I D E N T I F I C A T I O N

PRODUCT CODE:	MAINDEC-11-DUFPB-B-D
PRODUCT NAME:	PDP-11/0X - FP11-E FLOATING POINT UNIT ADVANCED INSTRUCTION TESTS
DATE :	MAY, 1977
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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 0-46346(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 HFP 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#'S	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-B 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

MODEL	AVERAGE EXECUTION TIME PER PASS SHORTEST PASS	LONGEST PASS
PDP-11/6X MICROCODE	0:01	3:15
PDP-11/6X W/FP11-E	0:01	2:30

TIMES SPECIFIED AS (MINUTES):(SECONDS)

SHORTEST PASS ::= PASS=1, NO ITERATIONS, USING:
SWR=(004003) FOR PDP-11/6X MICROCODE
SWR=(004002) FOR PDP-11/6X W/FP11-E

LONGEST PASS ::= PASS>=2, 2000. ITERATIONS/TEST, USING:
SWR=(000003) FOR PDP-11/6X MICROCODE
SWR=(000002) FOR PDP-11/6X W/FP11-E

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 GREATLY 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:

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

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                        ;*MAYNARD, MASS. 01754
                        ;*
                        ;*PROGRAM BY DONALD NORTH
                        ;*
                        ;*THIS PROGRAM WAS ASSEMBLED USING THE PDP-11 MAINDEC SYSMAC
                        ;*PACKAGE (MAINDEC-11-DEQAC-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    000000          0=SELECT HFP, IF SW<01>=1
                        ;*               000001          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
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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
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                        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
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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  UPPER 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 ".+4,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  002400         JMP     @#START ;;JUMP TO STARTING ADDRESS OF PROGRAM


                        .SBTTL  ACT11 HOOKS

                        ;;**************************************************************
                        ;HOOKS REQUIRED BY ACT11
000204                  $SVPC=.                 ;SAVE PC
000046                          .=46
000046  033314                  $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          $APTHDR ;;POINT TO APT HEADER BLOCK
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        001000              .=.$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
                          ;;-----START OF CLEAR 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            $LPERR: .WORD   0                ;;CONTAINS SCOPE RETURN FOR ERRORS
001114  000000            $ERTTL: .WORD   0                ;;CONTAINS TOTAL ERRORS DETECTED
001116  000000            $ITEMB: .WORD   0                ;;CONTAINS ITEM CONTROL BYTE
001120  000001            $ERMAX: .WORD   1                ;;CONTAINS MAX. ERRORS PER TEST
001122  000000            $ERRPC: .WORD   0                ;;CONTAINS PC OF LAST ERROR INSTRUCTION
001124  000000            $GDADR: .WORD   0                ;;CONTAINS ADDRESS OF 'GOOD' DATA
001126  000000            $BDADR: .WORD   0                ;;CONTAINS ADDRESS OF 'BAD' DATA
001130  000000            $GDDAT: .WORD   0                ;;CONTAINS 'GOOD' DATA
001132  000000            $BDDAT: .WORD   0                ;;CONTAINS 'BAD' DATA
001134  000000                    .WORD   0                ;;RESERVED--NOT TO BE USED
001136  000000                    .WORD   0
001140     000            $AUTOB: .BYTE   0                ;;AUTOMATIC MODE INDICATOR
001141     000            $INTAG: .BYTE   0                ;;INTERRUPT MODE INDICATOR
001142  000000                    .WORD   0
                          ;;-----END OF CLEAR COMMON TAGS-----
001144  177570            SWR:    .WORD   DSWR             ;;ADDRESS OF SWITCH REGISTER
001146  177570            DISPLA: .WORD   DDISP            ;;ADDRESS OF DISPLAY REGISTER
001150  000000            $LPTST: .WORD   0                ;;CONTAINS TEST NUMBER TO LOOP UPON
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)
```

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  294  001224  000000                $REG16: .WORD   0               ;;CONTAINS ((SREGAD)+34)
  295  001226  000000                $REG17: .WORD   0               ;;CONTAINS ((SREGAD)+36)
  296  001230  000000                $TMP0:  .WORD   0               ;;USER DEFINED
  297  001232  000000                $TMP1:  .WORD   0               ;;USER DEFINED
  298  001234  000000                $TMP2:  .WORD   0               ;;USER DEFINED
  299  001236  000000                $TMP3:  .WORD   0               ;;USER DEFINED
  300  001240  000000                $TMP4:  .WORD   0               ;;USER DEFINED
  301  001242  000000                $TMP5:  .WORD   0               ;;USER DEFINED
  302  001244  000000                $TMP6:  .WORD   0               ;;USER DEFINED
  303  001246  000000                $TMP7:  .WORD   0               ;;USER DEFINED
  304  001250  000000                $TMP10: .WORD   0               ;;USER DEFINED
  305  001252  000000                $TMP11: .WORD   0               ;;USER DEFINED
  306  001254  000000                $TMP12: .WORD   0               ;;USER DEFINED
  307  001256  000000                $TMP13: .WORD   0               ;;USER DEFINED
  308  001260  000000                $TMP14: .WORD   0               ;;USER DEFINED
  309  001262  000000                $TMP15: .WORD   0               ;;USER DEFINED
  310  001264  000000                $TMP16: .WORD   0               ;;USER DEFINED
  311  001266  000000                $TMP17: .WORD   0               ;;USER DEFINED
  312  001270  000000                $TMP20: .WORD   0               ;;USER DEFINED
  313  001272  000000                $TMP21: .WORD   0               ;;USER DEFINED
  314  001274  000000                $TMP22: .WORD   0               ;;USER DEFINED
  315  001276  000000                $TMP23: .WORD   0               ;;USER DEFINED
  316  001300  000000                $TMP24: .WORD   0               ;;USER DEFINED
  317  001302  000000                $TMP25: .WORD   0               ;;USER DEFINED
  318  001304  000000                $TMP26: .WORD   0               ;;USER DEFINED
  319  001306  000000                $TMP27: .WORD   0               ;;USER DEFINED
  320  001310  000000                $TIMES: 0                       ;;MAX. NUMBER OF ITERATIONS
  321  001312  000000                $ESCAPE:0                       ;;ESCAPE ON ERROR ADDRESS
  322  001314  177607  000377       $BELL:  .ASCIZ  <207><377><377> ;;CODE FOR BELL
  323  001320     077                $QUES:  .ASCII  /?/             ;;QUESTION MARK
  324  001321     015                $CRLF:  .ASCII  <15>            ;;CARRIAGE RETURN
  325  001322  000012                $LF:    .ASCIZ  <12>            ;;LINE FEED
  326                                ;;**************************************************************
  327                                .SBTTL  APT MAILBOX-ETABLE
  328
  329                                ;;**************************************************************
  330                                .EVEN
  331  001324                        $MAIL:                          ;;APT MAILBOX
  332  001324  000000                $MSGTY: .WORD   AMSGTY  ;;MESSAGE TYPE CODE
  333  001326  000000                $FATAL: .WORD   AFATAL  ;;FATAL ERROR NUMBER
  334  001330  000000                $TESTN: .WORD   ATESTN  ;;TEST NUMBER
  335  001332  000000                $PASS:  .WORD   APASS   ;;PASS COUNT
  336  001334  000000                $DEVCT: .WORD   ADEVCT  ;;DEVICE COUNT
  337  001336  000000                $UNIT:  .WORD   AUNIT   ;;I/O UNIT NUMBER
  338  001340  000000                $MSGAD: .WORD   AMSGAD  ;;MESSAGE ADDRESS
  339  001342  000000                $MSGLG: .WORD   AMSGLG  ;;MESSAGE LENGTH
  340  001344                        $ETABLE:                        ;;APT ENVIRONMENT TABLE
  341  001344     000                $ENV:   .BYTE   AENV    ;;ENVIRONMENT BYTE
  342  001345     000                $ENVM:  .BYTE   AENVM   ;;ENVIRONMENT MODE BITS
  343  001346  000000                $SWREG: .WORD   ASWREG  ;;APT SWITCH REGISTER
  344  001350  000000                $USWR:  .WORD   AUSWR   ;;USER SWITCHES
  345  001352  000000                $CPUOP: .WORD   ACPUOP  ;;CPU TYPE,OPTIONS
  346                                ;*                      BITS 15-11=CPU TYPE
  347                                ;*                           11/04=01,11/05=02,11/20=03,11/40=04,11/45=05
  348                                ;*                           11/70=06,PDQ=07,Q=10
  349                                ;*                      BIT 10=REAL TIME CLOCK
```



```
  350                                ;*                      BIT  9=FLOATING POINT PROCESSOR
  351                                ;*                      BIT  8=MEMORY MANAGEMENT
  352  001354                        $ETEND:
  353                                .MEXIT
```

```
                                .SBTTL  ERROR POINTER TABLE

                        $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  044147  045366  045642  EMV001: .WORD  EMA,DHA,DTA      ; LDCIF,STCFI,STEXP/F,TRAP-TSTR
001362  044147  045366  045650  EMV002: .WORD  EMA,DHA,DTB      ; CMPF,LDCLF,STCFL
001370  044147  045366  045656  EMV003: .WORD  EMA,DHA,DTC      ; LDCID,STCDI,LDEXP/F,STEXP/D
001376  044147  045366  045664  EMV004: .WORD  EMA,DHA,DTD      ; ADDF,SUBF,MULF,DIVF,LDCDF,LDCFD
                                                                ;   STCDF,LDCLD,STCDL
001404  044147  045366  045672  EMV005: .WORD  EMA,DHA,DTE      ; CMPD,MODF,STCFD
001412  044147  045366  045700  EMV006: .WORD  EMA,DHA,DTF      ; LDEXP/D
001420  044147  045366  045706  EMV007: .WORD  EMA,DHA,DTG      ; ADDD,SUBD,MULD,DIVD
001426  044147  045366  045714  EMV010: .WORD  EMA,DHA,DTH      ; MODD
                                        ;***** VECTORS FOR FEC/FEA ERRORS *****
001434  044173  045402  045722  EMV011: .WORD  EMB,DHB,DTI      ; STCFI,TRAP-TSTR
001442  044173  045402  045734  EMV012: .WORD  EMB,DHB,DTJ      ; CMPF,STCFL
001450  044173  045402  045746  EMV013: .WORD  EMB,DHB,DTA      ; STCDI,LDEXP/F
001456  044173  045402  045760  EMV014: .WORD  EMB,DHB,DTL      ; ADDF,SUBF,MULF,DIVF,LDCDF
                                                                ;   LDCFD,STCDF,STCDL
001464  044173  045402  045772  EMV015: .WORD  EMB,DHB,DTM      ; CMPD,MODF
001472  044173  045402  046004  EMV016: .WORD  EMB,DHB,DTN      ; LDEXP/D
001500  044173  045402  046016  EMV017: .WORD  EMB,DHB,DTO      ; ADDD,SUBD,MULD,DIVD
001506  044173  045402  046030  EMV020: .WORD  EMB,DHB,DTP      ; MODD
                                        ;***** VECTORS FOR RESULT ERRORS *****
001514  044357  045442  046056  EMV021: .WORD  EME,DHC,DTS      ; CMPF
001522  044357  045500  046140  EMV022: .WORD  EME,DHD,DTX      ; CMPD
001530  044446  045442  046114  EMV023: .WORD  EMF,DHC,DTV      ; ADDF,SUBF
001536  044446  045500  046250  EMV024: .WORD  EMF,DHD,DTAB     ; ADDD,SUBD
001544  044520  045442  046114  EMV025: .WORD  EMG,DHC,DTV      ; MULF,DIVF
001552  044520  045500  046250  EMV026: .WORD  EMG,DHD,DTAB     ; MULD,DIVD
001560  044572  045442  046114  EMV027: .WORD  EMH,DHC,DTV      ; MODF-FRAC
001566  044653  045442  046126  EMV030: .WORD  EMI,DHC,DTW      ; MODF-INT
001574  044572  045500  046250  EMV031: .WORD  EMH,DHD,DTAB     ; MODD-FRAC
001602  044653  045500  046272  EMV032: .WORD  EMI,DHD,DTAC     ; MODD-INT
001610  045007  045442  046114  EMV033: .WORD  EMK,DHC,DTV      ; LDCDF,STCDF
001616  044731  045500  046204  EMV034: .WORD  EMJ,DHD,DTZ      ; LDCFD
001624  044731  045500  046226  EMV035: .WORD  EMJ,DHD,DTAA     ; STCFD
001632  045065  045442  046070  EMV036: .WORD  EML,DHC,DTT      ; LDCIF
001640  045065  045500  046162  EMV037: .WORD  EML,DHD,DTY      ; LDCID
001646  045065  045442  046102  EMV040: .WORD  EML,DHC,DTU      ; LDCLF
001654  045065  045500  046204  EMV041: .WORD  EML,DHD,DTZ      ; LDCLD
```



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001662  045145  045366  046042  EMV042: .WORD  EMM,DHA,DTQ      ; STCFI
001670  045145  045366  046050  EMV043: .WORD  EMM,DHA,DTR      ; STCDI
001676  045145  045442  046102  EMV044: .WORD  EMM,DHC,DTU      ; STCFL
001704  045145  045442  046114  EMV045: .WORD  EMM,DHC,DTV      ; STCDL
001712  045225  045442  046102  EMV046: .WORD  EMN,DHC,DTU      ; LDEXP/F
001720  045225  045500  046226  EMV047: .WORD  EMN,DHD,DTAA     ; LDEXP/D
001726  045305  045366  046042  EMV050: .WORD  EMO,DHA,DTW      ; STEXP/F
001734  045305  045366  046050  EMV051: .WORD  EMO,DHA,DTR      ; STEXP/D
001742  000000  000000  000000  EMV052: .WORD  0,0,0            ; (UNUSED)
001750  000000  000000  000000  EMV053: .WORD  0,0,0            ; (UNUSED)
                                        ;***** VECTORS FOR CC COPY ERRORS *****
001756  044310  045366  046314  EMV054: .WORD  EMD,DHA,DTAD     ; STCFI,STCDI,STEXP/F,STEXP/D
001764  044310  045366  046322  EMV055: .WORD  EMD,DHA,DTAE     ; STCFL,STCDL
                                        ;***** VECTOR FOR ILLEGAL TRAP CATCHER ROUTINE *****
001772  044223  045576  046330  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  <CR><LF><LF><LF>"MD-11-DQFPB-"
002054  030455  026461  050504
002062  050106  026502
002066  027102                          .ASCII  "B,"
002070  027056                          .ASCII  ".."
002072  042120  026520  030461          .ASCIZ  "PDP-11/60 F.P.U. ADVANCED INSTRUCTION TESTS"<CR><LF>
002100  033057  020130  027106
002106  027120  027125  040440
002114  053104  047101  042503
002122  020104  047111  052123
002130  052522  052103  047511
002136  020116  042524  052123
002144  006523  000012
002150  005015  040520  051523  NWPAS1: .ASCIZ  <CR><LF>"PASS #"
002156  021440      000
```



```
                                .SBTTL  START OF PASS ROUTINE


                                ;;**************************************************************
                                        .ENABL  AMA             ; ASSEMBLE ALL RELATIVE REFERENCES AS ABSOLUTE
                                ;;**************************************************************

002400                          START:
                                .SBTTL  INITIALIZE THE COMMON TAGS
                                ;;CLEAR THE COMMON TAGS ($CMTAG) AREA
002400  012706  001100                  MOV     #$CMTAG,R6      ;;FIRST LOCATION TO BE CLEARED
002404  005026                  1$:     CLR     (R6)+           ;;CLEAR MEMORY LOCATION
002406  022706  001144                  CMP     #SWR,R6 ;;DONE?
002412  001374                          BNE     .-6             ;;LOOP BACK IF NO
002414  012706  001100                  MOV     #STACK,SP       ;;SETUP THE STACK POINTER
                                ;;INITIALIZE A FEW VECTORS
002420  012737  041762  000020          MOV     #$SCOPE,@#IOTVEC ;;IOT VECTOR FOR SCOPE ROUTINE
002426  012737  000340  000022          MOV     #340,@#IOTVEC+2 ;;LEVEL 7
002434  012737  042240  000030          MOV     #$ERROR,@#EMTVEC ;;EMT VECTOR FOR ERROR ROUTINE
002442  012737  000340  000032          MOV     #340,@#EMTVEC+2 ;;LEVEL 7
002450  012737  043674  000034          MOV     #$TRAP,@#TRAPVEC ;;TRAP VECTOR FOR TRAP CALLS
002456  012737  000340  000036          MOV     #340,@#TRAPVEC+2;LEVEL 7
002464  012737  043742  000024          MOV     #$PWRDN,@#PWRVEC ;;POWER FAILURE VECTOR
002472  012737  000340  000026          MOV     #340,@#PWRVEC+2 ;;LEVEL 7
002500  013737  033264  033256          MOV     $ENDCT,$EOPCT   ;;SETUP END-OF-PROGRAM COUNTER
002506  005037  001310                  CLR     $TIMES          ;;INITIALIZE NUMBER OF ITERATIONS
002512  005037  001312                  CLR     $ESCAPE         ;;CLEAR THE ESCAPE ON ERROR ADDRESS
002516  012737  000001  001120          MOV     #1,$ERMAX       ;;ALLOW ONE ERROR PER TEST
002524  012737  002524  001110          MOV     #.,$LPADR       ;;INITIALIZE THE LOOP ADDRESS FOR SCOPE
002532  012737  002532  001112          MOV     #.,$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.
002540  013746  000004                  MOV     @#ERRVEC,-(SP)  ;;SAVE ERROR VECTOR
002544  012737  002600  000004          MOV     #648,@#ERRVEC   ;;SET UP ERROR VECTOR
002552  012737  177570  001144          MOV     #DSWR,SWR       ;;SETUP FOR A HARDWARE SWICH REGISTER
002560  012737  177570  001146          MOV     #DDISP,DISPLAY  ;;AND A HARDWARE DISPLAY REGISTER
002566  022777  177777  176350          CMP     #-1,@SWR        ;;TRY TO REFERENCE HARDWARE SWR
002574  001012                          BNE     66$             ;;BRANCH IF NO TIMEOUT TRAP OCCURRED
                                                                ;;AND  THE HARDWARE SWR IS NOT = -1
002576  000403                          BR      65$             ;;BRANCH IF NO TIMEOUT
002600  012716  002606          64$:    MOV     #65$,(SP)       ;;SET UP FOR TRAP RETURN
002604  000002                          RTI
002606  012737  000176  001144  65$:    MOV     #SWREG,SWR      ;;POINT TO SOFTWARE SWR
002614  012737  000174  001146          MOV     #DISPREG,DISPLAY
002622  012637  000004          66$:    MOV     (SP)+,@#ERRVEC  ;;RESTORE ERROR VECTOR
002626  005037  001332                  CLR     $PASS           ;;CLEAR PASS COUNT
002632  132737  000200  001345          BITB    #APTSIZE,$ENVM  ;;TEST USER SIZE UNDER APT
002640  001403                          BEQ     67$             ;;YES,USE NON-APT SWITCH
002642  012737  001346  001144          MOV     #$SWREG,SWR     ;;NO,USE APT SWITCH REGISTER
002650                          67$:

                                ; SET UP FPP UNEXPECTED TRAP CATCHER - - - - - - - -
002650  012737  041722  000244          MOV     #FPPILT,@#FPPVEC        ; NEW PC AT FPP TRAP
002656  005037  000246                  CLR     @#FPPVEC+2              ; NEW PS AT FPP TRAP
```

```
002662  104401  002046          TYPE    ,BGNMES         ; ID MESSAGE AT START

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

002666  076600  000022          MED     ,RWHAMI                 ;WHAMI INTO R0
002672  032700  000020          BIT     #BIT04,R0               ;IS THERE A HFP UNIT ?
002676  001403                  BEQ     70$                     ;NO, BR
002700  104401  002714          TYPE    ,68$                    ;INDICATE FP11-E PRESENT
002704  000453                  BR      NEWPAS                  ;GO FOR SUBPASS INIT
002706  104401  002754  70$:    TYPE    ,69$                    ;INDICATE NO FP11-E
002712  000450                  BR      NEWPAS                  ;GO FOR SUBPASS INIT

002714  005015  020052  050106  68$:    .ASCIZ  <15><12>"* FP11-E HFP UNIT PRESENT *"<15><12>
002722  030461  042455  044040
002730  050106  052440  044516
002736  020124  051120  051505
002744  047105  020124  006452
002752  000012
002754  005015  020052  047516  69$:    .ASCIZ  <15><12>"* NO FP11-E HFP UNIT - ALL TESTS WFP ONLY *"<15><12>
002762  043040  030520  026461
002770  020105  043110  020120
002776  047125  052111  026440
003004  040440  046114  052040
003012  051505  051524  053440
003020  050106  047440  046116
003026  020131  006452  000012
                        .EVEN

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


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

003034  012706  001100  NEWPAS: MOV     #STACK,SP               ;RESET STACK PTR

003040  032777  010000  176076          BIT     #BIT12,@$WR             ;INHIBIT STATUS TYPEOUTS ?
003046  001011                  BNE     SUBPAS                  ;BR IF YES

003050  104401  002150          TYPE    ,NWPAS1                 ;"PASS #"
003054  013746  001332          MOV     $PASS,-(SP)             ;PASS COUNT INTO ...
003060  005216                  INC     (SP)                    ;  1=N RANGE
003062  104403                  TYPOS                           ;TYPE OCTAL
003064     006     000          .BYTE   6,0                     ;  6 DIGITS, NO LEADING ZEROS
003066  104401  001321          TYPE    ,$CRLF                  ;END THE LINE


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

003072  012706  001100  SUBPAS: MOV     #STACK,SP               ;RESET SP FOR INSURANCE

003076  076600  000022          MED     ,RWHAMI                 ;GET WHAMI INTO R0
```



```
003102  032700  000020          BIT     #BIT04,R0               ;1=HFP PRESENT, 0=NO
003106  001430                  BEQ     20$                     ;IF NO HFP, TEST WARM ONLY

003110  076600  000144          MED     ,RFLAG                  ;GET FLAGS INTO R0

003114  032777  000002  176022          BIT     #SW01,@$WR              ;SW01:  1=HFP OR WFP TEST ONLY
003122  001413                  BEQ     1$                      ;       0=ALTERNATE HFP/WFP PER PASS

003124  032777  000001  176012          BIT     #SW00,@$WR              ;SW00:  1=WFP ONLY
003132  001403                  BEQ     2$                      ;       0=HFP ONLY
003134  042700  010000          BIC     #BIT12,R0               ;CLEAR HFP ENABLE FLAG<5> FOR WFP
003140  000402                  BR      3$                      ;
003142  052700  010000  2$:     BIS     #BIT12,R0               ;SET HFP ENABLE FLAG<5> FOR HFP
003146  076600  000344  3$:     MED     ,WFLAG                  ;REWRITE FLAGS

003152  032700  010000  1$:     BIT     #BIT12,R0               ;TEST WHO'S ENABLED: HOT, WARM
003156  001404                  BEQ     20$                     ;SET APPROPRIATE HEADER:

003160  012737  044132  042504  19$:    MOV     #ASCHOT,HOTWRM          ;"HOT: "
003166  000403                  BR      21$                     ;
003170  012737  044140  042504  20$:    MOV     #ASCWRM,HOTWRM          ;"WARM: "
003176                          21$:
```

```
                        ;;*****************************************************************
                        ;*TEST 1         TEST OF CMPF INSTR, DATA SET CMPF=1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
003176  000004          TST1:   SCOPE
003200  012705  003212          MOV     #CMPF1,R5       ; PTR TO TEST DATA SET
003204  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003210  000407                  BR      TST2            ;;

003212                  CMPF1:  ; TEST DATA SET CMPF=1:
003212  000000  000000          .WORD   0,0     ; INITIAL AC FLOAT NUMBER
003216  000000  000000          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
003222  047453  047444          .WORD   047453,047444   ; FPS:  BEFORE, AFTER
003226  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
                        ;;*****************************************************************
003230  000004          TST2:   SCOPE
003232  012705  003244          MOV     #CMPF2,R5       ; PTR TO TEST DATA SET
003236  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003242  000407                  BR      TST3            ;;

003244                  CMPF2:  ; TEST DATA SET CMPF=2:
003244  052525  052525          .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
003250  052525  052525          .WORD   ALTP,ALTP       ; INITIAL MEM FLOAT NUMBER
003254  047513  047504          .WORD   047513,047504   ; FPS:  BEFORE, AFTER
003260  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
                        ;;*****************************************************************
003262  000004          TST3:   SCOPE
003264  012705  003276          MOV     #CMPF3,R5       ; PTR TO TEST DATA SET
003270  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003274  000407                  BR      TST4            ;;

003276                  CMPF3:  ; TEST DATA SET CMPF=3:
003276  077777  177777          .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
003302  177777  177777          .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
003306  047507  047510          .WORD   047507,047510   ; FPS:  BEFORE, AFTER
003312  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


