

FP11

STS ILLEGAL INSTRUCTIONS
MD-11-DCFPB-B

FP DCFPB B DL A

OCT 1976

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FICHE 1 OF 1

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FP11 BASIC INSTRUCTION TEST DCFPA - DCFPL
DESCRIPTION

PAGE 3

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.

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E01

MAINDEC-11-DCFPB-B
DCFPBB.P11

TEST OF STST AND ILLEGAL INSTRUCTIONS MACY11 27(732) 03-SEP-76 17:13 PAGE 4

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7) 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

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FP11 BASIC INSTRUCTION TEST DCFPA - DCFPL
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 UB 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.

.TITLE MAINDEC-11-DCFPB-B TEST OF STST AND ILLEGAL INSTRUCTIONS
: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 TYPEOUTS
14	LOOP ON TEST
15	HALT ON ERROR

OUTPUT FORM:

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

BIT	FPS	REASON	CODE	FEC	ERROR
0		CARRY	0		ADDRESS ERROR
1		OVERFLOW	2		OPCODE ERROR
2		ZERO	4		DIVIDE BY ZERO
3		NEGATIVE	6		CONVERSION ERROR
4		MAINTAINANCE MODE	10		OVERFLOW
5		TRUNCATE MODE	12		UNDERFLOW
6		LONG INTEGER MODE	14		UNDEFINED VARIABLE (-0)
7		DOUBLE PRECISION MODE	16		UBREAK TRAP
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*			


```
000001 .ENABL ABS  
177776 N= 1  
177570 PS= 177776  
177570 SWR= 177570  
104400 DISPLAY=SWR  
104000 SCOPE= TRAP  
000004 HLT= EMT  
000207 TYPE= IOT  
000000 BELL= 207  
000000 FPS= %0  
000000 R0= %0  
000001 R1= %1  
000002 R2= %2  
000003 R3= %3  
000004 R4= %4  
000005 R5= %5  
000005 TTY= %5  
000006 SP= %6  
000007 PC= %7  
000000 ACO= %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 STA0= 170005  
170007 STQ0= 170007  
170006 MRS= 170006  
170004 LDSC= 170004  
  
000000 .= 0  
000200 .= 200  
000200 000167 000622 JMP BEG  
  
000760 000760 .= 760  
000760 170200 FLTERR: STFPS FPS  
000762 170367 000034 STST FEC  
000766 000000 HALT  
000770 000002 RTI
```

:TRAP CATCHER FROM 0 - 776

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001000 001000      .= 1000
001000 000000      ICNT: 0
001002 000000      ANS1: 0
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
001024 000000      FEA: 0
                                ; ITERATION COUNT - LH TEST NO. - RH
                                ; FIRST ANSWER (SEE CODE)

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 013770  MOV #6, YESRT  ; FUDGE IN RTT IF 11/45
001052 000403      BR BEGIN

001054 016737 015124 000010 M1120: MOV FPTADR, @#10 ; LOAD THE ILLEGAL INSTRUCTION VECTOR
                                ; WITH THE ADDRESS OF THE FPU.
                                ; THE FPU WILL HANDLE THE BAD OPCODES
                                ; RESET 4

001062 012737 000006 000004 BEGIN: MOV #6, @#4
001070 012706 000600      MOV #600, SP
001074 012737 015042 000014  MOV #YESRT, @#14 ; SET TRACE TRAP VECTOR
001102 012777 015702 015102  MOV #POWDWN, @DWNVEC
001110 012777 000340 015076  MOV #340, @DWNVEC+2
001116 012737 016102 000020  MOV #.IOT, @#20 ; SET UP VECTOR 20
001124 012700 000030      MOV #30, R0 ; SET R0 TO VECTOR 30
001130 012720 015204      MOV #.TRAP, (0)+ ; SET EMT VECTOR
001134 012720 000340      MOV #340, (0)+
001140 012720 015044      MOV #.EMT, (0)+ ; SET TRAP VECTOR
001144 012710 000340      MOV #340, (0)
001150 012777 000760 015030  MOV #FLTERR, @FPVECT ; LOAD INTERRUPT VECTOR
001156 012777 000340 015024  MOV #340, @FPVECT+2 ; LOCK UP PROCESSOR
001164 005067 177610      CLR ICNT
001170 005067 015032      CLR LAD

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*****  
:TEST 1:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION  
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).  
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.  
:              ILLEGAL INSTRUCTION = 170013  
:              FPS = 147740,   FEC = 02,   FEA = FPI1  
*****
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001174 104400      SCOPE  
001176 000401      BR      TST1      ;SKIP DATA  
  
001200 001002      ADR1:   ANS1  
  
001202 170127 047740      TST1:   LDFPS   #047740      ;LOAD FLOATING POINT STATUS  
001206 012703 001200      MOV     #ADR1, %3      ;SET UP R3  
001212 170013      FPI1:   170013      ;ILLEGAL INSTRUCTION  
001214 022703 001200      CMP     #ADR1, %3      ;CHECK R3  
001220 001407      BEQ     TSA1      ;BRANCH IF OK  
001222 010367 177554      MOV     %3,   ANS1      ;STORE R3 FOR TYPING  
001226 170200      STFPS   FPS      ;STORE FPS FOR TYPING  
001230 170367 177566      STST   FEC      ;STORE FEC, FEA FOR TYPING  
001234 104001      HLT+1  
001236 000401      BR      .+4      ;SKIP STFPS  
  
001240 000      TSA1:  
001240 170200      STFPS   FPS      ;STORE FLOATING POINT STATUS  
001242 170367 177554      STST   FEC      ;STORE EXCEPTION CODES  
001246 022700 147740      CMP     #147740,FPS    ;CHECK FLOATING POINT STATUS  
001252 001401      BEQ     .+4      ;BRANCH IF OK  
001254 104000      HLT      ;FPS NOT EQUAL TO 147740  
  
001256 022767 000002 177536      CMP     #02,   FEC      ;CHECK FLOATING EXCEPTION CODE  
001264 001401      BEQ     .+4      ;BRANCH IF OK  
001266 104000      HLT      ;FEC NOT EQUAL TO 02  
  
001270 022767 001212 177526      CMP     #FPI1, FEA      ;CHECK FLOATING EXCEPTION ADDRESS  
001276 001401      BEQ     .+4      ;BRANCH IF OK  
001300 104000      HLT      ;FEA NOT EQUAL TO FPI1  
  
001302 126727 177472 000001      CMPB   ICNT,   #1      ;CHECK FOR RIGHT TEST  
001310 001401      BEQ     .+4      ;BRANCH IF OK  
001312 104000      HLT      ;PC JUMPED TESTS
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*****  
:TEST 2:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION  
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).  
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.  
:              ILLEGAL INSTRUCTION = 170014  
:              FPS = 147740,   FEC = 02,   FEA = FPI2  
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001314 104400      SCOPE  
001316 000401      BR      TST2      ;SKIP DATA
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001320 001002          ADR2:  ANS1
001322 170127 047740  TST2:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
001326 012704 001320      MOV    #ADR2,  %4      ;SET UP R4
001332 170014          FPI2:  170014      ;ILLEGAL INSTRUCTION
001334 022704 001320      CMP    #ADR2,  %4      ;CHECK R4
001340 001407          BEQ    TSA2          ;BRANCH IF OK
001342 010467 177434      MOV    %4,    ANS1     ;STORE R4 FOR TYPING
001346 170200          STFPS  FPS          ;STORE FPS FOR TYPING
001350 170367 177446      STST  FEC          ;STORE FEC, FEA FOR TYPING
001354 104001          HLT+1          ;R4 NOT EQUAL TO #ADR2
001356 000401          BR     .+4          ;SKIP STFPS

001360 000          TSA2:
001360 170200          STFPS  FPS          ;STORE FLOATING POINT STATUS
001362 170367 177434      STST  FEC          ;STORE EXCEPTION CODES
001366 022700 147740      CMP    #147740,FPS    ;CHECK FLOATING POINT STATUS
001372 001401          BEQ    .+4          ;BRANCH IF OK
001374 104000          HLT          ;FPS NOT EQUAL TO 147740

001376 022767 000002 177416  CMP    #02,    FEC     ;CHECK FLOATING EXCEPTION CODE
001404 001401          BEQ    .+4          ;BRANCH IF OK
001406 104000          HLT          ;FEC NOT EQUAL TO 02

001410 022767 001332 177406  CMP    #FPI2,  FEA     ;CHECK FLOATING EXCEPTION ADDRESS
001416 001401          BEQ    .+4          ;BRANCH IF OK
001420 104000          HLT          ;FEA NOT EQUAL TO FPI2

001422 126727 177352 000002  CMPB   ICNT,   #2     ;CHECK FOR RIGHT TEST
001430 001401          BEQ    .+4          ;BRANCH IF OK
001432 104000          HLT          ;PC JUMPED TESTS

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:TEST 3:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170015
:              FPS = 147740,   FEC = 02,   FEA = FPI3
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001434 104400          SCOPE
001436 000401          BR     TST3          ;SKIP DATA

001440 001002          ADR3:  ANS1
001442 170127 047740  TST3:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
001446 012705 001440      MOV    #ADR3,  %5      ;SET UP R5
001452 170015          FPI3:  170015      ;ILLEGAL INSTRUCTION
001454 022705 001440      CMP    #ADR3,  %5      ;CHECK R5
001460 001407          BEQ    TSA3          ;BRANCH IF OK
001462 010567 177314      MOV    %5,    ANS1     ;STORE R5 FOR TYPING
001466 170200          STFPS  FPS          ;STORE FPS FOR TYPING
001470 170367 177326      STST  FEC          ;STORE FEC, FEA FOR TYPING
001474 104001          HLT+1          ;R5 NOT EQUAL TO #ADR3
001476 000401          BR     .+4          ;SKIP STFPS

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001500      000
001500 170200
001502 170367 177314
001506 022700 147740
001512 001401
001514 104000
                                TSA3:
                                STFPS  FPS
                                STST  FEC
                                CMP    #147740,FPS
                                BEQ    .+4
                                HLT
                                ;STORE FLOATING POINT STATUS
                                ;STORE EXCEPTION CODES
                                ;CHECK FLOATING POINT STATUS
                                ;BRANCH IF OK
                                ;FPS NOT EQUAL TO 147740

001516 022767 000002 177276
001524 001401
001526 104000
                                CMP    #02,   FEC
                                BEQ    .+4
                                HLT
                                ;CHECK FLOATING EXCEPTION CODE
                                ;BRANCH IF OK
                                ;FEC NOT EQUAL TO 02

001530 022767 001452 177266
001536 001401
001540 104000
                                CMP    #FPI3, FEA
                                BEQ    .+4
                                HLT
                                ;CHECK FLOATING EXCEPTION ADDRESS
                                ;BRANCH IF OK
                                ;FEA NOT EQUAL TO FPI3

001542 126727 177232 000003
001550 001401
001552 104000
                                CMPB  ICNT,  #3
                                BEQ    .+4
                                HLT
                                ;CHECK FOR RIGHT TEST
                                ;BRANCH IF OK
                                ;PC JUMPED TESTS

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:*****
:TEST 4:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170016
:              FPS = 147740,   FEC = 02,   FEA = FPI4
:*****

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001554 104400
001556 000401
                                SCOPE
                                BR    TST4
                                ;SKIP DATA

001560 001002
                                ADR4:  ANS1

001562 170127 047740
001566 010667 177212
001572 170016
001574 020667 177204
001600 001411
001602 010667 177174
001606 016706 177172
001612 170200
001614 170367 177202
001620 104002
001622 000401
                                TST4:  LDFPS  #047740
                                MOV    %6,   ANS2
                                ;LOAD FLOATING POINT STATUS
                                ;SAVE R6
                                ;ILLEGAL INSTRUCTION
                                FPI4:  170016
                                CMP    %6,   ANS2
                                BEQ    TSA4
                                ;CHECK R6
                                ;BRANCH IF OK
                                MOV    %6,   ANS1
                                MOV    ANS2,  %6
                                ;STORE R6 FOR TYPING
                                ;RESTORE R6
                                STFPS  FPS
                                STST  FEC
                                ;STORE FPS FOR TYPING
                                ;STORE FEC, FEA FOR TYPING
                                HLT+2
                                BR    .+4
                                ;R6 (ANS1) NOT EQUAL TO ANS2
                                ;SKIP STFPS

001624      000
001624 170200
001626 170367 177170
001632 022700 147740
001636 001401
001640 104000
                                TSA4:
                                STFPS  FPS
                                STST  FEC
                                CMP    #147740,FPS
                                BEQ    .+4
                                HLT
                                ;STORE FLOATING POINT STATUS
                                ;STORE EXCEPTION CODES
                                ;CHECK FLOATING POINT STATUS
                                ;BRANCH IF OK
                                ;FPS NOT EQUAL TO 147740

001642 022767 000002 177152
001650 001401
001652 104000
                                CMP    #02,   FEC
                                BEQ    .+4
                                HLT
                                ;CHECK FLOATING EXCEPTION CODE
                                ;BRANCH IF OK
                                ;FEC NOT EQUAL TO 02

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001654 022767 001572 177142      CMP      #FPI4, FEA      ;CHECK FLOATING EXCEPTION ADDRESS
001662 001401      BEQ      .+4           ;BRANCH IF OK
001664 104000      HLT                       ;FEA NOT EQUAL TO FPI4

001666 126727 177106 000004      CMPB     ICNT,  #4      ;CHECK FOR RIGHT TEST
001674 001401      BEQ      .+4           ;BRANCH IF OK
001676 104000      HLT                       ;PC JUMPED TESTS

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:TEST 5:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170017
:              FPS = 147740,  FEC = 02,  FEA = FPI5
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001700 104400      SCOPE
001702 000401      BR          TST5      ;SKIP DATA

001704 001002      ADR5:      ANS1

001706 170127 047740      TST5:      LDFPS      #047740      ;LOAD FLOATING POINT STATUS
001712 170017      FPIS:      170017      ;ILLEGAL INSTRUCTION
001714 170200      STFPS      FPS        ;STORE FLOATING POINT STATUS
001716 170367 177100      STST       FEC        ;STORE EXCEPTION CODES
001722 022700 147740      CMP        #147740,FPS ;CHECK FLOATING POINT STATUS
001726 001401      BEQ      .+4           ;BRANCH IF OK
001730 104000      HLT                       ;FPS NOT EQUAL TO 147740

001732 022767 000002 177062      CMP        #02,  FEC    ;CHECK FLOATING EXCEPTION CODE
001740 001401      BEQ      .+4           ;BRANCH IF OK
001742 104000      HLT                       ;FEC NOT EQUAL TO 02

001744 022767 001712 177052      CMP        #FPI5, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
001752 001401      BEQ      .+4           ;BRANCH IF OK
001754 104000      HLT                       ;FEA NOT EQUAL TO FPI5

001756 126727 177016 000005      CMPB     ICNT,  #5      ;CHECK FOR RIGHT TEST
001764 001401      BEQ      .+4           ;BRANCH IF OK
001766 104000      HLT                       ;PC JUMPED TESTS

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*****
:TEST 6:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170020
:              FPS = 147740,  FEC = 02,  FEA = FPI6
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001770 104400      SCOPE
001772 000401      BR          TST6      ;SKIP DATA

001774 001002      ADR6:      ANS1

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001776	170127	047740	TST6:	LDFPS	#047740		:LOAD FLOATING POINT STATUS
002002	012700	001774		MOV	#ADR6,	%0	:SET UP R0
002006	170020		FPI6:	170020			:ILLEGAL INSTRUCTION
002010	022700	001774		CMP	#ADR6,	%0	:CHECK R0
002014	001407			BEQ	TSA6		:BRANCH IF OK
002016	010067	176760		MOV	%0,	ANSI	:STORE R0 FOR TYPING
002022	170200			STFPS	FPS		:STORE FPS FOR TYPING
002024	170367	176772		STST	FEC		:STORE FEC, FEA FOR TYPING
002030	104001			HLT+1			:R0 NOT EQUAL TO #ADR6
002032	000401			BR	+.4		:SKIP STFPS
002034	000		TSA6:				
002034	170200			STFPS	FPS		:STORE FLOATING POINT STATUS
002036	170367	176760		STST	FEC		:STORE EXCEPTION CODES
002042	022700	147740		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
002046	001401			BEQ	+.4		:BRANCH IF OK
002050	104000			HLT			:FPS NOT EQUAL TO 147740
002052	022767	000002	176742	CMP	#02,	FEC	:CHECK FLOATING EXCEPTION CODE
002060	001401			BEQ	+.4		:BRANCH IF OK
002062	104000			HLT			:FEC NOT EQUAL TO 02
002064	022767	002006	176732	CMP	#FPI6,	FEA	:CHECK FLOATING EXCEPTION ADDRESS
002072	001401			BEQ	+.4		:BRANCH IF OK
002074	104000			HLT			:FEA NOT EQUAL TO FPI6
002076	126727	176676	000006	CMPB	ICNT,	#6	:CHECK FOR RIGHT TEST
002104	001401			BEQ	+.4		:BRANCH IF OK
002106	104000			HLT			:PC JUMPED TESTS

```

*****
:TEST 7:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170021
:              FPS = 147740,   FEC = 02,   FEA = FPI7
*****

```

002110	104400			SCOPE			
002112	000401			BR	TST7		:SKIP DATA
002114	001002		ADR7:	ANSI			
002116	170127	047740	TST7:	LDFPS	#047740		:LOAD FLOATING POINT STATUS
002122	012701	002114		MOV	#ADR7,	%1	:SET UP R1
002126	170021		FPI7:	170021			:ILLEGAL INSTRUCTION
002130	022701	002120		CMP	#ADR7+4,%1		:CHECK R1
002134	001407			BEQ	TSA7		:BRANCH IF OK
002136	010167	176640		MOV	%1,	ANSI	:STORE R1 FOR TYPING
002142	170200			STFPS	FPS		:STORE FPS FOR TYPING
002144	170367	176652		STST	FEC		:STORE FEC, FEA FOR TYPING
002150	104001			HLT+1			:R1 NOT EQUAL TO #ADR7
002152	000401			BR	+.4		:SKIP STFPS

002154	000			TSA7:	STFPS	FPS	:STORE FLOATING POINT STATUS
002154	170200				STST	FEC	:STORE EXCEPTION CODES
002156	170367	176640			CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
002162	022700	147740			BEQ	+.4	:BRANCH IF OK
002166	001401				HLT		:FPS NOT EQUAL TO 147740
002170	104000						
002172	022767	000002	176622		CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
002200	001401				BEQ	+.4	:BRANCH IF OK
002202	104000				HLT		:FEC NOT EQUAL TO 02
002204	022767	002126	176612		CMP	#FPI7, FEA	:CHECK FLOATING EXCEPTION ADDRESS
002212	001401				BEQ	+.4	:BRANCH IF OK
002214	104000				HLT		:FEA NOT EQUAL TO FPI7
002216	126727	176556	000007		CMPB	ICNT, #7	:CHECK FOR RIGHT TEST
002224	001401				BEQ	+.4	:BRANCH IF OK
002226	104000				HLT		:PC JUMPED TESTS

```

*****
:TEST 10:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170022
:              FPS = 147740,   FEC = 02,   FEA = FPI10
*****

```

002230	104400				SCOPE		
002232	000401				BR	TST10	:SKIP DATA
002234	001002			ADR10:	ANS1		
002236	170127	047740		TST10:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
002242	012702	002234			MOV	#ADR10, %2	:SET UP R2
002246	170022			FPI10:	170022		:ILLEGAL INSTRUCTION
002250	022702	002240			CMP	#ADR10+4,%2	:CHECK R2
002254	001407				BEQ	TSA10	:BRANCH IF OK
002256	010267	176520			MOV	%2 ANS1	:STORE R2 FOR TYPING
002262	170200				STFPS	FPS	:STORE FPS FOR TYPING
002264	170367	176532			STST	FEC	:STORE FEC, FEA FOR TYPING
002270	104001				HLT+1		:R2 NOT EQUAL TO #ADR10
002272	000401				BR	+.4	:SKIP STFPS
002274	000			TSA10:	STFPS	FPS	:STORE FLOATING POINT STATUS
002274	170200				STST	FEC	:STORE EXCEPTION CODES
002276	170367	176520			CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
002302	022700	147740			BEQ	+.4	:BRANCH IF OK
002306	001401				HLT		:FPS NOT EQUAL TO 147740
002310	104000						
002312	022767	000002	176502		CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
002320	001401				BEQ	+.4	:BRANCH IF OK
002322	104000				HLT		:FEC NOT EQUAL TO 02
002324	022767	002246	176472		CMP	#FPI10, FEA	:CHECK FLOATING EXCEPTION ADDRESS


```

002332 001401      BEQ      .+4      :BRANCH IF OK
002334 104000      HLT                :FEA NOT EQUAL TO FPI10

002336 126727 176436 000010  CMPB     ICNT,    #10    :CHECK FOR RIGHT TEST
002344 001401      BEQ      .+4      :BRANCH IF OK
002346 104000      HLT                :PC JUMPED TESTS

```

```

*****
TEST 11:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
              ILLEGAL INSTRUCTION = 170023
              FPS = 147740,   FEC = 02,   FEA = FPI11
*****

```

```

002350 104400      SCOPE
002352 000401      BR        TST11      :SKIP DATA

002354 001002      ADR11:  ANS1

002356 170127 047740  TST11:  LDFPS    #047740    :LOAD FLOATING POINT STATUS
002362 012703 002354      MOV      #ADR11, %3    :SET UP R3
002366 170023  FPI11:  170023      :ILLEGAL INSTRUCTION
002370 022703 002354      CMP      #ADR11, %3    :CHECK R3
002374 001407      BEQ      TSA11        :BRANCH IF OK
002376 010367 176400      MOV      %3,   ANS1    :STORE R3 FOR TYPING
002402 170200      STFPS    FPS          :STORE FPS FOR TYPING
002404 170367 176412      STST     FEC          :STORE FEC, FEA FOR TYPING
002410 104001      HLT+1
002412 000401      BR        .+4        :R3 NOT EQUAL TO #ADR11
              :SKIP STFPS

002414      000      TSA11:
002414 170200      STFPS    FPS          :STORE FLOATING POINT STATUS
002416 170367 176400      STST     FEC          :STORE EXCEPTION CODES
002422 022700 147740      CMP      #147740, FPS  :CHECK FLOATING POINT STATUS
002426 001401      BEQ      .+4        :BRANCH IF OK
002430 104000      HLT                :FPS NOT EQUAL TO 147740

002432 022767 000002 176362  CMP      #02,   FEC    :CHECK FLOATING EXCEPTION CODE
002440 001401      BEQ      .+4        :BRANCH IF OK
002442 104000      HLT                :FEC NOT EQUAL TO 02

002444 022767 002366 176352  CMP      #FPI11, FEA   :CHECK FLOATING EXCEPTION ADDRESS
002452 001401      BEQ      .+4        :BRANCH IF OK
002454 104000      HLT                :FEA NOT EQUAL TO FPI11

002456 126727 176316 000011  CMPB     ICNT,    #11    :CHECK FOR RIGHT TEST
002464 001401      BEQ      .+4        :BRANCH IF OK
002466 104000      HLT                :PC JUMPED TESTS

