

IDENTIFICATION

PRODUCT CODE: MAINDEC-15-D5MB-D
PRODUCT NAME: RP12 INSTRUCTION TEST
DATE CREATED: NOVEMBER 24, 1971
MAINTAINER: DIAGNOSTIC GROUP
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1. ABSTRACT

THE RP15 INSTRUCTION TEST UTILIZES THE SELF-CONTAINED MAINTENANCE HARDWARE WHICH THE RP15 CONTROL PROVIDES. IT PROVIDES FOR THE OFF LINE TESTING OF DATA TRANSFER PATHS AS WELL AS TESTING BASIC CIRCUITRY.

IMPORTANT NOTE:

TESTS 4 AND 23 (NORMAL/FORMAT SW AND LOCKOUT FUNCTION TESTS RESPECTIVELY) SHOULD BE RUN INDIVIDUALLY, USING THE AC SWITCH 0 OPTION, IN ORDER TO ALLOW TIME FOR THE OPERATOR TO SET AND TEST EVERY COMBINATION OF THE SWITCHES. A COMPREHENSIVE TEST OF THESE SWITCHES CANNOT BE PERFORMED DURING THE AUTOMATIC CYCLING OF THE PROGRAM BECAUSE OF THE SHORT DURATION OF EACH TEST.

2. REQUIREMENTS

EQUIPMENT

- A. PDP-15
- B. RP15 CONTROLLER

STORAGE

8K MINIMUM, THE PROGRAM OCCUPIES ADDRESSES 0 TO 13000.

PRELIMINARY PROGRAMS

ALL PDP-15 MAINDEC DIAGNOSTICS SHOULD RUN SUCCESSFULLY.

3. LOADING PROCEDURE

- A. LOAD TAPE INTO READER
- B. PLACE BANK MODE ON A 1
- C. SET ADDRESS SWITCHES TO 17700
- D. PRESS I/O RESET, AND THEN READ IN

4. STARTING PROCEDURE

- A. POWER DOWN
- B. REMOVE CABLES FROM RP15 SLOTS H19 TO H24 AND J19 TO J24,
(ALL CABLES SHOULD BE LABELED.)
- C. REMOVE THE M622 MODULES FROM RP15 SLOTS H14, H15 AND H16.
- D. INSERT THE M622 MODULES IN RP15 SLOTS H17, J23 AND J24.
- E. POWER UP. (THE RP15 CONTROLLER IS NOW ABLE TO RUN USING
ONLY THE MAINTENANCE LOGIC. TO PLACE THE RP15 BACK ON LINE,
SIMPLY REVERSE PROCEDURES A, THROUGH E.)
- F. SET ADDRESS SWITCHES TO 200
- G. SELECT AC SWITCH OPTIONS
NOTE: IT IS SUGGESTED THAT THE FOLLOWING BE DONE FOR THE
FIRST COMPLETE PASS OF THE PROGRAM, SET AC SWITCH 6 AND
CLEAR ALL OTHERS (AC SWITCH 4 SHOULD ALSO BE SET IF API IS
NOT AVAILABLE). THIS IS DONE TO GENERATE A COMPLETE LIST
OF ALL THE TESTS WHICH ARE FAILING. THE FAILING TESTS
SHOULD THEN BE WORKED ON, ONE AT A TIME, STARTING WITH THE
FIRST THAT FAILED AND WORKING TOWARD THE LAST. THE AC
SWITCH 0 OPTION SHOULD BE USED TO SELECT EACH OF THE FAILING
TESTS.
- H. PRESS I/O RESET, AND THEN START
- I. UPON STARTING, THE PROGRAM WILL OUTPUT THE QUESTION:

WISH TO CHANGE IOT'S (TYPE Y OR N)?

IF THE OPERATOR TYPES Y, 2 ADDITIONAL QUESTIONS WILL BE
OUTPUT (ONE AT A TIME) ALLOWING THE OPERATOR TO CHANGE
THE 2 DSC'S (DEVICE SELECTION CODES) ASSOCIATED WITH THE
RP15 IOT'S. FOLLOWING EACH QUESTION, THE OPERATOR MUST
RESPOND WITH THE 2 DIGITS WHICH WILL REPLACE THAT PARTICULAR
DSC. THE 2 QUESTIONS WILL APPEAR AS FOLLOWS:

CHANGE DSC 63 TO ?
CHANGE DSC 64 TO ?

IF AC SWITCH 4 IS NOT SET THE FOLLOWING QUESTION WILL BE
OUTPUT:

WISH TO CHANGE API CHANNEL ADDRESS (TYPE Y OR N)?

IF THE OPERATOR TYPES Y, THE FOLLOWING WILL BE OUTPUT:

CHANGE CHANNEL FROM 64 TO ?

AT THIS TIME THE OPERATOR MUST RESPOND WITH THE NEW 2 DIGIT
API CHANNEL ADDRESS. THE PROGRAM WILL INDICATE THE END OF
A PASS BY TYPING:

END

5. AC SWITCH OPTIONS

AC SWITCH	FUNCTION
0	SET TO REQUEST A MANUAL INTERVENTION AT THE COMPLETION OF THE TEST CURRENTLY IN PROGRESS OR AT THE BEGINNING OF THE PROGRAM. THE PROGRAM INDICATES WHEN IT HAS ACKNOWLEDGED THE SETTING OF THE SWITCH BY RINGING THE TTY BELL. AT THIS TIME THE OPERATOR MAY SELECT A SPECIFIC TEST BY SETTING THE DESIRED NUMBER IN AC SWITCHES 12-17, AND THEN CLEARING AC SWITCH 0.
1	WHEN SET, IT WILL CAUSE A FAILING TEST TO LOOP WITHOUT HALTING (WHETHER OR NOT THE TEST CONTINUES TO FAIL). WHEN CLEARED, AND AC SWITCH 6 IS ALSO CLEARED, THE PROGRAM WILL HALT AT THE END OF THE FAILING TEST. THE OPERATOR MAY PRESS CONTINUE TO REPEAT THE TEST, OR, IF A SCOPE LOOP HAS BEEN PROVIDED FOR THE FAILING TEST, HE MAY LOAD THE STARTING ADDRESS OF THE SCOPE LOOP INTO THE ADDRESS SWITCHES, PRESS I/O RESET AND START. THE SCOPE LOOPS PROVIDED, ATTEMPT TO DUPLICATE THE FAILING PORTION OF A TEST IN THE SIMPLEST WAY POSSIBLE.
2	WHEN SET, IT WILL DELETE ALL TTY MESSAGES AND CAUSE THE TTY BELL TO BE RUNG ON DETECTING AN ERROR.
3	SET TO DELETE RINGING THE TTY BELL ON DETECTING AN ERROR.
4	SET TO INDICATE THAT API IS NOT AVAILABLE.
5	SET TO LOOP TESTS 67 TO 150 (DATA TRANSFER TESTS) AFTER RUNNING TESTS 00 TO 150.
6	IF AC SWITCH 0 WAS NOT USED TO SELECT A TEST, AND AC SWITCHES 1-3 ARE NOT SET, AND A TEST FAILS WHILE THIS SWITCH IS SET, THE PROGRAM WILL OUTPUT THE ERROR MESSAGE AND GO ON TO THE NEXT TEST.
12-17	SET TO INDICATE THE TEST NUMBER DESIRED. USED IN THE FOLLOWING MANNER: <ul style="list-style-type: none"> A. SET AC SWITCH 0 B. SET AC SWITCHES 12-17 C. CLEAR AC SWITCH 0 <p>THE SELECTED TEST WILL LOOP FOREVER UNTIL INTERRUPTED BY EITHER AN ERROR OR AC SWITCH 0.</p>

6. TEST DESCRIPTION AND ERROR EXPLANATION

THE FOLLOWING TEST DESCRIPTIONS AND ERROR EXPLANATIONS ARE INTENDED TO BE AS BRIEF AS POSSIBLE WHILE STILL ALLOWING THE OPERATOR TO UNDERSTAND WHAT EACH TEST DOES AND SOME IDEA OF WHY IT MIGHT HAVE FAILED. ALL TTY MESSAGES WILL BE SHOWN ENCLOSED IN QUOTATION MARKS. FOR EXAMPLE, THE FIRST LINE OUTPUT IN EACH ERROR MESSAGE WILL BE "0YXXA FAILED". IN SOME CASES THIS IS ALSO THE ONLY LINE OUTPUT. THE ERROR EXPLANATIONS CONTAINED IN THIS DOCUMENT SHOULD BE CONSULTED WHENEVER A TEST IS FAILING. IN SOME CASES IT MAY BE ADVANTAGEOUS TO CONSULT THE PROGRAM LISTING IN THE BACK OF THIS DOCUMENT FOR A BETTER UNDERSTANDING OF THE PROGRAM.

TEST 0

DESCRIPTION - TESTS ALL OF THE FOLLOWING TO HAVE BEEN CLEARED BY I/O RESET.

1. JOB DONE FLAG
2. ERROR FLAG
3. WORD COUNT REG
4. CURRENT ADDRESS REG
5. CYLINDER ADDRESS REG
6. HEAD ADDRESS REG
7. SECTOR ADDRESS REG
8. STATUS REG A BITS 0 TO 17
9. STATUS REG B BITS 0 TO 16

ERROR EXPLANATION - ALL OF THE ABOVE WERE TESTED. A REPORT OF WHAT WAS CLEARED AND WHAT WAS NOT WAS OUTPUT ON THE TTY. TO REPEAT THE TEST PRESS I/O RESET AND START AGAIN FROM 200. THE FOLLOWING IS A SAMPLE TYPEOUT INDICATING THAT THE ERROR FLAG, AND STATUS REG B BIT 12 (FORMAT ERROR) WERE NOT CLEARED BY I/O RESET.

```
"DN = CLEAR
ER = NOT CLEARED
WC = CLEAR
CA = CLEAR
CAR = CLEAR
HAR = CLEAR
SAR = CLEAR
SRA = NOT CLEARED
SRB = NOT CLEARED
SRA = 000001
SRB = 000040"
```

(6. CONT'D)

TEST 1

DESCRIPTION - THE MAINTENANCE REG IS TESTED BY LOADING A BINARY UP-COUNT (00 TO 77). IT IS READ BACK AND TESTED TO BE CORRECT AFTER EACH LOAD.

ERROR EXPLANATION - THE FOLLOWING IS A SAMPLE TYPEOUT INDICATING THAT BIT 1 OF THE MAINT REG WAS NOT SET, OR WAS NOT READ BACK.

```
"MAINT REG  
G 000020  
B 000000"
```

TEST 2

DESCRIPTION - BIT 17 OF STATUS REG B (SELECTED UNIT NOT READY) IS TESTED TO BE SET WHEN SELECTING UNIT B WHILE NOT IN THE MAINTENANCE MODE.

ERROR EXPLANATION - BIT 17 OF STATUS REG B FAILED TO SET.

TEST 3

DESCRIPTION - BIT 17 OF STATUS REG B (SELECTED UNIT NOT READY) IS TESTED TO BE CLEAR WHEN SELECTING UNIT B WHILE IN THE MAINTENANCE MODE.

ERROR EXPLANATION - BIT 17 OF STATUS REG B FAILED TO CLEAR, OR EXECUTING THE OPEN IOT WITH BIT 10 OF THE AC SET FAILED TO PLACE THE CONTROL IN THE MAINTENANCE MODE.

(6, CONT'D)

TEST 4

DESCRIPTION - THE STATUS OF THE NORMAL/FORMAT SWITCH IS TESTED USING THE DPSN IOT. THE SWITCH MAY BE PLACED IN THE NORMAL OR THE FORMAT POSITION BEFORE STARTING THE ENTIRE PROGRAM OR SELECTING TEST 4 (USING AC SWITCH 8). THE OPERATOR MUST BE AWARE OF THE POSITION OF THE SWITCH AND EXPECT THE CORRECT RESPONSE FROM THE PROGRAM.

ERROR EXPLANATION - IF THE SWITCH WAS PLACED IN THE FORMAT POSITION AND THE PROGRAM HAS NOT INFORMED THE OPERATOR OF THAT FACT (WITHIN 5 SECONDS OF STARTING THE PROGRAM) BY TYPING:

"NORMAL/FORMAT SW READS FORMAT,"

THAT IS THE OPERATOR'S INDICATION THAT THE SWITCH DID NOT PLACE THE CONTROL IN THE FORMAT MODE, OR THAT THE DPSN IOT SKIPPED INCORRECTLY. IF HOWEVER, THE ABOVE TTY MESSAGE IS OUTPUT ALONG WITH A SECOND MESSAGE READING:

"MAKE NORMAL/FORMAT SW NORMAL TO CONTINUE."

THE OPERATOR IS EXPECTED TO COMPLY. IF THE SWITCH, NOW IN THE NORMAL POSITION, DOES NOT CAUSE THE CONTROL TO ENTER THE NORMAL MODE, OR THE DPSN IOT DOES NOT SKIP WITHIN A PERIOD OF TIME, THE PROGRAM WILL INDICATE THAT THE TEST HAS FAILED.

TEST 5

DESCRIPTION - THE WORD COUNT REG IS TESTED BY LOADING A BINARY UP-COUNT (000000 TO 777777). IT IS READ BACK AND TESTED TO BE CORRECT AFTER EACH NUMBER IS LOADED.

ERROR EXPLANATION - THE FOLLOWING IS A SAMPLE TYPEOUT INDICATING THAT BIT 1 OF THE WC REG WAS NOT SET, OR WAS NOT READ BACK.

"WC
C 200000
B 000000"

(6, CONT'D)

TEST 6

DESCRIPTION - BITS 0 TO 17 OF THE WORD COUNT REG ARE SET, THE DPCF IOT IS ISSUED, AND THE WC REG IS READ BACK AND TESTED TO EQUAL 0.

ERROR EXPLANATION - THE WC REG WAS NOT EQUAL TO 0 AFTER THE DPCF IOT WAS ISSUED. FOR EXAMPLE:

"WC 001000"

TEST 7

DESCRIPTION - THE WORD COUNT REG IS LOADED WITH A BINARY UP-COUNT (000000 TO 777777), THE WC REG IS INCREMENTED (BY ISSUING THE DPEM IOT WITH AC BITS 10 AND 13 SET) AFTER EACH NUMBER IS LOADED. IT IS THEN READ BACK AND TESTED TO BE CORRECT.

ERROR EXPLANATION - THE WC REG DID NOT CONTAIN THE CORRECT COUNT AFTER BEING INCREMENTED. FOR EXAMPLE, THE WC REG IS LOADED WITH 000000, INCREMENTED, READ BACK, AND A FAILURE OCCURS.

"WC
C 000001
B 000000"

TEST 10

DESCRIPTION - THE JOB DONE FLAG IS SET BY ISSUING THE DPEM IOT WITH AC BITS 10 AND 13 SET. IT IS TESTED USING THE DPSJ IOT.

ERROR EXPLANATION - THE MAINTENANCE IOT FAILED TO SET JOB DONE OR THE DPSJ IOT FAILED TO SKIP.

TEST 11

DESCRIPTION - THE JOB DONE FLAG IS SET BY THE MAINTENANCE IOT, THE DPCF IOT IS ISSUED, AND THE JOB DONE FLAG IS TESTED TO BE CLEAR WITH THE DPSJ IOT.

ERROR EXPLANATION - THE JOB DONE FLAG FAILED TO CLEAR OR THE DPSJ IOT SKIPPED.

(6, CONT'D)

TEST 12

DESCRIPTION - THE CURRENT ADDRESS REG IS TESTED BY LOADING A BINARY UP-COUNT (000000 TO 777777). IT IS READ BACK AND TESTED TO BE CORRECT AFTER EACH NUMBER IS LOADED.

ERROR EXPLANATION - THE FOLLOWING IS A SAMPLE TYPEOUT INDICATING THAT BIT 4 OF THE CA REG WAS NOT SET, OR WAS NOT READ BACK.

```
"CA
  C 020000
  B 000000"
```

TEST 13

DESCRIPTION - BITS 0 TO 17 OF THE CURRENT ADDRESS REG ARE SET, THE DPCF IOT IS ISSUED, AND THE CA REG IS READ BACK AND TESTED TO EQUAL 0.

ERROR EXPLANATION - THE CA REG WAS NOT EQUAL TO 0 AFTER THE DPCF IOT WAS ISSUED. FOR EXAMPLE:

```
"CA 000400"
```

TEST 14

DESCRIPTION - THE CURRENT ADDRESS REG IS LOADED WITH A BINARY UP-COUNT (000000 TO 777777). THE CA REG IS INCREMENTED (BY ISSUING THE DPCF IOT WITH AC BITS 10 AND 14 SET) AFTER EACH NUMBER IS LOADED. IT IS THEN READ BACK AND TESTED TO BE CORRECT.

ERROR EXPLANATION - THE CA REG DID NOT CONTAIN THE CORRECT COUNT AFTER BEING INCREMENTED. FOR EXAMPLE THE CA REG IS LOADED WITH 000177, INCREMENTED, READ BACK AND THE FOLLOWING FAILURE OCCURS.

```
"CA
  C 000200
  B 000400"
```

(6. CONT'D)

TEST 15

DESCRIPTION = THE SECTOR, HEAD AND CYLINDER ADDRESS REGS ARE LOADED WITH A COUNT CONSISTING OF ALL THE LEGAL DISK PACK ADDRESSES. THE ADDRESS REGS ARE READ AND TESTED TO BE CORRECT AFTER EACH NUMBER IS LOADED.

ERROR EXPLANATION = THE FOLLOWING IS A SAMPLE TYPEOUT INDICATING THAT BIT 7 OF THE CYLINDER ADDRESS REG WAS NOT SET, OR WAS NOT READ BACK,

```
"   CYL   HEAD   SECT
   C 000001 000001 000001
   B 000000 000001 000001"
```

TEST 16

DESCRIPTION = ALL BITS IN THE CYLINDER, HEAD AND SECTOR ADDRESS REGS ARE SET, THE DPCF IOT IS ISSUED, AND THE ADDRESS REGS ARE READ BACK AND TESTED TO EQUAL 0.

ERROR EXPLANATION = THE ADDRESS REGS WERE NOT EQUAL TO 0 AFTER THE DPCF IOT WAS ISSUED. FOR EXAMPLE:

```
"   CYL   HEAD   SECT
   000010 000000 000000"
```

TEST 17

DESCRIPTION = THE SECTOR, HEAD AND CYLINDER ADDRESS REGS ARE INCREMENTED (BY ISSUING THE OPEN IOT WITH AC BITS 10 AND 16 SET) TO EVERY LEGAL DISK PACK ADDRESS. THE ADDRESS REGS ARE LOADED, INCREMENTED ONCE, AND THEN READ BACK AND TESTED FOR EACH ADDRESS.

ERROR EXPLANATION = THE ADDRESS REGS DID NOT CONTAIN THE CORRECT ADDRESS AFTER BEING INCREMENTED. FOR EXAMPLE THE ADDRESS REGS ARE LOADED WITH CYLINDER 0, HEAD 0 AND SECTOR 0, INCREMENTED, READ BACK, AND THE FOLLOWING FAILURE OCCURS.

```
"   CYL   HEAD   SECT
   C 000000 000000 000001
   B 000000 000000 000000"
```

(6, CONT'D)

TEST 20

DESCRIPTION - THE CYLINDER ADDRESS REG IS LOADED WITH A BINARY
UPCOUNT (0 TO 312), WITH THE CONTROL IN THE MAINTENANCE MODE,
THE SELECTED UNIT CYLINDER ADDRESS REG IS READ AND TESTED TO
COMPARE AFTER EACH NUMBER IS LOADED.

ERROR EXPLANATION - THE SUCAR DID NOT CONTAIN THE CORRECT
ADDRESS AFTER LOADING THE CAR.

"UCAR
C 000002
D 000006"

TEST 21

DESCRIPTION - BITS 0 TO 8 OF STATUS REG A ARE LOADED WITH A
COUNT, STATUS REG A IS READ BACK AND TESTED TO BE CORRECT
AFTER EACH NUMBER IS LOADED.

ERROR EXPLANATION - THE FOLLOWING IS A SAMPLE TYPEOUT INDICATING
THAT BIT 7 OF SRA FAILED TO SET.

"SRA
C 002000
D 000000"

TEST 22

DESCRIPTION - BITS 0 TO 8 OF STATUS REG A ARE SET, THE DPGF
IOT IS ISSUED, AND BITS 0 TO 8 ARE READ BACK AND TESTED TO
EQUAL 0.

ERROR EXPLANATION - BITS 0 TO 8 OF SRA WERE NOT ALL CLEARED,
FOR EXAMPLE:

"SRA 004000"

(6, CONT'D)

TEST 23

DESCRIPTION - TESTS THE LOCKOUT FUNCTION, TO VERIFY ALL LOCKOUT SWITCH COMBINATIONS, THIS TEST IS BEST RUN USING THE AC SWITCH 0 OPTION, AN ATTEMPT IS MADE TO WRITE ON ALL CYLINDERS OF EACH UNIT, BITS 9 (WRITE PROTECT ERROR) AND 14 (SELECTED UNIT WRITE PROTECTED) OF STATUS REG A ARE TESTED AFTER EACH WRITE COMMAND, EACH TIME BOTH BITS ARE SET, THE SELECTED UNIT NUMBER AND CYLINDER ADDRESS ARE OUTPUT ON THE TTY, THE OPERATOR MUST COMPARE THE ADDRESSES WHICH ARE INDICATED AS PROTECTED BY THE POSITION OF THE LOCKOUT SWITCHES, AGAINST THOSE WHICH THE PROGRAM HAS OUTPUT AS PROTECTED, THEY MUST COMPARE, FOR EXAMPLE, IF THE LOCKOUT SWITCH IS ON, AND LD SWITCH 01 IS ON, AND LOA SWITCHES 00, 01 AND 02 ARE ON, THE FOLLOWING MESSAGE SHOULD BE OUTPUT, AND THE DPSE IOT SHOULD SKIP.

```
"UNIT  CYL
000002 000000
000002 000001
000002 000002
000002 000003
000002 000004
000002 000005
000002 000006
000002 000007"
```

ERROR EXPLANATION - THE ABOVE TTY MESSAGE ALONE DOES NOT INDICATE AN ERROR, AN ERROR, HOWEVER, IS INDICATED IF THE ADDRESSES OUTPUT AS PROTECTED DO NOT CORRESPOND WITH THE LOCKOUT SWITCHES, THE TEST WILL BE REPORTED AS FAILING IF BITS 9 AND 14 OF SRA ARE NOT BOTH SET AFTER A WRITE IS ATTEMPTED, THE ADDRESS WHICH CAUSED THE FAILURE WILL BE DISPLAYED IN THE UNIT SELECT AND CYLINDER ADDRESS REGISTERS AFTER THE PROGRAM HAS HALTED, THE MESSAGE "ERROR FLAG NOT SET" INDICATES THE DPSE IOT FAILED TO SKIP.

TEST 24

DESCRIPTION - BIT 10 OF STATUS REG A (NON-EXISTENT CYLINDER ADDRESS) IS TESTED TO BE SET AFTER LOADING EACH OF THE ILLEGAL CYLINDER ADDRESSES (313 TO 377) INTO THE CYLINDER ADDRESS REG,

ERROR EXPLANATION - THE CYLINDER ADDRESS OUTPUT FAILED TO SET BIT 10 OF SRA, FOR EXAMPLE:

```
"CAR 000314"
```


(6, CONT'D)

TEST 25

DESCRIPTION - BIT 10 OF STATUS REG A (NON-EXISTENT CYLINDER ADDRESS) IS TESTED TO BE CLEAR AFTER LOADING EACH OF THE LEGAL CYLINDER ADDRESSES (0 TO 312) INTO THE CYLINDER ADDRESS REG.

ERROR EXPLANATION - THE CYLINDER ADDRESS OUTPUT SET BIT 10 OF SRA, FOR EXAMPLE!

"CAR 000312"

TEST 26

DESCRIPTION - BIT 11 OF STATUS REG A (NON-EXISTENT HEAD ADDRESS) IS TESTED TO BE SET AFTER LOADING EACH OF THE ILLEGAL HEAD ADDRESSES (24 TO 37) INTO THE HEAD ADDRESS REG.

ERROR EXPLANATION - THE HEAD ADDRESS OUTPUT FAILED TO SET BIT 11 OF SRA, FOR EXAMPLE!

"HAR 000027"

TEST 27

DESCRIPTION - BIT 11 OF STATUS REG A (NON-EXISTENT HEAD ADDRESS) IS TESTED TO BE CLEAR AFTER LOADING EACH OF THE LEGAL HEAD ADDRESSES (0 TO 23) INTO THE HEAD ADDRESS REG.

ERROR EXPLANATION - THE HEAD ADDRESS OUTPUT SET BIT 11 OF SRA, FOR EXAMPLE!

"HAR 000312"

TEST 30

DESCRIPTION - BIT 12 OF STATUS REG A (NON-EXISTENT SECTOR ADDRESS) IS TESTED TO BE SET AFTER LOADING EACH OF THE ILLEGAL SECTOR ADDRESSES (12 TO 17) INTO THE SECTOR ADDRESS REG.

ERROR EXPLANATION - THE SECTOR ADDRESS OUTPUT FAILED TO SET BIT 12 OF SRA, FOR EXAMPLE!

"SAR 000014"

(6. CONT'D)

TEST 31

DESCRIPTION = BIT 12 OF STATUS REG A (NON-EXISTENT SECTOR ADDRESS) IS TESTED TO BE CLEAR AFTER LOADING EACH OF THE LEGAL SECTOR ADDRESSES (0 TO 11) INTO THE SECTOR ADDRESS REG.

ERROR EXPLANATION = THE SECTOR ADDRESS OUTPUT SET BIT 12 OF SRA, FOR EXAMPLE:

"SAR 000010"

TEST 32

DESCRIPTION = TESTS FOR THE COMPARE FF TO BE SET WHEN READING THE HEADER WHICH CORRESPONDS TO THE ADDRESS WHICH IS SET IN THE ADDRESS REGISTERS. ALL THE LEGAL ADDRESSES ARE TESTED.

ERROR EXPLANATION = THE COMPARE FF FAILED TO SET WHEN THE ADDRESS, OUTPUT ON THE TTY, WAS TESTED. FOR EXAMPLE:

" CYL HEAD SECT
000100 000020 000000"

TEST 33

DESCRIPTION = TESTS FOR THE COMPARE FF TO REMAIN CLEARED WHEN READING HEADERS WHICH ARE THE RESULT OF XORING EACH BIT POSITION OF THE ADDRESS, WHICH IS SET IN THE ADDRESS REGISTERS, WITH A 1 BIT. THE SEQUENCE IS EXECUTED ONCE FOR EACH LEGAL ADDRESS.

ERROR EXPLANATION = THE COMPARE FF WAS SET WHEN READING A HEADER THAT DID NOT CORRESPOND WITH THE ADDRESS SET IN THE ADDRESS REGISTERS. FOR EXAMPLE:

" CYL HEAD SECT
G 000100 000010 030001
B 000300 000010 000001"

TEST 34

DESCRIPTION = BIT 13 OF STATUS REG A (HEADER NOT FOUND ERROR) IS TESTED TO BE SET AFTER SIMULATING A HEADER NOT FOUND.

ERROR EXPLANATION = BIT 13 OF SRA FAILED TO SET.

(6, CONT'D)

TEST 35

DESCRIPTION - BIT 13 OF STATUS REG A (HEADER NOT FOUND ERROR) IS TESTED TO BE CLEARED BY THE DPCS IOT. BIT 13 IS SET INITIALLY BY SIMULATING A HEADER NOT FOUND.

ERROR EXPLANATION - THE DPCS IOT FAILED TO CLEAR BIT 13 OF SRA.

TEST 36

DESCRIPTION - TESTS THE GO BIT (BIT 8 OF SRA) FOR NO-GO. AN ATTEMPT IS MADE TO SET BIT 13 OF SRA (MNFE) WITHOUT SETTING THE GO BIT. BIT 13 SHOULD REMAIN CLEARED.

ERROR EXPLANATION - A READ FUNCTION WAS EXECUTED WITHOUT SETTING THE GO BIT.

TEST 37

DESCRIPTION - BITS 0 TO 7 OF STATUS REG B (UNIT ATTENTION FLAGS) ARE TESTED TO BE SET WHEN (AND ONLY WHEN) THE APPROPRIATE UNIT IS SELECTED.

ERROR EXPLANATION - THE CORRECT UNIT ATTENTION FLAG WAS NOT SET, OR MORE THAN 1 FLAG WAS SET, FOR EXAMPLE:

```
"SRB
G 400000
B 500000"
```

TEST 40

DESCRIPTION - BIT 9 OF STATUS REG B (PROGRAM ERROR) IS TESTED TO BE SET WHEN ISSUING A DPMC IOT IMMEDIATELY FOLLOWING A DPLP IOT, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION - BIT 9 OF SRB FAILED TO SET WHEN THE DPLP IOT WAS IMMEDIATELY FOLLOWED BY THE DPMC IOT, OR THE DPSE IOT FAILED TO SKIP. THE MESSAGE "ERROR FLAG NOT SET" INDICATES THE DPSE IOT FAILED TO SKIP.

(6, CONT'D)

TEST 41

DESCRIPTION - BIT 9 OF STATUS REG B (PROGRAM ERROR) IS TESTED TO BE SET WHEN ISSUING A DPLA IOT IMMEDIATELY FOLLOWING A DPLF IOT.

ERROR EXPLANATION - BIT 9 OF SRB FAILED TO SET WHEN THE DPLF IOT WAS IMMEDIATELY FOLLOWED BY THE DPLA IOT.

TEST 42

DESCRIPTION - BIT 9 OF STATUS REG B (PROGRAM ERROR) IS TESTED TO BE SET WHEN ISSUING A DPCA IOT IMMEDIATELY FOLLOWING A DPLF IOT.

ERROR EXPLANATION - BIT 9 OF SRB FAILED TO SET WHEN THE DPLF IOT WAS IMMEDIATELY FOLLOWED BY THE DPCA IOT.

TEST 43

DESCRIPTION - BIT 9 OF STATUS REG B (PROGRAM ERROR) IS TESTED TO BE SET WHEN ISSUING A DPLF IOT IMMEDIATELY FOLLOWING ANOTHER DPLF IOT.

ERROR EXPLANATION - BIT 9 OF SRB FAILED TO SET WHEN THE DPLF IOT WAS IMMEDIATELY FOLLOWED BY ANOTHER DPLF IOT.

TEST 44

DESCRIPTION - BIT 9 OF STATUS REG B (PROGRAM ERROR) IS TESTED TO BE SET WHEN ISSUING A DPCS IOT IMMEDIATELY FOLLOWING A DPLF IOT.

ERROR EXPLANATION - BIT 9 OF SRB FAILED TO SET WHEN THE DPLF IOT WAS IMMEDIATELY FOLLOWED BY A DPCS IOT.

TEST 45

DESCRIPTION - THE DPWC IOT IS TESTED FOR NO EXECUTION WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.

ERROR EXPLANATION - THE DPWC IOT WAS EXECUTED.

TEST 46

DESCRIPTION - THE DPLA IOT IS TESTED FOR NO EXECUTION WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.

ERROR EXPLANATION - THE DPLA IOT WAS EXECUTED.

(6, CONT'D)

TEST 47

DESCRIPTION = THE DPCA IOT IS TESTED FOR NO EXECUTION WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.

ERROR EXPLANATION = THE DPCA IOT WAS EXECUTED.

TEST 50

DESCRIPTION = THE DPLF IOT IS TESTED FOR NO EXECUTION WHEN ISSUED IMMEDIATELY FOLLOWING ANOTHER DPLF IOT.

ERROR EXPLANATION = THE DPLF IOT WAS EXECUTED.

TEST 51

DESCRIPTION = BIT 10 OF STATUS REG B (END OF PACK ERROR) IS TESTED TO BE SET AFTER SIMULATING AN END OF PACK.

ERROR EXPLANATION = BIT 10 OF SRB FAILED TO SET.

TEST 52

DESCRIPTION = BIT 10 OF STATUS REG B (END OF PACK ERROR) IS TESTED TO REMAIN CLEARED. THE ADDRESS REGS ARE LOADED WITH EVERY LEGAL DISK PACK ADDRESS (EXCEPT FOR THE MAXIMUM) AND INCREMENTED BY ISSUING THE OPEN IOT WITH AC BITS 10 AND 10 SET.

ERROR EXPLANATION = BIT 10 OF STATUS REG B WAS SET BEFORE TRUE END OF PACK, WHEN THE ADDRESS REGS WERE INCREMENTED TO THE ADDRESS WHICH WAS OUTPUT. FOR EXAMPLE:

```
" CYL  HEAD  SECT
 000000 000001 000000"
```

TEST 53

DESCRIPTION = THE ATTENTION FLAG IS TESTED TO BE SET BY EACH OF THE UNIT ATTENTION FLAGS, AND THE DPSA IOT IS TESTED TO SKIP.

ERROR EXPLANATION = THE SELECTED UNIT (AS INDICATED IN BITS 6 TO 2 OF THE MESSAGE OUTPUT) FAILED TO SET THE ATTENTION FLAG, OR THE DPSA IOT FAILED TO SKIP. FOR EXAMPLE:

```
"SRA 100000"
```

(6, CONT'D)

TEST 54

DESCRIPTION = THE ATTENTION FLAG IS CLEARED AND THE DPSA IOT IS TESTED FOR NO SKIP.

ERROR EXPLANATION = THE DPSA IOT SKIPPED.

TEST 55

DESCRIPTION = THE ERROR FLAG IS TESTED TO BE SET BY LOADING AN ILLEGAL CYLINDER ADDRESS, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = THE DPSE IOT DID NOT SKIP, AN ILLEGAL CYLINDER ADDRESS FAILED TO SET THE ERROR FLAG.

"ERROR FLAG NOT SET"

TEST 56

DESCRIPTION = ALL ERROR FLAGS ARE CLEARED AND THE DPSE IOT IS TESTED FOR NO SKIP.

ERROR EXPLANATION = THE DPSE IOT SKIPPED.

TEST 57

DESCRIPTION = THE DPSE IOT IS TESTED NOT TO SKIP ON AN ATTENTION FLAG WHEN THE ATT FLG IS DISABLED FROM INTERRUPTS, AND TO SKIP WHEN THE ATTENTION FLAG IS ENABLED FOR INTERRUPTS.

ERROR EXPLANATION = THE DPSE IOT SKIPPED WHEN AN ATTENTION FLAG WAS SET BUT DISABLED FROM INTERRUPT, OR THE DPSE IOT FAILED TO SKIP WHEN THE ATTENTION FLAG WAS ENABLED FOR INTERRUPTS.

TEST 60

DESCRIPTION = THE DPSE IOT IS TESTED TO SKIP ON THE JOB DONE FLAG.

ERROR EXPLANATION = THE DPSE IOT FAILED TO SKIP WHEN THE JOB DONE FLAG WAS SET.

TEST 61

DESCRIPTION = THE DPSE IOT IS TESTED TO SKIP ON AN ERROR FLAG.

ERROR EXPLANATION = THE DPSE IOT FAILED TO SKIP WHEN AN ERROR FLAG WAS SET.

(6, CONT'D)

TEST 62

DESCRIPTION = THE DPSE IOT IS TESTED FOR NO SKIP AFTER THE ATTENTION, DONE, AND ERROR FLAGS ARE CLEARED.

ERROR EXPLANATION = THE DPSE IOT SKIPPED.

TEST 63

DESCRIPTION = THE ERROR FLAG IS TESTED TO BE SET BY LOADING AN ILLEGAL HEAD ADDRESS, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = THE DPSE IOT DID NOT SKIP, AN ILLEGAL HEAD ADDRESS FAILED TO SET THE ERROR FLAG.

"ERROR FLAG NOT SET"

TEST 64

DESCRIPTION = THE ERROR FLAG IS TESTED TO BE SET BY LOADING AN ILLEGAL SECTOR ADDRESS, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = THE DPSE IOT DID NOT SKIP, AN ILLEGAL SECTOR ADDRESS FAILED TO SET THE ERROR FLAG.

"ERROR FLAG NOT SET"

TEST 65

DESCRIPTION = THE ERROR FLAG IS TESTED TO BE SET BY SIMULATING AN END OF PACK ERROR, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = THE DPSE IOT DID NOT SKIP, SIMULATING AN END OF PACK ERROR FAILED TO SET THE ERROR FLAG.

"ERROR FLAG NOT SET"

TEST 66

DESCRIPTION = THE ERROR FLAG IS TESTED TO BE SET BY SIMULATING A HEADER NOT FOUND ERROR, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = THE DPSE IOT DID NOT SKIP, SIMULATING A HEADER NOT FOUND ERROR FAILED TO SET THE ERROR FLAG.

(6. CONT'D)

TEST 67

DESCRIPTION - THE WORD COUNT REG IS TESTED TO BE CORRECT AFTER EACH BACK TO BACK BREAK WHILE SIMULATING A WRITE FUNCTION FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION - THE WC REG WAS INCORRECT AFTER THE LAST BACK TO BACK BREAK OCCURRED, FOR EXAMPLE:

```
"WC
G 777682
B 777684"
```

TEST 70

DESCRIPTION - THE CURRENT ADDRESS REG IS TESTED TO BE CORRECT AFTER EACH BACK TO BACK BREAK WHILE SIMULATING A WRITE FUNCTION FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION - THE CA REG WAS INCORRECT AFTER THE LAST BACK TO BACK BREAK OCCURRED, FOR EXAMPLE:

```
"CA
G 000002
B 000000"
```

TEST 71

DESCRIPTION - THE WORD COUNT REG IS TESTED TO BE CORRECT AFTER EACH BACK TO BACK BREAK WHILE SIMULATING A WRITE ALL FUNCTION FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION - THE WC REG WAS INCORRECT AFTER THE LAST BACK TO BACK BREAK OCCURRED, FOR EXAMPLE:

```
"WC
G 777682
B 777680"
```


(6. CONT'D)

TEST 72

DESCRIPTION = THE CURRENT ADDRESS REG IS TESTED TO BE CORRECT AFTER EACH BACK TO BACK BREAK WHILE SIMULATING A WRITE ALL FUNCTION FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION = THE CA REG WAS INCORRECT AFTER THE LAST BACK TO BACK BREAK OCCURRED. FOR EXAMPLE:

```
"CA
  C 000002
  B 000004"
```

TEST 73

DESCRIPTION = BIT 12 OF STATUS REG B (FORMAT ERROR) IS TESTED TO BE SET AFTER SIMULATING A FORMAT ERROR, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = BIT 12 OF SRB FAILED TO SET, OR, IF THE MESSAGE "ERROR FLAG NOT SET" IS OUTPUT, THE DPSE IOT FAILED TO SKIP.

TEST 74

DESCRIPTION = BIT 12 OF STATUS REG B (FORMAT ERROR) IS TESTED TO BE CLEARED BY THE DPCS IOT. BIT 12 IS SET INITIALLY BY SIMULATING A FORMAT ERROR.

ERROR EXPLANATION = THE DPCS IOT FAILED TO CLEAR BIT 12 OF SRB.

TEST 75

DESCRIPTION = BIT 14 OF STATUS REG B (WORD PARITY ERROR) IS TESTED TO BE SET AFTER SIMULATING A WORD PARITY ERROR, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = BIT 14 OF SRB FAILED TO SET, OR, IF THE MESSAGE "ERROR FLAG NOT SET" IS OUTPUT, THE DPSE IOT FAILED TO SKIP.

TEST 76

DESCRIPTION = BIT 14 OF STATUS REG B (WORD PARITY ERROR) IS TESTED TO BE CLEARED BY THE DPCS IOT. BIT 14 IS SET INITIALLY BY SIMULATING A WORD PARITY ERROR.

ERROR EXPLANATION = THE DPCS IOT FAILED TO CLEAR BIT 14 OF SRB.

(6, CONT'D)

TEST 77

DESCRIPTION - BIT 15 OF STATUS REG B (LONGITUDINAL PARITY ERROR) IS TESTED TO BE SET AFTER SIMULATING A LONGITUDINAL PARITY ERROR, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION - BIT 15 OF SRB FAILED TO SET, OR, IF THE MESSAGE "ERROR FLAG NOT SET" IS OUTPUT, THE DPSE IOT FAILED TO SKIP.

TEST 100

DESCRIPTION - BIT 15 OF STATUS REG B (LONGITUDINAL PARITY ERROR) IS TESTED TO BE CLEARED BY THE DPCS IOT. BIT 15 IS INITIALLY SET BY SIMULATING A LONGITUDINAL PARITY ERROR.

ERROR EXPLANATION - THE DPCS IOT FAILED TO CLEAR BIT 15 OF SRB.

TEST 101

DESCRIPTION - BIT 13 OF STATUS REG B (WRITE CHECK ERROR) IS TESTED TO BE SET AFTER SIMULATING A WRITE CHECK (READ COMPARE) ERROR, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION - BIT 13 OF SRB FAILED TO SET, OR, IF THE MESSAGE "ERROR FLAG NOT SET" IS OUTPUT, THE DPSE IOT FAILED TO SKIP.

TEST 102

DESCRIPTION - BIT 13 OF STATUS REG B (WRITE CHECK ERROR) IS TESTED TO BE CLEARED BY THE DPCS IOT. BIT 13 IS INITIALLY SET BY SIMULATING A WRITE CHECK (READ COMPARE) ERROR.

ERROR EXPLANATION - THE DPCS IOT FAILED TO CLEAR BIT 13 OF SRB.

TEST 103

DESCRIPTION - TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING AN END OF PACK ERROR.

ERROR EXPLANATION - THE DONE FLAG WAS NOT SET BY AN EOPE.

TEST 104

DESCRIPTION - TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A HEADER NOT FOUND ERROR.

ERROR EXPLANATION - THE DONE FLAG WAS NOT SET BY A HNFE.

(6, CONT'D)

TEST 105

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A FORMAT ERROR,

ERROR EXPLANATION = THE DONE FLAG WAS NOT SET BY A FE,

TEST 106

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A WORD PARITY ERROR,

ERROR EXPLANATION = THE DONE FLAG WAS NOT SET BY A WE,

TEST 107

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A LONGITUDINAL PARITY ERROR,

ERROR EXPLANATION = THE DONE FLAG WAS NOT SET BY A LE,

TEST 110

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A WRITE CHECK (READ COMPARE) ERROR,

ERROR EXPLANATION = THE DONE FLAG WAS NOT SET BY A WCE,

TEST 111

DESCRIPTION = TESTS FOR THE DONE FLAG TO BE CLEARED AFTER ISSUING A READ COMMAND,

ERROR EXPLANATION = ISSUING A READ COMMAND DID NOT CLEAR THE JOB DONE FLAG,

TEST 112

DESCRIPTION = TESTS FOR THE DONE FLAG TO BE CLEARED AFTER ISSUING A WRITE COMMAND,

ERROR EXPLANATION = ISSUING A WRITE COMMAND DID NOT CLEAR THE JOB DONE FLAG,

(6. CONT'D)

TEST 113

DESCRIPTION = TESTS FOR THE DONE FLAG TO BE CLEARED AFTER ISSUING A READ ALL COMMAND.

ERROR EXPLANATION = ISSUING A READ ALL COMMAND DID NOT CLEAR THE JOB DONE FLAG.

TEST 114

DESCRIPTION = TESTS FOR THE DONE FLAG TO BE CLEARED AFTER ISSUING A WRITE ALL COMMAND.

ERROR EXPLANATION = ISSUING A WRITE ALL COMMAND DID NOT CLEAR THE JOB DONE FLAG.

TEST 115

DESCRIPTION = TESTS FOR THE DONE FLAG TO BE CLEARED AFTER ISSUING A READ COMPARE COMMAND.

ERROR EXPLANATION = ISSUING A READ COMPARE COMMAND DID NOT CLEAR THE JOB DONE FLAG.

TEST 116

DESCRIPTION = THE ATTENTION FLAG AND BIT 7 OF STATUS REG A (ATTENTION FLAG INTERRUPT ENABLED) ARE SET, PROGRAM INTERRUPT IS TURNED ON AND A PI SHOULD OCCUR.

ERROR EXPLANATION = A PROGRAM INTERRUPT DID NOT OCCUR.

TEST 117

DESCRIPTION = THE ATTENTION FLAG IS SET, BIT 7 OF STATUS REG A (ATTENTION FLAG INTERRUPT ENABLED) IS CLEARED, PROGRAM INTERRUPT IS TURNED ON, AND A PROGRAM INTERRUPT SHOULD NOT OCCUR.

ERROR EXPLANATION = A PROGRAM INTERRUPT DID OCCUR.

TEST 120

DESCRIPTION = THE JOB DONE FLAG AND BIT 6 OF STATUS REG A (DONE FLAG INTERRUPT ENABLED) ARE SET, PROGRAM INTERRUPT IS TURNED ON, AND A PI SHOULD OCCUR.

ERROR EXPLANATION = A PROGRAM INTERRUPT DID NOT OCCUR.

(6, CONT'D)

TEST 121

DESCRIPTION = THE JOB DONE FLAG IS SET, BIT 6 OF STATUS REG A (DONE FLAG INTERRUPT ENABLED) IS CLEARED, PROGRAM INTERRUPT IS TURNED ON, AND A PROGRAM INTERRUPT SHOULD NOT OCCUR.

ERROR EXPLANATION = A PROGRAM INTERRUPT DID OCCUR.

TEST 122

DESCRIPTION = THE ERROR FLAG AND BIT 6 OF STATUS REG A (ERROR FLAG INTERRUPT ENABLED) ARE SET, PROGRAM INTERRUPT IS TURNED ON, AND A PI SHOULD OCCUR.

ERROR EXPLANATION = A PROGRAM INTERRUPT DID NOT OCCUR.

TEST 123

DESCRIPTION = THE ATTENTION FLAG AND BIT 7 OF STATUS REG A (ATTENTION FLAG INTERRUPT ENABLED) ARE SET AND THE FOLLOWING THREE TESTS ARE MADE:

- A. THE RPL STATUS BITS ARE READ AND TESTED FOR BIT 3 (DEVICE REQUESTING SERVICE ON PRIORITY LEVEL 1) TO BE SET, AND ALL OTHERS TO BE CLEARED.
- B. API IS ENABLED, AND A TEST IS MADE TO VERIFY THAT AN AUTOMATIC PRIORITY INTERRUPT HAS TAKEN PLACE AND THAT THE CORRECT CHANNEL ADDRESS WAS SENT FROM THE CONTROL.
- C. THE RPL STATUS BITS ARE AGAIN READ, AND TESTED (AFTER THE API HAS OCCURRED) FOR BITS 0 (API ENABLED), 3 (DEVICE REQUESTING SERVICE ON PRIORITY LEVEL 1), AND 11 (PRIORITY LEVEL 1 ACTIVE).

