KD11-K

PDP11/6X FP11E FP ADV.

MD-11-DQFPB-A

EP-DQFPB-A-DL-A

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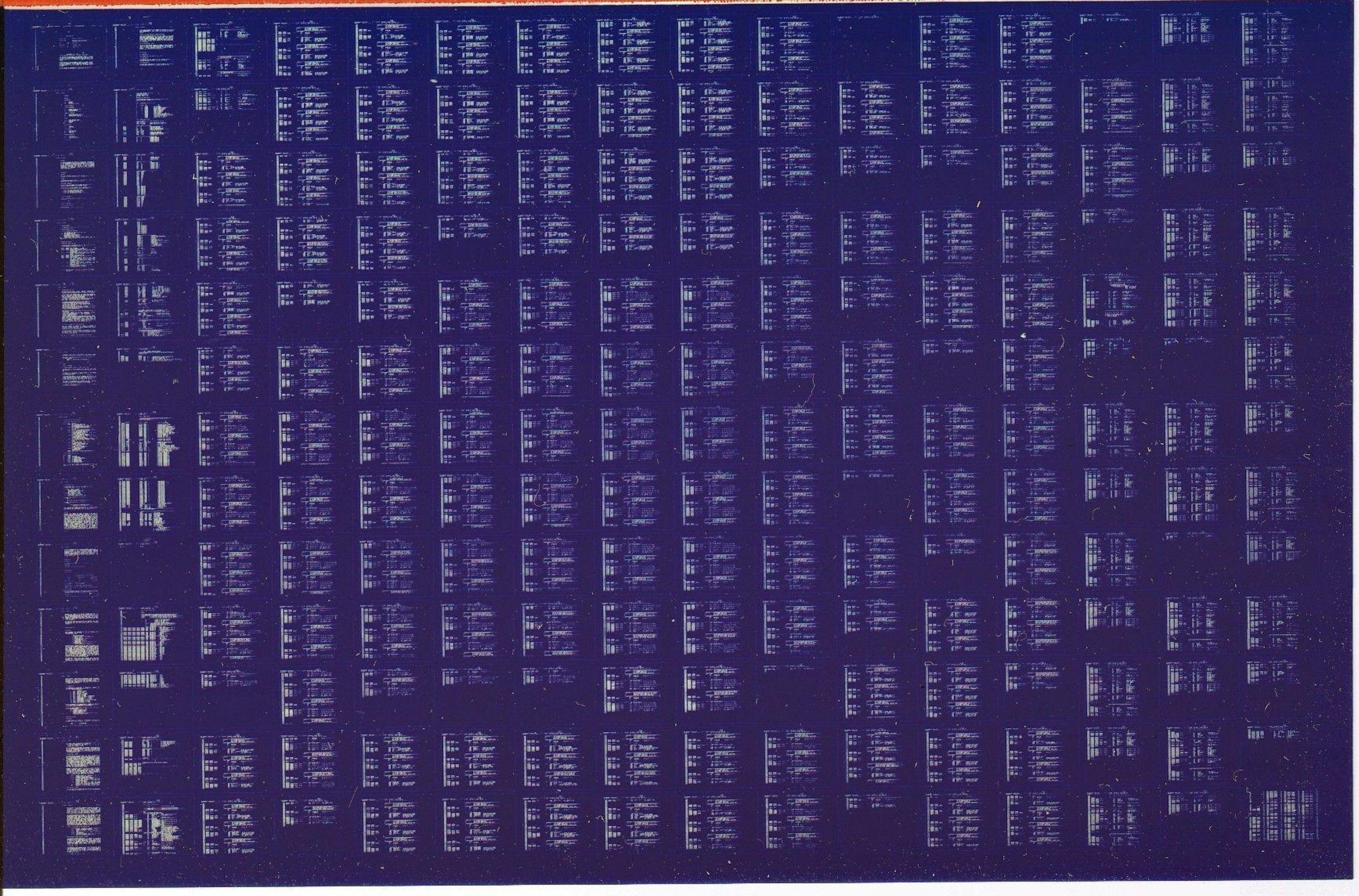

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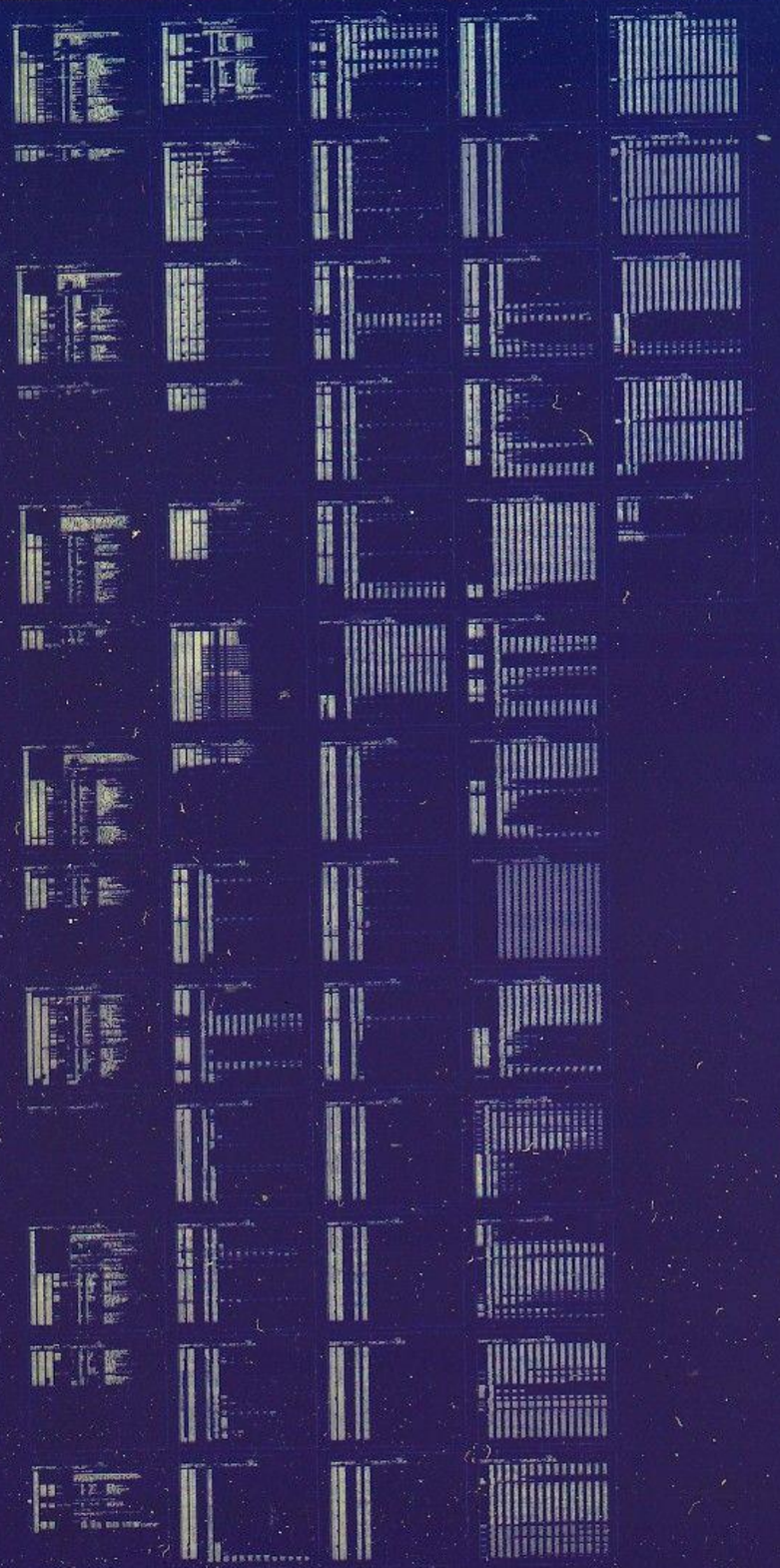

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IDENTIFICATION

PRODUCT CODE:	MAINDEC-11-DQFPB-A-D
PRODUCT NAME:	PDP-11/6X - FP11-E FLOATING POINT UNIT ADVANCED INSTRUCTION TESTS
DATE:	MARCH 1977
MAINTAINER:	DIAGNOSTIC GROUP
AUTHOR:	DONALD NORTH

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1. ABSTRACT

THIS PROGRAM EXTENDS THE TESTING OF INSTRUCTION FUNCTIONALITY TO THE REMAINDER OF THE PDP-11/6X FLOATING POINT INSTRUCTION SET NOT COVERED IN THE BASIC INSTRUCTION TESTS. FULL TESTING IN ALL PDP-11/6X FPU MODES OF ALL THE MULTIPLE OPERAND ARITHMETIC, COMPARISON, AND INTEGER TO FLOAT CONVERSION INSTRUCTIONS IS PERFORMED. BOTH "HOT" (FP11-E OPTION) AND "WARM" (PDP-11/6X MICROCODE) FLOATING POINT UNITS CAN BE SELECTED FOR TESTING.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP-11/6X STANDARD COMPUTER WITH MINIMUM 16K OF MEMORY.
OPTIONAL FP11-E FLOATING POINT UNIT, IF SELECTED.

2.2 STORAGE

THE PROGRAM USES MEMORY 0-46114(8). THE UPPER 2.0K WORDS ARE RESERVED FOR THE XXDP MONITOR, IF EMPLOYED.

2.3 PRELIMINARY PROGRAMS

THE CPU, CACHE, AND MEMORY TEST PROGRAMS MUST BE RUN FIRST TO VERIFY THE CORRECT OPERATION OF THE BASE MACHINE.

THE PDP-11/6X - FP11-E FLOATING POINT PROCESSOR INSTRUCTION SET TESTS SHOULD THEN BE RUN IN THE FOLLOWING ORDER:

(1) DQFPA FPU BASIC INSTRUCTION TESTS
(2) DQFPB FPU ADVANCED INSTRUCTION TESTS
(3) DQFPC FPU INSTRUCTION EXERCISER
(4) DQFPD FPU ADD/SUB/MUL/DIV RANDOM EXERCISER

3. LOADING PROCEDURE

USE THE STANDARD PROCEDURE FOR ABSOLUTE TAPES, OR LOAD VIA XXDP MEDIA.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

SEE SECTION 5.1
SWITCH REGISTER (000000) IS WORST CASE TEST.

4.2 STARTING ADDRESS

THE PROGRAM MUST ALWAYS BE STARTED AT LOCATION 200(8).

4.3 PROGRAM/OPERATOR ACTION

LOADING VIA ABSOLUTE PAPERTAPE:

(1) LOAD PROGRAM INTO MEMORY USING ABS LOADER.
(2) LOAD ADDRESS 200 (8).
(3) SET SWITCHES (SEE SECTION 5.1)
SR=(000000) IS WORST CASE TEST.
(4) PRESS CONTROL/START TO BEGIN.
(5) PROGRAM TYPES IDENTIFICATION HEADER (VERIFY THAT THE CORRECT PROGRAM HAS BEEN LOADED!), AND EXECUTION BEGINS.

5. OPERATING PROCEDURE

5.1 OPERATIONAL SWITCH SETTINGS

THE DEFINITION OF THE SPECIFIC BITS IN THE SWITCH REGISTER (EITHER HARDWARE OR SOFTWARE) ARE AS FOLLOWS:

SW15=1	100000	HALT ON ERROR
SW14=1	040000	LOOP ON CURRENTLY EXECUTING TEST
SW13=1	020000	INHIBIT ERROR TYPEOUTS (WHICH IS AN "ERROR MESSAGE" RESULTING FROM AN ERROR DETECTED IN THE HARDWARE)
SW12=1	010000	INHIBIT STATUS TYPEOUTS (WHICH IS A NON-ERROR RELATED INFORMATIVE MESSAGE, SUCH AS "END PASS #XXX")
SW11=1	004000	INHIBIT ITERATIONS PER TEST
SW10	002000	SET=BELL ON ERROR/CLEAR=BELL ON PASS END
SW09=1	001000	LOOP ON ERROR
SW08=1	000400	LOOP ON TEST NUMBER IN "$LPTST" IF SET, THEN THE TEST SPECIFIED BY THE TEST NUMBER CONTAINED IN THE MEMORY WORD "$LPTST" (SEE PROGRAM LISTING) WILL SPECIFY THE DESIRED TEST ON WHICH TO LOOP.
SW01	000002	CLEAR=TEST HOT-FP/WARM-FP ALTERNATELY EACH PASS (IE, PASS#1 HFP, PASS#1 WFP, PASS#2 HFP, PASS#2 WFP, ETC) SET=TEST ONLY UNIT SPECIFIED IN SW00
SW00	000001	SET=SELECT WARM FP, IF SW01=1 CLEAR=SELECT HOT FP, IF SW01=1

NOTE FOR SW01, SW00 - IF NO HOT FP (FP11-E) IS PRESENT, THEN WARM FP (PDP-11/6X MICROCODE) IS AUTOMATICALLY SELECTED.

5.2 PROGRAM/OPERATOR ACTION

ONCE EXECUTION HAS BEGUN, MINIMAL OPERATOR INTERVENTION IS REQUIRED, UNLESS THE PROGRAM DETECTS AN ERROR IN THE HARDWARE.

IF ALL IS WELL, THE PROGRAM TYPES ITS NAME UPON BEGINNING; AND AT THE START OF EACH PASS, THE CURRENT PASS NUMBER (IN OCTAL) IS ECHOED. NOTE THAT SETTING SW<12>=1 WILL INHIBIT THE TYPEOUT OF THE BEGIN AND END PASS MESSAGES.
IF SW<10>=0, THE CONSOLE BELL WILL BE RUNG AT THE END OF EACH PASS. NOTE THAT ONLY SW<10> AFFECTS THE BELL RINGING AT END OF PASS - SW<12> HAS NO EFFECT ON THIS FUNCTION.

IF AN ERROR OCCURS DURING EXECUTION, MANY VARIATIONS IN ACTION ARE POSSIBLE DEPENDING UPON THE SWITCH SETTINGS.
SW<15>=1 WILL CAUSE THE CPU TO HALT AFTER AN ERROR.
SW<13>=1 WILL ALSO INHIBIT ANY ERROR MESSAGE TYPEOUT THAT WOULD OCCUR AT THIS TIME.
SW<10>=1 WILL CAUSE THE CONSOLE BELL TO BE RUNG ONLY WHEN AN ERROR IS DETECTED (AND NOT AT THE END OF A PASS).
SW<9>=1 CAUSES THE PROGRAM TO LOOP ON THE MOST RECENT ERROR, AS LONG AS IT CONTINUES TO OCCUR.

THERE ARE ALSO SEVERAL OTHER GENERAL USE FUNCTIONS DEFINED BY THE SWITCHES:
SW<11>=1 WILL INHIBIT THE ITERATIONS (=2000(10)) PERFORMED OF EACH TEST ON PASSES 2,3,4, ... THRU THE PROGRAM.
SW<14>=1 CAUSES THE PROGRAM TO LOOP INDEFINATELY ON THE CURRENTLY EXECUTING TEST.
SW<8>=1 CAUSES THE PROGRAM TO CONTINUE EXECUTION AS NORMAL, EXCEPT WHEN THE CONTENTS OF MEMORY WORD "$LPTST" MATCHES THE NUMBER OF THE TEST CURRENTLY EXECUTING. AT THIS POINT, THE TEST IS LOOPED ON INDEFINATELY, UNTIL EITHER SW<8>=0 OR "$LPTST" IS CHANGED. NOTE THAT IF "$LPTST" DOES NOT MATCH THE TEST NUMBER OF ANY TEST, THE CONTENTS OF "$LPTST" ARE EFFECTIVELY IGNORED, AND EXECUTION PROCEEDS NORMALLY.

5.3 HOT (FP11-E) / WARM (PDP-11/6X) SELECTION

WHEN THE PROGRAM IS STARTED (AT 200(8)), A MESSAGE IS OPTIONALLY PRINTED INDICATING THE PRESCENCE/ABSCENCE OF AN FP11-E HOT FLOATING POINT UNIT OPTION (BASED UPON WHETHER "WHAMI" BIT<04> IS 1/0 RESPECTIVELY).

IF NO FP11-E HOT FP OPTION IS PRESENT, THE MESSAGE IS TYPED, AND ANY ATTEMPTS TO SELECT IT FOR TESTING VIA SW01 AND SW00 ARE IGNORED. ONLY WARM FP (PDP-11/6X MICROCODE) FLOATING POINT CAN BE TESTED/SELECTED.

IF THE FP11-E IS PRESENT, TEST SELECTION IS AS FOLLOWS:

WHEN SW01=0, THE HOT AND WARM FLOATING POINT UNITS ARE TESTED

ALTERNATELY EACH PASS - IN THE ORDER (1) HOT, THEN (2) WARM.
NOTE THAT EACH "PASS" NOW CONSISTS OF TWO SEPARATE SUB-PASSES.

WHEN SW01=1, THEN DEDICATED SELECTION OF A PARTICULAR UNIT IS SPECIFIED IN SW00:

SW00=0 --> TEST HFP FP11-E OPTION ONLY
SW00=1 --> TEST WFP PDP-11/6X MICROCODE ONLY

6. ERRORS

6.1 FORMAT OF MESSAGES

6.1.1 ALL ERROR MESSAGES CONSIST OF THREE LINES OF DATA:

THE FIRST LINE IS A BRIEF MESSAGE WHICH EXPLAINS WHAT ERROR WAS DETECTED (EG, THE RESULT OF THE "ABSF" INSTRUCTION WAS BAD).

THE PREFIX "HOT:" OR "WARM:" IS ALSO ATTACHED TO THE MESSAGE TO INDICATE THE SOURCE OF THE ERROR; THE FP11-E UNIT OR THE PDP-11/6X RESPECTIVELY.

THE SECOND LINE CONSISTS OF DATA HEADERS TO IDENTIFY THE VALUES TYPED OUT ON LINE THREE. THESE HEADERS WILL EITHER BE OF THE FORM "EXPECTED" AND "RECEIVED" DATA, OR WILL BE A MNEMONIC NAME OF A WORD LOCATION IN MEMORY OR REGISTERS.

THE THIRD LINE DISPLAYS THE CONTENTS OF THE LOCATIONS SPECIFIED BY LINE TWO AS SIX DIGIT OCTAL NUMBERS. NOTE THAT ALL DATA DISPLAYED IN ANY MESSAGES ARE OCTAL NUMBERS.

AS EXPLAINED IN SECTION 5.2, SETTING SW<13>=1 WILL SUPPRESS THE TYPING OF THESE MESSAGES.

6.1.2 FLOATING POINT UNIT DATA FORMATS:

FLOATING POINT STATUS WORD (FPS):

BIT##	OCTAL	FUNCTION
15	100000	FER - FLOATING ERROR FLAG SET WHEN EITHER FIUV, FIU, FIV, FIC ENABLED AND APPROPRIATE EXCEPTION OCCURRED.
14	040000	FID - FLOATING DISABLE INTERRUPTS NO FP INTERRUPTS TO VECTOR 244(8) IF SET.
13, 12		NOT USED
11	004000	FIUV - FLOATING UNDEFINED VARIABLE INTERRUPT IF SET, (-0) MEMORY DATA IS ERROR
10	002000	FIU - FLOATING INTR UNDERFLOW IF SET AND UNDERFLOW, SET FER, STORE ANSWER, EXPONENT WRONG BY +400(8) IF CLEAR AND UNDERFLOW, ANSWER <-- ZERO
9	001000	FIV - FLOATING OVERFLOW INTERRUPT IF SET AND OVERFLOW, SET FER, STORE ANSWER, EXPONENT WRONG BY -400(8) IF CLEAR AND OVERFLOW, ANSWER <-- ZERO
8	000400	FIC - FLOATING INTEGER CONVERSION INTERRUPT IF SET AND "STCFI" ERROR, ANSWER <-- ZERO, SET ERROR IF CLEAR AND "STCFI" ERROR, ANSWER <-- ZERO
7	000200	FD - FLOATING MODE 1=DOUBLE, 64 BIT OPERANDS (4W) 0=SINGLE, 32 BIT OPERANDS (2W)
6	000100	FL - INTEGER MODE 1=LONG, 32 BIT INTEGERS (2W) 0=SHORT, 16 BIT INTEGERS (1W)
5	000040	FT - ROUND/TRUNCATE MODE 1=TRUNCATE RESULTS 0=ROUND RESULTS
4	000020	FMM - PUT FP11-E ONLY IN MAINTENANCE MODE
3:0	000017	FN-FZ-FV-FC - FLOATING CONDITION CODES

FLOATING EXCEPTION CODES (FEC):

OCTAL	ENABLE	
00	(NONE)	(NOT USED)
02	(NONE)	FP OPCODE ERROR
04	(NONE)	FP DIVIDE-BY-ZERO ERROR
06	W/FIC	FP INTEGER CONVERSION ERROR
10	W/FIV	FP OVERFLOW ERROR
12	W/FIU	FP UNDERFLOW ERROR
14	W/FIUV	FP UNDEFINED-VARIABLE/(-0) ERROR
16	W/FMM	FP MAINTENANCE TRAP

NOTE - IN "FEC" CODE TYPEOUTS IN ERROR MESSAGES ONLY THE LOW ORDER BYTE IS USED - IGNORE THE PROGRAM FLAG BIT IN THE UPPER BYTE.

```
                        FLOATING POINT DATA:

                        IN FLOAT MODE (FD=0), IS 2-16.  BIT WORDS, 32.  BITS
                        IN DOUBLE MODE (FD=1), IS 4-16.  BIT WORDS, 64.  BITS

                        FIRST WORD:  (BOTH F, D MODES)
                                B15=SIGN OF NUMBER (1/-, 0/+)
                                B14:07=EXPONENT, 8.BITS, FROM -128./+127.
                                B06:00=FRACTION, 7.BITS
                        SECOND WORD:  (BOTH F, D MODES)
                                B15:00=FRACTION, 16.BITS
                        THIRD, FOURTH WORDS:  (ONLY D MODE)
                                B15:00, B15:00=FRACTION, 32. BITS

                        IN F MODE, THE COMPOSITE 24. BIT FRACTION
                        IS FORMED BY:

                                .1*[WORD1-BIT<06:00>]*[WORD2-BIT<15:00>]

                        IN D MODE, THE COMPOSITE 56. BIT FRACTION
                        IS FORMED BY:

                                .1*[WORD1-BIT<06:00>]*[WORD2-BIT<15:00>]
                                        *[WORD3-BIT<15:00>]*[WORD4-BIT<15:00>]

                        FOR A MORE DETAILED OPERATION/EXPLANATION  OF  FLOATING  POINT
                        DATA  FORMATS  AND  OPERATIONS,  SEE  THE  PDP-11/6X PROCESSOR
                        HANDBOOK SECTION ON THE FLOATING POINT INSTRUCTION SET.


                6.2     RECOVERY

                        RECOVERY  FROM  ERRORS  HAS  BEEN  ATTEMPTED  TO  BE  MADE  AS
                        AUTOMATIC AND EFFORTLESS AS POSSIBLE.  HOWEVER, IN MANY CASES,
                        DUE TO THE NATURE OF THE ERROR, THE PROGRAM MAY  NOT  EVEN  BE
                        ABLE  TO BE RUN (EG, IF THE FLOATING POINT MODULE IS IN A HUNG
                        STATE, AND CAN NEVER ENTER THE READY STATE TO ACCEPT A NEW FPP
                        INSTRUCTION).   AT THIS POINT, SOLVING THE PROBLEM IS A DIRECT
                        FUNCTION OF THE OPERATORS INGENUITY.  THIS  TEST  SERIES  HAS
                        BEEN  DESIGNED  TO  TEST  THE FLOATING POINT PROCESSOR SO THAT
                        THESE TYPES OF FAILURES TO RUN WILL  BE  MINIMAL.   THE  TESTS
                        HAVE  BEEN PLACED IN A SPECIFICALLY STRUCTURED SEQUENCE IN THE
                        PROGRAM TO IMPLEMENT THIS STRATEGY:  TESTING  THE  MOST  BASIC
                        ELEMENTS   FIRST,   PROCEEDING   UPWARD  IN  COMPLEXITY  AFTER
                        ESTABLISHING THEIR CORRECT  OPERATION.   THIS  IS  WHY  IT  IS
                        EXTREMELY  IMPORTANT  THAT THE FLOATING POINT TEST PROGRAMS BE
                        (1) RUN IN THE PRESCRIBED ORDER, AND (2) ONLY  BE  STARTED  AT
                        THEIR  BEGINNING  ADDRESS  (USUALLY 200(8)).  THE PROGRAM WILL
                        DISPLAY, AT AN ERROR, THE MOST PERTINENT INFORMATION  RELATING
                        TO THE ERROR, AND A BRIEF EXPLANATION OF THE FAILING FUNCTION.


                6.3     CAUSES
```

THESE TEST PROGRAMS ARE NOT HARDWARE ORIENTED, AND AS SUCH IT IS NOT POSSIBLE TO CALL OUT PARTICULAR HARDWARE AREAS AND MODULES RELATING TO A GIVEN FUNCTIONAL FAILURE. HARDWARE DIAGNOSIS FOR A PARTICULAR MACHINE MUST BE DONE USING THE APPROPRIATE ENGINEERING ROM FLOWS AND PRINTS, ALONG WITH THE KNOWN FUNCTIONAL ERRORS (AS DETECTED BY THE PROGRAMS). THIS IS THE INTENT UNDER WHICH THESE INSTRUCTION TESTS WERE DESIGNED AND CODED.

7. RESTRICTIONS

7.1 STARTING

THE PROGRAM MUST BE STARTED AT LOCATION 200(8) ALWAYS.

7.2 OPERATIONAL

THERE ARE NO OPERATIONAL RESTRICTIONS.

8. MISCELLANEOUS

8.1 EXECUTION TIME

	AVERAGE EXECUTION TIME PER PASS	
MODEL	SHORTEST PASS	LONGEST PASS
PDP-11/6X	1 SEC	3 MIN:00 SEC
PDP-11/6X W/FP11-E	1 SEC	X MIN:XX SEC

SEC = SECONDS / MIN = MINUTES

SHORTEST PASS ::= NO ITERATIONS, USING SWR=(004000)

LONGEST PASS ::= 2000(10) ITERATIONS/TEST, USING SWR=(000000)

8.2 STACK POINTER

THE STACK POINTER IS SET TO 1100(8) AT THE START OF EACH PASS. IF ALL IS OPERATING CORRECTLY, IT SHOULD ALSO BE THIS VALUE AT THE START OF EACH TEST, AND AT THE END OF A PASS.

8.3 POWER FAIL

THE TESTS MAY BE POWER FAILED AT ANY TIME. SPURIOUS ERROR

MESSAGES MAY OCCUR IF THE FAILURE OCCURRED WHILE THE F.P.U. WAS EXECUTING A FUNCTION, AS NONE OF ITS REGISTERS (FPS, FEC, FEA, ACCUMULATORS) ARE SAVED IN THE EVENT OF A POWER FAILURE. HOWEVER, THESE MESSAGES SHOULD ONLY OCCUR ONCE (IF AT ALL) IMMEDIATELY AFTER POWER IS RESTORED. WHEN POWER IS RESTORED, "POWER" IS TYPED ON THE CONSOLE AND EXECUTION CONTINUES WHERE IT WAS INTERRUPTED.

NOTE THAT THE "VOLATILE" SWITCH REGISTER CONTENTS ARE SAVED AND RESTORED FROM THE STACK IN A POWER FAIL SEQUENCE; THEREFORE THE SWITCH REGISTER SETTINGS SHOULD NOT BE LOST OVER A POWER FAIL.

9. PROGRAM DESCRIPTION

9.1 ORGANIZATION

THESE PROGRAMS ARE ORGANIZED AS MUCH AS POSSIBLE IN A STRAIGHTFORWARD, LINEAR MANNER. THE MAIN BODY OF CODE IS STRUCTURED AS FOLLOWS:

(1) INITIALIZATION ROUTINE
    - SETS UP VECTORS, TYPES HEADER, ETC.
(2) MAIN BODY OF TESTS
    - INLINE TEST CODE, INLINE TEST CALLS
(3) END OF PASS ROUTINE
    - END OF PASS PROCESSING
(4) TEST SUBROUTINES
    - SUBROUTINES CONTAINING COMMON TEST CODE
(5) OVERHEAD ROUTINES
    - SERVICE SUBROUTINES (TYPEOUT,ETC.)

WHEREVER FEASIBLE, COMMON SECIONS OF CODE FOR WIDELY USED FUNCTIONS ARE CONDENSED INTO SUBROUTINES TO CONSERVE MEMORY. THIS INCLUDES NOT ONLY STANDARD SERVICE ROUTINES (SUCH AS SCOPE, ERROR, AND ASCII TYPEOUT), BUT ALSO TESTING ROUTINES WHICH PERFORM VERY SIMILAR FUNCTIONS. THUS IN MANY CASES (THE "ADDF" INSTRUCTION TESTING, FOR EXAMPLE) A SINGLE BODY OF CODE (A SUBROUTINE) IS USED TO PERFORM ALL THE FUNCTIONAL TESTS, WITH A VARIABLE PARAMETER LIST PASSED AT EACH CALL CONTAINING THE DATA OPERANDS AND EXPECTED RESULT FOR EACH INDIVIDUAL TEST. THIS CONSTRUCTION FACILITATES THE ADDITION/DELETION OF TESTS (SHOULD THAT EVER BE NECESSARY), AND ALSO GREATL CONSERVES MEMORY SPACE REQUIREMENTS WHEN A LARGE NUMBER OF CALLS TO A GIVEN BODY OF CODE ARE REQUIRED.

THE INDIVIDUAL TESTS WITHIN EACH PROGRAM HAVE ALSO BEEN SEQUENCED IN A PARTICULAR ORDER TO FACILITATE THE DETECTION AND RESOLUTION OF ERRORS AS QUICKLY AS POSSIBLE. EACH OF THE TESTS BEGINS AS SIMPLY AS POSSIBLE, FIRST TESTING THE MOST

BASIC ELEMENTS. MORE COMPLEX ELEMENTS ARE TESTED AFTERWARDS, EMPLOYING A PHILOSOPHY THAT THE SIMPLER THE TEST, THE BETTER THE RESOLUTION. ALL FUNCTIONS ARE EVENTUALLY TESTED, BUT HOPEFULLY MOST ERRORS WILL BE CAUGHT AND CORRECTED EARLY. A MUCH MORE DETAILED ANALYSIS OF THE SEQUENCE OF TESTS PERFORMED IS PRESENTED IN SECTION 9.2.

9.2 TEST DESCRIPTION

THIS DIAGNOSTIC IS STRUCTURED TO SEQUENTIALLY PERFORM THE FOLLOWING SERIES OF TESTS ON THE FUNCTIONALITY OF THE FLOATING POINT DUAL OPERAND INSTRUCTIONS:

(1) 'CMP-' COMPARE, F/D MODES
(2) 'ADD-' ADD, F/D MODES
(3) 'SUB-' SUBTRACT, F/D MODES
(4) 'MUL-' MULTIPLY, F/D MODES
(5) 'DIV-' DIVIDE, F/D MODES
(6) 'MOD-' MODULO, F/D MODES, 2 ACCUMULATORS
(7) 'MOD-' MODULO, F/D MODES, 1 ACCUMULATOR
(8) 'LDC--' LOAD-CONVERT, F <-> D MODES
(9) 'STC--' STORE-CONVERT, F <-> D MODES
(10) 'LDC--' LOAD-CONVERT, I-F/I-D/L-F/L-D MODES
(11) 'STC--' STORE-CONVERT, F-I/D-I/F-L/D-L MODES
(12) 'LDEXP' LOAD EXPONENT, F/D MODES
(13) 'STEXP' STORE EXPONENT, F/D MODES

EACH OF THE ABOVE TESTS IS PERFORMED BY A SUBROUTINE SPECIFIC TO THE INSTRUCTION; AN ARGUMENT LIST IS PASSED CONTAINING THE INITIAL DATA, EXPECTED RESULTS/STATUS/EXCEPTIONS.

EACH OF THE ABOVE INSTRUCTIONS IS TESTED IN (WHEN APPLICABLE) THE FOLLOWING INSTANCES:

(A) FLOATING(F)/DOUBLE(D) MODES
(B) INTEGER(I)/LONG(L) MODES
(C) ROUND(R)/TRUNCATE(T) MODES
(D) EXCEPTION CONDITIONS:
OVERFLOW,UNDERFLOW,-0,DIVIDE/0,INTEGER-CONVERT
(ENABLED AND DISABLED MODES)

9.3 SUBROUTINE ABSTRACTS

9.3.1 TRAPCATCHER

THE TRAPCATCHER IS A SERIES OF INSTRUCTIONS OCCUPYING THE INTERRUPT VECTOR AREA OF MEMORY. IT CONSISTS OF THE SEQUENCE:

```
.WORD   .+2     ;PC AFTER TRAP
.WORD   0       ;PS AFTER TRAP
```

PLACED AT EACH VECTOR ADDRESS IN LOCATIONS 4-776(8) OF MEMORY.

THE FIRST WORD OF EACH PAIR ("PC AFTER TRAP") POINTS TO THE SECOND WORD, WHICH SERVES A DUAL PURPOSE AS (1) THE NEW LOADED PS (ALL ZEROS), AND (2) THE NEXT INSTRUCTION TO EXECUTE (0=HALT).

WHEN THE PROGRAM IS EXECUTING, ANY REQUIRED VECTORS ARE SET UP IN THE VECTOR AREA WITH APPROPRIATE VALUES; THE OTHERS BEING LEFT IN THE "TRAPCATCHER" STATE. THUS, IF AN UNEXPECTED TRAP EVER OCCURS IN THE MACHINE, IT WILL BE CAUGHT, AND THE MACHINE SUBSEQUENTLY HALTED, DISPLAYING THE VECTOR ADDRESS * PLUS FOUR * IN THE ADDRESS LIGHTS.

9.3.2 SCOPE ROUTINE - $SCOPE

THE SCOPE ROUTINE IS ENTERED FROM THE FIRST INSTRUCTION OF EACH TEST IN THE PROGRAM. (NOTE THAT BY DEFINITION, A "TEST" WILL BE DESIGNATED AS THE SECTION OF CODE BETWEEN TWO "SCOPE" STATEMENTS.) THIS ROUTINE PROVIDES THE OVERHEAD CODE NECESSARY TO IMPLEMENT SEVERAL OF THE SWITCH REGISTER CONTROL OPTIONS. UPON ENTRANCE TO A TEST, THE SCOPE STATEMENT AT THE BEGINNING SETS UP CERTAIN LOCATIONS (SEE BELOW) TO SPECIFY THE CURRENT TEST NUMBER AND LOOPING ADDRESS (FOR ITERATIONS). CONTROL IS THEN PASSED TO THE ACTUAL TEST CODE, PERFORMING THE DESIRED TEST. UPON EXIT, THE SCOPE STATEMENT OF THE NEXT TEST IS ENTERED, WHICH DETERMINES WHETHER TO (1) LOOP BACK TO THE PREVIOUS TEST (EG, FOR ITERATIONS) OR (2) INITIALIZE FOR THE NEXT TEST (AS DESCRIBED EARLIER, ABOVE).

ENTRANCE TO THE SCOPE ROUTINE IS VIA AN "IOT" TRAP CALL THROUGH LOCATION 20(8). (FROM THE SCOPE=IOT EQUATE). DEPENDING UPON THE SWITCH SETTINGS (SEE 5.2), CODE IS PRESENT TO: LOAD THE FP11 MICRO BREAK REGISTER, LOOP ON THE CURRENTLY EXECUTING TEST, LOOP ON A SPECIFIC TEST, PERFORM ITERATIONS OF EACH TEST, AND SET UP ADDRESSES FOR POSSIBLE LOOPING ON ERRORS. IMPORTANT VALUES USED IN THIS ROUTINE ARE:

- $MXCNT - MAXIMUM NUMBER OF ITERATIONS PER TEST (GENERALLY WILL BE 2000(10))
- $TSTNM - A COUNTER INDICATING THE NUMBER (1-377(8)) OF THE TEST CURRENTLY BEING EXECUTED
- $LPADR - CONTAINS THE ADDRESS TO WHICH THE SCOPE ROUTINE 10200 WILL LOOP, IF THE CURRENT TEST IS BEING LOOPED UPON
- $LPERR - CONTAINS THE ADDRESS TO WHICH THE ERROR ROUTINE (SEE 9.3.3) WILL LOOP, IF AN ERROR OCCURS AND THE LOOPING ON AN ERROR OPTION IS SPECIFIED IN THE SWITCHES. SET UP BY SCOPE, GENERALLY WILL BE THE SAME AS $LPADR, ABOVE.

9.3.3 ERROR ROUTINE - $ERROR

THE ERROR ROUTINE IS ENTERED WHEN THE TEST CODE HAS DETERMINED THAT AN ERROR HAS OCCURRED AS PART OF A TEST. THROUGH USE OF

THIS ROUTINE, THE TEST HAS A MEANS OF SIGNALING AN ERROR TO THE 10380 OPERATOR/MONITOR; AND IMPLEMENTING THE CONTROL FUNCTIONS FOR HALTING ON ERROR, BELL ON ERROR, AND LOOPING ON ERROR. IN ADDITION, THE ERROR ROUTINE HAS THE PROVISION TO TYPE OUT ON THE OPERATOR'S CONSOLE A MESSAGE BRIEFLY EXPLAINING THE ERROR, AND SOME OF THE MOST PERTINENT DATA VALUES TO HELP DIAGNOSE THE CAUSE (SEE SECTION 6.2).

THE CALLING MECHANISM IS SIMILAR TO THAT EMPLOYED FOR THE SCOPE ROUTINE (VIA A TRAP), EXCEPT IN THIS INSTANCE, THE "EMT" INSTRUCTION IS USED, TRAPPING THROUGH LOCATION 30(8). (NOTE THE EQUATE ERROR N=EMT N). THE LOWER BYTE OF THE EMT INSTRUCTION IS CAPABLE OF TRANSMITTING A NUMBER FROM 0-377(8), WHICH WILL BE TERMED THE "ERROR ITEM NUMBER." THIS NUMBER DETERMINES WHICH ERROR MESSAGE, AND ASSOCIATED DATA VALUES WILL BE TYPED OUT WHEN A PARTICULAR ERROR IS SIGNALED. IF THIS NUMBER IS ZERO, JUST THE PC OF THE CALLING "ERROR" INSTRUCTION WILL BE TYPED, OTHERWISE, THE NUMBER IS USED AS AN INDEX THROUGH THE ERROR TABLE ($ERRTB) TO FIND THE APPROPRIATE VALUES TO TYPE (SEE PROGRAM LISTING FOR FURTHER DETAILS).

IMPORTANT VALUES USED IN THIS ROUTINE ARE:

- EREG0 THRU EREG7 - CONTENTS OF GENERAL REGISTERS R0 THRU R7 JUST BEFORE ERROR CALL
- $ERTTL - COMULATIVE NUMBER OF ERRORS ENCOUNTERED TO DATE
- $ERRPC - CONTAINS THE PC OF THE "ERROR" INSTRUCTION JUST EXECUTED
- $LPERR - CONTAINS THE ADDRESS WHICH WILL BE LOOPED UPON FOR THE ERROR LOOPING FACILITY

9.3.4 ERROR MESSAGE TYPEOUT ROUTINE - $TYPERR

THIS ROUTINE ($TYPERR ENTRY POINT) IS CALLED BY THE ERROR PROCESSING ROUTINE DESCRIBED IN 9.3.3 ABOVE. ITS PURPOSE IS TO IMPLEMENT THE ERROR MESSAGE/DATA VALUE ERROR TYPEOUT FACILITY. THE SUBROUTINE WILL, GIVEN THE INDEXING BYTE FROM THE ERROR CALL INSTRUCTION, PICK UP THE CORRECT ERROR MESSAGE VECTOR FROM $ERRTB (ERROR TABLE), AND TYPE OUT THE ERROR MESSAGE, DATA HEADER, AND DATA VALUES ON THE CONSOLE.

9.3.5 TYPE ROUTINE - $TYPE

THIS ROUTINE IS THE STANDARD SYSTEM TYPEOUT ROUTINE FOR ASCII SINGLE-CHARACTER-PER-BYTE STRINGS. IT IS CALLED THROUGH A TRAP INSTRUCTION WITH THE NEXT WORD CONTAINING THE ADDRESS OF THE FIRST CHARACTER IN THE STRING. TYPING TERMINATES WHEN AN ALL-ZERO BYTE IS FOUND. HORIZONTAL TAB STOPS ARE ALSO AUTOMATICALLY PLACED.

9.3.6 OCTAL NUMBER TYPE ROUTINE - $TYPOC

THIS ROUTINE CONVERTS THE TOP NUMBER ON THE STACK TO A 6-DIGIT OCTAL REPRESENTATION, AND TYPES IT ON THE CONSOLE USING THE TYPE ROUTINE $TYPE. SEE LISTING FOR OPTIONS AND FURTHER DETAILS.

9.3.7 POWER UP AND DOWN ROUTINES - $PWRUP AND $PWRDN

THESE TWO ROUTINES ARE ENTERED FOR THE POWER UP AND DOWN CONDITIONS, RESPECTIVELY. THE POWER DOWN ROUTINE ($PWRDN) SAVES THE GENERAL REGISTERS AND STACK POINTER. THE POWER UP ROUTINE ($PWRUP) CORRESPONDINGLY RESTORES THE REGISTERS, STACK POINTER, AND TYPES THE MESSAGE "POWER" WHEN POWER IS RESTORED. THE VOLATILE INTERNAL SWITCH REGISTER IS ALSO SAVED/RESTORED BY THIS ROUTINE.

9.3.8 END OF PASS ROUTINE - $EOP

THE END OF PASS ROUTINE COUNTS THE NUMBER OF PASSES PERFORMED, DINGS THE BELL/TYPES A MESSAGE (IF ENABLED), SETS/CLEARS THE T-BIT (IF ENABLED), AND ALSO INTERFACES TO THE MONITOR, IF PRESENT. IT ALSO OPTIONALLY LOOPS FOR A NUMBER OF SUBPASSES BEFORE SIGNALLING AN END OF PASS CONDITION.

10. ACT/APT/XXDP

10.1 ACT COMPATIBILITY

THIS PROGRAM WILL RUN UNDER THE ACT SYSTEM.

10.2 APT COMPATIBILITY

THIS PROGRAM WILL RUN UNDER THE APT SYSTEM MONITOR. ALL NECESSARY SOFTWARE COMMUNICATION HOOKS ARE PRESENT.

10.3 XXDP COMPATIBILITY

FOR XXDP MEDIA COMPATIBILITY, THE TOP 2K WORDS OF THE 16K WORD MINIMUM MEMORY AREA ARE NOT DISTURBED DURING EXECUTION.

.ENDR

```
                                .TITLE  FPU ADVANCED INSTR TESTS
                                ;*COPYRIGHT (C) 1976
                                ;*DIGITAL EQUIPMENT CORP.
                                ;*MAYNARD, MASS. 01754
                                ;*
                                ;*PROGRAM BY DONALD NORTH
                                ;*
                                ;*THIS PROGRAM WAS ASSEMBLED USING THE PDP-11 MAINDEC SYSMAC
                                ;*PACKAGE (MAINDEC-11-DZQAC-C3), JAN 19, 1977.
                                ;*

                                .SBTTL  OPERATIONAL SWITCH SETTINGS
                                ;*
                                ;*      SWITCH  OCTAL                   USE
                                ;*      ------  ------          ------------------
                                ;*        15    100000          HALT ON ERROR
                                ;*        14    040000          LOOP ON CURRENTLY EXECUTING TEST
                                ;*        13    020000          INHIBIT ERROR TYPEOUTS
                                ;*        12    010000          INHIBIT STATUS TYPEOUTS
                                ;*        11    004000          INHIBIT ITERATIONS
                                ;*        10    000000          0=BELL ON PASS END
                                ;*              002000          1=BELL ON ERROR
                                ;*         9    001000          LOOP ON ERROR
                                ;*         8    000400          LOOP ON TEST NUMBER IN "SLPTST"
                                ;*         1    000000          0=TEST HFP/WFP ALTERNATELY EACH PASS
                                ;*              000002          1=TEST ONLY UNIT SPECIFIED IN SW<00>
                                ;*         0    000002          0=SELECT HFP, IF SW<01>=1
                                ;*              000003          1=SELECT WFP, IF SW<01>=1
                                ;*

                                .SBTTL  BASIC DEFINITIONS

                                ;*INITIAL ADDRESS OF THE STACK POINTER *** 1100 ***
001100                          STACK=  1100
                                .EQUIV  EMT,ERROR       ;;BASIC DEFINITION OF ERROR CALL
                                .EQUIV  IOT,SCOPE       ;;BASIC DEFINITION OF SCOPE CALL

                                ;*MISCELLANEOUS DEFINITIONS
000011                          HT=     11              ;;CODE FOR HORIZONTAL TAB
000012                          LF=     12              ;;CODE FOR LINE FEED
000015                          CR=     15              ;;CODE FOR CARRIAGE RETURN
000200                          CRLF=   200             ;;CODE FOR CARRIAGE RETURN-LINE FEED
177776                          PS=     177776          ;;PROCESSOR STATUS WORD
                                .EQUIV  PS,PSW
177774                          STKLMT= 177774          ;;STACK LIMIT REGISTER
177772                          PIRQ=   177772          ;;PROGRAM INTERRUPT REQUEST REGISTER
177570                          DSWR=   177570          ;;HARDWARE SWITCH REGISTER
177570                          DDISP=  177570          ;;HARDWARE DISPLAY REGISTER

                                ;*GENERAL PURPOSE REGISTER DEFINITIONS
000000                          R0=     %0              ;;GENERAL REGISTER
000001                          R1=     %1              ;;GENERAL REGISTER
000002                          R2=     %2              ;;GENERAL REGISTER
000003                          R3=     %3              ;;GENERAL REGISTER
000004                          R4=     %4              ;;GENERAL REGISTER
000005                          R5=     %5              ;;GENERAL REGISTER
```

```
000006                  R6=     %6              ;;GENERAL REGISTER
000007                  R7=     %7              ;;GENERAL REGISTER
000006                  SP=     %6              ;;STACK POINTER
000007                  PC=     %7              ;;PROGRAM COUNTER

                        ;*PRIORITY LEVEL DEFINITIONS
000000                  PR0=    0               ;;PRIORITY LEVEL 0
000040                  PR1=    40              ;;PRIORITY LEVEL 1
000100                  PR2=    100             ;;PRIORITY LEVEL 2
000140                  PR3=    140             ;;PRIORITY LEVEL 3
000200                  PR4=    200             ;;PRIORITY LEVEL 4
000240                  PR5=    240             ;;PRIORITY LEVEL 5
000300                  PR6=    300             ;;PRIORITY LEVEL 6
000340                  PR7=    340             ;;PRIORITY LEVEL 7

                        ;*"SWITCH REGISTER" SWITCH DEFINITIONS
100000                  SW15=   100000
040000                  SW14=   40000
020000                  SW13=   20000
010000                  SW12=   10000
004000                  SW11=   4000
002000                  SW10=   2000
001000                  SW09=   1000
000400                  SW08=   400
000200                  SW07=   200
000100                  SW06=   100
000040                  SW05=   40
000020                  SW04=   20
000010                  SW03=   10
000004                  SW02=   4
000002                  SW01=   2
000001                  SW00=   1
                        .EQUIV  SW09,SW9
                        .EQUIV  SW08,SW8
                        .EQUIV  SW07,SW7
                        .EQUIV  SW06,SW6
                        .EQUIV  SW05,SW5
                        .EQUIV  SW04,SW4
                        .EQUIV  SW03,SW3
                        .EQUIV  SW02,SW2
                        .EQUIV  SW01,SW1
                        .EQUIV  SW00,SW0

                        ;*DATA BIT DEFINITIONS (BIT00 TO BIT15)
100000                  BIT15=  100000
040000                  BIT14=  40000
020000                  BIT13=  20000
010000                  BIT12=  10000
004000                  BIT11=  4000
002000                  BIT10=  2000
001000                  BIT09=  1000
000400                  BIT08=  400
000200                  BIT07=  200
000100                  BIT06=  100
000040                  BIT05=  40
000020                  BIT04=  20
```

```
                        BIT03=  10
                        BIT02=  4
                        BIT01=  2
                        BIT00=  1
                        .EQUIV  BIT09,BIT9
                        .EQUIV  BIT08,BIT8
                        .EQUIV  BIT07,BIT7
                        .EQUIV  BIT06,BIT6
                        .EQUIV  BIT05,BIT5
                        .EQUIV  BIT04,BIT4
                        .EQUIV  BIT03,BIT3
                        .EQUIV  BIT02,BIT2
                        .EQUIV  BIT01,BIT1
                        .EQUIV  BIT00,BIT0

                        ;*BASIC "CPU" TRAP VECTOR ADDRESSES
000004                  ERRVEC= 4               ;;TIME OUT AND OTHER ERRORS
000010                  RESVEC= 10              ;;RESERVED AND ILLEGAL INSTRUCTIONS
000014                  TBITVEC=14              ;;"T" BIT
000014                  TRTVEC= 14              ;;TRACE TRAP
000014                  BPTVEC= 14              ;;BREAKPOINT TRAP (BPT)
000020                  IOTVEC= 20              ;;INPUT/OUTPUT TRAP (IOT) **SCOPE**
000024                  PWRVEC= 24              ;;POWER FAIL
000030                  EMTVEC= 30              ;;EMULATOR TRAP (EMT) **ERROR**
000034                  TRAPVEC=34              ;;"TRAP" TRAP
000060                  TKVEC=  60              ;;TTY KEYBOARD VECTOR
000064                  TPVEC=  64              ;;TTY PRINTER VECTOR
000240                  PIRQVEC=240             ;;PROGRAM INTERRUPT REQUEST VECTOR

                        ;*MED CODES
076600                  MED=    076600          ;OPCODE

000022                  RWHAMI= 022             ;READ WHAMI

000144                  RFLAG=  144             ;READ FLAGS
000344                  WFLAG=  344             ;WRITE FLAGS

                        ;*FLOATING POINT INTERRUPT VECTOR
000244                  FPPVEC= 244

                        ;*FLOATING POINT REGISTER DEFINITIONS
000000                  AC0=    %0
000001                  AC1=    %1
000002                  AC2=    %2
000003                  AC3=    %3
000004                  AC4=    %4
000005                  AC5=    %5

                        ;*BIT PATTERNS FOR TESTS
052525                  ALTP=   052525          ; 0101...01
052525                  AP=     ALTP            ;
125252                  ALTN=   125252          ; 1010...10
125252                  AN=     ALTN            ;
007417                  ALT4P=  007417          ; 0000111100001111
170360                  ALT4N=  170360          ; 1111000011110000
177776                  M2=     177776          ; 1111...10  MINUS TWO
```

```
                177777          M1=     177777          ; 1111...11  MINUS ONE, ALL 1'S
                100000          M0=     100000          ; 1000...00  MINUS ZERO
                077777          LGP=    077777          ; 0111...11  LGST + NUM (1ST WD FLT )
                177777          LGN=    177777          ; 1111...11  LGST - NUM (1ST WD FLT )
                000200          SMP=    000200          ; +1*2**-128, SMLT + NUM (1ST WD FLT)
                100200          SMN=    100200          ; -1*2**-128, SMLT - NUM (1ST WD FLT)
                000177          ZX1MP=  000177          ; ZERO EXP, ALL 1-S MANT (1ST WD FLT)
                100177          ZX1MN=  100177          ; ZERO EXP, ALL 1-S MANT (1ST WD FLT)
                040200          F1P=    040200          ; +1.0E+0, 1ST WD FLT
                140200          F1N=    140200          ; -1.0E+0, 1ST WD FLT
                104210          P13Z=   104210          ; 1000100010001000
                000377          LB=     000377          ; 0000000011111111  LOWER BYTE
                177400          UB=     177400          ; 1111111100000000  UPER BYTE

                                ;*FPS BIT PATTERNS
                147757          FPS1=   147757          ; ALL BITS ON (READABLE)
                000000          FPS0=   000000          ; ALL BITS OFF
                000000          NA=     000000          ; FOR FEC, WHEN NOT APPLICABLE

                                ;*PSW BIT PATTERNS
                177760          CCONLY= 177760          ; FOR BIC TO GET CC BITS ONLY


                                .SBTTL  TRAP CATCHER

                000000                  .=0
                                ;*ALL UNUSED LOCATIONS FROM 4 - 776 CONTAIN A ".+2,HALT"
                                ;*SEQUENCE TO CATCH ILLEGAL TRAPS AND INTERRUPTS
                                ;*LOCATION 0 CONTAINS 0 TO CATCH IMPROPERLY LOADED VECTORS
                000174                  .=174
000174  000000          DISPREG: .WORD  0               ;;SOFTWARE DISPLAY REGISTER
000176  000000          SWREG:   .WORD  0               ;;SOFTWARE SWITCH REGISTER
                                .SBTTL  STARTING ADDRESS(ES)
000200  000137  002162          JMP     @#START ;;JUMP TO STARTING ADDRESS OF PROGRAM

                                .SBTTL  ACT11 HOOKS

                                ;;*****************************************************************
                                ;HOOKS REQUIRED BY ACT11
                000204          $SVPC=.                 ;SAVE PC
                000046          .=46
000046  033062          $ENDAD                  ;;1)SET LOC.46 TO ADDRESS OF $ENDAD IN .$EOP
                000052          .=52
000052  000000          .WORD   0               ;;2)SET LOC.52 TO ZERO
                000204          .=$SVPC                 ;; RESTORE PC
                001000          .=1000
                                .SBTTL  APT PARAMETER BLOCK

                                ;;*****************************************************************
                                ;SET LOCATIONS 24 AND 44 AS REQUIRED FOR APT
                                ;;*****************************************************************
                001000          .$X=.   ;;SAVE CURRENT LOCATION
                000024          .=24    ;;SET POWER FAIL TO POINT TO START OF PROGRAM
000024  000200          200     ;;FOR APT START UP
                000044          .=44    ;;POINT TO APT INDIRECT ADDRESS PNTR.
000044  001000          $APTHDR ;;POINT TO APT HEADER BLOCK
```

```
                001000                          .=.$X   ;;RESET LOCATION COUNTER
                                        ;;*****************************************************************
                                        ;SETUP APT PARAMETER BLOCK AS DEFINED IN THE APT-PDP11 DIAGNOSTIC
                                        ;INTERFACE SPEC.

001000                                  $APTHD:
001000  000000                          $HIBTS: .WORD   0       ;;TWO HIGH BITS OF 18 BIT MAILBOX ADDR.
001002  001324                          $MBADR: .WORD   $MAIL   ;;ADDRESS OF APT MAILBOX (BITS 0-15)
001004  000001                          $TSTM:  .WORD   1       ;;RUN TIM OF LONGEST TEST
001006  000001                          $PASTM: .WORD   1       ;;RUN TIME IN SECS. OF 1ST PASS ON 1 UNIT (QUICK VERIFY)
001010  000000                          $UNITM: .WORD   0       ;;ADDITIONAL RUN TIME (SECS) OF A PASS FOR EACH ADDITIONAL UNIT
001012  000014                                  .WORD   $ETEND-$MAIL/2 ;;LENGTH MAILBOX-ETABLE(WORDS)
```

```
                                .SBTTL  COMMON TAGS

                                ;;*****************************************************************
                                ;*THIS TABLE CONTAINS VARIOUS COMMON STORAGE LOCATIONS
                                ;*USED IN THE PROGRAM.

        001100                          .=1100
001100                          $CMTAG:                         ;;START OF COMMON TAGS
001100  000000                          .WORD   0
001102  000000                  $TSTNM: .WORD   0               ;;CONTAINS THE TEST NUMBER
001104  000000                  $ERFLG: .WORD   0               ;;CONTAINS ERROR FLAG
001106  000000                  $ICNT:  .WORD   0               ;;CONTAINS SUBTEST ITERATION COUNT
001110  000000                  $LPADR  .WORD   0               ;;CONTAINS SCOPE LOOP ADDRESS
001112  000000                  $LPTST: .WORD   0               ;;CONTAINS TEST NUMBER TO LOOP UPON
001114  000000                  $LPERR: .WORD   0               ;;CONTAINS SCOPE RETURN FOR ERRORS
001116  000000                  $ERTTL: .WORD   0               ;;CONTAINS TOTAL ERRORS DETECTED
001120  000000                  $ITEMB: .WORD   0               ;;CONTAINS ITEM CONTROL BYTE
001122  000001                  $ERMAX: .WORD   1               ;;CONTAINS MAX. ERRORS PER TEST
001124  000000                  $ERRPC: .WORD   0               ;;CONTAINS PC OF LAST ERROR INSTRUCTION
001126  000000                  $GDADR: .WORD   0               ;;CONTAINS ADDRESS OF 'GOOD' DATA
001130  000000                  $BDADR: .WORD   0               ;;CONTAINS ADDRESS OF 'BAD' DATA
001132  000000                  $GDDAT: .WORD   0               ;;CONTAINS 'GOOD' DATA
001134  000000                  $BDDAT: .WORD   0               ;;CONTAINS 'BAD' DATA
001136  000000                          .WORD   0               ;;RESERVED--NOT TO BE USED
001140  000000                          .WORD   0
001142     000                  $AUTOB: .BYTE   0               ;;AUTOMATIC MODE INDICATOR
001143     000                  $INTAG: .BYTE   0               ;;INTERRUPT MODE INDICATOR
001144  000000                          .WORD   0
001146  177570                  SWR:    .WORD   DSWR            ;;ADDRESS OF SWITCH REGISTER
001150  177570                  DISPLAY: .WORD  DDISP           ;;ADDRESS OF DISPLAY REGISTER
001152  177560                  $TKS:   177560                  ;;TTY KBD STATUS
001154  177562                  $TKB:   177562                  ;;TTY KBD BUFFER
001156  177564                  $TPS:   177564                  ;;TTY PRINTER STATUS REG. ADDRESS
001160  177566                  $TPB:   177566                  ;;TTY PRINTER BUFFER REG. ADDRESS
001162     000                  $NULL:  .BYTE   0               ;;CONTAINS NULL CHARACTER FOR FILLS
001163     002                  $FILLS: .BYTE   2               ;;CONTAINS # OF FILLER CHARACTERS REQUIRED
001164     012                  $FILLC: .BYTE   12              ;;INSERT FILL CHARS. AFTER A "LINE FEED"
001165     000                  $TPFLG: .BYTE   0               ;;"TERMINAL AVAILABLE" FLAG (BIT<07>=0=YES)
001166  000000                  $REGAD: .WORD   0               ;;CONTAINS THE ADDRESS FROM
                                                                ;;WHICH  ($REG0) WAS OBTAINED
001170  000000                  $REG0:  .WORD   0               ;;CONTAINS (($REGAD)+0)
001172  000000                  $REG1:  .WORD   0               ;;CONTAINS (($REGAD)+2)
001174  000000                  $REG2:  .WORD   0               ;;CONTAINS (($REGAD)+4)
001176  000000                  $REG3:  .WORD   0               ;;CONTAINS (($REGAD)+6)
001200  000000                  $REG4:  .WORD   0               ;;CONTAINS (($REGAD)+10)
001202  000000                  $REG5:  .WORD   0               ;;CONTAINS (($REGAD)+12)
001204  000000                  $REG6:  .WORD   0               ;;CONTAINS (($REGAD)+14)
001206  000000                  $REG7:  .WORD   0               ;;CONTAINS (($REGAD)+16)
001210  000000                  $REG10: .WORD   0               ;;CONTAINS (($REGAD)+20)
001212  000000                  $REG11: .WORD   0               ;;CONTAINS (($REGAD)+22)
001214  000000                  $REG12: .WORD   0               ;;CONTAINS (($REGAD)+24)
001216  000000                  $REG13: .WORD   0               ;;CONTAINS (($REGAD)+26)
001220  000000                  $REG14: .WORD   0               ;;CONTAINS (($REGAD)+30)
001222  000000                  $REG15: .WORD   0               ;;CONTAINS (($REGAD)+32)
001224  000000                  $REG16: .WORD   0               ;;CONTAINS (($REGAD)+34)
001226  000000                  $REG17: .WORD   0               ;;CONTAINS (($REGAD)+36)
```

```
1036  001230  000000                  $TMP0:   .WORD   0              ;;USER DEFINED
1037  001232  000000                  $TMP1:   .WORD   0              ;;USER DEFINED
1038  001234  000000                  $TMP2:   .WORD   0              ;;USER DEFINED
1039  001236  000000                  $TMP3:   .WORD   0              ;;USER DEFINED
1040  001240  000000                  $TMP4:   .WORD   0              ;;USER DEFINED
1041  001242  000000                  $TMP5:   .WORD   0              ;;USER DEFINED
1042  001244  000000                  $TMP6:   .WORD   0              ;;USER DEFINED
1043  001246  000000                  $TMP7:   .WORD   0              ;;USER DEFINED
1044  001250  000000                  $TMP10:  .WORD   0              ;;USER DEFINED
1045  001252  000000                  $TMP11:  .WORD   0              ;;USER DEFINED
1046  001254  000000                  $TMP12:  .WORD   0              ;;USER DEFINED
1047  001256  000000                  $TMP13:  .WORD   0              ;;USER DEFINED
1048  001260  000000                  $TMP14:  .WORD   0              ;;USER DEFINED
1049  001262  000000                  $TMP15:  .WORD   0              ;;USER DEFINED
1050  001264  000000                  $TMP16:  .WORD   0              ;;USER DEFINED
1051  001266  000000                  $TMP17:  .WORD   0              ;;USER DEFINED
1052  001270  000000                  $TMP20:  .WORD   0              ;;USER DEFINED
1053  001272  000000                  $TMP21:  .WORD   0              ;;USER DEFINED
1054  001274  000000                  $TMP22:  .WORD   0              ;;USER DEFINED
1055  001276  000000                  $TMP23:  .WORD   0              ;;USER DEFINED
1056  001300  000000                  $TMP24:  .WORD   0              ;;USER DEFINED
1057  001302  000000                  $TMP25:  .WORD   0              ;;USER DEFINED
1058  001304  000000                  $TMP26:  .WORD   0              ;;USER DEFINED
1059  001306  000000                  $TMP27:  .WORD   0              ;;USER DEFINED
1060  001310  000000                  $TIMES:  0                      ;;MAX. NUMBER OF ITERATIONS
1061  001312  000000                  $ESCAPE:0                       ;;ESCAPE ON ERROR ADDRESS
1062  001314  177607  000377          $BELL:   .ASCIZ  <207><377><377>;;CODE FOR BELL
1063  001320     077                  $QUES:   .ASCII  /?/            ;;QUESTION MARK
1064  001321     015                  $CRLF:   .ASCII  <15>           ;;CARRIAGE RETURN
1065  001322  000012                  $LF:     .ASCIZ  <12>           ;;LINE FEED
1066                                  ;;*****************************************************************
1067                                  .SBTTL  APT MAILBOX-ETABLE
1068
1069                                  ;;*****************************************************************
1070                                  .EVEN
1071  001324                          $MAIL:                          ;;APT MAILBOX
1072  001324  000000                  $MSGTY: .WORD    AMSGTY         ;;MESSAGE TYPE CODE
1073  001326  000000                  $FATAL: .WORD    AFATAL         ;;FATAL ERROR NUMBER
1074  001330  000000                  $TESTN: .WORD    ATESTN         ;;TEST NUMBER
1075  001332  000000                  $PASS:  .WORD    APASS          ;;PASS COUNT
1076  001334  000000                  $DEVCT: .WORD    ADEVCT         ;;DEVICE COUNT
1077  001336  000000                  $UNIT:  .WORD    AUNIT          ;;I/O UNIT NUMBER
1078  001340  000000                  $MSGAD: .WORD    AMSGAD         ;;MESSAGE ADDRESS
1079  001342  000000                  $MSGLG: .WORD    AMSGLG         ;;MESSAGE LENGTH
1080  001344                          $ETABLE:                        ;;APT ENVIRONMENT TABLE
1081  001344     000                  $ENV:    .BYTE   AENV           ;;ENVIRONMENT BYTE
1082  001345     000                  $ENVM:   .BYTE   AENVM          ;;ENVIRONMENT MODE BITS
1083  001346  000000                  $SWREG: .WORD    ASWREG         ;;APT SWITCH REGISTER
1084  001350  000000                  $USWR:  .WORD    AUSWR          ;;USER SWITCHES
1085  001352  000000                  $CPUOP: .WORD    ACPUOP         ;;CPU TYPE,OPTIONS
1086                                  ;*                              BITS 15-11=CPU TYPE
1087                                  ;*                                   11/04=01,11/05=02,11/20=03,11/40=04,11/45=05
1088                                  ;*                                   11/70=06,PDQ=07,Q=10
1089                                  ;*                              BIT 10=REAL TIME CLOCK
1090                                  ;*                              BIT  9=FLOATING POINT PROCESSOR
1091                                  ;*                              BIT  8=MEMORY MANAGEMENT
```

```
1092  001354                          $ETEND:
1093                                  .MEXIT
```

```
                                .SBTTL  ERROR POINTER TABLE

001354                          $ERRTB:

                                ;*THIS TABLE CONTAINS THE INFORMATION FOR EACH ERROR THAT CAN OCCUR.
                                ;*THE INFORMATION IS OBTAINED BY USING THE INDEX NUMBER FOUND IN
                                ;*LOCATION $ITEMB. THIS NUMBER INDICATES WHICH ITEM IN THE TABLE IS PERTINENT.
                                ;*NOTE1:        IF $ITEMB IS 0 THE ONLY PERTINENT DATA IS ($ERRPC).
                                ;*NOTE2:        EACH ITEM IN THE TABLE CONTAINS 4 POINTERS EXPLAINED AS FOLLOWS:

                                ;*      EM              ;;POINTS TO THE ERROR MESSAGE
                                ;*      DH              ;;POINTS TO THE DATA HEADER
                                ;*      DT              ;;POINTS TO THE DATA
                                ;*      DF              ;;POINTS TO THE DATA FORMAT
                                        ;*NOTE:  ERROR VECTOR TABLE ($ERRTB) HAS BEEN MODIFIED,
                                        ;*       ELIMINATING UNUSED VALUE FOR DATA FORMAT POINTER.
                                        ;*       ERROR TYPING ROUTINE HAS ALSO BEEN MODIFIED
                                        ;*       ACCORDINGLY.
                                        ;*****  VECTORS FOR FPS ERRORS  *****
001354  043715  045134  045410  EMV001: .WORD   EMA,DHA,DTA      ; LDCIF,STCFI,STEXP/F,TRAP-TSTR
001362  043715  045134  045416  EMV002: .WORD   EMA,DHA,DTB      ; CMPF,LDCLF,STCFL
001370  043715  045134  045424  EMV003: .WORD   EMA,DHA,DTC      ; LDCID,STCDI,LDEXP/F,STEXP/D
001376  043715  045134  045432  EMV004: .WORD   EMA,DHA,DTD      ; ADDF,SUBF,MULF,DIVF,LDCDF,LDCFD
                                                                 ;   STCDF,LDCLD,STCDL
001404  043715  045134  045440  EMV005: .WORD   EMA,DHA,DTE      ; CMPD,MODF,STCFD
001412  043715  045134  045446  EMV006: .WORD   EMA,DHA,DTF      ; LDEXP/D
001420  043715  045134  045454  EMV007: .WORD   EMA,DHA,DTG      ; ADDD,SUBD,MULD,DIVD
001426  043715  045134  045462  EMV010: .WORD   EMA,DHA,DTH      ; MODD
                                        ;*****  VECTORS FOR FEC/FEA ERRORS  *****
001434  043741  045150  045470  EMV011: .WORD   EMB,DHB,DTI      ; STCFI,TRAP-TSTR
001442  043741  045150  045502  EMV012: .WORD   EMB,DHB,DTJ      ; CMPF,STCFL
001450  043741  045150  045514  EMV013: .WORD   EMB,DHB,DTK      ; STCDI,LDEXP/F
001456  043741  045150  045526  EMV014: .WORD   EMB,DHB,DTL      ; ADDF,SUBF,MULF,DIVF,LDCDF
                                                                 ;   LDCFD,STCDF,STCDL
001464  043741  045150  045540  EMV015: .WORD   EMB,DHB,DTM      ; CMPD,MODF
001472  043741  045150  045552  EMV016: .WORD   EMB,DHB,DTN      ; LDEXP/D
001500  043741  045150  045564  EMV017: .WORD   EMB,DHB,DTO      ; ADDD,SUBD,MULD,DIVD
001506  043741  045150  045576  EMV020: .WORD   EMB,DHB,DTP      ; MODD
                                        ;*****  VECTORS FOR RESULT ERRORS  *****
001514  044125  045210  045624  EMV021: .WORD   EME,DHC,DTS      ; CMPF
001522  044125  045246  045706  EMV022: .WORD   EME,DHD,DTX      ; CMPD
001530  044214  045210  045662  EMV023: .WORD   EMF,DHC,DTV      ; ADDF,SUBF
001536  044214  045246  046016  EMV024: .WORD   EMF,DHD,DTAB     ; ADDD,SUBD
001544  044266  045210  045662  EMV025: .WORD   EMG,DHC,DTV      ; MULF,DIVF
001552  044266  045246  046016  EMV026: .WORD   EMG,DHD,DTAB     ; MULD,DIVD
001560  044340  045210  045662  EMV027: .WORD   EMH,DHC,DTV      ; MODF-FRAC
001566  044421  045210  045674  EMV030: .WORD   EMI,DHC,DTW      ; MODF-INT
001574  044340  045246  046016  EMV031: .WORD   EMH,DHD,DTAB     ; MODD-FRAC
001602  044421  045246  046040  EMV032: .WORD   EMI,DHD,DTAC     ; MODD-INT
001610  044555  045210  045662  EMV033: .WORD   EMK,DHC,DTV      ; LDCDF,STCDF
001616  044477  045246  045752  EMV034: .WORD   EMJ,DHD,DTZ      ; LDCFD
001624  044477  045246  045774  EMV035: .WORD   EMJ,DHD,DTAA     ; STCFD
001632  044633  045210  045636  EMV036: .WORD   EML,DHC,DTT      ; LDCIF
001640  044633  045246  045730  EMV037: .WORD   EML,DHD,DTY      ; LDCID
001646  044633  045210  045650  EMV040: .WORD   EML,DHC,DTU      ; LDCLF
001654  044633  045246  045752  EMV041: .WORD   EML,DHD,DTZ      ; LDCLD
```