```

```

*****
TEST 12:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
*****

```

: ILLEGAL INSTRUCTION = 170024
: FPS = 147740, FEC = 02, FEA = FPI12
:*****

002470	104400			SCOPE			
002472	000401			BR	TST12		;SKIP DATA
002474	001002			ADR12:	ANS1		
002476	170127	047740		TST12:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
002502	012704	002474			MOV	#ADR12, %4	:SET UP R4
002506	170024			FPI12:	170024		:ILLEGAL INSTRUCTION
002510	022704	002474			CMP	#ADR12, %4	:CHECK R4
002514	001407				BEQ	TSA12	:BRANCH IF OK
002516	010467	176260			MOV	%4, ANS1	:STORE R4 FOR TYPING
002522	170200				STFPS	FPS	:STORE FPS FOR TYPING
002524	170367	176272			STST	FEC	:STORE FEC, FEA FOR TYPING
002530	104001				HLT+1		:R4 NOT EQUAL TO #ADR12
002532	000401				BR	.+4	:SKIP STFPS
002534	000			TSA12:			
002534	170200				STFPS	FPS	:STORE FLOATING POINT STATUS
002536	170367	176260			STST	FEC	:STORE EXCEPTION CODES
002542	022700	147740			CMP	#147740, FPS	:CHECK FLOATING POINT STATUS
002546	001401				BEQ	.+4	:BRANCH IF OK
002550	104000				HLT		:FPS NOT EQUAL TO 147740
002552	022767	000002	176242		CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
002560	001401				BEQ	.+4	:BRANCH IF OK
002562	104000				HLT		:FEC NOT EQUAL TO 02
002564	022767	002506	176232		CMP	#FPI12, FEA	:CHECK FLOATING EXCEPTION ADDRESS
002572	001401				BEQ	.+4	:BRANCH IF OK
002574	104000				HLT		:FEA NOT EQUAL TO FPI12
002576	126727	176176	000012		CMPB	ICNT, #12	:CHECK FOR RIGHT TEST
002604	001401				BEQ	.+4	:BRANCH IF OK
002606	104000				HLT		:PC JUMPED TESTS

:*****
:TEST 13: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
: CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
: ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 170025
: FPS = 147740, FEC = 02, FEA = FPI13
:*****

002610	104400			SCOPE			
002612	000401			BR	TST13		;SKIP DATA
002614	001002			ADR13:	ANS1		
002616	170127	047740		TST13:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
002622	012705	002614			MOV	#ADR13, %5	:SET UP R5
002626	170025			FPI13:	170025		:ILLEGAL INSTRUCTION

002630	022705	002614		CMP	#ADR13, %5		:CHECK R5
002634	001407			BEQ	TSA13		:BRANCH IF OK
002636	010567	176140		MOV	%5, ANS1		:STORE R5 FOR TYPING
002642	170200			STFPS	FPS		:STORE FPS FOR TYPING
002644	170367	176152		STST	FEC		:STORE FEC, FEA FOR TYPING
002650	104001			HLT+1			:R5 NOT EQUAL TO #ADR13
002652	000401			BR	.+4		:SKIP STFPS
002654	000		TSA13:	STFPS	FPS		:STORE FLOATING POINT STATUS
002654	170200			STST	FEC		:STORE EXCEPTION CODES
002656	170367	176140		CMP	#147740, FPS		:CHECK FLOATING POINT STATUS
002662	022700	147740		BEQ	.+4		:BRANCH IF OK
002666	001401			HLT			:FPS NOT EQUAL TO 147740
002670	104000						
002672	022767	000002	176122	CMP	#02, FEC		:CHECK FLOATING EXCEPTION CODE
002700	001401			BEQ	.+4		:BRANCH IF OK
002702	104000			HLT			:FEC NOT EQUAL TO 02
002704	022767	002626	176112	CMP	#FPI13, FEA		:CHECK FLOATING EXCEPTION ADDRESS
002712	001401			BEQ	.+4		:BRANCH IF OK
002714	104000			HLT			:FEA NOT EQUAL TO FPI13
002716	126727	176056	000013	CMPB	ICNT, #13		:CHECK FOR RIGHT TEST
002724	001401			BEQ	.+4		:BRANCH IF OK
002726	104000			HLT			:PC JUMPED TESTS

```

*****
:TEST 14:          TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                  CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                  ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                  ILLEGAL INSTRUCTION = 170026
:                  FPS = 147740,   FEC = 02,   FEA = FPI14
*****

```

002730	104400			SCOPE			
002732	000401			BR	TST14		:SKIP DATA
002734	001002			ANS1			
002736	170127	047740		TST14:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
002742	010667	176036			MOV	%6, ANS2	:SAVE R6
002746	170026			FPI14:	170026		:ILLEGAL INSTRUCTION
002750	020667	176030			CMP	%6, ANS2	:CHECK R6
002754	001411				BEQ	TSA14	:BRANCH IF OK
002756	010667	176020			MOV	%6, ANS1	:STORE R6 FOR TYPING
002762	016706	176016			MOV	ANS2, %6	:RESTORE R6
002766	170200				STFPS	FPS	:STORE FPS FOR TYPING
002770	170367	176026			STST	FEC	:STORE FEC, FEA FOR TYPING
002774	104002				HLT+2		:R6 (ANS1) NOT EQUAL TO ANS2
002776	000401				BR	.+4	:SKIP STFPS
003000	000			TSA14:	STFPS	FPS	:STORE FLOATING POINT STATUS
003000	170200				STST	FEC	:STORE EXCEPTION CODES
003002	170367	176014					

H02

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TEST OF STST AND ILLEGAL INSTRUCTIONS
TEST SECTION

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003006	022700	147740		CMP	#147740, FPS	:CHECK FLOATING POINT STATUS
003012	001401			BEQ	.+4	:BRANCH IF OK
003014	104000			HLT		:FPS NOT EQUAL TO 147740
003016	022767	000002	175776	CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
003024	001401			BEQ	.+4	:BRANCH IF OK
003026	104000			HLT		:FEC NOT EQUAL TO 02
003030	022767	002746	175766	CMP	#FPI14, FEA	:CHECK FLOATING EXCEPTION ADDRESS
003036	001401			BEQ	.+4	:BRANCH IF OK
003040	104000			HLT		:FEA NOT EQUAL TO FPI14
003042	126727	175732	000014	CMPB	ICNT, #14	:CHECK FOR RIGHT TEST
003050	001401			BEQ	.+4	:BRANCH IF OK
003052	104000			HLT		:PC JUMPED TESTS

```
*****
:TEST 15:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170027
:              FPS = 147740,   FEC = 02,   FEA = FPI15
*****
```

003054	104400			SCOPE		
003056	000401			BR	TST15	:SKIP DATA
003060	001002			ADR15:	ANS1	
003062	170127	047740		TST15:	LDFPS #047740	:LOAD FLOATING POINT STATUS
003066	170027			FPI15:	170027	:ILLEGAL INSTRUCTION
003070	000000				HALT	:PC NOT PROPERLY UPDATED
003072	170200				STFPS FPS	:STORE FLOATING POINT STATUS
003074	170367	175722			STST FEC	:STORE EXCEPTION CODES
003100	022700	147740			CMP #147740, FPS	:CHECK FLOATING POINT STATUS
003104	001401				BEQ .+4	:BRANCH IF OK
003106	104000				HLT	:FPS NOT EQUAL TO 147740
003110	022767	000002	175704		CMP #02, FEC	:CHECK FLOATING EXCEPTION CODE
003116	001401				BEQ .+4	:BRANCH IF OK
003120	104000				HLT	:FEC NOT EQUAL TO 02
003122	022767	003066	175674		CMP #FPI15, FEA	:CHECK FLOATING EXCEPTION ADDRESS
003130	001401				BEQ .+4	:BRANCH IF OK
003132	104000				HLT	:FEA NOT EQUAL TO FPI15
003134	126727	175640	000015		CMPB ICNT, #15	:CHECK FOR RIGHT TEST
003142	001401				BEQ .+4	:BRANCH IF OK
003144	104000				HLT	:PC JUMPED TESTS

```
*****
:TEST 16:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
*****
```


: ILLEGAL INSTRUCTION = 170030
: FPS = 147740, FEC = 02, FEA = FPI16
:*****

003146	104400			SCOPE			
003150	000401			BR	TST16		;SKIP DATA
003152	001002			ADR16:	ANS1		
003154	170127	047740		TST16:	LDFPS	#047740	;LOAD FLOATING POINT STATUS
003160	012700	003152			MOV	#ADR16, %0	;SET UP R0
003164	170030			FPI16:	170030		;ILLEGAL INSTRUCTION
003166	022700	003154			CMP	#ADR16+2,%0	;CHECK R0
003172	001407				BEQ	TSA16	;BRANCH IF OK
003174	010067	175602			MOV	%0, ANS1	;STORE R0 FOR TYPING
003200	170200				STFPS	FPS	;STORE FPS FOR TYPING
003202	170367	175614			STST	FEC	;STORE FEC, FEA FOR TYPING
003206	104001				HLT+1		;R0 NOT EQUAL TO #ADR16
003210	000401				BR	+.4	;SKIP STFPS
003212	000			TSA16:			
003212	170200				STFPS	FPS	;STORE FLOATING POINT STATUS
003214	170367	175602			STST	FEC	;STORE EXCEPTION CODES
003220	022700	147740			CMP	#147740,FPS	;CHECK FLOATING POINT STATUS
003224	001401				BEQ	+.4	;BRANCH IF OK
003226	104000				HLT		;FPS NOT EQUAL TO 147740
003230	022767	000002	175564		CMP	#02, FEC	;CHECK FLOATING EXCEPTION CODE
003236	001401				BEQ	+.4	;BRANCH IF OK
003240	104000				HLT		;FEC NOT EQUAL TO 02
003242	022767	003164	175554		CMP	#FPI16, FEA	;CHECK FLOATING EXCEPTION ADDRESS
003250	001401				BEQ	+.4	;BRANCH IF OK
003252	104000				HLT		;FEA NOT EQUAL TO FPI16
003254	126727	175520	000016		CMPB	ICNT, #16	;CHECK FOR RIGHT TEST
003262	001401				BEQ	+.4	;BRANCH IF OK
003264	104000				HLT		;PC JUMPED TESTS

:*****
:TEST 17: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
: CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
: ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 170031
: FPS = 147740, FEC = 02, FEA = FPI17
:*****

003266	104400			SCOPE			
003270	000401			BR	TST17		;SKIP DATA
003272	001002			ADR17:	ANS1		
003274	170127	047740		TST17:	LDFPS	#047740	;LOAD FLOATING POINT STATUS
003300	012701	003272			MOV	#ADR17, %1	;SET UP R1
003304	170031			FPI17:	170031		;ILLEGAL INSTRUCTION

```

003306 022701 003274      CMP      #ADR17+2,%1      ;CHECK R1
003312 001407              BEQ      TSA17           ;BRANCH IF OK
003314 010167 175462      MOV      %1,      ANS1   ;STORE R1 FOR TYPING
003320 170200              STFPS    FPS           ;STORE FPS FOR TYPING
003322 170367 175474      STST    FEC           ;STORE FEC, FEA FOR TYPING
003326 104001              HLT+1                   ;R1 NOT EQUAL TO #ADR17
003330 000401              BR       .+4           ;SKIP STFPS

003332      000              TSA17:
003332 170200              STFPS    FPS           ;STORE FLOATING POINT STATUS
003334 170367 175462      STST    FEC           ;STORE EXCEPTION CODES
003340 022700 147740      CMP      #147740,FPS    ;CHECK FLOATING POINT STATUS
003344 001401              BEQ      .+4           ;BRANCH IF OK
003346 104000              HLT                          ;FPS NOT EQUAL TO 147740

003350 022767 000002 175444      CMP      #02,      FEC    ;CHECK FLOATING EXCEPTION CODE
003356 001401              BEQ      .+4           ;BRANCH IF OK
003360 104000              HLT                          ;FEC NOT EQUAL TO 02

003362 022767 003304 175434      CMP      #FPI17, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
003370 001401              BEQ      .+4           ;BRANCH IF OK
003372 104000              HLT                          ;FEA NOT EQUAL TO FPI17

003374 126727 175400 000017      CMPB    ICNT,      #17   ;CHECK FOR RIGHT TEST
003402 001401              BEQ      .+4           ;BRANCH IF OK
003404 104000              HLT                          ;PC JUMPED TESTS

```

```

*****
:TEST 20:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170032
:              FPS = 147740,      FEC = 02,      FEA = FPI20
*****

```

```

003406 104400              SCOPE
003410 000401              BR       TST20        ;SKIP DATA

003412 001002              ADR20:  ANS1

003414 170127 047740      TST20:  LDFPS    #047740   ;LOAD FLOATING POINT STATUS
003420 012702 003412      MOV      #ADR20, %2    ;SET UP R2
003424 170032              FPI20:  170032        ;ILLEGAL INSTRUCTION
003426 022702 003414      CMP      #ADR20+2,%2   ;CHECK R2
003432 001407              BEQ      TSA20        ;BRANCH IF OK
003434 010267 175342      MOV      %2,      ANS1 ;STORE R2 FOR TYPING
003440 170200              STFPS    FPS           ;STORE FPS FOR TYPING
003442 170367 175354      STST    FEC           ;STORE FEC, FEA FOR TYPING
003446 104001              HLT+1                   ;R2 NOT EQUAL TO #ADR20
003450 000401              BR       .+4           ;SKIP STFPS

003452      000              TSA20:
003452 170200              STFPS    FPS           ;STORE FLOATING POINT STATUS
003454 170367 175342      STST    FEC           ;STORE EXCEPTION CODES
003460 022700 147740      CMP      #147740,FPS    ;CHECK FLOATING POINT STATUS

```



```

003464 001401          BEQ      .+4          ;BRANCH IF OK
003466 104000          HLT                    ;FPS NOT EQUAL TO 147740

003470 022767 000002 175324  CMP      #02,      FEC      ;CHECK FLOATING EXCEPTION CODE
003476 001401          BEQ      .+4          ;BRANCH IF OK
003500 104000          HLT                    ;FEC NOT EQUAL TO 02

003502 022767 003424 175314  CMP      #FPI20,   FEA      ;CHECK FLOATING EXCEPTION ADDRESS
003510 001401          BEQ      .+4          ;BRANCH IF OK
003512 104000          HLT                    ;FEA NOT EQUAL TO FPI20

003514 126727 175260 000020  CMPB    ICNT,     #20      ;CHECK FOR RIGHT TEST
003522 001401          BEQ      .+4          ;BRANCH IF OK
003524 104000          HLT                    ;PC JUMPED TESTS

```

```

:*****
:TEST 21:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170033
:              FPS = 147740,      FEC = 02,      FEA = FPI21
:*****

```

```

003526 104400          SCOPE
003530 000401          BR      TST21          ;SKIP DATA

003532 001002          ADR21:  ANS1

003534 170127 047740  TST21:  LDFPS   #047740      ;LOAD FLOATING POINT STATUS
003540 012703 003532  MOV      #ADR21, %3      ;SET UP R3
003544 170033  FPI21:  170033      ;ILLEGAL INSTRUCTION
003546 022703 003534  CMP      #ADR21+2,%3     ;CHECK R3
003552 001407          BEQ      TSA21          ;BRANCH IF OK
003554 010367 175222  MOV      %3,      ANS1   ;STORE R3 FOR TYPING
003560 170200          STFPS   FPS            ;STORE FPS FOR TYPING
003562 170367 175234  STST    FEC            ;STORE FEC, FEA FOR TYPING
003566 104001          HLT+1
003570 000401          BR      .+4          ;SKIP STFPS

003572 000          TSA21:
003572 170200          STFPS   FPS            ;STORE FLOATING POINT STATUS
003574 170367 175222  STST    FEC            ;STORE EXCEPTION CODES
003600 022700 147740  CMP      #147740,FPS     ;CHECK FLOATING POINT STATUS
003604 001401          BEQ      .+4          ;BRANCH IF OK
003606 104000          HLT                    ;FPS NOT EQUAL TO 147740

003610 022767 000002 175204  CMP      #02,      FEC      ;CHECK FLOATING EXCEPTION CODE
003616 001401          BEQ      .+4          ;BRANCH IF OK
003620 104000          HLT                    ;FEC NOT EQUAL TO 02

003622 022767 003544 175174  CMP      #FPI21,   FEA      ;CHECK FLOATING EXCEPTION ADDRESS
003630 001401          BEQ      .+4          ;BRANCH IF OK
003632 104000          HLT                    ;FEA NOT EQUAL TO FPI21

003634 126727 175140 000021  CMPB    ICNT,     #21      ;CHECK FOR RIGHT TEST

```

003642 001401
003644 104000

BEQ .+4
HLT

;BRANCH IF OK
;PC JUMPED TESTS

:TEST 22: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
: CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
: ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 170034
: FPS = 147740, FEC = 02, FEA = FPI22

003646 104400
003650 000401

SCOPE
BR TST22

;SKIP DATA

003652 001002

ADR22: ANS1

003654 170127 047740
003660 012704 003652
003664 170034
003666 022704 003654
003672 001401
003674 010467 175102
003700 170200
003702 170367 175114
003706 104001
003710 000401

TST22: LDFPS #047740
MOV #ADR22, %4
FPI22: 170034
CMP #ADR22+2,%4
BEQ TSA22
MOV %4, ANS1
STFPS FPS
STST FEC
HLT+1
BR .+4

;LOAD FLOATING POINT STATUS
;SET UP R4
;ILLEGAL INSTRUCTION
;CHECK R4
;BRANCH IF OK
;STORE R4 FOR TYPING
;STORE FPS FOR TYPING
;STORE FEC, FEA FOR TYPING
;R4 NOT EQUAL TO #ADR22
;SKIP STFPS

003712 000
003712 170200
003714 170367 175102
003720 022700 147740
003724 001401
003726 104000

TSA22:
STFPS FPS
STST FEC
CMP #147740,FPS
BEQ .+4
HLT

;STORE FLOATING POINT STATUS
;STORE EXCEPTION CODES
;CHECK FLOATING POINT STATUS
;BRANCH IF OK
;FPS NOT EQUAL TO 147740

003730 022767 000002 175064
003736 001401
003740 104000

CMP #02, FEC
BEQ .+4
HLT

;CHECK FLOATING EXCEPTION CODE
;BRANCH IF OK
;FEC NOT EQUAL TO 02

003742 022767 003664 175054
003750 001401
003752 104000

CMP #FPI22, FEA
BEQ .+4
HLT

;CHECK FLOATING EXCEPTION ADDRESS
;BRANCH IF OK
;FEA NOT EQUAL TO FPI22

003754 126727 175020 000022
003762 001401
003764 104000

CMPB ICNT, #22
BEQ .+4
HLT

;CHECK FOR RIGHT TEST
;BRANCH IF OK
;PC JUMPED TESTS

:TEST 23: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
: CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
: ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 170035
: FPS = 147740, FEC = 02, FEA = FPI23

```

003766 104400          SCOPE
003770 000401          BR      TST23          ;SKIP DATA

003772 001002          ADR23: ANS1

003774 170127 047740    TST23: LDFPS  #047740    ;LOAD FLOATING POINT STATUS
004000 012705 003772    MOV      #ADR23, %5    ;SET UP R5
004004 170035          FPI23: 170035          ;ILLEGAL INSTRUCTION
004006 022705 003774    CMP      #ADR23+2,%5   ;CHECK R5
004012 001407          BEQ     TSA23          ;BRANCH IF OK
004014 010567 174762    MOV      %5,      ANS1 ;STORE R5 FOR TYPING
004020 170200          STFPS   FPS          ;STORE FPS FOR TYPING
004022 170367 174774    STST    FEC          ;STORE FEC, FEA FOR TYPING
004026 104001          HLT+1  ;R5 NOT EQUAL TO #ADR23
004030 000401          BR      .+4          ;SKIP STFPS

004032 000          TSA23:
004032 170200          STFPS   FPS          ;STORE FLOATING POINT STATUS
004034 170367 174762    STST    FEC          ;STORE EXCEPTION CODES
004040 022700 147740    CMP      #147740,FPS   ;CHECK FLOATING POINT STATUS
004044 001401          BEQ     .+4          ;BRANCH IF OK
004046 104000          HLT    ;FPS NOT EQUAL TO 147740

004050 022767 000002 174744    CMP      #02,      FEC ;CHECK FLOATING EXCEPTION CODE
004056 001401          BEQ     .+4          ;BRANCH IF OK
004060 104000          HLT    ;FEC NOT EQUAL TO 02

004062 022767 004004 174734    CMP      #FPI23, FEA  ;CHECK FLOATING EXCEPTION ADDRESS
004070 001401          BEQ     .+4          ;BRANCH IF OK
004072 104000          HLT    ;FEA NOT EQUAL TO FPI23

004074 126727 174700 000023    CMPB    ICNT,      #23 ;CHECK FOR RIGHT TEST
004102 001401          BEQ     .+4          ;BRANCH IF OK
004104 104000          HLT    ;PC JUMPED TESTS

```

```

*****
;TEST 24:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
;              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
;              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
;              ILLEGAL INSTRUCTION = 170036
;              FPS = 147740,      FEC = 02,      FEA = FPI24
*****