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



```
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
003314  000004          TST4:   SCOPE
003316  012705  003330          MOV     #CMPF4,R5       ; PTR TO TEST DATA SET
003322  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003326  000407                  BR      TST5            ;;

003330                  CMPF4:  ; TEST DATA SET CMPF=4:
003330  125252  125252          .WORD   ALTN,ALTN       ; INITIAL AC FLOAT NUMBER
003334  125252  125252          .WORD   ALTN,ALTN       ; INITIAL MEM FLOAT NUMBER
003340  047453  047444          .WORD   047453,047444   ; FPS:  BEFORE, AFTER
003344  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 5         TEST OF CMPF INSTR, DATA SET CMPF=5
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
003346  000004          TST5:   SCOPE
003350  012705  003362          MOV     #CMPF5,R5       ; PTR TO TEST DATA SET
003354  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003360  000407                  BR      TST6            ;;

003362                  CMPF5:  ; TEST DATA SET CMPF=5:
003362  177777  177777          .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
003366  077777  177777          .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
003372  047457  047460          .WORD   047457,047460   ; FPS:  BEFORE, AFTER
003376  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 6         TEST OF CMPF INSTR, DATA SET CMPF=6
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
003400  000004          TST6:   SCOPE
003402  012705  003414          MOV     #CMPF6,R5       ; PTR TO TEST DATA SET
003406  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003412  000407                  BR      TST7            ;;

003414                  CMPF6:  ; TEST DATA SET CMPF=6:
003414  037777  177777          .WORD   037777,M1       ; INITIAL AC FLOAT NUMBER
003420  040000  000000          .WORD   040000,000000   ; INITIAL MEM FLOAT NUMBER
003424  047517  047500          .WORD   047517,047500   ; FPS:  BEFORE, AFTER
003430  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 7         TEST OF CMPF INSTR, DATA SET CMPF=7
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
```

```
                        T7      TEST OF CMPF INSTR, DATA SET CMPF-7

                        ;;*****************************************************************
003432  000004          TST7:   SCOPE
003434  012705  003446          MOV     #CMPF7,R5       ; PTR TO TEST DATA SET
003440  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003444  000407                  BR      TST10           ;;

003446                  CMPF7:  ; TEST DATA SET CMPF-7:
003446  050000  000001          .WORD   050000,000001   ; INITIAL AC FLOAT NUMBER
003452  050000  000000          .WORD   050000,000000   ; INITIAL MEM FLOAT NUMBER
003456  047547  047550          .WORD   047547,047550   ; FPS:  BEFORE, AFTER
003462  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
                        ;;*****************************************************************
003464  000004          TST10:  SCOPE
003466  012705  003500          MOV     #CMPF10,R5      ; PTR TO TEST DATA SET
003472  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003476  000407                  BR      TST11           ;;

003500                  CMPF10: ; TEST DATA SET CMPF-10:
003500  126000  000000          .WORD   126000,000000   ; INITIAL AC FLOAT NUMBER
003504  124000  000000          .WORD   124000,000000   ; INITIAL MEM FLOAT NUMBER
003510  047417  047400          .WORD   047417,047400   ; FPS:  BEFORE, AFTER
003514  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
                        ;;*****************************************************************
003516  000004          TST11:  SCOPE
003520  012705  003532          MOV     #CMPF11,R5      ; PTR TO TEST DATA SET
003524  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003530  000407                  BR      TST12           ;;

003532                  CMPF11: ; TEST DATA SET CMPF-11:
003532  007417  007417          .WORD   ALT4P,ALT4P     ; INITIAL AC FLOAT NUMBER
003536  100004  000000          .WORD   M0,0    ; INITIAL MEM FLOAT NUMBER
003542  047443  147443          .WORD   047443,147443   ; FPS:  BEFORE, AFTER
003546  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
                        ;;*****************************************************************
003550  000004          TST12:  SCOPE
```



```
                        T12     TEST OF CMPF INSTR, DATA SET CMPF-12

003552  012705  003564          MOV     #CMPF12,R5      ; PTR TO TEST DATA SET
003556  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003562  000407                  BR      TST13           ;;

003564                  CMPF12: ; TEST DATA SET CMPF-12:
003564  006177  177777          .WORD   006177,M1       ; INITIAL AC FLOAT NUMBER
003570  004177  177777          .WORD   004177,M1       ; INITIAL MEM FLOAT NUMBER
003574  047507  047510          .WORD   047507,^47510   ; FPS:  BEFORE, AFTER
003600  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 13        TEST OF CMPF INSTR, DATA SET CMPF-13
                        ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
003602  000004          TST13:  SCOPE
003604  012705  003616          MOV     #CMPF13,R5      ; PTR TO TEST DATA SET
003610  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003614  000407                  BR      TST14           ;;

003616                  CMPF13: ; TEST DATA SET CMPF-13:
003616  125252  125252          .WORD   ALTN,ALTN       ; INITIAL AC FLOAT NUMBER
003622  100177  177777          .WORD   2X1MN,M1        ; INITIAL MEM FLOAT NUMBER
003626  043557  043540          .WORD   043557,043540   ; FPS:  BEFORE, AFTER
003632  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 14        TEST OF CMPF INSTR, DATA SET CMPF-14
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                        ;;*****************************************************************
003634  000004          TST14:  SCOPE
003636  012705  003650          MOV     #CMPF14,R5      ; PTR TO TEST DATA SET
003642  004737  033330          JSR     PC,@#CMPFT      ; GO TEST

003646  000407                  BR      TST15           ;;

003650                  CMPF14: ; TEST DATA SET CMPF-14:
003650  000377  177777          .WORD   000377,M1       ; INITIAL AC FLOAT NUMBER
003654  000377  177776          .WORD   000377,M2       ; INITIAL MEM FLOAT NUMBER
003660  047407  047410          .WORD   047407,^47410   ; FPS:  BEFORE, AFTER
003664  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 15        TEST OF CMPD INSTR, DATA SET CMPD=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
003666  000004                  TST15:  $COPE
003670  012705  003702                  MOV     #CMPD1,R5       ; PTR TO TEST DATA SET
003674  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

003700  000413                          BR      TST16           ;!

003702                          CMPD1:  ; TEST DATA SET CMPD=1:
003702  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
003710  000000
003712  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
003720  000000
003722  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
003726  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
                                ;;*****************************************************************
003730  000004                  TST16:  $COPE
003732  012705  003744                  MOV     #CMPD2,R5       ; PTR TO TEST DATA SET
003736  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

003742  000413                          BR      TST17           ;!

003744                          CMPD2:  ; TEST DATA SET CMPD=2:
003744  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
003752  177777
003754  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
003762  177777
003764  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
003770  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
                                ;;*****************************************************************
003772  000004                  TST17:  $COPE
003774  012705  004006                  MOV     #CMPD3,R5       ; PTR TO TEST DATA SET
004000  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

004004  000413                          BR      TST20           ;!

004006                          CMPD3:  ; TEST DATA SET CMPD=3:
004006  170360  170360  170360          .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
004014  170360
004016  170360  170360  170360          .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
004024  170360
```



```
004026  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
004032  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 20        TEST OF CMPD INSTR, DATA SET CMPD=4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
004034  000004                  TST20:  $COPE
004036  012705  004050                  MOV     #CMPD4,R5       ; PTR TO TEST DATA SET
004042  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

004046  000413                          BR      TST21           ;!

004050                          CMPD4:  ; TEST DATA SET CMPD=4:
004050  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
004056  177777
004060  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
004066  177777
004070  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
004074  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 21        TEST OF CMPD INSTR, DATA SET CMPD=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
004076  000004                  TST21:  $COPE
004100  012705  004112                  MOV     #CMPD5,R5       ; PTR TO TEST DATA SET
004104  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

004110  000413                          BR      TST22           ;!

004112                          CMPD5:  ; TEST DATA SET CMPD=5:
004112  007417  007417  007417          .WORD   ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
004120  007417
004122  007417  007417  007417          .WORD   ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER
004130  007417
004132  047653  047644                  .WORD   047653,047644   ; FPS:  BEFORE, AFTER
004136  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 22        TEST OF CMPD INSTR, DATA SET CMPD=6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
004140  000004                  TST22:  $COPE
004142  012705  004154                  MOV     #CMPD6,R5       ; PTR TO TEST DATA SET
004146  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

004152  000413                          BR      TST23           ;!

004154                          CMPD6:  ; TEST DATA SET CMPD=6:
```

```
000154  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN      ; INITIAL AC FLOAT NUMBER
000162  125252
000164  100177  177777  177777          .WORD   EX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
000172  177777
000174  047703  147703                  .WORD   047703,147703   ; FPS:  BEFORE, AFTER
000200  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 23        TEST OF CMPD INSTR, DATA SET CMPD=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;**************************************************************
000202  000004                  TST23:  SCOPE
000204  012705  000216                  MOV     #CMPD7,R5       ; PTR TO TEST DATA SET
000210  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

000214  000413                          BR      TST24           ;;

000216                          CMPD7:  ; TEST DATA SET CMPD=7:
000216  002177  177777  177777          .WORD   002177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
000224  177777
000226  005177  177777  177777          .WORD   005177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
000234  177777
000236  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
000242  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 24        TEST OF CMPD INSTR, DATA SET CMPD=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;**************************************************************
000244  000004                  TST24:  SCOPE
000246  012705  000260                  MOV     #CMPD10,R5      ; PTR TO TEST DATA SET
000252  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

000256  000413                          BR      TST25           ;;

000260                          CMPD10: ; TEST DATA SET CMPD=10:
000260  030000  000000  000000          .WORD   030000,000000,000000,000000     ; INITIAL AC FLOAT NUMBER
000266  000000
000270  027777  177777  177777          .WORD   027777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
000276  177777
000300  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
000304  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 25        TEST OF CMPD INSTR, DATA SET CMPD=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;**************************************************************
000306  000004                  TST25:  SCOPE
000310  012705  000322                  MOV     #CMPD11,R5      ; PTR TO TEST DATA SET
000314  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST
```



```

000320  000413                          BR      TST26           ;;

000322                          CMPD11: ; TEST DATA SET CMPD=11:
000322  102000  000000  000000          .WORD   102000,000000,000000,000000     ; INITIAL AC FLOAT NUMBER
000330  000000
000332  102000  000000  000000          .WORD   102000,000000,000000,000001     ; INITIAL MEM FLOAT NUMBER
000340  000001
000342  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
000346  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 26        TEST OF CMPD INSTR, DATA SET CMPD=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;**************************************************************
000350  000004                  TST26:  SCOPE
000352  012705  000364                  MOV     #CMPD12,R5      ; PTR TO TEST DATA SET
000356  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

000362  000413                          BR      TST27           ;;

000364                          CMPD12: ; TEST DATA SET CMPD=12:
000364  002000  000000  000000          .WORD   002000,000000,000000,000000     ; INITIAL AC FLOAT NUMBER
000372  000000
000374  014000  000000  000000          .WORD   014000,000000,000000,000000     ; INITIAL MEM FLOAT NUMBER
000402  000000
000404  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
000410  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 27        TEST OF CMPD INSTR, DATA SET CMPD=13
                                ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;**************************************************************
000412  000004                  TST27:  SCOPE
000414  012705  000426                  MOV     #CMPD13,R5      ; PTR TO TEST DATA SET
000420  004737  033476                  JSR     PC,@#CMPDT      ; GO TEST

000424  000413                          BR      TST30           ;;

000426                          CMPD13: ; TEST DATA SET CMPD=13:
000426  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
000434  000000
000436  100177  177777  000000          .WORD   EX1MN,M1,0,M1   ; INITIAL MEM FLOAT NUMBER
000444  177777
000446  043713  043704                  .WORD   043713,043704   ; FPS:  BEFORE, AFTER
000452  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 30        TEST OF CMPD INSTR, DATA SET CMPD=14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
```

```
                                        ;;*******************************************************************
004454  000004                          TST30:  SCOPE
004456  012705  004470                          MOV     #CMPD14,R5      ; PTR TO TEST DATA SET
004462  004737  033476                          JSR     PC,@#CMPDT      ; GO TEST

004466  000413                                  BR      TST31           ;;

004470                                  CMPD14: ; TEST DATA SET CMPD-14:
004470  100777  000000  177777                  .WORD   100777,000000,M1,000001 ; INITIAL AC FLOAT NUMBER
004476  000001
004500  100777  000000  177777                  .WORD   100777,000000,M1,000000 ; INITIAL MEM FLOAT NUMBER
004506  000000
004510  047657  047640                          .WORD   047657,047640   ; FPS:  BEFORE, AFTER
004514  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                        ;;*******************************************************************
                                        ;*TEST 31        TEST OF ADDF INSTR, DATA SET ADDF-1
                                        ;*               ALL INTERRUPT ENABLES ON
                                        ;*               SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;*******************************************************************
004516  000004                          TST31:  SCOPE
004520  012705  004532                          MOV     #ADDF1,R5       ; PTR TO TEST DATA SET
004524  004737  033664                          JSR     PC,@#ADDFT      ; GO TEST

004530  000411                                  BR      TST32           ;;

004532                                  ADDF1:  ; TEST DATA SET ADDF-1:
004532  000177  177777                          .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
004536  000177  177777                          .WORD   ZX1MP,M1        ; INITIAL MEM FLOAT NUMBER
004542  000000  000000                          .WORD   0,0     ; EXPECTED FLOAT RESULT
004546  047453  047444                          .WORD   047453,047444   ; FPS:  BEFORE, AFTER
004552  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
                                        ;;*******************************************************************
004554  000004                          TST32:  SCOPE
004556  012705  004570                          MOV     #ADDF2,R5       ; PTR TO TEST DATA SET
004562  004737  033664                          JSR     PC,@#ADDFT      ; GO TEST

004566  000411                                  BR      TST33           ;;

004570                                  ADDF2:  ; TEST DATA SET ADDF-2:
004570  000000  000000                          .WORD   0,0     ; INITIAL AC FLOAT NUMBER
004574  125252  125252                          .WORD   ALTN,ALTN       ; INITIAL MEM FLOAT NUMBER
004600  125252  125252                          .WORD   ALTN,ALTN       ; EXPECTED FLOAT RESULT
004604  047407  047410                          .WORD   047407,047410   ; FPS:  BEFORE, AFTER
004610  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
                                        ;;*******************************************************************
004612  000004                          TST33:  SCOPE
004614  012705  004626                          MOV     #ADDF3,R5       ; PTR TO TEST DATA SET
004620  004737  033664                          JSR     PC,@#ADDFT      ; GO TEST

004624  000411                                  BR      TST34           ;;

004626                                  ADDF3:  ; TEST DATA SET ADDF-3:
004626  052525  052525                          .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
004632  000000  000000                          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
004636  052525  052525                          .WORD   ALTP,ALTP       ; EXPECTED FLOAT RESULT
004642  047557  047540                          .WORD   047557,047540   ; FPS:  BEFORE, AFTER
004646  000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 34        TEST OF ADDF INSTR, DATA SET ADDF=4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
004650  000004                  TST34:  SCOPE
004652  012705  004664                  MOV     #ADDF4,R5       ; PTR TO TEST DATA SET
004656  004737  033664                  JSR     PC,@#ADDFT      ; GO TEST

004662  000411                          BR      TST35           ;;

004664                          ADDF4:  ; TEST DATA SET ADDF=4:
004664  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
004670  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
004674  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
004700  047513  047504                  .WORD   047513,047504   ; FPS:  BEFORE, AFTER
004704  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 35        TEST OF ADDF INSTR, DATA SET ADDF=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
004706  000004                  TST35:  SCOPE
004710  012705  004722                  MOV     #ADDF5,R5       ; PTR TO TEST DATA SET
004714  004737  033664                  JSR     PC,@#ADDFT      ; GO TEST

004720  000411                          BR      TST36           ;;

004722                          ADDF5:  ; TEST DATA SET ADDF=5:
004722  042000  000000                  .WORD   042000,000000   ; INITIAL AC FLOAT NUMBER
004726  050177  177777                  .WORD   050177,M1       ; INITIAL MEM FLOAT NUMBER
004732  050200  000000                  .WORD   050200,000000   ; EXPECTED FLOAT RESULT
004736  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
004742  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 36        TEST OF ADDF INSTR, DATA SET ADDF=6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
004744  000004                  TST36:  SCOPE
004746  012705  004760                  MOV     #ADDF6,R5       ; PTR TO TEST DATA SET
004752  004737  033664                  JSR     PC,@#ADDFT      ; GO TEST

004756  000411                          BR      TST37           ;;

004760                          ADDF6:  ; TEST DATA SET ADDF=6:
004760  042000  000000                  .WORD   042000,000000   ; INITIAL AC FLOAT NUMBER
004764  050177  177777                  .WORD   050177,M1       ; INITIAL MEM FLOAT NUMBER
004770  050177  177777                  .WORD   050177,M1       ; EXPECTED FLOAT RESULT
004774  047457  047440                  .WORD   047457,@47440   ; FPS:  BEFORE, AFTER
005000  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 37        TEST OF ADDF INSTR, DATA SET ADDF=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
005002  000004                  TST37:  SCOPE
005004  012705  005016                  MOV     #ADDF7,R5       ; PTR TO TEST DATA SET
005010  004737  033664                  JSR     PC,@#ADDFT      ; GO TEST

005014  000411                          BR      TST40           ;;

005016                          ADDF7:  ; TEST DATA SET ADDF=7:
005016  141777  177777                  .WORD   141777,M1       ; INITIAL AC FLOAT NUMBER
005022  150177  177777                  .WORD   150177,M1       ; INITIAL MEM FLOAT NUMBER
005026  150177  177777                  .WORD   150177,M1       ; EXPECTED FLOAT RESULT
005032  047507  047510                  .WORD   047507,@47510   ; FPS:  BEFORE, AFTER
005036  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 40        TEST OF ADDF INSTR, DATA SET ADDF=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
005040  000004                  TST40:  SCOPE
005042  012705  005054                  MOV     #ADDF10,R5      ; PTR TO TEST DATA SET
005046  004737  033664                  JSR     PC,@#ADDFT      ; GO TEST

005052  000411                          BR      TST41           ;;

005054                          ADDF10: ; TEST DATA SET ADDF=10:
005054  141777  177777                  .WORD   141777,M1       ; INITIAL AC FLOAT NUMBER
005060  150177  177777                  .WORD   150177,M1       ; INITIAL MEM FLOAT NUMBER
005064  150177  177777                  .WORD   150177,M1       ; EXPECTED FLOAT RESULT
005070  047547  047550                  .WORD   047547,@47550   ; FPS:  BEFORE, AFTER
005074  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 41        TEST OF ADDF INSTR, DATA SET ADDF=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
005076  000004                  TST41:  SCOPE
005100  012705  005112                  MOV     #ADDF11,R5      ; PTR TO TEST DATA SET
005104  004737  033664                  JSR     PC,@#ADDFT      ; GO TEST

005110  000411                          BR      TST42           ;;

005112                          ADDF11: ; TEST DATA SET ADDF=11:
005112  040177  177777                  .WORD   040177,M1       ; INITIAL AC FLOAT NUMBER
005116  032200  000000                  .WORD   032200,000000   ; INITIAL MEM FLOAT NUMBER
005122  040200  000000                  .WORD   040200,000000   ; EXPECTED FLOAT RESULT
005126  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
```

```
                        T41     TEST OF ADDF INSTR, DATA SET ADDF=11

 1225  005132  000000                .WORD   NA              ; FEC AFTER ( 0 = N/A )
 1226
 1227
 1228                           ;;*****************************************************************
 1229                           ;*TEST 42        TEST OF ADDF INSTR, DATA SET ADDF=12
 1230                           ;*              ALL INTERRUPT ENABLES ON
 1231                           ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
 1232                           ;;*****************************************************************
 1233  005134  000004          TST42:  SCOPE
 1234  005136  012705  005150          MOV     #ADDF12,R5      ; PTR TO TEST DATA SET
 1235  005142  004737  033664          JSR     PC,@#ADDFT      ; GO TEST
 1236
 1237  005146  000411                  BR      TST43           ;;
 1238
 1239  005150                  ADDF12: ; TEST DATA SET ADDF=12:
 1240  005150  140252  125252          .WORD   140252,125252   ; INITIAL AC FLOAT NUMBER
 1241  005154  140052  125252          .WORD   140052,125252   ; INITIAL MEM FLOAT NUMBER
 1242  005160  140377  177777          .WORD   140377,M1       ; EXPECTED FLOAT RESULT
 1243  005164  047407  047410          .WORD   047407,^047410  ; FPS:  BEFORE, AFTER
 1244  005170  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 1245
 1246
 1247
 1248                           ;;*****************************************************************
 1249                           ;*TEST 43        TEST OF ADDF INSTR, DATA SET ADDF=13
 1250                           ;*              ALL INTERRUPT ENABLES ON
 1251                           ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
 1252  005172  000004          ;;*****************************************************************
 1253  005174  012705  005206  TST43:  SCOPE
 1254  005200  004737  033664          MOV     #ADDF13,R5      ; PTR TO TEST DATA SET
 1255                                   JSR     PC,@#ADDFT      ; GO TEST
 1256  005204  000411
 1257                                   BR      TST44           ;;
 1258  005206
 1259  005206  040010  104210  ADDF13: ; TEST DATA SET ADDF=13:
 1260  005212  040010  104210          .WORD   040010,104210   ; INITIAL AC FLOAT NUMBER
 1261  005216  040210  104210          .WORD   040010,104210   ; INITIAL MEM FLOAT NUMBER
 1262  005222  047557  047540          .WORD   040210,104210   ; EXPECTED FLOAT RESULT
 1263  005226  000000                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
 1264                                   .WORD   NA              ; FEC AFTER ( 0 = N/A )
 1265
 1266
 1267                           ;;*****************************************************************
 1268                           ;*TEST 44        TEST OF ADDF INSTR, DATA SET ADDF=14
 1269                           ;*              ALL INTERRUPT ENABLES ON
 1270                           ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
 1271  005230  000004          ;;*****************************************************************
 1272  005232  012705  005244  TST44:  SCOPE
 1273  005236  004737  033664          MOV     #ADDF14,R5      ; PTR TO TEST DATA SET
 1274                                   JSR     PC,@#ADDFT      ; GO TEST
 1275  005242  000411
 1276                                   BR      TST45           ;;
 1277  005244
 1278  005244  174177  177777  ADDF14: ; TEST DATA SET ADDF=14:
 1279  005250  074177  177776          .WORD   174177,M1       ; INITIAL AC FLOAT NUMBER
 1280  005254  166200  000000          .WORD   074177,M2       ; INITIAL MEM FLOAT NUMBER
                                       .WORD   166200,^000000  ; EXPECTED FLOAT RESULT
```



```
                        T44     TEST OF ADDF INSTR, DATA SET ADDF=14

 1281  005260  047507  047510          .WORD   047507,047510   ; FPS:  BEFORE, AFTER
 1282  005264  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 1283
 1284
 1285
 1286                           ;;*****************************************************************
 1287                           ;*TEST 45        TEST OF ADDF INSTR, DATA SET ADDF=15
 1288                           ;*              ALL INTERRUPT ENABLES ON
 1289                           ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
 1290  005266  000004          ;;*****************************************************************
 1291  005270  012705  005302  TST45:  SCOPE
 1292  005274  004737  033664          MOV     #ADDF15,R5      ; PTR TO TEST DATA SET
 1293                                   JSR     PC,@#ADDFT      ; GO TEST
 1294  005300  000411
 1295                                   BR      TST46           ;;
 1296  005302
 1297  005302  142200  000000  ADDF15: ; TEST DATA SET ADDF=15:
 1298  005306  050177  177777          .WORD   142200,000000   ; INITIAL AC FLOAT NUMBER
 1299  005312  050177  177776          .WORD   050177,M1       ; INITIAL MEM FLOAT NUMBER
 1300  005316  047417  047400          .WORD   050177,M2       ; EXPECTED FLOAT RESULT
 1301  005322  000000                  .WORD   047417,^047400  ; FPS:  BEFORE, AFTER
                                       .WORD   NA              ; FEC AFTER ( 0 = N/A )
 1302
 1303
 1304                           ;;*****************************************************************
 1305                           ;*TEST 46        TEST OF ADDF INSTR, DATA SET ADDF=16
 1306                           ;*              ALL INTERRUPT ENABLES ON
 1307                           ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
 1308  005324  000004          ;;*****************************************************************
 1309  005326  012705  005340  TST46:  SCOPE
 1310  005332  004737  033664          MOV     #ADDF16,R5      ; PTR TO TEST DATA SET
 1311                                   JSR     PC,@#ADDFT      ; GO TEST
 1312
 1313  005336  000411                  BR      TST47           ;;
 1314
 1315  005340
 1316  005340  077777  177777  ADDF16: ; TEST DATA SET ADDF=16:
 1317  005344  077777  177777          .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
 1318  005350  000177  177777          .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
 1319  005354  047451  147446          .WORD   2X;MP,M1        ; EXPECTED FLOAT RESULT
 1320  005360  100010                  .WORD   047451,147446   ; FPS:  BEFORE, AFTER
                                       .WORD   100010          ; FEC AFTER ( 0 = N/A )
 1321
 1322
 1323                           ;;*****************************************************************
 1324                           ;*TEST 47        TEST OF ADDF INSTR, DATA SET ADDF=17
 1325                           ;*              ALL INTERRUPT ENABLES ON
 1326                           ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
 1327                           ;;*****************************************************************
 1328  005362  000004          TST47:  SCOPE
 1329  005364  012705  005376          MOV     #ADDF17,R5      ; PTR TO TEST DATA SET
 1330  005370  004737  033664          JSR     PC,@#ADDFT      ; GO TEST
 1331
 1332  005374  000411                  BR      TST50           ;;
 1333
 1334  005376
 1335  005376  104000  000000  ADDF17: ; TEST DATA SET ADDF=17:
 1336  005402  004002  000001          .WORD   104000,0        ; INITIAL AC FLOAT NUMBER
                                       .WORD   004000,1        ; INITIAL MEM FLOAT NUMBER
```

```
                        T47     TEST OF ADDF INSTR, DATA SET ADDF=17

1337  005406  076200  000000            .WORD   076200,0        ; EXPECTED FLOAT RESULT
1338  005412  047517  147500            .WORD   047517,147500   ; FPS:  BEFORE, AFTER
1339  005416  100012                    .WORD   100012          ; FEC AFTER ( 0 = N/A )
1340
1341
1342                                ;;**************************************************************
1343                                ;*TEST 50        TEST OF ADDF INSTR, DATA SET ADDF=20
1344                                ;*              ALL INTERRUPT ENABLES ON
1345                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
1346                                ;;**************************************************************
1347  005420  000004                TST50:  SCOPE
1348  005422  012705  005434                MOV     #ADDF20,R5      ; PTR TO TEST DATA SET
1349  005426  004737  033664                JSR     PC,@#ADDFT      ; GO TEST
1350
1351  005432  000411                        BR      TST51           ;!
1352
1353  005434                        ADDF20: ; TEST DATA SET ADDF=20:
1354  005434  177777  177777                .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
1355  005440  100000  000000                .WORD   M0,0    ; INITIAL MEM FLOAT NUMBER
1356  005444  177777  177777                .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
1357  005450  047543  147543                .WORD   047543,147543   ; FPS:  BEFORE, AFTER
1358  005454  100014                        .WORD   100014          ; FEC AFTER ( 0 = N/A )
1359
1360
1361                                ;;**************************************************************
1362                                ;*TEST 51        TEST OF ADDF INSTR, DATA SET ADDF=21
1363                                ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1364                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
1365                                ;;**************************************************************
1366  005456  000004                TST51:  SCOPE
1367  005460  012705  005472                MOV     #ADDF21,R5      ; PTR TO TEST DATA SET
1368  005464  004737  033664                JSR     PC,@#ADDFT      ; GO TEST
1369
1370  005470  000411                        BR      TST52           ;!
1371
1372  005472                        ADDF21: ; TEST DATA SET ADDF=21:
1373  005472  177777  177777                .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
1374  005476  177777  177777                .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
1375  005502  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
1376  005506  046511  046506                .WORD   046511,046506   ; FPS:  BEFORE, AFTER
1377  005512  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
1378
1379
1380                                ;;**************************************************************
1381                                ;*TEST 52        TEST OF ADDF INSTR, DATA SET ADDF=22
1382                                ;*              =0 INTERRUPT ENABLE OFF, ALL OTHERS ON
1383                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
1384                                ;;**************************************************************
1385  005514  000004                TST52:  SCOPE
1386  005516  012705  005530                MOV     #ADDF22,R5      ; PTR TO TEST DATA SET
1387  005522  004737  033664                JSR     PC,@#ADDFT      ; GO TEST
1388
1389  005526  000411                        BR      TST53           ;!
1390
1391  005530                        ADDF22: ; TEST DATA SET ADDF=22:
1392  005530  052525  052525                .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
```



```
                        T52     TEST OF ADDF INSTR, DATA SET ADDF=22

1393  005534  100177  177777            .WORD   2X1MN,M1        ; INITIAL MEM FLOAT NUMBER
1394  005540  052525  052525            .WORD   ALTP,ALTP       ; EXPECTED FLOAT RESULT
1395  005544  043717  043700            .WORD   043717,043700   ; FPS:  BEFORE, AFTER
1396  005550  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
1397
1398
1399                                ;;**************************************************************
1400                                ;*TEST 53        TEST OF ADDF INSTR, DATA SET ADDF=23
1401                                ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1402                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
1403                                ;;**************************************************************
1404  005552  000004                TST53:  SCOPE
1405  005554  012705  005566                MOV     #ADDF23,R5      ; PTR TO TEST DATA SET
1406  005560  004737  033664                JSR     PC,@#ADDFT      ; GO TEST
1407
1408  005564  000411                        BR      TST54           ;!
1409
1410  005566                        ADDF23: ; TEST DATA SET ADDF=23:
1411  005566  004000  000001                .WORD   004000,000001   ; INITIAL AC FLOAT NUMBER
1412  005572  104000  000000                .WORD   104000,000000   ; INITIAL MEM FLOAT NUMBER
1413  005576  000000  000000                .WORD   000000,000000   ; EXPECTED FLOAT RESULT
1414  005602  045413  045404                .WORD   045413,045404   ; FPS:  BEFORE, AFTER
1415  005606  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
1416
1417
1418
```

```
                        ;;*****************************************************************
                        ;*TEST 54        TEST OF ADDD INSTR, DATA SET ADDD=1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
005610  000004          TST54:  SCOPE
005612  012705  005624          MOV     #ADDD1,R5       ; PTR TO TEST DATA SET
005616  004737  034034          JSR     PC,@#ADDDT      ; GO TEST

005622  000417                  BR      TST55           ;;

005624                  ADDD1:  ; TEST DATA SET ADDD=1:
005624  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
005632  177777
005634  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
005642  000000
005644  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
005652  000000
005654  047713  047704          .WORD   047713,047704   ; FPS:  BEFORE, AFTER
005660  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
                        ;;*****************************************************************
005662  000004          TST55:  SCOPE
005664  012705  005676          MOV     #ADDD2,R5       ; PTR TO TEST DATA SET
005670  004737  034034          JSR     PC,@#ADDDT      ; GO TEST

005674  000417                  BR      TST56           ;;

005676                  ADDD2:  ; TEST DATA SET ADDD=2:
005676  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
005704  125252
005706  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
005714  000000
005716  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; EXPECTED FLOAT RESULT
005724  125252
005726  047747  047750          .WORD   047747,047750   ; FPS:  BEFORE, AFTER
005732  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
                        ;;*****************************************************************
005734  000004          TST56:  SCOPE
005736  012705  005750          MOV     #ADDD3,R5       ; PTR TO TEST DATA SET
005742  004737  034034          JSR     PC,@#ADDDT      ; GO TEST

005746  000417                  BR      TST57           ;;

005750                  ADDD3:  ; TEST DATA SET ADDD=3:
```



```
005750  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
005756  177777
005760  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL MEM FLOAT NUMBER
005766  052525
005770  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; EXPECTED FLOAT RESULT
005776  052525
006000  047617  047600          .WORD   047617,047600   ; FPS:  BEFORE, AFTER
006004  000000          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 57        TEST OF ADDD INSTR, DATA SET ADDD=4
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
006006  000004          TST57:  SCOPE
006010  012705  006022          MOV     #ADDD4,R5       ; PTR TO TEST DATA SET
006014  004737  034034          JSR     PC,@#ADDDT      ; GO TEST

006020  000417                  BR      TST60           ;;

006022                  ADDD4:  ; TEST DATA SET ADDD=4:
006022  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
006030  177777
006032  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
006040  177777
006042  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
006050  000000
006052  047653  047644          .WORD   047653,047644   ; FPS:  BEFORE, AFTER
006056  000000          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 60        TEST OF ADDD INSTR, DATA SET ADDD=5
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                        ;;*****************************************************************
006060  000004          TST60:  SCOPE
006062  012705  006074          MOV     #ADDD5,R5       ; PTR TO TEST DATA SET
006066  004737  034034          JSR     PC,@#ADDDT      ; GO TEST

006072  000417                  BR      TST61           ;;

006074                  ADDD5:  ; TEST DATA SET ADDD=5:
006074  166177  177777  177777          .WORD   166177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
006102  177777
006104  150000  000000  000000          .WORD   150000,0,0,0    ; INITIAL MEM FLOAT NUMBER
006112  000000
006114  166200  000000  000000          .WORD   166200,0,0,0    ; EXPECTED FLOAT RESULT
006122  000000
006124  047607  047610          .WORD   047607,047610   ; FPS:  BEFORE, AFTER
006130  000000          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 61        TEST OF ADDD INSTR, DATA SET ADDD=6
```

```
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;!**************************************************************
006132  000004                  TST61:  SCOPE
006134  012705  006146                  MOV     #ADDD6,R5       ; PTR TO TEST DATA SET
006140  004737  034034                  JSR     PC,@#ADDDT      ; GO TEST

006144  000417                          BR      TST62           ;!

006146                          ADDD6:  ; TEST DATA SET ADDD=6!
006146  166177  177777  177777          .WORD   166177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
006154  177777
006156  150000  000000  000000          .WORD   150000,0,0,0    ; INITIAL MEM FLOAT NUMBER
006164  000000
006166  166177  177777  177777          .WORD   166177,M1,M1,M1 ; EXPECTED FLOAT RESULT
006174  177777
006176  047647  047650                  .WORD   047647,047650   ; FPS!  BEFORE, AFTER
006202  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!**************************************************************
                                ;*TEST 62        TEST OF ADDD INSTR, DATA SET ADDD=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;!**************************************************************
006204  000004                  TST62:  SCOPE
006206  012705  006220                  MOV     #ADDD7,R5       ; PTR TO TEST DATA SET
006212  004737  034034                  JSR     PC,@#ADDDT      ; GO TEST

006216  000417                          BR      TST63           ;!

006220                          ADDD7:  ; TEST DATA SET ADDD=7!
006220  066177  177777  177777          .WORD   066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
006226  177777
006230  047777  177777  177777          .WORD   047777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
006236  177777
006240  066177  177777  177777          .WORD   066177,M1,M1,M1 ; EXPECTED FLOAT RESULT
006246  177777
006250  047717  047700                  .WORD   047717,047700   ; FPS!  BEFORE, AFTER
006254  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!**************************************************************
                                ;*TEST 63        TEST OF ADDD INSTR, DATA SET ADDD=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;!**************************************************************
006256  000004                  TST63:  SCOPE
006260  012705  006272                  MOV     #ADDD10,R5      ; PTR TO TEST DATA SET
006264  004737  034034                  JSR     PC,@#ADDDT      ; GO TEST

006270  000417                          BR      TST64           ;!

006272                          ADDD10: ; TEST DATA SET ADDD=10!
006272  066177  177777  177777          .WORD   066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
006300  177777
```



```
006302  047777  177777  177777          .WORD   047777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
006310  177777
006312  066177  177777  177777          .WORD   066177,M1,M1,M1 ; EXPECTED FLOAT RESULT
006320  177777
006322  047757  047740                  .WORD   047757,047740   ; FPS!  BEFORE, AFTER
006326  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!**************************************************************
                                ;*TEST 64        TEST OF ADDD INSTR, DATA SET ADDD=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;!**************************************************************
006330  000004                  TST64:  SCOPE
006332  012705  006344                  MOV     #ADDD11,R5      ; PTR TO TEST DATA SET
006336  004737  034034                  JSR     PC,@#ADDDT      ; GO TEST

006342  000417                          BR      TST65           ;!

006344                          ADDD11: ; TEST DATA SET ADDD=11!
006344  004010  104210  104210          .WORD   004010,P13Z,P13Z,P13Z   ; INITIAL AC FLOAT NUMBER
006352  104210
006354  004010  104210  104210          .WORD   004010,P13Z,P13Z,P13Z   ; INITIAL MEM FLOAT NUMBER
006362  104210
006364  004210  104210  104210          .WORD   004210,P13Z,P13Z,P13Z   ; EXPECTED FLOAT RESULT
006372  104210
006374  047617  047600                  .WORD   047617,047600   ; FPS!  BEFORE, AFTER
006400  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!**************************************************************
                                ;*TEST 65        TEST OF ADDD INSTR, DATA SET ADDD=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;!**************************************************************
006402  000004                  TST65:  SCOPE
006404  012705  006416                  MOV     #ADDD12,R5      ; PTR TO TEST DATA SET
006410  004737  034034                  JSR     PC,@#ADDDT      ; GO TEST

006414  000417                          BR      TST66           ;!

006416                          ADDD12: ; TEST DATA SET ADDD=12!
006416  122200  000000  000000          .WORD   122200,0,0,0    ; INITIAL AC FLOAT NUMBER
006424  000000
006426  140177  177777  177777          .WORD   140177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
006434  177777
006436  140200  000000  000000          .WORD   140200,0,0,0    ; EXPECTED FLOAT RESULT
006444  000000
006446  047747  047750                  .WORD   047747,047750   ; FPS!  BEFORE, AFTER
006452  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!**************************************************************
                                ;*TEST 66        TEST OF ADDD INSTR, DATA SET ADDD=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
```

```
                        T66     TEST OF ADDD INSTR, DATA SET ADDD=13

                        ;;*****************************************************************
                        TST66:  SCOPE
                                MOV     #ADDD13,R5      ; PTR TO TEST DATA SET
                                JSR     PC,@#ADDDT      ; GO TEST

                                BR      TST67           ;;

                        ADDD13: ; TEST DATA SET ADDD=13:
                                .WORD   042252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
                                .WORD   042052,ALTN,ALTN,ALTN   ; INITIAL MEM FLOAT NUMBER
                                .WORD   042377,M1,M1,M1 ; EXPECTED FLOAT RESULT
                                .WORD   047717,047700   ; FPS:  BEFORE, AFTER
                                .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 67        TEST OF ADDD INSTR, DATA SET ADDD=14
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                        ;;*****************************************************************
                        TST67:  SCOPE
                                MOV     #ADDD14,R5      ; PTR TO TEST DATA SET
                                JSR     PC,@#ADDDT      ; GO TEST

                                BR      TST70           ;;

                        ADDD14: ; TEST DATA SET ADDD=14:
                                .WORD   074177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
                                .WORD   174177,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
                                .WORD   056200,0,0,0    ; EXPECTED FLOAT RESULT
                                .WORD   047617,047600   ; FPS:  BEFORE, AFTER
                                .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 70        TEST OF ADDD INSTR, DATA SET ADDD=15
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
                        TST70:  SCOPE
                                MOV     #ADDD15,R5      ; PTR TO TEST DATA SET
                                JSR     PC,@#ADDDT      ; GO TEST

                                BR      TST71           ;;

                        ADDD15: ; TEST DATA SET ADDD=15:
                                .WORD   132200,0,0,0    ; INITIAL AC FLOAT NUMBER
                                .WORD   050177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
```



```
                        T70     TEST OF ADDD INSTR, DATA SET ADDD=15

                                .WORD   050177,M1,M1,M2 ; EXPECTED FLOAT RESULT
                                .WORD   047717,047700   ; FPS:  BEFORE, AFTER
                                .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 71        TEST OF ADDD INSTR, DATA SET ADDD=16
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                        ;;*****************************************************************
                        TST71:  SCOPE
                                MOV     #ADDD16,R5      ; PTR TO TEST DATA SET
                                JSR     PC,@#ADDDT      ; GO TEST

                                BR      TST72           ;;

                        ADDD16: ; TEST DATA SET ADDD=16:
                                .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
                                .WORD   IX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
                                .WORD   LGP,M1,M1,M1    ; EXPECTED FLOAT RESULT
                                .WORD   047603,147603   ; FPS:  BEFORE, AFTER
                                .WORD   100014          ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 72        TEST OF ADDD INSTR, DATA SET ADDD=17
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
                        TST72:  SCOPE
                                MOV     #ADDD17,R5      ; PTR TO TEST DATA SET