ERROR EXPLANATION = THE MESSAGE "API STATUS BEFORE INTER" INDICATES THAT THE RPL STATUS BITS WERE INCORRECT BEFORE API WAS ENABLED. THE MESSAGE "UNKNOWN FLAG CAUSED INTERRUPT" INDICATES THAT AN API OCCURRED, BUT WENT TO THE WRONG CHANNEL ADDRESS. THE MESSAGE "API STATUS AFTER INTER" INDICATES THAT THE RPL STATUS BITS WERE INCORRECT AFTER THE API OCCURRED. A MESSAGE ONLY REPORTING THAT THIS TEST NUMBER FAILED INDICATES THAT NO AUTOMATIC PRIORITY INTERRUPT OCCURRED.

TEST 124

DESCRIPTION = THE ATTENTION FLAG AND BIT 7 OF STATUS REG A ARE SET, AND BOTH PI AND API ARE ENABLED. A TEST IS MADE TO VERIFY THAT THE API HAS PRIORITY.

ERROR EXPLANATION = PI HAD PRIORITY OVER API AND A PROGRAM INTERRUPT OCCURRED, OR, IF THE MESSAGE "NO INTERRUPT FROM API OR PI" IS OUTPUT, NO INTERRUPT OF ANY KIND OCCURRED.

(6, CONT'D)

TEST 125

DESCRIPTION - THE DPCN IOT IS TESTED FOR EXECUTION BY SIMULATING A MNFE USING IT.

ERROR EXPLANATION - THE DPCN IOT FAILED.

TEST 126

DESCRIPTION - THE ADDRESS, WORD COUNT AND CURRENT ADDRESS REGISTERS ARE TESTED TO BE CORRECT AFTER SIMULATING A FORMAT ERROR.

ERROR EXPLANATION - ONE OF THE ABOVE MENTIONED REGISTERS WAS NOT CORRECT AFTER A FORMAT ERROR WAS SIMULATED, AND RESULTED IN A MESSAGE SIMILAR TO ONE OF THE FOLLOWING:

```
"   CYL   HEAD   SECT
G 000000 000000 000000
B 000000 000000 000001"
```

```
"WC
G 777600
B 777602"
```

```
"CA
G 000000
B 000002"
```

TEST 127

DESCRIPTION - THE ADDRESS, WORD COUNT AND CURRENT ADDRESS REGISTERS ARE TESTED TO BE CORRECT AFTER SIMULATING A WORD PARITY ERROR.

ERROR EXPLANATION - ONE OF THE ABOVE MENTIONED REGISTERS WAS NOT CORRECT AFTER A WORD PARITY ERROR WAS SIMULATED, AND RESULTED IN A MESSAGE SIMILAR TO ONE OF THE FOLLOWING:

```
"   CYL   HEAD   SECT
G 000000 000000 000000
B 000000 000000 000001"
```

```
"WC
G 777600
B 777602"
```

```
"CA
G 000000
B 000002"
```

(6. CONT'D)

TEST 130

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A WRITE FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION = THE DONE FLAG FAILED TO SET AT THE COMPLETION OF A WRITE,

TEST 131

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A READ FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION = THE DONE FLAG FAILED TO SET AT THE COMPLETION OF A READ,

TEST 132

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A WRITE ALL FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION = THE DONE FLAG FAILED TO SET AT THE COMPLETION OF A WRITE ALL,

TEST 133

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A READ ALL FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION = THE DONE FLAG FAILED TO SET AT THE COMPLETION OF A READ ALL,

TEST 134

DESCRIPTION = TESTS FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A READ COMPARE FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION = THE DONE FLAG FAILED TO SET AT THE COMPLETION OF A READ COMPARE,

TEST 135

DESCRIPTION = TESTS FOR NO ERROR FLAG AFTER SIMULATING A WRITE FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION = THE ERROR FLAG WAS SET,

(6. CONT'D)

TEST 136

DESCRIPTION = TESTS FOR NO ERROR FLAG AFTER SIMULATING A READ FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION = THE ERROR FLAG WAS SET.

TEST 137

DESCRIPTION = TESTS FOR NO ERROR FLAG AFTER SIMULATING A WRITE ALL FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION = THE ERROR FLAG WAS SET.

TEST 140

DESCRIPTION = TESTS FOR NO ERROR FLAG AFTER SIMULATING A READ ALL FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION = THE ERROR FLAG WAS SET.

TEST 141

DESCRIPTION = TESTS FOR NO ERROR FLAG AFTER SIMULATING A READ COMPARE FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION = THE ERROR FLAG WAS SET.

TEST 142

DESCRIPTION = TESTS FOR DATA TRANSFER ERRORS AFTER EACH BACK TO BACK BREAK WHILE SIMULATING A READ FOR ONE COMPLETE SECTOR.

ERROR EXPLANATION = A DATA TRANSFER ERROR OCCURRED WHILE SIMULATING A READ, FOR EXAMPLE:

"DATA XFER ERROR
G 777777777777
B 777776777776"

(6. CONT'D)

TEST 143

DESCRIPTION - TESTS FOR A HEADER TRANSFER ERROR AND DATA TRANSFER ERRORS AFTER EACH BACK TO BACK BREAK WHILE SIMULATING A READ ALL FOR ONE COMPLETE SECTOR,

ERROR EXPLANATION - AN ERROR MESSAGE SIMILAR TO:

"HEADER XFER ERROR
G 000000012242
B 000000010242"

INDICATES THAT THE 36 BIT HEADER WORD WAS NOT TRANSFERRED CORRECTLY WHILE SIMULATING A READ ALL, AN ERROR MESSAGE SIMILAR TO:

"DATA XFER ERROR
G 777777777777
B 677777677777"

INDICATES A DATA TRANSFER ERROR OCCURRED WHILE SIMULATING A READ ALL.

TEST 144

DESCRIPTION - TESTS FOR DATA TRANSFER ERRORS OR BAD WORD PARITY AFTER EACH BACK TO BACK BREAK, AND FOR A LONGITUDINAL PARITY TRANSFER ERROR WHILE SIMULATING A WRITE FOR ONE COMPLETE SECTOR, ONCE FOR EACH OF FOUR PATTERNS, THEY ARE:

- 1. 525252525252
- 2. 525252000000
- 3. 000000525252
- 4. 777777777777

ERROR EXPLANATION - AN ERROR MESSAGE SIMILAR TO:

"DATA XFER ERROR
G 525252525252 1
B 425252525252 0"

INDICATES EITHER A DATA TRANSFER ERROR OR INCORRECT WORD PARITY ASSIGNMENT OCCURRED WHILE SIMULATING A WRITE, AN ERROR MESSAGE SIMILAR TO:

"LONG PARITY XFER ERROR
G 777777777777 1
B 677777777777 0"

INDICATES THAT A LONGITUDINAL PARITY TRANSFER ERROR OCCURRED WHILE SIMULATING A WRITE.

16. CONT'D)

TEST 145

DESCRIPTION = TESTS FOR A HEADER TRANSFER ERROR, DATA TRANSFER ERRORS OR BAD WORD PARITY AFTER EACH BACK TO BACK BREAK, AND FOR A LONGITUDINAL PARITY TRANSFER ERROR WHILE SIMULATING A WRITE ALL FOR ONE COMPLETE SECTOR, ONCE FOR EACH OF FOUR PATTERNS. THEY ARE:

- 1. 525252525252
- 2. 525252000000
- 3. 000000525252
- 4. 777777777777

ERROR EXPLANATION = AN ERROR MESSAGE SIMILAR TO:

"HEADER XFER ERROR
C 000000041011 1
B 000000040011 0"

INDICATES THAT A HEADER TRANSFER ERROR OCCURRED WHILE SIMULATING A WRITE ALL. AN ERROR MESSAGE SIMILAR TO:

"DATA XFER ERROR
C 777777777777 1
B 767777777777 0"

INDICATES EITHER A DATA TRANSFER ERROR OR INCORRECT WORD PARITY ASSIGNMENT OCCURRED WHILE SIMULATING A WRITE ALL. AN ERROR MESSAGE SIMILAR TO:

"LONG PARITY XFER ERROR
C 777777777777 1
B 767777777777 0"

INDICATES THAT A LONGITUDINAL PARITY TRANSFER ERROR OCCURRED WHILE SIMULATING A WRITE ALL.

(6, CONT'D)

TEST 146

DESCRIPTION = TESTS FOR A HEADER TRANSFER ERROR, FOR THE GENERATION OF AN ALL ZEROS DATA FIELD WITH CORRECT WORD PARITY AFTER EACH BACK TO BACK BREAK, AND FOR A LONGITUDINAL PARITY TRANSFER ERROR, A WRITE ALL IS SIMULATED FOR ONE COMPLETE SECTOR WITH THE WORD COUNT INITIALLY SET TO TRANSFER ONLY THE TWO 18 BIT HEADER WORDS.

ERROR EXPLANATION = AN ERROR MESSAGE SIMILAR TO:

```
"HEADER XFER ERROR
C 000000625151 0
B 000000624151 0"
```

INDICATES THAT A HEADER TRANSFER ERROR OCCURRED WHILE SIMULATING A WRITE ALL.
AN ERROR MESSAGE SIMILAR TO:

```
"DATA XFER ERROR
C 000000000000 1
B 010000000000 0"
```

INDICATES EITHER A DATA TRANSFER ERROR OR INCORRECT WORD PARITY ASSIGNMENT OCCURRED WHILE SIMULATING A WRITE ALL.
AN ERROR MESSAGE SIMILAR TO:

```
"LONG PARITY XFER ERROR
C 777777777777 1
B 000000777777 1"
```

INDICATES THAT A LONGITUDINAL PARITY TRANSFER ERROR OCCURRED WHILE SIMULATING A WRITE ALL.

TEST 147

DESCRIPTION = A TEST IS MADE TO DETERMINE IF THE CORRECT NUMBER OF DATA TRANSFERS OCCUR FOR EACH VALUE SET IN THE WORD COUNT REG. IN INCREMENTS OF ONE ADDITIONAL 18 BIT WORD PER PASS, THE CONTROL WILL BE TESTED TO SIMULATE DATA TRANSFERS OF FROM ONE 18 BIT DATA WORD TO TWO FULL SECTORS OF DATA. A WRITE IS SIMULATED.

ERROR EXPLANATION = THE NUMBER OF DATA TRANSFERS WHICH OCCURRED DID NOT CORRESPOND TO THE WORD COUNT WHICH WAS LOADED. THE WORD COUNT WHICH WAS LOADED WAS OUTPUT, FOR EXAMPLE:

```
"WC 777777"
```

(6. CONT'D)

TEST 150

DESCRIPTION • THE CURRENT ADDRESS REG IS TESTED TO BE CORRECT AT THE END OF DATA TRANSFERS, AND ALSO TO REMAIN UNCHANGED THEREAFTER UNTIL SECTOR WORD COUNT OVERFLOW OCCURS. IN INCREMENTS OF ONE ADDITIONAL 18 BIT WORD PER PASS, THE CONTROL WILL SIMULATE DATA TRANSFERS OF FROM ONE 18 BIT DATA WORD TO TWO FULL SECTORS OF DATA. A WRITE IS SIMULATED.

ERROR EXPLANATION • THE CURRENT ADDRESS REG WAS INCORRECT AFTER A DATA TRANSFER, OR CHANGED AFTER WORD COUNT OVERFLOW OCCURRED BUT BEFORE SECTOR WORD COUNT OVERFLOW OCCURRED. FOR EXAMPLE:

"CA
G 000002
B 000004"

7. RESTRICTIONS

STARTING RESTRICTIONS

THE CONTROLLER MUST BE IN THE MAINTENANCE CONFIGURATION BEFORE STARTING THE PROGRAM (SEE PAR 4).

OPERATING RESTRICTIONS

PROGRAM EXECUTION TIME MAY BE INCREASED IF THE PROCEDURE DESCRIBED IN PAR 4.G. IS NOT FOLLOWED WHEN TROUBLESHOOTING. IMPORTANT NOTE! TESTS 4 AND 23 (NORMAL/FORMAT SW AND LOCKOUT FUNCTION TESTS RESPECTIVELY) SHOULD BE RUN INDIVIDUALLY, USING THE AC SWITCH B OPTION, IN ORDER TO ALLOW TIME FOR THE OPERATOR TO SET AND TEST EVERY COMBINATION OF THE SWITCHES. A COMPREHENSIVE TEST OF THESE SWITCHES CANNOT BE PERFORMED DURING THE AUTOMATIC CYCLING OF THE PROGRAM BECAUSE OF THE SHORT DURATION OF EACH TEST.

8. EXECUTION TIME

- A. APPROXIMATELY 45 MINUTES TO RUN TESTS 0 THROUGH 150.
- B. APPROXIMATELY 3 MINUTES PER PASS TO RUN TESTS 07 THROUGH 150 (MAY BE RUN ONLY AFTER ONE COMPLETE PASS OF THE PROGRAM).

9. PROGRAM DESCRIPTION

THE PROGRAM CONSISTS OF APPROXIMATELY 164 INDIVIDUAL TESTS NUMBERED FROM 0 TO 150 (OCTAL). IT MAY BE BROKEN DOWN INTO TWO SECTIONS. TESTS 0 TO 66 WERE DESIGNED TO TEST THE BASIC CIRCUITRY IN THE CONTROLLER, AND TESTS 67 TO 150 TEST THE DATA TRANSFER PATHS. THE PROGRAM MAY BE RUN IN ITS ENTIRETY, OR TESTS 67 TO 150 MAY BE LOOPEO AFTER COMPLETING ONE ENTIRE PASS OF THE PROGRAM, OR ANY ONE TEST MAY BE SELECTED (EXCEPT TEST 0). ERROR MESSAGES ARE OUTPUT ON THE TTY UNLESS DELETED. AN AUTOMATIC RUN OF THE PROGRAM EXECUTES EACH TEST TWICE, UNLESS AN ERROR OCCURS OR THE PROGRAM IS INTERRUPTED BY A REQUEST FOR A MANUAL INTERVENTION. SCOPE LOOPS HAVE BEEN PROVIDED FOR TESTS WHERE IT HAS BEEN DETERMINED THEY MAY BE OF USE IN TROUBLESHOOTING. THE SCOPE LOOP FOR A PARTICULAR FAILING TEST WILL BE FOUND IN THE PROGRAM LISTING AFTER THAT TEST. THE STARTING ADDRESS WILL BE THE ADDRESS OF THAT PARTICULAR SCOPE LOOP (SLXXX YAG).

.TITLE • MAINDEC-15-D5HB • NOVEMBER 24, 1971 •

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/R, CHRISTOPHER

.ABS

00021 .LOC 21
00021 740040 HALT /CAL TRAP

00100 .LOC 100

00100 000101 IOTL .+1

/IOT DEFINITIONS

00101	706301	DPSF	706301	/SKIP ON JOB DONE, OR ATTENTION, OR ERROR FLAGS
00102	706304	DPLA	706304	/LOAD CYL, HEAD • SECT ADDRESS REGS
00103	706312	DPRSA	706312	/READ STATUS REG A INTO AC
00104	706321	DPBA	706321	/SKIP ON ATTENTION FLAG
00105	706324	DPCS	706324	/CLEARS DONE & ERROR & DISABLES NEC, NEM, & NEB FROM INT
00106	706332	DPRSB	706332	/READ STATUS REG B INTO AC
00107	706341	DPSJ	706341	/SKIP ON JOB DONE
00110	706344	DPCA	706344	/LOAD THE CURRENT ADD REG
00111	706352	DPRM	706352	/READ MAINT REG
00112	706361	DPSE	706361	/SKIP ON ERROR
00113	706364	DPHC	706364	/LOAD THE WORD COUNT REG
00114	777777	LAW	-1	
00115	706401	DPEM	706401	/EXECUTE MAINT INST.
00116	706404	DPCF	706404	/RESET CONTROL
00117	706411	DPLM	706411	/LEAVE MAINT MODE
00120	706412	DPRU	706412	/READ THE UNIT CYL ADD REG
00121	706421	DPSN	706421	/SKIP IF NORMAL MODE
00122	706432	DPRA	706432	/READ THE CYL, HEAD • SECT ADD REGS
00123	706452	DPRC	706452	/READ THE CURRENT ADD REG
00124	706454	DPCN	706454	/CLEAR THE AC • EXECUTE BITS 0-8 OF STATUS REG A
00125	706464	DPLF	706464	/LOAD BITS 0-8 OF STATUS REG A
00126	706472	DPRW	706472	/READ THE WORD COUNT REG
00127	777777	LAW	-1	

/NOTES

/NOTE 1. THE OPERATOR SHOULD NOT USE SING STEP OR SING INST WHEN
/TROUBLESHOOTING THIS TEST.

.EJECT

```

/AC BIT ASSIGNMENT FOR DPEM
/BIT 9 -LOAD THE MAINT REG WITH BITS 12-17 OF THIS WORD
/BIT 10 = ENTER MAINT MODE • INTERPRET AC BITS 11-17 AS FOLLOWS:
/BIT 11 = ISSUE A MAINT SELECTED UNIT INDEX PULSE
/BIT 12 = ISSUE A MAINT SELECTED UNIT SECTOR PULSE
/BIT 13 = SET JOB DONE
/BIT 14 = INCREMENT THE CURRENT ADD REG
/BIT 15 = INCREMENT THE WORD COUNT REG
/BIT 16 = INCREMENT THE SECTOR ADD REG
/BIT 17 = CLOCK BIT
/
/STATUS REG A BIT ASSIGNMENT
/
/BITS 0-8 ARE DEFINED AS THE FUNCTION REG
/
/BITS 0-2
                                /SELECTED UNIT
                                /00 FOR UNIT 0
                                /01 FOR UNIT 1
                                /02 FOR UNIT 2
                                /03 FOR UNIT 3
                                /04 FOR UNIT 4
                                /05 FOR UNIT 5
                                /06 FOR UNIT 6
                                /07 FOR UNIT 7

/BITS 3-5
                                /SELECTED FUNCTION
                                /00 FOR IDLE STATE
                                /01 FOR READ
                                /02 FOR WRITE
                                /03 FOR RECALIBRATE
                                /04 FOR SEEK
                                /05 FOR READ ALL
                                /06 FOR WRITE ALL
                                /07 FOR READ COMPARE

/BIT 6
/BIT 7
/BIT 8
/BIT 9
/BIT 10
/BIT 11
/BIT 12
/BIT 13
/BIT 14
/BIT 15
/BIT 16
/BIT 17
                                /DISABLE DONE • ERROR FLAGS FROM API • PI
                                /DISABLE ATTENTION FLAG FROM API • PI
                                /GO (EXECUTE FUNCTION)
                                /WRITE PROTECT ERROR
                                /SELECTED CYL > 312
                                /SELECTED HEAD > 23
                                /SELECTED SECT > 11
                                /HEADER NOT FOUND
                                /SU WRITE PROTECTED
                                /SU SEEK INCOMPLETE
                                /JOB DONE FLAG
                                /ERROR FLAG

```

.EJECT

```

/
/STATUS REG B BIT ASSIGNMENT
/
/BIT 0          /UNIT 0 ATT
/BIT 1          /UNIT 1 ATT
/BIT 2          /UNIT 2 ATT
/BIT 3          /UNIT 3 ATT
/BIT 4          /UNIT 4 ATT
/BIT 5          /UNIT 5 ATT
/BIT 6          /UNIT 6 ATT
/BIT 7          /UNIT 7 ATT
/BIT 8          /SU UNSAFE
/BIT 9          /PROGRAM ERROR
/BIT 10         /END OF PACK
/BIT 11         /TIMING ERROR
/BIT 12         /FORMAT ERROR
/BIT 13         /WRITE CHECK ERROR
/BIT 14         /WORD PARITY ERROR
/BIT 15         /LONGITUDINAL PARITY ERROR
/BIT 16         /SU SEEK UNDERWAY
/BIT 17         /SELECTED UNIT NOT READY
/

```

```

740040  HALT=HLT
700301  KSF=700301
700312  KR0=700312
700322  KRS=700322
700401  TSF=700401
700402  TCF=700402
700406  YLS=700406
705504  ISA=705504
705512  RPL=705512
703302  CAF=703302

```

```

.EJECT

```



```
/
/AC SWITCH OPTIONS
/
/BIT 0
/SET = TO REQUEST A MANUAL INTERVENTION LOOP (TO BE ENTERED AT THE COMPLETION OF
/THE TEST CURRENTLY IN PROGRESS),
/CLEARED = TO ALLOW PROGRAM TO CONTINUE OPERATING USING CURRENTLY SELECTED OPTIONS.
/
/BIT 1
/SET = TO LOOP ON FAILING TEST.
/CLEARED = TO HALT ON ERROR.
/
/BIT 2
/SET = TO DELETE TTY MESSAGES (RING BELL EACH TIME AN ERROR IS DETECTED)
/CLEARED = TO ENABLE ERROR TYPEOUTS
/
/BIT 3
/SET = TO DELETE BELL
/
/BIT 4
/SET = TO DELETE API TESTS
/
/BIT 5
/SET = TO RUN TESTS 67 TO 150 ONLY.
/CLEARED = TO RUN ALL TESTS.
/
/BIT
/SET = IF OPERATOR DID NOT USE BIT 0 TO SELECT A TEST,
/AND BIT 1 IS NOT SET, AND A TEST FAILS, TYPE FAILURE
/INFO AND GO ON TO NEXT TEST.
/
/BITS 12-17
/1. SET BIT 0 TO REQUEST A MANUAL INTERVENTION
/2. SET BITS 12-17 TO DESIRED TESTS
/3. CLEAR BIT 0 TO LOOP DESIRED TEST (OR RUN ALL TESTS IF BITS 12-17=0)
.EJECT
```

		START	.LOC JMS	200 INIT	/INITIALIZE & CONTROL OPERATION OF PROGRAM
00200					
00200	100352				
00201	000602		T1		
00202	000651		T2		
00203	000672		T3		
00204	000715		T4		
00205	000754		T5		
00206	001003		T6		
00207	001035		T7		
00210	001075		T10		
00211	001124		T11		
00212	001152		T12		
00213	001201		T13		
00214	001233		T14		
00215	001274		T15		
00216	001324		T16		
00217	001352		T17		
00220	001414		T20		
00221	001457		T21		
00222	001517		T22		
00223	001556		T23		
00224	001656		T24		
00225	001712		T25		
00226	001744		T26		
00227	002000		T27		
00230	002032		T30		
00231	002066		T31		
00232	002120		T32		
00233	002160		T33		
00234	002227		T34		
00235	002256		T35		
00236	002305		T36		
00237	002342		T37		
00240	002407		T40		
00241	002446		T41		
00242	002477		T42		
00243	002530		T43		
00244	002561		T44		
00245	002612		T45		
00246	002640		T46		
00247	002666		T47		
00250	002714		T50		
00251	002747		T51		
00252	002774		T52		
00253	003035		T53		
00254	003102		T54		
00255	003122		T55		
00256	003147		T56		
00257	003167		T57		
00260	003234		T60		
00261	003265		T61		
00262	003312		T62		
00263	003333		T63		
00264	003360		T64		
00265	003405		T65		

00266	003432		T66
00267	003457	SIN	T67
00270	003547		T70
00271	003634		T71
00272	003744		T72
00273	004052		T73
00274	004107		T74
00275	004137		T75
00276	004223		T76
00277	004302		T77
00300	004363		T100
00301	004437		T101
00302	004520		T102
00303	004574		T103
00304	004621		T104
00305	004646		T105
00306	004674		T106
00307	004753		T107
00310	005027		T110
00311	005101		T111
00312	005133		T112
00313	005165		T113
00314	005217		T114
00315	005251		T115
00316	005303		T116
00317	005350		T117
00320	005415		T120
00321	005465		T121
00322	005535		T122
00323	005605		T123
00324	005710		T124
00325	005765		T125
00326	006022		T126
00327	006115		T127
00330	006217		T130
00331	006264		T131
00332	006336		T132
00333	006415		T133
00334	006503		T134
00335	006545		T135
00336	006624		T136
00337	006704		T137
00340	007007		T140
00341	007111		T141
00342	007171		T142
00343	007260		T143
00344	007401		T144
00345	007507		T145
00346	007774		T146
00347	010105		T147
00350	010366		T150
00351	777430	END	0101

END

.EJECT

218 COMP OF PREVIOUS ADD

/INITIALIZE & CONTROL

```

00352 000000  INIT  0
00353 212214          LAC      M10T
00354 741200          SNA
                                /FIRST PASS AFTER LOAD?
00355 112041          JMS      MOD
                                /MODIFY IOT'S?
00356 111266          JMS      CRLF
                                /NO
00357 140472          DEM      FLAG
00360 777767          LAW      =11
00361 040601          DAC      CTR1
                                /SET COUNTER
00362 200577          LAC      CTDL
00363 140010          DAC      10
                                /SET POINTER
00364 100010          DEM     10
                                /CLEAR INDICATOR
00365 440601          ISZ      CTR1
                                /LAST INDICATOR?
00366 600364          JMP      ,=2
                                /NO
00367 600475          JMP      T0
                                /IO RESET TEST
00370 750004          ENDY0  LAS
                                /READ AC BIT 0
00371 740100          SMA
                                /IS MI REQUESTED?
00372 600434          JMP      ALTST
                                /NO, RUN ALL TESTS
00373 212612          MIT  LAC      (777747)
00374 111256          JMS      TYPE
                                /BELL
00375 750004          LAS
                                /READ AC BIT 0
00376 741100          SPA
                                /BIT 0=0?
00377 600375          JMP      MIT*2
                                /NO
00400 140472          DEM      FLAG
00401 750004          LAS
                                /READ AC BITS 11-17
00402 512613          AND      (177)
00403 741200          SNA
                                /DID OPERATOR SELECT A TEST?
00404 741000          SKP
                                /NO
00405 600411          JMP      ,=4
00406 212614          LAC      (START*1)
00407 040352          DAC      INIT
00410 600434          JMP      ALTST
                                /RUN ALL TESTS
00411 352015          TAD      (START)
                                /ADD CONSTANT
00412 040600          DAC      ADR
                                /STORE TEST POINTER
00413 340351          TAD      END
00414 741300          SNA|SPA
                                /IS SELECTED TEST LEGAL?
00415 600424          JMP      LPTST
                                /YES
00416 111266          JMS      CRLF
00417 111052          JMS      TTXT
                                /TYPE
00420 012320          ILLTST
00421 111266          JMS      CRLF
00422 740040          EILTST HALT
                                /ILLEGAL TEST # SELECTED, CORRECT & CONTINUE.
00423 600375          JMP      MIT*2
00424 151166          LPTST DEM
00425 200600          LAC      ALL
                                /GET TEST POINTER
00426 240473          XOR      JMS1
                                /INSERT JMS#
00427 040600          DAC      ADR
                                /STORE IT
00430 777776          LAW      =2
00431 040474          DAC      PASS
00432 400600          XCT      ADR
                                /RUN SELECTED TEST
00433 600430          JMP      ,=3
00434 151166          ALTST DEM
00435 451166          ISZ      ALL

```

00436	200352		LAC	INIT	/GET TEST POINTER
00437	512616		AND	(17777	
00440	240473		XOR	JMSI	/INSERT JMS•
00441	040600		DAC	ADR	/STORE IT
00442	777776		LAW	=2	
00443	040474		DAC	PASS	
00444	400600		XCT	ADR	/RUN TEST
00445	440352	LEV	ISE	INIT	/MOVE TEST POINTER
00446	200352		LAC	INIT	
00447	512616		AND	(17777	
00450	340351		TAD	END	
00451	741300		SNA/SPA		/PROGRAM PASS COMPLETE
00452	600434		JMP	ALTSY	/NO
00453	750004		LAS		/READ AC BIT 5
00454	512617		AND	(10000	
00455	741200		SNA		/RUN T07 TO T150 ONLY ?
00456	600462		JMP	.04	/NO
00457	212620		LAC	(SIN	
00460	040352		DAC	INIT	/SET TEST POINTER
00461	600465		JMP	.04	
00462	212615		LAC	(START	
00463	040352		DAC	INIT	
00464	440352		ISE	INIT	/SET TEST POINTER
00465	111266		JMS	CRLF	
00466	111052		JMS	TYXT	/TYPE
00467	012336		DONE		
00470	111266		JMS	CRLF	
00471	600370		JMP	ENDYS	/START OVER
00472	000000	/	FLAG	0	
00473	120000		JMSI	JMS•	
00474	000000		PASS	0	
				.EJECT	

/TEST 8. THE FOLLOWING ARE TESTED TO HAVE BEEN CLEARED BY IO RESET.
 /1. JOB DONE FLAG
 /2. ERROR FLAG
 /3. WORD COUNT REG
 /4. CURRENT ADDRESS REG
 /5. CYLINDER ADDRESS REG
 /6. HEAD ADDRESS REG
 /7. SECTOR ADDRESS REG
 /8. STATUS REG A BITS 0-17
 /9. STATUS REG B BITS 0-16
 /ALL ARE TESTED, SHOULD ANY FAIL, A REPORT OF WHAT WAS CLEARED AND WHAT
 /WAS NOT IS OUTPUT ON THE TTY.
 /

00475	200577	TD	LAC	CTBL	
00476	240010		DAC	10	/SET POINTER
00477	400107		XCT	DPSJ	/DONE FLAG CLEARED?
00500	600503		JMP	,03	/YES
00501	460010		ISE*	10	/SET FLAG
00502	741000		SKP		
00503	440010		ISE	10	/MOVE POINTER
00504	400112		XCT	DPSE	/ERROR FLAG CLEARED?
00505	600510		JMP	,03	/YES
00506	460010		ISE*	10	/SET FLAG
00507	741000		SKP		
00510	440010		ISE	10	/MOVE POINTER
00511	400126		XCT	DPRW	/READ WC REG
00512	110517		JMS	TAC	/TEST FOR 0 AC
00513	400110		XCT	DPCA	/READ CA REG
00514	110517		JMS	TAC	/TEST FOR 0 AC
00515	400122		XCT	DPRA	/READ CYL, HEAD & SECT ADD REGS
00516	040600		DAC	ADR	/STORE THEM
00517	741200		SNA		/ADD REGS???
00520	600532		JMP	TSTFR	/YES
00521	512621		AND	(770000	/MASK CYL ADD REG
00522	110517		JMS	TAC	/TEST FOR 0 AC
00523	200600		LAC	ADR	
00524	512622		AND	(1700	/MASK HEAD ADD REG
00525	110517		JMS	TAC	/TEST FOR 0 AC
00526	200600		LAC	ADR	
00527	512623		AND	(37	/MASK SECT ADD REG
00530	110517		JMS	TAC	/TEST FOR 0 AC
00531	600535		JMP	,04	
00532	440010	TSTFR	ISE	10	/MOVE POINTER 3X
00533	440010		ISE	10	
00534	440010		ISE	10	
00535	400103		XCT	DPRSA	/READ STATUS REG A
00536	110517		JMS	TAC	/TEST FOR 0 AC
00537	400106		XCT	DPRSB	/READ STATUS REG B
00540	744020		RCR		/MASK BITS 0-16
00541	110517		JMS	TAC	/TEST FOR 0 AC
00542	777767		LAW	=11	
00543	040601		DAC	CTR1	/SET COUNTER
00544	200577		LAC	CTBL	
00545	040010		DAC	10	/SET POINTER
00546	220010		LAC*	10	/GET INDICATOR

00547	740200	SEA		/INDICATOR=1?
00550	600554	JMP	ERP	/YES
00551	440601	ISE	CTR1	/LAST INDICATOR TESTED?
00552	600546	JMP	.04	/NO
00553	600370	JMP	ENDTB	/EXIT TEST
00554	110531	JMS	SIFT	/REPORT ERROR
00555	012257	DN		/TEXT POINTERS
00556	012261	ER		
00557	012263	WC		
00560	012265	CA		
00561	012272	CY		
00562	012274	ND		
00563	012276	SE		
00564	012300	SA		
00565	012302	SB		

/

/TB INDICATOR STORAGE TABLE

/

00566	000000
00567	000000
00570	000000
00571	000000
00572	000000
00573	000000
00574	000000
00575	000000
00576	000000

TBL 0

0

0

0

0

0

0

0

0

0

00577	000565
00600	000000
00601	000000

/

CTBL TBL-1

ADR 0

CTR1 0

.EJECT

/TEST 1, LOAD A BINARY UP-COUNT INTO THE MAINTENANCE REG,
/THE MAINT REG IS READ BACK AND ITS CONTENTS TESTED TO BE
/CORRECT AFTER EACH INCREMENT & LOAD IS EXECUTED.

```

/
T1      0
00602  000000      JMS      EHM          /ENTER MAINT MODE
00603  110600      DEM      CTRL1       /INIT COUNT
00604  140601      LAC      CTRL1       /GET COUNT
00605  200601      LAC      CTRL1
00606  352624      TAD      (400
00607  400115      XCT      DPEH        /LOAD MAINT REG WITH AC 12-17
00610  400111      XCT      DPRM        /READ MAINT REG INTO AC 0-9
00611  111104      JMS      RLSVN       /ROTATE INTO AC 12-17
00612  512625      AND      (77         /MASK AC 12-17
00613  540601      SAD      CTRL1       /MAINT REG CORRECT?
00614  600627      JMP      E1+2        /YES
00615  040646      DAC      TSTRG1
00616  760001      LAW      1
00617  110670      JMS      TYSTNO      /TYPE TEST #
00620  111052      JMS      TTXT        /TYPE
00621  012350      MAINRG
00622  111266      JMS      CRLF
00623  110564      JMS      RPT3        /REPORT ERROR
00624  111144      JMS      LPERR
00625  740040      E1      HALT

/ERROR, THE MAINT REG WAS LOADED WITH
/BITS 12-17 OF CTRL1. THE MAINT REG WAS
/THEN READ INTO BITS 0-9 OF THE AC. BITS
/0-9 OF THE AC WERE COMPARED WITH
/BITS 12-17 OF CTRL1. THEY DID NOT COMPARE
/SL1 MAY BE ENTERED MANUALLY FOR SCOPING,
/OR CONTINUE TO REPEAT TEST,
/INCREASE COUNT BY 1

00626  600603      JMP      T1+1
00627  440601      ISZ     CTRL1
00630  200601      LAC      CTRL1
00631  552626      SAD      (100
00632  741000      SKP
00633  600605      JMP      T1+3
00634  111217      JMS      ENDYST      /DONE
00635  600603      JMP      T1+1
00636  620602      JMP     T1          /REPEAT TEST
/EXIT TEST

/SCOPE LOOP FOR T1
/
SL1     XCT      DPCF        /RESET CONTROL
00637  400116      JMS      EHM        /ENTER MAINT MODE
00640  110600      LAC      CTRL1       /GET VALUE WHICH CAUSED FAILURE
00641  200601      TAD      (400
00642  352624      XCT      DPEH        /SET BIT 9 OF AC
00643  400115      XCT      DPRM        /LOAD MAINT REG WITH BITS 12-17 OF AC
00644  400111      XCT      DPRM        /READ MAINT REG INTO BITS 0-9 OF AC
00645  600637      JMP      SL1        /REPEAT

00646  000000      TSTRG1  0
00647  000000      TSTRG2  0
00650  000000      TSTRG3  0
, EJECT

```


/TEST 2, BIT 17 OF STATUS REG B IS TESTED TO BE SET WHEN SELECTING
/A UNIT OUT OF MAINT MODE.

```

/
T2      0
00651   000000
00652   400116      XCT      DPCF      /RESET CONTROL
00653   400106      XCT      DPRSB     /READ STATUS REG B
00654   512027      AND      (1)       /MASK BIT 17
00655   740200      SZA
00656   600664      JMP      E2+2     /STATUS REG B BIT 17 SET?
00657   760002      LAW      2        /YES
00660   110670      JMS     TTSTAO    /TYPE TEST #
00661   111144      JMS     LPEHR
00662   740040      E2      HALT     /ERROR, BIT 17 OF STATUS REG B FAILED TO
                                /SET, SL2 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
00663   600652      JMP      T2+1
00664   111217      JMS     ENDTST
00665   600652      JMP      T2+1    /DONE
00666   620651      JMP     T2       /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T2
/
SL2     XCT      DPCF      /RESET CONTROL
00667   400116      XCT      DPRSB     /READ STATUS REG B
00670   400106      JMP      SL2      /REPEAT
00671   600667      .EJECT

```

/TEST 3. BIT 17 OF STATUS REG B IS TESTED TO BE CLEAR WHEN SELECTING
/A UNIT WHILE IN THE MAINT MODE.

```

/
T3      0
        XCT      DPCF      /RESET CONTROL
        JMS      EMM       /ENTER MAINT MODE
        XCT      DPRSB     /READ STATUS REG B
        AND      (1        /MASK BIT 17
        SNA      /STATUS REG B BIT 17 CLEARED?
        JMP      E3*2      /YES
        LAW      3
        JMS      TTSTNO    /TYPE TEST0
        JMS      LPEHR
E3      HALT
        /ERROR BIT 17 OF STATUS REG B WAS SET,
        /SL3 MAY BE ENTERED MANUALLY FOR
        /SCOPING, OR CONTINUE TO REPEAT TEST.
        JMP      T3*1
        JMS      ENDTST
        JMP      T3*1
        JMP0     T3
        /REPEAT TEST
        /EXIT TEST

/SCOPE LOOP FOR T3
/
SL3     XCT      DPCF      /RESET CONTROL
        JMS      EMM       /ENTER MAINT MODE
        XCT      DPRSB     /READ STATUS REG B
        JMP      SL3
        .EJECT

```

```

00672  000007
00673  400116
00674  110600
00675  400106
00676  512627
00677  741200
00700  600706
00701  760003
00702  110670
00703  111144
00704  740040
00705  600673
00706  111217
00707  600673
00710  620672

```

```

00711  400116
00712  110600
00713  400106
00714  600711

```

/TEST 4, THE STATUS OF THE NORMAL/FORMAT SW IS TESTED USING THE
/DPSN 10T.

```

/
T4      0      0
00715  000000
00716  400121
00717  600721
00720  600747
00721  140752      FOR      DZN      CNT0
00722  777761      LAM      =17
00723  040753      DAC      CNT7
00724  111266      JMS      CRLF
00725  111052      JMS      TTXT
00726  012444      NFF
00727  111266      JMS      CRLF
00730  111052      JMS      TTXT
00731  012457      NFNTC
00732  111266      JMS      CRLF
00733  400121      FL      XCT      DPSN      /SKIP IF NORMAL
00734  741000      SKP
00735  600747      JMP      E4+2      /EXIT IN NORMAL MODE
00736  440752      ISZ      CNT0
00737  600733      JMP      FL
00740  440753      ISZ      CNT7
00741  600733      JMP      FL
00742  760004      LAM      4
00743  110670      JMS      TTSTNO      /TYPE TEST #
00744  111144      JMS      LPERR
00745  740040      E4      HALT
00746  600716      JMP      T4+1      /ERROR, DPSN DID NOT SKIP. CONTINUE TO
00747  111217      JMS      ENDTST      /REPEAT TEST.
00750  600716      JMP      T4+1      /DONE
00751  620715      JMP.     T4        /REPEAT TEST
                                /EXIT TEST

/
CNT6   0
00752  000000      CNT6   0
00753  000000      CNT7   0
                                .EJECT

```

/TEST 9, LOAD A BINARY UP-COUNT INTO THE WORD COUNT REG, THE
 /WC REG IS READ BACK AND ITS CONTENTS TESTED TO BE CORRECT
 /AFTER EACH INCREMENT & LOAD IS EXECUTED.

00754 000000
 00755 140601
 00756 200601
 00757 400113
 00760 400126
 00761 540601
 00762 600771
 00763 040646
 00764 760009
 00765 110620
 00766 111144
 00767 740040

/
 Y5 0
 DEN CTR1
 LAC CTR1
 XCT DPWC
 XCT DPRW
 SAD CTR1
 JMP ES+2
 DAC YSTRG1
 LAW 5
 JMS RPT1
 JMS LPERR
 ES HALT

/INIT COUNT
 /GET COUNT
 /LOAD WC REG
 /READ WC REG
 /WC REG CORRECT?
 /YES

/REPORT ERROR

/ERROR, THE WC REG WAS LOADED WITH THE
 /CONTENTS OF CTR1, THE WC REG WAS THEN READ
 /INTO THE AC. THE CONTENTS OF THE AC WAS
 /THEN COMPARED TO THE CONTENTS OF CTR1. THEY
 /DID NOT COMPARE, SLS MAY BE ENTERED
 /MANUALLY FOR SCOPING, OR CONTINUE TO
 /REPEAT TEST,
 /INCREASE COUNT BY 1

00770 600755
 00771 440601
 00772 600756
 00773 111217
 00774 600755
 00775 620754

JMP Y5+1
 ISB CTR1
 JMP Y5+2
 JMS ENDTST
 JMP Y5+1
 JMP Y5

/DONE
 /REPEAT TEST
 /EXIT TEST

/SCOPE LOOP FOR Y5

/SLS
 XCT DPWF
 LAC CTR1
 XCT DPWC
 XCT DPRW
 JMP SLS
 .EJECT

/RESET CONTROL
 /GET VALUE WHICH CAUSE FAILURE
 /LOAD WC REG
 /READ WC REG
 /REPEAT

00776 400116
 00777 200601
 01000 400113
 01001 400126
 01002 600776

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/TEST 6, LOAD THE WC REG WITH 777777, CLEAR IT WITH THE DPCF IOT, READ IT BACK &
/TEST IT TO EQUAL 0.

```

/
T6      0
01003   000000      LAW      =1
01004   777777      XCT      DPMC      /LOAD WC REG
01005   400113      XCT      DPCF      /RESET CONTROL
01006   400116      XCT      DPRW      /READ WC REG
01007   400126      XCY      SNA      /WC REG=0?
01010   741200      JMP      E6+2      /YES
01011   601025      DAC      TSTRG1
01012   040646      LAW      6
01013   760006      JMS     TTSTNO      /TYPE TEST 0
01014   110670      JMS     TTXT       /TYPE
01015   111052      WC
01016   012263      LAC     TSTRG1
01017   200646      JMS     TOGT       /TYPE CONTENTS OF WC REG
01020   111300      JMS     CRLF
01021   111266      JMS     LPERR
01022   111144      E6      HALT
01023   740042
/ERROR, THE WC REG WAS NOT CLEARED BY THE
/DPCF IOT, SL6 MAY BE ENTERED MANUALLY
/FOR SCOPING, OR CONTINUE TO REPEAT TEST.
01024   601004      JMP     T6+3
01025   111217      JMS     ENDTST
01026   601004      JMP     T6+3
01027   621003      JMP0   T6
/REPEAT TEST
/EXIT TEST

/SCOPE LOOP FOR T6
/
SL6     LAW      =1
01030   777777      XCT      DPMC      /LOAD WC REG
01031   400113      XCT      DPCF      /RESET CONTROL
01032   400116      XCT      DPRW      /READ WC REG
01033   400126      JMP     SL6
01034   601030      .EJECT
/REPEAT

```

/TEST 7. INCREMENT THE WC REG TO ALL POSSIBLE VALUES. THE WC REG IS LOADED WITH
/N=1. INCREMENTED TO N, ITS CONTENTS ARE READ AND TESTED TO BE CORRECT.

```

/
T7      0
01035   000000
01036   400110      XCT      DPCF      /RESET CONTROL
01037   110600      JMS      ENH      /ENTER MAINT MODE
01040   140601      DEM      CTR1     /INIT COUNT
01041   200601      LAC      CTR1     /GET COUNT
01042   400113      XCT      DPWC     /LOAD WC REG
01043   110604      JMS      IHR     /MAINT=INCREMENT WC REG
01044   400126      XCT      DPRW     /READ WC REG
01045   040646      DAC      TSTRG1
01046   200601      LAC      CTR1
01047   352627      TAD      (1
01050   540646      SAD      TSTRG1   /WC REG CORRECT?
01051   601060      JMP      E7+2     /YES
01052   040601      DAC      CTR1
01053   760007      LAM      7
01054   110620      JMS      RPT1    /REPORT ERROR
01055   111144      JMS      LPEHR
01056   740040      E7      HALT

/ERROR, THE WC REG WAS LOADED WITH THE CONTENTS
/OF CTR1, IT WAS THEN INCREMENTED AND READ INTO
/THE AC TO BE TESTED. IT WAS NOT CORRECT, SL7 MAY
/BE ENTERED MANUALLY FOR SCOPING, OR CONTINUE TO
/REPEAT TEST.
/INCREASE COUNT BY ONE

01057   601036      JMP      T7+1
01060   440601      ISB     CTR1
01061   601041      JMP      T7+4
01062   111217      JMS     ENDTST   /DONE
01063   601036      JMP      T7+1   /REPEAT TEST
01064   621035      JMP*    T7      /EXIT TEST

/SCOPE LOOP FOR T7
/
SL7     XCT      DPCF      /RESET CONTROL
01066   110600      JMS      ENH      /ENTER MAINT MODE
01067   200601      LAC      CTR1
01070   352630      TAD      (01     /MAKE IT N=1
01071   400113      XCT      DPWC     /LOAD WC REG
01072   110604      JMS      IHR     /MAINT=INCREMENT WC REG
01073   400126      XCT      DPRW     /READ WC REG
01074   601065      JMP      SL7     /REPEAT
      .EJECT

```

• MAINDEC-15-05MB • NOVEMBER 24, 1971 •

/TEST 10, SET THE JOB DONE FLAG WITH DPEM,
 /TEST FOR IT USING THE DPSJ IOT,

```

/
T10      B
01075    000000
01076    400116      XCT      DPCF      /RESET CONTROL
01077    110600      JMS      EHM      /ENTER MAINT MODE
01100    760220      LAW      220
01101    400115      XCT      DPEM      /SET DONE FLAG
01102    400107      XCT      DPSJ      /JOB DONE FLAG SET?
01103    741000      SKP
01104    601112      JMP      E10*2      /YES
01105    760010      LAW      10
01106    110670      JMS      T10TNO     /TYPE TEST#
01107    111144      JMS      LPERR
01110    740040      E10      HALT      /ERROR, THE DONE FLAG WAS NOT SET
                                /BY THE DPEM IOT, OR THE DPSJ IOT
                                /FAILED TO SKIP ON THE JOB DONE FLAG.
                                /SL10 MAY BE ENTERED MANUALLY FOR SCOPING,
                                /OR CONTINUE TO REPEAT TEST.

01111    601076      JMP      T10*1
01112    111217      JMS      ENDTST
01113    601076      JMP      T10*1      /DONE
01114    621075      JMP     T10      /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T10
/
SL10     XCT      DPCF      /RESET CONTROL
01115    400116      JMS      EHM      /ENTER MAINT MODE
01116    110600      LAW      220
01117    760220      XCT      DPEM      /SET DONE FLAG
01120    400115      XCT      DPSJ      /SKIP ON JOB DONE FLAG
01121    400107      JMP      SL10      /REPEAT
01122    601115      JMP      SL10      /REPEAT
01123    601115      JMP      SL10
                                .EJECT