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 1150  001662  044713  045134  045610  EMV042: .WORD   EMM,DHA,DTQ     ; STCFI
 1151  001670  044713  045134  045616  EMV043: .WORD   EMM,DHA,DTR     ; STCDI
 1152  001676  044713  045210  045650  EMV044: .WORD   EMM,DHC,DTU     ; STCFL
 1153  001704  044713  045210  045662  EMV045: .WORD   EMM,DHC,DTV     ; STCDL
 1154  001712  044773  045210  045650  EMV046: .WORD   EMN,DHC,DTU     ; LDEXP/F
 1155  001720  044773  045246  045774  EMV047: .WORD   EMN,DHD,DTAA    ; LDEXP/D
 1156  001726  045053  045134  045610  EMV050: .WORD   EMO,DHA,DTQ     ; STEXP/F
 1157  001734  045053  045134  045616  EMV051: .WORD   EMO,DHA,DTR     ; STEXP/D
 1158  001742  000000  000000  000000  EMV052: .WORD   0,0,0           ; (UNUSED)
 1159  001750  000000  000000  000000  EMV053: .WORD   0,0,0           ; (UNUSED)
 1160                                          ;***** VECTORS FOR CC COPY ERRORS  *****
 1161  001756  044056  045134  046062  EMV054: .WORD   EMD,DHA,DTAD    ; STCFI,STCDI,STEXP/F,STEXP/D
 1162  001764  044056  045134  046070  EMV055: .WORD   EMD,DHA,DTAE    ; STCFL,STCDL
 1163                                          ;***** VECTOR FOR ILLEGAL TRAP CATCHER ROUTINE  *****
 1164  001772  043771  045344  046076  EMV056: .WORD   EMC,DHF,DTAK    ; UNEXPECTED TRAP
```

```
                                        .SBTTL  PROGRAM DEFINED COMMON TAGS
                                        ;*VARIABLES
002000  000000                  FPS:    .WORD   0               ; FPS STORED HERE AFTER STFPS
002002  000000                  FEC:    .WORD   0               ; FEC STORED HERE AFTER STST
002004  000000                  FEA:    .WORD   0               ; FEA STORED HERE AFTER STST
002006  000000                  FPPOPC: .WORD   0               ; OLD PC SAVED HERE AFTER TRAP AFTER TRAP
002010  000000                  FPPOPS: .WORD   0               ; OLD PS SAVED HERE
002012  000000                  FPPOSP: .WORD   0               ; SP AFTER TRAP
002014  000000                  EXPFEA: .WORD   0               ; EXPECTED FEA

                                        ;*REGISTER CONTENTS, AT ERROR, FOR DISPLAY
002016  000000                  EREG0:  .WORD   0
002020  000000                  EREG1:  .WORD   0
002022  000000                  EREG2:  .WORD   0
002024  000000                  EREG3:  .WORD   0
002026  000000                  EREG4:  .WORD   0
002030  000000                  EREG5:  .WORD   0
002032  000000                  EREG6:  .WORD   0
002034  000000                  EREG7:  .WORD   0

                                        ;*CONSTANTS
002036  052525  177777  125252  PREVAC: .WORD   ALTP,M1,ALTN,0  ; PREV CONTENTS OF FLOAT AC
002044  000000


                                        ;*MESSAGES FOR BEGIN PROGRAM/START OF PASS/ETC
002046  005015  005012  042115  BGNMES: .ASCII  <15><12><12><12>"MD-11-DQFPB-A>..."
002054  030455  026461  050504
002062  050106  026502  037101
002070  027056     056
002073     120  050104  030455          .ASCIZ  "PDP-11/6X F.P.U. ADVANCED INSTRUCTION TESTS"<15><12>
002100  027461  054066  043040
002106  050056  052456  020056
002114  042101  040526  041516
002122  042105  044440  051516
002130  051124  041525  044524
002136  047117  052040  051505
002144  051524  005015     000
002151     015  050012  051501  NWPAS1: .ASCIZ  <15><12>"PASS #"
002156  020123  000043
```

```
                                        .SBTTL  START OF PASS ROUTINE
                                                .EVEN                   ; START ON AN EVEN BOUNDARY
                                        ;;**************************************************************************
                                                .ENABL  AMA             ; ASSEMBLE ALL RELATIVE REFERENCES AS ABSOLUTE
                                        ;;**************************************************************************
002162                                  START:
                                        .SBTTL  INITIALIZE THE COMMON TAGS
                                        ;;CLEAR THE COMMON TAGS ($CMTAG) AREA
002162  012706  001100                          MOV     #$CMTAG,R6      ;;FIRST LOCATION TO BE CLEARED
002166  005026                                 CLR     (R6)+           ;;CLEAR MEMORY LOCATION
002170  022706  001146                          CMP     #SWR,R6 ;;DONE?
002174  001374                                 BNE     .-6             ;;LOOP BACK IF NO
002176  012706  001100                          MOV     #STACK,SP       ;;SETUP THE STACK POINTER
                                        ;;INITIALIZE A FEW VECTORS
002202  012737  041530  000020                  MOV     #$SCOPE,@#IOTVEC ;;IOT VECTOR FOR SCOPE ROUTINE
002210  012737  000340  000022                  MOV     #340,@#IOTVEC+2 ;;LEVEL 7
002216  012737  042006  000030                  MOV     #$ERROR,@#EMTVEC ;;EMT VECTOR FOR ERROR ROUTINE
002224  012737  000340  000032                  MOV     #340,@#EMTVEC+2 ;;LEVEL 7
002232  012737  043442  000034                  MOV     #$TRAP,@#TRAPVEC ;;TRAP VECTOR FOR TRAP CALLS
002240  012737  000340  000036                  MOV     #340,@#TRAPVEC+2;LEVEL 7
002246  012737  043510  000024                  MOV     #$PWRON,@#PWRVEC ;;POWER FAILURE VECTOR
002254  012737  000340  000026                  MOV     #340,@#PWRVEC+2 ;;LEVEL 7
002262  013737  033032  033024                  MOV     $ENDCT,$EOPCT   ;;SETUP END-OF-PROGRAM COUNTER
002270  005037  001310                          CLR     $TIMES          ;;INITIALIZE NUMBER OF ITERATIONS
002274  005037  001312                          CLR     $ESCAPE         ;;CLEAR THE ESCAPE ON ERROR ADDRESS
002300  012737  000001  001122                  MOV     #1,$ERMAX       ;;ALLOW ONE ERROR PER TEST
002306  012737  002306  001110                  MOV     #.,$LPADR       ;;INITIALIZE THE LOOP ADDRESS FOR SCOPE
002314  012737  002314  001114                  MOV     #.,$LPERR       ;;SETUP THE ERROR LOOP ADDRESS
                                        ;;SIZE FOR A HARDWARE SWITCH REGISTER. IF NOT FOUND OR IT IS
                                        ;;EQUAL TO A "-1", SETUP FOR A SOFTWARE SWITCH REGISTER.
002322  013746  000004                          MOV     @#ERRVEC,-(SP)  ;;SAVE ERROR VECTOR
002326  012737  002362  000004                  MOV     #64$,@#ERRVEC   ;;SET UP ERROR VECTOR
002334  012737  177570  001146                  MOV     #DSWR,SWR       ;;SETUP FOR A HARDWARE SWICH REGISTER
002342  012737  177570  001150                  MOV     #DDISP,DISPLAY  ;;AND A HARDWARE DISPLAY REGISTER
002350  022777  177777  176570                  CMP     #-1,@SWR        ;;TRY TO REFERENCE HARDWARE SWR
002356  001012                                 BNE     66$             ;;BRANCH IF NO TIMEOUT TRAP OCCURRED
                                                                        ;;AND  THE HARDWARE SWR IS NOT = -1
002360  000403                                 BR      65$             ;;BRANCH IF NO TIMEOUT
002362  012716  002370          64$:    MOV     #65$,(SP)       ;;SET UP FOR TRAP RETURN
002366  000002                          RTI
002370  012737  000176  001146  65$:    MOV     #SWREG,SWR      ;;POINT TO SOFTWARE SWR
002376  012737  000174  001150                  MOV     #DISPREG,DISPLAY
002404  012637  000004          66$:    MOV     (SP)+,@#ERRVEC  ;;RESTORE ERROR VECTOR

002410  005037  001332                          CLR     $PASS           ;;CLEAR PASS COUNT
002414  132737  000200  001345                  BITB    #APTSIZE,$ENVM  ;;TEST USER SIZE UNDER APT
002422  001403                                 BEQ     67$             ;;YES,USE NON-APT SWITCH
002424  012737  001346  001146                  MOV     #$SWREG,SWR     ;;NO,USE APT SWITCH REGISTER
002432                          67$:

                                        ; SET UP FPP UNEXPECTED TRAP CATCHER - - - - - - - - -
002432  012737  041470  000244                  MOV     #FPPILT,@#FPPVEC        ; NEW PC AT FPP TRAP
002440  005037  000246                          CLR     @#FPPVEC+2              ; NEW PS AT FPP TRAP
```

```
                                        TYPE    ,BGNMES         ; ID MESSAGE AT START

                                ;////////////////////////////////////////////////////////////////////
                                ;       MESSAGE ON WHETHER OR NOT HFP UNIT IS PRESENT

002450  076600  000022                  MFD     @WHAMI                  ;WHAMI INTO R0
002454  032700  000020                  BIT     #BIT04,R0               ;IS THERE A HFP UNIT ?
002460  001403                          BEQ     70$                     ;NO, BR
002462  104401  002476                  TYPE    ,68$                    ;INDICATE FP11-E PRESENT
002466  000453                          BR      NEWPAS                  ;GO FOR SUBPASS INIT
002470  104401  002536          70$:    TYPE    ,69$                    ;INDICATE NO FP11-E
002474  000450                          BR      NEWPAS                  ;GO FOR SUBPASS INIT

002476  005015  020052  050106  68$:    .ASCIZ  <15><12>"* FP11-E HFP UNIT PRESENT *"<15><12>
002504  030461  042455  044040
002512  050106  052440  044516
002520  020124  051120  051505
002526  047105  020124  006452
002534  000012
002536  005015  020052  047516  69$:    .ASCIZ  <15><12>"* NO FP11-E HFP UNIT - ALL TESTS WFP ONLY *"<15><12>
002544  043040  030520  026461
002552  020105  043110  020120
002560  047125  052111  026440
002566  040440  046114  052040
002574  051505  051524  053440
002602  050106  047440  046116
002610  020131  006452  000012
                                        .EVEN

                                ;////////////////////////////////////////////////////////////////////


                                ;;******************************************************************
                                        ;NEW PASS ENTERS HERE
                                ;;******************************************************************

002616  012706  001100          NEWPAS: MOV     #STACK,SP               ;RESET STACK PTR

002622  032777  010000  176316          BIT     #BIT12,@SWR             ;INHIBIT STATUS TYPEOUTS ?
002630  001011                          BNE     SUBPAS                  ;BR IF YES

002632  104401  002151                  TYPE    ,NWPAS1                 ;"PASS #"
002636  013746  001332                  MOV     $PASS,-(SP)             ;PASS COUNT INTO ...
002642  005216                          INC     (SP)                    ;  1-N RANGE
002644  104403                          TYPOS                           ;TYPE OCTAL
002646     006     000                  .BYTE   6,0                     ;  6 DIGITS, NO LEADING ZEROS
002650  104401  001321                  TYPE    ,$CRLF                  ;END THE LINE


                                ;;******************************************************************
                                        ;NEW SUBPASS ENTERS HERE
                                ;;******************************************************************

002654  076600  000022          SUBPAS: MFD     @WHAMI                  ;GET WHAMI INTO R0
002660  032700  000020                  BIT     #BIT04,R0               ;1=HFP PRESENT, 0=NO
```

```
1317  002664  001430                          BEQ     20$                     ;IF NO HFP, TEST WARM ONLY
1318
1319  002666  076600  000144                  MED     ,RFLAG                  ;GET FLAGS INTO R0
1320
1321  002672  032777  000002  176246          BIT     #SW01,@SWR              ;SW01:  1=HFP OR WFP TEST ONLY
1322  002700  001413                          BEQ     1$                      ;       0=ALTERNATE HFP/WFP PER PASS
1323
1324  002702  032777  000001  176236          BIT     #SW00,@SWR              ;SW00:  1=WFP ONLY
1325  002710  001403                          BEQ     2$                      ;       0=HFP ONLY
1326  002712  042700  010000                  BIC     #BIT12,R0               ;CLEAR HFP ENABLE FLAG<5> FOR WFP
1327  002716  000402                          BR      3$                      ;
1328  002720  052700  010000          2$:     BIS     #BIT12,R0               ;SET HFP ENABLE FLAG<5> FOR HFP
1329  002724  076600  000344          3$:     MED     ,WFLAG                  ;REWRITE FLAGS
1330
1331  002730  032700  010000          1$:     BIT     #BIT12,R0               ;TEST WHO'S ENABLED: HOT, WARM
1332  002734  001404                          BEQ     20$                     ;SET APPROPRIATE HEADER:
1333
1334  002736  012737  043700  042252  19$:     MOV     #ASCHOT,HOTWRM          ;"HOT: "
1335  002744  000403                          BR      21$                     ;
1336  002746  012737  043706  042252  20$:     MOV     #ASCWRM,HOTWRM          ;"WARM: "
1337  002754  005037  001102          21$:     CLR     $TSTNM                  ;ALL DONE, RESET TEST NUMBER COUNTER
```

```
                                ;;*****************************************************************
                                ;*TEST 1         TEST OF CMPF INSTR, DATA SET CMPF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
002760  000004                  TST1:   SCOPE
002762  012705  002774                  MOV     #CMPF1,R5       ; PTR TO TEST DATA SET
002766  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST
002772  000407                          BR      TST2            ;;

002774                          CMPF1:  ; TEST DATA SET CMPF-1:
002774  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
003000  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
003004  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
003010  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 2         TEST OF CMPF INSTR, DATA SET CMPF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
003012  000004                  TST2:   SCOPE
003014  012705  003026                  MOV     #CMPF2,R5       ; PTR TO TEST DATA SET
003020  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST

003024  000407                          BR      TST3            ;;

003026                          CMPF2:  ; TEST DATA SET CMPF-2:
003026  052525  052525                  .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
003032  052525  052525                  .WORD   ALTP,ALTP       ; INITIAL MEM FLOAT NUMBER
003036  047513  047504                  .WORD   047513,047504   ; FPS:  BEFORE, AFTER
003042  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 3         TEST OF CMPF INSTR, DATA SET CMPF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
003044  000004                  TST3:   SCOPE
003046  012705  003060                  MOV     #CMPF3,R5       ; PTR TO TEST DATA SET
003052  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST

003056  000407                          BR      TST4            ;;

003060                          CMPF3:  ; TEST DATA SET CMPF-3:
003060  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
003064  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
003070  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
003074  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 4         TEST OF CMPF INSTR, DATA SET CMPF-4
```

```
1394                                    ;*              ALL INTERRUPT ENABLES ON
1395                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
1396                                    ;;**************************************************************
1397  003076  000004                    TST4:   SCOPE
1398  003100  012705  003112                    MOV     #CMPF4,R5       ; PTR TO TEST DATA SET
1399  003104  004737  033076                    JSR     PC,@#CMPFT      ; GO TEST
1400
1401  003110  000407                            BR      TST5            ;;
1402
1403  003112                            CMPF4:  ; TEST DATA SET CMPF-4:
1404  003112  125252  125252                    .WORD   ALTN,ALTN       ; INITIAL AC FLOAT NUMBER
1405  003116  125252  125252                    .WORD   ALTN,ALTN       ; INITIAL MEM FLOAT NUMBER
1406  003122  047453  047444                    .WORD   047453,047444   ; FPS:  BEFORE, AFTER
1407  003126  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
1408
1409
1410                                    ;;**************************************************************
1411                                    ;*TEST 5         TEST OF CMPF INSTR, DATA SET CMPF-5
1412                                    ;*              ALL INTERRUPT ENABLES ON
1413                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
1414                                    ;;**************************************************************
1415  003130  000004                    TST5:   SCOPE
1416  003132  012705  003144                    MOV     #CMPF5,R5       ; PTR TO TEST DATA SET
1417  003136  004737  033076                    JSR     PC,@#CMPFT      ; GO TEST
1418
1419  003142  000407                            BR      TST6            ;;
1420
1421  003144                            CMPF5:  ; TEST DATA SET CMPF-5:
1422  003144  177777  177777                    .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
1423  003150  077777  177777                    .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
1424  003154  047457  047440                    .WORD   047457,047440   ; FPS:  BEFORE, AFTER
1425  003160  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
1426
1427
1428                                    ;;**************************************************************
1429                                    ;*TEST 6         TEST OF CMPF INSTR, DATA SET CMPF-6
1430                                    ;*              ALL INTERRUPT ENABLES ON
1431                                    ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
1432                                    ;;**************************************************************
1433  003162  000004                    TST6:   SCOPE
1434  003164  012705  003176                    MOV     #CMPF6,R5       ; PTR TO TEST DATA SET
1435  003170  004737  033076                    JSR     PC,@#CMPFT      ; GO TEST
1436
1437  003174  000407                            BR      TST7            ;;
1438
1439  003176                            CMPF6:  ; TEST DATA SET CMPF-6:
1440  003176  037777  177777                    .WORD   037777,M1       ; INITIAL AC FLOAT NUMBER
1441  003202  040000  000000                    .WORD   040000,000000   ; INITIAL MEM FLOAT NUMBER
1442  003206  047517  047500                    .WORD   047517,047500   ; FPS:  BEFORE, AFTER
1443  003212  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
1444
1445
1446                                    ;;**************************************************************
1447                                    ;*TEST 7         TEST OF CMPF INSTR, DATA SET CMPF-7
1448                                    ;*              ALL INTERRUPT ENABLES ON
1449                                    ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
```

```
                                ;;*************************************************************
003214  000004                  TST7:   SCOPE
003216  012705  003230                  MOV     #CMPF7,R5       ; PTR TO TEST DATA SET
003222  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST

003226  000407                          BR      TST10           ;;

003230                          CMPF7:  ; TEST DATA SET CMPF-7:
003230  050000  000001                  .WORD   050000,000001   ; INITIAL AC FLOAT NUMBER
003234  050000  000000                  .WORD   050000,000000   ; INITIAL MEM FLOAT NUMBER
003240  047547  047550                  .WORD   047547,047550   ; FPS:  BEFORE, AFTER
003244  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*************************************************************
                                ;*TEST 10       TEST OF CMPF INSTR, DATA SET CMPF-10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*************************************************************
003246  000004                  TST10:  SCOPE
003250  012705  003262                  MOV     #CMPF10,R5      ; PTR TO TEST DATA SET
003254  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST

003260  000407                          BR      TST11           ;;

003262                          CMPF10: ; TEST DATA SET CMPF-10:
003262  126000  000000                  .WORD   126000,000000   ; INITIAL AC FLOAT NUMBER
003266  124000  000000                  .WORD   124000,000000   ; INITIAL MEM FLOAT NUMBER
003272  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
003276  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*************************************************************
                                ;*TEST 11       TEST OF CMPF INSTR, DATA SET CMPF-11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*************************************************************
003300  000004                  TST11:  SCOPE
003302  012705  003314                  MOV     #CMPF11,R5      ; PTR TO TEST DATA SET
003306  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST

003312  000407                          BR      TST12           ;;

003314                          CMPF11: ; TEST DATA SET CMPF-11:
003314  007417  007417                  .WORD   ALT4P,ALT4P     ; INITIAL AC FLOAT NUMBER
003320  100000  000000                  .WORD   M0,0    ; INITIAL MEM FLOAT NUMBER
003324  047443  147443                  .WORD   047443,147443   ; FPS:  BEFORE, AFTER
003330  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )


                                ;;*************************************************************
                                ;*TEST 12       TEST OF CMPF INSTR, DATA SET CMPF-12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*************************************************************
003332  000004                  TST12:  SCOPE
```

```
1506  003334  012705  003346                  MOV     #CMPF12,R5      ; PTR TO TEST DATA SET
1507  003340  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST
1508
1509  003344  000407                          BR      TST13           ;;
1510
1511  003346                          CMPF12: ; TEST DATA SET CMPF-12:
1512  003346  006177  177777                  .WORD   006177,M1       ; INITIAL AC FLOAT NUMBER
1513  003352  004177  177777                  .WORD   004177,M1       ; INITIAL MEM FLOAT NUMBER
1514  003356  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
1515  003362  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1516
1517
1518                                  ;;**********************************************************************
1519                                  ;*TEST 13       TEST OF CMPF INSTR, DATA SET CMPF-13
1520                                  ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
1521                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
1522                                  ;;**********************************************************************
1523  003364  000004                  TST13:  SCOPE
1524  003366  012705  003400                  MOV     #CMPF13,R5      ; PTR TO TEST DATA SET
1525  003372  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST
1526
1527  003376  000407                          BR      TST14           ;;
1528
1529  003400                          CMPF13: ; TEST DATA SET CMPF-13:
1530  003400  125252  125252                  .WORD   ALTN,ALTN       ; INITIAL AC FLOAT NUMBER
1531  003404  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
1532  003410  043557  043540                  .WORD   043557,043540   ; FPS:  BEFORE, AFTER
1533  003414  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1534
1535
1536                                  ;;**********************************************************************
1537                                  ;*TEST 14       TEST OF CMPF INSTR, DATA SET CMPF-14
1538                                  ;*             ALL INTERRUPT ENABLES ON
1539                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
1540                                  ;;**********************************************************************
1541  003416  000004                  TST14:  SCOPE
1542  003420  012705  003432                  MOV     #CMPF14,R5      ; PTR TO TEST DATA SET
1543  003424  004737  033076                  JSR     PC,@#CMPFT      ; GO TEST
1544
1545  003430  000407                          BR      TST15           ;;
1546
1547  003432                          CMPF14: ; TEST DATA SET CMPF-14:
1548  003432  000377  177777                  .WORD   000377,M1       ; INITIAL AC FLOAT NUMBER
1549  003436  000377  177776                  .WORD   000377,M2       ; INITIAL MEM FLOAT NUMBER
1550  003442  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
1551  003446  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1552
1553
1554
```

```
                                ;;*****************************************************************
                                ;*TEST 15        TEST OF CMPD INSTR, DATA SET CMPD-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
003450  000004                  TST15:  SCOPE
003452  012705  003464                  MOV     #CMPD1,R5       ; PTR TO TEST DATA SET
003456  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST

003462  000413                          BR      TST16           ;;

003464                          CMPD1:  ; TEST DATA SET CMPD-1:
003464  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
003472  000000
003474  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
003502  000000
003504  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
003510  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 16        TEST OF CMPD INSTR, DATA SET CMPD-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
003512  000004                  TST16:  SCOPE
003514  012705  003526                  MOV     #CMPD2,R5       ; PTR TO TEST DATA SET
003520  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST

003524  000413                          BR      TST17           ;;

003526                          CMPD2:  ; TEST DATA SET CMPD-2:
003526  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
003534  177777
003536  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
003544  177777
003546  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
003552  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 17        TEST OF CMPD INSTR, DATA SET CMPD-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
003554  000004                  TST17:  SCOPE
003556  012705  003570                  MOV     #CMPD3,R5       ; PTR TO TEST DATA SET
003562  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST

003566  000413                          BR      TST20           ;;

003570                          CMPD3:  ; TEST DATA SET CMPD-3:
003570  170360  170360  170360          .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
003576  170360
003600  170360  170360  170360          .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
003606  170360
```

```
1611  003610  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
1612  003614  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
1613
1614
1615                                  ;;*****************************************************************
1616                                  ;*TEST 20       TEST OF CMPD INSTR, DATA SET CMPD-4
1617                                  ;*             ALL INTERRUPT ENABLES ON
1618                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
1619                                  ;;*****************************************************************
1620  003616  000004                  TST20:  SCOPE
1621  003620  012705  003632                  MOV     #CMPD4,R5        ; PTR TO TEST DATA SET
1622  003624  004737  033244                  JSR     PC,@#CMPDT       ; GO TEST
1623
1624  003630  000413                          BR      TST21            ;;
1625
1626  003632                          CMPD4:  ; TEST DATA SET CMPD-4:
1627  003632  077777  177777  177777          .WORD   LGP,M1,M1,M1     ; INITIAL AC FLOAT NUMBER
1628  003640  177777
1629  003642  177777  177777  177777          .WORD   LGN,M1,M1,M1     ; INITIAL MEM FLOAT NUMBER
1630  003650  177777
1631  003652  047647  047650                  .WORD   047647,047650    ; FPS:  BEFORE, AFTER
1632  003656  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
1633
1634
1635                                  ;;*****************************************************************
1636                                  ;*TEST 21       TEST OF CMPD INSTR, DATA SET CMPD-5
1637                                  ;*             ALL INTERRUPT ENABLES ON
1638                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
1639                                  ;;*****************************************************************
1640  003660  000004                  TST21:  SCOPE
1641  003662  012705  003674                  MOV     #CMPD5,R5        ; PTR TO TEST DATA SET
1642  003666  004737  033244                  JSR     PC,@#CMPDT       ; GO TEST
1643
1644  003672  000413                          BR      TST22            ;;
1645
1646  003674                          CMPD5:  ; TEST DATA SET CMPD-5:
1647  003674  007417  007417  007417          .WORD   ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
1648  003702  007417
1649  003704  007417  007417  007417          .WORD   ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER
1650  003712  007417
1651  003714  047653  047644                  .WORD   047653,047644    ; FPS:  BEFORE, AFTER
1652  003720  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
1653
1654
1655                                  ;;*****************************************************************
1656                                  ;*TEST 22       TEST OF CMPD INSTR, DATA SET CMPD-6
1657                                  ;*             ALL INTERRUPT ENABLES ON
1658                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
1659                                  ;;*****************************************************************
1660  003722  000004                  TST22:  SCOPE
1661  003724  012705  003736                  MOV     #CMPD6,R5        ; PTR TO TEST DATA SET
1662  003730  004737  033244                  JSR     PC,@#CMPDT       ; GO TEST
1663
1664  003734  000413                          BR      TST23            ;;
1665
1666  003736                          CMPD6:  ; TEST DATA SET CMPD-6:
```

```
1667  003736  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
1668  003744  125252
1669  003746  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
1670  003754  177777
1671  003756  047703  147703                  .WORD   047703,147703   ; FPS:  BEFORE, AFTER
1672  003762  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
1673
1674
1675                                  ;;*****************************************************************
1676                                  ;*TEST 23       TEST OF CMPD INSTR, DATA SET CMPD-7
1677                                  ;*             ALL INTERRUPT ENABLES ON
1678                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
1679                                  ;;*****************************************************************
1680  003764  000004                  TST23:  SCOPE
1681  003766  012705  004000                  MOV     #CMPD7,R5       ; PTR TO TEST DATA SET
1682  003772  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST
1683
1684  003776  000413                          BR      TST24           ;;
1685
1686  004000                          CMPD7:  ; TEST DATA SET CMPD-7:
1687  004000  002177  177777  177777          .WORD   002177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
1688  004006  177777
1689  004010  005177  177777  177777          .WORD   005177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
1690  004016  177777
1691  004020  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
1692  004024  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1693
1694
1695                                  ;;*****************************************************************
1696                                  ;*TEST 24       TEST OF CMPD INSTR, DATA SET CMPD-10
1697                                  ;*             ALL INTERRUPT ENABLES ON
1698                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
1699                                  ;;*****************************************************************
1700  004026  000004                  TST24:  SCOPE
1701  004030  012705  004042                  MOV     #CMPD10,R5      ; PTR TO TEST DATA SET
1702  004034  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST
1703
1704  004040  000413                          BR      TST25           ;;
1705
1706  004042                          CMPD10: ; TEST DATA SET CMPD-10:
1707  004042  030000  000000  000000          .WORD   030000,000000,000000,000000     ; INITIAL AC FLOAT NUMBER
1708  004050  000000
1709  004052  027777  177777  177777          .WORD   027777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
1710  004060  177777
1711  004062  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
1712  004066  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1713
1714
1715                                  ;;*****************************************************************
1716                                  ;*TEST 25       TEST OF CMPD INSTR, DATA SET CMPD-11
1717                                  ;*             ALL INTERRUPT ENABLES ON
1718                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
1719                                  ;;*****************************************************************
1720  004070  000004                  TST25:  SCOPE
1721  004072  012705  004104                  MOV     #CMPD11,R5      ; PTR TO TEST DATA SET
1722  004076  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST
```

```
1723
1724  004102  000413                          BR      TST26           ;;
1725
1726  004104                          CMPD11: ; TEST DATA SET CMPD-11:
1727  004104  102000  000000  000000          .WORD   102000,000000,000000,000000     ; INITIAL AC FLOAT NUMBER
1728  004112  000000
1729  004114  102000  000000  000000          .WORD   102000,000000,000000,000001     ; INITIAL MEM FLOAT NUMBER
1730  004122  000001
1731  004124  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
1732  004130  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1733
1734
1735                                  ;;*****************************************************************
1736                                  ;*TEST 26       TEST OF CMPD INSTR, DATA SET CMPD-12
1737                                  ;*             ALL INTERRUPT ENABLES ON
1738                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
1739                                  ;;*****************************************************************
1740  004132  000004                  TST26:  SCOPE
1741  004134  012705  004146                  MOV     #CMPD12,R5      ; PTR TO TEST DATA SET
1742  004140  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST
1743
1744  004144  000413                          BR      TST27           ;;
1745
1746  004146                          CMPD12: ; TEST DATA SET CMPD-12:
1747  004146  002000  000000  000000          .WORD   002000,000000,000000,000000     ; INITIAL AC FLOAT NUMBER
1748  004154  000000
1749  004156  014000  000000  000000          .WORD   014000,000000,000000,000000     ; INITIAL MEM FLOAT NUMBER
1750  004164  000000
1751  004166  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
1752  004172  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1753
1754
1755                                  ;;*****************************************************************
1756                                  ;*TEST 27       TEST OF CMPD INSTR, DATA SET CMPD-13
1757                                  ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
1758                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
1759                                  ;;*****************************************************************
1760  004174  000004                  TST27:  SCOPE
1761  004176  012705  004210                  MOV     #CMPD13,R5      ; PTR TO TEST DATA SET
1762  004202  004737  033244                  JSR     PC,@#CMPDT      ; GO TEST
1763
1764  004206  000413                          BR      TST30           ;;
1765
1766  004210                          CMPD13: ; TEST DATA SET CMPD-13:
1767  004210  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
1768  004216  000000
1769  004220  100177  177777  000000          .WORD   ZX1MN,M1,0,M1   ; INITIAL MEM FLOAT NUMBER
1770  004226  177777
1771  004230  043713  043704                  .WORD   043713,043704   ; FPS:  BEFORE, AFTER
1772  004234  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1773
1774
1775                                  ;;*****************************************************************
1776                                  ;*TEST 30       TEST OF CMPD INSTR, DATA SET CMPD-14
1777                                  ;*             ALL INTERRUPT ENABLES ON
1778                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
```

```
1779                                        ;;**********************************************************************
1780  004236  000004                        TST30:  SCOPE
1781  004240  012705  004252                        MOV     #CMPD14,R5      ; PTR TO TEST DATA SET
1782  004244  004737  033244                        JSR     PC,@#CMPDT      ; GO TEST
1783
1784  004250  000413                        BR      TST31           ;;
1785
1786  004252                                CMPD14: ; TEST DATA SET CMPD-14:
1787  004252  100777  000000  177777               .WORD   100777,000000,M1,000001 ; INITIAL AC FLOAT NUMBER
1788  004260  000001
1789  004262  100777  000000  177777               .WORD   100777,000000,M1,000000 ; INITIAL MEM FLOAT NUMBER
1790  004270  000000
1791  004272  047657  047640                       .WORD   047657,047640   ; FPS:  BEFORE, AFTER
1792  004276  000000                               .WORD   NA              ; FEC AFTER ( 0 = N/A )
1793
1794
```

```
                                ;;*****************************************************************
                                ;*TEST 31        TEST OF ADDF INSTR, DATA SET ADDF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
004300  000004                  TST31:  SCOPE
004302  012705  004314                  MOV     #ADDF1,R5       ; PTR TO TEST DATA SET
004306  004737  033432                  JSR     PC,@#ADDFT      ; GO TEST
004312  000411                          BR      TST32           ;;
004314                          ADDF1:  ; TEST DATA SET ADDF-1:
004314  000177  177777                  .WORD   2X1MP,M1        ; INITIAL AC FLOAT NUMBER
004320  000177  177777                  .WORD   2X1MP,M1        ; INITIAL MEM FLOAT NUMBER
004324  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
004330  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
004334  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 32        TEST OF ADDF INSTR, DATA SET ADDF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
004336  000004                  TST32:  SCOPE
004340  012705  004352                  MOV     #ADDF2,R5       ; PTR TO TEST DATA SET
004344  004737  033432                  JSR     PC,@#ADDFT      ; GO TEST
004350  000411                          BR      TST33           ;;
004352                          ADDF2:  ; TEST DATA SET ADDF-2:
004352  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
004356  125252  125252                  .WORD   ALTN,ALTN       ; INITIAL MEM FLOAT NUMBER
004362  125252  125252                  .WORD   ALTN,ALTN       ; EXPECTED FLOAT RESULT
004366  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
004372  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 33        TEST OF ADDF INSTR, DATA SET ADDF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
004374  000004                  TST33:  SCOPE
004376  012705  004410                  MOV     #ADDF3,R5       ; PTR TO TEST DATA SET
004402  004737  033432                  JSR     PC,@#ADDFT      ; GO TEST
004406  000411                          BR      TST34           ;;
004410                          ADDF3:  ; TEST DATA SET ADDF-3:
004410  052525  052525                  .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
004414  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
004420  052525  052525                  .WORD   ALTP,ALTP       ; EXPECTED FLOAT RESULT
004424  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
004430  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
1851
1852                                    ;;*****************************************************************
1853                                    ;*TEST 34       TEST OF ADDF INSTR, DATA SET ADDF-4
1854                                    ;*             ALL INTERRUPT ENABLES ON
1855                                    ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
1856                                    ;;*****************************************************************
1857  004432  000004                   TST34:  SCOPE
1858  004434  012705  004446                   MOV     #ADDF4,R5       ; PTR TO TEST DATA SET
1859  004440  004737  033432                   JSR     PC,@#ADDFT      ; GO TEST
1860
1861  004444  000411                           BR      TST35           ;;
1862
1863  004446                           ADDF4:  ; TEST DATA SET ADDF-4:
1864  004446  077777  177777                   .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
1865  004452  177777  177777                   .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
1866  004456  000000  000000                   .WORD   0,0     ; EXPECTED FLOAT RESULT
1867  004462  047513  047504                   .WORD   047513,047504   ; FPS:  BEFORE, AFTER
1868  004466  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
1869
1870
1871                                    ;;*****************************************************************
1872                                    ;*TEST 35       TEST OF ADDF INSTR, DATA SET ADDF-5
1873                                    ;*             ALL INTERRUPT ENABLES ON
1874                                    ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
1875                                    ;;*****************************************************************
1876  004470  000004                   TST35:  SCOPE
1877  004472  012705  004504                   MOV     #ADDF5,R5       ; PTR TO TEST DATA SET
1878  004476  004737  033432                   JSR     PC,@#ADDFT      ; GO TEST
1879
1880  004502  000411                           BR      TST36           ;;
1881
1882  004504                           ADDF5:  ; TEST DATA SET ADDF-5:
1883  004504  042000  000000                   .WORD   042000,000000   ; INITIAL AC FLOAT NUMBER
1884  004510  050177  177777                   .WORD   050177,M1       ; INITIAL MEM FLOAT NUMBER
1885  004514  050200  000000                   .WORD   050200,000000   ; EXPECTED FLOAT RESULT
1886  004520  047417  047400                   .WORD   047417,047400   ; FPS:  BEFORE, AFTER
1887  004524  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
1888
1889
1890                                    ;;*****************************************************************
1891                                    ;*TEST 36       TEST OF ADDF INSTR, DATA SET ADDF-6
1892                                    ;*             ALL INTERRUPT ENABLES ON
1893                                    ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
1894                                    ;;*****************************************************************
1895  004526  000004                   TST36:  SCOPE
1896  004530  012705  004542                   MOV     #ADDF6,R5       ; PTR TO TEST DATA SET
1897  004534  004737  033432                   JSR     PC,@#ADDFT      ; GO TEST
1898
1899  004540  000411                           BR      TST37           ;;
1900
1901  004542                           ADDF6:  ; TEST DATA SET ADDF-6:
1902  004542  042000  000000                   .WORD   042000,000000   ; INITIAL AC FLOAT NUMBER
1903  004546  050177  177777                   .WORD   050177,M1       ; INITIAL MEM FLOAT NUMBER
1904  004552  050177  177777                   .WORD   050177,M1       ; EXPECTED FLOAT RESULT
1905  004556  047457  047440                   .WORD   047457,047440   ; FPS:  BEFORE, AFTER
1906  004562  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
1907
1908
1909                                    ;;*****************************************************************
1910                                    ;*TEST 37        TEST OF ADDF INSTR, DATA SET ADDF-7
1911                                    ;*              ALL INTERRUPT ENABLES ON
1912                                    ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
1913                                    ;;*****************************************************************
1914  004564  000004                    TST37:  SCOPE
1915  004566  012705  004600                    MOV     #ADDF7,R5       ; PTR TO TEST DATA SET
1916  004572  004737  033432                    JSR     PC,@#ADDFT      ; GO TEST
1917
1918  004576  000411                            BR      TST40           ;;
1919
1920  004600                            ADDF7:  ; TEST DATA SET ADDF-7:
1921  004600  141777  177777                    .WORD   141777,M1       ; INITIAL AC FLOAT NUMBER
1922  004604  150177  177777                    .WORD   150177,M1       ; INITIAL MEM FLOAT NUMBER
1923  004610  150177  177777                    .WORD   150177,M1       ; EXPECTED FLOAT RESULT
1924  004614  047507  047510                    .WORD   047507,047510   ; FPS:  BEFORE, AFTER
1925  004620  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
1926
1927
1928                                    ;;*****************************************************************
1929                                    ;*TEST 40        TEST OF ADDF INSTR, DATA SET ADDF-10
1930                                    ;*              ALL INTERRUPT ENABLES ON
1931                                    ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
1932                                    ;;*****************************************************************
1933  004622  000004                    TST40:  SCOPE
1934  004624  012705  004636                    MOV     #ADDF10,R5      ; PTR TO TEST DATA SET
1935  004630  004737  033432                    JSR     PC,@#ADDFT      ; GO TEST
1936
1937  004634  000411                            BR      TST41           ;;
1938
1939  004636                            ADDF10: ; TEST DATA SET ADDF-10:
1940  004636  141777  177777                    .WORD   141777,M1       ; INITIAL AC FLOAT NUMBER
1941  004642  150177  177777                    .WORD   150177,M1       ; INITIAL MEM FLOAT NUMBER
1942  004646  150177  177777                    .WORD   150177,M1       ; EXPECTED FLOAT RESULT
1943  004652  047547  047550                    .WORD   047547,047550   ; FPS:  BEFORE, AFTER
1944  004656  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
1945
1946
1947                                    ;;*****************************************************************
1948                                    ;*TEST 41        TEST OF ADDF INSTR, DATA SET ADDF-11
1949                                    ;*              ALL INTERRUPT ENABLES ON
1950                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
1951                                    ;;*****************************************************************
1952  004660  000004                    TST41:  SCOPE
1953  004662  012705  004674                    MOV     #ADDF11,R5      ; PTR TO TEST DATA SET
1954  004666  004737  033432                    JSR     PC,@#ADDFT      ; GO TEST
1955
1956  004672  000411                            BR      TST42           ;;
1957
1958  004674                            ADDF11: ; TEST DATA SET ADDF-11:
1959  004674  040177  177777                    .WORD   040177,M1       ; INITIAL AC FLOAT NUMBER
1960  004700  032200  000000                    .WORD   032200,000000   ; INITIAL MEM FLOAT NUMBER
1961  004704  040200  000000                    .WORD   040200,000000   ; EXPECTED FLOAT RESULT
1962  004710  047457  047440                    .WORD   047457,047440   ; FPS:  BEFORE, AFTER
```

```
1963  004714  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
1964
1965
1966                                  ;;*****************************************************************
1967                                  ;*TEST 42       TEST OF ADDF INSTR, DATA SET ADDF-12
1968                                  ;*             ALL INTERRUPT ENABLES ON
1969                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
1970                                  ;;*****************************************************************
1971  004716  000004                  TST42:  SCOPE
1972  004720  012705  004732                 MOV     #ADDF12,R5      ; PTR TO TEST DATA SET
1973  004724  004737  033432                 JSR     PC,@#ADDFT      ; GO TEST
1974
1975  004730  000411                  BR      TST43           ;;
1976
1977  004732                          ADDF12: ; TEST DATA SET ADDF-12:
1978  004732  140252  125252                 .WORD   140252,125252   ; INITIAL AC FLOAT NUMBER
1979  004736  140052  125252                 .WORD   140052,125252   ; INITIAL MEM FLOAT NUMBER
1980  004742  140377  177777                 .WORD   140377,M1       ; EXPECTED FLOAT RESULT
1981  004746  047407  047410                 .WORD   047407,047410   ; FPS:  BEFORE, AFTER
1982  004752  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
1983
1984
1985                                  ;;*****************************************************************
1986                                  ;*TEST 43       TEST OF ADDF INSTR, DATA SET ADDF-13
1987                                  ;*             ALL INTERRUPT ENABLES ON
1988                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
1989                                  ;;*****************************************************************
1990  004754  000004                  TST43:  SCOPE
1991  004756  012705  004770                 MOV     #ADDF13,R5      ; PTR TO TEST DATA SET
1992  004762  004737  033432                 JSR     PC,@#ADDFT      ; GO TEST
1993
1994  004766  000411                  BR      TST44           ;;
1995
1996  004770                          ADDF13: ; TEST DATA SET ADDF-13:
1997  004770  040010  104210                 .WORD   040010,104210   ; INITIAL AC FLOAT NUMBER
1998  004774  040010  104210                 .WORD   040010,104210   ; INITIAL MEM FLOAT NUMBER
1999  005000  040210  104210                 .WORD   040210,104210   ; EXPECTED FLOAT RESULT
2000  005004  047557  047540                 .WORD   047557,047540   ; FPS:  BEFORE, AFTER
2001  005010  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
2002
2003
2004                                  ;;*****************************************************************
2005                                  ;*TEST 44       TEST OF ADDF INSTR, DATA SET ADDF-14
2006                                  ;*             ALL INTERRUPT ENABLES ON
2007                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
2008                                  ;;*****************************************************************
2009  005012  000004                  TST44:  SCOPE
2010  005014  012705  005026                 MOV     #ADDF14,R5      ; PTR TO TEST DATA SET
2011  005020  004737  033432                 JSR     PC,@#ADDFT      ; GO TEST
2012
2013  005024  000411                  BR      TST45           ;;
2014
2015  005026                          ADDF14: ; TEST DATA SET ADDF-14:
2016  005026  174177  177777                 .WORD   174177,M1       ; INITIAL AC FLOAT NUMBER
2017  005032  074177  177776                 .WORD   074177,M2       ; INITIAL MEM FLOAT NUMBER
2018  005036  166200  000000                 .WORD   166200,000000   ; EXPECTED FLOAT RESULT
```

```
2019  005042  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
2020  005046  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2021
2022
2023                                  ;;*****************************************************************
2024                                  ;*TEST 45       TEST OF ADDF INSTR, DATA SET ADDF-15
2025                                  ;*             ALL INTERRUPT ENABLES ON
2026                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
2027                                  ;;*****************************************************************
2028  005050  000004                  TST45:  SCOPE
2029  005052  012705  005064                  MOV     #ADDF15,R5      ; PTR TO TEST DATA SET
2030  005056  004737  033432                  JSR     PC,@#ADDFT      ; GO TEST
2031
2032  005062  000411                          BR      TST46           ;;
2033
2034  005064                          ADDF15: ; TEST DATA SET ADDF-15:
2035  005064  142200  000000                  .WORD   142200,000000   ; INITIAL AC FLOAT NUMBER
2036  005070  050177  177777                  .WORD   050177,M1       ; INITIAL MEM FLOAT NUMBER
2037  005074  050177  177776                  .WORD   050177,M2       ; EXPECTED FLOAT RESULT
2038  005100  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
2039  005104  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2040
2041
2042                                  ;;*****************************************************************
2043                                  ;*TEST 46       TEST OF ADDF INSTR, DATA SET ADDF-16
2044                                  ;*             ALL INTERRUPT ENABLES ON
2045                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2046                                  ;;*****************************************************************
2047  005106  000004                  TST46:  SCOPE
2048  005110  012705  005122                  MOV     #ADDF16,R5      ; PTR TO TEST DATA SET
2049  005114  004737  033432                  JSR     PC,@#ADDFT      ; GO TEST
2050
2051  005120  000411                          BR      TST47           ;;
2052
2053  005122                          ADDF16: ; TEST DATA SET ADDF-16:
2054  005122  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
2055  005126  077777  177777                  .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
2056  005132  000177  177777                  .WORD   ZX1MP,M1        ; EXPECTED FLOAT RESULT
2057  005136  047451  147446                  .WORD   047451,147446   ; FPS:  BEFORE, AFTER
2058  005142  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
2059
2060
2061                                  ;;*****************************************************************
2062                                  ;*TEST 47       TEST OF ADDF INSTR, DATA SET ADDF-17
2063                                  ;*             ALL INTERRUPT ENABLES ON
2064                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
2065                                  ;;*****************************************************************
2066  005144  000004                  TST47:  SCOPE
2067  005146  012705  005160                  MOV     #ADDF17,R5      ; PTR TO TEST DATA SET
2068  005152  004737  033432                  JSR     PC,@#ADDFT      ; GO TEST
2069
2070  005156  000411                          BR      TST50           ;;
2071
2072  005160                          ADDF17: ; TEST DATA SET ADDF-17:
2073  005160  104000  000000                  .WORD   104000,0        ; INITIAL AC FLOAT NUMBER
2074  005164  004000  000001                  .WORD   004000,1        ; INITIAL MEM FLOAT NUMBER
```

```
2075  005170  076200  000000                  .WORD   076200,0          ; EXPECTED FLOAT RESULT
2076  005174  047517  147500                  .WORD   047517,147500     ; FPS:  BEFORE, AFTER
2077  005200  100012                         .WORD   100012            ; FEC AFTER ( 0 = N/A )
2078
2079
2080                                  ;;*****************************************************************
2081                                  ;*TEST 50        TEST OF ADDF INSTR, DATA SET ADDF-20
2082                                  ;*              ALL INTERRUPT ENABLES ON
2083                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2084                                  ;;*****************************************************************
2085  005202  000004                  TST50:  SCOPE
2086  005204  012705  005216                 MOV     #ADDF20,R5        ; PTR TO TEST DATA SET
2087  005210  004737  033432                 JSR     PC,@#ADDFT        ; GO TEST
2088
2089  005214  000411                         BR      TST51             ;;
2090
2091  005216                          ADDF20: ; TEST DATA SET ADDF-20:
2092  005216  177777  177777                 .WORD   LGN,M1    ; INITIAL AC FLOAT NUMBER
2093  005222  100000  000000                 .WORD   M0,0      ; INITIAL MEM FLOAT NUMBER
2094  005226  177777  177777                 .WORD   LGN,M1    ; EXPECTED FLOAT RESULT
2095  005232  047543  147543                 .WORD   047543,147543     ; FPS:  BEFORE, AFTER
2096  005236  100014                         .WORD   100014            ; FEC AFTER ( 0 = N/A )
2097
2098
2099                                  ;;*****************************************************************
2100                                  ;*TEST 51        TEST OF ADDF INSTR, DATA SET ADDF-21
2101                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2102                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
2103                                  ;;*****************************************************************
2104  005240  000004                  TST51:  SCOPE
2105  005242  012705  005254                 MOV     #ADDF21,R5        ; PTR TO TEST DATA SET
2106  005246  004737  033432                 JSR     PC,@#ADDFT        ; GO TEST
2107
2108  005252  000411                         BR      TST52             ;;
2109
2110  005254                          ADDF21: ; TEST DATA SET ADDF-21:
2111  005254  177777  177777                 .WORD   LGN,M1    ; INITIAL AC FLOAT NUMBER
2112  005260  177777  177777                 .WORD   LGN,M1    ; INITIAL MEM FLOAT NUMBER
2113  005264  000000  000000                 .WORD   0,0       ; EXPECTED FLOAT RESULT
2114  005270  046511  046506                 .WORD   046511,046506     ; FPS:  BEFORE, AFTER
2115  005274  000000                         .WORD   NA                ; FEC AFTER ( 0 = N/A )
2116
2117
2118                                  ;;*****************************************************************
2119                                  ;*TEST 52        TEST OF ADDF INSTR, DATA SET ADDF-22
2120                                  ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
2121                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2122                                  ;;*****************************************************************
2123  005276  000004                  TST52:  SCOPE
2124  005300  012705  005312                 MOV     #ADDF22,R5        ; PTR TO TEST DATA SET
2125  005304  004737  033432                 JSR     PC,@#ADDFT        ; GO TEST
2126
2127  005310  000411                         BR      TST53             ;;
2128
2129  005312                          ADDF22: ; TEST DATA SET ADDF-22:
2130  005312  052525  052525                 .WORD   ALTP,ALTP         ; INITIAL AC FLOAT NUMBER
```

```
2131  005316  100177  177777                  .WORD   ZX1MN,M1          ; INITIAL MEM FLOAT NUMBER
2132  005322  052525  052525                  .WORD   ALTP,ALTP          ; EXPECTED FLOAT RESULT
2133  005326  043717  043700                  .WORD   043717,043700      ; FPS:  BEFORE, AFTER
2134  005332  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
2135
2136
2137                                  ;;*****************************************************************
2138                                  ;*TEST 53       TEST OF ADDF INSTR, DATA SET ADDF-23
2139                                  ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2140                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
2141                                  ;*****************************************************************
2142  005334  000004                  TST53:  SCOPE
2143  005336  012705  005350                  MOV     #ADDF23,R5         ; PTR TO TEST DATA SET
2144  005342  004737  033432                  JSR     PC,@#ADDFT         ; GO TEST
2145
2146  005346  000411                          BR      TST54              ;;
2147
2148  005350                          ADDF23: ; TEST DATA SET ADDF-23:
2149  005350  004000  000001                  .WORD   004000,000001      ; INITIAL AC FLOAT NUMBER
2150  005354  104000  000000                  .WORD   104000,000000      ; INITIAL MEM FLOAT NUMBER
2151  005360  000000  000000                  .WORD   000000,000000      ; EXPECTED FLOAT RESULT
2152  005364  045413  045404                  .WORD   045413,045404      ; FPS:  BEFORE, AFTER
2153  005370  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
2154
2155
2156
```

```
                                ;;*****************************************************************
                                ;*TEST 54        TEST OF ADDD INSTR, DATA SET ADDD-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
005372  000004                  TST54:  SCOPE
005374  012705  005406                  MOV     #ADDD1,R5       ; PTR TO TEST DATA SET
005400  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST

005404  000417                          BR      TST55           ;;

005406                          ADDD1:  ; TEST DATA SET ADDD-1:
005406  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
005414  177777
005416  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
005424  000000
005426  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
005434  000000
005436  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
005442  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 55        TEST OF ADDD INSTR, DATA SET ADDD-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
005444  000004                  TST55:  SCOPE
005446  012705  005460                  MOV     #ADDD2,R5       ; PTR TO TEST DATA SET
005452  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST

005456  000417                          BR      TST56           ;;

005460                          ADDD2:  ; TEST DATA SET ADDD-2:
005460  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
005466  125252
005470  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
005476  000000
005500  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; EXPECTED FLOAT RESULT
005506  125252
005510  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
005514  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 56        TEST OF ADDD INSTR, DATA SET ADDD-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
005516  000004                  TST56:  SCOPE
005520  012705  005532                  MOV     #ADDD3,R5       ; PTR TO TEST DATA SET
005524  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST

005530  000417                          BR      TST57           ;;

005532                          ADDD3:  ; TEST DATA SET ADDD-3:
```

```
2213  005532  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
2214  005540  177777
2215  005542  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL MEM FLOAT NUMBER
2216  005550  052525
2217  005552  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; EXPECTED FLOAT RESULT
2218  005560  052525
2219  005562  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
2220  005566  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2221
2222
2223                                  ;;*****************************************************************
2224                                  ;*TEST 57       TEST OF ADDD INSTR, DATA SET ADDD-4
2225                                  ;*              ALL INTERRUPT ENABLES ON
2226                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
2227                                  ;;*****************************************************************
2228  005570  000004                  TST57:  SCOPE
2229  005572  012705  005604                  MOV     #ADDD4,R5       ; PTR TO TEST DATA SET
2230  005576  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2231
2232  005602  000417                          BR      TST60           ;;
2233
2234  005604                          ADDD4:  ; TEST DATA SET ADDD-4:
2235  005604  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2236  005612  177777
2237  005614  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
2238  005622  177777
2239  005624  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2240  005632  000000
2241  005634  047653  047644                  .WORD   047653,047644   ; FPS:  BEFORE, AFTER
2242  005640  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2243
2244
2245                                  ;;*****************************************************************
2246                                  ;*TEST 60       TEST OF ADDD INSTR, DATA SET ADDD-5
2247                                  ;*              ALL INTERRUPT ENABLES ON
2248                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2249                                  ;;*****************************************************************
2250  005642  000004                  TST60:  SCOPE
2251  005644  012705  005656                  MOV     #ADDD5,R5       ; PTR TO TEST DATA SET
2252  005650  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2253
2254  005654  000417                          BR      TST61           ;;
2255
2256  005656                          ADDD5:  ; TEST DATA SET ADDD-5:
2257  005656  166177  177777  177777          .WORD   166177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2258  005664  177777
2259  005666  150000  000000  000000          .WORD   150000,0,0,0    ; INITIAL MEM FLOAT NUMBER
2260  005674  000000
2261  005676  166200  000000  000000          .WORD   166200,0,0,0    ; EXPECTED FLOAT RESULT
2262  005704  000000
2263  005706  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
2264  005712  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2265
2266
2267                                  ;;*****************************************************************
2268                                  ;*TEST 61       TEST OF ADDD INSTR, DATA SET ADDD-6
```

```
2269                                    ;*              ALL INTERRUPT ENABLES ON
2270                                    ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
2271                                    ;;**************************************************************
2272  005714  000004                    TST61:  SCOPE
2273  005716  012705  005730                    MOV     #ADDD6,R5       ; PTR TO TEST DATA SET
2274  005722  004737  033602                    JSR     PC,@#ADDDT      ; GO TEST
2275
2276  005726  000417                            BR      TST62           ;;
2277
2278  005730                            ADDD6:  ; TEST DATA SET ADDD-6:
2279  005730  166177  177777  177777            .WORD   166177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2280  005736  177777
2281  005740  150000  000000  000000            .WORD   150000,0,0,0    ; INITIAL MEM FLOAT NUMBER
2282  005746  000000
2283  005750  166177  177777  177777            .WORD   166177,M1,M1,M1 ; EXPECTED FLOAT RESULT
2284  005756  177777
2285  005760  047647  047650                    .WORD   047647,047650   ; FPS:  BEFORE, AFTER
2286  005764  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
2287
2288
2289                                    ;;**************************************************************
2290                                    ;*TEST 62        TEST OF ADDD INSTR, DATA SET ADDD-7
2291                                    ;*              ALL INTERRUPT ENABLES ON
2292                                    ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2293                                    ;;**************************************************************
2294  005766  000004                    TST62:  SCOPE
2295  005770  012705  006002                    MOV     #ADDD7,R5       ; PTR TO TEST DATA SET
2296  005774  004737  033602                    JSR     PC,@#ADDDT      ; GO TEST
2297
2298  006000  000417                            BR      TST63           ;;
2299
2300  006002                            ADDD7:  ; TEST DATA SET ADDD-7:
2301  006002  066177  177777  177777            .WORD   066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2302  006010  177777
2303  006012  047777  177777  177777            .WORD   047777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2304  006020  177777
2305  006022  066177  177777  177777            .WORD   066177,M1,M1,M1 ; EXPECTED FLOAT RESULT
2306  006030  177777
2307  006032  047717  047700                    .WORD   047717,047700   ; FPS:  BEFORE, AFTER
2308  006036  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
2309
2310
2311                                    ;;**************************************************************
2312                                    ;*TEST 63        TEST OF ADDD INSTR, DATA SET ADDD-10
2313                                    ;*              ALL INTERRUPT ENABLES ON
2314                                    ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2315                                    ;;**************************************************************
2316  006040  000004                    TST63:  SCOPE
2317  006042  012705  006054                    MOV     #ADDD10,R5      ; PTR TO TEST DATA SET
2318  006046  004737  033602                    JSR     PC,@#ADDDT      ; GO TEST
2319
2320  006052  000417                            BR      TST64           ;;
2321
2322  006054                            ADDD10: ; TEST DATA SET ADDD-10:
2323  006054  066177  177777  177777            .WORD   066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2324  006062  177777
```

```
2325  006064  047777  177777  177777          .WORD   047777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2326  006072  177777
2327  006074  066177  177777  177777          .WORD   066177,M1,M1,M1 ; EXPECTED FLOAT RESULT
2328  006102  177777
2329  006104  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
2330  006110  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2331
2332
2333                                  ;;*****************************************************************
2334                                  ;*TEST 64        TEST OF ADDD INSTR, DATA SET ADDD-11
2335                                  ;*              ALL INTERRUPT ENABLES ON
2336                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2337                                  ;;*****************************************************************
2338  006112  000004                  TST64:  SCOPE
2339  006114  012705  006126                  MOV     #ADDD11,R5      ; PTR TO TEST DATA SET
2340  006120  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2341
2342  006124  000417                          BR      TST65           ;;
2343
2344  006126                          ADDD11: ; TEST DATA SET ADDD-11:
2345  006126  004010  104210  104210          .WORD   004010,P13Z,P13Z,P13Z   ; INITIAL AC FLOAT NUMBER
2346  006134  104210
2347  006136  004010  104210  104210          .WORD   004010,P13Z,P13Z,P13Z   ; INITIAL MEM FLOAT NUMBER
2348  006144  104210
2349  006146  004210  104210  104210          .WORD   004210,P13Z,P13Z,P13Z   ; EXPECTED FLOAT RESULT
2350  006154  104210
2351  006156  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
2352  006162  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2353
2354
2355                                  ;;*****************************************************************
2356                                  ;*TEST 65        TEST OF ADDD INSTR, DATA SET ADDD-12
2357                                  ;*              ALL INTERRUPT ENABLES ON
2358                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2359                                  ;;*****************************************************************
2360  006164  000004                  TST65:  SCOPE
2361  006166  012705  006200                  MOV     #ADDD12,R5      ; PTR TO TEST DATA SET
2362  006172  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2363
2364  006176  000417                          BR      TST66           ;;
2365
2366  006200                          ADDD12: ; TEST DATA SET ADDD-12:
2367  006200  122200  000000  000000          .WORD   122200,0,0,0    ; INITIAL AC FLOAT NUMBER
2368  006206  000000
2369  006210  140177  177777  177777          .WORD   140177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2370  006216  177777
2371  006220  140200  000000  000000          .WORD   140200,0,0,0    ; EXPECTED FLOAT RESULT
2372  006226  000000
2373  006230  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
2374  006234  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2375
2376
2377                                  ;;*****************************************************************
2378                                  ;*TEST 66        TEST OF ADDD INSTR, DATA SET ADDD-13
2379                                  ;*              ALL INTERRUPT ENABLES ON
2380                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
```

