	66666	LFT12	OCT		66666
12671	73000		AS	DM C	NO
12672	77777		OCT		77777
12673	20024		BR	DM	AZ
12674	12677		PZE		LFT13
12675	20020		BR	DM	UN
12676	12647		PZE		LFT8
12677	75000	LFT13	LA	DM C	NO
12700	00001		OCT		00001
12701	50400		SA	IM C	NO
12702	12711		PZE		LFT15
12703	60207	LFT14	NO	DP C	CC
12704	20031		BR	DM	OV
12705	12706		PZE		*+1
12706	70000		LT	DM C	NO
12707	00000		OCT		00000
12710	75000		LA	DM C	NO
12711	66666	LFT15	OCT		66666
12712	62000		LP	DM C	NO
12713	70576		OCT		70576
12714	36607		TB	IP	NQ
12715	64027		AT	DM H	CC
12716	50000		SA	DM C	NO
12717	66666	LFT17	OCT		66666
12720	20031		BR	DM	OV
12721	13243		PZE		LFT30
12722	64020		AT	DM H	NO

MAJOR COUNT

R

MINOR COUNT

R

R

R

R

R

R

R

R

R

R

TABLE SEARCH

R

R

R

LOAD REGISTERS FOR TABLE SEARCH



13000	00017	OCT		00017
13001	70000	LT	DM	NO
13002	13005	PZE		*+3
13003	20020	BR	DM	UN
13004	10175	PZE		SENSOR
13005	70400	LT	IM	NO
13006	10417	PZE		TABEND
13007	67015	CC	DM	LA
13010	10411	PZE		TABBEG
13011	62000	LP	DM	NO
13012	13275	PZE		LFT42A
13013	32603	MV	IP	NV
13014	75000	LA	DM	NO
13015	13026	PZE		*+9
13016	50400	SA	IM	NO
13017	07712	PZE		SOUOEX
13020	62000	LP	DM	NO
13021	13265	PZE		LFT42
13022	75000	LA	DM	NO
13023	13302	PZE		LFT42+13
13024	20020	BR	DM	UN
13025	07611	PZE		SOUO
13026	75400	LA	IM C	NO
13027	12601	PZE		LFT1
13030	20024	BR	DM	AZ
13031	13122	PZE		LFT24
13032	75000	LA	DM C	NO
13033	00000	OCT		00000
13034	50400	SA	IM C	NO
13035	12601	PZE		LFT1
13036	75400	LA	IM	NO
13037	13163	PZE		LFT27
13040	62000	LP	DM	NO
13041	00005	OCT		00005
13042	70000	LT	DM	NO
13043	13046	PZE		*+3
13044	20020	BR	DM	UN
13045	10175	PZE		SENSOR
13046	70400	LT	IM	NO
13047	10417	PZE		TABEND
13050	67015	CC	DM	LA
13051	10411	PZE		TABBEG
13052	62000	LP	DM	NO
13053	13332	PZE		LFT44A
13054	32603	MV	IP	NV

