FP11

CLR TST ABS NEG

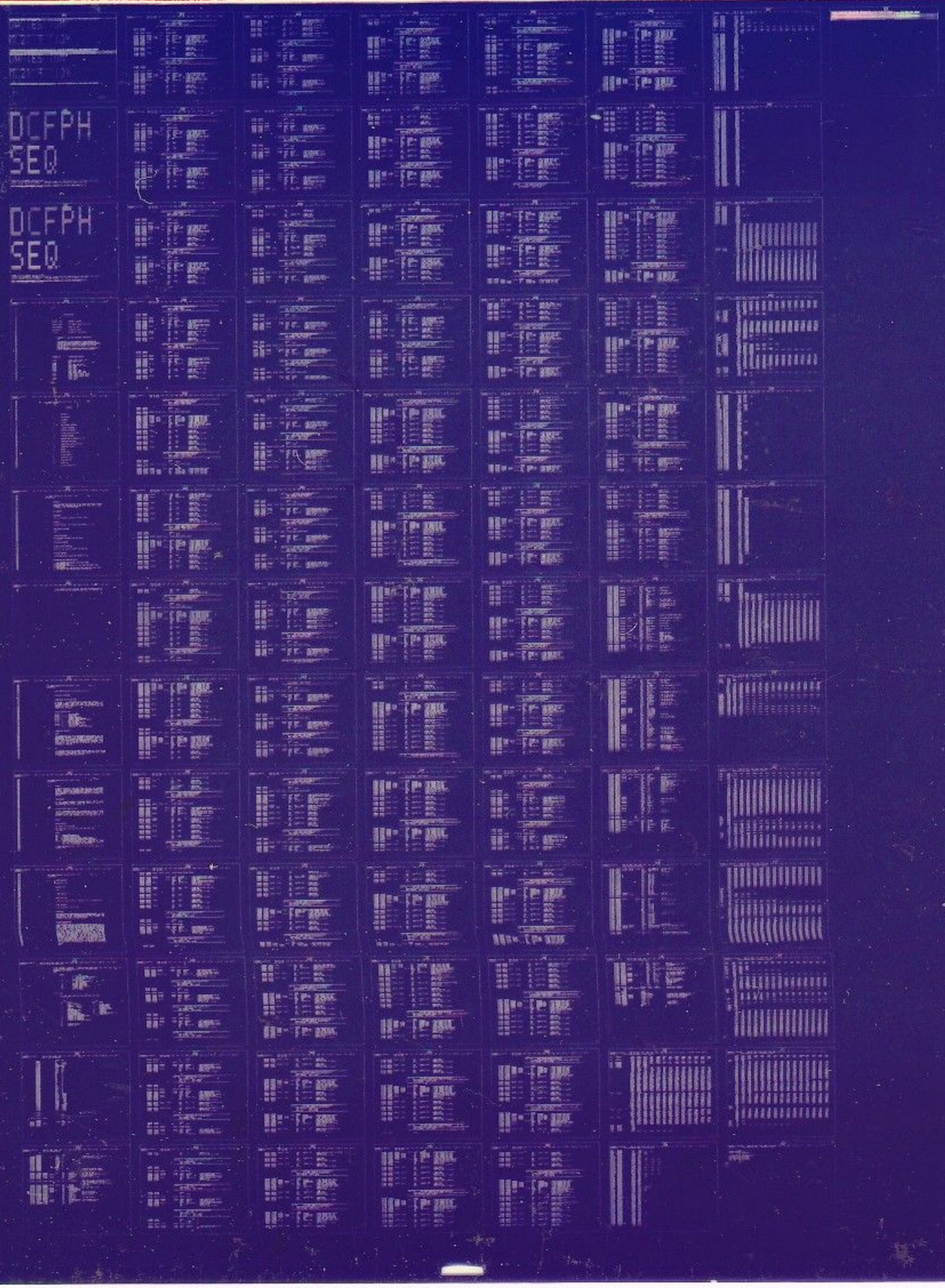
MD-11-DCFPH-B

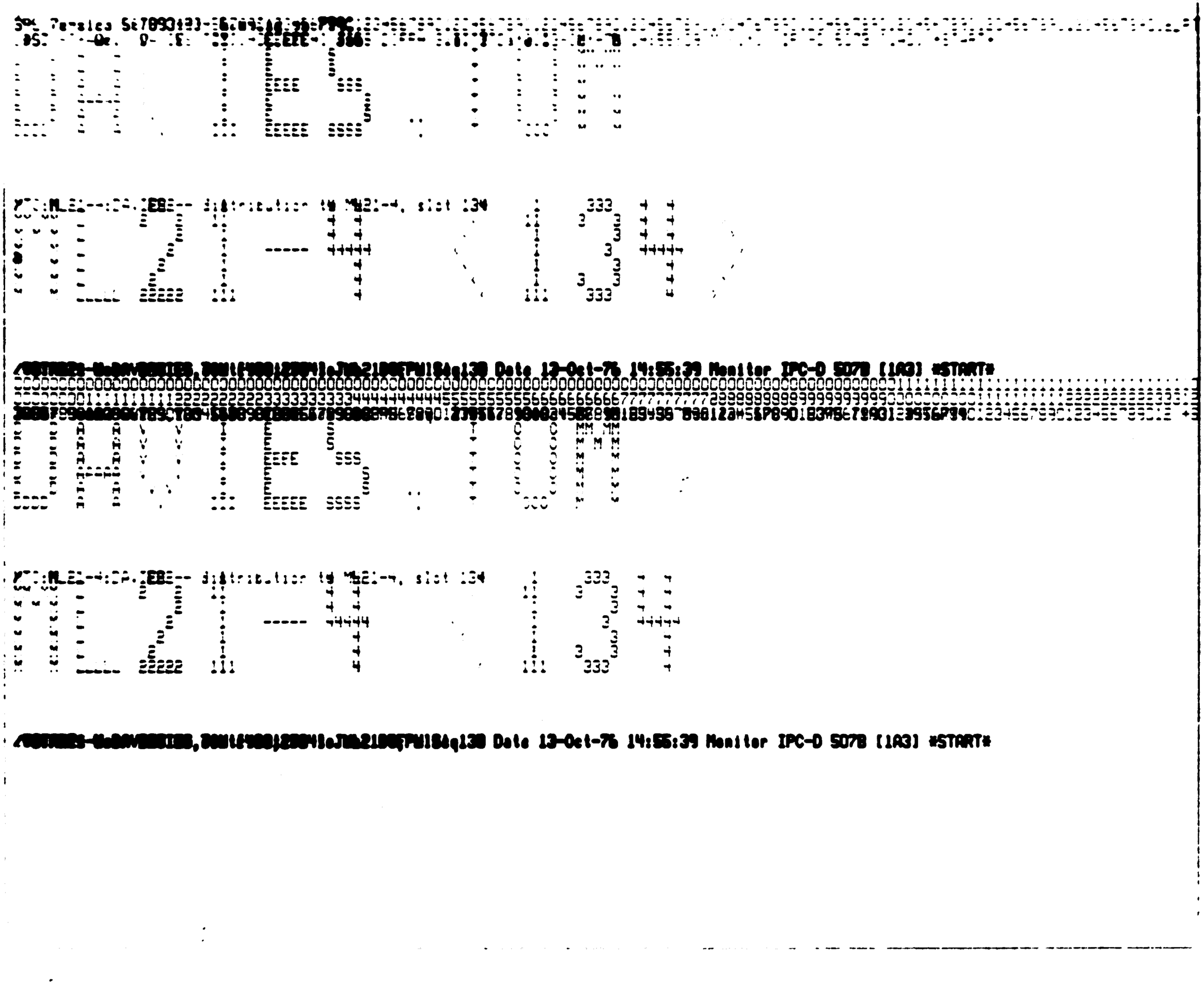
EP DCFPH B DL A

FICHE 1 OF 1

NOV 1976

MADE IN USA





Date 13-Oct-76 14:55:39 Monitor IPC-D 5078 [1A3] *START*

C01

DCFPH

SEQ

LPTSPL Version 6(100344) Running on MTA1
START User DAVIES,TOM [400,2704] Job DCFPH Seq. 3 Date 13-Oct-76 14:55:39 Monitor IPC-D 5073 [1A31] *START*
Request created: 13-Oct-76 14:48:15 /TO:ML21-4:DAVIES -- distribution to ML21-4, slot 134

[illegible] 14:55:47
File will be RENAMED to <057> protection

D01

DCFPH

SEQ

```
LPTSPL Version 6(100344)  Running on MTA1
 *START* User DAVIES,TOM [400,2704] Job  DCFPH Seq. 3 Date 13-Oct-76 14:55:39 Monitor IPC-2 5079 [1A3] *START*
Request created: 13-Oct-76  14:48:15     /TO:ML21-4:DAVIES -- distribution to ML21-4, slot 134

File [illegible]14:55:49
File will be RENAMED to <057> protection
```

.REPT 0

IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DCFPH
PRODUCT NAME: FP11 BASIC INSTRUCTION TESTS
DATE CREATED: MARCH 12, 1973
MAINTAINER: DIAGNOSTIC GROUP
AUTHORS: BOB BRAIN & KEN CHAPMAN

MAINDEC NO.	INSTRUCTIONS TESTED
DCFPA	LDFPS, STFPS, SETI, SETL SETF, SETD, CFCC
DCFPB	STST
DCFPC	LDF, LDD, STF, STD
DCFPD	ADDF, ADDD, SUBF, SUBD
DCFPE	CMPF, CMPD
DCFPF	MULF, MULD
DCFPG	DIVF, DIVD
DCFPH	CLRF, CLRD, TSTF, TSTD ABSF, ABSD, NEGF, NEGD
DCFPI	LDCFD, LDCDF, STCFD, STCDF
DCFPJ	LDCIF, LDCLF, LDCID, LDCLD STCFI, STCFL, STCDI, STCDL
DCFPK	LDEXP, STEXP
DCFPL	MODF, MODD

CONTENTS

FP11 BASIC INSTRUCTION TEST DCFPA - DCFPL PAGE 3
DESCRIPTION

1. ABSTRACT

THESE PROGRAMS TEST THE FP11 IN ALL MODES WITH FIXED NUMBER PATTERNS. THE PROGRAMS SHOULD BE RUN IN ORDER FOR AT LEAST 2 PASSES WITH ALL SWITCHES DOWN.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP11/45 STANDARD COMPUTER WITH FP11 OPTION

2.2 STORAGE

PROGRAM STORAGE - THE ROUTINES USE MEMORY 0 - 17776

2.3 PRELIMINARY PROGRAMS

NONE

3. LOADING PROCEDURE

USE STANDARD PROCEDURE FOR ABS TAPES.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

SEE 5.1.1 (ALL DOWN FOR WORST CASE TESTING)

4.2 STARTING ADDRESS

THE PROGRAM SHOULD ALWAYS BE STARTED AT 200.

4.3 PROGRAM AND/OR OPERATOR ACTION

1) LOAD PROGRAM INTO MEMORY USING ABS LOADER.
2) LOAD ADDRESS 200.
3) SET SWITCHES (SEE SEC 5.1.1) ALL DOWN FOR WORST CASE
4) PRESS START.
5) THE PROGRAM WILL LOOP AND BELL WILL RING ONCE EVERY PASS
6) A MINIMUM OF TWO PASSES SHOULD ALWAYS BE RUN.

```
                        ;) THE DISPLAY ON THE 11/45 WILL SHOW THE ITERATION COUNT IN
                        ;THE LEFT BYTE AND TEST NUMBER IN THE RIGHT.  TO USE, SET THE
```

DESCRIPTION

DATA DISPLAY SWITCH TO THE DISPLAY POSITION.

5. OPERATING PROCEDURE

5.1 OPERATIONAL SWITCH SETTINGS

AT SA 200 .. ALL SWITCHES DOWN IS WORST CASE TESTING. IF AN ERROR OCCURS, THAT TEST WILL BE LOOPED UPON UNTIL COMPLETION OF 256 CONSECUTIVE PASSES WITH NO ERRORS OF THE SUBTEST IF SW<9> SET TO A 1. THE BELL WILL RING UPON COMPLETION OF A PASS.

5.1.1 SWITCH SETTINGS ARE:

```
SW<15> = 1 ..... HALT ON ERROR
SW<14> = 1 ..... SCOPE LOOP
SW<13> = 1 ..... INHIBIT PRINTOUT
SW<12> = 1 ..... INHIBIT TRACE TRAPPING
SW<11> = 1 ..... INHIBIT ITERATIONS OF SUBTEST
SW<10> = 1 ..... BELL ON ERROR
         0 ..... BELL ON PASS COMPLETE
SW<09> = 1 ..... LOOP ON ERROR
SW<08> = 1 ..... LOOP ON TEST IN SW<7:0>
         0 ..... LOAD SW<7:0> INTO LB REGISTER
```

5.2 SUBROUTINE ABSTRACTS

5.2.1 SCOPE

THIS SUBROUTINE CALL IS PLACED BETWEEN EACH SUBTEST IN THE INSTRUCTION SECTION. IT RECORDS THE STARTING ADDRESS OF EACH SUBTEST AS IT IS BEING ENTERED IN LOCATION "LAD". IF A SCOPE LOOP IS REQUESTED, THE CURRENT SUBTEST WILL BE LOOPED UPON. SW<11> ON A 1 INHIBITS ITERATION OF SUBTESTS. THE CONTENTS OF LAD MAY BE USED TO DETERMINE THE LAST SUBTEST SUCCESSFULLY COMPLETED.

5.2.2 HLT

THIS ROUTINE PRINTS OUT AN ERROR MESSAGE (SEE 6.1.) IF A HLT IS EXECUTED. THE SUBTEST WILL BE LOOPED UPON UNTIL 256 CONSECUTIVE GOOD PASSES ARE COMPLETED IF SW<9> IS ON A 1. TO INHIBIT TYPEOUTS, PUT SW<13> ON A 1.

5.2.3 TRTRAP

IF SW<12> IS ON A 0, THE T BIT WILL BE SET ON ALTERNATE PASSES. WHEN SET, IT CAUSES A TRAP AFTER EACH INSTRUCTION. THE FIRST INSTRUCTION EXECUTED UPON TRAPPING IS AN "RTT" WHICH RETURNS TO THE INTERRUPTED SEQUENCE OF INSTRUCTIONS. THIS SEQUENCE IS CONTINUED UNTIL THE END OF THE PROGRAM IS REACHED.

5.2.4 TRAPCATCHER

A ".+2" - "HALT" SEQUENCE IS REPEATED FROM 0 - 776 TO CATCH ANY UNEXPECTED TRAPS. THUS ANY UNEXPECTED TRAPS OR INTERUPTS WILL HALT AT THE VECTOR + 2.

5.2.5 FLOATING POINT TRAP (TO 244)

THE FP11 INTERRUPT DISABLE BIT IS ALWAYS SET IN ALL OF THESE TESTS (EXCEPT DCFPA) SO NO TRAPS TO 244 SHOULD OCCUR. IF AN INTERRUPT OCCURS, THE PROGRAM WILL HALT AT 766 IN THE ROUTINE CALLED FLTERR AND DISPLAY THE FPS REGISTER IN R0.

6. ERRORS

6.1 ERROR PRINTOUT

THE FORMAT IS AS FOLLOWS:

```
ADR  FPS  ANS1 ANS2 ANS3 ANS4 ANS5 ANS6 ANS7 ANS8
  FEC FEA
```

WHERE:

```
ADR     = ADDRESS OF ERROR HLT
FPS     = FLOATING POINT STATUS
FEC     = FLOATING EXCEPTION CODES (ERROR CODES)
FEA     = FLOATING EXCEPTION ADDRESS (ERROR ADDRESS)
ANS1-8 = ERROR DATA READ FROM THE FP11.  FROM 0-8  OF  THESE
         MAY  BE TYPED DEPENDING ON THE NUMBER FOLLOWING THE
         HLT; I.E., HLT+3 WOULD TYPE ANS1-ANS3.
```

TO FIND THE FAILING TEST, LOOK AT THE LISTING ABOVE THE ADDRESS TYPED.

6.2 ERROR RECOVERY

RESTART AT 200

7. RESTRICTIONS

NONE

8. MISCELLANEOUS

8.1 EXECUTION TIME

A BELL WILL RING WITHIN 15 SECONDS WITH ALL SWITCHES DOWN.

8.2 STACK POINTER

STACK IS INITALLY SET TO 600

8.3 POWER FAIL

EACH TEST CAN BE POWER FAILED WITH NO ERRORS EXCEPT ON THE FEC AND FEA. TO USE, START THE TEST AS USUAL AND POWER DOWN THEN UP AT ANY TIME. THE PROGRAM SHOULD TYPE "POWER" AND CONTINUE TO RUN WITH NO OTHER TYPEOUTS.

9. PROGRAM DESCRIPTION

THESE PROGRAMS TEST ALL THE INSTRUCTIONS ON THE FP11 IN ALL MODES. EACH PROGRAM HAS MANY SUBTESTS (THE CODE BETWEEN 2 SCOPE STATEMENTS) WHICH ARE RUN 256 TIMES BEFORE CONTINUING TO THE NEXT. SW(11) ON A 1 CAUSES EACH SUBTEST TO BE RUN ONLY ONCE. SW(9) ON A 1 ENABLES LOOP ON ERROR. THE ADDRESS ICNT (LOC 1000) AND DISPLAY REGISTER ON THE 11/45 EACH CONTAIN THE ITERATION COUNT IN THE LEFT BYTE AND THE TEST NUMBER IN THE RIGHT BYTE. ALL THE SUBTESTS SHOULD BE RUN SEQUENTIALLY BY STARTING AT 200 NOT BY STARTING AT THE BEGINNING OF THE SUBTEST. TO LOOP ON A PARTICULAR SUBTEST, PUT THE TEST NUMBER (SEE LISTING) IN THE RIGHT BYTE OF THE SWITCH REGISTER AND SW(8) ON A 1. THIS TEST WILL BE LOOPED UPON UNTIL SW(8) IS PUT ON A 0 OR THE RIGHT BYTE IS CHANGED. IF THE TEST IS NON-EXISTANT, THE PROGRAM WILL BE RUN AS USUAL.

.ENDR

```
.TITLE  MAINDEC-11-DCFPH-B      TEST OF CLRF, CLRD, TSTF, TSTD, ABSF, ABSD, NEGF, NEGD
;COPYRIGHT 1972, DIGITAL EQUIPMENT CORP., MAYNARD, MASS
;PROGRAM BY KEN CHAPMAN
.REM*
```

SWITCH	USE
8	0 - LOAD UB REGISTER WITH SW<7:0> 1 - LOOP ON TEST IN SW<7:0>
9	LOOP ON ERROR
10	0 - BELL ON PASS COMPLETE 1 - BELL ON ERROR
11	INHIBIT ITERATIONS
12	INHIBIT TRACE TRAP
13	INHIBIT ERROR TYPECUTS
14	LOOP ON TEST
15	HALT ON ERROR

OUTPUT FORM:

```
ADR  FPS  ANS1 ANS2 ANS3 ANS4 ANS5 ANS6 ANS7 ANS8
   FEC  FEA
```

FPS BIT	REASON
0	CARRY
1	OVERFLOW
2	ZERO
3	NEGATIVE
4	MAINTAINANCE MODE
5	TRUNCATE MODE
6	LONG INTEGER MODE
7	DOUBLE PRECISION MODE
8	INTERUPT ON CONVERSION ERROR
9	INTERUPT ON OVERFLOW
10	INTERUPT ON UNDERFLOW
11	INTERUPT ON UNDEFINED VARIABLE
12	
13	
14	INTERUPT DISABLE
15	ERROR FLAG*