                                JSR     PC,@#ADDDT      ; GO TEST

                                BR      TST73           ;;

                        ADDD17: ; TEST DATA SET ADDD=17:
                                .WORD   102000,0,0,1    ; INITIAL AC FLOAT NUMBER
                                .WORD   002000,0,0,0    ; INITIAL MEM FLOAT NUMBER
                                .WORD   164200,0,0,0    ; EXPECTED FLOAT RESULT
                                .WORD   047647,147650   ; FPS:  BEFORE, AFTER
                                .WORD   100012          ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 73        TEST OF ADDD INSTR, DATA SET ADDD=20
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
                        TST73:  SCOPE
```

```
1755  007000  012705  007012          MOV     #ADDD20,R5      ; PTR TO TEST DATA SET
1756  007004  004737  034034          JSR     PC,@#ADDDT      ; GO TEST
1757
1758  007010  000417                  BR      TST74           ;!
1759
1760  007012                  ADDD20: ; TEST DATA SET ADDD=20:
1761  007012  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
1762  007020  177777
1763  007022  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
1764  007030  177777
1765  007032  100177  177777  177777          .WORD   EX1MN,M1,M1,M1  ; EXPECTED FLOAT RESULT
1766  007040  177777
1767  007042  047701  147716                  .WORD   047701,147716   ; FPS:  BEFORE, AFTER
1768  007046  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
1769
1770
1771                                  ;!*****************************************************************
1772                                  ;*TEST 74        TEST OF ADDD INSTR, DATA SET ADDD=21
1773                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1774                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
1775                                  ;!*****************************************************************
1776  007050  000004          TST74:  SCOPE
1777  007052  012705  007064          MOV     #ADDD21,R5      ; PTR TO TEST DATA SET
1778  007056  004737  034034          JSR     PC,@#ADDDT      ; GO TEST
1779
1780  007062  000417                  BR      TST75           ;!
1781
1782  007064                  ADDD21: ; TEST DATA SET ADDD=21:
1783  007064  002000  000000  000000          .WORD   002000,0,0,0    ; INITIAL AC FLOAT NUMBER
1784  007072  000000
1785  007074  102000  000000  000000          .WORD   102000,0,0,2    ; INITIAL MEM FLOAT NUMBER
1786  007102  000002
1787  007104  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
1788  007112  000000
1789  007114  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
1790  007120  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1791
1792
1793                                  ;!*****************************************************************
1794                                  ;*TEST 75        TEST OF ADDD INSTR, DATA SET ADDD=22
1795                                  ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
1796                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
1797                                  ;!*****************************************************************
1798  007122  000004          TST75:  SCOPE
1799  007124  012705  007136          MOV     #ADDD22,R5      ; PTR TO TEST DATA SET
1800  007130  004737  034034          JSR     PC,@#ADDDT      ; GO TEST
1801
1802  007134  000417                  BR      TST76           ;!
1803
1804  007136                  ADDD22: ; TEST DATA SET ADDD=22:
1805  007136  077777  000000  177777          .WORD   LGP,0,M1,0      ; INITIAL AC FLOAT NUMBER
1806  007144  000000
1807  007146  100000  000000  000000          .WORD   M0,0,0,0        ; INITIAL MEM FLOAT NUMBER
1808  007154  000000
1809  007156  077777  000000  177777          .WORD   LGP,0,M1,0      ; EXPECTED FLOAT RESULT
1810  007164  000000
```



```
1811  007166  043757  043740                  .WORD   043757,043740   ; FPS:  BEFORE, AFTER
1812  007172  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1813
1814
1815                                  ;!*****************************************************************
1816                                  ;*TEST 76        TEST OF ADDD INSTR, DATA SET ADDD=23
1817                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1818                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
1819                                  ;!*****************************************************************
1820  007174  000004          TST76:  SCOPE
1821  007176  012705  007210          MOV     #ADDD23,R5      ; PTR TO TEST DATA SET
1822  007202  004737  034034          JSR     PC,@#ADDDT      ; GO TEST
1823
1824  007206  000417                  BR      TST77           ;!
1825
1826  007210                  ADDD23: ; TEST DATA SET ADDD=23:
1827  007210  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
1828  007216  177777
1829  007220  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
1830  007226  177777
1831  007230  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
1832  007236  000000
1833  007240  046611  046606                  .WORD   046611,046606   ; FPS:  BEFORE, AFTER
1834  007244  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
1835
1836
1837
```

```
                                ;;*****************************************************************
                                ;*TEST 77        TEST OF SUBF INSTR, DATA SET SUBF=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
007246  000004                  TST77:  SCOPE
007250  012705  007262                  MOV     #SUBF1,R5       ; PTR TO TEST DATA SET
007254  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007260  000411                          BR      TST100          ;;

007262                          SUBF1:  ; TEST DATA SET SUBF=1:
007262  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
007266  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
007272  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007276  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
007302  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
                                ;;*****************************************************************
007304  000004                  TST100: SCOPE
007306  012705  007320                  MOV     #SUBF2,R5       ; PTR TO TEST DATA SET
007312  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007316  000411                          BR      TST101          ;;

007320                          SUBF2:  ; TEST DATA SET SUBF=2:
007320  000177  177777                  .WORD   2X1MP,M1        ; INITIAL AC FLOAT NUMBER
007324  000177  125252                  .WORD   2X1MP,ALTN      ; INITIAL MEM FLOAT NUMBER
007330  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007334  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
007340  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
                                ;;*****************************************************************
007342  000004                  TST101: SCOPE
007344  012705  007356                  MOV     #SUBF3,R5       ; PTR TO TEST DATA SET
007350  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007354  000411                          BR      TST102          ;;

007356                          SUBF3:  ; TEST DATA SET SUBF=3:
007356  000177  052525                  .WORD   2X1MP,ALIP      ; INITIAL AC FLOAT NUMBER
007362  100345  123456                  .WORD   100345,123456   ; INITIAL MEM FLOAT NUMBER
007366  000345  123456                  .WORD   000345,123456   ; EXPECTED FLOAT RESULT
007372  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
007376  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
                                ;;*****************************************************************
007400  000004                  TST102: SCOPE
007402  012705  007414                  MOV     #SUBF4,R5       ; PTR TO TEST DATA SET
007406  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007412  000411                          BR      TST103          ;;

007414                          SUBF4:  ; TEST DATA SET SUBF=4:
007414  040200  000000                  .WORD   F1P,0   ; INITIAL AC FLOAT NUMBER
007420  040200  000000                  .WORD   F1P,0   ; INITIAL MEM FLOAT NUMBER
007424  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007430  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
007434  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
                                ;;*****************************************************************
007436  000004                  TST103: SCOPE
007440  012705  007452                  MOV     #SUBF5,R5       ; PTR TO TEST DATA SET
007444  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007450  000411                          BR      TST104          ;;

007452                          SUBF5:  ; TEST DATA SET SUBF=5:
007452  140200  000000                  .WORD   F1N,0   ; INITIAL AC FLOAT NUMBER
007456  140200  000000                  .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
007462  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
007466  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
007472  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
                                ;;*****************************************************************
007474  000004                  TST104: SCOPE
007476  012705  007510                  MOV     #SUBF6,R5       ; PTR TO TEST DATA SET
007502  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007506  000411                          BR      TST105          ;;

007510                          SUBF6:  ; TEST DATA SET SUBF=6:
007510  150365  052525                  .WORD   150365,ALTP     ; INITIAL AC FLOAT NUMBER
007514  047252  125252                  .WORD   047252,ALTN     ; INITIAL MEM FLOAT NUMBER
007520  150377  177777                  .WORD   150377,M1       ; EXPECTED FLOAT RESULT
007524  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
007530  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 105       TEST OF SUBF INSTR, DATA SET SUBF=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
007532  000004                  TST105: SCOPE
007534  012705  007546                  MOV     #SUBF7,R5       ; PTR TO TEST DATA SET
007540  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007544  000411                          BR      TST106          ;;

007546                          SUBF7:  ; TEST DATA SET SUBF=7:
007546  050365  052525                  .WORD   050365,ALTP     ; INITIAL AC FLOAT NUMBER
007552  147252  125252                  .WORD   147252,ALTN     ; INITIAL MEM FLOAT NUMBER
007556  050400  000000                  .WORD   050400,0        ; EXPECTED FLOAT RESULT
007562  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
007566  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 106       TEST OF SUBF INSTR, DATA SET SUBF=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
007570  000004                  TST106: SCOPE
007572  012705  007604                  MOV     #SUBF10,R5      ; PTR TO TEST DATA SET
007576  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007602  000411                          BR      TST107          ;;

007604                          SUBF10: ; TEST DATA SET SUBF=10:
007604  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
007610  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
007614  077777  177777                  .WORD   LGP,M1  ; EXPECTED FLOAT RESULT
007620  047555  147555                  .WORD   047555,147555   ; FPS:  BEFORE, AFTER
007624  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 107       TEST OF SUBF INSTR, DATA SET SUBF=11
                                ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
007626  000004                  TST107: SCOPE
007630  012705  007642                  MOV     #SUBF11,R5      ; PTR TO TEST DATA SET
007634  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007640  000411                          BR      TST110          ;;

007642                          SUBF11: ; TEST DATA SET SUBF=11:
007642  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
007646  100177  177777                  .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
007652  077777  177777                  .WORD   LGP,M1  ; EXPECTED FLOAT RESULT
007656  043457  043440                  .WORD   043457,043440   ; FPS:  BEFORE, AFTER
```



```
007662  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 110       TEST OF SUBF INSTR, DATA SET SUBF=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
007664  000004                  TST110: SCOPE
007666  012705  007700                  MOV     #SUBF12,R5      ; PTR TO TEST DATA SET
007672  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007676  000411                          BR      TST111          ;;

007700                          SUBF12: ; TEST DATA SET SUBF=12:
007700  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
007704  071600  000000                  .WORD   071600,0        ; INITIAL MEM FLOAT NUMBER
007710  177777  177777                  .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
007714  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
007720  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 111       TEST OF SUBF INSTR, DATA SET SUBF=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
007722  000004                  TST111: SCOPE
007724  012705  007736                  MOV     #SUBF13,R5      ; PTR TO TEST DATA SET
007730  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007734  000411                          BR      TST112          ;;

007736                          SUBF13: ; TEST DATA SET SUBF=13:
007736  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
007742  071600  000000                  .WORD   071600,0        ; INITIAL MEM FLOAT NUMBER
007746  100000  000000                  .WORD   M0,0    ; EXPECTED FLOAT RESULT
007752  047501  147516                  .WORD   047501,147516   ; FPS:  BEFORE, AFTER
007756  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )

                                ;;*****************************************************************
                                ;*TEST 112       TEST OF SUBF INSTR, DATA SET SUBF=14
                                ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
007760  000004                  TST112: SCOPE
007762  012705  007774                  MOV     #SUBF14,R5      ; PTR TO TEST DATA SET
007766  004737  034224                  JSR     PC,@#SUBFT      ; GO TEST

007772  000411                          BR      TST113          ;;

007774                          SUBF14: ; TEST DATA SET SUBF=14:
007774  177777  177777                  .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
010000  071600  000000                  .WORD   071600,0        ; INITIAL MEM FLOAT NUMBER
010004  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
```

```
2062  010010  046511  046506                  .WORD   046511,046506   ; FPS:  BEFORE, AFTER
2063  010014  000000                          .WORD   NA               ; FEC AFTER ( 0 = N7A )
2064
2065
2066                                  ;;*****************************************************************
2067                                  ;*TEST 113       TEST OF SUBF INSTR, DATA SET SUBF=15
2068                                  ;*              ALL INTERRUPT ENABLES ON
2069                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2070                                  ;;*****************************************************************
2071  010016  000004                  TST113: SCOPE
2072  010020  012705  010032                  MOV     #SUBF15,R5       ; PTR TO TEST DATA SET
2073  010024  004737  034224                  JSR     PC,@#SUBFT       ; GO TEST
2074
2075  010030  000411                          BR      TST114           ;;
2076
2077  010032                          SUBF15: ; TEST DATA SET SUBF=15:
2078  010032  004200  000000                  .WORD   004200,0         ; INITIAL AC FLOAT NUMBER
2079  010036  004200  000001                  .WORD   004200,1         ; INITIAL MEM FLOAT NUMBER
2080  010042  176400  000000                  .WORD   176400,0         ; EXPECTED FLOAT RESULT
2081  010046  047447  147450                  .WORD   047447,147450    ; FPS:  BEFORE, AFTER
2082  010052  100012                          .WORD   100012           ; FEC AFTER ( 0 = N7A )
2083
2084
2085                                  ;;*****************************************************************
2086                                  ;*TEST 114       TEST OF SUBF INSTR, DATA SET SUBF=16
2087                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2088                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2089                                  ;;*****************************************************************
2090  010054  000004                  TST114: SCOPE
2091  010056  012705  010070                  MOV     #SUBF16,R5       ; PTR TO TEST DATA SET
2092  010062  004737  034224                  JSR     PC,@#SUBFT       ; GO TEST
2093
2094  010066  000411                          BR      TST115           ;;
2095
2096  010070                          SUBF16: ; TEST DATA SET SUBF=16:
2097  010070  004200  000000                  .WORD   004200,0         ; INITIAL AC FLOAT NUMBER
2098  010074  004200  000001                  .WORD   004200,1         ; INITIAL MEM FLOAT NUMBER
2099  010100  000000  000000                  .WORD   0,0      ; EXPECTED FLOAT RESULT
2100  010104  045453  045444                  .WORD   045453,045444    ; FPS:  BEFORE, AFTER
2101  010110  000000                          .WORD   NA               ; FEC AFTER ( 0 = N7A )
2102
2103
2104
```



```
2105                                  ;;*****************************************************************
2106                                  ;*TEST 115       TEST OF SUBD INSTR, DATA SET SUBD=1
2107                                  ;*              ALL INTERRUPT ENABLES ON
2108                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2109                                  ;;*****************************************************************
2110  010112  000004                  TST115: SCOPE
2111  010114  012705  010126                  MOV     #SUBD1,R5        ; PTR TO TEST DATA SET
2112  010120  004737  034374                  JSR     PC,@#SUBDT       ; GO TEST
2113
2114  010124  000417                          BR      TST116           ;;
2115
2116  010126                          SUBD1:  ; TEST DATA SET SUBD=1:
2117  010126  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
2118  010134  000000
2119  010136  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
2120  010144  000000
2121  010146  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2122  010154  000000
2123  010156  047753  047744                  .WORD   047753,047744    ; FPS:  BEFORE, AFTER
2124  010162  000000                          .WORD   NA               ; FEC AFTER ( 0 = N7A )
2125
2126
2127                                  ;;*****************************************************************
2128                                  ;*TEST 116       TEST OF SUBD INSTR, DATA SET SUBD=2
2129                                  ;*              ALL INTERRUPT ENABLES ON
2130                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2131                                  ;;*****************************************************************
2132  010164  000004                  TST116: SCOPE
2133  010166  012705  010200                  MOV     #SUBD2,R5        ; PTR TO TEST DATA SET
2134  010172  004737  034374                  JSR     PC,@#SUBDT       ; GO TEST
2135
2136  010176  000417                          BR      TST117           ;;
2137
2138  010200                          SUBD2:  ; TEST DATA SET SUBD=2:
2139  010200  000177  052525  052525          .WORD   EX1MP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
2140  010206  052525
2141  010210  000177  177777  177777          .WORD   EX1MP,M1,M1,M1   ; INITIAL MEM FLOAT NUMBER
2142  010216  177777
2143  010220  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2144  010226  000000
2145  010230  047713  047704                  .WORD   047713,047704    ; FPS:  BEFORE, AFTER
2146  010234  000000                          .WORD   NA               ; FEC AFTER ( 0 = N7A )
2147
2148
2149                                  ;;*****************************************************************
2150                                  ;*TEST 117       TEST OF SUBD INSTR, DATA SET SUBD=3
2151                                  ;*              ALL INTERRUPT ENABLES ON
2152                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
2153                                  ;;*****************************************************************
2154  010236  000004                  TST117: SCOPE
2155  010240  012705  010252                  MOV     #SUBD3,R5        ; PTR TO TEST DATA SET
2156  010244  004737  034374                  JSR     PC,@#SUBDT       ; GO TEST
2157
2158  010250  000417                          BR      TST120           ;;
2159
2160  010252                          SUBD3:  ; TEST DATA SET SUBD=3:
```

```
                        T117    TEST OF SUBD INSTR, DATA SET SUBD=3

010252  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
010260  000000
010262  012345  177777  125252          .WORD   012345,M1,ALTN,M0       ; INITIAL MEM FLOAT NUMBER
010270  100000
010272  112345  177777  125252          .WORD   112345,M1,ALTN,M0       ; EXPECTED FLOAT RESULT
010300  100000
010302  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
010306  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*********************************************************
                        ;*TEST 120       TEST OF SUBD INSTR, DATA SET SUBD=4
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*********************************************************
010310  000004          TST120: SCOPE
010312  012705  010324          MOV     #SUBD4,R5       ; PTR TO TEST DATA SET
010316  004737  034374          JSR     PC,@#SUBDT      ; GO TEST

010322  000417                  BR      TST121          ;;

010324                  SUBD4:  ; TEST DATA SET SUBD=4:
010324  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
010332  000000
010334  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL MEM FLOAT NUMBER
010342  000000
010344  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
010352  000000
010354  047753  047744                  .WORD   047753,047744   ; FPS:  BEFORE, AFTER
010360  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*********************************************************
                        ;*TEST 121       TEST OF SUBD INSTR, DATA SET SUBD=5
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                        ;;*********************************************************
010362  000004          TST121: SCOPE
010364  012705  010376          MOV     #SUBD5,R5       ; PTR TO TEST DATA SET
010370  004737  034374          JSR     PC,@#SUBDT      ; GO TEST

010374  000417                  BR      TST122          ;;

010376                  SUBD5:  ; TEST DATA SET SUBD=5:
010376  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL AC FLOAT NUMBER
010404  000000
010406  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
010414  000000
010416  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
010421  000000
010426  047613  047604                  .WORD   047613,047604   ; FPS:  BEFORE, AFTER
010432  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*********************************************************
                        ;*TEST 122       TEST OF SUBD INSTR, DATA SET SUBD=6
```



```
                        T122    TEST OF SUBD INSTR, DATA SET SUBD=6

                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*********************************************************
010434  000004          TST122: SCOPE
010436  012705  010450          MOV     #SUBD6,R5       ; PTR TO TEST DATA SET
010442  004737  034374          JSR     PC,@#SUBDT      ; GO TEST

010446  000417                  BR      TST123          ;;

010450                  SUBD6:  ; TEST DATA SET SUBD=6:
010450  037252  125252  125252          .WORD   037252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
010456  125252
010460  140365  052525  052525          .WORD   140365,ALTP,ALTP,ALTP   ; INITIAL MEM FLOAT NUMBER
010466  052525
010470  040377  177777  177777          .WORD   040377,M1,M1,M1 ; EXPECTED FLOAT RESULT
010476  177777
010500  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
010504  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
                        ;;*********************************************************
010506  000004          TST123: SCOPE
010510  012705  010522          MOV     #SUBD7,R5       ; PTR TO TEST DATA SET
010514  004737  034374          JSR     PC,@#SUBDT      ; GO TEST

010520  000417                  BR      TST124          ;;

010522                  SUBD7:  ; TEST DATA SET SUBD=7:
010522  137252  125252  125252          .WORD   137252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
010530  125252
010532  040365  052525  052525          .WORD   040365,ALTP,ALTP,ALTP   ; INITIAL MEM FLOAT NUMBER
010540  052525
010542  140400  000000  000000          .WORD   140400,0,0,0    ; EXPECTED FLOAT RESULT
010550  000000
010552  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
010556  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
                        ;;*********************************************************
010560  000004          TST124: SCOPE
010562  012705  010574          MOV     #SUBD10,R5      ; PTR TO TEST DATA SET
010566  004737  034374          JSR     PC,@#SUBDT      ; GO TEST

010572  000417                  BR      TST125          ;;

010574                  SUBD10: ; TEST DATA SET SUBD=10:
010574  177777  177777  000000          .WORD   LGN,M1,0,M1     ; INITIAL AC FLOAT NUMBER
010602  177777
```

```
2273  010604  100000  000000  177777          .WORD   M0,0,M1,0       ; INITIAL MEM FLOAT NUMBER
2274  010612  000000
2275  010614  177777  177777  000000          .WORD   LGN,M1,0,M1     ; EXPECTED FLOAT RESULT
2276  010622  177777
2277  010624  047603  147603                  .WORD   047603,147603   ; FPS:  BEFORE, AFTER
2278  010630  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
2279
2280
2281                                  ;;**********************************************************
2282                                  ;*TEST 125       TEST OF SUBD INSTR, DATA SET SUBD=11
2283                                  ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
2284                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2285                                  ;;**********************************************************
2286  010632  000004                  TST125: SCOPE
2287  010634  012705  010646                  MOV     #SUBD11,R5      ; PTR TO TEST DATA SET
2288  010640  004737  034374                  JSR     PC,@#SUBDT      ; GO TEST
2289
2290  010644  000417                          BR      TST126          ;;
2291
2292  010646                          SUBD11: ; TEST DATA SET SUBD=11:
2293  010646  177777  177777  000000          .WORD   LGN,M1,0,M1     ; INITIAL AC FLOAT NUMBER
2294  010654  177777
2295  010656  100000  000000  177777          .WORD   M0,0,M1,0       ; INITIAL MEM FLOAT NUMBER
2296  010664  000000
2297  010666  177777  177777  000000          .WORD   LGN,M1,0,M1     ; EXPECTED FLOAT RESULT
2298  010674  177777
2299  010676  043707  043710                  .WORD   043707,043710   ; FPS:  BEFORE, AFTER
2300  010702  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2301
2302
2303                                  ;;**********************************************************
2304                                  ;*TEST 126       TEST OF SUBD INSTR, DATA SET SUBD=12
2305                                  ;*              ALL INTERRUPT ENABLES ON
2306                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2307                                  ;;**********************************************************
2308  010704  000004                  TST126: SCOPE
2309  010706  012705  010720                  MOV     #SUBD12,R5      ; PTR TO TEST DATA SET
2310  010712  004737  034374                  JSR     PC,@#SUBDT      ; GO TEST
2311
2312  010716  000417                          BR      TST127          ;;
2313
2314  010720                          SUBD12: ; TEST DATA SET SUBD=12:
2315  010720  104200  000000  000000          .WORD   104200,0,0,0    ; INITIAL AC FLOAT NUMBER
2316  010726  000000
2317  010730  104200  000000  000000          .WORD   104200,0,0,1    ; INITIAL MEM FLOAT NUMBER
2318  010736  000001
2319  010740  066400  000000  000000          .WORD   066400,0,0,0    ; EXPECTED FLOAT RESULT
2320  010746  000000
2321  010750  047717  147700                  .WORD   047717,147700   ; FPS:  BEFORE, AFTER
2322  010754  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
2323
2324
2325                                  ;;**********************************************************
2326                                  ;*TEST 127       TEST OF SUBD INSTR, DATA SET SUBD=13
2327                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2328                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
```



```
2329                                  ;;**********************************************************
2330  010756  000004                  TST127: SCOPE
2331  010760  012705  010772                  MOV     #SUBD13,R5      ; PTR TO TEST DATA SET
2332  010764  004737  034374                  JSR     PC,@#SUBDT      ; GO TEST
2333
2334  010770  000417                          BR      TST130          ;;
2335
2336  010772                          SUBD13: ; TEST DATA SET SUBD=13:
2337  010772  104200  000000  000000          .WORD   104200,0,0,1    ; INITIAL AC FLOAT NUMBER
2338  011000  000001
2339  011002  104200  000000  000000          .WORD   104200,0,0,0    ; INITIAL MEM FLOAT NUMBER
2340  011010  000000
2341  011012  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2342  011020  000000
2343  011022  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
2344  011026  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2345
2346
2347                                  ;;**********************************************************
2348                                  ;*TEST 130       TEST OF SUBD INSTR, DATA SET SUBD=14
2349                                  ;*              ALL INTERRUPT ENABLES ON
2350                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2351                                  ;;**********************************************************
2352  011030  000004                  TST130: SCOPE
2353  011032  012705  011044                  MOV     #SUBD14,R5      ; PTR TO TEST DATA SET
2354  011036  004737  034374                  JSR     PC,@#SUBDT      ; GO TEST
2355
2356  011042  000417                          BR      TST131          ;;
2357
2358  011044                          SUBD14: ; TEST DATA SET SUBD=14:
2359  011044  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2360  011052  177777
2361  011054  161600  000000  000000          .WORD   161600,0,0,0    ; INITIAL MEM FLOAT NUMBER
2362  011062  000000
2363  011064  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; EXPECTED FLOAT RESULT
2364  011072  177777
2365  011074  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
2366  011100  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2367
2368
2369                                  ;;**********************************************************
2370                                  ;*TEST 131       TEST OF SUBD INSTR, DATA SET SUBD=15
2371                                  ;*              ALL INTERRUPT ENABLES ON
2372                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2373                                  ;;**********************************************************
2374  011102  000004                  TST131: SCOPE
2375  011104  012705  011116                  MOV     #SUBD15,R5      ; PTR TO TEST DATA SET
2376  011110  004737  034374                  JSR     PC,@#SUBDT      ; GO TEST
2377
2378  011114  000417                          BR      TST132          ;;
2379
2380  011116                          SUBD15: ; TEST DATA SET SUBD=15:
2381  011116  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2382  011124  177777
2383  011126  161600  000000  000000          .WORD   161600,0,0,0    ; INITIAL MEM FLOAT NUMBER
2384  011134  000000
```

```
2385  011136  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2386  011144  000000
2387  011146  047611  147606                  .WORD   047611,147606   ; FPS:  BEFORE, AFTER
2388  011152  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
2389
2390
2391                                  ;;*****************************************************************
2392                                  ;*TEST 132       TEST OF SUBD INSTR, DATA SET SUBD=16
2393                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2394                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2395                                  ;;*****************************************************************
2396  011154  000004                  TST132: SCOPE
2397  011156  012705  011170                  MOV     #SUBD16,R5      ; PTR TO TEST DATA SET
2398  011162  004737  034374                  JSR     PC,@#SUBDT      ; GO TEST
2399
2400  011166  000417                          BR      TST133          ;;
2401
2402  011170                          SUBD16: ; TEST DATA SET SUBD=16:
2403  011170  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2404  011176  177777
2405  011200  101600  000000  000000          .WORD   101600,0,0,0    ; INITIAL MEM FLOAT NUMBER
2406  011206  000000
2407  011210  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2408  011216  000000
2409  011220  046611  046606                  .WORD   046611,046606   ; FPS:  BEFORE, AFTER
2410  011224  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2411
2412
```



```
2413                                  ;;*****************************************************************
2414                                  ;*TEST 133       TEST OF MULF INSTR, DATA SET MULF=1
2415                                  ;*              ALL INTERRUPT ENABLES ON
2416                                  ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
2417                                  ;;*****************************************************************
2418  011226  000004                  TST133: SCOPE
2419  011230  012705  011242                  MOV     #MULF1,R5       ; PTR TO TEST DATA SET
2420  011234  004737  034564                  JSR     PC,@#MULFT      ; GO TEST
2421
2422  011240  000411                          BR      TST134          ;;
2423
2424  011242                          MULF1:  ; TEST DATA SET MULF=1:
2425  011242  000000  000000                  .WORD   0,0     ; INITIAL AC FLOAT NUMBER
2426  011246  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
2427  011252  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
2428  011256  047413  047404                  .WORD   047413,047404   ; FPS:  BEFORE, AFTER
2429  011262  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2430
2431
2432                                  ;;*****************************************************************
2433                                  ;*TEST 134       TEST OF MULF INSTR, DATA SET MULF=2
2434                                  ;*              ALL INTERRUPT ENABLES ON
2435                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
2436                                  ;;*****************************************************************
2437  011264  000004                  TST134: SCOPE
2438  011266  012705  011300                  MOV     #MULF2,R5       ; PTR TO TEST DATA SET
2439  011272  004737  034564                  JSR     PC,@#MULFT      ; GO TEST
2440
2441  011276  000411                          BR      TST135          ;;
2442
2443  011300                          MULF2:  ; TEST DATA SET MULF=2:
2444  011300  077777  177777                  .WORD   LGP,M1  ; INITIAL AC FLOAT NUMBER
2445  011304  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL MEM FLOAT NUMBER
2446  011310  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
2447  011314  047503  047504                  .WORD   047503,047504   ; FPS:  BEFORE, AFTER
2448  011320  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2449
2450
2451                                  ;;*****************************************************************
2452                                  ;*TEST 135       TEST OF MULF INSTR, DATA SET MULF=3
2453                                  ;*              ALL INTERRUPT ENABLES ON
2454                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2455                                  ;;*****************************************************************
2456  011322  000004                  TST135: SCOPE
2457  011324  012705  011336                  MOV     #MULF3,R5       ; PTR TO TEST DATA SET
2458  011330  004737  034564                  JSR     PC,@#MULFT      ; GO TEST
2459
2460  011334  000411                          BR      TST136          ;;
2461
2462  011336                          MULF3:  ; TEST DATA SET MULF=3:
2463  011336  123652  125252                  .WORD   123652,ALTN     ; INITIAL AC FLOAT NUMBER
2464  011342  017500  000000                  .WORD   017500,000000   ; INITIAL MEM FLOAT NUMBER
2465  011346  103177  177777                  .WORD   103177,M1       ; EXPECTED FLOAT RESULT
2466  011352  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
2467  011356  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2468
```

```
                                ;;*****************************************************************
                                ;*TEST 136       TEST OF MULF INSTR, DATA SET MULF=4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
011360  000004                  TST136: SCOPE
011362  012705  011374                  MOV     #MULF4,R5       ; PTR TO TEST DATA SET
011366  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

011372  000411                          BR      TST137          ;;

011374                          MULF4:  ; TEST DATA SET MULF=4:
011374  017500  000000                  .WORD   017500,000000   ; INITIAL AC FLOAT NUMBER
011400  023652  125252                  .WORD   023652,ALTN     ; INITIAL MEM FLOAT NUMBER
011404  003177  177777                  .WORD   003177,M1       ; EXPECTED FLOAT RESULT
011410  047417  047400                  .WORD   047417,047400   ; FPS:  BEFORE, AFTER
011414  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 137       TEST OF MULF INSTR, DATA SET MULF=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
011416  000004                  TST137: SCOPE
011420  012705  011432                  MOV     #MULF5,R5       ; PTR TO TEST DATA SET
011424  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

011430  000411                          BR      TST140          ;;

011432                          MULF5:  ; TEST DATA SET MULF=5:
011432  036400  000001                  .WORD   036400,000001   ; INITIAL AC FLOAT NUMBER
011436  106777  177776                  .WORD   106777,M2       ; INITIAL MEM FLOAT NUMBER
011442  105177  177777                  .WORD   105177,M1       ; EXPECTED FLOAT RESULT
011446  047547  047550                  .WORD   047547,047550   ; FPS:  BEFORE, AFTER
011452  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 140       TEST OF MULF INSTR, DATA SET MULF=6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
011454  000004                  TST140: SCOPE
011456  012705  011470                  MOV     #MULF6,R5       ; PTR TO TEST DATA SET
011462  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

011466  000411                          BR      TST141          ;;

011470                          MULF6:  ; TEST DATA SET MULF=6:
011470  036400  000001                  .WORD   036400,000001   ; INITIAL AC FLOAT NUMBER
011474  106777  177776                  .WORD   106777,M2       ; INITIAL MEM FLOAT NUMBER
011500  105200  000000                  .WORD   105200,000000   ; EXPECTED FLOAT RESULT
011504  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
011510  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 141       TEST OF MULF INSTR, DATA SET MULF=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
011512  000004                  TST141: SCOPE
011514  012705  011526                  MOV     #MULF7,R5       ; PTR TO TEST DATA SET
011520  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

011524  000411                          BR      TST142          ;;

011526                          MULF7:  ; TEST DATA SET MULF=7:
011526  140277  000000                  .WORD   140277,000000   ; INITIAL AC FLOAT NUMBER
011532  060000  000001                  .WORD   060000,000001   ; INITIAL MEM FLOAT NUMBER
011536  160077  000001                  .WORD   160077,000001   ; EXPECTED FLOAT RESULT
011542  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
011546  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 142       TEST OF MULF INSTR, DATA SET MULF=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
011550  000004                  TST142: SCOPE
011552  012705  011564                  MOV     #MULF10,R5      ; PTR TO TEST DATA SET
011556  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

011562  000411                          BR      TST143          ;;

011564                          MULF10: ; TEST DATA SET MULF=10:
011564  060000  000001                  .WORD   060000,000001   ; INITIAL AC FLOAT NUMBER
011570  040277  000000                  .WORD   040277,000000   ; INITIAL MEM FLOAT NUMBER
011574  060077  000001                  .WORD   060077,000001   ; EXPECTED FLOAT RESULT
011600  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
011604  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 143       TEST OF MULF INSTR, DATA SET MULF=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
011606  000004                  TST143: SCOPE
011610  012705  011622                  MOV     #MULF11,R5      ; PTR TO TEST DATA SET
011614  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

011620  000411                          BR      TST144          ;;

011622                          MULF11: ; TEST DATA SET MULF=11:
011622  140300  000000                  .WORD   140300,000000   ; INITIAL AC FLOAT NUMBER
011626  160000  000001                  .WORD   160000,000001   ; INITIAL MEM FLOAT NUMBER
011632  060100  000002                  .WORD   060100,000002   ; EXPECTED FLOAT RESULT
011636  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
```

```
2581  011642  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
2582
2583
2584                                    ;;*************************************************************
2585                                    ;*TEST 144       TEST OF MULF INSTR, DATA SET MULF=12
2586                                    ;*              ALL INTERRUPT ENABLES ON
2587                                    ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2588                                    ;;*************************************************************
2589  011644  000004                    TST144: SCOPE
2590  011646  012705  011660                    MOV     #MULF12,R5      ; PTR TO TEST DATA SET
2591  011652  004737  034564                    JSR     PC,@#MULFT      ; GO TEST
2592
2593  011656  000411                    BR      TST145          ;!
2594
2595  011660                            MULF12: ; TEST DATA SET MULF=12!
2596  011660  000000  000001                    .WORD   000000,000001   ; INITIAL AC FLOAT NUMBER
2597  011664  140300  000000                    .WORD   140300,000000   ; INITIAL MEM FLOAT NUMBER
2598  011670  100100  000001                    .WORD   100100,000001   ; EXPECTED FLOAT RESULT
2599  011674  047547  047550                    .WORD   047547,047550   ; FPS:  BEFORE, AFTER
2600  011700  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
2601
2602
2603                                    ;;*************************************************************
2604                                    ;*TEST 145       TEST OF MULF INSTR, DATA SET MULF=13
2605                                    ;*              ALL INTERRUPT ENABLES ON
2606                                    ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
2607                                    ;;*************************************************************
2608  011702  000004                    TST145: SCOPE
2609  011704  012705  011716                    MOV     #MULF13,R5      ; PTR TO TEST DATA SET
2610  011710  004737  034564                    JSR     PC,@#MULFT      ; GO TEST
2611
2612  011714  000411                    BR      TST146          ;!
2613
2614  011716                            MULF13: ; TEST DATA SET MULF=13!
2615  011716  002177  177777                    .WORD   002177,M1       ; INITIAL AC FLOAT NUMBER
2616  011722  002177  177777                    .WORD   002177,M1       ; INITIAL MEM FLOAT NUMBER
2617  011726  004177  177776                    .WORD   004177,M2       ; EXPECTED FLOAT RESULT
2618  011732  047513  147500                    .WORD   047513,147500   ; FPS:  BEFORE, AFTER
2619  011736  100012                    .WORD   100012          ; FEC AFTER ( 0 = N/A )
2620
2621
2622                                    ;;*************************************************************
2623                                    ;*TEST 146       TEST OF MULF INSTR, DATA SET MULF=14
2624                                    ;*              ALL INTERRUPT ENABLES ON
2625                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2626                                    ;;*************************************************************
2627  011740  000004                    TST146: SCOPE
2628  011742  012705  011754                    MOV     #MULF14,R5      ; PTR TO TEST DATA SET
2629  011746  004737  034564                    JSR     PC,@#MULFT      ; GO TEST
2630
2631  011752  000411                    BR      TST147          ;!
2632
2633  011754                            MULF14: ; TEST DATA SET MULF=14!
2634  011754  170000  000000                    .WORD   170000,000000   ; INITIAL AC FLOAT NUMBER
2635  011760  050200  000000                    .WORD   050200,000000   ; INITIAL MEM FLOAT NUMBER
2636  011764  100000  000000                    .WORD   M0,0    ; EXPECTED FLOAT RESULT
```



```
2637  011770  047441  147456                    .WORD   047441,147456   ; FPS:  BEFORE, AFTER
2638  011774  100010                    .WORD   100010          ; FEC AFTER ( 0 = N/A )
2639
2640
2641                                    ;;*************************************************************
2642                                    ;*TEST 147       TEST OF MULF INSTR, DATA SET MULF=15
2643                                    ;*              ALL INTERRUPT ENABLES ON
2644                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2645                                    ;;*************************************************************
2646  011776  000004                    TST147: SCOPE
2647  012000  012705  012012                    MOV     #MULF15,R5      ; PTR TO TEST DATA SET
2648  012004  004737  034564                    JSR     PC,@#MULFT      ; GO TEST
2649
2650  012010  000411                    BR      TST150          ;!
2651
2652  012012                            MULF15: ; TEST DATA SET MULF=15!
2653  012012  177777  177777                    .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
2654  012016  100177  177777                    .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
2655  012022  177777  177777                    .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
2656  012026  047447  147447                    .WORD   047447,147447   ; FPS:  BEFORE, AFTER
2657  012032  100014                    .WORD   100014          ; FEC AFTER ( 0 = N/A )
2658
2659
2660                                    ;;*************************************************************
2661                                    ;*TEST 150       TEST OF MULF INSTR, DATA SET MULF=16
2662                                    ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2663                                    ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
2664                                    ;;*************************************************************
2665  012034  000004                    TST150: SCOPE
2666  012036  012705  012050                    MOV     #MULF16,R5      ; PTR TO TEST DATA SET
2667  012042  004737  034564                    JSR     PC,@#MULFT      ; GO TEST
2668
2669  012046  000411                    BR      TST151          ;!
2670
2671  012050                            MULF16: ; TEST DATA SET MULF=16!
2672  012050  050377  000000                    .WORD   050377,000000   ; INITIAL AC FLOAT NUMBER
2673  012054  070000  177777                    .WORD   070000,M1       ; INITIAL MEM FLOAT NUMBER
2674  012060  000000  000000                    .WORD   0,0     ; EXPECTED FLOAT RESULT
2675  012064  046411  046406                    .WORD   046411,046406   ; FPS:  BEFORE, AFTER
2676  012070  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
2677
2678
2679                                    ;;*************************************************************
2680                                    ;*TEST 151       TEST OF MULF INSTR, DATA SET MULF=17
2681                                    ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2682                                    ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2683                                    ;;*************************************************************
2684  012072  000004                    TST151: SCOPE
2685  012074  012705  012106                    MOV     #MULF17,R5      ; PTR TO TEST DATA SET
2686  012100  004737  034564                    JSR     PC,@#MULFT      ; GO TEST
2687
2688  012104  000411                    BR      TST152          ;!
2689
2690  012106                            MULF17: ; TEST DATA SET MULF=17!
2691  012106  002177  177777                    .WORD   002177,M1       ; INITIAL AC FLOAT NUMBER
2692  012112  002177  177777                    .WORD   002177,M1       ; INITIAL MEM FLOAT NUMBER
```

```
012116  000000  000000                  .WORD   0,0       ; EXPECTED FLOAT RESULT
012122  045553  045544                  .WORD   045553,045544   ; FPS:  BEFORE, AFTER