```
2381                                    ;;*****************************************************************
2382  006236  000004                    TST66:  SCOPE
2383  006240  012705  006252                    MOV     #ADDD13,R5      ; PTR TO TEST DATA SET
2384  006244  004737  033602                    JSR     PC,@#ADDDT      ; GO TEST
2385
2386  006250  000417                            BR      TST67           ;;
2387
2388  006252                            ADDD13: ; TEST DATA SET ADDD-13:
2389  006252  042252  125252  125252            .WORD   042252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
2390  006260  125252
2391  006262  042052  125252  125252            .WORD   042052,ALTN,ALTN,ALTN   ; INITIAL MEM FLOAT NUMBER
2392  006270  125252
2393  006272  042377  177777  177777            .WORD   042377,M1,M1,M1 ; EXPECTED FLOAT RESULT
2394  006300  177777
2395  006302  047717  047700                    .WORD   047717,047700   ; FPS:  BEFORE, AFTER
2396  006306  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
2397
2398
2399                                    ;;*****************************************************************
2400                                    ;*TEST 67        TEST OF ADDD INSTR, DATA SET ADDD-14
2401                                    ;*              ALL INTERRUPT ENABLES ON
2402                                    ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2403                                    ;;*****************************************************************
2404  006310  000004                    TST67:  SCOPE
2405  006312  012705  006324                    MOV     #ADDD14,R5      ; PTR TO TEST DATA SET
2406  006316  004737  033602                    JSR     PC,@#ADDDT      ; GO TEST
2407
2408  006322  000417                            BR      TST70           ;;
2409
2410  006324                            ADDD14: ; TEST DATA SET ADDD-14:
2411  006324  074177  177777  177777            .WORD   074177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2412  006332  177777
2413  006334  174177  177777  177777            .WORD   174177,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
2414  006342  177776
2415  006344  056200  000000  000000            .WORD   056200,0,0,0    ; EXPECTED FLOAT RESULT
2416  006352  000000
2417  006354  047617  047600                    .WORD   047617,047600   ; FPS:  BEFORE, AFTER
2418  006360  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
2419
2420
2421                                    ;;*****************************************************************
2422                                    ;*TEST 70        TEST OF ADDD INSTR, DATA SET ADDD-15
2423                                    ;*              ALL INTERRUPT ENABLES ON
2424                                    ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2425                                    ;;*****************************************************************
2426  006362  000004                    TST70:  SCOPE
2427  006364  012705  006376                    MOV     #ADDD15,R5      ; PTR TO TEST DATA SET
2428  006370  004737  033602                    JSR     PC,@#ADDDT      ; GO TEST
2429
2430  006374  000417                            BR      TST71           ;;
2431
2432  006376                            ADDD15: ; TEST DATA SET ADDD-15:
2433  006376  132200  000000  000000            .WORD   132200,0,0,0    ; INITIAL AC FLOAT NUMBER
2434  006404  000000
2435  006406  050177  177777  177777            .WORD   050177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2436  006414  177777
```

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2437  006416  050177  177777  177777          .WORD   050177,M1,M1,M2 ; EXPECTED FLOAT RESULT
2438  006424  177776
2439  006426  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
2440  006432  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2441
2442
2443                                  ;;*****************************************************************
2444                                  ;*TEST 71       TEST OF ADDD INSTR, DATA SET ADDD-16
2445                                  ;*             ALL INTERRUPT ENABLES ON
2446                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
2447                                  ;;*****************************************************************
2448  006434  000004                  TST71:  SCOPE
2449  006436  012705  006450                  MOV     #ADDD16,R5      ; PTR TO TEST DATA SET
2450  006442  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2451
2452  006446  000417                          BR      TST72           ;;
2453
2454  006450                          ADDD16: ; TEST DATA SET ADDD-16:
2455  006450  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2456  006456  177777
2457  006460  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
2458  006466  177777
2459  006470  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; EXPECTED FLOAT RESULT
2460  006476  177777
2461  006500  047603  147603                  .WORD   047603,147603   ; FPS:  BEFORE, AFTER
2462  006504  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
2463
2464
2465                                  ;;*****************************************************************
2466                                  ;*TEST 72       TEST OF ADDD INSTR, DATA SET ADDD-17
2467                                  ;*             ALL INTERRUPT ENABLES ON
2468                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
2469                                  ;;*****************************************************************
2470  006506  000004                  TST72:  SCOPE
2471  006510  012705  006522                  MOV     #ADDD17,R5      ; PTR TO TEST DATA SET
2472  006514  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2473
2474  006520  000417                          BR      TST73           ;;
2475
2476  006522                          ADDD17: ; TEST DATA SET ADDD-17:
2477  006522  102000  000000  000000          .WORD   102000,0,0,1    ; INITIAL AC FLOAT NUMBER
2478  006530  000001
2479  006532  002000  000000  000000          .WORD   002000,0,0,0    ; INITIAL MEM FLOAT NUMBER
2480  006540  000000
2481  006542  164200  000000  000000          .WORD   164200,0,0,0    ; EXPECTED FLOAT RESULT
2482  006550  000000
2483  006552  047647  147650                  .WORD   047647,147650   ; FPS:  BEFORE, AFTER
2484  006556  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
2485
2486
2487                                  ;;*****************************************************************
2488                                  ;*TEST 73       TEST OF ADDD INSTR, DATA SET ADDD-20
2489                                  ;*             ALL INTERRUPT ENABLES ON
2490                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
2491                                  ;;*****************************************************************
2492  006560  000004                  TST73:  SCOPE
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2493  006562  012705  006574                  MOV     #ADDD20,R5      ; PTR TO TEST DATA SET
2494  006566  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2495
2496  006572  000417                          BR      TST74           ;;
2497
2498  006574                          ADDD20: ; TEST DATA SET ADDD-20:
2499  006574  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2500  006602  177777
2501  006604  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
2502  006612  177777
2503  006614  100177  177777  177777          .WORD   2X1MN,M1,M1,M1  ; EXPECTED FLOAT RESULT
2504  006622  177777
2505  006624  047701  147716                  .WORD   047701,147716   ; FPS:  BEFORE, AFTER
2506  006630  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
2507
2508
2509                                  ;;*****************************************************************
2510                                  ;*TEST 74        TEST OF ADDD INSTR, DATA SET ADDD-21
2511                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2512                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2513                                  ;;*****************************************************************
2514  006632  000004                  TST74:  SCOPE
2515  006634  012705  006646                  MOV     #ADDD21,R5      ; PTR TO TEST DATA SET
2516  006640  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2517
2518  006644  000417                          BR      TST75           ;;
2519
2520  006646                          ADDD21: ; TEST DATA SET ADDD-21:
2521  006646  002000  000000  000000          .WORD   002000,0,0,0    ; INITIAL AC FLOAT NUMBER
2522  006654  000000
2523  006656  102000  000000  000000          .WORD   102000,0,0,2    ; INITIAL MEM FLOAT NUMBER
2524  006664  000002
2525  006666  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2526  006674  000000
2527  006676  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
2528  006702  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2529
2530
2531                                  ;;*****************************************************************
2532                                  ;*TEST 75        TEST OF ADDD INSTR, DATA SET ADDD-22
2533                                  ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
2534                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2535                                  ;;*****************************************************************
2536  006704  000004                  TST75:  SCOPE
2537  006706  012705  006720                  MOV     #ADDD22,R5      ; PTR TO TEST DATA SET
2538  006712  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2539
2540  006716  000417                          BR      TST76           ;;
2541
2542  006720                          ADDD22: ; TEST DATA SET ADDD-22:
2543  006720  077777  000000  177777          .WORD   LGP,0,M1,0      ; INITIAL AC FLOAT NUMBER
2544  006726  000000
2545  006730  100000  000000  000000          .WORD   M0,0,0,0        ; INITIAL MEM FLOAT NUMBER
2546  006736  000000
2547  006740  077777  000000  177777          .WORD   LGP,0,M1,0      ; EXPECTED FLOAT RESULT
2548  006746  000000
```

```
2549  006750  043757  043740                  .WORD   043757,043740   ; FPS:  BEFORE, AFTER
2550  006754  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
2551
2552
2553                                  ;;*****************************************************************
2554                                  ;*TEST 76       TEST OF ADDD INSTR, DATA SET ADDD-23
2555                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2556                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
2557                                  ;;*****************************************************************
2558  006756  000004                  TST76:  SCOPE
2559  006760  012705  006772                  MOV     #ADDD23,R5      ; PTR TO TEST DATA SET
2560  006764  004737  033602                  JSR     PC,@#ADDDT      ; GO TEST
2561
2562  006770  000417                          BR      TST77           ;;
2563
2564  006772                          ADDD23: ; TEST DATA SET ADDD-23:
2565  006772  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2566  007000  177777
2567  007002  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
2568  007010  177777
2569  007012  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2570  007020  000000
2571  007022  046611  046606                  .WORD   046611,046606   ; FPS:  BEFORE, AFTER
2572  007026  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
2573
2574
2575
```

```
                                ;;*****************************************************************
                                ;*TEST 77        TEST OF SUBF INSTR, DATA SET SUBF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
007030  000004                  TST77:  SCOPE
007032  012705  007044                  MOV     #SUBF1,R5       ; PTR TO TEST DATA SET
007036  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST
                                
007042  000411                          BR      TST100          ;;
                                
007044                          SUBF1:  ; TEST DATA SET SUBF-1:
007044  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
007050  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
007054  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007060  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
007064  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                
                                
                                ;;*****************************************************************
                                ;*TEST 100       TEST OF SUBF INSTR, DATA SET SUBF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
007066  000004                  TST100: SCOPE
007070  012705  007102                  MOV     #SUBF2,R5       ; PTR TO TEST DATA SET
007074  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST
                                
007100  000411                          BR      TST101          ;;
                                
007102                          SUBF2:  ; TEST DATA SET SUBF-2:
007102  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
007106  000177  125252                  .WORD   ZX1MP,ALTN      ; INITIAL MEM FLOAT NUMBER
007112  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007116  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
007122  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                
                                
                                ;;*****************************************************************
                                ;*TEST 101       TEST OF SUBF INSTR, DATA SET SUBF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
007124  000004                  TST101: SCOPE
007126  012705  007140                  MOV     #SUBF3,R5       ; PTR TO TEST DATA SET
007132  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST
                                
007136  000411                          BR      TST102          ;;
                                
007140                          SUBF3:  ; TEST DATA SET SUBF-3:
007140  000177  052525                  .WORD   ZX1MP,ALTP      ; INITIAL AC FLOAT NUMBER
007144  100345  123456                  .WORD   100345,123456   ; INITIAL MEM FLOAT NUMBER
007150  000345  123456                  .WORD   000345,123456   ; EXPECTED FLOAT RESULT
007154  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
007160  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 102       TEST OF SUBF INSTR, DATA SET SUBF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
007162  000004                  TST102: SCOPE
007164  012705  007176                  MOV     #SUBF4,R5       ; PTR TO TEST DATA SET
007170  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST

007174  000411                          BR      TST103          ;;

007176                          SUBF4:  ; TEST DATA SET SUBF-4:
007176  040200  000000                  .WORD   F1P,0   ; INITIAL AC FLOAT NUMBER
007202  040200  000000                  .WORD   F1P,0   ; INITIAL MEM FLOAT NUMBER
007206  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007212  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
007216  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 103       TEST OF SUBF INSTR, DATA SET SUBF-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
007220  000004                  TST103: SCOPE
007222  012705  007234                  MOV     #SUBF5,R5       ; PTR TO TEST DATA SET
007226  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST

007232  000411                          BR      TST104          ;;

007234                          SUBF5:  ; TEST DATA SET SUBF-5:
007234  140200  000000                  .WORD   F1N,0   ; INITIAL AC FLOAT NUMBER
007240  140200  000000                  .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
007244  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007250  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
007254  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 104       TEST OF SUBF INSTR, DATA SET SUBF-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
007256  000004                  TST104: SCOPE
007260  012705  007272                  MOV     #SUBF6,R5       ; PTR TO TEST DATA SET
007264  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST

007270  000411                          BR      TST105          ;;

007272                          SUBF6:  ; TEST DATA SET SUBF-6:
007272  150365  052525                  .WORD   150365,ALTP     ; INITIAL AC FLOAT NUMBER
007276  047252  125252                  .WORD   047252,ALTN     ; INITIAL MEM FLOAT NUMBER
007302  150377  177777                  .WORD   150377,M1       ; EXPECTED FLOAT RESULT
007306  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
007312  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
2688
2689
2690                                    ;;*****************************************************************
2691                                    ;*TEST 105       TEST OF SUBF INSTR, DATA SET SUBF-7
2692                                    ;*              ALL INTERRUPT ENABLES ON
2693                                    ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
2694                                    ;;*****************************************************************
2695  007314  000004                    TST105: SCOPE
2696  007316  012705  007330                    MOV     #SUBF7,R5       ; PTR TO TEST DATA SET
2697  007322  004737  033772                    JSR     PC,@#SUBFT      ; GO TEST
2698
2699  007326  000411                            BR      TST106          ;;
2700
2701  007330                            SUBF7:  ; TEST DATA SET SUBF-7:
2702  007330  050365  052525                    .WORD   050365,ALTP     ; INITIAL AC FLOAT NUMBER
2703  007334  147252  125252                    .WORD   147252,ALTN     ; INITIAL MEM FLOAT NUMBER
2704  007340  050400  000000                    .WORD   050400,0        ; EXPECTED FLOAT RESULT
2705  007344  047517  047500                    .WORD   047517,047500   ; FPS:  BEFORE, AFTER
2706  007350  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
2707
2708
2709                                    ;;*****************************************************************
2710                                    ;*TEST 106       TEST OF SUBF INSTR, DATA SET SUBF-10
2711                                    ;*              ALL INTERRUPT ENABLES ON
2712                                    ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2713                                    ;;*****************************************************************
2714  007352  000004                    TST106: SCOPE
2715  007354  012705  007366                    MOV     #SUBF10,R5      ; PTR TO TEST DATA SET
2716  007360  004737  033772                    JSR     PC,@#SUBFT      ; GO TEST
2717
2718  007364  000411                            BR      TST107          ;;
2719
2720  007366                            SUBF10: ; TEST DATA SET SUBF-10:
2721  007366  077777  177777                    .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
2722  007372  100177  177777                    .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
2723  007376  077777  177777                    .WORD   LGP,M1  ; EXPECTED FLOAT RESULT
2724  007402  047555  147555                    .WORD   047555,147555   ; FPS:  BEFORE, AFTER
2725  007406  100014                            .WORD   100014          ; FEC AFTER ( 0 = N/A )
2726
2727
2728                                    ;;*****************************************************************
2729                                    ;*TEST 107       TEST OF SUBF INSTR, DATA SET SUBF-11
2730                                    ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
2731                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2732                                    ;;*****************************************************************
2733  007410  000004                    TST107: SCOPE
2734  007412  012705  007424                    MOV     #SUBF11,R5      ; PTR TO TEST DATA SET
2735  007416  004737  033772                    JSR     PC,@#SUBFT      ; GO TEST
2736
2737  007422  000411                            BR      TST110          ;;
2738
2739  007424                            SUBF11: ; TEST DATA SET SUBF-11:
2740  007424  077777  177777                    .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
2741  007430  100177  177777                    .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
2742  007434  077777  177777                    .WORD   LGP,M1  ; EXPECTED FLOAT RESULT
2743  007440  043457  043440                    .WORD   043457,043440   ; FPS:  BEFORE, AFTER
```

```
2744  007444  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
2745
2746
2747                                  ;;*****************************************************************
2748                                  ;*TEST 110      TEST OF SUBF INSTR, DATA SET SUBF-12
2749                                  ;*             ALL INTERRUPT ENABLES ON
2750                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2751                                  ;;*****************************************************************
2752  007446  000004                  TST110: SCOPE
2753  007450  012705  007462                  MOV     #SUBF12,R5      ; PTR TO TEST DATA SET
2754  007454  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST
2755
2756  007460  000411                          BR      TST111          ;;
2757
2758  007462                          SUBF12: ; TEST DATA SET SUBF-12:
2759  007462  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
2760  007466  071600  000000                  .WORD   071600,0        ; INITIAL MEM FLOAT NUMBER
2761  007472  177777  177777                  .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
2762  007476  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
2763  007502  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2764
2765
2766                                  ;;*****************************************************************
2767                                  ;*TEST 111      TEST OF SUBF INSTR, DATA SET SUBF-13
2768                                  ;*             ALL INTERRUPT ENABLES ON
2769                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
2770                                  ;;*****************************************************************
2771  007504  000004                  TST111: SCOPE
2772  007506  012705  007520                  MOV     #SUBF13,R5      ; PTR TO TEST DATA SET
2773  007512  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST
2774
2775  007516  000411                          BR      TST112          ;;
2776
2777  007520                          SUBF13: ; TEST DATA SET SUBF-13:
2778  007520  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
2779  007524  071600  000000                  .WORD   071600,0        ; INITIAL MEM FLOAT NUMBER
2780  007530  100000  000000                  .WORD   M0,0    ; EXPECTED FLOAT RESULT
2781  007534  047501  147516                  .WORD   047501,147516   ; FPS:  BEFORE, AFTER
2782  007540  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
2783
2784
2785                                  ;;*****************************************************************
2786                                  ;*TEST 112      TEST OF SUBF INSTR, DATA SET SUBF-14
2787                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2788                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
2789                                  ;;*****************************************************************
2790  007542  000004                  TST112: SCOPE
2791  007544  012705  007556                  MOV     #SUBF14,R5      ; PTR TO TEST DATA SET
2792  007550  004737  033772                  JSR     PC,@#SUBFT      ; GO TEST
2793
2794  007554  000411                          BR      TST113          ;;
2795
2796  007556                          SUBF14: ; TEST DATA SET SUBF-14:
2797  007556  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
2798  007562  071600  000000                  .WORD   071600,0        ; INITIAL MEM FLOAT NUMBER
2799  007566  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
```

```
2800  007572  046511  046506                .WORD   046511,046506   ; FPS:  BEFORE, AFTER
2801  007576  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
2802
2803
2804                                ;;*****************************************************************
2805                                ;*TEST 113      TEST OF SUBF INSTR, DATA SET SUBF-15
2806                                ;*             ALL INTERRUPT ENABLES ON
2807                                ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2808                                ;;*****************************************************************
2809  007600  000004                TST113: SCOPE
2810  007602  012705  007614                MOV     #SUBF15,R5      ; PTR TO TEST DATA SET
2811  007606  004737  033772                JSR     PC,@#SUBFT      ; GO TEST
2812
2813  007612  000411                        BR      TST114          ;;
2814
2815  007614                        SUBF15: ; TEST DATA SET SUBF-15:
2816  007614  004200  000000                .WORD   004200,0        ; INITIAL AC FLOAT NUMBER
2817  007620  004200  000001                .WORD   004200,1        ; INITIAL MEM FLOAT NUMBER
2818  007624  176400  000000                .WORD   176400,0        ; EXPECTED FLOAT RESULT
2819  007630  047447  147450                .WORD   047447,147450   ; FPS:  BEFORE, AFTER
2820  007634  100012                        .WORD   100012          ; FEC AFTER ( 0 = N/A )
2821
2822
2823                                ;;*****************************************************************
2824                                ;*TEST 114      TEST OF SUBF INSTR, DATA SET SUBF-16
2825                                ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2826                                ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2827                                ;;*****************************************************************
2828  007636  000004                TST114: SCOPE
2829  007640  012705  007652                MOV     #SUBF16,R5      ; PTR TO TEST DATA SET
2830  007644  004737  033772                JSR     PC,@#SUBFT      ; GO TEST
2831
2832  007650  000411                        BR      TST115          ;;
2833
2834  007652                        SUBF16: ; TEST DATA SET SUBF-16:
2835  007652  004200  000000                .WORD   004200,0        ; INITIAL AC FLOAT NUMBER
2836  007656  004200  000001                .WORD   004200,1        ; INITIAL MEM FLOAT NUMBER
2837  007662  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
2838  007666  045453  045444                .WORD   045453,045444   ; FPS:  BEFORE, AFTER
2839  007672  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
2840
2841
2842
```

```
                                        ;;*****************************************************************
                                        ;*TEST 115      TEST OF SUBD INSTR, DATA SET SUBD-1
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
007674  000004                          TST115: SCOPE
007676  012705  007710                          MOV     #SUBD1,R5       ; PTR TO TEST DATA SET
007702  004737  034142                          JSR     PC,@#SUBDT      ; GO TEST
007706  000417                          TST116  BR      TST116          ;;
007710                                  SUBD1:  ; TEST DATA SET SUBD-1:
007710  000000  000000  000000                  .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
007716  000000
007720  000000  000000  000000                  .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
007726  000000
007730  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
007736  000000
007740  047753  047744                          .WORD   047753,047744   ; FPS:  BEFORE, AFTER
007744  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                        ;;*****************************************************************
                                        ;*TEST 116      TEST OF SUBD INSTR, DATA SET SUBD-2
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;*****************************************************************
007746  000004                          TST116: SCOPE
007750  012705  007762                          MOV     #SUBD2,R5       ; PTR TO TEST DATA SET
007754  004737  034142                          JSR     PC,@#SUBDT      ; GO TEST
007760  000417                          TST117  BR      TST117          ;;
007762                                  SUBD2:  ; TEST DATA SET SUBD-2:
007762  000177  052525  052525                  .WORD   ZX1MP,ALTP,ALTP,ALTP    ; INITIAL AC FLOAT NUMBER
007770  052525
007772  000177  177777  177777                  .WORD   ZX1MP,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
010000  177777
010002  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
010010  000000
010012  047713  047704                          .WORD   047713,047704   ; FPS:  BEFORE, AFTER
010016  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                        ;;*****************************************************************
                                        ;*TEST 117      TEST OF SUBD INSTR, DATA SET SUBD-3
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
010020  000004                          TST117: SCOPE
010022  012705  010034                          MOV     #SUBD3,R5       ; PTR TO TEST DATA SET
010026  004737  034142                          JSR     PC,@#SUBDT      ; GO TEST
010032  000417                          TST120  BR      TST120          ;;
010034                                  SUBD3:  ; TEST DATA SET SUBD-3:
```

```
2899  010034  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
2900  010042  000000
2901  010044  012345  177777  125252          .WORD   012345,M1,ALTN,M0       ; INITIAL MEM FLOAT NUMBER
2902  010052  100000
2903  010054  112345  177777  125252          .WORD   112345,M1,ALTN,M0       ; EXPECTED FLOAT RESULT
2904  010062  100000
2905  010064  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
2906  010070  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2907
2908
2909                                  ;;*****************************************************************
2910                                  ;*TEST 120      TEST OF SUBD INSTR, DATA SET SUBD-4
2911                                  ;*             ALL INTERRUPT ENABLES ON
2912                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2913                                  ;;*****************************************************************
2914  010072  000004                  TST120: SCOPE
2915  010074  012705  010106                  MOV     #SUBD4,R5       ; PTR TO TEST DATA SET
2916  010100  004737  034142                  JSR     PC,@#SUBDT      ; GO TEST
2917
2918  010104  000417                          BR      TST121          ;;
2919
2920  010106                          SUBD4:  ; TEST DATA SET SUBD-4:
2921  010106  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
2922  010114  000000
2923  010116  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL MEM FLOAT NUMBER
2924  010124  000000
2925  010126  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2926  010134  000000
2927  010136  047753  047744                  .WORD   047753,047744   ; FPS:  BEFORE, AFTER
2928  010142  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2929
2930
2931                                  ;;*****************************************************************
2932                                  ;*TEST 121      TEST OF SUBD INSTR, DATA SET SUBD-5
2933                                  ;*             ALL INTERRUPT ENABLES ON
2934                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
2935                                  ;;*****************************************************************
2936  010144  000004                  TST121: SCOPE
2937  010146  012705  010160                  MOV     #SUBD5,R5       ; PTR TO TEST DATA SET
2938  010152  004737  034142                  JSR     PC,@#SUBDT      ; GO TEST
2939
2940  010156  000417                          BR      TST122          ;;
2941
2942  010160                          SUBD5:  ; TEST DATA SET SUBD-5:
2943  010160  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL AC FLOAT NUMBER
2944  010166  000000
2945  010170  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
2946  010176  000000
2947  010200  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2948  010206  000000
2949  010210  047613  047604                  .WORD   047613,047604   ; FPS:  BEFORE, AFTER
2950  010214  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2951
2952
2953                                  ;;*****************************************************************
2954                                  ;*TEST 122      TEST OF SUBD INSTR, DATA SET SUBD-6
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
010216  000004                          TST122: SCOPE
010220  012705  010232                          MOV     #SUBD6,R5       ; PTR TO TEST DATA SET
010224  004737  034142                          JSR     PC,@#SUBDT      ; GO TEST
                                                
010230  000417                                  BR      TST123          ;;
                                                
010232                                  SUBD6:  ; TEST DATA SET SUBD-6:
010232  037252  125252  125252                  .WORD   037252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
010240  125252
010242  140365  052525  052525                  .WORD   140365,ALTP,ALTP,ALTP   ; INITIAL MEM FLOAT NUMBER
010250  052525
010252  040377  177777  177777                  .WORD   040377,M1,M1,M1 ; EXPECTED FLOAT RESULT
010260  177777
010262  047757  047740                          .WORD   047757,047740   ; FPS:  BEFORE, AFTER
010266  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                                
                                                
                                        ;;**************************************************************
                                        ;*TEST 123      TEST OF SUBD INSTR, DATA SET SUBD-7
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;**************************************************************
010270  000004                          TST123: SCOPE
010272  012705  010304                          MOV     #SUBD7,R5       ; PTR TO TEST DATA SET
010276  004737  034142                          JSR     PC,@#SUBDT      ; GO TEST
                                                
010302  000417                                  BR      TST124          ;;
                                                
010304                                  SUBD7:  ; TEST DATA SET SUBD-7:
010304  137252  125252  125252                  .WORD   137252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
010312  125252
010314  040365  052525  052525                  .WORD   040365,ALTP,ALTP,ALTP   ; INITIAL MEM FLOAT NUMBER
010322  052525
010324  140400  000000  000000                  .WORD   140400,0,0,0    ; EXPECTED FLOAT RESULT
010332  000000
010334  047607  047610                          .WORD   047607,047610   ; FPS:  BEFORE, AFTER
010340  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                                
                                                
                                        ;;**************************************************************
                                        ;*TEST 124      TEST OF SUBD INSTR, DATA SET SUBD-10
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;**************************************************************
010342  000004                          TST124: SCOPE
010344  012705  010356                          MOV     #SUBD10,R5      ; PTR TO TEST DATA SET
010350  004737  034142                          JSR     PC,@#SUBDT      ; GO TEST
                                                
010354  000417                                  BR      TST125          ;;
                                                
010356                                  SUBD10: ; TEST DATA SET SUBD-10:
010356  177777  177777  000000                  .WORD   LGN,M1,0,M1     ; INITIAL AC FLOAT NUMBER
010364  177777
```

```
3011  010366  100000  000000  177777          .WORD   M0,0,M1,0       ; INITIAL MEM FLOAT NUMBER
3012  010374  000000
3013  010376  177777  177777  000000          .WORD   LGN,M1,0,M1     ; EXPECTED FLOAT RESULT
3014  010404  177777
3015  010406  047603  147603                  .WORD   047603,147603   ; FPS:  BEFORE, AFTER
3016  010412  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
3017
3018
3019                                  ;;*****************************************************************
3020                                  ;*TEST 125      TEST OF SUBD INSTR, DATA SET SUBD-11
3021                                  ;*             -D INTERRUPT ENABLE OFF, ALL OTHERS ON
3022                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
3023                                  ;;*****************************************************************
3024  010414  000004                  TST125: SCOPE
3025  010416  012705  010430                  MOV     #SUBD11,R5      ; PTR TO TEST DATA SET
3026  010422  004737  034142                  JSR     PC,@#SUBDT      ; GO TEST
3027
3028  010426  000417                          BR      TST126          ;;
3029
3030  010430                          SUBD11: ; TEST DATA SET SUBD-11:
3031  010430  177777  177777  000000          .WORD   LGN,M1,0,M1     ; INITIAL AC FLOAT NUMBER
3032  010436  177777
3033  010440  100000  000000  177777          .WORD   M0,0,M1,0       ; INITIAL MEM FLOAT NUMBER
3034  010446  000000
3035  010450  177777  177777  000000          .WORD   LGN,M1,0,M1     ; EXPECTED FLOAT RESULT
3036  010456  177777
3037  010460  043707  043710                  .WORD   043707,043710   ; FPS:  BEFORE, AFTER
3038  010464  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3039
3040
3041                                  ;;*****************************************************************
3042                                  ;*TEST 126      TEST OF SUBD INSTR, DATA SET SUBD-12
3043                                  ;*             ALL INTERRUPT ENABLES ON
3044                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
3045                                  ;;*****************************************************************
3046  010466  000004                  TST126: SCOPE
3047  010470  012705  010502                  MOV     #SUBD12,R5      ; PTR TO TEST DATA SET
3048  010474  004737  034142                  JSR     PC,@#SUBDT      ; GO TEST
3049
3050  010500  000417                          BR      TST127          ;;
3051
3052  010502                          SUBD12: ; TEST DATA SET SUBD-12:
3053  010502  104200  000000  000000          .WORD   104200,0,0,0    ; INITIAL AC FLOAT NUMBER
3054  010510  000000
3055  010512  104200  000000  000000          .WORD   ↓04200,0,0,1    ; INITIAL MEM FLOAT NUMBER
3056  010520  000001
3057  010522  066400  000000  000000          .WORD   066400,0,0,0    ; EXPECTED FLOAT RESULT
3058  010530  000000
3059  010532  047717  147700                  .WORD   047717,147700   ; FPS:  BEFORE, AFTER
3060  010536  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
3061
3062
3063                                  ;;*****************************************************************
3064                                  ;*TEST 127      TEST OF SUBD INSTR, DATA SET SUBD-13
3065                                  ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3066                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
```

```
3067                                    ;;*****************************************************************
3068  010540  000004                    TST127: SCOPE
3069  010542  012705  010554                    MOV     #SUBD13,R5      ; PTR TO TEST DATA SET
3070  010546  004737  034142                    JSR     PC,@#SUBDT      ; GO TEST
3071
3072  010552  000417                            BR      TST130          ;;
3073
3074  010554                            SUBD13: ; TEST DATA SET SUBD-13:
3075  010554  104200  000000  000000            .WORD   104200,0,0,1    ; INITIAL AC FLOAT NUMBER
3076  010562  000001
3077  010564  104200  000000  000000            .WORD   104200,0,0,0    ; INITIAL MEM FLOAT NUMBER
3078  010572  000000
3079  010574  000000  000000  000000            .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3080  010602  000000
3081  010604  045713  045704                    .WORD   045713,045704   ; FPS:  BEFORE, AFTER
3082  010610  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
3083
3084
3085                                    ;;*****************************************************************
3086                                    ;*TEST 130      TEST OF SUBD INSTR, DATA SET SUBD-14
3087                                    ;*             ALL INTERRUPT ENABLES ON
3088                                    ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
3089                                    ;;*****************************************************************
3090  010612  000004                    TST130: SCOPE
3091  010614  012705  010626                    MOV     #SUBD14,R5      ; PTR TO TEST DATA SET
3092  010620  004737  034142                    JSR     PC,@#SUBDT      ; GO TEST
3093
3094  010624  000417                            BR      TST131          ;;
3095
3096  010626                            SUBD14: ; TEST DATA SET SUBD-14:
3097  010626  077777  177777  177777            .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
3098  010634  177777
3099  010636  161600  000000  000000            .WORD   161600,0,0,0    ; INITIAL MEM FLOAT NUMBER
3100  010644  000000
3101  010646  077777  177777  177777            .WORD   LGP,M1,M1,M1    ; EXPECTED FLOAT RESULT
3102  010654  177777
3103  010656  047757  047740                    .WORD   047757,047740   ; FPS:  BEFORE, AFTER
3104  010662  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
3105
3106
3107                                    ;;*****************************************************************
3108                                    ;*TEST 131      TEST OF SUBD INSTR, DATA SET SUBD-15
3109                                    ;*             ALL INTERRUPT ENABLES ON
3110                                    ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
3111                                    ;;*****************************************************************
3112  010664  000004                    TST131: SCOPE
3113  010666  012705  010700                    MOV     #SUBD15,R5      ; PTR TO TEST DATA SET
3114  010672  004737  034142                    JSR     PC,@#SUBDT      ; GO TEST
3115
3116  010676  000417                            BR      TST132          ;;
3117
3118  010700                            SUBD15: ; TEST DATA SET SUBD-15:
3119  010700  077777  177777  177777            .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
3120  010706  177777
3121  010710  161600  000000  000000            .WORD   161600,0,0,0    ; INITIAL MEM FLOAT NUMBER
3122  010716  000000
```

```
3123  010720  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3124  010726  000000
3125  010730  047611  147606                  .WORD   047611,147606   ; FPS:  BEFORE, AFTER
3126  010734  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
3127
3128
3129                                  ;;**********************************************************
3130                                  ;*TEST 132       TEST OF SUBD INSTR, DATA SET SUBD-16
3131                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3132                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
3133                                  ;;**********************************************************
3134  010736  000004                  TST132: SCOPE
3135  010740  012705  010752                  MOV     #SUBD16,R5      ; PTR TO TEST DATA SET
3136  010744  004737  034142                  JSR     PC,@#SUBDT      ; GO TEST
3137
3138  010750  000417                          BR      TST133          ;;
3139
3140  010752                          SUBD16: ; TEST DATA SET SUBD-16:
3141  010752  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
3142  010760  177777
3143  010762  161600  000000  000000          .WORD   161600,0,0,0    ; INITIAL MEM FLOAT NUMBER
3144  010770  000000
3145  010772  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3146  011000  000000
3147  011002  046611  046606                  .WORD   046611,046606   ; FPS:  BEFORE, AFTER
3148  011006  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3149
3150
```

```
                                ;;*****************************************************************
                                ;*TEST 133       TEST OF MULF INSTR, DATA SET MULF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
011010  000004                  TST133: SCOPE
011012  012705  011024                  MOV     #MULF1,R5       ; PTR TO TEST DATA SET
011016  004737  034332                  JSR     PC,@#MULFT      ; GO TEST
                                
011022  000411                          BR      TST134          ;;
                                
011024                          MULF1:  ; TEST DATA SET MULF-1:
011024  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
011030  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
011034  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
011040  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
011044  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                
                                
                                ;;*****************************************************************
                                ;*TEST 134       TEST OF MULF INSTR, DATA SET MULF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
011046  000004                  TST134: SCOPE
011050  012705  011062                  MOV     #MULF2,R5       ; PTR TO TEST DATA SET
011054  004737  034332                  JSR     PC,@#MULFT      ; GO TEST
                                
011060  000411                          BR      TST135          ;;
                                
011062                          MULF2:  ; TEST DATA SET MULF-2:
011062  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
011066  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL MEM FLOAT NUMBER
011072  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
011076  047503  047504                  .WORD   047503,047504   ; FPS:  BEFORE, AFTER
011102  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                
                                
                                ;;*****************************************************************
                                ;*TEST 135       TEST OF MULF INSTR, DATA SET MULF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
011104  000004                  TST135: SCOPE
011106  012705  011120                  MOV     #MULF3,R5       ; PTR TO TEST DATA SET
011112  004737  034332                  JSR     PC,@#MULFT      ; GO TEST
                                
011116  000411                          BR      TST136          ;;
                                
011120                          MULF3:  ; TEST DATA SET MULF-3:
011120  123652  125252                  .WORD   123652,ALTN     ; INITIAL AC FLOAT NUMBER
011124  017500  000000                  .WORD   017500,000000   ; INITIAL MEM FLOAT NUMBER
011130  103177  177777                  .WORD   103177,M1       ; EXPECTED FLOAT RESULT
011134  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
011140  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
3207
3208                                    ;;*****************************************************************
3209                                    ;*TEST 136      TEST OF MULF INSTR, DATA SET MULF-4
3210                                    ;*             ALL INTERRUPT ENABLES ON
3211                                    ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
3212                                    ;;*****************************************************************
3213  011142  000004                   TST136: SCOPE
3214  011144  012705  011156                   MOV     #MULF4,R5       ; PTR TO TEST DATA SET
3215  011150  004737  034332                   JSR     PC,@#MULFT      ; GO TEST
3216
3217  011154  000411                           BR      TST137          ;;
3218
3219  011156                           MULF4:  ; TEST DATA SET MULF-4:
3220  011156  017500  000000                   .WORD   017500,000000   ; INITIAL AC FLOAT NUMBER
3221  011162  023652  125252                   .WORD   023652,ALTN     ; INITIAL MEM FLOAT NUMBER
3222  011166  003177  177777                   .WORD   003177,M1       ; EXPECTED FLOAT RESULT
3223  011172  047417  047400                   .WORD   047417,047400   ; FPS:  BEFORE, AFTER
3224  011176  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
3225
3226
3227                                    ;;*****************************************************************
3228                                    ;*TEST 137      TEST OF MULF INSTR, DATA SET MULF-5
3229                                    ;*             ALL INTERRUPT ENABLES ON
3230                                    ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
3231                                    ;;*****************************************************************
3232  011200  000004                   TST137: SCOPE
3233  011202  012705  011214                   MOV     #MULF5,R5       ; PTR TO TEST DATA SET
3234  011206  004737  034332                   JSR     PC,@#MULFT      ; GO TEST
3235
3236  011212  000411                           BR      TST140          ;;
3237
3238  011214                           MULF5:  ; TEST DATA SET MULF-5:
3239  011214  036400  000001                   .WORD   036400,000001   ; INITIAL AC FLOAT NUMBER
3240  011220  106777  177776                   .WORD   106777,M2       ; INITIAL MEM FLOAT NUMBER
3241  011224  105177  177777                   .WORD   105177,M1       ; EXPECTED FLOAT RESULT
3242  011230  047547  047550                   .WORD   047547,047550   ; FPS:  BEFORE, AFTER
3243  011234  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
3244
3245
3246                                    ;;*****************************************************************
3247                                    ;*TEST 140      TEST OF MULF INSTR, DATA SET MULF-6
3248                                    ;*             ALL INTERRUPT ENABLES ON
3249                                    ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
3250                                    ;;*****************************************************************
3251  011236  000004                   TST140: SCOPE
3252  011240  012705  011252                   MOV     #MULF6,R5       ; PTR TO TEST DATA SET
3253  011244  004737  034332                   JSR     PC,@#MULFT      ; GO TEST
3254
3255  011250  000411                           BR      TST141          ;;
3256
3257  011252                           MULF6:  ; TEST DATA SET MULF-6:
3258  011252  036400  000001                   .WORD   036400,000001   ; INITIAL AC FLOAT NUMBER
3259  011256  106777  177776                   .WORD   106777,M2       ; INITIAL MEM FLOAT NUMBER
3260  011262  105200  000000                   .WORD   105200,000000   ; EXPECTED FLOAT RESULT
3261  011266  047407  047410                   .WORD   047407,047410   ; FPS:  BEFORE, AFTER
3262  011272  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
3263
3264
3265                                    ;;*****************************************************************
3266                                    ;*TEST 141      TEST OF MULF INSTR, DATA SET MULF-7
3267                                    ;*             ALL INTERRUPT ENABLES ON
3268                                    ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
3269                                    ;;*****************************************************************
3270  011274  000004                   TST141: SCOPE
3271  011276  012705  011310                   MOV     #MULF7,R5       ; PTR TO TEST DATA SET
3272  011302  004737  034332                   JSR     PC,@#MULFT      ; GO TEST
3273
3274  011306  000411                           BR      TST142          ;;
3275
3276  011310                            MULF7:  ; TEST DATA SET MULF-7:
3277  011310  140277  000000                   .WORD   140277,000000   ; INITIAL AC FLOAT NUMBER
3278  011314  060000  000001                   .WORD   060000,000001   ; INITIAL MEM FLOAT NUMBER
3279  011320  160077  000001                   .WORD   160077,000001   ; EXPECTED FLOAT RESULT
3280  011324  047407  047410                   .WORD   047407,047410   ; FPS:  BEFORE, AFTER
3281  011330  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
3282
3283
3284                                    ;;*****************************************************************
3285                                    ;*TEST 142      TEST OF MULF INSTR, DATA SET MULF-10
3286                                    ;*             ALL INTERRUPT ENABLES ON
3287                                    ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
3288                                    ;;*****************************************************************
3289  011332  000004                   TST142: SCOPE
3290  011334  012705  011346                   MOV     #MULF10,R5      ; PTR TO TEST DATA SET
3291  011340  004737  034332                   JSR     PC,@#MULFT      ; GO TEST
3292
3293  011344  000411                           BR      TST143          ;;
3294
3295  011346                            MULF10: ; TEST DATA SET MULF-10:
3296  011346  060000  000001                   .WORD   060000,000001   ; INITIAL AC FLOAT NUMBER
3297  011352  040277  000000                   .WORD   040277,000000   ; INITIAL MEM FLOAT NUMBER
3298  011356  060077  000001                   .WORD   060077,000001   ; EXPECTED FLOAT RESULT
3299  011362  047457  047440                   .WORD   047457,047440   ; FPS:  BEFORE, AFTER
3300  011366  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
3301
3302
3303                                    ;;*****************************************************************
3304                                    ;*TEST 143      TEST OF MULF INSTR, DATA SET MULF-11
3305                                    ;*             ALL INTERRUPT ENABLES ON
3306                                    ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
3307                                    ;;*****************************************************************
3308  011370  000004                   TST143: SCOPE
3309  011372  012705  011404                   MOV     #MULF11,R5      ; PTR TO TEST DATA SET
3310  011376  004737  034332                   JSR     PC,@#MULFT      ; GO TEST
3311
3312  011402  000411                           BR      TST144          ;;
3313
3314  011404                            MULF11: ; TEST DATA SET MULF-11:
3315  011404  140300  000000                   .WORD   140300,000000   ; INITIAL AC FLOAT NUMBER
3316  011410  160000  000001                   .WORD   160000,000001   ; INITIAL MEM FLOAT NUMBER
3317  011414  060100  000002                   .WORD   060100,000002   ; EXPECTED FLOAT RESULT
3318  011420  047517  047500                   .WORD   047517,047500   ; FPS:  BEFORE, AFTER
```

```
3319  011424  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
3320
3321
3322                                  ;;*****************************************************************
3323                                  ;*TEST 144      TEST OF MULF INSTR, DATA SET MULF-12
3324                                  ;*             ALL INTERRUPT ENABLES ON
3325                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
3326                                  ;;*****************************************************************
3327  011426  000004                  TST144: SCOPE
3328  011430  012705  011442                  MOV     #MULF12,R5      ; PTR TO TEST DATA SET
3329  011434  004737  034332                  JSR     PC,@#MULFT      ; GO TEST
3330
3331  011440  000411                  BR      TST145          ;;
3332
3333  011442                          MULF12: ; TEST DATA SET MULF-12:
3334  011442  060000  000001                  .WORD   060000,000001   ; INITIAL AC FLOAT NUMBER
3335  011446  140300  000000                  .WORD   140300,000000   ; INITIAL MEM FLOAT NUMBER
3336  011452  160100  000001                  .WORD   160100,000001   ; EXPECTED FLOAT RESULT
3337  011456  047547  047550                  .WORD   047547,047550   ; FPS:  BEFORE, AFTER
3338  011462  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3339
3340
3341                                  ;;*****************************************************************
3342                                  ;*TEST 145      TEST OF MULF INSTR, DATA SET MULF-13
3343                                  ;*             ALL INTERRUPT ENABLES ON
3344                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
3345                                  ;;*****************************************************************
3346  011464  000004                  TST145: SCOPE
3347  011466  012705  011500                  MOV     #MULF13,R5      ; PTR TO TEST DATA SET
3348  011472  004737  034332                  JSR     PC,@#MULFT      ; GO TEST
3349
3350  011476  000411                  BR      TST146          ;;
3351
3352  011500                          MULF13: ; TEST DATA SET MULF-13:
3353  011500  002177  177777                  .WORD   002177,M1       ; INITIAL AC FLOAT NUMBER
3354  011504  002177  177777                  .WORD   002177,M1       ; INITIAL MEM FLOAT NUMBER
3355  011510  044177  177776                  .WORD   044177,M2       ; EXPECTED FLOAT RESULT
3356  011514  047513  147500                  .WORD   047513,147500   ; FPS:  BEFORE, AFTER
3357  011520  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
3358
3359
3360                                  ;;*****************************************************************
3361                                  ;*TEST 146      TEST OF MULF INSTR, DATA SET MULF-14
3362                                  ;*             ALL INTERRUPT ENABLES ON
3363                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
3364                                  ;;*****************************************************************
3365  011522  000004                  TST146: SCOPE
3366  011524  012705  011536                  MOV     #MULF14,R5      ; PTR TO TEST DATA SET
3367  011530  004737  034332                  JSR     PC,@#MULFT      ; GO TEST
3368
3369  011534  000411                  BR      TST147          ;;
3370
3371  011536                          MULF14: ; TEST DATA SET MULF-14:
3372  011536  170000  000000                  .WORD   170000,000000   ; INITIAL AC FLOAT NUMBER
3373  011542  050200  000000                  .WORD   050200,000000   ; INITIAL MEM FLOAT NUMBER
3374  011546  100000  000000                  .WORD   M0,0    ; EXPECTED FLOAT RESULT
```

```
3375  011552  047441  147456                  .WORD   047441,147456   ; FPS:  BEFORE, AFTER
3376  011556  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
3377
3378
3379                                  ;;*****************************************************************
3380                                  ;*TEST 147      TEST OF MULF INSTR, DATA SET MULF-15
3381                                  ;*             ALL INTERRUPT ENABLES ON
3382                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
3383                                  ;;*****************************************************************
3384  011560  000004                 TST147: SCOPE
3385  011562  012705  011574                 MOV     #MULF15,R5      ; PTR TO TEST DATA SET
3386  011566  004737  034332                 JSR     PC,@#MULFT      ; GO TEST
3387
3388  011572  000411                         BR      TST150          ;;
3389
3390  011574                          MULF15: ; TEST DATA SET MULF-15:
3391  011574  177777  177777                 .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
3392  011600  100177  177777                 .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
3393  011604  177777  177777                 .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
3394  011610  047447  147447                 .WORD   047447,147447   ; FPS:  BEFORE, AFTER
3395  011614  100014                         .WORD   100014          ; FEC AFTER ( 0 = N/A )
3396
3397
3398                                  ;;*****************************************************************
3399                                  ;*TEST 150      TEST OF MULF INSTR, DATA SET MULF-16
3400                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3401                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
3402                                  ;;*****************************************************************
3403  011616  000004                 TST150: SCOPE
3404  011620  012705  011632                 MOV     #MULF16,R5      ; PTR TO TEST DATA SET
3405  011624  004737  034332                 JSR     PC,@#MULFT      ; GO TEST
3406
3407  011630  000411                         BR      TST151          ;;
3408
3409  011632                          MULF16: ; TEST DATA SET MULF-16:
3410  011632  050377  000000                 .WORD   050377,000000   ; INITIAL AC FLOAT NUMBER
3411  011636  070000  177777                 .WORD   070000,M1       ; INITIAL MEM FLOAT NUMBER
3412  011642  000000  000000                 .WORD   0,0     ; EXPECTED FLOAT RESULT
3413  011646  046411  046406                 .WORD   046411,046406   ; FPS:  BEFORE, AFTER
3414  011652  000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
3415
3416
3417                                  ;;*****************************************************************
3418                                  ;*TEST 151      TEST OF MULF INSTR, DATA SET MULF-17
3419                                  ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3420                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
3421                                  ;;*****************************************************************
3422  011654  000004                 TST151: SCOPE
3423  011656  012705  011670                 MOV     #MULF17,R5      ; PTR TO TEST DATA SET
3424  011662  004737  034332                 JSR     PC,@#MULFT      ; GO TEST
3425
3426  011666  000411                         BR      TST152          ;;
3427
3428  011670                          MULF17: ; TEST DATA SET MULF-17:
3429  011670  002177  177777                 .WORD   002177,M1       ; INITIAL AC FLOAT NUMBER
3430  011674  002177  177777                 .WORD   002177,M1       ; INITIAL MEM FLOAT NUMBER
```

```
3431  011700  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
3432  011704  045553  045544                .WORD   045553,045544   ; FPS:  BEFORE, AFTER
3433  011710  00000C                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
3434
3435
3436                                  ;;*****************************************************************
3437                                  ;*TEST 152      TEST OF MULF INSTR, DATA SET MULF-20
3438                                  ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
3439                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
3440                                  ;;*****************************************************************
3441  011712  000004                TST152: SCOPE
3442  011714  012705  011726                MOV     #MULF20,R5      ; PTR TO TEST DATA SET
3443  011720  004737  034332                JSR     PC,@#MULFT      ; GO TEST
3444
3445  011724  000411                        BR      TST153          ;;
3446
3447  011726                        MULF20: ; TEST DATA SET MULF-20:
3448  011726  052525  052525                .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
3449  011732  100000  177777                .WORD   M0,M1   ; INITIAL MEM FLOAT NUMBER
3450  011736  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
3451  011742  043513  043504                .WORD   043513,043504   ; FPS:  BEFORE, AFTER
3452  011746  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
3453
3454
3455
```

```
                                ;;*****************************************************************
                                ;*TEST 153       TEST OF MULD INSTR, DATA SET MULD-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
011750  000004                  TST153: SCOPE
011752  012705  011764                  MOV     #MULD1,R5       ; PTR TO TEST DATA SET
011756  004737  034502                  JSR     PC,@#MULDT      ; GO TEST

011762  000417                          BR      TST154          ;;

011764                          MULD1:  ; TEST DATA SET MULD-1:
011764  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
011772  177777
011774  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
012002  000000
012004  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
012012  000000
012014  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
012020  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 154       TEST OF MULD INSTR, DATA SET MULD-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
012022  000004                  TST154: SCOPE
012024  012705  012036                  MOV     #MULD2,R5       ; PTR TO TEST DATA SET
012030  004737  034502                  JSR     PC,@#MULDT      ; GO TEST

012034  000417                          BR      TST155          ;;

012036                          MULD2:  ; TEST DATA SET MULD-2:
012036  000177  177777  177777          .WORD   2X1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
012044  177777
012046  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
012054  177777
012056  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
012064  000000
012066  047603  047604                  .WORD   047603,047604   ; FPS:  BEFORE, AFTER
012072  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 155       TEST OF MULD INSTR, DATA SET MULD-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
012074  000004                  TST155: SCOPE
012076  012705  012110                  MOV     #MULD3,R5       ; PTR TO TEST DATA SET
012102  004737  034502                  JSR     PC,@#MULDT      ; GO TEST

012106  000417                          BR      TST156          ;;

012110                          MULD3:  ; TEST DATA SET MULD-3:
```

```
3512  012110  023652  125252  125252          .WORD   023652,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
3513  012116  125252
3514  012120  017500  000000  000000          .WORD   017500,0,0,0    ; INITIAL MEM FLOAT NUMBER
3515  012126  000000
3516  012130  003177  177777  177777          .WORD   003177,M1,M1,M1 ; EXPECTED FLOAT RESULT
3517  012136  177777
3518  012140  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
3519  012144  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3520
3521
3522                                  ;;*****************************************************************
3523                                  ;*TEST 156      TEST OF MULD INSTR, DATA SET MULD-4
3524                                  ;*             ALL INTERRUPT ENABLES ON
3525                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
3526                                  ;;*****************************************************************
3527  012146  000004                  TST156: SCOPE
3528  012150  012705  012162                  MOV     #MULD4,R5       ; PTR TO TEST DATA SET
3529  012154  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3530
3531  012160  000417                          BR      TST157          ;;
3532
3533  012162                          MULD4:  ; TEST DATA SET MULD-4:
3534  012162  117500  000000  000000          .WORD   117500,0,0,0    ; INITIAL AC FLOAT NUMBER
3535  012170  000000
3536  012172  123652  125252  125252          .WORD   123652,ALTN,ALTN,ALTN   ; INITIAL MEM FLOAT NUMBER
3537  012200  125252
3538  012202  003177  177777  177777          .WORD   003177,M1,M1,M1 ; EXPECTED FLOAT RESULT
3539  012210  177777
3540  012212  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
3541  012216  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3542
3543
3544                                  ;;*****************************************************************
3545                                  ;*TEST 157      TEST OF MULD INSTR, DATA SET MULD-5
3546                                  ;*             ALL INTERRUPT ENABLES ON
3547                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
3548                                  ;;*****************************************************************
3549  012220  000004                  TST157: SCOPE
3550  012222  012705  012234                  MOV     #MULD5,R5       ; PTR TO TEST DATA SET
3551  012226  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3552
3553  012232  000417                          BR      TST160          ;;
3554
3555  012234                          MULD5:  ; TEST DATA SET MULD-5:
3556  012234  165400  000000  000000          .WORD   165400,0,0,1    ; INITIAL AC FLOAT NUMBER
3557  012242  000001
3558  012244  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
3559  012252  177776
3560  012254  164777  177777  177777          .WORD   164777,M1,M1,M1 ; EXPECTED FLOAT RESULT
3561  012262  177777
3562  012264  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
3563  012270  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3564
3565
3566                                  ;;*****************************************************************
3567                                  ;*TEST 160      TEST OF MULD INSTR, DATA SET MULD-6
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;*************************************************************
012272  000004                          TST160: SCOPE
012274  012705  012306                          MOV     #MULD6,R5       ; PTR TO TEST DATA SET
012300  004737  034502                          JSR     PC,@#MULDT      ; GO TEST
012304  000417                                  BR      TST161          ;;
012306                                  MULD6:  ; TEST DATA SET MULD-6:
012306  165400  000000  000000                  .WORD   165400,0,0,1    ; INITIAL AC FLOAT NUMBER
012314  000001
012316  037577  177777  177777                  .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
012324  177776
012326  165000  000000  000000                  .WORD   165000,0,0,0    ; EXPECTED FLOAT RESULT
012334  000000
012336  047707  047710                          .WORD   047707,047710   ; FPS:  BEFORE, AFTER
012342  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;*************************************************************
                                        ;*TEST 161       TEST OF MULD INSTR, DATA SET MULD-7
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;*************************************************************
012344  000004                          TST161: SCOPE
012346  012705  012360                          MOV     #MULD7,R5       ; PTR TO TEST DATA SET
012352  004737  034502                          JSR     PC,@#MULDT      ; GO TEST

012356  000417                                  BR      TST162          ;;

012360                                  MULD7:  ; TEST DATA SET MULD-7:
012360  040277  000000  000000                  .WORD   040277,0,0,0    ; INITIAL AC FLOAT NUMBER
012366  000000
012370  034200  000000  000000                  .WORD   034200,0,0,1    ; INITIAL MEM FLOAT NUMBER
012376  000001
012400  034277  000000  000000                  .WORD   034277,0,0,1    ; EXPECTED FLOAT RESULT
012406  000001
012410  047657  047640                          .WORD   047657,047640   ; FPS:  BEFORE, AFTER
012414  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;*************************************************************
                                        ;*TEST 162       TEST OF MULD INSTR, DATA SET MULD-10
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;*************************************************************
012416  000004                          TST162: SCOPE
012420  012705  012432                          MOV     #MULD10,R5      ; PTR TO TEST DATA SET
012424  004737  034502                          JSR     PC,@#MULDT      ; GO TEST

012430  000417                                  BR      TST163          ;;

012432                                  MULD10: ; TEST DATA SET MULD-10:
012432  140277  000000  000000                  .WORD   140277,0,0,0    ; INITIAL AC FLOAT NUMBER
012440  000000
```

```
3624  012442  034200  000000  000000          .WORD   034200,0,0,1    ; INITIAL MEM FLOAT NUMBER
3625  012450  000001
3626  012452  134277  000000  000000          .WORD   134277,0,0,1    ; EXPECTED FLOAT RESULT
3627  012460  000001
3628  012462  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
3629  012466  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3630
3631
3632                                  ;;*****************************************************************
3633                                  ;*TEST 163      TEST OF MULD INSTR, DATA SET MULD-11
3634                                  ;*             ALL INTERRUPT ENABLES ON
3635                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
3636                                  ;;*****************************************************************
3637  012470  000004                  TST163: SCOPE
3638  012472  012705  012504                  MOV     #MULD11,R5      ; PTR TO TEST DATA SET
3639  012476  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3640
3641  012502  000417                          BR      TST164          ;;
3642
3643  012504                          MULD11: ; TEST DATA SET MULD-11:
3644  012504  040300  000000  000000          .WORD   040300,0,0,0    ; INITIAL AC FLOAT NUMBER
3645  012512  000000
3646  012514  134200  000000  000000          .WORD   134200,0,0,1    ; INITIAL MEM FLOAT NUMBER
3647  012522  000001
3648  012524  134300  000000  000000          .WORD   134300,0,0,1    ; EXPECTED FLOAT RESULT
3649  012532  000001
3650  012534  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
3651  012540  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3652
3653
3654                                  ;;*****************************************************************
3655                                  ;*TEST 164      TEST OF MULD INSTR, DATA SET MULD-12
3656                                  ;*             ALL INTERRUPT ENABLES ON
3657                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
3658                                  ;;*****************************************************************
3659  012542  000004                  TST164: SCOPE
3660  012544  012705  012556                  MOV     #MULD12,R5      ; PTR TO TEST DATA SET
3661  012550  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3662
3663  012554  000417                          BR      TST165          ;;
3664
3665  012556                          MULD12: ; TEST DATA SET MULD-12:
3666  012556  140300  000000  000000          .WORD   140300,0,0,0    ; INITIAL AC FLOAT NUMBER
3667  012564  000000
3668  012566  134200  000000  000000          .WORD   134200,0,0,1    ; INITIAL MEM FLOAT NUMBER
3669  012574  000001
3670  012576  034300  000000  000000          .WORD   034300,0,0,2    ; EXPECTED FLOAT RESULT
3671  012604  000002
3672  012606  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
3673  012612  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3674
3675
3676                                  ;;*****************************************************************
3677                                  ;*TEST 165      TEST OF MULD INSTR, DATA SET MULD-13
3678                                  ;*             ALL INTERRUPT ENABLES ON
3679                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
```

```
3680
3681  012614  000004                    ;;*****************************************************************
3682  012616  012705  012630            TST165: SCOPE
3683  012622  004737  034502                    MOV     #MULD13,R5      ; PTR TO TEST DATA SET
3684                                            JSR     PC,@#MULDT      ; GO TEST
3685  012626  000417                            BR      TST166          ;;
3686
3687  012630                            MULD13: ; TEST DATA SET MULD-13:
3688  012630  177777  177777  177777            .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
3689  012636  177777
3690  012640  177777  177777  177777            .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
3691  012646  177777
3692  012650  037577  177777  177777            .WORD   037577,M1,M1,M2 ; EXPECTED FLOAT RESULT
3693  012656  177776
3694  012660  047655  147642                    .WORD   047655,147642   ; FPS:  BEFORE, AFTER
3695  012664  100010                            .WORD   100010          ; FEC AFTER ( 0 = N/A )
3696
3697
3698                                    ;;*****************************************************************
3699                                    ;*TEST 166      TEST OF MULD INSTR, DATA SET MULD-14
3700                                    ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3701                                    ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
3702                                    ;;*****************************************************************
3703  012666  000004                    TST166: SCOPE
3704  012670  012705  012702                    MOV     #MULD14,R5      ; PTR TO TEST DATA SET
3705  012674  004737  034502                    JSR     PC,@#MULDT      ; GO TEST
3706
3707  012700  000417                            BR      TST167          ;;
3708
3709  012702                            MULD14: ; TEST DATA SET MULD-14:
3710  012702  077777  177777  177777            .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
3711  012710  177777
3712  012712  077777  177777  177777            .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
3713  012720  177777
3714  012722  000000  000000  000000            .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3715  012730  000000
3716  012732  046751  046746                    .WORD   046751,046746   ; FPS:  BEFORE, AFTER
3717  012736  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
3718
3719
3720                                    ;;*****************************************************************
3721                                    ;*TEST 167      TEST OF MULD INSTR, DATA SET MULD-15
3722                                    ;*             ALL INTERRUPT ENABLES ON
3723                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
3724                                    ;;*****************************************************************
3725  012740  000004                    TST167: SCOPE
3726  012742  012705  012754                    MOV     #MULD15,R5      ; PTR TO TEST DATA SET
3727  012746  004737  034502                    JSR     PC,@#MULDT      ; GO TEST
3728
3729  012752  000417                            BR      TST170          ;;
3730
3731  012754                            MULD15: ; TEST DATA SET MULD-15:
3732  012754  003177  177777  177777            .WORD   003177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
3733  012762  177777
3734  012764  101177  177777  177777            .WORD   101177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
3735  012772  177777
```

```
3736  012774  144177  177777  177777          .WORD   144177,M1,M1,M2 ; EXPECTED FLOAT RESULT
3737  013002  177776
3738  013004  047647  147650                  .WORD   047647,147650   ; FPS:  BEFORE, AFTER
3739  013010  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
3740
3741
3742                                  ;;*****************************************************************
3743                                  ;*TEST 170      TEST OF MULD INSTR, DATA SET MULD-16
3744                                  ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3745                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
3746                                  ;;*****************************************************************
3747  013012  000004                  TST170: SCOPE
3748  013014  012705  013026                  MOV     #MULD16,R5      ; PTR TO TEST DATA SET
3749  013020  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3750
3751  013024  000417                          BR      TST171          ;;
3752
3753  013026                          MULD16: ; TEST DATA SET MULD-16:
3754  013026  103177  177777  177777          .WORD   103177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
3755  013034  177777
3756  013036  001177  177777  177777          .WORD   001177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
3757  013044  177777
3758  013046  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3759  013054  000000
3760  013056  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
3761  013062  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3762
3763
3764                                  ;;*****************************************************************
3765                                  ;*TEST 171      TEST OF MULD INSTR, DATA SET MULD-17
3766                                  ;*             ALL INTERRUPT ENABLES ON
3767                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
3768                                  ;;*****************************************************************
3769  013064  000004                  TST171: SCOPE
3770  013066  012705  013100                  MOV     #MULD17,R5      ; PTR TO TEST DATA SET
3771  013072  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3772
3773  013076  000417                          BR      TST172          ;;
3774
3775  013100                          MULD17: ; TEST DATA SET MULD-17:
3776  013100  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
3777  013106  052525
3778  013110  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
3779  013116  177777
3780  013120  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; EXPECTED FLOAT RESULT
3781  013126  052525
3782  013130  047657  147657                  .WORD   047657,147657   ; FPS:  BEFORE, AFTER
3783  013134  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
3784
3785
3786                                  ;;*****************************************************************
3787                                  ;*TEST 172      TEST OF MULD INSTR, DATA SET MULD-20
3788                                  ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
3789                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
3790                                  ;;*****************************************************************
3791  013136  000004                  TST172: SCOPE
```

```
3792  013140  012705  013152                  MOV     #MULD20,R5      ; PTR TO TEST DATA SET
3793  013144  004737  034502                  JSR     PC,@#MULDT      ; GO TEST
3794
3795  013150  000417                          BR      TST173          ;;
3796
3797  013152                          MULD20: ; TEST DATA SET MULD-20:
3798  013152  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
3799  013160  125252
3800  013162  100000  177777  052525          .WORD   M0,M1,ALTP,ALTN ; INITIAL MEM FLOAT NUMBER
3801  013170  125252
3802  013172  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3803  013200  000000
3804  013202  043753  043744                  .WORD   043753,043744   ; FPS:  BEFORE, AFTER
3805  013206  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3806
3807
```

```
                        ;;*****************************************************************
                        ;*TEST 173      TEST OF DIVF INSTR, DATA SET DIVF-1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
013210  000004          TST173: SCOPE
013212  012705  013224          MOV     #DIVF1,R5       ; PTR TO TEST DATA SET
013216  004737  034672          JSR     PC,@#DIVFT      ; GO TEST
013222  000411                  BR      TST174          ;;
013224                  DIVF1:  ; TEST DATA SET DIVF-1:
013224  103177  177777          .WORD   103177,M1       ; INITIAL AC FLOAT NUMBER
013230  023652  125252          .WORD   023652,ALTN     ; INITIAL MEM FLOAT NUMBER
013234  117500  000000          .WORD   117500,0        ; EXPECTED FLOAT RESULT
013240  047447  047450          .WORD   047447,047450   ; FPS:  BEFORE, AFTER
013244  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                        ;;*****************************************************************
                        ;*TEST 174      TEST OF DIVF INSTR, DATA SET DIVF-2
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
013246  000004          TST174: SCOPE
013250  012705  013262          MOV     #DIVF2,R5       ; PTR TO TEST DATA SET
013254  004737  034672          JSR     PC,@#DIVFT      ; GO TEST
013260  000411                  BR      TST175          ;;
013262                  DIVF2:  ; TEST DATA SET DIVF-2:
013262  052525  052525          .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
013266  000000  000000          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
013272  052525  052525          .WORD   ALTP,ALTP       ; EXPECTED FLOAT RESULT
013276  047517  147517          .WORD   047517,147517   ; FPS:  BEFORE, AFTER
013302  100004                  .WORD   100004          ; FEC AFTER ( 0 = N/A )
                        ;;*****************************************************************
                        ;*TEST 175      TEST OF DIVF INSTR, DATA SET DIVF-3
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
013304  000004          TST175: SCOPE
013306  012705  013320          MOV     #DIVF3,R5       ; PTR TO TEST DATA SET
013312  004737  034672          JSR     PC,@#DIVFT      ; GO TEST
013316  000411                  BR      TST176          ;;
013320                  DIVF3:  ; TEST DATA SET DIVF-3:
013320  140400  000000          .WORD   140400,000000   ; INITIAL AC FLOAT NUMBER
013324  040500  000000          .WORD   040500,000000   ; INITIAL MEM FLOAT NUMBER
013330  140052  125252          .WORD   140052,ALTN     ; EXPECTED FLOAT RESULT
013334  047447  047450          .WORD   047447,047450   ; FPS:  BEFORE, AFTER
013340  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 176       TEST OF DIVF INSTR, DATA SET DIVF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
013342  000004                  TST176: SCOPE
013344  012705  013356                  MOV     #DIVF4,R5       ; PTR TO TEST DATA SET
013350  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST

013354  000411                          BR      TST177          ;;

013356                          DIVF4:  ; TEST DATA SET DIVF-4:
013356  040400  000000                  .WORD   040400,000000   ; INITIAL AC FLOAT NUMBER
013362  140500  000000                  .WORD   140500,000000   ; INITIAL MEM FLOAT NUMBER
013366  140052  125253                  .WORD   140052,ALTN+1   ; EXPECTED FLOAT RESULT
013372  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
013376  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 177       TEST OF DIVF INSTR, DATA SET DIVF-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
013400  000004                  TST177: SCOPE
013402  012705  013414                  MOV     #DIVF5,R5       ; PTR TO TEST DATA SET
013406  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST

013412  000411                          BR      TST200          ;;

013414                          DIVF5:  ; TEST DATA SET DIVF-5:
013414  007417  007417                  .WORD   ALT4P,ALT4P      ; INITIAL AC FLOAT NUMBER
013420  007417  007417                  .WORD   ALT4P,ALT4P      ; INITIAL MEM FLOAT NUMBER
013424  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
013430  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
013434  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 200       TEST OF DIVF INSTR, DATA SET DIVF-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
013436  000004                  TST200: SCOPE
013440  012705  013452                  MOV     #DIVF6,R5       ; PTR TO TEST DATA SET
013444  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST

013450  000411                          BR      TST201          ;;

013452                          DIVF6:  ; TEST DATA SET DIVF-6:
013452  160400  000000                  .WORD   160400,000000   ; INITIAL AC FLOAT NUMBER
013456  154000  000000                  .WORD   154000,000000   ; INITIAL MEM FLOAT NUMBER
013462  044600  000000                  .WORD   044600,000000   ; EXPECTED FLOAT RESULT
013466  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
013472  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 201       TEST OF DIVF INSTR, DATA SET DIVF-7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
013474  000004                  TST201: SCOPE
013476  012705  013510                  MOV     #DIVF7,R5       ; PTR TO TEST DATA SET
013502  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
013506  000411                          BR      TST202          ;;
013510                          DIVF7:  ; TEST DATA SET DIVF-7:
013510  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
013514  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
013520  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
013524  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
013530  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 202       TEST OF DIVF INSTR, DATA SET DIVF-10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
013532  000004                  TST202: SCOPE
013534  012705  013546                  MOV     #DIVF10,R5      ; PTR TO TEST DATA SET
013540  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
013544  000411                          BR      TST203          ;;
013546                          DIVF10: ; TEST DATA SET DIVF-10:
013546  160077  000000                  .WORD   160077,000000   ; INITIAL AC FLOAT NUMBER
013552  140277  000000                  .WORD   140277,000000   ; INITIAL MEM FLOAT NUMBER
013556  060000  000000                  .WORD   060000,000000   ; EXPECTED FLOAT RESULT
013562  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
013566  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 203       TEST OF DIVF INSTR, DATA SET DIVF-11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
013570  000004                  TST203: SCOPE
013572  012705  013604                  MOV     #DIVF11,R5      ; PTR TO TEST DATA SET
013576  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
013602  000411                          BR      TST204          ;;
013604                          DIVF11: ; TEST DATA SET DIVF-11:
013604  160077  000000                  .WORD   160077,000000   ; INITIAL AC FLOAT NUMBER
013610  040277  000000                  .WORD   040277,000000   ; INITIAL MEM FLOAT NUMBER
013614  160000  000000                  .WORD   160000,000000   ; EXPECTED FLOAT RESULT
013620  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
```

```
3976  013624  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
3977
3978
3979                                ;;*****************************************************************
3980                                ;*TEST 204      TEST OF DIVF INSTR, DATA SET DIVF-12
3981                                ;*             ALL INTERRUPT ENABLES ON
3982                                ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
3983                                ;;*****************************************************************
3984  013626  000004                TST204: SCOPE
3985  013630  012705  013642                MOV     #DIVF12,R5      ; PTR TO TEST DATA SET
3986  013634  004737  034672                JSR     PC,@#DIVFT      ; GO TEST
3987
3988  013640  000411                        BR      TST205          ;;
3989
3990  013642                        DIVF12: ; TEST DATA SET DIVF-12:
3991  013642  060100  000001                .WORD   060100,000001   ; INITIAL AC FLOAT NUMBER
3992  013646  040300  000000                .WORD   040300,000000   ; INITIAL MEM FLOAT NUMBER
3993  013652  060000  000001                .WORD   060000,000001   ; EXPECTED FLOAT RESULT
3994  013656  047517  047500                .WORD   047517,047500   ; FPS:  BEFORE, AFTER
3995  013662  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
3996
3997
3998                                ;;*****************************************************************
3999                                ;*TEST 205      TEST OF DIVF INSTR, DATA SET DIVF-13
4000                                ;*             ALL INTERRUPT ENABLES ON
4001                                ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
4002                                ;;*****************************************************************
4003  013664  000004                TST205: SCOPE
4004  013666  012705  013700                MOV     #DIVF13,R5      ; PTR TO TEST DATA SET
4005  013672  004737  034672                JSR     PC,@#DIVFT      ; GO TEST
4006
4007  013676  000411                        BR      TST206          ;;
4008
4009  013700                        DIVF13: ; TEST DATA SET DIVF-13:
4010  013700  060100  000001                .WORD   060100,000001   ; INITIAL AC FLOAT NUMBER
4011  013704  140300  000000                .WORD   140300,000000   ; INITIAL MEM FLOAT NUMBER
4012  013710  160000  000000                .WORD   160000,000000   ; EXPECTED FLOAT RESULT
4013  013714  047447  047450                .WORD   047447,047450   ; FPS:  BEFORE, AFTER
4014  013720  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
4015
4016
4017                                ;;*****************************************************************
4018                                ;*TEST 206      TEST OF DIVF INSTR, DATA SET DIVF-14
4019                                ;*             ALL INTERRUPT ENABLES ON
4020                                ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4021                                ;;*****************************************************************
4022  013722  000004                TST206: SCOPE
4023  013724  012705  013736                MOV     #DIVF14,R5      ; PTR TO TEST DATA SET
4024  013730  004737  034672                JSR     PC,@#DIVFT      ; GO TEST
4025
4026  013734  000411                        BR      TST207          ;;
4027
4028  013736                        DIVF14: ; TEST DATA SET DIVF-14:
4029  013736  000177  177777                .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
4030  013742  100177  177777                .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
4031  013746  000177  177777                .WORD   ZX1MP,M1        ; EXPECTED FLOAT RESULT
```

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4032  013752  047543  147543                  .WORD   047543,147543   ; FPS:  BEFORE, AFTER
4033  013756  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
4034
4035
4036                                  ;;*****************************************************************
4037                                  ;*TEST 207      TEST OF DIVF INSTR, DATA SET DIVF-15
4038                                  ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
4039                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
4040                                  ;;*****************************************************************
4041  013760  000004                  TST207: SCOPE
4042  013762  012705  013774                  MOV     #DIVF15,R5      ; PTR TO TEST DATA SET
4043  013766  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
4044
4045  013772  000411                          BR      TST210          ;;
4046
4047  013774                          DIVF15: ; TEST DATA SET DIVF-15:
4048  013774  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
4049  014000  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
4050  014004  000177  177777                  .WORD   ZX1MP,M1        ; EXPECTED FLOAT RESULT
4051  014010  043413  143413                  .WORD   043413,143413   ; FPS:  BEFORE, AFTER
4052  014014  100004                          .WORD   100004          ; FEC AFTER ( 0 = N/A )
4053
4054
4055                                  ;;*****************************************************************
4056                                  ;*TEST 210      TEST OF DIVF INSTR, DATA SET DIVF-16
4057                                  ;*             ALL INTERRUPT ENABLES ON
4058                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
4059                                  ;;*****************************************************************
4060  014016  000004                  TST210: SCOPE
4061  014020  012705  014032                  MOV     #DIVF16,R5      ; PTR TO TEST DATA SET
4062  014024  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
4063
4064  014030  000411                          BR      TST211          ;;
4065
4066  014032                          DIVF16: ; TEST DATA SET DIVF-16:
4067  014032  077777  052525                  .WORD   LQP,ALTP        ; INITIAL AC FLOAT NUMBER
4068  014036  003777  170360                  .WORD   003777,ALT4N    ; INITIAL MEM FLOAT NUMBER
4069  014042  034177  062134                  .WORD   034177,062134   ; EXPECTED FLOAT RESULT
4070  014046  047515  147502                  .WORD   047515,147502   ; FPS:  BEFORE, AFTER
4071  014052  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
4072
4073
4074                                  ;;*****************************************************************
4075                                  ;*TEST 211      TEST OF DIVF INSTR, DATA SET DIVF-17
4076                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
4077                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
4078                                  ;;*****************************************************************
4079  014054  000004                  TST211: SCOPE
4080  014056  012705  014070                  MOV     #DIVF17,R5      ; PTR TO TEST DATA SET
4081  014062  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
4082
4083  014066  000411                          BR      TST212          ;;
4084
4085  014070                          DIVF17: ; TEST DATA SET DIVF-17:
4086  014070  177777  052525                  .WORD   LQN,ALTP        ; INITIAL AC FLOAT NUMBER
4087  014074  103777  170360                  .WORD   103777,ALT4N    ; INITIAL MEM FLOAT NUMBER
```

```
4088  014100  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
4089  014104  046411  046406                .WORD   046411,046406   ; FPS:  BEFORE, AFTER
4090  014110  000000                       .WORD   NA              ; FEC AFTER ( 0 = N/A )
4091
4092
4093                                  ;;*****************************************************************
4094                                  ;*TEST 212      TEST OF DIVF INSTR, DATA SET DIVF-20
4095                                  ;*             ALL INTERRUPT ENABLES ON
4096                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4097                                  ;;*****************************************************************
4098  014112  000004                  TST212: SCOPE
4099  014114  012705  014126                  MOV     #DIVF20,R5      ; PTR TO TEST DATA SET
4100  014120  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
4101
4102  014124  000411                          BR      TST213          ;;
4103
4104  014126                          DIVF20: ; TEST DATA SET DIVF-20:
4105  014126  100200  000000                  .WORD   SMN,0   ; INITIAL AC FLOAT NUMBER
4106  014132  077777  177777                  .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
4107  014136  140400  000000                  .WORD   140400,000000   ; EXPECTED FLOAT RESULT
4108  014142  047547  147550                  .WORD   047547,147550   ; FPS:  BEFORE, AFTER
4109  014146  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
4110
4111
4112                                  ;;*****************************************************************
4113                                  ;*TEST 213      TEST OF DIVF INSTR, DATA SET DIVF-21
4114                                  ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
4115                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
4116                                  ;;*****************************************************************
4117  014150  000004                  TST213: SCOPE
4118  014152  012705  014164                  MOV     #DIVF21,R5      ; PTR TO TEST DATA SET
4119  014156  004737  034672                  JSR     PC,@#DIVFT      ; GO TEST
4120
4121  014162  000411                          BR      TST214          ;;
4122
4123  014164                          DIVF21: ; TEST DATA SET DIVF-21:
4124  014164  000200  000000                  .WORD   SMP,0   ; INITIAL AC FLOAT NUMBER
4125  014170  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
4126  014174  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
4127  014200  045453  045444                  .WORD   045453,045444   ; FPS:  BEFORE, AFTER
4128  014204  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4129
4130
4131
```

```
4132                                    ;;*****************************************************************
4133                                    ;*TEST 214      TEST OF DIVD INSTR, DATA SET DIVD-1
4134                                    ;*             ALL INTERRUPT ENABLES ON
4135                                    ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
4136                                    ;;*****************************************************************
4137  014206  000004                   TST214: SCOPE
4138  014210  012705  014222                   MOV     #DIVD1,R5       ; PTR TO TEST DATA SET
4139  014214  004737  035042                   JSR     PC,@#DIVDT      ; GO TEST
4140
4141  014220  000417                           BR      TST215          ;;
4142
4143  014222                           DIVD1:  ; TEST DATA SET DIVD-1:
4144  014222  000177  177777  177777           .WORD   2X1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
4145  014230  177777
4146  014232  077777  177777  177777           .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
4147  014240  177777
4148  014242  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
4149  014250  000000
4150  014252  047613  047604                   .WORD   047613,047604   ; FPS:  BEFORE, AFTER
4151  014256  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
4152
4153
4154                                    ;;*****************************************************************
4155                                    ;*TEST 215      TEST OF DIVD INSTR, DATA SET DIVD-2
4156                                    ;*             ALL INTERRUPT ENABLES ON
4157                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
4158                                    ;;*****************************************************************
4159  014260  000004                   TST215: SCOPE
4160  014262  012705  014274                   MOV     #DIVD2,R5       ; PTR TO TEST DATA SET
4161  014266  004737  035042                   JSR     PC,@#DIVDT      ; GO TEST
4162
4163  014272  000417                           BR      TST216          ;;
4164
4165  014274                           DIVD2:  ; TEST DATA SET DIVD-2:
4166  014274  034277  000000  000000           .WORD   034277,0,0,0    ; INITIAL AC FLOAT NUMBER
4167  014302  000000
4168  014304  040277  000000  000000           .WORD   040277,0,0,0    ; INITIAL MEM FLOAT NUMBER
4169  014312  000000
4170  014314  034200  000000  000000           .WORD   034200,0,0,0    ; EXPECTED FLOAT RESULT
4171  014322  000000
4172  014324  047717  047700                   .WORD   047717,047700   ; FPS:  BEFORE, AFTER
4173  014330  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
4174
4175
4176                                    ;;*****************************************************************
4177                                    ;*TEST 216      TEST OF DIVD INSTR, DATA SET DIVD-3
4178                                    ;*             ALL INTERRUPT ENABLES ON
4179                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4180                                    ;;*****************************************************************
4181  014332  000004                   TST216: SCOPE
4182  014334  012705  014346                   MOV     #DIVD3,R5       ; PTR TO TEST DATA SET
4183  014340  004737  035042                   JSR     PC,@#DIVDT      ; GO TEST
4184
4185  014344  000417                           BR      TST217          ;;
4186
4187  014346                           DIVD3:  ; TEST DATA SET DIVD-3:
```