FEC CODE	ERROR
0	ADDRESS ERROR
2	OPCODE ERROR
4	DIVIDE BY ZERO
6	CONVERSION ERROR
10	OVERFLOW
12	UNDERFLOW
14	UNDEFINED VARIABLE (-0)
16	UBREAK TRAP

```
                                .ENABL  ABS
000001                          N=      1
177776                          PS=     177776
177570                          SWR=    177570
177570                          DISPLAY=SWR
104400                          SCOPE=  TRAP
104000                          HLT=    EMT
000004                          TYPE=   IOT
000207                          BELL=   207
000000                          FPS=    %0
000000                          R0=     %0
000001                          R1=     %1
000002                          R2=     %2
000003                          R3=     %3
000004                          R4=     %4
000005                          R5=     %5
000006                          TTY=    %6
000007                          SP=     %7
000000                          PC=     %7
000000                          AC0=    %0
000001                          AC1=    %1
000002                          AC2=    %2
000003                          AC3=    %3
000004                          AC4=    %4
000005                          AC5=    %5
100000                          SW15=   100000
040000                          SW14=    40000
020000                          SW13=    20000
010000                          SW12=    10000
004000                          SW11=     4000
002000                          SW10=     2000
001000                          SW09=     1000
000400                          SW08=      400
170003                          LDUB=   170003
170005                          STAD=   170005
170007                          STQD=   170007
170006                          MRS=    170006
170004                          LDSC=   170004

000000                          .=      0                       ;TRAP CATCHER FROM 0 - 776

000200                          .=      200

000200  000167  000622                  JMP     BEG

000760                          .=      760
000760  170200          FLTERR: STFPS   FPS
000762  170367  000034          STST    FEC
000766  000000                  HALT
000770  000002                  RTI
```

```
                001000                          .=      1000
001000  000000                          ICNT:   0               ;ITERATION COUNT - LH   TEST NO. - RH
001002  000000                          ANS1:   0               ;FIRST ANSWER (SEE CODE)
001004  000000                          ANS2:   0
001006  000000                          ANS3:   0
001010  000000                          ANS4:   0
001012  000000                          ANS5:   0
001014  000000                          ANS6:   0
001016  000000                          ANS7:   0
001020  000000                          ANS8:   0
001022  000000                          FEC:    0               ;FLOATING EXCEPTION CODES
001024  000000                          FEA:    0               ;FLOATING EXECPTION ADDRESS

001026  012706  000600                  BEG:    MOV     #600,SP         ;** STACK AT 600 **
001032  012737  001054  000004                  MOV     #M1120,@#4      ;FIND OUT WHICH MACHINE THIS IS
001040  005737  177772                          TST     @#177772        ;IS PIRQ THERE?
001044  012767  000006  015200                  MOV     #6,YESRT        ;FUDGE IN RTT IF 11/45
001052  000403                                  BR      BEGIN

001054  016737  016334  000010  M1120:  MOV     FPTADR,@#10     ;LOAD THE ILLEGAL INSTRUCTION VECTOR
                                                                ;  WITH THE ADDRESS OF THE FPU.
                                                                ;  THE FPU WILL HANDLE THE BAD OPCODES
001062  012737  000006  000004  BEGIN:  MOV     #6,@#4          ;RESET 4
001070  012706  000600                  MOV     #600,SP
001074  012737  016252  000014          MOV     #YESRT,@#14     ;SET TRACE TRAP VECTOR
001102  012777  017112  016312          MOV     #POWDWN,@DWNVEC
001110  012777  000340  016306          MOV     #340,@DWNVEC+2
001116  012737  017312  000020          MOV     #.IOT,@#20      ;SET UP VECTOR 20
001124  012700  000030                  MOV     #30,R0          ;SET R0 TO VECTOR 30
001130  012720  016414                  MOV     #.TRP,(0)+      ;SET EMT VECTOR
001134  012720  000340                  MOV     #340,(0)+
001140  012720  016254                  MOV     #.EMT,(0)+      ;SET TRAP VECTOR
001144  012710  000340                  MOV     #340,(0)
001150  012777  000760  016240          MOV     #FLTERR,@FPVECT ;LOAD INTERUPT VECTOR
001156  012777  000340  016234          MOV     #340,@FPVECT+2  ;LOCK UP PROCESSOR
001164  005067  177610                  CLR     ICNT
001170  005067  016242                  CLR     LAD
```

```
                                    ;*****************************************************************
                                    ;TEST 1:        CLRF (CLEAR FLOATING POINT)
                                    ;       DATA = 000000,000000
                                    ;       FPS = 047404,    FOST = M6-R7
                                    ;*****************************************************************

001174  104400                              SCOPE
001176  000402                              BR      TST1

001200  000000  000000              DAT1:   000000,000000

001204  170127  047400              TST1:   LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001210  016767  177764  177564              MOV     DAT1,   ANS1    ;"LOAD" 000000 INTO ANS1
001216  016767  177760  177560              MOV     DAT1+2,ANS2     ;"LOAD" 000000 INTO ANS2
001224  170467  177552              FPI1:   CLRF    ANS1            ;CLEAR ANS1, ANS2
001230  170200                              STFPS   FPS             ;STORE FLOATING POINT STATUS
001232  022700  047404                      CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
001236  001401                              BEQ     .+4             ;BRANCH IF OK
001240  104000                              HLT                     ;FPS NOT EQUAL TO 047404

001242  005767  177534                      TST     ANS1            ;CHECK ANS1
001246  001401                              BEQ     .+4             ;BRANCH IF OK
001250  104000                              HLT                     ;ANS1 NOT EQUAL TO ZERO

001252  005767  177526                      TST     ANS2            ;CHECK ANS2
001256  001401                              BEQ     .+4             ;BRANCH IF OK
001260  104000                              HLT                     ;ANS2 NOT EQUAL TO ZERO

                                    ;*****************************************************************
                                    ;TEST 2:        CLRF (CLEAR FLOATING POINT)
                                    ;       DATA = 177777,177777
                                    ;       FPS = 047404,    FOST = M6-R7
                                    ;*****************************************************************

001262  104400                              SCOPE
001264  000402                              BR      TST2

001266  177777  177777              DAT2:   177777,177777

001272  170127  047400              TST2:   LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001276  016767  177764  177476              MOV     DAT2,   ANS1    ;"LOAD" 177777 INTO ANS1
001304  016767  177760  177472              MOV     DAT2+2,ANS2     ;"LOAD" 177777 INTO ANS2
001312  170467  177464              FPI2:   CLRF    ANS1            ;CLEAR ANS1, ANS2
001316  170200                              STFPS   FPS             ;STORE FLOATING POINT STATUS
001320  022700  047404                      CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
001324  001401                              BEQ     .+4             ;BRANCH IF OK
001326  104000                              HLT                     ;FPS NOT EQUAL TO 047404

001330  005767  177446                      TST     ANS1            ;CHECK ANS1
001334  001401                              BEQ     .+4             ;BRANCH IF OK
001336  104000                              HLT                     ;ANS1 NOT EQUAL TO ZERO

001340  005767  177440                      TST     ANS2            ;CHECK ANS2
001344  001401                              BEQ     .+4             ;BRANCH IF OK
001346  104000                              HLT                     ;ANS2 NOT EQUAL TO ZERO
```

```
                                                ;**************************************************************************
                                                ;TEST 3:         CLRF (CLEAR FLOATING POINT)
                                                ;       DATA = 125252,125252
                                                ;       FPS = 047404,    FDST = M6-R7
                                                ;**************************************************************************

001350  104400                                          SCOPE
001352  000402                                          BR      TST3

001354  125252  125252                          DAT3:   125252,125252

001360  170127  047400                          TST3:   LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001364  016767  177764  177410                          MOV     DAT3,   ANS1    ;"LOAD" 125252 INTO ANS1
001372  016767  177760  177404                          MOV     DAT3+2,ANS2     ;"LOAD" 125252 INTO ANS2
001400  170467  177376                          FPI3:   CLRF    ANS1            ;CLEAR ANS1, ANS2
001404  170200                                          STFPS   FPS             ;STORE FLOATING POINT STATUS
001406  022700  047404                                  CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
001412  001401                                          BEQ     .+4             ;BRANCH IF OK
001414  104000                                          HLT                     ;FPS NOT EQUAL TO 047404

001416  005767  177360                                  TST     ANS1            ;CHECK ANS1
001422  001401                                          BEQ     .+4             ;BRANCH IF OK
001424  104000                                          HLT                     ;ANS1 NOT EQUAL TO ZERO

001426  005767  177352                                  TST     ANS2            ;CHECK ANS2
001432  001401                                          BEQ     .+4             ;BRANCH IF OK
001434  104000                                          HLT                     ;ANS2 NOT EQUAL TO ZERO

                                                ;**************************************************************************
                                                ;TEST 4:         CLRF (CLEAR FLOATING POINT)
                                                ;       DATA = 052525,052525
                                                ;       FPS = 047404,    FDST = M6-R7
                                                ;**************************************************************************

001436  104400                                          SCOPE
001440  000402                                          BR      TST4

001442  052525  052525                          DAT4:   052525,052525

001446  170127  047400                          TST4:   LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001452  016767  177764  177322                          MOV     DAT4,   ANS1    ;"LOAD" 052525 INTO ANS1
001460  016767  177760  177316                          MOV     DAT4+2,ANS2     ;"LOAD" 052525 INTO ANS2
001466  170467  177310                          FPI4:   CLRF    ANS1            ;CLEAR ANS1, ANS2
001472  170200                                          STFPS   FPS             ;STORE FLOATING POINT STATUS
001474  022700  047404                                  CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
001500  001401                                          BEQ     .+4             ;BRANCH IF OK
001502  104000                                          HLT                     ;FPS NOT EQUAL TO 047404

001504  005767  177272                                  TST     ANS1            ;CHECK ANS1
001510  001401                                          BEQ     .+4             ;BRANCH IF OK
001512  104000                                          HLT                     ;ANS1 NOT EQUAL TO ZERO

001514  005767  177264                                  TST     ANS2            ;CHECK ANS2
001520  001401                                          BEQ     .+4             ;BRANCH IF OK
001522  104000                                          HLT                     ;ANS2 NOT EQUAL TO ZERO
```

```
                        ;*****************************************************************
                        ;TEST 5:        CLRF (CLEAR FLOATING POINT)
                        ;       DATA = 100000,000000
                        ;       FPS = 047404,   FDST = M6-R7
                        ;*****************************************************************

001524  104400                    SCOPE
001526  000432                    BR      TST5

001530  100000  000000    DAT5:   100000,000000

001534  170127  047400    TST5:   LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001540  016767  177764  177234   MOV     DAT5,   ANS1    ;"LOAD" 100000 INTO ANS1
001546  016767  177760  177230   MOV     DAT5+2,ANS2     ;"LOAD" 000000 INTO ANS2
001554  170467  177222    FPI5:   CLRF    ANS1            ;CLEAR ANS1, ANS2
001560  170200                    STFPS   FPS             ;STORE FLOATING POINT STATUS
001562  027700  047404            CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
001566  001401                    BEQ     .+4             ;BRANCH IF OK
001570  104000                    HLT                     ;FPS NOT EQUAL TO 047404

001572  005767  177234            TST     ANS1            ;CHECK ANS1
001576  001401                    BEQ     .+4             ;BRANCH IF OK
001600  104000                    HLT                     ;ANS1 NOT EQUAL TO ZERO

001602  005767  177176            TST     ANS2            ;CHECK ANS2
001606  001401                    BEQ     .+4             ;BRANCH IF OK
001610  104000                    HLT                     ;ANS2 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 6:        CLRF (CLEAR FLOATING POINT)
                        ;       DATA = 000177,177777
                        ;       FPS = 047404,   FDST = M5-R7
                        ;*****************************************************************

001612  104400                    SCOPE
001614  000432                    BR      TST6

001616  000177  177777    DAT6:   000177,177777

001622  170127  047400    TST6:   LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001626  016767  177764  177146   MOV     DAT6,   ANS1    ;"LOAD" 000177 INTO ANS1
001634  016767  177760  177142   MOV     DAT6+2,ANS2     ;"LOAD" 177777 INTO ANS2
001642  170467  177134    FPI6:   CLRF    ANS1            ;CLEAR ANS1, ANS2
001646  170200                    STFPS   FPS             ;STORE FLOATING POINT STATUS
001650  027700  047404            CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
001654  001401                    BEQ     .+4             ;BRANCH IF OK
001656  104000                    HLT                     ;FPS NOT EQUAL TO 047404

001660  005767  177116            TST     ANS1            ;CHECK ANS1
001664  001401                    BEQ     .+4             ;BRANCH IF OK
001666  104000                    HLT                     ;ANS1 NOT EQUAL TO ZERO

001670  005767  177110            TST     ANS2            ;CHECK ANS2
001674  001401                    BEQ     .+4             ;BRANCH IF OK
001676  104000                    HLT                     ;ANS2 NOT EQUAL TO ZERO
```

```
                        ;*****************************************************************
                        ;TEST 7:        CLRF (CLEAR FLOATING POINT)
                        ;       DATA = 125252,125252
                        ;       FPS = 047404,   FDST = MD-ACD
                        ;*****************************************************************

001700  104400                  SCOPE
001702  000402                  BR      TST7

001704  125252  125252    DAT7:   125252,125252

001710  170127  047400    TST7:   LDFPS   #047400             ;LOAD FLOATING POINT STATUS
001714  172467  177764            LDF     DAT7,   AC0         ;LOAD 125252,125252 INTO AC0
001720  170400            FPI7:   CLRF    AC0                 ;CLEAR AC0
001722  170200                    STFPS   FPS                 ;STORE FLOATING POINT STATUS
001724  022700  047404            CMP     #047404,FPS         ;CHECK FLOATING POINT STATUS
001730  001401                    BEQ     .+4                 ;BRANCH IF OK
001732  104000                    HLT                         ;FPS NOT EQUAL TO 047404

001734  174067  177042            STF     AC0,    ANS1        ;STORE AC0 IN ANS1, ANS2
001740  005767  177036            TST     ANS1                ;CHECK ANS1
001744  001401                    BEQ     .+4                 ;BRANCH IF OK
001746  104000                    HLT                         ;ANS1 NOT EQUAL TO ZERO

001750  005767  177030            TST     ANS2                ;CHECK ANS2
001754  001401                    BEQ     .+4                 ;BRANCH IF OK
001756  104000                    HLT                         ;ANS2 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 10:       CLRF (CLEAR FLOATING POINT)
                        ;       DATA = 052525,052525
                        ;       FPS = 047404,   FDST = MD-AC0
                        ;*****************************************************************

001760  104400                  SCOPE
001762  000402                  BR      TST10

001764  052525  052525    DAT10:  052525,052525

001770  170127  047400    TST10:  LDFPS   #047400             ;LOAD FLOATING POINT STATUS
001774  172467  177764            LDF     DAT10,  AC0         ;LOAD 052525,052525 INTO AC0
002000  170400            FPI10:  CLRF    AC0                 ;CLEAR AC0
002002  170200                    STFPS   FPS                 ;STORE FLOATING POINT STATUS
002004  022700  047404            CMP     #047404,FPS         ;CHECK FLOATING POINT STATUS
002010  001401                    BEQ     .+4                 ;BRANCH IF OK
002012  104000                    HLT                         ;FPS NOT EQUAL TO 047404

002014  174067  176762            STF     AC0,    ANS1        ;STORE AC0 IN ANS1, ANS2
002020  005767  176756            TST     ANS1                ;CHECK ANS1
002024  001401                    BEQ     .+4                 ;BRANCH IF OK
002026  104000                    HLT                         ;ANS1 NOT EQUAL TO ZERO

002030  005767  176750            TST     ANS2                ;CHECK ANS2
002034  001401                    BEQ     .+4                 ;BRANCH IF OK
002036  104000                    HLT                         ;ANS2 NOT EQUAL TO ZERO
```

```
                        ;*****************************************************************
                        ;TEST 11:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 000000,000000,000000,000000
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

002040  104400                        SCOPE
002042  000404                        BR      TST11

002044  000000  000000  000000  DAT11:  000000,000000,000000,000000
002052  000000

002054  170127  047600          TST11:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
002060  016767  177760  176714          MOV     DAT11,  ANS1    ;"LOAD" 000000 INTO ANS1
002066  016767  177754  176710          MOV     DAT11+2,ANS2    ;"LOAD" 000000 INTO ANS2
002074  016767  177750  176704          MOV     DAT11+4,ANS3    ;"LOAD" 000000 INTO ANS3
002102  016767  177744  176700          MOV     DAT11+6,ANS4    ;"LOAD" 000000 INTO ANS4
002110  170467  176666          FPI11:  CLRD    ANS1            ;CLEAR ANS1 THRU ANS4
002114  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002116  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
002122  001401                          BEQ     .+4             ;BRANCH IF OK
002124  104000                          HLT                     ;FPS NOT EQUAL TO 047604

002126  005767  176650                  TST     ANS1            ;CHECK ANS1
002132  001401                          BEQ     .+4             ;BRANCH IF OK
002134  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

002136  005767  176642                  TST     ANS2            ;CHECK ANS2
002142  001401                          BEQ     .+4             ;BRANCH IF OK
002144  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

002146  005767  176634                  TST     ANS3            ;CHECK ANS3
002152  001401                          BEQ     .+4             ;BRANCH IF OK
002154  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO

002156  005767  176626                  TST     ANS4            ;CHECK ANS4
002162  001401                          BEQ     .+4             ;BRANCH IF OK
002164  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 12:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 177777,177777,177777,177777
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

002166  104400                        SCOPE
002170  000404                        BR      TST12

002172  177777  177777  177777  DAT12:  177777,177777,177777,177777
002200  177777

002202  170127  047600          TST12:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
002206  016767  177760  176566          MOV     DAT12,  ANS1    ;"LOAD" 177777 INTO ANS1
002214  016767  177754  176562          MOV     DAT12+2,ANS2    ;"LOAD" 177777 INTO ANS2
002222  016767  177750  176556          MOV     DAT12+4,ANS3    ;"LOAD" 177777 INTO ANS3
002230  016767  177744  176552          MOV     DAT12+6,ANS4    ;"LOAD" 177777 INTO ANS4
```

```
002236  170467  176540          FPI12:  CLRD    ANS1            ;CLEAR ANS1 THRU ANS4
002242  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002244  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
002250  001401                          BEQ     .+4             ;BRANCH IF OK
002252  104000                          HLT                     ;FPS NOT EQUAL TO 047604

002254  005767  176522                  TST     ANS1            ;CHECK ANS1
002260  001401                          BEQ     .+4             ;BRANCH IF OK
002262  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

002264  005767  176514                  TST     ANS2            ;CHECK ANS2
002270  001401                          BEQ     .+4             ;BRANCH IF OK
002272  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

002274  005767  176506                  TST     ANS3            ;CHECK ANS3
002300  001401                          BEQ     .+4             ;BRANCH IF OK
002302  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO

002304  005767  176500                  TST     ANS4            ;CHECK ANS4
002310  001401                          BEQ     .+4             ;BRANCH IF OK
002312  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                                ;*****************************************************************
                                ;TEST 13:       CLRD (CLEAR DOUBLE PERCISION)
                                ;       DATA = 125252.125252.125252.125252
                                ;       FPS = 047604,   FDST = M6-R7
                                ;*****************************************************************

002314  104400                          SCOPE
002316  000404                          BR      TST13

002320  125252  125252  125252  DAT13:  125252.125252.125252.125252
002326  125252

002330  170127  047600          TST13:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
002334  016767  177760  176440          MOV     DAT13,  ANS1    ;"LOAD" 125252 INTO ANS1
002342  016767  177754  176434          MOV     DAT13+2,ANS2    ;"LOAD" 125252 INTO ANS2
002350  016767  177750  176430          MOV     DAT13+4,ANS3    ;"LOAD" 125252 INTO ANS3
002356  016767  177744  176424          MOV     DAT13+6,ANS4    ;"LOAD" 125252 INTO ANS4
002364  170467  176412          FPI13:  CLRD    ANS1            ;CLEAR ANS1 THRU ANS4
002370  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002372  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
002376  001401                          BEQ     .+4             ;BRANCH IF OK
002400  104000                          HLT                     ;FPS NOT EQUAL TO 047604

002402  005767  176374                  TST     ANS1            ;CHECK ANS1
002406  001401                          BEQ     .+4             ;BRANCH IF OK
002410  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

002412  005767  176366                  TST     ANS2            ;CHECK ANS2
002416  001401                          BEQ     .+4             ;BRANCH IF OK
002420  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

002422  005767  176360                  TST     ANS3            ;CHECK ANS3
002426  001401                          BEQ     .+4             ;BRANCH IF OK
002430  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO
```

```
002432  005767  176352                  TST     ANS4            ;CHECK ANS4
002436  001401                          BEQ     .+4             ;BRANCH IF OK
002440  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 14:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 052525,052525,052525,052525
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

002442  104403                          SCOPE
002444  000404                          BR      TST14

002446  052525  052525  052525  DAT14:  052525,052525,052525,052525
002454  052525

002456  170127  047600          TST14:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
002462  016767  177760  176312          MOV     DAT14,  ANS1    ;"LOAD" 052525 INTO ANS1
002470  016767  177754  176306          MOV     DAT14+2,ANS2    ;"LOAD" 052525 INTO ANS2
002476  016767  177750  176302          MOV     DAT14+4,ANS3    ;"LOAD" 052525 INTO ANS3
002504  016767  177744  176276          MOV     DAT14+6,ANS4    ;"LOAD" 052525 INTO ANS4
002512  170467  176264          FPI14:  CLRD    ANS1            ;CLEAR ANS1 THRU ANS4
002516  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002520  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
002524  001401                          BEQ     .+4             ;BRANCH IF OK
002526  104000                          HLT                     ;FPS NOT EQUAL TO 047604

002530  005767  176246                  TST     ANS1            ;CHECK ANS1
002534  001401                          BEQ     .+4             ;BRANCH IF OK
002536  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

002540  005767  176240                  TST     ANS2            ;CHECK ANS2
002544  001401                          BEQ     .+4             ;BRANCH IF OK
002546  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

002550  005767  176232                  TST     ANS3            ;CHECK ANS3
002554  001401                          BEQ     .+4             ;BRANCH IF OK
002556  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO

002560  005767  176224                  TST     ANS4            ;CHECK ANS4
002564  001401                          BEQ     .+4             ;BRANCH IF OK
002566  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 15:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 100000,000000,000000,000000
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

002570  104400                          SCOPE
002572  000404                          BR      TST15

002574  100000  000000  000000  DAT15:  100000,000000,000000,000000
002602  000000
```

```
002604  170127  047600          TST15:  LDFPS   #047600        ;LOAD FLOATING POINT STATUS
002610  016767  177760  176164          MOV     DAT15,  ANS1    ;"LOAD" 100000 INTO ANS1
002616  016767  177754  176160          MOV     DAT15+2,ANS2    ;"LOAD" 000000 INTO ANS2
002624  016767  177750  176154          MOV     DAT15+4,ANS3    ;"LOAD" 000000 INTO ANS3
002632  016767  177744  176150          MOV     DAT15+6,ANS4    ;"LOAD" 000000 INTO ANS4
002640  170467  176136          FPI15:  CLRD    ANS1            ;CLEAR ANS1 THRU ANS4
002644  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002646  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
002652  001401                          BEQ     .+4             ;BRANCH IF OK
002654  104000                          HLT                     ;FPS NOT EQUAL TO 047604

002656  005767  176120                  TST     ANS1            ;CHECK ANS1
002662  001401                          BEQ     .+4             ;BRANCH IF OK
002664  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

002666  005767  176112                  TST     ANS2            ;CHECK ANS2
002672  001401                          BEQ     .+4             ;BRANCH IF OK
002674  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

002676  005767  176104                  TST     ANS3            ;CHECK ANS3
002702  001401                          BEQ     .+4             ;BRANCH IF OK
002704  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO

002706  005767  176076                  TST     ANS4            ;CHECK ANS4
002712  001401                          BEQ     .+4             ;BRANCH IF OK
002714  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 16:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 000177,177777,177777,177777
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

002716  104400                          SCOPE
002720  000404                          BR      TST16

002722  000177  177777  177777  DAT16:  000177,177777,177777,177777
002730  177777

002732  170127  047600          TST16:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
002736  016767  177760  176036          MOV     DAT16,  ANS1    ;"LOAD" 000177 INTO ANS1
002744  016767  177754  176032          MOV     DAT16+2,ANS2    ;"LOAD" 177777 INTO ANS2
002752  016767  177750  176026          MOV     DAT16+4,ANS3    ;"LOAD" 177777 INTO ANS3
002760  016767  177744  176022          MOV     DAT16+6,ANS4    ;"LOAD" 177777 INTO ANS4
002766  170467  176010          FPI16:  CLRD    ANS1            ;CLEAR ANS1 THRU ANS4
002772  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002774  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
003000  001401                          BEQ     .+4             ;BRANCH IF OK
003002  104000                          HLT                     ;FPS NOT EQUAL TO 047604

003004  005767  175772                  TST     ANS1            ;CHECK ANS1
003010  001401                          BEQ     .+4             ;BRANCH IF OK
003012  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

003014  005767  175764                  TST     ANS2            ;CHECK ANS2
003020  001401                          BEQ     .+4             ;BRANCH IF OK
```

```
003022  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

003024  005767  175756                  TST     ANS3            ;CHECK ANS3
003030  001401                          BEQ     .+4             ;BRANCH IF OK
003032  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO

003034  005767  175750                  TST     ANS4            ;CHECK ANS4
003040  001401                          BEQ     .+4             ;BRANCH IF OK
003042  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 17:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 125252,125252,125252,125252
                        ;       FPS = 047604,   FDST = MD-AC1
                        ;*****************************************************************

003044  104400                          SCOPE
003046  000404                          BR      TST17

003050  125252  125252  125252  DAT17:  125252,125252,125252,125252
003056  125252

003060  170127  047600          TST17:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
003064  172567  177760                  LDD     DAT17,  AC1     ;LOAD 125252,125252,125252,125252 INTO AC1
003070  170401                  FPI17:  CLRD    AC1             ;CLEAR AC1
003072  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003074  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
003100  001401                          BEQ     .+4             ;BRANCH IF OK
003102  104000                          HLT                     ;FPS NOT EQUAL TO 047604

003104  174167  175672                  STD     AC1,    ANS1    ;STORE AC1 IN ANS1 THRU ANS4
003110  005767  175666                  TST     ANS1            ;CHECK ANS1
003114  001401                          BEQ     .+4             ;BRANCH IF OK
003116  104000                          HLT                     ;ANS1 NOT EQUAL TO ZERO

003120  005767  175660                  TST     ANS2            ;CHECK ANS2
003124  001401                          BEQ     .+4             ;BRANCH IF OK
003126  104000                          HLT                     ;ANS2 NOT EQUAL TO ZERO

003130  005767  175652                  TST     ANS3            ;CHECK ANS3
003134  001401                          BEQ     .+4             ;BRANCH IF OK
003136  104000                          HLT                     ;ANS3 NOT EQUAL TO ZERO

003140  005767  175644                  TST     ANS4            ;CHECK ANS4
003144  001401                          BEQ     .+4             ;BRANCH IF OK
003146  104000                          HLT                     ;ANS4 NOT EQUAL TO ZERO

                        ;*****************************************************************
                        ;TEST 20:       CLRD (CLEAR DOUBLE PERCISION)
                        ;       DATA = 052525,052525,052525,052525
                        ;       FPS = 047604,   FDST = MD-AC0
                        ;*****************************************************************

003150  104400                          SCOPE
003152  000404                          BR      TST20
```

```
003154  052525  052525  052525  DAT20:  052525,052525,052525,052525
003162  052525

003164  170127  047600          TST20:  LDFPS   #047600          ;LOAD FLOATING POINT STATUS
003170  172467  177750                  LDD     DAT20,  AC0      ;LOAD 052525,052525,052525,052525 INTO AC0
003174  170400                  FPI20:  CLRD    AC0              ;CLEAR AC0
003176  170200                          STFPS   FPS              ;STORE FLOATING POINT STATUS
003200  022700  047604                  CMP     #047604,FPS      ;CHECK FLOATING POINT STATUS
003204  001401                          BEQ     .+4              ;BRANCH IF OK
003206  104000                          HLT                      ;FPS NOT EQUAL TO 047604

003210  174067  175566                  STD     AC0,    ANS1     ;STORE AC0 IN ANS1 THRU ANS4
003214  005767  175562                  TST     ANS1             ;CHECK ANS1
003220  001401                          BEQ     .+4              ;BRANCH IF OK
003222  104000                          HLT                      ;ANS1 NOT EQUAL TO ZERO

003224  005767  175554                  TST     ANS2             ;CHECK ANS2
003230  001401                          BEQ     .+4              ;BRANCH IF OK
003232  104000                          HLT                      ;ANS2 NOT EQUAL TO ZERO

003234  005767  175546                  TST     ANS3             ;CHECK ANS3
003240  001401                          BEQ     .+4              ;BRANCH IF OK
003242  104000                          HLT                      ;ANS3 NOT EQUAL TO ZERO

003244  005767  175540                  TST     ANS4             ;CHECK ANS4
003250  001401                          BEQ     .+4              ;BRANCH IF OK
003252  104000                          HLT                      ;ANS4 NOT EQUAL TO ZERO


                        ;*****************************************************************
                        ;TEST 21:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 000000,000000
                        ;       FPS = 047404,   FDST = M6-R7
                        ;*****************************************************************

003254  104403                          SCOPE
003256  000402                          BR      TST21

003260  000000  000000  DAT21:  000000,000000

003264  170127  047400  TST21:  LDFPS   #047400          ;LOAD FLOATING POINT STATUS
003270  170567  177764  FPI21:  TSTF    DAT21            ;TEST 000000,000000
003274  170200                  STFPS   FPS              ;STORE FLOATING POINT STATUS
003276  022700  047404          CMP     #047404,FPS      ;CHECK FLOATING POINT STATUS
003302  001401                  BEQ     .+4              ;BRANCH IF OK
003304  104000                  HLT                      ;FPS NOT EQUAL TO 047404