```

```

004106 104400          SCOPE
004110 000401          BR      TST24          ;SKIP DATA

004112 001002          ADR24: ANS1

004114 170127 047740    TST24: LDFPS  #047740    ;LOAD FLOATING POINT STATUS
004120 010667 174660    MOV      %6,      ANS2 ;SAVE R6
004124 005746          TST     -(%6)          ;SET UP THE STACK
004126 170036          FPI24: 170036          ;ILLEGAL INSTRUCTION
004130 020667 174650    CMP      %6,      ANS2 ;CHECK R6
004134 001411          BEQ     TSA24          ;BRANCH IF OK
004136 010667 174640    MOV      %6,      ANS1 ;STORE R6 FOR TYPING

```

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004142 016706 174636      MOV      ANS2,  %6      ;RESTORE R6
004146 170200              STFPS   FPS          ;STORE FPS FOR TYPING
004150 170367 174646      STST    FEC          ;STORE FEC, FEA FOR TYPING
004154 104002              HLT+2  ;R6 (ANS1) NOT EQUAL TO ANS2
004156 000401              BR      .+4          ;SKIP STFPS

004160      000              TSA24:
004160 170200              STFPS   FPS          ;STORE FLOATING POINT STATUS
004162 170367 174634      STST    FEC          ;STORE EXCEPTION CODES
004166 022700 147740      CMP     #147740,FPS  ;CHECK FLOATING POINT STATUS
004172 001401              BEQ     .+4          ;BRANCH IF OK
004174 104000              HLT                    ;FPS NOT EQUAL TO 147740

004176 022767 000002 174616      CMP     #02,   FEC    ;CHECK FLOATING EXCEPTION CODE
004204 001401              BEQ     .+4          ;BRANCH IF OK
004206 104000              HLT                    ;FEC NOT EQUAL TO 02

004210 022767 004126 174606      CMP     #FPI24, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
004216 001401              BEQ     .+4          ;BRANCH IF OK
004220 104000              HLT                    ;FEA NOT EQUAL TO FPI24

004222 126727 174552 000024      CMPB   ICNT,  #24    ;CHECK FOR RIGHT TEST
004230 001401              BEQ     .+4          ;BRANCH IF OK
004232 104000              HLT                    ;PC JUMPED TESTS

```

```

:*****
:TEST 25:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170037
:              FPS = 147740,   FEC = 02,   FEA = FPI25
:*****

```

```

004234 104400              SCOPE
004236 000401              BR      TST25      ;SKIP DATA

004240 001002              ADR25: ANS1

004242 170127 047740      TST25: LDFPS   #047740 ;LOAD FLOATING POINT STATUS
004246 170037              FPI25: 170037 ;ILLEGAL INSTRUCTION
004250 000000              HALT ;PC NOT PROPERLY UPDATED
004252 170200              STFPS   FPS          ;STORE FLOATING POINT STATUS
004254 170367 174542      STST    FEC          ;STORE EXCEPTION CODES
004260 022700 147740      CMP     #147740,FPS  ;CHECK FLOATING POINT STATUS
004264 001401              BEQ     .+4          ;BRANCH IF OK
004266 104000              HLT                    ;FPS NOT EQUAL TO 147740

004270 022767 000002 174524      CMP     #02,   FEC    ;CHECK FLOATING EXCEPTION CODE
004276 001401              BEQ     .+4          ;BRANCH IF OK
004300 104000              HLT                    ;FEC NOT EQUAL TO 02

004302 022767 004246 174514      CMP     #FPI25, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
004310 001401              BEQ     .+4          ;BRANCH IF OK
004312 104000              HLT                    ;FEA NOT EQUAL TO FPI25

```


004314	126727	174460	000025	CMPB	ICNT,	#25	:CHECK FOR RIGHT TEST
004322	001401			BEQ	+.4		:BRANCH IF OK
004324	104000			HLT			:PC JUMPED TESTS

```

*****
:TEST 26:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170040
:              FPS = 147740,   FEC = 02,   FEA = FPI26
*****

```

004326	104400			SCOPE			
004330	000401			BR	TST26		:SKIP DATA
004332	001002			ADR26:	ANSI		
004334	170127	047740		TST26:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
004340	012700	004332			MOV	#ADR26, %0	:SET UP R0
004344	170040			FPI26:	170040		:ILLEGAL INSTRUCTION
004346	022700	004332			CMP	#ADR26, %0	:CHECK R0
004352	001407				BEQ	TSA26	:BRANCH IF OK
004354	010067	174422			MOV	%0, ANSI	:STORE R0 FOR TYPING
004360	170200				STFPS	FPS	:STORE FPS FOR TYPING
004362	170367	174434			STST	FEC	:STORE FEC, FEA FOR TYPING
004366	104001				HLT+1		:R0 NOT EQUAL TO #ADR26
004370	000401				BR	+.4	:SKIP STFPS

004372	000			TSA26:			
004372	170200				STFPS	FPS	:STORE FLOATING POINT STATUS
004374	170367	174422			STST	FEC	:STORE EXCEPTION CODES
004400	022700	147740			CMP	#147740, FPS	:CHECK FLOATING POINT STATUS
004404	001401				BEQ	+.4	:BRANCH IF OK
004406	104000				HLT		:FPS NOT EQUAL TO 147740

004410	022767	000002	174404		CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
004416	001401				BEQ	+.4	:BRANCH IF OK
004420	104000				HLT		:FEC NOT EQUAL TO 02

004422	022767	004344	174374		CMP	#FPI26, FEA	:CHECK FLOATING EXCEPTION ADDRESS
004430	001401				BEQ	+.4	:BRANCH IF OK
004432	104000				HLT		:FEA NOT EQUAL TO FPI26

004434	126727	174340	000026	CMPB	ICNT,	#26	:CHECK FOR RIGHT TEST
004442	001401			BEQ	+.4		:BRANCH IF OK
004444	104000			HLT			:PC JUMPED TESTS

```

*****
:TEST 27:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170041
:              FPS = 147740,   FEC = 02,   FEA = FPI27
*****

```

```

004446 104400          SCOPE
004450 000401          BR          TST27          ;SKIP DATA

004452 001002          ADR27:  ANS1

004454 170127 047740      TST27:  LDFPS  #047740          ;LOAD FLOATING POINT STATUS
004460 012701 004456      MOV      #ADR27+4,%1          ;SET UP R1
004464 170041          FPI27:  170041          ;ILLEGAL INSTRUCTION
004466 022701 004452      CMP      #ADR27,%1          ;CHECK R1
004472 001407          BEQ      TSA27          ;BRANCH IF OK
004474 010167 174302      MOV      %1, ANS1          ;STORE R1 FOR TYPING
004500 170200          STFPS   FPS          ;STORE FPS FOR TYPING
004502 170367 174314      STST    FEC          ;STORE FEC, FEA FOR TYPING
004506 104001          HLT+1
004510 000401          BR          .+4          ;SKIP STFPS

004512 000          TSA27:
004512 170200          STFPS   FPS          ;STORE FLOATING POINT STATUS
004514 170367 174302      STST    FEC          ;STORE EXCEPTION CODES
004520 022700 147740      CMP      #147740,FPS          ;CHECK FLOATING POINT STATUS
004524 001401          BEQ      .+4          ;BRANCH IF OK
004526 104000          HLT          ;FPS NOT EQUAL TO 147740

004530 022767 000002 174264      CMP      #02, FEC          ;CHECK FLOATING EXCEPTION CODE
004536 001401          BEQ      .+4          ;BRANCH IF OK
004540 104000          HLT          ;FEC NOT EQUAL TO 02

004542 022767 004464 174254      CMP      #FPI27, FEA          ;CHECK FLOATING EXCEPTION ADDRESS
004550 001401          BEQ      .+4          ;BRANCH IF OK
004552 104000          HLT          ;FEA NOT EQUAL TO FPI27

004554 126727 174220 000027      CMPB    ICNT, #27          ;CHECK FOR RIGHT TEST
004562 001401          BEQ      .+4          ;BRANCH IF OK
004564 104000          HLT          ;PC JUMPED TESTS

```

```

:*****
:TEST 30:          TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                  CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                  ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                  ILLEGAL INSTRUCTION = 170042
:                  FPS = 147740,   FEC = 02,   FEA = FPI30
:*****

```

```

004566 104400          SCOPE
004570 000401          BR          TST30          ;SKIP DATA

004572 001002          ADR30:  ANS1

004574 170127 047740      TST30:  LDFPS  #047740          ;LOAD FLOATING POINT STATUS
004600 012702 004576      MOV      #ADR30+4,%2          ;SET UP R2
004604 170042          FPI30:  170042          ;ILLEGAL INSTRUCTION
004606 022702 004572      CMP      #ADR30,%2          ;CHECK R2
004612 001407          BEQ      TSA30          ;BRANCH IF OK
004614 010267 174162      MOV      %2, ANS1          ;STORE R2 FOR TYPING

```


004620	170200			STFPS	FPS		:STORE FPS FOR TYPING
004622	170367	174174		STST	FEC		:STORE FEC, FEA FOR TYPING
004626	104001			HLT+1			:R2 NOT EQUAL TO #ADR30
004630	000401			BR	.+4		:SKIP STFPS
004632	000		TSA30:	STFPS	FPS		:STORE FLOATING POINT STATUS
004632	170200			STST	FEC		:STORE EXCEPTION CODES
004634	170367	174162		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
004640	022700	147740		BEQ	.+4		:BRANCH IF OK
004644	001401			HLT			:FPS NOT EQUAL TO 147740
004646	104000						
004650	022767	000002	174144	CMP	#02, FEC		:CHECK FLOATING EXCEPTION CODE
004656	001401			BEQ	.+4		:BRANCH IF OK
004660	104000			HLT			:FEC NOT EQUAL TO 02
004662	022767	004604	174134	CMP	#FPI30, FEA		:CHECK FLOATING EXCEPTION ADDRESS
004670	001401			BEQ	.+4		:BRANCH IF OK
004672	104000			HLT			:FEA NOT EQUAL TO FPI30
004674	126727	174100	000030	CMPB	ICNT, #30		:CHECK FOR RIGHT TEST
004702	001401			BEQ	.+4		:BRANCH IF OK
004704	104000			HLT			:PC JUMPED TESTS

```

*****
:TEST 31:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170043
:              FPS = 147740,   FEC = 02,   FEA = FPI31
*****

```

004706	104400			SCOPE			
004710	000401			BR	TST31		:SKIP DATA
004712	001002		ADR31:	ANS1			
004714	170127	047740	TST31:	LDFPS	#047740		:LOAD FLOATING POINT STATUS
004720	012703	004712		MOV	#ADR31, %3		:SET UP R3
004724	170043		FPI31:	170043			:ILLEGAL INSTRUCTION
004726	022703	004712		CMP	#ADR31, %3		:CHECK R3
004732	001407			BEQ	TSA31		:BRANCH IF OK
004734	010367	174042		MOV	%3, ANS1		:STORE R3 FOR TYPING
004740	170200			STFPS	FPS		:STORE FPS FOR TYPING
004742	170367	174054		STST	FEC		:STORE FEC, FEA FOR TYPING
004746	104001			HLT+1			:R3 NOT EQUAL TO #ADR31
004750	000401			BR	.+4		:SKIP STFPS
004752	000		TSA31:	STFPS	FPS		:STORE FLOATING POINT STATUS
004752	170200			STST	FEC		:STORE EXCEPTION CODES
004754	170367	174042		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
004760	022700	147740		BEQ	.+4		:BRANCH IF OK
004764	001401			HLT			:FPS NOT EQUAL TO 147740
004766	104000						

E03

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TEST OF STST AND ILLEGAL INSTRUCTIONS
TEST SECTION

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004770	022767	000002	174024	CMP	#02,	FEC	:CHECK FLOATING EXCEPTION CODE
004776	001401			BEG	.+4		:BRANCH IF OK
005000	104000			HLT			:FEC NOT EQUAL TO 02
005002	022767	004724	174014	CMP	#FPI31,	FEA	:CHECK FLOATING EXCEPTION ADDRESS
005010	001401			BEG	.+4		:BRANCH IF OK
005012	104000			HLT			:FEA NOT EQUAL TO FPI31
005014	126727	173760	000031	CMPB	ICNT,	#31	:CHECK FOR RIGHT TEST
005022	001401			BEG	.+4		:BRANCH IF OK
005024	104000			HLT			:PC JUMPED TESTS

:TEST 32: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
: CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
: ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 170044
: FPS = 147740, FEC = 02, FEA = FPI32
:*****

005026	104400			SCOPE			
005030	000401			BR	TST32		:SKIP DATA
005032	001002			ADR32:	ANS1		
005034	170127	047740		TST32:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
005040	012704	005032			MOV	#ADR32, %4	:SET UP R4
005044	170044			FPI32:	170044		:ILLEGAL INSTRUCTION
005046	022704	005032			CMP	#ADR32, %4	:CHECK R4
005052	001407				BEG	TSA32	:BRANCH IF OK
005054	010467	173722			MOV	%4, ANS1	:STORE R4 FOR TYPING
005060	170200				STFPS	FPS	:STORE FPS FOR TYPING
005062	170367	173734			STST	FEC	:STORE FEC, FEA FOR TYPING
005066	104001				HLT+1		:R4 NOT EQUAL TO #ADR32
005070	000401				BR	.+4	:SKIP STFPS
005072	000			TSA32:			
005072	170200				STFPS	FPS	:STORE FLOATING POINT STATUS
005074	170367	173722			STST	FEC	:STORE EXCEPTION CODES
005100	022700	147740			CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
005104	001401				BEG	.+4	:BRANCH IF OK
005106	104000				HLT		:FPS NOT EQUAL TO 147740
005110	022767	000002	173704	CMP	#02,	FEC	:CHECK FLOATING EXCEPTION CODE
005116	001401			BEG	.+4		:BRANCH IF OK
005120	104000			HLT			:FEC NOT EQUAL TO 02
005122	022767	005044	173674	CMP	#FPI32,	FEA	:CHECK FLOATING EXCEPTION ADDRESS
005130	001401			BEG	.+4		:BRANCH IF OK
005132	104000			HLT			:FEA NOT EQUAL TO FPI32
005134	126727	173640	000032	CMPB	ICNT,	#32	:CHECK FOR RIGHT TEST
005142	001401			BEG	.+4		:BRANCH IF OK
005144	104000			HLT			:PC JUMPED TESTS

005272	001002		ADR34:	ANS1			
005274	170127	047740	TST34:	LDFPS	#047740	:LOAD FLOATING POINT STATUS	
005300	010667	173500		MOV	%6,	ANS2	:SAVE R6
005304	170046		FPI34:	170046			:ILLEGAL INSTRUCTION
005306	020667	173472		CMP	%6,	ANS2	:CHECK R6
005312	001411			BEG	TSA34		:BRANCH IF OK
005314	010667	173462		MOV	%6,	ANS1	:STORE R6 FOR TYPING
005320	016706	173460		MOV	ANS2,	%6	:RESTORE R6
005324	170200			STFPS	FPS		:STORE FPS FOR TYPING
005326	170367	173470		STST	FEC		:STORE FEC, FEA FOR TYPING
005332	104002			HLT+2			:R6 (ANS1) NOT EQUAL TO ANS2
005334	000401			BR	.+4		:SKIP STFPS
005336	000		TSA34:				
005336	170200			STFPS	FPS		:STORE FLOATING POINT STATUS
005340	170367	173456		STST	FEC		:STORE EXCEPTION CODES
005344	022700	147740		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
005350	001401			BEG	.+4		:BRANCH IF OK
005352	104000			HLT			:FPS NOT EQUAL TO 147740
005354	022767	000002	173440	CMP	#02,	FEC	:CHECK FLOATING EXCEPTION CODE
005362	001401			BEG	.+4		:BRANCH IF OK
005364	104000			HLT			:FEC NOT EQUAL TO 02
005366	022767	005304	173430	CMP	#FPI34,	FEA	:CHECK FLOATING EXCEPTION ADDRESS
005374	001401			BEG	.+4		:BRANCH IF OK
005376	104000			HLT			:FEA NOT EQUAL TO FPI34
005400	126727	173374	000034	CMPB	ICNT,	#34	:CHECK FOR RIGHT TEST
005406	001401			BEG	.+4		:BRANCH IF OK
005410	104000			HLT			:PC JUMPED TESTS

```

*****
:TEST 35:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170050
:              FPS = 147740,   FEC = 02,   FEA = FPI35
*****

```

005412	104400			SCOPE			
005414	000401			BR	TST35	:SKIP DATA	
005416	001002		ADR35:	ANS1			
005420	170127	047740	TST35:	LDFPS	#047740	:LOAD FLOATING POINT STATUS	
005424	012700	005420		MOV	#ADR35+2,%0	:SET UP R0	
005430	170050		FPI35:	170050		:ILLEGAL INSTRUCTION	
005432	022700	005416		CMP	#ADR35,%0	:CHECK R0	
005436	001407			BEG	TSA35	:BRANCH IF OK	
005440	010667	173336		MOV	%0,	ANS1	:STORE R0 FOR TYPING
005444	170200			STFPS	FPS	:STORE FPS FOR TYPING	
005446	170367	173350		STST	FEC	:STORE FEC, FEA FOR TYPING	
005452	104001			HLT+1		:R0 NOT EQUAL TO #ADR35	


```

005454 000401          BR      .+4          ;SKIP STFPS
005456      000          TSA35:
005456 170200          STFPS  FPS          ;STORE FLOATING POINT STATUS
005460 170367 173336  STST   FEC          ;STORE EXCEPTION CODES
005464 022700 147740  CMP    #147740,FPS ;CHECK FLOATING POINT STATUS
005470 001401          BEQ    .+4          ;BRANCH IF OK
005472 104000          HLT                    ;FPS NOT EQUAL TO 147740

005474 022767 000002 173320  CMP    #02,   FEC          ;CHECK FLOATING EXCEPTION CODE
005502 001401          BEQ    .+4          ;BRANCH IF OK
005504 104000          HLT                    ;FEC NOT EQUAL TO 02

005506 022767 005430 173310  CMP    #FPI35, FEA        ;CHECK FLOATING EXCEPTION ADDRESS
005514 001401          BEQ    .+4          ;BRANCH IF OK
005516 104000          HLT                    ;FEA NOT EQUAL TO FPI35

005520 126727 173254 000035  CMPB  ICNT,   #35        ;CHECK FOR RIGHT TEST
005526 001401          BEQ    .+4          ;BRANCH IF OK
005530 104000          HLT                    ;PC JUMPED TESTS

```

```

:*****
:TEST 36:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170051
:              FPS = 147740,   FEC = 02,   FEA = FPI36
:*****

```

```

005532 104400          SCOPE
005534 000401          BR      TST36          ;SKIP DATA

005536 001002          ADR36:  ANS1

005540 170127 047740  TST36:  LDFPS  #047740          ;LOAD FLOATING POINT STATUS
005544 012701 005540  MOV    #ADR36+2,%1        ;SET UP R1
005550 170051          FPI36:  170051          ;ILLEGAL INSTRUCTION
005552 022701 005536  CMP    #ADR36, %1        ;CHECK R1
005556 001407          BEQ    TSA36          ;BRANCH IF OK
005560 010167 173216  MOV    %1,   ANS1        ;STORE R1 FOR TYPING
005564 170200          STFPS  FPS          ;STORE FPS FOR TYPING
005566 170367 173230  STST   FEC          ;STORE FEC, FEA FOR TYPING
005572 104001          HLT+1          ;R1 NOT EQUAL TO #ADR36
005574 000401          BR      .+4          ;SKIP STFPS

005576      000          TSA36:
005576 170200          STFPS  FPS          ;STORE FLOATING POINT STATUS
005600 170367 173216  STST   FEC          ;STORE EXCEPTION CODES
005604 022700 147740  CMP    #147740,FPS ;CHECK FLOATING POINT STATUS
005610 001401          BEQ    .+4          ;BRANCH IF OK
005612 104000          HLT                    ;FPS NOT EQUAL TO 147740

005614 022767 000002 173200  CMP    #02,   FEC          ;CHECK FLOATING EXCEPTION CODE
005622 001401          BEQ    .+4          ;BRANCH IF OK
005624 104000          HLT                    ;FEC NOT EQUAL TO 02

```

```

005626 022767 005550 173170      CMP      #FPI36, FEA      ;CHECK FLOATING EXCEPTION ADDRESS
005634 001401                      BEQ      .+4             ;BRANCH IF OK
005636 104000                      HLT                               ;FEA NOT EQUAL TO FPI36

005640 126727 173134 000036      CMPB     ICNT, #36      ;CHECK FOR RIGHT TEST
005646 001401                      BEQ      .+4             ;BRANCH IF OK
005650 104000                      HLT                               ;PC JUMPED TESTS

```

```

:*****
:TEST 37:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170052
:              FPS = 147740,      FEC = 02,      FEA = FPI37
:*****

```

```

005652 104400                      SCOPE
005654 000401                      BR      TST37           ;SKIP DATA

005656 001002      ADR37:  ANS1

005660 170127 047740      TST37:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
005664 012702 005660      MOV      #ADR37+2,%2     ;SET UP R2
005670 170052      FPI37:  170052          ;ILLEGAL INSTRUCTION
005672 022702 005656      CMP      #ADR37, %2     ;CHECK R2
005676 001407      BEQ      TSA37          ;BRANCH IF OK
005700 010267 173076      MOV      %2,      ANS1  ;STORE R2 FOR TYPING
005704 170200      STFPS   FPS          ;STORE FPS FOR TYPING
005706 170367 173110      STST    FEC          ;STORE FEC, FEA FOR TYPING
005712 104001      HLT+1
005714 000401      BR      .+4           ;SKIP STFPS

005716      000      TSA37:
005716 170200      STFPS   FPS          ;STORE FLOATING POINT STATUS
005720 170367 173076      STST    FEC          ;STORE EXCEPTION CODES
005724 022700 147740      CMP      #147740,FPS    ;CHECK FLOATING POINT STATUS
005730 001401      BEQ      .+4           ;BRANCH IF OK
005732 104000      HLT                               ;FPS NOT EQUAL TO 147740

005734 022767 000002 173060      CMP      #02,      FEC  ;CHECK FLOATING EXCEPTION CODE
005742 001401      BEQ      .+4           ;BRANCH IF OK
005744 104000      HLT                               ;FEC NOT EQUAL TO 02