```
4188  014346  134277  000000  000000          .WORD   134277,0,0,0    ; INITIAL AC FLOAT NUMBER
4189  014354  000000
4190  014356  040277  000000  000000          .WORD   040277,0,0,0    ; INITIAL MEM FLOAT NUMBER
4191  014364  000000
4192  014366  134200  000000  000000          .WORD   134200,0,0,0    ; EXPECTED FLOAT RESULT
4193  014374  000000
4194  014376  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
4195  014402  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4196
4197
4198                                  ;;*****************************************************************
4199                                  ;*TEST 217       TEST OF DIVD INSTR, DATA SET DIVD-4
4200                                  ;*              ALL INTERRUPT ENABLES ON
4201                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
4202                                  ;;*****************************************************************
4203  014404  000004                  TST217: SCOPE
4204  014406  012705  014420                  MOV     #DIVD4,R5       ; PTR TO TEST DATA SET
4205  014412  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
4206
4207  014416  000417                          BR      TST220          ;;
4208
4209  014420                          DIVD4:  ; TEST DATA SET DIVD-4:
4210  014420  134300  000000  000000          .WORD   134300,0,0,1    ; INITIAL AC FLOAT NUMBER
4211  014426  000001
4212  014430  140300  000000  000000          .WORD   140300,0,0,0    ; INITIAL MEM FLOAT NUMBER
4213  014436  000000
4214  014440  034200  000000  000000          .WORD   034200,0,0,0    ; EXPECTED FLOAT RESULT
4215  014446  000000
4216  014450  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
4217  014454  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4218
4219
4220                                  ;;*****************************************************************
4221                                  ;*TEST 220       TEST OF DIVD INSTR, DATA SET DIVD-5
4222                                  ;*              ALL INTERRUPT ENABLES ON
4223                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
4224                                  ;;*****************************************************************
4225  014456  000004                  TST220: SCOPE
4226  014460  012705  014472                  MOV     #DIVD5,R5       ; PTR TO TEST DATA SET
4227  014464  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
4228
4229  014470  000417                          BR      TST221          ;;
4230
4231  014472                          DIVD5:  ; TEST DATA SET DIVD-5:
4232  014472  034300  000000  000000          .WORD   034300,0,0,1    ; INITIAL AC FLOAT NUMBER
4233  014500  000001
4234  014502  140300  000000  000000          .WORD   140300,0,0,0    ; INITIAL MEM FLOAT NUMBER
4235  014510  000000
4236  014512  134200  000000  000000          .WORD   134200,0,0,1    ; EXPECTED FLOAT RESULT
4237  014520  000001
4238  014522  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
4239  014526  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4240
4241
4242                                  ;;*****************************************************************
4243                                  ;*TEST 221       TEST OF DIVD INSTR, DATA SET DIVD-6
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
014530  000004                          TST221: SCOPE
014532  012705  014544                          MOV     #DIVD6,R5       ; PTR TO TEST DATA SET
014536  004737  035042                          JSR     PC,@#DIVDT      ; GO TEST

014542  000417                          BR      TST222          ;;

014544                                  DIVD6:  ; TEST DATA SET DIVD-6:
014544  100400  000000  000000                  .WORD   100400,0,0,0    ; INITIAL AC FLOAT NUMBER
014552  000000
014554  000500  000000  000000                  .WORD   000500,0,0,0    ; INITIAL MEM FLOAT NUMBER
014562  000000
014564  140052  125252  125252                  .WORD   140052,ALTN,ALTN,ALTN   ; EXPECTED FLOAT RESULT
014572  125252
014574  047647  047650                          .WORD   047647,047650   ; FPS:  BEFORE, AFTER
014600  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;**************************************************************
                                        ;*TEST 222       TEST OF DIVD INSTR, DATA SET DIVD-7
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;**************************************************************
014602  000004                          TST222: SCOPE
014604  012705  014616                          MOV     #DIVD7,R5       ; PTR TO TEST DATA SET
014610  004737  035042                          JSR     PC,@#DIVDT      ; GO TEST

014614  000417                          BR      TST223          ;;

014616                                  DIVD7:  ; TEST DATA SET DIVD-7:
014616  100400  000000  000000                  .WORD   100400,0,0,0    ; INITIAL AC FLOAT NUMBER
014624  000000
014626  000500  000000  000000                  .WORD   000500,0,0,0    ; INITIAL MEM FLOAT NUMBER
014634  000000
014636  140052  125252  125252                  .WORD   140052,ALTN,ALTN,ALTN+1 ; EXPECTED FLOAT RESULT
014644  125253
014646  047607  047610                          .WORD   047607,047610   ; FPS:  BEFORE, AFTER
014652  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;**************************************************************
                                        ;*TEST 223       TEST OF DIVD INSTR, DATA SET DIVD-10
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;**************************************************************
014654  000004                          TST223: SCOPE
014656  012705  014670                          MOV     #DIVD10,R5      ; PTR TO TEST DATA SET
014662  004737  035042                          JSR     PC,@#DIVDT      ; GO TEST

014666  000417                          BR      TST224          ;;

014670                                  DIVD10: ; TEST DATA SET DIVD-10:
014670  170360  170360  170360                  .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
014676  170360
```

```
4300  014700  170360  170360  170360          .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
4301  014706  170360
4302  014710  040200  000000  000000          .WORD   F1P,0,0,0       ; EXPECTED FLOAT RESULT
4303  014716  000000
4304  014720  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
4305  014724  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4306
4307
4308                                  ;;*****************************************************************
4309                                  ;*TEST 224      TEST OF DIVD INSTR, DATA SET DIVD-11
4310                                  ;*             ALL INTERRUPT ENABLES ON
4311                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4312                                  ;;*****************************************************************
4313  014726  000004                  TST224: SCOPE
4314  014730  012705  014742                  MOV     #DIVD11,R5      ; PTR TO TEST DATA SET
4315  014734  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
4316
4317  014740  000417                          BR      TST225          ;;
4318
4319  014742                          DIVD11: ; TEST DATA SET DIVD-11:
4320  014742  070200  000000  000000          .WORD   070200,0,0,0    ; INITIAL AC FLOAT NUMBER
4321  014750  000000
4322  014752  050400  000000  000000          .WORD   050400,0,0,0    ; INITIAL MEM FLOAT NUMBER
4323  014760  000000
4324  014762  060000  000000  000000          .WORD   060000,0,0,0    ; EXPECTED FLOAT RESULT
4325  014770  000000
4326  014772  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
4327  014776  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4328
4329
4330                                  ;;*****************************************************************
4331                                  ;*TEST 225      TEST OF DIVD INSTR, DATA SET DIVD-12
4332                                  ;*             ALL INTERRUPT ENABLES ON
4333                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
4334                                  ;;*****************************************************************
4335  015000  000004                  TST225: SCOPE
4336  015002  012705  015014                  MOV     #DIVD12,R5      ; PTR TO TEST DATA SET
4337  015006  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
4338
4339  015012  000417                          BR      TST226          ;;
4340
4341  015014                          DIVD12: ; TEST DATA SET DIVD-12:
4342  015014  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
4343  015022  125252
4344  015024  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
4345  015032  000000
4346  015034  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; EXPECTED FLOAT RESULT
4347  015042  125252
4348  015044  047707  147707                  .WORD   047707,147707   ; FPS:  BEFORE, AFTER
4349  015050  100004                          .WORD   100004          ; FEC AFTER ( 0 = N/A )
4350
4351
4352                                  ;;*****************************************************************
4353                                  ;*TEST 226      TEST OF DIVD INSTR, DATA SET DIVD-13
4354                                  ;*             ALL INTERRUPT ENABLES ON
4355                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
```

```
                                ;;*****************************************************************
015052  000004                  TST226: SCOPE
015054  012705  015066                  MOV     #DIVD13,R5      ; PTR TO TEST DATA SET
015060  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
                                
015064  000417                          BR      TST227          ;;
                                
015066                          DIVD13: ; TEST DATA SET DIVD-13:
015066  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
015074  177777
015076  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
015104  177777
015106  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; EXPECTED FLOAT RESULT
015114  177777
015116  047643  147643                  .WORD   047643,147643   ; FPS:  BEFORE, AFTER
015122  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
                                
                                
                                ;;*****************************************************************
                                ;*TEST 227      TEST OF DIVD INSTR, DATA SET DIVD-14
                                ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
015124  000004                  TST227: SCOPE
015126  012705  015140                  MOV     #DIVD14,R5      ; PTR TO TEST DATA SET
015132  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
                                
015136  000417                          BR      TST230          ;;
                                
015140                          DIVD14: ; TEST DATA SET DIVD-14:
015140  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
015146  177777
015150  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
015156  177777
015160  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; EXPECTED FLOAT RESULT
015166  177777
015170  043643  143643                  .WORD   043643,143643   ; FPS:  BEFORE, AFTER
015174  100004                          .WORD   100004          ; FEC AFTER ( 0 = N/A )
                                
                                
                                ;;*****************************************************************
                                ;*TEST 230      TEST OF DIVD INSTR, DATA SET DIVD-15
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
015176  000004                  TST230: SCOPE
015200  012705  015212                  MOV     #DIVD15,R5      ; PTR TO TEST DATA SET
015204  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
                                
015210  000417                          BR      TST231          ;;
                                
015212                          DIVD15: ; TEST DATA SET DIVD-15:
015212  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
015220  052525
015222  000200  000000  000000          .WORD   SMP,0,0,0       ; INITIAL MEM FLOAT NUMBER
015230  000000
```

```
4412  015232  012525  052525  052525          .WORD   012525,ALTP,ALTP,ALTP   ; EXPECTED FLOAT RESULT
4413  015240  052525
4414  015242  047615  147602                  .WORD   047615,147602   ; FPS:  BEFORE, AFTER
4415  015246  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
4416
4417
4418                                  ;;*****************************************************************
4419                                  ;*TEST 231      TEST OF DIVD INSTR, DATA SET DIVD-16
4420                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
4421                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
4422                                  ;;*****************************************************************
4423  015250  000004                  TST231: SCOPE
4424  015252  012705  015264                  MOV     #DIVD16,R5      ; PTR TO TEST DATA SET
4425  015256  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
4426
4427  015262  000417                          BR      TST232          ;;
4428
4429  015264                          DIVD16: ; TEST DATA SET DIVD-16:
4430  015264  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
4431  015272  052525
4432  015274  100200  000000  000000          .WORD   SMN,0,0,0       ; INITIAL MEM FLOAT NUMBER
4433  015302  000000
4434  015304  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
4435  015312  000000
4436  015314  046611  046606                  .WORD   046611,046606   ; FPS:  BEFORE, AFTER
4437  015320  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4438
4439
4440                                  ;;*****************************************************************
4441                                  ;*TEST 232      TEST OF DIVD INSTR, DATA SET DIVD-17
4442                                  ;*             ALL INTERRUPT ENABLES ON
4443                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
4444                                  ;;*****************************************************************
4445  015322  000004                  TST232: SCOPE
4446  015324  012705  015336                  MOV     #DIVD17,R5      ; PTR TO TEST DATA SET
4447  015330  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
4448
4449  015334  000417                          BR      TST233          ;;
4450
4451  015336                          DIVD17: ; TEST DATA SET DIVD-17:
4452  015336  100200  177777  125252          .WORD   SMN,M1,ALTN,0   ; INITIAL AC FLOAT NUMBER
4453  015344  000000
4454  015346  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
4455  015354  177777
4456  015356  140400  177777  125252          .WORD   140400,M1,ALTN,1        ; EXPECTED FLOAT RESULT
4457  015364  000001
4458  015366  047707  147710                  .WORD   047707,147710   ; FPS:  BEFORE, AFTER
4459  015372  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
4460
4461
4462                                  ;;*****************************************************************
4463                                  ;*TEST 233      TEST OF DIVD INSTR, DATA SET DIVD-20
4464                                  ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
4465                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
4466                                  ;;*****************************************************************
4467  015374  000004                  TST233: SCOPE
```

```
 4468  015376  012705  015410                  MOV     #DIVD20,R5      ; PTR TO TEST DATA SET
 4469  015402  004737  035042                  JSR     PC,@#DIVDT      ; GO TEST
 4470
 4471  015406  000417                          BR      TST234          ;;
 4472
 4473  015410                          DIVD20: ; TEST DATA SET DIVD-20:
 4474  015410  100200  177777  125252          .WORD   SMN,M1,ALTN,0   ; INITIAL AC FLOAT NUMBER
 4475  015416  000000
 4476  015420  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
 4477  015426  177777
 4478  015430  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
 4479  015436  000000
 4480  015440  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
 4481  015444  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
 4482
 4483
```

```
                                ;;*****************************************************************
                                ;*TEST 234       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
015446  000004                  TST234: SCOPE
015450  012705  015462                  MOV     #MD2F1,R5       ; PTR TO TEST DATA SET
015454  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST
015460  000413                          BR      TST235          ;;

015462                          MD2F1:  ; TEST DATA SET MD2F-1:
015462  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
015466  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
015472  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
015476  000000  000000                  .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
015502  047513  047504                  .WORD   047513,047504   ; FPS:  BEFORE, AFTER
015506  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 235       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
015510  000004                  TST235: SCOPE
015512  012705  015524                  MOV     #MD2F2,R5       ; PTR TO TEST DATA SET
015516  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST

015522  000413                          BR      TST236          ;;

015524                          MD2F2:  ; TEST DATA SET MD2F-2:
015524  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
015530  077777  177777                  .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
015534  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
015540  000000  000000                  .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
015544  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
015550  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 236       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-3
                                ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
015552  000004                  TST236: SCOPE
015554  012705  015566                  MOV     #MD2F3,R5       ; PTR TO TEST DATA SET
015560  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST

015564  000413                          BR      TST237          ;;

015566                          MD2F3:  ; TEST DATA SET MD2F-3:
015566  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
015572  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
015576  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
015602  000000  000000                  .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
```

```
4540  015606  043413  043404                .WORD   043413,043404   ; FPS:  BEFORE, AFTER
4541  015612  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
4542
4543
4544                                ;;*****************************************************************
4545                                ;*TEST 237      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-4
4546                                ;*             ALL INTERRUPT ENABLES ON
4547                                ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
4548                                ;;*****************************************************************
4549  015614  000004                TST237: SCOPE
4550  015616  012705  015630                MOV     #MD2F4,R5       ; PTR TO TEST DATA SET
4551  015622  004737  035232                JSR     PC,@#MD2FT      ; GO TEST
4552
4553  015626  000413                        BR      TST240          ;;
4554
4555  015630                        MD2F4:  ; TEST DATA SET MD2F-4:
4556  015630  177777  177777                .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
4557  015634  100177  177777                .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
4558  015640  177777  177777                .WORD   LGN,M1  ; EXPECTED FRACTION-PART FLOAT RESULT
4559  015644  052525  177777                .WORD   ALTP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
4560  015650  047447  147447                .WORD   047447,147447   ; FPS:  BEFORE, AFTER
4561  015654  100014                        .WORD   100014          ; FEC AFTER ( 0 = N/A )
4562
4563
4564                                ;;*****************************************************************
4565                                ;*TEST 240      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-5
4566                                ;*             ALL INTERRUPT ENABLES ON
4567                                ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4568                                ;;*****************************************************************
4569  015656  000004                TST240: SCOPE
4570  015660  012705  015672                MOV     #MD2F5,R5       ; PTR TO TEST DATA SET
4571  015664  004737  035232                JSR     PC,@#MD2FT      ; GO TEST
4572
4573  015670  000413                        BR      TST241          ;;
4574
4575  015672                        MD2F5:  ; TEST DATA SET MD2F-5:
4576  015672  042177  000000                .WORD   042177,0        ; INITIAL AC FLOAT NUMBER
4577  015676  140200  000000                .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
4578  015702  000000  000000                .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
4579  015706  142177  000000                .WORD   142177,0        ; EXPECTED INTEGER-PART FLOAT RESULT
4580  015712  047553  047544                .WORD   047553,047544   ; FPS:  BEFORE, AFTER
4581  015716  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
4582
4583
4584                                ;;*****************************************************************
4585                                ;*TEST 241      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-6
4586                                ;*             ALL INTERRUPT ENABLES ON
4587                                ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
4588                                ;;*****************************************************************
4589  015720  000004                TST241: SCOPE
4590  015722  012705  015734                MOV     #MD2F6,R5       ; PTR TO TEST DATA SET
4591  015726  004737  035232                JSR     PC,@#MD2FT      ; GO TEST
4592
4593  015732  000413                        BR      TST242          ;;
4594
4595  015734                        MD2F6:  ; TEST DATA SET MD2F-6:
```

```
4596  015734  040200  000000                  .WORD   F1P,0    ; INITIAL AC FLOAT NUMBER
4597  015740  140177  177777                  .WORD   140177,M1       ; INITIAL MEM FLOAT NUMBER
4598  015744  140177  177777                  .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
4599  015750  000000  000000                  .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
4600  015754  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
4601  015760  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4602
4603
4604                                  ;;*****************************************************************
4605                                  ;*TEST 242      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-7
4606                                  ;*             ALL INTERRUPT ENABLES ON
4607                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
4608                                  ;;*****************************************************************
4609  015762  000004                  TST242: SCOPE
4610  015764  012705  015776                  MOV     #MD2F7,R5       ; PTR TO TEST DATA SET
4611  015770  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST
4612
4613  015774  000413                          BR      TST243          ;;
4614
4615  015776                          MD2F7:  ; TEST DATA SET MD2F-7:
4616  015776  142176  077600                  .WORD   142176,077600   ; INITIAL AC FLOAT NUMBER
4617  016002  140200  000000                  .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
4618  016006  037777  000000                  .WORD   037777,0        ; EXPECTED FRACTION-PART FLOAT RESULT
4619  016012  042176  000000                  .WORD   042176,0        ; EXPECTED INTEGER-PART FLOAT RESULT
4620  016016  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
4621  016022  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4622
4623
4624                                  ;;*****************************************************************
4625                                  ;*TEST 243      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-10
4626                                  ;*             ALL INTERRUPT ENABLES ON
4627                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
4628                                  ;;*****************************************************************
4629  016024  000004                  TST243: SCOPE
4630  016026  012705  016040                  MOV     #MD2F10,R5      ; PTR TO TEST DATA SET
4631  016032  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST
4632
4633  016036  000413                          BR      TST244          ;;
4634
4635  016040                          MD2F10: ; TEST DATA SET MD2F-10:
4636  016040  042177  100000                  .WORD   042177,M0       ; INITIAL AC FLOAT NUMBER
4637  016044  040200  000000                  .WORD   F1P,0   ; INITIAL MEM FLOAT NUMBER
4638  016050  040000  000000                  .WORD   040000,0        ; EXPECTED FRACTION-PART FLOAT RESULT
4639  016054  042177  000000                  .WORD   042177,0        ; EXPECTED INTEGER-PART FLOAT RESULT
4640  016060  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
4641  016064  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4642
4643
4644                                  ;;*****************************************************************
4645                                  ;*TEST 244      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-11
4646                                  ;*             ALL INTERRUPT ENABLES ON
4647                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4648                                  ;;*****************************************************************
4649  016066  000004                  TST244: SCOPE
4650  016070  012705  016102                  MOV     #MD2F11,R5      ; PTR TO TEST DATA SET
4651  016074  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST
```

```
4652
4653  016100  000413                    BR      TST245          ;;
4654
4655  016102                          MD2F11: ; TEST DATA SET MD2F-11:
4656  016102  140200  000000                .WORD   F1N,0   ; INITIAL AC FLOAT NUMBER
4657  016106  040377  177777                .WORD   040377,M1       ; INITIAL MEM FLOAT NUMBER
4658  016112  140177  177776                .WORD   140177,M2       ; EXPECTED FRACTION-PART FLOAT RESULT
4659  016116  140200  000000                .WORD   F1N,0   ; EXPECTED INTEGER-PART FLOAT RESULT
4660  016122  047547  047550                .WORD   047547,047550   ; FPS:  BEFORE, AFTER
4661  016126  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
4662
4663
4664                                  ;;**********************************************************************
4665                                  ;*TEST 245      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-12
4666                                  ;*             ALL INTERRUPT ENABLES ON
4667                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
4668                                  ;;**********************************************************************
4669  016130  000004                  TST245: SCOPE
4670  016132  012705  016144                  MOV     #MD2F12,R5      ; PTR TO TEST DATA SET
4671  016136  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST
4672
4673  016142  000413                          BR      TST246          ;;
4674
4675  016144                          MD2F12: ; TEST DATA SET MD2F-12:
4676  016144  060452  125252                  .WORD   060452,ALTN     ; INITIAL AC FLOAT NUMBER
4677  016150  021700  000000                  .WORD   021700,0        ; INITIAL MEM FLOAT NUMBER
4678  016154  040177  177400                  .WORD   040177,UB       ; EXPECTED FRACTION-PART FLOAT RESULT
4679  016160  042177  000000                  .WORD   042177,0        ; EXPECTED INTEGER-PART FLOAT RESULT
4680  016164  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
4681  016170  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4682
4683
4684                                  ;;**********************************************************************
4685                                  ;*TEST 246      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-13
4686                                  ;*             ALL INTERRUPT ENABLES ON
4687                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4688                                  ;;**********************************************************************
4689  016172  000004                  TST246: SCOPE
4690  016174  012705  016206                  MOV     #MD2F13,R5      ; PTR TO TEST DATA SET
4691  016200  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST
4692
4693  016204  000413                          BR      TST247          ;;
4694
4695  016206                          MD2F13: ; TEST DATA SET MD2F-13:
4696  016206  041000  000001                  .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
4697  016212  141377  177776                  .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
4698  016216  140177  177777                  .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
4699  016222  142177  000000                  .WORD   142177,000000   ; EXPECTED INTEGER-PART FLOAT RESULT
4700  016226  047547  047550                  .WORD   047547,047550   ; FPS:  BEFORE, AFTER
4701  016232  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4702
4703
4704                                  ;;**********************************************************************
4705                                  ;*TEST 247      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-14
4706                                  ;*             ALL INTERRUPT ENABLES ON
4707                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
```

```
                                        ;;*****************************************************************
016234  000004                        TST247: SCOPE
016236  012705  016250                        MOV     #MD2F14,R5      ; PTR TO TEST DATA SET
016242  004737  035232                        JSR     PC,@#MD2FT      ; GO TEST
                                
016246  000413                                BR      TST250          ;;
                                
016250                              MD2F14: ; TEST DATA SET MD2F-14:
016250  041000  000001                        .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
016254  141377  177776                        .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
016260  140200  000000                        .WORD   140200,000000   ; EXPECTED FRACTION-PART FLOAT RESULT
016264  142177  000000                        .WORD   142177,000000   ; EXPECTED INTEGER-PART FLOAT RESULT
016270  047507  047510                        .WORD   047507,047510   ; FPS:  BEFORE, AFTER
016274  000000                                .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                
                                
                                        ;;*****************************************************************
                                        ;*TEST 250      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-15
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;*****************************************************************
016276  000004                        TST250: SCOPE
016300  012705  016312                        MOV     #MD2F15,R5      ; PTR TO TEST DATA SET
016304  004737  035232                        JSR     PC,@#MD2FT      ; GO TEST
                                
016310  000413                                BR      TST251          ;;
                                
016312                              MD2F15: ; TEST DATA SET MD2F-15:
016312  077600  000000                        .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
016316  044452  125252                        .WORD   044452,ALTN     ; INITIAL MEM FLOAT NUMBER
016322  000000  000000                        .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
016326  004052  125252                        .WORD   004052,ALTN     ; EXPECTED INTEGER-PART FLOAT RESULT
016332  047411  147406                        .WORD   047411,147406   ; FPS:  BEFORE, AFTER
016336  100010                                .WORD   100010          ; FEC AFTER ( 0 = N/A )
                                
                                
                                        ;;*****************************************************************
                                        ;*TEST 251      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-16
                                        ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;*****************************************************************
016340  000004                        TST251: SCOPE
016342  012705  016354                        MOV     #MD2F16,R5      ; PTR TO TEST DATA SET
016346  004737  035232                        JSR     PC,@#MD2FT      ; GO TEST
                                
016352  000413                                BR      TST252          ;;
                                
016354                              MD2F16: ; TEST DATA SET MD2F-16:
016354  077600  000000                        .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
016360  044452  125252                        .WORD   044452,ALTN     ; INITIAL MEM FLOAT NUMBER
016364  000000  000000                        .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
016370  000000  000000                        .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
016374  046411  046406                        .WORD   046411,046406   ; FPS:  BEFORE, AFTER
016400  000000                                .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                        ;;*****************************************************************
                                        ;*TEST 252      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-17
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
016402  000004                  TST252: SCOPE
016404  012705  016416                  MOV     #MD2F17,R5      ; PTR TO TEST DATA SET
016410  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST

016414  000413                          BR      TST253          ;;

016416                          MD2F17: ; TEST DATA SET MD2F-17:
016416  001577  177777                  .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
016422  101000  000000                  .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
016426  142377  177777                  .WORD   142377,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
016432  000000  000000                  .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
016436  047547  147550                  .WORD   047547,147550   ; FPS:  BEFORE, AFTER
016442  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                        ;;*****************************************************************
                                        ;*TEST 253      TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-20
                                        ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
016444  000004                  TST253: SCOPE
016446  012705  016460                  MOV     #MD2F20,R5      ; PTR TO TEST DATA SET
016452  004737  035232                  JSR     PC,@#MD2FT      ; GO TEST

016456  000413                          BR      TST254          ;;

016460                          MD2F20: ; TEST DATA SET MD2F-20:
016460  001577  177777                  .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
016464  101000  000000                  .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
016470  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
016474  000000  000000                  .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
016500  045553  045544                  .WORD   045553,045544   ; FPS:  BEFORE, AFTER
016504  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
4805                                    ;;*****************************************************************
4806                                    ;*TEST 254      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-1
4807                                    ;*             ALL INTERRUPT ENABLES ON
4808                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4809                                    ;;*****************************************************************
4810  016506  000004                    TST254: SCOPE
4811  016510  012705  016522                    MOV     #MD2D1,R5       ; PTR TO TEST DATA SET
4812  016514  004737  035434                    JSR     PC,@#MD2DT      ; GO TEST
4813
4814  016520  000423                            BR      TST255          ;;
4815
4816  016522                            MD2D1:  ; TEST DATA SET MD2D-1:
4817  016522  000000  000000  000000           .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
4818  016530  000000
4819  016532  000000  000000  000000           .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
4820  016540  000000
4821  016542  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4822  016550  000000
4823  016552  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4824  016560  000000
4825  016562  047653  047644                   .WORD   047653,047644   ; FPS:  BEFORE, AFTER
4826  016566  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
4827
4828
4829                                    ;;*****************************************************************
4830                                    ;*TEST 255      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-2
4831                                    ;*             ALL INTERRUPT ENABLES ON
4832                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
4833                                    ;;*****************************************************************
4834  016570  000004                    TST255: SCOPE
4835  016572  012705  016604                    MOV     #MD2D2,R5       ; PTR TO TEST DATA SET
4836  016576  004737  035434                    JSR     PC,@#MD2DT      ; GO TEST
4837
4838  016602  000423                            BR      TST256          ;;
4839
4840  016604                            MD2D2:  ; TEST DATA SET MD2D-2:
4841  016604  000177  177777  177777           .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
4842  016612  177777
4843  016614  177777  177777  177777           .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
4844  016622  177777
4845  016624  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4846  016632  000000
4847  016634  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4848  016642  000000
4849  016644  047713  047704                   .WORD   047713,047704   ; FPS:  BEFORE, AFTER
4850  016650  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
4851
4852
4853                                    ;;*****************************************************************
4854                                    ;*TEST 256      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-3
4855                                    ;*             -D INTERRUPT ENABLE OFF, ALL OTHERS ON
4856                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4857                                    ;;*****************************************************************
4858  016652  000004                    TST256: SCOPE
4859  016654  012705  016666                    MOV     #MD2D3,R5       ; PTR TO TEST DATA SET
4860  016660  004737  035434                    JSR     PC,@#MD2DT      ; GO TEST
```

```
4861
4862  016664  000423                          BR      TST257          ;;
4863
4864  016666                          MD2D3:  ; TEST DATA SET MD2D-3:
4865  016666  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
4866  016674  177777
4867  016676  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
4868  016704  177777
4869  016706  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4870  016714  000000
4871  016716  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4872  016724  000000
4873  016726  043653  043644                  .WORD   043653,043644   ; FPS:  BEFORE, AFTER
4874  016732  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4875
4876
4877                                  ;;*****************************************************************
4878                                  ;*TEST 257      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-4
4879                                  ;*             ALL INTERRUPT ENABLES ON
4880                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
4881                                  ;*****************************************************************
4882  016734  000004                  TST257: SCOPE
4883  016736  012705  016750                  MOV     #MD2D4,R5       ; PTR TO TEST DATA SET
4884  016742  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
4885
4886  016746  000423                          BR      TST260          ;;
4887
4888  016750                          MD2D4:  ; TEST DATA SET MD2D-4:
4889  016750  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
4890  016756  177777
4891  016760  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
4892  016766  177777
4893  016770  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; EXPECTED FRACTION-PART FLOAT RESUL
4894  016776  177777
4895  017000  052525  177777  125252          .WORD   ALTP,M1,ALTN,0  ; EXPECTED INTEGER-PART FLOAT RESULT
4896  017006  000000
4897  017010  047713  147713                  .WORD   047713,147713   ; FPS:  BEFORE, AFTER
4898  017014  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
4899
4900
4901                                  ;;*****************************************************************
4902                                  ;*TEST 260      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-5
4903                                  ;*             ALL INTERRUPT ENABLES ON
4904                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
4905                                  ;*****************************************************************
4906  017016  000004                  TST260: SCOPE
4907  017020  012705  017032                  MOV     #MD2D5,R5       ; PTR TO TEST DATA SET
4908  017024  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
4909
4910  017030  000423                          BR      TST261          ;;
4911
4912  017032                          MD2D5:  ; TEST DATA SET MD2D-5:
4913  017032  042177  000000  000000          .WORD   042177,0,0,0    ; INITIAL AC FLOAT NUMBER
4914  017040  000000
4915  017042  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
4916  017050  000000
```

```
 4917  017052  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
 4918  017060  000000
 4919  017062  042177  000000  000000          .WORD   042177,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
 4920  017070  00000C
 4921  017072  047613  047604                  .WORD   047613,047604   ; FPS:  BEFORE, AFTER
 4922  017076  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
 4923
 4924
 4925                                  ;;*****************************************************************
 4926                                  ;*TEST 261      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-6
 4927                                  ;*             ALL INTERRUPT ENABLES ON
 4928                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
 4929                                  ;;*****************************************************************
 4930  017100  000004                  TST261: SCOPE
 4931  017102  012705  017114                  MOV     #MD2D6,R5       ; PTR TO TEST DATA SET
 4932  017106  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
 4933
 4934  017112  000423                          BR      TST262          ;;
 4935
 4936  017114                          MD2D6:  ; TEST DATA SET MD2D-6:
 4937  017114  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
 4938  017122  000000
 4939  017124  040177  177777  177777          .WORD   040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
 4940  017132  177777
 4941  017134  140177  177777  177777          .WORD   140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
 4942  017142  177777
 4943  017144  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
 4944  017152  000000
 4945  017154  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
 4946  017160  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
 4947
 4948
 4949                                  ;;*****************************************************************
 4950                                  ;*TEST 262      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-7
 4951                                  ;*             ALL INTERRUPT ENABLES ON
 4952                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
 4953                                  ;;*****************************************************************
 4954  017162  000004                  TST262: SCOPE
 4955  017164  012705  017176                  MOV     #MD2D7,R5       ; PTR TO TEST DATA SET
 4956  017170  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
 4957
 4958  017174  000423                          BR      TST263          ;;
 4959
 4960  017176                          MD2D7:  ; TEST DATA SET MD2D-7:
 4961  017176  042176  077600  000000          .WORD   042176,077600,0,0       ; INITIAL AC FLOAT NUMBER
 4962  017204  000000
 4963  017206  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL MEM FLOAT NUMBER
 4964  017214  000000
 4965  017216  137777  000000  000000          .WORD   137777,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
 4966  017224  000000
 4967  017226  142176  000000  000000          .WORD   142176,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
 4968  017234  000000
 4969  017236  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
 4970  017242  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
 4971
 4972
```

```
                                        ;;*****************************************************************
                                        ;*TEST 263      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-10
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
017244  000004                  TST263: SCOPE
017246  012705  017260                  MOV     #MD2D10,R5      ; PTR TO TEST DATA SET
017252  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST

017256  000423                          BR      TST264          ;;

017260                          MD2D10: ; TEST DATA SET MD2D-10:
017260  142177  100000  000000          .WORD   142177,M0,0,0   ; INITIAL AC FLOAT NUMBER
017266  000000
017270  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
017276  000000
017300  140000  000000  000000          .WORD   140000,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
017306  000000
017310  142177  000000  000000          .WORD   142177,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
017316  000000
017320  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
017324  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;*****************************************************************
                                        ;*TEST 264      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-11
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;*****************************************************************
017326  000004                  TST264: SCOPE
017330  012705  017342                  MOV     #MD2D11,R5      ; PTR TO TEST DATA SET
017334  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST

017340  000423                          BR      TST265          ;;

017342                          MD2D11: ; TEST DATA SET MD2D-11:
017342  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
017350  000000
017352  140377  177777  177777          .WORD   140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
017360  177777
017362  040177  177777  177777          .WORD   040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
017370  177776
017372  040200  000000  000000          .WORD   F1P,0,0,0       ; EXPECTED INTEGER-PART FLOAT RESULT
017400  000000
017402  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
017406  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;*****************************************************************
                                        ;*TEST 265      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-12
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
017410  000004                  TST265: SCOPE
017412  012705  017424                  MOV     #MD2D12,R5      ; PTR TO TEST DATA SET
017416  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
```

```
5029
5030  017422  000423                          BR      TST266          ;;
5031
5032  017424                          MD2D12: ; TEST DATA SET MD2D-12:
5033  017424  167452  125252  125252          .WORD   167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5034  017432  125252
5035  017434  112700  000000  000000          .WORD   112700,0,0,0    ; INITIAL MEM FLOAT NUMBER
5036  017442  000000
5037  017444  040177  177777  177777          .WORD   040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
5038  017452  177400
5039  017454  042177  000000  000000          .WORD   042177,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
5040  017462  000000
5041  017464  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
5042  017470  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5043
5044
5045                                  ;;*****************************************************************
5046                                  ;*TEST 266       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-13
5047                                  ;*              ALL INTERRUPT ENABLES ON
5048                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
5049                                  ;;*****************************************************************
5050  017472  000004                  TST266: SCOPE
5051  017474  012705  017506                  MOV     #MD2D13,R5      ; PTR TO TEST DATA SET
5052  017500  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
5053
5054  017504  000423                          BR      TST267          ;;
5055
5056  017506                          MD2D13: ; TEST DATA SET MD2D-13:
5057  017506  041000  000000  000000          .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
5058  017514  000001
5059  017516  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5060  017524  177776
5061  017526  040177  177777  177777          .WORD   040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5062  017534  177777
5063  017536  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
5064  017544  000000
5065  017546  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
5066  017552  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5067
5068
5069                                  ;;*****************************************************************
5070                                  ;*TEST 267       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14
5071                                  ;*              ALL INTERRUPT ENABLES ON
5072                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
5073                                  ;;*****************************************************************
5074  017554  000004                  TST267: SCOPE
5075  017556  012705  017570                  MOV     #MD2D14,R5      ; PTR TO TEST DATA SET
5076  017562  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
5077
5078  017566  000423                          BR      TST270          ;;
5079
5080  017570                          MD2D14: ; TEST DATA SET MD2D-14:
5081  017570  041000  000000  000000          .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
5082  017576  000001
5083  017600  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5084  017606  177776
```

```
5085  017610  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
5086  017616  000000
5087  017620  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
5088  017626  000000
5089  017630  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
5090  017634  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5091
5092
5093                                  ;;*****************************************************************
5094                                  ;*TEST 270      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-15
5095                                  ;*             ALL INTERRUPT ENABLES ON
5096                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
5097                                  ;;*****************************************************************
5098  017636  000004                  TST270: SCOPE
5099  017640  012705  017652                  MOV     #MD2D15,R5      ; PTR TO TEST DATA SET
5100  017644  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
5101
5102  017650  000423                          BR      TST271          ;;
5103
5104  017652                          MD2D15: ; TEST DATA SET MD2D-15:
5105  017652  140452  125252  125252          .WORD   140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5106  017660  125252
5107  017662  077600  000000  000000          .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
5108  017670  000000
5109  017672  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5110  017700  000000
5111  017702  100052  125252  125252          .WORD   100052,AN,AN,AN ; EXPECTED INTEGER-PART FLOAT RESULT
5112  017710  125252
5113  017712  047651  147646                  .WORD   047651,147646   ; FPS:  BEFORE, AFTER
5114  017716  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
5115
5116
5117                                  ;;*****************************************************************
5118                                  ;*TEST 271      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-16
5119                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5120                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
5121                                  ;;*****************************************************************
5122  017720  000004                  TST271: SCOPE
5123  017722  012705  017734                  MOV     #MD2D16,R5      ; PTR TO TEST DATA SET
5124  017726  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
5125
5126  017732  000423                          BR      TST272          ;;
5127
5128  017734                          MD2D16: ; TEST DATA SET MD2D-16:
5129  017734  140452  125252  125252          .WORD   140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5130  017742  125252
5131  017744  077600  000000  000000          .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
5132  017752  000000
5133  017754  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5134  017762  000000
5135  017764  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5136  017772  000000
5137  017774  046751  046746                  .WORD   046751,046746   ; FPS:  BEFORE, AFTER
5138  020000  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5139
5140
```

```
                                ;;*****************************************************************
                                ;*TEST 272       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-17
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
020002  000004                  TST272: SCOPE
020004  012705  020016                  MOV     #MD2D17,R5      ; PTR TO TEST DATA SET
020010  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
020014  000423                          BR      TST273          ;;
020016                          MD2D17: ; TEST DATA SET MD2D-17:
020016  101577  177777  177777          .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
020024  177777
020026  101000  000000  000000          .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
020034  000000
020036  042377  177777  177777          .WORD   042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
020044  177777
020046  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
020054  000000
020056  047617  147600                  .WORD   047617,147600   ; FPS:  BEFORE, AFTER
020062  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 273       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-20
                                ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
020064  000004                  TST273: SCOPE
020066  012705  020100                  MOV     #MD2D20,R5      ; PTR TO TEST DATA SET
020072  004737  035434                  JSR     PC,@#MD2DT      ; GO TEST
020076  000423                          BR      TST274          ;;
020100                          MD2D20: ; TEST DATA SET MD2D-20:
020100  101577  177777  177777          .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
020106  177777
020110  101000  000000  000000          .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
020116  000000
020120  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
020126  000000
020130  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
020136  000000
020140  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
020144  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 274       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
020146  000004                  TST274: SCOPE
020150  012705  020162                  MOV     #MD1F1,R5       ; PTR TO TEST DATA SET
020154  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
020160  000413                          BR      TST275          ;;
020162                          MD1F1:  ; TEST DATA SET MD1F-1:
020162  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
020166  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
020172  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020176  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020202  047513  047504                  .WORD   047513,047504   ; FPS:  BEFORE, AFTER
020206  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 275       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
020210  000004                  TST275: SCOPE
020212  012705  020224                  MOV     #MD1F2,R5       ; PTR TO TEST DATA SET
020216  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST

020222  000413                          BR      TST276          ;;

020224                          MD1F2:  ; TEST DATA SET MD1F-2:
020224  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
020230  077777  177777                  .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
020234  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020240  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020244  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
020250  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 276       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-3
                                ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
020252  000004                  TST276: SCOPE
020254  012705  020266                  MOV     #MD1F3,R5       ; PTR TO TEST DATA SET
020260  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST

020264  000413                          BR      TST277          ;;

020266                          MD1F3:  ; TEST DATA SET MD1F-3:
020266  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
020272  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
020276  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020302  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
```

```
005245  020306  043413  043404                  .WORD   043413,043404   ; FPS:  BEFORE, AFTER
005246  020312  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
005247
005248
005249                                  ;;*****************************************************************
005250                                  ;*TEST 277       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-4
005251                                  ;*              ALL INTERRUPT ENABLES ON
005252                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
005253                                  ;;*****************************************************************
005254  020314  000004                  TST277: SCOPE
005255  020316  012705  020330                  MOV     #MD1F4,R5       ; PTR TO TEST DATA SET
005256  020322  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
005257
005258  020326  000413                          BR      TST300          ;;
005259
005260  020330                          MD1F4:  ; TEST DATA SET MD1F-4:
005261  020330  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
005262  020334  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
005263  020340  177777  177777                  .WORD   LGN,M1  ; EXPECTED FRACTION-PART FLOAT RESULT
005264  020344  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
005265  020350  047447  147447                  .WORD   047447,147447   ; FPS:  BEFORE, AFTER
005266  020354  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
005267
005268
005269                                  ;;*****************************************************************
005270                                  ;*TEST 300       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-5
005271                                  ;*              ALL INTERRUPT ENABLES ON
005272                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
005273                                  ;;*****************************************************************
005274  020356  000004                  TST300: SCOPE
005275  020360  012705  020372                  MOV     #MD1F5,R5       ; PTR TO TEST DATA SET
005276  020364  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
005277
005278  020370  000413                          BR      TST301          ;;
005279
005280  020372                          MD1F5:  ; TEST DATA SET MD1F-5:
005281  020372  042177  000000                  .WORD   042177,0        ; INITIAL AC FLOAT NUMBER
005282  020376  140200  000000                  .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
005283  020402  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
005284  020406  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
005285  020412  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
005286  020416  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
005287
005288
005289                                  ;;*****************************************************************
005290                                  ;*TEST 301       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-6
005291                                  ;*              ALL INTERRUPT ENABLES ON
005292                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
005293                                  ;;*****************************************************************
005294  020420  000004                  TST301: SCOPE
005295  020422  012705  020434                  MOV     #MD1F6,R5       ; PTR TO TEST DATA SET
005296  020426  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
005297
005298  020432  000413                          BR      TST302          ;;
005299
005300  020434                          MD1F6:  ; TEST DATA SET MD1F-6:
```

```
5301  020434  040200  000000                  .WORD   F1P,0   ; INITIAL AC FLOAT NUMBER
5302  020440  140177  177777                  .WORD   140177,M1       ; INITIAL MEM FLOAT NUMBER
5303  020444  140177  177777                  .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
5304  020450  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5305  020454  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
5306  020460  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5307
5308
5309                                  ;;*****************************************************************
5310                                  ;*TEST 302      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-7
5311                                  ;*             ALL INTERRUPT ENABLES ON
5312                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
5313                                  ;;*****************************************************************
5314  020462  000004                  TST302: SCOPE
5315  020464  012705  020476                  MOV     #MD1F7,R5       ; PTR TO TEST DATA SET
5316  020470  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
5317
5318  020474  000413                          BR      TST303          ;;
5319
5320  020476                          MD1F7:  ; TEST DATA SET MD1F-7:
5321  020476  142176  077600                  .WORD   142176,077600   ; INITIAL AC FLOAT NUMBER
5322  020502  140200  000000                  .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
5323  020506  037777  000000                  .WORD   037777,0        ; EXPECTED FRACTION-PART FLOAT RESULT
5324  020512  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5325  020516  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
5326  020522  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5327
5328
5329                                  ;;*****************************************************************
5330                                  ;*TEST 303      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-10
5331                                  ;*             ALL INTERRUPT ENABLES ON
5332                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
5333                                  ;;*****************************************************************
5334  020524  000004                  TST303: SCOPE
5335  020526  012705  020540                  MOV     #MD1F10,R5      ; PTR TO TEST DATA SET
5336  020532  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
5337
5338  020536  000413                          BR      TST304          ;;
5339
5340  020540                          MD1F10: ; TEST DATA SET MD1F-10:
5341  020540  042177  100000                  .WORD   042177,M0       ; INITIAL AC FLOAT NUMBER
5342  020544  040200  000000                  .WORD   F1P,0   ; INITIAL MEM FLOAT NUMBER
5343  020550  040000  000000                  .WORD   040000,0        ; EXPECTED FRACTION-PART FLOAT RESULT
5344  020554  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5345  020560  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
5346  020564  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5347
5348
5349                                  ;;*****************************************************************
5350                                  ;*TEST 304      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-11
5351                                  ;*             ALL INTERRUPT ENABLES ON
5352                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
5353                                  ;;*****************************************************************
5354  020566  000004                  TST304: SCOPE
5355  020570  012705  020602                  MOV     #MD1F11,R5      ; PTR TO TEST DATA SET
5356  020574  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
```

```
5357
5358  020600  000413                        BR      TST305          ;;
5359
5360  020602                        MD1F11: ; TEST DATA SET MD1F-11:
5361  020602  140200  000000                .WORD   F1N,0   ; INITIAL AC FLOAT NUMBER
5362  020606  040377  177777                .WORD   040377,M1       ; INITIAL MEM FLOAT NUMBER
5363  020612  140177  177776                .WORD   140177,M2       ; EXPECTED FRACTION-PART FLOAT RESULT
5364  020616  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5365  020622  047547  047550                .WORD   047547,047550   ; FPS:  BEFORE, AFTER
5366  020626  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
5367
5368
5369                                ;;**********************************************************************
5370                                ;*TEST 305      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-12
5371                                ;*             ALL INTERRUPT ENABLES ON
5372                                ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
5373                                ;;**********************************************************************
5374  020630  000004                TST305: SCOPE
5375  020632  012705  020644                MOV     #MD1F12,R5      ; PTR TO TEST DATA SET
5376  020636  004737  035676                JSR     PC,@#MD1FT      ; GO TEST
5377
5378  020642  000413                        BR      TST306          ;;
5379
5380  020644                        MD1F12: ; TEST DATA SET MD1F-12:
5381  020644  060452  125252                .WORD   060452,ALTN     ; INITIAL AC FLOAT NUMBER
5382  020650  021700  000000                .WORD   021700,0        ; INITIAL MEM FLOAT NUMBER
5383  020654  040177  177400                .WORD   040177,U8       ; EXPECTED FRACTION-PART FLOAT RESULT
5384  020660  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5385  020664  047517  047500                .WORD   047517,047500   ; FPS:  BEFORE, AFTER
5386  020670  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
5387
5388
5389                                ;;**********************************************************************
5390                                ;*TEST 306      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-13
5391                                ;*             ALL INTERRUPT ENABLES ON
5392                                ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
5393                                ;;**********************************************************************
5394  020672  000004                TST306: SCOPE
5395  020674  012705  020706                MOV     #MD1F13,R5      ; PTR TO TEST DATA SET
5396  020700  004737  035676                JSR     PC,@#MD1FT      ; GO TEST
5397
5398  020704  000413                        BR      TST307          ;;
5399
5400  020706                        MD1F13: ; TEST DATA SET MD1F-13:
5401  020706  041000  000001                .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
5402  020712  141377  177776                .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
5403  020716  140177  177777                .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
5404  020722  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5405  020726  047547  047550                .WORD   047547,047550   ; FPS:  BEFORE, AFTER
5406  020732  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
5407
5408
5409                                ;;**********************************************************************
5410                                ;*TEST 307      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-14
5411                                ;*             ALL INTERRUPT ENABLES ON
5412                                ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
```

```
5413
5414  020734  000004                  ;;*****************************************************************
5415  020736  012705  020750          TST307: SCOPE
5416  020742  004737  035676                  MOV     #MD1F14,R5      ; PTR TO TEST DATA SET
5417                                          JSR     PC,@#MD1FT      ; GO TEST
5418  020746  000413                         BR      TST310          ;;
5419
5420  020750                          MD1F14: ; TEST DATA SET MD1F-14:
5421  020750  041000  000001                 .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
5422  020754  141377  177776                 .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
5423  020760  140200  000000                 .WORD   140200,000000   ; EXPECTED FRACTION-PART FLOAT RESULT
5424  020764  052525  177777                 .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5425  020770  047507  047510                 .WORD   047507,047510   ; FPS:  BEFORE, AFTER
5426  020774  000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
5427
5428
5429                                  ;;*****************************************************************
5430                                  ;*TEST 310      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-15
5431                                  ;*             ALL INTERRUPT ENABLES ON
5432                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
5433                                  ;;*****************************************************************
5434  020776  000004                  TST310: SCOPE
5435  021000  012705  021012                  MOV     #MD1F15,R5      ; PTR TO TEST DATA SET
5436  021004  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
5437
5438  021010  000413                         BR      TST311          ;;
5439
5440  021012                          MD1F15: ; TEST DATA SET MD1F-15:
5441  021012  077600  000000                 .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
5442  021016  040452  125252                 .WORD   040452,ALTN     ; INITIAL MEM FLOAT NUMBER
5443  021022  000000  000000                 .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
5444  021026  052525  177777                 .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5445  021032  047411  147406                 .WORD   047411,147406   ; FPS:  BEFORE, AFTER
5446  021036  100010                         .WORD   100010          ; FEC AFTER ( 0 = N/A )
5447
5448
5449                                  ;;*****************************************************************
5450                                  ;*TEST 311      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-16
5451                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5452                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
5453                                  ;;*****************************************************************
5454  021040  000004                  TST311: SCOPE
5455  021042  012705  021054                  MOV     #MD1F16,R5      ; PTR TO TEST DATA SET
5456  021046  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
5457
5458  021052  000413                         BR      TST312          ;;
5459
5460  021054                          MD1F16: ; TEST DATA SET MD1F-16:
5461  021054  077600  000000                 .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
5462  021060  040452  125252                 .WORD   040452,ALTN     ; INITIAL MEM FLOAT NUMBER
5463  021064  000000  000000                 .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
5464  021070  052525  177777                 .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
5465  021074  046411  046406                 .WORD   046411,046406   ; FPS:  BEFORE, AFTER
5466  021100  000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
5467
5468
```

```
                                        ;;*****************************************************************
                                        ;*TEST 312      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-17
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
021102  000004                  TST312: SCOPE
021104  012705  021116                  MOV     #MD1F17,R5      ; PTR TO TEST DATA SET
021110  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
021114  000413                          BR      TST313          ;;
021116                          MD1F17: ; TEST DATA SET MD1F-17:
021116  001577  177777                  .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
021122  101000  000000                  .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
021126  142377  177777                  .WORD   142377,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
021132  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021136  047547  147550                  .WORD   047547,147550   ; FPS:  BEFORE, AFTER
021142  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
                                        ;;*****************************************************************
                                        ;*TEST 313      TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-20
                                        ;*             UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
021144  000004                  TST313: SCOPE
021146  012705  021160                  MOV     #MD1F20,R5      ; PTR TO TEST DATA SET
021152  004737  035676                  JSR     PC,@#MD1FT      ; GO TEST
021156  000413                          BR      TST314          ;;
021160                          MD1F20: ; TEST DATA SET MD1F-20:
021160  001577  177777                  .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
021164  101000  000000                  .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
021170  000000  000000                  .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
021174  052525  177777                  .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021200  045553  045544                  .WORD   045553,045544   ; FPS:  BEFORE, AFTER
021204  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                        ;;*****************************************************************
                                        ;*TEST 314      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-1
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
021206  000004                          TST314: SCOPE
021210  012705  021222                          MOV     #MD1D1,R5       ; PTR TO TEST DATA SET
021214  004737  036100                          JSR     PC,@#MD1DT      ; GO TEST
021220  000423                          TST315  BR      TST315          ;;
021222                                  MD1D1:  ; TEST DATA SET MD1D-1:
021222  000000  000000  000000                  .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
021230  000000
021232  000000  000000  000000                  .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
021240  000000
021242  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
021250  000000
021252  052525  177777  125252                  .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
021260  000000
021262  047653  047644                          .WORD   047653,047644   ; FPS:  BEFORE, AFTER
021266  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                        ;;*****************************************************************
                                        ;*TEST 315      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-2
                                        ;*             ALL INTERRUPT ENABLES ON
                                        ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;*****************************************************************
021270  000004                          TST315: SCOPE
021272  012705  021304                          MOV     #MD1D2,R5       ; PTR TO TEST DATA SET
021276  004737  036100                          JSR     PC,@#MD1DT      ; GO TEST
021302  000423                          TST316  BR      TST316          ;;
021304                                  MD1D2:  ; TEST DATA SET MD1D-2:
021304  000177  177777  177777                  .WORD   2X1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
021312  177777
021314  177777  177777  177777                  .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
021322  177777
021324  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
021332  000000
021334  052525  177777  125252                  .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
021342  000000
021344  047713  047704                          .WORD   047713,047704   ; FPS:  BEFORE, AFTER
021350  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                        ;;*****************************************************************
                                        ;*TEST 316      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-3
                                        ;*             -O INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
021352  000004                          TST316: SCOPE
021354  012705  021366                          MOV     #MD1D3,R5       ; PTR TO TEST DATA SET
021360  004737  036100                          JSR     PC,@#MD1DT      ; GO TEST
```

```
5566
5567  021364  000423                          BR      TST317          ;;
5568
5569  021366                          MD1D3:  ; TEST DATA SET MD1D-3:
5570  021366  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
5571  021374  177777
5572  021376  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
5573  021404  177777
5574  021406  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5575  021414  000000
5576  021416  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5577  021424  000000
5578  021426  043653  043644                  .WORD   043653,043644   ; FPS:  BEFORE, AFTER
5579  021432  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5580
5581
5582                                  ;;*****************************************************************
5583                                  ;*TEST 317      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-4
5584                                  ;*              ALL INTERRUPT ENABLES ON
5585                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
5586                                  ;;*****************************************************************
5587  021434  000004                  TST317: SCOPE
5588  021436  012705  021450                  MOV     #MD1D4,R5       ; PTR TO TEST DATA SET
5589  021442  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5590
5591  021446  000423                          BR      TST320          ;;
5592
5593  021450                          MD1D4:  ; TEST DATA SET MD1D-4:
5594  021450  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
5595  021456  177777
5596  021460  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
5597  021466  177777
5598  021470  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; EXPECTED FRACTION-PART FLOAT RESULT
5599  021476  177777
5600  021500  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5601  021506  000000
5602  021510  047713  147713                  .WORD   047713,147713   ; FPS:  BEFORE, AFTER
5603  021514  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
5604
5605
5606                                  ;;*****************************************************************
5607                                  ;*TEST 320      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-5
5608                                  ;*              ALL INTERRUPT ENABLES ON
5609                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
5610                                  ;;*****************************************************************
5611  021516  000004                  TST320: SCOPE
5612  021520  012705  021532                  MOV     #MD1D5,R5       ; PTR TO TEST DATA SET
5613  021524  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5614
5615  021530  000423                          BR      TST321          ;;
5616
5617  021532                          MD1D5:  ; TEST DATA SET MD1D-5:
5618  021532  042177  000000  000000          .WORD   042177,0,0,0    ; INITIAL AC FLOAT NUMBER
5619  021540  000000
5620  021542  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
5621  021550  000000
```

```
5622  021552  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5623  021560  000000
5624  021562  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5625  021570  000000
5626  021572  047613  047604                  .WORD   047613,047604   ; FPS:  BEFORE, AFTER
5627  021576  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5628
5629
5630                                  ;;*****************************************************************
5631                                  ;*TEST 321       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-6
5632                                  ;*              ALL INTERRUPT ENABLES ON
5633                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
5634                                  ;;*****************************************************************
5635  021600  000004                  TST321: SCOPE
5636  021602  012705  021614                  MOV     #MD1D6,R5       ; PTR TO TEST DATA SET
5637  021606  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5638
5639  021612  000423                          BR      TST322          ;;
5640
5641  021614                          MD1D6:  ; TEST DATA SET MD1D-6:
5642  021614  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
5643  021622  000000
5644  021624  040177  177777  177777          .WORD   040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
5645  021632  177777
5646  021634  140177  177777  177777          .WORD   140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5647  021642  177777
5648  021644  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5649  021652  000000
5650  021654  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
5651  021660  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5652
5653
5654                                  ;;*****************************************************************
5655                                  ;*TEST 322       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-7
5656                                  ;*              ALL INTERRUPT ENABLES ON
5657                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
5658                                  ;;*****************************************************************
5659  021662  000004                  TST322: SCOPE
5660  021664  012705  021676                  MOV     #MD1D7,R5       ; PTR TO TEST DATA SET
5661  021670  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5662
5663  021674  000423                          BR      TST323          ;;
5664
5665  021676                          MD1D7:  ; TEST DATA SET MD1D-7:
5666  021676  042176  077600  000000          .WORD   042176,077600,0,0       ; INITIAL AC FLOAT NUMBER
5667  021704  000000
5668  021706  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL MEM FLOAT NUMBER
5669  021714  000000
5670  021716  137777  000000  000000          .WORD   137777,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
5671  021724  000000
5672  021726  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5673  021734  000000
5674  021736  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
5675  021742  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5676
5677
```

```
5678                                    ;;*****************************************************************
5679                                    ;*TEST 323      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-10
5680                                    ;*             ALL INTERRUPT ENABLES ON
5681                                    ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
5682                                    ;;*****************************************************************
5683  021744  000004                    TST323: SCOPE
5684  021746  012705  021760                    MOV     #MD1D10,R5      ; PTR TO TEST DATA SET
5685  021752  004737  036100                    JSR     PC,@#MD1DT      ; GO TEST
5686
5687  021756  000423                            BR      TST324          ;;
5688
5689  021760                            MD1D10: ; TEST DATA SET MD1D-10:
5690  021760  142177  100000  000000            .WORD   142177,M0,0,0   ; INITIAL AC FLOAT NUMBER
5691  021766  000000
5692  021770  040200  000000  000000            .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
5693  021776  000000
5694  022000  140000  000000  000000            .WORD   140000,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
5695  022006  000000
5696  022010  052525  177777  125252            .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5697  022016  000000
5698  022020  047747  047750                    .WORD   047747,047750   ; FPS:  BEFORE, AFTER
5699  022024  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
5700
5701
5702                                    ;;*****************************************************************
5703                                    ;*TEST 324      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-11
5704                                    ;*             ALL INTERRUPT ENABLES ON
5705                                    ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
5706                                    ;;*****************************************************************
5707  022026  000004                    TST324: SCOPE
5708  022030  012705  022042                    MOV     #MD1D11,R5      ; PTR TO TEST DATA SET
5709  022034  004737  036100                    JSR     PC,@#MD1DT      ; GO TEST
5710
5711  022040  000423                            BR      TST325          ;;
5712
5713  022042                            MD1D11: ; TEST DATA SET MD1D-11:
5714  022042  140200  000000  000000            .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
5715  022050  000000
5716  022052  140377  177777  177777            .WORD   140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
5717  022060  177777
5718  022062  040177  177777  177777            .WORD   040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
5719  022070  177776
5720  022072  052525  177777  125252            .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5721  022100  000000
5722  022102  047617  047600                    .WORD   047617,047600   ; FPS:  BEFORE, AFTER
5723  022106  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
5724
5725
5726                                    ;;*****************************************************************
5727                                    ;*TEST 325      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-12
5728                                    ;*             ALL INTERRUPT ENABLES ON
5729                                    ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
5730                                    ;;*****************************************************************
5731  022110  000004                    TST325: SCOPE
5732  022112  012705  022124                    MOV     #MD1D12,R5      ; PTR TO TEST DATA SET
5733  022116  004737  036100                    JSR     PC,@#MD1DT      ; GO TEST
```

```
5734
5735  022122  000423                          BR      TST326          ;;
5736
5737  022124                          MD1D12: ; TEST DATA SET MD1D-12:
5738  022124  167452  125252  125252          .WORD   167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5739  022132  125252
5740  022134  112700  000000  000000          .WORD   112700,0,0,0    ; INITIAL MEM FLOAT NUMBER
5741  022142  000000
5742  022144  040177  177777  177777          .WORD   040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
5743  022152  177400
5744  022154  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5745  022162  000000
5746  022164  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
5747  022170  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5748
5749
5750                                  ;;*****************************************************************
5751                                  ;*TEST 326      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-13
5752                                  ;*             ALL INTERRUPT ENABLES ON
5753                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
5754                                  ;;*****************************************************************
5755  022172  000004                  TST326: SCOPE
5756  022174  012705  022206                  MOV     #MD1D13,R5      ; PTR TO TEST DATA SET
5757  022200  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5758
5759  022204  000423                          BR      TST327          ;;
5760
5761  022206                          MD1D13: ; TEST DATA SET MD1D-13:
5762  022206  041000  000000  000000          .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
5763  022214  000001
5764  022216  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5765  022224  177776
5766  022226  040177  177777  177777          .WORD   040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5767  022234  177777
5768  022236  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5769  022244  000000
5770  022246  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
5771  022252  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5772
5773
5774                                  ;;*****************************************************************
5775                                  ;*TEST 327      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-14
5776                                  ;*             ALL INTERRUPT ENABLES ON
5777                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
5778                                  ;;*****************************************************************
5779  022254  000004                  TST327: SCOPE
5780  022256  012705  022270                  MOV     #MD1D14,R5      ; PTR TO TEST DATA SET
5781  022262  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5782
5783  022266  000423                          BR      TST330          ;;
5784
5785  022270                          MD1D14: ; TEST DATA SET MD1D-14:
5786  022270  041000  000000  000000          .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
5787  022276  000001
5788  022300  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5789  02_306  177776
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5790  022310  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
5791  022316  000000
5792  022320  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5793  022326  000000
5794  022330  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
5795  022334  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5796
5797
5798                                  ;;*****************************************************************
5799                                  ;*TEST 330      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-15
5800                                  ;*             ALL INTERRUPT ENABLES ON
5801                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
5802                                  ;;*****************************************************************
5803  022336  000004                  TST330: SCOPE
5804  022340  012705  022352                  MOV     #MD1D15,R5      ; PTR TO TEST DATA SET
5805  022344  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5806
5807  022350  000423                          BR      TST331          ;;
5808
5809  022352                          MD1D15: ; TEST DATA SET MD1D-15:
5810  022352  142452  125252  125252          .WORD   142452,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
5811  022360  125252
5812  022362  077600  000000  000000          .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
5813  022370  000000
5814  022372  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5815  022400  000000
5816  022402  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5817  022410  000000
5818  022412  047651  147646                  .WORD   047651,147646   ; FPS:  BEFORE, AFTER
5819  022416  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
5820
5821
5822                                  ;;*****************************************************************
5823                                  ;*TEST 331      TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-16
5824                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5825                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
5826                                  ;;*****************************************************************
5827  022420  000004                  TST331: SCOPE
5828  022422  012705  022434                  MOV     #MD1D16,R5      ; PTR TO TEST DATA SET
5829  022426  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST
5830
5831  022432  000423                          BR      TST332          ;;
5832
5833  022434                          MD1D16: ; TEST DATA SET MD1D-16:
5834  022434  142452  125252  125252          .WORD   142452,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
5835  022442  125252
5836  022444  077600  000000  000000          .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
5837  022452  000000
5838  022454  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5839  022462  000000
5840  022464  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
5841  022472  000000
5842  022474  046751  046746                  .WORD   046751,046746   ; FPS:  BEFORE, AFTER
5843  022500  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
5844
5845
```

```
                                ;;*****************************************************************
                                ;*TEST 332       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-17
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
022502  000004                  TST332: SCOPE
022504  012705  022516                  MOV     #MD1D17,R5      ; PTR TO TEST DATA SET
022510  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST

022514  000423                          BR      TST333          ;;

022516                          MD1D17: ; TEST DATA SET MD1D-17:
022516  101577  177777  177777          .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
022522  177777
022524  101000  000000  000000          .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
022534  000000
022536  042377  177777  177777          .WORD   042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
022544  177777
022546  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
022554  000000
022556  047617  147600                  .WORD   047617,147600   ; FPS:  BEFORE, AFTER
022562  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 333       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-20
                                ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
022564  000004                  TST333: SCOPE
022566  012705  022600                  MOV     #MD1D20,R5      ; PTR TO TEST DATA SET
022572  004737  036100                  JSR     PC,@#MD1DT      ; GO TEST

022576  000423                          BR      TST334          ;;

022600                          MD1D20: ; TEST DATA SET MD1D-20:
022600  101577  177777  177777          .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
022606  177777
022610  101000  000000  000000          .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
022616  000000
022620  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
022626  000000
022630  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
022636  000000
022640  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
022644  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 334       TEST OF LDCDF INSTR, DATA SET LCDF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
022646  000004                TST334: SCOPE
022650  012705  022f,62              MOV     #LCDF1,R5       ; PTR TO TEST DATA SET
022654  004737  036342              JSR     PC,@#LCDFT      ; GO TEST
022660  000411                      BR      TST335          ;;
022662                          LCDF1:  ; TEST DATA SET LCDF-1:
022662  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
022670  000000
022672  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
022676  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
022702  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 335       TEST OF LDCDF INSTR, DATA SET LCDF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
022704  000004                TST335: SCOPE
022706  012705  022720              MOV     #LCDF2,R5       ; PTR TO TEST DATA SET
022712  004737  036342              JSR     PC,@#LCDFT      ; GO TEST
022716  000411                      BR      TST336          ;;
022720                          LCDF2:  ; TEST DATA SET LCDF-2:
022720  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
022726  177777
022730  052525  177777                  .WORD   ALTP,M1 ; EXPECTED FLOAT RESULT
022734  047503  147514                  .WORD   047503,147514   ; FPS:  BEFORE, AFTER
022740  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 336       TEST OF LDCDF INSTR, DATA SET LCDF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
022742  000004                TST336: SCOPE
022744  012705  022756              MOV     #LCDF3,R5       ; PTR TO TEST DATA SET
022750  004737  036342              JSR     PC,@#LCDFT      ; GO TEST
022754  000411                      BR      TST337          ;;
022756                          LCDF3:  ; TEST DATA SET LCDF-3:
022756  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
022764  177777
022766  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
022772  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
022776  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 337       TEST OF LDCDF INSTR, DATA SET LCDF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
023000  000004                  TST337: SCOPE
023002  012705  023014                  MOV     #LCDF4,R5       ; PTR TO TEST DATA SET
023006  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
023012  000411                          BR      TST340          ;;
023014                          LCDF4:  ; TEST DATA SET LCDF-4:
023014  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
023022  000000
023024  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
023030  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
023034  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 340       TEST OF LDCDF INSTR, DATA SET LCDF-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
023036  000004                  TST340: SCOPE
023040  012705  023052                  MOV     #LCDF5,R5       ; PTR TO TEST DATA SET
023044  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
023050  000411                          BR      TST341          ;;
023052                          LCDF5:  ; TEST DATA SET LCDF-5:
023052  140200  000000  100000          .WORD   F1N,0,M0,0      ; INITIAL MEM FLOAT NUMBER
023060  000000
023062  140200  000001                  .WORD   F1N,1   ; EXPECTED FLOAT RESULT
023066  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
023072  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 341       TEST OF LDCDF INSTR, DATA SET LCDF-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
023074  000004                  TST341: SCOPE
023076  012705  023110                  MOV     #LCDF6,R5       ; PTR TO TEST DATA SET
023102  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
023106  000411                          BR      TST342          ;;
023110                          LCDF6:  ; TEST DATA SET LCDF-6:
023110  140200  000000  100000          .WORD   F1N,0,M0,0      ; INITIAL MEM FLOAT NUMBER
023116  000000
023120  140200  000000                  .WORD   F1N,0   ; EXPECTED FLOAT RESULT
023124  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
023130  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
6006
6007
6008                                    ;;*****************************************************************
6009                                    ;*TEST 342      TEST OF LDCDF INSTR, DATA SET LCDF-7
6010                                    ;*             ALL INTERRUPT ENABLES ON
6011                                    ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
6012                                    ;;*****************************************************************
6013  023132  000004                    TST342: SCOPE
6014  023134  012705  023146                    MOV     #LCDF7,R5       ; PTR TO TEST DATA SET
6015  023140  004737  036342                    JSR     PC,@#LCDFT      ; GO TEST
6016
6017  023144  000411                            BR      TST343          ;;
6018
6019  023146                            LCDF7:  ; TEST DATA SET LCDF-7:
6020  023146  077777  177777  177777           .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
6021  023154  177777
6022  023156  000000  000000                    .WORD   0,0     ; EXPECTED FLOAT RESULT
6023  023162  047511  147506                    .WORD   047511,147506   ; FPS:  BEFORE, AFTER
6024  023166  100010                            .WORD   100010          ; FEC AFTER ( 0 = N/A )
6025
6026
6027                                    ;;*****************************************************************
6028                                    ;*TEST 343      TEST OF LDCDF INSTR, DATA SET LCDF-10
6029                                    ;*             ALL INTERRUPT ENABLES ON
6030                                    ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
6031                                    ;;*****************************************************************
6032  023170  000004                    TST343: SCOPE
6033  023172  012705  023204                    MOV     #LCDF10,R5      ; PTR TO TEST DATA SET
6034  023176  004737  036342                    JSR     PC,@#LCDFT      ; GO TEST
6035
6036  023202  000411                            BR      TST344          ;;
6037
6038  023204                            LCDF10: ; TEST DATA SET LCDF-10:
6039  023204  077777  177777  177777           .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
6040  023212  177777
6041  023214  077777  177777                    .WORD   LGP,M1  ; EXPECTED FLOAT RESULT
6042  023220  047557  047540                    .WORD   047557,047540   ; FPS:  BEFORE, AFTER
6043  023224  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
6044
6045
6046                                    ;;*****************************************************************
6047                                    ;*TEST 344      TEST OF LDCDF INSTR, DATA SET LCDF-11
6048                                    ;*             ALL INTERRUPT ENABLES ON
6049                                    ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
6050                                    ;;*****************************************************************
6051  023226  000004                    TST344: SCOPE
6052  023230  012705  023242                    MOV     #LCDF11,R5      ; PTR TO TEST DATA SET
6053  023234  004737  036342                    JSR     PC,@#LCDFT      ; GO TEST
6054
6055  023240  000411                            BR      TST345          ;;
6056
6057  023242                            LCDF11: ; TEST DATA SET LCDF-11:
6058  023242  121177  177777  100000           .WORD   121177,M1,M0,0  ; INITIAL MEM FLOAT NUMBER
6059  023250  000000
6060  023252  121200  000000                    .WORD   121200,0        ; EXPECTED FLOAT RESULT
6061  023256  047407  047410                    .WORD   047407,047410   ; FPS:  BEFORE, AFTER
```