                        ;*****************************************************************
                        ;TEST 22:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 177777,177777
                        ;       FPS = 047410,   FDST = M6-R7
                        ;*****************************************************************

003306  104403                          SCOPE
003310  000402                          BR      TST22
```

```
003312  177777  177777          DAT22:  177777,177777

003316  170127  047400          TST22:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003322  170567  177764          FPI22:  TSTF    DAT22           ;TEST 177777,177777
003326  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003330  022700  047410                  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
003334  001401                          BEQ     .+4             ;BRANCH IF OK
003336  104000                          HLT                     ;FPS NOT EQUAL TO 047410


                                ;*************************************************************
                                ;TEST 23:       TEST TSTF (TEST FLOATING POINT)
                                ;       TEST 052525,052525
                                ;       FPS = 047400,   FDST = M6-R7
                                ;*************************************************************

003340  104400                          SCOPE
003342  000402                          BR      TST23

003344  052525  052525          DAT23:  052525,052525

003350  170127  047400          TST23:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003354  170567  177764          FPI23:  TSTF    DAT23           ;TEST 052525,052525
003360  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003362  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
003366  001401                          BEQ     .+4             ;BRANCH IF OK
003370  104000                          HLT                     ;FPS NOT EQUAL TO 047400


                                ;*************************************************************
                                ;TEST 24:       TEST TSTF (TEST FLOATING POINT)
                                ;       TEST 125252,125252
                                ;       FPS = 047410,   FDST = M6-R7
                                ;*************************************************************

003372  104400                          SCOPE
003374  000402                          BR      TST24

003376  125252  125252          DAT24:  125252,125252

003402  170127  047400          TST24:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003406  170567  177764          FPI24:  TSTF    DAT24           ;TEST 125252,125252
003412  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003414  022700  047410                  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
003420  001401                          BEQ     .+4             ;BRANCH IF OK
003422  104000                          HLT                     ;FPS NOT EQUAL TO 047410


                                ;*************************************************************
                                ;TEST 25:       TEST TSTF (TEST FLOATING POINT)
                                ;       TEST 077777,177777
                                ;       FPS = 047400,   FDST = M6-R7
                                ;*************************************************************

003424  104400                          SCOPE
```

```
003426  000402                          BR      TST25

003430  077777  177777         DAT25:  077777,177777

003434  170127  047400         TST25:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003440  170567  177764         FPI25:  TSTF    DAT25           ;TEST 077777,177777
003444  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003446  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
003452  001401                          BEQ     .+4             ;BRANCH IF OK
003454  104000                          HLT                     ;FPS NOT EQUAL TO 047400


                        ;*************************************************************************
                        ;TEST 26:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 100000,000000
                        ;       FPS = 147414,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI26
                        ;*************************************************************************

003456  104400                          SCOPE
003460  000402                          BR      TST26

003462  100000  000000         DAT26:  100000,000000

003466  170127  047400         TST26:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003472  170567  177764         FPI26:  TSTF    DAT26           ;TEST 100000,000000
003476  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003500  170367  175316                  STST    FEC             ;STORE EXCEPTION CODES
003504  022700  147414                  CMP     #147414,FPS     ;CHECK FLOATING POINT STATUS
003510  001401                          BEQ     .+4             ;BRANCH IF OK
003512  104000                          HLT                     ;FPS NOT EQUAL TO 147414

003514  022767  000014  175300          CMP     #14,    FEC     ;CHECK FLOATING EXCEPTION CODE
003522  001401                          BEQ     .+4             ;BRANCH IF OK
003524  104000                          HLT                     ;FEC NOT EQUAL TO 14

003526  022767  003472  175270          CMP     #FPI26, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
003534  001401                          BEQ     .+4             ;BRANCH IF OK
003536  104000                          HLT                     ;FEA NOT EQUAL TO FPI26


                        ;*************************************************************************
                        ;TEST 27:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 000200,000000
                        ;       FPS = 047400,   FDST = M5-R7
                        ;*************************************************************************

003540  104400                          SCOPE
003542  000402                          BR      TST27

003544  000200  000000         DAT27:  000200,000000

003550  170127  047400         TST27:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003554  170567  177764         FPI27:  TSTF    DAT27           ;TEST 000200,000000
003560  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003562  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
```

```
003566  001401                          BEQ     .+4             ;BRANCH IF OK
003570  104000                          HLT                     ;FPS NOT EQUAL TO 047400

                        ;*****************************************************************
                        ;TEST 30:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 100200,000000
                        ;       FPS = 047410,   FDST = M6-R7
                        ;*****************************************************************

003572  104400                          SCOPE
003574  000402                          BR      TST30

003576  100200  000000    DAT30:  100200,000000

003602  170127  047400    TST30:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003606  170567  177764    FPI30:  TSTF    DAT30           ;TEST 100200,000000
003612  170200                    STFPS   FPS             ;STORE FLOATING POINT STATUS
003614  022700  047410            CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
003620  001401                    BEQ     .+4             ;BRANCH IF OK
003622  104000                    HLT                     ;FPS NOT EQUAL TO 047410

                        ;*****************************************************************
                        ;TEST 31:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 000177,177777
                        ;       FPS = 047404,   FDST = M6-R7
                        ;*****************************************************************

003624  104400                          SCOPE
003626  000402                          BR      TST31

003630  000177  177777    DAT31:  000177,177777

003634  170127  047400    TST31:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003640  170567  177764    FPI31:  TSTF    DAT31           ;TEST 000177,177777
003644  170200                    STFPS   FPS             ;STORE FLOATING POINT STATUS
003646  022700  047404            CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
003652  001401                    BEQ     .+4             ;BRANCH IF OK
003654  104000                    HLT                     ;FPS NOT EQUAL TO 047404

                        ;*****************************************************************
                        ;TEST 32:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 100177,177777
                        ;       FPS = 147414,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI32
                        ;*****************************************************************

003656  104400                          SCOPE
003660  000402                          BR      TST32

003662  100177  177777    DAT32:  100177,177777

003666  170127  047400    TST32:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
003672  170567  177764    FPI32:  TSTF    DAT32           ;TEST 100177,177777
```

```
[illegible]  [illegible]                    STFPS   FPS             ;STORE FLOATING POINT STATUS
[illegible]  [illegible]  [illegible]       STST    FEC             ;STORE EXCEPTION CODES
[illegible]  [illegible]  [illegible]       CMP     #047414,FPS     ;CHECK FLOATING POINT STATUS
[illegible]  [illegible]                    BEQ     .+4             ;BRANCH IF OK
[illegible]  [illegible]                    HLT                     ;FPS NOT EQUAL TO 047414

[illegible]  [illegible]  000014  [illegible]  CMP  #14,    FEC     ;CHECK FLOATING EXCEPTION CODE
[illegible]  [illegible]                    BEQ     .+4             ;BRANCH IF OK
[illegible]  [illegible]                    HLT                     ;FEC NOT EQUAL TO 14

[illegible]  [illegible]  003672  [illegible]  CMP  #FPI32, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
[illegible]  [illegible]                    BEQ     .+4             ;BRANCH IF OK
[illegible]  [illegible]                    HLT                     ;FEA NOT EQUAL TO FPI32

                        ;*****************************************************************
                        ;TEST 33:       TEST TSTF (TEST FLOATING POINT
                        ;       TEST 100000,000001
                        ;       FPS = 003414,   FOST = M6-R7
                        ;*****************************************************************

003740  104400                          SCOPE
003742  000402                          BR      TST33

003744  100000  000001          DAT33:  100000,000001

003750  170127  003400          TST33:  LDFPS   #003400         ;LOAD FLOATING POINT STATUS
003754  170567  177764          FPI33:  TSTF    DAT33           ;TEST 100000,000001
003760  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
003762  022700  003414                  CMP     #003414,FPS     ;CHECK FLOATING POINT STATUS
003766  001401                          BEQ     .+4             ;BRANCH IF OK
003770  104000                          HLT                     ;FPS NOT EQUAL TO 003414

                        ;*****************************************************************
                        ;TEST 34:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 000001,100000
                        ;       FPS = 047404,   FOST = M6-R7
                        ;*****************************************************************

003772  104400                          SCOPE
003774  000402                          BR      TST34

003776  000001  100000          DAT34:  000001,100000

004002  170127  047400          TST34:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
004006  170567  177764          FPI34:  TSTF    DAT34           ;TEST 000001,100000
004012  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004014  022700  047404                  CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
004020  001401                          BEQ     .+4             ;BRANCH IF OK
004022  104000                          HLT                     ;FPS NOT EQUAL TO 047404

                        ;*****************************************************************
                        ;TEST 35:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 040252,125252
```

```
                                ;       FPS = 003400,   FDST = M6-R7
                                ;*************************************************************************

004024  104400                          SCOPE
004026  000402                          BR      TST35

004030  040252  125252          DAT35:  040252,125252

004034  170127  003400          TST35:  LDFPS   #CC3400         ;LOAD FLOATING POINT STATUS
004040  170567  177764          FPI35:  TSTF    DAT35           ;TEST 040252,125252
004044  170267                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004046  027767  003400  003400          CMP     #003400,FPS     ;CHECK FLOATING POINT STATUS
004054  001401                          BEQ     .+4             ;BRANCH IF OK
004056  104000                          HLT                     ;FPS NOT EQUAL TO CC3400


                                ;*************************************************************************
                                ;TEST 36:       TEST TSTF (TEST FLOATING POINT.
                                ;       TEST 140125,052525
                                ;       FPS = 047410,   FDST = M6-R7
                                ;*************************************************************************

004060  104400                          SCOPE
004062  000402                          BR      TST36

004064  140125  052525          DAT36:  140125,052525

004070  170127  047400          TST36:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
004074  170567  177764          FPI36:  TSTF    DAT36           ;TEST 140125,052525
004100  170267                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004102  027767  047410  003400          CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
004110  001401                          BEQ     .+4             ;BRANCH IF OK
004112  104000                          HLT                     ;FPS NOT EQUAL TO 047410


                                ;*************************************************************************
                                ;TEST 37:       TEST TSTF (TEST FLOATING POINT)
                                ;       TEST 040125,052525
                                ;       FPS = 047400,   FDST = M0-AC3
                                ;*************************************************************************

004114  104400                          SCOPE
004116  000402                          BR      TST37

004120  040125  052525          DAT37:  040125,052525

004122  170127  047400          TST37:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
004126  172767  177764                  LDF     DAT37,  AC3     ;LOAD 040125,052525 INTO AC3
004132  170503                  FPI37:  TSTF    AC3             ;TEST AC3
004134  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004136  027700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
004144  001401                          BEQ     .+4             ;BRANCH IF OK
004146  104000                          HLT                     ;FPS NOT EQUAL TO 047400

004150  174367  174632                  STF     AC3,    ANS1    ;STORE AC3 IN ANS1, ANS2
004154  022767  040125  174624          CMP     #040125,ANS1    ;CHECK ANS1
```

```
004156  001401                  BEQ     .+4             ;BRANCH IF OK
004160  104002                  HLT+2                   ;AC3 CHANGED

004162  022767  052525  174614  CMP     #052525,ANS2    ;CHECK ANS2
004170  001401                  BEQ     .+4             ;BRANCH IF OK
004172  104002                  HLT+2                   ;AC3 CHANGED


                        ;*****************************************************************
                        ;TEST 40:       TEST TSTF (TEST FLOATING POINT)
                        ;       TEST 140252,125252
                        ;       FPS = 047410,   FDST = M0-AC3
                        ;*****************************************************************

004174  104400                  SCOPE
004176  000402                  BR      TST40

004200  140252  125252  DAT40:  140252,125252

004204  170127  047400  TST40:  LDFPS   #047400          ;LOAD FLOATING POINT STATUS
004210  172067  177764          LDF     DAT40, AC3      ;LOAD 140252,125252 INTO AC3
004214  170503          FPI40:  TSTF    AC3             ;TEST AC3
004216  170227  177754          STFPS   FPS             ;STORE FLOATING POINT STATUS
004222  022767  047410  177744  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
004230  001401                  BEQ     .+4             ;BRANCH IF OK
004232  104000                  HLT                     ;FPS NOT EQUAL TO 047410

004234  174367  174546          STF     AC3,    ANS1    ;STORE AC3 IN ANS1, ANS2
004240  022767  140252  174540  CMP     #140252,ANS1    ;CHECK ANS1
004246  001401                  BEQ     .+4             ;BRANCH IF OK
004250  104002                  HLT+2                   ;AC3 CHANGED

004252  022767  125252  174536  CMP     #125252,ANS2    ;CHECK ANS2
004260  001401                  BEQ     .+4             ;BRANCH IF OK
004262  104002                  HLT+2                   ;AC3 CHANGED


                        ;*****************************************************************
                        ;TEST 41:       TEST TSTD (TEST DOUBLE PERCISION
                        ;       TEST 000000,000000,000000,000000
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

004264  104400                  SCOPE
004266  000434                  BR      TST41

004270  000000  000000  000000  DAT41:  000000,000000,000000,000000
004276  000000

004304  170127  047600  TST41:  LDFPS   #047600          ;LOAD FLOATING POINT STATUS
004310  172567  177760          LDD     DAT41           ;TEST 000000,000000,000000,000000
004314  170523          FPI41:  TSTD    AC3             ;TEST AC3
004316  170227  177750          STFPS   FPS             ;STORE FLOATING POINT STATUS
004322  022767  047604  177740  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
004330  001401                  BEQ     .+4             ;BRANCH IF OK
004332  104000                  HLT                     ;FPS NOT EQUAL TO 047604
```

```
                        ;*****************************************************************
                        ;TEST 42:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 177777,177777,177777,177777
                        ;       FPS = 047610,   FDST = M6-R7
                        ;*****************************************************************

004316  104400                    SCOPE
004320  000404                    BR      TST42

004322  177777  177777  177777  DAT42:  177777,177777,177777,177777
004330  177777

004332  170127  047600          TST42:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004336  170667  177760          FP142:  TSTD    DAT42           ;TEST 177777,177777,177777,177777
004342  170227                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004344  022727  047610                  CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
004350  001401                          BEQ     .+4             ;BRANCH IF OK
004352  104000                          HLT                     ;FPS NOT EQUAL TO 047610

                        ;*****************************************************************
                        ;TEST 43:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 052525,052525,052525,052525
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

004354  104400                    SCOPE
004356  000404                    BR      TST43

004360  052525  052525  052525  DAT43:  052525,052525,052525,052525
004366  052525

004370  170127  047600          TST43:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004374  170667  177760          FP143:  TSTD    DAT43           ;TEST 052525,052525,052525,052525
004400  170227                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004402  022727  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
004406  001401                          BEQ     .+4             ;BRANCH IF OK
004410  104000                          HLT                     ;FPS NOT EQUAL TO 047600

                        ;*****************************************************************
                        ;TEST 44:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 125252,125252,125252,125252
                        ;       FPS = 047610,   FDST = M6-R7
                        ;*****************************************************************

004412  104400                    SCOPE
004414  000404                    BR      TST44

004416  125252  125252  125252  DAT44:  125252,125252,125252,125252
004424  125252

004426  170127  047600          TST44:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004432  170667  177760          FP144:  TSTD    DAT44           ;TEST 125252,125252,125252,125252
004436  170227                          STFPS   FPS             ;STORE FLOATING POINT STATUS
```

```
004440  000700  047610          CMP     #047610.FPS     ;CHECK FLOATING POINT STATUS
004444  001401                  BEQ     .+4             ;BRANCH IF OK
004446  104000                  HLT                     ;FPS NOT EQUAL TO 047610

                        ;*****************************************************************
                        ;TEST 45:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 077777,177777,177777,177777
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

004450  104403                  SCOPE
004452  000404                  BR      TST45

004454  077777  177777  177777  DAT45:  077777,177777,177777,177777
004462  177777

004464  170127  047600          TST45:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004470  170667  177760          FP145:  TSTD    DAT45           ;TEST 077777,177777,177777,177777
004474  170200                  STFPS   FPS                     ;STORE FLOATING POINT STATUS
004476  000700  047600          CMP     #047600.FPS     ;CHECK FLOATING POINT STATUS
004502  001401                  BEQ     .+4             ;BRANCH IF OK
004504  104000                  HLT                     ;FPS NOT EQUAL TO 047600

                        ;*****************************************************************
                        ;TEST 46:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 100000,000000,000000,000000
                        ;       FPS = 147614,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI46
                        ;*****************************************************************

004506  104403                  SCOPE
004510  000404                  BR      TST46

004512  100000  000000  000000  DAT46:  100000.000000,000000.000000
004520  000000

004522  170127  047600          TST46:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004526  170667  177760          FPI46:  TSTD    DAT46           ;TEST 100000,000000,000000,000000
004532  170200                  STFPS   FPS                     ;STORE FLOATING POINT STATUS
004534  170367  174266          STST    FEC                     ;STORE EXCEPTION CODES
004540  000700  147614          CMP     #147614.FPS     ;CHECK FLOATING POINT STATUS
004544  001401                  BEQ     .+4             ;BRANCH IF OK
004546  104000                  HLT                     ;FPS NOT EQUAL TO 147614

004550  022767  000014  174244  CMP     #14.    FEC     ;CHECK FLOATING EXCEPTION CODE
004556  001401                  BEQ     .+4             ;BRANCH IF OK
004560  104000                  HLT                     ;FEC NOT EQUAL TO 14

004562  022767  004526  174234  CMP     #FPI46. FEA     ;CHECK FLOATING EXCEPTION ADDRESS
004570  001401                  BEQ     .+4             ;BRANCH IF OK
004572  104000                  HLT                     ;FEA NOT EQUAL TO FPI46

                        ;*****************************************************************
```

```
                        ;TEST 47:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 000200,000000,000000,000000
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

004574  104420                  SCOPE
004576  000404                  BR      TST47

004600  000200  000000  000000  DAT47:  000200,000000,000000,000000
004606  000000

004610  170137  047600      TST47:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004614  170567  177760      FPI47:  TSTD    DAT47           ;TEST 000200,000000,000000,000000
004620  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
004622  022737  047600          CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
004630  001401                  BEQ     .+4             ;BRANCH IF OK
004632  104000                  HLT                     ;FPS NOT EQUAL TO 047600


                        ;*****************************************************************
                        ;TEST 50:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 100200,000000,000000,000000
                        ;       FPS = 047610,   FDST = M6-R7
                        ;*****************************************************************

004634  104420                  SCOPE
004636  000404                  BR      TST50

004640  100200  000000  000000  DAT50:  100200,000000,000000,000000
004646  000000

004650  170137  047600      TST50:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004654  170567  177760      FPI50:  TSTD    DAT50           ;TEST 100200,000000,000000,000000
004660  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
004662  022737  047610          CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
004670  001401                  BEQ     .+4             ;BRANCH IF OK
004672  104000                  HLT                     ;FPS NOT EQUAL TO 047610


                        ;*****************************************************************
                        ;TEST 51:       TEST TSTD (TEST DOUBLE PERCISION)
                        ;       TEST 000177,177777,177777,177777
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

004674  104420                  SCOPE
004676  000404                  BR      TST51

004700  000177  177777  177777  DAT51:  000177,177777,177777,177777
004706  177777

004710  170137  047600      TST51:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004714  170567  177760      FPI51:  TSTD    DAT51           ;TEST 000177,177777,177777,177777
004720  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
004722  022737  047604          CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
004730  001401                  BEQ     .+4             ;BRANCH IF OK
```

```
004724  104000                          HLT                     ;FPS NOT EQUAL TO 047604


                                ;*****************************************************************************
                                ;TEST 52:       TEST TSTD (TEST DOUBLE PERCISION)
                                ;       TEST 100177,177777,177777,177777
                                ;       FPS = 147614,   FDST = M6-R7
                                ;       FEC = 14.       FEA = FPIS2
                                ;*****************************************************************************

004726  104400                          SCOPE
004730  000434                          BR      TST52

004732  100177  177777  177777  DAT52:  100177,177777,177777,177777
004740  177777

004742  170127  047600          TST52:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
004746  170567  177760          FPIS2:  TSTD    DAT52           ;TEST 100177,177777,177777,177777
004752  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
004754  170367  174042                  STST    FEC             ;STORE EXCEPTION CODES
004760  022700  147614                  CMP     #147614,FPS     ;CHECK FLOATING POINT STATUS
004764  001401                          BEQ     .+4             ;BRANCH IF OK
004766  104000                          HLT                     ;FPS NOT EQUAL TO 147614

004770  022767  000014  174024          CMP     #14.    FEC     ;CHECK FLOATING EXCEPTION CODE
004776  001401                          BEQ     .+4             ;BRANCH IF OK
005000  104000                          HLT                     ;FEC NOT EQUAL TO 14

005002  022767  004746  174014          CMP     #FPIS2, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
005010  001401                          BEQ     .+4             ;BRANCH IF OK
005012  104000                          HLT                     ;FEA NOT EQUAL TO FPIS2


                                ;*****************************************************************************
                                ;TEST 53:       TEST TSTD (TEST DOUBLE PERCISION)
                                ;       TEST 100000,000001,000001,000001
                                ;       FPS = 003614,   FDST = M6-R7
                                ;*****************************************************************************

005014  104400                          SCOPE
005016  000404                          BR      TST53

005020  100000  000001  000001  DAT53:  100000,000001,000001,000001
005026  000001

005030  170127  003600          TST53:  LDFPS   #003600         ;LOAD FLOATING POINT STATUS
005034  170567  177760          FPI53:  TSTD    DAT53           ;TEST 100000,000001,000001,000001
005040  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005042  022700  003614                  CMP     #003614,FPS     ;CHECK FLOATING POINT STATUS
005046  001401                          BEQ     .+4             ;BRANCH IF OK
005050  104000                          HLT                     ;FPS NOT EQUAL TO 003614


                                ;*****************************************************************************
                                ;TEST 54:       TEST TSTD  TEST DOUBLE PERCISION)
                                ;       TEST 000001,100000,100000,100000
```

```
                                ;       FPS = 047604,   FDST = M6-R7
                                ;*************************************************************************

005050  104420                          SCOPE
005052  000454                          BR      TST54

005054  000001  100000  100000  DAT54:  000001,100000,100000,100000
005062  100000

005064  170127  047600          TST54:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
005070  170567  177760          FPI54:  TSTD    DAT54           ;TEST 000001,100000,100000,100000
005074  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005076  027700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
005102  001401                          BEQ     .+4             ;BRANCH IF OK
005104  104000                          HLT                     ;FPS NOT EQUAL TO 047604


                                ;*************************************************************************
                                ;TEST 55:       TEST TSTD (TEST DOUBLE PERCISION)
                                ;       TEST 040252,125252,125252,125252
                                ;       FPS = 003600,   FDST = M6-R7
                                ;*************************************************************************

005110  104420                          SCOPE
005112  000454                          BR      TST55

005114  040252  125252  125252  DAT55:  040252,125252,125252,125252
005122  125252

005124  170127  003600          TST55:  LDFPS   #003600         ;LOAD FLOATING POINT STATUS
005130  170567  177760          FPI55:  TSTD    DAT55           ;TEST 040252,125252,125252,125252
005134  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005136  027700  003600                  CMP     #003600,FPS     ;CHECK FLOATING POINT STATUS
005142  001401                          BEQ     .+4             ;BRANCH IF OK
005144  104000                          HLT                     ;FPS NOT EQUAL TO 003600


                                ;*************************************************************************
                                ;TEST 56:       TEST TSTD (TEST DOUBLE PERCISION)
                                ;       TEST 140125,052525,052525,052525
                                ;       FPS = 047610,   FDST = M6-R7
                                ;*************************************************************************

005146  104420                          SCOPE
005150  000454                          BR      TST56

005152  140125  052525  052525  DAT56:  140125,052525,052525,052525
005160  052525

005162  170127  047600          TST56:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
005166  170567  177760          FPI56:  TSTD    DAT56           ;TEST 140125,052525,052525,052525
005172  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005174  027700  047610                  CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
005200  001401                          BEQ     .+4             ;BRANCH IF OK
005202  104000                          HLT                     ;FPS NOT EQUAL TO 047610
```

```
                                ;*****************************************************************
                                ;TEST 57:       TEST TSTD (TEST DOUBLE PERCISION)
                                ;       TEST 040125,052525,052525,052525
                                ;       FPS = 047600,   FDST = MD-AC1
                                ;*****************************************************************

005204  104400                          SCOPE
005206  000404                          BR      TST57

005210  040125  052525  052525  DAT57:  040125,052525,052525,052525
005216  052525

005220  170127  047600          TST57:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
005224  172567  177760                  LDD     DAT57,  AC1     ;LOAD 040125,052525,052525,052525 INTO AC1
005230  170501                  FPI57:  TSTD    AC1             ;TEST AC1
005232  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005234  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
005240  001401                          BEQ     .+4             ;BRANCH IF OK
005242  104000                          HLT                     ;FPS NOT EQUAL TO 047600

005244  174167  173532                  STD     AC1,    ANS1    ;STORE AC1 IN ANS1 THRU ANS4
005250  022767  040125  173524          CMP     #040125,ANS1    ;040125 STILL IN AC1?
005256  001401                          BEQ     .+4             ;BRANCH IF OK
005260  104004                          HLT+4                   ;AC1 CHANGED

005262  022767  052525  173514          CMP     #052525,ANS2    ;CHECK ANS2
005270  001401                          BEQ     .+4             ;BRANCH IF OK
005272  104004                          HLT+4                   ;AC1 CHANGED

005274  022767  052525  173504          CMP     #052525,ANS3    ;CHECK ANS3
005302  001401                          BEQ     .+4             ;BRANCH IF OK
005304  104004                          HLT+4                   ;AC1 CHANGED

005306  022767  052525  173474          CMP     #052525,ANS4    ;CHECK ANS4
005314  001401                          BEQ     .+4             ;BRANCH IF OK
005316  104004                          HLT+4                   ;AC1 CHANGED


                                ;*****************************************************************
                                ;TEST 60:       TEST TSTD (TEST DOUBLE PERCISION)
                                ;       TEST 140252,125252,125252,125252
                                ;       FPS = 047610,   FDST = MD-AC1
                                ;*****************************************************************

005320  104400                          SCOPE
005322  000404                          BR      TST60

005324  140252  125252  125252  DAT60:  140252,125252,125252,125252
005332  125252

005334  170127  047600          TST60:  LDFPS   #047600         ;LOAD FLOATING POINT STATUS
005340  172567  177760                  LDD     DAT60,  AC1     ;LOAD 140252,125252,125252,125252 INTO AC1
005344  170501                  FPI60:  TSTD    AC1             ;TEST AC1
005346  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005350  022700  047610                  CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
```