NO. OF CHARACTERS

RETURN ADDRESS

MOVE SENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

LOAD REGISTERS FOR SOUO

RETURN ADDRESS

BEGIN PRINT ADDRESS

END PRINT ADDRESS

UNPACK SOROBAN CODE AND PRINT

R

NO LOW FLUX ERROR BRANCH  
ERROR AT 02600

R

R

LOAD REGISTERS FOR SENSOR  
INPUT WORD FOR SENSOR

NO. OF CHARACTERS

RETURN ADDRESS

MOVE SENSOR WORD TO OUTPUT  
END MOVE ADDRESS

START MOVE ADDRESS

MOVE TO ADDRESS

13055	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
13056	13067	PZE		*+9	
13057	50400	SA	IM	NO	
13060	07712	PZE		SOUDEX	RETURN ADDRESS
13061	62000	LP	DM	NO	
13062	13321	PZE		LFT44	BEGIN PRINT ADDRESS
13063	75000	LA	DM	NO	
13064	13333	PZE		LFT44+10	END PRINT ADDRESS
13065	20020	BR	DM	UN	
13066	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
13067	75400	LA	IM	NO	LOAD REGISTERS FOR GENSOR
13070	12670	PZE		LFT12	INPUT WORD FOR GENSOR
13071	62000	LP	DM	NO	
13072	00005	OCT		00005	NO. OF CHARACTERS
13073	70000	LT	DM	NO	
13074	13077	PZE		*+3	RETURN ADDRESS
13075	20020	BR	DM	UN	
13076	10175	PZE		GENSOR	
13077	70400	LT	IM	NO	MOVE GENSOR WORD TO OUTPUT
13100	10417	PZE		TABEND	END MOVE ADDRESS
13101	67015	CC	DM	LA	
13102	10411	PZE		TABBEG	START MOVE ADDRESS
13103	62000	LP	DM	NO	
13104	13345	PZE		LFT45A	MOVE TO ADDRESS
13105	32603	MV	IP	NV	
13106	75000	LA	DM	NO	LOAD REGISTERS FOR SOUO
13107	13120	PZE		*+9	
13110	50400	SA	IM	NO	
13111	07712	PZE		SOUDEX	RETURN ADDRESS
13112	62000	LP	DM	NO	
13113	13334	PZE		LFT45	BEGIN PRINT ADDRESS
13114	75000	LA	DM	NO	
13115	13346	PZE		LFT45+10	END PRINT ADDRESS
13116	20020	BR	DM	UN	
13117	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT
13120	20020	BR	DM	UN	
13121	12677	PZE		LFT13	
13122	75400	LFT24 LA	IM	NO	LOAD REGISTERS FOR GENSOR
13123	12717	PZE		LFT17	INPUT WORD FOR GENSOR
13124	62000	LP	DM	NO	
13125	00017	OCT		00017	NO. OF CHARACTERS
13126	70000	LT	DM	NO	
13127	13132	PZE		*+3	RETURN ADDRESS
13130	20020	BR	DM	UN	
13131	10175	PZE		GENSOR	

13132	70400	LT	IM	NO	MOVE SENSOR WORD TO OUTPUT	
13133	10417	PZE		TABEND	END MOVE ADDRESS	
13134	67015	CC	DM	LA		
13135	10411	PZE		TABBEG	START MOVE ADDRESS	
13136	62000	LP	DM	NO		
13137	13313	PZE		LFT43A	MOVE TO ADDRESS	
13140	32603	MV	IP	NV		
13141	75000	LA	DM	NO	LOAD REGISTERS FOR SOUD	
13142	13153	PZE		**+9		
13143	50400	SA	IM	NO		
13144	07712	PZE		SOUOEX	RETURN ADDRESS	
13145	62000	LP	DM	NO		
13146	13303	PZE		LFT43	BEGIN PRINT ADDRESS	
13147	75000	LA	DM	NO		
13150	13320	PZE		LFT43+13	END PRINT ADDRESS	
13151	20020	BR	DM	UN		
13152	07611	PZE		SOUO	UNPACK SOROBAN CODE AND PRINT	
13153	20020	BR	DM	UN		
13154	12703	PZE		LFT14	CONTINUE TABLE SEARCH BRANCH	
13155	50400	LFT26	SA	IM C	NO	R
13156	12733	PZE		LFT16	CONTENTS OF BAD CELL	
13157	64025	AT	DM H	CS		R
13160	71000	AM	DM C	NO		R
13161	60650	OCT		60650		
13162	50000	SA	DM C	NO		R
13163	66666	LFT27	OCT	66666	MINOR COUNT	
13164	75405	LA	IM C	CS		R
13165	12670	PZE		LFT12		
13166	71000	AM	DM C	NO		R
13167	00050	OCT		00050		
13170	50400	SA	IM C	NO		R
13171	12670	PZE		LFT12		
13172	75000	LA	DM C	NO		R
13173	00000	OCT		00000	ADDRESS OF BAD CELL	
13174	50400	SA	IM C	NO		R
13175	12730	PZE		LFT18		
13176	75000	LA	DM C	NO		R
13177	00001	OCT		00001		
13200	50400	SA	IM C	NO		R
13201	12601	PZE		LFT1		
13202	20020	BR	DM	UN		
13203	12734	PZE		LFT19		
13204	62000	LFT28	LP	DM C	NO	R
13205	00000	OCT		00000	NO TITLE TYPE	
13206	70000	LT	DM C	NO		R



