

TEXT LISTING

068-000422-02

PROGRAM

MICRONOVA SC-MEMORY TEST

TEXT TAPE

097-000422-02

ABSTRACT

THE SC-MEMORY TEST CONSISTES OF A SERIES OF SC-MEMORY TESTS AND A SIMPLE SUPERVISER PROGRAM, THE DIAGNOSOTIC LINKER.

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*****
? NAME: MNSCMT.TX          PART NUMBER: 097-000422
? DESCRIPTION: MICKONOVA SC-MEMORY TEST
? REVISION HISTORY
? REVISION      DATE
? -----
?      00      12/03/76
?      01      06/24/77
?      02      08/31/79 CHANGES WERE MADE TO TEXT
?
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10002 .MAIN
01 MICRU-NOVA SC-MEMORY TEST
02 ABSTRACT
03 THE SC-MEMORY TEST CONSISTS OF A SERIES
04 OF SC-MEMORY TESTS AND A SIMPLE
05 SUPERVISOR PROGRAM. (THE DIAGNOSTIC LINKER)
06
07 THE DIAGNOSTIC LINKER IS A PROGRAM
08 DESIGNED TO "LINK" THE VARIETY OF
09 SC MEMORY TESTS.
10
11 MACHINE REQUIREMENTS
12 MICRO-NOVA PROCESSOR WITH 4 TO 32K OF
13 READ/WRITE MEMORY
14 (ALLONS FOR EXPANSTION IN 1K INCREMENTS
15 BUT MEMORY MUST BE CONTIGUOUS)
16
17 PREREQUISITES
18 SOFTWARE PREREQUISITES
19 THE MICRO-NOVA LOGIC TEST SHOULD HAVE
20 BEEN RUN BEFORE ATTEMPTING THIS TEST.
21
22 SWITCH SETTINGS
23 AUTO-SIZE AND GO START AND MANUAL SELECT/DELETE
24 OF TESTS OPTIONS ARE BOTH LOADED AT 200.

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;5.
ERROR DESCRIPTION
MOST ERRORS DETECTED BY EITHER
THE INDIVIDUAL TESTS OR
BY THE DIAGNOSTIC LINKER WILL
RESULT IN AN ERROR TYPEOUT. SOME
SMALL NUMBER OF HIGHLY IMPROBABLE
ERRORS MAY RESULT IN A PROGRAM HALT
IF THEY ARE OF A NATURE THAT THE LINKER
CAN'T RECOVER FROM AND LOGICALLY PROCEED,

;5.1
ERROR FORMAT
EACH TEST WILL OUTPUT AN UNIQUE ERROR
TYPEOUT INCLUDING TEST NAME, DATA ASSOCIATED
WITH ERROR, ERROR LOCATIONS, SCRATCH LIMITS
USED FOR THIS PASS OF THE TEST, AND THE
MEMORY LIMITS SELECTED TO BE EXERCISED
BY EITHER THE OPERATOR OR THE PROGRAM.

DEFINITION OF ERROR PRINTOUT TERMS:
C(X) = CONTENTS OF LOCATION X
LOC(X) = ADDRESS OF LOCATION X (LOGICAL OR PHYSICAL)
C/(X) = COMPLEMENT OF THE CONTENTS OF LOCATION X
SCRLO/HI= SCRATCH LIMITS OF THIS PASS OF THE TEST
          (LOGICAL OR PHYSICAL)
TSTLO/HI= SCRATCH LIMITS EXPRESSED IN DECIMAL 1K'S
PHSLO/HI= ENTERED, OR PROGRAM SELECTED, MEMORY LIMITS
          TO BE EXERCISED IN DECIMAL 1K'S.

EXAMPLES:
ERROR TYPE OUT
=====
GALPAT      C(X)      LOC(Y)      LOC(Y)
000000      000100      016010      017345
SCRLO/HI    7
TSTLO/HI    3
PHSLO/HI    31      TYPE ANY KEY

