IDENTIFICATION

PRODUCT CODE: MAINDEC-15-D5MB-D

PRODUCT NAME: RP15 INSTRUCTION TEST

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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: A. SET AC SWITCH 0 B. SET AC SWITCHES 12-17 C. CLEAR AC SWITCH 0 THE SELECTED TEST WILL LOOP FOREVER UNTIL INTERRUPTED BY EITHER AN ERROR OR AC SWITCH 0.

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 "#TXXA 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
WAR = 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 0 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 0 WHILE IN THE MAINTENANCE MODE.

ERROR EXPLANATION = BIT 17 OF STATUS REG B FAILED TO CLEAR, OR EXECUTING THE DPEM 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 0). 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
 G 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
G 000001
R 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
 G 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 DPEM IOT WITH AC BITS 16 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
 G 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
  G 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 DPEM 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
  G 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
B 000004"

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
B 000000"

TEST 22

DESCRIPTION = BITS 0 TO 8 OF STATUS REG A ARE SET, THE DPCF 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 VERFY ALL LOCK-
OUT 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 LO 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 ILLE-
GAL 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 000001
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 0 OF SRA) FOR NO-GO. AN ATTEMPT IS MADE TO SET BIT 13 OF SRA (HNPE) 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 COPRECT 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 DPWC IOT IMMEDIATELY FOLLOWING A DPLF IOT, AND THE DPSE IOT IS TESTED TO SKIP.

ERROR EXPLANATION = BIT 9 OF SRB FAILED TO SET WHEN THE DPLF IOT WAS IMMEDIATELY FOLLOWED BY THE DPWC 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 0 (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 0 (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 0 (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 0 (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 DPEM 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 0 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 DPSF 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 DPSF IOT SKIPPED WHEN AN ATTENTION FLAG WAS SET BUT DISABLED FROM INTERRUPT, OR THE DPSF IOT FAILED TO SKIP WHEN THE ATTENTION FLAG WAS ENABLED FOR INTERRUPTS.

TEST 60

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

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

TEST 61

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

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

(6. CONT'D)

TEST 62

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

ERROR EXPLANATION = THE DPSF 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 69

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
 G 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 10[illegible]

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 R'G 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 HAS SENT FROM THE CONTROL,
C. THE RPL STATUS BITS ARE AGAIN READ, AND TESTED (AFTER THE API HAS OCCURRED) FOR BITS 8 (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 HNFE 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 COMPLE= TION 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 COMPLE= TION 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 COMPLE= TION 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 COMPLE= TION 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 SIMU= LATING 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 [illegible] 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.

:6, 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 PAR TY 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
G 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
G 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
G 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
G 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
G 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
G 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 190

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 DES-CRIBED 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 COMB-INATION 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 67 THROUGH 150 (MAY BE RUN ONLY AFTER ONE COMPLETE PASS OF THE PROGRAM).

9, PROGRAM DESCRIPTION

THE PROGRAM CONSISTS OF APPROXIMATELY 184 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 ENTIRE-TY, OR TESTS 67 TO 150 MAY BE LOOPED 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 INTER-RUPTED 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 TAG).

```
                        .TITLE • MAINDEC-15-D5HB • NOVEMBER 24, 1971 •
                        /
                        /COPYRIGHT 1970, 1971 DIGITAL EQUIPMENT CORP.,
                        /MAYNARD, MASS,
                        )
                        /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          DPSA    706321                  /SKIP ON ATTENTION FLAG
00105   706324          DPCS    706324                  /CLEARS DONE & ERROR & DISABLES NEC, NEH, & NES 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          DPWC    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 8-8 OF STATUS REG A
00125   706464          DPLF    706464                  /LOAD BITS 8-8 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
                                                /=0 FOR UNIT 0
                                                /=1 FOR UNIT 1
                                                /=2 FOR UNIT 2
                                                /=3 FOR UNIT 3
                                                /=4 FOR UNIT 4
                                                /=5 FOR UNIT 5
                                                /=6 FOR UNIT 6
                                                /=7 FOR UNIT 7
                /BITS 3-5                       /SELECTED FUNCTION
                                                /=0 FOR IDLE STATE
                                                /=1 FOR READ
                                                /=2 FOR WRITE
                                                /=3 FOR RECALIBRATE
                                                /=4 FOR SEEK
                                                /=5 FOR READ ALL
                                                /=6 FOR WRITE ALL
                                                /=7 FOR READ COMPARE
                /BIT 6                          /DISABLE DONE • ERROR FLAGS FROM API • PI
                /BIT 7                          /DISABLE ATTENTION FLAG FROM API • PI
                /BIT 8                          /GO (EXECUTE FUNCTION)
                /BIT 9                          /WRITE PROTECT ERROR
                /BIT 10                         /SELECTED CYL > 312
                /BIT 11                         /SELECTED HEAD > 23
                /BIT 12                         /SELECTED SECT > 11
                /BIT 13                         /HEADER NOT FOUND
                /BIT 14                         /SU WRITE PROTECTED
                /BIT 15                         /SU SEEK INCOMPLETE
                /BIT 16                         /JOB DONE FLAG
                /BIT 17                         /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        KRB=700312
          700322        KRS=700322
          700401        TSF=700401
          700402        TCF=700402
          700406        TLB=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 158 ONLY.
                /CLE   D = TO RUN ALL TESTS.
                /
                /BI
                /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 TEST#
                /3. CLEAR BIT 0 TO LOOP DESIRED TEST (OR RUN ALL TESTS IF BITS 12-17=0)
                        .EJECT
```

```
00200                          .LOC    200
00200   100352         START   JMS     INIT            /INITIALIZE & CONTROL OPERATION OF PROGRAM
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   002064                 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   007567              T145
00346   007774              T146
00347   010165              T147
00350   010366              T150
00351   777430      END     .-.+1           /2'S COMP OF PREVIOUS ADD
                            .EJECT
```

```
                        /
                        /INITIALIZE & CONTROL
                        /
00352   000000  INIT    2
00353   212214          LAC     MIOT
00354   741200          SNA                     /FIRST PASS AFTER LOAD?
00355   112041          JMS     MOD             /MODIFY IOT'S?
00356   111266          JMS     CRLF            /NO
00357   140472          DZM     FLAG
00360   777767          LAW     -11
00361   040601          DAC     CTR1            /SET COUNTER
00362   200577          LAC     CTDL
00363   040010          DAC     10              /SET POINTER
00364   160010          DZM*    10              /CLEAR INDICATOR
00365   440601          ISZ     CTR1            /LAST INDICATOR?
00366   600364          JMP     .-2             /NO
00367   600475          JMP     T0              /IO RESET TEST
00370   750004  ENDT0   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          DZM     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   352615          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   DZM     ALL
00425   200600          LAC     ADR             /GET TEST POINTER
00426   240473          XOR     JMSI            /INSERT JMS*
00427   040600          DAC     ADR             /STORE IT
00430   777776          LAW     -2
00431   040474          DAC     PASS
00432   400600          XCT     ADR             /RUN SELECTED TEST
00433   600432          JMP     .-3
00434   151166  ALTST   DZM     ALL
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     ISZ     INIT            /MOVE TEST POINTER
00446   200352          LAC     INIT
00447   512616          AND     (17777
00450   340351          TAD     END
00451   741300          SNAISPA                 /PROGRAM PASS COMPLETE?
00452   600434          JMP     ALTST           /NO
00453   750004          LAS                     /READ AC BIT 5
00454   512617          AND     (10000
00455   741200          SNA                     /RUN T07 TO T150 ONLY ?
00456   600462          JMP     .+4             /NO
00457   212620          LAC     (SIM
00460   040352          DAC     INIT            /SET TEST POINTER
00461   600465          JMP     .+4
00462   212615          LAC     (START
00463   040352          DAC     INIT
00464   440352          ISZ     INIT            /SET TEST POINTER
00465   111266          JMS     CRLF
00466   111852          JMS     TTXT            /TYPE
00467   012336          DONE
00470   111266          JMS     CRLF
00471   600370          JMP     ENDTB           /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 8-17
                        /9.  STATUS REG B BITS 8-16
                        /ALL ARE TESTED.  SHOULD ANY FAIL, A REPORT OF WHAT WAS CLEARED AND WHAT
                        /WAS NOT IS OUTPUT ON THE TTY.
                        /
00475   200577  T8      LAC     CTBL
00476   040010          DAC     10              /SET POINTER
00477   400107          XCT     DPSJ            /DONE FLAG CLEARED?
00500   600503          JMP     .+3             /YES
00501   460010          ISZ*    10              /SET FLAG
00502   741000          SKP
00503   440010          ISZ     10              /MOVE POINTER
00504   400112          XCT     DPSE            /ERROR FLAG CLEARED?
00505   600510          JMP     .+3             /YES
00506   460010          ISZ*    10              /SET FLAG
00507   741000          SKP
00510   440010          ISZ     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=0?
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     .+4
00532   440010  TSTFR   ISZ     10              /MOVE POINTER 3X
00533   440010          ISZ     10
00534   440010          ISZ     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 8-16
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              SZA                     /INDICATOR=1?
00550   600554              JMP     ERP             /YES
00551   440601              ISZ     CTR1            /LAST INDICATOR TESTED?
00552   600546              JMP     .-4             /NO
00553   600370              JMP     ENDTB           /EXIT TEST
00554   110531      ERP     JMS     SIFT            /REPORT ERROR
00555   012257              DN                      /TEXT POINTERS
00556   012261              ER
00557   012263              WC
00560   012265              CA
00561   012272              CY
00562   012274              MD
00563   012276              SE
00564   012300              SA
00565   012302              SB
                    /
                    /TB INDICATOR STORAGE TABLE
                    /
00566   000000      TBL     0
00567   000000              0
00570   000000              0
00571   000000              0
00572   000000              0
00573   000000              0
00574   000000              0
00575   000000              0
00576   000000              0
                    /
00577   000565      CTBL    TBL-1
00600   000000      ADR     0
00601   000000      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,
                        /
00602   000000  T1      0
00603   110600          JMS     EMM             /ENTER MAINT MODE
00604   140601          DEM     CTR1            /INIT COUNT
00605   200601          LAC     CTR1            /GET COUNT
00606   352624          TAD     (400
00607   400115          XCT     DPEM            /LOAD MAINT REG WITH AC 12-17
00610   400111          XCT     DPRM            /READ MAINT REG INTO AC 0-5
00611   111104          JMS     RLSVN           /ROTATE INTO AC 12-17
00612   512625          AND     (77             /MASK AC 12-17
00613   540601          SAD     CTR1            /MAINT REG CORRECT?
00614   600627          JMP     E1+2            /YES
00615   040646          DAC     TSTRG1
00616   760001          LAW     1
00617   110670          JMS     TTSTNO          /TYPE TEST #
00620   111052          JMS     TTXT            /TYPE
00621   012350          MAINRG
00622   111266          JMS     CRLF
00623   110564          JMS     RPTJ            /REPORT ERROR
00624   111144          JMS     LPERR
00625   740040  E1      HALT                    /ERROR,  THE MAINT REG WAS LOADED WITH
                                                /BITS 12-17 OF CTR1,  THE MAINT REG WAS
                                                /THEN READ INTO BITS 0-5 OF THE AC,  BITS
                                                /0-5 OF THE AC WERE COMPARED WITH
                                                /BITS 12-17 OF CTR1,  THEY DID NOT COMPARE
                                                /SL1 MAY BE ENTERED MANUALLY FOR SCOPING,
00626   600603          JMP     T1+1            /OR CONTINUE TO REPEAT TEST,
00627   440601          ISE     CTR1            /INCREASE COUNT BY 1
00630   200601          LAC     CTR1
00631   552626          SAD     (100            /TEST DONE?
00632   741000          SKP                     /YES
00633   600605          JMP     T1+3
00634   111217          JMS     ENDTST          /DONE
00635   600603          JMP     T1+1            /REPEAT TEST
00636   620602          JMP*    T1              /EXIT TEST
                        /
                        /SCOPE LOOP FOR T1
                        /
00637   400116  SL1     XCT     DPCF            /RESET CONTROL
00640   110600          JMS     EMM             /ENTER MAINT MODE
00641   200601          LAC     CTR1            /GET VALUE WHICH CAUSED FAILURE
00642   352624          TAD     (400            /SET BIT 0 OF AC
00643   400115          XCT     DPEM            /LOAD MAINT REG WITH BITS 12-17 OF AC
00644   400111          XCT     DPRM            /READ MAINT REG INTO BITS 0-5 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.
                        /
00651   000000          T2      0
00652   400116                  XCT     DPCF            /RESET CONTROL
00653   400106                  XCT     DPRSB           /READ STATUS REG B
00654   512027                  AND     (1              /MASK BIT 17
00655   740200                  SZA                     /STATUS REG B BIT 17 SET?
00656   600664                  JMP     E2+2            /YES
00657   760002                  LAW     2
00660   110670                  JMS     TYSTNO          /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
00663   600652                  JMP     T2+1            /SCOPING, OR CONTINUE TO REPEAT TEST.
00664   111217                  JMS     ENDTST          /DONE
00665   600652                  JMP     T2+1            /REPEAT TEST
00666   620651                  JMP*    T2              /EXIT TEST
                        /
                        /SCOPE LOOP FOR T2
                        /
00667   400116          SL2     XCT     DPCF            /RESET CONTROL
00670   400106                  XCT     DPRSB           /READ STATUS REG B
00671   600667                  JMP     SL2             /REPEAT
```