```
6062  023262  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6063
6064
6065                                  ;;*****************************************************************
6066                                  ;*TEST 345      TEST OF LDCDF INSTR, DATA SET LCDF-12
6067                                  ;*             ALL INTERRUPT ENABLES ON
6068                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
6069                                  ;;*****************************************************************
6070  023264  000004                  TST345: SCOPE
6071  023266  012705  023300                  MOV     #LCDF12,R5      ; PTR TO TEST DATA SET
6072  023272  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
6073
6074  023276  000411                          BR      TST346          ;;
6075
6076  023300                          LCDF12: ; TEST DATA SET LCDF-12:
6077  023300  121177  177777  100000          .WORD   121177,M1,MD,0  ; INITIAL MEM FLOAT NUMBER
6078  023306  000000
6079  023310  121177  177777                  .WORD   121177,M1       ; EXPECTED FLOAT RESULT
6080  023314  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
6081  023320  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6082
6083
6084                                  ;;*****************************************************************
6085                                  ;*TEST 346      TEST OF LDCDF INSTR, DATA SET LCDF-13
6086                                  ;*             ALL INTERRUPT ENABLES ON
6087                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
6088                                  ;;*****************************************************************
6089  023322  000004                  TST346: SCOPE
6090  023324  012705  023336                  MOV     #LCDF13,R5      ; PTR TO TEST DATA SET
6091  023330  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
6092
6093  023334  000411                          BR      TST347          ;;
6094
6095  023336                          LCDF13: ; TEST DATA SET LCDF-13:
6096  023336  040200  000000  077777          .WORD   F1P,0,LGP,M1    ; INITIAL MEM FLOAT NUMBER
6097  023344  177777
6098  023346  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
6099  023352  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
6100  023356  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6101
6102
6103                                  ;;*****************************************************************
6104                                  ;*TEST 347      TEST OF LDCDF INSTR, DATA SET LCDF-14
6105                                  ;*             ALL INTERRUPT ENABLES ON
6106                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
6107                                  ;;*****************************************************************
6108  023360  000004                  TST347: SCOPE
6109  023362  012705  023374                  MOV     #LCDF14,R5      ; PTR TO TEST DATA SET
6110  023366  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
6111
6112  023372  000411                          BR      TST350          ;;
6113
6114  023374                          LCDF14: ; TEST DATA SET LCDF-14:
6115  023374  040200  000000  077777          .WORD   F1P,0,LGP,M1    ; INITIAL MEM FLOAT NUMBER
6116  023402  177777
6117  023404  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
```

```
6118  023410  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
6119  023414  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6120
6121
6122                                  ;;*****************************************************************
6123                                  ;*TEST 350      TEST OF LDCDF INSTR, DATA SET LCDF-15
6124                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
6125                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
6126                                  ;;*****************************************************************
6127  023416  000004                  TST350: SCOPE
6128  023420  012705  023432                  MOV     #LCDF15,R5      ; PTR TO TEST DATA SET
6129  023424  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
6130
6131  023430  000411                          BR      TST351          ;;
6132
6133  023432                          LCDF15: ; TEST DATA SET LCDF-15:
6134  023432  177777  177777  100000          .WORD   LGN,M1,M0,0     ; INITIAL MEM FLOAT NUMBER
6135  023440  000000
6136  023442  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
6137  023446  046511  046506                  .WORD   046511,046506   ; FPS:  BEFORE, AFTER
6138  023452  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6139
6140
6141                                  ;;*****************************************************************
6142                                  ;*TEST 351      TEST OF LDCDF INSTR, DATA SET LCDF-16
6143                                  ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
6144                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
6145                                  ;;*****************************************************************
6146  023454  000004                  TST351: SCOPE
6147  023456  012705  023470                  MOV     #LCDF16,R5      ; PTR TO TEST DATA SET
6148  023462  004737  036342                  JSR     PC,@#LCDFT      ; GO TEST
6149
6150  023466  000411                          BR      TST352          ;;
6151
6152  023470                          LCDF16: ; TEST DATA SET LCDF-16:
6153  023470  100000  177777  177777          .WORD   M0,M1,M1,0      ; INITIAL MEM FLOAT NUMBER
6154  023476  000000
6155  023500  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
6156  023504  043453  043444                  .WORD   043453,043444   ; FPS:  BEFORE, AFTER
6157  023510  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6158
6159
6160
```

```
                        ;;*****************************************************************
                        ;*TEST 352       TEST OF LDCFD INSTR, DATA SET LCFD-1
                        ;*               ALL INTERRUPT ENABLES ON
                        ;*               LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
023512  000004          TST352: SCOPE
023514  012705  023526          MOV     #LCFD1,R5       ; PTR TO TEST DATA SET
023520  004737  036512          JSR     PC,@#LCFDT      ; GO TEST
023524  000411                  BR      TST353          ;;
023526                  LCFD1:  ; TEST DATA SET LCFD-1:
023526  100000  000000          .WORD   M0,0    ; INITIAL MEM FLOAT NUMBER
023532  052525  177777  125252  .WORD   ALTP,M1,ALTN,0  ; EXPECTED FLOAT RESULT
023540  000000
023542  047643  147654          .WORD   047643,147654   ; FPS:  BEFORE, AFTER
023546  100014                  .WORD   100014          ; FEC AFTER ( 0 = N/A )
                        ;;*****************************************************************
                        ;*TEST 353       TEST OF LDCFD INSTR, DATA SET LCFD-2
                        ;*               ALL INTERRUPT ENABLES ON
                        ;*               LONG FLOAT, SHORT INTEGER, ROUND MODES
                        ;;*****************************************************************
023550  000004          TST353: SCOPE
023552  012705  023564          MOV     #LCFD2,R5       ; PTR TO TEST DATA SET
023556  004737  036512          JSR     PC,@#LCFDT      ; GO TEST
023562  000411                  BR      TST354          ;;
023564                  LCFD2:  ; TEST DATA SET LCFD-2:
023564  125252  125252          .WORD   ALTN,ALTN       ; INITIAL MEM FLOAT NUMBER
023570  125252  125252  000000  .WORD   ALTN,ALTN,0,0   ; EXPECTED FLOAT RESULT
023576  000000
023600  047607  047610          .WORD   047607,047610   ; FPS:  BEFORE, AFTER
023604  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                        ;;*****************************************************************
                        ;*TEST 354       TEST OF LDCFD INSTR, DATA SET LCFD-3
                        ;*               ALL INTERRUPT ENABLES ON
                        ;*               LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
023606  000004          TST354: SCOPE
023610  012705  023622          MOV     #LCFD3,R5       ; PTR TO TEST DATA SET
023614  004737  036512          JSR     PC,@#LCFDT      ; GO TEST
023620  000411                  BR      TST355          ;;
023622                  LCFD3:  ; TEST DATA SET LCFD-3:
023622  000000  000000          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
023626  000000  000000  000000  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
023634  000000
023636  047753  047744          .WORD   047753,047744   ; FPS:  BEFORE, AFTER
023642  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 355       TEST OF LDCFD INSTR, DATA SET LCFD-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
023644  000004                  TST355: SCOPE
023646  012705  023660                  MOV     #LCFD4,R5       ; PTR TO TEST DATA SET
023652  004737  036512                  JSR     PC,@#LCFDT      ; GO TEST

023656  000411                          BR      TST356          ;;

023660                          LCFD4:  ; TEST DATA SET LCFD-4:
023660  077777  177777                  .WORD   LQP,M1  ; INITIAL MEM FLOAT NUMBER
023664  077777  177777  000000          .WORD   LQP,M1,0,0      ; EXPECTED FLOAT RESULT
023672  000000
023674  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
023700  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 356       TEST OF LDCFD INSTR, DATA SET LCFD-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
023702  000004                  TST356: SCOPE
023704  012705  023716                  MOV     #LCFD5,R5       ; PTR TO TEST DATA SET
023710  004737  036512                  JSR     PC,@#LCFDT      ; GO TEST

023714  000411                          BR      TST357          ;;

023716                          LCFD5:  ; TEST DATA SET LCFD-5:
023716  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL MEM FLOAT NUMBER
023722  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
023730  000000
023732  047653  047644                  .WORD   047653,047644   ; FPS:  BEFORE, AFTER
023736  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 357       TEST OF LDCFD INSTR, DATA SET LCFD-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
023740  000004                  TST357: SCOPE
023742  012705  023754                  MOV     #LCFD6,R5       ; PTR TO TEST DATA SET
023746  004737  036512                  JSR     PC,@#LCFDT      ; GO TEST

023752  000411                          BR      TST360          ;;

023754                          LCFD6:  ; TEST DATA SET LCFD-6:
023754  177777  177777                  .WORD   LQN,M1  ; INITIAL MEM FLOAT NUMBER
023760  177777  177777  000000          .WORD   LQN,M1,0,0      ; EXPECTED FLOAT RESULT
023766  000000
023770  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
023774  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
6273
6274
6275                                    ;;*****************************************************************
6276                                    ;*TEST 360      TEST OF LDCFD INSTR, DATA SET LCFD-7
6277                                    ;*             -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
6278                                    ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
6279                                    ;;*****************************************************************
6280  023776  000004                    TST360: SCOPE
6281  024000  012705  024012                    MOV     #LCFD7,R5       ; PTR TO TEST DATA SET
6282  024004  004737  036512                    JSR     PC,@#LCFDT      ; GO TEST
6283
6284  024010  000411                            BR      TST361          ;;
6285
6286  024012                            LCFD7:  ; TEST DATA SET LCFD-7:
6287  024012  100177  177777                    .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
6288  024016  000000  000000  000000            .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
6289  024024  000000
6290  024026  043753  043744                    .WORD   043753,043744   ; FPS:  BEFORE, AFTER
6291  024032  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
6292
6293
6294                                    ;;*****************************************************************
6295                                    ;*TEST 361      TEST OF LDCFD INSTR, DATA SET LCFD-10
6296                                    ;*             ALL INTERRUPT ENABLES ON
6297                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
6298                                    ;;*****************************************************************
6299  024034  000004                    TST361: SCOPE
6300  024036  012705  024050                    MOV     #LCFD10,R5      ; PTR TO TEST DATA SET
6301  024042  004737  036512                    JSR     PC,@#LCFDT      ; GO TEST
6302
6303  024046  000411                            BR      TST362          ;;
6304
6305  024050                            LCFD10: ; TEST DATA SET LCFD-10:
6306  024050  007417  007417                    .WORD   ALT4P,ALT4P     ; INITIAL MEM FLOAT NUMBER
6307  024054  007417  007417  000000            .WORD   ALT4P,ALT4P,0,0 ; EXPECTED FLOAT RESULT
6308  024062  000000
6309  024064  047717  047700                    .WORD   047717,047700   ; FPS:  BEFORE, AFTER
6310  024070  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
6311
6312
6313
```

```
                        ;;*****************************************************************
                        ;*TEST 362       TEST OF STCDF INSTR, DATA SET SCDF-1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
024072  000004          TST362: SCOPE
024074  012705  024106          MOV     #SCDF1,R5       ; PTR TO TEST DATA SET
024100  004737  036702          JSR     PC,@#SCDFT      ; GO TEST
024104  000411                  BR      TST363          ;;
024106                  SCDF1:  ; TEST DATA SET SCDF-1:
024106  000000  000000  000000  .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
024114  000000
024116  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
024122  047753  047744          .WORD   047753,047744   ; FPS:  BEFORE, AFTER
024126  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                        ;;*****************************************************************
                        ;*TEST 363       TEST OF STCDF INSTR, DATA SET SCDF-2
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
024130  000004          TST363: SCOPE
024132  012705  024144          MOV     #SCDF2,R5       ; PTR TO TEST DATA SET
024136  004737  036702          JSR     PC,@#SCDFT      ; GO TEST
024142  000411                  BR      TST364          ;;
024144                  SCDF2:  ; TEST DATA SET SCDF-2:
024144  140200  000000  100000  .WORD   F1N,0,M0,0      ; INITIAL AC FLOAT NUMBER
024152  000000
024154  140200  000001          .WORD   F1N,1   ; EXPECTED FLOAT RESULT
024160  047707  047710          .WORD   047707,047710   ; FPS:  BEFORE, AFTER
024164  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                        ;;*****************************************************************
                        ;*TEST 364       TEST OF STCDF INSTR, DATA SET SCDF-3
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
024166  000004          TST364: SCOPE
024170  012705  024202          MOV     #SCDF3,R5       ; PTR TO TEST DATA SET
024174  004737  036702          JSR     PC,@#SCDFT      ; GO TEST
024200  000411                  BR      TST365          ;;
024202                  SCDF3:  ; TEST DATA SET SCDF-3:
024202  040200  000000  100000  .WORD   F1P,0,M0,0      ; INITIAL AC FLOAT NUMBER
024210  000000
024212  040200  000000          .WORD   F1P,0   ; EXPECTED FLOAT RESULT
024216  047657  047640          .WORD   047657,047640   ; FPS:  BEFORE, AFTER
024222  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
6370
6371                                    ;;*****************************************************************
6372                                    ;*TEST 365      TEST OF STCDF INSTR, DATA SET SCDF-4
6373                                    ;*             ALL INTERRUPT ENABLES ON
6374                                    ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
6375                                    ;;*****************************************************************
6376  024224  000004                   TST365: SCOPE
6377  024226  012705  024240                   MOV     #SCDF4,R5       ; PTR TO TEST DATA SET
6378  024232  004737  036702                   JSR     PC,@#SCDFT      ; GO TEST
6379
6380  024236  000411                           BR      TST366          ;;
6381
6382  024240                           SCDF4:  ; TEST DATA SET SCDF-4:
6383  024240  000177  177777  177777           .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
6384  024246  177777
6385  024250  000000  000000                   .WORD   0,0     ; EXPECTED FLOAT RESULT
6386  024254  047613  047604                   .WORD   047613,047604   ; FPS:  BEFORE, AFTER
6387  024260  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
6388
6389
6390                                    ;;*****************************************************************
6391                                    ;*TEST 366      TEST OF STCDF INSTR, DATA SET SCDF-5
6392                                    ;*             ALL INTERRUPT ENABLES ON
6393                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
6394                                    ;;*****************************************************************
6395  024262  000004                   TST366: SCOPE
6396  024264  012705  024276                   MOV     #SCDF5,R5       ; PTR TO TEST DATA SET
6397  024270  004737  036702                   JSR     PC,@#SCDFT      ; GO TEST
6398
6399  024274  000411                           BR      TST367          ;;
6400
6401  024276                           SCDF5:  ; TEST DATA SET SCDF-5:
6402  024276  040200  000000  100000           .WORD   F1P,0,M0,0      ; INITIAL AC FLOAT NUMBER
6403  024304  000000
6404  024306  040200  000001                   .WORD   F1P,1   ; EXPECTED FLOAT RESULT
6405  024312  047717  047700                   .WORD   047717,047700   ; FPS:  BEFORE, AFTER
6406  024316  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
6407
6408
6409                                    ;;*****************************************************************
6410                                    ;*TEST 367      TEST OF STCDF INSTR, DATA SET SCDF-6
6411                                    ;*             ALL INTERRUPT ENABLES ON
6412                                    ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
6413                                    ;;*****************************************************************
6414  024320  000004                   TST367: SCOPE
6415  024322  012705  024334                   MOV     #SCDF6,R5       ; PTR TO TEST DATA SET
6416  024326  004737  036702                   JSR     PC,@#SCDFT      ; GO TEST
6417
6418  024332  000411                           BR      TST370          ;;
6419
6420  024334                           SCDF6:  ; TEST DATA SET SCDF-6:
6421  024334  177777  177777  177777           .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
6422  024342  177777
6423  024344  177777  177777                   .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
6424  024350  047747  047750                   .WORD   047747,047750   ; FPS:  BEFORE, AFTER
6425  024354  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 370       TEST OF STCDF INSTR, DATA SET SCDF-7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
024356  000004                  TST370: SCOPE
024360  012705  024372                  MOV     #SCDF7,R5       ; PTR TO TEST DATA SET
024364  004737  036702                  JSR     PC,@#SCDFT      ; GO TEST

024370  000411                          BR      TST371          ;;

024372                          SCDF7:  ; TEST DATA SET SCDF-7:
024372  040200  000000  077777          .WORD   F1P,0,LGP,M1    ; INITIAL AC FLOAT NUMBER
024400  177777
024402  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
024406  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
024412  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 371       TEST OF STCDF INSTR, DATA SET SCDF-10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
024414  000004                  TST371: SCOPE
024416  012705  024430                  MOV     #SCDF10,R5      ; PTR TO TEST DATA SET
024422  004737  036702                  JSR     PC,@#SCDFT      ; GO TEST

024426  000411                          BR      TST372          ;;

024430                          SCDF10: ; TEST DATA SET SCDF-10:
024430  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
024436  177777
024440  100000  000000                  .WORD   M0,0    ; EXPECTED FLOAT RESULT
024444  047601  147616                  .WORD   047601,147616   ; FPS:  BEFORE, AFTER
024450  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 372       TEST OF STCDF INSTR, DATA SET SCDF-11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
024452  000004                  TST372: SCOPE
024454  012705  024466                  MOV     #SCDF11,R5      ; PTR TO TEST DATA SET
024460  004737  036702                  JSR     PC,@#SCDFT      ; GO TEST

024464  000411                          BR      TST373          ;;

024466                          SCDF11: ; TEST DATA SET SCDF-11:
024466  040200  000000  077777          .WORD   F1P,0,LGP,M1    ; INITIAL AC FLOAT NUMBER
024474  177777
024476  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
024502  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
```

```
6482  024506  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
6483
6484
6485                                  ;;*****************************************************************
6486                                  ;*TEST 373      TEST OF STCDF INSTR, DATA SET SCDF-12
6487                                  ;*             ALL INTERRUPT ENABLES ON
6488                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
6489                                  ;;*****************************************************************
6490  024510  000004                  TST373: SCOPE
6491  024512  012705  024524                  MOV     #SCDF12,R5      ; PTR TO TEST DATA SET
6492  024516  004737  036702                  JSR     PC,@#SCOFT      ; GO TEST
6493
6494  024522  000411                          BR      TST374          ;;
6495
6496  024524                          SCDF12: ; TEST DATA SET SCDF-12:
6497  024524  101777  177777  100000          .WORD   101777,M1,M0,0  ; INITIAL AC FLOAT NUMBER
6498  024532  000000
6499  024534  102000  000000                  .WORD   102000,0        ; EXPECTED FLOAT RESULT
6500  024540  047707  047710                  .WORD   047707,047710   ; FPS:  BEFORE, AFTER
6501  024544  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6502
6503
6504                                  ;;*****************************************************************
6505                                  ;*TEST 374      TEST OF STCDF INSTR, DATA SET SCDF-13
6506                                  ;*             ALL INTERRUPT ENABLES ON
6507                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
6508                                  ;;*****************************************************************
6509  024546  000004                  TST374: SCOPE
6510  024550  012705  024562                  MOV     #SCDF13,R5      ; PTR TO TEST DATA SET
6511  024554  004737  036702                  JSR     PC,@#SCOFT      ; GO TEST
6512
6513  024560  000411                          BR      TST375          ;;
6514
6515  024562                          SCDF13: ; TEST DATA SET SCDF-13:
6516  024562  101777  177777  100000          .WORD   101777,M1,M0,0  ; INITIAL AC FLOAT NUMBER
6517  024570  000000
6518  024572  101777  177777                  .WORD   101777,M1       ; EXPECTED FLOAT RESULT
6519  024576  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
6520  024602  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
6521
6522
6523                                  ;;*****************************************************************
6524                                  ;*TEST 375      TEST OF STCDF INSTR, DATA SET SCDF-14
6525                                  ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
6526                                  ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
6527                                  ;;*****************************************************************
6528  024604  000004                  TST375: SCOPE
6529  024606  012705  024620                  MOV     #SCDF14,R5      ; PTR TO TEST DATA SET
6530  024612  004737  036702                  JSR     PC,@#SCOFT      ; GO TEST
6531
6532  024616  000411                          BR      TST376          ;;
6533
6534  024620                          SCDF14: ; TEST DATA SET SCDF-14:
6535  024620  077777  177777  100000          .WORD   LGP,M1,M0,0     ; INITIAL AC FLOAT NUMBER
6536  024626  000000
6537  024630  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
```

```
6538  024634  046611  046606                  .WORD   046611,046606   ; FPS:  BEFORE, AFTER
6539  024640  000000                          .WORD   NA               ; FEC AFTER ( 0 = N/A )
6540
6541
6542
```

```
                                ;;*****************************************************************
                                ;*TEST 376       TEST OF STCFD INSTR, DATA SET SCFD-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
024642  000004                TST376: SCOPE
024644  012705  024656                MOV     #SCFD1,R5       ; PTR TO TEST DATA SET
024650  004737  037046                JSR     PC,@#SCFDT      ; GO TEST
024654  000412                        BR      TST377          ;;
024656                          SCFD1:  ; TEST DATA SET SCFD-1:
024656  052525  052525  052525        .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
024664  052525
024666  052525  052525  000000        .WORD   ALTP,ALTP,0,0   ; EXPECTED FLOAT RESULT
024674  000000
024676  047417  047400                .WORD   047417,047400   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 377       TEST OF STCFD INSTR, DATA SET SCFD-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
024702  000004                TST377: SCOPE
024704  012705  024716                MOV     #SCFD2,R5       ; PTR TO TEST DATA SET
024710  004737  037046                JSR     PC,@#SCFDT      ; GO TEST
024714  000412                        BR      TST400          ;;

024716                          SCFD2:  ; TEST DATA SET SCFD-2:
024716  000177  177777  177777        .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
024724  177777
024726  000000  000000  000000        .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
024734  000000
024736  047513  047504                .WORD   047513,047504   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 400       TEST OF STCFD INSTR, DATA SET SCFD-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
024742  000004                TST400: SCOPE
024744  012705  024756                MOV     #SCFD3,R5       ; PTR TO TEST DATA SET
024750  004737  037046                JSR     PC,@#SCFDT      ; GO TEST
024754  000412                        BR      TST401          ;;

024756                          SCFD3:  ; TEST DATA SET SCFD-3:
024756  177777  177777  177777        .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
024764  177777
024766  177777  177777  000000        .WORD   LGN,M1,0,0      ; EXPECTED FLOAT RESULT
024774  000000
024776  047407  047410                .WORD   047407,047410   ; FPS:  BEFORE, AFTER
```

```
                                ;;*****************************************************************
                                ;*TEST 401       TEST OF STCFD INSTR, DATA SET SCFD-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
025002  000004                  TST401: SCOPE
025004  012705  025016                  MOV     #SCFD4,R5       ; PTR TO TEST DATA SET
025010  004737  037046                  JSR     PC,@#SCFDT      ; GO TEST

025014  000412                          BR      TST402          ;;

025016                          SCFD4:  ; TEST DATA SET SCFD-4:
025016  170360  170360  170360          .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
025024  170360
025026  170360  170360  000000          .WORD   ALT4N,ALT4N,0,0 ; EXPECTED FLOAT RESULT
025034  000000
025036  047547  047550                  .WORD   047547,047550   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 402       TEST OF STCFD INSTR, DATA SET SCFD-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
025042  000004                  TST402: SCOPE
025044  012705  025056                  MOV     #SCFD5,R5       ; PTR TO TEST DATA SET
025050  004737  037046                  JSR     PC,@#SCFDT      ; GO TEST

025054  000412                          BR      TST403          ;;

025056                          SCFD5:  ; TEST DATA SET SCFD-5:
025056  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
025064  000000
025066  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
025074  000000
025076  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 403       TEST OF STCFD INSTR, DATA SET SCFD-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
025102  000004                  TST403: SCOPE
025104  012705  025116                  MOV     #SCFD6,R5       ; PTR TO TEST DATA SET
025110  004737  037046                  JSR     PC,@#SCFDT      ; GO TEST

025114  000412                          BR      TST404          ;;

025116                          SCFD6:  ; TEST DATA SET SCFD-6:
025116  077777  000000  177777          .WORD   LGP,0,M1,M1     ; INITIAL AC FLOAT NUMBER
025124  177777
025126  077777  000000  000000          .WORD   LGP,0,0,0       ; EXPECTED FLOAT RESULT
025134  000000
025136  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
```

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  6655
  6656
```

```
                                ;;*****************************************************************
                                ;*TEST 404       TEST OF LDCIF INSTR, DATA SET LCIF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
025142  000004                  TST404: SCOPE
025144  012705  025156                  MOV     #LCIF1,R5       ; PTR TO TEST DATA SET
025150  004737  037170                  JSR     PC,@#LCIFT      ; GO TEST
025154  000405                          BR      TST405          ;;
025156                          LCIF1:  ; TEST DATA SET LCIF-1:
025156  100000                          .WORD   100000  ; INITIAL INTEGER VALUE
025160  144000  000000                  .WORD   144000,000000   ; EXPECTED FLOAT RESULT
025164  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 405       TEST OF LDCIF INSTR, DATA SET LCIF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
025170  000004                  TST405: SCOPE
025172  012705  025204                  MOV     #LCIF2,R5       ; PTR TO TEST DATA SET
025176  004737  037170                  JSR     PC,@#LCIFT      ; GO TEST
025202  000405                          BR      TST406          ;;
025204                          LCIF2:  ; TEST DATA SET LCIF-2:
025204  007417                          .WORD   007417  ; INITIAL INTEGER VALUE
025206  043160  170000                  .WORD   043160,170000   ; EXPECTED FLOAT RESULT
025212  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 406       TEST OF LDCIF INSTR, DATA SET LCIF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
025216  000004                  TST406: SCOPE
025220  012705  025232                  MOV     #LCIF3,R5       ; PTR TO TEST DATA SET
025224  004737  037170                  JSR     PC,@#LCIFT      ; GO TEST
025230  000405                          BR      TST407          ;;
025232                          LCIF3:  ; TEST DATA SET LCIF-3:
025232  000000                          .WORD   000000  ; INITIAL INTEGER VALUE
025234  000000  000000                  .WORD   000000,000000   ; EXPECTED FLOAT RESULT
025240  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 407       TEST OF LDCIF INSTR, DATA SET LCIF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
```

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FPU ADVANCED INSTR TESTS        MACY11 27(1006)  09-FEB-77  10:05  PAGE 135
DQFPBA.P11    09-FEB-77 10:02           T407    TEST OF LDCIF INSTR, DATA SET LCIF-4

  6713  025244  000004                  TST407: SCOPE
  6714  025246  012705  025260                  MOV     #LCIF4,R5       ; PTR TO TEST DATA SET
  6715  025252  004737  037170                  JSR     PC,@#LCIFT      ; GO TEST
  6716
  6717  025256  000405                        BR      TST410          ;;
  6718
  6719  025260                          LCIF4:  ; TEST DATA SET LCIF-4:
  6720  025260  170360                        .WORD   170360  ; INITIAL INTEGER VALUE
  6721  025262  143161  000000                .WORD   143161,000000   ; EXPECTED FLOAT RESULT
  6722  025266  047447  047450                .WORD   047447,047450   ; FPS:  BEFORE, AFTER
  6723
  6724
  6725                                  ;;**********************************************************************
  6726                                  ;*TEST 410       TEST OF LDCIF INSTR, DATA SET LCIF-5
  6727                                  ;*              ALL INTERRUPT ENABLES ON
  6728                                  ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
  6729                                  ;;**********************************************************************
  6730  025272  000004                  TST410: SCOPE
  6731  025274  012705  025306                  MOV     #LCIF5,R5       ; PTR TO TEST DATA SET
  6732  025300  004737  037170                  JSR     PC,@#LCIFT      ; GO TEST
  6733
  6734  025304  000405                        BR      TST411          ;;
  6735
  6736  025306                          LCIF5:  ; TEST DATA SET LCIF-5:
  6737  025306  077777                        .WORD   077777  ; INITIAL INTEGER VALUE
  6738  025310  043777  177000                .WORD   043777,177000   ; EXPECTED FLOAT RESULT
  6739  025314  047417  047400                .WORD   047417,047400   ; FPS:  BEFORE, AFTER
  6740
  6741
  6742
```

```
                                ;;*****************************************************************
                                ;*TEST 411       TEST OF LDCID INSTR, DATA SET LCID-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
025320  000004                  TST411: SCOPE
025322  012705  025334                  MOV     #LCID1,R5       ; PTR TO TEST DATA SET
025326  004737  037270                  JSR     PC,@#LCIDT      ; GO TEST
025332  000407                          BR      TST412          ;;
025334                          LCID1:  ; TEST DATA SET LCID-1:
025334  107070                          .WORD   107070  ; INITIAL INTEGER VALUE
025336  143743  110000  000000          .WORD   143743,110000,0,0       ; EXPECTED FLOAT RESULT
025344  000000
025346  047600  047610                  .WORD   047600,047610   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 412       TEST OF LDCID INSTR, DATA SET LCID-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
025352  000004                  TST412: SCOPE
025354  012705  025366                  MOV     #LCID2,R5       ; PTR TO TEST DATA SET
025360  004737  037270                  JSR     PC,@#LCIDT      ; GO TEST
025364  000407                          BR      TST413          ;;
025366                          LCID2:  ; TEST DATA SET LCID-2:
025366  000000                          .WORD   000000  ; INITIAL INTEGER VALUE
025370  000000  000000  000000          .WORD   000000,000000,0,0       ; EXPECTED FLOAT RESULT
025376  000000
025400  047653  047644                  .WORD   047653,047644   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 413       TEST OF LDCID INSTR, DATA SET LCID-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
025404  000004                  TST413: SCOPE
025406  012705  025420                  MOV     #LCID3,R5       ; PTR TO TEST DATA SET
025412  004737  037270                  JSR     PC,@#LCIDT      ; GO TEST
025416  000407                          BR      TST414          ;;
025420                          LCID3:  ; TEST DATA SET LCID-3:
025420  077777                          .WORD   077777  ; INITIAL INTEGER VALUE
025422  043777  177000  000000          .WORD   043777,177000,0,0       ; EXPECTED FLOAT RESULT
025430  000000
025432  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 414       TEST OF LDCID INSTR, DATA SET LCID-4
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;**************************************************************
025436  000004                          TST414: SCOPE
025440  012705  025452                          MOV     #LCID4,R5       ; PTR TO TEST DATA SET
025444  004737  037270                          JSR     PC,@#LCIDT      ; GO TEST
025450  000407                          BR      TST415          ;;
025452                                  LCID4:  ; TEST DATA SET LCID-4:
025452  070707                          .WORD   070707  ; INITIAL INTEGER VALUE
025454  043743  107000  000000          .WORD   043743,107000,0,0       ; EXPECTED FLOAT RESULT
025462  000000
025464  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER


                                        ;;**************************************************************
                                        ;*TEST 415       TEST OF LDCID INSTR, DATA SET LCID-5
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
025470  000004                          TST415: SCOPE
025472  012705  025504                          MOV     #LCID5,R5       ; PTR TO TEST DATA SET
025476  004737  037270                          JSR     PC,@#LCIDT      ; GO TEST
025502  000407                          BR      TST416          ;;
025504                                  LCID5:  ; TEST DATA SET LCID-5:
025504  100000                          .WORD   100000  ; INITIAL INTEGER VALUE
025506  144000  000000  000000          .WORD   144000,000000,0,0       ; EXPECTED FLOAT RESULT
025514  000000
025516  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
```

```
                                ;;*****************************************************************
                                ;*TEST 416       TEST OF LDCLF INSTR, DATA SET LCLF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
025522  000004                  TST416: SCOPE
025524  012705  025536                  MOV     #LCLF1,R5       ; PTR TO TEST DATA SET
025530  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
025534  000406                          BR      TST417          ;;
025536                          LCLF1:  ; TEST DATA SET LCLF-1:
025536  077777  177777                  .WORD   077777,M1       ; INITIAL INTEGER VALUE
025542  050000  000000                  .WORD   050000,000000   ; EXPECTED FLOAT RESULT
025546  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 417       TEST OF LDCLF INSTR, DATA SET LCLF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
025552  000004                  TST417: SCOPE
025554  012705  025566                  MOV     #LCLF2,R5       ; PTR TO TEST DATA SET
025560  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
025564  000406                          BR      TST420          ;;
025566                          LCLF2:  ; TEST DATA SET LCLF-2:
025566  077777  177777                  .WORD   077777,M1       ; INITIAL INTEGER VALUE
025572  047777  177777                  .WORD   047777,M1       ; EXPECTED FLOAT RESULT
025576  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 420       TEST OF LDCLF INSTR, DATA SET LCLF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
025602  000004                  TST420: SCOPE
025604  012705  025616                  MOV     #LCLF3,R5       ; PTR TO TEST DATA SET
025610  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
025614  000406                          BR      TST421          ;;
025616                          LCLF3:  ; TEST DATA SET LCLF-3:
025616  170360  170360                  .WORD   170360,170360   ; INITIAL INTEGER VALUE
025622  147160  170361                  .WORD   147160,170361   ; EXPECTED FLOAT RESULT
025626  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 421       TEST OF LDCLF INSTR, DATA SET LCLF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
```

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6890  025632  000004                  TST421: SCOPE
6891  025634  012705  025646                  MOV     #LCLF4,R5       ; PTR TO TEST DATA SET
6892  025640  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
6893
6894  025644  000406                          BR      TST422          ;;
6895
6896  025646                          LCLF4:  ; TEST DATA SET LCLF-4:
6897  025646  000000  000000                  .WORD   000000,000000   ; INITIAL INTEGER VALUE
6898  025652  000000  000000                  .WORD   000000,000000   ; EXPECTED FLOAT RESULT
6899  025656  047513  047504                  .WORD   047513,047504   ; FPS:  BEFORE, AFTER
6900
6901
6902                                  ;;*****************************************************************
6903                                  ;*TEST 422      TEST OF LDCLF INSTR, DATA SET LCLF-5
6904                                  ;*             ALL INTERRUPT ENABLES ON
6905                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
6906                                  ;;*****************************************************************
6907  025662  000004                  TST422: SCOPE
6908  025664  012705  025676                  MOV     #LCLF5,R5       ; PTR TO TEST DATA SET
6909  025670  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
6910
6911  025674  000406                          BR      TST423          ;;
6912
6913  025676                          LCLF5:  ; TEST DATA SET LCLF-5:
6914  025676  077777  177677                  .WORD   077777,177677   ; INITIAL INTEGER VALUE
6915  025702  047777  177777                  .WORD   047777,M1       ; EXPECTED FLOAT RESULT
6916  025706  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
6917
6918
6919                                  ;;*****************************************************************
6920                                  ;*TEST 423      TEST OF LDCLF INSTR, DATA SET LCLF-6
6921                                  ;*             ALL INTERRUPT ENABLES ON
6922                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
6923                                  ;;*****************************************************************
6924  025712  000004                  TST423: SCOPE
6925  025714  012705  025726                  MOV     #LCLF6,R5       ; PTR TO TEST DATA SET
6926  025720  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
6927
6928  025724  000406                          BR      TST424          ;;
6929
6930  025726                          LCLF6:  ; TEST DATA SET LCLF-6:
6931  025726  100000  000000                  .WORD   100000,000000   ; INITIAL INTEGER VALUE
6932  025732  150000  000000                  .WORD   150000,000000   ; EXPECTED FLOAT RESULT
6933  025736  047547  047550                  .WORD   047547,047550   ; FPS:  BEFORE, AFTER
6934
6935
6936                                  ;;*****************************************************************
6937                                  ;*TEST 424      TEST OF LDCLF INSTR, DATA SET LCLF-7
6938                                  ;*             ALL INTERRUPT ENABLES ON
6939                                  ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
6940                                  ;;*****************************************************************
6941  025742  000004                  TST424: SCOPE
6942  025744  012705  025756                  MOV     #LCLF7,R5       ; PTR TO TEST DATA SET
6943  025750  004737  037410                  JSR     PC,@#LCLFT      ; GO TEST
6944
6945  025754  000406                          BR      TST425          ;;
```

```
6946
6947  025756                          LCLF7:  ; TEST DATA SET LCLF-7:
6948  025756  043434  070707                  .WORD   043434,070707   ; INITIAL INTEGER VALUE
6949  025762  047616  034343                  .WORD   047616,034343   ; EXPECTED FLOAT RESULT
6950  025766  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
6951
6952
6953
```

```
                                        ;;*****************************************************************
                                        ;*TEST 425       TEST OF LDCLD INSTR, DATA SET LCLD-1
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;*****************************************************************
026772  000004                          TST425: SCOPE
026774  012705  026006                          MOV     #LCLD1,R5       ; PTR TO TEST DATA SET
026000  004737  037510                          JSR     PC,@#LCLDT      ; GO TEST
026004  000410                          BR      TST426          ;;

026006                                  LCLD1:  ; TEST DATA SET LCLD-1:
026006  007417  007417                          .WORD   007417,007417   ; INITIAL INTEGER VALUE
026012  047160  170360  170000                  .WORD   047160,170360,170000,0  ; EXPECTED FLOAT RESULT
026020  000000
026022  047717  047700                          .WORD   047717,047700   ; FPS:  BEFORE, AFTER


                                        ;;*****************************************************************
                                        ;*TEST 426       TEST OF LDCLD INSTR, DATA SET LCLD-2
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
026026  000004                          TST426: SCOPE
026030  012705  026042                          MOV     #LCLD2,R5       ; PTR TO TEST DATA SET
026034  004737  037510                          JSR     PC,@#LCLDT      ; GO TEST

026040  000410                          BR      TST427          ;;

026042                                  LCLD2:  ; TEST DATA SET LCLD-2:
026042  100000  000000                          .WORD   100000,000000   ; INITIAL INTEGER VALUE
026046  150000  000000  000000                  .WORD   150000,000000,000000,0  ; EXPECTED FLOAT RESULT
026054  000000
026056  047747  047750                          .WORD   047747,047750   ; FPS:  BEFORE, AFTER


                                        ;;*****************************************************************
                                        ;*TEST 427       TEST OF LDCLD INSTR, DATA SET LCLD-3
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
026062  000004                          TST427: SCOPE
026064  012705  026076                          MOV     #LCLD3,R5       ; PTR TO TEST DATA SET
026070  004737  037510                          JSR     PC,@#LCLDT      ; GO TEST

026074  000410                          BR      TST430          ;;

026076                                  LCLD3:  ; TEST DATA SET LCLD-3:
026076  077777  177777                          .WORD   077777,M1       ; INITIAL INTEGER VALUE
026102  047777  177777  177000                  .WORD   047777,M1,177000,0      ; EXPECTED FLOAT RESULT
026110  000000
026112  047757  047740                          .WORD   047757,047740   ; FPS:  BEFORE, AFTER


                                        ;;*****************************************************************
                                        ;*TEST 430       TEST OF LDCLD INSTR, DATA SET LCLD-4
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;**************************************************************
026116  000004                          TST430: SCOPE
026120  012705  026132                          MOV     #LCLD4,R5       ; PTR TO TEST DATA SET
026124  004737  037510                          JSR     PC,@#LCLDT      ; GO TEST
026130  000410                          BR      TST431          ;;

026132                                  LCLD4:  ; TEST DATA SET LCLD-4:
026132  107070  161616                  .WORD   107070,161616   ; INITIAL INTEGER VALUE
026136  147743  107070  162000          .WORD   147743,107070,162000,0  ; EXPECTED FLOAT RESULT
026144  000000
026146  047700  047710                  .WORD   047700,047710   ; FPS:  BEFORE, AFTER


                                        ;;**************************************************************
                                        ;*TEST 431       TEST OF LDCLD INSTR, DATA SET LCLD-5
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
026152  000004                          TST431: SCOPE
026154  012705  026166                          MOV     #LCLD5,R5       ; PTR TO TEST DATA SET
026160  004737  037510                          JSR     PC,@#LCLDT      ; GO TEST
026164  000410                          BR      TST432          ;;

026166                                  LCLD5:  ; TEST DATA SET LCLD-5:
026166  000000  000000                  .WORD   000000,000000   ; INITIAL INTEGER VALUE
026172  000000  000000  000000          .WORD   000000,000000,000000,0  ; EXPECTED FLOAT RESULT
026200  000000
026202  047753  047744                  .WORD   047753,047744   ; FPS:  BEFORE, AFTER
```

```
                                ;;*****************************************************************
                                ;*TEST 432       TEST OF STCFI INSTR, DATA SET SCFI-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
026206  000004                  TST432: SCOPE
026210  012705  026222                  MOV     #SCFI1,R5       ; PTR TO TEST DATA SET
026214  004737  037630                  JSR     PC,@#SCFIT      ; GO TEST
026220  000406                          BR      TST433          ;;
026222                          SCFI1:  ; TEST DATA SET SCFI-1:
026222  000000  000000                  .WORD   000000,000000   ; INITIAL FLOAT VALUE
026226  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
026230  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
026234  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 433       TEST OF STCFI INSTR, DATA SET SCFI-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
026236  000004                  TST433: SCOPE
026240  012705  026252                  MOV     #SCFI2,R5       ; PTR TO TEST DATA SET
026244  004737  037630                  JSR     PC,@#SCFIT      ; GO TEST
026250  000406                          BR      TST434          ;;
026252                          SCFI2:  ; TEST DATA SET SCFI-2:
026252  041532  000000                  .WORD   041532,000000   ; INITIAL FLOAT VALUE
026256  000066                          .WORD   000066  ; EXPECTED INTEGER RESULT
026260  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
026264  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 434       TEST OF STCFI INSTR, DATA SET SCFI-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
026236  000004                  TST434: SCOPE
026270  012705  026302                  MOV     #SCFI3,R5       ; PTR TO TEST DATA SET
026274  004737  037630                  JSR     PC,@#SCFIT      ; GO TEST
026300  000406                          BR      TST435          ;;
026302                          SCFI3:  ; TEST DATA SET SCFI-3:
026302  052525  052525                  .WORD   052525,052525   ; INITIAL FLOAT VALUE
026306  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
026310  047452  147445                  .WORD   047452,147445   ; FPS:  BEFORE, AFTER
026314  100006                          .WORD   100006          ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 435       TEST OF STCFI INSTR, DATA SET SCFI-4
```

```
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;**************************************************************
026316  000004                  TST435: SCOPE
026320  012705  026332                  MOV     #SCFI4,R5       ; PTR TO TEST DATA SET
026324  004737  037630                  JSR     PC,@#SCFIT      ; GO TEST

026330  000406                          BR      TST436          ;;

026332                          SCFI4:  ; TEST DATA SET SCFI-4:
026332  141531  177777                  .WORD   141531,M1       ; INITIAL FLOAT VALUE
026336  177712                          .WORD   177712  ; EXPECTED INTEGER RESULT
026340  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
026344  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 436       TEST OF STCFI INSTR, DATA SET SCFI-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;**************************************************************
026346  000004                  TST436: SCOPE
026350  012705  026362                  MOV     #SCFI5,R5       ; PTR TO TEST DATA SET
026354  004737  037630                  JSR     PC,@#SCFIT      ; GO TEST

026360  000406                          BR      TST437          ;;

026362                          SCFI5:  ; TEST DATA SET SCFI-5:
026362  041532  000000                  .WORD   041532,000000   ; INITIAL FLOAT VALUE
026366  000066                          .WORD   000066  ; EXPECTED INTEGER RESULT
026370  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
026374  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 437       TEST OF STCFI INSTR, DATA SET SCFI-6
                                ;*              INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;**************************************************************
026376  000004                  TST437: SCOPE
026400  012705  026412                  MOV     #SCFI6,R5       ; PTR TO TEST DATA SET
026404  004737  037630                  JSR     PC,@#SCFIT      ; GO TEST

026410  000406                          BR      TST440          ;;

026412                          SCFI6:  ; TEST DATA SET SCFI-6:
026412  172011  123456                  .WORD   172011,123456   ; INITIAL FLOAT VALUE
026416  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
026420  047052  047045                  .WORD   047052,047045   ; FPS:  BEFORE, AFTER
026424  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 440       TEST OF STCFI INSTR, DATA SET SCFI-7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
```

```
7157                                    ;;*****************************************************************
7158  026426  000004                    TST440: SCOPE
7159  026430  012705  026442                    MOV     #SCFI7,R5       ; PTR TO TEST DATA SET
7160  026434  004737  037630                    JSR     PC,@#SCFIT      ; GO TEST
7161
7162  026440  000406                            BR      TST441          ;;
7163
7164  026442                            SCFI7:  ; TEST DATA SET SCFI-7:
7165  026442  000000  177777                    .WORD   000000,M1       ; INITIAL FLOAT VALUE
7166  026446  000000                            .WORD   000000  ; EXPECTED INTEGER RESULT
7167  026450  047413  047404                    .WORD   047413,047404   ; FPS:  BEFORE, AFTER
7168  026454  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
7169
7170
7171
```

```
                                ;;*****************************************************************
                                ;*TEST 441       TEST OF STCDI INSTR, DATA SET SCDI-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
026456  000004                  TST441: SCOPE
026460  012705  026472                  MOV     #SCDI1,R5       ; PTR TO TEST DATA SET
026464  004737  040026                  JSR     PC,@#SCDIT      ; GO TEST
026470  000410                          BR      TST442          ;;
026472                          SCDI1:  ; TEST DATA SET SCDI-1:
026472  044000  000000  000000          .WORD   044000,000000,000000,000000     ; INITIAL FLOAT VALUE
026500  000000
026502  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
026504  047652  147645                  .WORD   047652,147645   ; FPS:  BEFORE, AFTER
026510  100006                          .WORD   100006          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 442       TEST OF STCDI INSTR, DATA SET SCDI-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
026512  000004                  TST442: SCOPE
026514  012705  026526                  MOV     #SCDI2,R5       ; PTR TO TEST DATA SET
026520  004737  040026                  JSR     PC,@#SCDIT      ; GO TEST

026524  000410                          BR      TST443          ;;
026526                          SCDI2:  ; TEST DATA SET SCDI-2:
026526  043777  177377  177777          .WORD   043777,177377,M1,M1     ; INITIAL FLOAT VALUE
026534  177777
026536  077777                          .WORD   077777  ; EXPECTED INTEGER RESULT
026540  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
026544  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 443       TEST OF STCDI INSTR, DATA SET SCDI-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
026546  000004                  TST443: SCOPE
026550  012705  026562                  MOV     #SCDI3,R5       ; PTR TO TEST DATA SET
026554  004737  040026                  JSR     PC,@#SCDIT      ; GO TEST

026560  000410                          BR      TST444          ;;
026562                          SCDI3:  ; TEST DATA SET SCDI-3:
026562  000000  000000  000000          .WORD   000000,000000,000000,000000     ; INITIAL FLOAT VALUE
026570  000000
026572  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
026574  047613  047604                  .WORD   047613,047604   ; FPS:  BEFORE, AFTER
026600  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 444       TEST OF STCDI INSTR, DATA SET SCDI-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
026602  000004                  TST444: SCOPE
026604  012705  026616                  MOV     #SCDI4,R5       ; PTR TO TEST DATA SET
026610  004737  040026                  JSR     PC,@#SCDIT      ; GO TEST
026614  000410                          BR      TST445          ;;
026616                          SCDI4:  ; TEST DATA SET SCDI-4:
026616  143161  007777  177777          .WORD   143161,007777,M1,M1     ; INITIAL FLOAT VALUE
026624  177777
026626  170360                          .WORD   170360  ; EXPECTED INTEGER RESULT
026630  047607  047610                  .WORD   047607.047610   ; FPS:  BEFORE, AFTER
026634  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 445       TEST OF STCDI INSTR, DATA SET SCDI-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
026636  000004                  TST445: SCOPE
026640  012705  026652                  MOV     #SCDI5,R5       ; PTR TO TEST DATA SET
026644  004737  040026                  JSR     PC,@#SCDIT      ; GO TEST
026650  000410                          BR      TST446          ;;
026652                          SCDI5:  ; TEST DATA SET SCDI-5:
026652  143777  177777  177777          .WORD   143777,M1,M1,M1 ; INITIAL FLOAT VALUE
026660  177777
026662  100001                          .WORD   100001  ; EXPECTED INTEGER RESULT
026664  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
026670  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 446       TEST OF STCDI INSTR, DATA SET SCDI-6
                                ;*              INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
026672  000004                  TST446: SCOPE
026674  012705  026706                  MOV     #SCDI6,R5       ; PTR TO TEST DATA SET
026700  004737  040026                  JSR     PC,@#SCDIT      ; GO TEST
026704  000410                          BR      TST447          ;;
026706                          SCDI6:  ; TEST DATA SET SCDI-6:
026706  152525  052525  177777          .WORD   152525,052525,M1,000000 ; INITIAL FLOAT VALUE
026714  000000
026716  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
026720  047212  047205                  .WORD   047212,047205   ; FPS:  BEFORE, AFTER
026724  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

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7284
7285
7286                                    ;;*****************************************************************
7287                                    ;*TEST 447      TEST OF STCDI INSTR, DATA SET SCDI-7
7288                                    ;*             ALL INTERRUPT ENABLES ON
7289                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
7290                                    ;;*****************************************************************
7291  026726  000004                   TST447: SCOPE
7292  026730  012705  026742                   MOV     #SCDI7,R5       ; PTR TO TEST DATA SET
7293  026734  004737  040026                   JSR     PC,@#SCDIT      ; GO TEST
7294
7295  026740  000410                           BR      TST450          ;;
7296
7297  026742                           SCDI7:  ; TEST DATA SET SCDI-7:
7298  026742  140377  177777  177777           .WORD   140377,M1,M1,052525     ; INITIAL FLOAT VALUE
7299  026750  052525
7300  026752  177777                           .WORD   M1      ; EXPECTED INTEGER RESULT
7301  026754  047647  047650                   .WORD   047647,047650   ; FPS:  BEFORE, AFTER
7302  026760  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
7303
7304
7305
```

```
                                ;;*****************************************************************
                                ;*TEST 450       TEST OF STCFL INSTR, DATA SET SCFL-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
026762  000004                  TST450: SCOPE
026764  012705  026776                  MOV     #SCFL1,R5       ; PTR TO TEST DATA SET
026770  004737  040224                  JSR     PC,@#SCFLT      ; GO TEST
026774  000407                          BR      TST451          ;;

026776                          SCFL1:  ; TEST DATA SET SCFL-1:
026776  047777  177777                  .WORD   047777,M1       ; INITIAL FLOAT VALUE
027002  077777  177600                  .WORD   077777,177600   ; EXPECTED INTEGER RESULT
027006  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
027012  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 451       TEST OF STCFL INSTR, DATA SET SCFL-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027014  000004                  TST451: SCOPE
027016  012705  027030                  MOV     #SCFL2,R5       ; PTR TO TEST DATA SET
027022  004737  040224                  JSR     PC,@#SCFLT      ; GO TEST
027026  000407                          BR      TST452          ;;

027030                          SCFL2:  ; TEST DATA SET SCFL-2:
027030  150000  000001                  .WORD   150000,000001   ; INITIAL FLOAT VALUE
027034  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027040  047512  147505                  .WORD   047512,147505   ; FPS:  BEFORE, AFTER
027044  100006                          .WORD   100006          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 452       TEST OF STCFL INSTR, DATA SET SCFL-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027046  000004                  TST452: SCOPE
027050  012705  027062                  MOV     #SCFL3,R5       ; PTR TO TEST DATA SET
027054  004737  040224                  JSR     PC,@#SCFLT      ; GO TEST
027060  000407                          BR      TST453          ;;

027062                          SCFL3:  ; TEST DATA SET SCFL-3:
027062  037777  177777                  .WORD   037777,M1       ; INITIAL FLOAT VALUE
027066  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027072  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
027076  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 453       TEST OF STCFL INSTR, DATA SET SCFL-4
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
7365  027100  000004                    TST453: SCOPE
7366  027102  012705  027114                      MOV     #SCFL4,R5       ; PTR TO TEST DATA SET
7367  027106  004737  040224                      JSR     PC,@#SCFLT      ; GO TEST
7368
7369  027112  000407                              BR      TST454          ;;
7370
7371  027114                                SCFL4:  ; TEST DATA SET SCFL-4:
7372  027114  000000  000000                       .WORD   000000,000000   ; INITIAL FLOAT VALUE
7373  027120  000000  000000                       .WORD   000000,000000   ; EXPECTED INTEGER RESULT
7374  027124  047553  047544                       .WORD   047553,047544   ; FPS:  BEFORE, AFTER
7375  027130  000000                              .WORD   NA              ; FEC AFTER ( 0 = N/A )
7376
7377
7378                                     ;;**************************************************************
7379                                     ;*TEST 454      TEST OF STCFL INSTR, DATA SET SCFL-5
7380                                     ;*              ALL INTERRUPT ENABLES ON
7381                                     ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7382                                     ;;**************************************************************
7383  027132  000004                    TST454: SCOPE
7384  027134  012705  027146                      MOV     #SCFL5,R5       ; PTR TO TEST DATA SET
7385  027140  004737  040224                      JSR     PC,@#SCFLT      ; GO TEST
7386
7387  027144  000407                              BR      TST455          ;;
7388
7389  027146                                SCFL5:  ; TEST DATA SET SCFL-5:
7390  027146  147777  177777                       .WORD   147777,MI       ; INITIAL FLOAT VALUE
7391  027152  100000  000200                       .WORD   100000,000200   ; EXPECTED INTEGER RESULT
7392  027156  047507  047510                       .WORD   047507,047510   ; FPS:  BEFORE, AFTER
7393  027162  000000                              .WORD   NA              ; FEC AFTER ( 0 = N/A )
7394
7395
7396                                     ;;**************************************************************
7397                                     ;*TEST 455      TEST OF STCFL INSTR, DATA SET SCFL-6
7398                                     ;*              ALL INTERRUPT ENABLES ON
7399                                     ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7400                                     ;;**************************************************************
7401  027164  000004                    TST455: SCOPE
7402  027166  012705  027200                      MOV     #SCFL6,R5       ; PTR TO TEST DATA SET
7403  027172  004737  040224                      JSR     PC,@#SCFLT      ; GO TEST
7404
7405  027176  000407                              BR      TST456          ;;
7406
7407  027200                                SCFL6:  ; TEST DATA SET SCFL-6:
7408  027200  040577  177777                       .WORD   040577,MI       ; INITIAL FLOAT VALUE
7409  027204  000000  000003                       .WORD   000000,000003   ; EXPECTED INTEGER RESULT
7410  027210  047517  047500                       .WORD   047517,047500   ; FPS:  BEFORE, AFTER
7411  027214  000000                              .WORD   NA              ; FEC AFTER ( 0 = N/A )
7412
7413
7414                                     ;;**************************************************************
7415                                     ;*TEST 456      TEST OF STCFL INSTR, DATA SET SCFL-7
7416                                     ;*              INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
7417                                     ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
```

```
7418                                    ;;*****************************************************************
7419  027216  000004                    TST456: SCOPE
7420  027220  012705  027232                    MOV     #SCFL7,R5       ; PTR TO TEST DATA SET
7421  027224  004737  040224                    JSR     PC,@#SCFLT      ; GO TEST
7422
7423  027230  000407                            BR      TST457          ;;
7424
7425  027232                          SCFL7:  ; TEST DATA SET SCFL-7:
7426  027232  066666  123456                    .WORD   066666,123456   ; INITIAL FLOAT VALUE
7427  027236  000000  000000                    .WORD   000000,000000   ; EXPECTED INTEGER RESULT
7428  027242  047152  047145                    .WORD   047152,047145   ; FPS:  BEFORE, AFTER
7429  027246  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
7430
7431
7432
```

```
                                ;;*****************************************************************
                                ;*TEST 457       TEST OF STCDL INSTR, DATA SET SCDL-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027250  000004                  TST457: SCOPE
027252  012705  027264                  MOV     #SCDL1,R5       ; PTR TO TEST DATA SET
027256  004737  040432                  JSR     PC,@#SCDLT      ; GO TEST
027262  000411                          BR      TST460          ;;
027264                          SCDL1:  ; TEST DATA SET SCDL-1:
027264  050000  177000  177000          .WORD   050000,177000,177000,177000     ; INITIAL FLOAT VALUE
027272  177000
027274  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027300  047712  147705                  .WORD   047712,147705   ; FPS:  BEFORE, AFTER
027304  100006                          .WORD   100006          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 460       TEST OF STCDL INSTR, DATA SET SCDL-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027306  000004                  TST460: SCOPE
027310  012705  027322                  MOV     #SCDL2,R5       ; PTR TO TEST DATA SET
027314  004737  040432                  JSR     PC,@#SCDLT      ; GO TEST
027320  000411                          BR      TST461          ;;
027322                          SCDL2:  ; TEST DATA SET SCDL-2:
027322  047777  177777  177377          .WORD   047777,M1,177377,M1     ; INITIAL FLOAT VALUE
027330  177777
027332  077777  177777                  .WORD   077777,M1       ; EXPECTED INTEGER RESULT
027336  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
027342  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 461       TEST OF STCDL INSTR, DATA SET SCDL-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027344  000004                  TST461: SCOPE
027346  012705  027360                  MOV     #SCDL3,R5       ; PTR TO TEST DATA SET
027352  004737  040432                  JSR     PC,@#SCDLT      ; GO TEST
027356  000411                          BR      TST462          ;;
027360                          SCDL3:  ; TEST DATA SET SCDL-3:
027360  137777  125252  177777          .WORD   137777,125252,M1,M1     ; INITIAL FLOAT VALUE
027366  177777
027370  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027374  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
027400  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 462       TEST OF STCDL INSTR, DATA SET SCDL-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027402  000004                TST462: SCOPE
027404  012705  027416                MOV     #SCDL4,R5       ; PTR TO TEST DATA SET
027410  004737  040432                JSR     PC,@#SCDLT      ; GO TEST
027414  000411                        BR      TST463          ;;
027416                          SCDL4:  ; TEST DATA SET SCDL-4:
027416  147777  177777  177777        .WORD   147777,M1,M1,M1 ; INITIAL FLOAT VALUE
027424  177777
027426  100000  000001                .WORD   100000,000001   ; EXPECTED INTEGER RESULT
027432  047707  047710                .WORD   047707,047710   ; FPS:  BEFORE, AFTER
027436  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 463       TEST OF STCDL INSTR, DATA SET SCDL-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027440  000004                TST463: SCOPE
027442  012705  027454                MOV     #SCDL5,R5       ; PTR TO TEST DATA SET
027446  004737  040432                JSR     PC,@#SCDLT      ; GO TEST
027452  000411                        BR      TST464          ;;
027454                          SCDL5:  ; TEST DATA SET SCDL-5:
027454  047160  170360  177777        .WORD   047160,170360,M1,M1     ; INITIAL FLOAT VALUE
027462  177777
027464  007417  007417                .WORD   007417,007417   ; EXPECTED INTEGER RESULT
027470  047757  047740                .WORD   047757,047740   ; FPS:  BEFORE, AFTER
027474  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 464       TEST OF STCDL INSTR, DATA SET SCDL-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027476  000004                TST464: SCOPE
027500  012705  027512                MOV     #SCDL6,R5       ; PTR TO TEST DATA SET
027504  004737  040432                JSR     PC,@#SCDLT      ; GO TEST
027510  000411                        BR      TST465          ;;
027512                          SCDL6:  ; TEST DATA SET SCDL-6:
027512  000177  177777  125252        .WORD   000177,M1,125252,101010 ; INITIAL FLOAT VALUE
027520  101010
027522  000000  000000                .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027526  047713  047704                .WORD   047713,047704   ; FPS:  BEFORE, AFTER
027532  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

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7545
7546
7547                                    ;;*********************************************************************
7548                                    ;*TEST 465      TEST OF STCDL INSTR, DATA SET SCDL-7
7549                                    ;*             INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
7550                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
7551                                    ;;*********************************************************************
7552  027534  000004                    TST465: SCOPE
7553  027536  012705  027550                    MOV     #SCDL7,R5       ; PTR TO TEST DATA SET
7554  027542  004737  040432                    JSR     PC,@#SCDLT      ; GO TEST
7555
7556  027546  000411                            BR      TST466          ;;
7557
7558  027550                            SCDL7:  ; TEST DATA SET SCDL-7:
7559  027550  062141  125252  052525            .WORD   062141,125252,052525,125252     ; INITIAL FLOAT VALUE
7560  027556  125252
7561  027560  000000  000000                    .WORD   000000,000000   ; EXPECTED INTEGER RESULT
7562  027564  047312  047305                    .WORD   047312,047305   ; FPS:  BEFORE, AFTER
7563  027570  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
7564
7565
7566
```

```
                                ;;*****************************************************************
                                ;*TEST 466       TEST OF LDEXP/F INSTR, DATA SET LEXF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027572  000004                  TST466: SCOPE
027574  012705  027606                  MOV     #LEXF1,R5       ; PTR TO TEST DATA SET
027600  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
027604  000410                          BR      TST467          ;;
027606                          LEXF1:  ; TEST DATA SET LEXF-1:
027606  020177  177777                  .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
027612  000377  177777                  .WORD   000377,M1       ; EXPECTED FLOAT RESULT
027616  000201                          .WORD   201             ; EXPONENT TO BE LOADED
027620  047555  147542                  .WORD   047555,147542   ; FPS:  BEFORE, AFTER
027624  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 467       TEST OF LDEXP/F INSTR, DATA SET LEXF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027626  000004                  TST467: SCOPE
027630  012705  027642                  MOV     #LEXF2,R5       ; PTR TO TEST DATA SET
027634  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
027640  000410                          BR      TST470          ;;
027642                          LEXF2:  ; TEST DATA SET LEXF-2:
027642  120000  000000                  .WORD   120000,0        ; INITIAL AC FLOAT NUMBER
027646  100000  000000                  .WORD   100000,0        ; EXPECTED FLOAT RESULT
027652  000200                          .WORD   200             ; EXPONENT TO BE LOADED
027654  047501  147516                  .WORD   047501,147516   ; FPS:  BEFORE, AFTER
027660  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
                                ;;*****************************************************************
                                ;*TEST 470       TEST OF LDEXP/F INSTR, DATA SET LEXF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027662  000004                  TST470: SCOPE
027664  012705  027676                  MOV     #LEXF3,R5       ; PTR TO TEST DATA SET
027670  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
027674  000410                          BR      TST471          ;;
027676                          LEXF3:  ; TEST DATA SET LEXF-3:
027676  020125  052525                  .WORD   020125,ALTP     ; INITIAL AC FLOAT NUMBER
027702  077725  052525                  .WORD   077725,ALTP     ; EXPECTED FLOAT RESULT
027706  000177                          .WORD   177             ; EXPONENT TO BE LOADED
027710  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
027714  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 471       TEST OF LDEXP/F INSTR, DATA SET LEXF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
027716  000004                  TST471: SCOPE
027720  012705  027732                  MOV     #LEXF4,R5       ; PTR TO TEST DATA SET
027724  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
027730  000410                          BR      TST472          ;;
027732                          LEXF4:  ; TEST DATA SET LEXF-4:
027732  120052  125252                  .WORD   120052,ALTN     ; INITIAL AC FLOAT NUMBER
027736  160052  125252                  .WORD   160052,ALTN     ; EXPECTED FLOAT RESULT
027742  000100                          .WORD   100             ; EXPONENT TO BE LOADED
027744  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
027750  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 472       TEST OF LDEXP/F INSTR, DATA SET LEXF-5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027752  000004                  TST472: SCOPE
027754  012705  027766                  MOV     #LEXF5,R5       ; PTR TO TEST DATA SET
027760  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
027764  000410                          BR      TST473          ;;
027766                          LEXF5:  ; TEST DATA SET LEXF-5:
027766  020017  007417                  .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER
027772  040217  007417                  .WORD   040217,ALT4P    ; EXPECTED FLOAT RESULT
027776  000001                          .WORD   1               ; EXPONENT TO BE LOADED
030000  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
030004  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 473       TEST OF LDEXP/F INSTR, DATA SET LEXF-6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
030006  000004                  TST473: SCOPE
030010  012705  030022                  MOV     #LEXF6,R5       ; PTR TO TEST DATA SET
030014  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
030020  000410                          BR      TST474          ;;
030022                          LEXF6:  ; TEST DATA SET LEXF-6:
030022  120160  170360                  .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER
030026  140160  170360                  .WORD   140160,ALT4N    ; EXPECTED FLOAT RESULT
030032  000000                          .WORD   0               ; EXPONENT TO BE LOADED
030034  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
030040  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
7679
7680
7681                                    ;;*****************************************************************
7682                                    ;*TEST 474      TEST OF LDEXP/F INSTR, DATA SET LEXF-7
7683                                    ;*             ALL INTERRUPT ENABLES ON
7684                                    ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
7685                                    ;;*****************************************************************
7686  030042  000004                    TST474: SCOPE
7687  030044  012705  030056                    MOV     #LEXF7,R5       ; PTR TO TEST DATA SET
7688  030050  004737  040640                    JSR     PC,@#LEXFT      ; GO TEST
7689
7690  030054  000410                            BR      TST475          ;;
7691
7692  030056                            LEXF7:  ; TEST DATA SET LEXF-7:
7693  030056  020177  177777                    .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
7694  030062  037777  177777                    .WORD   037777,M1       ; EXPECTED FLOAT RESULT
7695  030066  177777                            .WORD   -1              ; EXPONENT TO BE LOADED
7696  030070  047457  047440                    .WORD   047457,047440   ; FPS:  BEFORE, AFTER
7697  030074  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
7698
7699
7700                                    ;;*****************************************************************
7701                                    ;*TEST 475      TEST OF LDEXP/F INSTR, DATA SET LEXF-10
7702                                    ;*             ALL INTERRUPT ENABLES ON
7703                                    ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
7704                                    ;;*****************************************************************
7705  030076  000004                    TST475: SCOPE
7706  030100  012705  030112                    MOV     #LEXF10,R5      ; PTR TO TEST DATA SET
7707  030104  004737  040640                    JSR     PC,@#LEXFT      ; GO TEST
7708
7709  030110  000410                            BR      TST476          ;;
7710
7711  030112                            LEXF10: ; TEST DATA SET LEXF-10:
7712  030112  120000  000000                    .WORD   120000,0        ; INITIAL AC FLOAT NUMBER
7713  030116  120000  000000                    .WORD   120000,0        ; EXPECTED FLOAT RESULT
7714  030122  177700                            .WORD   -100            ; EXPONENT TO BE LOADED
7715  030124  047407  047410                    .WORD   047407,047410   ; FPS:  BEFORE, AFTER
7716  030130  000000                            .WORD   NA              ; FEC AFTER ( 0 = N/A )
7717
7718
7719                                    ;;*****************************************************************
7720                                    ;*TEST 476      TEST OF LDEXP/F INSTR, DATA SET LEXF-11
7721                                    ;*             ALL INTERRUPT ENABLES ON
7722                                    ;*             SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
7723                                    ;;*****************************************************************
7724  030132  000004                    TST476: SCOPE
7725  030134  012705  030146                    MOV     #LEXF11,R5      ; PTR TO TEST DATA SET
7726  030140  004737  040640                    JSR     PC,@#LEXFT      ; GO TEST
7727
7728  030144  000410                            BR      TST477          ;;
7729
7730  030146                            LEXF11: ; TEST DATA SET LEXF-11:
7731  030146  020125  052525                    .WORD   020125,ALTP     ; INITIAL AC FLOAT NUMBER
7732  030152  000325  052525                    .WORD   000325,ALTP     ; EXPECTED FLOAT RESULT
7733  030156  177601                            .WORD   -177            ; EXPONENT TO BE LOADED
7734  030160  047557  047540                    .WORD   047557,047540   ; FPS:  BEFORE, AFTER
```

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7735  030164  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
7736
7737
7738                                  ;;*****************************************************************
7739                                  ;*TEST 477      TEST OF LDEXP/F INSTR, DATA SET LEXF-12
7740                                  ;*             ALL INTERRUPT ENABLES ON
7741                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
7742                                  ;;*****************************************************************
7743  030166  000004                  TST477: SCOPE
7744  030170  012705  030202                  MOV     #LEXF12,R5      ; PTR TO TEST DATA SET
7745  030174  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7746
7747  030200  000410                          BR      TST500          ;;
7748
7749  030202                          LEXF12: ; TEST DATA SET LEXF-12:
7750  030202  120052  125252                  .WORD   120052,ALTN     ; INITIAL AC FLOAT NUMBER
7751  030206  100052  125252                  .WORD   100052,ALTN     ; EXPECTED FLOAT RESULT
7752  030212  177600                          .WORD   -200            ; EXPONENT TO BE LOADED
7753  030214  047503  147514                  .WORD   047503,147514   ; FPS:  BEFORE, AFTER
7754  030220  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
7755
7756
7757                                  ;;*****************************************************************
7758                                  ;*TEST 500      TEST OF LDEXP/F INSTR, DATA SET LEXF-13
7759                                  ;*             ALL INTERRUPT ENABLES ON
7760                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
7761                                  ;;*****************************************************************
7762  030222  000004                  TST500: SCOPE
7763  030224  012705  030236                  MOV     #LEXF13,R5      ; PTR TO TEST DATA SET
7764  030230  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7765
7766  030234  000410                          BR      TST501          ;;
7767
7768  030236                          LEXF13: ; TEST DATA SET LEXF-13:
7769  030236  020017  007417                  .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER
7770  030242  077617  007417                  .WORD   077617,ALT4P    ; EXPECTED FLOAT RESULT
7771  030246  177577                          .WORD   -201            ; EXPONENT TO BE LOADED
7772  030250  047457  147440                  .WORD   047457,147440   ; FPS:  BEFORE, AFTER
7773  030254  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
7774
7775
7776                                  ;;*****************************************************************
7777                                  ;*TEST 501      TEST OF LDEXP/F INSTR, DATA SET LEXF-14
7778                                  ;*             ALL INTERRUPT ENABLES ON
7779                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
7780                                  ;;*****************************************************************
7781  030256  000004                  TST501: SCOPE
7782  030260  012705  030272                  MOV     #LEXF14,R5      ; PTR TO TEST DATA SET
7783  030264  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7784
7785  030270  000410                          BR      TST502          ;;
7786
7787  030272                          LEXF14: ; TEST DATA SET LEXF-14:
7788  030272  120160  170360                  .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER
7789  030276  177560  170360                  .WORD   177560,ALT4N    ; EXPECTED FLOAT RESULT
7790  030302  177576                          .WORD   -202            ; EXPONENT TO BE LOADED
```

```
                                                .WORD   047507,147510   ; FPS:  BEFORE, AFTER
                                                .WORD   100012          ; FEC AFTER ( 0 = N/A )

                        ;;**********************************************************************
                        ;*TEST 502      TEST OF LDEXP/F INSTR, DATA SET LEXF-15
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;**********************************************************************
030312  000004          TST502: SCOPE
030314  012705  030326          MOV     #LEXF15,R5      ; PTR TO TEST DATA SET
030320  004737  040640          JSR     PC,@#LEXFT      ; GO TEST
030324  000410                  BR      TST503          ;;
030326                  LEXF15: ; TEST DATA SET LEXF-15:
030326  020177  177777          .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
030332  077377  177777          .WORD   077377,M1       ; EXPECTED FLOAT RESULT
030336  177575                  .WORD   -203            ; EXPONENT TO BE LOADED
030340  047457  147440          .WORD   047457,147440   ; FPS:  BEFORE, AFTER
030344  100012                  .WORD   100012          ; FEC AFTER ( 0 = N/A )