012126  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 152       TEST OF MULF INSTR, DATA SET MULF=20
                                ;*              =0 INTERRUPT ENABLE OFF; ALL OTHERS ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
012130  000004                  TST152: SCOPE
012132  012705  012144                  MOV     #MULF20,R5      ; PTR TO TEST DATA SET
012136  004737  034564                  JSR     PC,@#MULFT      ; GO TEST

012142  000411                          BR      TST153          ;;

012144                          MULF20: ; TEST DATA SET MULF=20:
012144  052525  052525                  .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
012150  100000  177777                  .WORD   M0,M1   ; INITIAL MEM FLOAT NUMBER
012154  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
012160  043513  043504                  .WORD   043513,043504   ; FPS:  BEFORE, AFTER
012164  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 153       TEST OF MULD INSTR, DATA SET MULD=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
012166  000004                  TST153: SCOPE
012170  012705  012202                  MOV     #MULD1,R5       ; PTR TO TEST DATA SET
012174  004737  034734                  JSR     PC,@#MULDT      ; GO TEST

012200  000417                          BR      TST154          ;;

012202                          MULD1:  ; TEST DATA SET MULD=1:
012202  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
012210  177777
012212  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
012220  000000
012222  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
012230  000000
012232  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
012236  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
                                ;;*****************************************************************
012240  000004                  TST154: SCOPE
012242  012705  012254                  MOV     #MULD2,R5       ; PTR TO TEST DATA SET
012246  004737  034734                  JSR     PC,@#MULDT      ; GO TEST

012252  000417                          BR      TST155          ;;

012254                          MULD2:  ; TEST DATA SET MULD=2:
012254  000177  177777  177777          .WORD   EXIMP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
012262  177777
012264  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
012272  177777
012274  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
012302  000000
012304  047603  047604                  .WORD   047603,047604   ; FPS:  BEFORE, AFTER
012310  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
                                ;;*****************************************************************
012312  000004                  TST155: SCOPE
012314  012705  012326                  MOV     #MULD3,R5       ; PTR TO TEST DATA SET
012320  004737  034734                  JSR     PC,@#MULDT      ; GO TEST

012324  000417                          BR      TST156          ;;

012326                          MULD3:  ; TEST DATA SET MULD=3:
```

```
2774  012326 023652 125252 125252          .WORD   023652,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
2775  012334 125252
2776  012336 017500 000000 000000          .WORD   017500,0,0,0    ; INITIAL MEM FLOAT NUMBER
2777  012344 000000
2778  012346 003177 177777 177777          .WORD   003177,M1,M1,M1 ; EXPECTED FLOAT RESULT
2779  012354 177777
2780  012356 047757 047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
2781  012362 000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
2782
2783
2784                                 ;;*****************************************************************
2785                                 ;*TEST 156       TEST OF MULD INSTR, DATA SET MULD=4
2786                                 ;*              ALL INTERRUPT ENABLES ON
2787                                 ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2788                                 ;;*****************************************************************
2789  012364 000004                  TST156: SCOPE
2790  012366 012705 012400                  MOV     #MULD4,R5       ; PTR TO TEST DATA SET
2791  012372 004737 034734                  JSR     PC,@#MULDT      ; GO TEST
2792
2793  012376 000417                         BR      TST157          ;!
2794
2795  012400                         MULD4:  ; TEST DATA SET MULD=4:
2796  012400 117500 000000 000000          .WORD   117500,0,0,0    ; INITIAL AC FLOAT NUMBER
2797  012406 000000
2798  012410 123652 125252 125252          .WORD   123652,ALTN,ALTN,ALTN   ; INITIAL MEM FLOAT NUMBER
2799  012416 125252
2800  012420 003177 177777 177777          .WORD   003177,M1,M1,M1 ; EXPECTED FLOAT RESULT
2801  012426 177777
2802  012430 047617 047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
2803  012434 000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
2804
2805
2806                                 ;;*****************************************************************
2807                                 ;*TEST 157       TEST OF MULD INSTR, DATA SET MULD=5
2808                                 ;*              ALL INTERRUPT ENABLES ON
2809                                 ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2810                                 ;;*****************************************************************
2811  012436 000004                  TST157: SCOPE
2812  012440 012705 012452                  MOV     #MULD5,R5       ; PTR TO TEST DATA SET
2813  012444 004737 034734                  JSR     PC,@#MULDT      ; GO TEST
2814
2815  012450 000417                         BR      TST160          ;!
2816
2817  012452                         MULD5:  ; TEST DATA SET MULD=5:
2818  012452 165400 000000 000000          .WORD   165400,0,0,1    ; INITIAL AC FLOAT NUMBER
2819  012460 000001
2820  012462 037577 177777 177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
2821  012470 177776
2822  012472 164777 177777 177777          .WORD   164777,M1,M1,M1 ; EXPECTED FLOAT RESULT
2823  012500 177777
2824  012502 047747 047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
2825  012506 000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
2826
2827
2828                                 ;;*****************************************************************
2829                                 ;*TEST 160       TEST OF MULD INSTR, DATA SET MULD=6
```



```
2830                                 ;*              ALL INTERRUPT ENABLES ON
2831                                 ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2832                                 ;;*****************************************************************
2833  012510 000004                  TST160: SCOPE
2834  012512 012705 012524                  MOV     #MULD6,R5       ; PTR TO TEST DATA SET
2835  012516 004737 034734                  JSR     PC,@#MULDT      ; GO TEST
2836
2837  012522 000417                         BR      TST161          ;!
2838
2839  012524                         MULD6:  ; TEST DATA SET MULD=6:
2840  012524 165400 000000 000000          .WORD   165400,0,0,1    ; INITIAL AC FLOAT NUMBER
2841  012532 000001
2842  012534 037577 177777 177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
2843  012542 177776
2844  012544 165000 000000 000000          .WORD   165000,0,0,0    ; EXPECTED FLOAT RESULT
2845  012552 000000
2846  012554 047707 047710                  .WORD   047707,047710   ; FPS:  BEFORE, AFTER
2847  012560 000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
2848
2849
2850                                 ;;*****************************************************************
2851                                 ;*TEST 161       TEST OF MULD INSTR, DATA SET MULD=7
2852                                 ;*              ALL INTERRUPT ENABLES ON
2853                                 ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
2854                                 ;;*****************************************************************
2855  012562 000004                  TST161: SCOPE
2856  012564 012705 012576                  MOV     #MULD7,R5       ; PTR TO TEST DATA SET
2857  012570 004737 034734                  JSR     PC,@#MULDT      ; GO TEST
2858
2859  012574 000417                         BR      TST162          ;!
2860
2861  012576                         MULD7:  ; TEST DATA SET MULD=7:
2862  012576 040277 000000 000000          .WORD   040277,0,0,0    ; INITIAL AC FLOAT NUMBER
2863  012604 000000
2864  012606 034200 000000 000000          .WORD   034200,0,0,1    ; INITIAL MEM FLOAT NUMBER
2865  012614 000001
2866  012616 034277 000000 000000          .WORD   034277,0,0,1    ; EXPECTED FLOAT RESULT
2867  012624 000001
2868  012626 047657 047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
2869  012632 000000                         .WORD   NA              ; FEC AFTER ( 0 = N/A )
2870
2871
2872                                 ;;*****************************************************************
2873                                 ;*TEST 162       TEST OF MULD INSTR, DATA SET MULD=10
2874                                 ;*              ALL INTERRUPT ENABLES ON
2875                                 ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
2876                                 ;;*****************************************************************
2877  012634 000004                  TST162: SCOPE
2878  012636 012705 012650                  MOV     #MULD10,R5      ; PTR TO TEST DATA SET
2879  012642 004737 034734                  JSR     PC,@#MULDT      ; GO TEST
2880
2881  012646 000417                         BR      TST163          ;!
2882
2883  012650                         MULD10: ; TEST DATA SET MULD=10:
2884  012650 140277 000000 000000          .WORD   140277,0,0,0    ; INITIAL AC FLOAT NUMBER
2885  012656 000000
```

```
2886  012660  034200  000000  000000          .WORD   034200,0,0,1    ; INITIAL MEM FLOAT NUMBER
2887  012666  000001
2888  012670  134277  000000  000000          .WORD   134277,0,0,1    ; EXPECTED FLOAT RESULT
2889  012676  000001
2890  012700  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
2891  012704  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2892
2893
2894                                  ;;*****************************************************************
2895                                  ;*TEST 163       TEST OF MULD INSTR, DATA SET MULD=11
2896                                  ;*              ALL INTERRUPT ENABLES ON
2897                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2898                                  ;;*****************************************************************
2899  012706  000004                  TST163: SCOPE
2900  012710  012705  012722                  MOV     #MULD11,R5      ; PTR TO TEST DATA SET
2901  012714  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
2902
2903  012720  000417                          BR      TST164          ;;
2904
2905  012722                          MULD11: ; TEST DATA SET MULD=11:
2906  012722  040300  000000  000000          .WORD   040300,0,0,0    ; INITIAL AC FLOAT NUMBER
2907  012730  000000
2908  012732  134200  000000  000000          .WORD   134200,0,0,1    ; INITIAL MEM FLOAT NUMBER
2909  012740  000001
2910  012742  134300  000000  000000          .WORD   134300,0,0,1    ; EXPECTED FLOAT RESULT
2911  012750  000001
2912  012752  047747  047750                  .WORD   047747,047750   ; FPS:  BEFORE, AFTER
2913  012756  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2914
2915
2916                                  ;;*****************************************************************
2917                                  ;*TEST 164       TEST OF MULD INSTR, DATA SET MULD=12
2918                                  ;*              ALL INTERRUPT ENABLES ON
2919                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
2920                                  ;;*****************************************************************
2921  012760  000004                  TST164: SCOPE
2922  012762  012705  012774                  MOV     #MULD12,R5      ; PTR TO TEST DATA SET
2923  012766  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
2924
2925  012772  000417                          BR      TST165          ;;
2926
2927  012774                          MULD12: ; TEST DATA SET MULD=12:
2928  012774  140300  000000  000000          .WORD   140300,0,0,0    ; INITIAL AC FLOAT NUMBER
2929  013002  000000
2930  013004  134200  000000  000000          .WORD   134200,0,0,1    ; INITIAL MEM FLOAT NUMBER
2931  013012  000001
2932  013014  034300  000000  000000          .WORD   034300,0,0,2    ; EXPECTED FLOAT RESULT
2933  013022  000002
2934  013024  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
2935  013030  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2936
2937
2938                                  ;;*****************************************************************
2939                                  ;*TEST 165       TEST OF MULD INSTR, DATA SET MULD=13
2940                                  ;*              ALL INTERRUPT ENABLES ON
2941                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
```



```
2942                                  ;;*****************************************************************
2943  013032  000004                  TST165: SCOPE
2944  013034  012705  013046                  MOV     #MULD13,R5      ; PTR TO TEST DATA SET
2945  013040  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
2946
2947  013044  000417                          BR      TST166          ;;
2948
2949  013046                          MULD13: ; TEST DATA SET MULD=13:
2950  013046  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2951  013054  177777
2952  013056  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
2953  013064  177777
2954  013066  037577  177777  177777          .WORD   037577,M1,M1,M2 ; EXPECTED FLOAT RESULT
2955  013074  177776
2956  013076  047655  147642                  .WORD   047655,147642   ; FPS:  BEFORE, AFTER
2957  013102  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
2958
2959
2960                                  ;;*****************************************************************
2961                                  ;*TEST 166       TEST OF MULD INSTR, DATA SET MULD=14
2962                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2963                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2964                                  ;;*****************************************************************
2965  013104  000004                  TST166: SCOPE
2966  013106  012705  013120                  MOV     #MULD14,R5      ; PTR TO TEST DATA SET
2967  013112  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
2968
2969  013116  000417                          BR      TST167          ;;
2970
2971  013120                          MULD14: ; TEST DATA SET MULD=14:
2972  013120  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
2973  013126  177777
2974  013130  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
2975  013136  177777
2976  013140  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
2977  013146  000000
2978  013150  046751  046746                  .WORD   046751,046746   ; FPS:  BEFORE, AFTER
2979  013154  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
2980
2981
2982                                  ;;*****************************************************************
2983                                  ;*TEST 167       TEST OF MULD INSTR, DATA SET MULD=15
2984                                  ;*              ALL INTERRUPT ENABLES ON
2985                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
2986                                  ;;*****************************************************************
2987  013156  000004                  TST167: SCOPE
2988  013160  012705  013172                  MOV     #MULD15,R5      ; PTR TO TEST DATA SET
2989  013164  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
2990
2991  013170  000417                          BR      TST170          ;;
2992
2993  013172                          MULD15: ; TEST DATA SET MULD=15:
2994  013172  003177  177777  177777          .WORD   003177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2995  013200  177777
2996  013202  101177  177777  177777          .WORD   101177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2997  013210  177777
```

```
2998  013212  144177  177777  177777          .WORD   144177,M1,M1,M2 ; EXPECTED FLOAT RESULT
2999  013220  177776
3000  013222  047647  147650                  .WORD   047647,147650   ; FPS:  BEFORE, AFTER
3001  013226  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
3002
3003
3004                                  ;;*****************************************************************
3005                                  ;*TEST 170       TEST OF MULD INSTR, DATA SET MULD=16
3006                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
3007                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
3008                                  ;;*****************************************************************
3009  013230  000004                  TST170: SCOPE
3010  013232  012705  013244                  MOV     #MULD16,R5      ; PTR TO TEST DATA SET
3011  013236  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
3012
3013  013242  000417                          BR      TST171          ;;
3014
3015  013244                          MULD16: ; TEST DATA SET MULD=16:
3016  013244  103177  177777  177777          .WORD   103177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
3017  013252  177777
3018  013254  001177  177777  177777          .WORD   001177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
3019  013262  177777
3020  013264  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3021  013272  000000
3022  013274  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
3023  013300  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3024
3025
3026                                  ;;*****************************************************************
3027                                  ;*TEST 171       TEST OF MULD INSTR, DATA SET MULD=17
3028                                  ;*              ALL INTERRUPT ENABLES ON
3029                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
3030                                  ;;*****************************************************************
3031  013302  000004                  TST171: SCOPE
3032  013304  012705  013316                  MOV     #MULD17,R5      ; PTR TO TEST DATA SET
3033  013310  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
3034
3035  013314  000417                          BR      TST172          ;;
3036
3037  013316                          MULD17: ; TEST DATA SET MULD=17:
3038  013316  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
3039  013324  052525
3040  013326  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
3041  013334  177777
3042  013336  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; EXPECTED FLOAT RESULT
3043  013344  052525
3044  013346  047657  147657                  .WORD   047657,147657   ; FPS:  BEFORE, AFTER
3045  013352  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )
3046
3047
3048                                  ;;*****************************************************************
3049                                  ;*TEST 172       TEST OF MULD INSTR, DATA SET MULD=20
3050                                  ;*              =0 INTERRUPT ENABLE OFF, ALL OTHERS ON
3051                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
3052                                  ;;*****************************************************************
3053  013354  000004                  TST172: SCOPE
```



```
3054  013356  012705  013370                  MOV     #MULD20,R5      ; PTR TO TEST DATA SET
3055  013362  004737  034734                  JSR     PC,@#MULDT      ; GO TEST
3056
3057  013366  000417                          BR      TST173          ;;
3058
3059  013370                          MULD20: ; TEST DATA SET MULD=20:
3060  013370  125252  125252  125252          .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
3061  013376  125252
3062  013400  100000  177777  052525          .WORD   M0,M1,ALTP,ALTN ; INITIAL MEM FLOAT NUMBER
3063  013406  125252
3064  013410  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
3065  013416  000000
3066  013420  043753  043744                  .WORD   043753,043744   ; FPS:  BEFORE, AFTER
3067  013424  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
3068
3069
```

```
                        ;;*****************************************************************
                        ;*TEST 173       TEST OF DIVF INSTR, DATA SET DIVF=1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
013426  000004          TST173: SCOPE
013430  012705  013442          MOV     #DIVF1,R5       ; PTR TO TEST DATA SET
013434  004737  035124          JSR     PC,@#DIVFT      ; GO TEST

013440  000411                  BR      TST174          ;;

013442                  DIVF1:  ; TEST DATA SET DIVF=1:
013442  103177  177777          .WORD   103177,M1       ; INITIAL AC FLOAT NUMBER
013446  023652  125252          .WORD   023652,ALTN     ; INITIAL MEM FLOAT NUMBER
013452  117500  000000          .WORD   117500,0        ; EXPECTED FLOAT RESULT
013456  047447  047450          .WORD   047447,047450   ; FPS:  BEFORE, AFTER
013462  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
                        ;;*****************************************************************
013464  000004          TST174: SCOPE
013466  012705  013500          MOV     #DIVF2,R5       ; PTR TO TEST DATA SET
013472  004737  035124          JSR     PC,@#DIVFT      ; GO TEST

013476  000411                  BR      TST175          ;;

013500                  DIVF2:  ; TEST DATA SET DIVF=2:
013500  052525  052525          .WORD   ALTP,ALTP       ; INITIAL AC FLOAT NUMBER
013504  000000  000000          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
013510  052525  052525          .WORD   ALTP,ALTP       ; EXPECTED FLOAT RESULT
013514  147517  147517          .WORD   047517,147517   ; FPS:  BEFORE, AFTER
013520  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
                        ;;*****************************************************************
013522  000004          TST175: SCOPE
013524  012705  013536          MOV     #DIVF3,R5       ; PTR TO TEST DATA SET
013530  004737  035124          JSR     PC,@#DIVFT      ; GO TEST

013534  000411                  BR      TST176          ;;

013536                  DIVF3:  ; TEST DATA SET DIVF=3:
013536  140400  000000          .WORD   140400,000000   ; INITIAL AC FLOAT NUMBER
013542  040500  000000          .WORD   040500,000000   ; INITIAL MEM FLOAT NUMBER
013546  140052  125252          .WORD   140052,ALTN     ; EXPECTED FLOAT RESULT
013552  047447  047450          .WORD   047447,047450   ; FPS:  BEFORE, AFTER
013556  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
                        ;;*****************************************************************
013560  000004          TST176: SCOPE
013562  012705  013574          MOV     #DIVF4,R5       ; PTR TO TEST DATA SET
013566  004737  035124          JSR     PC,@#DIVFT      ; GO TEST

013572  000411                  BR      TST177          ;;

013574                  DIVF4:  ; TEST DATA SET DIVF=4:
013574  040400  000000          .WORD   040400,000000   ; INITIAL AC FLOAT NUMBER
013600  140500  000000          .WORD   140500,000000   ; INITIAL MEM FLOAT NUMBER
013604  140052  125253          .WORD   140052,ALTN+1   ; EXPECTED FLOAT RESULT
013610  047507  047510          .WORD   047507,047510   ; FPS:  BEFORE, AFTER
013614  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
                        ;;*****************************************************************
013616  000004          TST177: SCOPE
013620  012705  013632          MOV     #DIVF5,R5       ; PTR TO TEST DATA SET
013624  004737  035124          JSR     PC,@#DIVFT      ; GO TEST

013630  000411                  BR      TST200          ;;

013632                  DIVF5:  ; TEST DATA SET DIVF=5:
013632  007417  007417          .WORD   ALT4P,ALT4P     ; INITIAL AC FLOAT NUMBER
013636  007417  007417          .WORD   ALT4P,ALT4P     ; INITIAL MEM FLOAT NUMBER
013642  040200  000000          .WORD   F1P,0   ; EXPECTED FLOAT RESULT
013646  047417  047400          .WORD   047417,047400   ; FPS:  BEFORE, AFTER
013652  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
                        ;;*****************************************************************
013654  000004          TST200: SCOPE
013656  012705  013670          MOV     #DIVF6,R5       ; PTR TO TEST DATA SET
013662  004737  035124          JSR     PC,@#DIVFT      ; GO TEST

013666  000411                  BR      TST201          ;;

013670                  DIVF6:  ; TEST DATA SET DIVF=6:
013670  160400  000000          .WORD   160400,000000   ; INITIAL AC FLOAT NUMBER
013674  154000  000000          .WORD   154000,000000   ; INITIAL MEM FLOAT NUMBER
013700  044000  000000          .WORD   044000,000000   ; EXPECTED FLOAT RESULT
013704  047557  047540          .WORD   047557,047540   ; FPS:  BEFORE, AFTER
013710  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
                                ;;*****************************************************************
013712  000004                  TST201: SCOPE
013714  012705  013726                  MOV     #DIVF7,R5       ; PTR TO TEST DATA SET
013720  004737  035124                  JSR     PC,@#DIVFT      ; GO TEST

013724  000411                          BR      TST202          ;;

013726                          DIVF7:  ; TEST DATA SET DIVF=7:
013726  000177  177777                  .WORD   2X1MP,M1        ; INITIAL AC FLOAT NUMBER
013732  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
013736  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
013742  047453  047444                  .WORD   047453,047444   ; FPS:  BEFORE, AFTER
013746  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
                                ;;*****************************************************************
013750  000004                  TST202: SCOPE
013752  012705  013764                  MOV     #DIVF10,R5      ; PTR TO TEST DATA SET
013756  004737  035124                  JSR     PC,@#DIVFT      ; GO TEST

013762  000411                          BR      TST203          ;;

013764                          DIVF10: ; TEST DATA SET DIVF=10:
013764  160077  000000                  .WORD   160077,000000   ; INITIAL AC FLOAT NUMBER
013770  140277  000000                  .WORD   140277,000000   ; INITIAL MEM FLOAT NUMBER
013774  060000  000000                  .WORD   060000,000000   ; EXPECTED FLOAT RESULT
014000  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
014004  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
                                ;;*****************************************************************
014006  000004                  TST203: SCOPE
014010  012705  014022                  MOV     #DIVF11,R5      ; PTR TO TEST DATA SET
014014  004737  035124                  JSR     PC,@#DIVFT      ; GO TEST

014020  000411                          BR      TST204          ;;

014022                          DIVF11: ; TEST DATA SET DIVF=11:
014022  160077  000000                  .WORD   160077,000000   ; INITIAL AC FLOAT NUMBER
014026  040277  000000                  .WORD   040277,000000   ; INITIAL MEM FLOAT NUMBER
014032  160000  000000                  .WORD   160000,000000   ; EXPECTED FLOAT RESULT
014036  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
```



```
014042  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 204       TEST OF DIVF INSTR, DATA SET DIVF=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
014044  000004                  TST204: SCOPE
014046  012705  014060                  MOV     #DIVF12,R5      ; PTR TO TEST DATA SET
014052  004737  035124                  JSR     PC,@#DIVFT      ; GO TEST

014056  000411                          BR      TST205          ;;

014060                          DIVF12: ; TEST DATA SET DIVF=12:
014060  060100  000001                  .WORD   060100,000001   ; INITIAL AC FLOAT NUMBER
014064  040300  000000                  .WORD   040300,000000   ; INITIAL MEM FLOAT NUMBER
014070  060000  000001                  .WORD   060000,000001   ; EXPECTED FLOAT RESULT
014074  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
014100  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 205       TEST OF DIVF INSTR, DATA SET DIVF=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
014102  000004                  TST205: SCOPE
014104  012705  014116                  MOV     #DIVF13,R5      ; PTR TO TEST DATA SET
014110  004737  035124                  JSR     PC,@#DIVFT      ; GO TEST

014114  000411                          BR      TST206          ;;

014116                          DIVF13: ; TEST DATA SET DIVF=13:
014116  060100  000001                  .WORD   060100,000001   ; INITIAL AC FLOAT NUMBER
014122  140300  000000                  .WORD   140300,000000   ; INITIAL MEM FLOAT NUMBER
014126  160000  000000                  .WORD   160000,000000   ; EXPECTED FLOAT RESULT
014132  047447  047450                  .WORD   047447,047450   ; FPS:  BEFORE, AFTER
014136  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 206       TEST OF DIVF INSTR, DATA SET DIVF=14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
014140  000004                  TST206: SCOPE
014142  012705  014154                  MOV     #DIVF14,R5      ; PTR TO TEST DATA SET
014146  004737  035124                  JSR     PC,@#DIVFT      ; GO TEST

014152  000411                          BR      TST207          ;;

014154                          DIVF14: ; TEST DATA SET DIVF=14:
014154  000177  177777                  .WORD   2X1MP,M1        ; INITIAL AC FLOAT NUMBER
014160  100177  177777                  .WORD   2X1MN,M1        ; INITIAL MEM FLOAT NUMBER
014164  000177  177777                  .WORD   2X1MP,M1        ; EXPECTED FLOAT RESULT
```

```
                        T206    TEST OF DIVF INSTR, DATA SET DIVF-14

 3294  014170  047543  147543                .WORD   047543,147543   ; FPSR  BEFORE, AFTER
 3295  014174  100014                        .WORD   100014          ; FEC AFTER ( 0 = N/A )
 3296
 3297
 3298                           ;;*******************************************************************
 3299                           ;*TEST 207       TEST OF DIVF INSTR, DATA SET DIVF-15
 3300                           ;*              =0 INTERRUPT ENABLE OFF, ALL OTHERS ON
 3301                           ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
 3302                           ;;*******************************************************************
 3303  014176  000004           TST207: SCOPE
 3304  014200  012705  014212           MOV     #DIVF15,R5      ; PTR TO TEST DATA SET
 3305  014204  004737  035124           JSR     PC,@#DIVFT      ; GO TEST
 3306
 3307  014210  000411                    BR      TST210          ;;
 3308
 3309  014212                    DIVF15: ; TEST DATA SET DIVF-15:
 3310  014212  000177  177777           .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
 3311  014216  100177  177777           .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
 3312  014222  000177  177777           .WORD   ZX1MP,M1        ; EXPECTED FLOAT RESULT
 3313  014226  043413  143413           .WORD   043413,143413   ; FPSR  BEFORE, AFTER
 3314  014232  100004                    .WORD   100004          ; FEC AFTER ( 0 = N/A )
 3315
 3316
 3317                           ;;*******************************************************************
 3318                           ;*TEST 210       TEST OF DIVF INSTR, DATA SET DIVF-16
 3319                           ;*              ALL INTERRUPT ENABLES ON
 3320                           ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
 3321                           ;;*******************************************************************
 3322  014234  000004           TST210: SCOPE
 3323  014236  012705  014250           MOV     #DIVF16,R5      ; PTR TO TEST DATA SET
 3324  014242  004737  035124           JSR     PC,@#DIVFT      ; GO TEST
 3325
 3326  014246  000411                    BR      TST211          ;;
 3327
 3328  014250                    DIVF16: ; TEST DATA SET DIVF-16:
 3329  014250  077777  052525           .WORD   LGP,ALTP        ; INITIAL AC FLOAT NUMBER
 3330  014254  003777  170360           .WORD   003777,ALT4N    ; INITIAL MEM FLOAT NUMBER
 3331  014260  034177  062134           .WORD   034177,062134   ; EXPECTED FLOAT RESULT
 3332  014264  047515  147502           .WORD   047515,147502   ; FPSR  BEFORE, AFTER
 3333  014270  100010                    .WORD   100010          ; FEC AFTER ( 0 = N/A )
 3334
 3335
 3336                           ;;*******************************************************************
 3337                           ;*TEST 211       TEST OF DIVF INSTR, DATA SET DIVF-17
 3338                           ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
 3339                           ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
 3340                           ;;*******************************************************************
 3341  014272  000004           TST211: SCOPE
 3342  014274  012705  014306           MOV     #DIVF17,R5      ; PTR TO TEST DATA SET
 3343  014300  004737  035124           JSR     PC,@#DIVFT      ; GO TEST
 3344
 3345  014304  000411                    BR      TST212          ;;
 3346
 3347  014306                    DIVF17: ; TEST DATA SET DIVF-17:
 3348  014306  177777  052525           .WORD   LGN,ALTP        ; INITIAL AC FLOAT NUMBER
 3349  014312  103777  170360           .WORD   103777,ALT4N    ; INITIAL MEM FLOAT NUMBER
```



```
                        T211    TEST OF DIVF INSTR, DATA SET DIVF-17

 3350  014316  000000  000000           .WORD   0,0      ; EXPECTED FLOAT RESULT
 3351  014322  046411  046406           .WORD   046411,046406   ; FPSR  BEFORE, AFTER
 3352  014326  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3353
 3354
 3355                           ;;*******************************************************************
 3356                           ;*TEST 212       TEST OF DIVF INSTR, DATA SET DIVF-20
 3357                           ;*              ALL INTERRUPT ENABLES ON
 3358                           ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
 3359                           ;;*******************************************************************
 3360  014330  000004           TST212: SCOPE
 3361  014332  012705  014344           MOV     #DIVF20,R5      ; PTR TO TEST DATA SET
 3362  014336  004737  035124           JSR     PC,@#DIVFT      ; GO TEST
 3363
 3364  014342  000411                    BR      TST213          ;;
 3365
 3366  014344                    DIVF20: ; TEST DATA SET DIVF-20:
 3367  014344  100200  000000           .WORD   SMN,0   ; INITIAL AC FLOAT NUMBER
 3368  014350  077777  177777           .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
 3369  014354  140400  000000           .WORD   140400,000000   ; EXPECTED FLOAT RESULT
 3370  014360  047547  147550           .WORD   047547,147550   ; FPSR  BEFORE, AFTER
 3371  014364  100012                    .WORD   100012          ; FEC AFTER ( 0 = N/A )
 3372
 3373
 3374                           ;;*******************************************************************
 3375                           ;*TEST 213       TEST OF DIVF INSTR, DATA SET DIVF-21
 3376                           ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
 3377                           ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
 3378                           ;;*******************************************************************
 3379  014366  000004           TST213: SCOPE
 3380  014370  012705  014402           MOV     #DIVF21,R5      ; PTR TO TEST DATA SET
 3381  014374  004737  035124           JSR     PC,@#DIVFT      ; GO TEST
 3382
 3383  014400  000411                    BR      TST214          ;;
 3384
 3385  014402                    DIVF21: ; TEST DATA SET DIVF-21:
 3386  014402  000200  000000           .WORD   SMP,0   ; INITIAL AC FLOAT NUMBER
 3387  014406  177777  177777           .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
 3388  014412  000000  000000           .WORD   0,0     ; EXPECTED FLOAT RESULT
 3389  014416  045453  045444           .WORD   045453,045444   ; FPSR  BEFORE, AFTER
 3390  014422  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3391
 3392
 3393
```

```
                                ;;*****************************************************************
                                ;*TEST 214       TEST OF DIVD INSTR, DATA SET DIVD=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
014424  000004                  TST214: SCOPE
014426  012705  014440                  MOV     #DIVD1,R5       ; PTR TO TEST DATA SET
014432  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST
014436  000417                          BR      TST215          ;;
014440                          DIVD1:  ; TEST DATA SET DIVD=1:
014440  000177  177777  177777          .WORD   2X1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
014446  177777
014450  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
014456  177777
014460  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
014466  000000
014470  047613  047604                  .WORD   047613,047604   ; FPS:  BEFORE, AFTER
014474  000000                          .WORD   NA              ; FEC AFTER ( 0 = N7A )

                                ;;*****************************************************************
                                ;*TEST 215       TEST OF DIVD INSTR, DATA SET DIVD=2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
014476  000004                  TST215: SCOPE
014500  012705  014512                  MOV     #DIVD2,R5       ; PTR TO TEST DATA SET
014504  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST
014510  000417                          BR      TST216          ;;
014512                          DIVD2:  ; TEST DATA SET DIVD=2:
014512  034277  000000  000000          .WORD   034277,0,0,0    ; INITIAL AC FLOAT NUMBER
014520  000000
014522  040277  000000  000000          .WORD   040277,0,0,0    ; INITIAL MEM FLOAT NUMBER
014530  000000
014532  034200  000000  000000          .WORD   034200,0,0,0    ; EXPECTED FLOAT RESULT
014540  000000
014542  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
014546  000000                          .WORD   NA              ; FEC AFTER ( 0 = N7A )

                                ;;*****************************************************************
                                ;*TEST 216       TEST OF DIVD INSTR, DATA SET DIVD=3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
014550  000004                  TST216: SCOPE
014552  012705  014564                  MOV     #DIVD3,R5       ; PTR TO TEST DATA SET
014556  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST
014562  000417                          BR      TST217          ;;
014564                          DIVD3:  ; TEST DATA SET DIVD=3:
```



```
014564  134277  000000  000000          .WORD   134277,0,0,0    ; INITIAL AC FLOAT NUMBER
014572  000000
014574  040277  000000  000000          .WORD   040277,0,0,0    ; INITIAL MEM FLOAT NUMBER
014602  000000
014604  134200  000000  000000          .WORD   134200,0,0,0    ; EXPECTED FLOAT RESULT
014612  000000
014614  047647  047650                  .WORD   047647,047650   ; FPS:  BEFORE, AFTER
014620  000000                          .WORD   NA              ; FEC AFTER ( 0 = N7A )

                                ;;*****************************************************************
                                ;*TEST 217       TEST OF DIVD INSTR, DATA SET DIVD=4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
014622  000004                  TST217: SCOPE
014624  012705  014636                  MOV     #DIVD4,R5       ; PTR TO TEST DATA SET
014630  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST
014634  000417                          BR      TST220          ;;
014636                          DIVD4:  ; TEST DATA SET DIVD=4:
014636  134300  000000  000000          .WORD   134300,0,0,1    ; INITIAL AC FLOAT NUMBER
014644  000001
014646  140300  000000  000000          .WORD   140300,0,0,0    ; INITIAL MEM FLOAT NUMBER
014654  000000
014656  034200  000000  000000          .WORD   034200,0,0,0    ; EXPECTED FLOAT RESULT
014664  000000
014666  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
014672  000000                          .WORD   NA              ; FEC AFTER ( 0 = N7A )

                                ;;*****************************************************************
                                ;*TEST 220       TEST OF DIVD INSTR, DATA SET DIVD=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
014674  000004                  TST220: SCOPE
014676  012705  014710                  MOV     #DIVD5,R5       ; PTR TO TEST DATA SET
014702  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST
014706  000417                          BR      TST221          ;;
014710                          DIVD5:  ; TEST DATA SET DIVD=5:
014710  134300  000000  000000          .WORD   134300,0,0,1    ; INITIAL AC FLOAT NUMBER
014716  000001
014720  140300  000000  000000          .WORD   140300,0,0,0    ; INITIAL MEM FLOAT NUMBER
014726  000000
014730  134200  000000  000000          .WORD   134200,0,0,1    ; EXPECTED FLOAT RESULT
014736  000001
014740  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
014744  000000                          .WORD   NA              ; FEC AFTER ( 0 = N7A )

                                ;;*****************************************************************
                                ;*TEST 221       TEST OF DIVD INSTR, DATA SET DIVD=6
```

```
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
 015746  000004                         TST221: SCOPE
 015750  012705  014762                         MOV     #DIVD6,R5       ; PTR TO TEST DATA SET
 015754  004737  035274                         JSR     PC,@#DIVDT      ; GO TEST
                                        
 015760  000417                         BR      TST222          ;;
                                        
 015762                                 DIVD6:  ; TEST DATA SET DIVD=6:
 015762  100400  000000  000000                 .WORD   100400,0,0,0    ; INITIAL AC FLOAT NUMBER
 015770  000000
 015772  000500  000000  000000                 .WORD   000500,0,0,0    ; INITIAL MEM FLOAT NUMBER
 016000  000000
 016002  140052  125252  125252                 .WORD   140052,ALTN,ALTN,ALTN   ; EXPECTED FLOAT RESULT
 016010  125252
 016012  047647  047650                         .WORD   047647,047650   ; FPS:  BEFORE, AFTER
 016016  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
                                        ;;**************************************************************
 016020  000004                         TST222: SCOPE
 016022  012705  016034                         MOV     #DIVD7,R5       ; PTR TO TEST DATA SET
 016026  004737  035274                         JSR     PC,@#DIVDT      ; GO TEST
                                        
 016032  000417                         BR      TST223          ;;
                                        
 016034                                 DIVD7:  ; TEST DATA SET DIVD=7:
 016034  100400  000000  000000                 .WORD   100400,0,0,0    ; INITIAL AC FLOAT NUMBER
 016042  000000
 016044  000500  000000  000000                 .WORD   000500,0,0,0    ; INITIAL MEM FLOAT NUMBER
 016052  000000
 016054  140052  125252  125252                 .WORD   140052,ALTN,ALTN,ALTN+1 ; EXPECTED FLOAT RESULT
 016062  125253
 016064  047607  047610                         .WORD   047607,047610   ; FPS:  BEFORE, AFTER
 016070  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
                                        ;;**************************************************************
 016072  000004                         TST223: SCOPE
 016074  012705  016106                         MOV     #DIVD10,R5      ; PTR TO TEST DATA SET
 016100  004737  035274                         JSR     PC,@#DIVDT      ; GO TEST
                                        
 016104  000417                         BR      TST224          ;;
                                        
 016106                                 DIVD10: ; TEST DATA SET DIVD=10:
 016106  170360  170360  170360                 .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
 016114  170360
```



```
 016116  170360  170360  170360                 .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
 016124  170360
 016126  040200  000000  000000                 .WORD   F1P,0,0,0       ; EXPECTED FLOAT RESULT
 016134  000000
 016136  047717  047700                         .WORD   047717,047700   ; FPS:  BEFORE, AFTER
 016142  000000                                 .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                        
                                        
                                        ;;**************************************************************
                                        ;*TEST 224       TEST OF DIVD INSTR, DATA SET DIVD=11
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                        ;;**************************************************************
 016144  000004                         TST224: SCOPE
 016146  012705  016160                         MOV     #DIVD11,R5      ; PTR TO TEST DATA SET
 016152  004737  035274                         JSR     PC,@#DIVDT      ; GO TEST
                                        
 016156  000417                         BR      TST225          ;;
                                        
 016160                                 DIVD11: ; TEST DATA SET DIVD=11:
 016160  070200  000000  000000                 .WORD   070200,0,0,0    ; INITIAL AC FLOAT NUMBER
 016166  000000
 016170  050400  000000  000000                 .WORD   050400,0,0,0    ; INITIAL MEM FLOAT NUMBER
 016176  000000
 016200  060000  000000  000000                 .WORD   060000,0,0,0    ; EXPECTED FLOAT RESULT
 016206  000000
 016210  047657  047640                         .WORD   047657,047640   ; FPS:  BEFORE, AFTER
 016214  000000                                 .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                        
                                        
                                        ;;**************************************************************
                                        ;*TEST 225       TEST OF DIVD INSTR, DATA SET DIVD=12
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;**************************************************************
 016216  000004                         TST225: SCOPE
 016220  012705  016232                         MOV     #DIVD12,R5      ; PTR TO TEST DATA SET
 016224  004737  035274                         JSR     PC,@#DIVDT      ; GO TEST
                                        
 016230  000417                         BR      TST226          ;;
                                        
 016232                                 DIVD12: ; TEST DATA SET DIVD=12:
 016232  125252  125252  125252                 .WORD   ALTN,ALTN,ALTN,ALTN     ; INITIAL AC FLOAT NUMBER
 016240  125252
 016242  000000  000000  000000                 .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
 016250  000000
 016252  125252  125252  125252                 .WORD   ALTN,ALTN,ALTN,ALTN     ; EXPECTED FLOAT RESULT
 016260  125252
 016262  147707  147707                         .WORD   147707,147707   ; FPS:  BEFORE, AFTER
 016266  100004                                 .WORD   100004          ; FEC AFTER ( 0 = N/A )
                                        
                                        
                                        ;;**************************************************************
                                        ;*TEST 226       TEST OF DIVD INSTR, DATA SET DIVD=13
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
```

```
                                        ;;************************************************************
        015270  000004                  TST226: SCOPE
        015272  012705  015304                  MOV     #DIVD13,R5      ; PTR TO TEST DATA SET
        015276  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST

        015302  000417                          BR      TST227          ;;

        015304                          DIVD13: ; TEST DATA SET DIVD-13:
        015304  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
        015312  177777
        015314  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
        015322  177777
        015324  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; EXPECTED FLOAT RESULT
        015332  177777
        015334  047643  147643                  .WORD   047643,147643   ; FPS: BEFORE, AFTER
        015340  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
                                        ;;************************************************************
        015342  000004                  TST227: SCOPE
        015344  012705  015356                  MOV     #DIVD14,R5      ; PTR TO TEST DATA SET
        015350  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST

        015354  000417                          BR      TST230          ;;

        015356                          DIVD14: ; TEST DATA SET DIVD-14:
        015356  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
        015364  177777
        015366  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
        015374  177777
        015376  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; EXPECTED FLOAT RESULT
        015404  177777
        015406  043643  143643                  .WORD   043643,143643   ; FPS: BEFORE, AFTER
        015412  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
                                        ;;************************************************************
        015414  000004                  TST230: SCOPE
        015416  012705  015430                  MOV     #DIVD15,R5      ; PTR TO TEST DATA SET
        015422  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST

        015426  000417                          BR      TST231          ;;

        015430                          DIVD15: ; TEST DATA SET DIVD-15:
        015430  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
        015436  052525
        015440  000200  000000  000000          .WORD   SMP,0,0,0       ; INITIAL MEM FLOAT NUMBER
        015446  000000
```