,EJECT

```
                        /TEST 3, BIT 17 OF STATUS REG B IS TESTED TO BE CLEAR WHEN SELECTING
                        /A UNIT WHILE IN THE MAINT MODE.
                        /
00672   000000  T3      0
00673   400116          XCT     DPCF            /RESET CONTROL
00674   110600          JMS     EMM             /ENTER MAINT MODE
00675   400106          XCT     DPRSB           /READ STATUS REG B
00676   512627          AND     (1              /MASK BIT 17
00677   741200          SNA                     /STATUS REG B BIT 17 CLEARED?
00700   600706          JMP     E3+2            /YES
00701   760003          LAW     3
00702   110670          JMS     TTSTNO          /TYPE TEST#
00703   111144          JMS     LPEHR
00704   740040  E3      HALT                    /ERROR BIT 17 OF STATUS REG B WAS SET.
                                                /SLJ MAY BE ENTERED MANUALLY FOR
00705   600673          JMP     T3+1            /SCOPING, OR CONTINUE TO REPEAT TEST.
00706   111217          JMS     ENDTST          /DONE
00707   600673          JMP     T3+1            /REPEAT TEST
00710   620672          JMP#    T3              /EXIT TEST
                        /
                        /SCOPE LOOP FOR T3
                        /
00711   400116  SLJ     XCT     DPCF            /RESET CONTROL
00712   110600          JMS     EMM             /ENTER MAINT MODE
00713   400106          XCT     DPRSB           /READ STATUS REG B
00714   600711          JMP     SLJ
                        .EJECT
```

```
                        /TEST 4, THE STATUS OF THE NORMAL/FORMAT SW IS TESTED USING THE
                        /DPSN IOT.
                        /
00715   000000  T4      0
00716   400121          XCT     DPSN            /SKIP IF NORMAL MODE
00717   600721          JMP     FOR             /FORMAT MODE
00720   600747          JMP     E4+2            /EXIT IN NORMAL MODE
00721   140752  FOR     DZM     CNT0
00722   777761          LAW     -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          LAW     4
00743   110670          JMS     TTSTNO          /TYPE TEST #
00744   111144          JMS     LPERR
00745   740840  E4      HALT                    /ERROR; DPSN DID NOT SKIP, CONTINUE TO
00746   600716          JMP     T4+1            /REPEAT TEST.
00747   111217          JMS     ENDTST          /DONE
00750   600716          JMP     T4+1            /REPEAT TEST
00751   620715          JMP*    T4              /EXIT TEST
                        /
00752   000000  CNT6    0
00753   000000  CNT7    0
                        .EJECT
```

```
                        /TEST 5, 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  T5      0
00755   140601          DZM     CTR1            /INIT COUNT
00756   200601          LAC     CTR1            /GET COUNT
00757   400113          XCT     DPWC            /LOAD WC REG
00760   400126          XCT     DPRW            /READ WC REG
00761   540601          SAD     CTR1            /WC REG CORRECT?
00762   600771          JMP     ES+2            /YES
00763   040646          DAC     TSTRG1
00764   760005          LAW     5
00765   110620          JMS     RPT1            /REPORT ERROR
00766   111144          JMS     LPERR
00767   740040  ES      HALT                    /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
00770   600755          JMP     T5+1            /REPEAT TEST.
00771   440601          ISE     CTR1            /INCREASE COUNT BY 1
00772   600756          JMP     T5+2
00773   111217          JMS     ENDTST          /DONE
00774   600755          JMP     T5+1            /REPEAT TEST
00775   620754          JMP.    T5              /EXIT TEST
                        /
                        /SCOPE LOOP FOR T5
                        /
00776   400116  SLS     XCT     DPCF            /RESET CONTROL
00777   200601          LAC     CTR1            /GET VALUE WHICH CAUSE FAILURE
01000   400113          XCT     DPWC            /LOAD WC REG
01001   400126          XCT     DPRW            /READ WC REG
01002   600776          JMP     SLS             /REPEAT
                        .EJECT
```

```
                        /TEST 6, LOAD THE WC REG WITH 777777, CLEAR IT WITH THE DPCF IOT, READ IT BACK &
                        /TEST IT TO EQUAL 0.
                        /
01003   000000  T6      0
01004   777777          LAW     -1
01005   400113          XCT     DPWC            /LOAD WC REG
01006   400116          XCT     DPCF            /RESET CONTROL
01007   400126          XCT     DPRW            /READ WC REG
01010   741200          SNA                     /WC REG=0?
01011   601025          JMP     E6+2            /YES
01012   040646          DAC     TSTRG1
01013   760006          LAW     6
01014   110670          JMS     TTSTNO          /TYPE TEST #
01015   111052          JMS     TTXT            /TYPE
01016   012263          WC
01017   200646          LAC     TSTRG1
01020   111300          JMS     TOCT            /TYPE CONTENTS OF WC REG
01021   111266          JMS     CRLF
01022   111144          JMS     LPERR
01023   740042  E6      HALT                    /ERROR, THE WC REG WAS NOT CLEARED BY THE
                                                /DPCF IOT, SL6 MAY BE ENTERED MANUALLY
01024   601004          JMP     T6+1            /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
01025   111217          JMS     ENDTST          /DONE
01026   601004          JMP     T6+1            /REPEAT TEST
01027   621003          JMP.    T6              /EXIT TEST
                        /
                        /SCOPE LOOP FOR T6
                        /
01030   777777  SL6     LAW     -1
01031   400113          XCT     DPWC            /LOAD WC REG
01032   400116          XCT     DPCF            /RESET CONTROL
01033   400126          XCT     DPRW            /READ WC REG
01034   601030          JMP     SL6             /REPEAT
                        .EJECT
```

```
                        /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.
                        /
01035   000000  T7      0
01036   400116          XCT     DPCF            /RESET CONTROL
01037   110600          JMS     EMM             /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     IWR             /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   601062          JMP     E7+2            /YES
01052   040601          DAC     CTR1
01053   760007          LAW     7
01054   110620          JMS     RPT1            /REPORT ERROR
01055   111144          JMS     LPERR
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
01057   601036          JMP     T7+1            /REPEAT TEST.
01060   440601          ISZ     CTR1            /INCREASE COUNT BY ONE
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
                        /
01065   400116  SL7     XCT     DPCF            /RESET CONTROL
01066   110600          JMS     EMM             /ENTER MAINT MODE
01067   200601          LAC     CTR1
01070   352630          TAD     (-1             /MAKE IT N-1
01071   400113          XCT     DPWC            /LOAD WC REG
01072   110604          JMS     IWR             /MAINT-INCREMENT WC REG
01073   400126          XCT     DPRW            /READ WC REG
01074   601065          JMP     SL7             /REPEAT
                        .EJECT
```

```
                        /TEST 10, SET THE JOB DONE FLAG WITH DPEM,
                        /TEST FOR IT USING THE DPSJ IOT,
                        /
01075   000000  T10     0
01076   400116          XCT     DPCF            /RESET CONTROL
01077   110600          JMS     EMM             /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     TTSTNO          /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,
01111   601076          JMP     T10+1           /OR CONTINUE TO REPEAT TEST,
01112   111217          JMS     ENDTST          /DONE
01113   601076          JMP     T10+1           /REPEAT TEST
01114   621075          JMP*    T10             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T10
                        /
01115   400116  SL10    XCT     DPCF            /RESET CONTROL
01116   110600          JMS     EMM             /ENTER MAINT MODE
01117   760220          LAW     220
01120   400115          XCT     DPEM            /SET DONE FLAG
01121   400107          XCT     DPSJ            /SKIP ON JOB DONE FLAG
01122   601115          JMP     SL10            /REPEAT
01123   601115          JMP     SL10            /REPEAT
                        .EJECT
```

```
                        /TEST 11, CLEAR THE JOB DONE FLAG WITH THE DPCF IOT, THE DONE FLAG IS INITIALLY
                        /SET BY DPEM, TEST DPSJ FOR NO SKIP.
                        /
01124   000000  T11     0
01125   110600          JMS     EMM             /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
01137   601125          JMP     T11+1           /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
01140   111217          JMS     ENDTST          /DONE
01141   601125          JMP     T11+1           /REPEAT TEST
01142   621124          JMP*    T11             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T11
                        /
01143   110600  SL11    JMS     EMM             /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
```

```
                        /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  T12     0
01153   140601          DZM     CTR1            /INIT COUNT
01154   200601          LAC     CTR1            /GET COUNT
01155   400117          XCT     DPCA            /LOAD CA REG
01156   400123          XCT     DPRC            /READ CA REG
01157   540601          SAD     CTR1            /CA REG CORRECT?
01160   601167          JMP     E12+2           /YES
01161   040646          DAC     TSTRG1
01162   767712          LAW     12
01163   110640          JMS     RPT2            /REPORT ERROR
01164   111144          JMS     LPERR
01165   740042  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,
01166   601153          JMP     T12+1           /OR CONTINUE TO REPEAT TEST.
01167   440601          ISZ     CTR1            /INCREASE COUNT BY 1
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   400117          XCT     DPCA            /LOAD CA REG
01177   400123          XCT     DPRC            /READ CA REG
01200   601174          JMP     SL12            /REPEAT
                        .EJECT
```

```
                        /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   400116          XCT     DPCF            /RESET CONTROL
01205   400123          XCT     DPRC            /READ CA REG
01206   741200          SNA                     /CA REG = 0?
01207   601223          JMP     E13*2           /YES
01210   240646          DAC     TSTRG1
01211   760013          LAW     13
01212   110670          JMS     TTSTNO          /TYPE TEST #
01213   111052          JMS     TTXT            /TYPE-
01214   012265          CA
01215   200646          LAC     TSTRG1
01216   111300          JMS     TOCT            /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
01222   601202          JMP     T13*1           /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
01223   111217          JMS     ENDTST          /DONE
01224   601202          JMP     T13*1           /REPEAT TEST
01225   621201          JMP.    T13             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T13
                        /
01226   777777  SL13    LAW     -1
01227   400120          XCT     DPCA            /LOAD CA REG
01230   400116          XCT     DPCF            /RESET CONTROL
01231   400123          XCT     DPRC            /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     EMM             /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     RPT2            /REPORT ERROR
01253   111144          JMS     LPERR
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, SL=4 MAY BE ENTERED
                                                /MANUALLY FOR SCOPING, OR CONTINUE TO
01255   601234          JMP     T14+1           /REPEAT TEST.
01256   440601          ISZ     CTR1            /INCREASE COUNT BY 1
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
                        /
01263   400116  SL14    XCT     DPCF            /RESET CONTROL
01264   110600          JMS     EMM             'ENTER MAINT MODE
01265   200601          LAC     CTR1            /GET COUNT
01266   352630          TAD     (-1             /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  T15     0
01275   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
01276   111326          JMS     ASADRG          /ASSEMBLE ADD INTO AC & CTR1
01277   400102          XCT     DPLA            /LOAD CYL, HEAD & SECT ADD REGS
01300   400122          XCT     DPRA            /READ CYL, HEAD & SECT ADD REGS
01301   540601          SAD     CTR1            /CYL, HEAD & SECT ADD REGS CORRECT?
01302   601312          JMP     E15*2           /YES
01303   051432          DAC     CTR2
01304   111366          JMS     UNPKAR          /UNPACK ADD REGS
01305   760015          LAW     15
01306   110732          JMS     RPT4            /REPORT ERROR
01307   111144          JMS     LPERR
01310   740040  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-
01311   601275          JMP     T15*1           /TINUE TO REPEAT TEST.
01312   111441          JMS     ADDREG          /INCREMENT SOFTWARE ADD REGS
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  T16     0
01325   777757          LAW     17757
01326   400102          XCT     DPLA            /LOAD ADD REGS
01327   400116          XCT     DPCF            /RESET CONTROL
01330   400122          XCT     DPRA            /READ ADD REGS
01331   741200          SNA                     /ADD REGS=0?
01332   601342          JMP     E16+2           /YES
01333   051432          DAC     CTR2
01334   111366          JMS     UNPKAR          /UNPACK ADD REGS
01335   760016          LAW     16
01336   110770          JMS     RPTS            /REPORT ERROR
01337   111114          JMS     LPERR
01340   740040  E16     HALT                    /ERROR, THE ADD REGS WERE NOT CLEARED BY
                                                /THE DPCF IOT, SL16 MAY BE ENTERED
                                                /MANUALLY FOR SCOPING, OR
01341   601325          JMP     T16+1           /CONTINUE TO REPEAT TEST.
01342   111217          JMS     ENDTST          /DONE
01343   601325          JMP     T16+1           /REPEAT TEST
01344   621324          JMP*    T16             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T16
                        /
01345   777757  SL16    LAW     17757
01346   400102          XCT     DPLA            /LOAD ADD REGS
01347   400116          XCT     DPCF            /RESET CONTROL
01350   400122          XCT     DPRA            /READ ADD REGS
01351   601345          JMP     SL16            /REPEAT
                        .EJECT
```

```
                    /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   110610              JMS     ISAR            /MAINT-INCREMENT SECT ADD REG
01361   400122              XCT     DPRA            /READ CYL, HEAD & SECT ADD REGS
01362   051432              DAC     CTR2
01363   111441              JMS     ADDREG          /INCREMENT SOFTWARE ADD REG
01364   111326              JMS     ASADRG          /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-
01374   601353              JMP     T17+1           /TINUE TO REPEAT TEST.
01375   200601              LAC     CTR1            /GET VALUE AFTER LAST INCREMENT
01376   552631              SAD     (62)151         /TEST DONE
01377   741000              SKP                     /YES
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     DPCP            /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 28, 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  T28     0
01415   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
01416   110600          JMS     EMM             /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     E28+2           /YES
01425   040646          DAC     TSTRG1
01426   211467          LAC     CYL
01427   040601          DAC     CTR1
01430   760020          LAW     20
01431   110670          JMS     TTSTNO          /TYPE TEST #
01432   111052          JMS     TTXT            /TYPE
01433   012267          UCA

01434   111266          JMS     CRLF
01435   110564          JMS     RPTJ            /REPORT ERROR
01436   111144          JMS     LPERR
01437   740040  E28     HALT                    /ERROR, THE UNIT CYL ADD READ DID NOT
                                                /EQUAL THE CYL ADD REG, OR THE DPRU IOT
                                                /FAILED, SL28 MAY BE ENTERED MANUALLY FOR
01440   601415          JMP     T28+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
01441   211467          LAC     CYL             /GET COUNT
01442   552632          SAD     (312            /TEST DONE?
01443   601446          JMP     .+3             /YES
01444   451467          ISZ     CYL             /INCREASE COUNT BY 1
01445   601417          JMP     T28+3
01446   111217          JMS     ENDTST          /DONE
01447   601415          JMP     T28+1           /REPEAT TEST
01450   621414          JMP*    T28             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T28
                        /
01451   400116  SL28    XCT     DPCF            /RESET CONTROL
01452   110600          JMS     EMM             /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     SL28            /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     EMM             /ENTER MAINT MODE
01462   200601          LAC     CTR1            /GET COUNT
01463   400125          XCT     DPLF            /LOAD FUNCTION REG
01464   110526          JMS     W4U
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          LAW     21
01473   111010          JMS     RPT0            /REPORT ERROR
01474   111144          JMS     LPERR
01475   740040  E21     HALT                    /ERROR, THE FUNCTION REG WAS INCORRECT
                                                /WHEN READ, OR THE DPLF OR DPRSA IOT
                                                /FAILED. SL21 MAY BE ENTERED MANUALLY
01476   601460          JMP     T21+1           /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
01477   200601          LAC     CTR1            /GET COUNT
01500   552633          SAD     (777000         /TEST DONE?
01501   601505          JMP     .+4             /YES
01502   352634          TAD     (1000           /INCREASE COUNT BY 1
01503   040601          DAC     CTR1
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     EMM             /ENTER MAINT MODE
01512   200601          LAC     CTR1            /GET COUNT WHICH CAUSED FAILURE
01513   400125          XCT     DPLF            /LOAD FUNCTION REG
01514   110526          JMS     W4U
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.
                        /
01517   000000  T22     0
01520   110600          JMS     EMM             /ENTER MAINT MODE
01521   777000          LAW     17000
01522   400125          XCT     DPLF            /LOAD FUNCTION REG
01523   400116          XCT     DPCF            /RESET CONTROL
01524   400103          XCT     DPRSA           /READ STATUS REG A
01525   512633          AND     (777000         /MASK BITS 0-8
01526   741200          SNA                     /FUNCTION REG=0?
01527   601545          JMP     E22+2           /YES
01530   040646          DAC     TSTRG1
01531   700022          LAW     22
01532   110670          JMS     TTSTNO          /TYPE TEST #
01533   111052          JMS     TTXT            /TYPE
01534   012300          SA
01535   777777          LAW     -1
01536   111232          JMS     TSPACE
01537   200646          LAC     TSTRG1
01540   111300          JMS     TOCT            /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, SL22 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
                        /
01550   110600  SL22    JMS     EMM             /ENTER MAINT MODE
01551   777000          LAW     17000
01552   400125          XCT     DPLF            /LOAD FUNCTION REG
01553   400116          XCT     DPCF            /RESET CONTROL
01554   400103          XCT     DPRSA           /READ STATUS REG A
01555   601550          JMP     SL22            /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  T23     0
01557   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
01560   141654          DZM     PROTCT          /CLEAR FLAG
01561   212635          LAC     (21000
01562   041655          DAC     UNIT            /INIT TO WRITE UNIT 0
01563   151467          DZM     CYL             /INIT TO CYL 0
01564   400116  TST00   XCT     DPCF            /RESET CONTROL
01565   110600          JMS     EMM             /ENTER MAINT MODE
01566   111326          JMS     ASADRG          /ASSEMBLE ADDRESS
01567   400102          XCT     DPLA            /LOAD ADD REGS
01570   201655          LAC     UNIT            /WRITE ON CURRENT UNIT
01571   400125          XCT     DPLF            /LOAD FUNCTION REG
01572   110526          JMS     W4U
01573   400103          XCT     DPRSA           /READ STATUS REG A
01574   512636          AND     (41Ø            /MASK   BITS 9 AND 14
01575   741200          SNA                     /WRITE PROTECT ERROR?
01576   601636          JMP     END23           /NO
01577   552636          SAD     (41Ø            /BOTH SET?
01600   601606          JMP     E23*2           /YES
01601   760023          LAW     23
01602   110670          JMS     TYPTNO          /TYPE TEST#
01603   111144          JMS     LPERR
01604   740040  E23     HALT                    /ERROR, EITHER BIT 9 OR BIT 14
                                                /HAS SET AND THE OTHER HAS NOT.
01605   601557          JMP     T23*1           /CONTINUE TO REPEAT TEST.
01606   201654          LAC     PROTCT          /GET FLAG
01607   740200          SZA                     /FIRST TIME THROUGH?
01610   601616          JMP     TUC
01611   441654          ISZ     PROTCT          /YES
01612   111266          JMS     CRLF
01613   111052          JMS     TTXT            /TYPE
01614   012411          UNICYL
01615   111266          JMS     CRLF
01616   201655  TUC     LAC     UNIT
01617   742010          RTL
01620   742010          RTL
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     DPSE            /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     .+3             /YES
01641   451467              ISZ     CYL
01642   601564              JMP     TST08
01643   201655              LAC     UNIT
01644   552640              SAD     (721200         /LAST UNIT?
01645   601651              JMP     .+4             /YES
01646   352641              TAD     (100200
01647   241655              DAC     UNIT
01650   601563              JMP     TST08+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.
                        /
01656   000000  T24     0
01657   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
01660   212642          LAC     (3IJ
01661   051467          DAC     CYL             /INIT CYL
01662   111326          JMS     ASADRG          /ASSEMBLE ADDRESS INTO AC & CTR1
01663   400102          XCT     CPLA            /LOAD CYL ADD REG
01664   400103          XCT     DPRSA           /READ STATUS REG A
01665   512615          AND     (200            /MASK BIT 10
01666   740200          SZA                     /STATUS REG A BIT 10 SET?
01667   601675          JMP     E24+2           /YES
01670   760024          LAW     24
01671   111017          JMS     RPT7            /REPORT ERROR
01672   111144          JMS     LPEMR
01673   740040  E24     HALT                    /ERROR, BIT 10 OF STATUS REG A FAILED TO
                                                /SET WHEN AN ILLEGAL CYL ADD WAS LOADED.
                                                /SL24 MAY BE ENTERED MANUALLY FOR SCOPING,
01674   601657          JMP     T24+1           /OR CONTINUE TO REPEAT TEST.
01675   211467          LAC     CYL             /GET ADDRESS
01676   552643          SAD     (377            /TEST DONE?
01677   601702          JMP     .+3             /YES
01700   451467          ISE     CYL             /INCREMENT ADDRESS
01701   601662          JMP     T24+4
01702   111217          JMS     ENDTST          /DONE
01703   601657          JMP     T24+1           /REPEAT TEST
01704   621656          JMP+    T24             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T24
                        /
01705   400116  SL24    XCT     DPCF            /RESET CONTROL
01706   200601          LAC     CTR1            /ADDRESS WHICH CAUSED FAILURE
01707   400102          XCT     DPLA            /LOAD CYL ADD REG
01710   400103          XCT     DPRSA           /READ STATUS REG A
01711   601705          JMP     SL24            /REPEAT
                        .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  T25     0
01713   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
01714   111326          JMS     ASADRC          /ASSEMBLE ADDRESS INTO AC & CTR1
01715   400102          XCT     DPLA            /LOAD CYL ADD REG
01716   400103          XCT     DPRSA           /READ STATUS REG A
01717   512615          AND     (200            /MASK BIT 10
01720   741200          SNA                     /STATUS REG A BIT 10 CLEARED?
01721   601727          JMP     E25*2           /YES
01722   760025          LAW     25
01723   111017          JMS     RPT7            /REPORT ERROR
01724   111144          JMS     LPERR
01725   740040  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.
01726   601713          JMP     T25*1           /OR CONTINUE TO REPEAT TEST.
01727   211467          LAC     CYL             /GET ADDRESS
01730   552632          SAD     (312            /TEST DONE?
01731   601734          JMP     .+3             /YES
01732   451467          ISZ     CYL             /INCREMENT ADDRESS
01733   601714          JMP     T25*2
01734   111217          JMS     ENDTST          /DONE
01735   601713          JMP     T25*1           /REPEAT TEST
01736   621712          JMP*    T25             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T25
                        /
01737   400116  SL25    XCT     DPCF            /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
```

```
                        /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     (24
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     (100            /MASK BIT 11
01754   740200          SZA                     /STATUS REG A BIT 11 SET?
01755   601763          JMP     E26•2           /YES
01756   760026          LAW     26
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     (37             /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
                        /
01773   400116  SL26    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
```

```
                        /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     ASADRG          /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   602013          JMP     E27•2
02010   760027          LAW     27
02011   111030          JMS     RPTS            /REPORT ERROR
02012   111144          JMS     LPERR
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
02014   602001          JMP     T27•1           /TO REPEAT TEST.
02015   211466          LAC     HEAD            /GET ADDRESS
02016   552645          SAD     (23             /TEST DONE?
02017   602022          JMP     .•3             /YES
02020   451466          ISE     HEAD            /INCREMENT ADDRESS
02021   602002          JMP     T27•2
02022   111217          JMS     ENDTST          /DONE
02023   602001          JMP     T27•1           /REPEAT TEST
02024   620000          JMP•    T27             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T27
                        /
02025   400110  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   602025          JMP     SL27            /REPEAT
                        .EJECT
```

```
                        /TEST 38, BIT 12 OF STATUS REG A IS TESTED TO BE SET AFTER
                        /LOADING EACH OF THE ILLEGAL SECTOR ADDRESSES INTO THE SECT ADD REG.
                        /
02032   000000  T38     0
02033   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
02034   212646          LAC     (12
02035   051465          DAC     SECT            /INIT SECT
02036   111326          JMS     ASADRG          /ASSEMBLE ADDRESS INTO AC • CTR1
02037   400102          XCT     DPLA            /LOAD SECT ADD REG
02040   400103          XCT     DPRSA           /READ STATUS REG A
02041   512647          AND     (40             /MASK BIT 12
02042   740200          SZA                     /STATUS REG A BIT 12 SET?
02043   602051          JMP     E38•2           /YES
02044   760030          LAW     30
02045   111041          JMS     RPTY            /REPORT ERROR
02046   111144          JMS     LPERR
02047   740040  E38     HALT                    /ERROR, BIT 12 OF STATUS REG A FAILED
                                                /TO SET WHEN AN ILLEGAL SECT ADD WAS
                                                /LOADED. SL38 MAY BE ENTERED MANUALLY
02050   602033          JMP     T38•1           /FOR SCOPING, OR CONTINUE TO REPEAT TEST
02051   211465          LAC     SECT            /GET ADDRESS
02052   552650          SAD     (17             /TEST DONE?
02053   602056          JMP     .•3             /YES
02054   451465          ISZ     SECT            /INCREMENT ADDRESS
02055   602036          JMP     T38•4
02056   111217          JMS     ENDTST          /DONE
02057   602033          JMP     T38•1           /REPEAT TEST
02060   622032          JMP•    T38             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T38
                        /
02061   400116  SL38    XCT     DPCF            /RESET CONTROL
02062   200601          LAC     CTR1            /ADDRESS WHICH CAUSED FAILURE
02063   400102          XCT     DPLA            /LOAD SECT ADD REG
02064   400103          XCT     DPRSA           /READ STATUS REG A
02065   602061          JMP     SL38            /REPEAT
                        .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   000000  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     (40             /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     RPTY            /REPORT ERROR
02100   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
02102   602067          JMP     T31*1           /REPEAT TEST.
02103   211465          LAC     SECT            /GET ADDRESS
02104   552651          SAD     (11             /TEST DONE?
02105   602110          JMP     .+3             /YES
02106   451465          ISE     SECT            /INCREMENT ADDRESS
02107   602070          JMP     T31*2
02110   111217          JMS     ENDTST          /DONE
02111   602067          JMP     T31*1           /REPEAT TEST
02112   622066          JMP.    T31             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T31
                        /
02113   400116  SL31    XCT     DPCF            /RESET CONTROL
02114   200601          LAC     CTR1            /ADDRESS WHICH CAUSED FAILURE
02115   400102          XCT     DPLA            /LOAD SECT ADD REG
02116   400103          XCT     DPRSA           /READ STATUS REG A
02117   602113          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          DEM     CTR1
02122   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
02123   400116          XCT     DPCF            /RESET CONTROL
02124   110600          JMS     EMM             /ENTER MAINT 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          DEM     WORD1
02134   110647          JMS     ODHDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
02135   400111          XCT     DPRM            /READ COMPARE FF
02136   512652          AND     (4000           /MASK BIT 6
02137   740200          SZA                     /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   760032          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   602156          JMP     .+4             /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   400125          XCT     DPLF            /LOAD FUNCTION
02170   212654          LAC     (400000
02171   050365  TM33    DAC     CTR0
02172   200601          LAC     CTR1
02173   250365          XOR     CTR0
02174   041404          DAC     CTR4
02175   042250          DAC     WORD2
02176   111570          JMS     PDBE
02177   111505          JMS     HEADER          /ADD PORTION OF HEADER
02200   142247          DEM     WORD1
02201   110647          JMS     ODWDPB          /ODD HEADER PARITY + 3 CLOCK PULSES
02202   400111          XCT     DPRM            /READ COMPARE FF
02203   512652          AND     (4000           /MASK BIT 0
02204   741200          SNA                     /COMPARE CLEARED
02205   602216          JMP     E33+2           /YES
02206   201404          LAC     CTR4
02207   051432          DAC     CTR2
02210   111366          JMS     UNPKAR
02211   760033          LAW     33
02212   110732          JMS     RPT4            /REPORT ERROR
02213   111144          JMS     LPERR
02214   740040  E33     HALT                    /ERROR, THE COMPARE FF WAS SET WHEN READING
                                                /AN ADDRESS OTHER THAN THE ONE LOADED
02215   602162          JMP     T33+2           /INTO THE ADD REGS. CONTINUE TO REPEAT TEST.
02216   210365          LAC     CTR0
02217   744020          RCR
02220   740200          SZA                     /TEST NEXT ADDRESS?
02221   602171          JMP     TM33            /NO
02222   111441          JMS     ADDREG          /TEST DONE?
02223   602162          JMP     T33+2           /NO
02224   111217          JMS     ENDTST          /DONE
02225   602161          JMP     T33+1           /REPEAT TEST
02226   622160          JMP.    T33             /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  T34     0
02230   400116          XCT     DPCF            /RESET CONTROL
02231   110600          JMS     EMM             /ENTER MAINT MODE
02232   111117          JMS     HNFE            /HEADER NOT FOUND
02233   400103          XCT     DPRSA           /READ STATUS REG A
02234   512655          AND     (20             /MASK BIT 13
02235   740200          SZA                     /STATUS REG A BIT 13 SET?
02236   602244          JMP     E34+2           /YES
02237   760034          LAW     34
02240   110670          JMS     TTSTNO          /TYPE TEST #
02241   111144          JMS     LPERR
02242   740040  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
02243   602230          JMP     T34+1           /CONTINUE TO REPEAT TEST.
02244   111217          JMS     ENDTST          /DONE
02245   602230          JMP     T34+1           /REPEAT TEST
02246   622227          JMP.    T34             /EXIT TEST
                        /
02247   000000  WORD1   0
02250   000000  WORD2   0
                        /
                        /SCOPE LOOP FOR T34
                        /
02251   400116  SL34    XCT     DPCF            /RESET CONTROL
02252   110600          JMS     EMM             /ENTER MAINT MODE
02253   111117          JMS     HNFE            /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 IOT. A HEADER NOT FOUND ERROR IS SIMULATED TO INITIALLY SET
                        /BIT 13.
                        /
02256   000000  T35     0
02257   400116          XCT     DPCF            /RESET CONTROL
02260   110600          JMS     EMM             /ENTER MAINT MODE
02261   111117          JMS     MNFE            /HEADER NOT FOUND
02262   400105          XCT     DPCS            /CLEAR STATUS REG A BIT 12
02263   400103          XCT     DPRSA           /READ STATUS REG A
02264   512655          AND     (20             /MASK BIT 13
02265   741200          SNA                     /STATUS REG A BIT 13 CLEARED?
02266   602274          JMP     E35+2           /YES
02267   760035          LAW     35
02270   110670          JMS     TTSTNO          /TYPE TEST #
02271   111144          JMS     LPERR
02272   740040  E35     HALT                    /ERROR, BIT 13 OF STATUS REG A WAS
                                                /NOT CLEARED BY THE DPCS IOT. SL35
                                                /MAY BE ENTERED MANUALLY FOR SCOPING.
02273   602257          JMP     T35+1           /OR CONTINUE TO REPEAT TEST.
02274   111217          JMS     ENDTST          /DONE
02275   602257          JMP     T35+1           /REPEAT TEST
02276   622256          JMP.    T35             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T35
                        /
02277   400116  SL35    XCT     DPCF            /RESET CONTROL
02300   110600          JMS     EMM             /ENTER MAINT MODE
02301   111117          JMS     MNFE            /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.
                        /
02305   000000  T36     0
02306   400116          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     (62?151
02315   041404          DAC     CTR4
02316   111505          JMS     HEADER          /ADD PORTION OF HEADER
02317   142247          DEM     WORD1
02320   201404          LAC     CTR4
02321   042250          DAC     WORD2
02322   111556          JMS     ODWDPA          /ODD HEADER PARITY
02323   111360          JMS     CTWREE
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   512655          AND     (20             /MASK BIT 13
02330   741200          SNA                     /BIT 13 CLEARED?
02331   602337          JMP     E36*2           /YES
02332   760036          LAW     36
02333   110670          JMS     TTSTNO          /TYPE TEST#
02334   111144          JMS     LPERR
02335   740040  E36     HALT                    /ERROR, THE FUNCTION REG WAS EXECUTED
                                                /WITHOUT SETTING THE GO BIT, CONTINUE
02336   602306          JMP     T36*1           /TO REPEAT TEST,
02337   111217          JMS     ENDTST          /DONE
02340   602306          JMP     T36*1           /REPEAT TEST
02341   622305          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,
                        /
02342   200000  T37     0
02343   110600          JMS     EMM             /ENTER MAINT MODE
02344   140647          DBM     TSTRG2          /INIT UNIT SELECTOR
02345   212654          LAC     (400000
02346   240601          DAC     CTR1            /INIT COMPARE WORD
02347   200647  GUS     LAC     TSTRG2          /GET UNIT SELECTOR
02350   400125          XCT     DPLF            /LOAD FUNCTION REG
02351   110526          JMS     W4U
02352   400106          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     RPT1E           /REPORT ERROR
02361   111144          JMS     LPERR
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
02363   602343          JMP     T37+1           /TO REPEAT TEST,
02364   200647          LAC     TSTRG2          /GET UNIT SELECTOR
02365   352641          TAD     (100000         /ADD ONE TO UNIT SELECTOR
02366   741200          SNA                     /TEST DONE?
02367   602375          JMP     END37           /YES
02370   240647          DAC     TSTRG2
02371   200601          LAC     CTR1            /GET COMPARE WORD
02372   744020          RCR                     /MODIFY IT
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
                        /
02400   400116  SL37    XCT     DPCF            /RESET CONTROL
02401   110600          JMS     EMM             /ENTER MAINT MODE
02402   200647          LAC     TSTRG2          /GET UNIT SELECTOR
02403   400125          XCT     DPLF            /LOAD FUNCTION REG
02404   110526          JMS     W4U
02405   400106          XCT     DPRSB           /READ STATUS REG B
02406   602400          JMP     SL37            /REPEAT
                        .EJECT
```

```
                        /TEST 48,  TEST THE DPWC IOT FOR SETTING BIT 9 OF STATUS REG B
                        /WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.
                        /
02407   000000  T48     0
02410   400116          XCT     DPCF            /RESET CONTROL
02411   777777          LAW     -1
02412   400125          XCT     DPLF            /LOAD FUNCTION
02413   400113          XCT     DPWC            /LOAD WC REG
02414   110526          JMS     W4U
02415   400106          XCT     DPRSB           /READ STATUS REG B
02416   512624          AND     (400            /MASK BIT 9
02417   740200          SZA                     /BIT 9 SET?
02420   602426          JMP     E48*2           /YES
02421   760040          LAW     40
02422   110670          JMS     TYSTNO          /TYPE TEST #
02423   111144          JMS     LPERR
02424   740040  E48     HALT                    /ERROR,  STATUS REG B BIT 9 FAILED TO SET,
                                                /SL48 MAY BE ENTERED MANUALLY FOR
02425   602410          JMP     T48*1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02426   400112          XCT     DPSE            /ERR FLG SET?
02427   741000          SKP                     /NO
02430   602434          JMP     .+4             /YES
02431   760040          LAW     40
02432   112170          JMS     RPT13
02433   602423          JMP     E48-1
02434   111217          JMS     ENDTST          /DONE
02435   602410          JMP     T48*1           /REPEAT TEST
02436   622407          JMP.    T48             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T48
                        /
02437   400116  SL48    XCT     DPCF            /RESET CONTROL
02440   777777          LAW     -1
02441   400125          XCT     DPLF            /LOAD FUNCTION
02442   400113          XCT     DPWC            /LOAD WC REG
02443   110526          JMS     W4U
02444   400106          XCT     DPRSB           /READ STATUS REG B
02445   602437          JMP     SL48
                        .EJECT
```

```
                        /TEST 41,  TEST THE DPLA IOT FOR SETTING BIT 9 OF STATUS REG 0
                        /WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLP IOT.
                        /
02446   000000  T41     0
02447   400116          XCT     DPCF            /RESET CONTROL
02450   777777          LAW     -1
02451   400125          XCT     DPLF            /LOAD FUNCTION
02452   400102          XCT     DPLA            /LOAD ADD REGS
02453   110526          JMS     W4U
02454   400106          XCT     DPRSB           /READ STATUS REG 0
02455   512624          AND     [400            /MASK BIT 9
02456   740200          SZA                     /BIT 9 SET?
02457   602465          JMP     E41*2           /YES
02460   760041          LAW     41
02461   110670          JMS     TTSTNO          /TYPE TEST #
02462   111144          JMS     LPEHR
02463   740040  E41     HALT                    /ERROR,  STATUS REG 0 BIT 9 FAILED TO SET.
                                                /SL41 MAY BE ENTERED MANUALLY FOR
02464   602447          JMP     T41*1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02465   111217          JMS     ENDTST          /DONE
02466   602447          JMP     T41*1           /REPEAT TEST
02467   622440          JMP#    T41             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T41
                        /
02470   400116  SL41    XCT     DPCF            /RESET CONTROL
02471   777777          LAW     -1
02472   400125          XCT     DPLF            /LOAD FUNCTION
02473   400102          XCT     DPLA            /LOAD ADD REGS
02474   110526          JMS     W4U
02475   400106          XCT     DPRSB           /READ STATUS REG 0
02476   602470          JMP     SL41
                        .EJECT
```

```
                        /TEST 42,  TEST THE DPCA IOT FOR SETTING BIT 9 OF STATUS REG B
                        /WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.
                        /
02477   000000  T42     0
02500   400116          XCT     DPCF            /RESET CONTROL
02501   777777          LAW     -1
02502   400125          XCT     DPLF            /LOAD FUNCTION
02503   400117          XCT     DPCA            /LOAD CA REG
02504   110526          JMS     W4U
02505   400106          XCT     DPRSB           /READ STATUS REG B
02506   512624          AND     (400            /MASK BIT 9
02507   740200          SEA                     /BIT 9 SET?
02510   402516          JMP     E42*2           /YES
02511   760042          LAW     42
02512   110670          JMS     TTSTNO          /TYPE TEST #
02513   111144          JMS     LPERR
02514   740040  E42     HALT                    /ERROR,  STATUS REG B BIT 9 FAILED TO SET.
                                                /SL42 MAY BE ENTERED MANUALLY FOR
02515   602500          JMP     T42*1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02516   111217          JMS     ENDTST          /DONE
02517   602500          JMP     T42*1           /REPEAT TEST
02520   622477          JMP•    T42             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T42
                        /
02521   400116  SL42    XCT     DPCF            /RESET CONTROL
02522   777777          LAW     -1
02523   400125          XCT     DPLF            /LOAD FUNCTION
02524   400117          XCT     DPCA            /LOAD CA REG
02525   110526          JMS     W4U
02526   400106          XCT     DPRSB           /READ STATUS REG B
02527   602521          JMP     SL42
                        .EJECT
```

```
                        /TEST 43.  TEST THE DPLF IOT FOR SETTING BIT 9 OF STATUS REG B
                        /WHEN ISSUED IMMEDIATELY FOLLOWING THE DPLF IOT.
                        /
02530   000000  T43     0
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            /MASK BIT 9
02540   740200          SZA                     /BIT 9 SET?
02541   602547          JMP     E43+2           /YES
02542   760043          LAW     43
02543   110670          JMS     TTSTNO          /TYPE TEST #
02544   111144          JMS     LPERR
02545   740040  E43     HALT                    /ERROR.  STATUS REG B BIT 9 FAILED TO SET.
                                                /SL43 MAY BE ENTERED MANUALLY FOR
02546   602531          JMP     T43+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02547   111217          JMS     ENDTST          /DONE
02550   602531          JMP     T43+1           /REPEAT TEST
02551   622530          JMP*    T43             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T43
                        /
02552   400116  SL43    XCT     DPCF            /RESET CONTROL
02553   777777          LAW     -1
02554   400125          XCT     DPLF            /LOAD FUNCTION
02555   400125          XCT     DPLF            /LOAD FUNCTION
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.
                        /
02561   000000  T44     0
02562   400116          XCT     DPCF            /RESET CONTROL
02563   777777          LAW     -1
02564   400125          XCT     DPLF            /LOAD FUNCTION
02565   400105          XCT     DPCS            /CLEAR ERROR
02566   110526          JMS     W4U
02567   400106          XCT     DPRSB           /READ STATUS REG B
02570   512624          AND     (400            /MASK BIT 9
02571   740200          SZA                     /BIT 9 SET?
02572   602600          JMP     E44+2           /YES
02573   760044          LAW     44
02574   110670          JMS     TTSTNO          /TYPE TEST #
02575   111144          JMS     LPERR
02576   740040  E44     HALT                    /ERROR,  STATUS REG B BIT 9 FAILED TO SET.
                                                /SL44 MAY BE ENTERED MANUALLY FOR
02577   602562          JMP     T44+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02600   111217          JMS     ENDTST          /DONE
02601   602562          JMP     T44+1           /REPEAT TEST
02602   622561          JMP.    T44             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T44
                        /
02603   400116  SL44    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
                        /IMMIDIATELY FOLLOWING THE DPLF IOT.
                        /
02612   000000  T45     0
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     DPRW            /READ WC REG
02620   741200          SNA                     /DPWC IOT EXECUTED?
02621   602627          JMP     E45+2           /NO
02622   760045          LAW     45
02623   110670          JMS     TYSTNO          /TYPE TEST #
02624   111144          JMS     LPERR
02625   740040  E45     HALT                    /ERROR,  THE DPWC IOT WAS EXECUTED.
                                                /SL45 MAY BE ENTERED MANUALLY FOR
02626   602613          JMP     T45+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02627   111217          JMS     ENDTST          /DONE
02630   602613          JMP     T45+1           /REPEAT TEST
02631   622612          JMP+    T45             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T45
                        /
02632   400116  SL45    XCT     DPCF            /RESET CONTROL
02633   777777          LAW     -1
02634   400125          XCT     DPLF            /LOAD FUNCTION
02635   400113          XCT     DPWC            /LOAD WC REG
02636   400126          XCT     DPRW            /READ WC REG
02637   602632          JMP     SL45            /REPEAT
                        .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   602653          JMP     E46+2           /NO
02650   760046          LAW     46
02651   110670          JMS     TYPTNO          /TYPE TEST #
02652   111144          JMS     LPERR
02653   740040  E46     HALT                    /ERROR,  THE DPLA IOT WAS EXECUTED.
                                                /SL46 MAY BE ENTERED MANUALLY FOR
02654   602641          JMP     T46+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02655   111217          JMS     ENDTST          /DONE
02656   602641          JMP     T46+1           /REPEAT TEST
02657   622640          JMP.    T46             /EXIT TEST
                        /
                        /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.
                        /
02666   000002  T47     0
02667   400116          XCT     DPCF            /RESET CONTROL
02670   777777          LAW     -1
02671   400125          XCT     DPLF            /LOAD FUNCTION
02672   400110          XCT     DPCA            /LOAD CA REG
02673   400123          XCT     DPRC            /READ CA REG
02674   741200          SNA                     /DPCA IOT EXECUTED?
02675   602703          JMP     E47+2           /NO
02676   760047          LAW     47
02677   110670          JMS     TTSTNO          /TYPE TEST #
02700   111144          JMS     LPERR
02701   740040  E47     HALT                    /ERROR,  THE DPCA IOT WAS EXECUTED.
                                                /SL47 MAY BE ENTERED MANUALLY FOR
02702   602667          JMP     T47+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
02703   111217          JMS     ENDTST          /DONE
02704   602667          JMP     T47+1           /REPEAT TEST
02705   622666          JMP.    T47             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T47
                        /
02706   400116  SL47    XCT     DPCF            /RESET CONTROL
02707   777777          LAW     -1
02710   400125          XCT     DPLF            /LOAD FUNCTION
02711   400110          XCT     DPCA            /LOAD CA REG
02712   400123          XCT     DPRC            /READ CA REG
02713   602706          JMP     SL47            /REPEAT
                        .EJECT
```

```
                        /TEST 58,  TEST THE DPLF IOT FOR NO EXECUTION WHEN ISSUED IMMEDIATELY
                        /FOLLOWING THE DPLF IOT.
                        /
02714   700020  T58     0
02715   400116          XCT     DPCF            /RESET CONTROL
02716   777777          LAW     -1
02717   400125          XCT     DPLF            /LOAD FUNCTION
02720   750002          CLA
02721   400125          XCT     DPLF            /LOAD FUNCTION
02722   110526          JMS     W4U
02723   400103          XCT     DPRSA           /READ STATUS REG A
02724   512633          AND     (777000
02725   552633          SAD     (777000         /DPLF IOT EXECUTED?
02726   602734          JMP     E58+2           /NO
02727   760050          LAW     58
02730   110672          JMS     TTSTNO          /TYPE TEST #
02731   111144          JMS     LPENR
02732   740040  E58     HALT                    /ERROR,  THE DPLF IOT WAS EXECUTED.
                                                /SL58 MAY BE ENTERED MANUALLY FOR
02733   602715          JMP     T58+1           /SCOPING, OR CONTINUE TO REPEAT TEST
02734   111217          JMS     ENDTST          /DONE
02735   602715          JMP     T58+1           /REPEAT TEST
02736   622714          JMP.    T58             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T58
                        /
02737   400116  SL58    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     SL58            /REPEAT
                        .EJECT
```

```
                        /TEST 51, BIT 10 OF STATUS REG B IS TESTED TO BE SET AFTER SIMULATING AN
                        /END OF PACK ERROR,
                        /
02747   000000  T51     0
02750   400116          XCT     DPCF            /RESET CONTROL
02751   110600          JMS     EMM             /ENTER MAINT MODE
02752   111137          JMS     EOPE            /END OF PACK
02753   400106          XCT     DPRSB           /READ STATUS REG B
02754   512615          AND     (20             /MASK BIT 10
02755   740200          SZA                     /STATUS REG B BIT 10 SET?
02756   602764          JMP     E51*2           /YES
02757   760051          LAW     51
02760   110670          JMS     TTSTNO          /TYPE TEST #
02761   111144          JMS     LPENR
02762   740040  E51     HALT                    /ERROR, BIT 10 OF STATUS REG B FAILED TO SET.
                                                /SL51 MAY BE ENTERED MANUALLY FOR SCOPING.
02763   602750          JMP     T51*1           /OR CONTINUE TO REPEAT TEST.
02764   111217          JMS     ENDTST          /DONE
02765   602750          JMP     T51*1           /REPEAT TEST
02766   622747          JMP.    T51             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T51
                        /
02767   400116  SL51    XCT     DPCF            /RESET CONTROL
02770   110600          JMS     EMM             /ENTER MAINT MODE
02771   111137          JMS     EOPE            /END OF PACK
02772   400106          XCT     DPRSB           /READ STATUS REG B
02773   602767          JMP     SL51            /REPEAT
                        .EJECT
```

```
                        /TEST 52, 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  T52     0
02775   400116          XCT     DPCF            /RESET CONTROL
02776   110600          JMS     EMM             /ENTER MAINT MODE
02777   110627          JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
03000   111326          JMS     ASAUBC          /ASSEMBLE ADD=INTO AC & CTR1
03001   552631          SAD     (622*151        /TEST DONE?
03002   603023          JMP     E52*4           /YES
03003   400102          XCT     DPLA            /LOAD ADD REGS
03004   110610          JMS     ISAR            /INCREMENT SECT ADD REG
03005   400106          XCT     DPRSB           /READ STATUS REG B
03006   512615          AND     (200            /MASK BIT 10
03007   741200          SNA                     /STATUS REG B BIT 10 CLEARED?
03010   603021          JMP     E52*2           /YES
03011   400122          XCT     DPRA            /READ ADD REGS
03012   751432          DAC     CTR2
03013   111366          JMS     UNPKAR          /UNPACK ADD REGS
03014   760052          LAW     52
03015   110770          JMS     RPT?            /REPORT ERROR
03016   111144          JMS     LPERR
03017   740040  E52     HALT                    /ERROR, BIT 10 OF STATUS REG B WAS SET BEFORE
                                                /TRUE END OF PACK, SL52 MAY BE ENTERED
                                                /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT
03020   602775          JMP     T52*1           /TEST.
03021   111441          JMS     ADDREG          /INCREMENT SOFTWARE ADD REGS
03022   603000          JMP     T52*4
03023   111217          JMS     ENDTST          /DONE
03024   602775          JMP     T52*1           /REPEAT TEST
03025   622774          JMP.    T52             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T52
                        /
03026   400116  SL52    XCT     DPCF            /RESET CONTROL
03027   110600          JMS     EMM             /ENTER MAINT MODE
03030   200601          LAC     CTR1
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     SL52            /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.
                        /
03035   000000  T53     0
03036   110000          JMS     EMM             /ENTER MAINT MODE
03037   140647          DZM     TSTRG2          /INIT UNIT SELECTOR
03040   200647          LAC     TSTRG2          /GET UNIT SELECTOR
03041   400125          XCT     DPLF            /LOAD FUNCTION REG
03042   400104          XCT     DPSA            /ATTENTION FLAG SET?
03043   741000          SKP
03044   603062          JMP     E53+2           /YES
03045   760053          LAW     53
03046   110670          JMS     TTSTNO          /TYPE TEST #
03047   111052          JMS     TTXT            /TYPE
03050   012300          SA
03051   777777          LAW     -1
03052   111232          JMS     TSPACE
03053   400103          XCT     DPRSA           /READ STATUS REG A
03054   512656          AND     (700000         /MASK BITS 0-2
03055   111300          JMS     TOCT            /TYPE CONTENTS OF FUNCTION REG
03056   111266          JMS     CRLF
03057   111144          JMS     LPERR
03060   740040  E53     HALT                    /ERROR, THE ATTENTION FLAG WAS NOT
                                                /SET BY ONE OF THE ATTENTION BITS,
                                                /OR THE DPSA IOT FAILED TO SKIP,
                                                /SL53 MAY BE ENTERED MANUALLY FOR
03061   603036          JMP     T53+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
03062   200647          LAC     TSTRG2          /GET UNIT SELECTOR
03063   552656          SAD     (700000         /TEST DONE?
03064   603070          JMP     .+4             /YES
03065   352641          TAD     (100000         /ADD 1 TO UNIT SELECTOR
03066   240647          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
                        /
03073   400116  SL53    XCT     DPCF            /RESET CONTROL
03074   110000          JMS     EMM             /ENTER MAINT MODE
03075   200647          LAC     TSTRG2          /GET UNIT SELECTOR
03076   400125          XCT     DPLF            /LOAD FUNCTION REG
03077   400104          XCT     DPSA            /SKIP ON ATTENTION FLAG
03100   603073          JMP     SL53            /REPEAT
03101   603073          JMP     SL53            /REPEAT
                        .EJECT
```

```
                        /TEST 54, THE ATTENTION FLAG IS CLEARED AND THE DPSA IOT IS TESTED FOR NO SKIP.
                        /
03102   000000  T54     0
03103   400116          XCT     DPCF            /RESET CONTROL
03104   400104          XCT     DPSA            /SKIP ON ATTENTION FLAG
03105   603113          JMP     E54+2
03106   760054          LAW     54
03107   110672          JMS     TTSTNO          /TYPE TEST #
03110   111144          JMS     LPERR
03111   740040  E54     HALT                    /ERROR, THE DPSA IOT SKIPPED. SL54 MAY BE
                                                /ENTERED MANUALLY FOR SCOPING, OR CONTINUE TO
03112   603103          JMP     T54+1           /REPEAT TEST.
03113   111217          JMS     ENDTST          /DONE
03114   603103          JMP     T54+1           /REPEAT TEST
03115   623102          JMP.    T54             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T54
                        /
03116   400116  SL54    XCT     DPCF            /RESET CONTROL
03117   400104          XCT     DPSA            /SKIP ON ATTENTION FLAG
03120   603116          JMP     SL54            /REPEAT
03121   603116          JMP     SL54            /REPEAT
                        .EJECT
```

```
                        /TEST 55, SET THE ERROR FLAG BY LOADING AN ILLEGAL CYL ADD, TEST FOR IT USING
                        /THE DPSE IOT,
                        /
03122   000000  T55     0
03123   400116          XCT     DPCF            /RESET CONTROL
03124   776000          LAW     160000
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 TEST#
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
03135   603123          JMP     T55+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
03136   111217          JMS     ENDTST          /DONE
03137   603123          JMP     T55+1           /REPEAT TEST
03140   623122          JMP.    T55             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T55
                        /
03141   400116  SL55    XCT     DPCF            /RESET CONTROL
03142   776000          LAW     160000
03143   400102          XCT     DPLA            /LOAD ADD REGS
03144   400112          XCT     DPSE            /SKIP ON ERROR FLAG
03145   603141          JMP     SL55            /REPEAT
03146   603141          JMP     SL55            /REPEAT
                        .EJECT
```

```
                        /TEST 56, TEST THE DPSE IOT FOR NO SKIP.
                        /
03147   000000  T56     0
03150   406116          XCT     DPCF            /RESET CONTROL
03151   406112          XCT     DPSE            /ERROR FLAG CLEARED?
03152   603162          JMP     E56+2           /YES
03153   760056          LAW     56
03154   110670          JMS     TTSTNO          /TYPE TEST#
03155   111144          JMS     LPENR
03156   740040  E56     HALT                    /ERROR, THE DPSE IOT SKIPPED WITH NO
                                                /ERRORS INDICATED. SL56 MAY BE
                                                /ENTERED MANUALLY FOR SCOPING, OR
03157   603150          JMP     T56+1           /CONTINUE TO REPEAT TEST.
03160   111217          JMS     ENDTST          /DONE
03161   603150          JMP     T56+1           /REPEAT TEST
03162   623147          JMP.    T56             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T56
                        /
03163   406116  SL56    XCT     DPCF            /RESET CONTROL
03164   406112          XCT     DPSE            /SKIP ON ERROR FLAG
03165   603163          JMP     SL56            /REPEAT
03166   603163          JMP     SL56            /REPEAT
                        .EJECT
```

```
                        /TEST 57, THE DPSF IOT 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  T57     0
03170   400116          XCT     DPCF            /RESET CONTROL
03171   110603          JMS     EMM             /ENTER MAINT MODE
03172   400101          XCT     DPSF            /TEST FOR NO SKIP
03173   603201          JMP     E57+2           /YES
03174   760057          LAW     57
03175   110672          JMS     TTSTNO          /TYPE TEST#
03176   111144          JMS     LPERR
03177   740040  E57     HALT                    /ERROR, THE DPSF IOT SKIPPED ON AN ATT
                                                /FLG WITH THE ATT FLG DISABLED FROM
                                                /INT, SL57 MAY BE ENTERED MANUALLY FOR
03200   603172          JMP     T57+1           /SCOPING, OR CONTINUE TO REPEAT TEST.
03201   400116  T57A    XCT     DPCF            /RESET CONTROL
03202   212657          LAC     (2000
03203   400125          XCT     DPLF            /ENABLE ATT FLG
03204   110600          JMS     EMM             /ENTER MAINT MODE
03205   400101          XCT     DPSF            /TEST FOR SKIP
03206   741000          SKP
03207   603213          JMP     E57A+2          /YES
03210   760057          LAW     57
03211   110672          JMS     TTSTNO          /TYPE TEST #
03212   111144          JMS     LPERR
03213   740040  E57A    HALT                    /ERROR, THE DPSF IOT FAILED TO SKIP
                                                /ON AN ATT FLG WITH THE ATT FLG
                                                /ENABLED FOR INTERRUPTS. SL57A MAY BE
                                                /ENTERED MANUALLY FOR SCOPING, OR
03214   603170          JMP     T57+1           /CONTINUE TO REPEAT TEST.
03215   111217          JMS     ENDTST          /DONE
03216   603170          JMP     T57+1           /REPEAT TEST
03217   623167          JMP#    T57             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T57
                        /
03220   400116  SL57    XCT     DPCF            /RESET CONTROL
03221   110600          JMS     EMM             /ENTER MAINT MODE
03222   400101          XCT     DPSF            /SKIP ON DISK FLAG
03223   603220          JMP     SL57            /REPEAT
03224   603220          JMP     SL57            /REPEAT
                        /
                        /SCOPE LOOP FOR T57A
                        /
03225   400116  SL57A   XCT     DPCF            /RESET CONTROL
03226   212657          LAC     (2000
03227   400125          XCT     DPLF            /ENABLE ATT FLG
03230   110600          JMS     EMM
03231   400101          XCT     DPSF
03232   603225          JMP     SL57A
03233   603225          JMP     SL57A
                        .EJECT
```

```
                        /TEST 60, THE DPSF IOT IS TESTED TO SKIP ON THE JOB DONE FLAG.
                        /
03234   000000  T60     0
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     TTSTNO          /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
03251   603235          JMP     T60*1           /SCOPING, OR CONTINUE TO REPEAT TEST.
03252   111217          JMS     ENDTST          /DONE
03253   603235          JMP     T60*1           /REPEAT TEST
03254   623234          JMP.    T60             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T60
                        /
03255   400116  SL60    XCT     DPCF            /RESET CONTROL
03256   110600          JMS     EMM             /ENTER MAINT MODE
03257   760220          LAW     220
03260   400115          XCT     DPEM            /SET JOB DONE FLAG
03261   400117          XCT     DPLM            /LEAVE MAINT MODE
03262   400101          XCT     DPSF            /SKIP ON DISK FLAG
03263   603255          JMP     SL60            /REPEAT
03264   603255          JMP     SL60            /REPEAT
                        .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     E61*2           /YES
03274   760061          LAW     61
03275   110670          JMS     TTSTNO          /TYPE TEST#
03276   111144          JMS     LPERR
03277   740040  E61     HALT                    /ERROR, THE DPSF IOT FAILED TO
                                                /SKIP ON THE ERROR FLAG. SL61
                                                /MAY BE ENTERED MANUALLY FOR
                                                /SCOPING, OR CONTINUE TO REPEAT
03300   603266          JMP     T61*1           /TEST.
03301   111217          JMS     ENDTST          /DONE
03302   603266          JMP     T61*1           /REPEAT TEST
03303   623265          JMP*    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.
                        /
03312   000000  T62     0
03313   400116          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     62
03320   110670          JMS     TTSTNO          /TYPE TEST #
03321   111144          JMS     LPERR
03322   740040  E62     HALT                    /ERROR, THE DPSF IOT SKIPPED. SL62
                                                /MAY BE ENTERED MANUALLY FOR
03323   603313          JMP     T62*1           /SCOPING, OR CONTINUE TO REPEAT TEST.
03324   111217          JMS     ENDTST          /DONE
03325   603313          JMP     T62*1           /REPEAT TEST
03326   623312          JMP.    T62             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T62
                        /
03327   400116  SL62    XCT     DPCF            /RESET CONTROL
03330   400101          XCT     DPSF            /SKIP ON DISK FLAG
03331   603327          JMP     SL62            /REPEAT
03332   603327          JMP     SL62            /REPEAT
```