005746 022767 005670 173050      CMP      #FPI37, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
005754 001401      BEQ      .+4           ;BRANCH IF OK
005756 104000      HLT                               ;FEA NOT EQUAL TO FPI37

005760 126727 173014 000037      CMPB     ICNT, #37      ;CHECK FOR RIGHT TEST
005766 001401      BEQ      .+4           ;BRANCH IF OK
005770 104000      HLT                               ;PC JUMPED TESTS

```

```

:*****
:TEST 40:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION

```



```

006124 012704 006120      MOV      #ADR41+2,%4      ;SET UP R4
006130 170054      FPI41: 170054      ;ILLEGAL INSTRUCTION
006132 022704 006116      CMP      #ADR41,%4      ;CHECK R4
006136 001407      BEQ      TSA41          ;BRANCH IF OK
006140 010467 172636      MOV      %4,ANS1        ;STORE R4 FOR TYPING
006144 170200      STFPS   FPS             ;STORE FPS FOR TYPING
006146 170367 172650      STST    FEC             ;STORE FEC, FEA FOR TYPING
006152 104001      HLT+1   ;R4 NOT EQUAL TO #ADR41
006154 000401      BR      .+4             ;SKIP STFPS

006156 000      TSA41:
006156 170200      STFPS   FPS             ;STORE FLOATING POINT STATUS
006160 170367 172636      STST    FEC             ;STORE EXCEPTION CODES
006164 022700 147740      CMP      #147740,FPS    ;CHECK FLOATING POINT STATUS
006170 001401      BEQ      .+4            ;BRANCH IF OK
006172 104000      HLT                    ;FPS NOT EQUAL TO 147740

006174 022767 000002 172620      CMP      #02,FEC        ;CHECK FLOATING EXCEPTION CODE
006202 001401      BEQ      .+4            ;BRANCH IF OK
006204 104000      HLT                    ;FEC NOT EQUAL TO 02

006206 022767 006130 172610      CMP      #FPI41,FEA     ;CHECK FLOATING EXCEPTION ADDRESS
006214 001401      BEQ      .+4            ;BRANCH IF OK
006216 104000      HLT                    ;FEA NOT EQUAL TO FPI41

006220 126727 172554 000041      CMPB    ICNT,#41        ;CHECK FOR RIGHT TEST
006226 001401      BEQ      .+4            ;BRANCH IF OK
006230 104000      HLT                    ;PC JUMPED TESTS

```

```

*****
:TEST 42:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170055
:              FPS = 147740,   FEC = 02,   FEA = FPI42
*****

```

```

006232 104400      SCOPE
006234 000401      BR      TST42          ;SKIP DATA

006236 001002      ADR42: ANS1

006240 170127 047740      TST42: LDFPS #047740    ;LOAD FLOATING POINT STATUS
006244 012705 006240      MOV      #ADR42+2,%5    ;SET UP R5
006250 170055      FPI42: 170055      ;ILLEGAL INSTRUCTION
006252 022705 006236      CMP      #ADR42,%5      ;CHECK R5
006256 001407      BEQ      TSA42          ;BRANCH IF OK
006260 010567 172516      MOV      %5,ANS1        ;STORE R5 FOR TYPING
006264 170200      STFPS   FPS             ;STORE FPS FOR TYPING
006266 170367 172530      STST    FEC             ;STORE FEC, FEA FOR TYPING
006272 104001      HLT+1   ;R5 NOT EQUAL TO #ADR42
006274 000401      BR      .+4            ;SKIP STFPS

006276 000      TSA42:
006276 170200      STFPS   FPS             ;STORE FLOATING POINT STATUS

```


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TEST OF STST AND ILLEGAL INSTRUCTIONS
TEST SECTION

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006300	170367	172516	STST	FEC		:STORE EXCEPTION CODES
006304	022700	147740	CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
006310	001401		BEQ	.+4		:BRANCH IF OK
006312	104000		HLT			:FPS NOT EQUAL TO 147740
006314	022767	000002	172500	CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
006322	001401			BEQ	.+4	:BRANCH IF OK
006324	104000			HLT		:FEC NOT EQUAL TO 02
006326	022767	006250	172470	CMP	#FPI42, FEA	:CHECK FLOATING EXCEPTION ADDRESS
006334	001401			BEQ	.+4	:BRANCH IF OK
006336	104000			HLT		:FEA NOT EQUAL TO FPI42
006340	126727	172434	000042	CMPB	ICNT, #42	:CHECK FOR RIGHT TEST
006346	001401			BEQ	.+4	:BRANCH IF OK
006350	104000			HLT		:PC JUMPED TESTS

```
*****
:TEST 43:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170056
:              FPS = 147740,   FEC = 02,   FEA = FPI43
*****
```

006352	104400		SCOPE			
006354	000401		BR	TST43		:SKIP DATA
006356	001002		ADR43:	ANS1		
006360	170127	047740	TST43:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
006364	010667	172414		MOV	%6, ANS2	:SAVE R6
006370	170056		FPI43:	170056		:ILLEGAL INSTRUCTION
006372	005726			TST	(%6)+	:RESTORE THE STACK
006374	020667	172404		CMP	%6, ANS2	:CHECK R6
006400	001411			BEQ	TSA43	:BRANCH IF OK
006402	010667	172374		MOV	%6, ANS1	:STORE R6 FOR TYPING
006406	016706	172372		MOV	ANS2, %6	:RESTORE R6
006412	170200			STFPS	FPS	:STORE FPS FOR TYPING
006414	170367	172402		STST	FEC	:STORE FEC, FEA FOR TYPING
006420	104002			HLT+2		:R6 (ANS1) NOT EQUAL TO ANS2
006422	000401			BR	.+4	:SKIP STFPS
006424	000		TSA43:			
006424	170200			STFPS	FPS	:STORE FLOATING POINT STATUS
006426	170367	172370		STST	FEC	:STORE EXCEPTION CODES
006432	022700	147740		CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
006436	001401			BEQ	.+4	:BRANCH IF OK
006440	104000			HLT		:FPS NOT EQUAL TO 147740
006442	022767	000002	172352	CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
006450	001401			BEQ	.+4	:BRANCH IF OK
006452	104000			HLT		:FEC NOT EQUAL TO 02
006454	022767	006370	172342	CMP	#FPI43, FEA	:CHECK FLOATING EXCEPTION ADDRESS

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TEST OF STST AND ILLEGAL INSTRUCTIONS
TEST SECTION

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006462	001401			BEQ	+.4				;BRANCH IF OK
006464	104000			HLT					;FEA NOT EQUAL TO FPI43
006466	126727	172306	000043	CMPB	ICNT,	#43			;CHECK FOR RIGHT TEST
006474	001401			BEQ	+.4				;BRANCH IF OK
006476	104000			HLT					;PC JUMPED TESTS

```

*****
:TEST 44:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170060
:              FPS = 147740,   FEC = 02,   FEA = FPI44
*****

```

006500	104400			SCOPE					
006502	000401			BR	TST44				;SKIP DATA
006504	001002			ADR44:	ANS1				
006506	170127	047740		TST44:	LDFPS	#047740			;LOAD FLOATING POINT STATUS
006512	012700	006504			MOV	#ADR44, %0			;SET UP RO
006516	170060			FPI44:	170060				;ILLEGAL INSTRUCTION
006520	000000				HALT				;INDEX VALUE OF 0 GOT EXICUTED
006522	022700	006504			CMP	#ADR44, %0			;CHECK RO
006526	001407				BEQ	TSA44			;BRANCH IF OK
006530	010067	172246			MOV	%0, ANS1			;STORE RO FOR TYPING
006534	170200				STFPS	FPS			;STORE FPS FOR TYPING
006536	170367	172260			STST	FEC			;STORE FEC, FEA FOR TYPING
006542	104001				HLT+1				;RO NOT EQUAL TO #ADR44
006544	000401				BR	+.4			;SKIP STFPS

006546	000			TSA44:					
006546	170200				STFPS	FPS			;STORE FLOATING POINT STATUS
006550	170367	172246			STST	FEC			;STORE EXCEPTION CODES
006554	022700	147740			CMP	#147740, FPS			;CHECK FLOATING POINT STATUS
006560	001401				BEQ	+.4			;BRANCH IF OK
006562	104000				HLT				;FPS NOT EQUAL TO 147740
006564	022767	000002	172230		CMP	#02, FEC			;CHECK FLOATING EXCEPTION CODE
006572	001401				BEQ	+.4			;BRANCH IF OK
006574	104000				HLT				;FEC NOT EQUAL TO 02
006576	022767	006516	172220		CMP	#FPI44, FEA			;CHECK FLOATING EXCEPTION ADDRESS
006604	001401				BEQ	+.4			;BRANCH IF OK
006606	104000				HLT				;FEA NOT EQUAL TO FPI44
006610	126727	172164	000044		CMPB	ICNT, #44			;CHECK FOR RIGHT TEST
006616	001401				BEQ	+.4			;BRANCH IF OK
006620	104000				HLT				;PC JUMPED TESTS

```

*****
:TEST 45:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:

```


ALSO TEST ALL ILLEGAL INSTRUCTIONS.
ILLEGAL INSTRUCTION = 170061
FPS = 147740, FEC = 02, FEA = FPI45

006622	104400			SCOPE			
006624	000401			BR	TST45		;SKIP DATA
006626	001002			ADR45:	ANS1		
006630	170127	047740		TST45:	LDFPS	#047740	;LOAD FLOATING POINT STATUS
006634	012701	006626			MOV	#ADR45, %1	;SET UP R1
006640	170061			FPI45:	170061		;ILLEGAL INSTRUCTION
006642	000000				HALT		;INDEX VALUE OF 0 GOT EXECUTED
006644	022701	006626			CMP	#ADR45, %1	;CHECK R1
006650	001407				BEQ	TSA45	;BRANCH IF OK
006652	010167	172124			MOV	%1, ANS1	;STORE R1 FOR TYPING
006656	170200				STFPS	FPS	;STORE FPS FOR TYPING
006660	170367	172136			STST	FEC	;STORE FEC, FEA FOR TYPING
006664	104001				HLT+1		;R1 NOT EQUAL TO #ADR45
006666	000401				BR	+.4	;SKIP STFPS
006670	000			TSA45:			
006670	170200				STFPS	FPS	;STORE FLOATING POINT STATUS
006672	170367	172124			STST	FEC	;STORE EXCEPTION CODES
006676	022700	147740			CMP	#147740, FPS	;CHECK FLOATING POINT STATUS
006702	001401				BEQ	+.4	;BRANCH IF OK
006704	104000				HLT		;FPS NOT EQUAL TO 147740
006706	022767	000002	172106		CMP	#02, FEC	;CHECK FLOATING EXCEPTION CODE
006714	001401				BEQ	+.4	;BRANCH IF OK
006716	104000				HLT		;FEC NOT EQUAL TO 02
006720	022767	006640	172076		CMP	#FPI45, FEA	;CHECK FLOATING EXCEPTION ADDRESS
006726	001401				BEQ	+.4	;BRANCH IF OK
006730	104000				HLT		;FEA NOT EQUAL TO FPI45
006732	126727	172042	000045		CMPB	ICNT, #45	;CHECK FOR RIGHT TEST
006740	001401				BEQ	+.4	;BRANCH IF OK
006742	104000				HLT		;PC JUMPED TESTS

TEST 46: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
ALSO TEST ALL ILLEGAL INSTRUCTIONS.
ILLEGAL INSTRUCTION = 170062
FPS = 147740, FEC = 02, FEA = FPI46

006744	104400			SCOPE			
006746	000401			BR	TST46		;SKIP DATA
006750	001002			ADR46	ANS1		
006752	170127	047740		TST46:	LDFPS	#047740	;LOAD FLOATING POINT STATUS

006756	012702	006750		MOV	#ADR46, %2	:SET UP R2
006762	170062		FPI46:	170062		:ILLEGAL INSTRUCTION
006764	000000			HALT		:INDEX VALUE OF 0 GOT EXICUTED
006766	022702	006750		CMP	#ADR46, %2	:CHECK R2
006772	001407			BEQ	TSA46	:BRANCH IF OK
006774	010267	172002		MOV	%2 ANS1	:STORE R2 FOR TYPING
007000	170200			STFPS	FPS	:STORE FPS FOR TYPING
007002	170367	172014		STST	FEC	:STORE FEC, FEA FOR TYPING
007006	104001			HLT+1		:R2 NOT EQUAL TO #ADR46
007010	000401			BR	+.4	:SKIP STFPS
007012	000		TSA46:			
007012	170200			STFPS	FPS	:STORE FLOATING POINT STATUS
007014	170367	172002		STST	FEC	:STORE EXCEPTION CODES
007020	022700	147740		CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
007024	001401			BEQ	+.4	:BRANCH IF OK
007026	104000			HLT		:FPS NOT EQUAL TO 147740
007030	022767	000002	171764	CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
007036	001401			BEQ	+.4	:BRANCH IF OK
007040	104000			HLT		:FEC NOT EQUAL TO 02
007042	022767	006762	171754	CMP	#FPI46, FEA	:CHECK FLOATING EXCEPTION ADDRESS
007050	001401			BEQ	+.4	:BRANCH IF OK
007052	104000			HLT		:FEA NOT EQUAL TO FPI46
007054	126727	171720	000046	CMPB	ICNT, #46	:CHECK FOR RIGHT TEST
007062	001401			BEQ	+.4	:BRANCH IF OK
007064	104000			HLT		:PC JUMPED TESTS

```

*****
:TEST 47: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:          CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:          ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:          ILLEGAL INSTRUCTION = 170063
:          FPS = 147740,   FEC = 02,   FEA = FPI47
*****

```

007066	104400			SCOPE		
007070	000401			BR	TST47	:SKIP DATA
007072	001002		ADR47:	ANS1		
007074	170127	047740	TST47:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
007100	012703	007072		MOV	#ADR47, %3	:SET UP R3
007104	170063		FPI47:	170063		:ILLEGAL INSTRUCTION
007106	000000			HALT		:INDEX VALUE OF 0 GOT EXICUTED
007110	022703	007072		CMP	#ADR47, %3	:CHECK R3
007114	001407			BEQ	TSA47	:BRANCH IF OK
007116	010367	171660		MOV	%3 ANS1	:STORE R3 FOR TYPING
007122	170200			STFPS	FPS	:STORE FPS FOR TYPING
007124	170367	171672		STST	FEC	:STORE FEC, FEA FOR TYPING
007130	104001			HLT+1		:R3 NOT EQUAL TO #ADR47
007132	000401			BR	+.4	:SKIP STFPS

007134	000			TSA47:	STFPS	FPS	:STORE FLOATING POINT STATUS
007134	170200				STST	FEC	:STORE EXCEPTION CODES
007136	170367	171660			CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
007142	022700	147740			BEQ	+.4	:BRANCH IF OK
007146	001401				HLT		:FPS NOT EQUAL TO 147740
007150	104000						
007152	022767	000002	171642		CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
007160	001401				BEQ	+.4	:BRANCH IF OK
007162	104000				HLT		:FEC NOT EQUAL TO 02
007164	022767	007104	171632		CMP	#FPI47, FEA	:CHECK FLOATING EXCEPTION ADDRESS
007172	001401				BEQ	+.4	:BRANCH IF OK
007174	104000				HLT		:FEA NOT EQUAL TO FPI47
007176	126727	171576	000047		CMPB	ICNT, #47	:CHECK FOR RIGHT TEST
007204	001401				BEQ	+.4	:BRANCH IF OK
007206	104000				HLT		:PC JUMPED TESTS

```

*****
:TEST 50:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170064
:              FPS = 147740,   FEC = 02,   FEA = FPI50
*****

```

007210	104400				SCOPE		
007212	000401				BR	TST50	:SKIP DATA
007214	001002			ADR50:	ANS1		
007216	170127	047740		TST50:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
007222	012704	007214			MOV	#ADR50, %4	:SET UP R4
007226	170064			FPI50:	170064		:ILLEGAL INSTRUCTION
007230	000000				HALT		:INDEX VALUE OF 0 GOT EXECUTED
007232	022704	007214			CMP	#ADR50, %4	:CHECK R4
007236	001407				BEQ	TSA50	:BRANCH IF OK
007240	010467	171536			MOV	%4 ANS1	:STORE R4 FOR TYPING
007244	170200				STFPS	FPS	:STORE FPS FOR TYPING
007246	170367	171550			STST	FEC	:STORE FEC, FEA FOR TYPING
007252	104001				HLT+1		:R4 NOT EQUAL TO #ADR50
007254	000401				BR	+.4	:SKIP STFPS
007256	000			TSA50:	STFPS	FPS	:STORE FLOATING POINT STATUS
007256	170200				STST	FEC	:STORE EXCEPTION CODES
007260	170367	171536			CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
007264	022700	147740			BEQ	+.4	:BRANCH IF OK
007270	001401				HLT		:FPS NOT EQUAL TO 147740
007272	104000						
007274	022767	000002	171520		CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
007302	001401				BEQ	+.4	:BRANCH IF OK
007304	104000				HLT		:FEC NOT EQUAL TO 02

007306	022767	007226	171510	CMP	#FPIS0, FEA	:CHECK FLOATING EXCEPTION ADDRESS
007314	001401			BEQ	+.4	:BRANCH IF OK
007316	104000			HLT		:FEA NOT EQUAL TO FPIS0
007320	126727	171454	000050	CMPB	ICNT, #50	:CHECK FOR RIGHT TEST
007326	001401			BEQ	+.4	:BRANCH IF OK
007330	104000			HLT		:PC JUMPED TESTS

```

*****
:TEST S1:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
                ILLEGAL INSTRUCTION = 170065
                FPS = 147740,   FEC = 02,   FEA = FPIS1
*****

```

007332	104400			SCOPE		
007334	000401			BR	TST51	:SKIP DATA
007336	001002			ADRS1:	ANS1	
007340	170127	047740		TST51:	LDFPS #047740	:LOAD FLOATING POINT STATUS
007344	012705	007336			MOV #ADRS1, %S	:SET UP RS
007350	170065			FPIS1:	170065	:ILLEGAL INSTRUCTION
007352	000000				HALT	:INDEX VALUE OF 0 GOT EXICUTED
007354	022705	007336			CMP #ADRS1, %S	:CHECK RS
007360	001407				BEQ TSAS1	:BRANCH IF OK
007362	010567	171414			MOV %S, ANS1	:STORE RS FOR TYPING
007366	170200				STFPS FPS	:STORE FPS FOR TYPING
007370	170367	171426			STST FEC	:STORE FEC, FEA FOR TYPING
007374	104001				HLT+1	:RS NOT EQUAL TO #ADRS1
007376	000401				BR .+4	:SKIP STFPS
007400	000			TSAS1:		
007400	170200				STFPS FPS	:STORE FLOATING POINT STATUS
007402	170367	171414			STST FEC	:STORE EXCEPTION CODES
007406	022700	147740			CMP #147740, FPS	:CHECK FLOATING POINT STATUS
007412	001401				BEQ .+4	:BRANCH IF OK
007414	104000				HLT	:FPS NOT EQUAL TO 147740
007416	022767	000002	171376		CMP #02, FEC	:CHECK FLOATING EXCEPTION CODE
007424	001401				BEQ .+4	:BRANCH IF OK
007426	104000				HLT	:FEC NOT EQUAL TO 02
007430	022767	007350	171366		CMP #FPIS1, FEA	:CHECK FLOATING EXCEPTION ADDRESS
007436	001401				BEQ .+4	:BRANCH IF OK
007440	104000				HLT	:FEA NOT EQUAL TO FPIS1
007442	126727	171332	000051		CMPB ICNT, #51	:CHECK FOR RIGHT TEST
007450	001401				BEQ .+4	:BRANCH IF OK
007452	104000				HLT	:PC JUMPED TESTS

```

*****
:TEST S2:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION

```



```

007610 170127 047740      TST53: LDFPS      #047740      :LOAD FLOATING POINT STATUS
007614 170067            FPI53: 170067            :ILLEGAL INSTRUCTION
007616 000000            HALT                    :INDEX VALUE OF 0 GOT EXECUTED
007620 170200            STFPS      FPS          :STORE FLOATING POINT STATUS
007622 170367 171174      STST      FEC          :STORE EXCEPTION CODES
007626 022700 147740      CMP      #147740,FPS    :CHECK FLOATING POINT STATUS
007632 001401            BEQ      .+4           :BRANCH IF OK
007634 104000            HLT                    :FPS NOT EQUAL TO 147740

007636 022767 000002 171156  CMP      #02,      FEC    :CHECK FLOATING EXCEPTION CODE
007644 001401            BEQ      .+4           :BRANCH IF OK
007646 104000            HLT                    :FEC NOT EQUAL TO 02

007650 022767 007614 171146  CMP      #FPI53, FEA    :CHECK FLOATING EXCEPTION ADDRESS
007656 001401            BEQ      .+4           :BRANCH IF OK
007660 104000            HLT                    :FEA NOT EQUAL TO FPI53

007662 126727 171112 000053  CMPB     ICNT,      #53   :CHECK FOR RIGHT TEST
007670 001401            BEQ      .+4           :BRANCH IF OK
007672 104000            HLT                    :PC JUMPED TESTS

```

```

*****
:TEST 54:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170070
:              FPS = 147740,      FEC = 02,      FEA = FPI54
*****

```

```

007674 104400            SCOPE
007676 000401            BR      TST54          :SKIP DATA

007700 001002            ADR54: ANS1

007702 170127 047740      TST54: LDFPS      #047740      :LOAD FLOATING POINT STATUS
007706 012700 007700      MOV      #ADR54, %0    :SET UP RO
007712 170070            FPI54: 170070            :ILLEGAL INSTRUCTION
007714 000000            HALT                    :INDEX VALUE OF 0 GOT EXECUTED
007716 022700 007700      CMP      #ADR54, %0    :CHECK RO
007722 001407            BEQ      TSA54         :BRANCH IF OK
007724 010067 171052      MOV      %0,      ANS1 :STORE RO FOR TYPING
007730 170200            STFPS      FPS          :STORE FPS FOR TYPING
007732 170367 171064      STST      FEC          :STORE FEC, FEA FOR TYPING
007736 104001            HLT+1                 :RO NOT EQUAL TO #ADR54
007740 000401            BR      .+4           :SKIP STFPS