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        015450  012525  052525  052525          .WORD   012525,ALTP,ALTP,ALTP   ; EXPECTED FLOAT RESULT
        015456  052525
        015460  047615  147602                  .WORD   047615,147602   ; FPS: BEFORE, AFTER
        015464  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )



                                        ;;************************************************************
                                        ;*TEST 231      TEST OF DIVD INSTR, DATA SET DIVD-16
                                        ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;************************************************************
        015466  000004                  TST231: SCOPE
        015470  012705  015502                  MOV     #DIVD16,R5      ; PTR TO TEST DATA SET
        015474  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST

        015500  000417                          BR      TST232          ;;

        015502                          DIVD16: ; TEST DATA SET DIVD-16:
        015502  052525  052525  052525          .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
        015510  052525
        015512  100200  000000  000000          .WORD   SMN,0,0,0       ; INITIAL MEM FLOAT NUMBER
        015520  000000
        015522  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
        015530  000000
        015532  046611  046606                  .WORD   046611,046606   ; FPS: BEFORE, AFTER
        015536  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )



                                        ;;************************************************************
                                        ;*TEST 232      TEST OF DIVD INSTR, DATA SET DIVD-17
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;************************************************************
        015540  000004                  TST232: SCOPE
        015542  012705  015554                  MOV     #DIVD17,R5      ; PTR TO TEST DATA SET
        015546  004737  035274                  JSR     PC,@#DIVDT      ; GO TEST

        015552  000417                          BR      TST233          ;;

        015554                          DIVD17: ; TEST DATA SET DIVD-17:
        015554  100200  177777  125252          .WORD   SMN,M1,ALTN,0   ; INITIAL AC FLOAT NUMBER
        015562  000000
        015564  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
        015572  177777
        015574  140400  177777  125252          .WORD   140400,M1,ALTN,1        ; EXPECTED FLOAT RESULT
        015602  000001
        015604  047707  147710                  .WORD   047707,147710   ; FPS: BEFORE, AFTER
        015610  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )



                                        ;;************************************************************
                                        ;*TEST 233      TEST OF DIVD INSTR, DATA SET DIVD-20
                                        ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                        ;;************************************************************
        015612  000004                  TST233: SCOPE
```

```
                        MOV     #DIVD20,R5      ; PTR TO TEST DATA SET
                        JSR     PC,@#DIVDT      ; GO TEST

                        BR      TST234          ;!

                DIVD20: ; TEST DATA SET DIVD-20!
                        .WORD   SMN,M1,ALTN,0   ; INITIAL AC FLOAT NUMBER
                        .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
                        .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
                        .WORD   045713,045704   ; FPS!  BEFORE, AFTER
                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                ;!*****************************************************************
                ;*TEST 234       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-1
                ;*              ALL INTERRUPT ENABLES ON
                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                ;!*****************************************************************
015664  000004  TST234: SCOPE
015666  012705  015700          MOV     #MD2F1,R5       ; PTR TO TEST DATA SET
015672  004737  035464          JSR     PC,@#MD2FT      ; GO TEST

015676  000413                  BR      TST235          ;!

015700                  MD2F1:  ; TEST DATA SET MD2F-1!
015700  000000  000000          .WORD   0,0     ; INITIAL AC FLOAT NUMBER
015704  000000  000000          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
015710  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
015714  000000  000000          .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
015720  047513  047504          .WORD   047513,047504   ; FPS!  BEFORE, AFTER
015721  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
                ;!*****************************************************************
015726  000004  TST235: SCOPE
015730  012705  015742          MOV     #MD2F2,R5       ; PTR TO TEST DATA SET
015734  004737  035464          JSR     PC,@#MD2FT      ; GO TEST

015740  000413                  BR      TST236          ;!

015742                  MD2F2:  ; TEST DATA SET MD2F-2!
015742  000177  177777          .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
015746  077777  177777          .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
015752  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
015756  000000  000000          .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
015762  047553  047544          .WORD   047553,047544   ; FPS!  BEFORE, AFTER
015766  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
                ;!*****************************************************************
015770  000004  TST236: SCOPE
015772  012705  016004          MOV     #MD2F3,R5       ; PTR TO TEST DATA SET
015776  004737  035464          JSR     PC,@#MD2FT      ; GO TEST

016002  000413                  BR      TST237          ;!

016004                  MD2F3:  ; TEST DATA SET MD2F-3!
016004  177777  177777          .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
016010  100177  177777          .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
016014  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
016020  000000  000000          .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
```

```
 3002  016024  043413  043404          .WORD   043413,043404   ; FPS:  BEFORE, AFTER
 3003  016030  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3004
 3005
 3006                                  ;;*****************************************************************
 3007                                  ;*TEST 237       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-4
 3008                                  ;*              ALL INTERRUPT ENABLES ON
 3009                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
 3010                                  ;;*****************************************************************
 3011  016032  000004                  TST237: SCOPE
 3012  016034  012705  016046          MOV     #MD2F4,R5       ; PTR TO TEST DATA SET
 3013  016040  004737  035464          JSR     PC,@#MD2FT      ; GO TEST
 3014
 3015  016044  000413                  BR      TST240          ;;
 3016
 3017  016046                          MD2F4:  ; TEST DATA SET MD2F-4:
 3018  016046  177777  177777          .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
 3019  016052  100177  177777          .WORD   2X1MN,M1        ; INITIAL MEM FLOAT NUMBER
 3020  016056  177777  177777          .WORD   LGN,M1  ; EXPECTED FRACTION-PART FLOAT RESULT
 3021  016062  052525  177777          .WORD   ALTP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
 3022  016066  047447  147447          .WORD   047447,147447   ; FPS:  BEFORE, AFTER
 3023  016072  100014                  .WORD   100014          ; FEC AFTER ( 0 = N/A )
 3024
 3025
 3026                                  ;;*****************************************************************
 3027                                  ;*TEST 240       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-5
 3028                                  ;*              ALL INTERRUPT ENABLES ON
 3029                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
 3030                                  ;;*****************************************************************
 3031  016074  000004                  TST240: SCOPE
 3032  016076  012705  016110          MOV     #MD2F5,R5       ; PTR TO TEST DATA SET
 3033  016102  004737  035464          JSR     PC,@#MD2FT      ; GO TEST
 3034
 3035  016106  000413                  BR      TST241          ;;
 3036
 3037  016110                          MD2F5:  ; TEST DATA SET MD2F-5:
 3038  016110  042177  000000          .WORD   042177,0        ; INITIAL AC FLOAT NUMBER
 3039  016114  140200  000000          .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
 3040  016120  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
 3041  016124  142177  000000          .WORD   142177,0        ; EXPECTED INTEGER-PART FLOAT RESULT
 3042  016130  047553  047544          .WORD   047553,047544   ; FPS:  BEFORE, AFTER
 3043  016134  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3044
 3045
 3046                                  ;;*****************************************************************
 3047                                  ;*TEST 241       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-6
 3048                                  ;*              ALL INTERRUPT ENABLES ON
 3049                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
 3050                                  ;;*****************************************************************
 3051  016136  000004                  TST241: SCOPE
 3052  016140  012705  016152          MOV     #MD2F6,R5       ; PTR TO TEST DATA SET
 3053  016144  004737  035464          JSR     PC,@#MD2FT      ; GO TEST
 3054
 3055  016150  000413                  BR      TST242          ;;
 3056
 3057  016152                          MD2F6:  ; TEST DATA SET MD2F-6:
```



```
 3058  016152  040200  000000          .WORD   F1P,0   ; INITIAL AC FLOAT NUMBER
 3059  016156  140177  177777          .WORD   140177,M1       ; INITIAL MEM FLOAT NUMBER
 3060  016162  140177  177777          .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
 3061  016166  000000  000000          .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
 3062  016172  047507  047510          .WORD   047507,047510   ; FPS:  BEFORE, AFTER
 3063  016176  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3064
 3065
 3066                                  ;;*****************************************************************
 3067                                  ;*TEST 242       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-7
 3068                                  ;*              ALL INTERRUPT ENABLES ON
 3069                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
 3070                                  ;;*****************************************************************
 3071  016200  000004                  TST242: SCOPE
 3072  016202  012705  016214          MOV     #MD2F7,R5       ; PTR TO TEST DATA SET
 3073  016206  004737  035464          JSR     PC,@#MD2FT      ; GO TEST
 3074
 3075  016212  000413                  BR      TST243          ;;
 3076
 3077  016214                          MD2F7:  ; TEST DATA SET MD2F-7:
 3078  016214  142176  077600          .WORD   142176,077600   ; INITIAL AC FLOAT NUMBER
 3079  016220  140200  000000          .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
 3080  016224  037777  000000          .WORD   037777,0        ; EXPECTED FRACTION-PART FLOAT RESULT
 3081  016230  042176  000000          .WORD   042176,0        ; EXPECTED INTEGER-PART FLOAT RESULT
 3082  016234  047457  047440          .WORD   047457,047440   ; FPS:  BEFORE, AFTER
 3083  016240  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3084
 3085
 3086                                  ;;*****************************************************************
 3087                                  ;*TEST 243       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-10
 3088                                  ;*              ALL INTERRUPT ENABLES ON
 3089                                  ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
 3090                                  ;;*****************************************************************
 3091  016242  000004                  TST243: SCOPE
 3092  016244  012705  016256          MOV     #MD2F10,R5      ; PTR TO TEST DATA SET
 3093  016250  004737  035464          JSR     PC,@#MD2FT      ; GO TEST
 3094
 3095  016254  000413                  BR      TST244          ;;
 3096
 3097  016256                          MD2F10: ; TEST DATA SET MD2F-10:
 3098  016256  042177  100000          .WORD   042177,M0       ; INITIAL AC FLOAT NUMBER
 3099  016262  040200  000000          .WORD   F1P,0   ; INITIAL MEM FLOAT NUMBER
 3100  016266  040000  000000          .WORD   040000,0        ; EXPECTED FRACTION-PART FLOAT RESULT
 3101  016272  042177  000000          .WORD   042177,0        ; EXPECTED INTEGER-PART FLOAT RESULT
 3102  016276  047417  047400          .WORD   047417,047400   ; FPS:  BEFORE, AFTER
 3103  016302  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
 3104
 3105
 3106                                  ;;*****************************************************************
 3107                                  ;*TEST 244       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-11
 3108                                  ;*              ALL INTERRUPT ENABLES ON
 3109                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
 3110                                  ;;*****************************************************************
 3111  016304  000004                  TST244: SCOPE
 3112  016306  012705  016320          MOV     #MD2F11,R5      ; PTR TO TEST DATA SET
 3113  016312  004737  035464          JSR     PC,@#MD2FT      ; GO TEST
```

```
                                        BR      TST245          ;;

                                MD2F11: ; TEST DATA SET MD2F=11:
                                        .WORD   F1N,0   ; INITIAL AC FLOAT NUMBER
                                        .WORD   040377,M1       ; INITIAL MEM FLOAT NUMBER
                                        .WORD   140177,M2       ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   F1N,0   ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047547,047550   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**********************************************************
                                ;*TEST 245       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;**********************************************************
                                TST245: SCOPE
                                        MOV     #MD2F12,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD2FT      ; GO TEST

                                        BR      TST246          ;;

                                MD2F12: ; TEST DATA SET MD2F=12:
                                        .WORD   060452,ALTN     ; INITIAL AC FLOAT NUMBER
                                        .WORD   021700,0        ; INITIAL MEM FLOAT NUMBER
                                        .WORD   040177,UB       ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   042177,0        ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047517,047500   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**********************************************************
                                ;*TEST 246       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;**********************************************************
                                TST246: SCOPE
                                        MOV     #MD2F13,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD2FT      ; GO TEST

                                        BR      TST247          ;;

                                MD2F13: ; TEST DATA SET MD2F=13:
                                        .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
                                        .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
                                        .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   142177,^D00000  ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047547,047550   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**********************************************************
                                ;*TEST 247       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F=14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
```



```
                                ;;**********************************************************
                                TST247: SCOPE
                                        MOV     #MD2F14,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD2FT      ; GO TEST

                                        BR      TST250          ;;

                                MD2F14: ; TEST DATA SET MD2F=14:
                                        .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
                                        .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
                                        .WORD   140200,^D00000  ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   142177,000000   ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047507,047510   ; FPS:  BEFORE, AFTER
                                        .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
                                ;;**********************************************************
                                TST250: SCOPE
                                        MOV     #MD2F15,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD2FT      ; GO TEST

                                        BR      TST251          ;;

                                MD2F15: ; TEST DATA SET MD2F=15:
                                        .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
                                        .WORD   044452,ALTN     ; INITIAL MEM FLOAT NUMBER
                                        .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   004052,ALTN     ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047411,147406   ; FPS:  BEFORE, AFTER
                                        .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
                                ;;**********************************************************
                                TST251: SCOPE
                                        MOV     #MD2F16,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD2FT      ; GO TEST

                                        BR      TST252          ;;

                                MD2F16: ; TEST DATA SET MD2F=16:
                                        .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
                                        .WORD   044452,ALTN     ; INITIAL MEM FLOAT NUMBER
                                        .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   046411,046406   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                        T252    TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-17

                        ;;*****************************************************************
                        ;*TEST 252       TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-17
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
016620  000004           TST252: SCOPE
016622  012705  016634           MOV     #MD2F17,R5      ; PTR TO TEST DATA SET
016626  004737  035464           JSR     PC,@#MD2FT      ; GO TEST

016632  000413                   BR      TST253          ;;

016634                   MD2F17: ; TEST DATA SET MD2F-17:
016634  001577  177777           .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
016640  101000  000000           .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
016644  142377  177777           .WORD   142377,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
016650  000000  000000           .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
016654  047547  147550           .WORD   047547,147550   ; FPS:  BEFORE, AFTER
016660  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
                        ;;*****************************************************************
016662  000004           TST253: SCOPE
016664  012705  016676           MOV     #MD2F20,R5      ; PTR TO TEST DATA SET
016670  004737  035464           JSR     PC,@#MD2FT      ; GO TEST

016674  000413                   BR      TST254          ;;

016676                   MD2F20: ; TEST DATA SET MD2F-20:
016676  001577  177777           .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
016702  101000  000000           .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
016706  000000  000000           .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
016712  000000  000000           .WORD   0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
016716  045553  045544           .WORD   045553,045544   ; FPS:  BEFORE, AFTER
016722  000000                   .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                        T254    TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-1

                        ;;*****************************************************************
                        ;*TEST 254       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
016724  000004           TST254: SCOPE
016726  012705  016740           MOV     #MD2D1,R5       ; PTR TO TEST DATA SET
016732  004737  035666           JSR     PC,@#MD2DT      ; GO TEST

016736  000423                   BR      TST255          ;;

016740                   MD2D1:  ; TEST DATA SET MD2D-1:
016740  000000  000000  000000           .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
016746  000000
016750  000000  000000  000000           .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
016756  000000
016760  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
016766  000000
016770  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
016776  000000
017000  047653  047644                   .WORD   047653,047644   ; FPS:  BEFORE, AFTER
017004  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 255       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-2
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
017006  000004           TST255: SCOPE
017010  012705  017022           MOV     #MD2D2,R5       ; PTR TO TEST DATA SET
017014  004737  035666           JSR     PC,@#MD2DT      ; GO TEST

017020  000423                   BR      TST256          ;;

017022                   MD2D2:  ; TEST DATA SET MD2D-2:
017022  000177  177777  177777           .WORD   2X1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
017030  177777
017032  177777  177777  177777           .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
017040  177777
017042  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
017050  000000
017052  000000  000000  000000           .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
017060  000000
017062  047713  047704                   .WORD   047713,047704   ; FPS:  BEFORE, AFTER
017066  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 256       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-3
                        ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
017070  000004           TST256: SCOPE
017072  012705  017104           MOV     #MD2D3,R5       ; PTR TO TEST DATA SET
017076  004737  035666           JSR     PC,@#MD2DT      ; GO TEST
```

```
                        017102  000423                  BR      TST257          ;!
                        017104                  MD2D3:  ; TEST DATA SET MD2D=3!
                        017104  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
                        017112  177777
                        017114  100177  177777  177777          .WORD   2X1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
                        017122  177777
                        017124  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
                        017132  000000
                        017134  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
                        017142  000000
                        017144  043653  043644                  .WORD   043653,043644   ; FPS!  BEFORE, AFTER
                        017150  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                                ;!*************************************************************
                                                ;*TEST 257       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D=4
                                                ;*              ALL INTERRUPT ENABLES ON
                                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                                ;!*************************************************************
                        017152  000004          TST257: SCOPE
                        017154  012705  017166                  MOV     #MD2D4,R5       ; PTR TO TEST DATA SET
                        017160  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

                        017164  000423                  BR      TST260          ;!

                        017166                  MD2D4:  ; TEST DATA SET MD2D=4!
                        017166  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
                        017174  177777
                        017176  100177  177777  177777          .WORD   2X1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
                        017204  177777
                        017206  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; EXPECTED FRACTION-PART FLOAT RESULT
                        017214  177777
                        017216  052525  177777  125252          .WORD   ALTP,M1,ALTN,0  ; EXPECTED INTEGER-PART FLOAT RESULT
                        017224  000000
                        017226  047713  147713                  .WORD   047713,147713   ; FPS!  BEFORE, AFTER
                        017232  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )


                                                ;!*************************************************************
                                                ;*TEST 260       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D=5
                                                ;*              ALL INTERRUPT ENABLES ON
                                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                                ;!*************************************************************
                        017234  000004          TST260: SCOPE
                        017236  012705  017250                  MOV     #MD2D5,R5       ; PTR TO TEST DATA SET
                        017242  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

                        017246  000423                  BR      TST261          ;!

                        017250                  MD2D5:  ; TEST DATA SET MD2D=5!
                        017250  042177  000000  000000          .WORD   042177,0,0,0    ; INITIAL AC FLOAT NUMBER
                        017256  000000
                        017260  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
                        017266  000000
```



```
                        017270  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
                        017276  000000
                        017300  042177  000000  000000          .WORD   042177,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
                        017306  000004
                        017310  047613  047604                  .WORD   047613,047604   ; FPS!  BEFORE, AFTER
                        017314  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                                ;!*************************************************************
                                                ;*TEST 261       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D=6
                                                ;*              ALL INTERRUPT ENABLES ON
                                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                                ;!*************************************************************
                        017316  000004          TST261: SCOPE
                        017320  012705  017332                  MOV     #MD2D6,R5       ; PTR TO TEST DATA SET
                        017324  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

                        017330  000423                  BR      TST262          ;!

                        017332                  MD2D6:  ; TEST DATA SET MD2D=6!
                        017332  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
                        017340  000000
                        017342  040177  177777  177777          .WORD   040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
                        017350  177777
                        017352  140177  177777  177777          .WORD   140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
                        017360  177777
                        017362  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
                        017370  000000
                        017372  047747  047750                  .WORD   047747,047750   ; FPS!  BEFORE, AFTER
                        017376  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                                ;!*************************************************************
                                                ;*TEST 262       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D=7
                                                ;*              ALL INTERRUPT ENABLES ON
                                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                                ;!*************************************************************
                        017400  000004          TST262: SCOPE
                        017402  012705  017414                  MOV     #MD2D7,R5       ; PTR TO TEST DATA SET
                        017406  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

                        017412  000423                  BR      TST263          ;!

                        017414                  MD2D7:  ; TEST DATA SET MD2D=7!
                        017414  042176  077600  000000          .WORD   042176,077600,0,0       ; INITIAL AC FLOAT NUMBER
                        017422  000000
                        017424  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL MEM FLOAT NUMBER
                        017432  000000
                        017434  137777  000000  000000          .WORD   137777,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
                        017442  000000
                        017444  142176  000000  000000          .WORD   142176,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
                        017452  000000
                        017454  047607  047610                  .WORD   047607,047610   ; FPS!  BEFORE, AFTER
                        017460  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 263       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
017462  000004                  TST263: SCOPE
017464  012705  017476                  MOV     #MD2D10,R5      ; PTR TO TEST DATA SET
017470  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

017474  000423                  BR      TST264          ;!

017476                          MD2D10: ; TEST DATA SET MD2D-10!
017476  142177  100000  000000          .WORD   142177,M0,0,0   ; INITIAL AC FLOAT NUMBER
017504  000000
017506  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
017514  000000
017516  140000  000000  000000          .WORD   140000,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
017524  000000
017526  142177  000000  000000          .WORD   142177,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
017534  000000
017536  047747  047750                  .WORD   047747,047750   ; FPS!  BEFORE, AFTER
017542  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
                                ;;*****************************************************************
017544  000004                  TST264: SCOPE
017546  012705  017560                  MOV     #MD2D11,R5      ; PTR TO TEST DATA SET
017552  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

017556  000423                  BR      TST265          ;!

017560                          MD2D11: ; TEST DATA SET MD2D-11!
017560  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
017566  000000
017570  140377  177777  177777          .WORD   140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
017576  177777
017600  040177  177777  177777          .WORD   040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
017606  177776
017610  040200  000000  000000          .WORD   F1P,0,0,0       ; EXPECTED INTEGER-PART FLOAT RESULT
017616  000000
017620  047617  047600                  .WORD   047617,047600   ; FPS!  BEFORE, AFTER
017624  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
                                ;;*****************************************************************
017626  000004                  TST265: SCOPE
017630  012705  017642                  MOV     #MD2D12,R5      ; PTR TO TEST DATA SET
017634  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST
```



```
017640  000423                  BR      TST266          ;!

017642                          MD2D12: ; TEST DATA SET MD2D-12!
017642  167452  125252  125252          .WORD   167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
017650  125252
017652  112700  000000  000000          .WORD   112700,0,0,0    ; INITIAL MEM FLOAT NUMBER
017660  000000
017662  040177  177777  177777          .WORD   040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
017670  177400
017672  042177  000000  000000          .WORD   042177,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
017700  000000
017702  047757  047740                  .WORD   047757,047740   ; FPS!  BEFORE, AFTER
017706  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 266       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
017710  000004                  TST266: SCOPE
017712  012705  017724                  MOV     #MD2D13,R5      ; PTR TO TEST DATA SET
017716  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

017722  000423                  BR      TST267          ;!

017724                          MD2D13: ; TEST DATA SET MD2D-13!
017724  041000  000000  000000          .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
017732  000001
017734  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
017742  177776
017744  040177  177777  177777          .WORD   040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
017752  177777
017754  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
017762  000000
017764  047657  047640                  .WORD   047657,047640   ; FPS!  BEFORE, AFTER
017770  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 267       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
017772  000004                  TST267: SCOPE
017774  012705  020006                  MOV     #MD2D14,R5      ; PTR TO TEST DATA SET
020000  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST

020004  000423                  BR      TST270          ;!