.EJECT

```
                        /TEST 63, SET THE ERROR FLAG BY LOADING AN ILLEGAL HEAD ADD,
                        /TEST FOR IT USING THE DPSE IOT,
                        /
03333   000000          T63     0
03334   400116                  XCT     DPCF            /RESET CONTROL
03335   212622                  LAC     (1740
03336   400102                  XCT     DPLA            /LOAD HEAD ADD REG
03337   400112                  XCT     DPSE            /ERROR FLAG SET?
03340   741000                  SKP
03341   603347                  JMP     E63*2           /YES
03342   760063                  LAW     63
03343   112170                  JMS     RPT13           /TYPE TEST #
03344   111144                  JMS     LPERR
03345   740042          E63     HALT                    /ERROR, LOADING AN ILLEGAL HEAD ADD
                                                        /DID NOT SET THE ERROR FLAG, SL63
                                                        /MAY BE ENTERED MANUALLY FOR SCOPING.
03346   603334                  JMP     T63*1           /OR CONTINUE TO REPEAT TEST.
03347   111217                  JMS     ENDTST          /DONE
03350   603334                  JMP     T63*1           /REPEAT TEST
03351   623333                  JMP.    T63             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T63
                        /
03352   400116          SL63    XCT     DPCF            /RESET CONTROL
03353   212622                  LAC     (1740
03354   400102                  XCT     DPLA            /LOAD HEAD ADD REG
03355   400112                  XCT     DPSE            /SKIP ON ERROR FLAG
03356   603352                  JMP     SL63            /REPEAT
03357   603352                  JMP     SL63            /REPEAT
                        .EJECT
```

```
                        /TEST 64, SET THE ERROR FLAG BY LOADING AN ILLEGAL SECT ADD,
                        /TEST FOR IT USING THE DPSE IOT,
                        /
03362   000000  T64     0
03361   400116          XCT     DPCF            /RESET CONTROL
03362   212652          LAC     (17
03363   400102          XCT     DPLA            /LOAD SECT ADD REG
03364   400112          XCT     DPSE            /ERROR FLAG SET?
03365   741000          SKP
03366   603374          JMP     E64+2           /YES
03367   760064          LAW     64
03370   112170          JMS     RPT13           /TYPE TEST #
03371   111144          JMS     LPERR
03372   740040  E64     HALT                    /ERROR, LOADING AN ILLEGAL SECT
                                                /ADD DID NOT SET THE ERROR FLAG,
                                                /SL64 MAY BE ENTERED MANUALLY
                                                /FOR SCOPING, OR CONTINUE TO
03373   603361          JMP     T64+1           /REPEAT TEST,
03374   111217          JMS     ENDTST          /DONE
03375   603361          JMP     T64+1           /REPEAT TEST
03376   623360          JMP.    T64             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T64
                        /
03377   400116  SL64    XCT     DPCF            /RESET CONTROL
03400   212650          LAC     (17
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          XCT     DPCF            /RESET CONTROL
03407   110600          JMS     EMM             /ENTER MAINT MODE
03410   111137          JMS     EOPE            /END OF PACK
03411   400112          XCT     DPSE            /ERROR FLAG SET?
03412   741000          SKP
03413   603421          JMP     E65+2           /YES
03414   760065          LAW     65
03415   112170          JMS     RPT13           /TYPE TEST #
03416   111144          JMS     LPEMR
03417   740040  E65     HALT                    /ERROR, AN END OF PACK ERROR DID
                                                /NOT SET THE ERROR FLAG, SL65
                                                /MAY BE ENTERED MANUALLY FOR SCOPING.
03420   603406          JMP     T65+1           /OR CONTINUE TO REPEAT TEST.
03421   111217          JMS     ENDTST          /DONE
03422   603406          JMP     T65+1           /REPEAT TEST
03423   623405          JMP.    T65             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T65
                        /
03424   400116  SL65    XCT     DPCF            /RESET CONTROL
03425   110600          JMS     EMM             /ENTER MAINT MODE
03426   111137          JMS     EOPE            /END OF PACK
03427   400112          XCT     DPSE            /ERROR FLAG SET?
03430   603424          JMP     SL65            /REPEAT
03431   603424          JMP     SL65            /REPEAT
                        .EJECT
```

```
                        /TEST 66, SET THE ERROR FLAG BY SIMULATING A HEADER NOT FOUND, TEST FOR
                        /IT USING THE DPSE IOT.
                        /
03432   000000  T66     0
03433   400116          XCT     DPCF            /RESET CONTROL
03434   110600          JMS     EMM             /ENTER MAINT MODE
03435   111117          JMS     HNFE            /HEADER NOT FOUND
03436   400112          XCT     DPSE            /ERROR FLAG SET?
03437   741000          SKP
03440   603446          JMP     E66*2           /YES
03441   760066          LAW     66
03442   112170          JMS     RPT13           /TYPE TEST #
03443   111144          JMS     LPERR
03444   740040  E66     HALT                    /ERROR, A HEADER NOT FOUND ERROR DID
                                                /NOT SET THE ERROR FLAG. SL66 MAY BE
                                                /ENTERED MANUALLY FOR SCOPING, OR
03445   603433          JMP     T66*1           /CONTINUE TO REPEAT TEST.
03446   111217          JMS     ENDTST          /DONE
03447   603433          JMP     T66*1           /REPEAT TEST
03450   623432          JMP.    T66             /EXIT TEST
                        /
                        /SCOPE LOOP FOR T66
                        /
03451   400116  SL66    XCT     DPCF            /RESET CONTROL
03452   110600          JMS     EMM             /ENTER MAINT MODE
03453   111117          JMS     HNFE            /HEADER NOT FOUND
03454   400112          XCT     DPSE            /SKIP ON ERROR FLAG
03455   603451          JMP     SL66            /REPEAT
03456   603451          JMP     SL66            /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 SECTOR (256 18 BIT DATA WORDS) IS TRANSFERRED.
                        /
03457   000000  T67     0
03460   400116          XCT     DPCF            /RESET CONTROL
03461   110634          JMS     ISW
03462   777400          LAW     -400
03463   040601          DAC     CTR1            /STORE FOR COMPARISON
03464   400113          XCT     DPWC            /LOAD WC REG
03465   212660          LAC     (525252
03466   043631          DAC     BUFF1+1
03467   043632          DAC     BUFF1+2
03470   203630          LAC     BUFF1
03471   400110          XCT     DPCA            /LOAD CA REG
03472   111411          JMS     WRT             /WRITE SEQUENCE
03473   777617          LAW     -161
03474   111350          JMS     XFER            /INC FORMAT GEN 3X
03475   446623          ISE     CTR3
03476   200601          LAC     CTR1            /GET SOFTWARE WC
03477   352661          TAD     (2              /INCREMENT TWICE
03500   040601          DAC     CTR1
03501   400126          XCT     DPRW            /READ WC REG
03502   540601          SAD     CTR1            /WC CORRECT?
03503   741000          SKP                     /YES
03504   603520          JMP     END67
03505   203630          LAC     BUFF1
03506   400110          XCT     DPCA            /LOAD CA REG
03507   777733          LAW     -45
03510   111350          JMS     XFER            /INC FORMAT GEN ONCE
03511   446623          ISE     CTR3
03512   200601  XTSB    LAC     CTR1            /GET SOFTWARE WC
03513   352661          TAD     (2              /INCREMENT TWICE
03514   040601          DAC     CTR1
03515   400126          XCT     DPRW            /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,
03525   603460          JMP     T67+1           /CONTINUE TO REPEAT TEST.
03526   203630          LAC     BUFF1
03527   400110          XCT     DPCA            /LOAD CA REG
03530   777733          LAW     -45
03531   111350          JMS     XFER            /TRANSFER 36 BITS + P
03532   446623          ISE     CTR3            /TEST DONE?
03533   603512          JMP     XTSB            /NO
03534   777616          LAW     -162
03535   111350          JMS     XFER            /LAST 2 WDS + LPR
03536   200601          LAC     CTR1            /GET SOFTWARE WC
03537   352661          TAD     (2              /INCREMENT TWICE
```

```
03540   040601          DAC     CTR1
03541   400126          XCT     DPRM            /READ WC REG
03542   740200          SZA                     /WC REG CORRECT?
03543   603520          JMP     END07           /NO
03544   111217          JMS     ENDTST          /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,
                        /
06704   000000  T137    0
06705   207551          LAC     BUFF3
06706   047565          DAC     IND
06707   777774          LAW     -4
06710   040601          DAC     CTR1
06711   400116          XCT     DPCF            /RESET CONTROL
06712   212662          LAC     (41#10
06713   041404          DAC     CTR4            /SET TO SECT #1
06714   042250          DAC     WORD2
06715   400102          XCT     DPLA            /LOAD ADDRESS
06716   207562          LAC     BUFF2
06717   400110          XCT     DPCA            /LOAD CA REG
06720   777376          LAW     -402
06721   400113          XCT     DPWC            /LOAD WC REG
06722   212663          LAC     (61#00
06723   400125          XCT     DPLF            /LOAD FUNCTION
06724   110600          JMS     EMM             /ENTER MAINT MODE
06725   111570          JMS     PDBE
06726   111505          JMS     HEADER          /ADD PORTION OF HEADER
06727   142247          DEM     WORD1
06730   111556          JMS     ODWDPA          /ODD HEADER PARITY
06731   111360          JMS     CTHREE
06732   777577          LAW     -201
06733   040623          DAC     CTR3            /INIT SOFTWARE WC
06734   041404          ISZ     CTR4            /SET TO SECT
06735   147563          DEM     BUFF2+1
06736   201404          LAC     CTR4
06737   047564          DAC     BUFF2+2
06740   111536          JMS     SUSP            /SEL UNIT SECT PULSE
06741   111734          JMS     IF53X           /INC FORMAT GEN 30X
06742   111740          JMS     DATAX           /TRANSFER THE 36 BIT HEADER
06743   040623          ISZ     CTR3
06744   227565          LAC*    IND
06745   047563          DAC     BUFF2+1
06746   047565          ISZ     IND
06747   227565          LAC*    IND
06750   047564          DAC     BUFF2+2
06751   207562          LAC     BUFF2
06752   400110          XCT     DPCA            /LOAD CA REG
06753   777621          LAW     -137
06754   111350          JMS     XFER            /INC FORMAT GEN 3X
06755   207562          LAC     BUFF2
06756   400110          XCT     DPCA            /LOAD CA REG
06757   777733          LAW     -45
06760   111350          JMS     XFER            /INC FORMAT GEN ONCE
06761   207562  TD137   LAC     BUFF2
06762   400110          XCT     DPCA            /LOAD CA REG
06763   111740          JMS     DATAX           /TRANSFER A 36 BIT WORD + P
06764   040623          ISZ     CTR3            /TRANSFER COMPLETE?
06765   606761          JMP     TD137           /NO
06766   777733          LAW     -45
06767   111350          JMS     XFER            /XFER LONG PARITY
```

```
06770   111360          JMS     CTHREE
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.
06777   606705          JMP     T137+1          /CONTINUE TO REPEAT TEST.
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   626711          JMP     T137+5
                        .EJECT
```

```
                        /TEST 140, TEST FOR NO ERROR FLAG AFTER SIMULATING A READ-ALL FOR ONE
                        /COMPLETE SECTOR.
                        /
                        /•SEE NOTE 1 ON PAGE 1
                        /
07207   000000  T140    0
07210   207551          LAC     BUFF3
07211   047565          DAC     IND
07212   777774          LAW     -4
07213   040601          DAC     CTR1
07214   400116          XCT     DPCF            /RESET CONTROL
07215   110600          JMS     EMM             /ENTER MAINT MODE
07216   212676          LAC     (12241
07217   041404          DAC     CTR4            /SET TO SECT =1
07220   042250          DAC     WORD2
07221   400102          XCT     DPLA            /LOAD ADDRESS
07222   203630          LAC     BUFF1
07223   400110          XCT     DPCA            /LOAD CA REG
07224   777376          LAW     -402
07225   400113          XCT     DPWC            /LOAD WC REG
07226   212670          LAC     (51000
07227   400125          XCT     DPLF            /LOAD FUNCTION
07230   111570          JMS     PDBE
07231   111505          JMS     HEADER          /ADD PORTION OF HEADER
07232   142247          DZM     WORD1
07233   111556          JMS     ODWDPA          /ODD HEADER PARITY
07234   111360          JMS     CTWREE
07235   111550          JMS     D50US
07236   777777          LAW     -201
07237   046623          DAC     CTR3            /INIT SOFTWARE WC
07240   441404          ISZ     CTR4            /SET TO SECT
07241   111570          JMS     PDBE
07242   111505          JMS     HEADER          /ADD PORTION OF HEADER
07243   142247          DZM     WORD1
07244   201404          LAC     CTR4
07245   042250          DAC     WORD2
07246   111556          JMS     ODWDPA          /ODD HEADER PARITY
07247   111360          JMS     CTWREE
07250   446623          ISZ     CTR3
07251   111550          JMS     D50US           /50 US DELAY
07252   111433          JMS     SYNCBT          /DATA SYNC
07253   227565          LAC•    IND
07254   042247          DAC     WORD1
07255   447565          ISZ     IND
07256   227565          LAC•    IND
07257   042250          DAC     WORD2
07260   203630  TD140   LAC     BUFF1
07261   400110          XCT     DPCA            /LOAD CA REG
07262   111666          JMS     DATA            /TRANSFER A 36 BIT WORD
07263   111556          JMS     ODWDPA          /ODD WORD PARITY
07264   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
07265   446623          ISZ     CTR3            /TRANSFER COMPLETE?
07266   607260          JMP     TD140           /NO
07267   203630          LAC     BUFF1
07270   400110          XCT     DPCA            /LOAD CA REG
```

```
07071   111644             JMS     ODLPAR          /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     TTSTNO          /TYPE TEST#
07077   111144             JMS     LPERR
07100   740040   E140      HALT                    /ERROR, AN ERROR FLAG WAS SET AFTER
                                                   /SIMULATING A READ-ALL FOR ONE SECTOR.
07101   607010             JMP     T140+1          /CONTINUE TO REPEAT TEST.
07102   440601             ISZ     CTR1
07103   607107             JMP     .+4
07104   111217             JMS     ENDTST          /DONE
07105   607010             JMP     T140+1          /REPEAT TEST
07106   627007             JMP*    T140            /EXIT TEST
07107   447565             ISZ     IND
07110   607014             JMP     T140+5
                           .EJECT
```

```
                        /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     DPWC            /LOAD WC REG
07122   227565          LAC•    IND
07123   043631          DAC     BUFF1+1
07124   447565          ISZ     IND
07125   227565          LAC•    IND
07126   043632          DAC     BUFF1+2
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     (•1
07134   047565          DAC     IND
07135   227565          LAC•    IND
07136   042247          DAC     WORD1
07137   447565          ISZ     IND
07140   227565          LAC•    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     ODWDPA          /ODD WORD PARITY
07146   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
07147   446623          ISZ     CTR3            /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     E141•2          /YES
07155   760141          LAW     141
07156   110670          JMS     TTSTNO          /TYPE TEST#
07157   111144          JMS     LPERR
07160   740040  E141    HALT                    /ERROR, AN ERROR FLAG WAS SET AFTER
                                                /SIMULATING A READ COMPARE FOR
07161   607112          JMP     T141•1          /ONE SECTOR, CONTINUE TO REPEAT TEST.
07162   440601          ISZ     CTR1
07163   607167          JMP     .•4
07164   111217          JMS     ENDTST          /DONE
07165   607112          JMP     T141•1          /REPEAT TEST
07166   627111          JMP•    T141            /EXIT TEST
07167   447565          ISZ     IND
07170   607116          JMP     T141•5
                        .EJECT
```

```
                        /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   400116          XCT     DPCF            /RESET CONTROL
07173   110600          JMS     EMM             /ENTER MAINT MODE
07174   212676          LAC     (12241
07175   041404          DAC     CTR4
07176   042250          DAC     WORD2
07177   400102          XCT     DPLA            /LOAD ADD REGS
07200   203630          LAC     BUFF1
07201   400110          XCT     DPCA            /LOAD CA REG
07202   777400          LAW     -400
07203   400113          XCT     DPWC            /LOAD WC REG
07204   111425          JMS     RDS             /READ SEQUENCE
07205   111505          JMS     HEADER          /ADD PORTION OF HEADER
07206   142247          DEM     WORD1
07207   110647          JMS     ODWDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
07210   110634          JMS     ISW             /INIT SOFTWARE WC
07211   777777          LAW     -1
07212   042247          DAC     WORD1
07213   042250          DAC     WORD2
07214   111550          JMS     D50US           /50 US DELAY
07215   111433          JMS     SYNCBT          /DATA SYNC
07216   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
07217   111556          JMS     ODWDPA          /ODD WORD PARITY
07220   111634          JMS     LPRCNT          /CALCULATE LONG PARITY

07221   111666  TRANDA  JMS     DATA            /TRANSFER A 36 BIT DATA WORD
07222   111556          JMS     ODWDPA          /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     CTR5            /TRANSFER COMPLETE?
07234   741000          SKP
07235   607241          JMP     .+4             /YES
07236   203630          LAC     BUFF1
07237   400110          XCT     DPCA            /LOAD CA REG
07240   607221          JMP     TRANDA
07241   111644          JMS     ODLPAR          /ODD LONG PARITY
07242   111710          JMS     TRAIL           /TRAILER
07243   607255          JMP     E142+2          /YES
07244   760142  END142  LAW     142
07245   110670          JMS     TTSTNO          /TYPE TEST#
07246   111052          JMS     TTXT
07247   012425          DXE
07250   111266          JMS     CRLF
07251   111775          JMS     RPT11
```

```
07252   111144                  JMS     LPERR
07253   740040          E142    HALT
07254   607172                  JMP     T142+1          /ERROR,  A DATA XFER ERROR OCCURRED.
07255   111217                  JMS     ENDTST          /CONTINUE TO REPEAT TEST.
07256   607172                  JMP     T142+1          /DONE
07257   627171                  JMP*    T142            /REPEAT TEST
                                .EJECT                  /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     EMM             /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     DPCA            /LOAD CA REG
07271   777376          LAW     -402
07272   400113          XCT     DPWC            /LOAD WC REG
07273   212670          LAC     (51000
07274   400125          XCT     DPLF            /LOAD FUNCTION REG
07275   111570          JMS     PDBE
07276   111505          JMS     HEADER          /ADD PORTION OF HEADER
 7277   142247          DBM     WORD1
07300   111556          JMS     ODWDPA          /ODD HEADER PARITY
07301   111360          JMS     CTWREE
07302   111550          JMS     D50US
07303   777577          LAW     -201
07304   046623          DAC     CTR3            /INIT SOFTWARE WC
07305   441404          ISE     CTR4            /SET TO SECTOR
07306   111570          JMS     PDBE
07307   111505          JMS     HEADER          /ADD PORTION OF HEADER
07310   142247          DBM     WORD1
07311   201404          LAC     CTR4
07312   042250          DAC     WORD2
07313   111556          JMS     ODWDPA          /ODD HEADER PARITY
07314   111360          JMS     CTWREE
07315   203631          LAC     BUFF1+1
07316   740200          SZA                     /FIRST 18 BITS OF HEADER WORD CORRECT?
07317   607360          JMP     END143-5
07320   203632          LAC     BUFF1+2         /YES
07321   541404          SAD     CTR4            /LAST 18 BITS OF HEADER WORD CORRECT?
07322   741000          SKP                     /YES
07323   607360          JMP     END143-5
07324   446623          ISE     CTR3            /INCREMENT SOFTWARE WC ONCE
07325   777777          LAW     -1
07326   042247          DAC     WORD1
07327   042250          DAC     WORD2
07330   111550          JMS     D50US           /50 US DELAY
07331   111433          JMS     SYNCDT          /DATA SYNC
07332   203630          LAC     BUFF1
07333   400110          XCT     DPCA            /LOAD CA REG
07334   111666          JMS     DATA            /XFER 36 BIT DATA WORD
07335   111556          JMS     ODWDPA          /ODD WORD PARITY
07336   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
07337   203630  TRANDB  LAC     BUFF1
07340   400110          XCT     DPCA            /LOAD CA REG
07341   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
```

```
07342   111556              JMS     ODWDPA          /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              ISZ     CTR3            /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      END143  LAW     143
07366   110670              JMS     TTSTNO          /TYPE TEST #
07367   111052              JMS     TTXT
07370   012425              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     ENDTST          /DONE
07377   607261              JMP     T143+1          /REPEAT TEST
07400   627260              JMP*    T143            /EXIT TEST
                            .EJECT
```

```
                        /TEST 78, 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 18 BIT DATA WORDS) IS TRANSFERRED.
                        /
03547   000000  T78     0
03550   406116          XCT     DPCF            /RESET CONTROL
03551   110634          JMS     ISH
03552   777400          LAW     -400
03553   406113          XCT     DPWC            /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          LAW     -161
03561   111350          JMS     XFER            /INC FORMAT GEN 3X
03562   446623          ISZ     CTR3
03563   212661          LAC     (2
03564   040601          DAC     CTR1
03565   406123          XCT     DPRC            /READ CA REG
03566   540601          SAD     CTR1            /CA CORRECT?
03567   741000          SKP                     /YES
03570   603602          JMP     END78
03571   777733          LAW     -45
03572   111350          JMS     XFER            /INC FORMAT GEN ONCE
03573   446623          ISZ     CTR3
03574   200601  LCAR    LAC     CTR1
03575   352661          TAD     (2
03576   040601          DAC     CTR1
03577   406123          XCT     DPRC            /READ CA REG
03600   540601          SAD     CTR1            /CA REG CORRECT?
03601   603610          JMP     E78+2           /YES
03602   040646  END78   DAC     TSTRG1
03603   760078          LAW     78
03604   110646          JMS     RPT2            /REPORT ERROR
03605   111144          JMS     LPERR
03606   740040  E78     HALT                    /ERROR, THE CA REG WAS INCORRECT
                                                /AFTER A DATA XFER, CONTINUE TO
03607   603550          JMP     T78+1           /REPEAT TEST.
03610   777733          LAW     -45
03611   111350          JMS     XFER            /TRANSFER 36 BITS + P
03612   446623          ISZ     CTR3            /TEST DONE?
03613   603574          JMP     LCAR            /NO
03614   777616          LAW     -102
03615   111350          JMS     XFER            /LAST 2 WDS + LPR
03616   200601          LAC     CTR1
03617   352661          TAD     (2
03620   040601          DAC     CTR1
03621   406123          XCT     DPRC            /READ CA REG
03622   540601          SAD     CTR1            /CA REG CORRECT?
03623   741000          SKP                     /YES
03624   603602          JMP     END78           /NO
03625   111217          JMS     ENDTST          /DONE
03626   603550          JMP     T78+1           /REPEAT TEST
03627   620547          JMP*    T78             /EXIT TEST
```

```
                        /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    0
07402   207551          LAC     BUFF3
07403   047565          DAC     IND             /INIT POINTER
07404   777774          LAW     -4
07405   040601          DAC     CTR1
07406   400116          XCT     DPCF            /RESET CONTROL
07407   212662          LAC     (41B18
07410   041404          DAC     CTR4
07411   042250          DAC     WORD2
07412   400102          XCT     DPLA            /LOAD ADD REGS
07413   777400          LAW     -400
07414   400113          XCT     DPWC            /LOAD WC REG
07415   212635          LAC     (21B08
07416   400125          XCT     DPLF            /LOAD FUNCTION REG
07417   110600          JMS     EMM             /ENTER MAINT MODE
07420   111570          JMS     PDBE
07421   111505          JMS     HEADER          /ADD PORTION OF HEADER
07422   142247          DZM     WORD1
07423   111596          JMS     ODWDPA          /ODD HEADER PARITY
07424   111360          JMS     CTWREE
07425   110634          JMS     ISW             /INIT SOFTWARE WC
07426   227565          LAC•    IND
07427   047563          DAC     BUFF2+1
07430   042247          DAC     WORD1
07431   447565          ISZ     IND
07432   227565          LAC•    IND
07433   047564          DAC     BUFF2+2
07434   042250          DAC     WORD2
07435   207562          LAC     BUFF2
07436   400110          XCT     DPCA            /LOAD CA REG
07437   777617          LAW     -151
07440   111350          JMS     XFER            /INC FORMAT GEN 3X
07441   207562          LAC     BUFF2
07442   400110          XCT     DPCA            /LOAD CA REG
07443   777733          LAW     -45
07444   111390          JMS     XFER            /INC FORMAT GEN ONCE
07445   207562  TRANDC  LAC     BUFF2
07446   400110          XCT     DPCA            /LOAD CA REG
07447   111740          JMS     DATAX           /TRANSFER A 36 BIT DATA WORD+P
07450   111615          JMS     PARITY          /CALCULATE WORD PARITY
07451   211567          LAC     WPAR
07452   740001          CMA
07453   512427          AND     (1
07454   051567          DAC     WPAR
07455   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
07456   207563          LAC     BUFF2+1
07457   543631          SAD     BUFF1+1         /FIRST 18 BITS OF DATA WORD CORRECT?
07460   741000          SKP                     /YES
07461   607531          JMP     END144
07462   207564          LAC     BUFF2+2
07463   543632          SAD     BUFF1+2         /LAST 18 BITS OF DATA WORD CORRECT?
07464   741000          SKP                     /YES
```

```
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     CTR3            /DATA XFER COMPLETE?
07473   607445              JMP     TRANDC          /NO
07474   211521              LAC     LPRWD1
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     DATAX           /XFER LONG PARITY + P
07510   111360              JMS     CTHREE
07511   202247              LAC     WORD1
07512   543631              SAD     BUFF1+1         /FIRST 18 BITS OF LRP 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 #
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 #
07533   111052              JMS     TTXT
07534   012425              DXE
07535   111266              JMS     CRLF
07536   112134              JMS     RPT12
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
07541   607402              JMP     T144+1          /PARITY WORD.  CONTINUE TO REPEAT TEST.
07542   440601              ISZ     CTR1            /TEST DONE?
07543   607547              JMP     .+4             /NO
07544   111217              JMS     ENDTST          /DONE
07545   607402              JMP     T144+1          /REPEAT TEST
07546   627401              JMP+    T144            /EXIT TEST
07547   447565              ISZ     IND             /MOVE POINTER
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      BUFF2   .+1
07563   000000              0
07564   000000              0
                    /
07565   000000      IND     0
07566   000000      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.
                        /
07567   000000  T145    0
07570   207551          LAC     BUFF3
07571   047565          DAC     IND
07572   777774          LAW     -4
07573   040001          DAC     CTR1
07574   400116          XCT     DPCF            /RESET CONTROL
07575   212662          LAC     (41010
07576   041404          DAC     CTR4            /SET TO SECT =1
07577   042250          DAC     WORD2
07600   400102          XCT     DPLA            /LOAD ADD REGS
07601   207562          LAC     BUFF2
07602   400110          XCT     DPCA            /LOAD CA REG
07603   777376          LAW     -402
07604   400113          XCT     DPWC            /LOAD WC REG
07605   212663          LAC     (61000
07606   400125          XCT     DPLF            /LOAD FUNCTION REG
07607   110600          JMS     EMM             /ENTER MAINT MODE
07610   111570          JMS     PDBE
07611   111505          JMS     HEADER          /ADD PORTION OF HEADER
07612   142247          DEM     WORD1
07613   111556          JMS     ODWDPA          /ODD HEADER PARITY
07614   111360          JMS     CYMREE
07615   777577          LAW     -201
07616   046623          DAC     CTR3            /INIT SOFTWARE WC
07617   441404          ISZ     CTR4            /SET TO SECTOR
07620   147563          DEM     BUFF2+1
07621   142247          DEM     WORD1
07622   201404          LAC     CTR4
07623   047564          DAC     BUFF2+2
07624   042250          DAC     WORD2
07625   111536          JMS     SUBP            /SEL UNIT SECTOR PULSE
07626   111734          JMS     IFG36X          /INCREMENT FORMAT GEN 36X
07627   111740          JMS     DATAX           /TRANSFER THE 36 BIT HEADER
07630   111615          JMS     PARITY
07631   211567          LAC     WPAR
07632   740001          CMA
07633   512627          AND     (1
07634   051567          DAC     WPAR
07635   203631          LAC     BUFF1+1
07636   740200          SZA                     /FIRST 18 BITS OF HEADER CORRECT?
07637   607643          JMP     .+4
07640   201404          LAC     CTR4
07641   543632          SAD     BUFF1+2         /LAST 18 BITS OF HEADER CORRECT?
07642   607650          JMP     TO145           /YES
07643   760145          LAW     145
07644   110670          JMS     TTSTNO
07645   111052          JMS     TTXT
07646   012416          HXE
07647   607760          JMP     E145+3
07650   446623  TO145   ISZ     CTR3            /INCREMENT SOFTWARE WC ONCE
07651   227565          LAC•    IND
07652   047563          DAC     BUFF2+1
```

```
07653   042247          DAC     WORD1
07654   447565          ISZ     IND
07655   227565          LAC•    IND
07656   247564          DAC     BUFF2•2
07657   042250          DAC     WORD2
07660   207562          LAC     BUFF2
07661   400110          XCT     DPCA            /LOAD CA REG
07662   777621          LAW     -157
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  TRANDD  LAC     BUFF2
07671   400110          XCT     DPCA            /LOAD CA REG
07672   111740          JMS     DATAX           /TRANSFER A 36 BIT DATA WORD•P
07673   111615          JMS     PARITY
07674   211567          LAC     WPAR
07675   740001          CMA
07676   512627          AND     (1
07677   051567          DAC     WPAR
07700   111634          JMS     LPRCNT
07701   207563          LAC     BUFF2•1
07702   543631          SAD     BUFF1•1         /FIRST 18 BITS OF DATA WORD CORRECT?
07703   741000          SKP                     /YES
07704   607754          JMP     END145
07705   207564          LAC     BUFF2•2
07706   543632          SAD     BUFF1•2         /LAST 18 BITS OF DATA WORD CORRECT?
07707   741000          SKP                     /YES
07710   607754          JMP     END145
07711   211567          LAC     WPAR
07712   547566          SAD     WP
07713   741000          SKP
07714   607754          JMP     END145
07715   446623          ISZ     CTR3            /TRANSFER COMPLETE?
07716   607670          JMP     TRANDD
07717   211521          LAC     LPRWD1
07720   740001          CMA
07721   042247          DAC     WORD1
07722   211522          LAC     LPRWD2
07723   740001          CMA
07724   042250          DAC     WORD2
07725   111615          JMS     PARITY
07726   211567          LAC     WPAR
07727   740001          CMA
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     .•4
07740   202250          LAC     WORD2
07741   543632          SAD     BUFF1•2
```

```
07742   607750          JMP     D149
07743   760145          LAW     145
07744   110670          JMS     TTSTNO
07745   111052          JMS     TTXT
07746   012433          LXE
07747   607760          JMP     E145+3
07750   211567  D145    LAC     WPAR
07751   547566          SAD     WP
07752   607765          JMP     E145+2
07753   607743          JMP     D145+3
07754   760145  END145  LAW     145             /YES
07755   110670          JMS     TTSTNO          /TYPE TEST #
07756   111052          JMS     TTXT            /TYPE
07757   012425          DXE
07760   111266          JMS     CRLF
07761   112134          JMS     RPT12
07762   111144          JMS     LPE?R
07763   740040  E145    HALT                    /ERROR, A DATA XFER ERROR OCCURRED
                                                /OR THE CONTROL GENERATED AN
                                                /INCORRECT WORD PARITY BIT, OR
                                                /LONG PARITY WORD.
07764   607570          JMP     T145+1          /CONTINUE TO REPEAT TEST
07765   440001          ISE     CTR1
07766   607772          JMP     .+4             /NO
07767   111217          JMS     ENDTST          /DONE
07770   607570          JMP     T145+1          /REPEAT TEST
07771   627567          JMP*    T145            /EXIT TEST
07772   447565          ISE     IND
07773   607574          JMP     T145+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     DPCF            /RESET CONTROL
07776   212677          LAC     (625158
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     DPCA            /LOAD CA REG
10004   777776          LAW     -2
10005   400113          XCT     DPWC            /LOAD WC REG
10006   212663          LAC     (61000
10007   400125          XCT     DPLF            /LOAD FUNCTION REG
10010   110600          JMS     EMM             /ENTER MAINT MODE
10011   111578          JMS     PDBE
10012   111505          JMS     HEADER          /ADD PORTION OF HEADER
10013   142247          DEM     WORD1
10014   111556          JMS     ODWDPA          /ODD HEADER PARITY
10015   111360          JMS     CTHREE
10016   777577          LAW     -201
10017   046623          DAC     CTR3            /INIT SOFTWARE WC
10020   441404          ISZ     CTR4
10021   147563          DEM     BUFF2+1
10022   142247          DEM     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     IFG3BX          /INCREMENT FORMAT GEN 3BX
10030   111740          JMS     DATAX           /TRANSFER THE 36 BIT HEADER
10031   111615          JMS     PARITY
10032   211567          LAC     WPAR
10033   740001          CMA
10034   512627          AND     (1
10035   051567          DAC     WPAR
10036   203631          LAC     BUFF1+1
10037   740200          SZA                     /FIRST 18 BITS OF HEADER CORRECT?
10040   610044          JMP     .+4
10041   201404          LAC     CTR4
10042   543632          SAD     BUFF1+2         /LAST 18 BITS OF HEADER CORRECT?
10043   610051          JMP     TD146           /YES
10044   760146          LAW     146
10045   110670          JMS     TTSTNO
10046   111052          JMS     TTXT
10047   612416          HXE
10050   610155          JMP     E146-3
10051   446623  TD146   ISZ     CTR3            /INCREMENT SOFTWARE WC ONCE
10052   777777          LAW     -1
10053   047563          DAC     BUFF2+1
10054   047564          DAC     BUFF2+2
10055   142250          DEM     WORD2
```

```
10056   207562          LAC     BUFF2
10057   400110          XCT     DPCA            /LOAD CA REG
10060   777621          LAW     -157
10061   111350          JMS     XFER            /INC FORMAT GEN 3X
10062   207562          LAC     BUFF2
10063   400110          XCT     DPCA            /LOAD CA REG
10064   777733          LAW     -45
10065   111350          JMS     XFER            /INC FORMAT GEN ONCE
10066   207562  TRANDE  LAC     BUFF2
10067   400110          XCT     DPCA            /LOAD CA REG,
10070   111740          JMS     DATAX           /TRANSFER A 36 BIT DATA WORD
10071   111615          JMS     PARITY
10072   211567          LAC     WPAR
10073   740001          CMA
10074   512627          AND     [1
10075   051567          DAC     WPAR
10076   111634          JMS     LPRCNT
10077   750000          CLA
10100   543631          SAD     BUFF1+1         /FIRST 18 BITS OF DATA WORD CORRECT?
10101   741000          SKP                     /YES
10102   610151          JMP     END146
10103   543632          SAD     BUFF1+2         /LAST 18 BITS OF DATA WORD CORRECT?
10104   741000          SKP
10105   610151          JMP     END146
10106   211567          LAC     WPAR
10107   547566          SAD     WP
10110   741000          SKP
10111   610151          JMP     END146
10112   446623          ISZ     CTR3            /TRANSFER COMPLETE?
10113   610066          JMP     TRANDE
10114   211521          LAC     LPRWD1
10115   740001          CMA
10116   042247          DAC     WORD1
10117   211522          LAC     LPRWD2
10120   740001          CMA
10121   042250          DAC     WORD2
10122   111615          JMS     PARITY
10123   211567          LAC     WPAR
10124   740001          CMA
10125   512627          AND     [1
10126   051567          LAC     WPAR
10127   111740          JMS     DATAX
10130   111360          JMS     CTHREE
10131   202247          LAC     WORD1
10132   543631          SAD     BUFF1+1
10133   741000          SKP
10134   610140          JMP     .+4
10135   202250          LAC     WORD2
10136   543632          SAD     BUFF1+2
10137   610145          JMP     D146
10140   760146          LAW     146
10141   110670          JMS     TTSTNO
10142   111052          JMS     TTXT
10143   012433          LXE
10144   610155          JMP     E146+3
```

```
 10145   211567   D146    LAC     WPAR
 10146   547566           SAD     WP
 10147   610162           JMP     E146+2
 10150   610146           JMP     D146-5
 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.
 10161   607775           JMP     T146+1          /CONTINUE TO REPEAT TEST.
 10162   111217           JMS     ENDTST          /DONE
 10163   607775           JMP     T146+1          /REPEAT TEST
 10164   627774           JMP.    T146            /EXIT TEST
                          .EJECT
```

```
                        /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     CTR1            /INIT FOR FIRST WC
 10170  400116          XCT     DPCF            /RESET CONTROL
 10171  212700          LAC     (20-1
 10172  041404          DAC     CTR4
 10173  042250          DAC     WORD2
 10174  400102          XCT     DPLA            /LOAD ADDRESS
 10175  200601          LAC     CTR1
 10176  050365          DAC     CTR0            /INIT SOFTWARE WC
 10177  400113          XCT     DPWC            /LOAD WC REG
 10200  212635          LAC     (210000
 10201  400125          XCT     DPLF            /LOAD FUNCTION
 10202  110660          JMS     EMM             /ENTER MAINT MODE
 10203  111570          JMS     PDBE
 10204  111505          JMS     HEADER          /ADD PORTION OF HEADER
 10205  142247          DZM     WORD1
 10206  111556          JMS     ODWDPA          /ODD HEADER PARITY
 10207  111360          JMS     CTHREE
 10210  110634          JMS     ISW
 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     XFER            /INC FORMAT GEN 3X
 10220  207562          LAC     BUFF2
 10221  400110          XCT     DPCA            /LOAD CA REG
 10222  777733          LAW     -45
 10223  111350          JMS     XFER            /INC FORMAT GEN ONCE
 10224  207562  TD147   LAC     BUFF2
 10225  400110          XCT     DPCA            /LOAD CA REG
 10226  143631          DZM     BUFF1+1
 10227  143632          DZM     BUFF1+2
 10230  111740          JMS     DATAX           /TRANSFER A 36 BIT DATA WORD + P
 10231  777777          LAW     -1
 10232  543631          SAD     BUFF1+1         /FIRST 18 BITS OF DATA WORD CORRECT?
 10233  741000          SKP                     /YES
 10234  610342          JMP     END147          /NO
 10235  450365          ISZ     CTR0            /WC OVERFLOW AFTER ODD WORD?
 10236  741000          SKP                     /NO
 10237  610321          JMP     OOW             /YES
 10240  543632          SAD     BUFF1+2         /LAST 18 BITS OF DATA WORD CORRECT?
 10241  741000          SKP                     /YES
 10242  610342          JMP     END147          /NO
 10243  450365          ISZ     CTR0            /WC OVERFLOW AFTER EVEN WORD?
 10244  741000          SKP                     /NO
```

```
                        /
03630   003631  BUFF1   .+1
03631   000000          0
03632   000000          0
03633   003633  BUFEND  .
                        .EJECT
```

```
10245   610324              JMP     OEW             /YES
10246   446623              ISE     CTR3            /END OF FIRST SECTOR?
10247   610224              JMP     TD147           /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   111570              JMS     PDBE
10254   111305              JMS     HEADER          /ADD PORTION OF HEADER
10255   142247              DEM     WORD1
10256   111556              JMS     ODWDPA          /ODD HEADER PARITY
10257   111360              JMS     CTHREE
10260   110634              JMS     ISW
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     -45
10270   111350              JMS     XFER            /INC FORMAT GEN ONCE
10271   207562      TRD147  LAC     BUFF2
10272   400110              XCT     DPCA            /LOADCA REG
10273   143631              DEM     BUFF1+1
10274   143632              DEM     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     OOW             /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     CTR3            /END OF SECOND SECTOR?
10314   610271              JMP     TRD147          /NO
10315   777733              LAW     -45
10316   111350              JMS     XFER            /XFER LONG PARITY
10317   111360              JMS     CTHREE
10320   610354              JMP     E147+2          /END OF PASS
10321   203632      OOW     LAC     BUFF1+2
10322   740200              SZA                     /LAST 18 BITS OF DATA WORD CORRECT?
10323   610342              JMP     END147          /NO
10324   446623      OEW     ISE     CTR3            /END OF SECTOR?
10325   610332              JMP     LWS             /NO
10326   777733              LAW     -45             /YES
10327   111350              JMS     XFER            /XFER LONG PARITY
10330   111360              JMS     CTHREE
10331   610354              JMP     E147+2          /END OF PASS
10332   207562      LWS     LAC     BUFF2
10333   400110              XCT     DPCA            /LOAD CA REG
```

```
10334   143631              DZM     BUFF1+1
10335   111740              JMS     DATAX           /TRANSFER A 36 BIT DATA WORD +P
10336   203631              LAC     BUFF1+1
10337   740200              SZA                     /FIRST 18 BITS OF DATA WORD CORRECT?
10340   610342              JMP     END147          /NO
10341   610321              JMP     OOW
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
10353   610170              JMP     T147+3          /TO REPEAT FAILING PORTION OF TEST.
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      CTR0    0
                    .EJECT
```

```
                        /TEST 150, THE CA REG IS TESTED TO BE CORRECT AT THE END OF DATA XFERS,
                        /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     CTR8            /INIT SOFTWARE WC
10400   400113          XCT     DPWC            /LOAD WC REG
10401   212635          LAC     (21000
10402   400125          XCT     DPLF            /LOAD FUNCTION
10403   110600          JMS     EMM             /ENTER MAINT MODE
10404   111570          JMS     PDBE
10405   111505          JMS     HEADER          /ADD PORTION OF HEADER
10406   142247          DEM     WORD1
10407   111556          JMS     ODWDPA          /ODD HEADER PARITY
10410   111360          JMS     CTWREE
10411   110634          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          ISZ     CTR8            /WC OVERFLOW AFTER ODD WORD?
10417   741000          SKP                     /NO
10420   610457          JMP     TCA             /YES
10421   450365          ISZ     CTR8            /WC OVERFLOW AFTER EVEN WORD?
10422   741000          SKP                     /NO
10423   610457          JMP     TCA             /YES
10424   446623          ISZ     CTR5            /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          ISZ     CTR4            /HEADER FOR SECOND SECTOR
10431   111570          JMS     PDBE
10432   111505          JMS     HEADER          /ADD PORTION OF HEADER
10433   142247          DEM     WORD1
10434   111556          JMS     ODWDPA          /ODD HEADER PARITY
10435   111360          JMS     CTWREE
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          ISZ     CTR8            /WC OVERFLOW AFTER ODD WORD?
10444   741000          SKP                     /NO
```

```
10445   610457              JMP     TCA             /YES
10446   450365              ISZ     CTR5            /WC OVERFLOW AFTER EVEN WORD?
10447   741000              SKP                     /NO
10450   610457              JMP     TCA             /YES
10451   446623              ISZ     CTR3            /END OF SECOND SECTOR?
10452   610441              JMP     TRD15B          /NO
10453   777733              LAW     -45             /YES
10454   111350              JMS     XFER            /XFER LONG PARITY
10455   111360              JMS     CTHREE
10456   610506              JMP     E150+2
10457   400123      TCA     XCT     DPRC            /READ CA REG
10460   040646              DAC     TSTRG1
10461   211432              LAC     CTR2
10462   740001              CMA
10463   352627              TAD     (1
10464   540646              SAD     TSTRG1          /CA REG CORRECT?
10465   741000              SKP                     /YES
10466   610500              JMP     END15B          /NO
10467   446623              ISZ     CTR3            /END OF SECTOR?
10470   610475              JMP     .+5             /NO
10471   777733              LAW     -45             /YES
10472   111350              JMS     XFER            /XFER LONG PARITY
10473   111360              JMS     CTHREE
10474   610506              JMP     E150+2          /END OF PASS
10475   777733              LAW     -45
10476   111350              JMS     XFER            /XFER A 36 BIT DATA WORD +P
10477   610457              JMP     TCA
10500   040601      END15B  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
10505   610371              JMP     T150+3          /FAILING PORTION OF TEST.
10506   211432              LAC     CTR2
10507   552633              SAD     (777000         /TEST DONE?
10510   610514              JMP     .+4             /YES
10511   352630              TAD     (-1             /INCREASE WC BY FACTOR OF 1
10512   051432              DAC     CTR2
10513   610371              JMP     T150+3
10514   111217              JMS     ENDTST          /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          SNA!CLA                 /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     (1
10530   630526          JMP     W4U
                        /
                        /TD ERROR REPORT
                        /
10531   000000  SIFT    0
10532   754000          CLA!CLL
10533   110670          JMS     TTSTNO          /TYPE TEST #
10534   777767          LAW     -11
10535   040601          DAC     CTR1            /SET COUNTER
10536   200577          LAC     CTBL
10537   040010          DAC     10              /SET POINTER
10540   111266  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   440601          ISZ     CTR1            /LAST INDICATOR REPORTED?
10557   610540          JMP     GTP             /NO
10560   111167          JMS     OCSR
10561   111266          JMS     CRLF
10562   740040  ED      HALT                    /ERROR, ONE OF THE AREAS TESTED HAS NOT CLEARED
                                                /BY IO RESET, TO REPEAT TEST, PRESS IO RESET
10563   610562          JMP     .-1             /AND START FROM LOC 200,
                        .EJECT
```

```
                        /
                        /TYPE EXPECTED & RECEIVED VALUES
                        /
10564   000000  RPT3    0
10565   111052          JMS     TTXT            /TYPE
10566   012314          EXPTED
10567   200601          LAC     CTR1
10570   111300          JMS     TOCT            /TYPE EXPECTED VALUE
10571   111266          JMS     CRLF
10572   111052          JMS     TTXT            /TYPE
10573   012316          RECVED
10574   200646          LAC     TSTRG1
10575   111300          JMS     TOCT            /TYPE RECIEVED VALUE
10576   111266          JMS     CRLF
10577   630564          JMP.    RPT3
                        /
                        /ENTER MAINT MODE
                        /
10600   000000  EMM     0
10601   760200          LAW     200
10602   400115          XCT     DPEM
10603   630600          JMP.    EMM
                        /
                        /INCREMENT WC REG
                        /
10604   000000  IWR     0
10605   760204          LAW     204
10606   400115          XCT     DPEM
10607   630604          JMP.    IWR
                        /
                        /INCREMENT SECT ADD REG
                        /
10610   000000  ISAR    0
10611   760202          LAW     202
10612   400115          XCT     DPEM
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     TTXT            /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          DZM     CYL             /CLEAR CYL ADD REG
10631   151466          DZM     HEAD            /CLEAR HEAD ADD REGS
10632   151465          DZM     SECT            /CLEAR SECT ADD REG
10633   630627          JMP•    CLRARS
                        /
                        /INITIALIZE SOFTWARE WC
                        /
10634   000000  ISW     0
10635   777600          LAW     •200
10636   046623          DAC     CTR3
10637   630634          JMP•    ISW
                        /
                        /TYPE CURRENT ADDRESS HEADING & EXPECTED & RECEIVED VALUES
                        /
10640   000000  RPT2    0
10641   110670          JMS     TTSTNO          /TYPE TEST #
10642   111052          JMS     TTXT            /TYPE
10643   012265          CA
10644   111266          JMS     CRLF
10645   110564          JMS     RPTJ            /TYPE EXPECTED & RECEIVED VALUES
10646   630640          JMP•    RPT2
                        /
                        /CALCULATE • XFER ODD HEADER PARITY • 3 CLOCK PULSES
                        /
10647   000000  ODWDPB  0
10650   111615          JMS     PARITY
10651   740001          CMA                     /MAKE IT ODD
10652   512647          AND     (48             /MASK BIT 12
10653   352624          TAD     (4000
10654   400115          XCT     DPEM
10655   777774          LAW     •4
10656   111350          JMS     XFER            /XFER PARITY BIT • 3 CLOCKS
10657   630647          JMP•    ODWDPB
                        /
                        /CALCULATE • XFER EVEN HEADER PARITY • 3 CLOCK PULSES
                        /
10660   000000  EVWDPB  0
10661   111615          JMS     PARITY
10662   512647          AND     (48             /MASK BIT 12
10663   352624          TAD     (4000
10664   400115          XCT     DPEM
10665   777774          LAW     •4
10666   111350          JMS     XFER            /XFER PARITY BIT • 3 CLOCKS
10667   630660          JMP•    EVWDPB
                        .EJECT
```

```
                    /
                    /TYPE FAILING TEST NUMBER
                    /
10670   000000      TTSTNO  0
10671   051103              DAC     POINT
10672   512637              AND     (7
10673   352701              TAD     (202020
10674   052252              DAC     TI+1
10675   211103              LAC     POINT
10676   740010              RAL
10677   742010              RTL
10700   051103              DAC     POINT
10701   512702              AND     (700
10702   352252              TAD     TI+1
10703   052252              DAC     TI+1
10704   211103              LAC     POINT
10705   740010              RAL
10706   742010              RTL
10707   512703              AND     (70000
10710   352252              TAD     TI+1
10711   052252              DAC     TI+1
10712   750004              LAS                     /READ AC BIT 2
10713   512641              AND     (100000
10714   740200              SZA                     /TYPE
10715   610723              JMP     BELL            /NO
10716   111266              JMS     CRLF
10717   111052              JMS     TTXT            /TYPE
10720   012251              TI
10721   111266              JMS     CRLF
10722   630670              JMP.    TTSTNO
                    /
                    /RING BELL
                    /
10723   750004      BELL    LAS                     /READ AC BIT 3
10724   512673              AND     (40000
10725   740200              SZA                     /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   000002  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     TWOSPA          /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   P00007  RPT6    0
11P11   110670          JMS     TTSTNO          /TYPE TEST #
11P12   111052          JMS     TTXT            /TYPE
11P13   P12308          SA
11P14   111266          JMS     CRLF
11P15   110564          JMS     RPT3            /TYPE EXPECTED & RECEIVED VALUES
11P16   631010          JMP.    RPT6
                        /
                        /TYPE CYL ADD HEADING & CONTENTS OF CYL
                        /
11P17   P00000  RPT7    0
11P20   110670          JMS     TTSTNO          /TYPE TEST #
11021   111052          JMS     TTXT            /TYPE
11022   012272          CY
11023   111245          JMS     TYP
11024   211467          LAC     CYL
11025   111300          JMS     TOCT            /TYPE CONTENTS OF CYL ADD REG
11026   111266          JMS     CRLF
11027   631017          JMP.    RPT7
                        /
                        /TYPE HEAD ADD HEADING & CONTENTS OF HEAD
                        /
11030   000000  RPT8    0
11031   110670          JMS     TTSTNO          /TYPE TEST #
11032   111052          JMS     TTXT            /TYPE
11033   012274          HD
11034   111245          JMS     TYP
11035   211466          LAC     HEAD
11036   111300          JMS     TOCT            /TYPE CONTENTS OF HEAD ADD REG
11037   111266          JMS     CRLF
11040   631030          JMP.    RPT8
                        /
                        /TYPE SECT ADD HEADING & CONTENTS OF SECT
                        /
11041   000000  RPT9    0
11042   110670          JMS     TTSTNO          /TYPE TEST #
11043   111052          JMS     TTXT            /TYPE
11044   012276          SE
11045   111245          JMS     TYP
11046   211465          LAC     SECT
11047   111300          JMS     TOCT            /TYPE CONTENTS OF SECT ADD REG
11050   111266          JMS     CRLF
11051   631041          JMP.    RPT9
                        .EJECT
```

```
                    /TEST 71, TEST FOR CORRECT INCREMENTING OF THE WC REG BY THE
                    /CONTROL WHILE SIMULATING A WRITE-ALL.
                    /
03634   000000      T71     0
03635   400116              XCT     DPC!            /RESET CONTROL
03636   212662              LAC     (41010
03637   041404              DAC     CTR4            /SET TO SECT -1
03640   042250              DAC     WORD2
03641   400102              XCT     DPLA            /LOAD ADDRESS
03642   777376              LAW     -402
03643   040601              DAC     CTR1            /STORE FOR COMPARISON
03644   400113              XCT     DPWC            /LOAD WC REG
03645   212663              LAC     (61000
03646   400125              XCT     DPLF            /LOAD FUNCTION
03647   110600              JMS     EMM             /ENTER MAINT MODE
03650   111570              JMS     PDBE
03651   111505              JMS     HEADER          /ADD PORTION OF HEADER
03652   142247              DEM     WORD1
03653   111556              JMS     ODWDPA          /ODD HEADER PARITY
03654   111360              JMS     CTHREE
03655   777577              LAW     -201
03656   040623              DAC     CTR3            /INIT SOFTWARE WC
03657   111536              JMS     SUBP            /SEL UNIT SECTOR PULSE
03660   111734              JMS     IFG3X           /INC FORMAT GEN3X
03661   440623              ISE     CTR3
03662   200601              LAC     CTR1            /SET SOFTWARE WC
03663   352661              TAD     (2
03664   040601              DAC     CTR1
03665   400126              XCT     DPRW            /READ WC REG
03666   340601              SAD     CTR1            /WC CORRECT?
03667   741000              SKP                     /YES
03670   603733              JMP     END71           /NO
03671   111740              JMS     DATAX           /TRANSFER THE 36 BIT HEADER
03672   777621              LAW     -157
03673   111350              JMS     XFER            /INC FORMAT GEN 3X
03674   440623              ISE     CTR3
03675   200601              LAC     CTR1
03676   352661              TAD     (2
03677   040601              DAC     CTR1
03700   400126              XCT     DPRW            /READ WC REG
03701   340601              SAD     CTR1            /WC CORRECT?
03702   741000              SKP                     /YES
03703   603733              JMP     END71           /NO
03704   777733              LAW     -43
03705   111350              JMS     XFER            /INC FORMAT GEN ONCE
03706   440623              ISE     CTR3
03707   200601              LAC     CTR1
03710   352661              TAD     .2
03711   040601              DAC     CTR1
03712   400126              XCT     DPRW            /READ WC REG
03713   340601              SAD     CTR1            /WC CORRECT?
03714   741000              SKP                     /YES
03715   603733              JMP     END71           /NO
03716   111740      TD71    JMS     DATAX           /TRANSFER A 36 BIT DATA WORD +P
03717   200601              LAC     CTR1
```

```
                        /
                        /TYPE TEXT
                        /
11052   000000  TTXT    0
11053   231052          LAC•    TTXT            /GET TEXT POINTER
11054   251103          DAC     POINT           /STORE IT
11055   451052          ISZ     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          TAD•    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     (77             /MASK 12-17
11071   111245          JMS     TYP             /TYPE FIRST CHARACTER
11072   231103          LAC•    POINT
11073   111112          JMS     RRSIX           /ROTATE RIGHT 6X
11074   512625          AND     (77
11075   111245          JMS     TYP             /TYPE SECOND CHARACTER
11076   231103          LAC•    POINT
11077   512625          AND     (77
11100   111245          JMS     TYP             /TYPE THIRD CHARACTER
11101   451103          ISZ     POINT           /MOVE TEXT POINTER
11102   611062          JMP     TAAT            /NEXT THREE
                        /
11103   000000  POINT   0
                        /
                        /ROTATE AC LEFT 7X
                        /
11104   000000  RLSVN   0
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  HNFE    0
11120   212653          LAC     (11000
11121   400125          XCT     DPLF            /LOAD FUNCTION REG
11122   111532          JMS     SUIP            /SEL UNIT INDEX PULSE
11123   111570          JMS     PDBE
11124   212631          LAC     (623151
11125   041404          DAC     CYR4            /SET ADD TO CYL=312, HEAD=23 • SECT=11
11126   111505          JMS     HEADER          /ADD PORTION OF HEADER
11127   142247          DEM     WORD1
11130   201404          LAC     CYR4
11131   042250          DAC     WORD2
11132   111556          JMS     ODHDPA          /ODD HEADER PARITY
11133   111360          JMS     CYHREE
11134   111532          JMS     SUIP            /SEL UNIT INDEX PULSE
11135   111532          JMS     SUIP            /SEL UNIT INDEX PULSE
11136   631117          JMP•    HNFE
                        /
                        /SIMULATE AN END OF PACK
                        /
11137   000000  EOPE    0
11140   212631          LAC     (623151
11141   400102          XCT     DPLA            /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   512704          AND     (200000
11147   741200          SNA                     /LOOP FAILING TEST
11150   611155          JMP     .+3             /NO
11151   140472          DEM     FLAG
11152   440472          ISZ     FLAG            /SET FLAG
11153   451144          ISZ     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   512652          AND     (4000
11162   741200          SNA                     /RUN NEXT TEST?
11163   631144          JMP*    LPERR           /NO
11164   140472          DEM     FLAG
11165   600445          JMP     LZV             /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     DNTA            /YES
11173   111266          JMS     CRLF
11174   111052          JMS     TTXT
11175   012300          SA
11176   212705          LAC     (35
11177   111245          JMS     TYP
11200   400103          XCT     DPRSA
11201   111300          JMS     TOCT            /TYPE STATUS REG A
11202   400106  DNTA    XCT     DPRSB           /READ STATUS REG B
11203   512706          AND     (777776
11204   741200          SNA                     /ZERO?
11205   631167          JMP*    OCSR            /YES
11206   111266          JMS     CRLF
11207   111052          JMS     TTXT
11210   012302          SB
11211   212705          LAC     (35
11212   111245          JMS     TYP
11213   400106          XCT     DPRSB
11214   512706          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  ENDTST  0
11220   750004          LAS                     /READ AC BIT 0
11221   741100          SPA                     /IS M.I. REQUESTED?
11222   600373          JMP     MIT             /YES
11223   200472          LAC     FLAG
11224   740200          SZA                     /REPEAT TEST?
11225   631217          JMP*    ENDTST          /YES
11226   440474          ISZ     PASS
11227   631217          JMP*    ENDTST
11230   451217          ISZ     ENDTST          /SET RETURN
11231   631217          JMP*    ENDTST
                        /
                        /TYPE SPACES
                        /
11232   000000  TSPACE  0
11233   051244          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          ISZ     SPACES          /LAST SPACE?
11242   611240          JMP     .-2             /NO
11243   631232          JMP*    TSPACE
                        /
11244   000000  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   700406          TLS
11261   700401          TSF
11262   611261          JMP     .-1
11263   700402          TCF
11264   750000          CLA
11265   631256          JMP*    TYPE
                        .EJECT
```

```
                        /
                        /CARRIAGE RETURN & LINE FEED
                        /
11266   000000  CRLF    0
11267   750004          LAS                     /READ AC BIT 2
11270   512641          AND     (100000
11271   740200          SZA                     /TYPE?
11272   631266          JMP.    CRLF
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
                        /
11300   000000  TOCT    0
11301   744010          RCL
11302   051323          DAC     NUM             /STORE MODIFIED NUMBER
11303   750004          LAS                     /READ AC BIT 2
11304   512641          AND     (100000
11305   740200          SZA                     /TYPE?
11306   631300          JMP.    TOCT            /NO
11307   777772          LAW     -6
11310   051324          DAC     DIGCTR          /INIT COUNTER
11311   211323  GETNUM  LAC     NUM             /GET NUMBER
11312   740010          RAL                     /MOVE DIGIT TO BE
11313   742010          RTL                     /TYPED INTO AC 15-17
11314   051323          DAC     NUM
11315   512637          AND     (7              /MASK IT
11316   352655          TAD     (20             /MODIFY IT
11317   111245          JMS     TYP             /TYPE A DIGIT
11320   451324          ISZ     DIGCTR          /LAST DIGIT?
11321   611311          JMP     GETNUM          /NO
11322   631300          JMP.    TOCT
                        /
11323   000000  NUM     0
11324   000000  DIGCTR  0
11325   000000  DCTR    0
                        /
                        .EJECT
```

```
                        /
                        /ASSEMBLE SOFTWARE ADD REGS INTO CTR1 & AC
                        /
11326   000000  ASADRG  0
11327   211465          LAC     SECT
11330   040601          DAC     CTR1            /ASSEMBLE INTO CTR1
11331   211466          LAC     HEAD
11332   744010          RCL
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
                        /
11350   000000  XFER    0
11351   051357          DAC     CTRJ            /# OF BITS TO BE XFERRED
11352   760201          LAW     201
11353   400115          XCT     DPEM            /XFER A BIT
11354   451357          ISZ     CTRJ            /XFER COMPLETE?
11355   611353          JMP     .+2
11356   631350          JMP*    XFER
                        /
11357   000000  CTR3    0
                        /
                        /
                        /3 CLOCK PULSES
                        /
11360   200000  CTHREE  0
11361   212624          LAC     (480
11362   400115          XCT     DPEM
11363   777775          LAW     -3
11364   111350          JMS     XFER
11365   631360          JMP*    CTHREE
                        .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     (21DDB
11413   400125          XCT     DPLF            /LOAD FUNCTION REG
11414   110600          JMS     EMM             /ENTER MAINT MODE
11415   111570          JMS     PDBE
11416   141404          DEM     CTR4
11417   111505          JMS     HEADER          /ADD PORTION OF HEADER
11420   142247          DEM     WORD1
11421   142250          DEM     WORD2
11422   111556          JMS     ODWDPA          /ODD HEADER PARITY
11423   111360          JMS     CTWREE
11424   631411          JMP*    WRT
                        /
                        /READ SEQUENCE
                        /
11425   000000  RDS     0
11426   212653          LAC     (11DDB
11427   400125          XCT     DPLF            /LOAD FUNCTION REG
11430   111570          JMS     PDBE
11431   631425          JMP*    RDS
                        .EJECT
```

```
                        /
11432   000000          CTR2    0
                        /
                        /TRANSFER HEADER OR DATA SYNC BIT
                        /
11433   000000          SYNCBT  0
11434   760401                  LAW     401
11435   400115                  XCT     DPEM            /LOAD MAINT REG
11436   777772                  LAW     -6
11437   111350                  JMS     XFER            /TRANSFER 6 BITS
11440   631433                  JMP.    SYNCBT
                        /
                        /SOFTWARE ADDRESS REG
                        /
11441   000000          ADDREG  0
11442   451465                  ISZ     SECT            /INCREMENT SECT
11443   211465                  LAC     SECT
11444   552646                  SAD     (12             /IS IT MAXIMUM SECT COUNT+1?
11445   741000                  SKP                     /YES
11446   631441                  JMP.    ADDREG
11447   151465                  DZM     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                     /YES
11454   631441                  JMP.    ADDREG
11455   151466                  DZM     HEAD            /RESET HEAD
11456   451467                  ISZ     CYL             /INCREMENT CYL
11457   211467                  LAC     CYL
11460   552642                  SAD     (313            /IS IT MAXIMUM CYL COUNT+1?
11461   741000                  SKP                     /YES
11462   631441                  JMP.    ADDREG
11463   451441                  ISZ     ADDREG          /INCREMENT RETURN
11464   631441                  JMP.    ADDREG
                        /
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     DPEM            /LOAD MAINT REG
11473   777756                  LAW     -22
11474   111350                  JMS     XFER            /TRANSFER 18 BITS
11475   63.470                  JMP.    EXEC
                                .EJECT
```

```
                        /
                        /TYPE STATUS REG HEADING & EXPECTED & RECEIVED VALUES
                        /
11476   000000  RPT10   0
11477   110670          JMS     TTSTNO          /TYPE TEST #
11500   111052          JMS     TTXT            /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     LPRWD1          /INIT FIRST 18 BITS OF LONG PARITY
11507   151522          DEM     LPRWD2          /INIT LAST 18
11510   201404          LAC     CTR4            /GET CYL, HEAD & SECT ADD
11511   111104          JMS     RLSVN           /ROTATE LEFT 7X
11512   111523          JMS     MFXFER
11513   201404          LAC     CTR4
11514   111112          JMS     RRSIX           /ROTATE RIGHT 6X
11515   111523          JMS     MFXFER
11516   201404          LAC     CTR4
11517   111523          JMS     MFXFER
11520   631505          JMP.    HEADER
                        /
11521   000000  LPRWD1  0
11522   000000  LPRWD2  0
                        /
                        /
                        /MODIFY FOR TRANSFER
                        /
11523   000000  MFXFER  0
11524   512625          AND     (77
11525   352624          TAD     (400
11526   400115          XCT     OPEM            /LOAD MAINT REG
11527   777772          LAW     -6
11530   111350          JMS     XFER
11531   631523          JMP.    MFXFER
                        /
                        /ISSUE A SELECTED UNIT INDEX PULSE
                        /
11532   000000  SUIP    0
11533   760300          LAW     300
11534   400115          XCT     OPEM
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   777403          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     DCTR
11554   611553          JMP     .-1
11555   631550          JMP*    D50US
                        /
                        /CALCULATE AND TRANSFER ODD WORD PARITY
                        /
11556   000000  ODWDPA  0
11557   111615          JMS     PARITY
11560   740001          CMA                     /MAKE IT ODD
11561   512647          AND     (4E             /MASK BIT 12
11562   352624          TAD     (400
11563   400115          XCT     DPEM            /LOAD MAINT REG
11564   777777          LAW     -1
11565   111350          JMS     XFER            /TRANSFER PARITY BIT
11566   631556          JMP*    ODWDPA
                        /
11567   000000  WPAR    0
                        /
                        /
                        /SECT PULSE, DELAY, HEADER SYNC, EXEC
                        /
11570   000000  PDBE    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*    PDBE
                        .EJECT
```

```
03720  352661           TAD     I2
03721  040601           DAC     CTR1
03722  400126           XCT     DPRW            /READ WC REG
03723  540601           SAD     CTR1            /WC CORRECT?
03724  741000           SKP                     /YES
03725  603733           JMP     END71           /NO
03726  446623           ISZ     CTRP            /TRANSFER COMPLETE?
03727  603716           JMP     TD71            /NO
03730  777617           LAW     -151
03731  111350           JMS     XFER            /XFER LAST 2 WDS • LONG PARITY
03732  603741           JMP     E71*2
03733  040646   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     TT1*1           /A DATA XFER, CONTINUE TO REPEAT TEST,
03741  111217           JMS     ENDTST          /DONE
03742  603635           JMP     TT1*1           /REPEAT TEST
03743  623434           JMP.    TT1             /EXIT TEST
                        .EJECT
```

```
                        /
                        /CALCULATE PARITY FOR 18 BITS
                        /
11576   000000  TBIT    0
11577   741100          SPA                     /BIT 0011
11600   451567          ISZ     WPAR            /INCREMENT INDICATOR
11601   740010          RAL                     /NEXT BIT
11602   451357          ISZ     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     (48             /MASK BIT 12
11610   352624          TAD     (400
11611   400115          XCT     OPEN            /LOAD MAINT REG
11612   777777          LAW     -1
11613   111350          JMS     XFER            /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 18 BITS
11646   740001          CMA                     /SET FOR ODD PARITY
11647   042247          DAC     WORD1
11650   211522          LAC     LPRWD2          /GET LPR FOR LAST 18 BITS
11651   740001          CMA                     /SET FOR ODD PARITY
11652   042250          DAC     WORD2
11653   111666          JMS     DATA            /XFER LONGITUDINAL PARITY
11654   111556          JMS     ODWDPA          /ODD WORD PARITY
11655   631644          JMP•    ODLPAR
                        /
                        /TRANSFER EVEN LONGITUDINAL PARITY
                        /
11656   000000  EVLPAR  0
11657   211521          LAC     LPRWD1          /GET LPR FOR FIRST 18 BITS
11660   042247          DAC     WORD1
11661   211522          LAC     LPRWD2          /GET LPR FOR LAST 18 BITS
11662   042250          DAC     WORD2
11663   111666          JMS     DATA            /XFER LONGITUDINAL PARITY
11664   111556          JMS     ODWDPA          /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 18 BITS
11670   111104          JMS     RLSVN           /ROTATE LEFT 7X
11671   111523          JMS     MFXFER          /MODIFY & TRANSFER
11672   202247          LAC     WORD1
11673   111112          JMS     RRSIX           /ROTATE RIGHT 6X
11674   111523          JMS     MFXFER
11675   202247          LAC     WORD1
11676   111523          JMS     MFXFER
11677   202250          LAC     WORD2           /GET LAST 18 BITS
11700   111104          JMS     RLSVN           /ROTATE LEFT 7X
11701   111523          JMS     MFXFER
11702   202250          LAC     WORD2
11703   111112          JMS     RRSIX           /ROTATE RIGHT 6X
11704   111523          JMS     MFXFER
11705   202250          LAC     WORD2
11706   111523          JMS     MFXFER
11707   631666          JMP•    DATA
                        .EJECT
```

```
                        /
                        /TRANSFER TRAILER
                        /
11710   000000  TRAIL   0
11711   760400          LAW     400
11712   400115          XCT     DPEM            /LOAD MAINT REG
11713   777772          LAW     -6
11714   111350          JMS     XFER            /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 #
11727   111852          JMS     TTXT            /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
11733   611732          JMP     .-1             /PROGRAM FROM LOC 200,
                        /
                        /INCREMENT FORMAT GENERATOR THIRTY TIMES
                        /
11734   000000  IFG30X  0
11735   775647          LAW     -2151
11736   111350          JMS     XFER
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     RRS1X           /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     RRS1X           /ROATATE 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     XFER
11767   400111          XCT     DPRM
11770   111112          JMS     RRS1X
11771   111112          JMS     RRS1X
11772   512627          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          RECVED
12007   203631          LAC     BUFF1+1
12010   111300          JMS     TOCT
12011   203632          LAC     BUFF1+2
12012   111300          JMS     TOCT
12013   111266          JMS     CRLF
12014   631775          JMP+    RPT11
                        .EJECT
```

```
                        /
                        /TRANSFER 6 BITS OF INFORMATION
                        /
 12015  000000          WDX     0
 12016  744000                  CLL
 12017  777772                  LAW     -6
 12020  111350                  JMS     XFER            /TRANSFER 6 BITS
 12021  400111                  XCT     DPRM            /READ MAINT REG
 12022  512710                  AND     (770000
 12023  632015                  JMP.    WDX
                        /
                        /READ COMPARE SEQUENCE
                        /
 12024  000000          RDCOMP  0
 12025  212671                  LAC     (71000
 12026  400125                  XCT     DPLF            /LOAD FUNCTION REG
 12027  110600                  JMS     EMM             /ENTER MAINT MODE
 12030  111570                  JMS     PDBE
 12031  141404                  DZM     CTR4
 12032  111505                  JMS     HEADER          /ADD PORTION OF HEADER
 12033  142247                  DZM     WORD1
 12034  142250                  DZM     WORD2
 12035  110647                  JMS     ODWDPB          /ODD HEADER PARITY + 3 CLOCK PULSES
 12036  111550                  JMS     D50US           /50 US DELAY
 12037  111433                  JMS     SYNCBT          /DATA SYNC
 12040  632024                  JMP.    RDCOMP
```