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005354  001401                          BEQ     .+4             ;BRANCH IF OK
005356  104000                          HLT                     ;FPS NOT EQUAL TO 047610

005360  174167  173416                  STD     AC1,    ANS1    ;STORE AC1 IN ANS1 THRU ANS4
005364  022767  140252  173410          CMP     #140252,ANS1    ;140252 STILL IN AC1?
005372  001401                          BEQ     .+4             ;BRANCH IF OK
005374  104004                          HLT+4                   ;AC1 CHANGED

005376  022767  125252  173400          CMP     #125252,ANS2    ;CHECK ANS2
005404  001401                          BEQ     .+4             ;BRANCH IF OK
005406  104004                          HLT+4                   ;AC1 CHANGED

005410  022767  125252  173370          CMP     #125252,ANS3    ;CHECK ANS3
005416  001401                          BEQ     .+4             ;BRANCH IF OK
005420  104004                          HLT+4                   ;AC1 CHANGED

005422  022767  125252  173360          CMP     #125252,ANS4    ;CHECK ANS4
005430  001401                          BEQ     .+4             ;BRANCH IF OK
005432  104004                          HLT+4                   ;AC1 CHANGED


                        ;*****************************************************************
                        ;TEST 61:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 000000,000000 ==> 000000,000000
                        ;       FPS = 047404,   FDST = M6-R7
                        ;*****************************************************************

005434  104400                          SCOPE
005436  170127  047400          TST61:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
005442  012767  000000  173332          MOV     #000000,ANS1    ;"LOAD" 000000 INTO ANS1
005450  012767  000000  173326          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
005456  170667  173320          FPI61:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
005462  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005464  022700  047404                  CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
005470  001401                          BEQ     .+4             ;BRANCH IF OK
005472  104000                          HLT                     ;FPS NOT EQUAL TO 047404

005474  022767  000000  173300          CMP     #000000,ANS1    ;CHECK ANS1
005502  001401                          BEQ     .+4             ;BRANCH IF OK
005504  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000000

005506  022767  000000  173270          CMP     #000000,ANS2    ;CHECK ANS2
005514  001401                          BEQ     .+4             ;BRANCH IF OK
005516  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 62:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 177777,177777 ==> 077777,177777
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

005520  104400                          SCOPE
005522  170127  047400          TST62:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
005526  012767  177777  173246          MOV     #177777,ANS1    ;"LOAD" 177777 INTO ANS1
005534  012767  177777  173242          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
```

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005542  170667  173234          FPI62:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
005546  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005550  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
005554  001401                          BEQ     .+4             ;BRANCH IF OK
005556  104000                          HLT                     ;FPS NOT EQUAL TO 047400

005560  022767  077777  173214          CMP     #077777,ANS1    ;CHECK ANS1
005566  001401                          BEQ     .+4             ;BRANCH IF OK
005570  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 077777

005572  022767  177777  173204          CMP     #177777,ANS2    ;CHECK ANS2
005600  001401                          BEQ     .+4             ;BRANCH IF OK
005602  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 63:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 052525,052525 ==> 052525,052525
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

005604  104400                          SCOPE
005606  170127  047400          TST63:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
005612  012767  052525  173162          MOV     #052525,ANS1    ;"LOAD" 052525 INTO ANS1
005620  012767  052525  173156          MOV     #052525,ANS2    ;"LOAD" 052525 INTO ANS2
005626  170667  173150          FPI63:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
005632  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005634  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
005640  001401                          BEQ     .+4             ;BRANCH IF OK
005642  104000                          HLT                     ;FPS NOT EQUAL TO 047400

005644  022767  052525  173130          CMP     #052525,ANS1    ;CHECK ANS1
005652  001401                          BEQ     .+4             ;BRANCH IF OK
005654  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 052525

005656  022767  052525  173120          CMP     #052525,ANS2    ;CHECK ANS2
005664  001401                          BEQ     .+4             ;BRANCH IF OK
005666  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 052525


                        ;*****************************************************************
                        ;TEST 64:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 125252,125252 ==> 025252,125252
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

005670  104400                          SCOPE
005672  170127  047400          TST64:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
005676  012767  125252  173076          MOV     #125252,ANS1    ;"LOAD" 125252 INTO ANS1
005704  012767  125252  173072          MOV     #125252,ANS2    ;"LOAD" 125252 INTO ANS2
005712  170667  173064          FPI64:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
005716  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
005720  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
005724  001401                          BEQ     .+4             ;BRANCH IF OK
005726  104000                          HLT                     ;FPS NOT EQUAL TO 047400
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005730  022767  025252  173044          CMP     #025252,ANS1    ;CHECK ANS1
005736  001401                          BEQ     .+4             ;BRANCH IF OK
005740  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 025252

005742  022767  125252  173034          CMP     #125252,ANS2    ;CHECK ANS2
005750  001401                          BEQ     .+4             ;BRANCH IF OK
005752  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 125252


                        ;*****************************************************************
                        ;TEST 65:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 077777,177777 ==> 077777,177777
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

005754  104400                          SCOPE
005756  170127  047400          TST65:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
005762  012767  077777  173012          MOV     #077777,ANS1    ;"LOAD" 077777 INTO ANS1
005770  012767  177777  173006          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
005776  170667  173000          FPI65:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
006002  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
006004  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
006010  001401                          BEQ     .+4             ;BRANCH IF OK
006012  104000                          HLT                     ;FPS NOT EQUAL TO 047400

006014  022767  077777  172760          CMP     #077777,ANS1    ;CHECK ANS1
006022  001401                          BEQ     .+4             ;BRANCH IF OK
006024  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 077777

006026  022767  177777  172750          CMP     #177777,ANS2    ;CHECK ANS2
006034  001401                          BEQ     .+4             ;BRANCH IF OK
006036  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 66:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 100000,000000 ==> 100000,000000
                        ;       FPS = 147414,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI66
                        ;*****************************************************************

006040  104400                          SCOPE
006042  170127  047400          TST66:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
006046  012767  100000  172726          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
006054  012767  000000  172722          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
006062  170667  172714          FPI66:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
006066  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
006070  170367  172726                  STST    FEC             ;STORE EXCEPTION CODES
006074  022700  147414                  CMP     #147414,FPS     ;CHECK FLOATING POINT STATUS
006100  001401                          BEQ     .+4             ;BRANCH IF OK
006102  104000                          HLT                     ;FPS NOT EQUAL TO 147414

006104  022767  000014  172710          CMP     #14,    FEC     ;CHECK FLOATING EXCEPTION CODE
006112  001401                          BEQ     .+4             ;BRANCH IF OK
006114  104000                          HLT                     ;FEC NOT EQUAL TO 14
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```
006116  022767  006062  172700          CMP     #FPI66, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
006124  001401                          BEQ     .+4             ;BRANCH IF OK
006126  104000                          HLT                     ;FEA NOT EQUAL TO FPI66

006130  022767  100000  172644          CMP     #100000,ANS1    ;CHECK ANS1
006136  001401                          BEQ     .+4             ;BRANCH IF OK
006140  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 100000

006142  022767  000000  172634          CMP     #000000,ANS2    ;CHECK ANS2
006150  001401                          BEQ     .+4             ;BRANCH IF OK
006152  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 67:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 000200,000000 ==> 000200,000000
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

006154  104400                          SCOPE
006156  170127  047400          TST67:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
006162  012767  000200  172612          MOV     #000200,ANS1    ;"LOAD" 000200 INTO ANS1
006170  012767  000000  172606          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
006176  170667  172600          FPI67:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
006202  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
006204  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
006210  001401                          BEQ     .+4             ;BRANCH IF OK
006212  104000                          HLT                     ;FPS NOT EQUAL TO 047400

006214  022767  000200  172560          CMP     #000200,ANS1    ;CHECK ANS1
006222  001401                          BEQ     .+4             ;BRANCH IF OK
006224  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000200

006226  022767  000000  172550          CMP     #000000,ANS2    ;CHECK ANS2
006234  001401                          BEQ     .+4             ;BRANCH IF OK
006236  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 70:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 100200,000000 ==> 000200,000000
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

006240  104400                          SCOPE
006242  170127  047400          TST70:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
006246  012767  100200  172526          MOV     #100200,ANS1    ;"LOAD" 100200 INTO ANS1
006254  012767  000000  172522          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
006262  170667  172514          FPI70:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
006266  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
006270  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
006274  001401                          BEQ     .+4             ;BRANCH IF OK
006276  104000                          HLT                     ;FPS NOT EQUAL TO 047400

006300  022767  000200  172474          CMP     #000200,ANS1    ;CHECK ANS1
006306  001401                          BEQ     .+4             ;BRANCH IF OK
```

B04


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006310  104002                          HLT+2                           ;ANS1 NOT EQUAL TO 000200

006312  022767  000000  172464          CMP     #000000,ANS2            ;CHECK ANS2
006320  001401                          BEQ     .+4                     ;BRANCH IF OK
006322  104002                          HLT+2                           ;ANS2 NOT EQUAL TO 000000

                                ;*******************************************************************
                                ;TEST 71:        TEST ABSF (ABSOLUTE OF FLOATING POINT)
                                ;         MAGNITUDE 000177,177777 ==> 000000,000000
                                ;         FPS = 047404,   FDST = M6-R7
                                ;*******************************************************************

006324  104400                          SCOPE
006326  170127  047400          TST71:  LDFPS   #047400                 ;LOAD FLOATING POINT STATUS
006332  012767  000177  172442          MOV     #000177,ANS1            ;"LOAD" 000177 INTO ANS1
006340  012767  177777  172436          MOV     #177777,ANS2            ;"LOAD" 177777 INTO ANS2
006346  170667  172430          FPIT1:  ABSF    ANS1                    ;MAKE ANS1, ANS2 ABSOLUTE
006352  170200                          STFPS   FPS                     ;STORE FLOATING POINT STATUS
006354  022700  047404                  CMP     #047404,FPS             ;CHECK FLOATING POINT STATUS
006360  001401                          BEQ     .+4                     ;BRANCH IF OK
006362  104000                          HLT                             ;FPS NOT EQUAL TO 047404

006364  022767  000000  172410          CMP     #000000,ANS1            ;CHECK ANS1
006372  001401                          BEQ     .+4                     ;BRANCH IF OK
006374  104002                          HLT+2                           ;ANS1 NOT EQUAL TO 000000

006376  022767  000000  172400          CMP     #000000,ANS2            ;CHECK ANS2
006404  001401                          BEQ     .+4                     ;BRANCH IF OK
006406  104002                          HLT+2                           ;ANS2 NOT EQUAL TO 000000

                                ;*******************************************************************
                                ;TEST 72:        TEST ABSF (ABSOLUTE OF FLOATING POINT)
                                ;         MAGNITUDE 100177,177777 ==> 100177,177777
                                ;         FPS = 147414,   FDST = M6-R7
                                ;         FEC = 14.,      FEA = FPIT2
                                ;*******************************************************************

006410  104400                          SCOPE
006412  170127  047400          TST72:  LDFPS   #047400                 ;LOAD FLOATING POINT STATUS
006416  012767  100177  172356          MOV     #100177,ANS1            ;"LOAD" 100177 INTO ANS1
006424  012767  177777  172352          MOV     #177777,ANS2            ;"LOAD" 177777 INTO ANS2
006432  170667  172344          FPIT2:  ABSF    ANS1                    ;MAKE ANS1, ANS2 ABSOLUTE
006436  170200                          STFPS   FPS                     ;STORE FLOATING POINT STATUS
006440  170367  172356                  STST    FEC                     ;STORE EXCEPTION CODES
006444  022700  147414                  CMP     #147414,FPS             ;CHECK FLOATING POINT STATUS
006450  001401                          BEQ     .+4                     ;BRANCH IF OK
006452  104000                          HLT                             ;FPS NOT EQUAL TO 147414

006454  022767  000014  172340          CMP     #14.,   FEC             ;CHECK FLOATING EXCEPTION CODE
006462  001401                          BEQ     .+4                     ;BRANCH IF OK
006464  104000                          HLT                             ;FEC NOT EQUAL TO 14

006466  022767  006432  172330          CMP     #FPIT2, FEA             ;CHECK FLOATING EXCEPTION ADDRESS
006474  001401                          BEQ     .+4                     ;BRANCH IF OK
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006476  104000                          HLT                     ;FEA NOT EQUAL TO FPI72

006500  022767  100177  173374          CMP     #100177,ANS1    ;CHECK ANS1
006506  001401                          BEQ     .+4             ;BRANCH IF OK
006510  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 100177

006512  022767  177777  173364          CMP     #177777,ANS2    ;CHECK ANS2
006520  001401                          BEQ     .+4             ;BRANCH IF OK
006522  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 73:      TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 100000,000001 ==> 000000,000000
                        ;       FPS = 003404,   FDST = M5-R7
                        ;*****************************************************************

006524  104400                          SCOPE
006526  170127  003400          TST73:  LDFPS   #003400         ;LOAD FLOATING POINT STATUS
006532  012767  100000  173342          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
006540  012767  000001  173336          MOV     #000001,ANS2    ;"LOAD" 000001 INTO ANS2
006546  170667  172330          FPI73:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
006552  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
006554  027767  003404  173324          CMP     #003404,FPS     ;CHECK FLOATING POINT STATUS
006562  001401                          BEQ     .+4             ;BRANCH IF OK
006564  104000                          HLT                     ;FPS NOT EQUAL TO 003404

006566  022767  000000  173310          CMP     #000000,ANS1    ;CHECK ANS1
006574  001401                          BEQ     .+4             ;BRANCH IF OK
006576  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000000

006600  022767  000000  173300          CMP     #000000,ANS2    ;CHECK ANS2
006606  001401                          BEQ     .+4             ;BRANCH IF OK
006610  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 74:      TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 000001,100000 ==> 000000,000000
                        ;       FPS = 003404,   FDST = M5-R7
                        ;*****************************************************************

006612  104400                          SCOPE
006614  170127  003400          TST74:  LDFPS   #003400         ;LOAD FLOATING POINT STATUS
006620  012767  000001  173256          MOV     #000001,ANS1    ;"LOAD" 000001 INTO ANS1
006626  012767  100000  173252          MOV     #100000,ANS2    ;"LOAD" 100000 INTO ANS2
006634  170667  172244          FPI74:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
006640  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
006642  027767  003404  173236          CMP     #003404,FPS     ;CHECK FLOATING POINT STATUS
006650  001401                          BEQ     .+4             ;BRANCH IF OK
006652  104000                          HLT                     ;FPS NOT EQUAL TO 003404

006654  022767  000000  173224          CMP     #000000,ANS1    ;CHECK ANS1
006662  001401                          BEQ     .+4             ;BRANCH IF OK
006664  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000000
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001662  000767  000000  172114          CMP     #000000,ANS2    ;CHECK ANS2
001666  001401                          BEQ     .+4             ;BRANCH IF OK
001670  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 75:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 040252,125252 ==> 040252,125252
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

001672  104423                          SCOPE
001674  170127  047400          TST75:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001700  010167  040252  172072          MOV     #040252,ANS1    ;"LOAD" 040252 INTO ANS1
001704  010267  125252  172066          MOV     #125252,ANS2    ;"LOAD" 125252 INTO ANS2
001710  170667  172062          FP175:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
001714  170267                          STFPS   FPS             ;STORE FLOATING POINT STATUS
001716  027767  047400  172056          CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
001724  001401                          BEQ     .+4             ;BRANCH IF OK
001726  104000                          HLT                     ;FPS NOT EQUAL TO 047400

001730  022767  040252  172040          CMP     #040252,ANS1    ;CHECK ANS1
001736  001401                          BEQ     .+4             ;BRANCH IF OK
001740  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 040252

001742  022767  125252  172030          CMP     #125252,ANS2    ;CHECK ANS2
001750  001401                          BEQ     .+4             ;BRANCH IF OK
001752  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 125252


                        ;*****************************************************************
                        ;TEST 76:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                        ;       MAGNITUDE 140125,052525 ==> 040125,052525
                        ;       FPS = 047400,   FDST = M6-R7
                        ;*****************************************************************

001754  104423                          SCOPE
001756  170127  047400          TST76:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
001762  010167  140125  172036          MOV     #140125,ANS1    ;"LOAD" 140125 INTO ANS1
001766  010267  052525  172032          MOV     #052525,ANS2    ;"LOAD" 052525 INTO ANS2
001772  170667  172024          FP176:  ABSF    ANS1            ;MAKE ANS1, ANS2 ABSOLUTE
001776  170267                          STFPS   FPS             ;STORE FLOATING POINT STATUS
002000  027767  047400  172012          CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
002006  001401                          BEQ     .+4             ;BRANCH IF OK
002010  104000                          HLT                     ;FPS NOT EQUAL TO 047400

002012  022767  040125  172000          CMP     #040125,ANS1    ;CHECK ANS1
002020  001401                          BEQ     .+4             ;BRANCH IF OK
002022  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 040125

002024  022767  052525  171774          CMP     #052525,ANS2    ;CHECK ANS2
002032  001401                          BEQ     .+4             ;BRANCH IF OK
002034  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 052525


                        ;*****************************************************************
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E04


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                                        ;TEST 77:       TEST ABSF (ABSOLUTE OF FLOATING POINT)
                                        ;       MAGNITUDE 040125,052525 ==> 040125,052525
                                        ;       FPS = 047400,    FDST = M0-AC2
                                        ;*******************************************************************

        007044  104400                          SCOPE
        007046  000402                          BR      TST77

        007050  040125  052525          DAT77:  040125,052525

        007054  170127  047400          TST77:  LDFPS   #047400         ;LOAD FLOATING POINT STATUS
        007060  172667  177764                  LDF     DAT77,  AC2     ;LOAD 040125,052525 INTO AC2
        007064  170602                  FPI77:  ABSF    AC2             ;MAKE AC2 ABSOLUTE
        007066  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
        007070  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
        007074  001401                          BEQ     .+4             ;BRANCH IF OK
        007076  104000                          HLT                     ;FPS NOT EQUAL TO 047400

        007100  174267  171676                  STF     AC2,    ANS1    ;STORE ABSOLUTE IN ANS1, ANS2
        007104  022767  040125  171670          CMP     #040125,ANS1    ;CHECK ANS1
        007112  001401                          BEQ     .+4             ;BRANCH IF OK
        007114  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 040125

        007116  022767  052525  171660          CMP     #052525,ANS2    ;CHECK ANS2
        007124  001401                          BEQ     .+4             ;BRANCH IF OK
        007126  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 052525


                                        ;*******************************************************************
                                        ;TEST 100:      TEST ABSF (ABSOLUTE OF FLOATING POINT)
                                        ;       MAGNITUDE 140252,125252 ==> 040252,125252
                                        ;       FPS = 047400,    FDST = M0-AC2
                                        ;*******************************************************************

        007130  104400                          SCOPE
        007132  000402                          BR      TST100

        007134  140252  125252          DAT100: 140252,125252

        007140  170127  047400          TST100: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
        007144  172667  177764                  LDF     DAT100, AC2     ;LOAD 140252,125252 INTO AC2
        007150  170602                  FPI100: ABSF    AC2             ;MAKE AC2 ABSOLUTE
        007152  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
        007154  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
        007160  001401                          BEQ     .+4             ;BRANCH IF OK
        007162  104000                          HLT                     ;FPS NOT EQUAL TO 047400

        007164  174267  171612                  STF     AC2,    ANS1    ;STORE ABSOLUTE IN ANS1, ANS2
        007170  022767  040252  171604          CMP     #040252,ANS1    ;CHECK ANS1
        007176  001401                          BEQ     .+4             ;BRANCH IF OK
        007200  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 040252

        007202  022767  125252  171574          CMP     #125252,ANS2    ;CHECK ANS2
        007210  001401                          BEQ     .+4             ;BRANCH IF OK
        007212  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 125252
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                        ;*****************************************************************
                        ;TEST 101:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 000000,000000,000000,000000 ==> 000000,000000,000000,000000
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

007214  104400                    SCOPE
007216  170127  047600  TST101:   LDFPS   #047600          ;LOAD FLOATING POINT STATUS
007222  012767  000000  171552    MOV     #000000,ANS1    ;"LOAD" 000000 INTO ANS1
007230  012767  000000  171546    MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
007236  012767  000000  171542    MOV     #000000,ANS3    ;"LOAD" 000000 INTO ANS3
007244  012767  000000  171536    MOV     #000000,ANS4    ;"LOAD" 000000 INTO ANS4
007252  170667  171524  FPI101:   ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
007256  170200                    STFPS   FPS             ;STORE FLOATING POINT STATUS
007260  022700  047604            CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
007264  001401                    BEQ     .+4             ;BRANCH IF OK
007266  104000                    HLT                     ;FPS NOT EQUAL TO 047604

007270  022767  000000  171504    CMP     #000000,ANS1    ;CHECK ANS1
007276  001401                    BEQ     .+4             ;BRANCH IF OK
007300  104004                    HLT+4                   ;ANS1 NOT EQUAL TO 000000

007302  022767  000000  171474    CMP     #000000,ANS2    ;CHECK ANS2
007310  001401                    BEQ     .+4             ;BRANCH IF OK
007312  104004                    HLT+4                   ;ANS2 NOT EQUAL TO 000000

007314  022767  000000  171464    CMP     #000000,ANS3    ;CHECK ANS3
007322  001401                    BEQ     .+4             ;BRANCH IF OK
007324  104004                    HLT+4                   ;ANS3 NOT EQUAL TO 000000

007326  022767  000000  171454    CMP     #000000,ANS4    ;CHECK ANS4
007334  001401                    BEQ     .+4             ;BRANCH IF OK
007336  104004                    HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 102:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 177777,177777,177777,177777 ==> 077777,177777,177777,177777
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

007340  104400                    SCOPE
007342  170127  047600  TST102:   LDFPS   #047600          ;LOAD FLOATING POINT STATUS
007346  012767  177777  171426    MOV     #177777,ANS1    ;"LOAD" 177777 INTO ANS1
007354  012767  177777  171422    MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
007362  012767  177777  171416    MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
007370  012767  177777  171412    MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
007376  170667  171400  FPI102:   ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
007402  170200                    STFPS   FPS             ;STORE FLOATING POINT STATUS
007404  022700  047600            CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
007410  001401                    BEQ     .+4             ;BRANCH IF OK
007412  104000                    HLT                     ;FPS NOT EQUAL TO 047600