020006                          MD2D14: ; TEST DATA SET MD2D-14!
020006  041000  000000  000000          .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
020014  000001
020016  037577  177777  177777          .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
020024  177776
```

```
4347  020026  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
4348  020034  000000
4349  020036  040200  000000  000000          .WORD   040200,0,0,0    ; EXPECTED INTEGER-PART FLOAT RESULT
4350  020044  000000
4351  020046  047617  047600                  .WORD   047617,047600   ; FPS:  BEFORE, AFTER
4352  020052  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4353
4354
4355                                  ;;**********************************************************
4356                                  ;*TEST 270       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-15
4357                                  ;*              ALL INTERRUPT ENABLES ON
4358                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4359                                  ;;**********************************************************
4360  020054  000004                  TST270: SCOPE
4361  020056  012705  020070                  MOV     #MD2D15,R5      ; PTR TO TEST DATA SET
4362  020062  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST
4363
4364  020066  000423                          BR      TST271          ;;
4365
4366  020070                          MD2D15: ; TEST DATA SET MD2D-15:
4367  020070  140452  125252  125252          .WORD   140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
4368  020076  125252
4369  020100  077600  000000  000000          .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
4370  020106  000000
4371  020110  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4372  020116  000000
4373  020120  100052  125252  125252          .WORD   100052,AN,AN,AN ; EXPECTED INTEGER-PART FLOAT RESULT
4374  020126  125252
4375  020130  047651  147646                  .WORD   047651,147646   ; FPS:  BEFORE, AFTER
4376  020134  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )
4377
4378
4379                                  ;;**********************************************************
4380                                  ;*TEST 271       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-16
4381                                  ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
4382                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
4383                                  ;;**********************************************************
4384  020136  000004                  TST271: SCOPE
4385  020140  012705  020152                  MOV     #MD2D16,R5      ; PTR TO TEST DATA SET
4386  020144  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST
4387
4388  020150  000423                          BR      TST272          ;;
4389
4390  020152                          MD2D16: ; TEST DATA SET MD2D-16:
4391  020152  140452  125252  125252          .WORD   140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
4392  020160  125252
4393  020162  077600  000000  000000          .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
4394  020170  000000
4395  020172  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4396  020200  000000
4397  020202  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4398  020210  000000
4399  020212  046751  046746                  .WORD   046751,046746   ; FPS:  BEFORE, AFTER
4400  020216  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4401
4402
```



```
4403                                  ;;**********************************************************
4404                                  ;*TEST 272       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-17
4405                                  ;*              ALL INTERRUPT ENABLES ON
4406                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
4407                                  ;;**********************************************************
4408  020220  000004                  TST272: SCOPE
4409  020222  012705  020234                  MOV     #MD2D17,R5      ; PTR TO TEST DATA SET
4410  020226  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST
4411
4412  020232  000423                          BR      TST273          ;;
4413
4414  020234                          MD2D17: ; TEST DATA SET MD2D-17:
4415  020234  101577  177777  177777          .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
4416  020242  177777
4417  020244  101000  000000  000000          .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
4418  020252  000000
4419  020254  042377  177777  177777          .WORD   042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4420  020262  177777
4421  020264  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4422  020272  000000
4423  020274  047617  147600                  .WORD   047617,147600   ; FPS:  BEFORE, AFTER
4424  020300  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )
4425
4426
4427                                  ;;**********************************************************
4428                                  ;*TEST 273       TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-20
4429                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
4430                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
4431                                  ;;**********************************************************
4432  020302  000004                  TST273: SCOPE
4433  020304  012705  020316                  MOV     #MD2D20,R5      ; PTR TO TEST DATA SET
4434  020310  004737  035666                  JSR     PC,@#MD2DT      ; GO TEST
4435
4436  020314  000423                          BR      TST274          ;;
4437
4438  020316                          MD2D20: ; TEST DATA SET MD2D-20:
4439  020316  101577  177777  177777          .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
4440  020324  177777
4441  020326  101000  000000  000000          .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
4442  020334  000000
4443  020336  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4444  020344  000000
4445  020346  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4446  020354  000000
4447  020356  045713  045704                  .WORD   045713,045704   ; FPS:  BEFORE, AFTER
4448  020362  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
4449
4450
```

```
                        ;;*****************************************************************
                        ;*TEST 274       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
020364  000004         TST274: SCOPE
020366  012705  020400          MOV     #MD1F1,R5       ; PTR TO TEST DATA SET
020372  004737  036130          JSR     PC,@#MD1FT      ; GO TEST

020376  000413                  BR      TST275          ;;

020400                  MD1F1:  ; TEST DATA SET MD1F=1:
020400  000000  000000          .WORD   0,0     ; INITIAL AC FLOAT NUMBER
020404  000000  000000          .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
020410  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020414  052525  177777          .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020420  047513  047504          .WORD   047513,047504   ; FPS:  BEFORE, AFTER
020424  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
                        ;;*****************************************************************
020426  000004         TST275: SCOPE
020430  012705  020442          MOV     #MD1F2,R5       ; PTR TO TEST DATA SET
020434  004737  036130          JSR     PC,@#MD1FT      ; GO TEST

020440  000413                  BR      TST276          ;;

020442                  MD1F2:  ; TEST DATA SET MD1F=2:
020442  000177  177777          .WORD   ZX1MP,M1        ; INITIAL AC FLOAT NUMBER
020446  077777  177777          .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
020452  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020456  052525  177777          .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020462  047553  047544          .WORD   047553,047544   ; FPS:  BEFORE, AFTER
020466  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
                        ;;*****************************************************************
020470  000004         TST276: SCOPE
020472  012705  020504          MOV     #MD1F3,R5       ; PTR TO TEST DATA SET
020476  004737  036130          JSR     PC,@#MD1FT      ; GO TEST

020502  000413                  BR      TST277          ;;

020504                  MD1F3:  ; TEST DATA SET MD1F=3:
020504  177777  177777          .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
020510  100177  177777          .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
020514  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020520  052525  177777          .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
```



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020524  043413  043404          .WORD   043413,043404   ; FPS:  BEFORE, AFTER
020530  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 277       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=4
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
020532  000004         TST277: SCOPE
020534  012705  020546          MOV     #MD1F4,R5       ; PTR TO TEST DATA SET
020540  004737  036130          JSR     PC,@#MD1FT      ; GO TEST

020544  000413                  BR      TST300          ;;

020546                  MD1F4:  ; TEST DATA SET MD1F=4:
020546  177777  177777          .WORD   LGN,M1  ; INITIAL AC FLOAT NUMBER
020552  100177  177777          .WORD   ZX1MN,M1        ; INITIAL MEM FLOAT NUMBER
020556  177777  177777          .WORD   LGN,M1  ; EXPECTED FRACTION-PART FLOAT RESULT
020562  052525  177777          .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020566  047447  147447          .WORD   047447,147447   ; FPS:  BEFORE, AFTER
020572  100014                  .WORD   100014          ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 300       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=5
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;*****************************************************************
020574  000004         TST300: SCOPE
020576  012705  020610          MOV     #MD1F5,R5       ; PTR TO TEST DATA SET
020602  004737  036130          JSR     PC,@#MD1FT      ; GO TEST

020606  000413                  BR      TST301          ;;

020610                  MD1F5:  ; TEST DATA SET MD1F=5:
020610  042177  000000          .WORD   042177,0        ; INITIAL AC FLOAT NUMBER
020614  140200  000000          .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
020620  000000  000000          .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
020624  052525  177777          .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020630  047553  047544          .WORD   047553,047544   ; FPS:  BEFORE, AFTER
020634  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;*****************************************************************
                        ;*TEST 301       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=6
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;*****************************************************************
020636  000004         TST301: SCOPE
020640  012705  020652          MOV     #MD1F6,R5       ; PTR TO TEST DATA SET
020644  004737  036130          JSR     PC,@#MD1FT      ; GO TEST

020650  000413                  BR      TST302          ;;

020652                  MD1F6:  ; TEST DATA SET MD1F=6:
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                        T301    TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=6

020652  040200  000000                .WORD   F1P,0   ; INITIAL AC FLOAT NUMBER
020656  140177  177777                .WORD   140177,M1       ; INITIAL MEM FLOAT NUMBER
020662  140177  177777                .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
020666  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020672  047507  047510                .WORD   047507,047510   ; FPS:  BEFORE, AFTER
020676  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 302       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=7
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;**************************************************************
020700  000004          TST302: SCOPE
020702  012705  020714            MOV     #MD1F7,R5       ; PTR TO TEST DATA SET
020706  004737  036130            JSR     PC,@#MD1FT      ; GO TEST

020712  000413                    BR      TST303          ;;

020714                  MD1F7:  ; TEST DATA SET MD1F=7:
020714  142176  077600            .WORD   142176,077600   ; INITIAL AC FLOAT NUMBER
020720  140200  000000            .WORD   F1N,0   ; INITIAL MEM FLOAT NUMBER
020724  037777  000000            .WORD   037777,0        ; EXPECTED FRACTION-PART FLOAT RESULT
020730  052525  177777            .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020734  047457  047440            .WORD   047457,047440   ; FPS:  BEFORE, AFTER
020740  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 303       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=10
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                        ;;**************************************************************
020742  000004          TST303: SCOPE
020744  012705  020756            MOV     #MD1F10,R5      ; PTR TO TEST DATA SET
020750  004737  036130            JSR     PC,@#MD1FT      ; GO TEST

020754  000413                    BR      TST304          ;;

020756                  MD1F10: ; TEST DATA SET MD1F=10:
020756  042177  100000            .WORD   042177,M0       ; INITIAL AC FLOAT NUMBER
020762  040200  000000            .WORD   F1P,0   ; INITIAL MEM FLOAT NUMBER
020766  040000  000000            .WORD   040000,0        ; EXPECTED FRACTION-PART FLOAT RESULT
020772  052525  177777            .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
020776  047417  047400            .WORD   047417,047400   ; FPS:  BEFORE, AFTER
021002  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 304       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=11
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**************************************************************
021004  000004          TST304: SCOPE
021006  012705  021020            MOV     #MD1F11,R5      ; PTR TO TEST DATA SET
021012  004737  036130            JSR     PC,@#MD1FT      ; GO TEST
```



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                        T304    TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=11

021016  000413                    BR      TST305          ;;

021020                  MD1F11: ; TEST DATA SET MD1F=11:
021020  140200  000000            .WORD   F1N,0   ; INITIAL AC FLOAT NUMBER
021024  040377  177777            .WORD   040377,M1       ; INITIAL MEM FLOAT NUMBER
021030  140177  177776            .WORD   140177,M2       ; EXPECTED FRACTION-PART FLOAT RESULT
021034  052525  177777            .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021040  047547  047550            .WORD   047547,047550   ; FPS:  BEFORE, AFTER
021044  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 305       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=12
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;**************************************************************
021046  000004          TST305: SCOPE
021050  012705  021062            MOV     #MD1F12,R5      ; PTR TO TEST DATA SET
021054  004737  036130            JSR     PC,@#MD1FT      ; GO TEST

021060  000413                    BR      TST306          ;;

021062                  MD1F12: ; TEST DATA SET MD1F=12:
021062  060452  125252            .WORD   060452,ALTN     ; INITIAL AC FLOAT NUMBER
021066  021700  000000            .WORD   021700,0        ; INITIAL MEM FLOAT NUMBER
021072  040177  177400            .WORD   040177,UB       ; EXPECTED FRACTION-PART FLOAT RESULT
021076  052525  177777            .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021102  047517  047500            .WORD   047517,047500   ; FPS:  BEFORE, AFTER
021106  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 306       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=13
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**************************************************************
021110  000004          TST306: SCOPE
021112  012705  021124            MOV     #MD1F13,R5      ; PTR TO TEST DATA SET
021116  004737  036130            JSR     PC,@#MD1FT      ; GO TEST

021122  000413                    BR      TST307          ;;

021124                  MD1F13: ; TEST DATA SET MD1F=13:
021124  041000  000001            .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
021130  141377  177776            .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
021134  140177  177777            .WORD   140177,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
021140  052525  177777            .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021144  047547  047550            .WORD   047547,047550   ; FPS:  BEFORE, AFTER
021150  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 307       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=14
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
```

```
                                ;;**************************************************************
                                TST307: SCOPE
021152  000004                        MOV     #MD1F14,R5      ; PTR TO TEST DATA SET
021154  012705  021166                JSR     PC,@#MD1FT      ; GO TEST
021160  004737  036130
021164  000413                        BR      TST310          ;;

021166                          MD1F14: ; TEST DATA SET MD1F=14:
021166  041000  000001                .WORD   041000,000001   ; INITIAL AC FLOAT NUMBER
021172  141377  177776                .WORD   141377,M2       ; INITIAL MEM FLOAT NUMBER
021176  140200  000000                .WORD   140200,000000   ; EXPECTED FRACTION-PART FLOAT RESULT
021202  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021206  047507  047510                .WORD   047507,047510   ; FPS:  BEFORE, AFTER
021212  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 310       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=15
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;**************************************************************
021214  000004                  TST310: SCOPE
021216  012705  021230                MOV     #MD1F15,R5      ; PTR TO TEST DATA SET
021222  004737  036130                JSR     PC,@#MD1FT      ; GO TEST

021226  000413                        BR      TST311          ;;

021230                          MD1F15: ; TEST DATA SET MD1F=15:
021230  077600  000000                .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
021234  040452  125252                .WORD   040452,ALTN     ; INITIAL MEM FLOAT NUMBER
021240  000000  000000                .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
021244  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021250  047411  147406                .WORD   047411,147406   ; FPS:  BEFORE, AFTER
021254  100010                        .WORD   100010          ; FEC AFTER ( 0 = N/A )


                                ;;**************************************************************
                                ;*TEST 311       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=16
                                ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;**************************************************************
021256  000004                  TST311: SCOPE
021260  012705  021272                MOV     #MD1F16,R5      ; PTR TO TEST DATA SET
021264  004737  036130                JSR     PC,@#MD1FT      ; GO TEST

021270  000413                        BR      TST312          ;;

021272                          MD1F16: ; TEST DATA SET MD1F=16:
021272  077600  000000                .WORD   077600,0        ; INITIAL AC FLOAT NUMBER
021276  040452  125252                .WORD   040452,ALTN     ; INITIAL MEM FLOAT NUMBER
021302  000000  000000                .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
021306  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021312  046411  046406                .WORD   046411,046406   ; FPS:  BEFORE, AFTER
021316  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;**************************************************************
                                ;*TEST 312       TEST OF MODF(1 ACC) INSTR, DATA SET MD1F=17
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;**************************************************************
021320  000004                  TST312: SCOPE
021322  012705  021334                MOV     #MD1F17,R5      ; PTR TO TEST DATA SET
021326  004737  036130                JSR     PC,@#MD1FT      ; GO TEST

021332  000413                        BR      TST313          ;;

021334                          MD1F17: ; TEST DATA SET MD1F=17:
021334  001577  177777                .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
021340  101000  000000                .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
021344  142377  177777                .WORD   142377,M1       ; EXPECTED FRACTION-PART FLOAT RESULT
021350  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021354  047547  147550                .WORD   047547,147550   ; FPS:  BEFORE, AFTER
021360  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
                                ;;**************************************************************
021362  000004                  TST313: SCOPE
021364  012705  021376                MOV     #MD1F20,R5      ; PTR TO TEST DATA SET
021370  004737  036130                JSR     PC,@#MD1FT      ; GO TEST

021374  000413                        BR      TST314          ;;

021376                          MD1F20: ; TEST DATA SET MD1F=20:
021376  001577  177777                .WORD   001577,M1       ; INITIAL AC FLOAT NUMBER
021402  101000  000000                .WORD   101000,0        ; INITIAL MEM FLOAT NUMBER
021406  000000  000000                .WORD   0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
021412  052525  177777                .WORD   AP,M1   ; EXPECTED INTEGER-PART FLOAT RESULT
021416  045553  045544                .WORD   045553,045544   ; FPS:  BEFORE, AFTER
021422  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
                                ;;*****************************************************************
021424  000004                  TST314: SCOPE
021426  012705  021440                  MOV     #MD1D1,R5       ; PTR TO TEST DATA SET
021432  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST

021436  000423                  BR      TST315          ;;

021440                          MD1D1:  ; TEST DATA SET MD1D=1:
021440  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
021446  000000
021450  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
021456  000000
021460  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
021466  000000
021470  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
021476  000000
021500  047653  047644                  .WORD   047653,047644   ; FPS:  BEFORE, AFTER
021504  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
                                ;;*****************************************************************
021506  000004                  TST315: SCOPE
021510  012705  021522                  MOV     #MD1D2,R5       ; PTR TO TEST DATA SET
021514  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST

021520  000423                  BR      TST316          ;;

021522                          MD1D2:  ; TEST DATA SET MD1D=2:
021522  000177  177777  177777          .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
021530  177777
021532  177777  177777  177777          .WORD   LGN,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
021540  177777
021542  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
021550  000000
021552  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
021560  000000
021562  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
021566  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 316       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=3
                                ;*              =0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
021570  000004                  TST316: SCOPE
021572  012705  021604                  MOV     #MD1D3,R5       ; PTR TO TEST DATA SET
021576  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST
```



```
021602  000423                  BR      TST317          ;;

021604                          MD1D3:  ; TEST DATA SET MD1D=3:
021604  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
021612  177777
021614  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
021622  177777
021624  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
021632  000000
021634  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
021642  000000
021644  043653  043644                  .WORD   043653,043644   ; FPS:  BEFORE, AFTER
021650  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 317       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
021652  000004                  TST317: SCOPE
021654  012705  021666                  MOV     #MD1D4,R5       ; PTR TO TEST DATA SET
021660  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST

021664  000423                  BR      TST320          ;;

021666                          MD1D4:  ; TEST DATA SET MD1D=4:
021666  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
021674  177777
021676  100177  177777  177777          .WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
021704  177777
021706  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; EXPECTED FRACTION-PART FLOAT RESULT
021714  177777
021716  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
021724  000000
021726  047713  147713                  .WORD   047713,147713   ; FPS:  BEFORE, AFTER
021732  100014                          .WORD   100014          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 320       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
021734  000004                  TST320: SCOPE
021736  012705  021750                  MOV     #MD1D5,R5       ; PTR TO TEST DATA SET
021742  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST

021746  000423                  BR      TST321          ;;

021750                          MD1D5:  ; TEST DATA SET MD1D=5:
021750  042177  000000  000000          .WORD   042177,0,0,0    ; INITIAL AC FLOAT NUMBER
021756  000000
021762  140200  000000  000000          .WORD   P1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
021766  000000
```

```
004004  021770  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
004005  021776  000000
004006  022000  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
004007  022006  000000
004008  022010  047613  047604                  .WORD   047613,047604   ; FPSR  BEFORE, AFTER
004009  022014  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
004010
004011
004012                                  ;;**************************************************************
004013                                  ;*TEST 321       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=6
004014                                  ;*              ALL INTERRUPT ENABLES ON
004015                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
004016                                  ;;**************************************************************
004017  022016  000004                  TST321: SCOPE
004018  022020  012705  022032                  MOV     #MD1D6,R5       ; PTR TO TEST DATA SET
004019  022024  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST
004020
004021  022030  000423                          BR      TST322          ;!
004022
004023  022032                          MD1D6:  ; TEST DATA SET MD1D=6!
004024  022032  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
004025  022040  000000
004026  022042  040177  177777  177777          .WORD   040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
004027  022050  177777
004028  022052  140177  177777  177777          .WORD   140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
004029  022060  177777
004030  022062  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
004031  022070  000000
004032  022072  047747  047750                  .WORD   047747,047750   ; FPSR  BEFORE, AFTER
004033  022076  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
004034
004035
004036                                  ;;**************************************************************
004037                                  ;*TEST 322       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=7
004038                                  ;*              ALL INTERRUPT ENABLES ON
004039                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
004040                                  ;;**************************************************************
004041  022100  000004                  TST322: SCOPE
004042  022102  012705  022114                  MOV     #MD1D7,R5       ; PTR TO TEST DATA SET
004043  022106  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST
004044
004045  022112  000423                          BR      TST323          ;!
004046
004047  022114                          MD1D7:  ; TEST DATA SET MD1D=7!
004048  022114  042176  077600  000000          .WORD   042176,077600,0,0       ; INITIAL AC FLOAT NUMBER
004049  022122  000000
004050  022124  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL MEM FLOAT NUMBER
004051  022132  000000
004052  022134  137777  000000  000000          .WORD   137777,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
004053  022142  000000
004054  022144  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
004055  022152  000000
004056  022154  047607  047610                  .WORD   047607,047610   ; FPSR  BEFORE, AFTER
004057  022160  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
004058
004059
```



```
004060                                  ;;**************************************************************
004061                                  ;*TEST 323       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=10
004062                                  ;*              ALL INTERRUPT ENABLES ON
004063                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
004064                                  ;;**************************************************************
004065  022162  000004                  TST323: SCOPE
004066  022164  012705  022176                  MOV     #MD1D10,R5      ; PTR TO TEST DATA SET
004067  022170  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST
004068
004069  022174  000423                          BR      TST324          ;!
004070
004071  022176                          MD1D10: ; TEST DATA SET MD1D=10!
004072  022176  142177  100000  000000          .WORD   142177,M0,0,0   ; INITIAL AC FLOAT NUMBER
004073  022204  000000
004074  022206  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
004075  022214  000000
004076  022216  140000  000000  000000          .WORD   140000,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
004077  022224  000000
004078  022226  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
004079  022234  000000
004080  022236  047747  047750                  .WORD   047747,047750   ; FPSR  BEFORE, AFTER
004081  022242  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
004082
004083
004084                                  ;;**************************************************************
004085                                  ;*TEST 324       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=11
004086                                  ;*              ALL INTERRUPT ENABLES ON
004087                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
004088                                  ;;**************************************************************
004089  022244  000004                  TST324: SCOPE
004090  022246  012705  022260                  MOV     #MD1D11,R5      ; PTR TO TEST DATA SET
004091  022252  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST
004092
004093  022256  000423                          BR      TST325          ;!
004094
004095  022260                          MD1D11: ; TEST DATA SET MD1D=11!
004096  022260  140200  000000  000000          .WORD   F1N,0,0,0       ; INITIAL AC FLOAT NUMBER
004097  022266  000000
004098  022270  140377  177777  177777          .WORD   140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
004099  022276  177777
004100  022300  040177  177777  177777          .WORD   040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
004101  022306  177776
004102  022310  052525  177777  125252          .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
004103  022316  000000
004104  022320  047617  047600                  .WORD   047617,047600   ; FPSR  BEFORE, AFTER
004105  022324  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
004106
004107
004108                                  ;;**************************************************************
004109                                  ;*TEST 325       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=12
004110                                  ;*              ALL INTERRUPT ENABLES ON
004111                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
004112                                  ;;**************************************************************
004113  022326  000004                  TST325: SCOPE
004114  022330  012705  022342                  MOV     #MD1D12,R5      ; PTR TO TEST DATA SET
004115  022334  004737  036332                  JSR     PC,@#MD1DT      ; GO TEST
```

```
                                        BR      TST326          ;!
                                MD1D12: ; TEST DATA SET MD1D=12:
                                        .WORD   167452,AN,AR,AN ; INITIAL AC FLOAT NUMBER
                                        .WORD   112700,0,0,0    ; INITIAL MEM FLOAT NUMBER
                                        .WORD   040177,M1,M1,DB ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047757,047740   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!*************************************************************
                                ;*TEST 326       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;!*************************************************************
                                TST326: SCOPE
                                        MOV     #MD1D13,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD1DT      ; GO TEST

                                        BR      TST327          ;!

                                MD1D13: ; TEST DATA SET MD1D=13:
                                        .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
                                        .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
                                        .WORD   040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047657,047640   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!*************************************************************
                                ;*TEST 327       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;!*************************************************************
                                TST327: SCOPE
                                        MOV     #MD1D14,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD1DT      ; GO TEST

                                        BR      TST330          ;!

                                MD1D14: ; TEST DATA SET MD1D=14:
                                        .WORD   041000,0,0,1    ; INITIAL AC FLOAT NUMBER
                                        .WORD   037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
```



```
                                        .WORD   040200,0,0,0    ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047617,047600   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;!*************************************************************
                                ;*TEST 330       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=15
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;!*************************************************************
                                TST330: SCOPE
                                        MOV     #MD1D15,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD1DT      ; GO TEST

                                        BR      TST331          ;!

                                MD1D15: ; TEST DATA SET MD1D=15:
                                        .WORD   142452,ALTN,ALTR,ALTN   ; INITIAL AC FLOAT NUMBER
                                        .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
                                        .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   047651,147646   ; FPS:  BEFORE, AFTER
                                        .WORD   100010          ; FEC AFTER ( 0 = N/A )


                                ;!*************************************************************
                                ;*TEST 331       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=16
                                ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;!*************************************************************
                                TST331: SCOPE
                                        MOV     #MD1D16,R5      ; PTR TO TEST DATA SET
                                        JSR     PC,@#MD1DT      ; GO TEST

                                        BR      TST332          ;!

                                MD1D16: ; TEST DATA SET MD1D=16:
                                        .WORD   142452,ALTN,ALTR,ALTN   ; INITIAL AC FLOAT NUMBER
                                        .WORD   077600,0,0,0    ; INITIAL MEM FLOAT NUMBER
                                        .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
                                        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
                                        .WORD   046751,046746   ; FPS:  BEFORE, AFTER
                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 332       TEST OF MODD(1 ACC) INSTR, DATA SET MD1D=17
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
023720  000004                TST332: SCOPE
023722  012705  022734                MOV     #MD1D17,R5      ; PTR TO TEST DATA SET
023726  004737  036332                JSR     PC,@#MD1DT      ; GO TEST

023732  000423                        BR      TST333          ;!

023734                          MD1D17: ; TEST DATA SET MD1D=17!
023734  101577  177777  177777        .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
023742  177777
023744  101000  000000  000000        .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
023752  000000
023754  042377  177777  177777        .WORD   042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
023762  177777
023764  052525  177777  125252        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
023772  000000
023774  047617  147600                .WORD   047617,147600   ; FPS!  BEFORE, AFTER
024000  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
                                ;;*****************************************************************
024002  000004                TST333: SCOPE
024004  012705  024016                MOV     #MD1D20,R5      ; PTR TO TEST DATA SET
024010  004737  036332                JSR     PC,@#MD1DT      ; GO TEST

024014  000423                        BR      TST334          ;!

024016                          MD1D20: ; TEST DATA SET MD1D=20!
024016  101577  177777  177777        .WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
024024  177777
024026  101000  000000  000000        .WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
024034  000000
024036  000000  000000  000000        .WORD   0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
024044  000000
024046  052525  177777  125252        .WORD   AP,M1,AN,0      ; EXPECTED INTEGER-PART FLOAT RESULT
024054  000000
024056  045713  045704                .WORD   045713,045704   ; FPS!  BEFORE, AFTER
024062  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
                                ;;*****************************************************************
024064  000004                TST334: SCOPE
024066  012705  024100                MOV     #LCDF1,R5       ; PTR TO TEST DATA SET
024072  004737  036574                JSR     PC,@#LCDFT      ; GO TEST

024076  000411                        BR      TST335          ;!

024100                          LCDF1:  ; TEST DATA SET LCDF=1!
024100  000000  000000  000000        .WORD   0,0,0,0 ; INITIAL MEM FLOAT NUMBER
024106  000000
024110  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
024114  047413  047404                .WORD   047413,047404   ; FPS!  BEFORE, AFTER
024120  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
                                ;;*****************************************************************
024122  000004                TST335: SCOPE
024124  012705  024136                MOV     #LCDF2,R5       ; PTR TO TEST DATA SET
024130  004737  036574                JSR     PC,@#LCDFT      ; GO TEST

024134  000411                        BR      TST336          ;!

024136                          LCDF2:  ; TEST DATA SET LCDF=2!
024136  100177  177777  177777        .WORD   2X1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
024144  177777
024146  052525  177777                .WORD   ALTP,M1 ; EXPECTED FLOAT RESULT
024152  047503  147514                .WORD   047503,147514   ; FPS!  BEFORE, AFTER
024156  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
                                ;;*****************************************************************
024160  000004                TST336: SCOPE
024162  012705  024174                MOV     #LCDF3,R5       ; PTR TO TEST DATA SET
024166  004737  036574                JSR     PC,@#LCDFT      ; GO TEST

024172  000411                        BR      TST337          ;!

024174                          LCDF3:  ; TEST DATA SET LCDF=3!
024174  000177  177777  177777        .WORD   2X1MP,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
024202  177777
024204  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
024210  047453  047444                .WORD   047453,047444   ; FPS!  BEFORE, AFTER
024214  000400                        .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
                                ;;*****************************************************************
023216  000004                  TST337: SCOPE
023220  012705  023232                  MOV     #LCDF4,R5       ; PTR TO TEST DATA SET
023224  004737  036574                  JSR     PC,@#LCDFT      ; GO TEST

023230  000411                          BR      TST340          ;;

023232                          LCDF4:  ; TEST DATA SET LCDF=4:
023232  040200  000000  000000          .WORD   F1P,0,0,0       ; INITIAL MEM FLOAT NUMBER
023240  000000
023242  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
023246  047557  047540                  .WORD   047557,047540   ; FPSR BEFORE, AFTER
023252  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
                                ;;*****************************************************************
023254  000004                  TST340: SCOPE
023256  012705  023270                  MOV     #LCDF5,R5       ; PTR TO TEST DATA SET
023262  004737  036574                  JSR     PC,@#LCDFT      ; GO TEST

023266  000411                          BR      TST341          ;;

023270                          LCDF5:  ; TEST DATA SET LCDF=5:
023270  140200  000000  100000          .WORD   F1N,0,M0,0      ; INITIAL MEM FLOAT NUMBER
023276  000000
023300  140200  000001                  .WORD   F1N,1   ; EXPECTED FLOAT RESULT
023304  047407  047410                  .WORD   047407,047410   ; FPSR BEFORE, AFTER
023310  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
                                ;;*****************************************************************
023312  000004                  TST341: SCOPE
023314  012705  023326                  MOV     #LCDF6,R5       ; PTR TO TEST DATA SET
023320  004737  036574                  JSR     PC,@#LCDFT      ; GO TEST

023324  000411                          BR      TST342          ;;

023326                          LCDF6:  ; TEST DATA SET LCDF=6:
023326  140200  000000  100000          .WORD   F1N,0,M0,0      ; INITIAL MEM FLOAT NUMBER
023334  000000
023336  140200  000000                  .WORD   F1N,0   ; EXPECTED FLOAT RESULT
023342  047447  047450                  .WORD   047447,047450   ; FPSR BEFORE, AFTER
023346  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 342       TEST OF LDCDF INSTR, DATA SET LCDF=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
023350  000004                  TST342: SCOPE
023352  012705  023364                  MOV     #LCDF7,R5       ; PTR TO TEST DATA SET
023356  004737  036574                  JSR     PC,@#LCDFT      ; GO TEST

023362  000411                          BR      TST343          ;;

023364                          LCDF7:  ; TEST DATA SET LCDF=7:
023364  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
023372  177777
023374  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
023400  047511  147506                  .WORD   047511,147506   ; FPSR BEFORE, AFTER
023404  100010                          .WORD   100010          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 343       TEST OF LDCDF INSTR, DATA SET LCDF=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
023406  000004                  TST343: SCOPE
023410  012705  023422                  MOV     #LCDF10,R5      ; PTR TO TEST DATA SET
023414  004737  036574                  JSR     PC,@#LCDFT      ; GO TEST

023420  000411                          BR      TST344          ;;

023422                          LCDF10: ; TEST DATA SET LCDF=10:
023422  077777  177777  177777          .WORD   LGP,M1,M1,M1    ; INITIAL MEM FLOAT NUMBER
023430  177777
023432  077777  177777                  .WORD   LGP,M1  ; EXPECTED FLOAT RESULT
023436  047557  047540                  .WORD   047557,047540   ; FPSR BEFORE, AFTER
023442  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 344       TEST OF LDCDF INSTR, DATA SET LCDF=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
023444  000004                  TST344: SCOPE
023446  012705  023460                  MOV     #LCDF11,R5      ; PTR TO TEST DATA SET
023452  004737  036574                  JSR     PC,@#LCDFT      ; GO TEST

023456  000411                          BR      TST345          ;;

023460                          LCDF11: ; TEST DATA SET LCDF=11:
023460  121177  177777  100000          .WORD   121177,M1,M0,0  ; INITIAL MEM FLOAT NUMBER
023466  000000
023470  121200  000000                  .WORD   121200,0        ; EXPECTED FLOAT RESULT
023474  047407  047410                  .WORD   047407,047410   ; FPSR BEFORE, AFTER
```

```
                        T344    TEST OF LDCDF INSTR, DATA SET LCDF=11

023500  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 345       TEST OF LDCDF INSTR, DATA SET LCDF=12
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;**************************************************************
023502  000004          TST345: SCOPE
023504  012705  023516          MOV     #LCDF12,R5      ; PTR TO TEST DATA SET
023510  004737  036574          JSR     PC,@#LCDFT      ; GO TEST

023514  000411                  BR      TST346          ;;

023516                  LCDF12: ; TEST DATA SET LCDF=12:
023516  121177  177777  100000          .WORD   121177,M1,M0,0  ; INITIAL MEM FLOAT NUMBER
023524  000000
023526  121177  177777          .WORD   121177,M1       ; EXPECTED FLOAT RESULT
023532  047447  047450          .WORD   047447,047450   ; FPS:  BEFORE, AFTER
023536  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 346       TEST OF LDCDF INSTR, DATA SET LCDF=13
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;**************************************************************
023540  000004          TST346: SCOPE
023542  012705  023554          MOV     #LCDF13,R5      ; PTR TO TEST DATA SET
023546  004737  036574          JSR     PC,@#LCDFT      ; GO TEST

023552  000411                  BR      TST347          ;;

023554                  LCDF13: ; TEST DATA SET LCDF=13:
023554  040200  000000  077777          .WORD   F1P,0,LGP,M1    ; INITIAL MEM FLOAT NUMBER
023562  177777
023564  040200  000000          .WORD   F1P,0   ; EXPECTED FLOAT RESULT
023570  047517  047500          .WORD   047517,047500   ; FPS:  BEFORE, AFTER
023574  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 347       TEST OF LDCDF INSTR, DATA SET LCDF=14
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**************************************************************
023576  000004          TST347: SCOPE
023600  012705  023612          MOV     #LCDF14,R5      ; PTR TO TEST DATA SET
023604  004737  036574          JSR     PC,@#LCDFT      ; GO TEST

023610  000411                  BR      TST350          ;;

023612                  LCDF14: ; TEST DATA SET LCDF=14:
023612  040200  000000  077777          .WORD   F1P,0,LGP,M1    ; INITIAL MEM FLOAT NUMBER
023620  177777
023622  040200  000000          .WORD   F1P,0   ; EXPECTED FLOAT RESULT
```



```
                        T347    TEST OF LDCDF INSTR, DATA SET LCDF=14

023626  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
023632  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 350       TEST OF LDCDF INSTR, DATA SET LCDF=15
                        ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;**************************************************************
023634  000004          TST350: SCOPE
023636  012705  023650          MOV     #LCDF15,R5      ; PTR TO TEST DATA SET
023642  004737  036574          JSR     PC,@#LCDFT      ; GO TEST

023646  000411                  BR      TST351          ;;

023650                  LCDF15: ; TEST DATA SET LCDF=15:
023650  177777  177777  100000          .WORD   LGN,M1,M0,0     ; INITIAL MEM FLOAT NUMBER
023656  000000
023660  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
023664  046511  046506          .WORD   046511,046506   ; FPS:  BEFORE, AFTER
023670  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 351       TEST OF LDCDF INSTR, DATA SET LCDF=16
                        ;*              -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;**************************************************************
023672  000004          TST351: SCOPE
023674  012705  023706          MOV     #LCDF16,R5      ; PTR TO TEST DATA SET
023700  004737  036574          JSR     PC,@#LCDFT      ; GO TEST

023704  000411                  BR      TST352          ;;

023706                  LCDF16: ; TEST DATA SET LCDF=16:
023706  100000  177777  177777          .WORD   M0,M1,M1,0      ; INITIAL MEM FLOAT NUMBER
023714  000000
023716  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
023722  043453  043444          .WORD   043453,043444   ; FPS:  BEFORE, AFTER
023726  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 352       TEST OF LDCFD INSTR, DATA SET LCFD=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
023730  000004                  TST352: SCOPE
023732  012705  023744                  MOV     #LCFD1,R5       ; PTR TO TEST DATA SET
023736  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

023742  000411                          BR      TST353          ;;

023744                          LCFD1:  ; TEST DATA SET LCFD=1:
023744  100000  000000                  .WORD   M0,0    ; INITIAL MEM FLOAT NUMBER
023750  052525  177777  125252          .WORD   ALTP,M1,ALTN,0  ; EXPECTED FLOAT RESULT
023756  000000
023760  047643  147654                  .WORD   047643,147654   ; FPS:  BEFORE, AFTER
023764  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
                                ;;*****************************************************************
023766  000004                  TST353: SCOPE
023770  012705  024002                  MOV     #LCFD2,R5       ; PTR TO TEST DATA SET
023774  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024000  000411                          BR      TST354          ;;

024002                          LCFD2:  ; TEST DATA SET LCFD=2:
024002  125252  125252                  .WORD   ALTN,ALTN       ; INITIAL MEM FLOAT NUMBER
024006  125252  125252  000000          .WORD   ALTN,ALTN,0,0   ; EXPECTED FLOAT RESULT
024014  000000
024016  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
024022  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
                                ;;*****************************************************************
024024  000004                  TST354: SCOPE
024026  012705  024040                  MOV     #LCFD3,R5       ; PTR TO TEST DATA SET
024032  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024036  000411                          BR      TST355          ;;

024040                          LCFD3:  ; TEST DATA SET LCFD=3:
024040  000000  000000                  .WORD   0,0     ; INITIAL MEM FLOAT NUMBER
024044  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
024052  000000
024054  047753  047744                  .WORD   047753,047744   ; FPS:  BEFORE, AFTER
024060  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
                                ;;*****************************************************************
024062  000004                  TST355: SCOPE
024064  012705  024076                  MOV     #LCFD4,R5       ; PTR TO TEST DATA SET
024070  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024074  000411                          BR      TST356          ;;