,EJECT

```
                        /
                        /IOT AND API CHANNEL MODIFICATION
                        /
12041   000000  MOD     0
12042   152214          DEM     MIOT
12043   452214          ISZ     MIOI
12044   111266          JMS     CRLF
12045   111052          JMS     TTXT
12046   012510          MESS6
12047   700301          KSF
12050   612047          JMP     .-1
12051   700312          KRB
12052   552711          SAD     (J16            /CHANGE IOT'S
12053   612100          JMP     MODI            /NO
12054   552712          SAD     (J31
12055   612062          JMP     .+5             /YES
12056   111052  QY      JMS     TTXT
12057   012545          QUERY
12060   111266          JMS     CRLF
12061   612042          JMP     MOD+1           /TRY AGAIN
12062   111266          JMS     CRLF
12063   111052          JMS     TTXT
12064   012525          MESS7
12065   112176          JMS     GDSC            /GET NEW DSC
12066   200100          LAC     IOTL
12067   052246          DAC     AROW            /INIT POINTER
12070   112215          JMS     CIOT            /CHANGE DSC 63
12071   111266          JMS     CRLF
12072   111052          JMS     TTXT
12073   012535          MESS8
12074   112176          JMS     GDSC            /GET NEW DSC
12075   452246          ISZ     AROW            /INCR POINTER
12076   112215          JMS     CIOT            /CHANGE DSC 64
12077   111266          JMS     CRLF
                        .EJECT
```

```
12100   750004      MOD1    LAS                     /READ AC BIT 4
12101   512672              AND     (20000
12102   740200              SZA                     /API TESTS SELECTED?
12103   632041              JMP•    MOD             /NO
12104   111266              JMS     CRLF
12105   111052              JMS     TTXT
12106   012556              MESS9
12107   700301              KSF
12110   612107              JMP     .-1
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     OV
12117   111266              JMS     CRLF
12120   111052              JMS     TTXT
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              DAC     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     (100200
12137   740200          SZA                             /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     BUFF1+1
12157   111300          JMS     TOCT
12160   203632          LAC     BUFF1+2
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 FLG
                        /
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   432176          JMP*    GDSC
                        /
12213   000064  ACA     64
12214   000007  MIOT    7
                        /
                        /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     OY              /YES
12237   212250          LAC     CHAR
12240   352715          TAD     (777510
12241   740100          SMA                     /IS IT > 267?
12242   612056          JMP     OY              /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          TI      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
                        /
                        /WC=
                        /
12263   674300          WC      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
```

```
                        /TEST 72,  TEST FOR CORRECT INCREMENTING OF THE CA REG BY THE CONTROL
                        /WHILE SIMULATING A WRITE-ALL.
                        /
03744   000000  T72     0
03745   400116          XCT     DPCF            /RESET CONTROL
03746   212662          LAC     (41010
03747   041404          DAC     CTR4            /SET TO SECT-1
03750   042250          DAC     WORD2
03751   400102          XCT     DPLA            /LOAD ADDRESS
03752   777376          LAW     -402
03753   400113          XCT     DPWC            /LOAD WC REG
03754   212663          LAC     (61000
03755   400125          XCT     DPLF            /LOAD FUNCTION
03756   110600          JMS     EMM             /ENTER MAIN MODE
03757   111570          JMS     PDBE
03760   111505          JMS     HEADER          /ADD PORTION OF HEADER
03761   142247          DZM     WORD1
03762   111556          JMS     ODWDPA          /ODD HEADER PARITY
03763   111360          JMS     CTWHEE
03764   777577          LAW     -201
03765   046623          DAC     CTR3            /INIT SOFTWARE WC
03766   111536          JMS     SUSP            /SEL UNIT SECTOR PULSE
03767   111734          JMS     IFG36X          /INC FORMAT GEN 36X
03770   446623          ISE     CTR3
03771   212661          LAC     (2
03772   040601          DAC     CTR1
03773   400123          XCT     DPRC            /READ CA REG
03774   540601          SAD     CTR1            /CA REG CORRECT
03775   741000          SKP                     /YES
03776   604041          JMP     END72           /NO
03777   111740          JMS     DATAX           /TRANSFER THE 36 BIT HEADER
04000   777621          LAW     -157
04001   111350          JMS     XFER            /INC FORMAT GEN 3X
04002   446623          ISE     CTR3
04003   200601          LAC     CTR1
04004   352661          TAD     (2
04005   040601          DAC     CTR1
04006   400123          XCT     DPRC            /READ CA REG
04007   540601          SAD     CTR1            /CA CORRECT?
04010   741000          SKP                     /YES
04011   604041          JMP     END72           /NO
04012   777733          LAW     -45
04013   111350          JMS     XFER            /INC FORMAT GEN ONCE
04014   446623          ISE     CTR3
04015   200601          LAC     CTR1
04016   352661          TAD     (2
04017   040601          DAC     CTR1
04020   400123          XCT     DPRC            /READ CA REG
04021   540601          SAD     CTR1            /CA CORRECT?
04022   741000          SKP                     /YES
04023   604041          JMP     END72           /NO
04024   111740  TD72    JMS     DATAX           /TRANSFER A 36 BIT DATA WORD +P
04025   200601          LAC     CTR1
04026   352661          TAD     (2
04027   040601          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   640043                  640043
12306   544541                  544541
12307   624544                  624544
12310   777777                  777777
                        /
                        /=CLEAR
                        /
12311   154354          CL      154354
12312   454162                  454162
12313   777777                  777777
                        /
                        /G
                        /
12314   470000          EXPTED  470000
12315   777777                  777777
                        /
                        /B
                        /
12316   420000          RECVED  420000
12317   777777                  777777
                        /
                        /ILL TEST SELECTION
                        /
12320   515454          ILLTST  515454
12321   000445                  000445
12322   636400                  636400
12323   634554                  634554
12324   454364                  454364
12325   515756                  515756
12326   160043                  160043
12327   576262                  576262
12330   454364                  454364
12331   000000                  000000
12332   435756                  435756
12333   645156                  645156
12334   654516                  654516
12335   777777                  777777
                                .EJECT
```

```
                        /
                        /DONE
                        /
12336   455644          DONE    455644
12337   777777                  777777
                        /
                        /CYL HEAD SECT
                        /
12340   437154          MESS1   437154
12341   000000                  000000
12342   000050                  000050
12343   454144                  454144
12344   000000                  000000
12345   006345                  006345
12346   436400                  436400
12347   777777                  777777
                        /
                        /MAINT REG
                        /
12350   554151          MAINRG  554151
12351   566400                  566400
12352   624947                  624947
12353   777777                  777777
                        /
                        /UNKNOWN FLAG CAUSED INTERRUPT
                        /
12354   655653          UNKN    655653
12355   565767                  565767
12356   560046                  560046
12357   544147                  544147
12360   004341                  004341
12361   656345                  656345
12362   440051                  440051
12363   566445                  566445
12364   626265                  626265
12365   606416                  606416
12366   777777                  777777
                        /
                        /API STATUS BEFORE INTER
                        /
12367   416051          BEF     416051
12370   006364                  006364
12371   416465                  416465
12372   630042                  630042
12373   454657                  454657
12374   624500                  624500
12375   515064                  515064
12376   456200                  456200
12377   777777                  777777
                        .EJECT
```

```
                        /
                        /API STATUS AFTER INTER
                        /
12400   416051          AFT     416051
12401   006364                  006364
12402   416465                  416465
12403   630041                  630041
12404   466445                  466445
12405   620051                  620051
12406   566445                  566445
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   504541          HXE     504541
12417   444562                  444562
12420   007046                  007046
12421   456200                  456200
12422   456262                  456262
12423   576200                  576200
12424   777777                  777777
                        /
                        /DATA XFER ERROR
                        /
12425   444164          DXE     444164
12426   410070                  410070
12427   464562                  464562
12430   004562                  004562
12431   625762                  625762
12432   777777                  777777
                        /
                        /LONG PARITY XFER ERROR
                        /
12433   545756          LXE     545756
12434   470060                  470060
12435   416251                  416251
12436   647100                  647100
12437   704645                  704645
12440   620045                  620045
12441   626257                  626257
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   415417                  415417
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   515065                  515065
12474   451000                  451000
12475   777777                  777777
                        /
                        /NO INTERRUPT FROM API OR PI
                        /
12476   565700          NOINT   565700
12477   515064                  515064
12500   456262                  456262
12501   650064                  650064
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   500864                  500864
12512   570043                  570043
12513   504156                  504156
12514   474500                  474500
12515   515764                  515764
12516   076300                  076300
12517   106471                  106471
12520   604500                  604500
12521   710057                  710057
12522   620056                  620056
12523   113700                  113700
12524   777777                  777777
                        /
                        /CHANGE DSC 63 TO ?
                        /
12525   435041          MESS7   435041
12526   564745                  564745
12527   004463                  004463
12530   430026                  430026
12531   230064                  230064
12532   570037                  570037
12533   000000                  000000
12534   777777                  777777
                        /
                        /CHANGE DSC 64 TO ?
                        /
12535   435041          MESS8   435041
12536   564745                  564745
12537   004463                  004463
12540   430026                  430026
12541   240064                  240064
12542   570037                  570037
12543   000000                  000000
12544   777777                  777777
                        /
                        /???
                        /
12545   373737          QUERY   373737
12546   777777                  777777
                        /
                        /ERROR FLAG NOT SET
                        /
12547   456262          ENS     456262
12550   576200                  576200
12551   469441                  469441
12552   470056                  470056
12553   576400                  576400
12554   634564                  634564
12555   777777                  777777
                                .EJECT
```

```
                        /
                        /WISH TO CHANGE API CHANNEL ADDRESS (TYPE Y OR N)?
                        /
12556   679163          MESS9   679163
12557   500064                  500064
12560   570043                  570043
12561   504156                  504156
12562   474500                  474500
12563   416051                  416051
12564   004350                  004350
12565   415656                  415656
12566   455400                  455400
12567   414444                  414444
12570   624563                  624563
12571   630010                  630010
12572   647160                  647160
12573   450071                  450071
12574   005762                  005762
12575   005611                  005611
12576   370000                  370000
12577   777777                  777777
                        /
                        /
                        /CHANGE CHANNEL FROM 64 TO 7
                        /
12600   430041          MESS10  430041
12601   564745                  564745
12602   004350                  004350
12603   415656                  415656
12604   455400                  455400
12605   466257                  466257
12606   550026                  550026
12607   240064                  240064
12610   570037                  570037
12611   777777                  777777
                        /
        000000                  .END
12612   777747  0L
12613   000177  0L
12614   000201  0L
12615   000200  0L
12616   017777  0L
12617   010000  0L
12620   000267  0L
12621   770000  0L
12622   001740  0L
12623   000037  0L
12624   000400  0L
12625   000077  0L
12626   000100  0L
12627   000001  0L
12630   777777  0L
12631   025151  0L
12632   000312  0L
12633   777000  0L
```

```
12634   001000   ;L
12635   021000   ;L
12636   000410   ;L
12637   000007   ;L
12640   721000   ;L
12641   100000   ;L
12642   000313   ;L
12643   000377   ;L
12644   000024   ;L
12645   000023   ;L
12646   000012   ;L
12647   000040   ;L
12650   000017   ;L
12651   000011   ;L
12652   004000   ;L
12653   011000   ;L
12654   400000   ;L
12655   000020   ;L
12656   700000   ;L
12657   002000   ;L
12660   525252   ;L
12661   000002   ;L
12662   041010   ;L
12663   061000   ;L
12664   252525   ;L
12665   312444   ;L
12666   000010   ;L
12667   000004   ;L
12670   051000   ;L
12671   071000   ;L
12672   020000   ;L
12673   040000   ;L
12674   440100   ;L
12675   777600   ;L
12676   012241   ;L
12677   025150   ;L
12700   002041   ;L
12701   202020   ;L
12702   000700   ;L
12703   070000   ;L
12704   200000   ;L
12705   000035   ;L
12706   777776   ;L
12707   000240   ;L
12710   770000   ;L
12711   000316   ;L
12712   000331   ;L
12713   770077   ;L
12714   777520   ;L
12715   777510   ;L
```