007414  022767  077777  171360    CMP     #077777,ANS1    ;CHECK ANS1
007422  001401                    BEQ     .+4             ;BRANCH IF OK
```

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007424  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 077777

007426  022767  177777  171350          CMP     #177777,ANS2    ;CHECK ANS2
007434  001401                          BEQ     .+4             ;BRANCH IF OK
007436  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 177777

007440  022767  177777  171340          CMP     #177777,ANS3    ;CHECK ANS3
007446  001401                          BEQ     .+4             ;BRANCH IF OK
007450  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 177777

007452  022767  177777  171330          CMP     #177777,ANS4    ;CHECK ANS4
007460  001401                          BEQ     .+4             ;BRANCH IF OK
007462  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 103:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 052525,052525,052525,052525 ==> 052525,052525,052525,052525
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

007464  104400                          SCOPE
007466  170127  047600          TST103: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
007472  012767  052525  171302          MOV     #052525,ANS1    ;"LOAD" 052525 INTO ANS1
007500  012767  052525  171276          MOV     #052525,ANS2    ;"LOAD" 052525 INTO ANS2
007506  012767  052525  171272          MOV     #052525,ANS3    ;"LOAD" 052525 INTO ANS3
007514  012767  052525  171266          MOV     #052525,ANS4    ;"LOAD" 052525 INTO ANS4
007522  170567  171254          FP1103: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
007526  170067                          STFPS   FPS             ;STORE FLOATING POINT STATUS
007530  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
007534  001401                          BEQ     .+4             ;BRANCH IF OK
007536  104000                          HLT                     ;FPS NOT EQUAL TO 047600

007540  022767  052525  171234          CMP     #052525,ANS1    ;CHECK ANS1
007546  001401                          BEQ     .+4             ;BRANCH IF OK
007550  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 052525

007552  022767  052525  171224          CMP     #052525,ANS2    ;CHECK ANS2
007560  001401                          BEQ     .+4             ;BRANCH IF OK
007562  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 052525

007564  022767  052525  171214          CMP     #052525,ANS3    ;CHECK ANS3
007572  001401                          BEQ     .+4             ;BRANCH IF OK
007574  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 052525

007576  022767  052525  171204          CMP     #052525,ANS4    ;CHECK ANS4
007604  001401                          BEQ     .+4             ;BRANCH IF OK
007606  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 052525


                        ;*****************************************************************
                        ;TEST 104:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 125252,125252,125252,125252 ==> 025252,125252,125252,125252
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************
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```
007610  104400                          SCOPE
007612  170127  047600          TST104: LDFPS   #047600          ;LOAD FLOATING POINT STATUS
007616  012767  125252  171156          MOV     #125252,ANS1    ;"LOAD" 125252 INTO ANS1
007624  012767  125252  171150          MOV     #125252,ANS2    ;"LOAD" 125252 INTO ANS2
007632  012767  125252  171146          MOV     #125252,ANS3    ;"LOAD" 125252 INTO ANS3
007640  012767  125252  171142          MOV     #125252,ANS4    ;"LOAD" 125252 INTO ANS4
007646  170667  171130          FPI104: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
007652  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
007654  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
007660  001401                          BEQ     .+4             ;BRANCH IF OK
007662  104000                          HLT                     ;FPS NOT EQUAL TO 047600

007664  022767  025252  171110          CMP     #025252,ANS1    ;CHECK ANS1
007672  001401                          BEQ     .+4             ;BRANCH IF OK
007674  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 025252

007676  022767  125252  171100          CMP     #125252,ANS2    ;CHECK ANS2
007704  001401                          BEQ     .+4             ;BRANCH IF OK
007706  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 125252

007710  022767  125252  171070          CMP     #125252,ANS3    ;CHECK ANS3
007716  001401                          BEQ     .+4             ;BRANCH IF OK
007720  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 125252

007722  022767  125252  171060          CMP     #125252,ANS4    ;CHECK ANS4
007730  001401                          BEQ     .+4             ;BRANCH IF OK
007732  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 125252


                        ;*******************************************************************
                        ;TEST 105:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 077777,177777,177777,177777 ==> 077777,177777,177777,177777
                        ;       FPS = 047600.   FDST = M6-R7
                        ;*******************************************************************

007734  104400                          SCOPE
007736  170127  047600          TST105: LDFPS   #047600          ;LOAD FLOATING POINT STATUS
007742  012767  077777  171032          MOV     #077777,ANS1    ;"LOAD" 077777 INTO ANS1
007750  012767  177777  171026          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
007756  012767  177777  171022          MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
007764  012767  177777  171016          MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
007772  170667  171004          FPI105: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
007776  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
010000  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
010004  001401                          BEQ     .+4             ;BRANCH IF OK
010006  104000                          HLT                     ;FPS NOT EQUAL TO 047600

010010  022767  077777  170764          CMP     #077777,ANS1    ;CHECK ANS1
010016  001401                          BEQ     .+4             ;BRANCH IF OK
010020  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 077777

010022  022767  177777  170754          CMP     #177777,ANS2    ;CHECK ANS2
010030  001401                          BEQ     .+4             ;BRANCH IF OK
010032  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 177777

010034  022767  177777  170744          CMP     #177777,ANS3    ;CHECK ANS3
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010042  001401                          BEQ     .+4             ;BRANCH IF OK
010044  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 177777

010046  022767  177777  170734          CMP     #177777,ANS4    ;CHECK ANS4
010054  001401                          BEQ     .+4             ;BRANCH IF OK
010056  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 106:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 100000,000000,000000,000000 ==> 100000,000000,000000,000000
                        ;       FPS = 147614,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI106
                        ;*****************************************************************

010060  104400                          SCOPE
010062  170127  047600          TST106: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
010066  012767  100000  170706          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
010074  012767  000000  170702          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
010102  012767  000000  170676          MOV     #000000,ANS3    ;"LOAD" 000000 INTO ANS3
010110  012767  000000  170672          MOV     #000000,ANS4    ;"LOAD" 000000 INTO ANS4
010116  170667  170660          FPI106: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
010122  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
010124  170367  170672                  STST    FEC             ;STORE EXCEPTION CODES
010130  022700  147614                  CMP     #147614,FPS     ;CHECK FLOATING POINT STATUS
010134  001401                          BEQ     .+4             ;BRANCH IF OK
010136  104000                          HLT                     ;FPS NOT EQUAL TO 147614

010140  022767  000014  170654          CMP     #14.    FEC     ;CHECK FLOATING EXCEPTION CODE
010146  001401                          BEQ     .+4             ;BRANCH IF OK
010150  104000                          HLT                     ;FEC NOT EQUAL TO 14

010152  022767  010116  170644          CMP     #FPI106, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
010160  001401                          BEQ     .+4             ;BRANCH IF OK
010162  104000                          HLT                     ;FEA NOT EQUAL TO FPI106

010164  022767  100000  170610          CMP     #100000,ANS1    ;CHECK ANS1
010172  001401                          BEQ     .+4             ;BRANCH IF OK
010174  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 100000

010176  022767  000000  170600          CMP     #000000,ANS2    ;CHECK ANS2
010204  001401                          BEQ     .+4             ;BRANCH IF OK
010206  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

010210  022767  000000  170570          CMP     #000000,ANS3    ;CHECK ANS3
010216  001401                          BEQ     .+4             ;BRANCH IF OK
010220  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

010222  022767  000000  170560          CMP     #000000,ANS4    ;CHECK ANS4
010230  001401                          BEQ     .+4             ;BRANCH IF OK
010232  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 107:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 000200,000000,000000,000000 ==> 000200,000000,000000,000000
```

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                                        ;       FPS = 047600,   FDST = M6-R7
                                        ;*************************************************************************

010234  104400                                  SCOPE
010236  170127  047600                TST107:   LDFPS   #047600           ;LOAD FLOATING POINT STATUS
010242  012767  000200  170532                  MOV     #000200,ANS1      ;"LOAD" 000200 INTO ANS1
010250  012767  000000  170526                  MOV     #000000,ANS2      ;"LOAD" 000000 INTO ANS2
010256  012767  000000  170522                  MOV     #000000,ANS3      ;"LOAD" 000000 INTO ANS3
010264  012767  000000  170516                  MOV     #000000,ANS4      ;"LOAD" 000000 INTO ANS4
010272  170667  170504                FPI107:   ABSD    ANS1              ;MAKE ANS1 THRU ANS4 ABSOLUTE
010276  170200                                  STFPS   FPS               ;STORE FLOATING POINT STATUS
010300  022700  047600                          CMP     #047600,FPS       ;CHECK FLOATING POINT STATUS
010304  001401                                  BEQ     .+4               ;BRANCH IF OK
010306  104000                                  HLT                       ;FPS NOT EQUAL TO 047600

010310  022767  000200  170464                  CMP     #000200,ANS1      ;CHECK ANS1
010316  001401                                  BEQ     .+4               ;BRANCH IF OK
010320  104004                                  HLT+4                     ;ANS1 NOT EQUAL TO 000200

010322  022767  000000  170454                  CMP     #000000,ANS2      ;CHECK ANS2
010330  001401                                  BEQ     .+4               ;BRANCH IF OK
010332  104004                                  HLT+4                     ;ANS2 NOT EQUAL TO 000000

010334  022767  000000  170444                  CMP     #000000,ANS3      ;CHECK ANS3
010342  001401                                  BEQ     .+4               ;BRANCH IF OK
010344  104004                                  HLT+4                     ;ANS3 NOT EQUAL TO 000000

010346  022767  000000  170434                  CMP     #000000,ANS4      ;CHECK ANS4
010354  001401                                  BEQ     .+4               ;BRANCH IF OK
010356  104004                                  HLT+4                     ;ANS4 NOT EQUAL TO 000000


                                        ;*************************************************************************
                                        ;TEST 110:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                                        ;       MAGNITUDE 100200,000000,000000,000000 ==> 000200,000000,000000,000000
                                        ;       FPS = 047600,   FDST = M6-R7
                                        ;*************************************************************************

010360  104400                                  SCOPE
010362  170127  047600                TST110:   LDFPS   #047600           ;LOAD FLOATING POINT STATUS
010366  012767  100200  170406                  MOV     #100200,ANS1      ;"LOAD" 100200 INTO ANS1
010374  012767  000000  170402                  MOV     #000000,ANS2      ;"LOAD" 000000 INTO ANS2
010402  012767  000000  170376                  MOV     #000000,ANS3      ;"LOAD" 000000 INTO ANS3
010410  012767  000000  170372                  MOV     #000000,ANS4      ;"LOAD" 000000 INTO ANS4
010416  170667  170360                FPI110:   ABSD    ANS1              ;MAKE ANS1 THRU ANS4 ABSOLUTE
010422  170200                                  STFPS   FPS               ;STORE FLOATING POINT STATUS
010424  022700  047600                          CMP     #047600,FPS       ;CHECK FLOATING POINT STATUS
010430  001401                                  BEQ     .+4               ;BRANCH IF OK
010432  104000                                  HLT                       ;FPS NOT EQUAL TO 047600

010434  022767  000200  170340                  CMP     #000200,ANS1      ;CHECK ANS1
010442  001401                                  BEQ     .+4               ;BRANCH IF OK
010444  104004                                  HLT+4                     ;ANS1 NOT EQUAL TO 000200

010446  022767  000000  170330                  CMP     #000000,ANS2      ;CHECK ANS2
010454  001401                                  BEQ     .+4               ;BRANCH IF OK.
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010456  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

010460  022767  000000  170320          CMP     #000000,ANS3    ;CHECK ANS3
010466  001401                          BEQ     .+4             ;BRANCH IF CK
010470  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

010472  022767  000000  170310          CMP     #000000,ANS4    ;CHECK ANS4
010500  001401                          BEQ     .+4             ;BRANCH IF OK
010502  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 111:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 000177,177777,177777,177777 ==> 000000,000000,000000,000000
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

010504  104400                          SCOPE
010506  170127  047600          TST111: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
010512  012767  000177  170262          MOV     #000177,ANS1    ;"LOAD" 000177 INTO ANS1
010520  012767  177777  170256          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
010526  012767  177777  170252          MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
010534  012767  177777  170246          MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
010542  170567  170234          FPI111: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
010546  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
010550  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
010554  001401                          BEQ     .+4             ;BRANCH IF Ok
010556  104000                          HLT                     ;FPS NOT EQUAL TO 047604

010560  022767  000000  170214          CMP     #000000,ANS1    ;CHECK ANS1
010566  001401                          BEQ     .+4             ;BRANCH IF OK
010570  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 000000

010572  022767  000000  170204          CMP     #000000,ANS2    ;CHECK ANS2
010600  001401                          BEQ     .+4             ;BRANCH IF Ok
010602  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

010604  022767  000000  170174          CMP     #000000,ANS3    ;CHECK ANS3
010612  001401                          BEQ     .+4             ;BRANCH IF Ok
010614  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

010616  022767  000000  170164          CMP     #000000,ANS4    ;CHECK ANS4
010624  001401                          BEQ     .+4             ;BRANCH IF OK
010626  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 112:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 100177,177777,177777,177777 ==> 100177,177777,177777,177777
                        ;       FPS = 147614,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI112
                        ;*****************************************************************

010630  104400                          SCOPE
010632  170127  047600          TST112: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
010636  012767  100177  170136          MOV     #100177,ANS1    ;"LOAD" 100177 INTO ANS1
```

```
010644  012767  177777  170132          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
010652  012767  177777  170126          MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
010660  012767  177777  170122          MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
010666  170667  170110          FPI112: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
010672  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
010674  170367  170122          STST    FEC             ;STORE EXCEPTION CODES
010700  022700  147614          CMP     #147614,FPS     ;CHECK FLOATING POINT STATUS
010704  001401                  BEQ     .+4             ;BRANCH IF OK
010706  104000                  HLT                     ;FPS NOT EQUAL TO 147614

010710  022767  000014  170104          CMP     #14,    FEC     ;CHECK FLOATING EXCEPTION CODE
010716  001401                  BEQ     .+4             ;BRANCH IF OK
010720  104000                  HLT                     ;FEC NOT EQUAL TO 14

010722  022767  010666  170074          CMP     #FPI112, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
010730  001401                  BEQ     .+4             ;BRANCH IF OK
010732  104000                  HLT                     ;FEA NOT EQUAL TO FPI112

010734  022767  100177  170040          CMP     #100177,ANS1    ;CHECK ANS1
010742  001401                  BEQ     .+4             ;BRANCH IF OK
010744  104004                  HLT+4                   ;ANS1 NOT EQUAL TO 100177

010746  022767  177777  170030          CMP     #177777,ANS2    ;CHECK ANS2
010754  001401                  BEQ     .+4             ;BRANCH IF OK
010756  104004                  HLT+4                   ;ANS2 NOT EQUAL TO 177777

010760  022767  177777  170020          CMP     #177777,ANS3    ;CHECK ANS3
010766  001401                  BEQ     .+4             ;BRANCH IF OK
010770  104004                  HLT+4                   ;ANS3 NOT EQUAL TO 177777

010772  022767  177777  170010          CMP     #177777,ANS4    ;CHECK ANS4
011000  001401                  BEQ     .+4             ;BRANCH IF OK
011002  104004                  HLT+4                   ;ANS4 NOT EQUAL TO 177777


                        ;*************************************************************************
                        ;TEST 113:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 100000,000001,000001,000001 ==> 000000,000000,000000,000000
                        ;       FPS = 003604,   FDST = M6-R7
                        ;*************************************************************************

011004  104400                  SCOPE
011006  170127  003600  TST113: LDFPS   #003600          ;LOAD FLOATING POINT STATUS
011012  012767  100000  167762          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
011020  012767  000001  167756          MOV     #000001,ANS2    ;"LOAD" 000001 INTO ANS2
011026  012767  000001  167752          MOV     #000001,ANS3    ;"LOAD" 000001 INTO ANS3
011034  012767  000001  167746          MOV     #000001,ANS4    ;"LOAD" 000001 INTO ANS4
011042  170667  167734          FPI113: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
011046  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
011050  022700  003604          CMP     #003604,FPS     ;CHECK FLOATING POINT STATUS
011054  001401                  BEQ     .+4             ;BRANCH IF OK
011056  104000                  HLT                     ;FPS NOT EQUAL TO 003604

011060  022767  000000  167714          CMP     #000000,ANS1    ;CHECK ANS1
011066  001401                  BEQ     .+4             ;BRANCH IF OK
011070  104004                  HLT+4                   ;ANS1 NOT EQUAL TO 000000
```

```
011072  022767  000000  167704          CMP     #000000,ANS2    ;CHECK ANS2
011100  001401                          BEQ     .+4             ;BRANCH IF OK
011102  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

011104  022767  000000  167674          CMP     #000000,ANS3    ;CHECK ANS3
011112  001401                          BEQ     .+4             ;BRANCH IF OK
011114  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

011116  022767  000000  167664          CMP     #000000,ANS4    ;CHECK ANS4
011124  001401                          BEQ     .+4             ;BRANCH IF OK
011126  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 114:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 000001,100000,100000,100000 ==> 000000,000000,000000,000000
                        ;       FPS = 003604,   FDST = M6-R7
                        ;*****************************************************************

011130  104400                          SCOPE
011132  170127  003600          TST114: LDFPS   #003600         ;LOAD FLOATING POINT STATUS
011136  012767  000001  167636          MOV     #000001,ANS1    ;"LOAD" 000001 INTO ANS1
011144  012767  100000  167632          MOV     #100000,ANS2    ;"LOAD" 100000 INTO ANS2
011152  012767  100000  167626          MOV     #100000,ANS3    ;"LOAD" 100000 INTO ANS3
011160  012767  100000  167622          MOV     #100000,ANS4    ;"LOAD" 100000 INTO ANS4
011166  170667  167610          FPI114: ABSD    ANS1            ;MAKE ANS1 THRU ANS4 ABSOLUTE
011172  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
011174  022700  003604                  CMP     #003604,FPS     ;CHECK FLOATING POINT STATUS
011200  001401                          BEQ     .+4             ;BRANCH IF OK
011202  104000                          HLT                     ;FPS NOT EQUAL TO 003604

011204  022767  000000  167570          CMP     #000000,ANS1    ;CHECK ANS1
011212  001401                          BEQ     .+4             ;BRANCH IF OK
011214  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 000000

011216  022767  000000  167560          CMP     #000000,ANS2    ;CHECK ANS2
011224  001401                          BEQ     .+4             ;BRANCH IF OK
011226  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

011230  022767  000000  167550          CMP     #000000,ANS3    ;CHECK ANS3
011236  001401                          BEQ     .+4             ;BRANCH IF OK
011240  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

011242  022767  000000  167540          CMP     #000000,ANS4    ;CHECK ANS4
011250  001401                          BEQ     .+4             ;BRANCH IF OK
011252  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 115:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                        ;       MAGNITUDE 040252,125252,125252,125252 ==> 040252,125252,125252,125252
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

011254  104400                          SCOPE
```

```
011256  170127  047600          TST115: LDFPS   #047600          ;LOAD FLOATING POINT STATUS
011262  012767  040252  167512          MOV     #040252,ANS1     ;"LOAD" 040252 INTO ANS1
011270  012767  125252  167506          MOV     #125252,ANS2     ;"LOAD" 125252 INTO ANS2
011276  012767  125252  167502          MOV     #125252,ANS3     ;"LOAD" 125252 INTO ANS3
011304  012767  125252  167476          MOV     #125252,ANS4     ;"LOAD" 125252 INTO ANS4
011312  170667  167464          FPI115: ABSD    ANS1             ;MAKE ANS1 THRU ANS4 ABSOLUTE
011316  170200                          STFPS   FPS              ;STORE FLOATING POINT STATUS
011320  022700  047600                  CMP     #047600,FPS      ;CHECK FLOATING POINT STATUS
011324  001401                          BEQ     .+4              ;BRANCH IF OK
011326  104000                          HLT                      ;FPS NOT EQUAL TO 047600

011330  022767  040252  167444          CMP     #040252,ANS1     ;CHECK ANS1
011336  001401                          BEQ     .+4              ;BRANCH IF OK
011340  104004                          HLT+4                    ;ANS1 NOT EQUAL TO 040252

011342  022767  125252  167434          CMP     #125252,ANS2     ;CHECK ANS2
011350  001401                          BEQ     .+4              ;BRANCH IF OK
011352  104004                          HLT+4                    ;ANS2 NOT EQUAL TO 125252

011354  022767  125252  167424          CMP     #125252,ANS3     ;CHECK ANS3
011362  001401                          BEQ     .+4              ;BRANCH IF OK
011364  104004                          HLT+4                    ;ANS3 NOT EQUAL TO 125252

011366  022767  125252  167414          CMP     #125252,ANS4     ;CHECK ANS4
011374  001401                          BEQ     .+4              ;BRANCH IF OK
011376  104004                          HLT+4                    ;ANS4 NOT EQUAL TO 125252


                                ;*****************************************************************
                                ;TEST 116:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                                ;       MAGNITUDE 140125,052525,052525,052525 ==> 040125,052525,052525,052525
                                ;       FPS = 047600,   FDST = M6-R7
                                ;*****************************************************************

011400  104400                          SCOPE
011402  170127  047600          TST116: LDFPS   #047600          ;LOAD FLOATING POINT STATUS
011406  012767  140125  167366          MOV     #140125,ANS1     ;"LOAD" 140125 INTO ANS1
011414  012767  052525  167362          MOV     #052525,ANS2     ;"LOAD" 052525 INTO ANS2
011422  012767  052525  167356          MOV     #052525,ANS3     ;"LOAD" 052525 INTO ANS3
011430  012767  052525  167352          MOV     #052525,ANS4     ;"LOAD" 052525 INTO ANS4
011436  170667  167340          FPI116: ABSD    ANS1             ;MAKE ANS1 THRU ANS4 ABSOLUTE
011442  170200                          STFPS   FPS              ;STORE FLOATING POINT STATUS
011444  022700  047600                  CMP     #047600,FPS      ;CHECK FLOATING POINT STATUS
011450  001401                          BEQ     .+4              ;BRANCH IF OK
011452  104000                          HLT                      ;FPS NOT EQUAL TO 047600

011454  022767  040125  167320          CMP     #040125,ANS1     ;CHECK ANS1
011462  001401                          BEQ     .+4              ;BRANCH IF OK
011464  104004                          HLT+4                    ;ANS1 NOT EQUAL TO 040125

011466  022767  052525  167310          CMP     #052525,ANS2     ;CHECK ANS2
011474  001401                          BEQ     .+4              ;BRANCH IF OK
011476  104004                          HLT+4                    ;ANS2 NOT EQUAL TO 052525

011500  022767  052525  167300          CMP     #052525,ANS3     ;CHECK ANS3
011506  001401                          BEQ     .+4              ;BRANCH IF OK
```

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        011516  104004                                  HLT+4                           ;ANS3 NOT EQUAL TO 052525

        011512  022767  052525  167270                  CMP     #052525,ANS4            ;CHECK ANS4
        011520  001401                                  BEQ     .+4                     ;BRANCH IF OK
        011522  104004                                  HLT+4                           ;ANS4 NOT EQUAL TO 052525

                                        ;*************************************************************************
                                        ;TEST 117:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                                        ;       MAGNITUDE 040125,052525,052525,052525 ==> 040125,052525,052525,052525
                                        ;       FPS = 047600,   FDST = MO-AC1
                                        ;*************************************************************************

        011524  104400                                  SCOPE
        011526  000404                                  BR      TST117

        011530  040125  052525  052525  DAT117: 040125,052525,052525,052525
        011536  052525

        011540  170127  047600          TST117: LDFPS   #047600                 ;LOAD FLOATING POINT STATUS
        011544  172567  177760                  LDD     DAT117, AC1             ;LOAD 040125,052525,052525,052525 INTO AC1
        011550  170601                  FPI117: ABSD    AC1                     ;MAKE AC1 ABSOLUTE
        011552  170200                          STFPS   FPS                     ;STORE FLOATING POINT STATUS
        011554  022700  047600                  CMP     #047600,FPS             ;CHECK FLOATING POINT STATUS
        011560  001401                          BEQ     .+4                     ;BRANCH IF OK
        011562  104000                          HLT                             ;FPS NOT EQUAL TO 047600

        011564  174167  167212                  STD     AC1,    ANS1            ;STORE ABSOLUTE IN ANS1 THRU ANS4
        011570  022767  040125  167204          CMP     #040125,ANS1            ;CHECK ANS1
        011576  001401                          BEQ     .+4                     ;BRANCH IF OK
        011600  104004                          HLT+4                           ;ANS1 NOT EQUAL TO 040125

        011602  022767  052525  167174          CMP     #052525,ANS2            ;ANSWER EQUAL 052525?
        011610  001401                          BEQ     .+4                     ;BRANCH IF OK
        011612  104004                          HLT+4                           ;ANS2 NOT EQUAL TO 052525

        011614  022767  052525  167164          CMP     #052525,ANS3            ;CHECK ANS3
        011622  001401                          BEQ     .+4                     ;BRANCH IF OK
        011624  104004                          HLT+4                           ;ANS3 NOT EQUAL TO 052525

        011626  022767  052525  167154          CMP     #052525,ANS4            ;CHECK ANS4
        011634  001401                          BEQ     .+4                     ;BRANCH IF OK
        011636  104004                          HLT+4                           ;ANS4 NOT EQUAL TO 052525

                                        ;*************************************************************************
                                        ;TEST 120:      TEST ABSD (ABSOLUTE OF DOUBLE PERCISION)
                                        ;       MAGNITUDE 140252,125252,125252,125252 ==> 040252,125252,125252,125252
                                        ;       FPS = 047600,   FDST = MO-AC1
                                        ;*************************************************************************

        011640  104400                                  SCOPE
        011642  000404                                  BR      TST120

        011644  140252  125252  125252  DAT120: 140252,125252,125252,125252
        011652  125252
```

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011654  170127  047600          TST120: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
011660  172561  177760                  LDD     DAT120, AC1     ;LOAD 140252,125252,125252,125252 INTO AC1
011564  170501                  FPI120: ABSD    AC1             ;MAKE AC1 ABSOLUTE
011666  170300                          STFPS   FPS             ;STORE FLOATING POINT STATUS
011670  022767  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
011676  001401                          BEQ     .+4             ;BRANCH IF OK
011700  104000                          HLT                     ;FPS NOT EQUAL TO 047600

011702  174167  167776                  STD     AC1,    ANS1    ;STORE ABSOLUTE IN ANS1 THRU ANS4
011706  022767  040252  167770          CMP     #040252,ANS1    ;CHECK ANS1
011716  001401                          BEQ     .+4             ;BRANCH IF OK
011712  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 040252

011714  022767  125252  167760          CMP     #125252,ANS2    ;ANSWER EQUAL 125252?
011722  001401                          BEQ     .+4             ;BRANCH IF OK
011724  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 125252

011726  022767  125252  167750          CMP     #125252,ANS3    ;CHECK ANS3
011734  001401                          BEQ     .+4             ;BRANCH IF OK
011736  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 125252

011740  022767  125252  167740          CMP     #125252,ANS4    ;CHECK ANS4
011746  001401                          BEQ     .+4             ;BRANCH IF OK
011750  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 125252

                                ;*****************************************************************
                                ;TEST 121:      NEGF (NEGATE FLOATING POINT)
                                ;       -(000000,000000) = 000000,000000
                                ;       FPS = 047404,   FDST = M6-R7
                                ;*****************************************************************

011752  104400                          SCOPE
011754  170127  047400          TST121: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
011760  013767  000000  167712          MOV     #000000,ANS1    ;"LOAD" 000000 INTO ANS1
011766  012767  000000  167736          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
011774  170767  167730          FPI121: NEGF    ANS1            ;NEGATE ANS1, ANS2
012000  170300                          STFPS   FPS             ;STORE FLOATING POINT STATUS
012002  022767  047404                  CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
012010  001401                          BEQ     .+4             ;BRANCH IF OK
012012  104000                          HLT                     ;FPS NOT EQUAL TO 047404