```

/TEST 11, CLEAR THE JOB DONE FLAG WITH THE DPCF IOT, THE DONE FLAG IS INITIALLY
/SET BY DPEM, TEST UPSJ FOR NO SKIP.

```

/
01124 000000 T11 B
01125 110600 JMS EHM /ENTER MAINT MODE
01126 760220 LAW 220
01127 400115 XCT DPEM /SET DONE FLAG
01130 400116 XCT DPCF /RESET CONTROL
01131 400107 XCT DPSJ /JOB DONE FLAG CLEARED?
01132 601140 JMP E11*2 /YES
01133 760011 LAW 11
01134 110670 JMS TTSTNO /TYPE TEST #
01135 111144 JMS LPERR
01136 740040 E11 HALT /ERROR, THE DONE FLAG WAS NOT CLEARED BY
/ THE DPCF IOT, SL11 MAY BE ENTERED MANUALLY
/ FOR SCOPING, OR CONTINUE TO REPEAT TEST.

01137 601125 JMP T11*1 /DONE
01140 111217 JMS ENDTST /REPEAT TEST
01141 601125 JMP T11*1 /EXIT TEST
01142 621124 JMP. T11

/SCOPE LOOP FOR T11
/
01143 110600 SL11 JMS EHM /ENTER MAINT MODE
01144 760220 LAW 220
01145 400115 XCT DPEM /SET DONE FLAG
01146 400116 XCT DPCF /RESET CONTROL
01147 400107 XCT DPSJ /SKIP ON JOB DONE FLAG
01150 601143 JMP SL11 /REPEAT
01151 601143 JMP SL11 /REPEAT
.EJECT

```


* MAINDEC-15-D5HB * NOVEMBER 24, 1971 *

/TEST 12, LOAD A BINARY UP-COUNT INTO CURRENT ADDRESS REG, THE
 /CA REG IS READ BACK AND ITS CONTENTS TESTED TO BE CORRECT
 /AFTER EACH INCREMENT & LOAD IS EXECUTED.

```

01152 000000 /
01153 140601 T12 0
01154 200601 DZM CTR1 /INIT COUNT
01155 400110 LAC CTR1 /GET COUNT
01156 400123 XCT DPCA /LOAD CA REG
01157 540601 XCT DPRC /READ CA REG
01160 601167 SAD CTR1 /CA REG CORRECT?
01161 040646 JMP E12+2 /YES
01162 760012 DAC TSTNG1
01163 110640 LAW 12
01164 111144 JMS RPT2 /REPORT ERROR
01165 740040 JMS LPEHR
E12 HALT /ERROR, THE CA REG WAS LOADED WITH THE
/CONTENTS OF CTR1, THE CA REG WAS THEN READ
/INTO THE AC, THE CONTENTS OF THE AC WAS
/COMPARED TO CTR1, THEY DID NOT COMPARE,
/SL12 MAY BE ENTERED MANUALLY FOR SCOPING,
/OR CONTINUE TO REPEAT TEST,
/INCREASE COUNT BY 1

01166 601153 JMP T12+1
01167 440601 ISZ CTR1
01170 601154 JMP T12+2
01171 111217 JMS ENDTST /DONE
01172 601153 JMP T12+1 /REPEAT TEST
01173 621152 JMP* T12 /EXIT TEST

/
/SCOPE LOOP FOR T12
/
01174 400116 SL12 XCT DPCF /RESET CONTROL
01175 200601 LAC CTR1 /GET VALUE WHICH CAUSED FAILURE
01176 400110 XCT DPCA /LOAD CA REG
01177 400123 XCT DPRC /READ CA REG
01200 601174 JMP SL12 /REPEAT
.EJECT

```

• MAINDEC-15-D3MB • NOVEMBER 24, 1971 •

/TEST 13, LOAD THE CA REG WITH -1, CLEAR IT WITH THE DPCF IOT, READ IT
/BACK & TEST IT TO EQUAL 0.

```

/
01201 000000 T13 0
01202 777777 LAW =1
01203 400110 XCT DPCA /LOAD CA REG
01204 400110 XCT DPCF /RESET CONTROL
01205 400123 XCT DPCG /READ CA REG
01206 741200 SNA /CA REG = 0?
01207 601223 JMP E13+2 /YES
01210 240646 DAC YSTRG1
01211 760013 LAW 13
01212 110670 JMS TTSTNO /TYPE TEST #
01213 111052 JMS TTXT /TYPE-
01214 012265 CA
01215 200646 LAC YSTRG1
01216 111300 JMS YOCT /TYPE CONTENTS OF CA REG
01217 111266 JMS CRLF
01220 111144 JMS LPERR
01221 740040 E13 HALT /ERROR, THE CA REG WAS NOT CLEARED BY
/ THE DPCF IOT, SL13 MAY BE ENTERED MANUALLY
/ FOR SCOPING, OR CONTINUE TO REPEAT TEST.

01222 601202 JMP T13+1 /DONE
01223 111217 JMS ENDTST /REPEAT TEST
01224 601202 JMP T13+1 /EXIT TEST
01225 621201 JMP. T13

/SCOPE LOOP FOR T13
/
01226 777777 SL13 LAW =1
01227 400110 XCT DPCA /LOAD CA REG
01230 400110 XCT DPCF /RESET CONTROL
01231 400123 XCT DPCG /READ CA REG
01232 601226 JMP SL13 /REPEAT
.EJECT

```

/TEST 14. INCREMENT THE CA REG TO ALL POSSIBLE VALUES. THE CA REG IS LOADED
/WITH N=1, INCREMENTED TO N, ITS CONTENTS ARE READ AND TESTED TO BE CORRECT.

```

01233 000000      T14      0
01234 110600      JMS      EHM      /ENTER MAINT MODE
01235 140601      DZM      CTR1     /INIT COUNT
01236 200601      LAC      CTR1     /GET COUNT
01237 400110      XCT      DPCA     /LOAD CA REG
01240 760210      LAW      210
01241 400115      XCT      DPEM     /MAINT=INCREMENT CA REG
01242 400123      XCT      DPRC     /READ CA REG
01243 040646      DAC      TSTRG1
01244 200601      LAC      CTR1
01245 352627      TAD      (1
01246 540646      SAD      TSTRG1   /CA REG CORRECT?
01247 601256      JMP      E14*2   /YES
01250 040601      DAC      CTR1
01251 760014      LAW      14
01252 110640      JMS      RPTZ
01253 111144      JMS      LPEHR   /REPORT ERROR
01254 740040      E14      HALT

                                /ERROR, THE CA REG WAS LOADED WITH THE
                                /CONTENTS OF CTR1, IT WAS THEN INCREMENTED
                                /AND READ INTO THE AC TO BE TESTED, IT
                                /WAS NOT CORRECT, SL14 MAY BE ENTERED
                                /MANUALLY FOR SCOPING, OR CONTINUE TO
                                /REPEAT TEST.
                                /INCREASE COUNT BY 1

01255 601234      JMP      T14*1
01256 440601      ISB      CTR1
01257 601236      JMP      T14*3
01260 111217      JMS      ENDTST  /DONE
01261 601234      JMP      T14*1  /REPEAT TEST
01262 621233      JMP     T14     /EXIT TEST

/SCOPE LOOP FOR T14
/SL14
01263 400116      XCT      DPCF   /RESET CONTROL
01264 110600      JMS      EHM   /ENTER MAINT MODE
01265 200601      LAC      CTR1  /GET COUNT
01266 352630      TAD      (01  /MAKE IT N=1
01267 400110      XCT      DPCA  /LOAD CA REG
01270 760210      LAW      210
01271 400115      XCT      DPEM  /MAINT=INCREMENT CA REG
01272 400123      XCT      DPRC  /READ CA REG
01273 601263      JMP      SL14  /REPEAT
                                .EJECT

```

/TEST 15, THE SECTOR, HEAD AND CYLINDER ADDRESS REGS ARE LOADED WITH
 /A COUNT, THE HARDWARE ADD REGS ARE READ & TESTED
 /TO BE CORRECT AFTER EACH INCREMENT AND LOAD.

```

01274 000000      /
01275 110627      T15      0
01276 111326      JMS      CLRARS      /CLEAR SOFTWARE ADD REGS
01277 400102      JMS      ASADRG      /ASSEMBLE ADD INTO AC & CTR1
01300 400122      XCT      DPLA      /LOAD CYL, HEAD & SECT ADD REGS
01301 540601      XCT      DPRA      /READ CYL, HEAD & SECT ADD REGS
01302 601312      SAD      CTR1      /CYL, HEAD & SECT ADD REGS CORRECT?
01303 051432      JMP      E15*2      /YES
01304 111366      DAC      CTR2
01305 760015      JMS      UNPKAR      /UNPACK ADD REGS
01306 110732      LAW      15
01307 111144      JMS      RPT4      /REPORT ERROR
01310 740040      JMS      LPEHR
      E15      HALT      /ERROR, THE CYL, HEAD & SECT ADD REGS
      /WERE LOADED, AND WHEN READ BACK ONE OR
      /MORE WERE INCORRECT, SL15 MAY BE
      /ENTERED MANUALLY FOR SCOPING, OR CON=
      /TINUE TO REPEAT TEST,
      /INCREMENT SOFTWARE ADD REGS

01311 601275      JMP      T15*1
01312 111441      JMS      ADDHEG
01313 601276      JMP      T15*2
01314 111217      JMS      ENDTST      /DONE
01315 601275      JMP      T15*1      /REPEAT TEST
01316 621274      JMP*     T15      /EXIT TEST

      /
      /SCOPE LOOP FOR T15
      /
01317 400116      SL15     XCT      DPCF      /RESET CONTROL
01320 200601      LAC      CTR1      /GET COUNT WHICH CAUSED FAILURE
01321 400102      XCT      DPLA      /LOAD CYL, HEAD & SECT ADD REGS
01322 400122      XCT      DPRA      /READ CYL, HEAD & SECT ADD REGS
01323 601317      JMP      SL15      /REPEAT
      .EJECT

```

/TEST 16, ALL BITS IN THE CYL, HEAD & SECT ADD REGS ARE SET, THEY ARE
/THEN CLEARED WITH THE DPCF IOT, READ BACK & TESTED TO EQUAL 0.

```

01324 000000
01325 777757
01326 400102
01327 400116
01328 400122
01331 741200
01332 601342
01333 051432
01334 111366
01335 760016
01336 1107'0
01337 111114
01340 740040

T16 0
      LAW      17757
      XCT      DPLA      /LOAD ADD REGS
      XCT      DPCF      /RESET CONTROL
      XCT      DPRÄ      /READ ADD REGS
      SNA
      JMP      E16+2      /ADD REGS=0?
                          /YES
      DAC      CTR2
      JMS      UNPKAR      /UNPACK ADD REGS
      LAW      16
      JMS      RPTD      /REPORT ERROR
      JMS      LPERR
E16  HALT

      JMP      T16+1
      JMS      ENDTST
      JMP      T16+1
      JMP.     T16

/SCOPE LOOP FOR T16
/
SL16 LAW      17757
      XCT      DPLA      /LOAD ADD REGS
      XCT      DPCF      /RESET CONTROL
      XCT      DPRÄ      /READ ADD REGS
      JMP      SL16      /REPEAT
      .EJECT

```

/ERROR, THE ADD REGS WERE NOT CLEARED BY
/THE DPCF IOT, SL16 MAY BE ENTERED
/MANUALLY FOR SCOPING, OR
/CONTINUE TO REPEAT TEST.
/DONE
/REPEAT TEST
/EXIT TEST

/TEST 17. INCREMENT THE CYL, HEAD & SECT ADD REGS TO ALL POSSIBLE LEGAL
/VALUES. THE ADD REGS ARE LOADED WITH N-1, INCREMENTED, AND THEN ARE
/READ AND TESTED TO BE CORRECT.

```

/
01352 000000 T17 0
01353 110600 JMS EMM /ENTER MAINT MODE
01354 110627 JMS CLRARS /CLEAR SOFTWARE ADD REGS
01355 750000 CLA
01356 041404 DAC CTR4
01357 400102 XCT DPLA /LOAD CYL, HEAD & SECT ADD REGS
01360 1'0610 JMS ISAR /MAINT=INCREMENT SECT ADD REG
01361 400122 XCT DPRA /READ CYL, HEAD & SECT ADD REGS
01362 051432 DAC CTR2
01363 111441 JMS ADDR3 /INCREMENT SOFTWARE ADD REG
01364 111326 JMS ASADR3 /ASSEMBLE IT FOR COMPARISON
01365 551432 SAD CTR2 /CYL, HEAD & SECT ADD REGS CORRECT?
01366 601375 JMP E17*2 /YES
01367 111366 JMS UNPKAR /UNPACK ADD REGS
01370 760017 LAW 17
01371 110732 JMS RPT4 /REPORT ERROR
01372 111144 JMS LPERR
01373 740040 E17 HALT /ERROR. THE CYL, HEAD & SECT ADD REGS
/WERE LOADED, INCREMENTED AND WHEN READ
/BACK WERE NOT CORRECT, SL17 MAY BE
/ENTERED MANUALLY FOR SCOPING, OR CON-
/TINUE TO REPEAT TEST.
/GET VALUE AFTER LAST INCREMENT
/TEST DONE
/YES
01374 601353 JMP T17*1
01375 200601 LAC CTR1
01376 552031 SAD (029151
01377 741000 SKP
01400 601356 JMP T17*4
01401 111217 JMS ENDTST /DONE
01402 601353 JMP T17*1 /REPEAT TEST
01403 621352 JMP* T17 /EXIT TEST
/
01404 000000 CTR4 0
/SCOPE LOOP FOR T17
/
01405 400116 SL17 XCT DPCF /RESET CONTROL
01406 110600 JMS EMM /ENTER MAINT MODE
01407 201404 LAC CTR4 /GET VALUE WHICH CAUSED FAILURE
01410 400102 XCT DPLA /LOAD CYL, HEAD & SECT ADD REGS
01411 110610 JMS ISAR /MAINT=INCREMENT SECT ADD REG
01412 400122 XCT DPRA /READ CYL, HEAD & SECT ADD REGS
01413 601405 JMP SL17 /REPEAT
.EJECT

```

/TEST 20. THE CYLINDER ADD REG IS LOADED WITH A COUNT AND THE UNIT
/CYLINDER ADDRESS IS READ AND TESTED TO COMPARE, A BINARY UP-COUNT
/OF 0-312 IS USED,

```

/
01414 000000 T20 0
01415 110627 JMS CLRARS /CLEAR SOFTWARE ADD REGS
01416 110600 JMS EMH /ENTER MAINT MODE
01417 111326 JMS ASADRG /ASSEMBLE ADD INTO AC
01420 041404 DAC CTR4
01421 400102 XCT DPLA /LOAD CYL ADD REG
01422 400120 XCT DPRU /READ UNIT CYL ADD REG
01423 551467 SAD CYL /UNIT CYL ADD REG CORRECT?
01424 601441 JMP E20*2 /YES
01425 040646 DAC TSTRG1
01426 211467 LAC CYL
01427 040601 DAC CTR1
01430 760020 LAM 20
01431 110670 JMS TYSTNO /TYPE TEST 0
01432 111052 JMS TTYT /TYPE
01433 012267 UCA

01434 111266 JMS CRLF
01435 110564 JMS RPTJ /REPORT ERROR
01436 111144 JMS LPERR
01437 740040 E20 HALT /ERROR, THE UNIT CYL ADD READ DID NOT
/EQUAL THE CYL ADD REG, OR THE DPRU IOT
/FAILED, SL20 MAY BE ENTERED MANUALLY FOR
/SCOPING, OR CONTINUE TO REPEAT TEST.

01440 601415 JMP T20*1 /GET COUNT
01441 211467 LAC CYL /TEST DONE?
01442 552632 SAD (312 /YES
01443 601446 JMP ,*3 /INCREASE COUNT BY 1
01444 451467 ISB CYL
01445 601417 JMP T20*3 /DONE
01446 111217 JMS ENDTST /REPEAT TEST
01447 601415 JMP T20*1 /EXIT TEST
01450 621414 JMP0 T20

/SCOPE LOOP FOR T20
/
01451 400116 SL20 XCT DPGF /RESET CONTROL
01452 110600 JMS EMH /ENTER MAINT MODE
01453 201404 LAC CTR4 /GET ADDRESS WHICH CAUSED FAILURE
01454 400102 XCT DPLA /LOAD CYL ADD REG
01455 400120 XCT DPRU /READ UNIT CYL ADD REG
01456 601451 JMP SL20 /REPEAT
.EJECT

```

/TEST 21. LOAD A BINARY UP COUNT INTO BITS 0-8 OF STATUS REG A,
 /STATUS REG A IS READ BACK AND ITS CONTENTS TESTED TO BE CORRECT
 /AFTER EACH INCREMENT & LOAD IS EXECUTED.

```

01457 000000 T21 0
01460 140601 DZM CTR1 /INIT COUNT
01461 110600 JMS ENH /ENTER MAINT MODE
01462 200601 LAC CTR1 /GET COUNT
01463 400125 XCT DPLF /LOAD FUNCTION REG
01464 110526 JMS H4U
01465 400103 XCT DPRSA /READ STATUS REG A
01466 512633 AND (777000 /MASK BITS 0-8
01467 540601 SAD CTR1 /FUNCTION REG CORRECT?
01470 601477 JMP E21*2 /YES
01471 040646 DAC TSTRG1
01472 760021 LAM 21
01473 111010 JMS RPT0 /REPORT ERROR
01474 111144 JMS LPEAR
01475 740040 E21 HALT /ERROR, THE FUNCTION REG WAS INCORRECT
/WHEN READ, OR THE DPLF OR DPRSA IOT
/FAILED. SL21 MAY BE ENTERED MANUALLY
/FOR SCOPING, OR CONTINUE TO REPEAT TEST.

01476 601460 JMP T21*1
01477 200601 LAC CTR1
01500 552633 SAD (777000 /GET COUNT
01501 601505 JMP .04 /TEST DONE?
01502 352634 TAD (1000 /YES
01503 040601 DAC CTR1 /INCREASE COUNT BY 1
01504 601463 JMP T21*4
01505 111217 JMS ENDTST /DONE
01506 601460 JMP T21*1 /REPEAT TEST
01507 621457 JMP. T21 /EXIT TEST

/SCOPE LOOP FOR T21
/
01510 400116 SL21 XCT DPCF /RESET CONTROL
01511 110600 JMS ENH /ENTER MAINT MODE
01512 200601 LAC CTR1 /GET COUNT WHICH CAUSED FAILURE
01513 400125 XCT DPLF /LOAD FUNCTION REG
01514 110526 JMS H4U
01515 400103 XCT DPRSA /READ STATUS REG A
01516 601510 JMP SL21 /REPEAT
.EJECT

```


/TEST 22. SET BITS 0-8 OF STATUS REG A, CLEAR THEM WITH THE DPCF IOT.
/READ STATUS REG A & TEST BITS 0-8 TO EQUAL 0.

```

/
T22      0
01517    000000      JMS      EMH          /ENTER MAINT MODE
01520    110600      LAM      17000
01521    777000      XCT      DPLF        /LOAD FUNCTION REG
01522    400125      XCT      DPCF        /RESET CONTROL
01523    400110      XCT      DPRSA       /READ STATUS REG A
01524    400103      XCT      DPRSA       /READ STATUS REG A
01525    512633      AND      (777000)    /MASK BITS 0-8
01526    741200      SNA
01527    601545      JMP      E22*2       /FUNCTION REG=0?
01530    040646      DAC      TSTRG1      /YES
01531    760022      LAM      22
01532    110670      JMS      TTSTNO      /TYPE TEST 0
01533    111052      JMS      TTX1        /TYPE
01534    012300      SA
01535    777777      LAM      =1
01536    111232      JMS      TSPACE
01537    200646      LAC      TSTRG1
01540    111300      JMS      YOGT        /TYPE CONTENTS OF FUNCTION REG
01541    111266      JMS      CRLF
01542    111144      JMS      LPERR
01543    740040      E22      HALT
                                /ERROR, THE DPCF IOT FAILED TO CLEAR THE
                                /FUNCTION REG, BL22 MAY BE ENTERED MAN-
                                /UALLY FOR SCOPING, OR CONTINUE TO
01544    601520      JMP      T22*1       /REPEAT TEST.
01545    111217      JMS      ENDTST      /DONE
01546    601520      JMP      T22*1       /REPEAT TEST
01547    621517      JMP*     T22         /EXIT TEST

/SCOPE LOOP FOR T22
/
BL22     JMS      EMH          /ENTER MAINT MODE
01550    110600      LAM      17000
01551    777000      XCT      DPLF        /LOAD FUNCTION REG
01552    400125      XCT      DPCF        /RESET CONTROL
01553    400110      XCT      DPRSA       /READ STATUS REG A
01554    400103      XCT      DPRSA       /READ STATUS REG A
01555    601550      JMP      BL22        /REPEAT
                                .EJECT

```

/TEST 23. AN ATTEMPT IS MADE TO WRITE ON ALL CYLINDERS OF EACH UNIT.
 /BITS 9 AND 14 OF STATUS REG A ARE TESTED AFTER EACH WRITE
 /COMMAND. EACH TIME BOTH BITS ARE SET, THE UNIT NUMBER AND
 /CYLINDER ADDRESS WHICH CAUSED THE ERROR ARE OUTPUT ON THE TTY.
 /EITHER BIT SET WITHOUT THE OTHER IS AN ERROR HALT.

```

01556 000000      /
01557 110627      T23      0
01560 141654      JMS      CLRARB      /CLEAR SOFTWARE ADD REGS
01561 212635      OEH      PROTCY      /CLEAR FLAG
01562 041655      LAC      (21000
01563 151467      DAC      UNIT      /INIT TO WRITE UNIT 0
01564 400110      DEN      CYL      /INIT TO CYL 0
01565 110600      TSTBB   XCT      DPCF      /RESET CONTROL
01566 111326      JMS      EHM      /ENTER MAINT MODE
01567 400102      JMS      ASADRG      /ASSEMBLE ADDRESS
01570 201655      XCT      DPLA      /LOAD ADD REGS
01571 400125      LAC      UNIT      /WRITE ON CURRENT UNIT
01572 110526      XCT      DPLF      /LOAD FUNCTION REG
01573 400103      JMS      H4U
01574 512636      XCT      DPRBA      /READ STATUS REG A
01575 741200      AND      (410      /MASK BITS 9 AND 14
01576 601636      SNA      /WRITE PROTECT ERROR?
01577 552636      JMP      END23      /NO
01600 601606      SAD      (410      /BOTH SET?
01601 760023      JMP      E23*2      /YES
01602 110670      LAW      23
01603 111144      JMS      TYSTNO      /TYPE TEST0
01604 740040      JMS      LPERR
                                E23      HALT
                                /ERROR, EITHER BIT 9 OR BIT 14
                                /WAS SET AND THE OTHER WAS NOT,
                                /CONTINUE TO REPEAT TEST,
                                /GET FLAG
                                /FIRST TIME THROUGH?
01605 601557      JMP      T23*1
01606 201654      LAC      PROTCY
01607 740200      SEA
01610 601616      JMP      TUC
01611 441654      ISE      PROTCY      /YES
01612 111266      JMS      CRLF
01613 111052      JMS      TTXI      /TYPE
01614 012411      UNICYL
01615 111266      JMS      CRLF
01616 201655      TUC   LAC      UNIT
01617 742010      RYL
01620 742010      RYL
01621 512637      AND      (7
01622 111300      JMS      TOCT      /TYPE UNIT
01623 777777      LAW      =1
01624 111232      JMS      TSPACE      /TYPE A SPACE
01625 211467      LAC      CYL
01626 111300      JMS      TOCT      /TYPE CYL
01627 111266      JMS      CRLF
01630 400112      XCT      OPSE      /ERR FLG SET?
01631 741000      SKP      /NO
01632 601636      JMP      END23      /YES
01633 760023      LAW      23
01634 112170      JMS      RPT13
01635 601603      JMP      E23*1
  
```

01636	211467	END23	LAC	CYL	
01637	552632		SAD	(312	/LAST CYL?
01640	601643		JMP	,03	/YES
01641	451467		ISZ	CYL	
01642	601564		JMP	TST00	
01643	201655		LAC	UNIT	
01644	552640		SAD	(721200	/LAST UNIT?
01645	601651		JMP	,04	/YES
01646	352641		TAD	(100200	
01647	241655		DAC	UNIT	
01650	601563		JMP	TST00-1	
01651	111217		JMS	ENDTST	/DONE
01652	601557		JMP	T23*1	
01653	621556		JMP*	T23	/EXIT TEST
01654	000000	/	PROTCT	0	
01655	000000	/	UNIT	0	
		/			
			.EJECT		

/TEST 24. BIT 10 OF STATUS REG A IS TESTED TO BE SET AFTER LOADING
/EACH OF THE ILLEGAL CYLINDER ADDRESSES INTO THE CYL ADD REG.

```

/
T24      0
01656    000000      JMS      CLRARS      /CLEAR SOFTWARE ADD REGS
01657    110627      LAC      (313
01662    212642      DAC      CYL          /INIT CYL
01661    051467      JMS      ASADRG      /ASSEMBLE ADDRESS INTO AC & CTR1
01662    111326      XCT      CPLA        /LOAD CYL ADD REG
01663    400102      XCT      DPRSA       /READ STATUS REG A
01664    400103      AND      (200        /MASK BIT 10
01665    512615      SZA      /STATUS REG A BIT 10 SET?
01666    740200      JMP      E24*2      /YES
01667    601675      LAM      24
01670    760024      JMS      RPT7
01671    111017      JMS      LPEHR      /REPORT ERROR
01672    111144      E24      HALT
01673    740040

                                /ERROR, BIT 10 OF STATUS REG A FAILED TO
                                /SET WHEN AN ILLEGAL CYL ADD WAS LOADED.
                                /SL24 MAY BE ENTERED MANUALLY FOR SCOPING.
                                /OR CONTINUE TO REPEAT TEST.
01674    601657      JMP      T24*1      /GET ADDRESS
01675    211467      LAC      CYL          /TEST DONE?
01676    552643      SAD      (377
01677    601702      JMP      ,*3        /YES
01700    451467      ISE      CYL          /INCREMENT ADDRESS
01701    601662      JMP      T24*4
01702    111217      JMS      ENDTST
01703    601657      JMP      T24*1      /DONE
01704    621656      JMP*     T24        /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T24
/
SL24     XCT      DPCF      /RESET CONTROL
01705    400116      LAC      CTR1       /ADDRESS WHICH CAUSED FAILURE
01706    200601      XCT      DPLA       /LOAD CYL ADD REG
01707    400102      XCT      DPRSA      /READ STATUS REG A
01710    400103      JMP      SL24       /REPEAT
01711    601705      .EJECT

```

/TEST 25, BIT 10 OF STATUS REG A IS TESTED TO BE CLEARED AFTER LOADING
/EACH OF THE LEGAL CYLINDER ADDRESSES INTO THE CYL ADD REG.

```

01712 000000      /
01713 110627      T25      0
01714 111326      JMS      CLRARS      /CLEAR SOFTWARE ADD REGS
01715 400102      JMS      ASADRG      /ASSEMBLE ADDRESS INTO AC 8 CTR1
01716 400103      XCT      DPLA      /LOAD CYL ADD REG
01717 512015      XCT      DPRSA      /READ STATUS REG A
01720 741200      AND      (200)      /MASK BIT 10
01721 601727      SNA      /STATUS REG A BIT 10 CLEARED?
01722 760025      JMP      E25*2      /YES
01723 111017      LAW      25
01724 111144      JMS      RPT7      /REPORT ERROR
01725 740040      JMS      LPERR
      E25      HALT      /ERROR, BIT 10 OF STATUS REG A WAS SET
      /AFTER A LEGAL CYL ADD WAS LOADED,      SL25
      /MAY BE ENTERED MANUALLY FOR SCOPING.
      /OR CONTINUE TO REPEAT TEST.
01726 601713      JMP      T25*1
01727 211467      LAC      CYL
01730 552032      SAD      (312)
01731 601734      JMP      ,+3
01732 451467      ISB      CYL
01733 601714      JMP      T25*2
01734 111217      JMS      ENDTST
01735 601713      JMP      T25*1
01736 621712      JMP*     T25
      /
      /SCOPE LOOP FOR T25
      /
01737 400110      SL25     XCT      DPGF      /RESET CONTROL
01740 200601      LAC      CTR1      /ADDRESS WHICH CAUSED FAILURE
01741 400102      XCT      DPLA      /LOAD CYL ADD REG
01742 400103      XCT      DPRSA      /READ STATUS REG A
01743 601737      JMP      SL25      /REPEAT
      .EJECT

```

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/TEST 26. BIT 11 OF STATUS REG A IS TESTED TO BE SET AFTER LOADING
/EACH OF THE ILLEGAL HEAD ADDRESSES INTO THE HEAD ADD REG.

```

01744 000000      T26      0
01745 110627      JMS      CLRARS      /CLEAR SOFTWARE ADD REGS
01746 212644      LAC      124
01747 051466      DAC      HEAD      /INIT HEAD
01750 111326      JMS      ASADRG      /ASSEMBLE ADDRESS INTO AC*CTR1
01751 400102      XCT      DPLA      /LOAD HEAD ADD REG
01752 400103      XCT      DPRSA      /READ STATUS REG A
01753 512626      AND      1100      /MASK BIT 11
01754 740200      SEA
01755 601763      JMP      E26*2      /STATUS REG A BIT 11 SET?
01756 760026      LAW      26      /YES
01757 111030      JMS      RPT0      /REPORT ERROR
01760 111144      JMS      LPERR
01761 740040      E26      HALT      /ERROR, BIT 11 OF STATUS REG A
                          /FAILED TO SET WHEN AN ILLEGAL HEAD
                          /ADD WAS LOADED, SL26 MAY BE ENTERED
                          /MANUALLY FOR SCOPING, OR CONTINUE TO
01762 601745      JMP      T26*1      /REPEAT TEST
01763 211466      LAC      HEAD      /GET ADDRESS.
01764 552623      SAD      137      /TEST DONE
01765 601770      JMP      ,+3      /YES
01766 451466      ISE      HEAD      /INCREMENT ADDRESS
01767 601750      JMP      T26*4
01770 111217      JMS      ENDTST      /DONE
01771 601745      JMP      T26*1      /REPEAT TEST
01772 621744      JMP     T26      /EXIT TEST

/SCOPE LOOP FOR T26
/SL26
01773 400116      XCT      DPCF      /RESET CONTROL
01774 200601      LAC      CTR1      /ADDRESS WHICH CAUSED FAILURE
01775 400102      XCT      DPLA      /LOAD HEAD ADD REG
01776 400103      XCT      DPRSA      /READ STATUS REG A
01777 601773      JMP      SL26      /REPEAT
                          .EJECT

```

• MAINDEC-15-05WB • NOVEMBER 24, 1971 •

/TEST 27, BIT 11 OF STATUS REG A IS TESTED TO BE CLEARED AFTER
/LOADING EACH OF THE LEGAL HEAD ADDRESSES INTO THE HEAD ADD REG,
/

02000	000000	T27	0		
02001	110627		JMS	CLRARS	/CLEAR SOFTWARE ADD REGS
02002	111326		JMS	ASADRC	/ASSEMBLE ADDRESS INTO AC • CTR1
02003	400102		XCT	DPLA	/LOAD HEAD ADD REG
02004	400103		XCT	DPRSA	/READ STATUS REG A
02005	512626		AND	(100	/MASK BIT 11
02006	741200		SNA		/STATUS REG A BIT 11 CLEARED?
02007	602019		JMP	E27*2	
02010	760027		LAW	27	
02011	111070		JMS	RPT8	/REPORT ERROR
02012	111144		JMS	LPEAR	
02013	740040	E27	HALT		/ERROR, BIT 11 OF STATUS REG A WAS /SET AFTER A LEGAL CYL ADD WAS /LOADED, SL27 MAY BE ENTERED /MANUALLY FOR SCOPING, OR CONTINUE /TO REPEAT TEST.
02014	602001		JMP	T27*1	/GET ADDRESS
02015	211466		LAC	HEAD	/TEST DONE?
02016	552649		SAD	(23	/YES
02017	602022		JMP	,*3	/INCREMENT ADDRESS
02020	451466		ISE	HEAD	
02021	602002		JMP	T27*2	
02022	111217		JMS	ENDTST	/DONE
02023	602001		JMP	T27*1	/REPEAT TEST
02024	622000		JMP*	T27	/EXIT TEST
/SCOPE LOOP FOR T27					
/					
02025	400116	SL27	XCT	DPCF	/RESET CONTROL
02026	200601		LAC	CTR1	/ADDRESS WHICH CAUSED FAILURE
02027	400102		XCT	DPLA	/LOAD HEAD ADD REG
02030	400103		XCT	DPRSA	/READ STATUS REG A
02031	602029		JMP	SL27	/REPEAT
			.EJECT		

/TEST 30, BIT 12 OF STATUS REG A IS TESTED TO BE SET AFTER
/LOADING EACH OF THE ILLEGAL SECT ADDRESSES INTO THE SECT ADD REG.

```

/
T30      0
02032    000000      JMS      CLRARS      /CLEAR SOFTWARE ADD REGS
02033    110627      LAC      (12
02034    212646      DAC      SECT      /INIT SECT
02035    051465      JMS      ASADRG      /ASSEMBLE ADDRESS INTO AC • CTR1
02036    111326      XCT      OPLA      /LOAD SECT ADD REG
02037    400102      XCT      DPRSA      /READ STATUS REG A
02040    400103      AND      (40      /MASK BIT 12
02041    512647      SZA      /STATUS REG A BIT 12 SET?
02042    740200      JMP      E30+2      /YES
02043    602051      LAM      30
02044    760030      JMS      RPTV      /REPORT ERROR
02045    111041      JMS      LPRRR
02046    111144      E30      HALT
02047    740040      /ERROR, BIT 12 OF STATUS REG A FAILED
                                /TO SET WHEN AN ILLEGAL SECT ADD WAS
                                /LOADED, SL30 MAY BE ENTERED MANUALLY
                                /FOR SCOPING, OR CONTINUE TO REPEAT TEST

02050    602033      JMP      T30+1
02051    211465      LAC      SECT
02052    552650      SAD      (17
02053    602056      JMP      .+3
02054    451465      ISZ      SECT
02055    602036      JMP      T30+4
02056    111217      JMS      ENDTST
02057    602033      JMP      T30+1
02060    622032      JMP     T30
                                /DONE
                                /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T30
/
SL30     XCT      DPCF      /RESET CONTROL
02061    400116      LAC      CTR1      /ADDRESS WHICH CAUSED FAILURE
02062    200601      XCT      OPLA      /LOAD SECT ADD REG
02063    400102      XCT      DPRSA      /READ STATUS REG A
02064    400103      JMP      SL30      /REPEAT
02065    602061      .EJECT

```


/TEST 31, BIT 12 OF STATUS REG A IS TESTED TO BE CLEARED AFTER
/LOADING EACH OF THE LEGAL SECTOR ADDRESSES INTO THE SECT ADD REG.

```

02066 000003      T31      0
02067 110627      JMS      CLRARS      /CLEAR SOFTWARE ADD REGS
02070 111326      JMS      ASADRG      /ASSEMBLE ADDRESS INTO AC & CTR1
02071 400102      XCT      DPLA        /LOAD SECT ADD REG
02072 400103      XCT      DPRSA      /READ STATUS REG A
02073 512647      AND      140        /MASK BIT 12
02074 741200      SNA      /STATUS REG A BIT 12 CLEARED?
02075 602103      JMP      E31+2      /YES
02076 760031      LAW      31
02077 111041      JMS      RPTV        /REPORT ERROR
P2100 111144      JMS      LPERR
02101 740040      E31      HALT

                                /ERROR, BIT 12 OF STATUS REG A WAS
                                /SET AFTER A LEGAL SECT ADD WAS
                                /LOADED, SL31 MAY BE ENTERED MANUALLY
                                /FOR SCOPING, OR CONTINUE TO
                                /REPEAT TEST.
02102 602067      JMP      T31+1
02103 211465      LAC      SECT
02104 552651      SAD      111
02105 602110      JMP      ,+3
02106 451465      ISB      SECT
02107 602070      JMP      T31+2
02110 111217      JMS      ENDTST
02111 602067      JMP      T31+1
02112 622066      JMP     T31

                                /DONE
                                /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T31
/
SL31  XCT      DPGF      /RESET CONTROL
      LAC      CTR1      /ADDRESS WHICH CAUSED FAILURE
      XCT      DPLA      /LOAD SECT ADD REG
      XCT      DPRSA      /READ STATUS REG A
      JMP      SL31      /REPEAT
      ,EJECT

```

/TEST 32, TEST FOR THE COMPARE FF TO BE SET WHEN READING THE
 /ADDRESS WHICH IS LOADED INTO THE CYL, HEAD • SECT ADD REGS, ALL
 /THE LEGAL ADDRESSES ARE TESTED.

02120	000000	T32	0		
02121	140601		DEH	CTR1	
02122	110627		JMS	CLRARS	/CLEAR SOFTWARE ADD REGS
02123	400110		XCT	DPCF	/RESET CONTROL
02124	110600		JMS	EMH	/ENTER MAINY MODE
02125	200601		LAC	CTR1	
02126	041404		DAC	CTR4	
02127	042250		DAC	WORD2	
02130	400102		XCT	DPLA	/LOAD ADDRESS
02131	111425		JMS	RDS	/READ SEQUENCE
02132	111505		JMS	HEADER	/ADD PORTION OF HEADER
02133	142247		DEH	WORD1	
02134	110647		JMS	ODMOPB	/ODD HEADER PARITY • 3 CLOCK PULSES
02135	400111		XCT	DPRM	/READ COMPARE FF
02136	512652		AND	(4000	/MASK BIT 6
02137	740200		SEA		/COMPARE SET?
02140	602151		JMP	E32*2	/YES
02141	400122		XCT	DPRA	/READ ADD REGS
02142	051432		DAC	CTR2	
02143	111366		JMS	UNPKAR	/UNPACK ADD REGS
02144	700032		LAW	32	
02145	110770		JMS	RPTD	
02146	111144		JMS	LPERR	
02147	740040	E32	HALT		/ERROR, THE COMPARE FF FAILED TO SET.
02150	602123		JMP	T32*3	/CONTINUE TO REPEAT TEST.
02151	111441		JMS	ADDREG	/TEST DONE?
02152	602150		JMP	,04	/NO
02153	111217		JMS	ENDTST	/DONE
02154	602121		JMP	T32*1	/REPEAT TEST
02155	622120		JMP•	T32	/EXIT TEST
02156	111326		JMS	ASADRG	/ASSEMBLE ADD INTO CTR1
02157	602123		JMP	T32*3	
			.EJECT		

/TEST 33, TEST FOR THE COMPARE FF TO REMAIN CLEARED WHEN READING
 /HEADERS WHICH ARE THE RESULT OF XORING EACH BIT POSITION OF
 /THE ADDRESS REGS WITH A ONE BIT, THE TEST IS EXECUTED ONCE FOR
 /EACH LEGAL DISK ADDRESS.

```

/
02160 000000  T33  0
02161 110627          JMS  CLRARS      /CLEAR SOFTWARE ADD REGS
02162 400116          XCT  DPCF        /RESET CONTROL
02163 110600          JMS  EMM         /ENTER MAINT MODE
02164 111326          JMS  ASADRG
02165 400102          XCT  DPLA        /LOAD ADDRESS
02166 212653          LAC  (11000
02167 400129          XCT  DPLF        /LOAD FUNCTION
02170 212654          LAC  (400000
02171 050369          TH33 DAC  CTR0
02172 200601          LAC  CTR1
02173 250369          XOR  CTR0
02174 041404          DAC  CTR4
02175 042250          DAC  WORD2
02176 111570          JMS  PDDE
02177 111505          JMS  HEADER      /ADD PORTION OF HEADER
02200 142247          DCM  WORD1
02201 110647          JMS  ODNOPB      /ODD HEADER PARITY • 3 CLOCK PULSES
02202 400111          XCT  OPRM        /READ COMPARE FF
02203 512652          AND  (4000
02204 741200          SNA
02205 602216          JMP  E33+2      /COMPARE CLEARED
02206 201404          LAC  CTR4        /YES
02207 091432          DAC  CTR2
02210 111360          JMS  UNPKAR
02211 700033          LAW  33
02212 110732          JMS  RPT4        /REPORT ERROR
02213 111144          JMS  LPEAR
02214 740040          E33  HALT      /ERROR, THE COMPARE FF WAS SET WHEN READING
                                /AN ADDRESS OTHER THAN THE ONE LOADED
                                /INTO THE ADD REGS. CONTINUE TO REPEAT TEST.

02215 602162          JMP  T33+2
02216 210369          LAC  CTR0
02217 744020          RCR
02220 740200          SBA
02221 602171          JMP  TH33      /TEST NEXT ADDRESS?
02222 111441          JMS  ADDR0      /NO
02223 602162          JMP  T33+2      /TEST DONE?
02224 111217          JMS  ENDTST     /NO
02225 602161          JMP  T33+1      /DONE
02226 622160          JMP  T33        /REPEAT TEST
                                /EXIT TEST
                                .EJECT

```

/TEST 34, BIT 13 OF STATUS REG A IS TESTED TO BE SET WHEN
/SIMULATING A HEADER NOT FOUND ERROR,

```

02227 000000 /
02230 400110 T34 0
02231 110600 XCT DPCF /RESET CONTROL
02232 111117 JMS ENH /ENTER MAINT MODE
02233 400103 JMS HNPE /HEADER NOT FOUND
02234 512655 XCT DPRSA /READ STATUS REG A
02235 740200 AND 120 /MASK BIT 13
02236 602244 SZA /STATUS REG A BIT 13 SET?
02237 760034 JMP E34*2 /YES
02240 110670 LAR 34
02241 111144 JMS TYSTAO /TYPE TEST 0
02242 740040 JMS LPERR
E34 HALT /ERROR, BIT 13 OF STATUS REG A WAS
/NOT SET WHEN A HEADER NOT FOUND
/ERROR WAS SIMULATED. SL34 MAY BE
/ENTERED MANUALLY FOR SCOPING, OR
/CONTINUE TO REPEAT TEST.

02243 602230 JMP T34*1
02244 111217 JMS ENDTST /DONE
02245 602230 JMP T34*1 /REPEAT TEST
02246 622227 JMP* T34 /EXIT TEST

02247 000000 /
02250 000000 WORD1 0
WORD2 0
/
/SCOPE LOOP FOR T34
/
02251 400110 SL34 XCT DPCF /RESET CONTROL
02252 110600 JMS ENH /ENTER MAINT MODE
02253 111117 JMS HNPE /HEADER NOT FOUND
02254 400103 XCT DPRSA /READ STATUS REG A
02255 602251 JMP SL34 /REPEAT
.EJECT

```

/TEST 35, BIT 13 OF STATUS REG A IS TESTED TO BE CLEARED BY THE
 /DPCS 10T, A HEADER NOT FOUND ERROR IS SIMULATED TO INITIALLY SET
 /BIT 13.

```

02256 000000 /
02257 400116 T35 0 /RESET CONTROL
02260 110600 XCT DPCF /ENTER MAINT MODE
02261 111117 JMS EMM /HEADER NOT FOUND
02262 400105 JMS MNFL /CLEAR STATUS REG A BIT 12
02263 400103 ACT DPCS /READ STATUS REG A
02264 512655 XCT DPRSA /MASK BIT 13
02265 741200 AND 120 /STATUS REG A BIT 13 CLEARED?
02266 602274 SNA /YES
02267 700035 JMP E35+2
02270 110670 LAW 35 /TYPE TEST 0
02271 111144 JMS TTSTNO
02272 740040 JMS LPERR
E35 HALT /ERROR, BIT 13 OF STATUS REG A WAS
/NOT CLEARED BY THE DPCS 10T, SL35
/MAY BE ENTERED MANUALLY FOR SCOPING.
/OR CONTINUE TO REPEAT TEST.

02273 602257 JMP T35+1 /DONE
02274 111217 JMS ENDTST /REPEAT TEST?
02275 602257 JMP T35+1 /EXIT TEST
02276 622256 JMP0 T35

/SCOPE LOOP FOR T35
/
02277 400116 SL35 XCT DPCF /RESET CONTROL
02300 110600 JMS EMM /ENTER MAINT MODE
02301 111117 JMS MNFL /HEADER NOT FOUND
02302 400105 XCT DPCS /CLEAR STATUS REG A BIT 13
02303 400103 XCT DPRSA /READ STATUS REG A
02304 602277 JMP SL35 /REPEAT
.EJECT

```

/TEST 36. TEST THE GO BIT FOR NO-GO, THE PROGRAM ATTEMPTS TO SET A HEADER NOT FOUND
/ERROR WITHOUT SETTING THE GO BIT, BIT 13 OF SRA SHOULD REMAIN CLEARED.

```

/
T36      0
02305    000000
02306    400110      XCT      DPCF      /RESET CONTROL
02307    110600      JMS      EMM      /ENTER MAINT MODE
02310    212617      LAC      (10000
02311    400125      XCT      DPLF      /LOAD FUNCTION
02312    111532      JMS      SUIP      /SEL UNIT INDEX PULS
02313    111570      JMS      PDBL
02314    212631      LAC      (029151
02315    041404      DAC      CTR4
02316    111505      JMS      HEADER    /ADD PORTION OF HEADER
02317    142247      DDM      WORD1
02320    201404      LAC      CTR4
02321    042250      DAC      WORD2
02322    111556      JMS      ODMOPA    /ODD HEADER PARITY
02323    111360      JMS      CTNHEE
02324    111532      JMS      SUIP      /SEL UNIT INDEX PULSE
02325    111532      JMS      SUIP      /SEL UNIT INDEX PULSE
02326    400103      XCT      DPRSA    /READ STATUS REG A
02327    512055      AND      (20      /MASK BIT 13
02330    741200      SNA
02331    602337      JMP      E36*2    /BIT 13 CLEARED?
02332    760036      LAW      36      /YES
02333    110670      JMS      TTSTNO   /TYPE TESTS
02334    111144      JMS      LPRRR
02335    740040      E36      HALT    /ERROR, THE FUNCTION REG WAS EXECUTED
                                /WITHOUT SETTING THE GO BIT. CONTINUE
                                /TO REPEAT TEST.
02336    602306      JMP      T36*1   /DONE
02337    111217      JMS      ENDTST
02340    602306      JMP      T36*1   /REPEAT TEST
02341    622309      JMP     T36      /EXIT TEST
                                .EJECT