SIZE=12716 NO ERROR LINES

```
04030   400123              XCT     DPRC            /READ CA REG
04031   540601              SAD     CTR1            /CA CORRECT?
04032   741000              SKP                     /YES
04033   604041              JMP     END72           /NO
04034   446623              ISZ     CTR2            /TRANSFER COMPLETE?
04035   604024              JMP     TD72
04036   777617              LAW     -161
04037   111350              JMS     XFER            /XFER LAST 2 WDS • LONG PARITY
04040   604047              JMP     E72*2
04041   040646      END72   DAC     TSTRG1
04042   760072              LAW     72
04043   110640              JMS     RPT2            /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,
                        /
04052   000000  T73     0
04053   400116          XCT     DPCF            /RESET CONTROL
04054   110602          JMS     EMM             /ENTER MAINT MODE
04055   212664          LAC     (252525
04056   041404          DAC     CTR4
04057   042250          DAC     WORD2
04060   400102          XCT     DPLA            /LOAD ADDRESS
04061   111425          JMS     RDS             /READ SEQUENCE
04062   111505          JMS     HEADER          /ADDRESS PORTION OF HEADER
04063   142247          DZM     WORD1
04064   110660          JMS     EVWDPB          /EVEN HEADER PARITY + 3 CLOCK PULSES
04065   400106          XCT     DPRSB           /READ STATUS REG B
04066   512647          AND     (40             /MASK BIT 12
04067   740200          SZA                     /BIT 12 OF STATUS REG B SET?
04070   604076          JMP     E73+2           /YES
04071   760073          LAW     73
04072   110670          JMS     TTSTNO          /TYPE TEST #
04073   111144          JMS     LPERR
04074   740040  E73     HALT                    /ERROR, BIT 12 OF STATUS REG B
                                                /FAILED TO SET, CONTINUE TO REPEAT
04075   604053          JMP     T73+1           /TEST,
04076   400112          XCT     DPSE            /ERR FLG SET?
04077   741000          SKP                     /NO
04100   604104          JMP     .+4             /YES
04101   760073          LAW     73
04102   112170          JMS     RPT13
04103   604073          JMP     E73+1
04104   111217          JMS     ENDTST          /DONE
04105   604053          JMP     T73+1           /REPEAT TEST
04106   624052          JMP.    T73             /EXIT TEST
                        .EJECT
```

```
                        /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          T74     0
04110   400116                  XCT     DPCF            /RESET CONTROL
04111   110000                  JMS     EMM             /ENTER MAINT MODE
04112   212664                  LAC     (252525
04113   041404                  DAC     CTR4
04114   042250                  DAC     WORD2
04115   400102                  XCT     DPLA            /LOAD ADDRESS
04116   111425                  JMS     RDS             /READ SEQUENCE
04117   111505                  JMS     HEADER          /ADDRESS PORTION OF HEADER
04120   142247                  DBM     WORD1
04121   110660                  JMS     EVNDPB          /EVEN HEADER PARITY + 3 CLOCK PULSES
04122   400105                  XCT     DPCB            /CLEAR STATUS REG BIT 12
04123   400106                  XCT     DPRSB           /READ STATUS REG B
04124   512647                  AND     (40             /MASK BIT 12
04125   741200                  SNA                     /BIT 12 OF STATUS REG CLEAR?
04126   604134                  JMP     E74*2           /YES
04127   760074                  LAW     74
04130   110670                  JMS     TTSTNO          /TYPE TEST #
04131   111144                  JMS     LPERR
04132   740040          E74     HALT                    /ERROR, THE DPCS IOT FAILED TO CLEAR
                                                        /BIT 12 OF STATUS REG B CONTINUE
04133   604110                  JMP     T74*1           /TO REPEAT TEST.
04134   111217                  JMS     ENDTST          /DONE
04135   604110                  JMP     T74*1           /REPEAT TEST
04136   624107                  JMP.    T74             /EXIT TEST
                                .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  T75     0
04140   400116          XCT     DPCF            /RESET CONTROL
04141   110600          JMS     EMM             /ENTER MAINT MODE
04142   110634          JMS     ISM
04143   212665          LAC     (312444
04144   041404          DAC     CTR4
04145   042258          DAC     WORD2
04146   400102          XCT     DPLA            /LOAD ADD REGS
04147   777400          LAW     -400
04150   400113          XCT     DPWC            /LOAD WC REG
04151   111425          JMS     RDS             /READ SEQUENCE
04152   111505          JMS     HEADER          /ADD PORTION OF HEADER
04153   142247          DEM     WORD1
04154   110647          JMS     ODWDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
04155   111550          JMS     DSBUS           /SBUS DELAY
04156   111433          JMS     SYNCBT          /DATA SYNC
04157   212660          LAC     (525252
04160   042247          DAC     WORD1
04161   042250          DAC     WORD2
04162   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04163   111605          JMS     EVWDPA          /EVEN WORD PARITY
04164   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04165   440023          ISZ     CTR3
04166   203630  ICA     LAC     BUFF1
04167   400110          XCT     DPCA            /LOAD CA REG
04170   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04171   111556          JMS     ODWDPA          /ODD WORD PARITY
04172   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04173   440023          ISZ     CTR3            /TRANSFER COMPLETE?
04174   604166          JMP     ICA             /NO
04175   203630          LAC     BUFF1
04176   400110          XCT     DPCA            /LOAD CA REG
04177   111644          JMS     ODLPAR          /ODD LONG APRITY
04200   111710          JMS     TRAIL           /TRAILER
04201   400106          XCT     DPRSB           /READ STATUS REG B
04202   512666          AND     (10             /MASK BIT 14
04203   740200          SZA                     /BIT 14 OF STATUS REG B SET?
04204   604212          JMP     E75•2           /YES
04205   760075          LAW     75
04206   110670          JMS     TYPTNO          /TYPE TEST #
04207   111144          JMS     LPERR
04210   740040  E75     HALT                    /ERROR. BIT 14 OF STATUS REG B FAILED TO SET.
04211   604140          JMP     T75•1           /CONTINUE TO REPEAT TEST.
04212   400112          XCT     DPSE            /ERR FLG SET?
04213   741000          SKP                     /NO
04214   604220          JMP     .•4             /YES
04215   760075          LAW     75
04216   112170          JMS     RP713
04217   604207          JMP     E75•1
04220   111217          JMS     ENDTST          /DONE
```

```
    04221   604140          JMP     T79+1           /REPEAT TEST
    04222   624137          JMP*    T79             /EXIT TEST
                            .EJECT
```

```
                        /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  T76     0
04224   400116          XCT     DPCF            /RESET CONTROL
04225   110600          JMS     EMM             /ENTER MAINT MODE
04226   110634          JMS     ISW
04227   212665          LAC     (312444
04230   041404          DAC     CTR4
04231   042250          DAC     WORD2
04232   400102          XCT     DPLA            /LOAD ADD REGS
04233   777400          LAW     -400
04234   400113          XCT     DPWC            /LOAD WC REG
04235   111425          JMS     RDS             /READ SEQUENCE
04236   111505          JMS     HEADER          /ADD PORTION OF HEADER
04237   142247          DEM     WORD1
04240   110647          JMS     ODWDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
04241   111550          JMS     DSBUS           /SBUS DELAY
04242   111433          JMS     SYNCHT          /DATA SYNC
04243   212660          LAC     (525252
04244   042247          DAC     WORD1
04245   042250          DAC     WORD2
04246   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04247   111685          JMS     EVWDPA          /EVEN WORD PARITY
04250   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04251   446623          ISE     CTR3
04252   283638  SCAR    LAC     BUFF1
04253   400110          XCT     DPCA            /LOAD CA REG
04254   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04255   111556          JMS     ODWDPA          /ODD WORD PARITY
04256   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04257   446623          ISE     CTR3            /TRANSFER COMPLETE?
04260   604252          JMP     SCAR            /NO
04261   283638          LAC     BUFF1
04262   400110          XCT     DPCA            /LOAD CA REG
04263   111644          JMS     ODLPAR          /ODD LONG PARITY
04264   111710          JMS     TRAIL           /TRAILER
04265   400105          XCT     DPCS            /CLEAR BIT 14 OF STATUS REG B
04266   400106          XCT     DPRSB           /READ STATUS REG B
04267   512666          AND     (10             /MASK BIT 14
04270   741200          SNA                     /BIT 14 OF STATUS REG B CLEARED?
04271   604277          JMP     E76•2           /YES
04272   760076          LAW     76
04273   110670          JMS     TTSTNO          /TYPE TEST #
04274   111144          JMS     LPERR
04275   740040  E76     HALT                    /ERROR, THE DPCS IOT FAILED TO CLEAR BIT 14
04276   604224          JMP     T76•1           /OF STATUS REG B. CONTINUE TO REPEAT TEST.
04277   111217          JMS     ENDTST          /DONE
04300   604224          JMP     T76•1           /REPEAT TEST
04301   624223          JMP•    T76             /EXIT TEST
                        .EJECT
```

```
                        /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     EMM             /ENTER MAINT MODE
04305   110634          JMS     ISW
04306   212665          LAC     (312444
04307   041404          DAC     CTR4
04310   042250          DAC     WORD2
04311   400102          XCT     DPLA            /LOAD ADDRESS
04312   777400          LAW     -400
04313   400113          XCT     DPWC            /LOAD WC REG
04314   111425          JMS     RDS             /READ SEQUENCE
04315   111505          JMS     HEADER          /ADD PORTION OF HEADER
04316   142247          DEM     WORD1
04317   110647          JMS     ODWDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
04320   111550          JMS     D50US           /50 US DELAY
04321   111433          JMS     SYNCDT          /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     ODWDPA          /ODD WORD PARITY
04327   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04330   446623          ISZ     CTR3            /TRANSFER COMPLETE?
04331   604360          JMP     END77           /NO
04332   203630          LAC     BUFF1
04333   400110          XCT     DPCA            /LOAD CA REG
04334   111656          JMS     EVLPAR          /EVEN LONG PARITY
04335   111710          JMS     TRAIL           /TRAILER
04336   400106          XCT     DPRSB           /READ STATUS REG B
04337   312667          AND     (4              /MASK BIT 15
04340   740200          SZA                     /BIT 15 OF STATUS REG B SET?
04341   604347          JMP     E77•2           /YES
04342   760077          LAW     77
04343   110670          JMS     TTSTNO          /TYPE TEST#
04344   111144          JMS     LPERR
04345   740040  E77     HALT                    /ERROR. BIT15 OF STATUS REG B FAILED TO SET.
04346   604303          JMP     T77•1           /CONTINUE TO REPEAT TEST.
04347   400112          XCT     DPSE            /ERR FLG SET?
04350   741000          SKP                     /NO
04351   604355          JMP     .•4             /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
```

```
                        /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   406116          XCT     DPCF            /RESET CONTROL
04365   110600          JMS     EMM             /ENTER MAINT MODE
04366   110634          JMS     ISW
04367   212665          LAC     (312444
04370   041404          DAC     CTR4
04371   042250          DAC     WORD2
04372   406102          XCT     DPLA            /LOAD ADDRESS
04373   777400          LAW     -400
04374   406113          XCT     DPWC            /LOAD WC REG
04375   111425          JMS     RDS             /READ SEQUENCE
04376   111505          JMS     HEADER          /ADD PORTION OF HEADER
04377   142247          DEM     WORD1
04400   110647          JMS     ODWDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
04401   111550          JMS     D58US           /58 US DELAY
04402   111433          JMS     SYNCBT          /DATA SYNC
04403   212660          LAC     (525252
04404   042247          DAC     WORD1
04405   042250          DAC     WORD2
04406   111666  RCAR    JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04407   111556          JMS     ODWDPA          /ODD WORD PARITY
04410   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04411   446623          ISZ     CTR3            /TRANSFER COMPLETE?
04412   604434          JMP     E100•5          /NO
04413   203636          LAC     BUFF1
04414   406110          XCT     DPCA            /LOAD CA REG
04415   111656          JMS     EVLPAR          /EVEN LONG PARITY
04416   111710          JMS     TRAIL           /TRAILER
04417   406105          XCT     DPCS            /CLEAR BIT 15 OF STATUS REG B
04420   406106          XCT     DPRSB           /READ STATUS REG B
04421   512667          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     TYPTNO          /TYPE TEST#
04426   111144          JMS     LPERR
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     ENDTST          /DONE
04432   604364          JMP     T100•1          /REPEAT TEST
04433   624363          JMP•    T100            /EXIT TEST
04434   203636          LAC     BUFF1
04435   406110          XCT     DPCA            /LOAD CA REG
04436   604406          JMP     RCAR
                        .EJECT
```

```
                        /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          DZM     BUFF1+2
04447   203630          LAC     BUFF1
04450   400110          XCT     DPCA            /LOAD CA REG
04451   112024          JMS     RDCOMP          /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   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04460   111556          JMS     ODWDPA          /ODD WORD PARITY
04461   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04462   446623          ISZ     CTR3
04463   777777          LAW     -1
04464   043632          DAC     BUFF1+2
04465   203630  GRC     LAC     BUFF1
04466   400110          XCT     DPCA            /LOAD CA REG
04467   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04470   111556          JMS     ODWDPA          /ODD WORD PARITY
04471   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04472   446623          ISZ     CTR3
04473   604465          JMP     GRC             /NO
04474   111644          JMS     ODLPAR          /ODD LONG PARITY
04475   111710          JMS     TRAIL           /TRAILER
04476   400106          XCT     DPRSB           /READ STATUS REG B
04477   512659          AND     (20             /MASK BIT 13
04500   740200          SZA                     /STATUS REG B BIT 13 SET?
04501   604507          JMP     E101+2          /YES
04502   760101          LAW     101
04503   110670          JMS     TYPTNO          /TYPE TEST#
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     RPT13
04514   604504          JMP     E101-1
04515   111217          JMS     ENDTST          /DONE.
04516   604440          JMP     T101+1          /REPEAT TEST
04517   624437          JMP•    T101            /EXIT TEST
```