012014  022767  000000  166760          CMP     #000000,ANS1    ;CHECK ANS1
012022  001401                          BEQ     .+4             ;BRANCH IF OK
012024  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000000

012026  022767  000000  166750          CMP     #000000,ANS2    ;CHECK ANS2
012034  001401                          BEQ     .+4             ;BRANCH IF OK
012036  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000

                                ;*****************************************************************
                                ;TEST 122:      NEGF (NEGATE FLOATING POINT)
                                ;       -(177777,177777) = 000000,177777
                                ;       FPS = 047400,   FDST = M6-R7
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                                        ;*******************************************************************

012040  104400                                  SCOPE
012042  170127  047400                  TST122: LDFPS   #047400                 ;LOAD FLOATING POINT STATUS
012046  012767  177777  166726                  MOV     #177777,ANS1            ;"LOAD" 177777 INTO ANS1
012054  012767  177777  166722                  MOV     #177777,ANS2            ;"LOAD" 177777 INTO ANS2
012062  170767  166714                  FPI122: NEGF    ANS1                    ;NEGATE ANS1, ANS2
012066  170200                                  STFPS   FPS                     ;STORE FLOATING POINT STATUS
012070  022700  047400                          CMP     #047400,FPS             ;CHECK FLOATING POINT STATUS
012074  001401                                  BEQ     .+4                     ;BRANCH IF OK
012076  104000                                  HLT                             ;FPS NOT EQUAL TO 047400

012100  022767  077777  166674                  CMP     #077777,ANS1            ;CHECK ANS1
012106  001401                                  BEQ     .+4                     ;BRANCH IF OK
012110  104002                                  HLT+2                           ;ANS1 NOT EQUAL TO 077777

012112  022767  177777  166664                  CMP     #177777,ANS2            ;CHECK ANS2
012120  001401                                  BEQ     .+4                     ;BRANCH IF OK
012122  104002                                  HLT+2                           ;ANS2 NOT EQUAL TO 177777

                                        ;*******************************************************************
                                        ;TEST 123:      NEGF  (NEGATE FLOATING POINT)
                                        ;               -(052525,052525) = 152525,052525
                                        ;               FPS = 047410,    FDST = M6-R7
                                        ;*******************************************************************

012124  104400                                  SCOPE
012126  170127  047400                  TST123: LDFPS   #047400                 ;LOAD FLOATING POINT STATUS
012132  012767  052525  166642                  MOV     #052525,ANS1            ;"LOAD" 052525 INTO ANS1
012140  012767  052525  166636                  MOV     #052525,ANS2            ;"LOAD" 052525 INTO ANS2
012146  170767  166630                  FPI123: NEGF    ANS1                    ;NEGATE ANS1, ANS2
012152  170200                                  STFPS   FPS                     ;STORE FLOATING POINT STATUS
012154  022700  047410                          CMP     #047410,FPS             ;CHECK FLOATING POINT STATUS
012160  001401                                  BEQ     .+4                     ;BRANCH IF OK
012162  104000                                  HLT                             ;FPS NOT EQUAL TO 047410

012164  022767  152525  166610                  CMP     #152525,ANS1            ;CHECK ANS1
012172  001401                                  BEQ     .+4                     ;BRANCH IF OK
012174  104002                                  HLT+2                           ;ANS1 NOT EQUAL TO 152525

012176  022767  052525  166600                  CMP     #052525,ANS2            ;CHECK ANS2
012204  001401                                  BEQ     .+4                     ;BRANCH IF OK
012206  104002                                  HLT+2                           ;ANS2 NOT EQUAL TO 052525

                                        ;*******************************************************************
                                        ;TEST 124:      NEGF  (NEGATE FLOATING POINT)
                                        ;               -(125252,125252) = 025252,125252
                                        ;               FPS = 047400,    FDST = M6-R7
                                        ;*******************************************************************

012210  104400                                  SCOPE
012212  170127  047400                  TST124: LDFPS   #047400                 ;LOAD FLOATING POINT STATUS
012216  012767  125252  166556                  MOV     #125252,ANS1            ;"LOAD" 125252 INTO ANS1
012224  012767  125252  166552                  MOV     #125252,ANS2            ;"LOAD" 125252 INTO ANS2
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012232  170767  166544          FPI124: NEGF    ANS1            ;NEGATE ANS1, ANS2
012236  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
012240  027700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
012244  001401                          BEQ     .+4             ;BRANCH IF OK
012246  104000                          HLT                     ;FPS NOT EQUAL TO 047400

012250  022767  025252  166524          CMP     #025252,ANS1    ;CHECK ANS1
012256  001401                          BEQ     .+4             ;BRANCH IF OK
012260  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 025252

012262  022767  125252  166514          CMP     #125252,ANS2    ;CHECK ANS2
012270  001401                          BEQ     .+4             ;BRANCH IF OK
012272  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 125252


                        ;*****************************************************************
                        ;TEST 125:     NEGF (NEGATE FLOATING POINT)
                        ;       -(077777,177777) = 100000,000001
                        ;       FPS = 047410,   FDST = M6-B7
                        ;*****************************************************************

012274  104420                          SCOPE
012276  170127  047400          TST125: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
012302  012767  077777  166472          MOV     #077777,ANS1    ;"LOAD" 077777 INTO ANS1
012310  012767  177777  166466          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
012316  170767  166460          FPI125: NEGF    ANS1            ;NEGATE ANS1, ANS2
012322  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
012324  027700  047410                  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
012330  001401                          BEQ     .+4             ;BRANCH IF OK
012332  104000                          HLT                     ;FPS NOT EQUAL TO 047410

012334  022767  177777  166440          CMP     #177777,ANS1    ;CHECK ANS1
012342  001401                          BEQ     .+4             ;BRANCH IF OK
012344  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 177777

012346  022767  177777  166430          CMP     #177777,ANS2    ;CHECK ANS2
012354  001401                          BEQ     .+4             ;BRANCH IF OK
012356  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 126:     NEGF (NEGATE FLOATING POINT)
                        ;       -(100000,000000) = 100000,000000
                        ;       FPS = 147414,   FDST = M6-B7
                        ;       FEC = 14,       FEA = FPI126
                        ;*****************************************************************

012360  104400                          SCOPE
012362  170127  047400          TST126: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
012366  012767  100000  166436          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
012374  012767  000000  166432          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
012402  170767  166374          FPI126: NEGF    ANS1            ;NEGATE ANS1, ANS2
012406  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
012410  170367  166406                  STST    FEC             ;STORE EXCEPTION CODES
012414  027700  147414                  CMP     #147414,FPS     ;CHECK FLOATING POINT STATUS
012420  001401                          BEQ     .+4             ;BRANCH IF OK
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012422  104000                          HLT                     ;FPS NOT EQUAL TO 147414

012424  022767  000014  166370          CMP     #14.    FEC     ;CHECK FLOATING EXCEPTION CODE
012432  001401                          BEQ     .+4             ;BRANCH IF OK
012434  104000                          HLT                     ;FEC NOT EQUAL TO 14

012436  022767  012402  166360          CMP     #FPI126, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
012444  001401                          BEQ     .+4             ;BRANCH IF OK
012446  104000                          HLT                     ;FEA NOT EQUAL TO FPI126

012450  022767  100000  166334          CMP     #100000,ANS1    ;CHECK ANS1
012456  001401                          BEQ     .+4             ;BRANCH IF OK
012460  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 100000

012462  022767  000000  166314          CMP     #000000,ANS2    ;CHECK ANS2
012470  001401                          BEQ     .+4             ;BRANCH IF OK
012472  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000

                        ;*****************************************************************
                        ;TEST 127:      NEGF (NEGATE FLOATING POINT)
                        ;       - 000200,000000) = 100200,000000
                        ;       FPS = 047410.   FDST = M6-R7
                        ;*****************************************************************

012474  104400                          SCOPE
012476  170127  047400          TST127: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
012502  012767  000200  166272          MOV     #000200,ANS1    ;"LOAD" 000200 INTO ANS1
012510  012767  000000  166266          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
012516  170767  166260          FPI127: NEGF    ANS1            ;NEGATE ANS1, ANS2
012522  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
012524  022700  047410                  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
012530  001401                          BEQ     .+4             ;BRANCH IF OK
012532  104000                          HLT                     ;FPS NOT EQUAL TO 047410

012534  022767  100200  166240          CMP     #100200,ANS1    ;CHECK ANS1
012542  001401                          BEQ     .+4             ;BRANCH IF OK
012544  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 100200

012546  022767  000000  166230          CMP     #000000,ANS2    ;CHECK ANS2
012554  001401                          BEQ     .+4             ;BRANCH IF OK
012556  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000

                        ;*****************************************************************
                        ;TEST 130:      NEGF (NEGATE FLOATING POINT)
                        ;       -(100200,000000) = 000200,000000
                        ;       FPS = 047400.   FDST = M6-R7
                        ;*****************************************************************

012560  104400                          SCOPE
012562  170127  047400          TST130: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
012566  012767  100200  166206          MOV     #100200,ANS1    ;"LOAD" 100200 INTO ANS1
012574  012767  000000  166202          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
012602  170767  166174          FPI130: NEGF    ANS1            ;NEGATE ANS1, ANS2
012606  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
```

```
012610  022727  047400          CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
012614  001401                  BEQ     .+4             ;BRANCH IF OK
012616  104000                  HLT                     ;FPS NOT EQUAL TO 047400

012620  022767  000200  166154  CMP     #000200,ANS1    ;CHECK ANS1
012626  001401                  BEQ     .+4             ;BRANCH IF OK
012630  104002                  HLT+2                   ;ANS1 NOT EQUAL TO 000200

012632  022767  000000  166146  CMP     #000000,ANS2    ;CHECK ANS2
012640  001401                  BEQ     .+4             ;BRANCH IF OK
012642  104002                  HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 131:      NEGF (NEGATE FLOATING POINT)
                        ;       -(000177,177777) = 000000,000000
                        ;       FPS = 047404,   FDST = M6-R7
                        ;*****************************************************************

012644  104400                  SCOPE
012646  170127  047400  TST131: LDFPS   #047400          ;LOAD FLOATING POINT STATUS
012652  012767  000177  166122  MOV     #000177,ANS1    ;"LOAD" 000177 INTO ANS1
012660  012767  177777  166116  MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
012666  170767  166110  FPI131: NEGF    ANS1            ;NEGATE ANS1, ANS2
012672  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
012674  022700  047404          CMP     #047404,FPS     ;CHECK FLOATING POINT STATUS
012700  001401                  BEQ     .+4             ;BRANCH IF Ok
012702  104000                  HLT                     ;FPS NOT EQUAL TO 047404

012704  022767  000000  166070  CMP     #000000,ANS1    ;CHECK ANS1
012712  001401                  BEQ     .+4             ;BRANCH IF OK
012714  104002                  HLT+2                   ;ANS1 NOT EQUAL TO 000000

012716  022767  000000  166060  CMP     #000000,ANS2    ;CHECK ANS2
012724  001401                  BEQ     .+4             ;BRANCH IF OK
012726  104002                  HLT+2                   ;ANS2 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 132:      NEGF (NEGATE FLOATING POINT)
                        ;       -(100177,177777) = 100177,177777
                        ;       FPS = 147414,   FDST = M6-R7
                        ;       FEC = 14.       FEA = FPI132
                        ;*****************************************************************

012730  104400                  SCOPE
012732  170127  047400  TST132: LDFPS   #047400          ;LOAD FLOATING POINT STATUS
012736  012767  100177  166036  MOV     #100177,ANS1    ;"LOAD" 100177 INTO ANS1
012744  012767  177777  166032  MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
012752  170767  166024  FPI132: NEGF    ANS1            ;NEGATE ANS1, ANS2
012756  170200                  STFPS   FPS             ;STORE FLOATING POINT STATUS
012760  170367  166036          STST    FEC             ;STORE EXCEPTION CODES
012764  022700  147414          CMP     #147414,FPS     ;CHECK FLOATING POINT STATUS
012770  001401                  BEQ     .+4             ;BRANCH IF OK
012772  104000                  HLT                     ;FPS NOT EQUAL TO 147414
```

```
013774  022767  000014  166020          CMP     #14.    FEC     ;CHECK FLOATING EXCEPTION CODE
014002  001401                          BEQ     .+4             ;BRANCH IF OK
014004  104000                          HLT                     ;FEC NOT EQUAL TO 14

014006  022767  013752  166010          CMP     #FPI132, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
014014  001401                          BEQ     .+4             ;BRANCH IF OK
014016  104000                          HLT                     ;FEA NOT EQUAL TO FPI132

014020  022767  100177  165754          CMP     #100177,ANS1    ;CHECK ANS1
014036  001401                          BEQ     .+4             ;BRANCH IF OK
014030  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 100177

014032  022767  177777  165744          CMP     #177777,ANS2    ;CHECK ANS2
014040  001401                          BEQ     .+4             ;BRANCH IF OK
014042  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 177777

                        ;*****************************************************************
                        ;TEST 133:      NEGF (NEGATE FLOATING POINT)
                        ;       -(100000,000001) = 000000,000000
                        ;       FPS = 003404,   FDST = M6-R7
                        ;*****************************************************************

014044  104400                          SCOPE
014046  170127  003400  TST133: LDFPS   #003400          ;LOAD FLOATING POINT STATUS
014052  012767  100000  165722          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
014060  012767  000001  165716          MOV     #000001,ANS2    ;"LOAD" 000001 INTO ANS2
014066  170767  165710  FPI133: NEGF    ANS1            ;NEGATE ANS1, ANS2
014072  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
014074  022700  003404                  CMP     #003404,FPS     ;CHECK FLOATING POINT STATUS
014100  001401                          BEQ     .+4             ;BRANCH IF OK
014102  104000                          HLT                     ;FPS NOT EQUAL TO 003404

014104  022767  000000  165670          CMP     #000000,ANS1    ;CHECK ANS1
014112  001401                          BEQ     .+4             ;BRANCH IF OK
014114  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000000

014116  022767  000000  165660          CMP     #000000,ANS2    ;CHECk ANS2
014124  001401                          BEQ     .+4             ;BRANCH IF OK
014126  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000

                        ;*****************************************************************
                        ;TEST 134:      NEGF (NEGATE FLOATING POINT)
                        ;       -(000001,100000) = 000000,000000
                        ;       FPS = 003404,   FDST = M6-R7
                        ;*****************************************************************

014130  104400                          SCOPE
014132  170127  003400  TST134: LDFPS   #003400          ;LOAD FLOATING POINT STATUS
014136  012767  000001  165636          MOV     #000001,ANS1    ;"LOAD" 000001 INTO ANS1
014144  012767  100000  165632          MOV     #100000,ANS2    ;"LOAD" 100000 INTO ANS2
014152  170767  165624  FPI134: NEGF    ANS1            ;NEGATE ANS1, ANS2
014156  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
014160  022700  003404                  CMP     #003404,FPS     ;CHECK FLOATING POINT STATUS
014164  001401                          BEQ     .+4             ;BRANCH IF OK
```

```
013166  104000                          HLT                     ;FPS NOT EQUAL TO 003404

013170  022767  000000  165504          CMP     #000000,ANS1    ;CHECK ANS1
013176  001401                          BEQ     .+4             ;BRANCH IF OK
013200  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 000000

013202  022767  000000  165574          CMP     #000000,ANS2    ;CHECK ANS2
013210  001401                          BEQ     .+4             ;BRANCH IF OK
013212  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 000000

                        ;*****************************************************************
                        ;TEST 135:      NEGF (NEGATE FLOATING POINT)
                        ;       -(040125,052525) = 140125,052525
                        ;       FPS = 047410.   FDST = M6-R7
                        ;*****************************************************************

013214  104400                          SCOPE
013216  170127  047400          TST135: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
013222  012767  040125  165552          MOV     #040125,ANS1    ;"LOAD" 040125 INTO ANS1
013230  012767  052525  165546          MOV     #052525,ANS2    ;"LOAD" 052525 INTO ANS2
013236  170767  165540          FPI135: NEGF    ANS1            ;NEGATE ANS1, ANS2
013242  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
013244  022700  047410                  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
013250  001401                          BEQ     .+4             ;BRANCH IF OK
013252  104000                          HLT                     ;FPS NOT EQUAL TO 047410

013254  022767  140125  165520          CMP     #140125,ANS1    ;CHECK ANS1
013262  001401                          BEQ     .+4             ;BRANCH IF OK
013264  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 140125

013266  022767  052525  165510          CMP     #052525,ANS2    ;CHECK ANS2
013274  001401                          BEQ     .+4             ;BRANCH IF OK
013276  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 052525

                        ;*****************************************************************
                        ;TEST 136:      NEGF (NEGATE FLOATING POINT)
                        ;       -(140252,125252) = 040252,125252
                        ;       FPS = 047400.   FDST = M5-R7
                        ;*****************************************************************

013300  104400                          SCOPE
013302  170127  047400          TST136: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
013306  012767  140252  165466          MOV     #140252,ANS1    ;"LOAD" 140252 INTO ANS1
013314  012767  125252  165462          MOV     #125252,ANS2    ;"LOAD" 125252 INTO ANS2
013322  170767  165454          FPI136: NEGF    ANS1            ;NEGATE ANS1, ANS2
013326  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
013330  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
013334  001401                          BEQ     .+4             ;BRANCH IF OK
013336  104000                          HLT                     ;FPS NOT EQUAL TO 047400

013340  022767  040252  165434          CMP     #040252,ANS1    ;CHECK ANS1
013346  001401                          BEQ     .+4             ;BRANCH IF OK
013350  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 040252
```

```
013352  022767  125252  165424          CMP     #125252,ANS2    ;CHECK ANS2
013360  001401                          BEQ     .+4             ;BRANCH IF OK
013362  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 125252


                                ;*****************************************************************
                                ;TEST 137:      NEGF (NEGATE FLOATING POINT)
                                ;       -(052525,052525) = 152525,052525
                                ;       FPS = 047410,   FDST = MD-AC0
                                ;*****************************************************************

013354  104433                          SCOPE
013356  000402                          BR      TST137

013370  052525  052525          DAT137: 052525,052525

013374  170127  047400          TST137: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
013400  172467  177764                  LDF     DAT137, AC0     ;LOAD 052525,052525 INTO AC0
013404  170700                  FPI137: NEGF    AC0             ;NEGATE AC0
013406  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
013410  022700  047410                  CMP     #047410,FPS     ;CHECK FLOATING POINT STATUS
013414  001401                          BEQ     .+4             ;BRANCH IF OK
013416  104000                          HLT                     ;FPS NOT EQUAL TO 047410

013420  174067  165356                  STF     AC0,    ANS1    ;STORE NEGATIVE IN ANS1, ANS2
013424  022767  152525  165350          CMP     #152525,ANS1    ;CHECK ANS1
013432  001401                          BEQ     .+4             ;BRANCH IF OK
013434  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 152525

013436  022767  052525  165340          CMP     #052525,ANS2    ;CHECK ANS2
013444  001401                          BEQ     .+4             ;BRANCH IF OK
013446  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 052525


                                ;*****************************************************************
                                ;TEST 140:      NEGF (NEGATE FLOATING POINT)
                                ;       -(125252,125252) = 025252,125252
                                ;       FPS = 047400,   FDST = MD-AC3
                                ;*****************************************************************

013450  104433                          SCOPE
013452  000402                          BR      TST140

013454  125252  125252          DAT140: 125252,125252

013460  170127  047400          TST140: LDFPS   #047400         ;LOAD FLOATING POINT STATUS
013464  172767  177764                  LDF     DAT140, AC3     ;LOAD 125252,125252 INTO AC3
013470  170703                  FPI140: NEGF    AC3             ;NEGATE AC3
013472  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
013474  022700  047400                  CMP     #047400,FPS     ;CHECK FLOATING POINT STATUS
013500  001401                          BEQ     .+4             ;BRANCH IF OK
013502  104000                          HLT                     ;FPS NOT EQUAL TO 047400

013504  174367  165272                  STF     AC3,    ANS1    ;STORE NEGATIVE IN ANS1, ANS2
013510  022767  025252  165264          CMP     #025252,ANS1    ;CHECK ANS1
013516  001401                          BEQ     .+4             ;BRANCH IF OK
```

```
013520  104002                          HLT+2                   ;ANS1 NOT EQUAL TO 025252

013522  022767  125252  165254          CMP     #125252,ANS2    ;CHECK ANS2
013530  001401                          BEQ     .+4             ;BRANCH IF OK
013532  104002                          HLT+2                   ;ANS2 NOT EQUAL TO 125252


                        ;*****************************************************************
                        ;TEST 141:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(000000,000000,000000,000000) = 000000,000000,000000,000000
                        ;       FPS = 047604,   FDST = M6-R7
                        ;*****************************************************************

013534  104400                          SCOPE
013536  170127  047600          TST141: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
013542  012767  000000  165232          MOV     #000000,ANS1    ;"LOAD" 000000 INTO ANS1
013550  012767  000000  165226          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
013556  012767  000000  165222          MOV     #000000,ANS3    ;"LOAD" 000000 INTO ANS3
013564  012767  000000  165216          MOV     #000000,ANS4    ;"LOAD" 000000 INTO ANS4
013572  170767  165204          FPI141: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
013576  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
013600  022700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
013604  001401                          BEQ     .+4             ;BRANCH IF OK
013606  104000                          HLT                     ;FPS NOT EQUAL TO 047604

013610  022767  000000  165164          CMP     #000000,ANS1    ;CHECK ANS1
013616  001401                          BEQ     .+4             ;BRANCH IF OK
013620  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 000000

013622  022767  000000  165154          CMP     #000000,ANS2    ;CHECK ANS2
013630  001401                          BEQ     .+4             ;BRANCH IF OK
013632  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

013634  022767  000000  165144          CMP     #000000,ANS3    ;CHECK ANS3
013642  001401                          BEQ     .+4             ;BRANCH IF OK
013644  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

013646  022767  000000  165134          CMP     #000000,ANS4    ;CHECK ANS4
013654  001401                          BEQ     .+4             ;BRANCH IF OK
013656  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 142:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(177777,177777,177777,177777) = 077777,177777,177777,177777
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

013660  104400                          SCOPE
013662  170127  047600          TST142: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
013666  012767  177777  165106          MOV     #177777,ANS1    ;"LOAD" 177777 INTO ANS1
013674  012767  177777  165102          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
013702  012767  177777  165076          MOV     #177777,ANS3    ;       177777 INTO ANS3
013710  012767  177777  165072          MOV     #177777,ANS4    ;       177777 INTO ANS4
013716  170767  165060          FPI142: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
013722  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
```

```
013724  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
013730  001401                          BEQ     .+4             ;BRANCH IF OK
013732  104000                          HLT                     ;FPS NOT EQUAL TO 047600

013734  022767  077777  165040          CMP     #077777,ANS1    ;CHECK ANS1
013742  001401                          BEQ     .+4             ;BRANCH IF OK
013744  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 077777

013746  022767  177777  165030          CMP     #177777,ANS2    ;CHECK ANS2
013754  001401                          BEQ     .+4             ;BRANCH IF OK
013756  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 177777

013760  022767  177777  165020          CMP     #177777,ANS3    ;CHECK ANS3
013766  001401                          BEQ     .+4             ;BRANCH IF OK
013770  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 177777

013772  022767  177777  165010          CMP     #177777,ANS4    ;CHECK ANS4
014000  001401                          BEQ     .+4             ;BRANCH IF OK
014002  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 143:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(052525,052525,052525,052525) = 152525,052525,052525,052525
                        ;       FPS = 047610,   FDST = M6-R7
                        ;*****************************************************************

014004  104400                          SCOPE
014006  170127  047600          TST143: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
014012  012767  052525  164762          MOV     #052525,ANS1    ;"LOAD" 052525 INTO ANS1
014020  012767  052525  164756          MOV     #052525,ANS2    ;"LOAD" 052525 INTO ANS2
014026  012767  052525  164752          MOV     #052525,ANS3    ;"LOAD" 052525 INTO ANS3
014034  012767  052525  164746          MOV     #052525,ANS4    ;"LOAD" 052525 INTO ANS4
014042  170767  164734          FPI143: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
014046  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
014050  022700  047610                  CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
014054  001401                          BEQ     .+4             ;BRANCH IF OK
014056  104000                          HLT                     ;FPS NOT EQUAL TO 047610

014060  022767  152525  164714          CMP     #152525,ANS1    ;CHECK ANS1
014066  001401                          BEQ     .+4             ;BRANCH IF OK
014070  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 152525

014072  022767  052525  164704          CMP     #052525,ANS2    ;CHECK ANS2
014100  001401                          BEQ     .+4             ;BRANCH IF OK
014102  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 052525

014104  022767  052525  164674          CMP     #052525,ANS3    ;CHECK ANS3
014112  001401                          BEQ     .+4             ;BRANCH IF OK
014114  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 052525

014116  022767  052525  164664          CMP     #052525,ANS4    ;CHECK ANS4
014124  001401                          BEQ     .+4             ;BRANCH IF OK
014126  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 052525
```

```
                        ;*****************************************************************
                        ;TEST 144:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(125252,125252,125252,125252) = 025252,125252,125252,125252
                        ;       FPS = 047600,   FDST = M6-R7
                        ;*****************************************************************