```

/TEST 37. BITS 0-7 OF STATUS REG B ARE TESTED, UNITS 0-7 ARE
 /SELECTED AND STATUS REG B IS TESTED FOR THE CORRECT ATTENTION
 /BIT TO BE SET AFTER EACH,

```

/
T37      0
02342    200000      JMS      EMM          /ENTER MAINT MODE
02343    110600      DEM      TSTRG2       /INIT UNIT SELECTOR
02344    140647      LAC      (400200
02345    212654      LAC      CTR1
02346    240601      DAC      CTR1          /INIT COMPARE WORD
02347    200647      GUS     TSTRG2       /GET UNIT SELECTOR
02350    400125      XCT      DPLF         /LOAD FUNCTION REG
02351    110526      JMS      W4U
02352    400100      XCT      DPRSB       /READ STATUS REG B
02353    512621      AND      (776000     /MASK BITS 0-7
02354    540601      SAD      CTR1          /STATUS REG BITS 0-7 CORRECT?
02355    602364      JMP      E37*2       /YES
02356    240646      DAC      TSTRG1
02357    760037      LAW      37
02360    111476      JMS      RPT10       /REPORT ERROR
02361    111144      JMS      LERR
02362    740040      E37     HALT

/ERROR, A UNIT WAS SELECTED BUT THE CORRECT
/ATTENTION BIT WAS NOT SET, SL37 MAY BE
/ENTERED MANUALLY FOR SCOPING, OR CONTINUE
/TO REPEAT TEST,
/GET UNIT SELECTOR
/ADD ONE TO UNIT SELECTOR
/TEST DONE?
/YES
02363    602343      JMP      T37*1
02364    200647      LAC      TSTRG2
02365    392641      TAD      (100000
02366    741200      SNA
02367    602379      JMP      END37
02370    240647      DAC      TSTRG2
02371    200601      LAC      CTR1
02372    744020      RBR
02373    240601      DAC      CTR1
02374    602347      JMP      GUS
02375    111217      END37  JMS      ENDTST /DONE
02376    602343      JMP      T37*1      /REPEAT TEST
02377    622342      JMP     T37         /EXIT TEST

/
/SCOPE LOOP FOR T37
/
SL37     XCT      DPCF          /RESET CONTROL
02400    400116      JMS      EMM          /ENTER MAINT MODE
02401    110600      LAC      TSTRG2       /GET UNIT SELECTOR
02402    200647      XCT      DPLF         /LOAD FUNCTION REG
02403    400125      JMS      W4U
02404    110526      XCT      DPRSB       /READ STATUS REG B
02405    400100      JMP      SL37        /REPEAT
02406    602400      .EJECT

```

/TEST 40. TEST THE DPHC IOT FOR SETTING BIT 9 OF STATUS REG 0
/WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.

```

/
T40      0
02407    000000
02417    400116      XCT      DPCF      /RESET CONTROL
02411    777777      LAW      =1
02412    400125      XCT      DPLF      /LOAD FUNCTION
02413    400113      XCT      DPHC      /LOAD MC REG
02414    110526      JMS      W4U
02415    400106      XCT      DPR5B     /READ STATUS REG 0
02416    512624      AND      (400)     /MASK BIT 9
02417    740200      SZA
02420    602426      JMP      E40*2     /YES
02421    760040      LAW      40
02422    110670      JMS      TYSNO     /TYPE TEST 0
02423    111144      JMS      LPERR
02424    740040      E40      HALT      /ERROR, STATUS REG 0 BIT 9 FAILED TO SET,
                                /SL40 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
02425    602410      JMP      T40*1
02426    400112      XCT      DPSE
02427    741000      SKP
02430    602434      JMP      ,04
02431    760040      LAW      40
02432    112170      JMS      RPT13
02433    602423      JMP      E40*1
02434    111217      JMS      ENDTST    /DONE
02435    602410      JMP      T40*1     /REPEAT TEST
02436    622407      JMP0     T40       /EXIT TEST

/SCOPE LOOP FOR T40
/
SL40     0
02437    400116      XCT      DPCF      /RESET CONTROL
02443    777777      LAW      =1
02441    400125      XCT      DPLF      /LOAD FUNCTION
02442    400113      XCT      DPHC      /LOAD MC REG
02443    110526      JMS      W4U
02444    400106      XCT      DPR5B     /READ STATUS REG 0
02445    602437      JMP      SL40
                                .EJECT

```


/TEST 41, TEST THE DPLA IOT FOR SETTING BIT 9 OF STATUS REG B
/WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.

```

02446 000000      T41      B
02447 400110      XCT      DPCF      /RESET CONTROL
02450 777777      LAW      =1
02451 400125      XCT      DPLF      /LOAD FUNCTION
02452 400102      XCT      DPLA      /LOAD ADD REGS
02453 110520      JMS      W4U
02454 400106      XCT      DPRSB     /READ STATUS REG B
02455 512624      AND      (400)      /MASK BIT 9
02456 740200      SEA
02457 602465      JMP      E41*2     /BIT 9 SET?
02460 760041      LAW      41        /YES
02461 110670      JMS      TTSTNO     /TYPE TEST 0
02462 111144      JMS      LPEHR
02463 740040      E41      HALT      /ERROR, STATUS REG B BIT 9 FAILED TO SET.
                                /SL41 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
02464 602447      JMP      T41*1
02465 111217      JMS      ENDTST
02466 602447      JMP      T41*1     /REPEAT TEST
02467 622440      JMP0     T41        /EXIT TEST

/SCOPE LOOP FOR T41
/
02470 400110      SL41     XCT      DPCF      /RESET CONTROL
02471 777777      LAW      =1
02472 400125      XCT      DPLF      /LOAD FUNCTION
02473 400102      XCT      DPLA      /LOAD ADD REGS
02474 110520      JMS      W4U
02475 400106      XCT      DPRSB     /READ STATUS REG B
02476 602470      JMP      SL41
                                .EJECT

```

/TEST 42. TEST THE DPCA JOT FOR SETTING BIT 9 OF STATUS REG B
/WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF JOT.

```

/
T42      0
02477    000000
02500    400110      XCT      DPCF      /RESET CONTROL
02501    777777      LAN      =1
02502    400125      XCT      DPLF      /LOAD FUNCTION
02503    400110      XCT      DPCA      /LOAD CA REG
02504    110520      JMS      W4U
02505    400100      XCT      DPRSB     /READ STATUS REG B
02506    512624      AND      (400      /MASK BIT 9
02507    740200      SBA
02510    602510      JMP      E42+2     /BIT 9 SET?
02511    760042      LAN      42        /YES
02512    110670      JMS      TTSTNO    /TYPE TEST 0
02513    111144      JMS      LPERR
02514    740040      E42      HALT      /ERROR, STATUS REG B BIT 9 FAILED TO SET.
                                /BL42 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
02515    602500      JMP      T42+1
02516    111217      JMS      ENDTST
02517    602500      JMP      T42+1     /DONE
02520    622477      JMP0     T42       /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T42
/
BL42     0
02521    400110      XCT      DPCF      /RESET CONTROL
02522    777777      LAN      =1
02523    400125      XCT      DPLF      /LOAD FUNCTION
02524    400110      XCT      DPCA      /LOAD CA REG
02525    110520      JMS      W4U
02526    400100      XCT      DPRSB     /READ STATUS REG B
02527    602521      JMP      BL42
                                .EJECT

```

/TEST 43, TEST THE DPLF IOT FOR SETTING BIT 9 OF STATUS REG B
/WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT,

```

/
T43      0
02537    000000
02531    400116      XCT      DPCF      /RESET CONTROL
02532    777777      LAW      =1
02533    400125      XCT      DPLF      /LOAD FUNCTION
02534    400125      XCT      DPLF      /LOAD FUNCTION
02535    110526      JMS      W4U
02536    400106      XCT      DPRSB     /READ STATUS REG B
02537    512624      AND      (400
02540    740200      SZA
02541    602547      JMP      E43+2     /YES
02542    760043      LAW      43
02543    110670      JMS      TTSTND    /TYPE TEST #
02544    111144      JMS      LPEHR
02545    740040      E43      HALT      /ERROR, STATUS REG B BIT 9 FAILED TO SET,
                                /SL43 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
02546    602531      JMP      T43+1
02547    111217      JMS      ENDTST
02550    602531      JMP      T43+1     /REPEAT TEST
02551    622530      JMP     T43        /EXIT TEST

/SCOPE LOOP FOR T43
/
SL43     XCT      DPCF      /RESET CONTROL
02552    400116      LAW      =1
02553    777777      XCT      DPLF      /LOAD FUNCTION
02554    400125      XCT      DPLF      /LOAD FUNCTION
02555    400125      XCT      DPLF
02556    110526      JMS      W4U
02557    400106      XCT      DPRSB     /READ STATUS REG B
02560    602552      JMP      SL43
                                ,EJECT

```

/TEST 44. TEST THE DPCS IOT FOR SETTING BIT 9 OF STATUS REG B
/WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.

```

/
T44      0
02561    000000      XCT      DPCF      /RESET CONTROL
02562    400116      LAW      =1
02563    777777      XCT      DPLF      /LOAD FUNCTION
02564    400125      XCT      DPCS      /CLEAR ERROR
02565    400105      XCT      DPCS
02566    110526      JMS      W4U
02567    400106      XCT      DPRSB     /READ STATUS REG B
02570    512624      AND      (400
02571    740200      SEA
02572    602600      JMP      E44*2     /YES
02573    760044      LAW      44
02574    110670      JMS      TTSTNO    /TYPE TEST B
02575    111144      JMS      LPEHR
02576    740040      E44      HALT      /ERROR, STATUS REG B BIT 9 FAILED TO SET.
                                /SL44 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
02577    602562      JMP      T44*1
02600    111217      JMS      ENDTST
02601    602562      JMP      T44*1     /DONE
02602    622561      JMP     T44        /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T44
/
SL44     0
02603    400116      XCT      DPCF      /RESET CONTROL
02604    777777      LAW      =1
02605    400125      XCT      DPLF      /LOAD FUNCTION
02606    400105      XCT      DPCS      /CLEAR ERROR
02607    110526      JMS      W4U
02610    400106      XCT      DPRSB     /READ STATUS REG B
02611    602603      JMP      SL44
                                .EJECT

```

/TEST 45, TEST THE DPWC IOT FOR NO EXECUTION WHEN ISSUED
/IMMEDIATELY FOLLOWING THE DPLF IOT,

```

/
T45      0
02612    000000
02613    400116      XCT      DPCF      /RESET CONTROL
02614    777777      LAW      =1
02615    400125      XCT      DPLF      /LOAD FUNCTION
02616    400113      XCT      DPWC      /LOAD WC REG
02617    400126      XCT      DPRM      /READ WC REG
02620    741200      SNA
02621    602627      JMP      E45*2      /DPWC IOT EXECUTED?
02622    760049      LAW      45          /NO
02623    110670      JMS     TYSTNO      /TYPE TEST 0
02624    111144      JMS     LPERR
02625    740040      E45     HALT        /ERROR, THE DPWC IOT WAS EXECUTED.
                                /SL45 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
02626    602613      JMP      T45*1
02627    111217      JMS     ENDTST      /DONE
02630    602613      JMP      T45*1      /REPEAT TEST
02631    622612      JMP     T45         /EXIT TEST

/SCOPE LOOP FOR T45
/
SL45     XCT      DPCF      /RESET CONTROL
02632    400116      LAW      =1
02633    777777      XCT      DPLF      /LOAD FUNCTION
02634    400125      XCT      DPWC      /LOAD WC REG
02635    400113      XCT      DPRM      /READ WC REG
02636    400126      JMP      SL45      /REPEAT
02637    602632      .EJECT

```

/TEST 46, TEST THE DPLA IOT FOR NO EXECUTION WHEN ISSUED
/IMMEDIATELY FOLLOWING THE DPLF IOT,

/

02640	000000	T46	0		
02641	400116		XCT	DPCF	/RESET CONTROL
02642	777777		LAW	=1	
02643	400125		XCT	DPLF	/LOAD FUNCTION
02644	400102		XCT	DPLA	/LOAD ADDRESS
02645	400122		XCT	DPRA	/READ ADDRESS
02646	741200		SNA		/DPLA IOT EXECUTED?
02647	602655		JMP	E46*2	/NO
02650	760046		LAW	46	
02651	110670		JMS	TYSTNO	/TYPE TEST 0
02652	111144		JMS	LPEHR	
02653	740040	E46	HALT		/ERROR, THE DPLA IOT WAS EXECUTED. /SL46 MAY BE ENTERED MANUALLY FOR /SCOPING, OR CONTINUE TO REPEAT TEST.
02654	602641		JMP	T46*1	/DONE
02655	111217		JMS	ENDTST	/REPEAT TEST
02656	602641		JMP	T46*1	/EXIT TEST
02657	622640		JMP.	T46	

/

/SCOPE LOOP FOR T46

/

02660	400116	SL46	XCT	DPCF	/RESET CONTROL
02661	777777		LAW	=1	
02662	400125		XCT	DPLF	/LOAD FUNCTION
02663	400102		XCT	DPLA	/LOAD ADDRESS
02664	400122		XCT	DPRA	/READ ADDRESS
02665	602660		JMP	SL46	/REPEAT
			.EJECT		

/TEST 47. TEST THE DPCA IOT FOR NO EXECUTION WHEN ISSUED
/IMMEDIATELY FOLLOWING THE DPLF IOT.

```

/
T47      0
02666   000002
02667   400116      XCT      DPCF      /RESET CONTROL
02672   777777      LAW      =1
02671   400129      XCT      DPLF      /LOAD FUNCTION
02672   400110      XCT      DPCA      /LOAD CA REG
02673   400123      XCT      DPRC      /READ CA REG
02674   741200      SNA
02675   602703      JMP      E47*2      /DPCA IOT EXECUTED?
02676   700047      LAW      47          /NO
02677   110670      JMS      TYSTNO     /TYPE TEST 0
02700   111144      JMS      LPERH
02701   740040      E47      HALT
02702   602667      JMP      T47*1
02703   111217      JMS      ENDTST
02704   602667      JMP      T47*1
02705   622666      JMP0     T47      /ERROR, THE DPCA IOT WAS EXECUTED.
                                /SL47 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
                                /DONE
                                /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T47
/
SL47     XCT      DPCF      /RESET CONTROL
02706   400116      LAW      =1
02707   777777      XCT      DPLF      /LOAD FUNCTION
02710   400129      XCT      DPCA      /LOAD CA REG
02711   400110      XCT      DPRC      /READ CA REG
02712   400123      JMP      SL47      /REPEAT
02713   602706      .EJECT

```

/TEST 98, TEST THE DPLF IOT FOR NO EXECUTION WHEN ISSUED IMMEDIATELY
/FOLLOWING THE DPLF IOT.

```

/
T50      0
02714    200000      XCT      DPCF      /RESET CONTROL
02715    400116      LAW      =1
02716    777777      XCT      DPLF      /LOAD FUNCTION
02717    400125      CLA
02720    750000      XCT      DPLF      /LOAD FUNCTION
02721    400125      JMS      W4U
02722    110526      XCT      DPRSA     /READ STATUS REG A
02723    400103      AND      (777000
02724    512633      SAD      (777000     /DPLF IOT EXECUTED?
02725    952633      JMP      E50+2      /NO
02726    602734      LAW      98
02727    760050      JMS      TTSTNO    /TYPE TEST 0
02730    110670      JMS      LPENR
02731    111144
02732    740040      E50      HALT      /ERROR, THE DPLF IOT WAS EXECUTED.
                                /SL50 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST
02733    602715      JMP      T50+1
02734    111217      JMS      ENDTST
02735    602715      JMP      T50+1     /DONE
02736    622714      JMP     T50        /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T50
/
SL50     XCT      DPCF      /RESET CONTROL
02740    777777      LAW      =1
02741    400125      XCT      DPLF      /LOAD FUNCTION
02742    750000      CLA
02743    400125      XCT      DPLF      /LOAD FUNCTION
02744    110526      JMS      W4U
02745    400103      XCT      DPRSA     /READ STATUS REG A
02746    602737      JMP      SL50      /REPEAT
                                .EJECT

```


/TEST 51, BIT 10 OF STATUS REG B IS TESTED TO BE SET AFTER SIMULATING AN
/END OF PACK ERROR,

```

/
T51      0
02747    000000      XCT      DPCF      /RESET CONTROL
02750    400110      JMS      EMM       /ENTER MAINT MODE
02751    110600      JMS      EOPF      /END OF PACK
02752    111137      XCT      DPRSB     /READ STATUS REG B
02753    400106      AND      (20)      /MASK BIT 10
02754    512615      SBA
02755    740200      JMP      E51+2     /STATUS REG B BIT 10 SET?
02756    602764      LAM      51        /YES
02757    760051      JMS      TTSTND    /TYPE TEST 0
02760    110670      JMS      LPEHR
02761    111144      E51      HALT      /ERROR, BIT 10 OF STATUS REG B FAILED TO SET.
02762    740040      JMP      T51+1     /SL51 MAY BE ENTERED MANUALLY FOR SCOPING.
02763    602750      JMS      ENDTST    /OR CONTINUE TO REPEAT TEST.
02764    111217      JMP      T51+1     /DONE
02765    602750      JMP      T51+1     /REPEAT TEST
02766    622747      JMP      T51       /EXIT TEST

/SCOPE LOOP FOR T51
/
SL51     XCT      DPCF      /RESET CONTROL
02770    400110      JMS      EMM       /ENTER MAINT MODE
02771    110600      JMS      EOPF      /END OF PACK
02772    111137      XCT      DPRSB     /READ STATUS REG B
02773    400106      JMP      SL51      /REPEAT
          .EJECT

```

/TEST 92. BIT 10 OF STATUS REG B IS TESTED TO 0 EACH TIME THE ADD
/REGS ARE INCREMENTED, THEY ARE INCREMENTED FROM EVERY LEGAL VALUE
/EXCEPT FOR CYL=312, HEAD=23, SECT=11,
/

```

02774 000000 /
02775 400116 T92 0 /RESET CONTROL
02776 110600 XCT DPCF /ENTER MAINT MODE
02777 110627 JMS EMH /CLEAR SOFTWARE ADD REGS
03000 111326 JMS CLRARS /ASSEMBLE ADD INTO AC & CYR1
03001 992631 JMS ASAURG /TEST DONE?
03002 603023 SAD (62)151 /YES
03003 400102 JMP ES2+4 /LOAD ADD REGS
03004 110610 XCT DPLA /INCREMENT SECT ADD REG
03005 400106 JMS ISAR /READ STATUS REG B
03006 912619 XCT DPRSB /MASK BIT 10
03007 741200 AND (200 /STATUS REG B BIT 10 CLEARED?
03010 603021 JMP ES2+2 /YES
03011 400122 XCT OPRA /READ ADD REGS
03012 251432 DAC CYR2 /UNPACK ADD REGS
03013 111366 JMS UNPKAR
03014 760092 LAN 92 /REPORT ERROR
03015 110770 JMS RPT9
03016 111144 JMS LPERR
03017 740040 E92 HALT /ERROR, BIT 10 OF STATUS REG B WAS SET BEFORE
/TRUE END OF PACK, SL92 MAY BE ENTERED
/MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT
/TEST,
/INCREMENT SOFTWARE ADD REGS

03020 602775 JMP T92+1 /DONE
03021 111441 JMS ADDR6 /REPEAT TEST
03022 603000 JMP T92+4 /EXIT TEST
03023 111217 JMS ENDTST
03024 602775 JMP T92+1
03025 622774 JMP T92

/SCOPE LOOP FOR T92
/
03026 400116 SL92 XCT DPCF /RESET CONTROL
03027 110600 JMS EMH /ENTER MAINT MODE
03030 200601 LAC CYR1
03031 400102 XCT DPLA /LOAD ADD REGS
03032 110610 JMS ISAR /INCREMENT SECT ADD REG
03033 400106 XCT DPRSB /READ STATUS REG B
03034 603026 JMP SL92 /REPEAT
.EJECT

```

/TEST 53, THE ATTENTION FLAG IS SET BY EACH OF THE 8 ATTENTION
/BITS. THE DPSA IOT IS TESTED TO SKIP AFTER EACH.

```

/
T53      0
03035    000000      JMS      EMM          /ENTER MAINT MODE
03036    110600      DZM      TSTRG2       /INIT UNIT SELECTOR
03037    140647      LAC      TSTRG2       /GET UNIT SELECTOR
03040    200647      XCT      DPLF         /LOAD FUNCTION REG
03041    400125      XCT      DPSA         /ATTENTION FLAG SET?
03042    400104      SKP
03043    741000      JMP      E53*2       /YES
03044    603062      LAW      93
03045    760053      JMS      TTSTND      /TYPE TEST #
03046    110670      JMS      TTXI        /TYPE
03047    111052      SA
03050    012300      LAW      =1
03051    777777      JMS      TSPACE
03052    111232      XCT      DPRSA       /READ STATUS REG A
03053    400103      AND      (700000     /MASK BITS 0-2
03054    512656      JMS      TCT         /TYPE CONTENTS OF FUNCTION REG
03055    111300      JMS      CRLF
03056    111260      JMS      LPERR
03057    111144      E53      HALT
03060    740040

/ERROR, THE ATTENTION FLAG WAS NOT
/SET BY ONE OF THE ATTENTION BITS,
/OR THE DPSA IOT FAILED TO SKIP,
/SL93 MAY BE ENTERED MANUALLY FOR
/SCOPING, OR CONTINUE TO REPEAT TEST.
03061    603036      JMP      T53*1
03062    200647      LAC      TSTRG2
03063    552656      SAD      (700000
03064    603070      JMP      ,*4
03065    352641      YAD      (100000
03066    040647      DAC      TSTRG2
03067    603041      JMP      T53*4
03070    111217      JMS      ENDTST      /DONE
03071    603036      JMP      T53*1      /REPEAT TEST
03072    623035      JMP     T53         /EXIT TEST

/SCOPE LOOP FOR T53
/
SL93     XCT      DPCF          /RESET CONTROL
03073    400116      JMS      EMM          /ENTER MAINT MODE
03074    110600      LAC      TSTRG2       /GET UNIT SELECTOR
03075    200647      XCT      DPLF         /LOAD FUNCTION REG
03076    400125      XCT      DPSA         /SKIP ON ATTENTION FLAG
03077    400104      JMP      SL93         /REPEAT
03100    603073      JMP      SL93         /REPEAT
03101    603073      .EJECT

```

/TEST 54, THE ATTENTION FLAG IS CLEARED AND THE DPSA IOT IS TESTED FOR NO SKIP.

```

/
T54      0
03102    000000      XCT      DPCF      /RESET CONTROL
03103    400116      XCT      DPSA      /SKIP ON ATTENTION FLAG
03104    400104      JMP      E54*2
03105    603113      LAW      54
03106    760054      JMS     TTSTNO    /TYPE TEST #
03107    110670      JMS     LPEHR
03110    111144      E54     HALT      /ERROR, THE DPSA IOT SKIPPED. SL54 MAY BE
03111    740040      JMP     T54*1    /ENTERED MANUALLY FOR SCOPING, OR CONTINUE TO
03112    603103      JMS     ENDTST   /REPEAT TEST.
03113    111217      JMP     T54*1    /DONE
03114    603103      JMP     T54*1    /REPEAT TEST
03115    623102      JMP     T54      /EXIT TEST

/SCOPE LOOP FOR T54
/
SL54     XCT      DPCF      /RESET CONTROL
03116    400116      XCT      DPSA      /SKIP ON ATTENTION FLAG
03117    400104      JMP      SL54     /REPEAT
03120    603116      JMP      SL54     /REPEAT
03121    603116      .EJECT

```

/TEST 55, SET THE ERROR FLAG BY LOADING AN ILLEGAL CYL ADD, TEST FOR IT USING
/THE DPSE IOT,

```

/
T55      0
03122   000000
03123   400110      XCT      DPCF      /RESET CONTROL
03124   776000      LAW      10000
03125   400102      XCT      DPLA      /LOAD ADD REGS
03126   400112      XCT      DPSE      /ERROR FLAG SET?
03127   741000      SKP
03130   603136      JMP      E55+2      /YES
03131   760055      LAW      55
03132   112170      JMS      RPT13      /TYPE TEST0
03133   111144      JMS      LPERR
03134   740040      E55      HALT      /ERROR, LOADING AN ILLEGAL CYL ADD FAILED TO
                                /SET THE ERROR FLAG OR THE DPSE IOT FAILED
                                /TO SKIP, SLS' MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
03135   603123      JMP      T55+1
03136   111217      JMS      ENDTST      /DONE
03137   603123      JMP      T55+1      /REPEAT TEST
03140   623122      JMP0     T55        /EXIT TEST

/SCOPE LOOP FOR T55
/
SLS5    XCT      DPCF      /RESET CONTROL
03141   400110      LAW      10000
03142   776000      XCT      DPLA      /LOAD ADD REGS
03143   400102      XCT      DPSE      /SKIP ON ERROR FLAG
03144   400112      JMP      SLS5      /REPEAT
03145   603141      JMP      SLS5      /REPEAT
03146   603141      .EJECT

```

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/TEST 56, TEST THE DPSE 10T FOR NO SKIP.

03147 000000
 03157 400116
 03151 400112
 03152 603160
 03153 760056
 03154 110070
 03155 111144
 03156 740040

/

T56

B
 XCY DPCF
 XCY DPSE
 JMP E56*2
 LAW 56
 JMS TTSTNO
 JMS LPEHR
 E56 HALT

/RESET CONTROL
 /ERROR FLAG CLEARED?
 /YES

/TYPE TEST0

/ERROR, THE DPSE 10T SKIPPED WITH NO
 /ERRORS INDICATED, SL56 MAY BE
 /ENTERED MANUALLY FOR SCOPING, OR
 /CONTINUE TO REPEAT TEST.

/DONE
 /REPEAT TEST
 /EXIT TEST

03157 603150
 03160 111217
 03161 603150
 03162 623147

JMP T56*1
 JMS ENDTST
 JMP T56*1
 JMP0 T56

/SCOPE LOOP FOR T56

/

SL56

03163 400116
 03164 400112
 03165 603163
 03166 603163

XCY DPCF
 XCY DPSE
 JMP SL50
 JMP SL50
 .EJECT

/RESET CONTROL
 /SKIP ON ERROR FLAG
 /REPEAT
 /REPEAT

/TEST 97, THE OPSF 107 IS TESTED FOR NO SKIP ON AN ATTENTION FLAG WHEN
/THE ATTENTION FLG IS DISABLED FROM INTERRUPTS, AND TO SKIP WHEN THE
/ATTENTION FLAG IS ENABLED FOR INTERRUPTS,

```

03167 000000 /
03170 400116 T97 0
03171 110600 XCT OPCF /RESET CONTROL
03172 400101 JMS ENH /ENTER MAINT MODE
03173 603201 XCT OPSF /TEST FOR NO SKIP
03174 700057 JMP E97+2 /YES
03175 110670 LAM 97
03176 111144 JMS T97TNO /TYPE TESTS
03177 740040 JMS LPERR
E97 HALT /ERROR, THE OPSF 107 SKIPPED ON AN ATT
/FLG WITH THE ATT FLG DISABLED FROM
/INT, BL97 MAY BE ENTERED MANUALLY FOR
/SCOPING, OR CONTINUE TO REPEAT TEST.

03200 603170 T97A JMP T97+1
03201 400116 XCT OPCF /RESET CONTROL
03202 212657 LAC (2000
03203 400125 XCT OPLF /ENABLE ATT FLG
03204 110600 JMS ENH /ENTER MAINT MODE
03205 400101 XCT OPSF /TEST FOR SKIP
03206 741000 BNP
03207 603215 JMP E97A+2 /YES
03210 700057 LAM 97
03211 110670 JMS T97TNO /TYPE TEST S
03212 111144 JMS LPERR
03213 740040 E97A HALT /ERROR, THE OPSF 107 FAILED TO SKIP
/ON AN ATT FLG WITH THE ATT FLG
/ENABLED FOR INTERRUPTS, BL97A MAY BE
/ENTERED MANUALLY FOR SCOPING, OR
/CONTINUE TO REPEAT TEST.

03214 603170 JMP T97+1
03215 111217 JMS ENDT97 /DONE
03216 603170 JMP T97+1 /REPEAT TEST
03217 623167 JMP0 T97 /EXIT TEST

/SCOPE LOOP FOR T97
/
03220 400116 BL97 XCT OPCF /RESET CONTROL
03221 110600 JMS ENH /ENTER MAINT MODE
03222 400101 XCT OPSF /SKIP ON DISK FLAG
03223 603220 JMP BL97 /REPEAT
03224 603220 JMP BL97 /REPEAT

/SCOPE LOOP FOR T97A
/
03225 400116 B'97A XCT OPCF /RESET CONTROL
03226 212657 LAC (2000
03227 400125 XCT OPLF /ENABLE ATT FLG
03230 110600 JMS ENH
03231 400101 XCT OPSF
03232 603225 JMP BL97A
03233 603225 JMP BL97A
.EJECT

```

/TEST 60, THE DPSF IOT IS TESTED TO SKIP ON THE JOB DONE FLAG,

```

/
T60      0
03234    000000
03235    400116      XCT      DPCF      /RESET CONTROL
03236    110600      JMS      EMM        /ENTER MAINT MODE
03237    760220      LAW      220
03240    400115      XCT      DPEM      /SET JOB DONE FLAG
03241    400117      XCT      DPLM      /LEAVE MAINT MODE
03242    400101      XCT      DPSF      /DISK FLAG SET?
03243    741000      SKP
03244    603252      JMP      E60*2     /YES
03245    760060      LAW      60
03246    110670      JMS      TYSTNO    /TYPE TEST#
03247    111144      JMS      LPEHR
03250    740040      E60      HALT      /ERROR, THE DPSF IOT FAILED TO
                                /SKIP ON THE JOB DONE FLAG,
                                /SL60 MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
03251    603235      JMP      T60*1
03252    111217      JMS      ENDTST    /DONE
03253    603235      JMP      T60*1     /REPEAT TEST
03254    623234      JMP     T60        /EXIT TEST

/SCOPE LOOP FOR T60
/
SL60     XCT      DPCF      /RESET CONTROL
03255    400116      JMS      EMM        /ENTER MAINT MODE
03256    110600      LAW      220
03257    760220      XCT      DPEM      /SET JOB DONE FLAG
03260    400115      XCT      DPLM      /LEAVE MAINT MODE
03261    400117      XCT      DPSF      /SKIP ON DISK FLAG
03262    400101      JMP      SL60      /REPEAT
03263    603255      JMP      SL60      /REPEAT
03264    603255      JMP      SL60
                                .EJECT

```


/TEST 61, THE DPSF IOT IS TESTED TO SKIP ON AN ERROR FLAG.

```

03265 000000      T61      0
03266 400116      XCT      DPCF      /RESET CONTROL
03267 776000      LAW      16000
03270 400102      XCT      DPLA
03271 400101      XCT      DPSF      /DISK FLAG SET?
03272 741000      SKP
03273 603301      JMP      E01*2      /YES
03274 760061      LAW      61
03275 110670      JMS      TTSTNO      /TYPE TEST0
03276 111144      JMS      LPERR
03277 740040      E01      HALT      /ERROR, THE DPSF IOT FAILED TO
                                /SKIP ON THE ERROR FLAG, SL61
                                /MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT
                                /TEST,
03300 603266      JMP      T61*1      /DONE
03301 111217      JMS      ENDTST
03302 603266      JMP      T61*1      /REPEAT TEST
03303 623265      JMP0     T61        /EXIT TEST

/SCOPE LOOP FOR T61
/
03304 400116      SL61     XCT      DPCF      /RESET CONTROL
03305 776000      LAW      16000
03306 400102      XCT      DPLA      /LOAD CYL ADD REG
03307 400101      XCT      DPSF      /SKIP ON DISK FLAG
03310 603304      JMP      SL61      /REPEAT
03311 603304      JMP      SL61      /REPEAT
                                .EJECT

```

/TEST 62. THE JOB DONE, ERROR AND ATTENTION FLAGS ARE
/CLEARED, AND THE DPSF IOT IS TESTED FOR NO SKIP.

```

/
T62      0
03312    000000
03313    400110      XCT      DPCF      /RESET CONTROL
03314    400101      XCT      DPSF      /DISK FLAG CLEARED?
03315    603324      JMP      E62*2      /YES
03316    110600      JMS     E^M        /ENTER MAINT MODE
03317    760062      LAW     02
03320    110670      JMS     TTSTNO     /TYPE TEST 0
03321    111144      JMS     LPERR
03322    740040      E62     HALT
                                /ERROR, THE DPSF IOT SKIPPED. SL62
                                /MAY BE ENTERED MANUALLY FOR
                                /SCOPING, OR CONTINUE TO REPEAT TEST.
03323    603313      JMP     T62*1
03324    111217      JMS     ENDTST
03325    603313      JMP     T62*1      /DONE
03326    623312      JMP*    T62        /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T62
/
SL62     XCT      DPCF      /RESET CONTROL
03327    400110      XCT      DPSF      /SKIP ON DISK FLAG
03330    400101      JMP     SL62      /REPEAT
03331    603327      JMP     SL62      /REPEAT
03332    603327      .EJECT

```

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/TEST 63, SET THE ERROR FLAG BY LOADING AN ILLEGAL HEAD ADD,
/TEST FOR IT USING THE DPSE IOT,

```

/
T63      0
03333    000000      XCT      DPCF      /RESET CONTROL
03334    400116      LAC      (1740
03335    212622      XCT      DPLA      /LOAD HEAD ADD REG
03336    400102      XCT      DPSE      /ERROR FLAG SET?
03337    400112      SKP
03340    741000      JMP      E63*2      /YES
03341    603347      LAW      63
03342    760063      JMS     RPT13      /TYPE TEST 0
03343    112170      JMS     LPERR
03344    111144      E63     HALT
03345    740040

03346    603334      JMP      T63*1
03347    111217      JMS     ENDTST
03350    603334      JMP      T63*1
03351    623333      JMP     T63

/SCOPE LOOP FOR T63
/
SL63     XCT      DPCF      /RESET CONTROL
03352    400116      LAC      (1740
03353    212622      XCT      DPLA      /LOAD HEAD ADD REG
03354    400102      XCT      DPSE      /SKIP ON ERROR FLAG
03355    400112      JMP      SL63      /REPEAT
03356    603352      JMP      SL63      /REPEAT
03357    603352      .EJECT

```

/TEST 64, SET THE ERROR FLAG BY LOADING AN ILLEGAL SECT ADD,
/TEST FOR IT USING THE DPSE 10T,

```

/
T64      0
03362    200020      XCT      DPCF      /RESET CONTROL
03361    400116      LAC      117
03362    212050      XCT      DPLA      /LOAD SECT ADD REG
03363    400102      XCT      DPSE      /ERROR FLAG SET?
03364    400112      SKP
03365    741000      JMP      E64*2      /YES
03366    603374      LAM      64
03367    760064      JMS      RPT13      /TYPE TEST #
03370    112170      JMS      LPERR
03371    111144      E64      HALT      /ERROR, LOADING AN ILLEGAL SECT
03372    740040      /ADD DID NOT SET THE ERROR FLAG,
/SL64 MAY BE ENTERED MANUALLY
/POR SCOPING, OR CONTINUE TO
/REPEAT TEST.
03373    603361      JMP      T64*1
03374    111217      JMS      ENDTST      /DONE
03375    603361      JMP      T64*1      /REPEAT TEST
03376    623360      JMP     T64      /EXIT TEST

/SCOPE LOOP FOR T64
/
SL64     XCT      DPCF      /RESET CONTROL
03400    212050      LAC      117
03401    400102      XCT      DPLA      /LOAD SECT ADD REG
03402    400112      XCT      DPSE      /SKIP ON ERROR FLAG
03403    603377      JMP      SL64      /REPEAT
03404    603377      JMP      SL64      /REPEAT
      .EJECT

```

/TEST 65, SET THE ERROR FLAG BY SIMULATING AN END OF PACK, TEST
/FOR IT USING THE DPSE IOT.

```

/
03405 000000 T65 0
03406 400116 XCF DPCF /RESET CONTROL
03407 110600 JMS EMH /ENTER MAINT MODE
03410 111137 JMS EOPE /END OF PACK
03411 400112 XCF DPSE /ERROR FLAG SET?
03412 741000 SKP
03413 603421 JMP E65*2 /YES
03414 760065 LAW 65
03415 112170 JMS RPT13 /TYPE TEST 0
03416 111144 JMS LPEHR
03417 740040 E65 HALT /ERROR, AN END OF PACK ERROR DID
/NOT SET THE ERROR FLAG, SL65
/MAY BE ENTERED MANUALLY FOR SCOPING.
/OR CONTINUE TO REPEAT TEST.
/DONE
/REPEAT TEST
/EXIT TEST

03420 603406 JMP T65*1
03421 111217 JMS ENDTST
03422 603406 JMP T65*1
03423 623405 JMP0 T65

/SCOPE LOOP FOR T65
/
03424 400116 SL65 XCF DPCF /RESET CONTROL
03425 110600 JMS EMH /ENTER MAINT MODE
03426 111137 JMS EOPE /END OF PACK
03427 400112 XCF DPSE /ERROR FLAG SET?
03430 603424 JMP SL65 /REPEAT
03431 603424 JMP SL65 /REPEAT
.EJECT

```

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/TEST 66, SET THE ERROR FLAG BY SIMULATING A HEADER NOT FOUND, TEST FOR
/IT USING THE DPSE LOT,

```

/
T66      @
03432    000000      XCT      DPCF      /RESET CONTROL
03433    400116      JMS      EMM       /ENTER MAINT MODE
03434    110600      JMS      MNFL      /HEADER NOT FOUND
03435    111117      JMS      MNFL      /HEADER NOT FOUND
03436    400112      XCT      DPSE      /ERROR FLAG SET?
03437    741000      SKP
03440    603446      JMP      E66*2     /YES
03441    760066      LAM      66
03442    112170      JMS      RPT13     /TYPE TEST 0
03443    111144      JMS      LPERR
03444    740040      E66      HALT      /ERROR, A HEADER NOT FOUND ERROR DID
                                /NOT SET THE ERROR FLAG, SLOGG MAY BE
                                /ENTERED MANUALLY FOR SCOPING, OR
                                /CONTINUE TO REPEAT TEST.
03445    603433      JMP      T66*1
03446    111217      JMS      ENDTST
03447    603433      JMP      T66*1     /DONE
03450    623432      JMP.     T66      /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T66
/
SLOGG   XCT      DPCF      /RESET CONTROL
03451    400116      JMS      EMM       /ENTER MAINT MODE
03452    110600      JMS      MNFL      /HEADER NOT FOUND
03453    111117      JMS      MNFL      /HEADER NOT FOUND
03454    400112      XCT      DPSE      /SKIP ON ERROR FLAG
03455    603451      JMP      SLOGG     /REPEAT
03456    603451      JMP      SLOGG     /REPEAT
                                .EJECT

```

/TEST 67. TEST FOR CORRECT INCREMENTING OF THE WC REG BY THE
 /CONTROL WHILE SIMULATING A WRITE. THE WC REG IS TESTED AFTER
 /EACH 36 BIT DATA TRANSFER FOR HAVING BEEN INCREMENTED TWICE.
 /ONE COMPLETE SECTION (256 18 BIT DATA WORDS) IS TRANSFERRED.

```

03457 000000      T67      0
03460 400110      XCT      DPCF      /RESET CONTROL
03461 110634      JMS      ISW
03462 777400      LAW      -400
03463 040601      DAC      CTR1      /STORE FOR COMPARISON
03464 400113      XCT      OPWC      /LOAD WC REG
03465 212660      LAC      (525292
03466 043631      DAC      BUFF1+1
03467 043632      DAC      BUFF1+2
03470 203630      LAC      BUFF1
03471 400110      XCT      OPCA      /LOAD CA REG
03472 111411      JMS      WRT      /WRITE SEQUENCE
03473 777617      LAW      -161
03474 111350      JMS      XPER      /INC FORMAT GEN 3X
03475 446623      ISB      CTR0
03476 200601      LAC      CTR1      /GET SOFTWARE WC
03477 352661      TAD      (2      /INCREMENT TWICE
03500 040601      DAC      CTR1
03501 400126      XCT      OPRW      /READ WC REG
03502 540601      SAD      CTR1      /WC CORRECT?
03503 741000      SKP
03504 603520      JMP      END67
03505 203630      LAC      BUFF1
03506 400110      XCT      OPCA      /LOAD CA REG
03507 777733      LAW      -40
03510 111350      JMS      XPER      /INC FORMAT GEN ONCE
03511 446623      ISB      CTR0
03512 200601      LAC      CTR1      /GET SOFTWARE WC
03513 352661      TAD      (2      /INCREMENT TWICE
03514 040601      DAC      CTR1
03515 400126      XCT      OPRW      /READ WC REG
03516 540601      SAD      CTR1      /WC REG CORRECT?
03517 603526      JMP      E67+2      /YES
03520 040646      END67  DAC      TSTRG1
03521 760067      LAW      67
03522 110620      JMS      RPT1      /REPORT ERROR
03523 111144      JMS      LPERR
03524 740040      E67      HALT      /ERROR, THE WC REG WAS INCORRECT
                                /AFTER A DATA XFER,
                                /CONTINUE TO REPEAT TEST.

03525 603460      JMP      T67+1
03526 203630      LAC      BUFF1
03527 400110      XCT      OPCA      /LOAD CA REG
03530 777733      LAW      -40
03531 111350      JMS      XPER      /TRANSFER 36 BITS • P
03532 446623      ISB      CTR0      /TEST DONE?
03533 603512      JMP      XT80      /NO
03534 777616      LAW      -162
03535 111350      JMS      XPER
03536 200601      LAC      CTR1      /LAST 2 WDS • LPR
03537 352661      TAD      (2      /GET SOFTWARE WC
                                /INCREMENT TWICE

```

03540	040601	0AC	CTRI	
03541	400126	XCT	OPRM	/READ WC REG
03542	740200	SZA		/WC REG CORRECT?
03543	603520	JMP	END07	/NO
03544	111217	JMS	END7SY	/DONE
03545	603460	JMP	T67*1	/REPEAT TEST
03546	623457	JMP	T67	/EXIT TEST
		.EJECT		

/TEST 137, TEST FOR NO ERROR FLAG AFTER SIMULATING A WRITE-ALL FOR
/ONE COMPLETE SECTOR,

```

/
T137      0
06704    000000      LAC      BUFF3
06705    207551      DAC      IND
06706    047565      LAW      =4
06707    777774      DAC      CTR1
06710    040601      XCT      DPCF          /RESET CONTROL
06711    400116      LAC      (41010
06712    212662      DAC      CTR4          /SET TO SECT =1
06713    041404      DAC      WORD2
06714    042250      XCT      DPLA          /LOAD ADDRESS
06715    400102      LAC      BUFF2
06716    207562      XCT      DPCA          /LOAD CA REG
06717    400110      LAW      =402
06720    777376      XCT      DPMC          /LOAD WC REG
06721    400113      LAC      (01000
06722    212663      XCT      DPLF          /LOAD FUNCTION
06723    400125      JMS      EHM          /ENTER MAINT MODE
06724    110600      JMS      PDSE
06725    111570      JMS      HEADER
06726    111505      DEM      WORD1          /ADD PORTION OF HEADER
06727    142247      JMS      ODMOPA
06730    111556      JMS      CTHREE          /ADD HEADER PARITY
06731    111360      LAW      =301
06732    777577      DAC      CTR3          /INIT SOFTWARE WC
06733    040623      ISZ      CTR4          /SET TO SECT
06734    441404      DEM      BUFF2+1
06735    147563      LAC      CTR4
06736    201404      DAC      BUFF2+2
06737    047564      JMS      SUSP          /SEL UNIT SECT PULSE
06740    111536      JMS      IF03X          /INC FORMAT GEN 3X
06741    111734      JMS      DATA          /TRANSFER THE 36 BIT HEADER
06742    111740      ISZ      CTR3
06743    446623      LAC@     IND
06744    227565      DAC      BUFF2+1
06745    047563      ISZ      IND
06746    447565      LAC@     IND
06747    227565      DAC      BUFF2+2
06750    047564      LAC      BUFF2
06751    207562      XCT      DPCA          /LOAD CA REG
06752    400110      LAW      =157
06753    777621      JMS      XFER          /INC FORMAT GEN 3X
06754    111350      LAC      BUFF2
06755    207562      XCT      DPCA          /LOAD CA REG
06756    400110      LAW      =45
06757    777733      JMS      XFER          /INC FORMAT GEN ONCE
06760    111350      LAC      BUFF2
06761    207562      XCT      DPCA          /LOAD CA REG
06762    400110      JMS      DATA          /TRANSFER A 36 BIT WORD • P
06763    111740      ISZ      CTR3          /TRANSFER COMPLETE?
06764    446623      JMP      T0137          /NO
06765    606761      LAW      =45
06766    777733      JMS      XFER          /XFER LONG PARITY
06767    111350

```

06770	111360	JMS	CTHRE	
06771	400112	XCT	DPSE	/ERROR FLAG CLEARED?
06772	607000	JMP	E137+2	/YES
06773	760137	LAW	137	
06774	110670	JMS	TYSTNO	/TYPE TEST#
06775	111144	JMS	LPERR	
06776	740040	E137	HALT	/ERROR, AN ERROR FLAG WAS SET AFTER /SIMULATING A WRITE-ALL FOR ONE SECTOR, /CONTINUE TO REPEAT TEST.
06777	606705	JMP	T137+1	
07000	440601	ISZ	CTR1	
07001	607005	JMP	,+4	
07002	111217	JMS	ENDTST	/DONE
07003	606705	JMP	T137+1	/REPEAT TEST
07004	626704	JMP,	T137	/EXIT TEST
07005	447565	ISZ	IND	
07006	606711	JMP	T137+5	
			.EJECT	

/TEST 148, TEST FOR NO ERROR FLAG AFTER SIMULATING A READ-ALL FOR ONE
/COMPLETE SECTOR,

/

/•SEE NOTE 1 ON PAGE 1

/

07007	000000	T140	0		
07010	207551		LAC	BUFF3	
07011	047565		DAC	IND	
07012	777774		LAW	=4	
07013	040601		DAC	CTR1	
07014	400110		XCT	OPCF	/RESET CONTROL
07015	110600		JMS	EMH	/ENTER MAINT MODE
07016	212676		LAC	(12241	
07017	041404		DAC	CTR4	/SET TO SECT =1
07020	042250		DAC	WORD2	
07021	400102		XCT	OPLA	/LOAD ADDRESS
07022	203630		LAC	BUFF1	
07023	400110		XCT	OPCA	/LOAD CA REG
07024	777376		LAW	=402	
07025	400113		XCT	OPWC	/LOAD WC REG
07026	212670		LAC	(51000	
07027	400125		XCT	OPLF	/LOAD FUNCTION
07030	111570		JMS	POBE	
07031	111505		JMS	HEADER	/ADD PORTION OF HEADER
07032	142247		DEM	WORD1	
07033	111556		JMS	ODWOPA	/ODD HEADER PARITY
07034	111360		JMS	CTHREE	
07035	111550		JMS	OSBUS	
07036	777577		LAW	=201	
07037	040623		DAC	CTR3	/INIT SOFTWARE WC
07040	441404		ISE	CTR4	/SET TO SECT
07041	111570		JMS	POBE	
07042	111505		JMS	HEADER	/ADD PORTION OF HEADER
07043	142247		DEM	WORD1	
07044	201404		LAC	CTR4	
07045	042250		DAC	WORD2	
07046	111556		JMS	ODWOPA	/ODD HEADER PARITY
07047	111360		JMS	CTHREE	
07050	440623		ISE	CTR3	
07051	111550		JMS	OSBUS	/50 US DELAY
07052	111433		JMS	SYNGBT	/DATA SYNC
07053	227565		LAC*	IND	
07054	042247		DAC	WORD1	
07055	447565		ISE	IND	
07056	227565		LAC*	IND	
07057	042250		DAC	WORD2	
07060	203630	TD140	LAC	BUFF1	
07061	400110		XCT	OPCA	/LOAD CA REG
07062	111066		JMS	DATA	/TRANSFER A 36 BIT WORD
07063	111556		JMS	ODWOPA	/ODD WORD PARITY
07064	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
07065	440623		ISE	CTR3	/TRANSFER COMPLETE?
07066	607060		JMP	TD140	/NO
07067	203630		LAC	BUFF1	
07070	400110		XCT	OPCA	/LOAD CA REG