.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   400116          XCT     DPCF            /RESET CONTROL
04522   110634          JMS     ISW
04523   777400          LAW     -400
04524   400113          XCT     DPWC            /LOAD WC REG
04525   777777          LAW     -1
04526   043631          DAC     BUFF1+1
04527   143632          DZM     BUFF1+2
04530   203630          LAC     BUFF1
04531   400114          XCT     DPCA            /LOAD CA REG
04532   112024          JMS     RDCOMP          /READ COMPARE SEQUENCE
04533   203630          LAC     BUFF1
04534   400114          XCT     DPCA            /LOAD CA REG
04535   777777          LAW     -1
04536   042247          DAC     WORD1
04537   042250          DAC     WORD2
04540   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04541   111596          JMS     ODWDPA          /ODD WORD PARITY
04542   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04543   440623          ISZ     CTR3
04544   777777          LAW     -1
04545   043632          DAC     BUFF1+2
04546   203630  RCCA    LAC     BUFF1
04547   400114          XCT     DPCA            /LOAD CA REG
04550   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04551   111596          JMS     ODWDPA          /ODD WORD PARITY
04552   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04553   440623          ISZ     CTR3
04554   604546          JMP     RCCA            /NO
04555   111644          JMS     ODLPAR          /ODD LONG PARITY
04556   111710          JMS     TRAIL           /TRAILER
04557   400105          XCT     DPCS            /CLEAR BIT 13 OF THE STATUS REG
04560   400106          XCT     DPRSB           /READ STATUS REG B
04561   512655          AND     (20             /MASK BIT 13
04562   741200          SNA                     /STATUS REG B BIT 13 CLEARED?
04563   604571          JMP     E102+2          /YES
04564   760102          LAW     102
04565   110670          JMS     TTSTNO          /TYPE TEST #
04566   111144          JMS     LPCAR
04567   740040  E102    HALT                    /ERROR, THE DPCS IOT FAILED TO CLEAR
                                                /BIT 13 OF STATUS REG B, CONTINUE
04570   604521          JMP     T102+1          /TO REPEAT TEST.
04571   111217          JMS     ENDTST          /DONE
04572   604521          JMP     T102+1          /REPEAT TEST
04573   624520          JMP*    T102            /EXIT TEST
                        .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     EMM             /ENTER MAINT MODE
04577   111137          JMS     EOPE            /END OF PACK
04600   400107          XCT     DPSJ            /JOB DONE SET?
04601   741000          SKP
04602   604610          JMP     E103+2          /YES
04603   760103          LAW     103
04604   110670          JMS     TTSTNO          /TYPE TEST #
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
04607   604575          JMP     T103+1          /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
04610   111217          JMS     ENDTST          /DONE
04611   604575          JMP     T103+1          /REPEAT TEST
04612   624574          JMP.    T103            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T103
                        /
04613   400116  SL103   XCT     DPCF            /RESET CONTROL
04614   110600          JMS     EMM             /ENTER MAINT MODE
04615   111137          JMS     EOPE            /END OF PACK
04616   400107          XCT     DPSJ            /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.
                        /
04621   000000  T104    0
04622   400116          XCT     DPCF            /RESET CONTROL
04623   110600          JMS     EMM             /ENTER MAINT MODE
04624   111117          JMS     HNFE            /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
04634   604622          JMP     T104+1          /FOR SCOPING, OR CONTINUE TO REPEAT TEST.
04635   111217          JMS     ENDTST          /DONE
04636   604622          JMP     T104+1          /REPEAT TEST
04637   624021          JMP*    T104            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T104
                        /
04640   400116  SL104   XCT     DPCF            /RESET CONTROL
04641   110600          JMS     EMM             /ENTER MAINT MODE
04642   111117          JMS     HNFE            /HEADER NOT FOUND
04643   400107          XCT     DPSJ            /SKIP ON JOB DONE FLAG
04644   604640          JMP     SL104           /REPEAT
04645   604640          JMP     SL104           /REPEAT
                        .EJECT
```