007742      000            TSA54: STFPS      FPS          :STORE FLOATING POINT STATUS
007742 170200            STST      FEC          :STORE EXCEPTION CODES
007744 170367 171052      CMP      #147740,FPS    :CHECK FLOATING POINT STATUS
007750 022700 147740      BEQ      .+4           :BRANCH IF OK
007754 001401            HLT                    :FPS NOT EQUAL TO 147740
007756 104000

007760 022767 000002 171034  CMP      #02,      FEC    :CHECK FLOATING EXCEPTION CODE

```



```

007766 001401      BEQ      .+4      :BRANCH IF OK
007770 104000      HLT                      :FEC NOT EQUAL TO 02

007772 022767 007712 171024  CMP      #FPI54, FEA    :CHECK FLOATING EXCEPTION ADDRESS
010000 001401      BEQ      .+4      :BRANCH IF OK
010002 104000      HLT                      :FEA NOT EQUAL TO FPI54

010004 126727 170770 000054  CMPB     ICNT,   #54    :CHECK FOR RIGHT TEST
010012 001401      BEQ      .+4      :BRANCH IF OK
010014 104000      HLT                      :PC JUMPED TESTS

```

```

*****
:TEST 55:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170071
:              FPS = 147740,   FEC = 02,   FEA = FPI55
*****

```

```

010016 104400      SCOPE
010020 000401      BR      TST55      :SKIP DATA

010022 001002      ADDR55: ANS1

010024 170127 047740  TST55: LDFPS   #047740    :LOAD FLOATING POINT STATUS
010030 012701 010022  MOV      #ADDR55, %1    :SET UP R1
010034 170071  FPI55: 170071    :ILLEGAL INSTRUCTION
010036 000000      HALT                    :INDEX VALUE OF 0 GOT EXICUTED
010040 022701 010022  CMP      #ADDR55, %1    :CHECK R1
010044 001407      BEQ      TSASS5        :BRANCH IF OK
010046 010167 170730  MOV      %1,   ANS1    :STORE R1 FOR TYPING
010052 170200      STFPS   FPS           :STORE FPS FOR TYPING
010054 170367 170742  STST    FEC           :STORE FEC, FEA FOR TYPING
010060 104001      HLT+1                    :R1 NOT EQUAL TO #ADDR55
010062 000401      BR      .+4      :SKIP STFPS

010064 000      TSASS5: STFPS   FPS           :STORE FLOATING POINT STATUS
010064 170200      STST    FEC           :STORE EXCEPTION CODES
010066 170367 170730  CMP      #147740, FPS    :CHECK FLOATING POINT STATUS
010072 022700 147740  BEQ      .+4      :BRANCH IF OK
010076 001401      HLT                      :FPS NOT EQUAL TO 147740
010100 104000

010102 022767 000002 170712  CMP      #02,   FEC    :CHECK FLOATING EXCEPTION CODE
010110 001401      BEQ      .+4      :BRANCH IF OK
010112 104000      HLT                      :FEC NOT EQUAL TO 02

010114 022767 010034 170702  CMP      #FPI55, FEA    :CHECK FLOATING EXCEPTION ADDRESS
010122 001401      BEQ      .+4      :BRANCH IF OK
010124 104000      HLT                      :FEA NOT EQUAL TO FPI55

010126 126727 170646 000055  CMPB     ICNT,   #55    :CHECK FOR RIGHT TEST
010134 001401      BEQ      .+4      :BRANCH IF OK
010136 104000      HLT                      :PC JUMPED TESTS

```

```

*****
TEST 56:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
              ILLEGAL INSTRUCTION = 170072
              FPS = 147740,   FEC = 02,   FEA = FPI56
*****
    
```

010140	104400			SCOPE			
010142	000401			BR	TST56		;SKIP DATA
010144	001002			ADR56:	ANS1		
010146	170127	047740		TST56:	LDFPS	#047740	;LOAD FLOATING POINT STATUS
010152	012702	010144			MOV	#ADR56, %2	;SET UP R2
010156	170072			FPI56:	170072		;ILLEGAL INSTRUCTION
010160	000000				HALT		;INDEX VALUE OF 0 GOT EXECUTED
010162	022702	010144			CMP	#ADR56, %2	;CHECK R2
010166	001407				BEQ	TSA56	;BRANCH IF OK
010170	010267	170606			MOV	%2, ANS1	;STORE R2 FOR TYPING
010174	170200				STFPS	FPS	;STORE FPS FOR TYPING
010176	170367	170620			STST	FEC	;STORE FEC, FEA FOR TYPING
010202	104001				HLT+1		;R2 NOT EQUAL TO #ADR56
010204	000401				BR	.+4	;SKIP STFPS
010206	000			TSA56:			
010206	170200				STFPS	FPS	;STORE FLOATING POINT STATUS
010210	170367	170606			STST	FEC	;STORE EXCEPTION CODES
010214	022700	147740			CMP	#147740, FPS	;CHECK FLOATING POINT STATUS
010220	001401				BEQ	.+4	;BRANCH IF OK
010222	104000				HLT		;FPS NOT EQUAL TO 147740
010224	022767	000002	170570		CMP	#02, FEC	;CHECK FLOATING EXCEPTION CODE
010232	001401				BEQ	.+4	;BRANCH IF OK
010234	104000				HLT		;FEC NOT EQUAL TO 02
010236	022767	010156	170560		CMP	#FPI56, FEA	;CHECK FLOATING EXCEPTION ADDRESS
010244	001401				BEQ	.+4	;BRANCH IF OK
010246	104000				HLT		;FEA NOT EQUAL TO FPI56
010250	126727	170524	000056		CMPB	ICNT, #56	;CHECK FOR RIGHT TEST
010256	001401				BEQ	.+4	;BRANCH IF OK
010260	104000				HLT		;PC JUMPED TESTS

```

*****
TEST 57:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
              ILLEGAL INSTRUCTION = 170073
              FPS = 147740,   FEC = 02,   FEA = FPI57
*****
    
```

010262	104400			SCOPE			
010264	000401			BR	TST57		;SKIP DATA

```

010266 001002          ADR57:  ANS1

010270 170127 047740   TST57:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
010274 012703 010266   MOV      #ADR57, %3      ;SET UP R3
010300 170073          FPI57:  170073      ;ILLEGAL INSTRUCTION
010302 000000          HALT                    ;INDEX VALUE OF 0 GOT EXICUTED
010304 022703 010266   CMP      #ADR57, %3      ;CHECK R3
010310 001407          BEQ      TSA57          ;BRANCH IF OK
010312 010367 170464   MOV      %3,      ANS1   ;STORE R3 FOR TYPING
010316 170200          STFPS   FPS          ;STORE FPS FOR TYPING
010320 170367 170476   STST    FEC          ;STORE FEC, FEA FOR TYPING
010324 104001          HLT+1                    ;R3 NOT EQUAL TO #ADR57
010326 000401          BR       .+4            ;SKIP STFPS

010330      000          TSA57:  STFPS   FPS          ;STORE FLOATING POINT STATUS
010330 170200          STST    FEC          ;STORE EXCEPTION CODES
010332 170367 170464   CMP      #147740,FPS    ;CHECK FLOATING POINT STATUS
010336 022700 147740   BEQ      .+4            ;BRANCH IF OK
010342 001401          HLT                    ;FPS NOT EQUAL TO 147740
010344 104000

010346 022767 000002 170446  CMP      #02,      FEC    ;CHECK FLOATING EXCEPTION CODE
010354 001401          BEQ      .+4            ;BRANCH IF OK
010356 104000          HLT                    ;FEC NOT EQUAL TO 02

010360 022767 010300 170436  CMP      #FPI57, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
010366 001401          BEQ      .+4            ;BRANCH IF OK
010370 104000          HLT                    ;FEA NOT EQUAL TO FPI57

010372 126727 170402 000057  CMPB    ICNT,      #57    ;CHECK FOR RIGHT TEST
010400 001401          BEQ      .+4            ;BRANCH IF OK
010402 104000          HLT                    ;PC JUMPED TESTS

```

```

*****
:TEST 60:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170074
:              FPS = 147740,      FEC = 02,      FEA = FPI60
*****

```

```

010404 104400          SCOPE
010406 000401          BR       TST60          ;SKIP DATA

010410 001002          ADR60:  ANS1

010412 170127 047740   TST60:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
010416 012704 010410   MOV      #ADR60, %4      ;SET UP R4
010422 170074          FPI60:  170074      ;ILLEGAL INSTRUCTION
010424 000000          HALT                    ;INDEX VALUE OF 0 GOT EXICUTED
010426 022704 010410   CMP      #ADR60, %4      ;CHECK R4
010432 001407          BEQ      TSA60          ;BRANCH IF OK
010434 010467 170342   MOV      %4,      ANS1   ;STORE R4 FOR TYPING
010440 170200          STFPS   FPS          ;STORE FPS FOR TYPING

```


010612	022767	000002	170202	CMP	#02,	FEC	:CHECK FLOATING EXCEPTION CODE
010620	001401			BEQ	+.4		:BRANCH IF OK
010622	104000			HLT			:FEC NOT EQUAL TO 02
010624	022767	010544	170172	CMP	#FPI61,	FEA	:CHECK FLOATING EXCEPTION ADDRESS
010632	001401			BEQ	+.4		:BRANCH IF OK
010634	104000			HLT			:FEA NOT EQUAL TO FPI61
010636	126727	170136	000061	CMPB	ICNT,	#61	:CHECK FOR RIGHT TEST
010644	001401			BEQ	+.4		:BRANCH IF OK
010646	104000			HLT			:PC JUMPED TESTS

```

*****
TEST 62:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
                ILLEGAL INSTRUCTION = 170076
                FPS = 147740,   FEC = 02,   FEA = FPI62
*****

```

010650	104400			SCOPE			
010652	000401			BR	TST62		:SKIP DATA
010654	001002			ADR62:	ANS1		
010656	170127	047740		TST62:	LDFPS	#047740	:LOAD FLOATING POINT STATUS
010662	010667	170116			MOV	%6,	ANS2
010666	170076			FPI62:	170076		:SAVE R6
010670	000000				HALT		:ILLEGAL INSTRUCTION
010672	020667	170106			CMP	%6	ANS2
010676	001411				BEQ	TSA62	ANS2
010700	010667	170076			MOV	%6,	ANS1
010704	016706	170074			MOV	ANS2,	%6
010710	170200				STFPS	FPS	:STORE R6 FOR TYPING
010712	170367	170104			STST	FEC	:RESTORE R6
010716	104002				HLT+2		:STORE FPS FOR TYPING
010720	000401				BR	+.4	:STORE FEC, FEA FOR TYPING
							:R6 (ANS1) NOT EQUAL TO ANS2
							:SKIP STFPS
010722	000			TSA62:	STFPS	FPS	:STORE FLOATING POINT STATUS
010722	170200				STST	FEC	:STORE EXCEPTION CODES
010724	170367	170072			CMP	#147740,FPS	:CHECK FLOATING POINT STATUS
010730	022700	147740			BEQ	+.4	:BRANCH IF OK
010734	001401				HLT		:FPS NOT EQUAL TO 147740
010736	104000						
010740	022767	000002	170054	CMP	#02,	FEC	:CHECK FLOATING EXCEPTION CODE
010746	001401			BEQ	+.4		:BRANCH IF OK
010750	104000			HLT			:FEC NOT EQUAL TO 02
010752	022767	010666	170044	CMP	#FPI62,	FEA	:CHECK FLOATING EXCEPTION ADDRESS
010760	001401			BEQ	+.4		:BRANCH IF OK
010762	104000			HLT			:FEA NOT EQUAL TO FPI62
010764	126727	170010	000062	CMPB	ICNT,	#62	:CHECK FOR RIGHT TEST
010772	001401			BEQ	+.4		:BRANCH IF OK

010774 104000

HLT

;PC JUMPED TESTS

```

*****
:TEST 63:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170077
:              FPS = 147740,   FEC = 02,   FEA = FPI63
*****

```

010776 104400
011000 000401

SCOPE
BR

TST63

;SKIP DATA

011002 001002

ADR63: ANS1

011004 170127 047740
011010 170077
011012 000000
011014 170200
011016 170367 170000
011022 022700 147740
011026 001401
011030 104000

TST63: LDFPS #047740
FPI63: 170077
HALT
STFPS FPS
STST FEC
CMP #147740,FPS
BEQ .+4
HLT

;LOAD FLOATING POINT STATUS
;ILLEGAL INSTRUCTION
;INDEX VALUE OF 0 GOT EXECUTED
;STORE FLOATING POINT STATUS
;STORE EXCEPTION CODES
;CHECK FLOATING POINT STATUS
;BRANCH IF OK
;FPS NOT EQUAL TO 147740

011032 022767 000002 167762
011040 001401
011042 104000

CMP #02, FEC
BEQ .+4
HLT

;CHECK FLOATING EXCEPTION CODE
;BRANCH IF OK
;FEC NOT EQUAL TO 02

011044 022767 011010 167752
011052 001401
011054 104000

CMP #FPI63, FEA
BEQ .+4
HLT

;CHECK FLOATING EXCEPTION ADDRESS
;BRANCH IF OK
;FEA NOT EQUAL TO FPI63

011056 126727 167716 000063
011064 001401
011066 104000

CMPB ICNT, #63
BEQ .+4
HLT

;CHECK FOR RIGHT TEST
;BRANCH IF OK
;PC JUMPED TESTS

```

*****
:TEST 64:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170406
:              FPS = 147740,   FEC = 02,   FEA = FPI64
*****

```

011070 104400
011072 000401

SCOPE
BR

TST64

;SKIP DATA

011074 001002

ADR64: ANS1

011076 170127 047740
011102 010667 167676
011106 170406
011110 020667 167670
011114 001411

TST64: LDFPS #047740
MOV %6, ANS2
FPI64: 170406
CMP %6, ANS2
BEQ TSA64

;LOAD FLOATING POINT STATUS
;SAVE R6
;ILLEGAL INSTRUCTION
;CHECK R6
;BRANCH IF OK


```

011116 010667 167660      MOV    %6,    ANS1    ;STORE R6 FOR TYPING
011122 016706 167656      MOV    ANS2,   %6     ;RESTORE R6
011126 170200                STFPS  FPS        ;STORE FPS FOR TYPING
011130 170367 167666      STST   FEC        ;STORE FEC, FEA FOR TYPING
011134 104002                HLT+2              ;R6 (ANS1) NOT EQUAL TO ANS2
011136 000401                BR     .+4         ;SKIP STFPS

011140      000                TSA64:
011140 170200                STFPS  FPS        ;STORE FLOATING POINT STATUS
011142 170367 167654      STST   FEC        ;STORE EXCEPTION CODES
011146 022700 147740      CMP    #147740, FPS ;CHECK FLOATING POINT STATUS
011152 001401                BEQ    .+4         ;BRANCH IF OK
011154 104000                HLT                    ;FPS NOT EQUAL TO 147740

011156 022767 000002 167636  CMP    #02,    FEC   ;CHECK FLOATING EXCEPTION CODE
011164 001401                BEQ    .+4         ;BRANCH IF OK
011166 104000                HLT                    ;FEC NOT EQUAL TO 02

011170 022767 011106 167626  CMP    #FPI64, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
011176 001401                BEQ    .+4         ;BRANCH IF OK
011200 104000                HLT                    ;FEA NOT EQUAL TO FPI64

011202 126727 167572 000064  CMPB   ICNT,   #64   ;CHECK FOR RIGHT TEST
011210 001401                BEQ    .+4         ;BRANCH IF OK
011212 104000                HLT                    ;PC JUMPED TESTS

```

```

*****
:TEST 65:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170407
:              FPS = 147740,   FEC = 02,   FEA = FPI65
*****

```

```

011214 104400                SCOPE
011216 000401                BR     TST65      ;SKIP DATA

011220 001002                ADR65: ANS1

011222 170127 047740      TST65: LDFPS  #047740 ;LOAD FLOATING POINT STATUS
011226 170407                FPI65: 170407 ;ILLEGAL INSTRUCTION
011230 170200                STFPS  FPS        ;STORE FLOATING POINT STATUS
011232 170367 167564      STST   FEC        ;STORE EXCEPTION CODES
011236 022700 147740      CMP    #147740, FPS ;CHECK FLOATING POINT STATUS
011242 001401                BEQ    .+4         ;BRANCH IF OK
011244 104000                HLT                    ;FPS NOT EQUAL TO 147740

011246 022767 000002 167546  CMP    #02,    FEC   ;CHECK FLOATING EXCEPTION CODE
011254 001401                BEQ    .+4         ;BRANCH IF OK
011256 104000                HLT                    ;FEC NOT EQUAL TO 02

011260 022767 011226 167536  CMP    #FPI65, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
011266 001401                BEQ    .+4         ;BRANCH IF OK
011270 104000                HLT                    ;FEA NOT EQUAL TO FPI65

```

011272	126727	167502	000065	CMPB	ICNT,	#65	;CHECK FOR RIGHT TEST
011300	001401			BEQ	.+4		;BRANCH IF OK
011302	104000			HLT			;PC JUMPED TESTS

```

*****
:TEST 66:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170506
:              FPS = 147740,   FEC = 02,   FEA = FPI66
*****

```

011304	104400			SCOPE			
011306	000401			BR	TST66		;SKIP DATA
011310	001002			ADR66:	ANS1		
011312	170127	047740		TST66:	LDFPS	#047740	;LOAD FLOATING POINT STATUS
011316	010667	167462			MOV	%6, ANS2	;SAVE R6
011322	170506			FPI66:	170506		;ILLEGAL INSTRUCTION
011324	020667	167454			CMP	%6, ANS2	;CHECK R6
011330	001411				BEQ	TSA66	;BRANCH IF OK
011332	010667	167444			MOV	%6, ANS1	;STORE R6 FOR TYPING
011336	016706	167442			MOV	ANS2, %6	;RESTORE R6
011342	170200				STFPS	FPS	;STORE FPS FOR TYPING
011344	170367	167452			STST	FEC	;STORE FEC, FEA FOR TYPING
011350	104002				HLT+2		;R6 (ANS1) NOT EQUAL TO ANS2
011352	000401				BR	.+4	;SKIP STFPS

011354	000			TSA66:	STFPS	FPS	;STORE FLOATING POINT STATUS
011354	170200				STST	FEC	;STORE EXCEPTION CODES
011356	170367	167440			CMP	#147740, FPS	;CHECK FLOATING POINT STATUS
011362	022700	147740			BEQ	.+4	;BRANCH IF OK
011366	001401				HLT		;FPS NOT EQUAL TO 147740
011370	104000						

011372	022767	000002	167422	CMP	#02,	FEC	;CHECK FLOATING EXCEPTION CODE
011400	001401			BEQ	.+4		;BRANCH IF OK
011402	104000			HLT			;FEC NOT EQUAL TO 02

011404	022767	011322	167412	CMP	#FPI66,	FEA	;CHECK FLOATING EXCEPTION ADDRESS
011412	001401			BEQ	.+4		;BRANCH IF OK
011414	104000			HLT			;FEA NOT EQUAL TO FPI66

011416	126727	167356	000066	CMPB	ICNT,	#66	;CHECK FOR RIGHT TEST
011424	001401			BEQ	.+4		;BRANCH IF OK
011426	104000			HLT			;PC JUMPED TESTS

```

*****
:TEST 67:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170507
:              FPS = 147740,   FEC = 02,   FEA = FPI67
*****

```



```

:*****
011430 104400          SCOPE
011432 000401          BR      TST67          ;SKIP DATA

011434 001002          ADR67:  ANSI

011436 170127 047740  TST67:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
011442 170507          FPI67:  170507      ;ILLEGAL INSTRUCTION
011444 170200          STFPS  FPS          ;STORE FLOATING POINT STATUS
011446 170367 167350  STST   FEC          ;STORE EXCEPTION CODES
011452 022700 147740  CMP    #147740,FPS  ;CHECK FLOATING POINT STATUS
011456 001401          BEQ    .+4          ;BRANCH IF OK
011460 104000          HLT                    ;FPS NOT EQUAL TO 147740

011462 022767 000002 167332  CMP    #02,   FEC      ;CHECK FLOATING EXCEPTION CODE
011470 001401          BEQ    .+4          ;BRANCH IF OK
011472 104000          HLT                    ;FEC NOT EQUAL TO 02

011474 022767 011442 167322  CMP    #FPI67, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
011502 001401          BEQ    .+4          ;BRANCH IF OK
011504 104000          HLT                    ;FEA NOT EQUAL TO FPI67

011506 126727 167266 000067  CMPB  ICNT,   #67     ;CHECK FOR RIGHT TEST
011514 001401          BEQ    .+4          ;BRANCH IF OK
011516 104000          HLT                    ;PC JUMPED TESTS

```

```

:*****
:TEST 70:          TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                  CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                  ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                  ILLEGAL INSTRUCTION = 170606
:                  FPS = 147740,   FEC = 02,   FEA = FPI70
:*****

```

```

011520 104400          SCOPE
011522 000401          BR      TST70          ;SKIP DATA

011524 001002          ADR70:  ANSI

011526 170127 047740  TST70:  LDFPS  #047740      ;LOAD FLOATING POINT STATUS
011532 010667 167246  MOV    %6,   ANS2    ;SAVE R6
011536 170606          FPI70:  170606      ;ILLEGAL INSTRUCTION
011540 020667 167240  CMP    %6,   ANS2    ;CHECK R6
011544 001411          BEQ    TSA70      ;BRANCH IF OK
011546 010667 167230  MOV    %6,   ANS1    ;STORE R6 FOR TYPING
011552 016706 167226  MOV    ANS2,  %6     ;RESTORE R6
011556 170200          STFPS  FPS          ;STORE FPS FOR TYPING
011560 170367 167236  STST   FEC          ;STORE FEC, FEA FOR TYPING
011564 104002          HLT+2          ;R6 (ANS1) NOT EQUAL TO ANS2
011566 000401          BR      .+4          ;SKIP STFPS