07071	111644	JMS	ODLPAH	/ODD LONG PARITY
07072	111710	JMS	TRAIL	/TRAILER
07073	400112	XCT	DPSE	/ERROR FLAG CLEARED?
07074	607102	JMP	E140*2	/YES
07075	760140	LAW	140	
07076	110670	JMS	TYSTNO	/TYPE TEST*
07077	111144	JMS	LPERR	
07107	740040	E140	HALT	/ERROR, AN ERROR FLAG WAS SET AFTER /SIMULATING A READ-ALL FOR ONE SECTOR. /CONTINUE TO REPEAT TEST.
07101	607010	JMP	T140*1	
07102	440601	ISE	CTRI	
07103	607107	JMP	.04	
07104	111217	JMS	ENDTST	/DONE
07105	607010	JMP	T140*1	/REPEAT TEST
07106	627007	JMP*	T140	/EXIT TEST
07107	447565	ISE	IND	
07110	607014	JMP	T140*5	
			.EJECT	

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/TEST 141, TEST FOR NO ERROR FLAG AFTER SIMULATING A READ COMPARE
/FOR ONE COMPLETE SECTOR./
/SEE NOTE 1 ON PAGE 1
/

07111	000000	T141	0		
07112	207551		LAC	BUFF3	
07113	047565		DAC	IND	
07114	777774		LAW	=4	
07115	040601		DAC	CTR1	
07116	400116		XCT	DPCF	/RESET CONTROL
07117	110634		JMS	ISW	
07120	777400		LAW	=400	
07121	400113		XCT	DPHC	/LOAD WC REG
07122	227565		LAC0	IND	
07123	043631		DAC	BUFF101	
07124	447565		ISE	IND	
07125	227565		LAC0	IND	
07126	043632		DAC	BUFF102	
07127	203630		LAC	BUFF1	
07130	400110		XCT	DPCA	/LOAD CA REG
07131	112024		JMS	RDCOMP	/READ COMPARE SEQUENCE
07132	207565		LAC	IND	
07133	352630		TAD	(01	
07134	047565		DAC	IND	
07135	227565		LAC0	IND	
07136	042247		DAC	WORD1	
07137	447565		ISE	IND	
07140	227565		LAC0	IND	
07141	042250		DAC	WORD2	
07142	203630	JCA	LAC	BUFF1	
07143	400110		XCT	DPCA	/LOAD CA REG
07144	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
07145	111556		JMS	ODWORDA	/ODD WORD PARITY
07146	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
07147	446623		ISE	CTR0	/TRANSFER COMPLETE?
07150	607142		JMP	JCA	/NO
07151	111644		JMS	ODLPAR	/ODD LONG PARITY
07152	111710		JMS	TRAIL	/TRAILER
07153	400112		XCT	DPSE	/ERROR FLAG CLEARED?
07154	607162		JMP	E14102	/YES
07155	760141		LAW	141	
07156	110070		JMS	TTSTNO	/TYPE TESTS
07157	111144		JMS	LPERR	
07160	740040	E141	HALT		/ERROR, AN ERROR FLAG WAS SET AFTER /SIMULATING A READ COMPARE FOR /ONE SECTOR, CONTINUE TO REPEAT TEST.
07161	607112		JMP	T14101	
07162	440601		ISE	CTR1	
07163	607167		JMP	=0	
07164	111217		JMS	ENDTST	/DONE
07165	607112		JMP	T14101	/REPEAT TEST
07166	627111		JMP0	T141	/EXIT TEST
07167	447565		ISE	IND	
07170	607116		JMP	T14100	

.EJECT

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/TEST 142, SIMULATE A READ FOR ONE COMPLETE SECTOR,
/TEST FOR DATA XFER ERRORS,

/SEE NOTE 1 ON PAGE 1

07171	000000	T142	0		
07172	400110		XCT	DPCF	/RESET CONTROL
07173	110600		JMS	EMM	/ENTER MAINT MODE
07174	212676		LAC	(12241	
07175	741404		DAC	CTR4	
07176	042250		DAC	WORD2	
07177	400102		XCT	OPLA	/LOAD ADD REGS
07200	203630		LAC	BUFF1	
07201	400110		XCT	OPCA	/LOAD CA REG
07202	777400		LAW	=400	
07203	400113		XCT	OPMC	/LOAD MC REG
07204	111429		JMS	RDS	/READ SEQUENCE
07205	111509		JMS	HEADER	/ADD PORTION OF HEADER
07206	142247		DZM	WORD1	
07207	110647		JMS	ODWOPB	/ODD HEADER PARITY • 3 CLOCK PULSES
07210	110634		JMS	ISW	/INIT SOFTWARE MC
07211	777777		LAW	=1	
07212	042247		DAC	WORD1	
07213	042250		DAC	WORD2	
07214	111550		JMS	DSBUS	/50 US DELAY
07215	111433		JMS	SYNCSY	/DATA SYNC
07216	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
07217	111556		JMS	ODWOPA	/ODD WORD PARITY
07220	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
07221	111666	TRANDA	JMS	DATA	/TRANSFER A 36 BIT DATA WORD
07222	111556		JMS	ODWOPA	/ODD WORD PARITY
07223	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
07224	777777		LAW	=1	
07225	543631		SAD	BUFF1*1	/FIRST 18 BITS OF DATA WORD CORRECT?
07226	741000		SKP		/YES
07227	607244		JMP	END142	
07230	543632		SAD	BUFF1*2	/LAST 18 BITS OF DATA WORD CORRECT?
07231	741000		SKP		/YES
07232	607244		JMP	END142	
07233	446623		ISE	CTR9	/TRANSFER COMPLETE?
07234	741000		SKP		
07235	607241		JMP	,04	/YES
07236	203630		LAC	BUFF1	
07237	400110		XCT	OPCA	/LOAD CA REG
07240	607221		JMP	TRANDA	
07241	111644		JMS	ODLPA	/ODD LONG PARITY
07242	111710		JMS	TRAIL	/TRAILER
07243	607255		JMP	E142*2	/YES
07244	760142	END142	LAW	142	
07245	110670		JMS	TYSTNO	/TYPE TESTS
07246	111052		JMS	TYXT	
07247	012425		DXE		
07250	111266		JMS	CRLF	
07251	111775		JMS	RP11	

07252 111144
07253 740040
07254 607172
07255 111217
07256 607172
07257 627171

E142 JMS LPEHR
HALT
JMP T142+1
JMS ENDTST
JMP T142+1
JMP* T142
.EJECT

/ERROR, A DATA XFER ERROR OCCURRED.
/CONTINUE TO REPEAT TEST,
/DONE
/REPEAT TEST
/EXIT TEST

/TEST 143, SIMULATE A READ ALL FOR ONE COMPLETE SECTOR,
/TEST FOR DATA XFER ERRORS.

/

/•SEE NOTE 1 ON PAGE 1

/

07260	000000	T143	0		
07261	400116		XCT	DPCF	/RESET CONTROL
07262	110600		JMS	EMH	/ENTER MAINT MODE
07263	212676		LAC	(12241	
07264	041404		DAC	CTR4	/SET TO SECT =1
07265	042250		DAC	WORD2	
07266	400102		XCT	DPLA	/LOAD ADD REGS
07267	203630		LAC	BUFF1	
07270	400110		XCT	OPCA	/LOAD CA REG
07271	777376		LAW	=402	
07272	400113		XCT	DPNC	/LOAD WC REG
07273	212670		LAC	(31000	
07274	400125		XCT	DPLF	/LOAD FUNCTION REG
07275	111570		JMS	POBE	
07276	111505		JMS	HEADER	/ADD PORTION OF HEADER
07277	142247		DEH	WORD1	
07300	111556		JMS	ODWOPA	/ODD HEADER PARITY
07301	111360		JMS	CTHREE	
07302	111550		JMS	DBBUS	
07303	777577		LAW	=201	
07304	046623		DAC	CTR9	/INIT SOFTWARE WC
07305	441404		ISE	CTR4	/SET TO SECTOR
07306	111570		JMS	POBE	
07307	111505		JMS	HEADER	/ADD PORTION OF HEADER
07310	142247		DEH	WORD1	
07311	201404		LAC	CTR4	
07312	042250		DAC	WORD2	
07313	111556		JMS	ODWOPA	/ODD HEADER PARITY
07314	111360		JMS	CTHREE	
07315	203631		LAC	BUFF1+1	
07316	740200		SEA		/FIRST 10 BITS OF HEADER WORD CORRECT?
07317	607360		JMP	END143=5	
07320	203632		LAC	BUFF1+2	/YES
07321	541404		SAD	CTR4	/LAST 10 BITS OF HEADER WORD CORRECT?
07322	741000		SKP		/YES
07323	607360		JMP	END143=5	
07324	446623		ISE	CTR9	/INCREMENT SOFTWARE WC ONCE
07325	777777		LAW	=1	
07326	042247		DAC	WORD1	
07327	042250		DAC	WORD2	
07330	111550		JMS	DBBUS	/90 US DELAY
07331	111433		JMS	SYNCDT	/DATA SYNC
07332	203630		LAC	BUFF1	
07333	400110		XCT	OPCA	/LOAD CA REG
07334	111666		JMS	DATA	/XFER 36 BIT DATA WORD
07335	111556		JMS	ODWOPA	/ODD WORD PARITY
07336	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
07337	203630	TRANDB	LAC	BUFF1	
07340	400110		XCT	OPCA	/LOAD CA REG
07341	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD

07342	111556	JMS	ODWOPA	/ODD WORD PARITY
07343	111634	JMS	LPRCNT	/CALCULATE LONG PARITY
07344	777777	LAW	=1	
07345	543631	SAD	BUFF1*1	/FIRST 18 BITS OF DATA WORD CORRECT?
07346	741000	SKP		/YES
07347	607365	JMP	END143	
07350	543632	SAD	BUFF1*2	/LAST 18 BITS OF DATA WORD CORRECT?
07351	741000	SKP		/YES
07352	607365	JMP	END143	
07353	446623	ISE	CTR0	/TRANSFER COMPLETE?
07354	607337	JMP	TRANDB	
07355	111644	JMS	ODLPAR	/ODD LONG PARITY
07356	111710	JMS	TRAIL	/TRAILER
07357	607376	JMP	E143*2	/YES
07360	760143	LAW	143	
07361	110670	JMS	TTSTNO	
07362	111052	JMS	TTXT	
07363	012416	HXE		
07364	607371	JMP	E143*3	
07365	760143	LAW	143	
07366	110670	JMS	TTSTNO	/TYPE TEST #
07367	111052	JMS	TTXT	
07370	012429	DXE		
07371	111266	JMS	CRLF	
07372	111775	JMS	RPT11	
07373	111144	JMS	LPERR	
07374	740040	E143	HALT	/ERROR, A DATA XFER ERROR OCCURRED.
07375	607261	JMP	T143*1	/CONTINUE TO REPEAT TEST.
07376	111217	JMS	END15T	/DONE
07377	607261	JMP	T143*1	/REPEAT TEST
07400	627260	JMP	T143	/EXIT TEST
			.EJECT	

/TEST 70, TEST FOR CORRECT INCREMENTING OF THE CA REG BY THE
 /CONTROL WHILE SIMULATING A WRITE, THE CA REG IS TESTED AFTER
 /EACH 36 BIT DATA TRANSFER FOR HAVING BEEN INCREMENTED TWICE,
 /ONE COMPLETE SECTOR (256 16 BIT DATA WORDS) IS TRANSFERRED,
 /

```

03547 000000 T70 0
03550 400116 XCT DPCF /RESET CONTROL
03551 110034 JMS ISM
03552 777400 LAN -400
03553 400113 XCT DPCW /LOAD WC REG
03554 212660 LAC (525252
03555 043631 DAC BUFF1*1
03556 043632 DAC BUFF1*2
03557 111411 JMS WRT /WRITE SEQUENCE
03560 777617 LAN -161
03561 111350 JMS XPER /INC FORMAT GEN 3X
03562 446623 ISB CTR0
03563 212661 LAC (2
03564 040601 DAC CTR1
03565 400123 XCT DPCG /READ CA REG
03566 540601 SAD CTR1 /CA CORRECT?
03567 741000 SKP /YES
03570 603602 JMP END70
03571 777733 LAN -49
03572 111350 JMS XPER /INC FORMAT GEN ONCE
03573 446623 ISB CTR0
03574 200601 LCAR LAC CTR1
03575 392661 YAD (2
03576 040601 DAC CTR1
03577 400123 XCT DPCG /READ CA REG
03600 540601 SAD CTR1 /CA REG CORRECT?
03601 603610 JMP E70*2 /YES
03602 040640 END70 DAC YSTRG1
03603 760070 LAN 70
03604 110640 JMS RPT2 /REPORT ERROR
03605 111144 JMS LPERR
03606 740040 E70 HALT /ERROR, THE CA REG WAS INCORRECT
/AFTR A DATA XPER, CONTINUE TO
/REPEAT TEST.

03607 603550 JMP T70*1
03610 777733 LAN -49
03611 111350 JMS XPER /TRANSFER 36 BITS * P
03612 446623 ISB CTR0 /TEST DONE?
03613 603574 JMP LCAR /NO
03614 777610 LAN -162
03615 111350 JMS XPER /LAST 2 WDS * LPR
03616 200601 LAC CTR1
03617 392661 YAD (2
03620 040601 DAC CTR1
03621 400123 XCT DPCG /READ CA REG
03622 540601 SAD CTR1 /CA REG CORRECT?
03623 741000 SKP /YES
03624 603602 JMP END70 /NO
03625 111217 JMS END157 /DONE
03626 603550 JMP T70*1 /REPEAT TEST
03627 623547 JMP0 T70 /EXIT TEST

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/TEST 144, SIMULATE A WRITE FOR ONE COMPLETE SECTOR, TEST FOR
/DATA XFER ERRORS, BAD WORD PARITY AND LONG PARITY XFER ERROR,
/

07401	000000	T144	B		
07402	207551		LAC	BUFF3	
07403	047565		DAC	IND	/INIT POINTER
07404	777774		LAW	=4	
07405	040601		DAC	CTR1	
07406	400110		XCT	DPCF	/RESET CONTROL
07407	212662		LAC	(41010	
07410	041404		DAC	CTR4	
07411	042250		DAC	WORD2	
07412	400102		XCT	DPLA	/LOAD ADD REGS
07413	777400		LAW	=400	
07414	400113		XCT	OPWC	/LOAD WC REG
07415	212635		LAC	(21000	
07416	400125		XCT	DPLF	/LOAD FUNCTION REG
07417	110600		JMS	EMM	/ENTER MAINT MODE
07420	111570		JMS	POBE	
07421	111505		JMS	HEADER	/ADD PORTION OF HEADER
07422	142247		D2M	WORD1	
07423	111556		JMS	ODWOPA	/ODD HEADER PARITY
07424	111360		JMS	CTWREC	
07425	110634		JMS	ISW	/INIT SOFTWARE WC
07426	227565		LAC*	IND	
07427	047563		DAC	BUFF2*1	
07430	042247		DAC	WORD1	
07431	447565		ISB	IND	
07432	227565		LAC*	IND	
07433	047564		DAC	BUFF2*2	
07434	042250		DAC	WORD2	
07435	207562		LAC	BUFF2	
07436	400110		XCT	OPCA	/LOAD CA REG
07437	777617		LAW	=361	
07440	111350		JMS	XFER	/INC FORMAT GEN 3X
07441	207562		LAC	BUFF2	
07442	400110		XCT	OPCA	/LOAD CA REG
07443	777733		LAW	=40	
07444	111350		JMS	XFER	/INC FORMAT GEN ONCE
07445	207562	TRANOC	LAC	BUFF2	
07446	400110		XCT	OPCA	/LOAD CA REG
07447	111740		JMS	DATAX	/TRANSFER A 36 BIT DATA WORD*P
07450	111019		JMS	PARITY	/CALCULATE WORD PARITY
07451	211567		LAC	WPAR	
07452	740001		CHA		
07453	512627		AND	(1	
07454	051567		DAC	WPAR	
07455	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
07456	207563		LAC	BUFF2*1	
07457	543031		SAD	BUFF1*1	/FIRST 10 BITS OF DATA WORD CORRECT? /YES
07460	741000		SKP		
07461	607531		JMP	END144	
07462	207564		LAC	BUFF2*2	
07463	543032		SAD	BUFF1*2	/LAST 10 BITS OF DATA WORD CORRECT? /YES
07464	741000		SKP		

07465	607531	JMP	END144	
07466	211567	LAC	WPAR	
07467	547566	SAD	WP	/CONTROL ASSIGN CORRECT PARITY?
07470	607472	JMP	DDEC	/YES
07471	607531	JMP	END144	/NO
07472	446623	DDEC	ISZ	CTR9
07473	607445	JMP	TRANDE	/DATA XFER COMPLETE?
07474	211521	LAC	LPRWD1	/NO
07475	740001	CMA		
07476	042247	DAC	WORD1	
07477	211522	LAC	LPRWD2	
07500	740001	CMA		
07501	042250	DAC	WORD2	
07502	111615	JMS	PARITY	
07503	211567	LAC	WPAR	
07504	740001	CMA		
07505	512627	AND	(1	
07506	051567	DAC	WPAR	
07507	111740	JMS	DATA	/XFER LONG PARITY • P
07510	111360	JMS	CTHREE	
07511	202247	LAC	WORD1	
07512	543631	SAD	BUFF1+1	/FIRST 18 BITS OF LPR CORRECT?
07513	741000	SKP		/YES
07514	607520	JMP	,+4	/NO
07515	202250	LAC	WORD2	
07516	543632	SAD	BUFF1+2	/LAST 18 BITS OF LPR CORRECT?
07517	607525	JMP	D144	
07520	760144	LAW	144	
07521	110670	JMS	TTSTNO	/TYPE TEST 0
07522	111052	JMS	TTXT	
07523	012433	LXE		
07524	607535	JMP	E144-3	
07525	211567	D144	LAC	WPAR
07526	547566	SAD	WP	/CONTROL ASSIGN CORRECT PARITY?
07527	607542	JMP	E144+2	/YES
07530	607520	JMP	D144-5	/NO
07531	760144	END144	LAW	144
07532	110670	JMS	TTSTNO	/TYPE TEST 0
07533	111052	JMS	TTXT	
07534	012425	OXC		
07535	111260	JMS	CRLF	
07536	112134	JMS	RP12	
07537	111144	JMS	LPERR	
07540	740040	E144	HALT	/ERROR, A DATA XFER /ERROR OCCURRED, OR THE CONTROL GENERATED /AN INCORRECT WORD PARITY BIT, OR LONG /PARITY WORD. CONTINUE TO REPEAT TEST. /TEST DONE? /NO /DONE /REPEAT TEST /EXIT TEST /MOVE POINTER
07541	607402	JMP	T144+1	
07542	440601	ISZ	CTR1	
07543	607547	JMP	,+4	
07544	111217	JMS	ENDTST	
07545	607402	JMP	T144+1	
07546	627401	JMP	T144	
07547	447565	ISZ	IND	
07550	607406	JMP	T144+5	

07551	007552	BUFF3	,*1
07552	525252		525252
07553	525252		525252
07554	525252		525252
07555	000000		000000
07556	000000		000000
07557	525252		525252
07560	777777		777777
07561	777777		777777

07562	007563	/	
07563	000000	BUFF2	,*1
07564	000000		0
			0

07565	000000	/	
07566	000000	IND	0
		WP	0
			,EJECT

/TEST 145, SIMULATE A WRITE ALL FOR ONE COMPLETE SECTOR, TEST FOR
/DATA XFER ERRORS, BAD WORD PARITY & LONG PARITY XFER ERROR.

```

/
Y145      0
07567    000500      LAC      BUFF3
07570    207551      DAC      IND
07571    047565      LAW      -4
07572    777774      DAC      CTR1
07573    040601      XCT      DPCF          /RESET CONTROL
07574    400116      LAC      (41010
07575    212662      DAC      CTR4          /SET TO SECT =1
07576    041404      DAC      WORD2
07577    042250      XCT      DPLA          /LOAD ADD REGS
07600    400102      LAC      BUFF2
07601    207562      XCT      DPCA          /LOAD CA REG
07602    400110      LAW      -402
07603    777376      XCT      DPMC          /LOAD WC REG
07604    400113      LAC      (61000
07605    212663      XCT      DPLF          /LOAD FUNCTION REG
07606    400125      JMS      ENH          /ENTER MAINT MODE
07607    110600      JMS      POBE
07610    111570      JMS      HEADER      /ADD PORTION OF HEADER
07611    111505      DEM      WORD1
07612    142247      JMS      ODH0PA      /ODD HEADER PARITY
07613    111556      JMS      CTRREC
07614    111360      LAW      -201
07615    777577      DAC      CTR5          /INIT SOFTWARE WC
07616    040623      ISB      CTR4          /SET TO SECTOR
07617    441404      DEM      BUFF2+1
07620    147563      DEM      WORD1
07621    142247      LAC      CTR4
07622    201404      DAC      BUFF2+2
07623    047564      DAC      WORD2
07624    042250      JMS      SUSP          /SEL UNIT SECTOR PULSE
07625    111536      JMS      IP630X      /INCREMENT FORMAT GEN 30X
07626    111734      JMS      DATAX
07627    111740      JMS      PARITY
07630    111619      LAC      WPAR
07631    211567      CHA
07632    740001      AND      (1
07633    512627      DAC      WPAR
07634    051567      LAC      BUFF1+1
07635    203631      SEA
07636    740200      JMP      .+4          /FIRST 16 BITS OF HEADER CORRECT?
07637    607643      LAC      CTR4
07640    201404      SAD      BUFF1+2      /LAST 16 BITS OF HEADER CORRECT?
07641    543632      JMP      Y0145      /YES
07642    607650      LAW      145
07643    760145      JMS      TYSTNO
07644    110670      JMS      TTXI
07645    111052      HXE
07646    012416      JMP      E145+3
07647    607760      ISB      CTR5          /INCREMENT SOFTWARE WC ONCE
07650    440623      LAC0     IND
07651    227565      DAC
07652    047563      BUFF2+1

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07653	042247	DAC	WORD1	
07654	447565	ISE	IND	
07655	227565	LAC	IND	
07656	047564	DAC	BUFF2*2	
07657	042250	DAC	WORD2	
07660	207562	LAC	BUFF2	
07661	400110	XCT	DPCA	/LOAD CA REG
07662	777621	LAW	=197	
07663	111350	JMS	XFER	/INC FORMAT GEN 3X
07664	207562	LAC	BUFF2	
07665	400110	XCT	DPCA	/LOAD CA REG
07666	777733	LAW	=45	
07667	111350	JMS	XFER	/INC FORMAT GEN ONCE
07670	207562	LAC	BUFF2	
07671	400110	XCT	DPCA	/LOAD CA REG
07672	111740	JMS	DATAX	/TRANSFER A 36 BIT DATA WORD*P
07673	111619	JMS	PARITY	
07674	211567	LAC	WPAR	
07675	740001	CHA		
07676	512627	AND	(1	
07677	051567	DAC	WPAR	
07700	111634	JMS	LPRCNT	
07701	207563	LAC	BUFF2*1	
07702	543631	SAD	BUFF1*1	/FIRST 10 BITS OF DATA WORD CORRECT?
07703	741000	SKP		/YES
07704	607754	JMP	END140	
07705	207564	LAC	BUFF2*2	
07706	543632	SAD	BUFF1*2	/LAST 10 BITS OF DATA WORD CORRECT?
07707	741000	SKP		/YES
07710	607754	JMP	END140	
07711	211567	LAC	WPAR	
07712	547566	SAD	WP	
07713	741000	SKP		
07714	607754	JMP	END140	
07715	446623	ISE	CTRD	/TRANSFER COMPLETE?
07716	607670	JMP	TRANDD	
07717	211521	LAC	LPRND1	
07720	740001	CHA		
07721	042247	DAC	WORD1	
07722	211522	LAC	LPRND2	
07723	740001	CHA		
07724	042250	DAC	WORD2	
07725	111619	JMS	PARITY	
07726	211567	LAC	WPAR	
07727	740001	CHA		
07730	512627	AND	(1	
07731	051567	DAC	WPAR	
07732	111740	JMS	DATAX	
07733	111360	JMS	CTHREE	
07734	202247	LAC	WORD1	
07735	543631	SAD	BUFF1*1	
07736	741000	SKP		
07737	607743	JMP	.04	
07740	202250	LAC	WORD2	
07741	543632	SAD	BUFF1*2	

TRANDD

07742	607750		JMP	D149	
07743	760145		LAW	149	
07744	110670		JMS	TTSTNO	
07745	111052		JMS	TTXT	
07746	012433		LXE		
07747	607760		JMP	E149-3	
07750	211567	D145	LAC	WPAR	
07751	547566		SAD	WP	
07752	607765		JMP	E149-2	
07753	607743		JMP	D149-5	
07754	760145	END145	LAW	145	/YES
07755	110670		JMS	TTSTNO	/TYPE TEST 0
07756	111052		JMS	TTXT	/TYPE
07757	012425		DXE		
07760	111266		JMS	CRLF	
07761	112134		JMS	RPT12	
07762	111144		JMS	LPE3R	
07763	740040	E145	HALT		/ERROR, A DATA XFER ERROR OCCURRED /OR THE CONTROL GENERATED AN /INCORRECT WORD PARITY BIT, OR /LONG PARITY WORD, /CONTINUE TO REPEAT TEST
07764	607570		JMP	T149-1	
07765	440601		ISE	CTR1	
07766	607772		JMP	.04	/NO
07767	111217		JMS	ENDTST	/DONE
07770	607570		JMP	T149-1	/REPEAT TEST
07771	627567		JMP	T149	/EXIT TEST
07772	447565		ISE	IND	
07773	607574		JMP	T149-5	
			.EJECT		

/TEST 146, TEST FOR THE GENERATION OF AN ALL ZEROS DATA FIELD BY THE
 /CONTROL. A WRITE ALL COMMAND IS ISSUED AND THE WC REG IS SET TO
 /TRANSFER ONLY THE 2 18 BIT HEADER WORDS. TEST FOR FORMAT ERROR,
 /DATA WORDS NOT EQUAL TO ZERO, & JOB DONE FLAG,
 /

07774	000000	T146	0		
07775	400116		XCT	OPCF	/RESET CONTROL
07776	212677		LAC	(1625190	
07777	041404		DAC	CTR4	/SET TO SECT =1
10000	042250		DAC	WORD2	
10001	400102		XCT	DPLA	/LOAD ADD REGS
10002	207562		LAC	BUFF2	
10003	400110		XCT	OPCA	/LOAD CA REG
10004	777776		LAW	=2	
10005	400113		XCT	OPWC	/LOAD WC REG
10006	212663		LAC	(61000	
10007	400129		XCT	DPLF	/LOAD FUNCTION REG
10010	110600		JMS	EMH	/ENTER MAINT MODE
10011	111570		JMS	POBE	
10012	111509		JMS	HEADER	/ADD PORTION OF HEADER
10013	142247		DEH	WORD1	
10014	111556		JMS	ODWOPA	/ODD HEADER PARITY
10015	111360		JMS	CTHREE	
10016	777577		LAW	=201	
10017	046623		DAC	CTR0	/INIT SOFTWARE WC
10020	441404		ISE	CTR4	
10021	147563		DEH	BUFF2+1	
10022	142247		DEH	WORD1	
10023	201404		LAC	CTR4	
10024	047564		DAC	BUFF2+2	
10025	042250		DAC	WORD2	
10026	111536		JMS	SUSP	/SEL UNIT SECTOR PULSE
10027	111734		JMS	IF030X	/INCREMENT FORMAT GEN 30X
10030	111740		JMS	DATAX	/TRANSFER THE 36 BIT HEADER
10031	111619		JMS	PARITY	
10032	211567		LAC	WPAR	
10033	740001		CMA		
10034	512027		AND	(1	
10035	051567		DAC	WPAR	
10036	203631		LAC	BUFF1+1	
10037	740200		SEA		/FIRST 18 BITS OF HEADER CORRECT?
10040	610044		JMP	,04	
10041	201404		LAC	CTR4	
10042	543632		SAD	BUFF1+2	/LAST 18 BITS OF HEADER CORRECT?
10043	610051		JMP	T0146	/YES
10044	760146		LAW	146	
10045	110670		JMS	TTSTNO	
10046	111052		JMS	TTYT	
10047	012410		HXE		
10050	610155		JMP	E140-3	
10051	446623	T0146	ISE	CTR0	/INCREMENT SOFTWARE WC ONCE
10052	777777		LAW	=1	
10053	047563		DAC	BUFF2+1	
10054	047564		DAC	BUFF2+2	
10055	142250		DEH	WORD2	

10056	207562	LAC	BUFF2	
10057	400110	XCT	DPCA	/LOAD CA REG
10060	777621	LAW	=197	
10061	111390	JMS	XFER	/INC FORMAT GEN 3X
10062	207562	LAC	BUFF2	
10063	400110	XCT	DPCA	/LOAD CA REG
10064	777733	LAW	=49	
10065	111390	JMS	XFER	/INC FORMAT GEN ONCE
10066	207562	TRANDE LAC	BUFF2	
10067	400110	XCT	DPCA	/LOAD CA REG,
10070	111740	JMS	DATA	/TRANSFER A 36 BIT DATA WORD
10071	111615	JMS	PARITY	
10072	211567	LAC	WPAR	
10073	740001	CHA		
10074	912627	AND	(1	
10075	051567	DAC	WPAR	
10076	111634	JMS	LPRCNT	
10077	750000	CLA		
10100	943631	SAD	BUFF1*1	/FIRST 16 BITS OF DATA WORD CORRECT?
10101	741000	SKP		/YES
10102	610151	JMP	END140	
10103	943632	SAD	BUFF1*2	/LAST 19 BITS OF DATA WORD CORRECT?
10104	741000	SKP		
10105	610151	JMP	END140	
10106	211567	LAC	WPAR	
10107	947566	SAD	W	
10110	741000	SKP		
10111	610151	JMP	END140	
10112	446623	ISE	CTRS	/TRANSFER COMPLETE?
10113	610060	JMP	TRANDE	
10114	211521	LAC	LPRND1	
10115	740001	CHA		
10116	042247	DAC	WORD1	
10117	211522	LAC	LPRND2	
10120	740001	CHA		
10121	042250	DAC	WORD2	
10122	111615	JMS	PARITY	
10123	211567	LAC	WPAR	
10124	740001	CHA		
10125	912627	AND	(1	
10126	051567	LAC	WPAR	
10127	111740	JMS	DATA	
10130	111360	JMS	CTHREE	
10131	202247	LAC	WORD1	
10132	943631	SAD	BUFF1*1	
10133	741000	SKP		
10134	610140	JMP	100	
10135	202250	LAC	WORD2	
10136	943632	SAD	BUFF1*2	
10137	610145	JMP	0140	
10140	760146	LAW	100	
10141	110070	JMS	TTSTNO	
10142	111052	JMS	TTXT	
10143	012433	LXE		
10144	610155	JMP	E140-3	

10145	211567	D146	LAC	WPAR	
10146	547566		SAD	WP	
10147	610162		JMP	E146+2	
10150	610140		JMP	D146-9	
10151	760146	END146	LAW	146	/YES
10152	110670		JMS	TTSTNO	/TYPE TEST *
10153	111052		JMS	TTXT	/TYPE
10154	012425		DXE		
10155	111266		JMS	CRLF	
10156	112134		JMS	RPT12	
10157	111144		JMS	LPERR	
10160	740040	E146	HALT		/ERROR, A DATA WORD WAS NOT EQUAL TO 0, /OR THE CONTROL GENERATED AN /INCORRECT WORD PARITY BIT, OR /LONG PARITY WORD, /CONTINUE TO REPEAT TEST. /DONE /REPEAT TEST /EXIT TEST
10161	607775		JMP	T146+1	
10162	111217		JMS	ENDTST	
10163	607775		JMP	T146+1	
10164	627774		JMP	T146	

.EJECT

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/TEST 147, A TEST IS MADE TO DETERMINE IF THE CORRECT NUMBER OF DATA
/TRANSFERS OCCUR FOR EACH VALUE SET IN THE WC REG. IN INCREMENTS OF
/ONE ADDITIONAL WORD PER PASS, THE CONTROL WILL BE TESTED TO SIMULATE
/DATA TRANSFERS OF FROM ONE TO ONE THOUSAND OCTAL WORDS.

/

/•SEE NOTE 1 ON PAGE 1

10165	000000	T147	0		
10166	777777		LAW	=1	
10167	040601		DAC	CYR1	/INIT FOR FIRST WC
10170	400116		XCT	DPCF	/RESET CONTROL
10171	212700		LAC	(2041	
10172	041404		DAC	CYR4	
10173	042250		DAC	WORD2	
10174	400102		XCT	DPLA	/LOAD ADDRESS
10175	200001		LAC	CYR1	
10176	050365		DAC	CYR0	/INIT SOFTWARE WC
10177	400113		XCT	OPWC	/LOAD WC REG
10200	212635		LAC	(21000	
10201	400125		XCT	DPLF	/LOAD FUNCTION
10202	110600		JMS	EMH	/ENTER MAINT MODE
10203	111570		JMS	POBE	
10204	111505		JMS	HEADER	/ADD PORTION OF HEADER
10205	142247		DEM	WORD1	
10206	111556		JMS	ODYOPA	/ODD HEADER PARITY
10207	111360		JMS	CYHREC	
10210	110634		JMS	ISH	
10211	777777		LAW	=1	
10212	047563		DAC	BUFF2+1	
10213	047564		DAC	BUFF2+2	
10214	207562		LAC	BUFF2	
10215	400110		XCT	DPCA	/LOAD CA REG
10216	777617		LAW	=161	
10217	111350		JMS	XPER	/INC FORMAT GEN 3X
10220	207562		LAC	BUFF2	
10221	400110		XCT	DPCA	/LOAD CA REG
10222	777733		LAW	=40	
10223	111350		JMS	XPER	/INC FORMAT GEN ONCE
10224	207562	T0147	LAC	BUFF2	
10225	400110		XCT	DPCA	/LOAD CA REG
10226	143631		DEM	BUFF1+1	
10227	143632		DEM	BUFF1+2	
10230	111740		JMS	DATAX	/TRANSFER A 36 BIT DATA WORD + P
10231	777777		LAW	=1	
10232	043631		SAD	BUFF1+1	/FIRST 18 BITS OF DATA WORD CORRECT?
10233	741000		SKP		/YES
10234	610342		JMP	END147	/NO
10235	450365		ISE	CYR0	/WC OVERFLOW AFTER ODD WORD?
10236	741000		SKP		/NO
10237	610321		JMP	OOH	/YES
10240	043632		SAD	BUFF1+2	/LAST 18 BITS OF DATA WORD CORRECT?
10241	741000		SKP		/YES
10242	610342		JMP	END147	/NO
10243	450365		ISE	CYR0	/WC OVERFLOW AFTER EVEN WORD?
10244	741000		SKP		/NO

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03630 003631
03631 000000
03632 000000
03633 003633

/'
BUFF1 .01
0
0
BUFEND :
.EJECT

10245	610324	JMP	OEW	/YES
10246	446623	ISE	CTR9	/END OF FIRST SECTOR?
10247	610224	JMP	TRD147	/NO
10250	777730	LAW	=50	/YES
10251	111350	JMS	XFER	/XFER LONG PARITY + 3 CLOCK PULSES
10252	441404	ISE	CTR4	/HEADER FOR SECOND SECTOR
10253	111970	JMS	PDDE	
10254	111509	JMS	HEADER	/ADD PORTION OF HEADER
10255	142247	DEH	WORD1	
10256	111556	JMS	ODWDPA	/ODD HEADER PARITY
10257	111360	JMS	CTHREE	
10260	110634	JMS	ISH	
10261	207562	LAC	BUFF2	
10262	400110	XCT	DPCA	/LOAD CA REG
10263	777617	LAW	=101	
10264	111350	JMS	XFER	/INC FORMAT GEN 3X
10265	207562	LAC	BUFF2	
10266	400110	XCT	DPCA	/LOAD CA REG
10267	777733	LAW	=49	
10270	111350	JMS	XFER	/INC FORMAT GEN ONCE
10271	207562	LAC	BUFF2	
10272	400110	XCT	DPCA	/LOADCA REG
10273	143631	DEH	BUFF1+1	
10274	143632	DEH	BUFF1+2	
10275	111740	JMS	DATAX	/TRANSFER A 36 BIT DATA WORD + P
10276	777777	LAW	=1	
10277	543631	SAD	BUFF1+1	/FIRST 18 BITS OF DATA WORD CORRECT?
10300	741000	SKP		/YES
10301	610342	JMP	END147	/NO
10302	450365	ISE	CTR0	/WC OVERFLOW AFTER ODD WORD?
10303	741000	SKP		/NO
10304	610321	JMP	ODD	/YES
10305	543632	SAD	BUFF1+2	/LAST 18 BITS OF DATA WORD CORRECT?
10306	741000	SKP		/YES
10307	610342	JMP	END147	/NO
10310	450365	ISE	CTR0	/WC OVERFLOW AFTER EVEN WORD?
10311	741000	SKP		/NO
10312	610324	JMP	OEW	
10313	446623	ISE	CTR9	/END OF SECOND SECTOR?
10314	610271	JMP	TRD147	/NO
10315	777733	LAW	=49	
10316	111350	JMS	XFER	/XFER LONG PARITY
10317	111360	JMS	CTHREE	
10320	610354	JMP	E147+2	/END OF PASS
10321	207562	LAC	BUFF1+2	
10322	740200	SEA		/LAST 18 BITS OF DATA WORD CORRECT?
10323	610342	JMP	END147	/NO
10324	446623	ISE	CTR9	/END OF SECTOR?
10325	610332	JMP	LWS	/NO
10326	777733	LAW	=49	/YES
10327	111350	JMS	XFER	/XFER LONG PARITY
10330	111360	JMS	CTHREE	
10331	610354	JMP	E147+2	/END OF PASS
10332	207562	LAC	BUFF2	
10333	400110	XCT	DPCA	/LOAD CA REG

TRD147

ODD

OEW

LWS

10334	143631		DZM	BUFF1*1	
10335	111740		JMS	DATA	/TRANSFER A 36 BIT DATA WORD *P
10336	203631		LAC	BUFF1*1	
10337	740200		SEA		/FIRST 18 BITS OF DATA WORD CORRECT?
10340	610342		JMP	END147	/NO
10341	610321		JMP	00W	
10342	760147	END147	LAW	147	
10343	110670		JMS	TTSTNO	/TYPE TEST#
10344	111052		JMS	TTXT	
10345	012263		WC		
10346	200601		LAC	CTR1	
10347	111300		JMS	TOCT	/TYPE WHAT WC REG WAS SET TO
10350	111266		JMS	CRLF	
10351	111144		JMS	LPERR	
10352	740040	E147	HALT		/ERROR, THE CONTROL MADE EITHER A /GREATER OR A LESSER NUMBER OF TRANSFERS /THAN WAS SPECIFIED BY THE WC, CONTINUE /TO REPEAT FAILING PORTION OF TEST.
10353	610170		JMP	T147*3	
10354	200601		LAC	CTR1	
10355	552633		SAD	(777000	/TEST DONE?
10356	610362		JMP	.*4	/YES
10357	352630		TAD	(*1	/INCREASE WC BY FACTOR OF 1
10360	040601		DAC	CTR1	
10361	610170		JMP	T147*3	
10362	111217		JMS	ENDTST	/DONE
10363	610166		JMP	T147*1	/REPEAT TEST
10364	630165		JMP*	T147	/EXIT TEST
10365	000000	/	CTRB	0	
				.EJECT	

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/TEST 150. THE CA REG IS TESTED TO BE CORRECT AT THE END OF DATA XFRS,
 /AND ALSO TO REMAIN UNCHANGED THEREAFTER UNTIL SWC OVERFLOW OCCURS,
 /IN INCREMENTS OF ONE ADDITIONAL WORD PER PASS, THE CONTROL WILL BE
 /TESTED TO SIMULATE DATA TRANSFERS OF FROM ONE TO ONE THOUSAND
 /OCTAL WORDS.