014130  104400                          SCOPE
014132  170127  047600          TST144: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
014136  012767  125252  164636          MOV     #125252,ANS1    ;"LOAD" 125252 INTO ANS1
014144  012767  125252  164632          MOV     #125252,ANS2    ;"LOAD" 125252 INTO ANS2
014152  012767  125252  164626          MOV     #125252,ANS3    ;"LOAD" 125252 INTO ANS3
014160  012767  125252  164622          MOV     #125252,ANS4    ;"LOAD" 125252 INTO ANS4
014166  170767  164610          FPI144: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
014172  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
014174  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
014200  001401                          BEQ     .+4             ;BRANCH IF OK
014202  104000                          HLT                     ;FPS NOT EQUAL TO 047600

014204  022767  025252  164570          CMP     #025252,ANS1    ;CHECK ANS1
014212  001401                          BEQ     .+4             ;BRANCH IF OK
014214  104004                          HLT+4                   ;ANS1 NOT EQJAL TO 025252

014216  022767  125252  164560          CMP     #125252,ANS2    ;CHECk ANS2
014224  001401                          BEQ     .+4             ;BRANCH IF OK
014226  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 125252

014230  022767  125252  164550          CMP     #125252,ANS3    ;CHECK ANS3
014236  001401                          BEQ     .+4             ;BRANCH IF OK
014240  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 125252

014242  022767  125252  164540          CMP     #125252,ANS4    ;CHECK ANS4
014250  001401                          BEQ     .+4             ;BRANCH IF OK
014252  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 125252


                        ;*****************************************************************
                        ;TEST 145:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(077777,177777,177777,177777) = 177777,177777,177777,177777
                        ;       FPS = 047610,   FDST = M6-R7
                        ;*****************************************************************

014254  104400                          SCOPE
014256  170127  047600          TST145: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
014262  012767  077777  164512          MOV     #077777,ANS1    ;"LOAD" 077777 INTO ANS1
014270  012767  177777  164506          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
014276  012767  177777  164502          MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
014304  012767  177777  164476          MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
014312  170767  164464          FPI145: NEGD    ANS1            ;NEGATE ANS1 THFU ANS4
014316  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
014320  022700  047610                  CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
014324  001401                          BEQ     .+4             ;BRANCH IF OK
014326  104000                          HLT                     ;FPS NOT EQUAL TO 047610

014330  022767  177777  164444          CMP     #177777,ANS1    ;CHECK ANS1
014336  001401                          BEQ     .+4             ;BRANCH IF OK
014340  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 177777
```

```
014342  022767  177777  164434          CMP     #177777,ANS2    ;CHECK ANS2
014350  001401                          BEQ     .+4             ;BRANCH IF OK
014352  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 177777

014354  022767  177777  164424          CMP     #177777,ANS3    ;CHECK ANS3
014362  001401                          BEQ     .+4             ;BRANCH IF OK
014364  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 177777

014366  022767  177777  164414          CMP     #177777,ANS4    ;CHECK ANS4
014374  001401                          BEQ     .+4             ;BRANCH IF OK
014376  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 177777


                        ;*****************************************************************
                        ;TEST 146:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(100000,000000,000000,000000) = 100000,000000,000000,000000
                        ;       FPS = 147614,   FDST = M6-R7
                        ;       FEC = 14,       FEA = FPI146
                        ;*****************************************************************

014400  104400                          SCOPE
014402  170127  047600          TST146: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
014406  012767  100000  164366          MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
014414  012767  000000  164362          MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
014422  012767  000000  164356          MOV     #000000,ANS3    ;"LOAD" 000000 INTO ANS3
014430  012767  000000  164352          MOV     #000000,ANS4    ;"LOAD" 000000 INTO ANS4
014436  170767  164340          FPI146: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
014442  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
014444  170367  164352                  STST    FEC             ;STORE EXCEPTION CODES
014450  022700  147614                  CMP     #147614,FPS     ;CHECK FLOATING POINT STATUS
014454  001401                          BEQ     .+4             ;BRANCH IF OK
014456  104000                          HLT                     ;FPS NOT EQUAL TO 147614

014460  022767  000014  164334          CMP     #14,    FEC     ;CHECK FLOATING EXCEPTION CODE
014466  001401                          BEQ     .+4             ;BRANCH IF OK
014470  104000                          HLT                     ;FEC NOT EQUAL TO 14

014472  022767  014436  164324          CMP     #FPI146, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
014500  001401                          BEQ     .+4             ;BRANCH IF OK
014502  104000                          HLT                     ;FEA NOT EQUAL TO FPI146

014504  022767  100000  164270          CMP     #100000,ANS1    ;CHECk ANS1
014512  001401                          BEQ     .+4             ;BRANCH IF OK
014514  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 100000

014516  022767  000000  164260          CMP     #000000,ANS2    ;CHECK ANS2
014524  001401                          BEQ     .+4             ;BRANCH IF OK
014526  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

014530  022767  000000  164250          CMP     #000000,ANS3    ;CHECK ANS3
014536  001401                          BEQ     .+4             ;BRANCH IF OK
014540  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

014542  022767  000000  164240          CMP     #000000,ANS4    ;CHECK ANS4
014550  001401                          BEQ     .+4             ;BRANCH IF OK
```

```
014552  104004                              HLT+4                       ;ANS4 NOT EQUAL TO 000000

                                    ;*************************************************************
                                    ;TEST 147:        NEGD (NEGATE DOUBLE PERCISION)
                                    ;        -(000200,000000,000000,000000) = 100200,000000,000000,000000
                                    ;        FPS = 047610,    FDST = M6-R7
                                    ;*************************************************************

014554  104403                              SCOPE
014556  170127  047600            TST147:   LDFPS   #047600             ;LOAD FLOATING POINT STATUS
014562  012767  000200  164212              MOV     #000200,ANS1        ;"LOAD" 000200 INTO ANS1
014570  012767  000000  164206              MOV     #000000,ANS2        ;"LOAD" 000000 INTO ANS2
014576  012767  000000  164202              MOV     #000000,ANS3        ;"LOAD" 000000 INTO ANS3
014604  012767  000000  164176              MOV     #000000,ANS4        ;"LOAD" 000000 INTO ANS4
014612  170767  164164            FPI147:   NEGD    ANS1                ;NEGATE ANS1 THRU ANS4
014616  170200                              STFPS   FPS                 ;STORE FLOATING POINT STATUS
014620  022700  047610                      CMP     #047610,FPS         ;CHECK FLOATING POINT STATUS
014624  001401                              BEQ     .+4                 ;BRANCH IF OK
014626  104000                              HLT                         ;FPS NOT EQUAL TO 047610

014630  022767  100200  164144              CMP     #100200,ANS1        ;CHECK ANS1
014636  001401                              BEQ     .+4                 ;BRANCH IF OK
014640  104004                              HLT+4                       ;ANS1 NOT EQUAL TO 100200

014642  022767  000000  164134              CMP     #000000,ANS2        ;CHECK ANS2
014650  001401                              BEQ     .+4                 ;BRANCH IF OK
014652  104004                              HLT+4                       ;ANS2 NOT EQUAL TO 000000

014654  022767  000000  164124              CMP     #000000,ANS3        ;CHECK ANS3
014662  001401                              BEQ     .+4                 ;BRANCH IF OK
014664  104004                              HLT+4                       ;ANS3 NOT EQUAL TO 000000

014666  022767  000000  164114              CMP     #000000,ANS4        ;CHECK ANS4
014674  001401                              BEQ     .+4                 ;BRANCH IF OK
014676  104004                              HLT+4                       ;ANS4 NOT EQUAL TO 000000

                                    ;*************************************************************
                                    ;TEST 150:        NEGD (NEGATE DOUBLE PERCISION)
                                    ;        -(100200,000000,000000,000000) = 000200,000000,000000,000000
                                    ;        FPS = 047600,    FDST = M6-R7
                                    ;*************************************************************

014700  104400                              SCOPE
014702  170127  047600            TST150:   LDFPS   #047600             ;LOAD FLOATING POINT STATUS
014706  012767  100200  164066              MOV     #100200,ANS1        ;"LOAD" 100200 INTO ANS1
014714  012767  000000  164062              MOV     #000000,ANS2        ;"LOAD" 000000 INTO ANS2
014722  012767  000000  164056              MOV     #000000,ANS3        ;"LOAD" 000000 INTO ANS3
014730  012767  000000  164052              MOV     #000000,ANS4        ;"LOAD" 000000 INTO ANS4
014736  170767  164040            FPI150:   NEGD    ANS1                ;NEGATE ANS1 THRU ANS4
014742  170200                              STFPS   FPS                 ;STORE FLOATING POINT STATUS
014744  022700  047600                      CMP     #047600,FPS         ;CHECK FLOATING POINT STATUS
014750  001401                              BEQ     .+4                 ;BRANCH IF OK
014752  104000                              HLT                         ;FPS NOT EQUAL TO 047600
```

```
014754  022767  000200  164020          CMP     #000200,ANS1    ;CHECK ANS1
014762  001401                          BEQ     .+4             ;BRANCH IF OK
014764  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 000200

014766  022767  000000  164010          CMP     #000000,ANS2    ;CHECK ANS2
014774  001401                          BEQ     .+4             ;BRANCH IF OK
014776  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

015000  022767  000000  164000          CMP     #000000,ANS3    ;CHECK ANS3
015006  001401                          BEQ     .+4             ;BRANCH IF OK
015010  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

015012  022767  000000  163770          CMP     #000000,ANS4    ;CHECK ANS4
015020  001401                          BEQ     .+4             ;BRANCH IF OK
015022  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000
```

```
;*****************************************************************************
;TEST 151:      NEGD (NEGATE DOUBLE PERCISION)
;       -(000177,177777,177777,177777) = 000000,000000,000000,000000
;       FPS = 047604,   FDST = M6-R7
;*****************************************************************************
```

```
015024  104400                          SCOPE
015026  012706  047600          TST151: LOFPS   #047600         ;LOAD FLOATING POINT STATUS
015032  012767  000177  163742          MOV     #000177,ANS1    ;"LOAD" 000177 INTO ANS1
015040  012767  177777  163736          MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
015046  012767  177777  163732          MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
015054  012767  177777  163726          MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
015062  170767  163714          FPI151: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
015066  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
015070  026700  047604                  CMP     #047604,FPS     ;CHECK FLOATING POINT STATUS
015074  001401                          BEQ     .+4             ;BRANCH IF OK
015076  104005                          HLT                     ;FPS NOT EQUAL TO 047604

015100  022767  000000  163674          CMP     #000000,ANS1    ;CHECK ANS1
015106  001401                          BEQ     .+4             ;BRANCH IF OK
015110  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 000000

015112  022767  000000  163664          CMP     #000000,ANS2    ;CHECK ANS2
015120  001401                          BEQ     .+4             ;BRANCH IF OK
015122  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 000000

015124  022767  000000  163654          CMP     #000000,ANS3    ;CHECK ANS3
015132  001401                          BEQ     .+4             ;BRANCH IF OK
015134  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 000000

015136  022767  000000  163644          CMP     #000000,ANS4    ;CHECK ANS4
015144  001401                          BEQ     .+4             ;BRANCH IF OK
015146  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 000000
```

```
;*****************************************************************************
;TEST 152:      NEGD (NEGATE DOUBLE PERCISION)
;       -(100177,177777,177777,177777) = 100177,177777,177777,177777
;       FPS = 147614,   FDST = M6-R7
```

```
                                        ;       FEC = 14.       FEA = FPI152
                                        ;*************************************************************

015150  104403                                  SCOPE
015152  170127  047600                  TST152: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
015156  012767  100177  163616                  MOV     #100177,ANS1    ;"LOAD" 100177 INTO ANS1
015164  012767  177777  163612                  MOV     #177777,ANS2    ;"LOAD" 177777 INTO ANS2
015172  012767  177777  163606                  MOV     #177777,ANS3    ;"LOAD" 177777 INTO ANS3
015200  012767  177777  163602                  MOV     #177777,ANS4    ;"LOAD" 177777 INTO ANS4
015206  172767  163570                  FPI152: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
015212  170200                                  STFPS   FPS             ;STORE FLOATING POINT STATUS
015214  170367  163602                          STST    FEC             ;STORE EXCEPTION CODES
015220  022700  147614                          CMP     #147614,FPS     ;CHECK FLOATING POINT STATUS
015224  001401                                  BEQ     .+4             ;BRANCH IF OK
015226  104000                                  HLT                     ;FPS NOT EQUAL TO 147614

015230  022767  000014  163564                  CMP     #14,    FEC     ;CHECK FLOATING EXCEPTION CODE
015236  001401                                  BEQ     .+4             ;BRANCH IF OK
015240  104000                                  HLT                     ;FEC NOT EQUAL TO 14

015242  022767  015206  163554                  CMP     #FPI152, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
015250  001401                                  BEQ     .+4             ;BRANCH IF OK
015252  104000                                  HLT                     ;FEA NOT EQUAL TO FPI152

015254  022767  100177  163520                  CMP     #100177,ANS1    ;CHECK ANS1
015262  001401                                  BEQ     .+4             ;BRANCH IF OK
015264  104004                                  HLT+4                   ;ANS1 NOT EQUAL TO 100177

015266  022767  177777  163510                  CMP     #177777,ANS2    ;CHECK ANS2
015274  001401                                  BEQ     .+4             ;BRANCH IF OK
015276  104004                                  HLT+4                   ;ANS2 NOT EQUAL TO 177777

015300  022767  177777  163500                  CMP     #177777,ANS3    ;CHECK ANS3
015306  001401                                  BEQ     .+4             ;BRANCH IF OK
015310  104004                                  HLT+4                   ;ANS3 NOT EQUAL TO 177777

015312  022767  177777  163470                  CMP     #177777,ANS4    ;CHECK ANS4
015320  001401                                  BEQ     .+4             ;BRANCH IF OK
015322  104004                                  HLT+4                   ;ANS4 NOT EQUAL TO 177777


                                        ;*************************************************************
                                        ;TEST 153:      NEGD (NEGATE DOUBLE PERCISION)
                                        ;       -(100000,000000,000000,000001) = 000000,000000,000000,000000
                                        ;       FPS = 003604,   FDST = M6-R7
                                        ;*************************************************************

015324  104403                                  SCOPE
015326  170127  003600                  TST153: LDFPS   #003600         ;LOAD FLOATING POINT STATUS
015332  012767  100000  163442                  MOV     #100000,ANS1    ;"LOAD" 100000 INTO ANS1
015340  012767  000000  163436                  MOV     #000000,ANS2    ;"LOAD" 000000 INTO ANS2
015346  012767  000000  163432                  MOV     #000000,ANS3    ;"LOAD" 000000 INTO ANS3
015354  012767  000001  163426                  MOV     #000001,ANS4    ;"LOAD" 000001 INTO ANS4
015362  172767  163414                  FPI153: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
015366  170200                                  STFPS   FPS             ;STORE FLOATING POINT STATUS
015370  022700  003604                          CMP     #003604,FPS     ;CHECK FLOATING POINT STATUS
```

```
016324  001401                          BEQ     .+4                 ;BRANCH IF OK
016326  104000                          HLT                         ;FPS NOT EQUAL TO 003604

016330  022767  000000  163374          CMP     #000000,ANS1        ;CHECK ANS1
016336  001401                          BEQ     .+4                 ;BRANCH IF OK
016340  104004                          HLT+4                       ;ANS1 NOT EQUAL TO 000000

016342  022767  000000  163364          CMP     #000000,ANS2        ;CHECK ANS2
016350  001401                          BEQ     .+4                 ;BRANCH IF OK
016352  104004                          HLT+4                       ;ANS2 NOT EQUAL TO 000000

016354  022767  000000  163354          CMP     #000000,ANS3        ;CHECK ANS3
016362  001401                          BEQ     .+4                 ;BRANCH IF OK
016364  104004                          HLT+4                       ;ANS3 NOT EQUAL TO 000000

016366  022767  000000  163344          CMP     #000000,ANS4        ;CHECK ANS4
016374  001401                          BEQ     .+4                 ;BRANCH IF OK
016376  104004                          HLT+4                       ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
                        ;TEST 154:      NEGD (NEGATE DOUBLE PERCISION)
                        ;       -(000001,100000,100000,100000) = 000000.000000.000000.000000
                        ;       FPS = 003604,   FDST = M6-R7
                        ;*****************************************************************

016400  104400                          SCOPE
016402  170127  003600          TST154: LDFPS   #003600             ;LOAD FLOATING POINT STATUS
016406  012767  000001  163316          MOV     #000001,ANS1        ;"LOAD" 000001 INTO ANS1
016414  012767  100000  163312          MOV     #100000,ANS2        ;"LOAD" 100000 INTO ANS2
016422  012767  100000  163306          MOV     #100000,ANS3        ;"LOAD" 100000 INTO ANS3
016430  012767  100000  163302          MOV     #100000,ANS4        ;"LOAD" 100000 INTO ANS4
016436  170767  163270          FPT154: NEGD    ANS1                ;NEGATE ANS1 THRU ANS4
016442  170267  163274                  STFPS   FPS                 ;STORE FLOATING POINT STATUS
016446  022700  003604                  CMP     #003604,FPS         ;CHECK FLOATING POINT STATUS
016452  001401                          BEQ     .+4                 ;BRANCH IF OK
016454  104000                          HLT                         ;FPS NOT EQUAL TO 003604

016456  022767  000000  163250          CMP     #000000,ANS1        ;CHECK ANS1
016464  001401                          BEQ     .+4                 ;BRANCH IF OK
016466  104004                          HLT+4                       ;ANS1 NOT EQUAL TO 000000

016470  022767  000000  163240          CMP     #000000,ANS2        ;CHECK ANS2
016476  001401                          BEQ     .+4                 ;BRANCH IF OK
016500  104004                          HLT+4                       ;ANS2 NOT EQUAL TO 000000

016502  022767  000000  163230          CMP     #000000,ANS3        ;CHECK ANS3
016510  001401                          BEQ     .+4                 ;BRANCH IF OK
016512  104004                          HLT+4                       ;ANS3 NOT EQUAL TO 000000

016514  022767  000000  163220          CMP     #000000,ANS4        ;CHECK ANS4
016522  001401                          BEQ     .+4                 ;BRANCH IF OK
016524  104004                          HLT+4                       ;ANS4 NOT EQUAL TO 000000


                        ;*****************************************************************
```

```
                                        ;TEST 155:      NEGD (NEGATE DOUBLE PERCISION)
                                        ;       -(140125,052525,052525,052525) = 040125,052525,052525,052525
                                        ;       FPS = 047600,   FDST = M6-R7
                                        ;*****************************************************************

015574  104400                          SCOPE
015576  170127  047600          TST155: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
015602  012767  140125  163172        MOV     #140125,ANS1    ;"LOAD" 140125 INTO ANS1
015610  012767  052525  163166        MOV     #052525,ANS2    ;"LOAD" 052525 INTO ANS2
015616  012767  052525  163162        MOV     #052525,ANS3    ;"LOAD" 052525 INTO ANS3
015624  012767  052525  163156        MOV     #052525,ANS4    ;"LOAD" 052525 INTO ANS4
015632  170767  163144          FPI155: NEGD    ANS1            ;NEGATE ANS1 THRU ANS4
015636  170200                        STFPS   FPS             ;STORE FLOATING POINT STATUS
015640  022700  047600                CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
015644  001401                        BEQ     .+4             ;BRANCH IF OK
015646  104000                        HLT                     ;FPS NOT EQUAL TO 047600

015650  022767  040125  163124        CMP     #040125,ANS1    ;CHECK ANS1
015656  001401                        BEQ     .+4             ;BRANCH IF OK
015660  104004                        HLT+4                   ;ANS1 NOT EQUAL TO 040125

015662  022767  052525  163114        CMP     #052525,ANS2    ;CHECK ANS2
015670  001401                        BEQ     .+4             ;BRANCH IF OK
015672  104004                        HLT+4                   ;ANS2 NOT EQUAL TO 052525

015674  022767  052525  163104        CMP     #052525,ANS3    ;CHECK ANS3
015702  001401                        BEQ     .+4             ;BRANCH IF OK
015704  104004                        HLT+4                   ;ANS3 NOT EQUAL TO 052525

015706  022767  052525  163074        CMP     #052525,ANS4    ;CHECK ANS4
015714  001401                        BEQ     .+4             ;BRANCH IF OK
015716  104004                        HLT+4                   ;ANS4 NOT EQUAL TO 052525


                                        ;*****************************************************************
                                        ;TEST 156:      NEGD (NEGATE DOUBLE PERCISION)
                                        ;       -(052525,052525,052525,052525) = 152525,052525,052525,052525
                                        ;       FPS = 047610,   FDST = M0-AC0
                                        ;*****************************************************************

015720  104400                          SCOPE
015722  000404                          BR      TST156

015724  052525  052525  052525  DAT156: 052525,052525,052525,052525
015732  052525

015734  170127  047600          TST156: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
015740  172467  177760                  LDD     DAT156, AC0     ;LOAD 052525,052525,052525,052525 INTO AC0
015744  170700                FPI156:   NEGD    AC0             ;NEGATE AC0
015746  170200                        STFPS   FPS             ;STORE FLOATING POINT STATUS
015750  022700  047610                CMP     #047610,FPS     ;CHECK FLOATING POINT STATUS
015754  001401                        BEQ     .+4             ;BRANCH IF OK
015756  104000                        HLT                     ;FPS NOT EQUAL TO 047610

015760  174067  163016                STD     AC0,    ANS1    ;STORE NEGATIVE IN ANS1 THRU ANS4
015764  022767  152525  163010        CMP     #152525,ANS1    ;CHECK ANS1
```

```
016772  001401                          BEQ     .+4             ;BRANCH IF OK
016774  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 152525

016776  022767  052525  163000          CMP     #052525,ANS2    ;CHECK ANS2
017004  001401                          BEQ     .+4             ;BRANCH IF OK
017006  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 052525

017010  022767  052525  162770          CMP     #052525,ANS3    ;CHECK ANS3
017016  001401                          BEQ     .+4             ;BRANCH IF OK
017020  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 052525

017022  022767  052525  162760          CMP     #052525,ANS4    ;CHECK ANS4
017030  001401                          BEQ     .+4             ;BRANCH IF OK
017032  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 052525


                        ;*****************************************************************
                        ;TEST 157:      NEGD ,NEGATE DOUBLE PERCISION)
                        ;       -(125252,125252.125252,125252) = 025252,125252,125252,125252
                        ;       FPS = 047600,   FDST = MD-AC2
                        ;*****************************************************************

017034  104400                          SCOPE
017036  000404                          BR      TST157

017040  125252  125252  125252  DAT157: 125252,125252,125252,125252
017046  125252

017050  170127  047600          TST157: LDFPS   #047600         ;LOAD FLOATING POINT STATUS
017054  172667  177760                  LDD     DAT157, AC2     ;LOAD 125252,125252,125252,125252 INTO AC2
017060  170702                  FPI157: NEGD    AC2             ;NEGATE AC2
017062  170200                          STFPS   FPS             ;STORE FLOATING POINT STATUS
017064  022700  047600                  CMP     #047600,FPS     ;CHECK FLOATING POINT STATUS
017070  001401                          BEQ     .+4             ;BRANCH IF OK
017072  104000                          HLT                     ;FPS NOT EQUAL TO 047600

017074  174267  162702                  STD     AC2,    ANS1    ;STORE NEGATIVE IN ANS1 THRU ANS4
017100  022767  025252  162674          CMP     #025252,ANS1    ;CHECK ANS1
017106  001401                          BEQ     .+4             ;BRANCH IF OK
017110  104004                          HLT+4                   ;ANS1 NOT EQUAL TO 025252

017112  022767  125252  162664          CMP     #125252,ANS2    ;CHECK ANS2
017120  001401                          BEQ     .+4             ;BRANCH IF OK
017122  104004                          HLT+4                   ;ANS2 NOT EQUAL TO 125252

017124  022767  125252  162654          CMP     #125252,ANS3    ;CHECK ANS3
017132  001401                          BEQ     .+4             ;BRANCH IF OK
017134  104004                          HLT+4                   ;ANS3 NOT EQUAL TO 125252

017136  022767  125252  162644          CMP     #125252,ANS4    ;CHECK ANS4
017144  001401                          BEQ     .+4             ;BRANCH IF OK
017146  104004                          HLT+4                   ;ANS4 NOT EQUAL TO 125252
```

```
016150  104400                  DONE:   SCOPE
016152  032737  002000  177570          BIT     #SW10,@#SWR     ;RING THE BELL?
016160  001005                          BNE     1$              ;NO!
016162  012737  000207  001242          MOV     #BELL,.TYPE     ;TYPE A BELL
016170  000004  017432                  TYPE    ,.TYPE
016174  005046                  1$:     CLR     -(6)            ;CLEAR TRACE TRAP
016176  032737  010000  177570          BIT     #SW12,@#SWR     ;RUN WITH TRT?
016204  001010                          BNE     2$
016206  005167  001222                  COM     TRPB
016212  100005                          BPL     2$
016214  052716  000020                  BIS     #20,(6)         ;SET TRACE TRAP
016220  012746  001062                  MOV     #BEGIN,-(6)     ;JUMP TO START OF TEST
016224  000412                          BR      YESRT
016226  012746  001062          2$:     MOV     #BEGIN,-(6)     ;JUMP TO START OF TEST
016232  013700  000042                  MOV     @#42,R0         ;GET MONITOR ADDRESS
016236  001404                          BEQ     3$              ;IF NONE
016240  004710                          JSR     7,(0)           ;GO TO MONITOR
016242  000240                          NOP
016244  000240                          NOP
016246  000240                          NOP
016250  000002                  3$:     RTI
016252  000002                  YESRT:  RTI                     ;RETURN TO PROGRAM FROM TRAP