011570          000          TSA70:
011570 170200          STFPS  FPS          ;STORE FLOATING POINT STATUS
011572 170367 167224  STST   FEC          ;STORE EXCEPTION CODES

```


011576	022700	147740		CMP	#147740, FPS	:CHECK FLOATING POINT STATUS
011602	001401			BEQ	+.4	:BRANCH IF OK
011604	104000			HLT		:FPS NOT EQUAL TO 147740
011606	022767	000002	167206	CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
011614	001401			BEQ	+.4	:BRANCH IF OK
011616	104000			HLT		:FEC NOT EQUAL TO 02
011620	022767	011536	167176	CMP	#FPI70, FEA	:CHECK FLOATING EXCEPTION ADDRESS
011626	001401			BEQ	+.4	:BRANCH IF OK
011630	104000			HLT		:FEA NOT EQUAL TO FPI70
011632	126727	167142	000070	CMPB	ICNT, #70	:CHECK FOR RIGHT TEST
011640	001401			BEQ	+.4	:BRANCH IF OK
011642	104000			HLT		:PC JUMPED TESTS

```

:*****
:TEST 71:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170607
:              FPS = 147740,   FEC = 02,   FEA = FPI71
:*****

```

011644	104400			SCOPE		
011646	000401			BR	TST71	:SKIP DATA
011650	001002			ADR71:	ANS1	
011652	170127	047740		TST71:	LDFPS #047740	:LOAD FLOATING POINT STATUS
011656	170607			FPI71:	170607	:ILLEGAL INSTRUCTION
011660	170200				STFPS FPS	:STORE FLOATING POINT STATUS
011662	170367	167134			STST FEC	:STORE EXCEPTION CODES
011666	022700	147740			CMP #147740, FPS	:CHECK FLOATING POINT STATUS
011672	001401				BEQ +.4	:BRANCH IF OK
011674	104000				HLT	:FPS NOT EQUAL TO 147740
011676	022767	000002	167116	CMP	#02, FEC	:CHECK FLOATING EXCEPTION CODE
011704	001401			BEQ	+.4	:BRANCH IF OK
011706	104000			HLT		:FEC NOT EQUAL TO 02
011710	022767	011656	167106	CMP	#FPI71, FEA	:CHECK FLOATING EXCEPTION ADDRESS
011716	001401			BEQ	+.4	:BRANCH IF OK
011720	104000			HLT		:FEA NOT EQUAL TO FPI71
011722	126727	167052	000071	CMPB	ICNT, #71	:CHECK FOR RIGHT TEST
011730	001401			BEQ	+.4	:BRANCH IF OK
011732	104000			HLT		:PC JUMPED TESTS

```

:*****
:TEST 72:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170706
:*****

```

: FPS = 147740, FEC = 02, FEA = FPI72
:*****

```

011734 104400          SCOPE
011736 000401          BR      TST72      :SKIP DATA

011740 001002          ADR72: ANS1

011742 170127 047740    TST72: LDFPS  #047740    :LOAD FLOATING POINT STATUS
011746 010667 167032    MOV      %6,    ANS2    :SAVE R6
011752 170706          FPI72: 170706          :ILLEGAL INSTRUCTION
011754 020667 167024    CMP      %6,    ANS2    :CHECK R6
011760 001411          BEQ     TSA72      :BRANCH IF OK
011762 010667 167014    MOV      %6,    ANS1    :STORE R6 FOR TYPING
011766 016706 167012    MOV     ANS2,   %6      :RESTORE R6
011772 170200          STFPS   FPS       :STORE FPS FOR TYPING
011774 170367 167022    STST    FEC       :STORE FEC, FEA FOR TYPING
012000 104002          HLT+2
012002 000401          BR      .+4        :SKIP STFPS

012004 000          TSA72:
012004 170200          STFPS   FPS       :STORE FLOATING POINT STATUS
012006 170367 167010    STST    FEC       :STORE EXCEPTION CODES
012012 022700 147740    CMP     #147740,FPS  :CHECK FLOATING POINT STATUS
012016 001401          BEQ     .+4        :BRANCH IF OK
012020 104000          HLT
012022 022767 000002 166772    CMP     #02,    FEC     :CHECK FLOATING EXCEPTION CODE
012030 001401          BEQ     .+4        :BRANCH IF OK
012032 104000          HLT
012034 022767 011752 166762    CMP     #FPI72, FEA    :CHECK FLOATING EXCEPTION ADDRESS
012042 001401          BEQ     .+4        :BRANCH IF OK
012044 104000          HLT
012046 126727 166726 000072    CMPB   ICNT,   #72     :CHECK FOR RIGHT TEST
012054 001401          BEQ     .+4        :BRANCH IF OK
012056 104000          HLT
:PC JUMPED TESTS

```

```

:*****
:TEST 73:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 170707
:              FPS = 147740, FEC = 02, FEA = FPI73
:*****

```

```

012060 104400          SCOPE
012062 000401          BR      TST73      :SKIP DATA

012064 001002          ADR73: ANS1

012066 170127 047740    TST73: LDFPS  #047740    :LOAD FLOATING POINT STATUS
012072 170707          FPI73: 170707          :ILLEGAL INSTRUCTION
012074 170200          STFPS   FPS       :STORE FLOATING POINT STATUS

```

012076	170367	166720		STST	FEC		:STORE EXCEPTION CODES
012102	022700	147740		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
012106	001401			BEQ	+.4		:BRANCH IF OK
012110	104000			HLT			:FPS NOT EQUAL TO 147740
012112	022767	000002	166702	CMP	#02, FEC		:CHECK FLOATING EXCEPTION CODE
012120	001401			BEQ	+.4		:BRANCH IF OK
012122	104000			HLT			:FEC NOT EQUAL TO 02
012124	022767	012072	166672	CMP	#FPI73, FEA		:CHECK FLOATING EXCEPTION ADDRESS
012132	001401			BEQ	+.4		:BRANCH IF OK
012134	104000			HLT			:FEA NOT EQUAL TO FPI73
012136	126727	166636	000073	CMPB	ICNT, #73		:CHECK FOR RIGHT TEST
012144	001401			BEQ	+.4		:BRANCH IF OK
012146	104000			HLT			:PC JUMPED TESTS

```

:*****
:TEST 74:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 171006
:              FPS = 147740,   FEC = 02,   FEA = FPI74
:*****

```

012150	104400			SCOPE			
012152	000401			BR	TST74		:SKIP DATA
012154	001002			ADR74:	ANS1		
012156	170127	047740		TST74:	LDFPS #047740		:LOAD FLOATING POINT STATUS
012162	010667	166616		MOV	%5, ANS2		:SAVE R6
012166	171006			FPI74:	171006		:ILLEGAL INSTRUCTION
012170	020667	166610		CMP	%6, ANS2		:CHECK R6
012174	001411			BEQ	TSA74		:BRANCH IF OK
012176	010667	166600		MOV	%6, ANS1		:STORE R6 FOR TYPING
012202	016706	166576		MOV	ANS2, %6		:RESTORE R6
012206	170200			STFPS	FPS		:STORE FPS FOR TYPING
012210	170367	166606		STST	FEC		:STORE FEC, FEA FOR TYPING
012214	104002			HLT+2			:R6 (ANS1) NOT EQUAL TO ANS2
012216	000401			BR	+.4		:SKIP STFPS
012220	000			TSA74:			
012220	170200			STFPS	FPS		:STORE FLOATING POINT STATUS
012222	170367	166574		STST	FEC		:STORE EXCEPTION CODES
012226	022700	147740		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
012232	001401			BEQ	+.4		:BRANCH IF OK
012234	104000			HLT			:FPS NOT EQUAL TO 147740
012236	022767	000002	166556	CMP	#02, FEC		:CHECK FLOATING EXCEPTION CODE
012244	001401			BEQ	+.4		:BRANCH IF OK
012246	104000			HLT			:FEC NOT EQUAL TO 02
012250	022767	012166	166546	CMP	#FPI74, FEA		:CHECK FLOATING EXCEPTION ADDRESS
012256	001401			BEQ	+.4		:BRANCH IF OK


```

012260 104000          HLT          ;FEA NOT EQUAL TO FPI74
012262 126727 166512 000074  CMPB    ICNT,    #74    ;CHECK FOR RIGHT TEST
012270 001401          BEQ     .+4      ;BRANCH IF OK
012272 104000          HLT          ;PC JUMPED TESTS

```

```

:*****
:TEST 75:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 171007
:              FPS = 147740,   FEC = 02,   FEA = FPI75
:*****

```

```

012274 104400          SCOPE
012276 000401          BR      TST75      ;SKIP DATA

012300 001002          ADR75:  ANS1

012302 170127 047740  TST75:  LDFPS    #047740    ;LOAD FLOATING POINT STATUS
012306 171007          FPI75:  171007    ;ILLEGAL INSTRUCTION
012310 170200          STFPS    FPS      ;STORE FLOATING POINT STATUS
012312 170367 166504  STST    FEC      ;STORE EXCEPTION CODES
012316 022700 147740  CMP     #147740,FPS ;CHECK FLOATING POINT STATUS
012322 001401          BEQ     .+4      ;BRANCH IF OK
012324 104000          HLT          ;FPS NOT EQUAL TO 147740

012326 022767 000002 166466  CMP     #02,    FEC    ;CHECK FLOATING EXCEPTION CODE
012334 001401          BEQ     .+4      ;BRANCH IF OK
012336 104000          HLT          ;FEC NOT EQUAL TO 02

012340 022767 012306 166456  CMP     #FPI75, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
012346 001401          BEQ     .+4      ;BRANCH IF OK
012350 104000          HLT          ;FEA NOT EQUAL TO FPI75

012352 126727 166422 000075  CMPB    ICNT,    #75    ;CHECK FOR RIGHT TEST
012360 001401          BEQ     .+4      ;BRANCH IF OK
012362 104000          HLT          ;PC JUMPED TESTS

```

```

:*****
:TEST 76:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 171406
:              FPS = 147740,   FEC = 02,   FEA = FPI76
:*****

```

```

012364 104400          SCOPE
012366 000401          BR      TST76      ;SKIP DATA

012370 001002          ADR76:  ANS1

012372 170127 047740  TST76:  LDFPS    #047740    ;LOAD FLOATING POINT STATUS
012376 010667 166402  MOV     %6,    ANS2   ;SAVE R6

```

012402	171406			FPI76:	171406			: ILLEGAL INSTRUCTION
012404	020667	166374			CMP	%6	ANS2	: CHECK R6
012410	001411				BEQ	TSA76		: BRANCH IF OK
012412	010667	166364			MOV	%6	ANS1	: STORE R6 FOR TYPING
012416	016706	166362			MOV	ANS2,	%6	: RESTORE R6
012422	170200				STFPS	FPS		: STORE FPS FOR TYPING
012424	170367	166372			STST	FEC		: STORE FEC, FEA FOR TYPING
012430	104002				HLT+2			: R6 (ANS1) NOT EQUAL TO ANS2
012432	000401				BR	.+4		: SKIP STFPS
012434	000			TSA76:				
012434	170200				STFPS	FPS		: STORE FLOATING POINT STATUS
012436	170367	166360			STST	FEC		: STORE EXCEPTION CODES
012442	022700	147740			CMP	#147740,FPS		: CHECK FLOATING POINT STATUS
012446	001401				BEQ	.+4		: BRANCH IF OK
012450	104000				HLT			: FPS NOT EQUAL TO 147740
012452	022767	000002	166342		CMP	#02,	FEC	: CHECK FLOATING EXCEPTION CODE
012460	001401				BEQ	.+4		: BRANCH IF OK
012462	104000				HLT			: FEC NOT EQUAL TO 02
012464	022767	012402	166332		CMP	#FPI76,	FEA	: CHECK FLOATING EXCEPTION ADDRESS
012472	001401				BEQ	.+4		: BRANCH IF OK
012474	104000				HLT			: FEA NOT EQUAL TO FPI76
012476	126727	166276	000076		CMPB	ICNT,	#76	: CHECK FOR RIGHT TEST
012504	001401				BEQ	.+4		: BRANCH IF OK
012506	104000				HLT			: PC JUMPED TESTS

```

:*****
:TEST 77:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:              CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:              ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:              ILLEGAL INSTRUCTION = 171407
:              FPS = 147740,   FEC = 02,   FEA = FPI77
:*****

```

012510	104400				SCOPE			
012512	000401				BR	TST77		: SKIP DATA
012514	001002			ADR77:	ANS1			
012516	170127	047740		TST77:	LDFPS	#047740		: LOAD FLOATING POINT STATUS
012522	171407			FPI77:	171407			: ILLEGAL INSTRUCTION
012524	170200				STFPS	FPS		: STORE FLOATING POINT STATUS
012526	170367	166270			STST	FEC		: STORE EXCEPTION CODES
012532	022700	147740			CMP	#147740,FPS		: CHECK FLOATING POINT STATUS
012536	001401				BEQ	.+4		: BRANCH IF OK
012540	104000				HLT			: FPS NOT EQUAL TO 147740
012542	022767	000002	166252		CMP	#02,	FEC	: CHECK FLOATING EXCEPTION CODE
012550	001401				BEQ	.+4		: BRANCH IF OK
012552	104000				HLT			: FEC NOT EQUAL TO 02
012554	022767	012522	166242		CMP	#FPI77,	FEA	: CHECK FLOATING EXCEPTION ADDRESS

```

012562 001401      BEQ      .+4      ;BRANCH IF OK
012564 104000      HLT                ;FEA NOT EQUAL TO FPI77

012566 126727 166206 000077  CMPB    ICNT,    #77  ;CHECK FOR RIGHT TEST
012574 001401      BEQ      .+4      ;BRANCH IF OK
012576 104000      HLT                ;PC JUMPED TESTS

```

```

:*****
:TEST 100:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 172006
:                FPS = 147740,   FEC = 02,   FEA = FPI100
:*****

```

```

012600 104400      SCOPE
012602 000401      BR      TST100    ;SKIP DATA

012604 001002      ADR100: ANS1

012606 170127 047740  TST100: LDFPS    #047740  ;LOAD FLOATING POINT STATUS
012612 010667 166166  MOV      %6,    ANS2  ;SAVE R6
012616 172006      FPI100: MOV      172006  ;ILLEGAL INSTRUCTION
012620 020667 166160  CMP      %6,    ANS2  ;CHECK R6
012624 001411      BEQ      TSA100    ;BRANCH IF OK
012626 010667 166150  MOV      %6,    ANS1  ;STORE R6 FOR TYPING
012632 016706 166146  MOV      ANS2,   %6    ;RESTORE R6
012636 170200      STFPS    FPS      ;STORE FPS FOR TYPING
012640 170367 166156  STST    FEC      ;STORE FEC, FEA FOR TYPING
012644 104002      HLT+2
012646 000401      BR      .+4      ;SKIP STFPS

```

```

012650 000      TSA100: STFPS    FPS      ;STORE FLOATING POINT STATUS
012650 170200      STST    FEC      ;STORE EXCEPTION CODES
012652 170367 166144  CMP      #147740,FPS ;CHECK FLOATING POINT STATUS
012656 022700 147740  BEQ      .+4      ;BRANCH IF OK
012662 001401      HLT                ;FPS NOT EQUAL TO 147740
012664 104000

```

```

012666 022767 000002 166126  CMP      #02,    FEC  ;CHECK FLOATING EXCEPTION CODE
012674 001401      BEQ      .+4      ;BRANCH IF OK
012676 104000      HLT                ;FEC NOT EQUAL TO 02

```

```

012700 022767 012616 166116  CMP      #FPI100, FEA ;CHECK FLOATING EXCEPTION ADDRESS
012706 001401      BEQ      .+4      ;BRANCH IF OK
012710 104000      HLT                ;FEA NOT EQUAL TO FPI100

```

```

012712 126727 166062 000100  CMPB    ICNT,    #100 ;CHECK FOR RIGHT TEST
012720 001401      BEQ      .+4      ;BRANCH IF OK
012722 104000      HLT                ;PC JUMPED TESTS

```

```

:*****
:TEST 101:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:

```



```

:
: ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 172007
: FPS = 147740, FEC = 02, FEA = FPI101
:*****

```

```

012724 104400          SCOPE
012726 000401          BR      TST101          ;SKIP DATA

012730 001002          ADR101: ANS1

012732 170127 047740   TST101: LDFPS #047740      ;LOAD FLOATING POINT STATUS
012736 172007          FPI101: 172007          ;ILLEGAL INSTRUCTION
012740 170200          STFPS  FPS              ;STORE FLOATING POINT STATUS
012742 170367 166054   STST   FEC              ;STORE EXCEPTION CODES
012746 022700 147740   CMP    #147740,FPS      ;CHECK FLOATING POINT STATUS
012752 001401          BEQ    .+4              ;BRANCH IF OK
012754 104000          HLT                    ;FPS NOT EQUAL TO 147740

012756 022767 000002 166036  CMP    #02,   FEC      ;CHECK FLOATING EXCEPTION CODE
012764 001401          BEQ    .+4              ;BRANCH IF OK
012766 104000          HLT                    ;FEC NOT EQUAL TO 02

012770 022767 012736 166026  CMP    #FPI101, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
012776 001401          BEQ    .+4              ;BRANCH IF OK
013000 104000          HLT                    ;FEA NOT EQUAL TO FPI101

013002 126727 165772 000101  CMPB  ICNT, #101      ;CHECK FOR RIGHT TEST
013010 001401          BEQ    .+4              ;BRANCH IF OK
013012 104000          HLT                    ;PC JUMPED TESTS

```

```

:*****
: TEST 102: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:          CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:          ALSO TEST ALL ILLEGAL INSTRUCTIONS.
: ILLEGAL INSTRUCTION = 172406
: FPS = 147740, FEC = 02, FEA = FPI102
:*****

```

```

013014 104400          SCOPE
013016 000401          BR      TST102          ;SKIP DATA

013020 001002          ADR102: ANS1

013022 170127 047740   TST102: LDFPS #047740      ;LOAD FLOATING POINT STATUS
013026 010667 165752   MOV    %6,   ANS2      ;SAVE R6
013032 172406          FPI102: 172406          ;ILLEGAL INSTRUCTION
013034 020667 165744   CMP    %6,   ANS2      ;CHECK R6
013040 001411          BEQ    TSA102          ;BRANCH IF OK
013042 010667 165734   MOV    %6,   ANS1      ;STORE R6 FOR TYPING
013046 016706 165732   MOV    ANS2, %6        ;RESTORE R6
013052 170200          STFPS  FPS              ;STORE FPS FOR TYPING
013054 170367 165742   STST   FEC              ;STORE FEC, FEA FOR TYPING
013060 104002          HLT+2
013062 000401          BR      .+4              ;R6 (ANS1) NOT EQUAL TO ANS2
:SKIP STFPS

```

```

013064      000      TSA102:
013064      170200      STFPS      FPS      ;STORE FLOATING POINT STATUS
013066      170367      165730      STST      FEC      ;STORE EXCEPTION CODES
013072      022700      147740      CMP      #147740,FPS ;CHECK FLOATING POINT STATUS
013076      001401      BEQ      .+4      ;BRANCH IF OK
013100      104000      HLT      ;FPS NOT EQUAL TO 147740

013102      022767      000002      165712      CMP      #02,      FEC      ;CHECK FLOATING EXCEPTION CODE
013110      001401      BEQ      .+4      ;BRANCH IF OK
013112      104000      HLT      ;FEC NOT EQUAL TO 02

013114      022767      013032      165702      CMP      #FPI102, FEA ;CHECK FLOATING EXCEPTION ADDRESS
013122      001401      BEQ      .+4      ;BRANCH IF OK
013124      104000      HLT      ;FEA NOT EQUAL TO FPI102

013126      126727      165646      000102      CMPB     ICNT,      #102 ;CHECK FOR RIGHT TEST
013134      001401      BEQ      .+4      ;BRANCH IF OK
013136      104000      HLT      ;PC JUMPED TESTS

```

```

:*****
:TEST 103:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 172407
:                FPS = 147740,      FEC = 02,      FEA = FPI103
:*****

```

```

013140      104400      SCOPE
013142      000401      BR      TST103      ;SKIP DATA

013144      001002      ADR103: ANS1

013146      170127      047740      TST103: LDFPS     #047740 ;LOAD FLOATING POINT STATUS
013152      172407      FPI103: 172407 ;ILLEGAL INSTRUCTION
013154      170200      STFPS     FPS      ;STORE FLOATING POINT STATUS
013156      170367      165640      STST     FEC      ;STORE EXCEPTION CODES
013162      022700      147740      CMP     #147740,FPS ;CHECK FLOATING POINT STATUS
013166      001401      BEQ     .+4      ;BRANCH IF OK
013170      104000      HLT     ;FPS NOT EQUAL TO 147740

013172      022767      000002      165622      CMP     #02,      FEC      ;CHECK FLOATING EXCEPTION CODE
013200      001401      BEQ     .+4      ;BRANCH IF OK
013202      104000      HLT     ;FEC NOT EQUAL TO 02

013204      022767      013152      165612      CMP     #FPI103, FEA ;CHECK FLOATING EXCEPTION ADDRESS
013212      001401      BEQ     .+4      ;BRANCH IF OK
013214      104000      HLT     ;FEA NOT EQUAL TO FPI103

013216      126727      165556      000103      CMPB    ICNT,      #103 ;CHECK FOR RIGHT TEST
013224      001401      BEQ     .+4      ;BRANCH IF OK
013226      104000      HLT     ;PC JUMPED TESTS

```

```

:*****
:TEST 104:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION

```



```

013362 170127 047740      TST105: LDFPS      #047740      ;LOAD FLOATING POINT STATUS
013366 173007      FPI105: 173007      ;ILLEGAL INSTRUCTION
013370 170200      STFPS      FPS      ;STORE FLOATING POINT STATUS
013372 170367 165424      STST      FEC      ;STORE EXCEPTION CODES
013376 022700 147740      CMP      #147740,FPS ;CHECK FLOATING POINT STATUS
013402 001401      BEQ      .+4      ;BRANCH IF OK
013404 104000      HLT      ;FPS NOT EQUAL TO 147740

013406 022767 000002 165406      CMP      #02,      FEC      ;CHECK FLOATING EXCEPTION CODE
013414 001401      BEQ      .+4      ;BRANCH IF OK
013416 104000      HLT      ;FEC NOT EQUAL TO 02

013420 022767 013366 165376      CMP      #FPI105, FEA ;CHECK FLOATING EXCEPTION ADDRESS
013426 001401      BEQ      .+4      ;BRANCH IF OK
013430 104000      HLT      ;FEA NOT EQUAL TO FPI105

013432 126727 165342 000105      CMPB     ICNT,     #105 ;CHECK FOR RIGHT TEST
013440 001401      BEQ      .+4      ;BRANCH IF OK
013442 104000      HLT      ;PC JUMPED TESTS

```