/

/•SEE NOTE 1 ON PAGE 1

/

10366	000000	T150	0		
10367	777777		LAW	-1	
10370	051432		DAC	CTR2	/INIT FOR FIRST WC
10371	400116		XCT	DPCF	/RESET CONTROL
10372	212700		LAC	(2041	
10373	041404		DAC	CTR4	
10374	042250		DAC	WORD2	
10375	400102		XCT	DPLA	/LOAD ADDRESS
10376	211432		LAC	CTR2	
10377	050365		DAC	CTR0	/INIT SOFTWARE WC
10400	400113		XCT	DPWC	/LOAD WC REG
10401	212635		LAC	(21000	
10402	400125		XCT	DPLF	/LOAD FUNCTION
10403	110600		JMS	EMH	/ENTER MAINT MODE
10404	111570		JMS	POBE	
10405	111505		JMS	HEADER	/ADD PORTION OF HEADER
10406	142247		DEM	WORD1	
10407	111556		JMS	ODWOPA	/ODD HEADER PARITY
10410	111360		JMS	CTHREE	
10411	110534		JMS	ISW	
10412	777552		LAW	-226	
10413	111350		JMS	XFER	/INC FORMAT GEN 4X
10414	777733	TD150	LAW	-45	
10415	111350		JMS	XFER	/TRANSFER A 36 BIT DATA WORD *P
10416	450365		ISE	CTR0	/WC OVERFLOW AFTER ODD WORD?
10417	741000		SKP		/NO
10420	610457		JMP	TCA	/YES
10421	450365		ISE	CTR0	/WC OVERFLOW AFTER EVEN WORD?
10422	741000		SKP		/NO
10423	610457		JMP	TCA	/YES
10424	446623		ISE	CTR0	/END OF FIRST SECTOR?
10425	610414		JMP	TD150	/NO
10426	777730		LAW	-50	/YES
10427	111350		JMS	XFER	/XFER LONG PARITY * 3 CLOCK PULSES
10430	441404		ISE	CTR4	/HEADER FOR SECOND SECTOR
10431	111570		JMS	POBE	
10432	111505		JMS	HEADER	/ADD PORTION OF HEADER
10433	142247		DEM	WORD1	
10434	111556		JMS	ODWOPA	/ODD HEADER PARITY
10435	111360		JMS	CTHREE	
10436	110634		JMS	ISW	
10437	777552		LAW	-226	
10440	111350		JMS	XFER	/INC FORMAT GEN 4X
10441	777733	TRD150	LAW	-45	
10442	111350		JMS	XFER	/TRANSFER A 36 BIT DATA WORD *P
10443	450365		ISE	CTR0	/WC OVERFLOW AFTER ODD WORD?
10444	741000		SKP		/NO

10445	610457		JMP	TCA	/YES
10446	450365		ISZ	CTR0	/WC OVERFLOW AFTER EVEN WORD?
10447	741000		SKP		/NO
10450	610457		JMP	TCA	/YES
10451	446623		ISZ	CTR0	/END OF SECOND SECTOR?
10452	610441		JMP	TRD150	/NO
10453	777733		LAW	=49	/YES
10454	111350		JMS	XFER	/XFER LONG PARITY
10455	111360		JMS	CTHREE	
10456	610506		JMP	E150+2	
10457	400123	TCA	XCT	OPRC	/READ CA REG
10460	040646		DAC	TSTRG1	
10461	211432		LAC	CTR2	
10462	740001		CHA		
10463	352627		TAD	(1	
10464	540646		SAD	TSTRG1	/CA REG CORRECT?
10465	741000		SKP		/YES
10466	610500		JMP	END150	/NO
10467	446623		ISZ	CTR0	/END OF SECTOR?
10470	610475		JMP	.+0	/NO
10471	777733		LAW	=49	/YES
10472	111350		JMS	XFER	/XFER LONG PARITY
10473	111360		JMS	CTHREE	
10474	610506		JMP	E150+2	/END OF PASS
10475	777733		LAW	=49	
10476	111350		JMS	XFER	/XFER A 36 BIT DATA WORD +0
10477	610457		JMP	TCA	
10500	040601	END150	DAC	CTR1	
10501	760150		LAW	150	
10502	110640		JMS	RPT2	/REPORT ERROR
10503	111144		JMS	LPERR	
10504	740040	E150	HALT		/ERROR, THE CA REG WAS INCORRECT AFTER /A DATA TRANSFER, CONTINUE TO REPEAT /FAILING PORTION OF TEST.
10505	610371		JMP	T150+3	
10506	211432		LAC	CTR2	
10507	552633		SAD	(777000	/TEST DONE?
10510	610514		JMP	.+0	/YES
10511	352630		TAD	(=1	/INCREASE WC BY FACTOR OF 1
10512	051432		DAC	CTR2	
10513	610371		JMP	T150+3	
10514	111217		JMS	END157	/DONE
10515	610367		JMP	T150+1	/REPEAT TEST
10516	630366		JMP.	T150	/EXIT TEST
			.EJECT		

```

/
/SUBROUTINES
/
/TEST FOR 0 AC
/
10517 000000 TAC 0
10520 751200 SNAICLA /AC=0?
10521 610524 JMP ,+3 /YES
10522 460010 ISZ 10 /SET FLAG
10523 630517 JMP TAC
10524 440010 ISZ 10 /MOVE POINTER
10525 630517 JMP TAC

/WASTE AT LEAST 4 US
/
10526 000000 W4U 0
10527 232627 LAC 11
10530 630526 JMP W4U

/TO ERROR REPORT
/
10531 000000 SIFT 0
10532 754000 CLAICLL
10533 110670 JMS TTSTNO /TYPE TEST 0
10534 777767 LAM =11 /SET COUNTER
10535 040001 DAC CTR1
10536 200577 LAC CTBL
10537 040010 DAC 10 /SET POINTER
10540 111260 GTP JMS CRLF
10541 230531 LAC SIFT /GET TEXT POINTER
10542 050544 DAC ,+2
10543 111052 JMS TTXT /TYPE
10544 000000 0 /TEXT POINTER
10545 220010 LAC 10 /GET INDICATOR
10546 741200 SNA /INDICATE FAILURE?
10547 610553 JMP ,+4 /NO
10550 111052 JMS TTXT /TYPE
10551 012304 NTCL
10552 610555 JMP NXT
10553 111052 JMS TTXT /TYPE
10554 012311 CL
10555 450531 NXT ISZ SIFT /MOVE POINTER
10556 440001 ISZ CTR1 /LAST INDICATOR REPORTED?
10557 610540 JMP GTP /NO
10560 111167 JMS OCSR
10561 111260 JMS CRLF
10562 740040 EB HALT /ERROR, ONE OF THE AREAS TESTED WAS NOT CLEARED
/BY IO RESET, TO REPEAT TEST, PRESS IO RESET
/AND START FROM LOC 200.

10563 610562 JMP ,+1
.EJECT

```

/
/TYPE EXPECTED & RECEIVED VALUES
/

10564	000000	RPT3	0		
10565	111052	JMS	TYXT		/TYPE
10566	012314	EXPTED			
10567	200601	LAC	CYR1		
10570	111300	JMS	TOCT		/TYPE EXPECTED VALUE
10571	111266	JMS	CRLF		
10572	111052	JMS	TYXT		/TYPE
10573	012316	RECVD			
10574	200646	LAC	TSTRG1		
10575	111300	JMS	TOCT		/TYPE RECEIVED VALUE
10576	111266	JMS	CRLF		
10577	630564	JMP.	RPT3		

/
/ENTER MAINT MODE
/

10600	000000	EMM	0		
10601	760200	LAW	200		
10602	400119	XCT	OPEN		
10603	630600	JMP.	EMM		

/
/INCREMENT WC REG
/

10604	000000	INR	0		
10605	760204	LAW	204		
10606	400119	XCT	OPEN		
10607	630604	JMP.	INR		

/
/INCREMENT SECT ADD REG
/

10610	000000	ISAR	0		
10611	760202	LAW	202		
10612	400119	XCT	OPEN		
10613	630610	JMP.	ISAR		

/
/TYPE TWO SPACES
/

10614	000000	TWOSPA	0		
10615	777776	LAW	=2		
10616	111232	JMS	TSPACE		
10617	630614	JMP.	TWOSPA		

/
/TYPE WORD COUNT HEADING & EXPECTED & RECEIVED VALUES
/

10620	000000	RPT1	0		
10621	110670	JMS	TTSTNO		/TYPE TEST #
10622	111052	JMS	TYXT		/TYPE
10623	012263	WC			
10624	111266	JMS	CRLF		
10625	110564	JMS	RPT3		/TYPE EXPECTED & RECEIVED VALUES
10626	630620	JMP.	RPT1		

.EJECT

```

/
/CLEAR SOFTWARE ADDRESS REGS
/
10627 000000 CLRARS 0
10630 151467          DEM      CYL          /CLEAR CYL ADD REG
10631 151466          DEM      HEAD        /CLEAR HEAD ADD REGS
10632 151465          DEM      SECT        /CLEAR SECT ADD REG
10633 630627          JMP0     CLRARS

/
/INITIALIZE SOFTWARE WC
/
10634 000000 ISW      0
10635 777600          LAW      =200
10636 046623          DAC      CTR0
10637 630634          JMP0     ISW

/
/TYPE CURRENT ADDRESS HEADING & EXPECTED & RECEIVED VALUES
/
10640 000000 RPT2    0
10641 110670          JMS      TTSTNO  /TYPE TEST 0
10642 111052          JMS      TTXT    /TYPE
10643 012265          CA
10644 111266          JMS      CRLF
10645 110564          JMS      RPT3    /TYPE EXPECTED & RECEIVED VALUES
10646 630640          JMP0     RPT2

/
/CALCULATE • XFER ODD HEADER PARITY • 3 CLOCK PULSES
/
10647 000000 ODNOPB 0
10650 111015          JMS      PARITY
10651 740001          CMA
10652 912647          AND      (40    /MAKE IT ODD
10653 352624          TAD      (400   /MASK BIT 12
10654 400115          XCT      OPEN
10655 777774          LAW      =4
10656 111350          JMS      XFER    /XFER PARITY BIT • 3 CLOCKS
10657 630647          JMP0     ODNOPB

/
/CALCULATE • XFER EVEN HEADER PARITY • 3 CLOCK PULSES
/
10660 000000 EVNOPB 0
10661 111015          JMS      PARITY
10662 912647          AND      (40    /MASK BIT 12
10663 352624          TAD      (400
10664 400115          XCT      OPEN
10665 777774          LAW      =4
10666 111350          JMS      XFER    /XFER PARITY BIT • 3 CLOCKS
10667 630660          JMP0     EVNOPB
.EJECT

```

/
/TYPE FAILING TEST NUMBER

10670	000000	TTSTNO	0	
10671	051103		DAC	POINT
10672	512637		AND	(7
10673	352701		TAD	(202020
10674	052252		DAC	TJ=1
10675	211103		LAC	POINT
10676	740010		RAL	
10677	742010		RTL	
10700	051103		DAC	POINT
10701	512702		AND	(700
10702	352252		TAD	TJ=1
10703	052252		DAC	TJ=1
10704	211103		LAC	POINT
10705	740010		RAL	
10706	742010		RTL	
10707	512703		AND	(70000
10710	352252		TAD	TJ=1
10711	052252		DAC	TJ=1
10712	750004		LAS	/READ AC BIT 2
10713	512641		AND	(100000
10714	740200		SEA	/TYPE
10715	610723		JMP	/NO
10716	111200		JMS	BELL
10717	111052		JMS	CRLF
10720	012251		JMS	TEXT
10721	111200		TJ	/TYPE
10722	630670		JMS	CRLF
			JMP	TTSTNO

/

/RING BELL

10723	750004	BELL	LAS		/READ AC BIT 3
10724	512673		AND	(40000	
10725	740200		SEA		/RING BELL?
10726	630670		JMP	TTSTNO	/NO
10727	777747		LAW	17747	
10730	111256		JMS	TYPE	
10731	630670		JMP	TTSTNO	

.EJECT

/
/TYPE CYL=HEAD=SECT HEADING & EXPECTED & RECEIVED VALUES
/

10732	200002	RPT4	0		
10733	110670	JMS	TTSTNO	/TYPE TEST #	
10734	777774	LAW	=4		
10735	111232	JMS	TSPACE		
10736	111052	JMS	TTXT	/TYPE	
10737	012340	MESS1			
10740	111266	JMS	CRLF		
10741	111052	JMS	TTXT	/TYPE	
10742	012314	EXPTED			
10743	211467	LAC	CYL		
10744	111300	JMS	TOCT	/TYPE CYL	
10745	110614	JMS	TWOSFA	/TYPE 2 SPACES	
10746	211466	LAC	HEAD		
10747	111300	JMS	TOCT	/TYPE HEAD	
10750	110614	JMS	TWOSPA	/TYPE 2 SPACES	
10751	211465	LAC	SECT		
10752	111300	JMS	TOCT	/TYPE SECT	
10753	111266	JMS	CRLF		
10754	111052	JMS	TTXT	/TYPE	
10755	012316	RECVED			
10756	200646	LAC	TSTRG1		
10757	111300	JMS	TOCT	/TYPE CYL ADD REG	
10760	110614	JMS	TWOSPA	/TYPE 2 SPACES	
10761	200647	LAC	TSTRG2		
10762	111300	JMS	TOCT	/TYPE HEAD ADD REG	
10763	110614	JMS	TWOSPA	/TYPE 2 SPACES	
10764	200650	LAC	TSTRG3		
10765	111300	JMS	TOCT	/TYPE SECT ADD REG	
10766	111266	JMS	CRLF		
10767	630732	JMP.	RPT4		

/
/TYPE CYL=HEAD=SECT HEADING & CURRENT CONTENTS OF HARDWARE ADD REGS
/

10770	000000	RPT5	0		
10771	110670	JMS	TTSTNO	/TYPE TEST #	
10772	111245	JMS	TYP		
10773	111052	JMS	TTXT	/TYPE	
10774	012340	MESS1			
10775	111266	JMS	CRLF		
10776	200646	LAC	TSTRG1		
10777	111300	JMS	TOCT	/TYPE CYL ADD REG	
11000	110614	JMS	TWOSPA	/TYPE 2 SPACES	
11001	200647	LAC	TSTRG2		
11002	111300	JMS	TOCT	/TYPE HEAD ADD REG	
11003	110614	JMS	TWOSPA	/TYPE 2 SPACES	
11004	200650	LAC	TSTRG3		
11005	111300	JMS	TOCT	/TYPE SECT ADD REG	
11006	111266	JMS	CRLF		
11007	630770	JMP.	RPT5		

.EJECT

/
/TYPE FUNCTION REG HEADING & EXPECTED & RECEIVED VALUES
/

11P10	000000	RPT6	B			
11P11	110670		JMS	TTSTNO	/TYPE TEST #	
11P12	111052		JMS	TTXT	/TYPE	
11P13	012300		SA			
11P14	111266		JMS	CRLF		
11P15	110564		JMS	RPTJ	/TYPE EXPECTED & RECEIVED VALUES	
11P16	631010		JMP.	RPT6		

/
/TYPE CYL ADD HEADING & CONTENTS OF CYL
/

11P17	000000	RPT7	B			
11P20	110670		JMS	TTSTNO	/TYPE TEST #	
11P21	111052		JMS	TTXT	/TYPE	
11P22	012272		CY			
11P23	111245		JMS	TYP		
11P24	211467		LAC	CYL		
11P25	111300		JMS	TOCT	/TYPE CONTENTS OF CYL ADD REG	
11P26	111266		JMS	CRLF		
11P27	631017		JMP.	RPT7		

/
/TYPE HEAD ADD HEADING & CONTENTS OF HEAD
/

11P30	000000	RPT8	B			
11P31	110670		JMS	TTSTNO	/TYPE TEST #	
11P32	111052		JMS	TTXT	/TYPE	
11P33	012274		HD			
11P34	111245		JMS	TYP		
11P35	211466		LAC	HEAD		
11P36	111300		JMS	TOCT	/TYPE CONTENTS OF HEAD ADD REG	
11P37	111266		JMS	CRLF		
11P40	631030		JMP.	RPT8		

/
/TYPE SECT ADD HEADING & CONTENTS OF SECT
/

11P41	000000	RPT9	B			
11P42	110670		JMS	TTSTNO	/TYPE TEST #	
11P43	111052		JMS	TTXT	/TYPE	
11P44	012276		SE			
11P45	111245		JMS	TYP		
11P46	211465		LAC	SECT		
11P47	111300		JMS	TOCT	/TYPE CONTENTS OF SECT ADD REG	
11P50	111266		JMS	CRLF		
11P51	631041		JMP.	RPT9		

.EJECT

* MAINDEC-15-05MB * NOVEMBER 24, 1971 *

/TEST 71, TEST FOR CORRECT INCREMENTING OF THE WC REG BY THE
/CONTROL WHILE SIMULATING A WRITE-ALL,

```

/
Y71      0
03634    000000
03635    400116      XCT      DPCP      /RESET CONTROL
03636    212662      LAC      (41010
03637    041404      DAC      CTR4      /SET TO SECT =1
03640    042250      DAC      WORU2
03641    400102      XCT      DPLA      /LOAD ADDRESS
03642    777376      LAM      =402
03643    040601      DAC      CTR1      /STORE FOR COMPARISON
03644    400113      XCT      DPHC      /LOAD WC REG
03645    212663      LAC      (61000
03646    400129      XCT      DPLF      /LOAD FUNCTION
03647    110000      JMB      EHM      /ENTER MAINT MODE
03650    111970      JMB      PDBE
03651    111909      JMB      HEADER      /ADD PORTION OF HEADER
03652    142247      ODM      WORD1
03653    111956      JMB      ODMOPA      /ODD HEADER PARITY
03654    111360      JMB      CTRMEE
03655    777977      LAM      =801
03656    040623      DAC      CTR9      /INIT SOFTWARE WC
03657    111936      JMB      SUSP      /SEL UNIT SECTOR PULSE
03660    111734      JMB      IF03X      /INC FORMAT GEN50X
03661    446623      ISB      CTR9
03662    200001      LAC      CTR1      /SET SOFTWARE WC
03663    352661      TAD      (8
03664    040601      DAC      CTR1
03665    400126      XCT      DPRM      /READ WC REG
03666    540601      SAD      CTR1      /WC CORRECT?
03667    741000      SKP
03670    603733      JMP      END71      /YES
03671    111740      JMB      DATAX      /NO
03672    777621      LAM      =197      /TRANSFER THE 36 BIT HEADER
03673    111390      JMB      XPER      /INC FORMAT GEN 3X
03674    446623      ISB      CTR9
03675    200001      LAC      CTR1
03676    352661      TAD      (8
03677    040601      DAC      CTR1
03700    400126      XCT      DPRM      /READ WC REG
03701    540601      SAD      CTR1      /WC CORRECT?
03702    741000      SKP
03703    603733      JMP      END71      /YES
03704    777733      LAM      =40
03705    111390      JMB      XPER      /INC FORMAT GEN ONCE
03706    446623      ISB      CTR9
03707    200001      LAC      CTR1
03710    352661      TAD      (8
03711    040601      DAC      CTR1
03712    400126      XCT      DPRM      /READ WC REG
03713    540601      SAD      CTR1      /WC CORRECT?
03714    741000      SKP
03715    603733      JMP      END71      /YES
03716    111740      JMB      DATAX      /TRANSFER A 36 BIT DATA WORD *P
03717    200001      LAC

```



```

/TYPE TEXT
/
TTXT  0
11052  000000
11053  231052   LAC@   TTXT   /GET TEXT POINTER
11054  251103   DAC   POINT  /STORE IT
11055  451052   !SE   TTXT   /SET RETURN
11056  750004   LAS   /READ AC BIT 2
11057  512641   AND   (100000
11060  740200   SEA   /TYPE?
11061  631052   JMP@  TTXT   /NO
11062  212627   TAAT  LAC   (1
11063  371103   YAD@  POINT  /GET THREE CHARACTERS
11064  741200   SNA   /END OF MESSAGE?
11065  631052   JMP@  TTXT   /YES
11066  231103   LAC@  POINT
11067  111104   JMS   RLSVN  /ROTATE LEFT 7X
11070  512625   AND   (??   /MASK 12-17
11071  111245   JMS   TYP   /TYPE FIRST CHARACTER
11072  231103   LAC@  POINT
11073  111112   JMS   RRSIX /ROTATE RIGHT 6X
11074  512625   AND   (??
11075  111245   JMS   TYP   /TYPE SECOND CHARACTER
11076  231103   LAC@  POINT
11077  512625   AND   (??
11100  111245   JMS   TYP   /TYPE THIRD CHARACTER
11101  451103   !SE   POINT  /MOVE TEXT POINTER
11102  611062   JMP   TAAT  /NEXT THREE

11103  000000   POINT  0
/
/ROTATE AC LEFT 7X
/
RLSVN  0
11104  000000
11105  744010   RCL
11106  742010   RTL
11107  742010   RTL
11110  742010   RTL
11111  631104   JMP@  RLSVN
      .EJECT

```

```

/
/ROTATE AC RIGHT 6X
/
11112 000000 RRSIX 0
11113 742020 RTR
11114 742020 RTR
11115 742020 RTR
11116 631112 JMP  RRSIX

/
/SIMULATE A HEADER NOT FOUND
/
11117 000000 MNFE 0
11120 212653 LAC  (11000
11121 400125 XCT  OPLF /LOAD FUNCTION REG
11122 111532 JMS  SUIP /SEL UNIT INDEX PULSE
11123 111570 JMS  POBE
11124 212631 LAC  (020151
11125 041404 DAC  CTR4 /SET ADD TO CYL=312, HEAD=23 • SECT=11
11126 111505 JMS  HEADER /ADD PORTION OF HEADER
11127 142247 DEM  WORD1
11130 201404 LAC  CTR4
11131 042250 DAC  WORD2
11132 111556 JMS  ODN0PA /ODD HEADER PARITY
11133 111360 JMS  CTHREE
11134 111532 JMS  SUIP /SEL UNIT INDEX PULSE
11135 111532 JMS  SUIP /SEL UNIT INDEX PULSE
11136 631117 JMP  MNFE

/
/SIMULATE AN END OF PACK
/
11137 000000 EOPE 0
11140 212631 LAC  (020151
11141 400102 XCT  OPLA /LOAD ADD REGS
11142 110610 JMS  ISAR
11143 631137 JMP  EOPE
.EJECT

```

```

/
/DECIDE TO HALT OR LOOP FAILING TEST
/
11144 000000 LPERR 0
11145 750004 LAS /READ AC BIT 1
11146 912704 AND (200000
11147 741200 SNA /LOOP FAILING TEST
11150 611155 JMP ,05 /NO
11151 140472 OEH FLAG
11152 440472 ISB FLAG /SET FLAG
11153 451144 ISB LPERR /SET RETURN
11154 631144 JMP LPERR
11155 211166 LAC ALL
11156 741200 SNA /RUN ALL TESTS?
11157 631144 JMP LPERR /NO
11160 750004 LAS /READ AC BIT 6
11161 912652 AND (4000
11162 741200 SNA /RUN NEXT TEST?
11163 631144 JMP LPERR /NO
11164 140472 OEH FLAG
11165 600445 JMP LEV /YES

11166 000000 /
ALL 0
/OUTPUT CONTENTS OF STATUS REGS
/
11167 000000 OCSR 0
11170 400103 XCT DPRSA /READ STATUS REG A
11171 741200 SNA /ZERO?
11172 611202 JMP DNVA /YES
11173 111266 JMS CRLF
11174 111052 JMS TTX
11175 012300 SA
11176 212709 LAC (35
11177 111249 JMS TYP
11200 400103 XCT DPRSA
11201 111300 JMS TOCT /TYPE STATUS REG A
11202 400106 DNVA XCT DPRSB /READ STATUS REG B
11203 912706 AND (777776
11204 741200 SNA /ZERO?
11205 631167 JMP OCSR /YES
11206 111266 JMS CRLF
11207 111052 JMS TTX
11210 012302 SB
11211 212709 LAC (35
11212 111249 JMS TYP
11213 400106 XCT DPRSB
11214 912706 AND (777776
11215 111300 JMS TOCT /TYPE STATUS REG B
11216 631167 JMP OCSR
.EJECT

```

```

/DECIDE: IS MI REQUESTED, OR REPEAT TEST, OR EXIT TEST
/
11217 000000  ENDST  0
11220 750004  LAS           /READ AC BIT 0
11221 741107  SPA           /IS M.I. REQUESTED?
11222 660373  JMP  MIT      /YES
11223 200472  LAC  FLAG
11224 740200  SZA           /REPEAT TEST?
11225 631217  JMP  ENDST    /YES
11226 440474  ISB  PASS
11227 631217  JMP  ENDST
11230 451217  ISB  ENDST    /SET RETURN
11231 631217  JMP  ENDST

/TYPE SPACES
/
11232 000000  TSPACE  0
11233 751244  DAC  SPACES
11234 750004  LAS           /READ AC BIT 2
11235 512641  AND  (100000
11236 750200  SZA:CLA      /TYPE?
11237 631232  JMP  TSPACE   /NO
11240 111245  JMS  TYP      /TYPE A SPACE
11241 451244  ISB  SPACES   /LAST SPACE?
11242 611240  JMP  .02
11243 631232  JMP  TSPACE

/SPACES 0
/TYPE A CHARACTER?
/
11245 000000  TYP  0
11246 051325  DAC  DCTR
11247 750004  LAS           /READ AC BIT 2
11250 512641  AND  (100000
11251 750200  SZA:CLA      /TYPE?
11252 631245  JMP  TYP      /NO
11253 211325  LAC  DCTR
11254 111256  JMS  TYPE
11255 631245  JMP  TYP

/TYPE A CHARACTER
/
11256 000000  TYPE  0
11257 352707  TAD  (240     /CONVERT CODE TO ASCII
11260 700400  TLS
11261 700401  TSP
11262 611261  JMP  .01
11263 700402  TCF
11264 750000  CLA
11265 631256  JMP  TYPE
      .EJECT

```

```

/
/CARRIAGE RETURN & LINE FEED
/
CRLF      0
11266    000000
11267    750004      LAS
11270    512641      AND      (100000      /READ AC BIT 2
11271    740200      SEA
11272    631266      JMP     CRLF      /TYPE?
11273    777755      LAW    17755
11274    111245      JMS    TYP      /CARRIAGE RETURN
11275    777752      LAW    17752
11276    111245      JMS    TYP      /LINE FEED
11277    631266      JMP     CRLF

/
/TYPE A 6 DIGIT OCTAL NUMBER
/
TOCT      0
11300    000000
11301    744010      RCL
11302    051323      DAC    NUM      /STORE MODIFIED NUMBER
11303    750004      LAS      /READ AC BIT 2
11304    512641      AND      (100000
11305    740200      SEA      /TYPE?
11306    631300      JMP     TOCT     /NO
11307    777772      LAW    =0
11310    051324      DAC    DIGCTR   /INIT COUNTER
11311    211323      GETNUM LAC    NUM /GET NUMBER
11312    740010      RAL
11313    742010      RYL      /MOVE DIGIT TO BE
11314    051323      DAC    NUM      /TYPED INTO AC 15-17
11315    512637      AND    (7
11316    352655      TAD    (20      /MASK IT
11317    111245      JMS    TYP      /MODIFY IT
11320    451324      IRI    DIGCTR   /TYPE A DIGIT
11321    611311      JMP     GETNUM  /LAST DIGIT?
11322    631300      JMP     TOCT     /NO

/
NUM      0
11323    000000
11324    000000      DIGCTR 0
11325    000000      DCTR   0
/
.EJECT

```

```

/ASSEMBLE SOFTWARE ADD REGS INTO CTR1 & AC
/ASADRG 0
11326 000000 LAC SECT
11327 211465 DAC CTR1 /ASSEMBLE INTO CTR1
11330 040601 LAC HEAD
11331 211466 RCL
11332 744010 RTL
11333 742010 RTL
11334 742010 RTL
11335 340601 TAD CTR1
11336 040601 DAC CTR1 /ASSEMBLE INTO CTR1
11337 211467 LAC CYL
11340 742010 RTL
11341 742010 RTL
11342 742010 RTL
11343 742010 RTL
11344 742010 RTL
11345 340601 TAD CTR1
11346 040601 DAC CTR1
11347 631326 JMP ASADRG

/TRANSFER SPECIFIED NUMBER OF BITS
/XFER 0
11350 000000 DAC CTR3 /# OF BITS TO BE XFERRED
11351 051357 LAW 201
11352 760201 XCT OPEN /XFER A BIT
11353 400115 ISZ CTR3 /XFER COMPLETE?
11354 451357 JMP #2
11355 611353 JMP XFER
11356 631350

/CTR3 0
/
/3 CLOCK PULSES
/CTHREE 0
11360 000000 LAC (400
11361 212624 XCT OPEN
11362 400115 LAW #3
11363 777775 JMS XFER
11364 111350 JMP CTHREE
11365 631360 .EJECT

```

/UNPACK HARDWARE ADD REG

```

11366 000000 UNPKAR 0
11367 211432 LAC CTR2 /GET HARDWARE ADD REG
11370 512623 AND (37
11371 040650 DAC TSTRG3 /STORE SECT ADD REG
11372 211432 LAC CTR2
11373 744020 RCR
11374 742020 RTR
11375 742020 RTR
11376 512623 AND (37
11377 040647 DAC TSTRG2 /STORE HEAD ADD REG
11400 211432 LAC CTR2
11401 742020 RTR
11402 742020 RTR
11403 742020 RTR
11404 742020 RTR
11405 742020 RTR
11406 512643 AND (377
11407 040646 DAC TSTRG1 /STORE CYL ADD REG
11410 631366 JMP UNPKAR

```

/WRITE SEQUENCE

```

11411 000000 WRT 0
11412 212635 LAC (21000
11413 400125 XCT DPLF /LOAD FUNCTION REG
11414 110600 JMS EMH /ENTER MAINT MODE
11415 111570 JMS POBE
11416 141404 DEM CTR4
11417 111505 JMS HEADER /ADD PORTION OF HEADER
11420 142247 DEM WORD1
11421 142250 DEM WORD2
11422 111556 JMS ODHOPA /ODD HEADER PARITY
11423 111360 JMS CTHREE
11424 631411 JMP WRT

```

/READ SEQUENCE

```

11425 000000 ROS 0
11426 212653 LAC (11000
11427 400125 XCT DPLF /LOAD FUNCTION REG
11430 111570 JMS POBE
11431 631425 JMP ROS
      .EJECT

```

```

11432 000000 /
      CTR2 0
      /
      /TRANSFER HEADER OR DATA SYNC BIT
      /
11433 000000 SYNCBT 0
11434 760401     LAW      401
11435 400115     XCT      OPEN      /LOAD MAINT REG
11436 777772     LAW      =6
11437 111350     JMS      XFER      /TRANSFER 6 BITS
11440 631433     JMP     SYNCBT

      /
      /SOFTWARE ADDRESS REG
      /
11441 000000 ADDR 0
11442 451465     ISZ     SECT      /INCREMENT SECT
11443 211465     LAC     SECT
11444 552646     SAD     (12)     /IS IT MAXIMUM SECT COUNT+1?
11445 741000     SKP
11446 631441     JMP     ADDR     /YES
11447 151465     DEM     SECT      /RESET SECT
11450 451466     ISZ     HEAD      /INCREMENT HEAD
11451 211466     LAC     HEAD
11452 552644     SAD     (24)     /IS IT MAXIMUM HEAD COUNT+1?
11453 741000     SKP
11454 631441     JMP     ADDR     /YES
11455 151466     DEM     HEAD      /RESET HEAD
11456 451467     ISZ     CYL      /INCREMENT CYL
11457 211467     LAC     CYL
11460 552642     SAD     (32)     /IS IT MAXIMUM CYL COUNT+1?
11461 741000     SKP
11462 631441     JMP     ADDR     /YES
11463 451441     ISZ     ADDR     /INCREMENT RETURN
11464 631441     JMP     ADDR

      /
11465 000000 SECT 0
11466 000000 HEAD 0
11467 000000 CYL 0

      /
      /TRANSFER EXEC PORTION OF HEADER WORD
      /
11470 000000 EXEC 0
11471 760400     LAW      400
11472 400115     XCT      OPEN      /LOAD MAINT REG
11473 777756     LAW      =22
11474 111350     JMS      XFER      /TRANSFER 10 BITS
11475 631470     JMP     EXEC
      .EJECT

```


/TYPE STATUS REG HEADING & EXPECTED & RECEIVED VALUES

11476	000000	RPT10	0		
11477	110670	JMS	TTSTND	/TYPE TEST #	
11500	111052	JMS	TYXT	/TYPE	
11501	012302	SB			
11502	111266	JMS	CRLF		
11503	110564	JMS	RPT3	/TYPE EXPECTED & RECEIVED VALUES	
11504	431476	JMP	RPT10		

/TRANSFER ADDRESS PORTION OF HEADER

11505	000000	HEADER	0		
11506	151521	DEM	LPRND1	/INIT FIRST 10 BITS OF LONG PARITY	
11507	151522	DEM	LPRND2	/INIT LAST 10	
11510	201404	LAC	CTR0	/GET CYL, HEAD & SECT ADD	
11511	111104	JMS	RLSVN	/ROTATE LEFT 7X	
11512	111523	JMS	MPXFER		
11513	201404	LAC	CTR0		
11514	111112	JMS	RRSIX	/ROTATE RIGHT 6X	
11515	111523	JMS	MPXFER		
11516	201404	LAC	CTR0		
11517	111523	JMS	MPXFER		
11520	631509	JMP	HEADER		

11521	000000	LPRND1	0		
11522	000000	LPRND2	0		

/MODIFY FOR TRANSFER

11523	000000	MPXFER	0		
11524	512625	AND	(77		
11525	352624	TAD	(400		
11526	400115	XCT	OPEN	/LOAD MAINT REG	
11527	777772	LAW	=0		
11530	111350	JMS	XFER		
11531	631523	JMP	MPXFER		

/ISSUE A SELECTED UNIT INDEX PULSE

11532	000000	SUIP	0		
11533	760300	LAW	300		
11534	400115	XCT	OPEN		
11535	631532	JMP	SUIP		
			.EJECT		

```

/ISSUE A SELECTED UNIT SECTOR PULSE
/
11536 000000  SUSP  0
11537 760240      LAW   240
11540 400115      XCT  DPEM
11541 631536      JMP.  SUSP

/350 US DELAY
/
11542 000000  D350US 0
11543 777400      LAW   -400
11544 051325      DAC   DCTR
11545 451325      ISZ   DCTR
11546 611545      JMP   1
11547 631542      JMP.  D350US

/50 US DELAY
/
11550 000000  D50US  0
11551 777740      LAW   -40
11552 051325      DAC   DCTR
11553 451325      ISZ   JCTR
11554 611553      JMP   1
11555 631550      JMP.  D50US

/CALCULATE AND TRANSFER ODD WORD PARITY
/
11556 000000  ODDOPA 0
11557 111615      JMS   PARITY
11560 740001      CHA
11561 512647      AND   (4E           /MAKE IT ODD
11562 352624      TAD   (400         /MASK BIT 12
11563 400115      XCT  DPEM         /LOAD MAINT REG
11564 777777      LAW   1
11565 111350      JMS   XPER         /TRANSFER PARITY BIT
11566 631556      JMP.  ODDOPA

/
11567 000000  WPAR  0

/
/SECT PULSE, DELAY, HEADER SYNC, EXEC
/
11570 000000  POBE  0
11571 111536      JMS   SUSP         /SEL UNIT SECT PULSE
11572 111542      JMS   D350US      /350US DELAY
11573 111433      JMS   SYNCBT      /HEADER SYNC
11574 111470      JMS   EXEC        /EXEC PORTION OF HEADER
11575 631570      JMP.  POBE
      .EJECT

```

03720	352661		TAD	12	
03721	040601		DAC	CTR1	
03722	400120		XCT	DPRW	/READ WC REG
03723	540601		SAD	CTR1	/WC CORRECT?
03724	741000		SKP		/YES
03725	603733		JMP	END71	/NO
03726	446623		ISZ	CTR0	/TRANSFER COMPLETE?
03727	603716		JMP	T071	/NO
03730	777617		LAW	=101	
03731	111350		JMS	XPER	/XPER LAST 2 WDS * LONG PARITY
03732	603741		JMP	E7102	
03733	040640	END71	DAC	TSTRG1	
03734	760071		LAW	71	
03735	110620		JMS	RPT1	/REPORT ERROR
03736	111144		JMS	LPERR	
03737	740040	E71	HALT		/ERROR, THE WC REG WAS INCORRECT AFTER
03740	603635		JMP	T7101	/A DATA XPER, CONTINUE TO REPEAT TEST.
03741	111217		JMS	ENDTST	/DONE
03742	603635		JMP	T7101	/REPEAT TEST
03743	623434		JMP	T71	/EXIT TEST
			.EJECT		

/CALCULATE PARITY FOR 18 BITS
/

11576	000000	TBIT	0		
11577	741100		SPA		/BIT 0017
11600	451567		ISE	WPAR	/INCREMENT INDICATOR
11601	740010		RAL		/NEXT BIT
11602	451357		ISE	CTRJ	/LAST BIT TESTED?
11603	611577		JMP	.=4	
11604	631576		JMP.	TBIT	

/CALCULATE AND TRANSFER EVEN WORD PARITY
/

11605	000000	EVWDPA	0		
11606	111615		JMS	PARITY	
11607	512647		AND	(40	/MASK BIT 12
11610	352624		TAD	(400	
11611	400115		XCT	OPEN	/LOAD MAINY REG
11612	777777		LAW	=1	
11613	111350		JMS	XPER	/XFER PARITY BIT
11614	631605		JMP.	EVWDPA	

/CALCULATE PARITY
/

11615	000000	PARITY	0		
11616	151567		DEM	WPAR	/INIT INDICATOR
11617	777756		LAW	=22	
11620	051357		DAC	CTRJ	
11621	202247		LAC	WORD1	/GET FIRST 18 BITS OF WORD
11622	111576		JMS	TBIT	
11623	777756		LAW	=22	
11624	051357		DAC	CTRJ	
11625	202250		LAC	WORD2	/GET LAST 18 BITS OF WORD
11626	111576		JMS	TBIT	
11627	211567		LAC	WPAR	/GET INDICATOR
11630	740010		RAL		
11631	742010		RTL		
11632	742010		RTL		
11633	631615		JMP.	PARITY	

/CALCULATE LONGITUDINAL PARITY
/

11634	000000	LPRCNT	0		
11635	202247		LAC	WORD1	/GET FIRST 18 BITS OF WORD
11636	251521		XOR	LPRWD1	/CALCULATE LPR
11637	051521		DAC	LPRWD1	
11640	202250		LAC	WORD2	/GET LAST 18 BITS OF WORD
11641	251522		XOR	LPRWD2	/CALCULATE LPR
11642	051522		DAC	LPRWD2	
11643	631634		JMP.	LPRCNT	

.EJECT

/
/TRANSFER ODD LONGITUDINAL PARITY
/

11644	000000	ODLPAR	0		
11645	211521		LAC	LPRWD1	/GET LPR FOR FIRST 10 BITS
11646	740001		CMA		/SET FOR ODD PARITY
11647	042247		DAC	WORD1	
11650	211522		LAC	LPRWD2	/GET LPR FOR LAST 10 BITS
11651	740001		CMA		/SET FOR ODD PARITY
11652	042250		DAC	WORD2	
11653	111666		JMS	DATA	/XFER LONGITUDINAL PARITY
11654	111556		JMS	ODWOPA	/ODD WORD PARITY
11655	631644		JMP	ODLPAR	

/

/TRANSFER EVEN LONGITUDINAL PARITY
/

11656	000000	EVLPAR	0		
11657	211521		LAC	LPRWD1	/GET LPR FOR FIRST 10 BITS
11660	042247		DAC	WORD1	
11661	211522		LAC	LPRWD2	/GET LPR FOR LAST 10 BITS
11662	042250		DAC	WORD2	
11663	111666		JMS	DATA	/XFER LONGITUDINAL PARITY
11664	111556		JMS	ODWOPA	/ODD WORD PARITY
11665	631656		JMP	EVLPAR	

/

/TRANSFER A 36 BIT WORD (READ & READ ALL)
/

11666	000000	DATA	0		
11667	202247		LAC	WORD1	/GET FIRST 10 BITS
11670	111104		JMS	RLSVN	/ROTATE LEFT 7X
11671	111523		JMS	MPXFER	/MODIFY & TRANSFER
11672	202247		LAC	WORD1	
11673	111112		JMS	RRSIX	/ROTATE RIGHT 6X
11674	111523		JMS	MPXFER	
11675	202247		LAC	WORD1	
11676	111523		JMS	MPXFER	
11677	202250		LAC	WORD2	/GET LAST 10 BITS
11700	111104		JMS	RLSVN	/ROTATE LEFT 7X
11701	111523		JMS	MPXFER	
11702	202250		LAC	WORD2	
11703	111112		JMS	RRSIX	/ROTATE RIGHT 6X
11704	111523		JMS	MPXFER	
11705	202250		LAC	WORD2	
11706	111523		JMS	MPXFER	
11707	631666		JMP	DATA	

.EJECT

/
/TRANSFER TRAILER

11710	000000	TRAIL	0		
11711	760400		LAW	400	
11712	400119		XCT	OPEN	/LOAD MAINT REC
11713	777772		LAW	=6	
11714	111350		JMS	XPER	/TRANSFER 6 BITS
11715	631710		JMP	TRAIL	

/
/API SERVICE

11716	000000	APISRV	0		
11717	705512		RPL		
11720	040646		DAC	TSTRG1	/STORE RPL STATUS
11721	703302		CAF		
11722	625764		JMP	RETURN	

/
/API TRAP

11723	000000	INTERR	0		
11724	703302		CAF		
11725	760123		LAW	123	
11726	110670		JMS	TTSTNO	/TYPE TEST 0
11727	111052		JMS	TTX!	/TYPE
11730	012354		UNKN		
11731	111266		JMS	CRLF	
11732	740040	EINT	HALT		/ERROR, NO ADDRESS SENT FROM /CONTROL, OR UNKNOWN FLAG CAUSED /INTERRUPT, OPERATOR MUST RESTART /PROGRAM FROM LOC 200,
11733	611732		JMP	=1	

/
/INCREMENT FORMAT GENERATOR THIRTY TIMES

11734	000000	IFG30X	0		
11735	775647		LAW	=2131	
11736	111350		JMS	XPER	
11737	631734		JMP	IFG30X	

.EJECT

/
/TRANSFER A 36 BIT WORD+P (WRITE & WRITE ALL)
/

11740	000000	DATAX	0		
11741	112015	JMS	WDX	/TRANSFER 6 BITS	
11742	043631	DAC	BUFF1+1		
11743	112015	JMS	WDX	/TRANSFER 6 BITS	
11744	111112	JMS	RRSIX	/ROTATE RIGHT 6X	
11745	343631	TAD	BUFF1+1		
11746	043631	DAC	BUFF1+1		
11747	112015	JMS	WDX	/TRANSFER 6 BITS	
11750	111104	JMS	RLSVN	/ROTATE LEFT 7X	
11751	343631	TAD	BUFF1+1		
11752	043631	DAC	BUFF1+1		
11753	112015	JMS	WDX	/TRANSFER 6 BITS	
11754	043632	DAC	BUFF1+2		
11755	112015	JMS	WDX	/TRANSFER 6 BITS	
11756	111112	JMS	RRSIX	/ROTATE RIGHT 6X	
11757	343632	TAD	BUFF1+2		
11760	043632	DAC	BUFF1+2		
11761	112015	JMS	WDX	/TRANSFER 6 BITS	
11762	111104	JMS	RLSVN	/ROTATE LEFT 7X	
11763	343632	TAD	BUFF1+2		
11764	043632	DAC	BUFF1+2		
11765	777777	LAW	=1		
11766	111350	JMS	XPER		
11767	400111	XCT	OPRM		
11770	111112	JMS	RRSIX		
11771	111112	JMS	RRSIX		
11772	512027	AND	(1		
11773	047566	DAC	WP		
11774	631740	JMP*	DATAX		

/
/REPORT DATA XFER ERRORS FOR READ & READ ALL.
/

11775	000000	RPT11	0		
11776	111052	JMS	TTXT		
11777	012314	EXPTED			
12000	202247	LAC	WORD1		
12001	111300	JMS	TOCT		
12002	202250	LAC	WORD2		
12003	111300	JMS	TOCT		
12004	111266	JMS	CRLF		
12005	111052	JMS	TTXT		
12006	012316	RECVD			
12007	203631	LAC	BUFF1+1		
12010	111300	JMS	TOCT		
12011	203632	LAC	BUFF1+2		
12012	111300	JMS	TOCT		
12013	111266	JMS	CRLF		
12014	631779	JMP*	RPT11		

.EJECT

/
/TRANSFER 6 BITS OF INFORMATION
/

12P15	000000	WDX	0		
12P16	744000		CLL		
12P17	777772		LAW	=6	
12P20	111350		JMS	XFER	/TRANSFER 6 BITS
12P21	400111		XCT	OPRN	/READ MAINT REC
12P22	512710		AND	(770000	
12P23	632015		JMP	WDX	

/
/READ COMPARE SEQUENCE
/

12P24	000000	RDCOMP	0		
12P25	212071		LAC	(71000	
12P26	400125		XCT	DPLF	/LOAD FUNCTION REG
12P27	110600		JMS	EMH	/ENTER MAINT MODE
12P30	111570		JMS	POBE	
12P31	141404		DEH	CTR4	
12P32	111505		JMS	HEADER	/ADD PORTION OF HEADER
12P33	142247		DEH	WORD1	
12P34	142250		DEH	WORD2	
12P35	110647		JMS	ODNOPB	/ODD HEADER PARITY + 3 CLOCK PULSES
12P36	111550		JMS	DSBUS	/50 US DELAY
12P37	111433		JMS	SYNCSY	/DATA SYNC
12P40	632024		JMP	RDCOMP	

.EJECT

/
/IOT AND API CHANNEL MODIFICATION
/

12041	000000	MOD	0		
12042	152214		DEM	M IOT	
12043	452214		ISE	M IOT	
12044	111266		JMS	CRLF	
12045	111052		JMS	TYXT	
12046	012510		MESS6		
12047	700301		KSP		
12050	612047		JMP	.=1	
12051	700312		KRB		
12052	552711		SAD	(310	/CHANGE IOT'S
12053	612100		JMP	MOD1	/NO
12054	552712		SAD	(331	
12055	612062		JMP	.+0	/YES
12056	111052	QY	JMS	TYXT	
12057	012545		QUERY		
12060	111266		JMS	CRLF	
12061	612042		JMP	MOD+1	/TRY AGAIN
12062	111266		JMS	CRLF	
12063	111052		JMS	TYXT	
12064	012525		MESS7		
12065	112176		JMS	GDSC	/GET NEW DSC
12066	200100		LAC	IOTL	
12067	052246		DAC	ARON	/INIT POINTER
12070	112215		JMS	C IOT	/CHANGE DSC 63
12071	111266		JMS	CRLF	
12072	111052		JMS	TYXT	
12073	012535		MESS8		
12074	112176		JMS	GDSC	/GET NEW DSC
12075	452246		ISE	ARON	/INCR POINTER
12076	112215		JMS	C IOT	/CHANGE DSC 64
12077	111266		JMS	CRLF	
			.EJECT		

12100	750004	MOD1	LAS		/READ AC BIT 4
12101	512672		AND	(20000	
12102	740200		SEA		/API TESTS SELECTED?
12103	632041		JMP.	400	/NO
12104	111266		JMS	CRLF	
12105	111052		JMS	TYXT	
12106	012556		MESS9		
12107	700301		KSP		
12110	612107		JMP	.01	
12111	700312		KRB		
12112	552711		SAD	(310	/CHANGE API CHANNEL?
12113	632041		JMP.	MOD	/NO
12114	552712		SAD	(331	
12115	741000		SKP		/YES
12116	612056		JMP	0Y	
12117	111266		JMS	CRLF	
12120	111052		JMS	TYXT	
12121	012600		MESS10		
12122	777775		LAW	=3	
12123	111232		JMS	TSPACE	
12124	112227		JMS	VI	/GET FIRST DIGIT
12125	744010		RCL		
12126	742010		RTL		
12127	052213		DAC	ACA	
12130	112227		JMS	VI	/GET SECOND DIGIT
12131	352213		TAD	ACA	
12132	052213		JAC	ACA	/NEW ADDRESS
12133	632041		JMP.	MOD	
			.EJECT		

/
/REPORT DATA XFER ERRORS FOR WRITE & WRITE ALL
/

12134	000000	RPT12	0	
12135	750004		LAS	
12136	512641		AND	(100000
12137	740200		SEA	/TYPE?
12140	632134		JMP.	RPT12
12141	111052		JMS	TTXT
12142	012314		EXPTED	
12143	202247		LAC	WORD1
12144	111300		JMS	TOCT
12145	202250		LAC	WORD2
12146	111300		JMS	TOCT
12147	111256		JMS	TYPE
12150	211567		LAC	WPAR
12151	352655		TAD	(20
12152	111256		JMS	TYPE
12153	111266		JMS	CRLF
12154	111052		JMS	TTXT
12155	012316		RECVED	
12156	203631		LAC	BUFF101
12157	111300		JMS	TOCT
12160	203632		LAC	BUFF102
12161	111300		JMS	TOCT
12162	111256		JMS	TYPE
12163	207566		LAC	..P
12164	352655		TAD	(20
12165	111256		JMS	TYPE
12166	111266		JMS	CRLF
12167	632134		JMP.	RPT12

/
/REPORT THAT TESTED ERROR DID NOT SET ERR PLG
/

12170	000000	RPT13	0	
12171	110670		JMS	TTSTNO
12172	111052		JMS	TTXT
12173	012547		ENS	
12174	111266		JMS	CRLF
12175	632170		JMP.	RPT13
			.EJECT	

```

/GET NEW DEVICE SELECTION CODES
/
12176 000000 GDSC 0
12177 112227 JMS VI /GET NEW DSC
12200 744010 RCL
12201 742010 RTL
12202 052247 DAC DSC
12203 112227 JMS VI
12204 352247 TAD DSC
12205 744000 CLL
12206 742010 RTL
12207 742010 RTL
12210 742010 RTL
12211 052247 DAC DSC
12212 632176 JMP DSC GDSC

/
12213 000064 ACA 64
12214 000000 MIOT 0

/CHANGE IOT'S
/
12215 000000 CIOT 0
12216 232246 LAC AROW
12217 512713 AND (770077)
12220 352247 TAD DSC
12221 072246 DAC AROW
12222 452246 ISZ AROW
12223 232246 LAC AROW
12224 552630 SAD (=1)
12225 632215 JMP CIOT
12226 612216 JMP CIOT+1

/READ DSC INPUT
/
12227 000000 VI 0
12230 700301 KSF
12231 612230 JMP (=1)
12232 700312 KRB /GET CHAR
12233 052250 DAC CHAR
12234 352714 TAD (777520)
12235 741100 SPA /IS IT < 260?
12236 612056 JMP QY /YES
12237 212250 LAC CHAR
12240 352715 TAD (777510)
12241 740100 SHA /IS IT > 260?
12242 612056 JMP QY /YES
12243 212250 LAC CHAR
12244 512637 AND (=7)
12245 632227 JMP VI

/
12246 000000 AROW 0
12247 000000 DSC 0
12250 000000 CHAR 0
.EJECT

```

```

/
/TEXT
/
/TEST XXX FAILED
/
12251 120064  YI 120064
12252 000000  000000
12253 004641  004641
12254 515445  515445
12255 440000  440000
12256 777777  777777

/
/DN=
/
12257 445600  DN 445600
12260 777777  777777

/
/ER=
/
12261 456200  ER 456200
12262 777777  777777

/
/HC=
/
12263 674300  HC 674300
12264 777777  777777

/
/CA=
/
12265 434100  CA 434100
12266 777777  777777

/
/UCAR
/
12267 654341  UCA 654341
12270 620000  620000
12271 777777  777777

/
/CAR
/
12272 434162  CV 434162
12273 777777  777777

/
/HAR
/
12274 504162  HD 504162
12275 777777  777777

/
/SAR
/
12276 634162  SE 634162
12277 777777  777777
,EJECT

```

• MAINDEC-15-05HB • NOVEMBER 24, 1971 •

/TEST 72, TEST FOR CORRECT INCREMENTING OF THE CA REG BY THE CONTROL
/WHILE SIMULATING A WRITE=ALL,

```

/
T72      0
03744    200000
03745    400116
03746    212662
03747    041404
03750    042250
03751    400102
03752    777376
03753    400113
03754    212663
03755    400125
03756    110600
03757    111570
03760    111505
03761    142247
03762    111556
03763    111360
03764    777577
03765    046623
03766    111536
03767    111734
03770    446623
03771    212661
03772    040601
03773    400123
03774    540601
03775    741000
03776    604041
03777    111740
04000    777621
04001    111350
04002    446623
04003    200601
04004    352661
04005    040601
04006    400123
04007    540601
04010    741000
04011    604041
04012    777733
04013    111350
04014    446623
04015    200601
04016    352661
04017    040601
04020    400123
04021    540601
04022    741000
04023    604041
04024    111740
04025    200601
04026    352661
04027    040601
      XCT      DPCF      /RESET CONTROL
      LAC      (41010
      DAC      CTR4      /SET TO SECT=1
      DAC      WORU2
      XCT      DPLA      /LOAD ADDRESS
      LAW      =402
      XCT      DPWC      /LOAD WC REG
      LAC      (61000
      XCT      DPLF      /LOAD FUNCTION
      JMS      EMM      /ENTER MAIN MODE
      JMS      POBE
      JMS      HEADER    /ADD PORTION OF HEADER
      DZM      WORU1
      JMS      ODHOPA    /ODD HEADER PARITY
      JMS      CTHHEE
      LAW      =201
      DAC      CTR5      /INIT SOFTWARE WC
      JMS      SUSP      /SEL UNIT SECTOR PULSE
      JMS      IFG30X    /INC FORMAT GEN 30X
      ISE      CTR5
      LAC      (2
      DAC      CTR1
      XCT      DPRC      /READ CA REG
      SAD      CTR5      /CA REG CORRECT
      SKP
      JMP      END72     /YES
      JMS      DATAX     /NO
      LAW      =157     /TRANSFER THE 36 BIT HEADER
      ISE      CTR5      /INC FORMAT GEN 3X
      LAC      CTR1
      TAD      (2
      DAC      CTR1
      XCT      DPRC      /READ CA REG
      SAD      CTR1      /CA CORRECT?
      SKP
      JMP      END72     /YES
      LAW      =49      /NO
      JMS      XFER      /INC FORMAT GEN ONCE
      ISE      CTR5
      LAC      CTR1
      TAD      (2
      DAC      CTR1
      XCT      DPRC      /READ CA REG
      SAD      CTR1      /CA CORRECT?
      SKP
      JMP      END72     /YES
      JMS      DATAX     /NO
      LAC      CTR1      /TRANSFER A 36 BIT DATA WORD *P
      TAD      (2
      DAC      CTR1

```

		/	
		/SRA	
		/	
12300	636241	SA	636241
12301	777777		777777

		/	
		/SRB	
		/	
12302	636242	SB	636242
12303	777777		777777

		/	
		/=NOT CLEARED	
		/	
12304	155657	NTCL	155657
12305	648843		648843
12306	544541		544541
12307	624544		624544
12310	777777		777777

		/	
		/=CLEAP	
		/	
12311	154354	CL	154354
12312	454162		454162
12313	777777		777777

		/	
		/G	
		/	
12314	478888	EXPTED	478888
12315	777777		777777

		/	
		/B	
		/	
12316	428888	RECVD	428888
12317	777777		777777

		/	
		/ILL TEST SELECTION	
		/	
12320	515454	ILLTST	515454
12321	886445		886445
12322	636488		636488
12323	634554		634554
12324	454364		454364
12325	515756		515756
12326	168843		168843
12327	576262		576262
12330	454364		454364
12331	888688		888688
12332	435756		435756
12333	645156		645156
12334	654516		654516
12335	777777		777777
			.EJECT

```

/
/DONE
12336 459644
12337 777777

/
/ CYL HEAD SECT
/
MESS1 437154
12340 437154
12341 000000
12342 000050
12343 494144
12344 000000
12345 006349
12346 436400
12347 777777

/
/ MAINT REG
/
MAINRG 594151
12350 594151
12351 566400
12352 624947
12353 777777

/
/ UNKNOWN FLAG CAUSED INTERRUPT
/
UNKN 699653
12354 699653
12355 569767
12356 560046
12357 544147
12360 004341
12361 696349
12362 440091
12363 566449
12364 626269
12365 606416
12366 777777

/
/ API STATUS BEFORE INTER
/
DEF 416091
12367 416091
12370 006364
12371 416469
12372 630042
12373 494697
12374 624900
12375 519664
12376 496200
12377 777777

.EJECT

```


/API STATUS AFTER INTER

12400	416051	AFT	416051
12401	006364		006364
12402	416469		416469
12403	630041		630041
12404	466449		466449
12405	620051		620051
12406	966449		966449
12407	620000		620000
12410	777777		777777

/UNIT CYL

12411	655651	UNICYL	655651
12412	640000		640000
12413	000000		000000
12414	437154		437154
12415	777777		777777

/HEADER XFER ERROR

12416	904541	HXE	904541
12417	444562		444562
12420	007046		007046
12421	496200		496200
12422	496262		496262
12423	976200		976200
12424	777777		777777

/DATA XFER ERROR

12425	444164	DXE	444164
12426	410070		410070
12427	464562		464562
12430	004562		004562
12431	629762		629762
12432	777777		777777

/LONG PARITY XFER ERROR

12433	949756	LXE	949756
12434	470060		470060
12435	416251		416251
12436	647100		647100
12437	704649		704649
12440	620049		620049
12441	626297		626297
12442	620000		620000
12443	777777		777777

.EJECT

/
/NORMAL/FORMAT SW READS FORMAT

12444	565762	NFF	565762
12445	554154		554154
12446	174657		174657
12447	625541		625541
12450	640063		640063
12451	670062		670062
12452	454144		454144
12453	630046		630046
12454	576255		576255
12455	416416		416416
12456	777777		777777

/
/MAK NORMAL/FORMAT SW NORMAL TO CONT

12457	554153	NFNTC	554153
12460	450056		450056
12461	576255		576255
12462	419417		419417
12463	465762		465762
12464	554164		554164
12465	006367		006367
12466	005657		005657
12467	625541		625541
12470	540064		540064
12471	570043		570043
12472	575664		575664
12473	519665		519665
12474	451600		451600
12475	777777		777777

/
/NO INTERRUPT FROM API OR PI

12476	565700	NOINT	565700
12477	519664		519664
12500	456262		456262
12501	656064		656064
12502	004662		004662
12503	575500		575500
12504	416051		416051
12505	005762		005762
12506	006051		006051
12507	777777		777777

.EJECT

/
/WISH TO CHANGE IOT'S (TYPE Y OR N)?