016254  032737  000400  177570  .EMT:   BIT     #SW08,@#SWR     ;KILL LDUB OR LOOP ON SPEC. TEST
016262  001404                          BEQ     1$
016264  123767  177570  162506          CMPB    @#SWR,ICNT      ;ON RIGHT TEST?   *SW7-0*
016272  001437                          BEQ     OVER
016274  113703  177570          1$:     MOVB    @#SWR,R3        ;GET UB BITS
016300  170003                          LDUB
016302  032737  040000  177570          BIT     #SW14,@#SWR     ;LOOP ON TEST
016310  001026                          BNE     KIT
016312  032737  004000  177570          BIT     #SW11,@#SWR     ;KILL ITERATIONS
016320  001012                          BNE     SAVLAD
016322  105767  162453                  TSTB    ICNT+1
016326  001404                          BEQ     2$              ;BRANCH IF FIRST
016330  126767  001106  162443          CMPB    TIMES,ICNT+1    ;DONE?
016336  001013                          BNE     KIT             ;BRANCH IF NOT
016340  112767  000001  162433  2$:     MOVB    #1,ICNT+1       ;FIRST ITERATION
016346  105267  162426          SAVLAD: INCB    ICNT            ;COUNT TEST NUMBERS
016352  011667  001060                  MOV     (6),LAD         ;SAVE LOOP ADDRESS
016356  016737  162416  177570          MOV     ICNT,@#DISPLAY  ;DISPLAY TEST NO. AND ITERATION COUNT
016364  000002                          RTI                     ;RETURN

016366  105267  162407          KIT:    INCB    ICNT+1
016372  016737  162402  177570  OVER:   MOV     ICNT,@#DISPLAY  ;SET UP DISPLAY
016400  005767  001032                  TST     LAD             ;FIRST ONE?
016404  001760                          BEQ     SAVLAD
016406  016716  001024                  MOV     LAD,(6)         ;FUDGE RETURN ADDRESS
016412  000002                          RTI                     ;FIXES PS
```

```
016414  032737  002000  177570  .TRP:   BIT     #SW10,@#SWR     ;BELL ON ERROR?
016422  001405                          BEQ     1$              ;NO - SKIP
016424  012767  000207  001000          MOV     #BELL,.TYPE     ;TYPE A BELL
016432  000004  017432                  TYPE    ,.TYPE
016436  004767  000406          1$:     JSR     PC,ERROR        ;COUNT THE NUMBER OF ERRORS
016442  010446                          MOV     R4,-(6)
016444  032737  020000  177570          BIT     #SW13,@#SWR     ;SKIP TYPEOUT IF SET
016452  001072                          BNE     4$
016454  000004  017400                  TYPE    ,RETURN
016460  016646  000002                  MOV     2(6),-(6)       ;PUT ADDRESS OF INSTRUCTION ON STACK
016464  162716  000002                  SUB     #2,(6)
016470  011605                          MOV     (6),TTY         ;TYPE (6) IN OCTAL
016472  004767  000212                  JSR     %7,PRINTR       ;TYPE LEADING ZERO'S
016476  000004  017406                  TYPE    ,SPACE+3
016502  010005                          MOV     R0,TTY          ;TYPE R0 IN OCTAL
016504  004767  000200                  JSR     %7,PRINTR       ;TYPE LEADING ZERO'S
016510  000004  017407                  TYPE    ,SPACE+4
016514  012703  001002                  MOV     #ANS1,R3        ;ADDRESS OF DATA
016520  113604                          MOVB    @(6)+,R4         AMOUNT OF DATA IN TABLE
016522  001426                          BEQ     3$
016524  100016                          BPL     2$              ;TYPE STACK?
016526  016667  000006  162246          MOV     6(6),ANS1
016534  016667  000010  162242          MOV     10(6),ANS2
016542  016667  000012  162236          MOV     12(6),ANS3
016550  016667  000014  162232          MOV     14(6),ANS4
016556  042704  177600                  BIC     #177600,R4      ;CLEAR SIGN
016562  000004  017407          2$:     TYPE    ,SPACE+4
016566  012305                          MOV     (3)+,TTY        ;TYPE (3)+ IN OCTAL
016570  004767  000114                  JSR     %7,PRINTR       ;TYPE LEADING ZERO'S
016574  005304                          DEC     R4
016576  001371                          BNE     2$
016600  005700                  3$:     TST     FPS
016602  100016                          BPL     4$
016604  000004  017403                  TYPE    ,SPACE
016610  170367  162206                  STST    FEC
016614  016705  162202                  MOV     FEC,TTY         ;TYPE FEC IN OCTAL
016620  004767  000064                  JSR     %7,PRINTR       ;TYPE LEADING ZERO'S
016624  000004  017406                  TYPE    ,SPACE+3
016630  016705  162170                  MOV     FEA,TTY         ;TYPE FEA IN OCTAL
016634  004767  000050                  JSR     %7,PRINTR       ;TYPE LEADING ZERO'S
016640  012604                  4$:     MOV     (6)+,R4
016642  005737  177570                  TST     @#SWR           ;HALT ON ERROR
016646  100001                          BPL     .+4             ;SKIP IF CONTINUE
016650  000000                          HALT                    ;HALT ON ERROR!
016652  032737  001000  177570          BIT     #SW09,@#SWR     ;CHECK FOR INHIBIT LOOP ON ERROR
016660  001001                          BNE     .+4             ;SKIP IF LOOP ON ERROR
016662  000002                          RTI
016664  105067  162111                  CLRB    ICNT+1
016670  032737  000400  177570          BIT     #SW08,@#SWR     ;CHECK FOR LOAD MICROBREAK
016676  001233                          BNE     KIT             ;BRANCH IF NOT
016700  113703  177570                  MOVB    @#SWR,R3        ;PUT MICROBREAK ADDRESS IN R3
016704  170003                          LDUB                    ;LOAD MICROBREAK
016706  000627                          BR      KIT             ;LOOP ON TEST UNTIL NO ERRORS
```

```
016710  112767  000001  000130  PRINTR: MOVB    #1,A4$          ;SET ZERO FILL SWITCH
016716  000402                  BR      .+6
016720  005067  000122          PRINTS: CLR     A4$             ;SUPRESS LEADING ZERO'S
016724  112767  177772  000115          MOVB    #-6,A4$+1       ;SET COUNT
016732  010446                  MOV     R4,-(6)         ;SAVE R4
016734  012704  017036          MOV     #3$,R4          ;SET POINTER TO FIRST ASCII CHAR.
016740  105014                  CLRB    (4)             ;CLEAR FIRST BYTE
016742  000405                  BR      2$              ;ROTATE FIRST BIT
016744  105014          1$:     CLRB    (4)             ;CLEAR BYTE OF CHARACTER
016746  006105                  ROL     TTY             ;ROTATE BIT INTO C
016750  106114                  ROLB    (4)             ;PACK IT
016752  006105                  ROL     TTY             ;ROTATE BIT INTO C
016754  106114                  ROLB    (4)             ;PACK IT
016756  006105          2$:     ROL     TTY             ;ROTATE BIT INTO C
016760  106114                  ROLB    (4)             ;PACK IT
016762  105714                  TSTB    (4)
016764  001402                  BEQ     .+6
016766  105267  000054          INCB    A4$
016772  105767  000050          TSTB    A4$             ;CHECK FILL SWITCH
016776  001402                  BEQ     .+6
017000  152724  000060          BISB    #'0,(4)+        ;MAKE INTO ASCII CHAR
017004  105267  000037          INCB    A4$+1
017010  001355                  BNE     1$              ;REPEAT
017012  022704  017036          CMP     #3$,R4
017016  001002                  BNE     .+6
017020  112724  000060          MOVB    #'0,(4)+
017024  105014                  CLRB    (4)
017026  000004  017036          TYPE    .3$             ;TYPE IT
017032  012604                  MOV     (5)+,R4         ;RESTORE R4
017034  000207                  RTS     PC

017036  000004          3$:     .BLKW   4
017046  000000          A4$:    0

017050  005267  000364  ERROR:  INC     ERRORS          ;COUNT ERRORS
017054  132737  000001  000041  BITB    #1,@#41         ;AUTO MODE?
017062  001412                  BEQ     1$              ;NO!
017064  022767  000010  000346  CMP     #10.,ERRORS     ;TOO MANY?
017072  001006                  BNE     1$              ;NOT YET
017074  013700  000042          MOV     @#42,R0         ;GET ADDRESS
017100  001403                  BEQ     1$              ;FORGET IT IF ZERO
017102  005037  000042          CLR     @#42            ;ZAP 42
017106  004710                  JSR     PC,(0)          ;CALL THE MONITOR
017110  000207          1$:     RTS     PC              ;RETURN
```

```
017112  012777  017306  000306  POWDWN: MOV     #ILLUP,@UPVEC   ;SET FOR FAST UP
017120  012777  000340  000302          MOV     #340,@UPVEC+2   ;PRIO:7
017126  170246                        STFPS   -(6)            ;GET THE FPS
017130  170011                        SETD
017132  174046                        STD     AC0,-(6)        ;SAVE AC'S
017134  174146                        STD     AC1,-(6)
017136  174246                        STD     AC2,-(6)
017140  174346                        STD     AC3,-(6)
017142  172404                        LDD     AC4,AC0
017144  174046                        STD     AC0,-(6)
017146  172405                        LDD     AC5,AC0
017150  174046                        STD     AC0,-(6)
017152  010046                        MOV     R0,-(6)         ;SAVE REGISTERS
017154  010146                        MOV     R1,-(6)
017156  010246                        MOV     R2,-(6)
017160  010346                        MOV     R3,-(6)
017162  010446                        MOV     R4,-(6)
017164  010546                        MOV     R5,-(6)
017166  010667  000220                MOV     SP,SAVE6        ;SAVE SP
017172  012777  017202  000236        MOV     #POWUP,@UPVEC   ;SET UP VECTOR
017200  000000                        HALT

017202  016706  000204          POWUP:  MOV     SAVE6,SP        ;GET SP
017206  005001                        CLR     R1              ;WAIT LOOP FOR THE TTY
017210  005201                  1$:   INC     R1
017212  001376                        BNE     1$
017214  012605                        MOV     (6)+,R5         ;GET THE REGISTERS
017216  012604                        MOV     (6)+,R4
017220  012603                        MOV     (6)+,R3
017222  012602                        MOV     (6)+,R2
017224  012601                        MOV     (6)+,R1
017226  012600                        MOV     (6)+,R0
017230  170011                        SETD
017232  172426                        LDD     (6)+,AC0        ;RESTORE THE AC'S
017234  174005                        STD     AC0,AC5
017236  172426                        LDD     (6)+,AC0
017240  174004                        STD     AC0,AC4
017242  172726                        LDD     (6)+,AC3
017244  172626                        LDD     (6)+,AC2
017246  172526                        LDD     (6)+,AC1
017250  172426                        LDD     (6)+,AC0
017252  170126                        LDFPS   (6)+            ;RESTORE FPS
017254  012777  017112  000140        MOV     #POWDWN,@DWNVEC ;SET UP THE POWER DOWN VECTOR
017262  012777  000340  000134        MOV     #340,@DWNVEC+2
017270  000004  017274                TYPE    ..+2            ;.ASCIZ <15><12>"POWER"
017304  000002                        RTI

017306  000000          ILLUP:  HALT                    ;THE POWER UP SEQUENCE WAS STARTED
017310  000776                  BR      .-2             ; BEFORE THE POWER DOWN WAS COMPLETE
```

```
017312  010546                  .IOT:   MOV     TTY,-(6)        ;SAVE TTY
017314  017605  000002                  MOV     @2(6),TTY       ;GET ADDRESS TO BE TYPED
017320  105715                  1$:     TSTB    (TTY)           ;TERMINATOR?
017322  001406                          BEQ     2$
017324  112537  177566                  MOVB    (TTY)+,@#177566 ;LOAD AND TYPE THE CHARACTER
017330  105737  177564                  TSTB    @#177564        ;IS THE PRINTER READY
017334  100375                          BPL     .-4
017336  000770                          BR      1$              ;GET THE NEXT CHARACTER
017340  017646  000002          2$:     MOV     @2(6),-(6)      ;GET ADDRESS TO BE TYPED
017344  062766  000002  000004          ADD     #2,4(6)         ;ADD 2 TO THE ADDRESS
017352  022666  000002                  CMP     (6)+,2(6)       ;IS IT .+2?
017356  001006                          BNE     3$              ;NO
017360  062705  000002                  ADD     #2,TTY          ;ADD 2 TO THE ADDRESS
017364  042705  000001                  BIC     #1,TTY          ;BACK UP TO AN EVEN BYTE
017370  010566  000002                  MOV     TTY,2(6)        ;RESTORE ADDRESS
017374  012605                  3$:     MOV     (6)+,TTY        ;RESTORE TTY
017376  000002                          RTI                     ;RETURN

017400  005015     000          RETURN: .ASCIZ  <15><12>        ;RETURN AND LINEFEED
017403     015  020012  020040  SPACE:  .ASCIZ  <15><12>"   "   ;RETURN AND 3 SPACES
017410     000
        017412                  .EVEN
017412  000000                  SAVE6:  0
017414  172160                  FPTADR: 172160                  ;FLOATING POINT ADDRESS ON THE 11/20
017416  000244  000246          FPVECT: 244,246                 ;FLOATING POINT VECTOR ADDRESS
017422  000024  000026          DWNVEC: 24,26                   ;POWER DOWN VECTOR ADDRESS
017426  000024  000026          UPVEC:  24,26                   ;POWER UP VECTOR ADDRESS
017432  000000                  .TYPE:  0
017434  000000                  TRPB:   0
017436  000000                  LAD:    0                       ;LOOP ADDRESS
017440  000000                  ERRORS: 0                       ;ERROR COUNT
017442  000377                  TIMES:  377                     ;ITERATION COUNT
        000001                  .END
```

```
AC0     =%000000  391#  640*  641*  647   668*  669*  675   968*  969*  975   3109*  3110*  3116
                  3643*  3644*  3650  3856  3860*  3861  3862*  3863  3885*  3886  3887*  3888  3892*
AC1     =%000001  392#  931*  932*  938   1650*  1651  1657  1698*  1689  1695  2664*  2665*  2671
                  2702*  2703*  2709  3857  3891*
AC2     =%000002  393#  2095*  2096*  2102  2124*  2125*  2131  3681*  3682*  3688  3858  3890*
AC3     =%000003  394#  1291*  1292  1298  1320*  1321  1327  3138*  3139*  3.45  3859  3889*
AC4     =%000004  395#  3860  3888*
AC5     =%000005  396#  3862  3886*
ANS1      001002  425#  472*  474*  480   500*  502*  508   528*  530*  536   556*  558*  564
                  584*  586*  592   612*  614*  620   647*  648   675*  676   697*  701*  707
                  736*  740*  746   775*  779*  785   814*  818*  824   853*  857*  963   892*
                  896*  902   938*  939   975*  976   1298*  1299  1327*  1328  1657*  1658  1695*
                  1696  1721*  1723*  1729  1746*  1748*  1754  1771*  1773*  1779  1796*  1798*  1804
                  1821*  1823*  1829  1847*  1849*  1864  1881*  1883*  1889  1906*  1908*  1914  1931*
                  1933*  1939  1957*  1959*  1974  1991*  1993*  1999  2016*  2018*  2024  2041*  2043*
                  2049  2066*  2068*  2074  2102*  2103  2131*  2132  2149*  2153*  2159  2184*  2188*
                  2194  2219*  2223*  2229  2254*  2258*  2264  2289*  2293*  2299  2325*  2329*  2344
                  2369*  2373*  2379  2404*  2408*  2414  2439*  2443*  2449  2475*  2479*  2494  2519*
                  2523*  2529  2554*  2558*  2564  2589*  2593*  2599  2624*  2628*  2634  2671*  2672
                  2709*  2710  2735*  2737*  2743  2760*  2762*  2768  2785*  2787*  2793  2810*  2812*
                  2818  2835*  2837*  2843  2861*  2863*  2878  2895*  2897*  2903  2920*  2922*  2929
                  2945*  2947*  2953  2971*  2973*  2988  3005*  3007*  3013  3030*  3032*  3038  3055*
                  3057*  3063  3080*  3082*  3088  3116*  3117  3145*  3146  3163*  3167*  3173  3198*
                  3202*  3208  3233*  3237*  3243  3268*  3272*  3278  3303*  3307*  3313  3339*  3343*
                  3358  3383*  3387*  3393  3418*  3422*  3428  3453*  3457*  3463  3489*  3493*  3509
                  3533*  3537*  3543  3568*  3572*  3578  3603*  3607*  3613  3650*  3651  3689*  3689
                  3772  3776*
ANS2      001004  426#  473*  484  501*  512  529*  540  557*  568  585*  596  613*  624
                  652  680  698*  711  737*  750  776*  789  815*  828  854*  867  893*
                  906  943  980  1303  1332  1662  1700  1722*  1733  1747*  1758  1772*  1783
                  1797*  1808  1822*  1833  1848*  1868  1882*  1893  1907*  1918  1932*  1943  1958*
                  1978  1992*  2003  2017*  2028  2042*  2053  2067*  2078  2107  2136  2150*  2163
                  2185*  2198  2220*  2233  2255*  2268  2290*  2303  2326*  2348  2370*  2383  2405*
                  2418  2440*  2453  2476*  2498  2520*  2533  2555*  2568  2590*  2603  2625*  2638
                  2676  2714  2736*  2747  2761*  2772  2786*  2797  2811*  2922  2836*  2847  2862*
                  2882  2896*  2907  2921*  2932  2946*  2957  2972*  2992  3006*  3017  3031*  3042
                  3056*  3067  3081*  3092  3121  3150  3164*  3177  3199*  3212  3234*  3247  3269*
                  3282  3304*  3317  3340*  3362  3384*  3397  3419*  3432  3454*  3467  3490*  3512
                  3534*  3547  3569*  3582  3604*  3617  3655  3693  3777*
ANS3      001006  427#  699*  715  738*  754  777*  793  816*  832  855*  871  894*  910
                  947  984  1666  1704  2151*  2167  2186*  2202  2221*  2237  2256*  2272  2291*
                  2307  2327*  2352  2371*  2387  2406*  2422  2441*  2457  2477*  2502  2521*  2537
                  2556*  2572  2591*  2607  2626*  2642  2680  2718  3165*  3181  3200*  3216  3235*
                  3251  3270*  3286  3305*  3321  3341*  3366  3385*  3401  3420*  3436  3455*  3471
                  3491*  3516  3535*  3551  3570*  3586  3605*  3621  3659  3697  3778*
ANS4      001010  428#  700*  719  739*  758  778*  797  817*  836  856*  875  895*  914
                  951  988  1670  1708  2152*  2171  2187*  2206  2222*  2241  2257*  2276  2292*
                  2311  2328*  2356  2372*  2391  2407*  2426  2442*  2461  2478*  2506  2523*  2541
                  2557*  2576  2592*  2611  2627*  2646  2684  2722  3166*  3185  3201*  3220  3236*
                  3255  3271*  3290  3306*  3325  3342*  3370  3396*  3405  3421*  3440  3456*  3475
                  3492*  3520  3536*  3555  3571*  3590  3606*  3625  3663  3701  3779*
ANS5      001012  429#
ANS6      001014  430#
ANS7      001016  431#
ANS8      001020  432#
A4I       017046  3809*  3810*  3811*  3825*  3826  3829*  3840#
```

DCFPH.P11 CROSS REFERENCE TABLE -- USER SYMBOLS

```
BEG     001026            415     436*
BEGIN   001062            440     445*   3717    3719
BELL  = 000207            380*   3709    3757
DAT1    001200            469*    472     473
DAT10   001764            665*    668
DAT100  007134           2121*   2124
DAT11   002044            693*    697     698     699     700
DAT117  011530           2660*   2664
DAT12   002172            732*    736     737     738     739
DAT120  011644           2698*   2702
DAT13   002320            771*    775     776     777     778
DAT137  013370           3106*   3109
DAT14   002446            810*    814     815     816     817
DAT140  013454           3135*   3138
DAT15   002574            849*    853     854     855     856
DAT156  015724           3639*   3643
DAT157  016040           3677*   3681
DAT16   002722            888*    892     893     894     895
DAT17   003050            927*    931
DAT2    001266            497*    500     501
DAT20   003154            964*    968
DAT21   003260           1002*   1005
DAT22   003312           1021*   1024
DAT23   003344           1040*   1043
DAT24   003376           1059*   1062
DAT25   003430           1078*   1081
DAT26   003462           1098*   1101
DAT27   003544           1126*   1129
DAT3    001354            525*    528     529
DAT30   003576           1145*   1148
DAT31   003630           1164*   1167
DAT32   003662           1184*   1187
DAT33   003744           1212*   1215
DAT34   003776           1231*   1234
DAT35   004030           1250*   1253
DAT36   004062           1269*   1272
DAT37   004114           1288*   1291
DAT4    001442            553*    556     557
DAT40   004200           1317*   1320
DAT41   004264           1346*   1350
DAT42   004322           1366*   1370
DAT43   004360           1386*   1390
DAT44   004416           1406*   1410
DAT45   004454           1426*   1430
DAT46   004512           1447*   1451
DAT47   004600           1476*   1480
DAT5    001530            581*    584     585
DAT50   004636           1496*   1500
DAT51   004674           1516*   1520
DAT52   004732           1537*   1541
DAT53   005020           1566*   1570
DAT54   005056           1586*   1590
DAT55   005114           1606*   1610
DAT56   005152           1626*   1630
DAT57   005210           1646*   1650
DAT6    001616            609*    612     613
```

B07

```
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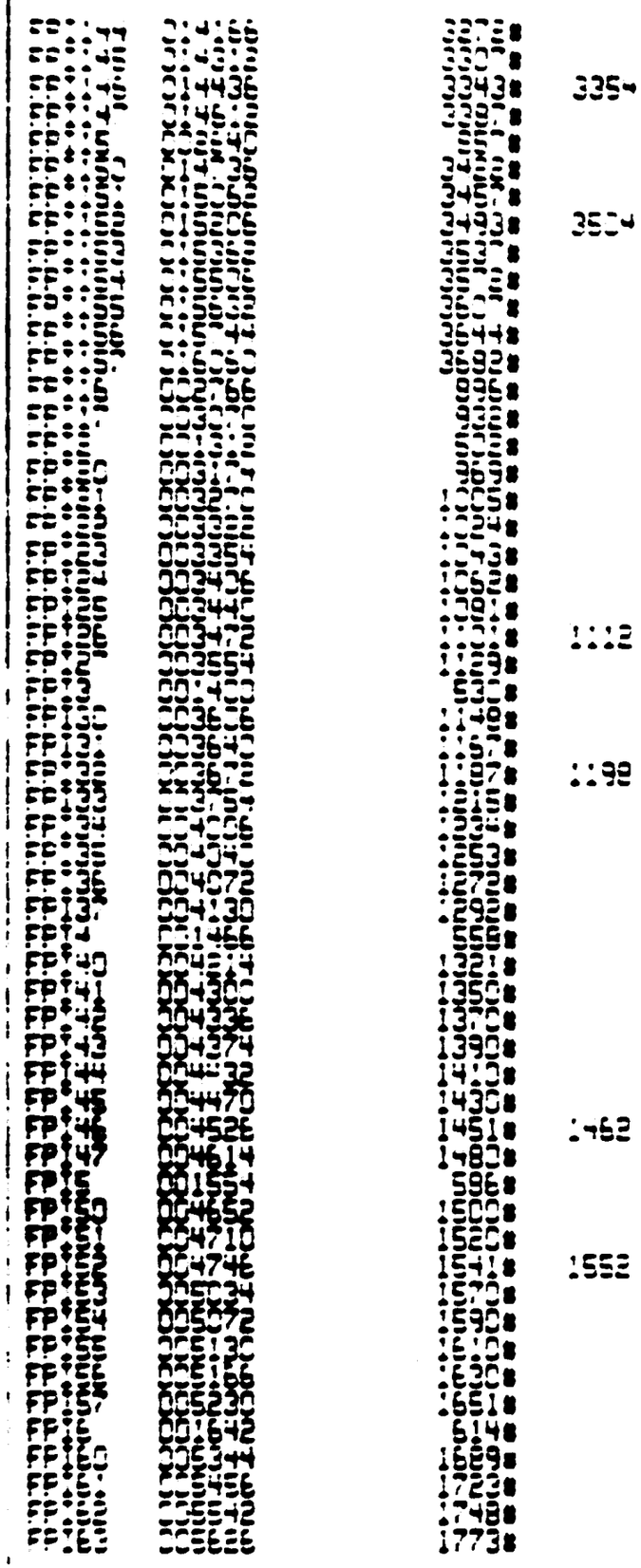

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