```

:*****
:TEST 106:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 173406
:                FPS = 147740,      FEC = 02,      FEA = FPI106
:*****

```

```

013444 104400      SCOPE
013446 000401      BR      TST106      ;SKIP DATA

013450 001002      ADR106: ANS1

013452 170127 047740      TST106: LDFPS      #047740      ;LOAD FLOATING POINT STATUS
013456 010667 165322      MOV      %6,      ANS2      ;SAVE R6
013462 173406      FPI106: 173406      ;ILLEGAL INSTRUCTION
013464 020667 165314      CMP      %6,      ANS2      ;CHECK R6
013470 001411      BEQ      TSA106      ;BRANCH IF OK
013472 010667 165304      MOV      %6,      ANS1      ;STORE R6 FOR TYPING
013476 016706 165302      MOV      ANS2,     %6      ;RESTORE R6
013502 170200      STFPS     FPS      ;STORE FPS FOR TYPING
013504 170367 165312      STST     FEC      ;STORE FEC, FEA FOR TYPING
013510 104002      HLT+2    ;R6 (ANS1) NOT EQUAL TO ANS2
013512 000401      BR      .+4      ;SKIP STFPS

013514      000      TSA106:
013514 170200      STFPS     FPS      ;STORE FLOATING POINT STATUS
013516 170367 165300      STST     FEC      ;STORE EXCEPTION CODES
013522 022700 147740      CMP      #147740,FPS ;CHECK FLOATING POINT STATUS
013526 001401      BEQ      .+4      ;BRANCH IF OK
013530 104000      HLT      ;FPS NOT EQUAL TO 147740

013532 022767 000002 165262      CMP      #02,      FEC      ;CHECK FLOATING EXCEPTION CODE
013540 001401      BEQ      .+4      ;BRANCH IF OK
013542 104000      HLT      ;FEC NOT EQUAL TO 02

```

M05

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TEST OF STST AND ILLEGAL INSTRUCTIONS
TEST SECTION

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```
013544 022767 013462 165252      CMP      #FPI106, FEA      ;CHECK FLOATING EXCEPTION ADDRESS
013552 001401                      BEQ      .+4              ;BRANCH IF OK
013554 104000                      HLT                        ;FEA NOT EQUAL TO FPI106

013556 126727 165216 000106      CMPB     ICNT,  #106     ;CHECK FOR RIGHT TEST
013564 001401                      BEQ      .+4              ;BRANCH IF OK
013566 104000                      HLT                        ;PC JUMPED TESTS
```

```
*****
:TEST 107:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 173407
:                FPS = 147740,  FEC = 02,      FEA = FPI107
*****
```

```
013570 104400                      SCOPE
013572 000401                      BR      TST107          ;SKIP DATA

013574 001002                      ADR107: ANS1

013576 170127 047740      TST107: LDFPS  #047740   ;LOAD FLOATING POINT STATUS
013602 173407      FPI107: 173407   ;ILLEGAL INSTRUCTION
013604 170200      STFPS  FPS      ;STORE FLOATING POINT STATUS
013606 170367 165210      STST  FEC      ;STORE EXCEPTION CODES
013612 022700 147740      CMP      #147740, FPS   ;CHECK FLOATING POINT STATUS
013616 001401                      BEQ      .+4              ;BRANCH IF OK
013620 104000                      HLT                        ;FPS NOT EQUAL TO 147740

013622 022767 000002 165172      CMP      #02,  FEC      ;CHECK FLOATING EXCEPTION CODE
013630 001401                      BEQ      .+4              ;BRANCH IF OK
013632 104000                      HLT                        ;FEC NOT EQUAL TO 02

013634 022767 013602 165162      CMP      #FPI107, FEA   ;CHECK FLOATING EXCEPTION ADDRESS
013642 001401                      BEQ      .+4              ;BRANCH IF OK
013644 104000                      HLT                        ;FEA NOT EQUAL TO FPI107

013646 126727 165126 000107      CMPB     ICNT,  #107     ;CHECK FOR RIGHT TEST
013654 001401                      BEQ      .+4              ;BRANCH IF OK
013656 104000                      HLT                        ;PC JUMPED TESTS
```

```
*****
:TEST 110:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 174006
:                FPS = 147740,  FEC = 02,      FEA = FPI110
*****
```

```
013660 104400                      SCOPE
013662 000401                      BR      TST110          ;SKIP DATA

013664 001002                      ADR110: ANS1
```

```

013666 170127 047740      TST110: LDFPS  #047740      ;LOAD FLOATING POINT STATUS
013672 010667 165106      MOV        %6,    ANS2      ;SAVE R6
013676 174006      FPI110: 174006      ;ILLEGAL INSTRUCTION
013700 020667 165100      CMP        %6,    ANS2      ;CHECK R6
013704 001411      BEQ        TSA110      ;BRANCH IF OK
013706 010667 165070      MOV        %6,    ANS1      ;STORE R6 FOR TYPING
013712 016706 165066      MOV        ANS2,   %6      ;RESTORE R6
013716 170200      STFPS     FPS      ;STORE FPS FOR TYPING
013720 170367 165076      STST      FEC      ;STORE FEC, FEA FOR TYPING
013724 104002      HLT+2     ;R6 (ANS1) NOT EQUAL TO ANS2
013726 000401      BR        .+4      ;SKIP STFPS

013730      000      TSA110: STFPS     FPS      ;STORE FLOATING POINT STATUS
013730 170200      STST      FEC      ;STORE EXCEPTION CODES
013732 170367 165064      CMP        #147740,FPS    ;CHECK FLOATING POINT STATUS
013736 022700 147740      BEQ        .+4      ;BRANCH IF OK
013742 001401      HLT      ;FPS NOT EQUAL TO 147740
013744 104000

013746 022767 000002 165046      CMP        #02,    FEC      ;CHECK FLOATING EXCEPTION CODE
013754 001401      BEQ        .+4      ;BRANCH IF OK
013756 104000      HLT      ;FEC NOT EQUAL TO 02

013760 022767 013676 165036      CMP        #FPI110, FEA    ;CHECK FLOATING EXCEPTION ADDRESS
013766 001401      BEQ        .+4      ;BRANCH IF OK
013770 104000      HLT      ;FEA NOT EQUAL TO FPI110

013772 126727 165002 000110      CMPB      ICNT,   #110     ;CHECK FOR RIGHT TEST
014000 001401      BEQ        .+4      ;BRANCH IF OK
014002 104000      HLT      ;PC JUMPED TESTS

```

```

:*****
:TEST 111:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 174007
:                FPS = 147740,   FEC = 02,   FEA = FPI111
:*****

```

```

014004 104400      SCOPE
014006 000401      BR        TST111      ;SKIP DATA

014010 001002      ADR111: ANS1

014012 170127 047740      TST111: LDFPS  #047740      ;LOAD FLOATING POINT STATUS
014016 174007      FPI111: 174007      ;ILLEGAL INSTRUCTION
014020 170200      STFPS     FPS      ;STORE FLOATING POINT STATUS
014022 170367 164774      STST      FEC      ;STORE EXCEPTION CODES
014026 022700 147740      CMP        #147740,FPS    ;CHECK FLOATING POINT STATUS
014032 001401      BEQ        .+4      ;BRANCH IF OK
014034 104000      HLT      ;FPS NOT EQUAL TO 147740

014036 022767 000002 164756      CMP        #02,    FEC      ;CHECK FLOATING EXCEPTION CODE
014044 001401      BEQ        .+4      ;BRANCH IF OK

```



```

014046 104000 HLT ;FEC NOT EQUAL TO 02
014050 022767 014016 164746 CMP #FPI111, FEA ;CHECK FLOATING EXCEPTION ADDRESS
014056 001401 BEQ .+4 ;BRANCH IF OK
014060 104000 HLT ;FEA NOT EQUAL TO FPI111
014062 126727 164712 000111 CMPB ICNT, #111 ;CHECK FOR RIGHT TEST
014070 001401 BEQ .+4 ;BRANCH IF OK
014072 104000 HLT ;PC JUMPED TESTS

```

```

*****
:TEST 112: TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:          CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:          ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:          ILLEGAL INSTRUCTION = 174406
:          FPS = 147740, FEC = 02, FEA = FPI112
*****

```

```

014074 104400 SCOPE
014076 000401 BR TST112 ;SKIP DATA
014100 001002 ADR112: ANS1
014102 170127 047740 TST112: LDFPS #047740 ;LOAD FLOATING POINT STATUS
014106 010667 164672 MOV %6, ANS2 ;SAVE R6
014112 174406 FPI112: 174406 ;ILLEGAL INSTRUCTION
014114 020667 164664 CMP %6, ANS2 ;CHECK R6
014120 001411 BEQ TSA112 ;BRANCH IF OK
014122 010667 164654 MOV %6, ANS1 ;STORE R6 FOR TYPING
014126 016706 164652 MOV ANS2, %6 ;RESTORE R6
014132 170200 STFPS FPS ;STORE FPS FOR TYPING
014134 170367 164662 STST FEC ;STORE FEC, FEA FOR TYPING
014140 104002 HLT+2 ;R6 (ANS1) NOT EQUAL TO ANS2
014142 000401 BR .+4 ;SKIP STFPS

```

```

014144 000 TSA112: STFPS FPS ;STORE FLOATING POINT STATUS
014144 170200 STST FEC ;STORE EXCEPTION CODES
014146 170367 164650 CMP #147740, FPS ;CHECK FLOATING POINT STATUS
014152 022700 147740 BEQ .+4 ;BRANCH IF OK
014156 001401 HLT ;FPS NOT EQUAL TO 147740
014160 104000

```

```

014162 022767 000002 164632 CMP #02, FEC ;CHECK FLOATING EXCEPTION CODE
014170 001401 BEQ .+4 ;BRANCH IF OK
014172 104000 HLT ;FEC NOT EQUAL TO 02

```

```

014174 022767 014112 164622 CMP #FPI112, FEA ;CHECK FLOATING EXCEPTION ADDRESS
014202 001401 BEQ .+4 ;BRANCH IF OK
014204 104000 HLT ;FEA NOT EQUAL TO FPI112

```

```

014206 126727 164566 000112 CMPB ICNT, #112 ;CHECK FOR RIGHT TEST
014214 001401 BEQ .+4 ;BRANCH IF OK
014216 104000 HLT ;PC JUMPED TESTS

```

```
*****
:TEST 113:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 174407
:                FPS = 147740,   FEC = 02,   FEA = FPI113
*****
```

```
014220 104400          SCOPE
014222 000401          BR      TST113      :SKIP DATA

014224 001002          ADR113: ANS1

014226 170127 047740  TST113: LDFPS  #047740      :LOAD FLOATING POINT STATUS
014232 174407          FPI113: 174407      :ILLEGAL INSTRUCTION
014234 170200          STFPS  FPS          :STORE FLOATING POINT STATUS
014236 170367 164560  STST   FEC          :STORE EXCEPTION CODES
014242 022700 147740  CMP    #147740,FPS  :CHECK FLOATING POINT STATUS
014246 001401          BEQ    .+4          :BRANCH IF OK
014250 104000          HLT                    :FPS NOT EQUAL TO 147740

014252 022767 000002 164542  CMP    #02,   FEC      :CHECK FLOATING EXCEPTION CODE
014250 001401          BEQ    .+4          :BRANCH IF OK
014262 104000          HLT                    :FEC NOT EQUAL TO 02

014264 022767 014232 164532  CMP    #FPI113, FEA   :CHECK FLOATING EXCEPTION ADDRESS
014272 001401          BEQ    .+4          :BRANCH IF OK
014274 104000          HLT                    :FEA NOT EQUAL TO FPI113

014276 126727 164476 000113  CMPB   ICNT,   #113   :CHECK FOR RIGHT TEST
014304 001401          BEQ    .+4          :BRANCH IF OK
014306 104000          HLT                    :PC JUMPED TESTS
```

```
*****
:TEST 114:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 176006
:                FPS = 147740,   FEC = 02,   FEA = FPI114
*****
```

```
014310 104400          SCOPE
014312 000401          BR      TST114      :SKIP DATA

014314 001002          ADR114: ANS1

014316 170127 047740  TST114: LDFPS  #047740      :LOAD FLOATING POINT STATUS
014322 010667 164456  MOV    %6,   ANS2    :SAVE R6
014326 176006          FPI114: 176006      :ILLEGAL INSTRUCTION
014330 020667 164450  CMP    %6,   ANS2    :CHECK R6
014334 001411          BEQ    TSA114      :BRANCH IF OK
014336 010667 164440  MOV    %6,   ANS1    :STORE R6 FOR TYPING
014342 016706 164436  MOV    ANS2,  %6     :RESTORE R6
014346 170200          STFPS  FPS          :STORE FPS FOR TYPING
014350 170367 164446  STST   FEC          :STORE FEC, FEA FOR TYPING
```

```

014354 104002      HLT+2      ;R6 (ANS1) NOT EQUAL TO ANS2
014356 000401      BR          .+4      ;SKIP STFPS

014360      000      TSA114:
014360 170200      STFPS     FPS      ;STORE FLOATING POINT STATUS
014362 170367 164434 STST     FEC      ;STORE EXCEPTION CODES
014366 022700 147740 CMP      #147740,FPS ;CHECK FLOATING POINT STATUS
014372 001401      BEQ      .+4      ;BRANCH IF OK
014374 104000      HLT                      ;FPS NOT EQUAL TO 147740

014376 022767 000002 164416 CMP      #02,     FEC      ;CHECK FLOATING EXCEPTION CODE
014404 001401      BEQ      .+4      ;BRANCH IF OK
014406 104000      HLT                      ;FEC NOT EQUAL TO 02

014410 022767 014326 164406 CMP      #FPI114, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
014416 001401      BEQ      .+4      ;BRANCH IF OK
014420 104000      HLT                      ;FEA NOT EQUAL TO FPI114

014422 126727 164352 000114 CMPB     ICNT,    #114     ;CHECK FOR RIGHT TEST
014430 001401      BEQ      .+4      ;BRANCH IF OK
014432 104000      HLT                      ;PC JUMPED TESTS

```

```

*****
:TEST 115:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 176007
:                FPS = 147740,   FEC = 02,   FEA = FPI115
*****

```

```

014434 104400      SCOPE
014436 000401      BR          TST115     ;SKIP DATA

014440 001002      ADR115: ANS1

014442 170127 047740 TST115: LDFPS     #047740 ;LOAD FLOATING POINT STATUS
014446 176007 FPI115: 176007 ;ILLEGAL INSTRUCTION
014450 170200      STFPS     FPS      ;STORE FLOATING POINT STATUS
014452 170367 164344 STST     FEC      ;STORE EXCEPTION CODES
014456 022700 147740 CMP      #147740,FPS ;CHECK FLOATING POINT STATUS
014462 001401      BEQ      .+4      ;BRANCH IF OK
014464 104000      HLT                      ;FPS NOT EQUAL TO 147740

014466 022767 000002 164326 CMP      #02,     FEC      ;CHECK FLOATING EXCEPTION CODE
014474 001401      BEQ      .+4      ;BRANCH IF OK
014476 104000      HLT                      ;FEC NOT EQUAL TO 02

014500 022767 014446 164316 CMP      #FPI115, FEA     ;CHECK FLOATING EXCEPTION ADDRESS
014506 001401      BEQ      .+4      ;BRANCH IF OK
014510 104000      HLT                      ;FEA NOT EQUAL TO FPI115

014512 126727 164262 000115 CMPB     ICNT,    #115     ;CHECK FOR RIGHT TEST
014520 001401      BEQ      .+4      ;BRANCH IF OK
014522 104000      HLT                      ;PC JUMPED TESTS

```



```

*****
:TEST 116:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 177406
:                FPS = 147740,   FEC = 02,   FEA = FPI116
*****

```

```

014524 104400          SCOPE
014526 000401          BR      TST116          ;SKIP DATA

014530 001002          ADR116: ANS1

014532 170127 047740   TST116: LDFFS   #047740          ;LOAD FLOATING POINT STATUS
014536 010667 164242   MOV      %6,      ANS2          ;SAVE R6
014542 177406          FPI116: 177406          ;ILLEGAL INSTRUCTION
014544 020667 164234   CMP      %6,      ANS2          ;CHECK R6
014550 001411          BEQ     TSA116          ;BRANCH IF OK
014552 010667 164224   MOV      %6,      ANS1          ;STORE R6 FOR TYPING
014556 016706 164222   MOV      ANS2,    %6          ;RESTORE R6
014562 170200          STFPS   FPS          ;STORE FPS FOR TYPING
014564 170367 164232   STST    FEC          ;STORE FEC, FEA FOR TYPING
014570 104002          HLT+2  ;R6 (ANS1) NOT EQUAL TO ANS2
014572 000401          BR      .+4          ;SKIP STFPS

014574 000          TSA116:
014574 170200          STFPS   FPS          ;STORE FLOATING POINT STATUS
014576 170367 164220   STST    FEC          ;STORE EXCEPTION CODES
014602 022700 147740   CMP      #147740,FPS          ;CHECK FLOATING POINT STATUS
014606 001401          BEQ     .+4          ;BRANCH IF OK
014610 104000          HLT          ;FPS NOT EQUAL TO 147740

014612 022767 000002 164202   CMP      #02,     FEC          ;CHECK FLOATING EXCEPTION CODE
014620 001401          BEQ     .+4          ;BRANCH IF OK
014622 104000          HLT          ;FEC NOT EQUAL TO 02

014624 022767 014542 164172   CMP      #FPI116, FEA          ;CHECK FLOATING EXCEPTION ADDRESS
014632 001401          BEQ     .+4          ;BRANCH IF OK
014634 104000          HLT          ;FEA NOT EQUAL TO FPI116

014636 126727 164136 000116   CMPB    ICNT,    #116          ;CHECK FOR RIGHT TEST
014644 001401          BEQ     .+4          ;BRANCH IF OK
014646 104000          HLT          ;PC JUMPED TESTS

```

```

*****
:TEST 117:      TEST STST (STORE STATUS, I.E. FEC (FLOATING EXCEPTION
:                CODES) AND FEA (FLOATING EXCEPTION ADDRESS)).
:                ALSO TEST ALL ILLEGAL INSTRUCTIONS.
:                ILLEGAL INSTRUCTION = 177407
:                FPS = 147740,   FEC = 02,   FEA = FPI117
*****

```

```

014650 104400          SCOPE
014652 000401          BR      TST117          ;SKIP DATA

```

014654	001002			ADR117: ANS1			
014656	170127	047740		TST117: LDFPS	#047740		:LOAD FLOATING POINT STATUS
014662	177407			FPI117: 177407			:ILLEGAL INSTRUCTION
014664	170200			STFPS	FPS		:STORE FLOATING POINT STATUS
014666	170367	164130		STST	FEC		:STORE EXCEPTION CODES
014672	022700	147740		CMP	#147740,FPS		:CHECK FLOATING POINT STATUS
014676	001401			BEQ	.+4		:BRANCH IF OK
014700	104000			HLT			:FPS NOT EQUAL TO 147740
014702	022767	000002	164112	CMP	#02, FEC		:CHECK FLOATING EXCEPTION CODE
014710	001401			BEQ	.+4		:BRANCH IF OK
014712	104000			HLT			:FEC NOT EQUAL TO 02
014714	022767	014662	164102	CMP	#FPI117, FEA		:CHECK FLOATING EXCEPTION ADDRESS
014722	001401			BEQ	.+4		:BRANCH IF OK
014724	104000			HLT			:FEA NOT EQUAL TO FPI117
014726	126727	164046	000117	CMPB	ICNT, #117		:CHECK FOR RIGHT TEST
014734	001401			BEQ	.+4		:BRANCH IF OK
014736	104000			HLT			:PC JUMPED TESTS

014740	104400			DONE:	SCOPE		
014742	032737	002000	177570		BIT	#SW10, 2#SWR	: RING THE BELL?
014750	001005				1\$: NO!
014752	012767	000207	001242		MOV	#BELL, .TYPE	: TYPE A BELL
014760	000004	016222			TYPE	-.TYPE	
014764	005046			1\$:	CLR	-(6)	: CLEAR TRACE TRAP
014766	032737	010000	177570		BIT	#SW12, 2#SWR	: RUN WITH TRT?
014774	001010				BNE	2\$	
014776	005167	001222			COM	TRPB	
015002	100005				BPL	2\$	
015004	052716	000020			BIS	#20 (6)	: SET TRACE TRAP
015010	012746	001062			MOV	#BEGIN, -(6)	: JUMP TO START OF TEST
015014	000412				BR	YESRT	
015016	012746	001062		2\$:	MOV	#BEGIN, -(6)	: JUMP TO START OF TEST
015022	013700	000042			MOV	2#42, R0	: GET MONITOR ADDRESS
015026	001404				BEQ	3\$: IF NONE
015030	004710				JSR	7, (0)	: GO TO MONITOR
015032	000240				NOP		
015034	000240				NOP		
015036	000240				NOP		
015040	000002			3\$:	RTI		
015042	000002			YESRT:	RTI		: RETURN TO PROGRAM FROM TRAP
015044	032737	000400	177570	.EMT:	BIT	#SW08, 2#SWR	: KILL LDUB OR LOOP ON SPEC. TEST
015052	001404				BEQ	1\$	
015054	123767	177570	163716		CMPB	2#SWR, ICNT	: ON RIGHT TEST? *SW7-C*
015062	001437				BEQ	OVER	
015064	113703	177570		1\$:	MOVB	2#SWR, R3	: GET UB BITS
015070	170003				LDUB		
015072	032737	040000	177570		BIT	#SW14, 2#SWR	: LOOP ON TEST
015100	001026				BNE	KIT	
015102	032737	004000	177570		BIT	#SW11, 2#SWR	: KILL ITERATIONS
015110	001012				BNE	SAVLAD	
015112	105767	163663			TSTB	ICNT+1	
015116	001404				BEQ	2\$: BRANCH IF FIRST
015120	126767	001106	163653		CMPB	TIMES, ICNT+1	: DONE?
015126	001013				BNE	KIT	: BRANCH IF NOT
015130	112767	000001	163643	2\$:	MOVB	#1, ICNT+1	: FIRST ITERATION
015136	105267	163636		SAVLAD:	INCB	ICNT	: COUNT TEST NUMBERS
015142	011667	001060			MOV	(6), LAD	: SAVE LOOP ADDRESS
015146	016737	163626	177570		MOV	ICNT, 2#DISPLAY	: DISPLAY TEST NO. AND ITERATION COUNT
015154	000002				RTI		: RETURN
015156	105267	163617		KIT:	INCB	ICNT+1	
015162	016737	163612	177570	OVER:	MOV	ICNT, 2#DISPLAY	: SET UP DISPLAY
015170	005767	001032			TST	LAD	: FIRST ONE?
015174	001760				BEQ	SAVLAD	
015176	016716	001024			MOV	LAD, (6)	: FUDGE RETURN ADDRESS
015202	000002				RTI		: FIXES PS