024076                          LCFD4:  ; TEST DATA SET LCFD=4:
024076  077777  177777                  .WORD   LGP,M1  ; INITIAL MEM FLOAT NUMBER
024102  077777  177777  000000          .WORD   LGP,M1,0,0      ; EXPECTED FLOAT RESULT
024110  000000
024112  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
024116  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
                                ;;*****************************************************************
024120  000004                  TST356: SCOPE
024122  012705  024134                  MOV     #LCFD5,R5       ; PTR TO TEST DATA SET
024126  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024132  000411                          BR      TST357          ;;

024134                          LCFD5:  ; TEST DATA SET LCFD=5:
024134  000177  177777                  .WORD   ZX1MP,M1        ; INITIAL MEM FLOAT NUMBER
024140  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
024146  000000
024150  047653  047644                  .WORD   047653,047644   ; FPS:  BEFORE, AFTER
024154  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
                                ;;*****************************************************************
024156  000004                  TST357: SCOPE
024160  012705  024172                  MOV     #LCFD6,R5       ; PTR TO TEST DATA SET
024164  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024170  000411                          BR      TST360          ;;

024172                          LCFD6:  ; TEST DATA SET LCFD=6:
024172  177777  177777                  .WORD   LGN,M1  ; INITIAL MEM FLOAT NUMBER
024176  177777  177777  000000          .WORD   LGN,M1,0,0      ; EXPECTED FLOAT RESULT
024204  000000
024206  047607  047610                  .WORD   047607,047610   ; FPS:  BEFORE, AFTER
024212  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 360       TEST OF LDCFD INSTR, DATA SET LCFD=7
                                ;*              =0 INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
024214  000004                  TST360: SCOPE
024216  012705  024230                  MOV     #LCFD7,R5       ; PTR TO TEST DATA SET
024222  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024226  000411                          BR      TST361          ;;

024230                          LCFD7:  ; TEST DATA SET LCFD=7:
024230  100177  177777                  .WORD   1X1MN,M1        ; INITIAL MEM FLOAT NUMBER
024234  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
024242  000000
024244  043753  043744                  .WORD   043753,043744   ; FPS:  BEFORE, AFTER
024250  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 361       TEST OF LDCFD INSTR, DATA SET LCFD=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
024252  000004                  TST361: SCOPE
024254  012705  024266                  MOV     #LCFD10,R5      ; PTR TO TEST DATA SET
024260  004737  036744                  JSR     PC,@#LCFDT      ; GO TEST

024264  000411                          BR      TST362          ;;

024266                          LCFD10: ; TEST DATA SET LCFD=10:
024266  007417  007417                  .WORD   ALT4P,ALT4P     ; INITIAL MEM FLOAT NUMBER
024272  007417  007417  000000          .WORD   ALT4P,ALT4P,0,0 ; EXPECTED FLOAT RESULT
024300  000000
024302  047717  047700                  .WORD   047717,047700   ; FPS:  BEFORE, AFTER
024306  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 362       TEST OF STCDF INSTR, DATA SET SCDF=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
024310  000004                  TST362: SCOPE
024312  012705  024324                  MOV     #SCDF1,R5       ; PTR TO TEST DATA SET
024316  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024322  000411                          BR      TST363          ;;

024324                          SCDF1:  ; TEST DATA SET SCDF=1:
024324  000000  000000  000000          .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
024332  000000
024334  000000  000000                  .WORD   0,0     ; EXPECTED FLOAT RESULT
024340  047753  047744                  .WORD   047753,047744   ; FPS:  BEFORE, AFTER
024344  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
                                ;;*****************************************************************
024346  000004                  TST363: SCOPE
024350  012705  024362                  MOV     #SCDF2,R5       ; PTR TO TEST DATA SET
024354  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024360  000411                          BR      TST364          ;;

024362                          SCDF2:  ; TEST DATA SET SCDF=2:
024362  140200  000000  100000          .WORD   F1N,0,M0,0      ; INITIAL AC FLOAT NUMBER
024370  000000
024372  140200  000001                  .WORD   F1N,1   ; EXPECTED FLOAT RESULT
024376  047707  047710                  .WORD   047707,047710   ; FPS:  BEFORE, AFTER
024402  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
                                ;;*****************************************************************
024404  000004                  TST364: SCOPE
024406  012705  024420                  MOV     #SCDF3,R5       ; PTR TO TEST DATA SET
024412  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024416  000411                          BR      TST365          ;;

024420                          SCDF3:  ; TEST DATA SET SCDF=3:
024420  040200  000000  100000          .WORD   F1P,0,M0,0      ; INITIAL AC FLOAT NUMBER
024426  000000
024430  040200  000000                  .WORD   F1P,0   ; EXPECTED FLOAT RESULT
024434  047657  047640                  .WORD   047657,047640   ; FPS:  BEFORE, AFTER
024440  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 365       TEST OF STCDF INSTR, DATA SET SCDF=4
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
024442  000004                  TST365: SCOPE
024444  012705  024456                  MOV     #SCDF4,R5       ; PTR TO TEST DATA SET
024450  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024454  000411                          BR      TST366          ;;

024456                          SCDF4:  ; TEST DATA SET SCDF=4:
000177  177777  177777                  .WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
177777
000000  000000                          .WORD   0,0     ; EXPECTED FLOAT RESULT
047613  047604                          .WORD   047613,047604   ; FPS:  BEFORE, AFTER
000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 366       TEST OF STCDF INSTR, DATA SET SCDF=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
024500  000004                  TST366: SCOPE
024502  012705  024514                  MOV     #SCDF5,R5       ; PTR TO TEST DATA SET
024506  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024512  000411                          BR      TST367          ;;

024514                          SCDF5:  ; TEST DATA SET SCDF=5:
040200  000000  100000                  .WORD   F1P,0,M0,0      ; INITIAL AC FLOAT NUMBER
000000
040200  000001                          .WORD   F1P,1   ; EXPECTED FLOAT RESULT
047717  047700                          .WORD   047717,047700   ; FPS:  BEFORE, AFTER
000000                                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 367       TEST OF STCDF INSTR, DATA SET SCDF=6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
024536  000004                  TST367: SCOPE
024540  012705  024552                  MOV     #SCDF6,R5       ; PTR TO TEST DATA SET
024544  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024550  000411                          BR      TST370          ;;

024552                          SCDF6:  ; TEST DATA SET SCDF=6:
177777  177777  177777                  .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
177777
177777  177777                          .WORD   LGN,M1  ; EXPECTED FLOAT RESULT
047747  047750                          .WORD   047747,047750   ; FPS:  BEFORE, AFTER
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
                                ;;*****************************************************************
024574  000004                  TST370: SCOPE
024576  012705  024610                  MOV     #SCDF7,R5       ; PTR TO TEST DATA SET
024602  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024606  000411                          BR      TST371          ;;

024610                          SCDF7:  ; TEST DATA SET SCDF=7:
040200  000000  077777                  .WORD   F1P,0,LGP,M1    ; INITIAL AC FLOAT NUMBER
177777
040200  000000                          .WORD   F1P,0   ; EXPECTED FLOAT RESULT
047617  047600                          .WORD   047617,047600   ; FPS:  BEFORE, AFTER
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
                                ;;*****************************************************************
024632  000004                  TST371: SCOPE
024634  012705  024646                  MOV     #SCDF10,R5      ; PTR TO TEST DATA SET
024640  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024644  000411                          BR      TST372          ;;

024646                          SCDF10: ; TEST DATA SET SCDF=10:
177777  177777  177777                  .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
177777
100000  000000                          .WORD   M0,0    ; EXPECTED FLOAT RESULT
047601  147616                          .WORD   047601,147616   ; FPS:  BEFORE, AFTER
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
                                ;;*****************************************************************
024670  000004                  TST372: SCOPE
024672  012705  024704                  MOV     #SCDF11,R5      ; PTR TO TEST DATA SET
024676  004737  037134                  JSR     PC,@#SCDFT      ; GO TEST

024702  000411                          BR      TST373          ;;

024704                          SCDF11: ; TEST DATA SET SCDF=11:
040203  000000  077777                  .WORD   F1P,0,LGP,M1    ; INITIAL AC FLOAT NUMBER
177777
040200  000000                          .WORD   F1P,0   ; EXPECTED FLOAT RESULT
047757  047740                          .WORD   047757,047740   ; FPS:  BEFORE, AFTER
```

```
5744  024724  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
5745
5746
5747                                    ;;*************************************************************
5748                                    ;*TEST 373       TEST OF STCDF INSTR, DATA SET SCDF=12
5749                                    ;*              ALL INTERRUPT ENABLES ON
5750                                    ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
5751                                    ;;*************************************************************
5752  024726  000004                    TST373: SCOPE
5753  024730  012705  024742            MOV     #SCDF12,R5      ; PTR TO TEST DATA SET
5754  024734  004737  037134            JSR     PC,@#SCDFT      ; GO TEST
5755
5756  024740  000411                    BR      TST374          ;;
5757
5758  024742                            SCDF12: ; TEST DATA SET SCDF=12:
5759  024742  101777  177777  100000            .WORD   101777,M1,M0,0  ; INITIAL AC FLOAT NUMBER
5760  024750  000000
5761  024752  102000  000000            .WORD   102000,0        ; EXPECTED FLOAT RESULT
5762  024756  047707  047710            .WORD   047707,047710   ; FPS:  BEFORE, AFTER
5763  024762  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
5764
5765
5766                                    ;;*************************************************************
5767                                    ;*TEST 374       TEST OF STCDF INSTR, DATA SET SCDF=13
5768                                    ;*              ALL INTERRUPT ENABLES ON
5769                                    ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
5770                                    ;;*************************************************************
5771  024764  000004                    TST374: SCOPE
5772  024766  012705  025000            MOV     #SCDF13,R5      ; PTR TO TEST DATA SET
5773  024772  004737  037134            JSR     PC,@#SCDFT      ; GO TEST
5774
5775  024776  000411                    BR      TST375          ;;
5776
5777  025000                            SCDF13: ; TEST DATA SET SCDF=13:
5778  025000  101777  177777  100000            .WORD   101777,M1,M0,0  ; INITIAL AC FLOAT NUMBER
5779  025006  000000
5780  025010  101777  177777            .WORD   101777,M1       ; EXPECTED FLOAT RESULT
5781  025014  047647  047650            .WORD   047647,047650   ; FPS:  BEFORE, AFTER
5782  025020  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
5783
5784
5785                                    ;;*************************************************************
5786                                    ;*TEST 375       TEST OF STCDF INSTR, DATA SET SCDF=14
5787                                    ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5788                                    ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
5789                                    ;;*************************************************************
5790  025022  000004                    TST375: SCOPE
5791  025024  012705  025036            MOV     #SCDF14,R5      ; PTR TO TEST DATA SET
5792  025030  004737  037134            JSR     PC,@#SCDFT      ; GO TEST
5793
5794  025034  000411                    BR      TST376          ;;
5795
5796  025036                            SCDF14: ; TEST DATA SET SCDF=14:
5797  025036  077777  177777  100000            .WORD   LGP,M1,M0,0     ; INITIAL AC FLOAT NUMBER
5798  025044  000000
5799  025046  000000  000000                    .WORD   0,0     ; EXPECTED FLOAT RESULT
```



```
5800  025052  046611  046606            .WORD   046611,046606   ; FPS:  BEFORE, AFTER
5801  025056  000000                    .WORD   NA              ; FEC AFTER ( 0 = N/A )
5802
5803
5804
```

```
                                        ;;*****************************************************************
                                        ;*TEST 376       TEST OF STCFD INSTR, DATA SET SCFD=1
                                        ;*              ALL INTERRUPT ENABLES ON
                                        ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                        ;;*****************************************************************
025060  000004                          TST376: SCOPE
025062  012705  025074                          MOV     #SCFD1,R5       ; PTR TO TEST DATA SET
025066  004737  037300                          JSR     PC,@#SCFDT      ; GO TEST

025072  000412                          BR      TST377          ;!

025074                                  SCFD1:  ; TEST DATA SET SCFD=1:
025074  052525  052525  052525                  .WORD   ALTP,ALTP,ALTP,ALTP     ; INITIAL AC FLOAT NUMBER
025102  052525
025104  052525  052525  000000                  .WORD   ALTP,ALTP,0,0   ; EXPECTED FLOAT RESULT
025112  000000
025114  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
                                        ;;*****************************************************************
025120  000004                          TST377: SCOPE
025122  012705  025134                          MOV     #SCFD2,R5       ; PTR TO TEST DATA SET
025126  004737  037300                          JSR     PC,@#SCFDT      ; GO TEST

025132  000412                          BR      TST400          ;!

025134                                  SCFD2:  ; TEST DATA SET SCFD=2:
025134  000177  177777  177777                  .WORD   EXIMP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
025142  177777
025144  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
025152  000000
025154  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
                                        ;;*****************************************************************
025160  000004                          TST400: SCOPE
025162  012705  025174                          MOV     #SCFD3,R5       ; PTR TO TEST DATA SET
025166  004737  037300                          JSR     PC,@#SCFDT      ; GO TEST

025172  000412                          BR      TST401          ;!

025174                                  SCFD3:  ; TEST DATA SET SCFD=3:
025174  177777  177777  177777                  .WORD   LGN,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
025202  177777
025204  177777  177777  000000                  .WORD   LGN,M1,0,0      ; EXPECTED FLOAT RESULT
025212  000000
025214  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
                                        ;;*****************************************************************
025220  000004                          TST401: SCOPE
025222  012705  025234                          MOV     #SCFD4,R5       ; PTR TO TEST DATA SET
025226  004737  037300                          JSR     PC,@#SCFDT      ; GO TEST

025232  000412                          BR      TST402          ;!

025234                                  SCFD4:  ; TEST DATA SET SCFD=4:
025234  170360  170360  170360                  .WORD   ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
025242  170360
025244  170360  170360  000000                  .WORD   ALT4N,ALT4N,0,0 ; EXPECTED FLOAT RESULT
025252  000000
025254  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
                                        ;;*****************************************************************
025260  000004                          TST402: SCOPE
025262  012705  025274                          MOV     #SCFD5,R5       ; PTR TO TEST DATA SET
025266  004737  037300                          JSR     PC,@#SCFDT      ; GO TEST

025272  000412                          BR      TST403          ;!

025274                                  SCFD5:  ; TEST DATA SET SCFD=5:
025274  000000  000000  000000                  .WORD   0,0,0,0 ; INITIAL AC FLOAT NUMBER
025302  000000
025304  000000  000000  000000                  .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
025312  000000
025314  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
                                        ;;*****************************************************************
025320  000004                          TST403: SCOPE
025322  012705  025334                          MOV     #SCFD6,R5       ; PTR TO TEST DATA SET
025326  004737  037300                          JSR     PC,@#SCFDT      ; GO TEST

025332  000412                          BR      TST404          ;!

025334                                  SCFD6:  ; TEST DATA SET SCFD=6:
025334  077777  000000  177777                  .WORD   LGP,0,M1,M1     ; INITIAL AC FLOAT NUMBER
025342  177777
025344  077777  000000  000000                  .WORD   LGP,0,0,0       ; EXPECTED FLOAT RESULT
025352  000000
025354  047517  047500                          .WORD   047517,047500   ; FPS:  BEFORE, AFTER
```

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5917
5918
```



```
5919                                    ;;*****************************************************************
5920                                    ;*TEST 404       TEST OF LDCIF INSTR, DATA SET LCIF=1
5921                                    ;*              ALL INTERRUPT ENABLES ON
5922                                    ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
5923                                    ;;*****************************************************************
5924  025360  000004                    TST404: SCOPE
5925  025362  012705  025374                    MOV     #LCIF1,R5       ; PTR TO TEST DATA SET
5926  025366  004737  037422                    JSR     PC,@#LCIFT      ; GO TEST
5927
5928  025372  000405                            BR      TST405          ;;
5929
5930  025374                            LCIF1:  ; TEST DATA SET LCIF=1:
5931  025374  100000                            .WORD   100000  ; INITIAL INTEGER VALUE
5932  025376  144000  000000                    .WORD   144000,000000   ; EXPECTED FLOAT RESULT
5933  025402  047407  047410                    .WORD   047407,047410   ; FPS:  BEFORE, AFTER
5934
5935
5936                                    ;;*****************************************************************
5937                                    ;*TEST 405       TEST OF LDCIF INSTR, DATA SET LCIF=2
5938                                    ;*              ALL INTERRUPT ENABLES ON
5939                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
5940                                    ;;*****************************************************************
5941  025406  000004                    TST405: SCOPE
5942  025410  012705  025422                    MOV     #LCIF2,R5       ; PTR TO TEST DATA SET
5943  025414  004737  037422                    JSR     PC,@#LCIFT      ; GO TEST
5944
5945  025420  000405                            BR      TST406          ;;
5946
5947  025422                            LCIF2:  ; TEST DATA SET LCIF=2:
5948  025422  007417                            .WORD   007417  ; INITIAL INTEGER VALUE
5949  025424  043160  170000                    .WORD   043160,170000   ; EXPECTED FLOAT RESULT
5950  025430  047457  047440                    .WORD   047457,047440   ; FPS:  BEFORE, AFTER
5951
5952
5953                                    ;;*****************************************************************
5954                                    ;*TEST 406       TEST OF LDCIF INSTR, DATA SET LCIF=3
5955                                    ;*              ALL INTERRUPT ENABLES ON
5956                                    ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
5957                                    ;;*****************************************************************
5958  025434  000004                    TST406: SCOPE
5959  025436  012705  025450                    MOV     #LCIF3,R5       ; PTR TO TEST DATA SET
5960  025442  004737  037422                    JSR     PC,@#LCIFT      ; GO TEST
5961
5962  025446  000405                            BR      TST407          ;;
5963
5964  025450                            LCIF3:  ; TEST DATA SET LCIF=3:
5965  025450  000000                            .WORD   000000  ; INITIAL INTEGER VALUE
5966  025452  000000  000000                    .WORD   000000,000000   ; EXPECTED FLOAT RESULT
5967  025456  047413  047404                    .WORD   047413,047404   ; FPS:  BEFORE, AFTER
5968
5969
5970                                    ;;*****************************************************************
5971                                    ;*TEST 407       TEST OF LDCIF INSTR, DATA SET LCIF=4
5972                                    ;*              ALL INTERRUPT ENABLES ON
5973                                    ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
5974                                    ;;*****************************************************************
```

```
                        T407    TEST OF LDCIF INSTR, DATA SET LCIF=4

 025462  000004                 TST407: SCOPE
 025464  012705  025476                 MOV     #LCIF4,R5       ; PTR TO TEST DATA SET
 025470  004737  037422                 JSR     PC,@#LCIFT      ; GO TEST

 025474  000405                 BR      TST410          ;!

 025476                          LCIF4:  ; TEST DATA SET LCIF=4!
 025476  170360                         .WORD   170360  ; INITIAL INTEGER VALUE
 025500  143161  000000                 .WORD   143161,000000   ; EXPECTED FLOAT RESULT
 025504  047447  047450                 .WORD   047447,047450   ; FPS!  BEFORE, AFTER


                        ;!**************************************************************
                        ;*TEST 410       TEST OF LDCIF INSTR, DATA SET LCIF=5
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                        ;!**************************************************************
 025510  000004                 TST410: SCOPE
 025512  012705  025524                 MOV     #LCIF5,R5       ; PTR TO TEST DATA SET
 025516  004737  037422                 JSR     PC,@#LCIFT      ; GO TEST

 025522  000405                 BR      TST411          ;!

 025524                          LCIF5:  ; TEST DATA SET LCIF=5!
 025524  077777                         .WORD   077777  ; INITIAL INTEGER VALUE
 025526  043777  177000                 .WORD   043777,177000   ; EXPECTED FLOAT RESULT
 025532  047417  047400                 .WORD   047417,047400   ; FPS!  BEFORE, AFTER
```



```
                        T411    TEST OF LDCID INSTR, DATA SET LCID=1

                        ;!**************************************************************
                        ;*TEST 411       TEST OF LDCID INSTR, DATA SET LCID=1
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                        ;!**************************************************************
 025536  000004                 TST411: SCOPE
 025540  012705  025552                 MOV     #LCID1,R5       ; PTR TO TEST DATA SET
 025544  004737  037522                 JSR     PC,@#LCIDT      ; GO TEST

 025550  000407                 BR      TST412          ;!

 025552                          LCID1:  ; TEST DATA SET LCID=1!
 025552  107070                         .WORD   107070  ; INITIAL INTEGER VALUE
 025554  143743  110000  000000         .WORD   143743,110000,0,0       ; EXPECTED FLOAT RESULT
 025562  000000
 025564  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
                        ;!**************************************************************
 025570  000004                 TST412: SCOPE
 025572  012705  025604                 MOV     #LCID2,R5       ; PTR TO TEST DATA SET
 025576  004737  037522                 JSR     PC,@#LCIDT      ; GO TEST

 025602  000407                 BR      TST413          ;!

 025604                          LCID2:  ; TEST DATA SET LCID=2!
 025604  000000                         .WORD   000000  ; INITIAL INTEGER VALUE
 025606  000000  000000  000000         .WORD   000000,000000,0,0       ; EXPECTED FLOAT RESULT
 025614  000000
 025616  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
                        ;!**************************************************************
 025622  000004                 TST413: SCOPE
 025624  012705  025636                 MOV     #LCID3,R5       ; PTR TO TEST DATA SET
 025630  004737  037522                 JSR     PC,@#LCIDT      ; GO TEST

 025634  000407                 BR      TST414          ;!

 025636                          LCID3:  ; TEST DATA SET LCID=3!
 025636  077777                         .WORD   077777  ; INITIAL INTEGER VALUE
 025640  043777  177000  000000         .WORD   043777,177000,0,0       ; EXPECTED FLOAT RESULT
 025646  000000
 025650  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
                                ;;**************************************************************
025654  000004                TST414: SCOPE
025656  012705  025670                MOV     #LCID4,R5       ; PTR TO TEST DATA SET
025662  004737  037522                JSR     PC,@#LCIDT      ; GO TEST

025666  000407                        BR      TST415          ;!

025670                          LCID4:  ; TEST DATA SET LCID=4:
025670  070707                        .WORD   070707  ; INITIAL INTEGER VALUE
025672  043743  107000  000000        .WORD   043743,107000,0,0       ; EXPECTED FLOAT RESULT
025700  000000
025702  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
                                ;;**************************************************************
025706  000004                TST415: SCOPE
025710  012705  025722                MOV     #LCID5,R5       ; PTR TO TEST DATA SET
025714  004737  037522                JSR     PC,@#LCIDT      ; GO TEST

025720  000407                        BR      TST416          ;!

025722                          LCID5:  ; TEST DATA SET LCID=5:
025722  100000                        .WORD   100000  ; INITIAL INTEGER VALUE
025724  144000  000000  000000        .WORD   144000,000000,0,0       ; EXPECTED FLOAT RESULT
025732  000000
025734  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
                                ;;**************************************************************
025740  000004                TST416: SCOPE
025742  012705  025754                MOV     #LCLF1,R5       ; PTR TO TEST DATA SET
025746  004737  037642                JSR     PC,@#LCLFT      ; GO TEST

025752  000406                        BR      TST417          ;!

025754                          LCLF1:  ; TEST DATA SET LCLF=1:
025754  077777  177777                .WORD   077777,M1       ; INITIAL INTEGER VALUE
025760  050000  000000                .WORD   050000,000000   ; EXPECTED FLOAT RESULT
025764  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
                                ;;**************************************************************
025770  000004                TST417: SCOPE
025772  012705  026004                MOV     #LCLF2,R5       ; PTR TO TEST DATA SET
025776  004737  037642                JSR     PC,@#LCLFT      ; GO TEST

026002  000406                        BR      TST420          ;!

026004                          LCLF2:  ; TEST DATA SET LCLF=2:
026004  077777  177777                .WORD   077777,M1       ; INITIAL INTEGER VALUE
026010  047777  177777                .WORD   047777,M1       ; EXPECTED FLOAT RESULT
026014  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
                                ;;**************************************************************
026020  000004                TST420: SCOPE
026022  012705  026034                MOV     #LCLF3,R5       ; PTR TO TEST DATA SET
026026  004737  037642                JSR     PC,@#LCLFT      ; GO TEST

026032  000406                        BR      TST421          ;!

026034                          LCLF3:  ; TEST DATA SET LCLF=3:
026034  170360  170360                .WORD   170360,170360   ; INITIAL INTEGER VALUE
026040  147160  170361                .WORD   147160,170361   ; EXPECTED FLOAT RESULT
026044  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
                                ;;**************************************************************
```

```
 6152  026050  000004                TST421: SCOPE
 6153  026052  012705  026064                MOV     #LCLF4,R5       ; PTR TO TEST DATA SET
 6154  026056  004737  037642                JSR     PC,@#LCLFT      ; GO TEST
 6155
 6156  026062  000406                        BR      TST422          ;!
 6157
 6158  026064                        LCLF4:  ; TEST DATA SET LCLF=4!
 6159  026064  000000  000000                .WORD   000000,000000   ; INITIAL INTEGER VALUE
 6160  026070  000000  000000                .WORD   000000,000000   ; EXPECTED FLOAT RESULT
 6161  026074  047513  047504                .WORD   047513,047504   ; FPS!  BEFORE, AFTER
 6162
 6163
 6164                                  ;!*************************************************************
 6165                                  ;*TEST 422       TEST OF LDCLF INSTR, DATA SET LCLF=5
 6166                                  ;*              ALL INTERRUPT ENABLES ON
 6167                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
 6168                                  ;!*************************************************************
 6169  026100  000004                TST422: SCOPE
 6170  026102  012705  026114                MOV     #LCLF5,R5       ; PTR TO TEST DATA SET
 6171  026106  004737  037642                JSR     PC,@#LCLFT      ; GO TEST
 6172
 6173  026112  000406                        BR      TST423          ;!
 6174
 6175  026114                        LCLF5:  ; TEST DATA SET LCLF=5!
 6176  026114  077777  177677                .WORD   077777,177677   ; INITIAL INTEGER VALUE
 6177  026120  047777  177777                .WORD   047777,-1       ; EXPECTED FLOAT RESULT
 6178  026124  047517  047500                .WORD   047517,047500   ; FPS!  BEFORE, AFTER
 6179
 6180
 6181                                  ;!*************************************************************
 6182                                  ;*TEST 423       TEST OF LDCLF INSTR, DATA SET LCLF=6
 6183                                  ;*              ALL INTERRUPT ENABLES ON
 6184                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
 6185                                  ;!*************************************************************
 6186  026130  000004                TST423: SCOPE
 6187  026132  012705  026144                MOV     #LCLF6,R5       ; PTR TO TEST DATA SET
 6188  026136  004737  037642                JSR     PC,@#LCLFT      ; GO TEST
 6189
 6190  026142  000406                        BR      TST424          ;!
 6191
 6192  026144                        LCLF6:  ; TEST DATA SET LCLF=6!
 6193  026144  100000  000000                .WORD   100000,000000   ; INITIAL INTEGER VALUE
 6194  026150  150000  000000                .WORD   150000,000000   ; EXPECTED FLOAT RESULT
 6195  026154  047547  047550                .WORD   047547,047550   ; FPS!  BEFORE, AFTER
 6196
 6197
 6198                                  ;!*************************************************************
 6199                                  ;*TEST 424       TEST OF LDCLF INSTR, DATA SET LCLF=7
 6200                                  ;*              ALL INTERRUPT ENABLES ON
 6201                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
 6202                                  ;!*************************************************************
 6203  026160  000004                TST424: SCOPE
 6204  026162  012705  026174                MOV     #LCLF7,R5       ; PTR TO TEST DATA SET
 6205  026166  004737  037642                JSR     PC,@#LCLFT      ; GO TEST
 6206
 6207  026172  000406                        BR      TST425          ;!
```



```
 6208
 6209  026174                        LCLF7:  ; TEST DATA SET LCLF=7!
 6210  026174  043434  070707                .WORD   043434,070707   ; INITIAL INTEGER VALUE
 6211  026200  047616  034343                .WORD   047616,034343   ; EXPECTED FLOAT RESULT
 6212  026204  047557  047540                .WORD   047557,047540   ; FPS!  BEFORE, AFTER
 6213
 6214
 6215
```

```
                                ;;*****************************************************************
                                ;*TEST 425       TEST OF LDCLD INSTR, DATA SET LCLD=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
026210  000004                  TST425: SCOPE
026212  012705  026224                  MOV     #LCLD1,R5       ; PTR TO TEST DATA SET
026216  004737  037742                  JSR     PC,@#LCLDT      ; GO TEST
026222  000410                          BR      TST426          ;;
026224                          LCLD1:  ; TEST DATA SET LCLD=1:
026224  007417  007417                  .WORD   007417,007417   ; INITIAL INTEGER VALUE
026230  047160  170360  170000          .WORD   047160,170360,170000,0  ; EXPECTED FLOAT RESULT
026236  000000
026240  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
                                ;;*****************************************************************
026244  000004                  TST426: SCOPE
026246  012705  026260                  MOV     #LCLD2,R5       ; PTR TO TEST DATA SET
026252  004737  037742                  JSR     PC,@#LCLDT      ; GO TEST
026256  000410                          BR      TST427          ;;
026260                          LCLD2:  ; TEST DATA SET LCLD=2:
026260  100000  000000                  .WORD   100000,000000   ; INITIAL INTEGER VALUE
026264  150000  000000  000000          .WORD   150000,000000,000000,0  ; EXPECTED FLOAT RESULT
026272  000000
026274  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
                                ;;*****************************************************************
026300  000004                  TST427: SCOPE
026302  012705  026314                  MOV     #LCLD3,R5       ; PTR TO TEST DATA SET
026306  004737  037742                  JSR     PC,@#LCLDT      ; GO TEST
026312  000410                          BR      TST430          ;;
026314                          LCLD3:  ; TEST DATA SET LCLD=3:
026314  077777  177777                  .WORD   077777,M1       ; INITIAL INTEGER VALUE
026320  047777  177777  177000          .WORD   047777,M1,177000,0      ; EXPECTED FLOAT RESULT
026326  000000
026330  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
                                ;;*****************************************************************
026334  000004                  TST430: SCOPE
026336  012705  026350                  MOV     #LCLD4,R5       ; PTR TO TEST DATA SET
026342  004737  037742                  JSR     PC,@#LCLDT      ; GO TEST
026346  000410                          BR      TST431          ;;
026350                          LCLD4:  ; TEST DATA SET LCLD=4:
026350  107070  161616                  .WORD   107070,161616   ; INITIAL INTEGER VALUE
026354  147743  107070  162000          .WORD   147743,107070,162000,0  ; EXPECTED FLOAT RESULT
026362  000000
026364  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
                                ;;*****************************************************************
026370  000004                  TST431: SCOPE
026372  012705  026404                  MOV     #LCLD5,R5       ; PTR TO TEST DATA SET
026376  004737  037742                  JSR     PC,@#LCLDT      ; GO TEST
026402  000410                          BR      TST432          ;;
026404                          LCLD5:  ; TEST DATA SET LCLD=5:
026404  000000  000000                  .WORD   000000,000000   ; INITIAL INTEGER VALUE
026410  000000  000000  000000          .WORD   000000,000000,000000,0  ; EXPECTED FLOAT RESULT
026416  000000
026420  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
                        ;;*****************************************************************
026424  000004          TST432: SCOPE
026426  012705  026440          MOV     #SCFI1,R5       ; PTR TO TEST DATA SET
026432  004737  040062          JSR     PC,@#SCFIT      ; GO TEST

026436  000406                  BR      TST433          ;!

026440                  SCFI1:  ; TEST DATA SET SCFI=1!
026440  000000  000000          .WORD   000000,000000   ; INITIAL FLOAT VALUE
026444  000000                  .WORD   000000  ; EXPECTED INTEGER RESULT
026446  047453  047444          .WORD   047453,047444   ; FPS!  BEFORE, AFTER
026452  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
                        ;;*****************************************************************
026454  000004          TST433: SCOPE
026456  012705  026470          MOV     #SCFI2,R5       ; PTR TO TEST DATA SET
026462  004737  040062          JSR     PC,@#SCFIT      ; GO TEST

026466  000406                  BR      TST434          ;!

026470                  SCFI2:  ; TEST DATA SET SCFI=2!
026470  041532  000000          .WORD   041532,000000   ; INITIAL FLOAT VALUE
026474  000066                  .WORD   000066  ; EXPECTED INTEGER RESULT
026476  047457  047440          .WORD   047457,047440   ; FPS!  BEFORE, AFTER
026502  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
                        ;;*****************************************************************
026504  000004          TST434: SCOPE
026506  012705  026520          MOV     #SCFI3,R5       ; PTR TO TEST DATA SET
026512  004737  040062          JSR     PC,@#SCFIT      ; GO TEST

026516  000406                  BR      TST435          ;!

026520                  SCFI3:  ; TEST DATA SET SCFI=3!
026520  052525  052525          .WORD   052525,052525   ; INITIAL FLOAT VALUE
026524  000000                  .WORD   000000  ; EXPECTED INTEGER RESULT
026526  047452  147445          .WORD   047452,147445   ; FPS!  BEFORE, AFTER
026532  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
                        ;;*****************************************************************
026534  000004          TST435: SCOPE
026536  012705  026550          MOV     #SCFI4,R5       ; PTR TO TEST DATA SET
026542  004737  040062          JSR     PC,@#SCFIT      ; GO TEST

026546  000406                  BR      TST436          ;!

026550                  SCFI4:  ; TEST DATA SET SCFI=4!
026550  141531  177777          .WORD   141531,-1       ; INITIAL FLOAT VALUE
026554  177712                  .WORD   177712  ; EXPECTED INTEGER RESULT
026556  047407  047410          .WORD   047407,047410   ; FPS!  BEFORE, AFTER
026562  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
                        ;;*****************************************************************
026564  000004          TST436: SCOPE
026566  012705  026600          MOV     #SCFI5,R5       ; PTR TO TEST DATA SET
026572  004737  040062          JSR     PC,@#SCFIT      ; GO TEST

026576  000406                  BR      TST437          ;!

026600                  SCFI5:  ; TEST DATA SET SCFI=5!
026600  041532  000000          .WORD   041532,000000   ; INITIAL FLOAT VALUE
026604  000066                  .WORD   000066  ; EXPECTED INTEGER RESULT
026606  047417  047400          .WORD   047417,047400   ; FPS!  BEFORE, AFTER
026612  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
                        ;;*****************************************************************
026614  000004          TST437: SCOPE
026616  012705  026630          MOV     #SCFI6,R5       ; PTR TO TEST DATA SET
026622  004737  040062          JSR     PC,@#SCFIT      ; GO TEST

026626  000406                  BR      TST440          ;!

026630                  SCFI6:  ; TEST DATA SET SCFI=6!
026630  172011  123456          .WORD   172011,123456   ; INITIAL FLOAT VALUE
026634  000000                  .WORD   000000  ; EXPECTED INTEGER RESULT
026636  047052  047045          .WORD   047052,047045   ; FPS!  BEFORE, AFTER
026642  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
```

```
                                ;;*****************************************************************
026644  000004                  TST440: SCOPE
026646  012705  026660                  MOV     #SCFI7,R5       ; PTR TO TEST DATA SET
026652  004737  040062                  JSR     PC,@#SCFIT      ; GO TEST
                
026656  000406                  BR      TST441          ;!

026660                          SCFI7:  ; TEST DATA SET SCFI=7:
026660  000000  177777                  .WORD   000000,M1       ; INITIAL FLOAT VALUE
026664  000000                  .WORD   000000  ; EXPECTED INTEGER RESULT
026666  047413  047404          .WORD   047413,047404   ; FPS:  BEFORE, AFTER
026672  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 441       TEST OF STCDI INSTR, DATA SET SCDI=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
026674  000004                  TST441: SCOPE
026676  012705  026710                  MOV     #SCDI1,R5       ; PTR TO TEST DATA SET
026702  004737  040200                  JSR     PC,@#SCDIT      ; GO TEST

026706  000410                  BR      TST442          ;!

026710                          SCDI1:  ; TEST DATA SET SCDI=1:
026710  044000  000000  000000          .WORD   044000,000000,000000,000000     ; INITIAL FLOAT VALUE
026716  000000
026720  000000                  .WORD   000000  ; EXPECTED INTEGER RESULT
026722  047652  147645          .WORD   047652,147645   ; FPS:  BEFORE, AFTER
026726  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
                                ;;*****************************************************************
026730  000004                  TST442: SCOPE
026732  012705  026744                  MOV     #SCDI2,R5       ; PTR TO TEST DATA SET
026736  004737  040200                  JSR     PC,@#SCDIT      ; GO TEST

026742  000410                  BR      TST443          ;!

026744                          SCDI2:  ; TEST DATA SET SCDI=2:
026744  043777  177377  177777          .WORD   043777,177377,M1,M1     ; INITIAL FLOAT VALUE
026752  177777
026754  077777                  .WORD   077777  ; EXPECTED INTEGER RESULT
026756  047617  047600          .WORD   047617,047600   ; FPS:  BEFORE, AFTER
026762  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
                                ;;*****************************************************************
026764  000004                  TST443: SCOPE
026766  012705  027000                  MOV     #SCDI3,R5       ; PTR TO TEST DATA SET
026772  004737  040200                  JSR     PC,@#SCDIT      ; GO TEST

026776  000410                  BR      TST444          ;!

027000                          SCDI3:  ; TEST DATA SET SCDI=3:
027000  000000  000000  000000          .WORD   000000,000000,000000,000000     ; INITIAL FLOAT VALUE
027006  000000
027010  000000                  .WORD   000000  ; EXPECTED INTEGER RESULT
027012  047613  047604          .WORD   047613,047604   ; FPS:  BEFORE, AFTER
027016  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
                                ;;*****************************************************************
027020  000004                  TST444: SCOPE
027022  012705  027034                  MOV     #SCDI4,R5       ; PTR TO TEST DATA SET
027026  004737  040260                  JSR     PC,@#SCDIT      ; GO TEST

027032  000410                          BR      TST445          ;;

027034                          SCDI4:  ; TEST DATA SET SCDI=4:
027034  143161  007777  177777          .WORD   143161,007777,M1,M1     ; INITIAL FLOAT VALUE
027042  177777
027044  170360                          .WORD   170360  ; EXPECTED INTEGER RESULT
027046  047607  047610                  .WORD   047607,047610   ; FPS: BEFORE, AFTER
027052  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
                                ;;*****************************************************************
027054  000004                  TST445: SCOPE
027056  012705  027070                  MOV     #SCDI5,R5       ; PTR TO TEST DATA SET
027062  004737  040260                  JSR     PC,@#SCDIT      ; GO TEST

027066  000410                          BR      TST446          ;;

027070                          SCDI5:  ; TEST DATA SET SCDI=5:
027070  143777  177777  177777          .WORD   143777,M1,M1,M1 ; INITIAL FLOAT VALUE
027076  177777
027100  100001                          .WORD   100001  ; EXPECTED INTEGER RESULT
027102  047647  047650                  .WORD   047647,047650   ; FPS: BEFORE, AFTER
027106  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
                                ;;*****************************************************************
027110  000004                  TST446: SCOPE
027112  012705  027124                  MOV     #SCDI6,R5       ; PTR TO TEST DATA SET
027116  004737  040260                  JSR     PC,@#SCDIT      ; GO TEST

027122  000410                          BR      TST447          ;;

027124                          SCDI6:  ; TEST DATA SET SCDI=6:
027124  152525  052525  177777          .WORD   152525,052525,M1,000000 ; INITIAL FLOAT VALUE
027132  000000
027134  000000                          .WORD   000000  ; EXPECTED INTEGER RESULT
027136  047212  047205                  .WORD   047212,047205   ; FPS: BEFORE, AFTER
027142  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 447       TEST OF STCDI INSTR, DATA SET SCDI=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027144  000004                  TST447: SCOPE
027146  012705  027160                  MOV     #SCDI7,R5       ; PTR TO TEST DATA SET
027152  004737  040260                  JSR     PC,@#SCDIT      ; GO TEST

027156  000410                          BR      TST450          ;;

027160                          SCDI7:  ; TEST DATA SET SCDI=7:
027160  140377  177777  177777          .WORD   140377,M1,M1,052525     ; INITIAL FLOAT VALUE
027166  052525
027170  177777                          .WORD   M1      ; EXPECTED INTEGER RESULT
027172  047647  047650                  .WORD   047647,047650   ; FPS: BEFORE, AFTER
027176  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 450       TEST OF STCFL INSTR, DATA SET SCFL=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027200  000004                  TST450: SCOPE
027202  012705  027214                  MOV     #SCFL1,R5       ; PTR TO TEST DATA SET
027206  004737  040456                  JSR     PC,@#SCFLT      ; GO TEST

027212  000407                          BR      TST451          ;;

027214                          SCFL1:  ; TEST DATA SET SCFL=1:
027214  047777  177777                  .WORD   047777,M1       ; INITIAL FLOAT VALUE
027220  077777  177600                  .WORD   077777,177600   ; EXPECTED INTEGER RESULT
027224  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
027230  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
                                ;;*****************************************************************
027232  000004                  TST451: SCOPE
027234  012705  027246                  MOV     #SCFL2,R5       ; PTR TO TEST DATA SET
027240  004737  040456                  JSR     PC,@#SCFLT      ; GO TEST

027244  000407                          BR      TST452          ;;

027246                          SCFL2:  ; TEST DATA SET SCFL=2:
027246  150000  000001                  .WORD   150000,000001   ; INITIAL FLOAT VALUE
027252  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027256  047512  147505                  .WORD   047512,147505   ; FPS:  BEFORE, AFTER
027262  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
                                ;;*****************************************************************
027264  000004                  TST452: SCOPE
027266  012705  027300                  MOV     #SCFL3,R5       ; PTR TO TEST DATA SET
027272  004737  040456                  JSR     PC,@#SCFLT      ; GO TEST

027276  000407                          BR      TST453          ;;

027300                          SCFL3:  ; TEST DATA SET SCFL=3:
027300  037777  177777                  .WORD   037777,M1       ; INITIAL FLOAT VALUE
027304  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027310  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
027314  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


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