IF SW6E1 THE
TEST WILL HALT WAITING FOR
THE OPERATOR TO PRESS A KEY
ON THE CONSOLE

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; 6.0 PROGRAM INITIALIZE
THE DIAGNOSTIC LINKER INITIALIZES ITSELF
AND INDIVIDUAL TESTS IN THE FOLLOWING
SEQUENCE:
1. SYSTEM IS RESET.
2. ANY OTHER NECESSARY CONSTANTS
ARE INITIALIZED
3. MEMORY IS SIZED IN 1K INCREMENTS
FROM 0 TO 32K
4. LINKER THEN TYPES THE PROGRAM
NAME AND REVISION LEVEL, SYSTEM SIZE,
THE PROGRAM RUN LIST (AND WILL ALLOW THE
OPERATOR TO SELECT OR DELETE SPECIFIC TESTS
IF START WAS 206
6.1 OPTION SELECTION
IF THE PROGRAM WAS NOT AUTOSTARTED
(NOT LOC 200) THE LINKER WILL PRINT
"OPTIONS?" AND WAIT FOR A CARRIAGE RETURN
TO START EXECUTING THE TESTS.
THIS ALLOWS THE OPERATOR TO SET UP
THE KEY ENTRY OPTIONS INCLUDING
KEY "T" WHICH ALLOWS SETTING OF MEMORY
TEST AREA LIMITS.
6.2 PROGRAM EXECUTION
ONCE THE LINKER HAS COMPLETED ALL
INITIALIZATION THE FOLLOWING SERIES
OF OPERATIONS IS LOOPED THROUGH
1. LINKER SEARCHES THRU LIST OF TESTS
UNTIL IT FINDS ONE WHICH IS
NOT DELETED.
2. LINKER THEN SETS UP SEGMENT SIZE
BASED ON THE VALUE IN THE
PARAMETER TABLE FOR EACH TEST.
3. THE LINKER THEN SETS SCRLO AS THE
BEGINNING OF THE SEGMENT TO BE TESTED
AND SCRHI AS THE END OF THE SEGMENT.
4. THE LINKER RE-ENTERS THE TEST WITH
EACH SEGMENT UNTIL THE AREA SELECTED
HAS BEEN EXERCISED. AFTER COMPLETION
THE LINKER SEARCHES FOR ANOTHER TEST
IN THE SERIES.
5. AFTER SEVERAL PASSES OF EACH TEST
SELECTED THE LINKER WILL PRINT
"PASS XX" IF SWREG BIT 4 HAS NOT
BEEN SET.
6. IF PROGRAM WAS LOADED FROM DTOS WITH
EITHER CAT OR KITTEN IT WILL START
CAT/KITTEN AFTER FIRST "PASS".

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10009 .MAIN

0010 .MAIN

\*\*00000 TOTAL ERRORS, 00000 FIRST PASS ERRORS

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01 ? 7.6 GALPAT (SEGMENT MAX = 1)
02 ? THIS TEST DOESN'T RUN ON AN AUTOSTART.
03 ?
04 ?
05 ? THIS TEST CHECKS ADDRESSING, INTERACTION
06 ? BETWEEN BITS, AND PATTERN AND SEQUENCE
07 ? DEPENDENCY FOR TRANSIENT PERFORMANCE.
08 ?
09 ? THIS TEST EITHER USES RANDOM DATA OR ALL ONES
10 ? (SEE KEY OPTION "Q")
11 ?
12 ? A BACKGROUND PATTERN IS WRITTEN THRU-OUT
13 ? MEMORY. THEN STARTING AT THE FIRST LOCATION,
14 ? A TEST WORD IS WRITTEN(COMPLEMENT OF
15 ? BACKGROUND).
16 ? MEMORY IS THEN READ IN ALL LOCATIONS IN THE
17 ? FOLLOWING SEQUENCE: BACKGROUND, TEST WORD
18 ? NEXT BACKGROUND, TEST WORD, NEXT
19 ? BACKGROUND, ETC.
20 ? AFTER COMPLETION OF A PASS FROM SCRLO TO
21 ? SCRHI, THE TEST WORD IS MOVED TO THE
22 ? NEXT SEQUENTIAL LOCATION AND THE
23 ? PROCESS OF READING REPEATED.
24 ? THIS CONTINUES UNTIL THE TEST WORD HAS
25 ? BEEN LOCATED IN EVERY MEMORY LOCATION
26 ? FROM SCRLO TO SCRHI.
27 ?
28 ? AT COMPLETION,THE ABOVE SEQUENCE IS
29 ? REPEATED USING A COMPLEMENTED PATTERN.
30 ?
31 ? FOR SAKE OF TYPEOUTS:
32 ? LOC(X) = TEST WORD LOCATION
33 ? LOC(Y) = BACKGROUND LOCATION
34 ?
35 ?
36 ? 7.7 GALWREC (SEGMENT MAX = 1)
37 ?
38 ? THIS TEST DOESN'T RUN ON AN AUTOSTART.
39 ?
40 ? THIS TEST CHECKS ALL POSSIBLE WRITES
41 ? FOLLOWED BY READS AT DIFFERENT LOCATIONS
42 ?
43 ? THIS TEST EITHER USES RANDOM DATA OR ALL ONES
44 ? (SEE KEY OPTION "Q")
45 ?
46 ? A BACKGROUND PATTERN(B) IS WRITTEN THRU-
47 ? OUT MEMORY. EVERY PAIR OF ADDRESSES ARE
48 ? THEN CHECKED IN THE FOLLOWING MANNER,
49 ? STARTING WITH THE FIRST LOCATION,LOC(X):
50 ? WRITE 1(INVERTED B) IN LOC(Y)=(X+1),READ
51 ? B IN LOC(X),WRITE B IN LOC(Y),
52 ? READ B IN LOC(X),WRITE T IN LOC(Y)=(Y+1)
53 ? READ B IN LOC(X),ETC.
54 ?
55 ? AFTER ALL LOC. HAVE BEEN CHECKED IN
56 ? RELATION TO LOCATION ONE(X),THE SEQUENCE IS
57 ? REPEATED WITH RESPECT TO LOC(X)=(X+1), ETC.
58 ?
59 ? AT COMPLETION, THE ABOVE SEQUENCE IS
60 ? REPEATED USING A COMPLEMENTED PATTERN.

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