13207	00000		OCT		00000	
13210	75000		LA	DM C	NO	R
13211	00777		OCT		00777	
13212	20060		BR	DM F	UN	
13213	12623		PZE		LFT2	
13214	70400	LFT29	LT	IM C	NO	R
13215	12717		PZE		LFT17	
13216	75400		LA	IM C	NO	R
13217	12730		PZE		LFT18	
13220	60400		NO	IM C	NO	R
13221	12733		PZE		LFT16	
13222	43000		HP	DM C	NO	R
13223	10101		OCT		10101	
13224	20060		BR	DM F	UN	
13225	13226		PZE		*+1	
13226	75400		LA	IM	NO	
13227	12601		PZE		LFT1	
13230	20024		BR	DM	AZ	
13231	12703		PZE		LFT14	
13232	44075		ZE	DM B	LA	
13233	50400		SA	IM	NO	
13234	12601		PZE		LFT1	
13235	75400		LA	IM	NO	
13236	13163		PZE		LFT27	
13237	70400		LT	IM	NO	
13240	12670		PZE		LFT12	
13241	20060		BR	DM F	UN	
13242	12703		PZE		LFT14	
13243	20020	LFT30	BR	DM	UN	
13244	07470		PZE		EXITRD	RETURN TO MAIN PROGRAM
13245	32026	LFT40	OCT		32026	CR-LC-L
13246	63377		OCT		63377	O-W-UC
13247	56006		OCT		56006	SPACE-LC-F
13250	54361		OCT		54361	L-U-X
13251	77340		OCT		77340	UC-SPACE-LC
13252	75424		OCT		75424	T-E-S
13253	74000		OCT		74000	T-LC-LC
13254	32030	LFT41	OCT		32030	CR-LC-E
13255	22471		OCT		22471	R-R-O
13256	23767		OCT		23767	R-UC-SPACE
13257	00505		OCT		00505	LC-A-D
13260	12470		OCT		12470	D-R-E
13261	51237		OCT		51237	S-S-UC
13262	57367		OCT		57367	SPACE-SPACE-SPACE
13263	57367	LFT41A	OCT		57367	SPACE-SPACE-SPACE

13264	57367		OCT	57367	SPACE-SPACE-SPACE
13265	32012	LFT42	OCT	32012	CR-LC-A
13266	12251		OCT	12251	D-D-R
13267	61224		OCT	61224	E-S-S
13270	77340		OCT	77340	UC-SPACE-LC
13271	45460		OCT	45460	C-D-N
13272	75420		OCT	75420	T-E-N
13273	75237		OCT	75237	T-S-UC
13274	57367		OCT	57367	SPACE-SPACE-SPACE
13275	57367	LFT42A	OCT	57367	SPACE-SPACE-SPACE
13276	57367		OCT	57367	SPACE-SPACE-SPACE
13277	57367		OCT	57367	SPACE-SPACE-SPACE
13300	57367		OCT	57367	SPACE-SPACE-SPACE
13301	57367		OCT	57367	SPACE-SPACE-SPACE
13302	57367		OCT	57367	SPACE-SPACE-SPACE
13303	32036	LFT43	OCT	32036	CR-LC-T
13304	61236		OCT	61236	E-S-T
13305	77340		OCT	77340	UC-SPACE-LC
13306	57451		OCT	57451	W-D-R
13307	13767		OCT	13767	D-UC-SPACE
13310	57367		OCT	57367	SPACE-SPACE-SPACE
13311	57367		OCT	57367	SPACE-SPACE-SPACE
13312	57367		OCT	57367	SPACE-SPACE-SPACE
13313	57367	LFT43A	OCT	57367	SPACE-SPACE-SPACE
13314	57367		OCT	57367	SPACE-SPACE-SPACE
13315	57367		OCT	57367	SPACE-SPACE-SPACE
13316	57367		OCT	57367	SPACE-SPACE-SPACE
13317	57367		OCT	57367	SPACE-SPACE-SPACE
13320	57367		OCT	57367	SPACE-SPACE-SPACE
13321	32001	LFT44	OCT	32001	CR-LC-M
13322	21031		OCT	21031	I-N-O
13323	23767		OCT	23767	R-UC-SPACE
13324	01113		OCT	01113	LC-C-Y
13325	45330		OCT	45330	C-L-E
13326	77340		OCT	77340	UC-SPACE-LC
13327	45447		OCT	45447	C-D-U
13330	41737		OCT	41737	N-T-UC
13331	57367		OCT	57367	SPACE-SPACE-SPACE
13332	57367	LFT44A	OCT	57367	SPACE-SPACE-SPACE
13333	57367		OCT	57367	SPACE-SPACE-SPACE
13334	32001	LFT45	OCT	32001	CR-LC-M
13335	24231		OCT	24231	A-J-O
13336	23767		OCT	23767	R-UC-SPACE
13337	01113		OCT	01113	LC-C-Y
13340	45330		OCT	45330	C-L-E

13341	77340	OCT	77340	UC-SPACE-LC
13342	45447	OCT	45447	C-D-U
13343	41737	OCT	41737	N-T-UC
13344	57367	OCT	57367	SPACE-SPACE-SPACE
13345	57367	LFT45A OCT	57367	SPACE-SPACE-SPACE
13346	57367	OCT	57367	SPACE-SPACE-SPACE
13347	07300	END	CMST	