015204	032737	002000	177570	.TRP:	BIT	#SW10,2#SWR	:BELL ON ERROR?
015212	001405				BEQ	1\$:NO - SKIP
015214	012767	000207	001000		MOV	#BELL,.TYPE	:TYPE A BELL
015222	000004	016222			TYPE	.TYPE	
015226	004767	000406		1\$:	JSR	PC,ERROR	:COUNT THE NUMBER OF ERRORS
015232	010446				MOV	R4,-(6)	
015234	032737	020000	177570		BIT	#SW13,2#SWR	:SKIP TIMEOUT IF SET
015242	001072				BNE	4\$	
015244	000004	016170			TYPE	RETURN	
015250	016646	000002			MOV	2(6),-(6)	:PUT ADDRESS OF INSTRUCTION ON STACK
015254	162716	000002			SUB	#2,(6)	
015260	011605				MOV	(6),TTY	:TYPE (6) IN OCTAL
015262	004767	000212			JSR	%7,PRINTR	:TYPE LEADING ZERO'S
015266	000004	016176			TYPE	SPACE+3	
015272	010005				MOV	R0,TTY	:TYPE R0 IN OCTAL
015274	004767	000200			JSR	%7,PRINTR	:TYPE LEADING ZERO'S
015300	000004	016177			TYPE	SPACE+4	
015304	012703	001002			MOV	#ANS1,R3	:ADDRESS OF DATA
015310	113604				MOVB	2(6)+,R4	:AMOUNT OF DATA IN TABLE
015312	001426				BEQ	3\$	
015314	100016				BPL	2\$:TYPE STACK?
015316	016667	000006	163456		MOV	6(6),ANS1	
015324	016667	000010	163452		MOV	10(6),ANS2	
015332	016667	000012	163446		MOV	12(6),ANS3	
015340	016667	000014	163442		MOV	14(6),ANS4	
015346	042704	177600			BIC	#177600,R4	:CLEAR SIGN
015352	000004	016177		2\$:	TYPE	SPACE+4	
015356	012305				MOV	(3)+,TTY	:TYPE (3)+ IN OCTAL
015360	004767	000114			JSR	%7,PRINTR	:TYPE LEADING ZERO'S
015364	005304				DEC	R4	
015366	001371				BNE	2\$	
015370	005700			3\$:	TST	FPS	
015372	100016				BPL	4\$	
015374	000004	016173			TYPE	SPACE	
015400	170367	163416			STST	FEC	
015404	016705	163412			MOV	FEC,TTY	:TYPE FEC IN OCTAL
015410	004767	000064			JSR	%7,PRINTR	:TYPE LEADING ZERO'S
015414	000004	016176			TYPE	SPACE+3	
015420	016705	163400			MOV	FEA,TTY	:TYPE FEA IN OCTAL
015424	004767	000050			JSR	%7,PRINTR	:TYPE LEADING ZERO'S
015430	012604			4\$:	MOV	(6)+,R4	
015432	005737	177570			TST	2#SWR	:HALT ON ERROR
015436	100001				BPL	+.4	:SKIP IF CONTINUE
015440	000000				HALT		:HALT ON ERROR!
015442	032737	001000	177570		BIT	#SW09,2#SWR	:CHECK FOR INHIBIT LOOP ON ERROR
015450	001001				BNE	+.4	:SKIP IF LOOP ON ERROR
015452	000002				RTI		
015454	105067	163321			CLRB	ICNT+1	
015460	032737	000400	177570		BIT	#SW08,2#SWR	:CHECK FOR LOAD MICROBREAK
015466	001233				KIT		:BRANCH IF NOT
015470	113703	177570			MOVB	2#SWR,R3	:PUT MICROBREAK ADDRESS IN R3
015474	170003				LDUB		:LOAD MICROBREAK
015476	000627				BR	KIT	:LOOP ON TEST UNTIL NO ERRORS

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015500 112767 000001 000130 PRINTR: MOVB #1,A4$ ;SET ZERO FILL SWITCH
015506 000402 BR .+6
015510 005067 000122 PRINTS: CLR A4$ ;SUPRESS LEADING ZERO'S
015514 112767 177772 000115 MOVB #-6,A4$+1 ;SET COUNT
015522 010446 MOV R4,-(6) ;SAVE R4
015524 012704 015626 MOV #3$,R4 ;SET POINTER TO FIRST ASCII CHAR.
015530 105014 CLRB (4) ;CLEAR FIRST BYTE
015532 000405 BR 2$ ;ROTATE FIRST BIT
015534 105014 1$: CLRB (4) ;CLEAR BYTE OF CHARACTER
015536 006105 ROL TTY ;ROTATE BIT INTO C
015540 106114 ROLB (4) ;PACK IT
015542 006105 ROL TTY ;ROTATE BIT INTO C
015544 106114 ROLB (4) ;PACK IT
015546 006105 2$: ROL TTY ;ROTATE BIT INTO C
015550 106114 ROLB (4) ;PACK IT
015552 105714 TSTB (4)
015554 001402 BEQ .+6
015556 105267 000054 INCB A4$
015562 105767 000050 TSTB A4$ ;CHECK FILL SWITCH
015566 001402 BEQ .+6
015570 152724 000060 BISB #'0,(4)+ ;MAKE INTO ASCII CHAR
015574 105267 000037 INCB A4$+1
015600 001355 BNE 1$ ;REPEAT
015602 022704 015626 CMP #3$,R4
015606 001002 BNE .+6
015610 112724 000060 MOVB #'0,(4)+
015614 105014 CLRB (4)
015616 000004 015626 TYPE ,3$ ;TYPE IT
015622 012604 MOV (6)+,R4 ;RESTORE R4
015624 000207 RTS PC

015626 000004 3$: .BLKW 4
015636 000000 A4$: 0

015640 005267 000364 ERROR: INC ERRORS ;COUNT ERRORS
015644 132737 000001 000041 BITB #1,2#41 ;AUTO MODE?
015652 001412 BEQ 1$ ;NO!
015654 022767 000010 000346 CMP #10,ERRORS ;TOO MANY?
015662 001006 BNE 1$ ;NOT YET
015664 013700 000042 MOV 2#42,RC ;GET ADDRESS
015670 001403 BEQ 1$ ;FORGET IT IF ZERO
015672 005037 000042 CLR 2#42 ;ZAP 42
015676 004710 JSR PC,(0) ;CALL THE MONITOR
015700 000207 1$: RTS PC ;RETURN
    
```

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015702 012777 016076 000306 POWDOWN: MOV #ILLUP, @UPVEC ;SET FOR FAST UP
015710 012777 000340 000302 MOV #340, @UPVEC+2 ;PRIO:7
015716 170246 STFPS -(6) ;GET THE FPS
015720 170011 SETD ;
015722 174046 STD ACO, -(6) ;SAVE AC'S
015724 174146 STD AC1, -(6)
015726 174246 STD AC2, -(6)
015730 174346 STD AC3, -(6)
015732 172404 LDD AC4, ACO
015734 174046 STD ACO, -(6)
015736 172405 LDD AC5, ACO
015740 174046 STD ACO, -(6)
015742 010046 MOV RO, -(6) ;SAVE REGISTERS
015744 010146 MOV R1, -(6)
015746 010246 MOV R2, -(6)
015750 010346 MOV R3, -(6)
015752 010446 MOV R4, -(6)
015754 010546 MOV R5, -(6)
015756 010667 000220 MOV SP, SAVE6 ;SAVE SP
015762 012777 015772 000226 MOV #POWUP, @UPVEC ;SET UP VECTOR
015770 000000 HALT

015772 016706 000204 POWUP: MOV SAVE6, SP ;GET SP
015776 005001 CLR R1 ;WAIT LOOP FOR THE TTY
016000 005201 1$: INC R1
016002 001376 BNE 1$
016004 012605 MOV (6)+, R5 ;GET THE REGISTERS
016006 012604 MOV (6)+, R4
016010 012603 MOV (6)+, R3
016012 012602 MOV (6)+, R2
016014 012601 MOV (6)+, R1
016016 012600 MOV (6)+, R0
016020 170011 SETD ;
016022 172426 LDD (6)+, ACO ;RESTORE THE AC'S
016024 174005 STD ACO, AC5
016026 172426 LDD (6)+, ACO
016030 174004 STD ACO, AC4
016032 172726 LDD (6)+, AC3
016034 172626 LDD (6)+, AC2
016036 172526 LDD (6)+, AC1
016040 172426 LDD (6)+, ACO
016042 170126 LDFPS (6)+ ;RESTORE FPS
016044 012777 015702 000140 MOV #POWDOWN, @DOWNVEC ;SET UP THE POWER DOWN VECTOR
016052 012777 000340 000134 MOV #340, @DOWNVEC+2
016060 000004 016064 TYPE ..+2 ;.ASCIZ <15><12>"POWER"
016074 000002 RTI

016076 000000 ILLUP: HALT ;THE POWER UP SEQUENCE WAS STARTED
016100 000776 BR .-2 ; BEFORE THE POWER DOWN WAS COMPLETE

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016102 010546          .IOT:  MOV    TTY,-(6)      ;SAVE TTY
016104 017605 000002  MOV    @2(6),TTY    ;GET ADDRESS TO BE TYPED
016110 105715          1$:    TSTB  (TTY)      ;TERMINATOR?
016112 001406          BEQ    2$
016114 112537 177566  MOVB  (TTY)+,@#177566 ;LOAD AND TYPE THE CHARACTER
016120 105737 177564  TSTB  @#177564      ;IS THE PRINTER READY
016124 100375          BPL    -4
016126 000770          BR     1$           ;GET THE NEXT CHARACTER
016130 017646 000002  2$:    MOV    @2(6),-(6) ;GET ADDRESS TO BE TYPED
016134 062766 000002 000004  ADD    #2,4(6)      ;ADD 2 TO THE ADDRESS
016142 022666 000002  CMP    (6)+,2(6)   ;IS IT .+2?
016146 001006          BNE    3$           ;NO
016150 062705 000002  ADD    #2,TTY      ;ADD 2 TO THE ADDRESS
016154 042705 000001  BIC    #1,TTY      ;BACK UP TO AN EVEN BYTE
016160 010566 000002  MOV    TTY,2(6)   ;RESTORE ADDRESS
016164 012605          3$:    MOV    (6)+,TTY   ;RESTORE TTY
016166 000002          RTI

016170 005015          000  RETURN: .ASCIZ <15><12> ;RETURN AND LINEFEED
016173      015 020012 020040 SPACE: .ASCIZ <15><12>" " ;RETURN AND 3 SPACES
016200      000

016202 016202          .EVEN
016204 000000          SAVE6: 0
016206 172160          FPTADR: 172160 ;FLOATING POINT ADDRESS ON THE 11/20
016212 000244 000246  FPVECT: 244,246 ;FLOATING POINT VECTOR ADDRESS
016216 000024 000026  DWNVEC: 24,26 ;POWER DOWN VECTOR ADDRESS
016222 000024 000026  UPVEC: 24,26 ;POWER UP VECTOR ADDRESS
016224 000000          .TYPE: 0
016226 000000          TRPB: 0
016230 000000          LAD: 0 ;LOOP ADDRESS
016232 000377          ERRORS: 0 ;ERROR COUNT
000001          TIMES: 377 ;ITERATION COUNT
          .END

```


1035*	1041*	1043	1079*	1085*	1087	1123*	1129*	1131	1167*	1173*	1175	1211*
1217*	1219	1255*	1261*	1263	1301*	1307*	1309	1342*	1344	1380*	1386*	1388
1424*	1430*	1432	1468*	1474*	1476	1512*	1518*	1520	1556*	1562*	1564	1600*
1606*	1608	1645*	1651*	1653	1689*	1695*	1697	1733*	1739*	1741	1777*	1783*
1785	1821*	1827*	1829	1865*	1871*	1873	1909*	1915*	1917	1955*	1961*	1963
2000*	2006*	2008	2045*	2051*	2053	2090*	2096*	2098	2135*	2141*	2143	2180*
2196*	2188	2225*	2231*	2233	2271*	2277*	2279	2312*	2314	2351*	2357*	2359
2396*	2402*	2404	2441*	2447*	2449	2486*	2492*	2494	2531*	2537*	2539	2576*
2582*	2584	2622*	2628*	2630	2663*	2665	2702*	2708*	2710	2742*	2744	2781*
2787*	2789	2821*	2823	2860*	2866*	2868	2900*	2902	2933*	2945*	2947	2973*
2981	3018*	3024*	3026	3058*	3060	3097*	3103*	3105	3137*	3139	3176*	3182*
3184	3216*	3218	3255*	3261*	3263	3295*	3297	3334*	3340*	3342	3374*	3376*
3413*	3419*	3421	3453*	3455	3492*	3498*	3500	3532*	3534	3571*	3577*	3579*
3611*	3613	3650*	3656*	3658	3690*	3692	3729*	3735*	3737	3769*	3771	3868
442	4006*	4007*										
456*	457*	490	494	498	502	526	534	538	542	546	570	578
578*	482	590	615	623	627	631	635	657	661	665	669	697
582	566	709	713	737	745	749	753	757	781	785	793	797
701	705	833	837	841	845	869	877	881	885	889	913	921
801	825	933	958	966	970	974	978	1001	1005	1009	1013	1021
925	929	1053	1057	1081	1089	1093	1097	1101	1125	1133	1137	1141
1045	1049	1177	1181	1185	1189	1213	1221	1225	1229	1233	1257	1261
1145	1169	1277	1303	1311	1315	1319	1323	1346	1350	1354	1358	1382
1269	1273	1398	1402	1426	1434	1438	1442	1446	1470	1478	1482	1486
1390	1394	1522	1526	1530	1534	1558	1566	1570	1574	1578	1602	1610
1490	1514	1622	1647	1655	1659	1663	1667	1691	1699	1703	1707	1711
1614	1618	1747	1751	1755	1779	1787	1791	1795	1799	1823	1831	1835
1735	1743	1867	1875	1879	1883	1887	1911	1919	1923	1927	1931	1935
1839	1843	1973	1977	2002	2010	2014	2018	2022	2047	2055	2059	2063
1965	1969	2100	2104	2108	2112	2137	2145	2149	2153	2157	2182	2186
2067	2092	2202	2227	2235	2239	2243	2247	2273	2281	2285	2289	2293
22194	22198	2324	2328	2353	2361	2365	2369	2373	2398	2406	2410	2414
2316	2320	2451	2455	2459	2463	2488	2496	2500	2504	2508	2533	2537
2418	2443	2553	2578	2586	2590	2594	2598	2624	2632	2636	2640	2644
2545	2549	2675	2679	2704	2712	2716	2720	2724	2746	2750	2754	2758
2667	2671	2795	2799	2803	2825	2829	2833	2837	2862	2870	2874	2878
2783	2791	2908	2912	2916	2941	2945	2953	2957	2961	2983	2987	2991
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2677	2722	3275	3309	3354	3388	3433	3467	3512	3546	3591	3636	3680
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TST55	010024	2385	2389#

H07

MAINDEC-11-DCFPB-B
DCFPBB.P11

TEST OF STST AND ILLEGAL INSTRUCTIONS
CROSS REFERENCE TABLE -- USER SYMBOLS

MACY11 27(732) 03-SEP-76 17:13 PAGE 96

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.TOT	016102	450	3983#			
.TRF	015204	452	3837#			
.TYPE	016222	3791*	3792	3839*	3840	4010#

MAINDEC-11-DCFPB-B TEST OF STST AND ILLEGAL INSTRUCTIONS
DCFPBB.P11 CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

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BIC
BISB
BIT
BITB
BNE
BPL
BR

CLR
CLRB
CMP

MAINDEC-11-DCFPB-B TEST OF STST AND ILLEGAL INSTRUCTIONS
DCFPBB.P11 CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

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	2483	2494	2498	2502	2528	2539	2543	2547	2573	2584	2588	2592	2618	2630	2634
	2638	2665	2669	2673	2698	2710	2714	2718	2744	2748	2752	2777	2789	2793	2797
	2823	2827	2831	2856	2868	2872	2876	2902	2906	2910	2935	2947	2951	2955	2981
	2985	2989	3014	3026	3030	3034	3060	3064	3068	3093	3105	3109	3113	3139	3143
	3147	3172	3184	3188	3192	3218	3222	3226	3251	3263	3267	3271	3297	3301	3305
	3330	3342	3346	3350	3376	3380	3384	3409	3421	3425	3429	3455	3459	3463	3488
	3500	3504	3508	3534	3538	3542	3567	3579	3583	3587	3613	3617	3621	3646	3658
	3662	3666	3692	3696	3700	3725	3737	3741	3745	3771	3775	3779	3913	3927	3993
CMPB	500	544	588	633	667	711	755	799	843	887	931	976	1011	1055	1099
	1143	1187	1231	1275	1321	1356	1400	1444	1488	1532	1576	1620	1665	1709	1753
	1797	1841	1885	1929	1975	2020	2065	2110	2155	2200	2245	2291	2326	2371	2416
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COM	3796														
DEC	3866														
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	2482	2527	2572	2617	2662	3880	3954	3981							
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	1771	1815	1859	1903	1947	1993	2038	2083	2128	2173	2218	2263	2309	2344	2389
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	3056	3090	3135	3169	3214	3248	3293	3327	3372	3406	3451	3485	3530	3564	3609
	3643	3688	3722	3767	3975										
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	774	778	818	822	862	866	906	910	950	954	955	1030	1034	1074	1078
	1118	1122	1162	1166	1206	1210	1250	1254	1294	1299	1300	1375	1379	1419	1423
	1463	1467	1507	1511	1551	1555	1595	1599	1639	1643	1644	1684	1688	1728	1732
	1772	1776	1816	1820	1860	1864	1904	1908	1948	1953	1954	1994	1999	2039	2044
	2084	2089	2129	2134	2174	2179	2219	2224	2264	2269	2270	2345	2350	2390	2395
	2435	2440	2480	2485	2525	2530	2570	2575	2615	2620	2621	2696	2700	2701	2775
	2779	2780	2854	2858	2859	2933	2937	2938	3012	3016	3017	3091	3095	3096	3170
	3174	3175	3249	3253	3254	3328	3332	3333	3407	3411	3412	3486	3490	3491	3565
	3569	3570	3644	3648	3649	3723	3727	3728	3791	3799	3801	3802	3827	3828	3832
	3835	3839	3842	3846	3848	3851	3854	3858	3859	3860	3861	3864	3872	3875	3877
	3894	3895	3918	3929	3934	3935	3946	3947	3948	3949	3950	3951	3952	3953	3956
	3960	3961	3962	3963	3964	3965	3976	3977	3983	3984	3991	3997	3998		
MOV B	3815	3825	3855	3887	3890	3893	3915	3987							
NOP	3805	3806	3807												
ROL	3899	3901	3903												
ROLB	3900	3902	3904												
RTI	421	3808	3809	3829	3836	3883	3979	3999							
RTS	3919	3933													
SETD	3937	3966													
STD	3938	3939	3940	3941	3943	3945	3968	3970							

STFPS	418	480	486	524	530	568	574	613	619	653	691	697	735	741	779
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	1129	1167	1173	1211	1217	1255	1261	1301	1307	1342	1380	1386	1424	1430	1468
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	1821	1827	1865	1871	1909	1915	1955	1961	2000	2006	2045	2051	2090	2096	2135
	2141	2180	2186	2225	2231	2271	2277	2312	2351	2357	2396	2402	2441	2447	2486
	2492	2531	2537	2576	2582	2622	2628	2663	2702	2708	2742	2781	2787	2821	2860
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	3656	3690	3729	3735	3769	3936									
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	786	824	830	868	874	912	918	957	963	998	1036	1042	1080	1086	1124
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	1822	1828	1866	1872	1910	1916	1956	1962	2001	2007	2046	2052	2091	2097	2136
	2142	2181	2187	2226	2232	2272	2278	2313	2352	2358	2397	2403	2442	2448	2487
	2493	2532	2538	2577	2583	2623	2629	2664	2703	2709	2743	2782	2788	2822	2861
	2867	2901	2940	2946	2980	3019	3025	3059	3098	3104	3138	3177	3183	3217	3256
	3262	3296	3335	3341	3375	3414	3420	3454	3493	3499	3533	3572	3578	3612	3651
	3657	3691	3730	3736	3770	3871									
SUB	3847														
TRAP	377														
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	565	566	573	574	576	588	607	608	609	618	621	633	652	653	655
	667	687	688	689	696	697	699	711	730	731	732	733	740	741	743
	755	774	775	776	777	784	785	787	799	819	820	821	828	829	831
	843	863	864	865	872	873	875	887	907	908	909	916	917	919	931
	950	951	952	961	964	976	995	997	999	1011	1030	1031	1032	1033	1040
	1041	1043	1055	1074	1075	1076	1077	1084	1085	1087	1099	1118	1119	1120	1121
	1128	1129	1131	1143	1162	1163	1164	1165	1172	1173	1175	1187	1206	1207	1208
	1209	1216	1217	1219	1231	1250	1251	1252	1253	1260	1261	1263	1275	1294	1296
	1297	1306	1309	1321	1340	1342	1344	1356	1376	1377	1378	1385	1386	1388	1400
	1419	1420	1421	1422	1429	1430	1432	1444	1463	1464	1465	1466	1473	1474	1476
	1488	1508	1509	1510	1517	1518	1520	1532	1552	1553	1554	1561	1562	1564	1576
	1596	1597	1598	1605	1606	1608	1620	1639	1640	1641	1650	1653	1665	1684	1685
	1686	1687	1694	1695	1697	1709	1728	1729	1730	1731	1738	1739	1741	1753	1772
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