                        ;;**********************************************************************
                        ;*TEST 503      TEST OF LDEXP/F INSTR, DATA SET LEXF-16
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**********************************************************************
030346  000004          TST503: SCOPE
030350  012705  030462          MOV     #LEXF16,R5      ; PTR TO TEST DATA SET
030354  004737  040640          JSR     PC,@#LEXFT      ; GO TEST
030360  000410                  BR      TST504          ;;
030362                  LEXF16: ; TEST DATA SET LEXF-16:
030362  142000  000000          .WORD   142000,0        ; INITIAL AC FLOAT NUMBER
030366  140000  000000          .WORD   140000,0        ; EXPECTED FLOAT RESULT
030372  000000                  .WORD   0               ; EXPONENT TO BE LOADED
030374  047547  047550          .WORD   047547,047550   ; FPS:  BEFORE, AFTER
030400  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )

                        ;;**********************************************************************
                        ;*TEST 504      TEST OF LDEXP/F INSTR, DATA SET LEXF-17
                        ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**********************************************************************
030402  000004          TST504: SCOPE
030404  012705  030416          MOV     #LEXF17,R5      ; PTR TO TEST DATA SET
030410  004737  040640          JSR     PC,@#LEXFT      ; GO TEST
030414  000410                  BR      TST505          ;;
030416                  LEXF17: ; TEST DATA SET LEXF-17:
030416  020177  177777          .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
030422  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
```

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7847  030426  000201                          .WORD   201             ; EXPONENT TO BE LOADED
7848  030430  046551  046546                  .WORD   046551,046546   ; FPS:  BEFORE, AFTER
7849  030434  000000C                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
7850
7851
7852                                  ;;*****************************************************************
7853                                  ;*TEST 505       TEST OF LDEXP/F INSTR, DATA SET LEXF-20
7854                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7855                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7856                                  ;;*****************************************************************
7857  030436  000004                  TST505: SCOPE
7858  030440  012705  030452                  MOV     #LEXF20,R5      ; PTR TO TEST DATA SET
7859  030444  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7860
7861  030450  000410                          BR      TST506          ;;
7862
7863  030452                          LEXF20: ; TEST DATA SET LEXF-20:
7864  030452  120000  000000                  .WORD   120000,0        ; INITIAL AC FLOAT NUMBER
7865  030456  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
7866  030462  000200                          .WORD   200             ; EXPONENT TO BE LOADED
7867  030464  046511  046506                  .WORD   046511,046506   ; FPS:  BEFORE, AFTER
7868  030470  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7869
7870
7871                                  ;;*****************************************************************
7872                                  ;*TEST 506       TEST OF LDEXP/F INSTR, DATA SET LEXF-21
7873                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7874                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7875                                  ;;*****************************************************************
7876  030472  000004                  TST506: SCOPE
7877  030474  012705  030506                  MOV     #LEXF21,R5      ; PTR TO TEST DATA SET
7878  030500  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7879
7880  030504  000410                          BR      TST507          ;;
7881
7882  030506                          LEXF21: ; TEST DATA SET LEXF-21:
7883  030506  120052  125252                  .WORD   120052,ALTN     ; INITIAL AC FLOAT NUMBER
7884  030512  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
7885  030516  177600                          .WORD   -200            ; EXPONENT TO BE LOADED
7886  030520  045513  045504                  .WORD   045513,045504   ; FPS:  BEFORE, AFTER
7887  030524  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7888
7889
7890                                  ;;*****************************************************************
7891                                  ;*TEST 507       TEST OF LDEXP/F INSTR, DATA SET LEXF-22
7892                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7893                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
7894                                  ;;*****************************************************************
7895  030526  000004                  TST507: SCOPE
7896  030530  012705  030542                  MOV     #LEXF22,R5      ; PTR TO TEST DATA SET
7897  030534  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7898
7899  030540  000410                          BR      TST510          ;;
7900
7901  030542                          LEXF22: ; TEST DATA SET LEXF-22:
7902  030542  020017  007417                  .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER
```

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7903  030546  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
7904  030552  177577                          .WORD   -201            ; EXPONENT TO BE LOADED
7905  030554  045453  045444                  .WORD   045453,045444   ; FPS:  BEFORE, AFTER
7906  030560  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7907
7908
7909                                  ;;**********************************************************************
7910                                  ;*TEST 510       TEST OF LDEXP/F INSTR, DATA SET LEXF-23
7911                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7912                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7913                                  ;;**********************************************************************
7914  030562  000004                  TST510: SCOPE
7915  030564  012705  030576                  MOV     #LEXF23,R5      ; PTR TO TEST DATA SET
7916  030570  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7917
7918  030574  000410                          BR      TST511          ;;
7919
7920  030576                          LEXF23: ; TEST DATA SET LEXF-23:
7921  030576  120160  170360                  .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER
7922  030602  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
7923  030606  177576                          .WORD   -202            ; EXPONENT TO BE LOADED
7924  030610  045513  045504                  .WORD   045513,045504   ; FPS:  BEFORE, AFTER
7925  030614  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7926
7927
7928                                  ;;**********************************************************************
7929                                  ;*TEST 511       TEST OF LDEXP/F INSTR, DATA SET LEXF-24
7930                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7931                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
7932                                  ;;**********************************************************************
7933  030616  000004                  TST511: SCOPE
7934  030620  012705  030632                  MOV     #LEXF24,R5      ; PTR TO TEST DATA SET
7935  030624  004737  040640                  JSR     PC,@#LEXFT      ; GO TEST
7936
7937  030630  000410                          BR      TST512          ;;
7938
7939  030632                          LEXF24: ; TEST DATA SET LEXF-24:
7940  030632  020177  177777                  .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
7941  030636  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
7942  030642  177575                          .WORD   -203            ; EXPONENT TO BE LOADED
7943  030644  045453  045444                  .WORD   045453,045444   ; FPS:  BEFORE, AFTER
7944  030650  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7945
7946
7947
```

```
                                ;;*****************************************************************
                                ;*TEST 512       TEST OF LDEXP/D INSTR, DATA SET LEXD-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
030652  000004                  TST512: SCOPE
030654  012705  030666                  MOV     #LEXD1,R5       ; PTR TO TEST DATA SET
030660  004737  041010                  JSR     PC,@#LEXDT      ; GO TEST
030664  000414                          BR      TST513          ;;
030666                          LEXD1:  ; TEST DATA SET LEXD-1:
030666  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
030674  052525
030676  100325  052525  052525          .WORD   100325,ALTP,ALTP,ALTP   ; EXPECTED FLOAT RESULT
030704  052525
030706  000201                          .WORD   201             ; EXPONENT TO BE LOADED
030710  047645  147652                  .WORD   047645,147652   ; FPS:  BEFORE, AFTER
030714  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 513       TEST OF LDEXP/D INSTR, DATA SET LEXD-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
030716  000004                  TST513: SCOPE
030720  012705  030732                  MOV     #LEXD2,R5       ; PTR TO TEST DATA SET
030724  004737  041010                  JSR     PC,@#LEXDT      ; GO TEST
030730  000414                          BR      TST514          ;;
030732                          LEXD2:  ; TEST DATA SET LEXD-2:
030732  052377  177777  177777          .WORD   052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
030740  177777
030742  000177  177777  177777          .WORD   000177,M1,M1,M1 ; EXPECTED FLOAT RESULT
030750  177777
030752  000200                          .WORD   200             ; EXPONENT TO BE LOADED
030754  047711  147706                  .WORD   047711,147706   ; FPS:  BEFORE, AFTER
030760  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 514       TEST OF LDEXP/D INSTR, DATA SET LEXD-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
030762  000004                  TST514: SCOPE
030764  012705  030776                  MOV     #LEXD3,R5       ; PTR TO TEST DATA SET
030770  004737  041010                  JSR     PC,@#LEXDT      ; GO TEST
030774  000414                          BR      TST515          ;;
030776                          LEXD3:  ; TEST DATA SET LEXD-3:
030776  152360  170360  170360          .WORD   152360,ALT4N,ALT4N,ALT4N        ; INITIAL AC FLOAT NUMBER
031004  170360
```

```
8004  031006  177760  170360  170360          .WORD   177760,ALT4N,ALT4N,ALT4N       ; EXPECTED FLOAT RESULT
8005  031014  170360
8006  031016  000177                          .WORD   177                ; EXPONENT TO BE LOADED
8007  031020  047607  047610                  .WORD   047607,047610      ; FPS:  BEFORE, AFTER
8008  031024  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
8009
8010
8011                                  ;;*****************************************************************
8012                                  ;*TEST 515      TEST OF LDEXP/D INSTR, DATA SET LEXD-4
8013                                  ;*             ALL INTERRUPT ENABLES ON
8014                                  ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
8015                                  ;;*****************************************************************
8016  031026  000004                  TST515: SCOPE
8017  031030  012705  031042                  MOV     #LEXD4,R5          ; PTR TO TEST DATA SET
8018  031034  004737  041010                  JSR     PC,@#LEXDT         ; GO TEST
8019
8020  031040  000414                          BR      TST516             ;;
8021
8022  031042                          LEXD4:  ; TEST DATA SET LEXD-4:
8023  031042  052200  000000  000000          .WORD   052200,0,0,0       ; INITIAL AC FLOAT NUMBER
8024  031050  000000
8025  031052  060000  000000  000000          .WORD   060000,0,0,0       ; EXPECTED FLOAT RESULT
8026  031060  000000
8027  031062  000100                          .WORD   100                ; EXPONENT TO BE LOADED
8028  031064  047757  047740                  .WORD   047757,047740      ; FPS:  BEFORE, AFTER
8029  031070  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
8030
8031
8032                                  ;;*****************************************************************
8033                                  ;*TEST 516      TEST OF LDEXP/D INSTR, DATA SET LEXD-5
8034                                  ;*             ALL INTERRUPT ENABLES ON
8035                                  ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
8036                                  ;;*****************************************************************
8037  031072  000004                  TST516: SCOPE
8038  031074  012705  031106                  MOV     #LEXD5,R5          ; PTR TO TEST DATA SET
8039  031100  004737  041010                  JSR     PC,@#LEXDT         ; GO TEST
8040
8041  031104  000414                          BR      TST517             ;;
8042
8043  031106                          LEXD5:  ; TEST DATA SET LEXD-5:
8044  031106  152252  125252  125252          .WORD   152252,ALTN,ALTN,ALTN      ; INITIAL AC FLOAT NUMBER
8045  031114  125252
8046  031116  140252  125252  125252          .WORD   140252,ALTN,ALTN,ALTN      ; EXPECTED FLOAT RESULT
8047  031124  125252
8048  031126  000001                          .WORD   1                  ; EXPONENT TO BE LOADED
8049  031130  047647  047650                  .WORD   047647,047650      ; FPS:  BEFORE, AFTER
8050  031134  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
8051
8052
8053                                  ;;*****************************************************************
8054                                  ;*TEST 517      TEST OF LDEXP/D INSTR, DATA SET LEXD-6
8055                                  ;*             ALL INTERRUPT ENABLES ON
8056                                  ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
8057                                  ;;*****************************************************************
8058  031136  000004                  TST517: SCOPE
8059  031140  012705  031152                  MOV     #LEXD6,R5          ; PTR TO TEST DATA SET
```

```
8060  031144  004737  041010          JSR     PC,@#LEXDT      ; GO TEST
8061
8062  031150  000414                  BR      TST520          ;;
8063
8064  031152                  LEXD6:  ; TEST DATA SET LEXD-6:
8065  031152  052217  007417  007417          .WORD   052217,ALT4P,ALT4P,ALT4P        ; INITIAL AC FLOAT NUMBER
8066  031160  007417
8067  031162  040017  007417  007417          .WORD   040017,ALT4P,ALT4P,ALT4P        ; EXPECTED FLOAT RESULT
8068  031170  007417
8069  031172  000000                  .WORD   0               ; EXPONENT TO BE LOADED
8070  031174  047717  047700          .WORD   047717,047700   ; FPS:  BEFORE, AFTER
8071  031200  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
8072
8073
8074                          ;;*****************************************************************
8075                          ;*TEST 520      TEST OF LDEXP/D INSTR, DATA SET LEXD-7
8076                          ;*             ALL INTERRUPT ENABLES ON
8077                          ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
8078                          ;;*****************************************************************
8079  031202  000004          TST520: SCOPE
8080  031204  012705  031216          MOV     #LEXD7,R5       ; PTR TO TEST DATA SET
8081  031210  004737  041010          JSR     PC,@#LEXDT      ; GO TEST
8082
8083  031214  000414                  BR      TST521          ;;
8084
8085  031216                  LEXD7:  ; TEST DATA SET LEXD-7:
8086  031216  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
8087  031224  052525
8088  031226  137725  052525  052525          .WORD   137725,ALTP,ALTP,ALTP   ; EXPECTED FLOAT RESULT
8089  031234  052525
8090  031236  177777                  .WORD   -1              ; EXPONENT TO BE LOADED
8091  031240  047607  047610          .WORD   047607,047610   ; FPS:  BEFORE, AFTER
8092  031244  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
8093
8094
8095                          ;;*****************************************************************
8096                          ;*TEST 521      TEST OF LDEXP/D INSTR, DATA SET LEXD-10
8097                          ;*             ALL INTERRUPT ENABLES ON
8098                          ;*             LONG FLOAT, LONG INTEGER, TRUNCATE MODES
8099                          ;;*****************************************************************
8100  031246  000004          TST521: SCOPE
8101  031250  012705  031262          MOV     #LEXD10,R5      ; PTR TO TEST DATA SET
8102  031254  004737  041010          JSR     PC,@#LEXDT      ; GO TEST
8103
8104  031260  000414                  BR      TST522          ;;
8105
8106  031262                  LEXD10: ; TEST DATA SET LEXD-10:
8107  031262  052377  177777  177777          .WORD   052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
8108  031270  177777
8109  031272  020177  177777  177777          .WORD   020177,M1,M1,M1 ; EXPECTED FLOAT RESULT
8110  031300  177777
8111  031302  177700                  .WORD   -100            ; EXPONENT TO BE LOADED
8112  031304  047757  047740          .WORD   047757,047740   ; FPS:  BEFORE, AFTER
8113  031310  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
8114
8115
```

```
8116                                    ;;*****************************************************************
8117                                    ;*TEST 522      TEST OF LDEXP/D INSTR, DATA SET LEXD-11
8118                                    ;*             ALL INTERRUPT ENABLES ON
8119                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
8120                                    ;;*****************************************************************
8121  031312  000004                    TST522: SCOPE
8122  031314  012705  031326                    MOV     #LEXD11,R5      ; PTR TO TEST DATA SET
8123  031320  004737  041010                    JSR     PC,@#LEXDT      ; GO TEST
8124
8125  031324  000414                    BR      TST523          ;;
8126
8127  031326                            LEXD11: ; TEST DATA SET LEXD-11:
8128  031326  152360  170360  170360            .WORD   152360,ALT4N,ALT4N,ALT4N        ; INITIAL AC FLOAT NUMBER
8129  031334  170360
8130  031336  100360  170360  170360            .WORD   100360,ALT4N,ALT4N,ALT4N        ; EXPECTED FLOAT RESULT
8131  031344  170360
8132  031346  177601                    .WORD   -177            ; EXPONENT TO BE LOADED
8133  031350  047647  047650            .WORD   047647,047650   ; FPS:  BEFORE, AFTER
8134  031354  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
8135
8136
8137                                    ;;*****************************************************************
8138                                    ;*TEST 523      TEST OF LDEXP/D INSTR, DATA SET LEXD-12
8139                                    ;*             ALL INTERRUPT ENABLES ON
8140                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
8141                                    ;;*****************************************************************
8142  031356  000004                    TST523: SCOPE
8143  031360  012705  031372                    MOV     #LEXD12,R5      ; PTR TO TEST DATA SET
8144  031364  004737  041010                    JSR     PC,@#LEXDT      ; GO TEST
8145
8146  031370  000414                    BR      TST524          ;;
8147
8148  031372                            LEXD12: ; TEST DATA SET LEXD-12:
8149  031372  052200  000000  000000            .WORD   052200,0,0,0    ; INITIAL AC FLOAT NUMBER
8150  031400  000000
8151  031402  000000  000000  000000            .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
8152  031410  000000
8153  031412  177600                    .WORD   -200            ; EXPONENT TO BE LOADED
8154  031414  047713  147704            .WORD   047713,147704   ; FPS:  BEFORE, AFTER
8155  031420  100012                    .WORD   100012          ; FEC AFTER ( 0 = N/A )
8156
8157
8158                                    ;;*****************************************************************
8159                                    ;*TEST 524      TEST OF LDEXP/D INSTR, DATA SET LEXD-13
8160                                    ;*             ALL INTERRUPT ENABLES ON
8161                                    ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
8162                                    ;;*****************************************************************
8163  031422  000004                    TST524: SCOPE
8164  031424  012705  031436                    MOV     #LEXD13,R5      ; PTR TO TEST DATA SET
8165  031430  004737  041010                    JSR     PC,@#LEXDT      ; GO TEST
8166
8167  031434  000414                    BR      TST525          ;;
8168
8169  031436                            LEXD13: ; TEST DATA SET LEXD-13:
8170  031436  152252  125252  125252            .WORD   152252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
8171  031444  125252
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DQFPBA.P11    09-FEB-77 10:02           T524    TEST OF LDEXP/D INSTR, DATA SET LEXD-13

 8172  031446  177652  125252  125252          .WORD   177652,ALTN,ALTN,ALTN   ; EXPECTED FLOAT RESULT
 8173  031454  125252
 8174  031456  177577                          .WORD   -201              ; EXPONENT TO BE LOADED
 8175  031460  047607  147610                  .WORD   047607,147610     ; FPS:  BEFORE, AFTER
 8176  031464  100012                          .WORD   100012            ; FEC AFTER ( 0 = N/A )
 8177
 8178
 8179                                  ;;*****************************************************************
 8180                                  ;*TEST 525       TEST OF LDEXP/D INSTR, DATA SET LEXD-14
 8181                                  ;*              ALL INTERRUPT ENABLES ON
 8182                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
 8183                                  ;;*****************************************************************
 8184  031466  000004                 TST525: SCOPE
 8185  031470  012705  031502                  MOV     #LEXD14,R5        ; PTR TO TEST DATA SET
 8186  031474  004737  041010                  JSR     PC,@#LEXDT        ; GO TEST
 8187
 8188  031500  000414                          BR      TST526            ;;
 8189
 8190  031502                          LEXD14: ; TEST DATA SET LEXD-14:
 8191  031502  052217  007417  007417          .WORD   052217,ALT4P,ALT4P,ALT4P          ; INITIAL AC FLOAT NUMBER
 8192  031510  007417
 8193  031512  077417  007417  007417          .WORD   077417,ALT4P,ALT4P,ALT4P          ; EXPECTED FLOAT RESULT
 8194  031520  007417
 8195  031522  177576                          .WORD   -202              ; EXPONENT TO BE LOADED
 8196  031524  047757  147740                  .WORD   047757,147740     ; FPS:  BEFORE, AFTER
 8197  031530  100012                          .WORD   100012            ; FEC AFTER ( 0 = N/A )
 8198
 8199
 8200                                  ;;*****************************************************************
 8201                                  ;*TEST 526       TEST OF LDEXP/D INSTR, DATA SET LEXD-15
 8202                                  ;*              ALL INTERRUPT ENABLES ON
 8203                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
 8204                                  ;;*****************************************************************
 8205  031532  000004                 TST526: SCOPE
 8206  031534  012705  031546                  MOV     #LEXD15,R5        ; PTR TO TEST DATA SET
 8207  031540  004737  041010                  JSR     PC,@#LEXDT        ; GO TEST
 8208
 8209  031544  000414                          BR      TST527            ;;
 8210
 8211  031546                          LEXD15: ; TEST DATA SET LEXD-15:
 8212  031546  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
 8213  031554  052525
 8214  031556  177325  052525  052525          .WORD   177325,ALTP,ALTP,ALTP     ; EXPECTED FLOAT RESULT
 8215  031564  052525
 8216  031566  177575                          .WORD   -203              ; EXPONENT TO BE LOADED
 8217  031570  047647  147650                  .WORD   047647,147650     ; FPS:  BEFORE, AFTER
 8218  031574  100012                          .WORD   100012            ; FEC AFTER ( 0 = N/A )
 8219
 8220
 8221                                  ;;*****************************************************************
 8222                                  ;*TEST 527       TEST OF LDEXP/D INSTR, DATA SET LEXD-16
 8223                                  ;*              ALL INTERRUPT ENABLES ON
 8224                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
 8225                                  ;;*****************************************************************
 8226  031576  000004                 TST527: SCOPE
 8227  031600  012705  031612                  MOV     #LEXD16,R5        ; PTR TO TEST DATA SET
```

```
8228  031604  004737  041010          JSR     PC,@#LEXDT      ; GO TEST
8229
8230  031610  000414                  BR      TST530          ;;
8231
8232  031612                  LEXD16: ; TEST DATA SET LEXD-16:
8233  031612  177600  000000  000000          .WORD   177600,0,0,0    ; INITIAL AC FLOAT NUMBER
8234  031620  000000
8235  031622  140000  000000  000000          .WORD   140000,0,0,0    ; EXPECTED FLOAT RESULT
8236  031630  000000
8237  031632  000000                  .WORD   0               ; EXPONENT TO BE LOADED
8238  031634  047707  047710          .WORD   047707,047710   ; FPS:  BEFORE, AFTER
8239  031640  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
8240
8241
8242                          ;;*****************************************************************
8243                          ;*TEST 530      TEST OF LDEXP/D INSTR, DATA SET LEXD-17
8244                          ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
8245                          ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
8246                          ;;*****************************************************************
8247  031642  000004          TST530: SCOPE
8248  031644  012705  031656          MOV     #LEXD17,R5      ; PTR TO TEST DATA SET
8249  031650  004737  041010          JSR     PC,@#LEXDT      ; GO TEST
8250
8251  031654  000414                  BR      TST531          ;;
8252
8253  031656                  LEXD17: ; TEST DATA SET LEXD-17:
8254  031656  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
8255  031664  052525
8256  031666  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
8257  031674  000000
8258  031676  000201                  .WORD   201             ; EXPONENT TO BE LOADED
8259  031700  046651  046646          .WORD   046651,046646   ; FPS:  BEFORE, AFTER
8260  031704  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
8261
8262
8263                          ;;*****************************************************************
8264                          ;*TEST 531      TEST OF LDEXP/D INSTR, DATA SET LEXD-20
8265                          ;*             OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
8266                          ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
8267                          ;;*****************************************************************
8268  031706  000004          TST531: SCOPE
8269  031710  012705  031722          MOV     #LEXD20,R5      ; PTR TO TEST DATA SET
8270  031714  004737  041010          JSR     PC,@#LEXDT      ; GO TEST
8271
8272  031720  000414                  BR      TST532          ;;
8273
8274  031722                  LEXD20: ; TEST DATA SET LEXD-20:
8275  031722  052377  177777  177777          .WORD   052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
8276  031730  177777
8277  031732  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOWT RESULT
8278  031740  000000
8279  031742  000200                  .WORD   200             ; EXPONENT TO BE LOADED
8280  031744  046711  046706          .WORD   046711,046706   ; FPS:  BEFORE, AFTER
8281  031750  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
8282
8283
```

```
                                        ;;*****************************************************************
                                        ;*TEST 532       TEST OF LDEXP/D INSTR, DATA SET LEXD-21
                                        ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;*****************************************************************
031752  000004                          TST532: SCOPE
031754  012705  031766                          MOV     #LEXD21,R5      ; PTR TO TEST DATA SET
031760  004737  041010                          JSR     PC,@#LEXDT      ; GO TEST

031764  000414                          BR      TST533          ;;

031766                                  LEXD21: ; TEST DATA SET LEXD-21:
031766  052201  000002  000003                  .WORD   052201,2,3,0    ; INITIAL AC FLOAT NUMBER
031774  000000
031776  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
032004  000000
032006  177600                                  .WORD   -200            ; EXPONENT TO BE LOADED
032010  045713  045704                          .WORD   045713,045704   ; FPS:  BEFORE, AFTER
032014  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;*****************************************************************
                                        ;*TEST 533       TEST OF LDEXP/D INSTR, DATA SET LEXD-22
                                        ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;*****************************************************************
032016  000004                          TST533: SCOPE
032020  012705  032032                          MOV     #LEXD22,R5      ; PTR TO TEST DATA SET
032024  004737  041010                          JSR     PC,@#LEXDT      ; GO TEST

032030  000414                          BR      TST534          ;;

032032                                  LEXD22: ; TEST DATA SET LEXD-22:
032032  152252  125252  125252                  .WORD   152252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
032040  125252
032042  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
032050  000000
032052  177577                                  .WORD   -201            ; EXPONENT TO BE LOADED
032054  045613  045604                          .WORD   045613,045604   ; FPS:  BEFORE, AFTER
032060  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                        ;;*****************************************************************
                                        ;*TEST 534       TEST OF LDEXP/D INSTR, DATA SET LEXD-23
                                        ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*****************************************************************
032062  000004                          TST534: SCOPE
032064  012705  032076                          MOV     #LEXD23,R5      ; PTR TO TEST DATA SET
032070  004737  041010                          JSR     PC,@#LEXDT      ; GO TEST

032074  000414                          BR      TST535          ;;

032076                                  LEXD23: ; TEST DATA SET LEXD-23:
032076  052217  007417  007417                  .WORD   052217,ALT4P,ALT4P,ALT4P        ; INITIAL AC FLOAT NUMBER
032104  007417
```

```
8340  032106  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
8341  032114  000000
8342  032116  177576                          .WORD   -202            ; EXPONENT TO BE LOADED
8343  032120  045753  045744                  .WORD   045753,045744   ; FPS:  BEFORE, AFTER
8344  032124  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
8345
8346
8347                                  ;;*****************************************************************
8348                                  ;*TEST 535       TEST OF LDEXP/D INSTR, DATA SET LEXD-24
8349                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
8350                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
8351                                  ;;*****************************************************************
8352  032126  000004                  TST535: SCOPE
8353  032130  012705  032142                  MOV     #LEXD24,R5      ; PTR TO TEST DATA SET
8354  032134  004737  041010                  JSR     PC,@#LEXDT      ; GO TEST
8355
8356  032140  000414                          BR      TST536          ;;
8357
8358  032142                          LEXD24: ; TEST DATA SET LEXD-24:
8359  032142  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
8360  032150  052525
8361  032152  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
8362  032160  000000
8363  032162  177575                          .WORD   -203            ; EXPONENT TO BE LOADED
8364  032164  045653  045644                  .WORD   045653,045644   ; FPS:  BEFORE, AFTER
8365  032170  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
8366
8367
8368
```

```
                                ;;*****************************************************************
                                ;*TEST 536       TEST OF STEXP/F INSTR, DATA SET SEXF-1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
032172  000004                  TST536: SCOPE
032174  012705  032206                  MOV     #SEXF1,R5       ; PTR TO TEST DATA SET
032200  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
032204  000405                          BR      TST537          ;;
032206                          SEXF1:  ; TEST DATA SET SEXF-1:
032206  177777  177777                  .WORD   M1,M1   ; INITIAL AC FLOAT NUMBER
032212  000177                          .WORD   177             ; EXPONENT EXPECTED TO BE STORED
032214  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 537       TEST OF STEXP/F INSTR, DATA SET SEXF-2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
032220  000004                  TST537: SCOPE
032222  012705  032234                  MOV     #SEXF2,R5       ; PTR TO TEST DATA SET
032226  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
032232  000405                          BR      TST540          ;;
032234                          SEXF2:  ; TEST DATA SET SEXF-2:
032234  060052  125252                  .WORD   060052,ALTN     ; INITIAL AC FLOAT NUMBER
032240  000100                          .WORD   100             ; EXPONENT EXPECTED TO BE STORED
032242  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 540       TEST OF STEXP/F INSTR, DATA SET SEXF-3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
032246  000004                  TST540: SCOPE
032250  012705  032262                  MOV     #SEXF3,R5       ; PTR TO TEST DATA SET
032254  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
032260  000405                          BR      TST541          ;;
032262                          SEXF3:  ; TEST DATA SET SEXF-3:
032262  140270  107070                  .WORD   140270,107070   ; INITIAL AC FLOAT NUMBER
032266  000001                          .WORD   1               ; EXPONENT EXPECTED TO BE STORED
032270  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
                                ;;*****************************************************************
                                ;*TEST 541       TEST OF STEXP/F INSTR, DATA SET SEXF-4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
```

```
8425  032274  000004                  TST541: SCOPE
8426  032276  012705  032310                  MOV     #SEXF4,R5       ; PTR TO TEST DATA SET
8427  032302  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
8428
8429  032306  000405                          BR      TST542          ;;
8430
8431  032310                          SEXF4:  ; TEST DATA SET SEXF-4:
8432  032310  040125  007417                  .WORD   040125,ALT4P    ; INITIAL AC FLOAT NUMBER
8433  032314  000000                          .WORD   0               ; EXPONENT EXPECTED TO BE STORED
8434  032316  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
8435
8436
8437                                  ;;**********************************************************************
8438                                  ;*TEST 542      TEST OF STEXP/F INSTR, DATA SET SEXF-5
8439                                  ;*             ALL INTERRUPT ENABLES ON
8440                                  ;*             SHORT FLOAT, SHORT INTEGER, ROUND MODES
8441                                  ;;**********************************************************************
8442  032322  000004                  TST542: SCOPE
8443  032324  012705  032336                  MOV     #SEXF5,R5       ; PTR TO TEST DATA SET
8444  032330  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
8445
8446  032334  000405                          BR      TST543          ;;
8447
8448  032336                          SEXF5:  ; TEST DATA SET SEXF-5:
8449  032336  137760  170360                  .WORD   137760,ALT4N    ; INITIAL AC FLOAT NUMBER
8450  032342  177777                          .WORD   -1              ; EXPONENT EXPECTED TO BE STORED
8451  032344  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
8452
8453
8454                                  ;;**********************************************************************
8455                                  ;*TEST 543      TEST OF STEXP/F INSTR, DATA SET SEXF-6
8456                                  ;*             ALL INTERRUPT ENABLES ON
8457                                  ;*             SHORT FLOAT, LONG INTEGER, ROUND MODES
8458                                  ;;**********************************************************************
8459  032350  000004                  TST543: SCOPE
8460  032352  012705  032364                  MOV     #SEXF6,R5       ; PTR TO TEST DATA SET
8461  032356  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
8462
8463  032362  000405                          BR      TST544          ;;
8464
8465  032364                          SEXF6:  ; TEST DATA SET SEXF-6:
8466  032364  100307  070707                  .WORD   100307,070707   ; INITIAL AC FLOAT NUMBER
8467  032370  177601                          .WORD   -177            ; EXPONENT EXPECTED TO BE STORED
8468  032372  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
8469
8470
8471                                  ;;**********************************************************************
8472                                  ;*TEST 544      TEST OF STEXP/F INSTR, DATA SET SEXF-7
8473                                  ;*             ALL INTERRUPT ENABLES ON
8474                                  ;*             SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
8475                                  ;;**********************************************************************
8476  032376  000004                  TST544: SCOPE
8477  032400  012705  032412                  MOV     #SEXF7,R5       ; PTR TO TEST DATA SET
8478  032404  004737  041200                  JSR     PC,@#SEXFT      ; GO TEST
8479
8480  032410  000405                          BR      TST545          ;;
```

```
8481
8482  032412                          SEXF7:  ; TEST DATA SET SEXF-7:
8483  032412  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
8484  032416  177600                          .WORD   -200            ; EXPONENT EXPECTED TO BE STORED
8485  032420  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
8486
8487
8488
```

```
8489                                    ;;*****************************************************************
8490                                    ;*TEST 545      TEST OF STEXP/D INSTR, DATA SET SEXD-1
8491                                    ;*             ALL INTERRUPT ENABLES ON
8492                                    ;*             LONG FLOAT, LONG INTEGER, ROUND MODES
8493                                    ;;*****************************************************************
8494  032424  000004                    TST545: SCOPE
8495  032426  012705  032440                    MOV     #SEXD1,R5       ; PTR TO TEST DATA SET
8496  032432  004737  041334                    JSR     PC,@#SEXDT      ; GO TEST
8497
8498  032436  000407                            BR      TST546          ;;
8499
8500  032440                            SEXD1:  ; TEST DATA SET SEXD-1:
8501  032440  077600  000000  000000            .WORD   077600,0,0,0    ; INITIAL AC FLOAT NUMBER
8502  032446  000000
8503  032450  000177                            .WORD   177             ; EXPONENT EXPECTED TO BE STORED
8504  032452  047717  047700                    .WORD   047717,047700   ; FPS:  BEFORE, AFTER
8505
8506
8507                                    ;;*****************************************************************
8508                                    ;*TEST 546      TEST OF STEXP/D INSTR, DATA SET SEXD-2
8509                                    ;*             ALL INTERRUPT ENABLES ON
8510                                    ;*             LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
8511                                    ;;*****************************************************************
8512  032456  000004                    TST546: SCOPE
8513  032460  012705  032472                    MOV     #SEXD2,R5       ; PTR TO TEST DATA SET
8514  032464  004737  041334                    JSR     PC,@#SEXDT      ; GO TEST
8515
8516  032470  000407                            BR      TST547          ;;
8517
8518  032472                            SEXD2:  ; TEST DATA SET SEXD-2:
8519  032472  040360  170360  170360            .WORD   040360,ALT4N,ALT4N,ALT4N        ; INITIAL AC FLOAT NUMBER
8520  032500  170360
8521  032502  000001                            .WORD   1               ; EXPONENT EXPECTED TO BE STORED
8522  032504  047657  047640                    .WORD   047657,047640   ; FPS:  BEFORE, AFTER
8523
8524
8525                                    ;;*****************************************************************
8526                                    ;*TEST 547      TEST OF STEXP/D INSTR, DATA SET SEXD-3
8527                                    ;*             ALL INTERRUPT ENABLES ON
8528                                    ;*             LONG FLOAT, SHORT INTEGER, ROUND MODES
8529                                    ;;*****************************************************************
8530  032510  000004                    TST547: SCOPE
8531  032512  012705  032524                    MOV     #SEXD3,R5       ; PTR TO TEST DATA SET
8532  032516  004737  041334                    JSR     PC,@#SEXDT      ; GO TEST
8533
8534  032522  000407                            BR      TST550          ;;
8535
8536  032524                            SEXD3:  ; TEST DATA SET SEXD-3:
8537  032524  140107  070707  070707            .WORD   140107,070707,070707,070707     ; INITIAL AC FLOAT NUMBER
8538  032532  070707
8539  032534  000000                            .WORD   0               ; EXPONENT EXPECTED TO BE STORED
8540  032536  047613  047604                    .WORD   047613,047604   ; FPS:  BEFORE, AFTER
8541
8542
8543                                    ;;*****************************************************************
8544                                    ;*TEST 550      TEST OF STEXP/D INSTR, DATA SET SEXD-4
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;*************************************************************
032542  000004                          TST550: SCOPE
032544  012705  032556                          MOV     #SEXD4,R5       ; PTR TO TEST DATA SET
032550  004737  041334                          JSR     PC,@#SEXDT      ; GO TEST
032554  000407                          TST551: BR      TST551          ;;
032556                                  SEXD4:  ; TEST DATA SET SEXD-4:
032556  037652  125252  125252                  .WORD   037652,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
032564  125252
032566  177777                                  .WORD   -1              ; EXPONENT EXPECTED TO BE STORED
032570  047707  047710                          .WORD   047707,047710   ; FPS:  BEFORE, AFTER

                                        ;;*************************************************************
                                        ;*TEST 551      TEST OF STEXP/D INSTR, DATA SET SEXD-5
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                        ;;*************************************************************
032574  000004                          TST551: SCOPE
032576  012705  032610                          MOV     #SEXD5,R5       ; PTR TO TEST DATA SET
032602  004737  041334                          JSR     PC,@#SEXDT      ; GO TEST
032606  000407                          TST552: BR      TST552          ;;
032610                                  SEXD5:  ; TEST DATA SET SEXD-5:
032610  120070  107070  107070                  .WORD   120070,107070,107070,107070     ; INITIAL AC FLOAT NUMBER
032616  107070
032620  177700                                  .WORD   -100            ; EXPONENT EXPECTED TO BE STORED
032622  047747  047750                          .WORD   047747,047750   ; FPS:  BEFORE, AFTER

                                        ;;*************************************************************
                                        ;*TEST 552      TEST OF STEXP/D INSTR, DATA SET SEXD-6
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;*************************************************************
032626  000004                          TST552: SCOPE
032630  012705  032642                          MOV     #SEXD6,R5       ; PTR TO TEST DATA SET
032634  004737  041334                          JSR     PC,@#SEXDT      ; GO TEST
032640  000407                          TST553: BR      TST553          ;;
032642                                  SEXD6:  ; TEST DATA SET SEXD-6:
032642  000217  007417  007417                  .WORD   000217,ALT4P,ALT4P,ALT4P        ; INITIAL AC FLOAT NUMBER
032650  007417
032652  177601                                  .WORD   -177            ; EXPONENT EXPECTED TO BE STORED
032654  047647  047650                          .WORD   047647,047650   ; FPS:  BEFORE, AFTER

                                        ;;*************************************************************
                                        ;*TEST 553      TEST OF STEXP/D INSTR, DATA SET SEXD-7
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
```

```
8601                                            ;;**********************************************************************
8602  032660  000004                            TST553: SCOPE
8603  032662  012705  032674                            MOV     #SEXD7,R5       ; PTR TO TEST DATA SET
8604  032666  004737  041334                            JSR     PC,@#SEXDT      ; GO TEST
8605
8606  032672  000407                            BR      TST554          ;;
8607
8608  032674                            SEXD7:  ; TEST DATA SET SEXD-7:
8609  032674  000177  177777  177777            .WORD   000177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
8610  032702  177777
8611  032704  177600                            .WORD   -200            ; EXPONENT EXPECTED TO BE STORED
8612  032706  047607  047610                    .WORD   047607,047610   ; FPS:  BEFORE, AFTER
8613
8614
8615
```

```
8616                                    ;;*****************************************************************
8617                                    .SBTTL  SUB PASS END CONTROL
8618
8619  032712                            TST554: ;FORCE LAST TEST NUMBER
8620  032712  000004                            $SCOPE          ;CHECK FOR TEST ITERATIONS HERE
8621
8622                                            ;IF TEST ONLY EITHER HFP OR WFP, ENTER "EOP" ROUTINE DIRECTLY
8623
8624                                            ; IF IN ALTERNATE HFP/WFP MODE,
8625                                            ;   COMPLEMENT FLAG<5>, HFP ENABLE BIT,
8626                                            ;   ENTER EOP ROUTINE ONLY IF ABOUT TO TEST HFP NEXT,
8627                                            ;       TESTING SEQUENCE IS:  PASS#1  HFP SUB-PASS
8628                                            ;                             PASS#1  WFP SUB-PASS
8629                                            ;                             PASS#2  HFP SUB-PASS
8630                                            ;                               ...
8631
8632  032714  076600  000022                   MED     ,RWHAMI         ;GET WHAMI INTO R0
8633  032720  032700  000020                   BIT     #BIT04,R0       ;1=HFP PRESENT, 0=NONE
8634  032724  001423                           BEQ     $EOP            ;EXIT IF NONE
8635
8636  032726  032777  000002  146212           BIT     #SW01,@SWR      ;1=HFP OR WFP TEST ONLY
8637  032734  001017                           BNE     $EOP            ;0=ALTERNATE HFP AND WFP TESTS
8638
8639  032736  012701  010000                   MOV     #BIT12,R1       ;HFP PRESENT, AND IN ALTERNATE MODE;
8640  032742  076600  000144                   MED     ,RFLAG          ;SO READ FLAGS,
8641  032746  030100                           BIT     R1,R0           ;COMPLEMENT FLAG<5>=BIT12=HFP ENABLE FLAG
8642  032750  001402                           BEQ     1$              ;
8643  032752  040100                           BIC     R1,R0           ;CLEAR BIT 12
8644  032754  000401                           BR      2$              ;
8645  032756  050100                   1$:     BIS     R1,R0           ;SET BIT 12
8646  032760  076600  000344           2$:     MED     ,WFLAG          ;REWRITE FLAGS
8647
8648  032764  030100                           BIT     R1,R0           ;HFP OR WFP NEXT ?
8649  032766  001002                           BNE     $EOP            ;IF HFP AGAIN, START NEW PASS
8650  032770  000137  002654                   JMP     @#SUBPAS        ;IF WFP, NEXT SUBPASS
8651
8652
8653                                    ;;*****************************************************************
8654
8655                                    .SBTTL  END OF PASS ROUTINE (MODIFIED SYSMAC)
8656
8657                                    ;*INCREMENT THE PASS NUMBER ($PASS)
8658                                    ;*IF SW<10>=0, DING BELL ON PASS END
8659                                    ;*IF THERE'S A MONITOR, GO TO IT
8660                                    ;*  ELSE JUMP TO NEWPAS
8661
8662
8663  032774                            $EOP:                           ;
8664  032774  005037  001104                   CLR     $ERFLG          ;ZERO ERROR COUNT
8665  033000  005037  001102                   CLR     $TSTNM          ;ZERO TEST NUMBER
8666  033004  005037  001310                   CLR     $TIMES          ;ZERO NUMBER OF ITERATION
8667  033010  005237  001332                   INC     $PASS           ;INCREMENT PASS COUNT,
8668  033014  042737  100000  001332           BIC     #100000,$PASS   ;  BUT NEVER LET IN GO NEGATI.
8669  033022  005327                           DEC     (PC)+           ;PASS LOOP ?
8670  033024  000001                   $EOPCT: .WORD   1               ;
8671  033026  003021                           BGT     $DOAGN          ;YES
```

```
8672  033030  012737                        MOV     (PC)+,@(PC)+    ;RESTORE COUNTER
8673  033032  000001              $ENDCT:   .WORD   1               ;
8674  033034  033024                        $EOPCT                  ;
8675  033036  032777  002000  146102        BIT     #SW10,@SWR      ;BELL ON PASS END ?
8676  033044  001002                        BNE     $GET42          ;NO
8677  033046  104401  001314                TYPE    ,$BELL          ;YES
8678
8679  033052  013700  000042      $GET42:   MOV     @#42,R0         ;GET MONITOR ADDRESS
8680  033056  001405                        BEQ     $DOAGN          ;NO MONITOR
8681  033060  000005                        RESET                   ;CLEAR WORLD
8682
8683  033062  004710              $ENDAD:   JSR     PC,(R0)         ;GO TO MONITOR
8684  033064  000240                        NOP                     ;
8685  033066  000240                        NOP                     ;RESERVED FOR ACT11
8686  033070  000240                        NOP                     ;
8687
8688  033072  000137  002616      $DOAGN:   JMP     @#NEWPAS        ;RETURN
8689
8690
```

```
8691                                        .SBTTL  SUBR TO TEST THE CMPF INSTRUCTION
8692
8693   033076                               CMPFT:
8694   033076  012700  000007                       MOV     #7,R0           ; LOAD $TMP0-6
8695   033102  010501                               MOV     R5,R1           ;   WITH TEST DATA SETS
8696   033104  012702  001230                       MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
8697   033110  012122                               MOV     (R1)+,(R2)+     ;
8698   033112  077002                               SOB     R0,.-2          ;
8699   033114  012737  033122  001114               MOV     #CMPFL,$LPERR   ; ERROR LOOPING ADDRESS
8700
8701   033122  170001                       CMPFL:  SETF                    ; F MODE
8702   033124  172715                               LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
8703   033126  170165  000010                       LDFPS   10(R5)          ; INITIAL FPS
8704
8705   033132  173765  000004               CMPFI:  CMPF    4(R5),AC3       ; (MEM)-(AC3)
8706
8707   033136  170237  002000                       STFPS   FPS             ; STORE FPS AFTER
8708   033142  170337  002002                       STST    FEC             ; STORE FEC/FEA AFTER
8709   033146  174337  001170                       STF     AC3,$REG0       ; STORE AC NUMBER
8710
8711   033152  023765  002000  000012               CMP     FPS,12(R5)      ; CHECK FPS
8712   033160  001401                               BEQ     65$             ; FPS IS OK
8713   033162  104002                               ERROR   2               ; FPS BAD
8714   033164  005765  000014               65$:    TST     14(R5)          ; DOES FEC/FEA APPLY?
8715   033170  100014                               BPL     66$             ; NO - SKIP TEST
8716   033172  012737  033132  002014               MOV     #CMPFI,EXPFEA   ; GET EXPECTED FEA
8717   033200  123765  002002  000014               CMPB    FEC,14(R5)      ; COMPARE FEC-S
8718   033206  001004                               BNE     64$             ; NOT EQUAL
8719   033210  023737  002004  002014               CMP     FEA,EXPFEA      ; COMPARE FEA-S
8720   033216  001401                               BEQ     66$             ; FEC, FEA OK
8721   033220  104012                       64$:    ERROR   12              ; FEC OR FEA ARE BAD
8722   033222                               66$:
8723
8724   033222  023715  001170                       CMP     $REG0,(R5)      ; 1ST WORD OF RESULT CHECK?
8725   033226  001004                               BNE     67$             ; NO
8726   033230  023765  001172  000002               CMP     $REG1,2(R5)     ; 2ND WORD OF RESULT CHECK?
8727   033236  001401                               BEQ     68$             ; ALL WORDS OK
8728   033240  104021                       67$:    ERROR   21              ; NUMBERS NOT EQUAL
8729   033242                               68$:
8730
8731   033242  000207                               RTS     PC              ; RETURN TO TEST CALLER
8732
8733
8734                                        ;;*****************************************************************
8735                                        .SBTTL  SUBR TO TEST THE CMPD INSTRUCTION
8736
8737   033244                               CMPDT:
8738   033244  012700  000013                       MOV     #13,R0          ; LOAD $TMP0-12
8739   033250  010501                               MOV     R5,R1           ;   WITH TEST DATA SETS
8740   033252  012702  001230                       MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
8741   033256  012122                               MOV     (R1)+,(R2)+     ;
8742   033260  077002                               SOB     R0,.-2          ;
8743   033262  012737  033270  001114               MOV     #CMPDL,$LPERR   ; ERROR LOOPING ADDRESS
8744
8745   033270  170011                       CMPDL:  SETD                    ; D MODE
8746   033272  172615                               LDD     (R5),AC2        ; INITIAL AC FLOAT NUMBER
```

```
 8747  033274  170165  000020                  LDFPS   20(R5)          ; INITIAL FPS
 8748
 8749  033300  173665  000010          CMPDI:  CMPD    10(R5),AC2      ; (MEM)-(AC2)
 8750
 8751  033304  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 8752  033310  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
 8753  033314  174237  001170                  STD     AC2,$REG0       ; STORE AC AFTER
 8754
 8755  033320  023765  002000  000022          CMP     FPS,22(R5)      ; CHECK FPS
 8756  033326  001401                          BEQ     65$             ; FPS IS OK
 8757  033330  104005                          ERROR   5               ; FPS BAD
 8758  033332  005765  000024          65$:    TST     24(R5)          ; DOES FEC/FEA APPLY?
 8759  033336  100014                          BPL     66$             ; NO - SKIP TEST
 8760  033340  012737  033300  002014          MOV     #CMPDI,EXPFEA   ; GET EXPECTED FEA
 8761  033346  123765  002002  000024          CMPB    FEC,24(R5)      ; COMPARE FEC-S
 8762  033354  001004                          BNE     64$             ; NOT EQUAL
 8763  033356  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
 8764  033364  001401                          BEQ     66$             ; FEC, FEA OK
 8765  033366  104015                  64$:    ERROR   15              ; FEC OR FEA ARE BAD
 8766  033370                          66$:
 8767
 8768  033370  023715  001170                  CMP     $REG0,(R5)      ; 1ST WORD OF RESULT CHECK?
 8769  033374  001014                          BNE     67$             ; NO
 8770  033376  023765  001172  000002          CMP     $REG1,2(R5)     ; 2ND WORD OF RESULT CHECK?
 8771  033404  001010                          BNE     67$             ; NO
 8772  033406  023765  001174  000004          CMP     $REG2,4(R5)     ; 3RD WORD OF RESULT CHECK?
 8773  033414  001004                          BNE     67$             ; NO
 8774  033416  023765  001176  000006          CMP     $REG3,6(R5)     ; 4TH WORD OF RESULT CHECK?
 8775  033424  001401                          BEQ     68$             ; ALL WORDS OK
 8776  033426  104022                  67$:    ERROR   22              ; NUMBERS NOT EQUAL
 8777  033430                          68$:
 8778
 8779  033430  000207                          RTS     PC              ; RETURN TO TEST CALLER
 8780
```

```
8781                                        .SBTTL  SUBR TO TEST THE ADDF INSTRUCTION
8782
8783  033432                                ADDFT:
8784  033432  012700  000011                        MOV     #11,R0          ; LOAD $TMP0-10
8785  033436  010501                                MOV     R5,R1           ;   WITH TEST DATA SETS
8786  033440  012702  001230                        MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
8787  033444  012122                                MOV     (R1)+,(R2)+     ;
8788  033446  077002                                SOB     R0,.-2          ;
8789  033450  012737  033456  001114                MOV     #ADDFL,$LPERR   ; ERROR LOOPING ADDRESS
8790
8791  033456  170001                        ADDFL:  SETF                    ; F MODE
8792  033460  172515                                LDF     (R5),AC1        ; INITIAL AC FLOAT NUMBER
8793  033462  170165  000014                        LDFPS   14(R5)          ; INITIAL FPS
8794
8795  033466  172165  000004                ADDFI:  ADDF    4(R5),AC1       ; (AC1)+(MEM)->AC1
8796
8797  033472  170237  002000                        STFPS   FPS             ; STORE FPS AFTER
8798  033476  170337  002002                        STST    FEC             ; STORE FEC/FEA AFTER
8799  033502  174137  001170                        STF     AC1,$REG0       ; RESULT OF ADDF
8800
8801  033506  023765  002000  000016                CMP     FPS,16(R5)      ; CHECK FPS
8802  033514  001401                                BEQ     65$             ; FPS IS OK
8803  033516  104004                                ERROR   4               ; FPS BAD
8804  033520  005765  000020                65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
8805  033524  100014                                BPL     66$             ; NO - SKIP TEST
8806  033526  012737  033466  002014                MOV     #ADDFI,EXPFEA   ; GET EXPECTED FEA
8807  033534  123765  002002  000020                CMPB    FEC,20(R5)      ; COMPARE FEC-S
8808  033542  001004                                BNE     64$             ; NOT EQUAL
8809  033544  023737  002004  002014                CMP     FEA,EXPFEA      ; COMPARE FEA-S
8810  033552  001401                                BEQ     66$             ; FEC, FEA OK
8811  033554  104014                        64$:    ERROR   14              ; FEC OR FEA ARE BAD
8812  033556                                66$:
8813
8814  033556  023765  001170  000010                CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
8815  033564  001004                                BNE     67$             ; NO
8816  033566  023765  001172  000012                CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
8817  033574  001401                                BEQ     68$             ; ALL WORDS OK
8818  033576  104023                        67$:    ERROR   23              ; NUMBERS NOT EQUAL
8819  033600                                68$:
8820
8821  033600  000207                                RTS     PC              ; RETURN TO TEST CALLER
8822
8823                                        ;;*****************************************************************
8824                                        .SBTTL  SUBR TO TEST THE ADDD INSTRUCTION
8825
8826  033602                                ADDDT:
8827  033602  012700  000017                        MOV     #17,R0          ; LOAD $TMP0-16
8828  033606  010501                                MOV     R5,R1           ;   WITH TEST DATA SETS
8829  033610  012702  001230                        MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
8830  033614  012122                                MOV     (R1)+,(R2)+     ;
8831  033616  077002                                SOB     R0,.-2          ;
8832  033620  012737  033626  001114                MOV     #ADDDL,$LPERR   ; ERROR LOOPING ADDRESS
8833
8834  033626  170011                        ADDDL:  SETD                    ; D MODE
8835  033630  172415                                LDD     (R5),ACC        ; INITIAL AC FLOAT NUMBER
8836  033632  170165  000030                        LDFPS   30(R5)          ; INITIAL FPS
```

```
8837
8838  033636  172065  000010          ADDDI:  ADDD    10(R5),AC0      ; (AC0)+(MEM)->AC0
8839
8840  033642  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
8841  033646  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
8842  033652  174037  001170                  STD     AC0,$REG0       ; RESULT OF ADDD
8843
8844  033656  023765  002000  000032          CMP     FPS,32(R5)      ; CHECK FPS
8845  033664  001401                          BEQ     65$             ; FPS IS OK
8846  033666  104007                          ERROR   7               ; FPS BAD
8847  033670  005765  000034          65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
8848  033674  100014                          BPL     66$             ; NO - SKIP TEST
8849  033676  012737  033636  002014          MOV     #ADDDI,EXPFEA   ; GET EXPECTED FEA
8850  033704  123765  002002  000034          CMPB    FEC,34(R5)      ; COMPARE FEC-S
8851  033712  001004                          BNE     64$             ; NOT EQUAL
8852  033714  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
8853  033722  001401                          BEQ     66$             ; FEC, FEA OK
8854  033724  104017                  64$:    ERROR   17              ; FEC OR FEA ARE BAD
8855  033726                          66$:
8856
8857  033726  023765  001170  000020          CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
8858  033734  001014                          BNE     67$             ; NO
8859  033736  023765  001172  000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
8860  033744  001010                          BNE     67$             ; NO
8861  033746  023765  001174  000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
8862  033754  001004                          BNE     67$             ; NO
8863  033756  023765  001176  000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
8864  033764  001401                          BEQ     68$             ; ALL WORDS OK
8865  033766  104024                  67$:    ERROR   24              ; NUMBERS NOT EQUAL
8866  033770                          68$:
8867
8868  033770  000207                          RTS     PC              ; RETURN TO TEST CALLER
8869
```

```
                                        .SBTTL  SUBR TO TEST THE SUBF INSTRUCTION
                                        SUBFT:
033772                                          MOV     #11,R0          ; LOAD $TMP0-10
033772  012700  000011                          MOV     R5,R1           ;   WITH TEST DATA SETS
033776  010501                                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
034000  012702  001230                          MOV     (R1)+,(R2)+     ;
034004  012122                                  SOB     R0,.-2          ;
034006  077002                                  MOV     #SUBFL,$LPERR   ; ERROR LOOPING ADDRESS
034010  012737  034016  001114
                                        SUBFL:  SETF                    ; F MODE
034016  170001                                  LDF     (R5),AC0        ; INITIAL AC FLOAT NUMBER
034020  172415                                  LDFPS   14(R5)          ; INITIAL FPS
034022  170165  000014
                                        SUBFI:  SUBF    4(R5),AC0       ; (AC0)-(MEM)->AC0
034026  173065  000004
                                                STFPS   FPS             ; STORE FPS AFTER
034032  170237  002000                          STST    FEC             ; STORE FEC/FEA AFTER
034036  170337  002002                          STF     AC0,$REG0       ; RESULT OF SUBF
034042  174037  001170
                                                CMP     FPS,16(R5)      ; CHECK FPS
034046  023765  002000  000016                  BEQ     65$             ; FPS IS OK
034054  001401                                  ERROR   4               ; FPS BAD
034056  104004                          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
034060  005765  000020                          BPL     66$             ; NO - SKIP TEST
034064  100014                                  MOV     #SUBFI,EXPFEA   ; GET EXPECTED FEA
034066  012737  034026  002014                  CMPB    FEC,20(R5)      ; COMPARE FEC-S
034074  123765  002002  000020                  BNE     64$             ; NOT EQUAL
034102  001004                                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
034104  023737  002004  002014                  BEQ     66$             ; FEC, FEA OK
034112  001401                          64$:    ERROR   14              ; FEC OR FEA ARE BAD
034114  104014                          66$:
034116
                                                CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
034116  023765  001170  000010                  BNE     67$             ; NO
034124  001004                                  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
034126  023765  001172  000012                  BEQ     68$             ; ALL WORDS OK
034134  001401                          67$:    ERROR   23              ; NUMBERS NOT EQUAL
034136  104023                          68$:
034140
                                                RTS     PC              ; RETURN TO TEST CALLER
034140  000207

                                        ;;*****************************************************************
                                        .SBTTL  SUBR TO TEST THE SUBD INSTRUCTION

                                        SUBDT:
034142                                          MOV     #17,R0          ; LOAD $TMP0-16
034142  012700  000017                          MOV     R5,R1           ;   WITH TEST DATA SETS
034146  010501                                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
034150  012702  001230                          MOV     (R1)+,(R2)+     ;
034154  012122                                  SOB     R0,.-2          ;
034156  077002                                  MOV     #SUBDL,$LPERR   ; ERROR LOOPING ADDRESS
034160  012737  034166  001114

                                        SUBDL:  SETD                    ; D MODE
034166  170011                                  LDD     (R5),AC3        ; INITIAL AC FLOAT NUMBER
034170  172715                                  LDFPS   30(R5)          ; INITIAL FPS
034172  170165  000030
```

```
8926
8927  034176  173365  000010          SUBDI:  SUBD    10(R5),AC3      ; (AC3)-(MEM)->AC3
8928
8929  034202  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
8930  034206  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
8931  034212  174337  001170                  STD     AC3,$REG0       ; RESULT OF SUBD
8932
8933  034216  023765  002000  000032          CMP     FPS,32(R5)      ; CHECK FPS
8934  034224  001401                          BEQ     65$             ; FPS IS OK
8935  034226  104007                          ERROR   7               ; FPS BAD
8936  034230  005765  000034          65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
8937  034234  100014                          BPL     66$             ; NO - SKIP TEST
8938  034236  012737  034176  002014          MOV     #SUBDI,EXPFEA   ; GET EXPECTED FEA
8939  034244  123765  002002  000034          CMPB    FEC,34(R5)      ; COMPARE FEC-S
8940  034252  001004                          BNE     64$             ; NOT EQUAL
8941  034254  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
8942  034262  001401                          BEQ     66$             ; FEC, FEA OK
8943  034264  104017                  64$:    ERROR   17              ; FEC OR FEA ARE BAD
8944  034266                          66$:
8945
8946  034266  023765  001170  000020          CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
8947  034274  001014                          BNE     67$             ; NO
8948  034276  023765  001172  000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
8949  034304  001010                          BNE     67$             ; NO
8950  034306  023765  001174  000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
8951  034314  001004                          BNE     67$             ; NO
8952  034316  023765  001176  000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
8953  034324  001401                          BEQ     68$             ; ALL WORDS OK
8954  034326  104024                  67$:    ERROR   24              ; NUMBERS NOT EQUAL
8955  034330                          68$:
8956
8957  034330  000207                          RTS     PC              ; RETURN TO TEST CALLER
8958
```

```
8959                                    .SBTTL  SUBR TO TEST THE MULF INSTRUCTION
8960
8961  034332                            MULFT:
8962  034332  012700  000011                    MOV     #11,R0          ; LOAD $TMP0-10
8963  034336  010501                            MOV     R5,R1           ;   WITH TEST DATA SETS
8964  034340  012702  001230                    MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
8965  034344  012122                            MOV     (R1)+,(R2)+     ;
8966  034346  077002                            SOB     R0,.-2          ;
8967  034350  012737  034356  001114            MOV     #MULFL,$LPERR   ; ERROR LOOPING ADDRESS
8968
8969  034356  170001                    MULFL:  SETF                    ; F MODE
8970  034360  172715                            LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
8971  034362  170165  000014                    LDFPS   14(R5)          ; INITIAL FPS
8972
8973  034366  171365  000004            MULFI:  MULF    4(R5),AC3       ; (AC3)*(MEM)->AC3
8974
8975  034372  170237  002000                    STFPS   FPS             ; STORE FPS AFTER
8976  034376  170337  002002                    STST    FEC             ; STORE FEC/FEA AFTER
3977  034402  174337  001170                    STF     AC3,$REG0       ; RESULT OF MULF
8978
8979  034406  023765  002000  000016            CMP     FPS,16(R5)      ; CHECK FPS
8980  034414  001401                            BEQ     65$             ; FPS IS OK
8981  034416  104004                            ERROR   4               ; FPS BAD
8982  034420  005765  000020            65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
8983  034424  100014                            BPL     66$             ; NO - SKIP TEST
8984  034426  012737  034366  002014            MOV     #MULFI,EXPFEA   ; GET EXPECTED FEA
8985  034434  123765  002002  000020            CMPB    FEC,20(R5)      ; COMPARE FEC-S
8986  034442  001004                            BNE     64$             ; NOT EQUAL
8987  034444  023737  002004  002014            CMP     FEA,EXPFEA      ; COMPARE FEA-S
8988  034452  001401                            BEQ     66$             ; FEC, FEA OK
8989  034454  104014                    64$:    ERROR   14              ; FEC OR FEA ARE BAD
8990  034456                            66$:
8991
8992  034456  023765  001170  000010            CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
8993  034464  001004                            BNE     67$             ; NO
8994  034466  023765  001172  000012            CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
8995  034474  001401                            BEQ     68$             ; ALL WORDS OK
8996  034476  104025                    67$:    ERROR   25              ; NUMBERS NOT EQUAL
8997  034500                            68$:
8998
8999  034500  000207                            RTS     PC              ; RETURN TO TEST CALLER
9000
9001                                    ;;*****************************************************************
9002                                    .SBTTL  SUBR TO TEST THE MULD INSTRUCTION
9003
9004  034502                            MULDT:
9005  034502  012700  000017                    MOV     #17,R0          ; LOAD $TMP0-16
9006  034506  010501                            MOV     R5,R1           ;   WITH TEST DATA SETS
9007  034510  012702  001230                    MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
9008  034514  012122                            MOV     (R1)+,(R2)+     ;
9009  034516  077002                            SOB     R0,.-2          ;
9010  034520  012737  034526  001114            MOV     #MULDL,$LPERR   ; ERROR LOOPING ADDRESS
9011
9012  034526  170011                    MULDL:  SETD                    ; D MODE
9013  034530  172615                            LDD     (R5),AC2        ; INITIAL AC FLOAT NUMBER
9014  034532  170165  000030                    LDFPS   30(R5)          ; INITIAL FPS
```

```
9015
9016  034536  171265  000010          MULDI:  MULD    10(R5),AC2      ; (AC2)*(MEM)->AC2
9017
9018  034542  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
9019  034546  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
9020  034552  174237  001170                  STD     AC2,$REG0       ; RESULT OF MULD
9021
9022  034556  023765  002000  000032          CMP     FPS,32(R5)      ; CHECK FPS
9023  034564  001401                          BEQ     65$             ; FPS IS OK
9024  034566  104007                          ERROR   7               ; FPS BAD
9025  034570  005765  000034          65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
9026  034574  100014                          BPL     66$             ; NO - SKIP TEST
9027  034576  012737  034536  002014          MOV     #MULDI,EXPFEA   ; GET EXPECTED FEA
9028  034604  123765  002002  000034          CMPB    FEC,34(R5)      ; COMPARE FEC-S
9029  034612  001004                          BNE     64$             ; NOT EQUAL
9030  034614  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
9031  034622  001401                          BEQ     66$             ; FEC, FEA OK
9032  034624  104017                  64$:    ERROR   17              ; FEC OR FEA ARE BAD
9033  034626                          66$:
9034
9035  034626  023765  001170  000020          CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
9036  034634  001014                          BNE     67$             ; NO
9037  034636  023765  001172  000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
9038  034644  001010                          BNE     67$             ; NO
9039  034646  023765  001174  000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
9040  034654  001004                          BNE     67$             ; NO
9041  034656  023765  001176  000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
9042  034664  001401                          BEQ     68$             ; ALL WORDS OK
9043  034666  104026                  67$:    ERROR   26              ; NUMBERS NOT EQUAL
9044  034670                          68$:
9045
9046  034670  000207                          RTS     PC              ; RETURN TO TEST CALLER
9047
```

```
                                        .SBTTL  SUBR TO TEST THE DIVF INSTRUCTION
                                        DIVFT:
                                                MOV     #11,R0          ; LOAD $TMP0-10
                                                MOV     R5,R1           ;   WITH TEST DATA SETS
                                                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
                                                MOV     (R1)+,(R2)+     ;
                                                SOB     R0,.-2          ;
                                                MOV     #DIVFL,$LPERR   ; ERROR LOOPING ADDRESS

                                        DIVFL:  SETF                    ; F MODE
                                                LDF     (R5),AC2        ; INITIAL AC FLOAT NUMBER
                                                LDFPS   14(R5)          ; INITIAL FPS

                                        DIVFI:  DIVF    4(R5),AC2       ; (AC2)/(MEM)->AC2

                                                STFPS   FPS             ; STORE FPS AFTER
                                                STST    FEC             ; STORE FEC/FEA AFTER
                                                STF     AC2,$REG0       ; RESULT OF DIVF

                                                CMP     FPS,16(R5)      ; CHECK FPS
                                                BEQ     65$             ; FPS IS OK
                                                ERROR   4               ; FPS BAD
                                        65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
                                                BPL     66$             ; NO - SKIP TEST
                                                MOV     #DIVFI,EXPFEA   ; GET EXPECTED FEA
                                                CMPB    FEC,20(R5)      ; COMPARE FEC-S
                                                BNE     64$             ; NOT EQUAL
                                                CMP     FEA,EXPFEA      ; COMPARE FEA-S
                                                BEQ     66$             ; FEC, FEA OK
                                        64$:    ERROR   14              ; FEC OR FEA ARE BAD
                                        66$:

                                                CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
                                                BNE     67$             ; NO
                                                CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
                                                BEQ     68$             ; ALL WORDS OK
                                        67$:    ERROR   25              ; NUMBERS NOT EQUAL
                                        68$:

                                                RTS     PC              ; RETURN TO TEST CALLER

                                        ;;*****************************************************************
                                        .SBTTL  SUBR TO TEST THE DIVD INSTRUCTION

                                        DIVDT:
                                                MOV     #17,R0          ; LOAD $TMP0-16
                                                MOV     R5,R1           ;   WITH TEST DATA SETS
                                                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
                                                MOV     (R1)+,(R2)+     ;
                                                SOB     R0,.-2          ;
                                                MOV     #DIVDL,$LPERR   ; ERROR LOOPING ADDRESS

                                        DIVDL:  SETD                    ; D MODE
                                                LDD     (R5),AC1        ; INITIAL AC FLOAT NUMBER
                                                LDFPS   30(R5)          ; INITIAL FPS
```

```
 9104
 9105  035076  174565  000010          DIVDI:  DIVD    10(R5),AC1      ; (AC1)/(MEM)->AC1
 9106
 9107  035102  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 9108  035106  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
 9109  035112  174137  001170                  STD     AC1,$REGD       ; RESULT OF DIVD
 9110
 9111  035116  023765  002000  000032          CMP     FPS,32(R5)      ; CHECK FPS
 9112  035124  001401                          BEQ     65$             ; FPS IS OK
 9113  035126  104007                          ERROR   7               ; FPS BAD
 9114  035130  005765  000034          65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
 9115  035134  100014                          BPL     66$             ; NO - SKIP TEST
 9116  035136  012737  035076  002014          MOV     #DIVDI,EXPFEA   ; GET EXPECTED FEA
 9117  035144  123765  002002  000034          CMPB    FEC,34(R5)      ; COMPARE FEC-S
 9118  035152  001004                          BNE     64$             ; NOT EQUAL
 9119  035154  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
 9120  035162  001401                          BEQ     66$             ; FEC, FEA OK
 9121  035164  104017                  64$:    ERROR   17              ; FEC OR FEA ARE BAD
 9122  035166                          66$:
 9123
 9124  035166  023765  001170  000020          CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
 9125  035174  001014                          BNE     67$             ; NO
 9126  035176  023765  001172  000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
 9127  035204  001010                          BNE     67$             ; NO
 9128  035206  023765  001174  000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
 9129  035214  001004                          BNE     67$             ; NO
 9130  035216  023765  001176  000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
 9131  035224  001401                          BEQ     68$             ; ALL WORDS OK
 9132  035226  104026                  67$:    ERROR   26              ; NUMBERS NOT EQUAL
 9133  035230                          68$:
 9134
 9135  035230  000207                          RTS     PC              ; RETURN TO TEST CALLER
 9136
 9137
```

```
                                        .SBTTL  SUBR TO TEST THE MODF INSTRUCTION, USING 2 ACCUMULATORS

035232                                  MD2FT:
035232  012700  000013                          MOV     #13,R0          ; LOAD $TMP0-12
035236  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
035240  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
035244  012122                                  MOV     (R1)+,(R2)+     ;
035246  077002                                  SOB     R0,.-2          ;
035250  012737  035256  001114                  MOV     #MD2FL,$LPERR   ; ERROR LOOPING ADDRESS

035256  170001                          MD2FL:  SETF                    ; F MODE
035260  172615                                  LDF     (R5),AC2        ; INITIAL AC FLOAT NUMBER
035262  172737  002036                          LDF     PREVAC,AC3      ; FOR FEC-14 TEST
035266  170165  000020                          LDFPS   20(R5)          ; INITIAL FPS

035272  171665  000004                  MD2FI:  MODF    4(R5),AC2       ; FRAC[(AC2)*(MEM)]->AC2
                                                                        ;  INT[(AC2)*(MEM)]->AC3

035276  170237  002000                          STFPS   FPS             ; STORE FPS AFTER
035302  170337  002002                          STST    FEC             ; STORE FEC/FEA AFTER
035306  174237  001170                          STF     AC2,$REG0       ; STORE FRAC PART
035312  174337  001174                          STF     AC3,$REG2       ; STORE INT PART