12510	679163	MESS6	679163
12511	980064		980064
12512	970043		970043
12513	984196		984196
12514	474988		474988
12515	919764		919764
12516	076388		076388
12517	186471		186471
12520	684988		684988
12521	710097		710097
12522	620096		620096
12523	113788		113788
12524	777777		777777

/
/CHANGE DSC 63 TO ?

12525	439841	MESS7	439841
12526	964749		964749
12527	884463		884463
12530	438826		438826
12531	238864		238864
12532	978837		978837
12533	888888		888888
12534	777777		777777

/
/CHANGE DSC 64 TO ?

12535	439841	MESS8	439841
12536	964749		964749
12537	884463		884463
12540	438826		438826
12541	248864		248864
12542	978837		978837
12543	888888		888888
12544	777777		777777

/
/???

12545	373737	QUERY	373737
12546	777777		777777

/
/ERROR FLAG NOT SET

12547	496262	ENS	496262
12550	976288		976288
12551	469441		469441
12552	478896		478896
12553	976488		976488
12554	634964		634964
12555	777777		777777

.EJECT

/ WISH TO CHANGE API CHANNEL ADDRESS (TYPE V OR N)?

12556	679163	MESS9	679163
12557	500064		500064
12560	570043		570043
12561	504156		504156
12562	474900		474900
12563	416091		416091
12564	004390		004390
12565	419696		419696
12566	499400		499400
12567	414444		414444
12570	624963		624963
12571	630010		630010
12572	647160		647160
12573	490071		490071
12574	009762		009762
12575	009611		009611
12576	370000		370000
12577	777777		777777

/ CHANGE CHANNEL FROM 64 TO ?

12600	439041	MESS10	439041
12601	564749		564749
12602	004390		004390
12603	419696		419696
12604	499400		499400
12605	466297		466297
12606	990020		990020
12607	240064		240064
12610	970037		970037
12611	777777		777777

.END

12012	777747	OL
12013	000177	OL
12014	000201	OL
12015	000200	OL
12016	017777	OL
12017	010000	OL
12020	000267	OL
12021	770000	OL
12022	001740	OL
12023	000037	OL
12024	000400	OL
12025	000077	OL
12026	000100	OL
12027	000001	OL
12030	777777	OL
12031	629191	OL
12032	000312	OL
12033	777000	OL

12634	001000	OL
12635	021000	OL
12636	000410	OL
12637	000007	OL
12640	721000	OL
12641	100000	OL
12642	000313	OL
12643	000377	OL
12644	000024	OL
12645	000023	OL
12646	000012	OL
12647	000040	OL
12650	000017	OL
12651	000011	OL
12652	004000	OL
12653	011000	OL
12654	400000	OL
12655	000029	OL
12656	700000	OL
12657	002000	OL
12660	929292	OL
12661	000002	OL
12662	041010	OL
12663	061000	OL
12664	292909	OL
12665	312444	OL
12666	000010	OL
12667	000004	OL
12670	091000	OL
12671	071000	OL
12672	020000	OL
12673	040000	OL
12674	440100	OL
12675	777000	OL
12676	012241	OL
12677	629190	OL
12700	002041	OL
12701	202020	OL
12702	000700	OL
12703	070000	OL
12704	200000	OL
12705	000039	OL
12706	777776	OL
12707	000240	OL
12710	770000	OL
12711	000310	OL
12712	000331	OL
12713	770077	OL
12714	777920	OL
12715	777910	OL

SISE=12710

NO ERROR LINES

04030	400123		XCT	DPRC	/READ CA REG
04031	540601		SAD	CTR1	/CA CORRECT?
04032	741000		SKP		/YES
04033	604041		JMP	END/2	/NO
04034	446623		ISZ	CTR2	/TRANSFER COMPLETE?
04035	604024		JMP	T072	/NO
04036	777617		LAW	=161	
04037	111350		JMS	XPER	/XFER LAST 2 WDS • LONG PARITY
04040	604047		JMP	E72*2	
04041	040646	END72	OAC	TSTRG1	
04042	760072		LAW	72	
04043	110640		JMS	RP72	/REPORT ERROR
04044	111144		JMS	LPERR	
04045	740040	E72	HALT		/ERROR, THE CA REG WAS INCORRECT AFTER
04046	603745		JMP	T72*1	/A DATA XFER, CONTINUE TO REPEAT TEST.
04047	111217		JMS	ENDTST	/DONE
04050	603745		JMP	T72*1	/REPEAT TEST
04051	623744		JMP	T72	/EXIT TEST
			.EJECT		

/TEST 73, BIT 12 OF STATUS REG B IS TESTED TO BE SET AFTER
/SIMULATING A FORMAT ERROR.

```

/
Y73      0
04052   00000F      XCT      DPCF      /RESET CONTROL
04053   400116      JMS      EMM        /ENTER MAINT MODE
04054   110600      LAC      1292909
04055   212664      DAC      CYR4
04056   041404      DAC      WORD2
04057   042290      XCT      OPLA      /LOAD ADDRESS
04060   400102      JMS      RDS        /READ SEQUENCE
04061   111429      JMS      HEADER    /ADDRESS PORTION OF HEADER
04062   111909      DCM      WORD1
04063   142247      JMS      EVMDPB    /EVEN HEADER PARITY • 3 CLOCK PULSES
04064   110600      XCT      DPRSB     /READ STATUS REG B
04065   400106      AND      140       /MASK BIT 12
04066   912047      SBA
04067   740200      JMP      E73-2     /BIT 12 OF STATUS REG B SET?
04070   604070      LAM      73        /YES
04071   700073      JMS      Y73NO     /TYPE TEST 0
04072   110670      JMS      LDRRR
04073   111144      E73      HALT     /ERROR, BIT 12 OF STATUS REG B
04074   740040      JMP      Y73-1     /FAILED TO SET, CONTINUE TO REPEAT
04075   604093      XCT      DPBE     /TEST:
04076   400112      SKP
04077   741000      JMP      ,04      /ERR PLC SET?
04100   604104      LAM      73        /NO
04101   700073      JMS      RP713
04102   112170      JMP      E73-1     /YES
04103   604073      JMS      ENDTST
04104   111217      JMP      Y73-1     /DONE
04105   604093      JMP      Y73
04106   624092      .EJECT           /REPEAT TEST
                                /EXIT TEST

```

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/TEST 74, BIT 12 OF STATUS REG B IS TESTED TO BE CLEARED BY THE
 /DPCS IOT, BIT 12 IS INITIALLY SET BY SIMULATING A FORMAT ERROR,

```

04107 000000 774 0
04110 400110 XCT DPCF /RESET CONTROL
04111 110000 JMS EMM /ENTER MAINT MODE
04112 212004 LAC (292505
04113 741404 DAC CTR0
04114 042250 DAC W0R02
04115 400102 XCT OPLA /LOAD ADDRESS
04116 111425 JMS R0S /READ SEQUENCE
04117 111909 JMS HEADER /ADDRESS PORTION OF HEADER
04120 142247 DBM W0R01
04121 110000 JMS EVNDPB /EVEN HEADER PARITY • 3 CLOCK PULSES
04122 400109 XCT DPCS /CLEAR STATUS REG BIT 12
04123 400106 XCT DPR00 /READ STATUS REG B
04124 912047 AND (40 /MASK BIT 12
04125 741200 SNA /BIT 12 OF STATUS REG CLEAR?
04126 004134 JMP E74*2 /YES
04127 700074 LAM 74
04130 110070 JMS TYSTNO /TYPE TEST 0
04131 111144 JMS LPERR
04132 740040 E74 HALT /ERROR, THE DPCS IOT FAILED TO CLEAR
/BIT 12 OF STATUS REG B CONTINUE
/TO REPEAT TEST,
04133 004110 JMP T74*1 /DONE
04134 111217 JMS ENDTST /REPEAT TEST
04135 004110 JMP T74*1 /EXIT TEST
04136 024107 JMP. T74
.EJECT

```


/TEST 75, BIT 14 OF STATUS REG B IS TESTED TO BE SET AFTER SIMULATING A WORD
/PARITY ERROR.

/
/SEE NOTE 1 ON PAGE 1
/

04137	000000	775	2		
04140	400110		XCT	DPCF	/RESET CONTROL
04141	110600		JMS	EMM	/ENTER MAINT MODE
04142	110634		JMS	ISW	
04143	212665		LAC	(312444	
04144	041404		DAC	CYR4	
04145	042250		DAC	WORD2	
04146	400102		XCT	DPLA	/LOAD ADD REGS
04147	777400		LAW	=400	
04150	400113		XCT	DPHC	/LOAD MC REG
04151	111425		JMS	RDS	/READ SEQUENCE
04152	111505		JMS	HEADER	/ADD PORTION OF HEADER
04153	142247		DSM	WORD1	
04154	110647		JMS	ODWDPB	/ODD HEADER PARITY * 3 CLOCK PULSES
04155	111550		JMS	DSBUS	/DBUS DELAY
04156	111433		JMS	SYNGBT	/DATA SYNC
04157	212660		LAC	(929292	
04160	042247		DAC	WORD1	
04161	042250		DAC	WORD2	
04162	111066		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04163	111005		JMS	EVN0PA	/EVEN WORD PARITY
04164	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
04165	440023		ISB	CYR9	
04166	203030	ICA	LAC	BUFF1	
04167	400110		XCT	OPCA	/LOAD CA REG
04170	111060		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04171	111550		JMS	ODW0PA	/ODD WORD PARITY
04172	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
04173	440023		ISB	CYR9	/TRANSFER COMPLETE?
04174	604100		JMP	ICA	/NO
04175	203030		LAC	BUFF1	
04176	400110		XCT	OPCA	/LOAD CA REG
04177	111044		JMS	ODLPA	/ODD LONG APRITY
04200	111710		JMS	TRAIL	/TRAILER
04201	400100		XCT	DPR50	/READ STATUS REG B
04202	512060		AND	(10	/MASK BIT 14
04203	740200		SBA		/BIT 14 OF STATUS REG B SET?
04204	604212		JMP	E75*2	/YES
04205	700075		LAW	75	
04206	110070		JMS	TTSTNO	/TYPE TEST 0
04207	111144		JMS	LPERR	
04210	740040	E75	HALT		/ERROR, BIT 14 OF STATUS REG B FAILED TO SET.
04211	604140		JMP	775*1	/CONTINUE TO REPEAT TEST.
04212	400112		XCT	DPSE	/ERR FLG SET?
04213	741000		SKP		/NO
04214	604220		JMP	,00	/YES
04215	700075		LAW	75	
04216	112170		JMS	RP713	
04217	604207		JMP	E75*1	
04220	111217		JMS	ENDT87	/DONE

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04221 004140
04222 024137

JMP 779*1 /REPEAT TEST
JMP* 779 /EXIT TEST
.EJECT

• MAINDEC-15-05WB • NOVEMBER 24, 1971 •

/TEST 76. BIT 14 OF STATUS REG B IS TESTED TO BE CLEARED BY THE DPCS IOT.
/BIT 14 IS INITIALLY SET BY SIMULATING A WORD PARITY ERROR.

/

/•SEE NOTE 1 ON PAGE 1

```

04223 000000
04224 400116
04225 110600
04226 110634
04227 212665
04230 041404
04231 042250
04232 400102
04233 777400
04234 400113
04235 111425
04236 111505
04237 142247
04240 110647
04241 111550
04242 111433
04243 212600
04244 042247
04245 042250
04246 111666
04247 111605
04250 111634
04251 440623
04252 203630
04253 400110
04254 111666
04255 111550
04256 111634
04257 440623
04260 604252
04261 203630
04262 400110
04263 111644
04264 111710
04265 400105
04266 400106
04267 512666
04270 741200
04271 604277
04272 760076
04273 110670
04274 111144
04275 740040
04276 604224
04277 111217
04300 604224
04301 624223

      0
      XCT   DPCF           /RESET CONTROL
      JMS   EHM           /ENTER MAINY MODE
      JMS   ISW
      LAC   (312444
      DAC   CTR4
      DAC   WORD2
      XCT   DPLA           /LOAD ADD REGS
      LAW   =400
      XCT   DPMC           /LOAD WC REG
      JMS   RDS           /READ SEQUENCE
      JMS   HEADER        /ADD PORTION OF HEADER
      DBM   WORD1
      JMS   ODMOPB        /ODD HEADER PARITY • 3 CLOCK PULSES
      JMS   DBBUS         /SBUS DELAY
      JMS   SYNCBT        /DATA SYNC
      LAC   (929292
      DAC   WORD1
      DAC   WORD2
      JMS   DATA         /TRANSFER A 36 BIT DATA WORD
      JMS   EVNOPA        /EVEN WORD PARITY
      JMS   LPRCNT        /CALCULATE LONG PARITY
      ISB   CTR0
      LAC   SCAR          SCAR
      XCT   DPCA           /LOAD CA REG
      JMS   DATA         /TRANSFER A 36 BIT DATA WORD
      JMS   ODMOPA        /ODD WORD PARITY
      JMS   LPRCNT        /CALCULATE LONG PARITY
      ISB   CTR0          /TRANSFER COMPLETE?
      JMP   SCAR          /NO
      LAC   SCAR          SCAR
      XCT   DPCA           /LOAD CA REG
      JMS   ODLPAR        /ODD LONG PARITY
      JMS   TRAIL         /TRAILER
      XCT   DPCS          /CLEAR BIT 14 OF STATUS REG B
      XCT   DPR00         /READ STATUS REG B
      AND   (10           /MASK BIT 14
      SNA   /BIT 14 OF STATUS REG B CLEARED?
      JMP   E76*2        /YES
      LAW   E76*2
      JMS   TTSTNO
      JMS   LPEAR
      HALT   E76
      JMP   E76*1
      JMS   ENDTST
      JMP   E76*1
      JMP   T76          /ERROR, THE DPCS IOT FAILED TO CLEAR BIT 14
                          /OF STATUS REG B. CONTINUE TO REPEAT TEST.
      JMP   T76          /DONE
                          /REPEAT TEST
      JMP   T76          /EXIT TEST
      .EJECT

```

• MAINDEC-15-05HB • NOVEMBER 24, 1971 •

/TEST 77, BIT 15 OF STATUS REG B IS TESTED TO BE SET AFTER SIMULATING A
/LONGITUDINAL PARITY ERROR,

/

/•SEE NOTE 1 ON PAGE 1

/

04302	000000	T77	0		
04303	400116		XCT	DPCF	/RESET CONTROL
04304	110600		JMS	EMH	/ENTER MAINT MODE
04305	110634		JMS	ISW	
04306	212665		LAC	(312444	
04307	041404		DAC	CYR4	
04310	042250		DAC	WORD2	
04311	400102		XCT	DPLA	/LOAD ADDRESS
04312	777400		LAW	=400	
04313	400113		XCT	DPHC	/LOAD WC REG
04314	111425		JMS	RDS	/READ SEQUENCE
04315	111505		JMS	HEADER	/ADD PORTION OF HEADER
04316	142247		DEM	WORD1	
04317	110647		JMS	ODMOPB	/ODD HEADER PARITY • 3 CLOCK PULSES
04320	111550		JMS	DSBUS	/50 US DELAY
04321	111433		JMS	SYNGBT	/DATA SYNC
04322	212660		LAC	(525252	
04323	042247		DAC	WORD1	
04324	042250		DAC	WORD2	
04325	111666	RCA	JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04326	111556		JMS	ODMOPA	/ODD WORD PARITY
04327	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04330	440623		ISB	CYR0	/TRANSFER COMPLETE?
04331	604360		JMP	END77	/NO
04332	203630		LAC	BUFF1	
04333	400110		XCT	DPCA	/LOAD CA REG
04334	111656		JMS	EVLPAE	/EVEN LONG PARITY
04335	111710		JMS	TRAIL	/TRAILER
04336	400106		XCT	DPR5B	/READ STATUS REG B
04337	512667		AND	(4	/MASK BIT 15
04340	740200		SEA		/BIT 15 OF STATUS REG B SET?
04341	604347		JMP	E77*2	/YES
04342	760077		LAW	77	
04343	110670		JMS	TTSTNO	/TYPE TESTS
04344	111144		JMS	LPERR	
04345	740040	E77	HALT		/ERROR, BITS OF STATUS REG B FAILED TO SET.
04346	604303		JMP	T77*1	/CONTINUE TO REPEAT TEST.
04347	400112		XCT	DPS5	/ERR FLG SET?
04350	741000		SKP		/NO
04351	604355		JMP	,04	/YES
04352	760077		LAW	77	
04353	112170		JMS	RPT13	
04354	604344		JMP	E77*1	
04355	111217		JMS	ENDTST	/DONE
04356	604303		JMP	T77*1	/REPEAT TEST
04357	624302		JMP	T77	/EXIT TEST
04360	203630	END77	LAC	BUFF1	
04361	400110		XCT	DPCA	/LOAD CA REG
04362	604325		JMP	RCA	
			.EJECT		

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/TEST 100, BIT 15 OF STATUS REG B IS TESTED TO BE CLEARED BY THE DPCS IOT. BIT
/15 IS INITIALLY SET BY SIMULATING A LONGITUDINAL PARITY ERROR.

/

/•SEE NOTE 1 ON PAGE 1

/

04363	000000	T100	0		
04364	400116		XCT	DPCF	/RESET CONTROL
04365	110600		JMS	EMM	/ENTER MAINT MODE
04366	110634		JMS	ISW	
04367	212665		LAC	(312444	
04370	041404		DAC	CYR4	
04371	042250		DAC	WORD2	
04372	400102		XCT	DPLA	/LOAD ADDRESS
04373	777400		LAW	=400	
04374	400113		XCT	DPWC	/LOAD WC REG
04375	111425		JMS	RDS	/READ SEQUENCE
04376	111505		JMS	HEADER	/ADD PORTION OF HEADER
04377	142247		DZM	WORD1	
04400	110647		JMS	ODMDPB	/ODD HEADER PARITY • 3 CLOCK PULSES
04401	111550		JMS	OSBUS	/50 US DELAY
04402	111433		JMS	SYNGBT	/DATA SYNC
04403	212660		LAC	(320252	
04404	042247		DAC	WORD1	
04405	042250		DAC	WORD2	
04406	111066	RCAR	JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04407	111556		JMS	ODMDPA	/ODD WORD PARITY
04410	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
04411	440023		ISB	CYR0	/TRANSFER COMPLETE?
04412	604434		JMP	E100-5	/NO
04413	203630		LAC	BUFF1	
04414	400110		XCT	DPCA	/LOAD CA REG
04415	111050		JMS	EVLPAR	/EVEN LONG PARITY
04416	111710		JMS	TRAIL	/TRAILER
04417	400105		XCT	DPCS	/CLEAR BIT 15 OF STATUS REG B
04420	400106		XCT	OPR00	/READ STATUS REG B
04421	512067		AND	(4	/MASK BIT 15
04422	741200		SNA		/BIT 15 OF STATUS REG B CLEARED?
04423	604431		JMP	E100-2	/YES
04424	760100		LAW	100	
04425	110670		JMS	TYSTNO	/TYPE TEST#
04426	111144		JMS	LPRR	
04427	740040	E100	HALT		/ERROR, THE DPCS IOT FAILED TO CLEAR BIT 15 OF STATUS
04430	604364		JMP	T100-1	/REG B. CONTINUE TO REPEAT TEST.
04431	111217		JMS	ENDYST	/DONE
04432	604364		JMP	T100-1	/REPEAT TEST
04433	624363		JMP.	T100	/EXIT TEST
04434	203630		LAC	BUFF1	
04435	400110		XCT	DPCA	/LOAD CA REG
04436	604406		JMP	RCAR	
			.EJECT		

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/TEST 101, BIT 13 OF STATUS REG B IS TESTED TO BE SET AFTER
/SIMULATING A READ COMPARE ERROR.

/
/SEE NOTE 1 ON PAGE 1
/

04437	000000	T101	0		
04440	400116		XCT	DPCF	/RESET CONTROL
04441	110634		JMS	ISW	
04442	777400		LAW	=400	
04443	400113		XCT	DPWC	/LOAD WC REG
04444	777777		LAW	=1	
04445	043631		DAC	BUFF1*1	
04446	143632		DEM	BUFF1*2	
04447	203630		LAC	BUFF1	
04450	400110		XCT	DPCA	/LOAD CA REG
04451	112024		JMS	RDGOMP	/READ COMPARE SEQUENCE
04452	203630		LAC	BUFF1	
04453	400110		XCT	DPCA	/LOAD CA REG
04454	777777		LAW	=1	
04455	042247		DAC	WORD1	
04456	042250		DAC	WORD2	
04457	111066		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04460	111556		JMS	ODNOPA	/ODD WORD PARITY
04461	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04462	446023		ISB	CTRS	
04463	777777		LAW	=1	
04464	043632		DAC	BUFF1*2	
04465	203630	ORC	LAC	BUFF1	
04466	400110		XCT	DPCA	/LOAD CA REG
04467	111066		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04470	111556		JMS	ODNOPA	/ODD WORD PARITY
04471	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04472	446023		ISB	CTRS	
04473	604469		JMP	ORC	/NO
04474	111644		JMS	ODLPA	/ODD LONG PARITY
04475	111710		JMS	TRAIL	/TRAILER
04476	400106		XCT	DPRES	/READ STATUS REG B
04477	512699		AND	(20	/MASK BIT 13
04500	740200		SRA		/STATUS REG B BIT 13 SET?
04501	604507		JMP	E101*2	/YES
04502	760101		LAW	101	
04503	110670		JMS	TYSTNO	/TYPE TESTS
04504	111144		JMS	LPERR	
04505	740040	E101	HALT		/ERROR, BIT 13 OF STATUS REG B /FAILED TO SET, CONTINUE TO
04506	604440		JMP	T101*1	/REPEAT TEST.
04507	400112		XCT	DPSE	/ERR FLG SET?
04510	741000		SKP		/NO
04511	604515		JMP	,*4	/YES
04512	760101		LAW	101	
04513	112170		JMS	RPY13	
04514	604904		JMP	E101*1	
04515	111217		JMS	ENDTST	/DONE.
04516	604440		JMP	T101*1	/REPEAT TEST
04517	624437		JMP.	T101	/EXIT TEST

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.EJECT

/TEST 102, BIT 13 OF STATUS REG B IS TESTED TO BE CLEARED BY
/THE DPCS IOT, BIT 13 IS INITIALLY SET BY SIMULATING A READ
/COMPARE ERROR,

/

/SEE NOTE 1 ON PAGE 1

04520	000000	T102	0		
04521	400110		XCT	DPCF	/RESET CONTROL
04522	110634		JMS	ISM	
04523	777400		LAW	=400	
04524	400113		XCT	DPHC	/LOAD MC REG
04525	777777		LAW	=1	
04526	043631		DAC	BUFF1+1	
04527	143632		DBM	BUFF1+2	
04530	203630		LAC	BUFF1	
04531	400110		XCT	DPGA	/LOAD CA REG
04532	112024		JMS	RDGOMP	/READ COMPARE SEQUENCE
04533	203630		LAC	BUFF1	
04534	400110		XCT	DPGA	/LOAD CA REG
04535	777777		LAW	=1	
04536	042247		DAC	WORD1	
04537	042250		OAC	WORD2	
04540	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04541	111556		JMS	ODMOPA	/ODD WORD PARITY
04542	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04543	446623		ISE	CTRS	
04544	777777		LAW	=1	
04545	043632		DAC	BUFF1+2	
04546	203630	RCCA	LAC	BUFF1	
04547	400110		XCT	DPGA	/LOAD CA REG
04550	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
04551	111556		JMS	ODMOPA	/ODD WORD PARITY
04552	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04553	446623		ISE	CTRS	
04554	604546		JMP	RCCA	/NO
04555	111644		JMS	ODLPA	/ODD LONG PARITY
04556	111710		JMS	TRAIL	/TRAILER
04557	400100		XCT	DPGS	/CLEAR BIT 13 OF THE STATUS REG
04560	400106		XCT	DPR0B	/READ STATUS REG B
04561	512655		AND	(20	/MASK BIT 13
04562	741200		SNA		/STATUS REG B BIT 13 CLEARED?
04563	604571		JMP	E102+8	/YES
04564	760102		LAW	100	
04565	110670		JMS	TTSTNO	/TYPE TEST 0
04566	111144		JMS	LPEAR	
04567	740040	E102	HALT		/ERROR, THE DPCS IOT FAILED TO CLEAR /BIT 13 OF STATUS REG B. CONTINUE /TO REPEAT TEST. /DONE /REPEAT TEST /EXIT TEST
04570	604521		JMP	T102+1	
04571	111217		JMS	ENDTST	
04572	604521		JMP	T102+1	
04573	624520		JMP	T102	

.EJECT

/TEST 103, TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING AN
/END OF PACK ERROR,

```

04574 000000      T103      0
04575 400116      XCT      DPCF      /RESET CONTROL
04576 110600      JMS      EHM       /ENTER MAINT MODE
04577 111137      JMS      EOPF     /END OF PACK
04600 400107      XCT      OPSJ     /JOB DONE SET?
04601 741000      SKP
04602 604610      JMP      E103+2   /YES
04603 760103      LAW      103
04604 110670      JMS      TTSTNO   /TYPE TEST 0
04605 111144      JMS      LPERR
04606 740040      E103     HALT     /ERROR, THE DONE FLAG WAS NOT SET BY AN END
                                /OF PACK ERROR, SL103 MAY BE ENTERED MANUALLY
                                /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
04607 604575      JMP      T103+1
04610 111217      JMS      ENDYST
04611 604575      JMP      T103+1   /DONE
04612 624574      JMP     T103     /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T103
/
04613 400116      SL103    XCT      DPCF      /RESET CONTROL
04614 110600      JMS      EHM       /ENTER MAINT MODE
04615 111137      JMS      EOPF     /END OF PACK
04616 400107      XCT      OPSJ     /SKIP ON JOB DONE FLAG
04617 604613      JMP      SL103    /REPEAT
04620 604613      JMP      SL103    /REPEAT
                                .EJECT

```

/TEST 104, TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A HEADER
/NOT FOUND ERROR,

```

/
T104      0
04621    000000
04622    400116      XCT      DPCF      /RESET CONTROL
04623    110600      JMS      EHM      /ENTER MAINT MODE
04624    111117      JMS      HNPF     /HEADER NOT FOUND
04625    400107      XCT      DPSJ     /JOB DONE SET?
04626    741000      SKP
04627    604635      JMP      E104+2   /YES
04630    760104      LAW      104
04631    110670      JMS      TTSTNO  /TYPE TEST #
04632    111144      JMS      LPERR
04633    740040      E104    HALT     /ERROR, THE DONE FLAG WAS NOT SET BY A HEADER
                                /NOT FOUND ERROR, SL104 MAY BE ENTERED MANUALLY
                                /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
04634    604622      JMP      T104+1
04635    111217      JMS      ENDYST  /DONE
04636    604622      JMP      T104+1  /REPEAT TEST
04637    624021      JMP     T104     /EXIT TEST

/SCOPE LOOP FOR T104
/
SL104    XCT      DPCF      /RESET CONTROL
04640    400116      JMS      EHM      /ENTER MAINT MODE
04641    110600      JMS      HNPF     /HEADER NOT FOUND
04642    111117      XCT      DPSJ     /SKIP ON JOB DONE FLAG
04643    400107      JMP      SL104   /REPEAT
04644    604640      JMP      SL104   /REPEAT
04645    604640      .EJECT

```

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/TEST 105. TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A FORMAT
/ERROR.

```

04646 000000          T105      0
04647 400110          XCT      DPCF          /RESET CONTROL
04650 110600          JMS      EMM          /ENTER MAINT MODE
04651 212664          LAC      (252505
04652 041404          DAC      CYR4
04653 042250          DAC      WORDE
04654 400102          XCT      DPLA          /LOAD ADDRESS
04655 111425          JMS      RDS          /READ SEQUENCE
04656 111505          JMS      HEADER      /ADDRESS PORTION OF HEADER
04657 142247          DEM      WORD1
04660 110660          JMS      EVHOPB      /EVEN HEADER PARITY * 3 CLOCK PULSES
04661 400107          XCT      OPSJ          /JOB DONE SET?
04662 741000          SKP
04663 604671          JMP      E100+2      /YES
04664 760105          LAN      100
04665 110670          JMS      TTSTNO      /TYPE TEST 0
04666 111144          JMS      LPERR
04667 740040          HALT      E105
04670 604647          JMP      T100+1      /ERROR, THE DONE FLAG HAS NOT SET BY A FORMAT
04671 111217          JMS      ENDST      /ERROR, CONTINUE TO REPEAT TEST.
04672 604647          JMP      T100+1      /DONE
04673 624646          JMP      T100      /REPEAT TEST
                      .EJECT      /EXIT TEST

```

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/TEST 106, TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A WORD
/PARITY ERROR,

/SEE NOTE 1 ON PAGE 1

04674	000000	T106	0		
04675	400110		XCT	OPCF	/RESET CONTROL
04676	110600		JMS	EMH	/ENTER MAINT MODE
04677	110634		JMS	ISM	
04700	777200		LAW	-000	
04701	400113		XCT	OPWC	/LOAD MC REG
04702	212000		LAC	(312444	
04703	041404		DAC	CTR4	
04704	042200		DAC	WORD2	
04705	400102		XCT	DPLA	/LOAD ADD REGS
04706	203030		LAC	BUFF1	
04707	400110		XCT	OPCA	/LOAD CA REG
04710	111420		JMS	RDS	/READ SEQUENCE
04711	111900		JMS	HEADER	/ADDRESS PORTION OF HEADER
04712	142247		DEH	WORD1	
04713	110647		JMS	ODMOPB	/ODD HEADER PARITY • 3 CLOCK PULSES
04714	111900		JMS	DSBUS	/90 US DELAY
04715	111433		JMS	SYNCSY	/DATA SYNC
04716	212000		LAC	(000200	
04717	042247		DAC	WORD1	
04720	042200		DAC	WORD2	
04721	111600		JMS	DATA	/TRANSFER A 30 BIT DATA WORD
04722	111600		JMS	KVMDPA	/EVEN WORD PARITY
04723	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04724	446023		ISE	CTRD	
04725	203030	WEJD	LAC	BUFF1	
04726	400110		XCT	OPCA	/LOAD CA REG
04727	111600		JMS	DATA	/TRANSFER A 30 BIT DATA WORD
04730	111900		JMS	ODMOPA	/ODD WORD PARITY
04731	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
04732	446023		ISE	CTRD	/TRANSFER COMPLETE?
04733	004720		JMP	WEJD	/NO
04734	203030		LAC	BUFF1	
04735	400110		XCT	OPCA	/LOAD CA REG
04736	111644		JMS	ODLPA	/ODD LONG PARITY
04737	111710		JMS	TRAIL	/TRAILER
04740	400107		XCT	OPSD	/JOB DONE FLAG SET?
04741	741000		SKP		
04742	004700		JMP	E100-2	/YES
04743	760100		LAW	100	
04744	110670		JMS	TYSTNO	/TYPE TEST 0
04745	111144		JMS	LPERR	
04746	740040	E100	HALT		/ERROR, THE DONE FLAG WAS NOT SET BY A
04747	004670		JMP	T100-1	/WORD PARITY ERROR, CONTINUE TO REPEAT TEST.
04750	111217		JMS	ENDSY	/DONE
04751	004670		JMP	T100-1	/REPEAT TEST
04752	024674		JMP	T100	/EXIT TEST
			.EJECT		

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/TEST 107, TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A
/LONGITUDINAL PARITY ERROR,

/

/•SEE NOTE 1 ON PAGE 1

04753	000000	T107	B		
04754	400110		XCT	DPCF	/RESET CONTR
04755	110000		JMS	EMH	/ENTER MAINY MODE
04756	110034		JMS	ISW	
04757	212069		LAC	(312444	
04760	041404		DAC	CTR0	
04761	242290		DAC	WCR02	
04762	400102		XCT	DPLA	/LOAD ADDRESS
04763	777200		LAM	-000	
04764	400113		XCT	DPNC	/LOAD WC REG
04765	203030		LAC	BUFF1	
04766	400110		XCT	DPCA	/LOAD CA REG
04767	111429		JMS	ROB	/READ SEQUENCE
04770	111909		JMS	HEADER	/ADDRESS PORTION OF HEADER
04771	142247		DEH	WORD1	
04772	110647		JMS	ODMOP0	/ODD HEADER PARITY • 3 CLOCK PULSES
04773	111990		JMS	OSBUS	/90 US DELAY
04774	111433		JMS	SYNCSY	/DATA SYNC
04775	212060		LAC	(000292	
04776	042247		DAC	WORD1	
04777	042290		DAC	WORD2	
05000	111000	LEJD	JMS	DATA	/TRANSFER A 30 BIT DATA WORD
05001	111990		JMS	ODMOPA	/ODD WORD PARITY
05002	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
05003	440023		ISB	CTRD	/TRANSFER COMPLETE?
05004	009024		JMP	E107•0	/NO
05005	203030		LAC	BUFF1	
05006	400110		XCT	DPCA	/LOAD CA REG
05007	111090		JMS	EVLPAR	/EVEN LONG PARITY
05010	111710		JMS	TRAIL	/TRAILER
05011	400107		XCT	DP0J	/JOB DONE FLAG SET?
05012	741000		SKP		
05013	009021		JMP	E107•2	/YES
05014	760107		LAM	107	
05015	110670		JMS	TYSTNO	/TYPE TEST 0
05016	111144		JMS	LPERR	
05017	740040	E107	HALT		/ERROR, THE DONE FLAG WAS NOT SET BY A /LONGITUDINAL PARITY ERROR, CONTINUE TO
05020	004794		JMP	T107•1	/REPEAT TEST,
05021	111217		JMS	ENDTST	/DONE
05022	004794		JMP	T107•1	/REPEAT TEST
05023	024793		JMP	T107	/EXIT TEST
05024	203030		LAC	BUFF1	
05025	400110		XCT	DPCA	/LOAD CA REG
05026	000000		JMP	LEJD	
			.EJECT		

/TEST 110, TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A READ
/COMPARE ERROR,

/SEE NOTE 1 ON PAGE 1

```

05027 000000      T110      0
05030 400110      XCT      OPCF      /RESET CONTROL
05031 110634      JMS      ISM
05032 777200      LAM      -600
05033 400113      XCT      DPNQ      /LOAD WC REG
05034 777777      LAM      =1
05035 043031      DAC      BUFF101
05036 143032      DBM      BUFF102
05037 203030      LAC      BUFF1
05040 400110      XCT      DPCA      /LOAD CA REG
05041 112024      JMS      RDCOMP     /READ COMPARE SEQUENCE
05042 203030      LAC      BUFF1
05043 400110      XCT      DPCA      /LOAD CA REG
05044 777777      LAM      =1
05045 042247      DAC      WORD1
05046 042250      DAC      WORD2
05047 111000      JMS      DATA     /TRANSFER A 30 BIT DATA WORD
05050 111990      JMS      ODDOPA    /ODD WORD PARITY
05051 111034      JMS      LPRCNT    /CALCULATE LONG PARITY
05052 446023      ISR      CTRD
05053 777777      LAM      =1
05054 043032      DAC      BUFF102
05055 203030      RCJD     LAC      BUFF1
05056 400110      XCT      DPCA      /LOAD CA REG
05057 111000      JMS      DATA     /TRANSFER A 30 BIT DATA WORD
05060 111990      JMS      ODDOPA    /ODD WORD PARITY
05061 111034      JMS      LPRCNT    /CALCULATE LONG PARITY
05062 446023      ISR      CTRD     /TRANSFER COMPLETE?
05063 609099      JMP      RIJD      /NO
05064 111044      JMS      ODLPAR    /ODD LONG PARITY
05065 111710      JMS      TRAIL     /TRAILER
05066 400107      XCT      D'0J     /JOB DONE FLAG SET?
05067 741000      SKP
05070 609070      JMP      E.10-2    /YES
05071 700110      LAM      1.0
05072 110070      JMS      T'BTNO    /TYPE TEST 0
05073 111144      JMS      LFERR
05074 740040      E110     HALT
05075 609030      JMP      T110-1    /ERROR, THE DONE FLAG WAS NOT SET BY A READ
05076 111217      JMS      ENDTST    /COMPARE ERROR, CONTINUE TO REPEAT TEST.
05077 609030      JMP      T110-1    /DONE
05100 629027      JMP      T11'      /REPEAT TEST
                       .EJECT     /EXIT TEST

```

/TEST 111, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A READ COMMAND.

```

/
Y111  0
05101  800000
05102  400110
05103  110000
05104  760220
05105  400110
05106  212053
05107  400125
05108  400107
05110  609117
05111  609117
05112  760111
05113  110070
05114  111144
05115  740040
                                XCF  OPCF      /RESET CONTROL
                                JMS  ENH      /ENTER MAINT MODE
                                LAW  220     /SET DONE
                                XCF  DPEM
                                LAC  (11000
                                XCF  DPLF      /LOAD FUNCTION REG
                                XCF  DPBJ      /JOB DONE FLAG CLEARED?
                                JMP  E111+2    /YES
                                LAW  111
                                JMS  TTSNO     /TYPE TESTS
                                JMS  LPERR
E111  HALT
                                /ERROR, ISSUING A READ COMMAND DID NOT CLEAR
                                /THE JOB DONE FLAG, SL111 MAY BE ENTERED
                                /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.
                                JMP  Y111+1
05116  609102
05117  111217
05120  609102
05121  629101
                                JMS  ENDTSY
                                JMP  Y111+1
                                JMP. Y111
                                /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR Y111
/
SL111 XCF  OPCF      /RESET CONTROL
                                JMS  ENH      /ENTER MAINT MODE
                                LAW  220
                                XCF  DPEM
                                LAC  (11000
                                XCF  DPLF      /LOAD FUNCTION REG
                                XCF  DPBJ      /SKIP ON JOB DONE
                                JMP  SL111     /REPEAT
05122  400110
05123  110000
05124  760220
05125  400110
05126  212053
05127  400125
05130  400107
05131  609122
05132  609122
                                JMP  SL111     /REPEAT
                                JMP  SL111
                                .EJECT

```

/TEST 112, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A WRITE COMMAND.

```

/
05133 000000 T112 0
05134 400110 XCT DPCF /RESET CONTROL
05135 110600 JMS ENH /ENTER MAINT MODE
05136 760220 LAM 220 /SET DONE
05137 400115 XCT OPEN
05140 212035 LAC (21000
05141 400125 XCT DPL /LOAD FUNCTION REG
05142 400107 XCT OPSJ /JOB DONE FLAG CLEARED?
05143 609191 JMP E112-2 /YES
05144 760112 LAM 112
05145 110670 JMS TTSTNO /TYPE TESTS
05146 111144 JMS LPERR
05147 740040 E112 HALT /ERROR, ISSUING A WRITE COMMAND DID NOT CLEAR
/ THE JOB DONE FLAG, SL112 MAY BE ENTERED
/ MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT
/ TEST,
/ DONE
/ REPEAT TEST
/ EXIT TEST

05150 609134 JMP T112-1
05151 111217 JMS ENDTST
05152 609134 JMP T112-1
05153 629133 JMP. T112

/SCOPE LOOP FOR T112
/
05154 400110 SL112 XCT DPCF /RESET CONTROL
05155 110600 JMS ENH /ENTER MAINT MODE
05156 760220 LAM 220
05157 400115 XCT OPEN
05160 212035 LAC (21000
05161 400125 XCT DPL /LOAD FUNCTION REG
05162 400107 XCT OPSJ /BRIP ON JOB DONE
05163 609194 JMP SL112 /REPEAT
05164 609194 JMP SL112 /REPEAT
.EJECT

```


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/TEST 113, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A READ
/ALL COMMAND.

```

05165 000000      T113      0
05166 400110      XCT      DPCF      /RESET CONTROL
05167 110600      JMS      EMH      /ENTER MAINT MODE
05170 760220      LAM      220      /SET DONE
05171 400110      XCT      OPEN
05172 212070      LAC      (91000
05173 400120      XCT      DPLF      /LOAD FUNCTION REG
05174 400107      XCT      DPSJ      /JOB DONE FLAG CLEARED?
05175 609200      JMP      E113+2      /YES
05176 760110      LAM      113
05177 110670      JMS      T113NO      /TYPE TESTS
05200 111144      JMS      LPERR
05201 740040      E113      HALT      /ERROR, ISSUING A READ ALL COMMAND DID NOT
                                /CLEAR THE JOB DONE FLAG. SL113 MAY BE
                                /ENTERED MANUALLY FOR SCOPING, OR CONTINUE
                                /TO REPEAT TEST.
05202 609160      JMP      T113+1
05203 111217      JMS      ENDYST      /DONE
05204 609160      JMP      T113+1      /REPEAT TEST
05205 629160      JMP     T113      /EXIT TEST

/SCOPE LOOP FOR T113
SL113 XCT      DPCF      /RESET CONTROL
      JMS      EMH      /ENTER MAINT MODE
      LAM      220
      XCT      OPEN
      LAC      (91000
      XCT      DPLF      /LOAD FUNCTION REG
      XCT      DPSJ      /SKIP ON JOB DONE
      JMP      SL113      /REPEAT
      JMP      SL113      /REPEAT
      .EJECT