```
                    /TEST 185.  TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A FORMAT
                    /ERROR.
                    /
04646   000000      T185    0
04647   400116              XCT     DPCF            /RESET CONTROL
04650   110600              JMS     EMM             /ENTER MAINT MODE
04651   212664              LAC     (252525
04652   041404              DAC     CTR4
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     EVWDPB          /EVEN HEADER PARITY • 3 CLOCK PULSES
04661   400107              XCT     DPSJ            /JOB DONE SET?
04662   741000              SKP
04663   604671              JMP     E185+2          /YES
04664   760185              LAW     185
04665   110670              JMS     TTSTNO          /TYPE TEST #
04666   111144              JMS     LPERR
04667   740040      E185    HALT                    /ERROR.  THE DONE FLAG HAS NOT SET BY A FORMAT
04670   604647              JMP     T185+1          /ERROR.  CONTINUE TO REPEAT TEST.
04671   111217              JMS     ENDTST          /DONE
04672   604647              JMP     T185+1          /REPEAT TEST
04673   624646              JMP•    T185            /EXIT TEST
                            .EJECT
```

```
                        /TEST 186,  TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A WORD
                        /PARITY ERROR,
                        /
                        /*SEE NOTE 1 ON PAGE 1
                        /
04674   000000  T186    0
04675   400116          XCT     DPCF            /RESET CONTROL
04676   110600          JMS     EMM             /ENTER MAINT MODE
04677   110634          JMS     ISW
04700   777200          LAW     -600
04701   400113          XCT     DPWC            /LOAD WC REG
04702   212665          LAC     (312444
04703   041404          DAC     CTR4
04704   042250          DAC     WORD2
04705   400102          XCT     DPLA            /LOAD ADD REGS
04706   203630          LAC     BUFF1
04707   400110          XCT     DPCA            /LOAD CA REG
04710   111425          JMS     RDS             /READ SEQUENCE
04711   111505          JMS     HEADER          /ADDRESS PORTION OF HEADER
04712   142247          DBM     WORD1
04713   110647          JMS     ODWDPB          /ODD HEADER PARITY + 3 CLOCK PULSES
04714   111590          JMS     DSBUS           /50 US DELAY
04715   111433          JMS     SYNCBT          /DATA SYNC
04716   212660          LAC     (525252
04717   042247          DAC     WORD1
04720   042250          DAC     WORD2
04721   111664          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04722   111605          JMS     EVWDPA          /EVEN WORD PARITY
04723   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04724   446623          ISZ     CTR0
04725   203630      WEJO    LAC     BUFF1
04726   400110          XCT     DPCA            /LOAD CA REG
04727   111664          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
04730   111596          JMS     ODWDPA          /ODD WORD PARITY
04731   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
04732   446623          ISZ     CTR0            /TRANSFER COMPLETE?
04733   604725          JMP     WEJO            /NO
04734   203630          LAC     BUFF1
04735   400110          XCT     DPCA            /LOAD CA REG
04736   111644          JMS     ODLPAR          /ODD LONG PARITY
04737   111710          JMS     TRAIL           /TRAILER
04740   400107          XCT     DPSJ            /JOB DONE FLAG SET?
04741   741000          SKP
04742   604750          JMP     E186+2          /YES
04743   700186          LAW     186
04744   110670          JMS     TYPTNO          /TYPE TEST #
04745   111144          JMS     LPERR
04746   740040      E186    HALT                /ERROR,  THE DONE FLAG WAS NOT SET BY A
04747   604675          JMP     T186+1          /WORD PARITY ERROR.  CONTINUE TO REPEAT TEST.
04750   111217          JMS     ENDTST          /DONE
04751   604675          JMP     T186+1          /REPEAT TEST
04752   624674          JMP*    T186            /EXIT TEST
                        .EJECT
```

```
                        /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    0
04754   400116          XCT     DPCF            /RESET CONTRO
04755   110600          JMS     EMM             /ENTER MAINT MODE
04756   110634          JMS     ISW
04757   212665          LAC     (312444
04760   041404          DAC     CTR4
04761   042250          DAC     WCRO2
04762   400102          XCT     DPLA            /LOAD ADDRESS
04763   777200          LAW     -600
04764   400113          XCT     DPWC            /LOAD WC REG
04765   203630          LAC     BUFF1
04766   400110          XCT     DPCA            /LOAD CA REG
04767   111425          JMS     RDS             /READ SEQUENCE
04770   111505          JMS     HEADER          /ADDRESS PORTION OF HEADER
04771   142247          DEM     WORD1
04772   110647          JMS     ODWDPB          /ODD HEADER PARITY • 3 CLOCK PULSES
04773   111550          JMS     DSBUS           /50 US DELAY
04774   111433          JMS     SYNCBT          /DATA SYNC
04775   212660          LAC     (500252
04776   042247          DAC     WORD1
04777   042250          DAC     WORD2
05000   111666  LEJD    JMS     DATA            /TRANSFER A 36 BIT DATA WORD
05001   111556          JMS     ODWDPA          /ODD WORD PARITY
05002   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
05003   440623          ISZ     CTR3            /TRANSFER COMPLETE?
05004   600024          JMP     E107•3          /NO
05005   203630          LAC     BUFF1
05006   400110          XCT     DPCA            /LOAD CA REG
05007   111636          JMS     EVLPAR          /EVEN LONG PARITY
05010   111710          JMS     TRAIL           /TRAILER
05011   400107          XCT     DPSJ            /JOB DONE FLAG SET?
05012   741000          SKP
05013   600021          JMP     E107•2          /YES
05014   700107          LAW     107
05015   110670          JMS     TTSTNO          /TYPE TEST #
05016   111144          JMS     LPERR
05017   740040  E107    HALT                    /ERROR,  THE DONE FLAG WAS NOT SET BY A
                                                /LONGITUDINAL PARITY ERROR.  CONTINUE TO
05020   604754          JMP     T107•1          /REPEAT TEST.
05021   111217          JMS     ENDTST          /DONE
05022   604754          JMP     T107•1          /REPEAT TEST
05023   624753          JMP•    T107            /EXIT TEST
05024   203630          LAC     BUFF1
05025   400110          XCT     DPCA            /LOAD CA REG
05026   600000          JMP     LEJD
                        .EJECT
```

```
                        /TEST 118,  TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING A READ
                        /COMPARE ERROR,

                        /*SEE NOTE 1 ON PAGE 1
                        /
05027   000000  T118    0
05030   400116          XCT     DPCF            /RESET CONTROL
05031   110634          JMS     ISW
05032   777200          LAW     -200
05033   400113          XCT     DPWC            /LOAD WC REG
05034   777777          LAW     -1
05035   043631          DAC     BUFF1+1
05036   143632          DZM     BUFF1+2
05037   203630          LAC     BUFF1
05040   400110          XCT     DPCA            /LOAD CA REG
05041   112024          JMS     RDCOMP          /READ COMPARE SEQUENCE
05042   203630          LAC     BUFF1
05043   400110          XCT     DPCA            /LOAD CA REG
05044   777777          LAW     -1
05045   042247          DAC     WORD1
05046   042250          DAC     WORD2
05047   111066          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
05050   111556          JMS     ODWDPA          /ODD WORD PARITY
05051   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
05052   446623          ISZ     CTRD
05053   777777          LAW     -1
05054   043632          DAC     BUFF1+2
05055   203630  RCJD    LAC     BUFF1
05056   400110          XCT     DPCA            /LOAD CA REG
05057   111066          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
05060   111556          JMS     ODWDPA          /ODD WORD PARITY
05061   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
05062   446623          ISZ     CTRD            /TRANSFER COMPLETE?
05063   605055          JMP     RCJD            /NO
05064   111644          JMS     ODLPAR          /ODD LONG PARITY
05065   111710          JMS     TRAIL           /TRAILER
05066   400107          XCT     DMSJ            /JOB DONE FLAG SET?
05067   741000          SKP
05070   605076          JMP     E118+2          /YES
05071   760110          LAW     10              /
05072   110670          JMS     TSTNO           /TYPE TEST #
05073   111144          JMS     LPERR
05074   740040  E118    HALT                    /ERROR,  THE DONE FLAG WAS NOT SET BY A READ
05075   605030          JMP     T118+1          /COMPARE ERROR,  CONTINUE TO REPEAT TEST.
05076   111217          JMS     ENDTST          /DONE
05077   605030          JMP     T118+1          /REPEAT TEST
05100   625027          JMP*    T11             /EXIT TEST
                        .EJECT
```

```
                        /TEST 111, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A READ COMMAND.
                        /
05101   000000  T111    0
05102   400116          XCT     DPCF            /RESET CONTROL
05103   110602          JMS     EMM             /ENTER MAINT MODE
05104   760220          LAW     220             /SET DONE
05105   400115          XCT     DPEM
05106   212053          LAC     (11000
05107   400125          XCT     DPLF            /LOAD FUNCTION REG
05110   400107          XCT     DPSJ            /JOB DONE FLAG CLEARED?
05111   605117          JMP     E111+2          /YES
05112   760111          LAW     111
05113   110670          JMS     TTSTNO          /TYPE TEST#
05114   111144          JMS     LPERR
05115   740040  E111    HALT                    /ERROR, ISSUING A READ COMMAND DID NOT CLEAR
                                                /THE JOB DONE FLAG, SL111 MAY BE ENTERED
05116   605102          JMP     T111+1          /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.
05117   111217          JMS     ENDTST          /DONE
05120   605102          JMP     T111+1          /REPEAT TEST
05121   625101          JMP#    T111            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T111
                        /
05122   400116  SL111   XCT     DPCF            /RESET CONTROL
05123   110600          JMS     EMM             /ENTER MAINT MODE
05124   760220          LAW     220
05125   400115          XCT     DPEM
05126   212053          LAC     (11000
05127   400125          XCT     DPLF            /LOAD FUNCTION REG
05130   400107          XCT     DPSJ            /SKIP ON JOB DONE
05131   605122          JMP     SL111           /REPEAT
05132   605122          JMP     SL111           /REPEAT
                        .EJECT
```

```
                        /TEST 112, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A WRITE COMMAND.
                        /
05133   000000  T112    0
05134   400116          XCT     DPCF            /RESET CONTROL
05135   110600          JMS     EMM             /ENTER MAINT MODE
05136   760220          LAW     220             /SET DONE
05137   400115          XCT     DPEM
05140   212635          LAC     (21000
05141   400125          XCT     DPLF            /LOAD FUNCTION REG
05142   400107          XCT     DPSJ            /JOB DONE FLAG CLEARED?
05143   605151          JMP     E112+2          /YES
05144   760112          LAW     112
05145   110670          JMS     TYSTNO          /TYPE TEST#
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
05150   605134          JMP     T112+1          /TEST,
05151   111217          JMS     ENDTST          /DONE
05152   605134          JMP     T112+1          /REPEAT TEST
05153   625133          JMP.    T112            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T112
                        /
05154   400116  SL112   XCT     DPCF            /RESET CONTROL
05155   110600          JMS     EMM             /ENTER MAINT MODE
05156   760220          LAW     220
05157   400115          XCT     DPEM
05160   212635          LAC     (21000
05161   400125          XCT     DPLF            /LOAD FUNCTION REG
05162   400107          XCT     DPSJ            /SKIP ON JOB DONE
05163   605154          JMP     SL112           /REPEAT
05164   605154          JMP     SL112           /REPEAT
                        .EJECT
```

```
                        /TEST 113, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A READ
                        /ALL COMMAND.
                        /
05165   000000  T113    0
05166   400116          XCT     DPCF            /RESET CONTROL
05167   110600          JMS     EMM             /ENTER MAINT MODE
05170   760220          LAW     220             /SET DONE
05171   400115          XCT     DPEM
05172   212670          LAC     (51000
05173   400125          XCT     DPLF            /LOAD FUNCTION REG
05174   400107          XCT     DPSJ            /JOB DONE FLAG CLEARED?
05175   605203          JMP     E113+2          /YES
05176   760113          LAW     113
05177   110670          JMS     TYSTNO          /TYPE TEST#
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
05202   605166          JMP     T113+1          /TO REPEAT TEST.
05203   111217          JMS     ENDTST          /DONE
05204   605166          JMP     T113+1          /REPEAT TEST
05205   625165          JMP#    T113            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T113
                        /
05206   400116  SL113   XCT     DPCF            /RESET CONTROL
05207   110600          JMS     EMM             /ENTER MAINT MODE
05210   760220          LAW     220
05211   400115          XCT     DPEM
05212   212670          LAC     (51000
05213   400125          XCT     DPLF            /LOAD FUNCTION REG
05214   400107          XCT     DPSJ            /SKIP ON JOB DONE
05215   605206          JMP     SL113           /REPEAT
05216   605206          JMP     SL113           /REPEAT
                        .EJECT
```

```
                        /TEST 114, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A WRITE ALL
                        /COMMAND.
                        /
05217   000000  T114    0
05220   400116          XCT     DPCF            /RESET CONTROL
05221   110600          JMS     EMM             /ENTER MAINT MODE
05222   760220          LAW     220             /SET DONE
05223   400115          XCT     DPEM
05224   212663          LAC     (61000
05225   400125          XCT     DPLF            /LOAD FUNCTION REG
05226   400107          XCT     DPSJ            /JOB DONE FLAG CLEARED?
05227   605235          JMP     E114+2          /YES
05230   760114          LAW     114
05231   110670          JMS     TTSTNO
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
05234   605220          JMP     T114+1          /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.
05235   111217          JMS     ENDTST          /DONE
05236   605220          JMP     T114+1          /REPEAT TEST
05237   625217          JMP*    T114            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T114
                        /
05240   400116  SL114   XCT     DPCF            /RESET CONTROL
05241   110600          JMS     EMM             /ENTER MAINT MODE
05242   760220          LAW     220
05243   400115          XCT     DPEM
05244   212663          LAC     (61000
05245   400125          XCT     DPLF            /LOAD FUNCTION REG
05246   400107          XCT     DPSJ            /SKIP ON JOB DONE
05247   605240          JMP     SL114           /REPEAT
05250   605240          JMP     SL114           /REPEAT
                        .EJECT
```

```
                        /TEST 115, TEST FOR THE JOB DONE FLAG TO BE CLEARED AFTER ISSUING A READ COMPARE
                        /COMMAND.
                        /
05251   000000  T115    0
05252   400116          XCT     DPCF            /RESET CONTROL
05253   110600          JMS     EMM             /ENTER MAINT MODE
05254   760220          LAW     220             /SET DONE
05255   400115          XCT     DPEM
05256   212071          LAC     (71000
05257   400125          XCT     DPLF            /LOAD FUNCTION REG
05260   400107          XCT     DPSJ            /JOB DONE FLAG CLEARED?
05261   609267          JMP     E115+2          /YES
05262   760115          LAW     115
05263   110670          JMS     TTSTNO          /TYPE TEST#
05264   111144          JMS     LPERR
05265   740040  E115    HALT                    /ERROR, ISSUING A READ COMPARE COMMAND DID NOT
                                                /CLEAR THE JOB DONE FLAG. SL115 MAY BE
                                                /ENTERED MANUALLY FOR SCOPING, OR CONTINUE TO
05266   609252          JMP     T115+1          /REPEAT TEST.
05267   111217          JMS     ENDTST          /DONE
05270   609252          JMP     T115+1          /REPEAT TEST
05271   629251          JMP#    T115            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T115
                        /
05272   400116  SL115   XCT     DPCF            /RESET CONTROL
05273   110600          JMS     EMM             /ENTER MAINT MODE
05274   760220          LAW     220
05275   400115          XCT     DPEM
05276   212071          LAC     (71000
05277   400125          XCT     DPLF            /LOAD FUNCTION REG
05300   400107          XCT     DPSJ            /SKIP ON JOB DONE
05301   609272          JMP     SL115           /REPEAT
05302   609272          JMP     SL115           /REPEAT
                        .EJECT
```

```
                        /TEST 116, SET AN ATTENTION FLAG AND TEST FOR A PROGRAM INTERRUPT TO OCCUR.
                        /
05303   000000  T116    0
05304   400116          XCT     DPCF            /RESET CONTROL
05305   703302          CAF
05306   772000          LAW     12000
05307   400125          XCT     DPLF            /SET ATT ENABLE
05310   205326          LAC     E116+2
05311   040001          DAC     1               /INIT FOR RETURN
05312   700042          ION                     /TURN PI ON
05313   110000          JMS     EMM             /ENTER MAINT MODE (SET UNIT 0 ATT)
05314   740000          NOP                     /W
05315   740000          NOP                     /A
05316   740000          NOP                     /I
05317   740000          NOP                     /T
05320   700002          IOF                     /TURN  PI OFF
05321   760116          LAW     116
05322   110070          JMS     TTSTNO          /TYPE TEST#
05323   111144          JMS     LPERR
05324   740040  E116    HALT                    /ERROR, AN ATTENTION FLAG FAILED TO CAUSE A
                                                /PROGRAM INTERRUPT, SL116 MAY BE ENTERED
05325   605304          JMP     T116+1          /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.
05326   605327          JMP     .+1
05327   111217          JMS     ENDTST          /DONE
05330   605304          JMP     T116+1          /REPEAT TEST
05331   625303          JMP*    T116            /EXIT TEST
                        /
                        /SCOPE LOOP FOR T116
                        /
05332   400116  SL116   XCT     DPCF            /RESET CONTROL
05333   703302          CAF
05334   205347          LAC     ESL116
05335   040001          DAC     1               /INIT FOR RETURN
05336   772000          LAW     12000
05337   400125          XCT     DPLF            /SET ATT ENABLE
05340   700042          ION                     /TURN PI ON
05341   110000          JMS     EMM             /ENTER MAINT MODE (SET UNIT 0 ATT)
05342   740000          NOP                     /W
05343   740000          NOP                     /A
05344   740000          NOP                     /I
05345   740000          NOP                     /T
05346   700002          IOF                     /TURN PI OFF
05347   605332  ESL116  JMP     SL116           /REPEAT
                        .EJECT
```

```
                        /TEST 117, SET AN ATTENTION FLAG AND CLEAR BIT 7 OF THE FUNCTION REG. TEST FOR NO
                        /PROGRAM INTERRUPT TO OCCUR.
                        /
05350   000000  T117    0
05351   400116          XCT     OPCF            /RESET CONTROL
05352   703302          CAF
05353   205376          LAC     E117+2
05354   040001          DAC     1               /INIT FOR RETURN
05355   770002          LAW     10002
05356   400125          XCT     DPLF            /LOAD FUNCTION REG
05357   700042          ION                     /TURN PI ON
05360   110600          JMS     EMM             /ENTER MAINT MODE (SET UNIT 0 ATT)
05361   740000          NOP                     /W
05362   740000          NOP                     /A
05363   740000          NOP                     /I
05364   740000          NOP                     /T
05365   700002          IOF                     /TURN PI OFF
05366   111217          JMS     ENDTST          /DONE
05367   605351          JMP     T117+1          /REPEAT TEST
05370   625350          JMP.    T117            /EXIT TEST
05371   760117          LAW     117
05372   110670          JMS     TYPTNO          /TYPE TEST#
05373   111144          JMS     LPERR
05374   740040  E117    HALT                    /ERROR, BIT 7 OF THE FUNCTION REG FAILED TO
                                                /DISABLE THE ATTENTION FLAG FROM PROGRAM
                                                /INTERRUPT, SL117 MAY BE ENTERED MANUALLY FOR
05375   605351          JMP     T117+1          /SCOPING, OR CONTINUE TO REPEAT TEST.
05376   605371          JMP     E117+3
                        /
                        /SCOPE LOOP FOR T117
                        /
05377   400116  SL117   XCT     OPCF            /RESET CONTROL
05400   703302          CAF
05401   205414          LAC     ESL117
05402   040001          DAC     1               /INIT FOR RETURN
05403   770002          LAW     10002
05404   400125          XCT     DPLF            /LOAD FUNCTION REG
05405   700042          ION                     /TURN PI ON
05406   110600          JMS     EMM             /ENTER MAINT MODE (SET UNIT 0 ATT)
05407   740000          NOP                     /W
05410   740000          NOP                     /A
05411   740000          NOP                     /I
05412   740000          NOP                     /T
05413   700002          IOF                     /TURN PI OFF
05414   605377  ESL117  JMP     SL117           /REPEAT
                        .EJECT
```