035316  023765  002000  000022                  CMP     FPS,22(R5)      ; CHECK FPS
035324  001401                                  BEQ     65$             ; FPS IS OK
035326  104005                                  ERROR   5               ; FPS BAD
035330  005765  000024                  65$:    TST     24(R5)          ; DOES FEC/FEA APPLY?
035334  100014                                  BPL     66$             ; NO - SKIP TEST
035336  012737  035272  002014                  MOV     #MD2FI,EXPFEA   ; GET EXPECTED FEA
035344  123765  002002  000024                  CMPB    FEC,24(R5)      ; COMPARE FEC-S
035352  001004                                  BNE     64$             ; NOT EQUAL
035354  023737  002004  002014                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
035362  001401                                  BEQ     66$             ; FEC, FEA OK
035364  104015                          64$:    ERROR   15              ; FEC OR FEA ARE BAD
035366                                  66$:

                                                ; CHECK FRACTION PART
035366  023765  001170  000010                  CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
035374  001004                                  BNE     67$             ; NO
035376  023765  001172  000012                  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
035404  001401                                  BEQ     68$             ; ALL WORDS OK
035406  104027                          67$:    ERROR   27              ; NUMBERS NOT EQUAL
035410                                  68$:

                                                ; CHECK INTEGER PART
035410  023765  001174  000014                  CMP     $REG2,14(R5)    ; 1ST WORD OF RESULT CHECK?
035416  001004                                  BNE     69$             ; NO
035420  023765  001176  000016                  CMP     $REG3,16(R5)    ; 2ND WORD OF RESULT CHECK?
035426  001401                                  BEQ     70$             ; ALL WORDS OK
035430  104030                          69$:    ERROR   30              ; NUMBERS NOT EQUAL
035432                                  70$:

035432  000207                                  RTS     PC              ; RETURN TO TEST CALLER


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

```
                                        .SBTTL  SUBR TO TEST THE MODD INSTRUCTION, USING 2 ACCUMULATORS

035434                                  MD2DT:
035434  012700  000023                          MOV     #23,R0          ; LOAD $TMP0-22
035440  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
035442  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
035446  012122                                  MOV     (R1)+,(R2)+     ;
035450  077002                                  SOB     R0,.-2          ;
035452  012737  035460  001114                  MOV     #MD2DL,$LPERR   ; ERROR LOOPING ADDRESS

035460  170011                  MD2DL:  SETD                            ; D MODE
035462  172415                          LDD     (R5),AC0                ; INITIAL AC FLOAT NUMBER
035464  172537  002036                  LDD     PREVAC,AC1              ; FOR FEC-14 TEST
035470  170165  000040                  LDFPS   40(R5)                  ; INITIAL FPS

035474  171465  000010          MD2DI:  MODD    10(R5),AC0              ; FRAC[(AC0)*(MEM)]->AC0
                                                                        ;  INT[(AC0)*(MEM)]->AC1

035500  170237  002000                  STFPS   FPS                     ; STORE FPS AFTER
035504  170337  002002                  STST    FEC                     ; STORE FEC/FEA AFTER
035510  174037  001170                  STD     AC0,$REG0               ; STORE FRAC PART
035514  174137  001200                  STD     AC1,$REG4               ; STORE INT PART

035520  023765  002000  000042          CMP     FPS,42(R5)              ; CHECK FPS
035526  001401                          BEQ     65$                     ; FPS IS OK
035530  104010                          ERROR   10                      ; FPS BAD
035532  005765  000044          65$:    TST     44(R5)                  ; DOES FEC/FEA APPLY?
035536  100014                          BPL     66$                     ; NO - SKIP TEST
035540  012737  035474  002014          MOV     #MD2DI,EXPFEA           ; GET EXPECTED FEA
035546  123765  002002  000044          CMPB    FEC,44(R5)              ; COMPARE FEC-S
035554  001004                          BNE     64$                     ; NOT EQUAL
035556  023737  002004  002014          CMP     FEA,EXPFEA              ; COMPARE FEA-S
035564  001401                          BEQ     66$                     ; FEC, FEA OK
035566  104020                  64$:    ERROR   20                      ; FEC OR FEA ARE BAD
035570                          66$:

                                        ; CHECK FRACTION PART OF RESULT
035570  023765  001170  000020          CMP     $REG0,20(R5)            ; 1ST WORD OF RESULT CHECK?
035576  001014                          BNE     67$                     ; NO
035600  023765  001172  000022          CMP     $REG1,22(R5)            ; 2ND WORD OF RESULT CHECK?
035606  001010                          BNE     67$                     ; NO
035610  023765  001174  000024          CMP     $REG2,24(R5)            ; 3RD WORD OF RESULT CHECK?
035616  001004                          BNE     67$                     ; NO
035620  023765  001176  000026          CMP     $REG3,26(R5)            ; 4TH WORD OF RESULT CHECK?
035626  001401                          BEQ     68$                     ; ALL WORDS OK
035630  104031                  67$:    ERROR   31                      ; NUMBERS NOT EQUAL
035632                          68$:

                                        ; CHECK INTEGER PART
035632  023765  001200  000030          CMP     $REG4,30(R5)            ; 1ST WORD OF RESULT CHECK?
035640  001014                          BNE     69$                     ; NO
035642  023765  001202  000032          CMP     $REG5,32(R5)            ; 2ND WORD OF RESULT CHECK?
035650  001010                          BNE     69$                     ; NO
035652  023765  001204  000034          CMP     $REG6,34(R5)            ; 3RD WORD OF RESULT CHECK?
035660  001004                          BNE     69$                     ; NO
035662  023765  001206  000036          CMP     $REG7,36(R5)            ; 4TH WORD OF RESULT CHECK?
```

```
 9250  035670  001401                    BEQ     70$             ; ALL WORDS OK
 9251  035672  104032            69$:    ERROR   32              ; NUMBERS NOT EQUAL
 9252  035674                    70$:
 9253
 9254  035674  000207                    RTS     PC              ; RETURN TO TEST CALLER
```

```
                                        .SBTTL  SUBR TO TEST THE MODF INSTRUCTION, USING 1 ACCUMULATOR

035676                                  MD1FT:
035676  012700  000013                          MOV     #13,R0          ; LOAD $TMP0-12
035702  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
035704  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
035710  012122                                  MOV     (R1)+,(R2)+     ;
035712  077002                                  SOB     R0,.-2          ;
035714  012737  035722  001114                  MOV     #MD1FL,$LPERR   ; ERROR LOOPING ADDRESS

035722  170001                          MD1FL:  SETF                    ; F MODE
035724  172715                                  LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
035726  172637  002036                          LDF     PREVAC,AC2      ; AC2 SHOULD NOT CHANGE
035732  170165  000020                          LDFPS   20(R5)          ; INITIAL FPS

035736  171765  000004                  MD1FI:  MODF    4(R5),AC3       ; FRAC[(AC3)*(MEM)]->AC3
                                                                        ;  INT[(AC3)*(MEM)]->LOST

035742  170237  002000                          STFPS   FPS             ; STORE FPS AFTER
035746  170337  002002                          STST    FEC             ; STORE FEC/FEA AFTER
035752  174337  001170                          STF     AC3,$REG0       ; STORE FRAC PART
035756  174237  001174                          STF     AC2,$REG2       ; STORE UNCHANGED AC3

035762  023765  002000  000022                  CMP     FPS,22(R5)      ; CHECK FPS
035770  001401                                  BEQ     65$             ; FPS IS OK
035772  104005                                  ERROR   5               ; FPS BAD
035774  005765  000024                  65$:    TST     24(R5)          ; DOES FEC/FEA APPLY?
036000  100014                                  BPL     66$             ; NO - SKIP TEST
036002  012737  035736  002014                  MOV     #MD1FI,EXPFEA   ; GET EXPECTED FEA
036010  123765  002002  000024                  CMPB    FEC,24(R5)      ; COMPARE FEC-S
036016  001004                                  BNE     64$             ; NOT EQUAL
036020  023737  002004  002014                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
036026  001401                                  BEQ     66$             ; FEC, FEA OK
036030  104015                          64$:    ERROR   15              ; FEC OR FEA ARE BAD
036032                                  66$:

                                                ; CHECK FRACTION PART
036032  023765  001170  000010                  CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
036040  001004                                  BNE     67$             ; NO
036042  023765  001172  000012                  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
036050  001401                                  BEQ     68$             ; ALL WORDS OK
036052  104027                          67$:    ERROR   27              ; NUMBERS NOT EQUAL
036054                                  68$:

                                                ; CHECK UNCHANGED PART
036054  023765  001174  000014                  CMP     $REG2,14(R5)    ; 1ST WORD OF RESULT CHECK?
036062  001004                                  BNE     69$             ; NO
036064  023765  001176  000016                  CMP     $REG3,16(R5)    ; 2ND WORD OF RESULT CHECK?
036072  001401                                  BEQ     70$             ; ALL WORDS OK
036074  104030                          69$:    ERROR   30              ; NUMBERS NOT EQUAL
036076                                  70$:

036076  000207                                  RTS     PC              ; RETURN TO TEST CALLER


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

```
                                        .SBTTL  SUBR TO TEST THE MODD INSTRUCTION, USING 1 ACCUMULATOR

036100                                  MD1DT:
036100  012700  000023                          MOV     #23,R0          ; LOAD $TMP0-22
036104  010501                                 MOV     R5,R1           ;   WITH TEST DATA SETS
036106  012702  001230                         MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
036112  012122                                 MOV     (R1)+,(R2)+     ;
036114  077002                                 SOB     R0,.-2          ;
036116  012737  036124  001114                 MOV     #MD1DL,$LPERR   ; ERROR LOOPING ADDRESS

036124  170011                  MD1DL:  SETD                            ; D MODE
036126  172515                          LDD     (R5),AC1                ; INITIAL AC FLOAT NUMBER
036130  172437  002036                  LDD     PREVAC,AC0              ; AC0 SHOULD NOT CHANGE
036134  170165  000040                  LDFPS   40(R5)                  ; INITIAL FPS

036140  171565  000010          MD1DI:  MODD    10(R5),AC1              ; FRAC[(AC1)*(MEM)]->AC1
                                                                        ;  INT[(AC1)*(MEM)]->LOST

036144  170237  002000                  STFPS   FPS                     ; STORE FPS AFTER
036150  170337  002002                  STST    FEC                     ; STORE FEC/FEA AFTER
036154  174137  001170                  STD     AC1,$REG0               ; STORE FRAC PART
036160  174037  001200                  STD     AC0,$REG4               ; STORE UNCHANGED AC0

036164  023765  002000  000042          CMP     FPS,42(R5)              ; CHECK FPS
036172  001401                          BEQ     65$                     ; FPS IS OK
036174  104010                          ERROR   10                      ; FPS BAD
036176  005765  000044          65$:    TST     44(R5)                  ; DOES FEC/FEA APPLY?
036202  100014                          BPL     66$                     ; NO - SKIP TEST
036204  012737  036140  002014          MOV     #MD1DI,EXPFEA           ; GET EXPECTED FEA
036212  123765  002002  000044          CMPB    FEC,44(R5)              ; COMPARE FEC-S
036220  001004                          BNE     64$                     ; NOT EQUAL
036222  023737  002004  002014          CMP     FEA,EXPFEA              ; COMPARE FEA-S
036230  001401                          BEQ     66$                     ; FEC, FEA OK
036232  104020                  64$:    ERROR   20                      ; FEC OR FEA ARE BAD
036234                          66$:

                                        ; CHECK FRACTION PART OF RESULT
036234  023765  001170  000020          CMP     $REG0,20(R5)            ; 1ST WORD OF RESULT CHECK?
036242  001014                          BNE     67$                     ; NO
036244  023765  001172  000022          CMP     $REG1,22(R5)            ; 2ND WORD OF RESULT CHECK?
036252  001010                          BNE     67$                     ; NO
036254  023765  001174  000024          CMP     $REG2,24(R5)            ; 3RD WORD OF RESULT CHECK?
036262  001004                          BNE     67$                     ; NO
036264  023765  001176  000026          CMP     $REG3,26(R5)            ; 4TH WORD OF RESULT CHECK?
036272  001401                          BEQ     68$                     ; ALL WORDS OK
036274  104031                  67$:    ERROR   31                      ; NUMBERS NOT EQUAL
036276                          68$:

                                        ; CHECK UNCHANGED PART
036276  023765  001200  000030          CMP     $REG4,30(R5)            ; 1ST WORD OF RESULT CHECK?
036304  001014                          BNE     69$                     ; NO
036306  023765  001202  000032          CMP     $REG5,32(R5)            ; 2ND WORD OF RESULT CHECK?
036314  001010                          BNE     69$                     ; NO
036316  023765  001204  000034          CMP     $REG6,34(R5)            ; 3RD WORD OF RESULT CHECK?
036324  001004                          BNE     69$                     ; NO
036326  023765  001206  000036          CMP     $REG7,36(R5)            ; 4TH WORD OF RESULT CHECK?
```

```
9367  036334  001401                    BEQ     70$             ; ALL WORDS OK
9368  036336  104032            69$:    ERROR   32              ; NUMBERS NOT EQUAL
9369  036340                    70$:
9370
9371  036340  000207                    RTS     PC              ; RETURN TO TEST CALLER
```

```
                                        .SBTTL  SUBR TO TEST THE LDCDF INSTRUCTION
                                        LCDFT:
036342                                          MOV     #11,R0          ; LOAD $TMP0-10
036342  012700  000011                          MOV     R5,R1           ;   WITH TEST DATA SETS
036346  010501                                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
036350  012702  001230                          MOV     (R1)+,(R2)+     ;
036354  012122                                  SOB     R0,.-2          ;
036356  077002                                  MOV     #LCDFL,$LPERR   ; ERROR LOOPING ADDRESS
036360  012737  036366  001114
                                        LCDFL:  SETD                    ; D MODE
036366  170011                                  LDF     PREVAC,AC1      ; PREV CONTENTS TO ACC; FOR FEC-14 TEST
036370  172537  002036                          LDFPS   14(R5)          ; INITIAL FPS
036374  170165  000014
                                        LCDFI:  LDCDF   (R5),AC1        ; DTOF[(MEM)]->AC1
036400  177515                                  STFPS   FPS             ; STORE FPS AFTER
036402  170237  002000                          STST    FEC             ; STORE FEC/FEA AFTER
036406  170337  002002                          STF     AC1,$REG0       ; STORE RESULT
036412  174137  001170
                                                CMP     FPS,16(R5)      ; CHECK FPS
036416  023765  002000  000016                  BEQ     65$             ; FPS IS OK
036424  001401                                  ERROR   4               ; FPS BAD
036426  104004                                  TST     20(R5)          ; DOES FEC/FEA APPLY?
036430  005765  000020                  65$:    BPL     66$             ; NO - SKIP TEST
036434  100014                                  MOV     #LCDFI,EXPFEA   ; GET EXPECTED FEA
036436  012737  036400  002014                  CMPB    FEC,20(R5)      ; COMPARE FEC-S
036444  123765  002002  000020                  BNE     64$             ; NOT EQUAL
036452  001004                                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
036454  023737  002004  002014                  BEQ     66$             ; FEC, FEA OK
036462  001401                          64$:    ERROR   14              ; FEC OR FEA ARE BAD
036464  104014                          66$:
036466
                                                CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
036466  023765  001170  000010                  BNE     67$             ; NO
036474  001004                                  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
036476  023765  001172  000012                  BEQ     68$             ; ALL WORDS OK
036504  001401                          67$:    ERROR   33              ; NUMBERS NOT EQUAL
036506  104033                          68$:
036510
                                                RTS     PC              ; RETURN TO TEST CALLER
036510  000207

                                        ;;*****************************************************************
                                        .SBTTL  SUBR TO TEST THE LDCFD INSTRUCTION

                                        LCFDT:
036512                                          MOV     #11,R0          ; LOAD $TMP0-10
036512  012700  000011                          MOV     R5,R1           ;   WITH TEST DATA SETS
036516  010501                                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
036520  012702  001230                          MOV     (R1)+,(R2)+     ;
036524  012122                                  SOB     R0,.-2          ;
036526  077002                                  MOV     #LCFDL,$LPERR   ; ERROR LOOPING ADDRESS
036530  012737  036536  001114
                                        LCFDL:  SETD                    ; D MODE
036536  170011                                  LDD     PREVAC,AC2      ; PREV CONTENTS TO ACC; FOR FEC-14 TEST
036540  172637  002036
```

```
9428  036544  170165  000014                  LDFPS   14(R5)          ; INITIAL FPS
9429
9430  036550  177615                  LCFDI:  LDCFD   (R5),AC2        ; FTOD[(MEM)]->AC2
9431
9432  036552  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
9433  036556  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
9434  036562  174237  001170                  STD     AC2,$REG0       ; STORE RESULT
9435
9436  036566  023765  002000  000016          CMP     FPS,16(R5)      ; CHECK FPS
9437  036574  001401                          BEQ     65$             ; FPS IS OK
9438  036576  104004                          ERROR   4               ; FPS BAD
9439  036600  005765  000020          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
9440  036604  100014                          BPL     66$             ; NO - SKIP TEST
9441  036606  012737  036550  002014          MOV     #LCFDI,EXPFEA   ; GET EXPECTED FEA
9442  036614  123765  002002  000020          CMPB    FEC,20(R5)      ; COMPARE FEC-S
9443  036622  001004                          BNE     64$             ; NOT EQUAL
9444  036624  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
9445  036632  001401                          BEQ     66$             ; FEC, FEA OK
9446  036634  104014                  64$:    ERROR   14              ; FEC OR FEA ARE BAD
9447  036636                          66$:
9448
9449  036636  023765  001170  000004          CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
9450  036644  001014                          BNE     67$             ; NO
9451  036646  023765  001172  000006          CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
9452  036654  001010                          BNE     67$             ; NO
9453  036656  023765  001174  000010          CMP     $REG2,10(R5)    ; 3RD WORD OF RESULT CHECK?
9454  036664  001004                          BNE     67$             ; NO
9455  036666  023765  001176  000012          CMP     $REG3,12(R5)    ; 4TH WORD OF RESULT CHECK?
9456  036674  001401                          BEQ     68$             ; ALL WORDS OK
9457  036676  104034                  67$:    ERROR   34              ; NUMBERS NOT EQUAL
9458  036700                          68$:
9459
9460  036700  000207                          RTS     PC              ; RETURN TO TEST CALLER
9461
```

```
                                        .SBTTL  SUBR TO TEST THE STCDF INSTRUCTION
                                        SCDFT:
036702  012700  000011                          MOV     #11,R0          ; LOAD $TMP0-10
036706  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
036710  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
036714  012122                                  MOV     (R1)+,(R2)+     ;
036716  077002                                  SOB     R0,.-2          ;
036720  012737  036726  001114                  MOV     #SCDFL,$LPERR   ; ERROR LOOPING ADDRESS
                                        SCDFL:  SETD                    ; D MODE
036726  170011                                  LDD     (R5),AC3        ; INITIAL AC FLOAT NUMBER
036730  172715                                  LDFPS   14(R5)          ; INITIAL FPS
036732  170165  000014
                                        SCDFI:  STCDF   AC3,$REG0       ; DTOF[(AC3)]->MEM
036736  176337  001170
036742  170237  002000                          STFPS   FPS             ; STORE FPS AFTER
036746  170337  002002                          STST    FEC             ; STORE FEC/FEA AFTER
036752  023765  002000  000016                  CMP     FPS,16(R5)      ; CHECK FPS
036760  001401                                  BEQ     65$             ; FPS IS OK
036762  104004                                  ERROR   4               ; FPS BAD
036764  005765  000020                  65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
036770  100014                                  BPL     66$             ; NO - SKIP TEST
036772  012737  036736  002014                  MOV     #SCDFI,EXPFEA   ; GET EXPECTED FEA
037000  123765  002002  000020                  CMPB    FEC,20(R5)      ; COMPARE FEC-S
037006  001004                                  BNE     64$             ; NOT EQUAL
037010  023737  002004  002014                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
037016  001401                                  BEQ     66$             ; FEC, FEA OK
037020  104014                          64$:    ERROR   14              ; FEC OR FEA ARE BAD
037022                                  66$:
037022  023765  001170  000010                  CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
037030  001004                                  BNE     67$             ; NO
037032  023765  001172  000012                  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
037040  001401                                  BEQ     68$             ; ALL WORDS OK
037042  104033                          67$:    ERROR   33              ; NUMBERS NOT EQUAL
037044                                  68$:
037044  000207                                  RTS     PC              ; RETURN TO TEST CALLER


                                        ;;*****************************************************************
                                        .SBTTL  SUBR TO TEST THE STCFD INSTRUCTION
037046                                  SCFDT:
037046  012700  000012                          MOV     #12,R0          ; LOAD $TMP0-11
037052  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
037054  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
037060  012122                                  MOV     (R1)+,(R2)+     ;
037062  077002                                  SOB     R0,.-2          ;
037064  012737  037072  001114                  MOV     #SCFDL,$LPERR   ; ERROR LOOPING ADDRESS
                                        SCFDL:  SETD                    ; USE D MODE
037072  170011                                  LDD     (R5),AC0        ; INITIAL F FLOAT NUM, FOLLOW W/JUNK
037074  172415                                  LDFPS   20(R5)          ; INITIAL FPS
037076  170165  000020
```

```
 9518
 9519  037102  176037  001170                  STCFD   AC0,$REG0       ; FTOD[(AC0)]->MEM
 9520
 9521  037106  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 9522
 9523  037112  023765  002000  000022          CMP     FPS,22(R5)      ; CHECK FPS OK
 9524  037120  001401                          BEQ     64$             ; OK, BRANCH
 9525  037122  104005                          ERROR   5               ; FPS BAD
 9526  037124                          64$:
 9527
 9528  037124  023765  001170  000010          CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
 9529  037132  001014                          BNE     65$             ; NO
 9530  037134  023765  001172  000012          CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
 9531  037142  001010                          BNE     65$             ; NO
 9532  037144  023765  001174  000014          CMP     $REG2,14(R5)    ; 3RD WORD OF RESULT CHECK?
 9533  037152  001004                          BNE     65$             ; NO
 9534  037154  023765  001176  000016          CMP     $REG3,16(R5)    ; 4TH WORD OF RESULT CHECK?
 9535  037162  001401                          BEQ     66$             ; ALL WORDS OK
 9536  037164  104035                  65$:    ERROR   35              ; NUMBERS NOT EQUAL
 9537  037166                          66$:
 9538
 9539  037166  000207                          RTS     PC              ; RETURN TO TEST CALLER
```

```
                                        .SBTTL  SUBR TO TEST THE LDCIF INSTRUCTION
                                        
037170                          LCIFT:
037170  012700  000005                  MOV     #5,R0           ; LOAD $TMP0-4
037174  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
037176  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
037202  012122                          MOV     (R1)+,(R2)+     ;
037204  077002                          SOB     R0,.-2          ;
037206  012737  037214  001114          MOV     #LCIFL,$LPERR   ; ERROR LOOPING ADDRESS
                                        
037214  170165  000006          LCIFL:  LDFPS   6(R5)            ; INITIAL FPS
                                        
037220  177215                          LDCIF   (R5),AC2         ; F[(MEM)]->AC2
                                        
037222  170237  002000                  STFPS   FPS              ; STORE FPS AFTER
037226  174237  001170                  STF     AC2,$REG0        ; STORE RESULT
                                        
037232  023765  002000  000010          CMP     FPS,10(R5)       ; CHECK FPS OK
037240  001401                          BEQ     64$              ; OK, BRANCH
037242  104001                          ERROR   1                ; FPS BAD
037244                          64$:
                                        
037244  023765  001170  000002          CMP     $REG0,2(R5)      ; 1ST WORD OF RESULT CHECK?
037252  001004                          BNE     65$              ; NO
037254  023765  001172  000004          CMP     $REG1,4(R5)      ; 2ND WORD OF RESULT CHECK?
037262  001401                          BEQ     66$              ; ALL WORDS OK
037264  104036                  65$:    ERROR   36               ; NUMBERS NOT EQUAL
037266                          66$:
                                        
037266  000207                          RTS     PC               ; RETURN TO TEST CALLER
                                        
                                        
                                        ;;*****************************************************************
                                        .SBTTL  SUBR TO TEST THE LDCID INSTRUCTION
                                        
037270                          LCIDT:
037270  012700  000007                  MOV     #7,R0           ; LOAD $TMP0-6
037274  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
037276  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
037302  012122                          MOV     (R1)+,(R2)+     ;
037304  077002                          SOB     R0,.-2          ;
037306  012737  037314  001114          MOV     #LCIDL,$LPERR   ; ERROR LOOPING ADDRESS
                                        
037314  170165  000012          LCIDL:  LDFPS   12(R5)           ; INITIAL FPS
                                        
037320  177315                          LDCID   (R5),AC3         ; D[(MEM)]->AC3
                                        
037322  170237  002000                  STFPS   FPS              ; STORE FPS AFTER
037326  174337  001170                  STD     AC3,$REG0        ; STORE RESULT
                                        
037332  023765  002000  000014          CMP     FPS,14(R5)       ; CHECK FPS OK
037340  001401                          BEQ     64$              ; OK, BRANCH
037342  104003                          ERROR   3                ; FPS BAD
037344                          64$:
                                        
037344  023765  001170  000002          CMP     $REG0,2(R5)      ; 1ST WORD OF RESULT CHECK?
```

```
9596  037352  001014                        BNE     65$             ; NO
9597  037354  023765  001172  000004        CMP     $REG1,4(R5)     ; 2ND WORD OF RESULT CHECK?
9598  037362  001010                        BNE     65$             ; NO
9599  037364  023765  001174  000006        CMP     $REG2,6(R5)     ; 3RD WORD OF RESULT CHECK?
9600  037372  001004                        BNE     65$             ; NO
9601  037374  023765  001176  000010        CMP     $REG3,10(R5)    ; 4TH WORD OF RESULT CHECK?
9602  037402  001401                        BEQ     66$             ; ALL WORDS OK
9603  037404  104037                65$:    ERROR   37              ; NUMBERS NOT EQUAL
9604  037406                        66$:
9605
9606  037406  000207                        RTS     PC              ; RETURN TO TEST CALLER
9607
9608
9609                                ;;**********************************************************************
9610                                .SBTTL  SUBR TO TEST THE LDCLF INSTRUCTION
9611
9612  037410                        LCLFT:
9613  037410  012700  000006                MOV     #6,R0           ; LOAD $TMP0-5
9614  037414  010501                        MOV     R5,R1           ;   WITH TEST DATA SETS
9615  037416  012702  001230                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
9616  037422  012122                        MOV     (R1)+,(R2)+     ;
9617  037424  077002                        SOB     R0,.-2          ;
9618  037426  012737  037434  001114        MOV     #LCLFL,$LPERR   ; ERROR LOOPING ADDRESS
9619
9620  037434  170165  000010        LCLFL:  LDFPS   10(R5)          ; INITIAL FPS
9621
9622  037440  177015                        LDCLF   (R5),AC0        ; F[(MEM)(MEM)]->AC0
9623
9624  037442  170237  002000                STFPS   FPS             ; STORE FPS AFTER
9625  037446  174037  001170                STF     AC0,$REG0       ; STORE RESULT
9626
9627  037452  023765  002000  000012        CMP     FPS,12(R5)      ; CHECK FPS OK
9628  037460  001401                        BEQ     64$             ; OK, BRANCH
9629  037462  104002                        ERROR   2               ; FPS BAD
9630  037464                        64$:
9631
9632  037464  023765  001170  000004        CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
9633  037472  001004                        BNE     65$             ; NO
9634  037474  023765  001172  000006        CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
9635  037502  001401                        BEQ     66$             ; ALL WORDS OK
9636  037504  104040                65$:    ERROR   40              ; NUMBERS NOT EQUAL
9637  037506                        66$:
9638
9639  037506  000207                        RTS     PC              ; RETURN TO TEST CALLER
9640
9641
9642                                ;;**********************************************************************
9643                                .SBTTL  SUBR TO TEST THE LDCLD INSTRUCTION
9644
9645  037510                        LCLDT:
9646  037510  012700  000010                MOV     #10,R0          ; LOAD $TMP0-7
9647  037514  010501                        MOV     R5,R1           ;   WITH TEST DATA SETS
9648  037516  012702  001230                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
9649  037522  012122                        MOV     (R1)+,(R2)+     ;
9650  037524  077002                        SOB     R0,.-2          ;
9651  037526  012737  037534  001114        MOV     #LCLDL,$LPERR   ; ERROR LOOPING ADDRESS
```

```
 9652
 9653  037534  170165  000014          LCLDL:  LDFPS   14(R5)          ; INITIAL FPS
 9654
 9655  037540  177115                          LDCLD   (R5),AC1         ; D[(MEM)(MEM)]->AC1
 9656
 9657  037542  170237  002000                  STFPS   FPS              ; STORE FPS AFTER
 9658  037546  174137  001170                  STD     AC1,$REG0        ; STORE RESULT
 9659
 9660  037552  023765  002000  000016          CMP     FPS,16(R5)       ; CHECK FPS OK
 9661  037560  001401                          BEQ     64$              ; OK, BRANCH
 9662  037562  104004                          ERROR   4                ; FPS BAD
 9663  037564                          64$:
 9664
 9665  037564  023765  001170  000004          CMP     $REG0,4(R5)      ; 1ST WORD OF RESULT CHECK?
 9666  037572  001014                          BNE     65$              ; NO
 9667  037574  023765  001172  000006          CMP     $REG1,6(R5)      ; 2ND WORD OF RESULT CHECK?
 9668  037602  001010                          BNE     65$              ; NO
 9669  037604  023765  001174  000010          CMP     $REG2,10(R5)     ; 3RD WORD OF RESULT CHECK?
 9670  037612  001004                          BNE     65$              ; NO
 9671  037614  023765  001176  000012          CMP     $REG3,12(R5)     ; 4TH WORD OF RESULT CHECK?
 9672  037622  001401                          BEQ     66$              ; ALL WORDS OK
 9673  037624  104041                  65$:    ERROR   41               ; NUMBERS NOT EQUAL
 9674  037626                          66$:
 9675
 9676  037626  000207                          RTS     PC               ; RETURN TO TEST CALLER
```

```
 9677                                   .SBTTL  SUBR TO TEST THE STCFI INSTRUCTION
 9678
 9679  037630                           SCFIT:
 9680  037630  012700  000006                   MOV     #6,R0           ; LOAD $TMP0-5
 9681  037634  010501                           MOV     R5,R1           ;   WITH TEST DATA SETS
 9682  037636  012702  001230                   MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 9683  037642  012122                           MOV     (R1)+,(R2)+     ;
 9684  037644  077002                           SOB     R0,.-2          ;
 9685  037646  012737  037654  001114           MOV     #SCFIL,$LPERR   ; ERROR LOOPING ADDRESS
 9686
 9687  037654  170001                   SCFIL:  SETF                    ; F MODE
 9688  037656  172715                           LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
 9689  037660  170165  000006                   LDFPS   6(R5)           ; INITIAL FPS
 9690
 9691  037664  175737  001170           SCFII:  STCFI   AC3,$REG0       ; I[(AC3)]->MEM
 9692
 9693  037670  013737  177776  001172           MOV     @#PS,$REG1      ; SAVE CC-S
 9694  037676  170237  002000                   STFPS   FPS             ; STORE FPS AFTER
 9695  037702  170337  002002                   STST    FEC             ; STORE FEC/FEA AFTER
 9696
 9697  037706  023765  002000  000010           CMP     FPS,10(R5)      ; CHECK FPS
 9698  037714  001401                           BEQ     65$             ; FPS IS OK
 9699  037716  104001                           ERROR   1               ; FPS BAD
 9700  037720  005765  000012           65$:    TST     12(R5)          ; DOES FEC/FEA APPLY?
 9701  037724  100014                           BPL     66$             ; NO - SKIP TEST
 9702  037726  012737  037664  002014           MOV     #SCFII,EXPFEA   ; GET EXPECTED FEA
 9703  037734  123765  002002  000012           CMPB    FEC,12(R5)      ; COMPARE FEC-S
 9704  037742  001004                           BNE     64$             ; NOT EQUAL
 9705  037744  023737  002004  002014           CMP     FEA,EXPFEA      ; COMPARE FEA-S
 9706  037752  001401                           BEQ     66$             ; FEC, FEA OK
 9707  037754  104011                   64$:    ERROR   11              ; FEC OR FEA ARE BAD
 9708  037756                           66$:
 9709
 9710  037756  013737  002000  001174           MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
 9711  037764  042737  177760  001172           BIC     #CCONLY,$REG1   ;
 9712  037772  042737  177760  001174           BIC     #CCONLY,$REG2   ;
 9713  040000  023737  001172  001174           CMP     $REG1,$REG2     ; CC-S COPIED?
 9714  040006  001401                           BEQ     67$             ;
 9715  040010  104054                           ERROR   54              ; NOT EQUAL, SIGNAL ERROR
 9716  040012                           67$:
 9717
 9718  040012  023765  001170  000004           CMP     $REG0,4(R5)     ; INTEGER RESULT CHECK?
 9719  040020  001401                           BEQ     68$             ;
 9720  040022  104042                           ERROR   42              ; NOT EQUAL, SIGNAL ERROR
 9721  040024                           68$:
 9722
 9723  040024  000207                           RTS     PC              ; RETURN TO TEST CALLER
 9724
 9725
 9726                                   ;;*****************************************************************
 9727                                   .SBTTL  SUBR TO TEST THE STCDI INSTRUCTION
 9728
 9729  040026                           SCDIT:
 9730  040026  012700  000010                   MOV     #10,R0          ; LOAD $TMP0-7
 9731  040032  010501                           MOV     R5,R1           ;   WITH TEST DATA SETS
 9732  040034  012702  001230                   MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
```

```
9733  040040  012122                          MOV     (R1)+,(R2)+     ;
9734  040042  077002                          SOB     R0,.-2          ;
9735  040044  012737  040052  001114          MOV     #SCDIL,$LPERR   ; ERROR LOOPING ADDRESS
9736
9737  040052  170011                  SCDIL:  SETD                    ; D MODE
9738  040054  172415                          LDD     (R5),AC0        ; INITIAL AC FLOAT NUMBER
9739  040056  170165  000012                  LDFPS   12(R5)          ; INITIAL FPS
9740
9741  040062  175437  001170          SCDII:  STCDI   AC0,$REG0       ; I[(AC0)]->MEM
9742
9743  040066  013737  177776  001172          MOV     @#PS,$REG1      ; SAVE CC-S
9744  040074  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
9745  040100  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
9746
9747  040104  023765  002000  000014          CMP     FPS,14(R5)      ; CHECK FPS
9748  040112  001401                          BEQ     65$             ; FPS IS OK
9749  040114  104003                          ERROR   3               ; FPS BAD
9750  040116  005765  000016          65$:    TST     16(R5)          ; DOES FEC/FEA APPLY?
9751  040122  100014                          BPL     66$             ; NO - SKIP TEST
9752  040124  012737  040062  002014          MOV     #SCDII,EXPFEA   ; GET EXPECTED FEA
9753  040132  123765  002002  000016          CMPB    FEC,16(R5)      ; COMPARE FEC-S
9754  040140  001004                          BNE     64$             ; NOT EQUAL
9755  040142  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
9756  040150  001401                          BEQ     66$             ; FEC, FEA OK
9757  040152  104013                  64$:    ERROR   13              ; FEC OR FEA ARE BAD
9758  040154                          66$:
9759
9760  040154  013737  002000  001174          MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
9761  040162  042737  177760  001172          BIC     #CCONLY,$REG1   ;
9762  040170  042737  177760  001174          BIC     #CCONLY,$REG2   ;
9763  040176  023737  001172  001174          CMP     $REG1,$REG2     ; CC-S COPIED?
9764  040204  001401                          BEQ     67$             ;
9765  040206  104054                          ERROR   54              ; NOT EQUAL, SIGNAL ERROR
9766  040210                          67$:
9767
9768  040210  023765  001170  000010          CMP     $REG0,10(R5)    ; INTEGER RESULT CHECK?
9769  040216  001401                          BEQ     68$             ;
9770  040220  104043                          ERROR   43              ; NOT EQUAL, SIGNAL ERROR
9771  040222                          68$:
9772
9773  040222  000207                          RTS     PC              ; RETURN TO TEST CALLER
9774
9775
9776                                  ;;*****************************************************************
9777                                  .SBTTL  SUBR TO TEST THE STCFL INSTRUCTION
9778
9779  040224                  SCFLT:
9780  040224  012700  000007                  MOV     #7,R0           ; LOAD $TMP0-6
9781  040230  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
9782  040232  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
9783  040236  012122                          MOV     (R1)+,(R2)+     ;
9784  040240  077002                          SOB     R0,.-2          ;
9785  040242  012737  040250  001114          MOV     #SCFLL,$LPERR   ; ERROR LOOPING ADDRESS
9786
9787  040250  170001                  SCFLL:  SETF                    ; F MODE
9788  040252  172515                          LDF     (R5),AC1        ; INITIAL AC FLOAT NUMBER
```

```
 9789  040254  170165  000010                  LDFPS   10(R5)          ; INITIAL FPS
 9790
 9791  040260  175537  001170          SCFLI:  STCFL   AC1,$REG0       ; '.[(AC1)]->MEM
 9792
 9793  040264  013737  177776  001174          MOV     @#PS,$REG2      ; SAVE CC-S
 9794  040272  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 9795  040276  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
 9796
 9797  040302  023765  002000  000012          CMP     FPS,12(R5)      ; CHECK FPS
 9798  040310  001401                          BEQ     65$             ; FPS IS OK
 9799  040312  104002                          ERROR   2               ; FPS BAD
 9800  040314  005765  000014          65$:    TST     14(R5)          ; DOES FEC/FEA APPLY?
 9801  040320  100014                          BPL     66$             ; NO - SKIP TEST
 9802  040322  012737  040260  002014          MOV     #SCFLI,EXPFEA   ; GET EXPECTED FEA
 9803  040330  123765  002002  000014          CMPB    FEC,14(R5)      ; COMPARE FEC-S
 9804  040336  001004                          BNE     64$             ; NOT EQUAL
 9805  040340  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
 9806  040346  001401                          BEQ     66$             ; FEC, FEA OK
 9807  040350  104012                  64$:    ERROR   12              ; FEC OR FEA ARE BAD
 9808  040352                          66$:
 9809
 9810  040352  013737  002000  001176          MOV     FPS,$REG3       ; GET FPS, PS CC BITS ONLY
 9811  040360  042737  177760  001174          BIC     #CCONLY,$REG2   ;
 9812  040366  042737  177760  001176          BIC     #CCONLY,$REG3   ;
 9813  040374  023737  001174  001176          CMP     $REG2,$REG3     ; CC-S COPIED?
 9814  040402  001401                          BEQ     67$             ;
 9815  040404  104055                          ERROR   55              ; NOT EQUAL, SIGNAL ERROR
 9816  040406                          67$:
 9817
 9818  040406  023765  001170  000004          CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
 9819  040414  001004                          BNE     68$             ; NO
 9820  040416  023765  001172  000006          CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
 9821  040424  001401                          BEQ     69$             ; ALL WORDS OK
 9822  040426  104044                  68$:    ERROR   44              ; NUMBERS NOT EQUAL
 9823  040430                          69$:
 9824
 9825  040430  000207                          RTS     PC              ; RETURN TO TEST CALLER
 9826
 9827
 9828                                  ;;*****************************************************************
 9829                                  .SBTTL  SUBR TO TEST THE STCDL INSTRUCTION
 9830
 9831  040432                          SCDLT:
 9832  040432  012700  000011                  MOV     #11,R0          ; LOAD $TMP0-10
 9833  040436  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
 9834  040440  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 9835  040444  012122                          MOV     (R1)+,(R2)+     ;
 9836  040446  077002                          SOB     R0,.-2          ;
 9837  040450  012737  040456  001114          MOV     #SCDLL,$LPERR   ; ERROR LOOPING ADDRESS
 9838
 9839  040456  170011                  SCDLL:  SETD                    ; D MODE
 9840  040460  172615                          LDD     (R5),AC2        ; INITIAL AC FLOAT NUMBER
 9841  040462  170165  000014                  LDFPS   14(R5)          ; INITIAL FPS
 9842
 9843  040466  175637  001170          SCDLI:  STCDL   AC2,$REG0       ; L[(AC2)]->MEM,MEM
 9844
```

```
 9845  040472  013737  177776  001174          MOV     @#PS,$REG2      ; SAVE CC-S
 9846  040500  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 9847  040504  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
 9848
 9849  040510  023765  002000  000016          CMP     FPS,16(R5)      ; CHECK FPS
 9850  040516  001401                          BEQ     65$             ; FPS IS OK
 9851  040520  104004                          ERROR   4               ; FPS BAD
 9852  040522  005765  000020          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
 9853  040526  100014                          BPL     66$             ; NO - SKIP TEST
 9854  040530  012737  040466  002014          MOV     #SCDLI,EXPFEA   ; GET EXPECTED FEA
 9855  040536  123765  002002  000020          CMPB    FEC,20(R5)      ; COMPARE FEC-S
 9856  040544  001004                          BNE     64$             ; NOT EQUAL
 9857  040546  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
 9858  040554  001401                          BEQ     66$             ; FEC, FEA OK
 9859  040556  104014                  64$:    ERROR   14              ; FEC OR FEA ARE BAD
 9860  040560                          66$:
 9861
 9862  040560  013737  002000  001176          MOV     FPS,$REG3       ; GET FPS, PS CC BITS ONLY
 9863  040566  042737  177760  001174          BIC     #CCONLY,$REG2   ;
 9864  040574  042737  177760  001176          BIC     #CCONLY,$REG3   ;
 9865  040602  023737  001174  001176          CMP     $REG2,$REG3     ; CC-S COPIED?
 9866  040610  001401                          BEQ     67$             ;
 9867  040612  104055                          ERROR   55              ; NOT EQUAL, SIGNAL ERROR
 9868  040614                          67$:
 9869
 9870  040614  023765  001170  000010          CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
 9871  040622  001004                          BNE     68$             ; NO
 9872  040624  023765  001172  000012          CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
 9873  040632  001401                          BEQ     69$             ; ALL WORDS OK
 9874  040634  104045                  68$:    ERROR   45              ; NUMBERS NOT EQUAL
 9875  040636                          69$:
 9876
 9877  040636  000207                          RTS     PC              ; RETURN TO TEST CALLER
```

```
                                        .SBTTL  SUBR TO TEST THE LDEXP INSTRUCTION, F MODE
                                        LEXFT:
040640                                          MOV     #10,R0          ; LOAD $TMP0-7
040640  012700  000010                          MOV     R5,R1           ;   WITH TEST DATA SETS
040644  010501                                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
040646  012702  001230                          MOV     (R1)+,(R2)+     ;
040652  012122                                  SOB     R0,.-2          ;
040654  077002                                  MOV     #LEXFL,$LPERR   ; ERROR LOOPING ADDRESS
040656  012737  040664  001114
                                        LEXFL:  SETF                    ; F MODE
040664  170001                                  LDF     (R5),AC1        ; INITIAL FLOAT NUMBER
040666  172515                                  LDFPS   12(R5)          ; INITIAL FPS
040670  170165  000012
                                        LEXFI:  LDEXP   10(R5),AC1      ; EXP: MEM -> AC1
040674  176565  000010
                                                STFPS   FPS             ; STORE FPS AFTER
040700  170237  002000                          STST    FEC             ; STORE FEC/FEA AFTER
040704  170337  002002
                                                CMP     FPS,14(R5)      ; CHECK FPS
040710  023765  002000  000014                  BEQ     65$             ; FPS IS OK
040716  001401                                  ERROR   3               ; FPS BAD
040720  104003                          65$:    TST     16(R5)          ; DOES FEC/FEA APPLY?
040722  005765  000016                          BPL     66$             ; NO - SKIP TEST
040726  100014                                  MOV     #LEXFI,EXPFEA   ; GET EXPECTED FEA
040730  012737  040674  002014                  CMPB    FEC,16(R5)      ; COMPARE FEC-S
040736  123765  002002  000016                  BNE     64$             ; NOT EQUAL
040744  001004                                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
040746  023737  002004  002014                  BEQ     66$             ; FEC, FEA OK
040754  001401                          64$:    ERROR   13              ; FEC OR FEA ARE BAD
040756  104013                          66$:
040760
                                                STF     AC1,$REG0       ; STORE RESULTANT FLOAT NUMBER
040760  174137  001170                          CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
040764  023765  001170  000004                  BNE     67$             ; NO
040772  001004                                  CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
040774  023765  001172  000006                  BEQ     68$             ; ALL WORDS OK
041002  001401                          67$:    ERROR   46              ; NUMBERS NOT EQUAL
041004  104046                          68$:
041006
041006  000207                                  RTS     PC              ; RETURN TO TEST CALLER

                                        ;;*****************************************************************
                                        .SBTTL  SUBR TO TEST THE LDEXP INSTRUCTION, D MODE

041010                                  LEXDT:
041010  012700  000014                          MOV     #14,R0          ; LOAD $TMP0-13
041014  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
041016  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
041022  012122                                  MOV     (R1)+,(R2)+     ;
041024  077002                                  SOB     R0,.-2          ;
041026  012737  041034  001114                  MOV     #LEXDL,$LPERR   ; ERROR LOOPING ADDRESS

041034  170011                          LEXDL:  SETD                    ; D MODE
041036  172415                                  LDD     (R5),AC0        ; INITIAL FLOAT NUMBER
041040  170165  000022                          LDFPS   22(R5)          ; INITIAL FPS
```

```
9934
9935  041044  176465  000020          LEXDI:  LDEXP   20(R5),AC0        ; EXP: MEM -> AC0
9936
9937  041050  170237  002000                  STFPS   FPS                ; STORE FPS AFTER
9938  041054  170337  002002                  STST    FEC                ; STORE FEC/FEA AFTER
9939
9940  041060  023765  002000  000024          CMP     FPS,24(R5)         ; CHECK FPS
9941  041066  001401                          BEQ     65$                ; FPS IS OK
9942  041070  104006                          ERROR   6                  ; FPS BAD
9943  041072  005765  000026          65$:    TST     26(R5)             ; DOES FEC/FEA APPLY?
9944  041076  100014                          BPL     66$                ; NO - SKIP TEST
9945  041100  012737  041044  002014          MOV     #LEXDI,EXPFEA      ; GET EXPECTED FEA
9946  041106  123765  002002  000026          CMPB    FEC,26(R5)         ; COMPARE FEC-S
9947  041114  001004                          BNE     64$                ; NOT EQUAL
9948  041116  023737  002004  002014          CMP     FEA,EXPFEA         ; COMPARE FEA-S
9949  041124  001401                          BEQ     66$                ; FEC, FEA OK
9950  041126  104016                  64$:    ERROR   16                 ; FEC OR FEA ARE BAD
9951  041130                          66$:
9952
9953  041130  174037  001170                  STD     AC0,$REG0          ; STORE RESULTANT FLOAT NUMBER
9954  041134  023765  001170  000010          CMP     $REG0,10(R5)       ; 1ST WORD OF RESULT CHECK?
9955  041142  001014                          BNE     67$                ; NO
9956  041144  023765  001172  000012          CMP     $REG1,12(R5)       ; 2ND WORD OF RESULT CHECK?
9957  041152  001010                          BNE     67$                ; NO
9958  041154  023765  001174  000014          CMP     $REG2,14(R5)       ; 3RD WORD OF RESULT CHECK?
9959  041162  001004                          BNE     67$                ; NO
9960  041164  023765  001176  000016          CMP     $REG3,16(R5)       ; 4TH WORD OF RESULT CHECK?
9961  041172  001401                          BEQ     68$                ; ALL WORDS OK
9962  041174  104047                  67$:    ERROR   47                 ; NUMBERS NOT EQUAL
9963  041176                          68$:
9964
9965  041176  000207                          RTS     PC                 ; RETURN TO TEST CALLER
9966
```

```
 9967                                           .SBTTL  SUBR TO TEST THE STEXP INSTRUCTION, F MODE
 9968
 9969  041200                                   SEXFT:
 9970  041200  012700  000005                          MOV     #5,R0           ; LOAD $TMP0-4
 9971  041204  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
 9972  041206  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 9973  041212  012122                                  MOV     (R1)+,(R2)+     ;
 9974  041214  077002                                  SOB     R0,.-2          ;
 9975  041216  012737  041224  001114                  MOV     #SEXFL,$LPERR   ; ERROR LOOPING ADDRESS
 9976
 9977  041224  170001                           SEXFL: SETF                    ; F MODE
 9978  041226  172615                                  LDF     (R5),AC2        ; INITIAL FLOAT NUMBER
 9979  041230  170165  000006                          LDFPS   6(R5)           ; INITIAL FPS
 9980
 9981  041234  175237  001170                  SEXFI: STEXP   AC2,$REG0       ; EXP: AC2 -> MEM
 9982
 9983  041240  013737  177776  001172                  MOV     @#PS,$REG1      ; GET PS RIGHT AWAY, FOR CC BITS
 9984  041246  170237  002000                          STFPS   FPS             ; STORE FPS AFTER
 9985
 9986  041252  023765  002000  000010                  CMP     FPS,10(R5)      ; CHECK FPS OK
 9987  041260  001401                                  BEQ     64$             ; OK, BRANCH
 9988  041262  104001                                  ERROR   1               ; FPS BAD
 9989  041264                                   64$:
 9990
 9991  041264  013737  002000  001174                  MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
 9992  041272  042737  177760  001172                  BIC     #CCONLY,$REG1   ;
 9993  041300  042737  177760  001174                  BIC     #CCONLY,$REG2   ;
 9994  041306  023737  001172  001174                  CMP     $REG1,$REG2     ; CC-S COPIED?
 9995  041314  001401                                  BEQ     65$             ;
 9996  041316  104054                                  ERROR   54              ; NOT EQUAL, SIGNAL ERROR
 9997  041320                                   65$:
 9998
 9999  041320  023765  001170  000004                  CMP     $REG0,4(R5)     ; EXP CHECK?
10000  041326  001401                                  BEQ     66$             ;
10001  041330  104050                                  ERROR   50              ; NOT EQUAL, SIGNAL ERROR
10002  041332                                   66$:
10003
10004  041332  000207                                  RTS     PC              ; RETURN TO TEST CALLER
10005
10006                                           ;;*****************************************************************
10007                                           .SBTTL  SUBR TO TEST THE STEXP INSTRUCTION, D MODE
10008
10009  041334                                   SEXDT:
10010  041334  012700  000007                          MOV     #7,R0           ; LOAD $TMP0-6
10011  041340  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
10012  041342  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
10013  041346  012122                                  MOV     (R1)+,(R2)+     ;
10014  041350  077002                                  SOB     R0,.-2          ;
10015  041352  012737  041360  001114                  MOV     #SEXDL,$LPERR   ; ERROR LOOPING ADDRESS
10016
10017  041360  170011                           SEXDL: SETD                    ; D MODE
10018  041362  172715                                  LDD     (R5),AC3        ; INITIAL FLOAT NUMBER
10019  041364  170165  000012                          LDFPS   12(R5)          ; INITIAL FPS
10020
10021  041370  175337  001170                  SEXDI: STEXP   AC3,$REG0       ; EXP: AC3 -> MEM
10022
```

```
10023  041374  013737  177776  001172          MOV     @#PS,$REG1      ; GET PS RIGHT AWAY
10024  041402  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
10025
10026  041406  023765  002000  000014          CMP     FPS,14(R5)      ; CHECK FPS OK
10027  041414  001401                          BEQ     64$             ; OK, BRANCH
10028  041416  104003                          ERROR   3               ; FPS BAD
10029  041420                          64$:
10030
10031  041420  013737  002000  001174          MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
10032  041426  042737  177760  001172          BIC     #CCONLY,$REG1   ;
10033  041434  042737  177760  001174          BIC     #CCONLY,$REG2   ;
10034  041442  023737  001172  001174          CMP     $REG1,$REG2     ; CC-S COPIED?
10035  041450  001401                          BEQ     65$             ;
10036  041452  104054                          ERROR   54              ; NOT EQUAL, SIGNAL ERROR
10037  041454                          65$:
10038
10039  041454  023765  001170  000010          CMP     $REG0,10(R5)    ; EXP CHECK?
10040  041462  001401                          BEQ     66$             ;
10041  041464  104051                          ERROR   51              ; NOT EQUAL, SIGNAL ERROR
10042  041466                          66$:
10043
10044  041466  000207                          RTS     PC              ; RETURN TO TEST CALLER
```

```
10045                                   .SBTTL  FPP UNEXPECTED TRAP CATCHER
10046
10047  041470  010637  002012  FPPILT: MOV     SP,FPPOSP       ; SP AFTER TRAP
10048  041474  012637  002006          MOV     (SP)+,FPPOPC    ; POP OLD PC FOR DISPLAY
10049  041500  012637  002010          MOV     (SP)+,FPPOPS    ; POP OLD PS FOR DISPLAY
10050  041504  170237  002000          STFPS   FPS             ; GET FPS
10051  041510  170337  002002          STST    FEC             ; GET FEC/FEA
10052  041514  104056                  ERROR   56              ; SIGNAL UNEXPECTED FPP TRAP
10053  041516  013746  002010          MOV     FPPOPS,-(SP)    ; PUSH PS
10054  041522  013746  002006          MOV     FPPOPC,-(SP)    ; PUSH PC
10055  041526  000002                  RTI                     ; CONTINUE,  RECOVER AT LAST TRAP ONLY
```

```
                                .SBTTL  SCOPE HANDLER ROUTINE

                                ;;*****************************************************************
                                ;*THIS ROUTINE CONTROLS THE LOOPING OF SUBTESTS. IT WILL INCREMENT
                                ;*AND LOAD THE TEST NUMBER($TSTNM) INTO THE DISPLAY REG.(DISPLAY<15:0>)
                                ;*THE SWITCH OPTIONS PROVIDED BY THIS ROUTINE ARE:
                                ;*SW14=1         LOOP ON TEST
                                ;*SW11=1         INHIBIT ITERATIONS
                                ;*SW09=1         LOOP ON ERROR
                                ;*SW08=1         LOOP ON TEST IN "$LPTST"
                                ;*CALL
                                ;*      SCOPE           ;;SCOPE=IOT

041530                          $SCOPE:
041530                          64$:
041530  032777  040000  137410  1$:     BIT     #BIT14,@SWR     ;;LOOP ON PRESENT TEST?
041536  001114                          BNE     $OVER           ;;YES IF SW14=1
                                ;#####START OF CODE FOR THE XOR TESTER#####
041540  000416                  $XTSTR: BR      6$              ;;IF RUNNING ON THE "XOR" TESTER CHANGE
                                                                ;;THIS INSTRUCTION TO A "NOP" (NOP=240)
041542  013746  000004                  MOV     @#ERRVEC,-(SP)  ;;SAVE THE CONTENTS OF THE ERROR VECTOR
041546  012737  041566  000004          MOV     #5$,@#ERRVEC    ;;SET FOR TIMEOUT
041554  005737  177060                  TST     @#177060        ;;TIME OUT ON XOR?
041560  012637  000004                  MOV     (SP)+,@#ERRVEC  ;;RESTORE THE ERROR VECTOR
041564  000463                          BR      $SVLAD          ;;GO TO THE NEXT TEST
041566  022626                  5$:     CMP     (SP)+,(SP)+     ;;CLEAR THE STACK AFTER A TIME OUT
041570  012637  000004                  MOV     (SP)+,@#ERRVEC  ;;RESTORE THE ERROR VECTOR
041574  000423                          BR      7$              ;;LOOP ON THE PRESENT TEST
041576                          6$:;#####END OF CODE FOR THE XOR TESTER#####
041576  032777  000400  137342          BIT     #BIT08,@SWR     ;;LOOP ON SPEC. TEST?
041604  001404                          BEQ     2$              ;;BR IF NO
041606  023737  001112  001102          CMP     $LPTST,$TSTNM   ;;ON THE RIGHT TEST?
041614  001465                          BEQ     $OVER           ;;BR IF YES
041616  005737  001104          2$:     TST     $ERFLG          ;;HAS AN ERROR OCCURRED?
041622  001421                          BEQ     3$              ;;BR IF NO
041624  023737  001122  001104          CMP     $ERMAX,$ERFLG   ;;MAX. ERRORS FOR THIS TEST OCCURRED?
041632  101015                          BHI     3$              ;;BR IF NO
041634  032777  001000  137304          BIT     #BIT09,@SWR     ;;LOOP ON ERROR?
041642  001404                          BEQ     4$              ;;BR IF NO
041644  013737  001114  001110  7$:     MOV     $LPERR,$LPADR   ;;SET LOOP ADDRESS TO LAST SCOPE
041652  000446                          BR      $OVER
041654  005037  001104          4$:     CLR     $ERFLG          ;;ZERO THE ERROR FLAG
041660  005037  001310                  CLR     $TIMES          ;;CLEAR THE NUMBER OF ITERATIONS TO MAKE
041664  000415                          BR      1$              ;;ESCAPE TO THE NEXT TEST
041666  032777  004000  137252  3$:     BIT     #BIT11,@SWR     ;;INHIBIT ITERATIONS?
041674  001011                          BNE     1$              ;;BR IF YES
041676  005737  001332                  TST     $PASS           ;;IF FIRST PASS OF PROGRAM
041702  001406                          BEQ     1$              ;;      INHIBIT ITERATIONS
041704  005237  001106                  INC     $ICNT           ;;INCREMENT ITERATION COUNT
041710  023737  001310  001106          CMP     $TIMES,$ICNT    ;;CHECK THE NUMBER OF ITERATIONS MADE
041716  002024                          BGE     $OVER           ;;BR IF MORE ITERATION REQUIRED
041720  012737  000001  001106  1$:     MOV     #1,$ICNT        ;;REINITIALIZE THE ITERATION COUNTER
041726  013737  042004  001310          MOV     $MXCNT,$TIMES   ;;SET NUMBER OF ITERATIONS TO DO
041734  005237  001102          $SVLAD: INC     $TSTNM          ;;COUNT TEST NUMBERS
041740  013737  001102  001330          MOV     $TSTNM,$TESTN   ;;SET TEST NUMBER IN APT MAILBOX
041746  011637  001110                  MOV     (SP),$LPADR     ;;SAVE SCOPE LOOP ADDRESS
```

```
 10112  041752  011637  001114                  MOV     (SP),$LPERR     ;;SAVE ERROR LOOP ADDRESS
 10113  041756  005037  001312                  CLR     $ESCAPE         ;;CLEAR THE ESCAPE FROM ERROR ADDRESS
 10114  041762  012737  000001  001122          MOV     #1,$ERMAX       ;;ONLY ALLOW ONE(1) ERROR ON NEXT TEST
 10115  041770  013777  001102  137152  $OVER:  MOV     $TSTNM,@DISPLAY ;;DISPLAY TEST NUMBER
 10116  041776  013716  001110                  MOV     $LPADR,(SP)     ;;FUDGE RETURN ADDRESS
 10117  042002  000002                          RTI                     ;;FIXES PS
 10118  042004  003720                  $MXCNT: 2000.                   ;;MAX. NUMBER OF ITERATIONS
```

```
                                .SBTTL  ERROR HANDLER ROUTINE

                                ;;*****************************************************************
                                ;*THIS ROUTINE WILL INCREMENT THE ERROR FLAG AND THE ERROR COUNT,
                                ;*SAVE THE ERROR ITEM NUMBER AND THE ADDRESS OF THE ERROR CALL
                                ;*AND GO TO $TYPERR ON ERROR
                                ;*THE SWITCH OPTIONS PROVIDED BY THIS ROUTINE ARE:
                                ;*SW15=1         HALT ON ERROR
                                ;*SW13=1         INHIBIT ERROR TYPEOUTS
                                ;*SW10=1         BELL ON ERROR
                                ;*SW09=1         LOOP ON ERROR
                                ;*CALL
                                ;*      ERROR   N       ;;ERROR=EMT AND N=ERROR ITEM NUMBER

042006                          $ERROR:
042006  010037  002016                  MOV     R0,EREG0        ; DISPLAY R0
042012  010137  002020                  MOV     R1,EREG1        ;         R1
042016  010237  002022                  MOV     R2,EREG2        ;         R2
042022  010337  002024                  MOV     R3,EREG3        ;         R3
042026  010437  002026                  MOV     R4,EREG4        ;         R4
042032  010537  002030                  MOV     R5,EREG5        ;         R5
042036  010637  002032                  MOV     R6,EREG6        ; GET R6(SP) BEFORE TRAP
042042  062737  000004  002032          ADD     #4,EREG6        ;
042050  011637  002034                  MOV     (SP),EREG7      ; PC -> ERROR CALL INSTR
042054  005237  001104          7$:     INC     $ERFLG          ;;SET THE ERROR FLAG
042060  001775                        BEQ     7$              ;;DON'T LET THE FLAG GO TO ZERO
042062  013777  001102  137060        MOV     $TSTNM,@DISPLAY ;;DISPLAY TEST NUMBER
042070  032777  002000  137050        BIT     #BIT10,@SWR     ;;BELL ON ERROR?
042076  001402                        BEQ     1$              ;;NO - SKIP
042100  104401  001314                TYPE    ,$BELL          ;;RING BELL
042104  005237  001116          1$:     INC     $ERTTL          ;;COUNT THE NUMBER OF ERRORS
042110  011637  001124                  MOV     (SP),$ERRPC     ;;GET ADDRESS OF ERROR INSTRUCTION
042114  162737  000002  001124        SUB     #2,$ERRPC
042122  117737  136776  001120        MOVB    @$ERRPC,$ITEMB  ;;STRIP AND SAVE THE ERROR ITEM CODE
042130  032777  020000  137010        BIT     #BIT13,@SWR     ;;SKIP TYPEOUT IF SET
042136  001004                        BNE     20$             ;;SKIP TYPEOUTS
042140  004737  042250                JSR     PC,$TYPERR      ;;GO TO USER ERROR ROUTINE
042144  104401  001321                TYPE    ,$CRLF
042150                          20$:
042150  122737  000001  001344        CMPB    #APTENV,$ENV    ;;RUNNING IN APT MODE
042156  001007                        BNE     2$              ;;NO,SKIP APT ERROR REPORT
042160  113737  001120  042172        MOVB    $ITEMB,21$      ;;SET ITEM NUMBER AS ERROR NUMBER
042166  004737  042764                JSR     PC,$ATY4        ;;REPORT FATAL ERROR TO APT
042172     000                  21$:    .BYTE   0
042173     000                          .BYTE   0
042174  000777                  22$:    BR      22$             ;;APT ERROR LOOP
042176  005777  136744          2$:     TST     @SWR            ;;HALT ON ERROR
042202  100001                        BPL     3$              ;;SKIP IF CONTINUE
042204  000000                        HALT                    ;;HALT ON ERROR!
042206  032777  001000  136732  3$:     BIT     #BIT09,@SWR     ;;LOOP ON ERROR SWITCH SET?
042214  001402                        BEQ     4$              ;;BR IF NO
042216  013716  001114                MOV     $LPERR,(SP)     ;;FUDGE RETURN FOR LOOPING
042222  005737  001312          4$:     TST     $ESCAPE         ;;CHECK FOR AN ESCAPE ADDRESS
042226  001402                        BEQ     5$              ;;BR IF NONE
042230  013716  001312                MOV     $ESCAPE,(SP)    ;;FUDGE RETURN ADDRESS FOR ESCAPE
042234                          5$:
```

```
10175  042234  022737  033062  000042          CMP     #$ENDAD,@#42    ;;ACT-11 AUTO-ACCEPT?
10176  042242  001001                          BNE     6$              ;;BRANCH IF NO
10177  042244  000000                          HALT                    ;;YES
10178  042246                          6$:
10179  042246  000002                  64$:    RTI                     ;RETURN
```

```
10180                                   ;;*****************************************************************
10181
10182                                   .SBTTL  ERROR MESSAGE TYPEOUT ROUTINE (MODIFIED SYSMAC)
10183
10184                                   ;*THIS ROUTINE USES THE "ITEM CONTROL BYTE" ($ITEMB) TO DETERMINE WHICH
10185                                   ;*ERROR IS TO BE REPORTED.  IT THEN OBTAINS, FROM THE "ERROR TABLE",
10186                                   ;*($ERRTB) THE ERROR MESSAGE, DATA HEADER, AND DATA VALUES TO PRINT.
10187                                   ;*THIS ROUTINE IS IDENTICAL TO THE SYSMAC ROUTINE $ERRTYP, EXCEPT THIS
10188                                   ;*ROUTINE PUTS A <HT> BETWEEN OCTAL TYPED DATA VALUES, SO THAT EACH
10189                                   ;*VALUE STARTS AT A HORIZONTAL TAB STOP.  ALSO, THE DATA FORMAT
10190                                   ;*POINTER HAS BEEN ELIMINATED FROM THE ERROR VECTOR.  THIS ROUTINE
10191                                   ;*ALSO ALWAYS PRINTS $TESTN AND $ERRPC AS THE FIRST TWO DATA ELEMENTS
10192                                   ;*(WITH APPROPRIATE HEADERS).
10193
10194  042250                           $TYPERR:
10195  042250  104401                          TYPE                    ; TYPE "HOT" OR "WARM"
10196  042252  001321                  HOTWRM: .WORD   $CRLF            ; PTR TO MESSAGE
10197  042254  010046                          MOV     R0,-(SP)        ; SAVE R0
10198  042256  010146                          MOV     R1,-(SP)        ; SAVE R1
10199  042260  005000                          CLR     R0              ; PICKUP ITEM INDEX
10200  042262  153700  001120                  BISB    @#$ITEMB,R0     ;
10201  042266  001004                          BNE     1$              ; IF ITEM NUMBER FROM ERROR 0,
10202                                                                   ;   JUST TYPE PC OF ERROR
10203  042270  013746  001124                  MOV     $ERRPC,-(SP)    ; GET ERROR PC FOR TYPEOUT
10204  042274  104402                          TYPOC                   ; TYPE OCTAL, ALL DIGITS
10205  042276  000452                          BR      7$              ; EXIT
10206  042300  005300                  1$:     DEC     R0              ; ADJUST ERROR # FOR TABLE INDEX
10207  042302  006300                          ASL     R0              ;   OF 6 BYTES/ENTRY
10208  042304  010001                          MOV     R0,R1           ;
10209  042306  006300                          ASL     R0              ;
10210  042310  060100                          ADD     R1,R0           ;
10211  042312  062700  001354                  ADD     #$ERRTB,R0      ; FORM TABLE PTR
10212  042316  012037  042326                  MOV     (R0)+,2$        ; PICKUP "ERROR MESSAGE" PTR
10213  042322  001404                          BEQ     3$              ; SKIP TYPEOUT IF NULL
10214  042324  104401                          TYPE                    ; TYPE "ERROR MESSAGE"
10215  042326  000000                  2$:     .WORD   0               ; "ERROR MESSAGE" PTR HERE
10216  042330  104401  001321                  TYPE    ,$CRLF          ; CR & LF
10217  042334  104401  042444          3$:     TYPE    ,11$            ; "TEST #    ERR PC" HEADER
10218  042340  012037  042350                  MOV     (R0)+,4$        ; PICKUP "DATA HEADER" PTR
10219  042344  001402                          BEQ     5$              ; SKIP TYPEOUT IF NULL
10220  042346  104401                          TYPE                    ; TYPE "DATA HEADER"
10221  042350  000000                  4$:     .WORD   0               ; "DATA HEADER" PTR HERE
10222  042352  104401  001321          5$:     TYPE    ,$CRLF          ; CR & LF
10223  042356  017746  000054                  MOV     @8$,-(SP)       ; ($TESTN)
10224  042362  104402                          TYPOC                   ; OCTAL W/ LEADING ZEROS
10225  042364  104401  042442                  TYPE    ,10$            ; <HT>
10226  042370  017746  000044                  MOV     @9$,-(SP)       ; ($ERRPC)
10227  042374  104402                          TYPOC                   ; OCTAL W/ LEADING ZEROS
10228  042376  104401  042442                  TYPE    ,10$            ; <HT>
10229  042402  011000                          MOV     (R0),R0         ; PICKUP "DATA TABLE" PTR
10230  042404  001407                          BEQ     7$              ; EXIT IF NULL
10231  042406  013046                  6$:     MOV     @(R0)+,-(SP)    ; SAVE ... FOR TYPEOUT
10232  042410  104402                          TYPOC                   ; TYPE OCTAL, ALL DIGITS
10233  042412  005710                          TST     (R0)            ; ANOTHER NUMBER ?
10234  042414  001403                          BEQ     7$              ; NO - EXIT
10235  042416  104401  042442                  TYPE    ,10$            ; TAB BETWEEN ELEMENTS
```

```
10236  042422  000771                        BR      6$              ; LOOP ON DATA TABLE VECTOR
10237  042424  012601                7$:     MOV     (SP)+,R1        ; RESTORE R1
10238  042426  012600                        MOV     (SP)+,R0        ; RESTORE R0
10239  042430  104401  001321                TYPE    ,$CRLF          ; CR & LF
10240  042434  000207                        RTS     PC              ; RETURN
10241  042436  001330                8$:     .WORD   $TESTN          ;
10242  042440  001124                9$:     .WORD   $ERRPC          ;
10243  042442  000011                10$:    .ASCIZ  <11>            ; <HT>
10244  042444  042524  052123  021440 11$:    .ASCIZ  "TEST # ERR PC "
10245  042452  042411  051122  050040
10246  042460  004503     000
10247           042464                .EVEN
```

```
                                        .SBTTL  TYPE ROUTINE

                                        ;;*****************************************************************
                                        ;*ROUTINE TO TYPE ASCIZ MESSAGE. MESSAGE MUST TERMINATE WITH A 0 BYTE.
                                        ;*THE ROUTINE WILL INSERT A NUMBER OF NULL CHARACTERS AFTER A LINE FEED.
                                        ;*NOTE1:         $NULL CONTAINS THE CHARACTER TO BE USED AS THE FILLER CHARACTER.
                                        ;*NOTE2:         $FILLS CONTAINS THE NUMBER OF FILLER CHARACTERS REQUIRED.
                                        ;*NOTE3:         $FILLC CONTAINS THE CHARACTER TO FILL AFTER.
                                        ;*
                                        ;*CALL:
                                        ;*1) USING A TRAP INSTRUCTION
                                        ;*       TYPE    ,MESADR         ;;MESADR IS FIRST ADDRESS OF AN ASCIZ STRING
                                        ;*OR
                                        ;*       TYPE
                                        ;*       MESADR
                                        ;*