```

/TEST 114, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A WRITE ALL
/COMMAND.

```

/
T114      0
05217    400000      XCF      DPCF      /RESET CONTROL
05220    400116      JMS      EMM        /ENTER MAINT MODE
05221    110600      LAW      220      /SET DONE
05222    760220
05223    400115      XCF      OPEN
05224    212663      LAC      (61000
05225    400125      XCF      DPLF      /LOAD FUNCTION REG
05226    400107      XCF      DPSJ      /JOB DONE FLAG CLEARED?
05227    609235      JMP      E114+2    /YES
05230    760114      LAW      114
05231    110670      JMS      TYSTND
05232    111144      JMS      LPERR
05233    740040      E114     HALT      /ERROR, ISSUING A WRITE ALL COMMAND DID NOT
                                /CLEAR THE JOB DONE FLAG. SL114 MAY BE ENTERED
                                /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.
05234    609220      JMP      T114+1
05235    111217      JMS      ENDYST
05236    609220      JMP      T114+1    /DONE
05237    629217      JMP     T114      /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T114
/
SL114     XCF      DPCF      /RESET CONTROL
05240    400116      JMS      EMM        /ENTER MAINT MODE
05241    110600      LAW      220
05242    760220      XCF      OPEN
05243    400115      LAC      (61000
05244    212663      XCF      DPLF      /LOAD FUNCTION REG
05245    400125      XCF      DPSJ      /SKIP ON JOB DONE
05246    400107      JMP      SL114     /REPEAT
05247    609240      JMP      SL114     /REPEAT
05250    609240      JMP      SL114
                                .EJECT

```

/TEST 115, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A READ COMPARE
/COMMAND,

```

05251 000000 /
05252 400116 T115 0
05253 110600 XCT DPCF /RESET CONTROL
05254 760220 JMS EMH /ENTER MAINT MODE
05255 400119 LAW 220 /SET DONE
05256 212071 XCT DPEM
05257 400129 LAC (71000
05260 400107 XCT DPLF /LOAD FUNCTION REG
05261 609267 XCT DPSJ /JOB DONE FLAG CLEARED?
05262 760115 JMP E115-2 /YES
05263 110670 JMS TTSTNO /TYPE TESTS
05264 111144 JMS LPENR
05265 740040 E115 HALT /ERROR, ISSUING A READ COMPARE COMMAND DID NOT
/CLEAR THE JOB DONE FLAG. BL115 MAY BE
/ENTERED MANUALLY FOR SCOPING, OR CONTINUE TO
/REPEAT TEST.
05266 609252 JMP T115-1 /DONE
05267 111217 JMS ENDTST /REPEAT TEST
05270 609252 JMP T115-1 /EXIT TEST
05271 629251 JMP. T115

/SCOPE LOOP FOR T115
/
05272 400116 BL115 XCT DPCF /RESET CONTROL
05273 110600 JMS EMH /ENTER MAINT MODE
05274 760220 LAW 220
05275 400119 XCT DPEM
05276 212071 LAC (71000
05277 400129 XCT DPLF /LOAD FUNCTION REG
05300 400107 XCT DPSJ /SKIP ON JOB DONE
05301 609272 JMP BL115 /REPEAT
05302 609272 JMP BL115 /REPEAT
.EJECT

```

/TEST 116, SET AN ATTENTION FLAG AND TEST FOR A PROGRAM INTERRUPT TO OCCUR.

```

05303 000000      T116      0
05304 400110      XCT      DPCF      /RESET CONTROL
05305 703302      CAP
05306 772000      LAW      12000
05307 400125      XCT      DPLF      /SET ATY ENABLE
05310 209320      LAC      E110+2
05311 040001      DAC      1      /INIT FOR RETURN
05312 700042      ION
05313 110000      JMS      EMH      /TURN P1 ON
05314 740000      NOP
05315 740000      NOP      /ENTER MAINT MODE (SET UNIT 0 ATY)
05316 740000      NOP      /W
05317 740000      NOP      /A
05320 700002      IOP
05321 760110      LAW      110      /I
05322 110070      JMS      T116ND    /TYPE TESTS
05323 111144      JMS      LPERR
05324 740040      R116      HALT      /ERROR, AN ATTENTION FLAG FAILED TO CAUSE A
                                /PROGRAM INTERRUPT, SL116 MAY BE ENTERED
                                /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.

05325 609304      JMP      T110+1
05326 609327      JMP      .+1
05327 111217      JMS      ENDTST
05330 609304      JMP      T110+1
05331 629303      JMP0     T110      /DONE
                                /REPEAT TEST
                                /EXIT TEST

```

/SCOPE LOOP FOR T110

```

05332 400110      SL116     XCT      DPCF      /RESET CONTROL
05333 703302      CAP
05334 209347      LAC      ESL110
05335 040001      DAC      1      /INIT FOR RETURN
05336 772000      LAW      12000
05337 400125      XCT      DPLF      /SET ATY ENABLE
05340 700042      ION
05341 110000      JMS      EMH      /TURN P1 ON
05342 740000      NOP
05343 740000      NOP      /ENTER MAINT MODE (SET UNIT 0 ATY)
05344 740000      NOP      /W
05345 740000      NOP      /A
05346 700002      IOP
05347 609332      ESL116   JMP      SL116    /I
                                /T
                                /TURN P1 OFF
                                /REPEAT
                                /EJECT

```

/TEST 117, SET AN ATTENTION FLAG AND CLEAR BIT 7 OF THE FUNCTION REG. TEST FOR NO
/PROGRAM INTERRUPT TO OCCUR.

```

09357 000000      T117      0
09351 400110      XCT      DPCF      /RESET CONTROL
09352 703302      CAP
09353 209370      LAC      E117-2
09354 040001      DAC      1      /INIT FOR RETURN
09355 770000      LAW      10000
09356 400129      XCT      DPLF      /LOAD FUNCTION REG
09357 700042      ION      /TURN P1 ON
09360 110600      JMS      EHM      /ENTER MAINT MODE (SET UNIT 0 ATT)
09361 740000      NOP
09362 740000      NOP      /W
09363 740000      NOP      /A
09364 740000      NOP      /I
09365 700002      IOP      /T
09366 111217      JMS      ENDTST      /TURN P1 OFF
09367 609351      JMP      T117-1      /DONE
09370 629390      JMP     T117      /REPEAT TEST
09371 700117      LAW      117      /EXIT TEST
09372 110670      JMS      T10TNO
09373 111144      JMS      LPERR      /TYPE TESTS
09374 740040      E117      HALT      /ERROR, BIT 7 OF THE FUNCTION REG FAILED TO
                        /DISABLE THE ATTENTION FLAG FROM PROGRAM
                        /INTERRUPT, BL117 MAY BE ENTERED MANUALLY FOR
                        /SCOPING, OR CONTINUE TO REPEAT TEST.

09375 609351      JMP      T117-1
09376 609371      JMP      E117-3

/SCOPE LOOP FOR T117
/
BL117 XCT      DPCF      /RESET CONTROL
      CAP
      LAC      EBL117
      DAC      1      /INIT FOR RETURN
      LAW      10000
      XCT      DPLF      /LOAD FUNCTION REG
      ION      /TURN P1 ON
      JMS      EHM      /ENTER MAINT MODE (SET UNIT 0 ATT)
      NOP
      NOP      /W
      NOP      /A
      NOP      /I
      NOP      /T
      IOP      /TURN P1 OFF
      JMP      BL117      /REPEAT
      .EJECT

```

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/TEST 120, SET THE JOB DONE FLAG AND TEST FOR A PROGRAM INTERRUPT TO OCCUR.

```

05415 000000      T120  0
05416 400116      XCT    DPCF      /RESET CONTROL
05417 703302      CAF
05420 110600      JMS    EMM        /ENTER MAINT MODE
05421 205442      LAC    E120+2
05422 040001      DAC    1          /INIT FOR RETURN
05423 774000      LAW    14000
05424 400125      XCT    DPLF      /DISABLE ATT FLAG FROM PI
05425 700002      ION
05426 760220      LAW    220      /TURN PI ON
05427 400115      XCT    OPEN     /SET JOB DONE FLAG
05430 740000      NOP
05431 740000      NOP      /W
05432 740000      NOP      /A
05433 740000      NOP      /I
05434 700000      IOP
05435 760124      LAW    120      /TURN PI OFF
05436 110670      JMS    T120NO
05437 111140      JMS    LPERR
05440 740040      E120  HALT     /ERROR, THE JOB DONE FLAG FAILED TO CAUSE A
                                /PROGRAM INTERRUPT, SL120 MAY BE ENTERED
                                /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.

05441 605416      JMP    T120+1
05442 605443      JMP    .01
05443 111217      JMS    ENDTST
05444 605416      JMP    T120+1
05445 629415      JMP    T120
                                /DONE
                                /REPEAT TEST
                                /EXIT TEST

/SCOPE LOOP FOR T120
05446 400116      SL120 XCT    DPCF      /RESET CONTROL
05447 703302      CAF
05450 205464      LAC    ESL120
05451 040001      DAC    1          /INIT FOR RETURN
05452 774000      LAW    14000
05453 400125      XCT    DPLF      /DISABLE ATT FLAG FROM PI
05454 700042      ION
05455 760220      LAW    220      /TURN PI ON
05456 400115      XCT    OPEN     /SET JOB DONE FLAG
05457 740000      NOP
05460 740000      NOP      /W
05461 740000      NOP      /A
05462 740000      NOP      /I
05463 700002      IOP
05464 605446      ESL120 JMP    SL120
                                /TURN PI OFF
                                /REPEAT
                                .EJECT

```

/TEST 121, SET THE JOB DONE FLAG AND CLEAR BIT 6 OF THE FUNCTION REG. TEST FOR NO PRO I52 CTR5
 /INTERRUPT TO OCCUR,
 /

```

05465 000000 T121 0
05466 400116 XCT DPCF /RESET CONTROL
05467 703302 CAF
05470 110600 JMS EMM /ENTER MAINT MODE
05471 205515 LAC E121+2
05472 040001 DAC 1 /INIT FOR RETURN
05473 770000 LAW 10000
05474 400125 XCT DPLF /LOAD FUNCTION REG
05475 700042 ION /TURN P1 ON
05476 760220 LAW 220
05477 400115 XCT OPEM /SET JOB DONE FLAG
05500 740000 NOP /W
05501 740000 NOP /A
05502 740000 NOP /I
05503 740000 NOP /T
05504 700002 IOF /TURN P1 OFF
05505 111217 JMS ENDTST /DONE
05506 605466 JMP T121+1 /REPEAT TEST
05507 625465 JMP+ T121 /EXIT TEST
05510 760121 LAW 121
05511 110670 JMS TTSTNO /TYPE TEST#
05512 111144 JMS LPERR
05513 740040 E121 HALT /ERROR, BIT 6 OF THE FUNCTION REG FAILED TO
/DISABLE THE JOB DONE FLAG FROM PROGRAM
/INTERRUPT, SL121 MAY BE ENTERED MANUALLY FOR
/SCOPING, OR CONTINUE TO REPEAT TEST.

05514 605466 JMP T121+1
05515 605510 JMP E121+3

/SCOPE LOOP FOR T121
/SL121 XCT DPCF /RESET CONTROL
05516 400116 XCT DPCF /RESET CONTROL
05517 703302 CAF
05520 205534 LAC ESL121
05521 040001 DAC 1 /INIT FOR RETURN
05522 770000 LAW 10000
05523 400125 XCT DPLF /LOAD FUNCTION REG
05524 700042 ION /TURN P1 ON
05525 760220 LAW 220
05526 400115 XCT OPEM /SET JOB DONE FLAG
05527 740000 NOP /W
05530 740000 NOP /A
05531 740000 NOP /I
05532 740000 NOP /T
05533 700002 IOF /TURN P1 OFF
05534 605516 ESL121 JMP SL121 /REPEAT
.EJECT

```

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/TEST 122. SET THE ERROR FLAG AND TEST FOR A PROGRAM INTERRUPT TO OCCUR

```

/
T122 0
05535 000000
05536 400116 XCT DPCF /RESET CONTROL
05537 703302 CAF
05540 110600 JMS EMH /ENTER MAINT MODE
05541 205562 LAC E122+2
05542 040001 DAC 1 /INIT FOR RETURN
05543 774000 LAW 14000
05544 400125 XCT DPLF /DISABLE AYT FLAG FROM PI
05545 700042 ION /TURN PI ON
05546 212621 LAC (770000
05547 400102 XCT DPLA /LOAD CYL ADD REG
05550 740000 NOP /W
05551 740000 NOP /A
05552 740000 NOP /I
05553 740000 NOP /T
05554 700002 IOF /TURN PI OFF
05555 760122 LAW 122
05556 110670 JMS TTSTNO /TYPE TEST 0
05557 111144 JMS LPEHR
05560 740040 E122 HALT /ERROR: THE ERROR FLAG FAILED TO
/CAUSE A PROGRAM INTERRUPT, SL122 MAY BE
/ENTERED MANUALLY FOR SCOPING, OR CON=
/INUE TO REPEAT TEST.

05561 605536 JMP T122+1
05562 605563 JMP .+1
05563 111217 JMS ENDTST /DONE
05564 605536 JMP T122+1 /REPEAT TEST
05565 625535 JMP* T122 /EXIT TEST

/SCOPE LOOP FOR T122
/
SL122 0
05566 400116 XCT DPCF /RESET CONTROL
05567 703302 CAF
05570 205604 LAC ESL122
05571 040001 DAC 1 /INIT FOR RETURN
05572 774000 LAW 14000
05573 400125 XCT DPLF /DISABLE AYT FLAG FROM PI
05574 700042 ION /TURN PI ON
05575 212621 LAC (770000
05576 400102 XCT DPLA /LOAD CYL ADD REG
05577 740000 NOP /W
05600 740000 NOP /A
05601 740000 NOP /I
05602 740000 NOP /T
05603 700002 IOF /TURN PI OFF
05604 605566 ESL122 JMP SL122 /REPEAT
.EJECT

```


/TEST 123, SET AN ATTENTION FLAG AND TEST FOR AN AUTOMATIC PRIORITY
/INTERRUPT TO OCCUR:

05605	200000	T123	0		
05606	750004		LAS		/READ AC BIT 4
05607	512672		AND	(20000)	
05610	740200		SZA		/DELETE API TEST?
05611	625605		JMP	T123	/YES
05612	400116		XCT	OPCF	/RESET CONTROL
05613	703302		CAF		
05614	772000		LAW	12000	
05615	400125		XCT	DPLF	/SET ATT ENABLE
05616	110600		JMS	EMH	/ENTER MAINT MODE
05617	709512		RPL		/READ STATUS BITS
05620	952673		SAD	(40000)	/CORRECT STATUS?
05621	609634		JMP	TAT	/YES
05622	040646		DAC	TSTRG1	
05623	212673		LAC	(40000)	
05624	040601		DAC	CTR1	
05625	760123		LAW	123	
05626	110671		JMS	TYSTNO	/TYPE TEST 0
05627	111052		JMS	TYT	/TYPE
05630	012367		BEF		
05631	111266		JMS	CRLF	
05632	110964		JMS	RPY3	/REPORT ERROR
05633	609600		JMP	E123-1	
05634	209771	TAT	LAC	E123-2	
05635	049764		DAC	RETURN	/INIT RETURN ADDRESS
05636	212647		LAC	40	
05637	040601		DAC	CTR1	/INIT ADDRESS POINTER
05640	777740		LAW	40	
05641	051432		DAC	CTR2	/INIT COUNT
05642	209762		LAC	JMSER	
05643	060601		DAC	CTR1	/INIT A CHANNEL ADDRESS
05644	440601		ISB	CTR1	/MOVE POINTER
05645	451432		ISB	CTR2	/ALL ADDRESSES INITIALIZED?
05646	609643		JMP	403	/NO
05647	209762		LAC	JMSER	
05650	040000		DAC	0	
05651	209763		LAC	JMSRV	
05652	072213		DAC	ACA	/INIT DEVICE CHANNEL ADDRESS
05653	400117		XCT	DPLM	/LEAVE MAINT MODE (CLEAR UNIT 0 ATT)
05654	212694		LAC	(400000)	
05655	709904		ISA		/ENABLE API
05656	110600		JMS	EMH	/ENTER MAINT MODE (SET UNIT 0 ATT)
05657	740000		NOP		/M
05660	740000		NOP		/A
05661	740000		NOP		/I
05662	740000		NOP		/T
05663	703302		CAF		
05664	760123		LAW	123	
05665	110670		JMS	TYSTNO	/TYPE TEST 0
05666	111144		JMS	LPERR	
05667	740040	E123	HALT		/ERROR, NO INTERRUPT OCCURRED, OR API /STATUS WAS INCORRECT BEFORE API WAS

05670	605626	JMP	T123=1	/ENABLED, OR AFTER AN INTERRUPT OCCURRED.
05671	205672	,+1		/CONTINUE TO REPEAT TEST.
05672	212674	LAC	(440100	
05673	540646	SAD	TSTRG1	/CORRECT STATUS)
05674	609705	JMP	END123	/YES
05675	040601	DAC	CTR1	
05676	760123	LAW	123	
05677	110670	JMS	TTSTNO	/TYPE TEST #
05700	111052	JMS	TTX?	/TYPE
05701	012400	AFT		
05702	111266	JMS	CRLF	
05703	110564	JMS	RPT3	/REPORT ERROR
05704	605666	JMP	E123=1	
05705	111217	JMS	END123	/DONE
05706	605606	JMP	T123=1	/REPEAT TEST
05707	625605	JMP	T123	/EXIT TEST
		.EJECT		

END123

• MAINDEC-15-D5MB • NOVEMBER 24, 1971 •

/TEST 124, TEST FOR AUTOMATIC PRIORITY INTERRUPT HAVING PRIORITY OVER
/PROGRAM INTERRUPT, AN ATTENTION FLAG IS SET TO CAUSE THE INTERRUPT.

```

05710 000000 0
05711 750004 LAS /READ AC BIT 4
05712 512672 AND (20000
05713 740200 SZA /DELETE API TEST?
05714 629710 JMP 0 T124 /YES
05715 400116 XCF DPCF /RESET CONTROL
05716 703302 CAF
05717 772000 LAW 12000
05720 400125 XCF DPLF /SET ATT ENABLE
05721 110600 JMS EMH /ENTER MAINT MODE
05722 209753 LAC E124+2
05723 072213 DAC 0 ACA /INIT FOR API RETURN
05724 205754 LAC E124+3
05725 040000 DAC 0
05726 040001 DAC 1 /INIT FOR PI RETURN
05727 400117 XCF DPLM /LEAVE MAINT MODE (CLEAR UNIT 0 ATT)
05730 700042 ION /TURN PI ON
05731 212654 LAC (400000
05732 709904 ISA /ENABLE API
05733 110600 JMS EMH /ENTER MAINT MODE (SET UNIT 0 ATT)
05734 740000 NOP
05735 740000 NOP
05736 740000 NOP
05737 740000 NOP
05740 760124 LAW 124
05741 110670 JMS TTSTNO
05742 111052 JMS TTYT
05743 012476 NOINT
05744 111260 JMS CRLF
05745 609750 JMP ,03 /NO INTERRUPT FROM API OR PI
05746 760124 LAW 124
05747 110670 JMS TTSTNO /TYPE TEST 0
05750 111144 JMS LPERR
05751 740040 E124 HALT /ERROR, PROGRAM INTERRUPT OCCURRED BEFORE API
05752 609711 JMP T124+1 /CONTINUE TO REPEAT TEST
05753 609755 JMP ,02
05754 609740 JMP E124+3
05755 700002 IOF /TURN PI OFF
05756 703302 CAF
05757 111217 JMS ENDTST /DONE
05760 609711 JMP T124+1 /REPEAT TEST
05761 629710 JMP 0 T124 /EXIT TEST

05762 111723 JMBER JMS INTERR
05763 111710 JMBSRV JMS APISRV
05764 000000 RETURN 0
          .EJECT

```

/TEST 129, TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING
/A MNFE USING THE DPCN IOT.

```

05765 000000
05766 400110
05767 110600
05770 111117
05771 400109
05772 400124
05773 111532
05774 111570
05775 212631
05776 041404
05777 111509
06000 142247
06001 201404
06002 042250
06003 111550
06004 111360
06005 111532
06006 111532
06007 400107
06010 741000
06011 600017
06012 700129
06013 110670
06014 111144
06015 740040
06016 609760
06017 111217
06020 609760
06021 629769

T129 0
      XCY      DPCF      /RESET CONTROL
      JMS      EMM      /ENTER MAINT MODE
      JMS      MNFE     /HEADER NOT FOUND
      XCY      DPCS     /CLEAR MNFE
      XCY      DPCN     /EXECUTE FUNCTION REG
      JMS      SUIP     /SEL UNIT INDEX PULSE
      JMS      PDBE
      LAC      (029191
      DAC      CTR4
      JMS      HEADER
      DCM      WORD1
      LAC      CTR4
      DAC      WORD2
      JMS      ODMOPA
      JMS      CYNREE
      JMS      SUIP
      JMS      SUIP
      XCY      DPCJ      /DONE FLAG SET?
      SKP
      JMP      E129+2    /NO
                        /YES
      LAN      129
      JMS      TTYNO
      JMS      LPEHR    /TYPE TEST 0
E129  HALT
      JMP      T129+1    /ERROR, THE DPCN IOT FAILED.
      JMS      ENDTST   /CONTINUE TO REPEAT TEST
      JMP      T129+1    /DONE
      JMP      T129      /REPEAT TEST
      JMP      T129      /EXIT TEST
      .EJECT

```

• MAINDEC-19-DSMR • NOVEMBER 24, 1971 •

/TEST 120, TEST THE CYL, HEAD • SECT ADD REGS, THE MC REG • THE CA REG TO
/BE CORRECT AFTER SIMULATING A FORMAT ERROR,

/

/•SEE NOTE 1 ON PAGE 1

/

26222	000000	T120	B		
26223	400110		XCT	DPCF	/RESET CONTROL
26224	110627		JMS	CLRARS	/CLEAR SOFTWARE ADD REGS
26225	110600		JMS	EMH	/ENTER MAINT MODE
26226	110634		JMS	ISW	
26227	141484		DEM	CTR4	
26230	750000		CLA		
26231	400102		XCT	DPLA	/LOAD ADDRESS
26232	111425		JMS	RDS	/READ SEQUENCE
26233	111505		JMS	HEADER	/ADD PORTION OF HEADER
26234	142247		DEM	WORD1	
26235	142250		DEM	WORD2	
26236	110660		JMS	EVMOPB	/EVEN HEADER PARITY • 3 CLOCK PULSES
26237	111550		JMS	DSBUS	/DSBUS DELAY
26240	111433		JMS	SYNCDY	/DATA SYNC
26241	212060		LAC	(929292	
26242	042247		OAC	WORD1	
26243	042250		OAC	WORD2	
26244	203630	T0120	LAC	BUFF1	
26245	400110		XCT	DPCA	/LOAD CA REG
26246	111000		JMS	DATA	/XFER A 30 BIT DATA WORD
26247	111550		JMS	ODMOPA	/ODD WORD PARITY
26250	111034		JMS	LPRCNT	/CALCULATE LONG PARITY
26251	440023		ISE	CTRS	/TRANSFER COMPLETE?
26252	606044		JMP	T0120	/NO
26253	203630		LAC	BUFF1	
26254	400110		XCT	DPCA	/LOAD CA REG
26255	111044		JMS	ODLPA	/ODD LONG PARITY
26256	111710		JMS	TRAIL	/TRAILER
26257	400122		XCT	OPRA	/READ ADD REGS
26260	741200		SNA		/ADD REGS CORRECT?
26261	606067		JMP	TWC120	
26262	051432		OAC	CTR2	
26263	111360		JMS	UNPKAR	/UNPACK ADD REGS
26264	760120		LAW	120	
26265	110732		JMS	RPT4	
26266	606107		JMP	E120-1	
26267	400120	TWC120	XCT	DPRM	/READ MC REG
26270	741200		SNA		/MC REG CORRECT?
26271	606077		JMP	TCA120	
26272	040640		OAC	TSTRG1	
26273	140601		DEM	CTR1	
26274	760120		LAW	120	
26275	110620		JMS	RPT1	
26276	606107		JMP	E120-1	
26277	400123	TCA120	XCT	DPRC	/READ CA REG
26100	043630		SAD	BUFF1	/CA REG CORRECT?
26101	606112		JMP	E120-2	/YES
26102	040640		OAC	TSTRG1	
26103	203630		LAC	BUFF1	

06104 040601
 06105 760126
 06106 110640
 06107 111144
 06110 740040

E126

DAC CYR1
 LAW 126
 JMS RPT2
 JMS LPEHR

HALT

/ERROR, THE REGS TESTED WERE INCORRECT
 /AFTER SIMULATING A FORMAT ERROR,
 /CONTINUE TO REPEAT TEST,
 /DONE
 /REPEAT TEST
 /EXIT TEST

06111 606023
 06112 111217
 06113 606023
 06114 626022

JMP T126*1
 JMS ENDTST
 JMP T126*1
 JMP T126
 .EJECT

• MAINDEC-15-05M9 • NOVEMBER 24, 1971 •

/TEST 127, TEST THE CYL, HEAD • SECT ADD REGS, THE WC REG • THE CA REG TO
/BE CORRECT AFTER SIMULATING A WORD PARITY ERROR.

/
/•SEE NOTE 1 ON PAGE 1

06115	000000	T127	0		
06116	400116		XCT	DPCF	/RESET CONTROL
06117	110627		JMS	CLRARS	/CLEAR SOFTWARE ADD REGS
06120	110600		JMS	EMM	/ENTER MAINT MODE
06121	110634		JMS	ISM	
06122	777200		LAW	-600	
06123	400113		XCT	DPWC	/LOAD WC REG
06124	750000		CLA		
06125	400102		XCT	DPLA	/LOAD ADDRESS
06126	111425		JMS	RDS	/READ SEQUENCE
06127	141404		DEM	CTR4	
06130	111505		JMS	HEADER	/ADD PORTION OF HEADER
06131	142247		DEM	WORD1	
06132	142250		DEM	WORD2	
06133	110647		JMS	ODMOPB	/ODD HEADER PARITY • 3 CLOCK PULSES
06134	111550		JMS	DSBUS	/50 US DELAY
06135	111433		JMS	SYNGBT	/DATA SYNC
06136	212660		LAC	(525252	
06137	042247		DAC	WORD1	
06140	042250		DAC	WORD2	
06141	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
06142	111605		JMS	EVNOPA	/EVEN WORD PARITY
06143	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
06144	446623		ISE	CTR5	
06145	203630	TD127	LAC	BUFF1	
06146	400110		XCT	DPCA	/LOAD CA REG
06147	111666		JMS	DATA	/TRANSFER A 36 BIT DATA WORD
06150	111556		JMS	ODMOPA	/ODD WORD PARITY
06151	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
06152	446623		ISE	CTR5	/TRANSFER COMPLETE?
06153	606145		JMP	TD127	/NO
06154	203630		LAC	BUFF1	
06155	400110		XCT	DPCA	/LOAD CA REG
06156	111644		JMS	ODLPA	/ODD LONG PARITY
06157	111710		JMS	TRAIL	/TRAILER
06160	400122		XCT	OPRA	/READ ADD REGS
06161	741200		SNA		/ADD REGS CORRECT?
06162	606170		JMP	TWC127	
06163	051432		DAC	CTR2	
06164	111366		JMS	UNPKAR	/UNPACK ADD REGS
06165	760127		LAW	127	
06166	110732		JMS	RPT4	
06167	606211		JMP	E127-1	
06170	400126	TWC127	XCT	OPRN	/READ WC REG
06171	552675		SAD	(777600	/WC REG CORRECT?
06172	606201		JMP	TCA127	/YES
06173	040646		DAC	TSTRG1	
06174	212675		LAC	(777600	
06175	040601		DAC	CTR1	
06176	760127		LAW	127	

06177 110620
 06200 606211
 06201 400123
 06202 543633
 06203 606214
 06204 040646
 06205 203633
 06206 040601
 06207 760127
 06210 110640
 06211 111144
 06212 740040

 06213 606116
 06214 111217
 06215 606116
 06216 626115

JMS RPT1
 JMP E127-1
 TCA127 XCT DPRC
 SAD BUFEND
 JMP E127-2
 DAC YSTRG1
 LAC BUFEND
 DAC CTR1
 LAW 127
 JMS RPT2
 JMS LPERR
 E127 HALT

 JMP T127-1
 JMS END1ST
 JMP T127-1
 JMP- T127
 ,EJECT

/READ CA REG
 /CA REG CORRECT?
 /YES

/ERROR, THE REGS TESTED WERE INCORRECT
 /AFTER SIMULATING A FORMAT ERROR.
 /CONTINUE TO REPEAT TEST.
 /DONE
 /REPEAT TEST
 /EXIT TEST

/TEST 130, TEST FOR THE DONE FLAG TO BE SET AFTER TRANSFERRING ONE
/COMPLETE SECTOR OF DATA, A WRITE IS SIMULATED.

```

/
06217 000000 T130 0
06220 400110 XCT DPCF /RESET CONTROL
06221 110634 JMS ISW
06222 777402 LAW =400
06223 400113 XCT DPHC /LOAD WC REG
06224 212060 LAC (529252
06225 043631 DAC BUFP1*1
06226 043632 DAC BUFP1*2
06227 203630 LAC BUFP1
06230 400110 XCT DPCA /LOAD CA REG
06231 111411 JMS WRT /WRITE SEQUENCE
06232 777617 LAW =161
06233 111350 JMS XFER /INC FORMAT GEN 3X
06234 203630 LAC BUFP1
06235 400110 XCT DPCA /LOAD CA REG
06236 777733 LAW =49
06237 111350 JMS XFER /INC FORMAT GEN ONCE
06240 203630 T0130 LAC BUFP1
06241 400110 XCT DPCA /LOAD CA REG
06242 777733 LAW =49
06243 111350 JMS XFER /TRANSFER 36 BITS * P
06244 446623 ISZ CTR9 /TRANSFER COMPLETE?
06245 606240 JMP T0130 /NO
06246 777733 LAW =49
06247 111350 JMS XFER /TRANSFER LONG PARITY
06250 111360 JMS CTR9EE
06251 400107 XCT DPHJ /JOB DONE SET?
06252 741000 SKP /NO
06253 606261 JMP E130*2 /YES
06254 760130 LAW 130
06255 110670 JMS TTSTNO /TYPE TEST#
06256 111144 JMS LPEER
06257 740040 E130 HALT /ERROR, THE DONE FLAG WAS NOT SET AFTER
/ SIMULATING A WRITE FOR ONE COMPLETE
/ SECTOR, CONTINUE TO REPEAT TEST.
06260 606220 JMP T130*1 /DONE
06261 111217 JMS ENDTST /REPEAT TEST
06262 606220 JMP T130*1 /EXIT TEST
06263 626217 JMP* T130
.EJECT

```

/TEST 131, TEST FOR THE DONE FLAG TO BE SET AFTER TRANSFERRING ONE
/COMPLETE SECTOR OF DATA, A READ IS SIMULATED,

/

/• SEE NOTE 1 ON PAGE 1

06264	000000	T131	0		
06265	400116		XCT	DPCF	/RESET CONTROL
06266	110600		JMS	EMM	/ENTER MAINT MODE
06267	110634		JMS	ISW	
06270	777400		LAW	-400	
06271	400113		XCT	DPHC	/LOAD MC REG
06272	203630		LAC	BUFF1	
06273	400110		XCT	DPCA	/LOAD CA REG
06274	111425		JMS	RDS	/READ SEQUENCE
06275	141404		DEM	CYR4	
06276	111505		JMS	HEADER	/ADD PORTION OF HEADER
06277	142247		DEM	WORD1	
06300	142250		DEM	WORD2	
06301	110647		JMS	ODWOPB	/ODD HEADER PARITY - CLOCK PULSES
06302	111550		JMS	D90US	/90 US DELAY
06303	111433		JMS	SYNCDT	/DATA SYNC
06304	212660		LAC	(92)252	
06305	042247		DAC	WORD1	
06306	042250		DAC	WORD2	
06307	111666	T0131	JMS	DATA	/TRANSFER A 36 BIT DATA WORD
06310	111556		JMS	ODWOPA	/ODD WORD PARITY
06311	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
06312	446623		ISE	CYR5	/TRANSFER COMPLETE?
06313	606333		JMP	E131-0	/NO
06314	203630		LAC	BUFF1	
06315	400110		XCT	DPCA	/LOAD CA REG
06316	111644		JMS	ODLPA	/ODD LONG PARITY
06317	111710		JMS	TRAIL	/TRAILER
06320	400107		XCT	DPSJ	/JOB DONE SET?
06321	741000		SKP		/NO
06322	606330		JMP	E131-2	/YES
06323	760131		LAW	131	
06324	110670		JMS	TYSTNO	/TYPE TEST?
06325	111144		JMS	LPERR	
06326	740040	E131	HALT		/ERROR, THE DONE FLAG WAS NOT SET AFTER /SIMULATING A READ FOR ONE COMPLETE /SECTOR, CONTINUE TO REPEAT TEST.
06327	606265		JMP	T131-1	/DONE
06330	111217		JMS	ENDYST	/REPEAT TEST
06331	606265		JMP	T131-1	/EXIT TEST
06332	626264		JMP	T131	
06333	203630		LAC	BUFF1	
06334	400110		XCT	DPCA	/LOAD CA REG
06335	606307		JMP	T0131	

.EJECT

/TEST 132. TEST FOR THE DONE FLAG TO BE SET AFTER TRANSFERRING ONE
/COMPLETE SECTOR OF DATA. A WRITE-ALL IS SIMULATED.

```

/
T132      0
06336    000000      XCT      DPCF      /RESET CONTROL
06337    400110      LAC      (1101B
06340    212662      DAC      CTR1      /SET TO SECT =1
06341    041404      DAC      WORD2
06342    042250      XCT      DPLA      /LOAD ADDRESS
06343    400102      LAC      BUFF2
06344    207562      XCT      DPCA      /LOAD CA REG
06345    400110      LAY      =402
06346    777376      XCT      DPMC      /LOAD MC REG
06347    400113      LAC      (61000
06350    212663      XCT      DPLF      /LOAD FUNCTION
06351    400125      JMS      ENH      /ENTER MAINT MODE
06352    110600      JMS      POBE
06353    111370      JMS      HEADER
06354    111305      DEM      WORD1      /ADD PORTION OF HEADER
06355    142247      JMS      ODNOPA
06356    111356      JMS      CTHREE      /ADD HEADER PARITY
06357    111360      LAY      =201
06360    777577      DAC      CTR3      /INIT SOFTWARE MC
06361    046623      ISB      CTR4      /SET TO SECT
06362    441404      DEM      BUFF2+1
06363    147563      LAC      CTR4
06364    201404      DAC      BUFF2+2
06365    047564      JMS      SUSP      /SEL UNIT SECT PULSE
06366    111336      JMS      IP03BX      /INC FORMAT GEN 3BX
06367    111734      JMS      DATAX      /TRANSFER THE 36 BIT HEADER
06370    111740      ISB      CTR3
06371    446623      LAY      =280
06372    777552      JMS      XFER      /INC FORMAT GEN 4X
06373    111350      JMS      DATAX      /TRANSFER A 36 BIT DATA WORD
06374    111740      ISB      CTR3      /TRANSFER COMPLETE?
06375    446623      JMP      =0      /NO
06376    606374      LAY      =45
06377    777733      JMS      XFER      /XFER LONG PARITY
06400    111350      JMS      CTHREE
06401    111360      XCT      OPSJ      /JOB DONE SET?
06402    400107      SKP
06403    741000      JMP      E132+2      /NO
06404    606412      LAY      132      /YES
06405    760132      JMS      TTSTNO
06406    110670      JMS      LPHEN
06407    111144      JMS
06410    740040      HALT      /ERROR, THE DONE FLAG WAS NOT SET AFTER
/REPLICATING A WRITE-ALL FOR ONE COMPLETE
/SECTOR. CONTINUE TO REPEAT TEST.
06411    606337      JMP      T132+1      /DONE
06412    111217      JMS      ENDTST
06413    606337      JMP      T132+1      /REPEAT TEST?
06414    626336      JMP      T132      /EXIT TEST?
      .EJECT

```

/TEST 133. TEST FOR THE DONE FLAG TO BE SET AFTER TRANSFERRING ONE
/COMPLETE SECTOR OF DATA. A READ-ALL IS SIMULATED.

/

/•SEE NOTE 1 ON PAGE 1

06415	000000	T133	0		
06416	400116		XCT	DPCF	/RESET CONTROL
06417	110600		JMS	EMM	/ENTER MAINT MODE
06420	212676		LAC	(12241	
06421	041404		DAC	CTR4	/SET TO SECT =1
06422	042250		DAC	WORD2	
06423	400102		XCT	DPLA	/LOAD ADDRESS
06424	203630		LAC	BUFF1	
06425	400110		XCT	DPCA	/LOAD CA REG
06426	777376		LAW	=402	
06427	400113		XCT	DPWC	/LOAD WC REG
06430	212670		LAC	(51000	
06431	400125		XCT	DPLF	/LOAD FUNCTION
06432	111570		JMS	PDBE	
06433	111505		JMS	HEADER	/ADD PORTION OF HEADER
06434	142247		DZM	WORD1	
06435	111556		JMS	ODWDPA	/ODD HEADER PARITY
06436	111360		JMS	CYHREE	
06437	111550		JMS	D5BUS	
06440	777577		LAW	=201	
06441	046623		DAC	CTR0	/INIT SOFTWARE WC
06442	441404		ISZ	CTR4	/SET TO SECT
06443	111570		JMS	PDBE	
06444	111505		JMS	HEADER	/ADD PORTION OF HEADER
06445	142247		DZM	WORD1	
06446	201404		LAC	CTR4	
06447	042250		DAC	WORD2	
06450	111556		JMS	ODWDPA	/ODD HEADER PARITY
06451	111360		JMS	CYHREE	
06452	446623		ISZ	CTR0	
06453	111550		JMS	D5BUS	/50 US DELAY
06454	111433		JMS	SYNGBT	/DATA SYNC
06455	203630	TD133	LAC	BUFF1	
06456	400110		XCT	DPCA	/LOAD CA REG
06457	111666		JMS	DATA	/TRANSFER A 36 BIT WORD
06460	111556		JMS	ODWDPA	/ODD WORD PARITY
06461	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
06462	446623		ISZ	CTR0	/TRANSFER COMPLETE?
06463	606455		JMP	TD133	/NO
06464	203630		LAC	BUFF1	
06465	400110		XCT	DPCA	/LOAD CA REG
06466	111644		JMS	ODLPA	/ODD LONG PARITY
06467	111710		JMS	TRAIL	/TRAILER
06470	400107		XCT	DPSJ	/JOB DONE SET?
06471	741000		SKP		/NO
06472	606500		JMP	E133+2	/YES
06473	760133		LAW	133	
06474	110670		JMS	TYSTNO	/TYPE TEST#
06475	111144		JMS	LPCR	
06476	740042	E133	HALT		/ERROR, THE DONE FLAG WAS NOT SET AFTER

06477 606416
06500 111217
06501 606416
06502 626415

JMP T133+1
JMS ENDTST
JMP T133+1
JMP* T133
.EJECT

/SIMULATING A READ=ALL FOR ONE
/COMPLETE SECTOR, CONTINUE TO REPEAT TEST.
/DONE
/REPEAT TEST
/EXIT TEST

/TEST 134, TEST FOR THE DONE FLAG TO BE SET AFTER TRANSFERRING ONE
/COMPLETE SECTOR OF DATA. A READ-COMPARE IS SIMULATED.

/

/SEE NOTE 1 ON PAGE 1

/

06503	000000	T134	0		
06504	400116		XCT	DPCF	/RESET CONTROL
06505	110634		JMS	ISW	
06506	777400		LAW	-400	
06507	400113		XCT	DPHC	/LOAD WC REG
06510	777777		LAW	-1	
06511	043631		DAC	BUFF1*1	
06512	043632		DAC	BUFF1*2	
06513	203630		LAC	BUFF1	
06514	400110		XCT	OPCA	/LOAD CA REG
06515	112024		JMS	RDCOMP	/READ COMPARE SEQUENCE
06516	777777		LAW	-1	
06517	042247		DAC	WORD1	
06520	042250		DAC	WORD2	
06521	203630	T0134	LAC	BUFF1	
06522	400110		XCT	OPCA	/LOAD CA REG
06523	111666		JMS	DATA	/TRANSFER A 30 BIT DATA WORD
06524	111556		JMS	ODWOPA	/ODD WORD PARITY
06525	111634		JMS	LPRCNT	/CALCULATE LONG PARITY
06526	446623		ISE	CTRD	/TRANSFER COMPLETE?
06527	606521		JMP	T0134	/NO
06530	111644		JMS	ODLPAR	/ODD LONG PARITY
06531	111710		JMS	TRAIL	/TRAILER
06532	400107		XCT	DPSJ	/JOB DONE SET?
06533	741000		SKP		/NO
06534	06542		JMP	E134*2	/YES
06535	760134		LAW	134	
06536	110670		JMS	TTSTNO	/TYPE TESTS
06537	111144		JMS	LPERR	
06540	740040	E134	HALT		/ERROR, THE DONE FLAG WAS NOT SET AFTER /SIMULATING A READ-COMPARE FOR ONE /COMPLETE SECTOR, CONTINUE TO REPEAT TEST.
06541	606504		JMP	T134*1	/DONE
06542	111217		JMS	ENDTST	/REPEAT TEST
06543	606504		JMP	T134*1	/EXIT TEST
06544	626503		JMP	T134	

,EJECT

/TEST 139, TEST FOR NO ERROR FLAG AFTER TRANSFERRING ONE COMPLETE SECTOR
/OF DATA, A WRITE IS SIMULATED.

```

/
T139      0
06545     000000
06546     207551      LAC      BUFF3
06547     047565      DAC      IND
06550     777774      LAW      =4
06551     040601      DAC      CTR1
06552     400116      XCT      DPCF      /RESET CONTROL
06553     110634      JMS      ISW
06554     777400      LAW      =400
06555     400113      XCT      DPWC      /LOAD WC REG
06556     227565      LAC*     IND
06557     043631      DAC      BUFF1*1
06560     447565      ISZ      IND
06561     227565      LAC*     IND
06562     043632      DAC      BUFF1*2
06563     203630      LAC      BUFF1
06564     400110      XCT      DPCA      /LOAD CA REG
06565     111411      JMS      WRT      /WRITE SEQUENCE
06566     777617      LAW      =161
06567     111350      JMS      XFER      /INC FORMAT GEN 3X
06570     203630      LAC      BUFF1
06571     400110      XCT      DPCA      /LOAD CA REG
06572     777733      LAW      =49
06573     111350      JMS      XFER      /INC FORMAT GEN ONCE
06574     203630      LCA      LAC      BUFF1
06575     400110      XCT      DPCA      /LOAD CA REG
06576     777733      LAW      =49
06577     111350      JMS      XFER      /TRANSFER 36 BITS * P
06600     446623      ISZ      CTR3      /TRANSFER COMPLETE?
06601     606574      JMP      LCA      /NO
06602     777733      LAW      =49
06603     111350      JMS      XFER      /TRANSFER /TRANSFER LONG PARITY
06604     111360      JMS      CTRREE
06605     400112      XCT      DPSE      /ERROR FLAG CLEARED?
06606     606614      JMP      E139*2   /YES
06607     760135      LAW      139
06610     110670      JMS      T139NO
06611     111144      JMS      LPERR
06612     740040      E139     HALT      /ERROR, AN ERROR FLAG WAS SET AFTER
                                /SIMULATING A WRITE FOR ONE SECTOR,
                                /CONTINUE TO REPEAT TEST.

06613     606546      JMF      T139*1
06614     440601      ISZ      CTR1
06615     606621      JMP      ,*4
06616     111217      JMS      ENDTST   /DONE
06617     606546      JMP      T139*1   /REPEAT TEST
06620     626545      JMP*     T139
06621     447565      ISZ      IND
06622     606552      JMP      T139*5   /EXIT TEST

/
CTR5      0
06623     000000      .EJECT

```

/TEST 136, TEST FOR NO ERROR FLAG AFTER TRANSFERRING ONE COMPLETE
/SECTOR OF DATA, A HEAD IS SIMULATED.

/

/•SEE NOTE 1 ON PAGE 1

```

06624 000000 T136 0
06625 207551 LAC BUFF3
06626 247565 DAC IND
06627 777774 LAW =4
06630 040601 DAC CTR1
06631 400116 XCT OPCF /RESET CONTROL
06632 110600 JMS EHM /ENTER MAINT MODE
06633 110634 JMS ISW
06634 777400 LAW =400
06635 400113 XCT DPWC /LOAD WC REG
06636 111425 JMS RDS /READ SEQUENCE
06637 141404 DEM CTR4
06640 111505 JMS HEADER /ADD PORTION OF HEADER
06641 142247 DEM WORD1
06642 142250 DEM WORD2
06643 110647 JMS ODHDPB /ODD HEADER PARITY • 3 CLOCK PULSES
06644 111550 JMS DS0US /50 US DELAY
06645 111433 JMS SYNCBT /DATA SYNC
06646 227565 LAC• IND
06647 042247 DAC WORD1
06650 447565 ISB IND
06651 227565 LAC• IND
06652 042250 DAC WORD2
06653 203630 LOCAR LAC BUFF1
06654 400110 XCT OPCF
06655 111666 JMS DATA /TRANSFER A 30 BIT DATA WORD
06656 111556 JMS ODHOPA /ODD WORD PARITY
06657 111634 JMS LPRCNT /CALCULATE LONG PARITY
06660 446623 ISB CTR5 /TRANSFER COMPLETE?
06661 606653 JMP LOCAR /NO
06662 203630 LAC BUFF1
06663 400110 XCT OPCF /LOAD CA REG
06664 111644 JMS ODLPAR /ODD LONG PARITY
06665 111710 JMS TRAIL /TRAILER
06666 400112 XCT DPSE /ERROR FLAG CLEARED?
06667 606675 JMP E130+2 /YES
06670 760136 LAW 136
06671 110670 JMS TTSTNO /TYPE TEST#
06672 111144 JMS LPERR
06673 740040 E136 HALT /ERROR, AN ERROR FLAG WAS SET AFTER
/SIMULATING A READ FOR ONE SECTOR,
/CONTINUE TO REPEAT TEST.

06674 606625 JMP T130+1
06675 440601 ISB CTR1
06676 606702 JMP ,+4
06677 111217 JMS ENDTST /DONE
06700 606625 JMP T130+1 /REPEAT TEST
06701 626624 JMP• T130 /EXIT TEST
06702 447565 ISB IND
06703 606631 JMP T130+5
.EJECT

```