```
                        /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   700042          ION                     /TURN PI ON
05426   760220          LAW     220
05427   400115          XCT     DPEM            /SET JOB DONE FLAG
05430   740000          NOP                     /W
05431   740000          NOP                     /A
05432   740000          NOP                     /I
05433   740000          NOP                     /T
05434   700002          IOF                     /TURN PI OFF
05435   760120          LAW     120
05436   110671          JMS     TTSTNO          /TYPE TEST#
05437   111140          JMS     LPERR
05440   740040  E120    HALT                    /ERROR, THE JOB DONE FLAG FAILED TO CAUSE A
                                                /PROGRAM INTERRUPT, SL120 MAY BE ENTERED
05441   605416          JMP     T120+1          /MANUALLY FOR SCOPING, OR CONTINUE TO REPEAT TEST.
05442   605443          JMP     .+1
05443   111217          JMS     ENDTST          /DONE
05444   605416          JMP     T120+1          /REPEAT TEST
05445   625415          JMP*    T120            /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                     /TURN PI ON
05455   760220          LAW     220
05456   400115          XCT     DPEM            /SET JOB DONE FLAG
05457   740000          NOP                     /W
05460   740000          NOP                     /A
05461   740000          NOP                     /I
05462   740000          NOP                     /T
05463   700002          IOF                     /TURN PI OFF
05464   605446  ESL120  JMP     SL120           /REPEAT
                        .EJECT
```

```
                        /TEST 121, SET THE JOB DONE FLAG AND CLEAR BIT 6 OF THE FUNCTION REG. TEST FOR NO PRO   ISR 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 PI ON
05476   760220          LAW     220
05477   400115          XCT     DPEM            /SET JOB DONE FLAG
05500   740000          NOP                     /W
05501   740000          NOP                     /A
05502   740000          NOP                     /I
05503   740000          NOP                     /T
05504   700002          IOF                     /TURN PI 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
05514   605466          JMP     T121+1          /SCOPING, OR CONTINUE TO REPEAT TEST.
05515   605517          JMP     E121+3
                        /
                        /SCOPE LOOP FOR T121
                        /
05516   400116  SL121   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 PI ON
05525   760220          LAW     220
05526   400115          XCT     DPEM            /SET JOB DONE FLAG
05527   740000          NOP                     /W
05530   740000          NOP                     /A
05531   740000          NOP                     /I
05532   740000          NOP                     /T
05533   700002          IOF                     /TURN PI OFF
05534   605516  ESL121  JMP     SL121           /REPEAT
                        .EJECT
```

```
                        /TEST 122.  SET THE ERROR FLAG AND TEST FOR A PROGRAM INTERRUPT TO OCCUR
                        /
05535   000000  T122    0
05536   400116          XCT     DPCF            /RESET CONTROL
05537   703302          CAF
05540   110600          JMS     EMM             /ENTER MAINT MODE
05541   205562          LAC     E122+2
05542   040001          DAC     1               /INIT FOR RETURN
05543   774000          LAW     14000
05544   400125          XCT     DPLF            /DISABLE ATT 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 #
05557   111144          JMS     LPERR
05560   740040  E122    HALT                    /ERROR. THE ERROR FLAG FAILED TO
                                                /CAUSE A PROGRAM INTERRUPT, SL122 MAY BE
                                                /ENTERED MANUALLY FOR SCOPING, OR CON-
05561   605536          JMP     T122+1          /TINUE TO REPEAT TEST.
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
                        /
05566   400116  SL122   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 ATT 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   000000  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     DPC#            /RESET CONTROL
05613   703302          CAF
05614   772000          LAW     12000
05615   400125          XCT     DPL#            /SET ATT ENABLE
05616   110600          JMS     EMM             /ENTER MAINT MODE
05617   705512          RPL                     /READ STATUS BITS
05620   552673          SAD     (40000          /CORRECT STATUS?
05621   605634          JMP     TAT             /YES
05622   040646          DAC     TSTRG1
05623   212673          LAC     (40000
05624   040601          DAC     CTR1
05625   760123          LAW     123
05626   110674          JMS     TTSTNO          /TYPE TEST #
05627   111052          JMS     TTXT            /TYPE
05630   012367          BEP
05631   111266          JMS     CRLF
05632   110564          JMS     RPTS            /REPORT ERROR
05633   605666          JMP     E123+1
05634   205671  TAT     LAC     E123+2
05635   040764          DAC     RETURN          /INIT RETURN ADDRESS
05636   212647          LAC     .+8
05637   040601          DAC     CTR1            /INIT ADDRESS POINTER
05640   777740          LAW     -40
05641   051432          DAC     CTR2            /INIT COUNT
05642   205762          LAC     JMSER
05643   060601          DAC.    CTR1            /INIT A CHANNEL ADDRESS
05644   440601          ISE     CTR1            /MOVE POINTER
05645   451432          ISE     CTR2            /ALL ADDRESSES INITALIZED?
05646   605643          JMP     .-3             /NO
05647   205762          LAC     JMSER
05650   040000          DAC     0
05651   205763          LAC     JMSERV
05652   072213          DAC.    ACA             /INIT DEVICE CHANNEL ADDRESS
05653   400117          XCT     DPLM            /LEAVE MAINT MODE (CLEAR UNIT 0 ATT)
05654   212654          LAC     (400000
05655   705504          ISA                     /ENABLE API
05656   110600          JMS     EMM             /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     TTSTNO          /TYPE TEST #
05666   111144          JMS     LPERR
05667   740040  E123    HALT                    /ERROR, NO INTERRUPT OCCURRED, OR API
                                                /STATUS WAS INCORRECT BEFORE API WAS
```

```
                                                        /ENABLED, OR AFTER AN INTERRUPT OCCURRED.
05670   605626          JMP     T12J+1                  /CONTINUE TO REPEAT TEST.
05671   205672          .+1
05672   212674          LAC     (440100
05673   540646          SAD     TSTRG1                  /CORRECT STATUS?
05674   605705          JMP     END123                  /YES
05675   040601          DAC     CTR1
05676   760123          LAW     123
05677   110670          JMS     TTSTNO                  /TYPE TEST #
05700   111052          JMS     TTXT                    /TYPE
05701   012407          ATT
05702   111266          JMS     CRLF
05703   110564          JMS     RPTJ                    /REPORT ERROR
05704   605666          JMP     E12J+1
05705   111217  END123  JMS     ENDTST                  /DONE
05706   605626          JMP     T12J+1                  /REPEAT TEST
05707   625605          JMP*    T12J                    /EXIT TEST
                        .EJECT
```

```
                        /TEST 124, TEST FOR AUTOMATIC PRIORITY INTERRUPT HAVING PRIORITY OVER
                        /PROGRAM INTERRUPT, AN ATTENTION FLAG IS SET TO CAUSE THE INTERRUPT.
                        /
05710   000000  T124    0
05711   750004          LAS                     /READ AC BIT 4
05712   512672          AND     (20000
05713   740200          SZA                     /DELETE API TEST?
05714   625710          JMP.    T124            /YES
05715   400116          XCT     DPC             /RESET CONTROL
05716   703302          CAF
05717   772000          LAW     12000
05720   400125          XCT     DPL             /SET ATT ENABLE
05721   110600          JMS     EMM             /ENTER MAINT MODE
05722   205753          LAC     E124+2
05723   072213          DAC.    ACA             /INIT FOR API RETURN
05724   205754          LAC     E124+3
05725   040000          DAC     0
05726   040001          DAC     1               /INIT FOR PI RETURN
05727   400117          XCT     DPLM            /LEAVE MAINT MODE (CLEAR UNIT 0 ATT)
05730   700042          ION                     /TURN PI ON
05731   212654          LAC     (400000
05732   705504          ISA                     /ENABLE API
05733   110600          JMS     EMM             /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     TTXT
05743   012476          NOINT
05744   111266          JMS     CRLF
05745   605750          JMP     .+3             /NO INTERRUPT FROM API OR PI!
05746   760124          LAW     124
05747   110670          JMS     TTSTNO          /TYPE TEST #
05750   111144          JMS     LPERR
05751   740040  E124    HALT                    /ERROR, PROGRAM INTERRUPT OCCURRED BEFORE API
05752   605711          JMP     T124+1          /CONTINUE TO REPEAT TEST
05753   605755          JMP     .+2
05754   605746          JMP     E124+3
05755   700002          IOF                     /TURN PI OFF
05756   703302          CAF
05757   111217          JMS     ENDTST          /DONE
05760   605711          JMP     T124+1          /REPEAT TEST
05761   625710          JMP.    T124            /EXIT TEST
                        /
05762   111723  JMSER   JMS     INTERR
05763   111716  JMSSRV  JMS     APISRV
05764   000000  RETURN  0
                        .EJECT
```

```
                    /TEST 125,  TEST FOR THE JOB DONE FLAG TO BE SET AFTER SIMULATING
                    /A MNFE USING THE DPCN IOT.
                    /
05765   000000      T125    0
05766   400116              XCT     DPCF            /RESET CONTROL
05767   110600              JMS     EMM             /ENTER MAINT MODE
05770   111117              JMS     MNFE            /HEADER NOT FOUND
05771   400105              XCT     DPCS            /CLEAR MNFE
05772   400124              XCT     DPCN            /EXECUTE FUNCTION REQ
05773   111532              JMS     SUIP            /SEL UNIT INDEX PULSE
05774   111570              JMS     PDBE
05775   212631              LAC     (625151
05776   041404              DAC     CTR4
05777   111505              JMS     HEADER
06000   142247              DZM     WORD1
06001   201404              LAC     CTR4
06002   042250              DAC     WORD2
06003   111556              JMS     ODWDPA
06004   111360              JMS     CTHREE
06005   111532              JMS     SUIP
06006   111532              JMS     SUIP
06007   400107              XCT     DPSJ            /DONE FLAG SET?
06010   741000              SKP                     /NO
06011   600017              JMP     E125+2          /YES
06012   700125              LAW     125
06013   110670              JMS     TTSTNO          /TYPE TEST #
06014   111144              JMS     LPEMR
06015   740040      E125    HALT                    /ERROR,  THE DPCN IOT FAILED.
06016   605766              JMP     T125+1          /CONTINUE TO REPEAT TEST
06017   111217              JMS     ENDTST          /DONE
06020   605766              JMP     T125+1          /REPEAT TEST
06021   625765              JMP*    T125            /EXIT TEST
                    .EJECT
```

```
                    /TEST 126, 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
                    /
06722   000002      T126    0
06723   400116              XCT     DPCF            /RESET CONTROL
06724   110627              JMS     CLRARS          /CLEAR SOFTWARE ADD REGS
06725   110602              JMS     EMM             /ENTER MAINT MODE
06726   110634              JMS     ISN
06727   141404              DEM     CTR4
06730   750000              CLA
06731   400102              XCT     DPLA            /LOAD ADDRESS
06732   111425              JMS     RDS             /READ SEQUENCE
06733   111505              JMS     HEADER          /ADD PORTION OF HEADER
06734   142247              DEM     WORD1
06735   142250              DEM     WORD2
06736   110660              JMS     EVWDPB          /EVEN HEADER PARITY • 3 CLOCK PULSES
06737   111550              JMS     D30US           /30US DELAY
06740   111433              JMS     SYNCDT          /DATA SYNC
06741   212660              LAC     (525252
06742   042247              DAC     WORD1
06743   042250              DAC     WORD2
06744   203630      TD126   LAC     BUFF1
06745   400110              XCT     DPCA            /LOAD CA REG
06746   111660              JMS     DATA            /XFER A 36 BIT DATA WORD
06747   111556              JMS     ODWDPA          /ODD WORD PARITY
06750   111634              JMS     LPRCNT          /CALCULATE LONG PARITY
06751   440023              ISZ     CTR3            /TRANSFER COMPLETE?
06752   606744              JMP     TD126           /NO
06753   203630              LAC     BUFF1
06754   400110              XCT     DPCA            /LOAD CA REG
06755   111644              JMS     ODLPAR          /ODD LONG PARITY
06756   111710              JMS     TRAIL           /TRAILER
06757   400122              XCT     DPRA            /READ ADD REGS
06760   741200              SNA                     /ADD REGS CORRECT?
06761   606767              JMP     TMC126
06762   041432              DAC     CTR2
06763   111360              JMS     UNPKAR          /UNPACK ADD REGS
06764   760126              LAW     126
06765   110732              JMS     RPT4
06766   606107              JMP     E126-1
06767   400126      TMC126  XCT     DPRM            /READ MC REG
06770   741200              SNA                     /MC REG CORRECT?
06771   606777              JMP     TCA126
06772   040646              DAC     TSTRG1
06773   140681              DEM     CTR1
06774   760126              LAW     126
06775   110620              JMS     RPT1
06776   606107              JMP     E126-1
06777   400123      TCA126  XCT     DPRC            /READ CA REG
06100   543630              SAD     BUFF1           /CA REG CORRECT?
06101   606112              JMP     E126-2          /YES
06102   040646              DAC     TSTRG1
06103   203630              LAC     BUFF1
```

```
06104   040601                  DAC     CTR1
06105   760126                  LAW     126
06106   110640                  JMS     RPTZ
06107   111144                  JMS     LPERR
06110   740040          E126    HALT                    /ERROR, THE REGS TESTED WERE INCORRECT
                                                        /AFTER SIMULATING A FORMAT ERROR.
06111   606023                  JMP     T126+1          /CONTINUE TO REPEAT TEST.
06112   111217                  JMS     ENDTST          /DONE
06113   606023                  JMP     T126+1          /REPEAT TEST
06114   626022                  JMP+    T126            /EXIT TEST
                                .EJECT
```

```
                /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     ISW
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     ODWDPB          /ODD HEADER PARITY + 3 CLOCK PULSES
06134   111550          JMS     D50US           /50 US DELAY
06135   111433          JMS     SYNCBT          /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     EVWDPA          /EVEN WORD PARITY
06143   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
06144   446623          ISZ     CTR3
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     ODWDPA          /ODD WORD PARITY
06151   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
06152   446623          ISZ     CTR3            /TRANSFER COMPLETE?
06153   606145          JMP     TD127           /NO
06154   203630          LAC     BUFF1
06155   400110          XCT     DPCA            /LOAD CA REG
06156   111644          JMS     ODLPAR          /ODD LONG PARITY
06157   111710          JMS     TRAIL           /TRAILER
06160   400122          XCT     DPRA            /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     DPRW            /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              JMS     RPT1
06200   606211              JMP     E127+1
06201   400123      TCA127  XCT     DPRC            /READ CA REG
06202   543633              SAD     BUFEND          /CA REG CORRECT?
06203   606214              JMP     E127+2          /YES
06204   040646              DAC     TSTMG1
06205   203633              LAC     BUFEND
06206   040601              DAC     CTR1
06207   760127              LAW     127
06210   110640              JMS     RPT2
06211   111144              JMS     LPERR
06212   740040      E127    HALT                    /ERROR, THE REGS TESTED WERE INCORRECT
                                                    /AFTER SIMULATING A FORMAT ERROR.
06213   606116              JMP     T127+1          /CONTINUE TO REPEAT TEST.
06214   111217              JMS     ENDTST          /DONE
06215   606116              JMP     T127+1          /REPEAT TEST
06216   626115              JMP•    T127            /EXIT TEST
                            .EJECT
```

```
                        /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   400116          XCT     DPCF            /RESET CONTROL
06221   110634          JMS     ISW
06222   777402          LAW     -400
06223   400113          XCT     DPWC            /LOAD WC REG
06224   212660          LAC     (525252
06225   043631          DAC     BUFF1+1
06226   043632          DAC     BUFF1+2
06227   203630          LAC     BUFF1
06230   400111          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     BUFF1
06235   400110          XCT     DPCA            /LOAD CA REG
06236   777733          LAW     -45
06237   111350          JMS     XFER            /INC FORMAT GEN ONCE
06240   203630  TD130   LAC     BUFF1
06241   400110          XCT     DPCA            /LOAD CA REG
06242   777733          LAW     -45
06243   111350          JMS     XFER            /TRANSFER 36 BITS + P
06244   446623          ISZ     CTR5            /TRANSFER COMPLETE?
06245   606240          JMP     TD130           /NO
06246   777733          LAW     -45
06247   111350          JMS     XFER            /TRANSFER LONG PARITY
06250   111360          JMS     CTHREE
06251   400107          XCT     DPSJ            /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     LPERR
06257   740040  E130    HALT                    /ERROR, THE DONE FLAG WAS NOT SET AFTER
                                                /SIMULATING A WRITE FOR ONE COMPLETE
06260   606220          JMP     T130+1          /SECTOR, CONTINUE TO REPEAT TEST.
06261   111217          JMS     ENDTST          /DONE
06262   606220          JMP     T130+1          /REPEAT TEST
06263   626217          JMP*    T130            /EXIT TEST
                        .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   110602          JMS     EMM             /ENTER MAINT MODE
06267   110634          JMS     ISW
06270   777400          LAW     -400
06271   400113          XCT     DPWC            /LOAD WC REG
06272   203630          LAC     BUFF1
06273   400110          XCT     DPCA            /LOAD CA REG
06274   111425          JMS     RDS             /READ SEQUENCE
06275   141404          DEM     CTR4
06276   111505          JMS     HEADER          /ADD PORTION OF HEADER
06277   142247          DEM     WORD1
06300   142250          DEM     WORD2
06301   110647          JMS     ODWDPB          /ODD HEADER PARITY , CLOCK PULSES
06302   111550          JMS     D50US           /50 US DELAY
06303   111433          JMS     SYNCBT          /DATA SYNC
06304   212660          LAC     (525252
06305   042247          DAC     WORD1
06306   042250          DAC     WORD2
06307   111666  TD131   JMS     DATA            /TRANSFER A 36 BIT DATA WORD
06310   111556          JMS     ODWDPA          /ODD WORD PARITY
06311   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
06312   446623          ISZ     CTR3            /TRANSFER COMPLETE?
06313   606333          JMP     E131+3          /NO
06314   203630          LAC     BUFF1
06315   400110          XCT     DPCA            /LOAD CA REG
06316   111644          JMS     ODLPAR          /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     TTSTNO          /TYPE TEST#
06325   111144          JMS     LPERR
06326   740040  E131    HALT                    /ERROR, THE DONE FLAG WAS NOT SET AFTER
                                                /SIMULATING A READ FOR ONE COMPLETE
06327   606265          JMP     T131+1          /SECTOR, CONTINUE TO REPEAT TEST.
06330   111217          JMS     ENDTST          /DONE
06331   606265          JMP     T131+1          /REPEAT TEST
06332   626264          JMP*    T131            /EXIT TEST
06333   203630          LAC     BUFF1
06334   400110          XCT     DPCA            /LOAD CA REG
06335   606307          JMP     TD131
                        .EJECT
```

```
                        /TEST 132, TEST FOR THE DONE FLAG TO BE SET AFTER TRANSFERRING ONE
                        /COMPLETE SECTOR OF DATA, A WRITE-ALL IS SIMULATED.
                        /
06336   000000  T132    0
06337   400116          XCT     DPCF            /RESET CONTROL
06340   212662          LAC     (401B
06341   041404          DAC     CTR4            /SET TO SECT =1
06342   042250          DAC     WORD2
06343   400102          XCT     DPLA            /LOAD ADDRESS
06344   207562          LAC     BUFF2
06345   400110          XCT     DPCA            /LOAD CA REG
06346   777376          LAW     -402
06347   400113          XCT     DPWC            /LOAD WC REG
06350   212663          LAC     (61B00
06351   400125          XCT     DPLF            /LOAD FUNCTION
06352   110600          JMS     EMM             /ENTER MAINT MODE
06353   111570          JMS     PDBE
06354   111505          JMS     HEADER          /ADD PORTION OF HEADER
06355   142247          DEM     WORD1
06356   111556          JMS     ODWDPA          /ODD HEADER PARITY
06357   111360          JMS     CTHREE
06360   777577          LAW     -201
06361   046623          DAC     CTR3            /INIT SOFTWARE WC
06362   441404          ISZ     CTR4            /SET TO SECT
06363   147563          DEM     BUFF2+1
06364   201404          LAC     CTR4
06365   047564          DAC     BUFF2+2
06366   111536          JMS     SUBP            /SEL UNIT SECT PULSE
06367   111734          JMS     IP63BX          /INC FORMAT GEN 63X
06370   111740          JMS     DATAX           /TRANSFER THE 36 BIT HEADER
06371   446623          ISZ     CTR3
06372   777552          LAW     -250
06373   111350          JMS     XFER            /INC FORMAT GEN 4X
06374   111740          JMS     DATAX           /TRANSFER A 36 BIT DATA WORD OF
06375   446623          ISZ     CTR3            /TRANSFER COMPLETE?
06376   606374          JMP     .-2             /NO
06377   777733          LAW     -45
06400   111350          JMS     XFER            /XFER LONG PARITY
06401   111360          JMS     CTHREE
06402   400107          XCT     DPSJ            /JOB DONE SET?
06403   741000          SKP                     /NO
06404   606412          JMP     E132+2          /YES
06405   760132          LAW     132
06406   110670          JMS     TTSTNO          /TYPE TEST#
06407   111144          JMS     LPERR
06410   740040  E132    HALT                    /ERROR, THE DONE FLAG HAS NOT SET AFTER
                                                /SIMULATING A WRITE-ALL FOR ONE COMPLETE
06411   606337          JMP     T132-1          /SECTOR, CONTINUE TO REPEAT TEST.
06412   111217          JMS     ENDTST          /DONE
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   042252          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     CTHREE
06437   111550          JMS     D50US
06440   777577          LAW     =201
06441   046623          DAC     CTR3            /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     CTHREE
06452   446623          ISZ     CTR3
06453   111550          JMS     D50US           /50 US DELAY
06454   111433          JMS     SYNCBT          /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     CTR3            /TRANSFER COMPLETE?
06463   606455          JMP     TD133           /NO
06464   203630          LAC     BUFF1
06465   400110          XCT     DPCA            /LOAD CA REG
06466   111644          JMS     ODLPAR          /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     TYPTNO          /TYPE TEST#
06475   111144          JMS     LPERR
06476   740042  E133    HALT                    /ERROR, THE DONE FLAG WAS NOT SET AFTER
```

```
                                                    /SIMULATING A READ-ALL FOR ONE
06477   606416          JMP     T133+1              /COMPLETE SECTOR, CONTINUE TO REPEAT TEST,
06500   111217          JMS     ENDTST              /DONE
06501   606416          JMP     T133+1              /REPEAT TEST
06502   626415          JMP*    T133                /EXIT TEST
                        .EJECT
```

```
                        /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     DPWC            /LOAD WC REG
06510   777777          LAW     -1
06511   043631          DAC     BUFF1+1
06512   043632          DAC     BUFF1+2
06513   203630          LAC     BUFF1
06514   400110          XCT     DPCA            /LOAD CA REG
06515   112024          JMS     RDCOMP          /READ COMPARE SEQUENCE
06516   777777          LAW     -1
06517   042247          DAC     WORD1
06520   042250          DAC     WORD2
06521   203630  TD134   LAC     BUFF1
06522   400110          XCT     DPCA            /LOAD CA REG
06523   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
06524   111556          JMS     ODWDPA          /ODD WORD PARITY
06525   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
06526   446623          ISE     CTR3            /TRANSFER COMPLETE?
06527   606521          JMP     TD134           /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   006542          JMP     E134+2          /YES
06535   760134          LAW     134
06536   110670          JMS     TTSTNO          /TYPE TEST#
06537   111144          JMS     LPERR
06540   740040  E134    HALT                    /ERROR.  THE DONE FLAG WAS NOT SET AFTER
                                                /SIMULATING A READ-COMPARE FOR ONE
06541   606504          JMP     T134+1          /COMPLETE SECTOR, CONTINUE TO REPEAT TEST.
06542   111217          JMS     ENDTST          /DONE
06543   606504          JMP     T134+1          /REPEAT TEST
06544   626503          JMP*    T134            /EXIT TEST
                        .EJECT
```

```
                        /TEST 135, TEST FOR NO ERROR FLAG AFTER TRANSFERRING ONE COMPLETE SECTOR
                        /OF DATA, A WRITE IS SIMULATED.
                        /
06545   000000  T135    0
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     -43
06573   111350          JMS     XFER            /INC FORMAT GEN ONCE
06574   203630  LCA     LAC     BUFF1
06575   400110          XCT     DPCA            /LOAD CA REG
06576   777733          LAW     -43
06577   111350          JMS     XFER            /TRANSFER 36 BITS + P
06600   446623          ISZ     CTR3            /TRANSFER COMPLETE?
06601   606574          JMP     LCA             /NO
06602   777733          LAW     -43
06603   111350          JMS     XFER            /TRANSFER /TRANSFER LONG PARITY
06604   111360          JMS     CTHREE
06605   400112          XCT     DPSE            /ERROR FLAG CLEARED?
06606   606614          JMP     E135+2          /YES
06607   760135          LAW     135
06610   110670          JMS     TTSTNO          /TYPE TEST#
06611   111144          JMS     LPERR
06612   740040  E135    HALT                    /ERROR, AN ERROR FLAG WAS SET AFTER
                                                /SIMULATING A WRITE FOR ONE SECTOR.
06613   606546          JMP     T135+1          /CONTINUE TO REPEAT TEST.
06614   440601          ISZ     CTR1
06615   606621          JMP     .+4
06616   111217          JMS     ENDTST          /DONE
06617   606546          JMP     T135+1          /REPEAT TEST
06620   626545          JMP*    T135            /EXIT TEST
06621   447565          ISZ     IND
06622   606552          JMP     T135+5
                        /
06623   000000  CTR3    0
                        .EJECT
```

```
                        /TEST 136, TEST FOR NO ERROR FLAG AFTER TRANSFERRING ONE COMPLETE
                        /SECTOR OF DATA, A READ 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     DPCF            /RESET CONTROL
06632   110600          JMS     EMM             /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     ODWDPB          /ODD HEADER PARITY + 3 CLOCK PULSES
06644   111550          JMS     D50US           /50 US DELAY
06645   111433          JMS     SYNCBT          /DATA SYNC
06646   227565          LAC*    IND
06647   042247          DAC     WORD1
06650   447565          ISZ     IND
06651   227565          LAC*    IND
06652   042250          DAC     WORD2
06653   203630  LOCAR   LAC     BUFF1
06654   400110          XCT     DPCA
06655   111666          JMS     DATA            /TRANSFER A 36 BIT DATA WORD
06656   111556          JMS     ODWDPA          /ODD WORD PARITY
06657   111634          JMS     LPRCNT          /CALCULATE LONG PARITY
06660   446623          ISZ     CTR3            /TRANSFER COMPLETE?
06661   606653          JMP     LOCAR           /NO
06662   203630          LAC     BUFF1
06663   400110          XCT     DPCA            /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     E136+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,
06674   606625          JMP     T136+1          /CONTINUE TO REPEAT TEST.
06675   440601          ISZ     CTR1
06676   606702          JMP     .+4
06677   111217          JMS     ENDTST          /DONE
06700   606625          JMP     T136+1          /REPEAT TEST
06701   626624          JMP*    T136            /EXIT TEST
06702   447565          ISZ     IND
06703   606631          JMP     T136+5
                        .EJECT
```