042464  105737  001165          $TYPE:  TSTB    $TPFLG          ;;IS THERE A TERMINAL?
042470  100002                          BPL     1$              ;;BR IF YES
042472  000000                          HALT                    ;;HALT HERE IF NO TERMINAL
042474  000430                          BR      3$              ;;LEAVE
042476  010046                  1$:     MOV     R0,-(SP)        ;;SAVE R0
042500  017600  000002                  MOV     @2(SP),R0       ;;GET ADDRESS OF ASCIZ STRING
042504  122737  000001  001344          CMPB    #APTENV,$ENV    ;;RUNNING IN APT MODE
042512  001011                          BNE     62$             ;;NO,GO CHECK FOR APT CONSOLE
042514  132737  000010  001345          BITB    #APTSPOOL,$ENVM ;;SPOOL MESSAGE TO APT
042522  001405                          BEQ     62$             ;;NO,GO CHECK FOR CONSOLE
042524  010037  042534                  MOV     R0,61$          ;;SETUP MESSAGE ADDRESS FOR APT
042530  004737  042754                  JSR     PC,$ATY3        ;;SPOOL MESSAGE TO APT
042534  000000                  61$:    .WORD   0               ;;MESSAGE ADDRESS
042536  132737  000040  001345  62$:    BITB    #APTCSUP,$ENVM  ;;APT CONSOLE SUPPRESSED
042544  001003                          BNE     60$             ;;YES,SKIP TYPE OUT
042546  112046                  2$:     MOVB    (R0)+,-(SP)     ;;PUSH CHARACTER TO BE TYPED ONTO STACK
042550  001005                          BNE     4$              ;;BR IF IT ISN'T THE TERMINATOR
042552  005726                          TST     (SP)+           ;;IF TERMINATOR POP IT OFF THE STACK
042554  012600                  60$:    MOV     (SP)+,R0        ;;RESTORE R0
042556  062716  000002          3$:     ADD     #2,(SP)         ;;ADJUST RETURN PC
042562  000002                          RTI                     ;;RETURN
042564  122716  000011          4$:     CMPB    #HT,(SP)        ;;BRANCH IF <HT>
042570  001430                          BEQ     8$
042572  122716  000200                  CMPB    #CRLF,(SP)      ;;BRANCH IF NOT <CRLF>
042576  001006                          BNE     5$
042600  005726                          TST     (SP)+           ;;POP  <CR><LF> EQUIV
042602  104401                          TYPE                    ;;TYPE A CR AND LF
042604  001321                          $CRLF
042606  105037  042742                  CLRB    $CHARCNT        ;;CLEAR CHARACTER COUNT
042612  000755                          BR      2$              ;;GET NEXT CHARACTER
042614  004737  042676          5$:     JSR     PC,$TYPEC       ;;GO TYPE THIS CHARACTER
042620  123726  001164          6$:     CMPB    $FILLC,(SP)+    ;;IS IT TIME FOR FILLER CHARS.?
042624  001350                          BNE     2$              ;;IF NO GO GET NEXT CHAR.
042626  013746  001162                  MOV     $NULL,-(SP)     ;;GET # OF FILLER CHARS. NEEDED
                                                                ;;AND THE NULL CHAR.
042632  105366  000001          7$:     DECB    1(SP)           ;;DOES A NULL NEED TO BE TYPED?
042636  002770                          BLT     6$              ;;BR IF NO--GO POP THE NULL OFF OF STACK
042640  004737  042676                  JSR     PC,$TYPEC       ;;GO TYPE A NULL
042644  105337  042742                  DECB    $CHARCNT        ;;DO NOT COUNT AS A COUNT
```

```
10304  042650  000770                          BR      7$              ;;LOOP
10305
10306                                  ;HORIZONTAL TAB PROCESSOR
10307
10308  042652  112716  000040          8$:     MOVB    #'  ,(SP)       ;;REPLACE TAB WITH SPACE
10309  042656  004737  042676          9$:     JSR     PC,$TYPEC       ;;TYPE A SPACE
10310  042662  132737  000007  042742          BITB    #7,$CHARCNT     ;;BRANCH IF NOT AT
10311  042670  001372                          BNE     9$              ;;TAB STOP
10312  042672  005726                          TST     (SP)+           ;;POP SPACE OFF STACK
10313  042674  000724                          BR      2$              ;;GET NEXT CHARACTER
10314  042676  105777  136254          $TYPEC: TSTB    @$TPS           ;;WAIT UNTIL PRINTER IS READY
10315  042702  100375                          BPL     $TYPEC
10316  042704  116677  000002  136246          MOVB    2(SP),@$TPB     ;;LOAD CHAR TO BE TYPED INTO DATA REG.
10317  042712  122766  000015  000002          CMPB    #CR,2(SP)       ;;IS CHARACTER A CARRIAGE RETURN?
10318  042720  001003                          BNE     1$              ;;BRANCH IF NO
10319  042722  105037  042742                  CLRB    $CHARCNT        ;;YES--CLEAR CHARACTER COUNT
10320  042726  000406                          BR      $TYPEX          ;;EXIT
10321  042730  122766  000012  000002  1$:     CMPB    #LF,2(SP)       ;;IS CHARACTER A LINE FEED?
10322  042736  001402                          BEQ     $TYPEX          ;;BRANCH IF YES
10323  042740  105227                          INCB    (PC)+           ;;COUNT THE CHARACTER
10324  042742  000000          $CHARCNT:.WORD  0               ;;CHARACTER COUNT STORAGE
10325  042744  000207          $TYPEX: RTS     PC
10326
```

```
10327                                   .SBTTL  APT COMMUNICATIONS ROUTINE
10328
10329                                   ;;*****************************************************************
10330  042746  112737  000001  043212  $ATY1:  MOVB    #1,$FFLG        ;;TO REPORT FATAL ERROR
10331  042754  112737  000001  043210  $ATY3:  MOVB    #1,$MFLG        ;;TO TYPE A MESSAGE
10332  042762  000403                  BR      $ATYC
10333  042764  112737  000001  043212  $ATY4:  MOVB    #1,$FFLG        ;;TO ONLY REPORT FATAL ERROR
10334  042772                          $ATYC:
10335  042772  010046                          MOV     R0,-(SP)        ;;PUSH R0 ON STACK
10336  042774  010146                          MOV     R1,-(SP)        ;;PUSH R1 ON STACK
10337  042776  105737  043210                  TSTB    $MFLG           ;;SHOULD TYPE A MESSAGE?
10338  043002  001450                          BEQ     5$              ;;IF NOT:  BR
10339  043004  122737  000001  001344          CMPB    #APTENV,$ENV    ;;OPERATING UNDER APT?
10340  043012  001031                          BNE     3$              ;;IF NOT:  BR
10341  043014  132737  000100  001345          BITB    #APTSPOOL,$ENVM ;;SHOULD SPOOL MESSAGES?
10342  043022  001425                          BEQ     3$              ;;IF NOT:  BR
10343  043024  017600  000004                  MOV     @4(SP),R0       ;;GET MESSAGE ADDR.
10344  043030  062766  000002  000004          ADD     #2,4(SP)                ;;BUMP RETURN ADDR.
10345  043036  005737  001324          1$:     TST     $MSGTYPE        ;;SEE IF DONE W/ LAST XMISSION?
10346  043042  001375                          BNE     1$              ;;IF NOT:  WAIT
10347  043044  010037  001340                  MOV     R0,$MSGAD       ;;PUT ADDR IN MAILBOX
10348  043050  105720                  2$:     TSTB    (R0)+           ;;FIND END OF MESSAGE
10349  043052  001376                          BNE     2$
10350  043054  163700  001340                  SUB     $MSGAD,R0       ;;SUB START OF MESSAGE
10351  043060  006200                          ASR     R0              ;;GET MESSAGE LNGTH IN WORDS
10352  043062  010037  001342                  MOV     R0,$MSGLGT      ;;PUT LENGTH IN MAILBOX
10353  043066  012737  000004  001324          MOV     #4,$MSGTYPE     ;;TELL APT TO TAKE MSG.
10354  043074  000413                          BR      5$
10355  043076  017637  000004  043122  3$:     MOV     @4(SP),4$       ;;PUT MSG ADDR IN JSR LINKAGE
10356  043104  062766  000002  000004          ADD     #2,4(SP)                ;;BUMP RETURN ADDRESS
10357  043112  013746  177776                  MOV     177776,-(SP)    ;;PUSH 177776 ON STACK
10358  043116  004737  042464                  JSR     PC,$TYPE        ;;CALL TYPE MACRO
10359  043122  000000                  4$:     .WORD   0
10360  043124                          5$:
10361  043124  105737  043212          10$:    TSTB    $FFLG           ;;SHOULD REPORT FATAL ERROR?
10362  043130  001416                          BEQ     12$             ;;IF NOT:  BR
10363  043132  005737  001344                  TST     $ENV            ;;RUNNING UNDER APT?
10364  043136  001413                          BEQ     12$             ;;IF NOT:  BR
10365  043140  005737  001324          11$:    TST     $MSGTYPE        ;;FINISHED LAST MESSAGE?
10366  043144  001375                          BNE     11$             ;;IF NOT:  WAIT
10367  043146  017637  000004  001326          MOV     @4(SP),$FATAL   ;;GET ERROR #
10368  043154  062766  000002  000004          ADD     #2,4(SP)                ;;BUMP RETURN ADDR.
10369  043162  005237  001324                  INC     $MSGTYPE        ;;TELL APT TO TAKE ERROR
10370  043166  105037  043212          12$:    CLRB    $FFLG           ;;CLEAR FATAL FLAG
10371  043172  105037  043211                  CLRB    $LFLG           ;;CLEAR LOG FLAG
10372  043176  105037  043210                  CLRB    $MFLG           ;;CLEAR MESSAGE FLAG
10373  043202  012601                          MOV     (SP)+,R1        ;;POP STACK INTO R1
10374  043204  012600                          MOV     (SP)+,R0        ;;POP STACK INTO R0
10375  043206  000207                          RTS     PC              ;;RETURN
10376  043210     000          $MFLG:  .BYTE   0               ;;MESSG. FLAG
10377  043211     000          $LFLG:  .BYTE   0               ;;LOG FLAG
10378  043212     000          $FFLG:  .BYTE   0               ;;FATAL FLAG
10379          043214                  .EVEN
10380          000200          APTSIZE=200
10381          000001          APTENV=001
10382          000100          APTSPOOL=100
```

```
 10383          000040                  APTCSUP=040
```

```
10384                                   .SBTTL  BINARY TO OCTAL (ASCII) AND TYPE
10385
10386                                   ;;*********************************************************************
10387                                   ;*THIS ROUTINE IS USED TO CHANGE A 16-BIT BINARY NUMBER TO A 6-DIGIT
10388                                   ;*OCTAL (ASCII) NUMBER AND TYPE IT.
10389                                   ;*$TYPOS---ENTER HERE TO SETUP SUPPRESS ZEROS AND NUMBER OF DIGITS TO TYPE
10390                                   ;*CALL:
10391                                   ;*      MOV     NUM,-(SP)       ;;NUMBER TO BE TYPED
10392                                   ;*      TYPOS                   ;;CALL FOR TYPEOUT
10393                                   ;*      .BYTE   N               ;;N=1 TO 6 FOR NUMBER OF DIGITS TO TYPE
10394                                   ;*      .BYTE   M               ;;M=1 OR 0
10395                                   ;*                                      ;;1=TYPE LEADING ZEROS
10396                                   ;*                                      ;;0=SUPPRESS LEADING ZEROS
10397                                   ;*
10398                                   ;*$TYPON----ENTER HERE TO TYPE OUT WITH THE SAME PARAMETERS AS THE LAST
10399                                   ;*$TYPOS OR $TYPOC
10400                                   ;*CALL:
10401                                   ;*      MOV     NUM,-(SP)       ;;NUMBER TO BE TYPED
10402                                   ;*      TYPON                   ;;CALL FOR TYPEOUT
10403                                   ;*
10404                                   ;*$TYPOC---ENTER HERE FOR TYPEOUT OF A 16 BIT NUMBER
10405                                   ;*CALL:
10406                                   ;*      MOV     NUM,-(SP)       ;;NUMBER TO BE TYPED
10407                                   ;*      TYPOC                   ;;CALL FOR TYPEOUT
10408
10409  043214  017646  000000           $TYPOS: MOV     @(SP),-(SP)     ;;PICKUP THE MODE
10410  043220  116637  000001  043437           MOVB    1(SP),$OFILL    ;;LOAD ZERO FILL SWITCH
10411  043226  112637  043441                   MOVB    (SP)+,$OMODE+1  ;;NUMBER OF DIGITS TO TYPE
10412  043232  062716  000002                   ADD     #2,(SP)         ;;ADJUST RETURN ADDRESS
10413  043236  000406                           BR      $TYPON
10414  043240  112737  000001  043437   $TYPOC: MOVB    #1,$OFILL       ;;SET THE ZERO FILL SWITCH
10415  043246  112737  000006  043441           MOVB    #6,$OMODE+1     ;;SET FOR SIX(6) DIGITS
10416  043254  112737  000005  043436   $TYPON: MOVB    #5,$OCNT        ;;SET THE ITERATION COUNT
10417  043262  010346                           MOV     R3,-(SP)        ;;SAVE R3
10418  043264  010446                           MOV     R4,-(SP)        ;;SAVE R4
10419  043266  010546                           MOV     R5,-(SP)        ;;SAVE R5
10420  043270  113704  043441                   MOVB    $OMODE+1,R4     ;;GET THE NUMBER OF DIGITS TO TYPE
10421  043274  005404                           NEG     R4
10422  043276  062704  000006                   ADD     #6,R4           ;;SUBTRACT IT FOR MAX. ALLOWED
10423  043302  110437  043440                   MOVB    R4,$OMODE       ;;SAVE IT FOR USE
10424  043306  113704  043437                   MOVB    $OFILL,R4       ;;GET THE ZERO FILL SWITCH
10425  043312  016605  000012                   MOV     12(SP),R5       ;;PICKUP THE INPUT NUMBER
10426  043316  005003                           CLR     R3              ;;CLEAR THE OUTPUT WORD
10427  043320  006105                   1$:     ROL     R5              ;;ROTATE MSB INTO "C"
10428  043322  000404                           BR      3$              ;;GO DO MSB
10429  043324  006105                   2$:     ROL     R5              ;;FORM THIS DIGIT
10430  043326  006105                           ROL     R5
10431  043330  006105                           ROL     R5
10432  043332  010503                           MOV     R5,R3
10433  043334  006103                   3$:     ROL     R3              ;;GET LSB OF THIS DIGIT
10434  043336  105337  043440                   DECB    $OMODE          ;;TYPE THIS DIGIT?
10435  043342  100016                           BPL     7$              ;;BR IF NO
10436  043344  042703  177770                   BIC     #177770,R3      ;;GET RID OF JUNK
10437  043350  001002                           BNE     4$              ;;TEST FOR 0
10438  043352  005704                           TST     R4              ;;SUPPRESS THIS 0?
10439  043354  001403                           BEQ     5$              ;;BR IF YES
```

```
                                        .SBTTL  TRAP DECODER

                                        ;;*****************************************************************
                                        ;*THIS ROUTINE WILL PICKUP THE LOWER BYTE OF THE "TRAP" INSTRUCTION
                                        ;*AND USE IT TO INDEX THROUGH THE TRAP TABLE FOR THE STARTING ADDRESS
                                        ;*OF THE DESIRED ROUTINE. THEN USING THE ADDRESS OBTAINED IT WILL
                                        ;*GO TO THAT ROUTINE.

043442  010046                          $TRAP:  MOV     R0,-(SP)          ;;SAVE R0
043444  016600  000002                          MOV     2(SP),R0          ;;GET TRAP ADDRESS
043450  005740                                  TST     -(R0)             ;;BACKUP BY 2
043452  111000                                  MOVB    (R0),R0           ;;GET RIGHT BYTE OF TRAP
043454  006300                                  ASL     R0                ;;POSITION FOR INDEXING
043456  016000  043476                          MOV     $TRPAD(R0),R0     ;;INDEX TO TABLE
043462  000200                                  RTS     R0                ;;GO TO ROUTINE


                                        ;;THIS IS USE TO HANDLE THE "GETPRI" MACRO

043464  011646                          $TRAP2: MOV     (SP),-(SP)        ;;MOVE THE PC DOWN
043466  016666  000004  000002                  MOV     4(SP),2(SP)       ;;MOVE THE PSW DOWN
043474  000002                                  RTI                       ;;RESTORE THE PSW

                                        .SBTTL  TRAP TABLE

                                        ;*THIS TABLE CONTAINS THE STARTING ADDRESSES OF THE ROUTINES CALLED
                                        ;*BY THE "TRAP" INSTRUCTION.

                                        ;       ROUTINE
                                        ;       -------
043476  043464                          $TRPAD: .WORD   $TRAP2
043500  042464                                  $TYPE   ;;CALL=TYPE      TRAP+1(104401)  TTY TYPEOUT ROUTINE
043502  043240                                  $TYPOC  ;;CALL=TYPOC     TRAP+2(104402)  TYPE OCTAL NUMBER (WITH LEADING ZEROS)
043504  043214                                  $TYPOS  ;;CALL=TYPOS     TRAP+3(104403)  TYPE OCTAL NUMBER (NO LEADING ZEROS)
043506  043254                                  $TYPON  ;;CALL=TYPON     TRAP+4(104404)  TYPE OCTAL NUMBER (AS PER LAST CALL)
```

```
10498                                   .SBTTL  POWER DOWN AND UP ROUTINES
10499
10500                                   ;;*****************************************************************
10501                                   ;POWER DOWN ROUTINE
10502  043510  012737  043662  000024  $PWRDN: MOV     #$ILLUP,@#PWRVEC ;;SET FOR FAST UP
10503  043516  012737  000340  000026          MOV     #340,@#PWRVEC+2 ;;PRIO:7
10504  043524  010046                          MOV     R0,-(SP)        ;;PUSH R0 ON STACK
10505  043526  010146                          MOV     R1,-(SP)        ;;PUSH R1 ON STACK
10506  043530  010246                          MOV     R2,-(SP)        ;;PUSH R2 ON STACK
10507  043532  010346                          MOV     R3,-(SP)        ;;PUSH R3 ON STACK
10508  043534  010446                          MOV     R4,-(SP)        ;;PUSH R4 ON STACK
10509  043536  010546                          MOV     R5,-(SP)        ;;PUSH R5 ON STACK
10510  043540  017746  135402                  MOV     @$WR,-(SP)      ;;PUSH @$WR ON STACK
10511  043544  010637  043666                  MOV     SP,$SAVR6       ;;SAVE SP
10512  043550  012737  043562  000024          MOV     #$PWRUP,@#PWRVEC ;;SET UP VECTOR
10513  043556  000000                          HALT
10514  043560  000776                          BR      .-2             ;;HANG UP
10515
10516                                   ;;*****************************************************************
10517                                   ;POWER UP ROUTINE
10518  043562  012737  043662  000024  $PWRUP: MOV     #$ILLUP,@#PWRVEC ;;SET FOR FAST DOWN
10519  043570  013706  043666                  MOV     $SAVR6,SP       ;;GET SP
10520  043574  005037  043666                  CLR     $SAVR6          ;;WAIT LOOP FOR THE TTY
10521  043600  005237  043666          1$:     INC     $SAVR6          ;;WAIT FOR THE INC
10522  043604  001375                          BNE     1$              ;;OF  WORD
10523  043606  011600                          MOV     (SP),R0         ;GET SAVED $WR OFF STACK
10524  043610  076600  000226                  MED     226             ;RESTORE $WR CONTENTS
10525  043614  012677  135326                  MOV     (SP)+,@$WR      ;;POP STACK INTO @$WR
10526  043620  012605                          MOV     (SP)+,R5        ;;POP STACK INTO R5
10527  043622  012604                          MOV     (SP)+,R4        ;;POP STACK INTO R4
10528  043624  012603                          MOV     (SP)+,R3        ;;POP STACK INTO R3
10529  043626  012602                          MOV     (SP)+,R2        ;;POP STACK INTO R2
10530  043630  012601                          MOV     (SP)+,R1        ;;POP STACK INTO R1
10531  043632  012600                          MOV     (SP)+,R0        ;;POP STACK INTO R0
10532  043634  012737  043510  000024          MOV     #$PWRDN,@#PWRVEC ;;SET UP THE POWER DOWN VECTOR
10533  043642  012737  000340  000026          MOV     #340,@#PWRVEC+2 ;;PRIO:7
10534  043650  104401                          TYPE                    ;REPORT THE POWER FAILURE
10535  043652  043670          $PWRMG: .WORD   $POWER                  ;;POWER FAIL MESSAGE POINTER
10536  043654  012716                  MOV     (PC)+,(SP)              ;;RESTART AT START
10537  043656  002162          $PWRAD: .WORD   START                   ;;RESTART ADDRESS
10538  043660  000002                  RTI
10539  043662  000000          $ILLUP: HALT                            ;;THE POWER UP SEQUENCE WAS STARTED
10540  043664  000776                  BR      .-2                     ;; BEFORE THE POWER DOWN WAS COMPLETE
10541  043666  000000          $SAVR6: 0                               ;;PUT THE SP HERE
10542  043670  005015  047520  042527  $POWER: .ASCIZ  <15><12>"POWER"
10543  043676  000122
10544                                   .EVEN
```

```
                                        .SBTTL  ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC

                                        ; MESSAGE PREFIXES
043700  047510  035124  000040  ASCHOT: .ASCIZ  "HOT: "
043706  040527  046522  020072  ASCWRM: .ASCIZ  "WARM: "
043714     000

                                        ; ERROR MESSAGES HERE
043715     122  041505  044505  EMA:    .ASCIZ  "RECEIVED FPS IS BAD"
043722  042526  020104  050106
043730  020123  051511  041040
043736  042101     000
043741     122  041505  044505  EMB:    .ASCIZ  "RECEIVED FEC/FEA IS BAD"
043746  042526  020104  042506
043754  027503  042506  020101
043762  051511  041040  042101
043770     000
043771     125  042516  050130  EMC:    .ASCIZ  "UNEXPECTED FLOATING POINT TRAP, IGNORED & CONTINUING"
043776  041505  042524  020104
044004  046106  040517  044524
044012  043516  050040  044517
044020  052116  052040  040522
044026  026120  044440  047107
044034  051117  042105  023040
044042  041440  047117  044524
044050  052516  047111  000107
044056  050103  020125  051520  EMD:    .ASCIZ  "CPU PS CONDITION CODES SET INCORRECTLY"
044064  041440  047117  044504
044072  044524  047117  041440
044100  042117  051505  051440
044106  052105  044440  041516
044114  051117  042522  052103
044122  054514     000
044125     103  050115  043050  EME:    .ASCIZ  "CMP(F/D) OPERATION - REGISTER MODIFIED AFTER EXECUTION"
044132  042057  020051  050117
044140  051105  052101  047511
044146  020116  020055  042522
044154  044507  052123  051105
044162  046440  042117  043111
044170  042511  020104  043101
044176  042524  020122  054105
044204  041505  052105  047511
044212  000116
044214  042101  027504  052523  EMF:    .ASCIZ  "ADD/SUB(F/D) OPERATION - RESULT INCORRECT"
044222  024102  027506  024504
044230  047440  042520  040522
044236  044524  047117  026440
044244  051040  051505  046125
044252  020124  047111  047503
044260  051122  041505  000124
044266  052515  027514  044504  EMG:    .ASCIZ  "MUL/DIV(F/D) OPERATION - RESULT INCORRECT"
044274  024126  027506  024504
044302  047440  042520  040522
044310  044524  047117  026440
044316  051040  051505  046125
044324  020124  047111  047503
```

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10601  044332  051122  041505  000124
10602  044340  047515  024104  027506  EMH:    .ASCIZ  "MOD(F/D) OPERATION - FRACTIONAL RESULT INCORRECT"
10603  044346  024504  047440  042520
10604  044354  040522  044524  047117
10605  044362  026440  043040  040522
10606  044370  052103  047511  040516
10607  044376  020114  042522  052523
10608  044404  052114  044440  041516
10609  044412  051117  042522  052103
10610  044420     000
10611  044421     115  042117  043050  EMI:    .ASCIZ  "MOD(F/D) OPERATION - INTEGER RESULT INCORRECT"
10612  044426  042057  020051  050117
10613  044434  051105  052101  047511
10614  044442  020116  020055  047111
10615  044450  042524  042507  020122
10616  044456  042522  052523  052114
10617  044464  044440  041516  051117
10618  044472  042522  052103     000
10619  044477     106  047514  052101  EMJ:    .ASCIZ  "FLOAT-TO-DOUBLE CONVERSION - RESULT INCORRECT"
10620  044504  052055  026517  047504
10621  044512  041125  042514  041440
10622  044520  047117  042526  051522
10623  044526  047511  020116  020055
10624  044534  042522  052523  052114
10625  044542  044440  041516  051117
10626  044550  042522  052103     000
10627  044555     104  052517  046102  EMK:    .ASCIZ  "DOUBLE-TO-FLOAT CONVERSION - RESULT INCORRECT"
10628  044562  026505  047524  043055
10629  044570  047514  052101  041440
10630  044576  047117  042526  051522
10631  044604  047511  020116  020055
10632  044612  042522  052523  052114
10633  044620  044440  041516  051117
10634  044626  042522  052103     000
10635  044633     106  054111  042105  EML:    .ASCIZ  "FIXED-TO-FLOATING CONVERSION - RESULT INCORRECT"
10636  044640  052055  026517  046106
10637  044646  040517  044524  043516
10638  044654  041440  047117  042526
10639  044662  051522  047511  020116
10640  044670  020055  042522  052523
10641  044676  052114  044440  041516
10642  044704  051117  042522  052103
10643  044712     000
10644  044713     106  047514  052101  EMM:    .ASCIZ  "FLOATING-TO-FIXED CONVERSION - RESULT INCORRECT"
10645  044720  047111  026507  047524
10646  044726  043055  054111  042105
10647  044734  041440  047117  042526
10648  044742  051522  047511  020116
10649  044750  020055  042522  052523
10650  044756  052114  044440  041516
10651  044764  051117  042522  052103
10652  044772     000
10653  044773     114  040517  020104  EMN:    .ASCIZ  "LOAD EXPONENT(F/D) OPERATION - RESULT INCORRECT"
10654  045000  054105  047520  042516
10655  045006  052116  043050  042057
10656  045014  020051  050117  051105
```

```
10657  045022  052101  047511  020116
10658  045030  020055  042522  052523
10659  045036  052114  044440  041516
10660  045044  051117  042522  052103
10661  045052     000
10662  045053     123  047524  042522  EMO:    .ASCIZ  "STORE EXPONENT(F/D) OPERATION - RESULT INCORRECT"
10663  045060  042440  050130  047117
10664  045066  047105  024124  027506
10665  045074  024504  047440  042520
10666  045102  040522  044524  047117
10667  045110  026440  051040  051505
10668  045116  046125  020124  047111
10669  045124  047503  051122  041505
10670  045132  000124
```

```
10671                                           ; DATA HEADERS HERE
10672  045134  054105  023520  004504  DHA:    .ASCIZ  "EXP'D  RCV'D"
10673  045142  041522  023526  000104
10674  045150  054105  023520  026504  DHB:    .ASCIZ  "EXP'D-FEC-RCV'D        EXP'D-FEA-RCV'D"
10675  045156  042506  026503  041522
10676  045164  023526  004504  054105
10677  045172  023520  026504  042506
10678  045200  026501  041522  023526
10679  045206  000104
10680  045210  026455  042455  050130  DHC:    .ASCIZ  "---EXPECTED--- ---RECEIVED---"
10681  045216  041505  042524  026504
10682  045224  026455  026411  026455
10683  045232  042522  042503  053111
10684  045240  042105  026455  000055
10685  045246  026455  026455  026455  DHD:    .ASCIZ  "----------EXPECTED---------- ----------RECEIVED----------"
10686  045254  026455  026455  042455
10687  045262  050130  041505  042524
10688  045270  026504  026455  026455
10689  045276  026455  026455  026455
10690  045304  026411  026455  026455
10691  045312  026455  026455  026455
10692  045320  042522  042503  053111
10693  045326  042105  026455  026455
10694  045334  026455  026455  026455
10695  045342  000055
10696  045344  046117  020104  041520  DHF:    .ASCIZ  "OLD PC OLD PS  NEW SP   FPS     FEC     FEA"
10697  045352  047411  042114  050040
10698  045360  004523  042516  020127
10699  045366  050123  020011  050106
10700  045374  004523  043040  041505
10701  045402  020011  042506  000101
```

```
10702                                                   ; DATA ADDRESS VECTOR
10703                                                   .EVEN
10704  045410  001240  002000  000000  DTA:    .WORD   $TMP4,FPS,0
10705  045416  001242  002000  000000  DTB:    .WORD   $TMP5,FPS,0
10706  045424  001244  002000  000000  DTC:    .WORD   $TMP6,FPS,0
10707  045432  001246  002000  000000  DTD:    .WORD   $TMP7,FPS,0
10708  045440  001252  002000  000000  DTE:    .WORD   $TMP11,FPS,0
10709  045446  001254  002000  000000  DTF:    .WORD   $TMP12,FPS,0
10710  045454  001262  002000  000000  DTG:    .WORD   $TMP15,FPS,0
10711  045462  001272  002000  000000  DTH:    .WORD   $TMP21,FPS,0
10712  045470  001242  002002  002014  DTI:    .WORD   $TMP5,FEC,EXPFEA,FEA,0
10713  045476  002004  000000
10714  045502  001244  002002  002014  DTJ:    .WORD   $TMP6,FEC,EXPFEA,FEA,0
10715  045510  002004  000000
10716  045514  001246  002002  002014  DTK:    .WORD   $TMP7,FEC,EXPFEA,FEA,0
10717  045522  002004  000000
10718  045526  001250  002002  002014  DTL:    .WORD   $TMP10,FEC,EXPFEA,FEA,0
10719  045534  002004  000000
10720  045540  001254  002002  002014  DTM:    .WORD   $TMP12,FEC,EXPFEA,FEA,0
10721  045546  002004  000000
10722  045552  001256  002002  002014  DTN:    .WORD   $TMP13,FEC,EXPFEA,FEA,0
10723  045560  002004  000000
10724  045564  001264  002002  002014  DTO:    .WORD   $TMP16,FEC,EXPFEA,FEA,0
10725  045572  002004  000000
10726  045576  001274  002002  002014  DTP:    .WORD   $TMP22,FEC,EXPFEA,FEA,0
10727  045604  002004  000000
10728  045610  001234  001170  000000  DTQ:    .WORD   $TMP2,$REG0,0
10729  045616  001240  001170  000000  DTR:    .WORD   $TMP4,$REG0,0
10730  045624  001230  001232  001170  DTS:    .WORD   $TMP0,$TMP1,$REG0,$REG1,0
10731  045632  001172  000000
10732  045636  001232  001234  001170  DTT:    .WORD   $TMP1,$TMP2,$REG0,$REG1,0
10733  045644  001172  000000
10734  045650  001234  001236  001170  DTU:    .WORD   $TMP2,$TMP3,$REG0,$REG1,0
10735  045656  001172  000000
10736  045662  001240  001242  001170  DTV:    .WORD   $TMP4,$TMP5,$REG0,$REG1,0
10737  045670  001172  000000
10738  045674  001244  001246  001174  DTW:    .WORD   $TMP6,$TMP7,$REG2,$REG3,0
10739  045702  001176  000000
10740  045706  001230  001232  001234  DTX:    .WORD   $TMP0,$TMP1,$TMP2,$TMP3
10741  045714  001236
10742  045716  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10743  045724  001176  000000
10744  045730  001232  001234  001236  DTY:    .WORD   $TMP1,$TMP2,$TMP3,$TMP4
10745  045736  001240
10746  045740  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10747  045746  001176  000000
10748  045752  001234  001236  001240  DTZ:    .WORD   $TMP2,$TMP3,$TMP4,$TMP5
10749  045760  001242
10750  045762  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10751  045770  001176  000000
10752  045774  001240  001242  001244  DTAA:   .WORD   $TMP4,$TMP5,$TMP6,$TMP7
10753  046002  001246
10754  046004  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10755  046012  001176  000000
10756  046016  001250  001252  001254  DTAB:   .WORD   $TMP10,$TMP11,$TMP12,$TMP13
10757  046024  001256
```

```
10758  046026  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10759  046034  001176  000000
10760  046040  001260  001262  001264  DTAC:   .WORD   $TMP14,$TMP15,$TMP16,$TMP17
10761  046046  001266
10762  046050  001200  001202  001204          .WORD   $REG4,$REG5,$REG6,$REG7,0
10763  046056  001206  000000
10764  046062  001174  001172  000000  DTAD:   .WORD   $REG2,$REG1,0
10765  046070  001176  001174  000000  DTAE:   .WORD   $REG3,$REG2,0
10766  046076  002006  002010  002012  DTAK:   .WORD   FPPOPC,FPPOPS,FPPOSP,FPS,FEC,FEA,0
10767  046104  002000  002002  002004
10768  046112  000000
10769
10770
10771                                          ; THE END
10772          000001                          .END
```

```
ABASE = 000000            1070
ACDW1 = 000000            1070
ACDW2 = 000000            1070
ACPUOP= 000000            1070    1085
ADDDI   033636            8838#   8849
ADDDL   033626            8832    8834#
ADDDT   033602            2164    2186    2208    2230    2252    2274    2296    2318    2340    2362    2384    2406    2428
                          2450    2472    2494    2516    2538    2560    8826#
ADDD1   005406            2163    2168#
ADDD10  006054            2317    2322#
ADDD11  006126            2339    2344#
ADDD12  006200            2361    2366#
ADDD13  006252            2383    2388#
ADDD14  006324            2405    2410#
ADDD15  006376            2427    2432#
ADDD16  006450            2449    2454#
ADDD17  006522            2471    2476#
ADDD2   005460            2185    2190#
ADDD20  006574            2493    2498#
ADDD21  006646            2515    2520#
ADDD22  006720            2537    2542#
ADDD23  006772            2559    2564#
ADDD3   005532            2207    2212#
ADDD4   005604            2229    2234#
ADDD5   005656            2251    2256#
ADDD6   005730            2273    2278#
ADDD7   006002            2295    2300#
ADDFI   033466            8795#   8806
ADDFL   033456            8789    8791#
ADDFT   033432            1802    1821    1840    1859    1878    1897    1916    1935    1954    1973    1992    2011    2030
                          2049    2068    2087    2106    2125    2144    8783#
ADDF1   004314            1801    1806#
ADDF10  004636            1934    1939#
ADDF11  004674            1953    1958#
ADDF12  004732            1972    1977#
ADDF13  004770            1991    1996#
ADDF14  005026            2010    2015#
ADDF15  005064            2029    2034#
ADDF16  005122            2048    2053#
ADDF17  005160            2067    2072#
ADDF2   004352            1820    1825#
ADDF20  005216            2086    2091#
ADDF21  005254            2105    2110#
ADDF22  005312            2124    2129#
ADDF23  005350            2143    2148#
ADDF3   004410            1839    1844#
ADDF4   004446            1858    1863#
ADDF5   004504            1877    1882#
ADDF6   004542            1896    1901#
ADDF7   004600            1915    1920#
ADDW0 = 000000            1070
ADDW1 = 000000            1070
ADDW10= 000000            1070
ADDW11= 000000            1070
ADDW12= 000000            1070
ADDW13= 000000            1070
```

```
ADDW14= 000000          1070
ADDW15= 000000          1070
ADDW2 = 000000          1070
ADDW3 = 000000          1070
ADDW4 = 000000          1070
ADDW5 = 000000          1070
ADDW6 = 000000          1070
ADDW7 = 000000          1070
ADDW8 = 000000          1070
ADDW9 = 000000          1070
ADEVCT= 000000          1070    1076
ADEVM = 000000          1070
AENV  = 000000          1070    1081
AENVM = 000000          1070    1082
AFATAL= 000000          1070    1073
ALTN  = 125252           906#    907  1186  1404  1405  1530  1667  1827  1828  2191  2195  2389  2391
                        2608    2684  2703  2901  2903  2965  2987  3201  3221  3512  3536  3798  3800
                        3821    3860  3879  4258  4280  4342  4346  4452  4456  4474  4676  4737  4739
                        4757    4995  5381  5442  5462  5810  5834  6174  6192  6193  7636  7637  7750
                        7751    7883  8044  8046  8170  8172  8317  8398  8555
ALTP  = 052525           904#    905  1186  1368  1369  1845  1847  2130  2132  2215  2217  2626  2683
                        2702    2877  2967  2989  3448  3776  3780  3800  3839  3841  4067  4086  4408
                        4412    4430  4559  4895  5927  6174  6555  6557  7617  7618  7731  7732  7960
                        7962    8086  8088  8212  8214  8254  8359
ALT4N = 170360           909#    1607  1609  4068  4087  4298  4300  6612  6614  7674  7675  7788  7789
                        7921    8002  8004  8128  8130  8449  8519
ALT4P = 007417           908#    1494  1647  1649  3896  3897  6306  6307  7655  7656  7769  7770  7902
                        8065    8067  8191  8193  8338  8432  8591
AMADR1= 000000          1070
AMADR2= 000000          1070
AMADR3= 000000          1070
AMADR4= 000000          1070
AMAMS1= 000000          1070
AMAMS2= 000000          1070
AMAMS3= 000000          1070
AMAMS4= 000000          1070
AMSGAD= 000000          1070    1078
AMSGLG= 000000          1070    1079
AMSGTY= 000000          1070    1072
AMTYP1= 000000          1070
AMTYP2= 000000          1070
AMTYP3= 000000          1070
AMTYP4= 000000          1070
AN    = 125252           907#    5033  5105  5111  5129  5528  5552  5576  5600  5624  5648  5672  5696
                        5720    5738  5744  5768  5792  5816  5840  5864  5888
AP    = 052525           905#    5204  5224  5244  5264  5284  5304  5324  5344  5364  5384  5404  5424
                        5444    5464  5484  5504  5528  5552  5576  5600  5624  5648  5672  5696  5720
                        5744    5768  5792  5816  5840  5864  5888
APASS = 000000          1070    1075
APRIOR= 000000          1070
APTCSU= 000040         10278   10383#
APTENV= 000001         10158   10271  10339  10381#
APTSIZ= 000200          1253   10380#
APTSPO= 000100         10273   10341  10382#
ASCHOT  043700          1334   10548#
ASCWRM  043706          1336   10549#
```

```
ASWREG= 000000            1070    1083
ATESTN= 000000            1070    1074
AUNIT = 000000            1070    1077
AUSWR = 000000            1070    1084
AVECT1= 000000            1070
AVECT2= 000000            1070
BGNMES  002046            1191#   1262
BIT0  = 000001             868#
BIT00 = 000001             858#    868
BIT01 = 000002             857#    867
BIT02 = 000004             856#    866
BIT03 = 000010             855#    865
BIT04 = 000020             854#    864    1268    1316    8633
BIT05 = 000040             853#    863
BIT06 = 000100             852#    862
BIT07 = 000200             851#    861
BIT08 = 000400             850#    860   10085
BIT09 = 001000             849#    859   10093   10168
BIT1  = 000002             867#
BIT10 = 002000             848#  10146
BIT11 = 004000             847#  10100
BIT12 = 010000             846#   1300    1326    1328    1331    8639
BIT13 = 020000             845#  10153
BIT14 = 040000             844#  10071
BIT15 = 100000             843#
BIT2  = 000004             866#
BIT3  = 000010             865#
BIT4  = 000020             864#
BIT5  = 000040             863#
BIT6  = 000100             862#
BIT7  = 000200             861#
BIT8  = 000400             860#
BIT9  = 001000             859#
BPTVEC= 000014             875#
CCONLY= 177760             931#  9711   9712   9761   9762   9811   9812   9863   9864   9992   9993  10032  10033
CMPDI   033300            8749#  8760
CMPDL   033270            8743   8745#
CMPDT   033244            1562   1582   1602   1622   1642   1662   1682   1702   1722   1742   1762   1782  8737#
CMPD1   003464            1561   1566#
CMPD10  004042            1701   1706#
CMPD11  004104            1721   1726#
CMPD12  004146            1741   1746#
CMPD13  004210            1761   1766#
CMPD14  004252            1781   1786#
CMPD2   003526            1581   1586#
CMPD3   003570            1601   1606#
CMPD4   003632            1621   1626#
CMPD5   003674            1641   1646#
CMPD6   003736            1661   1666#
CMPD7   004000            1681   1686#
CMPFI   033132            8705#  8716
CMPFL   033122            8699   8701#
CMPFT   033076            1345   1363   1381   1399   1417   1435   1453   1471   1489   1507   1525   1543  8693#
CMPF1   002774            1344   1349#
CMPF10  003262            1470   1475#
CMPF11  003314            1488   1493#
```

```
CMPF12  003346            1506    1511#
CMPF13  003400            1524    1529#
CMPF14  003432            1542    1547#
CMPF2   003026            1362    1367#
CMPF3   003060            1380    1385#
CMPF4   003112            1398    1403#
CMPF5   003144            1416    1421#
CMPF6   003176            1434    1439#
CMPF7   003230            1452    1457#
CR    = 000015             783#  10317   10327
CRLF  = 000200             784#  10288   10327
DDISP = 177570             790#   1009    1241
DHA     045134            1113    1114    1115    1116    1118    1119    1120    1121    1150    1151    1156    1157    1161
                          1162   10672#
DHB     045150            1123    1124    1125    1126    1128    1129    1130    1131   10674#
DHC     045210            1133    1135    1137    1139    1140    1143    1146    1148    1152    1153    1154   10680#
DHD     045246            1134    1136    1138    1141    1142    1144    1145    1147    1149    1155   10685#
DHF     045344            1164   10696#
DISPLA  001150            1009#   1241#   1249#  10115#  10145#
DISPRE  000174             941#   1249
DIVDI   035076            9105#   9116
DIVDL   035066            9099    9101#
DIVDT   035042            4139    4161    4183    4205    4227    4249    4271    4293    4315    4337    4359    4381    4403
                          4425    4447    4469    9093#
DIVD1   014222            4138    4143#
DIVD10  014670            4292    4297#
DIVD11  014742            4314    4319#
DIVD12  015014            4336    4341#
DIVD13  015066            4358    4363#
DIVD14  015140            4380    4385#
DIVD15  015212            4402    4407#
DIVD16  015264            4424    4429#
DIVD17  015336            4446    4451#
DIVD2   014274            4160    4165#
DIVD20  015410            4468    4473#
DIVD3   014346            4182    4187#
DIVD4   014420            4204    4209#
DIVD5   014472            4226    4231#
DIVD6   014544            4248    4253#
DIVD7   014616            4270    4275#
DIVFI   034726            9062#   9073
DIVFL   034716            9056    9058#
DIVFT   034672            3815    3834    3853    3872    3891    3910    3929    3948    3967    3986    4005    4024    4043
                          4062    4081    4100    4119    9050#
DIVF1   013224            3814    3819#
DIVF10  013546            3947    3952#
DIVF11  013604            3966    3971#
DIVF12  013642            3985    3990#
DIVF13  013700            4004    4009#
DIVF14  013736            4023    4028#
DIVF15  013774            4042    4047#
DIVF16  014032            4061    4066#
DIVF17  014070            4080    4085#
DIVF2   013262            3833    3838#
DIVF20  014126            4099    4104#
DIVF21  014164            4118    4123#
```

```
DIVF3   013320            3852    3857#
DIVF4   013356            3871    3876#
DIVF5   013414            3890    3895#
DIVF6   013452            3909    3914#
DIVF7   013510            3928    3933#
DSWR  = 177570             789#   1008     1240
DTA     045410            1113   10704#
DTAA    045774            1145    1155   10752#
DTAB    046016            1136    1138    1141   10756#
DTAC    046040            1142   10760#
DTAD    046062            1161   10764#
DTAE    046070            1162   10765#
DTAK    046076            1164   10766#
DTB     045416            1114   10705#
DTC     045424            1115   10706#
DTD     045432            1116   10707#
DTE     045440            1118   10708#
DTF     045446            1119   10709#
DTG     045454            1120   10710#
DTH     045462            1121   10711#
DTI     045470            1123   10712#
DTJ     045502            1124   10714#
DTK     045514            1125   10716#
DTL     045526            1126   10718#
DTM     045540            1128   10720#
DTN     045552            1129   10722#
DTO     045564            1130   10724#
DTP     045576            1131   10726#
DTQ     045610            1150    1156   10728#
DTR     045616            1151    1157   10729#
DTS     045624            1133   10730#
DTT     045636            1146   10732#
DTU     045650            1148    1152    1154   10734#
DTV     045662            1135    1137    1139    1143    1153   10736#
DTW     045674            1140   10738#
DTX     045706            1134   10740#
DTY     045730            1147   10744#
DTZ     045752            1144    1149   10748#
EMA     043715            1113    1114    1115    1116    1118    1119    1120    1121   10553#
EMB     043741            1123    1124    1125    1126    1128    1129    1130    1131   10557#
EMC     043771            1164   10562#
EMD     044056            1161    1162   10571#
EME     044125            1133    1134   10578#
EMF     044214            1135    1136   10588#
EMG     044266            1137    1138   10595#
EMH     044340            1139    1141   10602#
EMI     044421            1140    1142   10611#
EMJ     044477            1144    1145   10619#
EMK     044555            1143   10627#
EML     044633            1146    1147    1148    1149   10635#
EMM     044713            1150    1151    1152    1153   10644#
EMN     044773            1154    1155   10653#
EMO     045053            1156    1157   10662#
EMTVEC= 000030             878#   1224*   1225*
EMV001  001354            1113#
EMV002  001362            1114#
```

```
EMV003  001370          1115#
EMV004  001376          1116#
EMV005  001404          1118#
EMV006  001412          1119#
EMV007  001420          1120#
EMV010  001426          1121#
EMV011  001434          1123#
EMV012  001442          1124#
EMV013  001450          1125#
EMV014  001456          1126#
EMV015  001464          1128#
EMV016  001472          1129#
EMV017  001500          1130#
EMV020  001506          1131#
EMV021  001514          1133#
EMV022  001522          1134#
EMV023  001530          1135#
EMV024  001536          1136#
EMV025  001544          1137#
EMV026  001552          1138#
EMV027  001560          1139#
EMV030  001566          1140#
EMV031  001574          1141#
EMV032  001602          1142#
EMV033  001610          1143#
EMV034  001616          1144#
EMV035  001624          1145#
EMV036  001632          1146#
EMV037  001640          1147#
EMV040  001646          1148#
EMV041  001654          1149#
EMV042  001662          1150#
EMV043  001670          1151#
EMV044  001676          1152#
EMV045  001704          1153#
EMV046  001712          1154#
EMV047  001720          1155#
EMV050  001726          1156#
EMV051  001734          1157#
EMV052  001742          1158#
EMV053  001750          1159#
EMV054  001756          1161#
EMV055  001764          1162#
EMV056  001772          1164#
EREG0   002016          1176#  10134*
EREG1   002020          1177#  10135*
EREG2   002022          1178#  10136*
EREG3   002024          1179#  10137*
EREG4   002026          1180#  10138*
EREG5   002030          1181#  10139*
EREG6   002032          1182#  10140*  10141*
EREG7   002034          1183#  10142*
ERRVEC= 000004           871#   1238    1239*  1250*  10076  10077*  10079*  10082*
EXPFEA  002014          1173#   8716*   8719   8760*   8763   8806*   8809    8849*   8852   8895*   8898   8938*   8941
                        8984*   8987    9027*  9030    9073*  9076    9116*   9119    9166*  9169    9222*  9225    9283*
                        9286    9339*   9342   9397*   9400   9441*   9444    9486*   9489   9702*   9705   9752*   9755
```

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                      9802*  9805   9854*  9857   9902*  9905   9945*  9948   10712  10714  10716  10718  10720
                     10722  10724  10726
FEA      002004       1169*  8719   8763   8809   8852   8898   8941   8987   9030   9076   9119   9169   9225
                      9286   9342   9400   9444   9489   9705   9755   9805   9857   9905   9948   10712  10714
                     10716  10718  10720  10722  10724  10726  10766
FEC      002002       1168*  8709*  8717   8752*  8761   8798*  8807   8841*  8850   8887*  8896   8930*  8939
                      8976*  8985   9019*  9028   9065*  9074   9108*  9117   9157*  9167   9213*  9223   9274*
                      9284   9330*  9340   9389*  9398   9433*  9442   9479*  9487   9695*  9703   9745*  9753
                      9795*  9803   9847*  9855   9895*  9903   9938*  9946   10051* 10712  10714  10716  10718
                     10720  10722  10724  10726  10766
FPPILT   041470       1259  10047*
FPPOPC   002006       1170*  10048*  10054  10766
FPPOPS   002010       1171*  10049*  10053  10766
FPPOSP   002012       1172*  10047*  10766
FPPVEC=  000244        893*   1259*  1260*
FPS      002000       1167*  8707*  8711   8751*  8755   8797*  8801   8840*  8844   8886*  8890   8929*  8933
                      8975*  8979   9018*  9022   9064*  9068   9107*  9111   9156*  9161   9212*  9217   9273*
                      9278   9329*  9334   9388*  9392   9432*  9436   9478*  9481   9521*  9523   9554*  9557
                      9587*  9590   9624*  9627   9657*  9660   9694*  9697   9710   9744*  9747   9760   9794*
                      9797   9810   9846*  9849   9862   9894*  9897   9937*  9940   9984*  9986   9991   10024*
                     10026  10031  10050*  10704  10705  10706  10707  10708  10709  10710  10711  10766
FPS0   = 000000       927*
FPS1   = 147757       926*
F1N    = 140200       920*  2664   2665   2921   2923   4577   4617   4656   4659   4937   4963   5009   5282
                      5322  5361   5642   5668   5714   5982   5984   6001   6003   6345   6347
F1P    = 040200       919*  2645   2646   2943   2945   3898   4302   4596   4637   4915   4987   5015   5301
                      5342  5620   5692   5963   5965   6096   6098   6115   6117   6364   6366   6402   6404
                      6440  6442   6478   6480
GMS    = ****** U     940  10492  10493  10494  10495
HOTWRM   042252       1334*  1336*  10196*
HT     = 000011        781*  10286  10327
IOTVEC=  000020        876*  1222*  1223*
LB     = 000377        922*
LCDFI    036400       9386*  9397
LCDFL    036366       9380   9382*
LCDFT    036342       5901   5920   5939   5958   5977   5996   6015   6034   6053   6072   6091   6110   6129
                      6148   9374*
LCDF1    022662       5900   5905*
LCDF10   023204       6033   6038*
LCDF11   023242       6052   6057*
LCDF12   023300       6071   6076*
LCDF13   023336       6090   6095*
LCDF14   023374       6109   6114*
LCDF15   023432       6128   6133*
LCDF16   023470       6147   6152*
LCDF2    022720       5919   5924*
LCDF3    022756       5938   5943*
LCDF4    023014       5957   5962*
LCDF5    023052       5976   5981*
LCDF6    023110       5995   6000*
LCDF7    023146       6014   6019*
LCFDI    036550       9430*  9441
LCFDL    036536       9424   9426*
LCFDT    036512       6168   6187   6206   6225   6244   6263   6282   6301   9418*
LCFD1    023526       6167   6172*
LCFD10   024050       6300   6305*
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LCFD2   023564          6186    6191#
LCFD3   023622          6205    6210#
LCFD4   023660          6224    6229#
LCFD5   023716          6243    6248#
LCFD6   023754          6262    6267#
LCFD7   024012          6281    6286#
LCIDL   037314          9581    9583#
LCIDT   037270          6750    6768    6786    6804    6822    9575#
LCID1   025334          6749    6754#
LCID2   025366          6767    6772#
LCID3   025420          6785    6790#
LCID4   025452          6803    6808#
LCID5   025504          6821    6826#
LCIFL   037214          9548    9550#
LCIFT   037170          6664    6681    6698    6715    6732    9542#
LCIF1   025156          6663    6668#
LCIF2   025204          6680    6685#
LCIF3   025232          6697    6702#
LCIF4   025260          6714    6719#
LCIF5   025306          6731    6736#
LCLDL   037534          9651    9653#
LCLDT   037510          6961    6979    6997    7015    7033    9645#
LCLD1   026006          6960    6965#
LCLD2   026042          6978    6983#
LCLD3   026076          6996    7001#
LCLD4   026132          7014    7019#
LCLD5   026166          7032    7037#
LCLFL   037434          9618    9620#
LCLFT   037410          6841    6858    6875    6892    6909    6926    6943    9612#
LCLF1   025536          6840    6845#
LCLF2   025566          6857    6862#
LCLF3   025616          6874    6879#
LCLF4   025646          6891    6896#
LCLF5   025676          6908    6913#
LCLF6   025726          6925    6930#
LCLF7   025756          6942    6947#
LEXDI   041044          9935#   9945
LEXDL   041034          9929    9931#
LEXDT   041010          7955    7976    7997    8018    8039    8060    8081    8102    8123    8144    8165    8186    8207
                        8228    8249    8270    8291    8312    8333    8354    9923#
LEXD1   030666          7954    7959#
LEXD10  031262          8101    8106#
LEXD11  031326          8122    8127#
LEXD12  031372          8143    8148#
LEXD13  031436          8164    8169#
LEXD14  031502          8185    8190#
LEXD15  031546          8206    8211#
LEXD16  031612          8227    8232#
LEXD17  031656          8248    8253#
LEXD2   030732          7975    7980#
LEXD20  031722          8269    8274#
LEXD21  031766          8290    8295#
LEXD22  032032          8311    8316#
LEXD23  032076          8332    8337#
LEXD24  032142          8353    8358#
LEXD3   030776          7996    8001#
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LEXD4   031042            8017    8022#
LEXD5   031106            8038    8043#
LEXD6   031152            8059    8064#
LEXD7   031216            8080    8085#
LEXFI   040674            9892#   9902
LEXFL   040664            9886    9888#
LEXFT   040640            7574    7593    7612    7631    7650    7669    7688    7707    7726    7745    7764    7783    7802
                          7821    7840    7859    7878    7897    7916    7935    9880#
LEXF1   027606            7573    7578#
LEXF10  030112            7706    7711#
LEXF11  030146            7725    7730#
LEXF12  030202            7744    7749#
LEXF13  030236            7763    7768#
LEXF14  030272            7782    7787#
LEXF15  030326            7801    7806#
LEXF16  030362            7820    7825#
LEXF17  030416            7839    7844#
LEXF2   027642            7592    7597#
LEXF20  030452            7858    7863#
LEXF21  030506            7877    7882#
LEXF22  030542            7896    7901#
LEXF23  030576            7915    7920#
LEXF24  030632            7934    7939#
LEXF3   027676            7611    7616#
LEXF4   027732            7630    7635#
LEXF5   027766            7649    7654#
LEXF6   030022            7668    7673#
LEXF7   030056            7687    7692#
LF      = 000012           782#   10321   10327
LGN     = 177777           914#   1387    1422    1587    1629    1865    2092    2094    2111    2112    2235    2499    2501
                          2759    2761    2778    2797    3009    3013    3031    3035    3164    3391    3393    3492    3688
                          3690    3935    4086    4125    4476    4536    4556    4558    4843    5241    5261    5263    5548
                          6134    6268    6269    6421    6423    6459    6593    6595
LGP     = 077777           913#   1386    1423    1589    1627    1864    2054    2055    2237    2455    2459    2543    2547
                          2565    2567    2721    2723    2740    2742    3097    3101    3119    3141    3182    3468    3710
                          3712    4067    4106    4146    4454    4517    4865    4889    4893    5222    5570    5594    5598
                          6020    6039    6041    6096    6115    6230    6231    6440    6478    6535    6650    6652
MD1DI   036140            9326#   9339
MD1DL   036124            9319    9321#
MD1DT   036100            5517    5541    5565    5589    5613    5637    5661    5685    5709    5733    5757    5781    5805
                          5829    5853    5877    9313#
MD1D1   021222            5516    5521#
MD1D10  021760            5684    5689#
MD1D11  022042            5708    5713#
MD1D12  022124            5732    5737#
MD1D13  022206            5756    5761#
MD1D14  022270            5780    5785#
MD1D15  022352            5804    5809#
MD1D16  022434            5828    5833#
MD1D17  022516            5852    5857#
MD1D2   021304            5540    5545#
MD1D20  022600            5876    5881#
MD1D3   021366            5564    5569#
MD1D4   021450            5588    5593#
MD1D5   021532            5612    5617#
MD1D6   021614            5636    5641#
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M01D7   021676          5660    5665#
M01FI   035736          9270#   9283
M01FL   035722          9263    9265#
M01FT   035676          5196    5216    5236    5256    5276    5296    5316    5336    5356    5376    5396    5416    5436
                        5456    5476    5496    9257#
M01F1   020162          5195    5200#
M01F10  020540          5335    5340#
M01F11  020602          5355    5360#
M01F12  020644          5375    5380#
M01F13  020706          5395    5400#
M01F14  020750          5415    5420#
M01F15  021012          5435    5440#
M01F16  021054          5455    5460#
M01F17  021116          5475    5480#
M01F2   020224          5215    5220#
M01F20  021160          5495    5500#
M01F3   020266          5235    5240#
M01F4   020330          5255    5260#
M01F5   020372          5275    5280#
M01F6   020434          5295    5300#
M01F7   020476          5315    5320#
M02DI   035474          9209#   9222
M02DL   035460          9202    9204#
M02DT   035434          4812    4836    4860    4884    4908    4932    4956    4980    5004    5028    5052    5076    5100
                        5124    5148    5172    9196#
M02D1   016522          4811    4816#
M02D10  017260          4979    4984#
M02D11  017342          5003    5008#
M02D12  017424          5027    5032#
M02D13  017506          5051    5056#
M02D14  017570          5075    5080#
M02D15  017652          5099    5104#
M02D16  017734          5123    5128#
M02D17  020016          5147    5152#
M02D2   016604          4835    4840#
M02D20  020100          5171    5176#
M02D3   016666          4859    4864#
M02D4   016750          4883    4888#
M02D5   017032          4907    4912#
M02D6   017114          4931    4936#
M02D7   017176          4955    4960#
M02FI   035272          9153#   9166
M02FL   035256          9146    9148#
M02FT   035232          4491    4511    4531    4551    4571    4591    4611    4631    4651    4671    4691    4711    4731
                        4751    4771    4791    9140#
M02F1   015462          4490    4495#
M02F10  016040          4630    4635#
M02F11  016102          4650    4655#
M02F12  016144          4670    4675#
M02F13  016206          4690    4695#
M02F14  016250          4710    4715#
M02F15  016312          4730    4735#
M02F16  016354          4750    4755#
M02F17  016416          4770    4775#
M02F2   015524          4510    4515#
M02F20  016460          4790    4795#
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F03


```
M02F3   015566          4530    4535#
M02F4   015630          4550    4555#
M02F5   015672          4570    4575#
M02F6   015734          4590    4595#
M02F7   015776          4610    4615#
MED   = 076600           885#   1267    1315    1319    1329    8632    8640    8646   10524
MULDI   034536          9016#   9027
MULDL   034526          9010    9012#
MULDT   034502          3463    3485    3507    3529    3551    3573    3595    3617    3639    3661    3683    3705    3727
                        3749    3771    3793    9004#
MULD1   011764          3462    3467#
MULD10  012432          3616    3621#
MULD11  012504          3638    3643#
MULD12  012556          3660    3665#
MULD13  012630          3682    3687#
MULD14  012702          3704    3709#
MULD15  012754          3726    3731#
MULD16  013026          3748    3753#
MULD17  013100          3770    3775#
MULD2   012036          3484    3489#
MULD20  013152          3792    3797#
MULD3   012110          3506    3511#
MULD4   012162          3528    3533#
MULD5   012234          3550    3555#
MULD6   012306          3572    3577#
MULD7   012360          3594    3599#
MULFI   034366          8973#   8984
MULFL   034356          8967    8969#
MULFT   034332          3158    3177    3196    3215    3234    3253    3272    3291    3310    3329    3348    3367    3386
                        3405    3424    3443    8961#
MULF1   011024          3157    3162#
MULF10  011346          3290    3295#
MULF11  011404          3309    3314#
MULF12  011442          3328    3333#
MULF13  011500          3347    3352#
MULF14  011536          3366    3371#
MULF15  011574          3385    3390#
MULF16  011632          3404    3409#
MULF17  011670          3423    3428#
MULF2   011062          3176    3181#
MULF20  011726          3442    3447#
MULF3   011120          3195    3200#
MULF4   011156          3214    3219#
MULF5   011214          3233    3238#
MULF6   011252          3252    3257#
MULF7   011310          3271    3276#
M0    = 100000           912#   1495    2093    2545    2780    2901    2903    3011    3033    3374    3449    3800    4636
                        4985    5341    5690    5982    6001    6058    6077    6134    6153    6173    6345    6364    6402
                        6461    6497    6516    6535
M1    = 177777           911#   1186    1386    1387    1422    1423    1440    1512    1513    1531    1548    1587    1589
                        1627    1629    1669    1687    1689    1709    1769    1787    1789    1807    1808    1864    1865
                        1884    1903    1904    1921    1922    1923    1940    1941    1942    1959    1980    2016    2036
                        2054    2055    2056    2092    2094    2111    2112    2131    2169    2213    2235    2237    2257
                        2279    2283    2301    2303    2305    2323    2325    2327    2369    2393    2411    2413    2435
                        2437    2455    2457    2459    2499    2501    2503    2543    2547    2565    2567    2607    2685
                        2721    2722    2723    2740    2741    2742    2759    2761    2778    2797    2879    2901    2903
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2969 3009 3011 3013 3031 3033 3035 3097 3101 3119 3141 3164 3182
3183 3203 3222 3241 3353 3354 3391 3392 3393 3411 3429 3430 3449
3468 3490 3492 3516 3538 3558 3560 3580 3688 3690 3692 3710 3712
3732 3734 3736 3754 3756 3778 3800 3820 3934 3935 4029 4030 4031
4048 4049 4050 4106 4125 4144 4146 4364 4366 4368 4386 4388 4390
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4597 4598 4657 4698 4776 4778 4796 4841 4843 4865 4867 4889 4891
4893 4895 4939 4941 5011 5013 5037 5059 5061 5083 5153 5157 5177
5204 5221 5222 5224 5241 5242 5244 5261 5262 5263 5264 5284 5302
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5764 5766 5768 5788 5792 5816 5840 5858 5862 5864 5882 5888 5925
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7111 7165 7203 7241 7260 7279 7298 7300 7318 7354 7390 7408 7464
7466 7483 7502 7521 7540 7579 7580 7693 7694 7807 7808 7845 7940
7981 7983 8107 8109 8275 8381 8609

MF = 177776 910# 1549 2017 2037 2413 2437 3240 3259 3355 3558 3580 3692 3736
4658 4697 4717 5013 5059 5083 5363 5402 5422 5718 5764 5788
MR = 000000 928# 1353 1371 1389 1407 1425 1443 1461 1479 1515 1533 1551 1572
1592 1612 1632 1652 1692 1712 1732 1752 1772 1792 1811 1830 1849
1868 1887 1906 1925 1944 1963 1982 2001 2020 2039 2115 2134 2153
2176 2198 2220 2242 2264 2286 2308 2330 2352 2374 2396 2418 2440
2528 2550 2572 2592 2611 2630 2649 2668 2687 2706 2744 2763 2801
2839 2862 2884 2906 2928 2950 2972 2994 3038 3082 3104 3148 3167
3186 3205 3224 3243 3262 3281 3300 3319 3338 3414 3433 3452 3475
3497 3519 3541 3563 3585 3607 3629 3651 3673 3717 3761 3805 3824
3862 3881 3900 3919 3938 3957 3976 3995 4014 4090 4128 4151 4173
4195 4217 4239 4261 4283 4305 4327 4437 4481 4501 4521 4541 4581
4601 4621 4641 4661 4681 4701 4721 4761 4801 4826 4850 4874 4922
4946 4970 4994 5018 5042 5066 5090 5138 5186 5206 5226 5246 5286
5306 5326 5346 5366 5386 5406 5426 5466 5506 5531 5555 5579 5627
5651 5675 5699 5723 5747 5771 5795 5843 5891 5910 5948 5967 5986
6005 6043 6062 6081 6100 6119 6138 6157 6196 6215 6234 6253 6272
6291 6310 6330 6349 6368 6387 6406 6425 6444 6482 6501 6520 6539
7060 7078 7114 7132 7150 7168 7207 7226 7245 7264 7283 7302 7321
7357 7375 7393 7411 7429 7468 7487 7506 7525 7544 7563 7621 7640
7659 7678 7697 7716 7735 7830 7849 7868 7887 7906 7925 7944 8008
8029 8050 8071 8092 8113 8134 8239 8260 8281 8302 8323 8344 8365

NEWPAS 002616 1271 1273 1298# 8688
NWPAS1 002151 1203# 1303
PIRQ = 177772 788#
PIRQVE= 000240 882#
PREVAC 002036 1186# 9150 9206 9267 9323 9383 9427
PR0 = 000000 805#
PR1 = 000040 806#
PR2 = 000100 807#
PR3 = 000140 808#
PR4 = 000200 809#
PR5 = 000240 810#
PR6 = 000300 811#
PR7 = 000340 812#
PS = 177776 785# 786 9693 9743 9793 9845 9983 10023
PSW = 177776 786#

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PWRVEC= 000024            877*   1228*   1229*  10502*  10503*  10512*  10518*  10532*  10533*
P13Z  = 104210            921*   2345    2347    2349
RESVEC= 000010            872*
RFLAG = 000144            889*   1319    8640
RWHAMI= 000022            887*   1267    1315    8632
SCDFI   036736           9476*   9486
SCDFL   036726           9470    9472*
SCDFT   036702           6321    6340    6359    6378    6397    6416    6435    6454    6473    6492    6511    6530    9464*
SCDF1   024106           6320    6325*
SCDF10  024430           6453    6458*
SCDF11  024466           6472    6477*
SCDF12  024524           6491    6496*
SCDF13  024562           6510    6515*
SCDF14  024620           6529    6534*
SCDF2   024144           6339    6344*
SCDF3   024202           6358    6363*
SCDF4   024240           6377    6382*
SCDF5   024276           6396    6401*
SCDF6   024334           6415    6420*
SCDF7   024372           6434    6439*
SCDII   040062           9741*   9752
SCDIL   040052           9735    9737*
SCDIT   040026           7179    7198    7217    7236    7255    7274    7293    9729*
SCDI1   026472           7178    7183*
SCDI2   026526           7197    7202*
SCDI3   026562           7216    7221*
SCDI4   026616           7235    7240*
SCDI5   026652           7254    7259*
SCDI6   026706           7273    7278*
SCDI7   026742           7292    7297*
SCDLI   040466           9843*   9854
SCDLL   040456           9837    9839*
SCDLT   040432           7440    7459    7478    7497    7516    7535    7554    9831*
SCDL1   027264           7439    7444*
SCDL2   027322           7458    7463*
SCDL3   027360           7477    7482*
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SCDL6   027512           7534    7539*
SCDL7   027550           7553    7558*
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SCFD2   024716           6568    6573*
SCFD3   024756           6587    6592*
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SCFD5   025056           6625    6630*
SCFD6   025116           6644    6649*
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SCFIL   037654           9685    9687*
SCFIT   037630           7052    7070    7088    7106    7124    7142    7160    9679*
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SW03   = 000010           827#    837
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TADD01  743#
TADD02  743#
TADDF1  743#
TADDF2  743#
TADDR1  743#
TADDR2  743#
TRMTRP 1048#
TYPBIN  883#
TYPDEC  883#
TYPNAM  883#
TYPNUM  883#
TYPOCS  883#
TYPOCT  883#
TYPTXT  883#
UPCODE  743#  10523
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       1034   1035
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$$NEWT  883#  1338    1356    1374    1392    1410    1428    1446    1464    1482    1500    1518    1536    1555    1575
       1595   1615    1635    1655    1675    1695    1715    1735    1755    1775    1795    1814    1833    1852    1871
       1890   1909    1928    1947    1966    1985    2004    2023    2042    2061    2080    2099    2118    2137    2157
```

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                6562    6581    6600    6619    6638    6657    6674    6691    6708    6725    6743    6761    6779    6797    6815
                6834    6851    6868    6885    6902    6919    6936    6954    6972    6990    7008    7026    7045    7063    7081
                7099    7117    7135    7153    7172    7191    7210    7229    7248    7267    7286    7306    7324    7342    7360
                7378    7396    7414    7433    7452    7471    7490    7509    7528    7547    7567    7586    7605    7624    7643
                7662    7681    7700    7719    7738    7757    7776    7795    7814    7833    7852    7871    7890    7909    7928
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                8263    8284    8305    8326    8347    8369    8386    8403    8420    8437    8454    8471    8489    8507    8525
                8543    8561    8579    8597
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$$SETM       1252#
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                4673    4693    4713    4733    4753    4773    4793    4814    4838    4862    4886    4910    4934    4958    4982
                5006    5030    5054    5078    5102    5126    5150    5174    5198    5218    5238    5258    5278    5298    5318
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                5663    5687    5711    5735    5759    5783    5807    5831    5855    5879    5903    5922    5941    5960    5979
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                7957    7978    7999    8020    8041    8062    8083    8104    8125    8146    8167    8188    8209    8230    8251
                8272    8293    8314    8335    8356    8378    8395    8412    8429    8446    8463    8480    8498    8516    8534
                8552    8570    8588    8606
.EQUAT        743#     773
.HEADE        743#     744
.SBPAS        743#    8616
.SETUP        743#    1206
.STPAS        743#    1264
.$ACT1        743#     946
.$APTB        743#    1067#
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.$APTY    743#  10327
.$CATC    743#    934
.$CMTA    743#    980
.$EOP     743#   8653
.$ERRO    743#  10119
.$POWE    743#  10498
.$SCOP    743#  10056
.$TRAP    743#  10461
.$TYER    743#  10180
.$TYPE    743#  10248
.$TYPO    743#  10384


. ABS.  046114     000


 ERRORS DETECTED:  0
 DEFAULT GLOBALS GENERATED:  0

 DSKZ:DQFPBA,DSKZ:DQFPBA.SEQ/SOL/CRF=DQFPBA.MEM,DQFPBA.MAC,DQFPBA.P11
 RUN-TIME:  58 61 5 SECONDS
 RUN-TIME RATIO:  933/126=7.4
 CORE USED:  33K  (66 PAGES)
```