```
                                T453    TEST OF STCFL INSTR, DATA SET SCFL=4

                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
027316  000004                  TST453: SCOPE
027320  012705  027332                  MOV     #SCFL4,R5       ; PTR TO TEST DATA SET
027324  004737  040456                  JSR     PC,@#SCFLT      ; GO TEST

027330  000407                          BR      TST454          ;;

027332                          SCFL4:  ; TEST DATA SET SCFL=4:
027332  000000  000000                  .WORD   000000,000000   ; INITIAL FLOAT VALUE
027336  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027342  047553  047544                  .WORD   047553,047544   ; FPS:  BEFORE, AFTER
027346  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 454       TEST OF STCFL INSTR, DATA SET SCFL=5
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027350  000004                  TST454: SCOPE
027352  012705  027364                  MOV     #SCFL5,R5       ; PTR TO TEST DATA SET
027356  004737  040456                  JSR     PC,@#SCFLT      ; GO TEST

027362  000407                          BR      TST455          ;;

027364                          SCFL5:  ; TEST DATA SET SCFL=5:
027364  147777  177777                  .WORD   147777,M1       ; INITIAL FLOAT VALUE
027370  100000  000200                  .WORD   100000,000200   ; EXPECTED INTEGER RESULT
027374  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
027400  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 455       TEST OF STCFL INSTR, DATA SET SCFL=6
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027402  000004                  TST455: SCOPE
027404  012705  027416                  MOV     #SCFL6,R5       ; PTR TO TEST DATA SET
027410  004737  040456                  JSR     PC,@#SCFLT      ; GO TEST

027414  000407                          BR      TST456          ;;

027416                          SCFL6:  ; TEST DATA SET SCFL=6:
027416  040577  177777                  .WORD   040577,M1       ; INITIAL FLOAT VALUE
027422  000000  000003                  .WORD   000000,000003   ; EXPECTED INTEGER RESULT
027426  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
027432  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 456       TEST OF STCFL INSTR, DATA SET SCFL=7
                                ;*              INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
```

```
                                 ;;***********************************************************
027434  000004                   TST456: SCOPE
027436  012705  027450                   MOV     #SCFL7,R5       ; PTR TO TEST DATA SET
027442  004737  040456                   JSR     PC,@#SCFLT      ; GO TEST

027446  000407                           BR      TST457          ;;

027450                           SCFL7:  ; TEST DATA SET SCFL-7:
027450  066666  123456                   .WORD   066666,123456   ; INITIAL FLOAT VALUE
027454  000000  000000                   .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027460  047152  047145                   .WORD   047152,047145   ; FPS:  BEFORE, AFTER
027464  000000                           .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                         ;;***********************************************************
                                         ;*TEST 457      TEST OF STCDL INSTR, DATA SET SCDL-1
                                         ;*              ALL INTERRUPT ENABLES ON
                                         ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                         ;;***********************************************************
027466  000004                           TST457: SCOPE
027470  012705  027502                           MOV     #SCDL1,R5       ; PTR TO TEST DATA SET
027474  004737  040664                           JSR     PC,@#SCDLT      ; GO TEST

027500  000411                                   BR      TST460          ;;

027502                                   SCDL1:  ; TEST DATA SET SCDL-1:
027502  050000  177000  177000                   .WORD   050000,177000,177000,177000     ; INITIAL FLOAT VALUE
027510  177000
027512  000000  000000                           .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027516  047712  147705                           .WORD   047712,147705   ; FPS:  BEFORE, AFTER
027522  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
                                         ;;***********************************************************
027524  000004                           TST460: SCOPE
027526  012705  027540                           MOV     #SCDL2,R5       ; PTR TO TEST DATA SET
027532  004737  040664                           JSR     PC,@#SCDLT      ; GO TEST

027536  000411                                   BR      TST461          ;;

027540                                   SCDL2:  ; TEST DATA SET SCDL-2:
027540  047777  177777  177377                   .WORD   047777,M1,177377,M1     ; INITIAL FLOAT VALUE
027546  177777
027550  077777  177777                           .WORD   077777,M1       ; EXPECTED INTEGER RESULT
027554  047717  047700                           .WORD   047717,047700   ; FPS:  BEFORE, AFTER
027560  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
                                         ;;***********************************************************
027562  000004                           TST461: SCOPE
027564  012705  027576                           MOV     #SCDL3,R5       ; PTR TO TEST DATA SET
027570  004737  040664                           JSR     PC,@#SCDLT      ; GO TEST

027574  000411                                   BR      TST462          ;;

027576                                   SCDL3:  ; TEST DATA SET SCDL-3:
027576  137777  125252  177777                   .WORD   137777,125252,M1,M1     ; INITIAL FLOAT VALUE
027604  177777
027606  000000  000000                           .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027612  047713  047704                           .WORD   047713,047704   ; FPS:  BEFORE, AFTER
027616  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
                                ;;*****************************************************************
027620  000004                  TST462: SCOPE
027622  012705  027634                  MOV     #SCDL4,R5       ; PTR TO TEST DATA SET
027626  004737  040664                  JSR     PC,@#SCDLT      ; GO TEST
027632  000411                          BR      TST463          ;;
027634                          SCDL4:  ; TEST DATA SET SCDL=4:
027634  147777  177777  177777          .WORD   147777,M1,M1,M1 ; INITIAL FLOAT VALUE
027642  177777
027644  100000  000001                  .WORD   100000,000001   ; EXPECTED INTEGER RESULT
027650  047707  047710                  .WORD   047707,047710   ; FPS:  BEFORE, AFTER
027654  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
                                ;;*****************************************************************
027656  000004                  TST463: SCOPE
027660  012705  027672                  MOV     #SCDL5,R5       ; PTR TO TEST DATA SET
027664  004737  040664                  JSR     PC,@#SCDLT      ; GO TEST
027670  000411                          BR      TST464          ;;
027672                          SCDL5:  ; TEST DATA SET SCDL=5:
027672  047160  170360  177777          .WORD   047160,170360,M1,M1     ; INITIAL FLOAT VALUE
027700  177777
027702  007417  007417                  .WORD   007417,007417   ; EXPECTED INTEGER RESULT
027706  047757  047740                  .WORD   047757,047740   ; FPS:  BEFORE, AFTER
027712  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
                                ;;*****************************************************************
027714  000004                  TST464: SCOPE
027716  012705  027730                  MOV     #SCDL6,R5       ; PTR TO TEST DATA SET
027722  004737  040664                  JSR     PC,@#SCDLT      ; GO TEST
027726  000411                          BR      TST465          ;;
027730                          SCDL6:  ; TEST DATA SET SCDL=6:
027730  000177  177777  125252          .WORD   000177,M1,125252,101010 ; INITIAL FLOAT VALUE
027736  101010
027740  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
027744  047713  047704                  .WORD   047713,047704   ; FPS:  BEFORE, AFTER
027750  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```



```
                                ;;*****************************************************************
                                ;*TEST 465       TEST OF STCDL INSTR, DATA SET SCDL=7
                                ;*              INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
027752  000004                  TST465: SCOPE
027754  012705  027766                  MOV     #SCDL7,R5       ; PTR TO TEST DATA SET
027760  004737  040664                  JSR     PC,@#SCDLT      ; GO TEST

027764  000411                          BR      TST466          ;;

027766                          SCDL7:  ; TEST DATA SET SCDL=7:
027766  052141  125252  052525          .WORD   052141,125252,052525,125252     ; INITIAL FLOAT VALUE
027774  125252
027776  000000  000000                  .WORD   000000,000000   ; EXPECTED INTEGER RESULT
030002  047312  047305                  .WORD   047312,047305   ; FPS:  BEFORE, AFTER
030006  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 466       TEST OF LDEXP/F INSTR, DATA SET LEXF=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
030010  000004                  TST466: SCOPE
030012  012705  030024                  MOV     #LEXF1,R5       ; PTR TO TEST DATA SET
030016  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030022  000410                          BR      TST467          ;;

030024                          LEXF1:  ; TEST DATA SET LEXF=1:
030024  020177  177777                  .WORD   020177,-1       ; INITIAL AC FLOAT NUMBER
030030  000377  177777                  .WORD   000377,-1       ; EXPECTED FLOAT RESULT
030034  000201                          .WORD   201             ; EXPONENT TO BE LOADED
030036  047555  147542                  .WORD   047555,147542   ; FPS:  BEFORE, AFTER
030042  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
                                ;;*****************************************************************
030044  000004                  TST467: SCOPE
030046  012705  030060                  MOV     #LEXF2,R5       ; PTR TO TEST DATA SET
030052  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030056  000410                          BR      TST470          ;;

030060                          LEXF2:  ; TEST DATA SET LEXF=2:
030060  120000  000000                  .WORD   120000,0        ; INITIAL AC FLOAT NUMBER
030064  100000  000000                  .WORD   100000,0        ; EXPECTED FLOAT RESULT
030070  000200                          .WORD   200             ; EXPONENT TO BE LOADED
030072  047501  147516                  .WORD   047501,147516   ; FPS:  BEFORE, AFTER
030076  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
                                ;;*****************************************************************
030100  000004                  TST470: SCOPE
030102  012705  030114                  MOV     #LEXF3,R5       ; PTR TO TEST DATA SET
030106  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030112  000410                          BR      TST471          ;;

030114                          LEXF3:  ; TEST DATA SET LEXF=3:
030114  020125  052525                  .WORD   020125,ALTP     ; INITIAL AC FLOAT NUMBER
030120  077725  052525                  .WORD   077725,ALTP     ; EXPECTED FLOAT RESULT
030124  000177                          .WORD   177             ; EXPONENT TO BE LOADED
030126  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
030132  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
                                ;;*****************************************************************
030134  000004                  TST471: SCOPE
030136  012705  030150                  MOV     #LEXF4,R5       ; PTR TO TEST DATA SET
030142  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030146  000410                          BR      TST472          ;;

030150                          LEXF4:  ; TEST DATA SET LEXF=4:
030150  120052  125252                  .WORD   120052,ALTN     ; INITIAL AC FLOAT NUMBER
030154  100052  125252                  .WORD   100052,ALTN     ; EXPECTED FLOAT RESULT
030160  000100                          .WORD   100             ; EXPONENT TO BE LOADED
030162  047407  047410                  .WORD   047407,047410   ; FPS:  BEFORE, AFTER
030166  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
                                ;;*****************************************************************
030170  000004                  TST472: SCOPE
030172  012705  030204                  MOV     #LEXF5,R5       ; PTR TO TEST DATA SET
030176  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030202  000410                          BR      TST473          ;;

030204                          LEXF5:  ; TEST DATA SET LEXF=5:
030204  020017  007417                  .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER
030210  040217  007417                  .WORD   040217,ALT4P    ; EXPECTED FLOAT RESULT
030214  000001                          .WORD   1               ; EXPONENT TO BE LOADED
030216  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
030222  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
                                ;;*****************************************************************
030224  000004                  TST473: SCOPE
030226  012705  030240                  MOV     #LEXF6,R5       ; PTR TO TEST DATA SET
030232  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030236  000410                          BR      TST474          ;;

030240                          LEXF6:  ; TEST DATA SET LEXF=6:
030240  120160  170360                  .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER
030244  100160  170360                  .WORD   100160,ALT4N    ; EXPECTED FLOAT RESULT
030250  000000                          .WORD   0               ; EXPONENT TO BE LOADED
030252  047507  047510                  .WORD   047507,047510   ; FPS:  BEFORE, AFTER
030256  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
```

```
                                ;;*****************************************************************
                                ;*TEST 474       TEST OF LDEXP/F INSTR, DATA SET LEXF=7
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
030260  000004                  TST4741: SCOPE
030262  012705  030274                  MOV     #LEXF7,R5       ; PTR TO TEST DATA SET
030266  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030272  000410                          BR      TST475          ;;

030274                          LEXF7:  ; TEST DATA SET LEXF=7:
030274  020177  177777                  .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
030300  037777  177777                  .WORD   037777,M1       ; EXPECTED FLOAT RESULT
030304  177777                          .WORD   -1              ; EXPONENT TO BE LOADED
030306  047457  047440                  .WORD   047457,047440   ; FPS: BEFORE, AFTER
030312  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 475       TEST OF LDEXP/F INSTR, DATA SET LEXF=10
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
030314  000004                  TST4751: SCOPE
030316  012705  030330                  MOV     #LEXF10,R5      ; PTR TO TEST DATA SET
030322  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030326  000410                          BR      TST476          ;;

030330                          LEXF10: ; TEST DATA SET LEXF=10:
030330  120000  000000                  .WORD   120000,0        ; INITIAL AC FLOAT NUMBER
030334  120000  000000                  .WORD   120000,0        ; EXPECTED FLOAT RESULT
030340  177700                          .WORD   -100            ; EXPONENT TO BE LOADED
030342  047407  047410                  .WORD   047407,047410   ; FPS: BEFORE, AFTER
030346  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 476       TEST OF LDEXP/F INSTR, DATA SET LEXF=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
030350  000004                  TST4761: SCOPE
030352  012705  030364                  MOV     #LEXF11,R5      ; PTR TO TEST DATA SET
030356  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030362  000410                          BR      TST477          ;;

030364                          LEXF11: ; TEST DATA SET LEXF=11:
030364  020125  052525                  .WORD   020125,ALTP     ; INITIAL AC FLOAT NUMBER
030370  000325  052525                  .WORD   000325,ALTP     ; EXPECTED FLOAT RESULT
030374  177601                          .WORD   -177            ; EXPONENT TO BE LOADED
030376  047557  047540                  .WORD   047557,047540   ; FPS: BEFORE, AFTER
```



```
030402  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 477       TEST OF LDEXP/F INSTR, DATA SET LEXF=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
030404  000004                  TST4771: SCOPE
030406  012705  030420                  MOV     #LEXF12,R5      ; PTR TO TEST DATA SET
030412  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030416  000410                          BR      TST500          ;;

030420                          LEXF12: ; TEST DATA SET LEXF=12:
030420  120052  125252                  .WORD   120052,ALTN     ; INITIAL AC FLOAT NUMBER
030424  100052  125252                  .WORD   100052,ALTN     ; EXPECTED FLOAT RESULT
030430  177600                          .WORD   -200            ; EXPONENT TO BE LOADED
030432  047503  147514                  .WORD   047503,147514   ; FPS: BEFORE, AFTER
030436  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 500       TEST OF LDEXP/F INSTR, DATA SET LEXF=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
030440  000004                  TST5001: SCOPE
030442  012705  030454                  MOV     #LEXF13,R5      ; PTR TO TEST DATA SET
030446  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030452  000410                          BR      TST501          ;;

030454                          LEXF13: ; TEST DATA SET LEXF=13:
030454  020017  007417                  .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER
030460  077617  007417                  .WORD   077617,ALT4P    ; EXPECTED FLOAT RESULT
030464  177577                          .WORD   -201            ; EXPONENT TO BE LOADED
030466  047457  147440                  .WORD   047457,147440   ; FPS: BEFORE, AFTER
030472  100012                          .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 501       TEST OF LDEXP/F INSTR, DATA SET LEXF=14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
030474  000004                  TST5011: SCOPE
030476  012705  030510                  MOV     #LEXF14,R5      ; PTR TO TEST DATA SET
030502  004737  041072                  JSR     PC,@#LEXFT      ; GO TEST

030506  000410                          BR      TST502          ;;

030510                          LEXF14: ; TEST DATA SET LEXF=14:
030510  120160  ALT4N                   .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER
030514  177560  ALT4N                   .WORD   177560,ALT4N    ; EXPECTED FLOAT RESULT
030520  177776                          .WORD   -202            ; EXPONENT TO BE LOADED
```

```
                        T501    TEST OF LDEXP/F INSTR, DATA SET LEXP=14

030522  047507  147510                .WORD   047507,147510   ; FPS:  BEFORE, AFTER
030526  100012                        .WORD   100012          ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 502       TEST OF LDEXP/F INSTR, DATA SET LEXP=15
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;**************************************************************
030530  000004          TST502: SCOPE
030532  012705  030544          MOV     #LEXF15,R5      ; PTR TO TEST DATA SET
030536  004737  041072          JSR     PC,@#LEXFT      ; GO TEST

030542  000410                  BR      TST503          ;;

030544                  LEXF15: ; TEST DATA SET LEXP=15:
030544  020177  177777          .WORD   020177,^M1      ; INITIAL AC FLOAT NUMBER
030550  077377  177777          .WORD   077377,^M1      ; EXPECTED FLOAT RESULT
030554  177575                  .WORD   -203            ; EXPONENT TO BE LOADED
030556  047457  147440          .WORD   047457,147440   ; FPS:  BEFORE, AFTER
030562  100012                  .WORD   100012          ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 503       TEST OF LDEXP/F INSTR, DATA SET LEXP=16
                        ;*              ALL INTERRUPT ENABLES ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**************************************************************
030564  000004          TST503: SCOPE
030566  012705  030600          MOV     #LEXF16,R5      ; PTR TO TEST DATA SET
030572  004737  041072          JSR     PC,@#LEXFT      ; GO TEST

030576  000410                  BR      TST504          ;;

030600                  LEXF16: ; TEST DATA SET LEXP=16:
030600  142000  000000          .WORD   142000,0        ; INITIAL AC FLOAT NUMBER
030604  140000  000000          .WORD   140000,0        ; EXPECTED FLOAT RESULT
030610  000000                  .WORD   0               ; EXPONENT TO BE LOADED
030612  047547  047550          .WORD   047547,047550   ; FPS:  BEFORE, AFTER
030616  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 504       TEST OF LDEXP/F INSTR, DATA SET LEXP=17
                        ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
                        ;;**************************************************************
030620  000004          TST504: SCOPE
030622  012705  030634          MOV     #LEXF17,R5      ; PTR TO TEST DATA SET
030626  004737  041072          JSR     PC,@#LEXFT      ; GO TEST

030632  000410                  BR      TST505          ;;

030634                  LEXF17: ; TEST DATA SET LEXP=17:
030634  020177  177777          .WORD   020177,^M1      ; INITIAL AC FLOAT NUMBER
030640  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
```



```
                        T504    TEST OF LDEXP/F INSTR, DATA SET LEXP=17

030644  000201                  .WORD   201             ; EXPONENT TO BE LOADED
030646  046551  046546          .WORD   046551,046546   ; FPS:  BEFORE, AFTER
030652  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 505       TEST OF LDEXP/F INSTR, DATA SET LEXP=20
                        ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;**************************************************************
030654  000004          TST505: SCOPE
030656  012705  030670          MOV     #LEXF20,R5      ; PTR TO TEST DATA SET
030662  004737  041072          JSR     PC,@#LEXFT      ; GO TEST

030666  000410                  BR      TST506          ;;

030670                  LEXF20: ; TEST DATA SET LEXP=20:
030670  120000  000000          .WORD   120000,0        ; INITIAL AC FLOAT NUMBER
030674  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
030700  000200                  .WORD   200             ; EXPONENT TO BE LOADED
030702  046511  046506          .WORD   046511,046506   ; FPS:  BEFORE, AFTER
030706  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 506       TEST OF LDEXP/F INSTR, DATA SET LEXP=21
                        ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
                        ;;**************************************************************
030710  000004          TST506: SCOPE
030712  012705  030724          MOV     #LEXF21,R5      ; PTR TO TEST DATA SET
030716  004737  041072          JSR     PC,@#LEXFT      ; GO TEST

030722  000410                  BR      TST507          ;;

030724                  LEXF21: ; TEST DATA SET LEXP=21:
030724  120052  125252          .WORD   120052,ALTN     ; INITIAL AC FLOAT NUMBER
030730  000000  000000          .WORD   0,0     ; EXPECTED FLOAT RESULT
030734  177600                  .WORD   -200            ; EXPONENT TO BE LOADED
030736  045513  045504          .WORD   045513,045504   ; FPS:  BEFORE, AFTER
030742  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )


                        ;;**************************************************************
                        ;*TEST 507       TEST OF LDEXP/F INSTR, DATA SET LEXP=22
                        ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                        ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
                        ;;**************************************************************
030744  000004          TST507: SCOPE
030746  012705  030760          MOV     #LEXF22,R5      ; PTR TO TEST DATA SET
030752  004737  041072          JSR     PC,@#LEXFT      ; GO TEST

030756  000410                  BR      TST510          ;;

030760                  LEXF22: ; TEST DATA SET LEXP=22:
030760  020017  007417          .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER
```

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                        T507    TEST OF LDEXP/F INSTR, DATA SET LEXF=22

 7165  031764  000000  000000                .WORD   0,0     ; EXPECTED FLOAT RESULT
 7166  031770  177577                        .WORD   -201            ; EXPONENT TO BE LOADED
 7167  031772  045453  045444                .WORD   045453,045444   ; FPSR BEFORE, AFTER
 7168  031776  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
 7169
 7170
 7171
 7172                                ;;*****************************************************************
 7173                                ;*TEST 510       TEST OF LDEXP/F INSTR, DATA SET LEXF=23
 7174                                ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
 7175                                ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
 7176  031000  000004                ;;*****************************************************************
 7177  031002  012705  031014        TST510: SCOPE
 7178  031006  004737  041072                MOV     #LEXF23,R5      ; PTR TO TEST DATA SET
 7179                                        JSR     PC,@#LEXFT      ; GO TEST
 7180  031012  000410
 7181                                        BR      TST511          ;;
 7182  031014
 7183  031014  120160  170360        LEXF23: ; TEST DATA SET LEXF=23:
 7184  031020  000000  000000                .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER
 7185  031024  177576                        .WORD   0,0     ; EXPECTED FLOAT RESULT
 7186  031026  045513  045504                .WORD   -202            ; EXPONENT TO BE LOADED
 7187  031032  000000                        .WORD   045513,045504   ; FPSR BEFORE, AFTER
 7188                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
 7189
 7190
 7191                                ;;*****************************************************************
 7192                                ;*TEST 511       TEST OF LDEXP/F INSTR, DATA SET LEXF=24
 7193                                ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
 7194                                ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
 7195  031034  000004                ;;*****************************************************************
 7196  031036  012705  031050        TST511: SCOPE
 7197  031042  004737  041072                MOV     #LEXF24,R5      ; PTR TO TEST DATA SET
 7198                                        JSR     PC,@#LEXFT      ; GO TEST
 7199  031046  000410
 7200                                        BR      TST512          ;;
 7201  031050
 7202  031050  020177  177777        LEXF24: ; TEST DATA SET LEXF=24:
 7203  031054  000000  000000                .WORD   020177,M1       ; INITIAL AC FLOAT NUMBER
 7204  031060  177575                        .WORD   0,0     ; EXPECTED FLOAT RESULT
 7205  031062  045453  045444                .WORD   -203            ; EXPONENT TO BE LOADED
 7206  031066  000000                        .WORD   045453,045444   ; FPSR BEFORE, AFTER
 7207                                        .WORD   NA              ; FEC AFTER ( 0 = N/A )
 7208
 7209
```



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                        T512    TEST OF LDEXP/D INSTR, DATA SET LEXD=1

 7210
 7211                                ;;*****************************************************************
 7212                                ;*TEST 512       TEST OF LDEXP/D INSTR, DATA SET LEXD=1
 7213                                ;*              ALL INTERRUPT ENABLES ON
 7214                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
 7215  031070  000004                ;;*****************************************************************
 7216  031072  012705  031104        TST512: SCOPE
 7217  031076  004737  041242                MOV     #LEXD1,R5       ; PTR TO TEST DATA SET
 7218                                        JSR     PC,@#LEXDT      ; GO TEST
 7219  031102  000414
 7220                                        BR      TST513          ;;
 7221  031104
 7222  031104  152325  052525  052525 LEXD1:  ; TEST DATA SET LEXD=1:
 7223  031112  052525                        .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
 7224  031114  100325  052525  052525
 7225  031122  052525                        .WORD   100325,ALTP,ALTP,ALTP   ; EXPECTED FLOAT RESULT
 7226  031124  000201
 7227  031126  047645  147652                .WORD   201             ; EXPONENT TO BE LOADED
 7228  031132  100010                        .WORD   047645,147652   ; FPSR BEFORE, AFTER
 7229                                        .WORD   100010          ; FEC AFTER ( 0 = N/A )
 7230
 7231
 7232                                ;;*****************************************************************
 7233                                ;*TEST 513       TEST OF LDEXP/D INSTR, DATA SET LEXD=2
 7234                                ;*              ALL INTERRUPT ENABLES ON
 7235                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
 7236  031134  000004                ;;*****************************************************************
 7237  031136  012705  031150        TST513: SCOPE
 7238  031142  004737  041242                MOV     #LEXD2,R5       ; PTR TO TEST DATA SET
 7239                                        JSR     PC,@#LEXDT      ; GO TEST
 7240  031146  000414
 7241                                        BR      TST514          ;;
 7242  031150
 7243  031150  052377  177777  177777 LEXD2:  ; TEST DATA SET LEXD=2:
 7244  031156  177777                        .WORD   052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
 7245  031160  000177  177777  177777
 7246  031166  177777                        .WORD   000177,M1,M1,M1 ; EXPECTED FLOAT RESULT
 7247  031170  000200
 7248  031172  047711  147706                .WORD   200             ; EXPONENT TO BE LOADED
 7249  031176  100010                        .WORD   047711,147706   ; FPSR BEFORE, AFTER
 7250                                        .WORD   100010          ; FEC AFTER ( 0 = N/A )
 7251
 7252
 7253                                ;;*****************************************************************
 7254                                ;*TEST 514       TEST OF LDEXP/D INSTR, DATA SET LEXD=3
 7255                                ;*              ALL INTERRUPT ENABLES ON
 7256                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
 7257  031200  000004                ;;*****************************************************************
 7258  031202  012705  031214        TST514: SCOPE
 7259  031206  004737  041242                MOV     #LEXD3,R5       ; PTR TO TEST DATA SET
 7260                                        JSR     PC,@#LEXDT      ; GO TEST
 7261  031212  000414
 7262                                        BR      TST515          ;;
 7263  031214
 7264  031214  152360  170360  170360 LEXD3:  ; TEST DATA SET LEXD=3:
 7265  031222  170360                        .WORD   152360,ALT4N,ALT4N,ALT4N        ; INITIAL AC FLOAT NUMBER
```

```
7266  031224  177760  170360  170360          .WORD   177760,ALT4N,ALT4N,ALT4N        ; EXPECTED FLOAT RESULT
7267  031232  170360
7268  031234  000177                          .WORD   177                ; EXPONENT TO BE LOADED
7269  031236  047607  047610                  .WORD   047607,047610      ; FPS:  BEFORE, AFTER
7270  031242  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
7271
7272
7273                                  ;;*****************************************************************
7274                                  ;*TEST 515       TEST OF LDEXP/D INSTR, DATA SET LEXD=4
7275                                  ;*              ALL INTERRUPT ENABLES ON
7276                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
7277                                  ;;*****************************************************************
7278  031244  000004                  TST515: SCOPE
7279  031246  012705  031260                  MOV     #LEXD4,R5          ; PTR TO TEST DATA SET
7280  031252  004737  041242                  JSR     PC,@#LEXDT         ; GO TEST
7281
7282  031256  000414                          BR      TST516             ;;
7283
7284  031260                          LEXD4:  ; TEST DATA SET LEXD=4:
7285  031260  052200  000000  000000          .WORD   052200,0,0,0       ; INITIAL AC FLOAT NUMBER
7286  031266  000000
7287  031270  060000  000000  000000          .WORD   060000,0,0,0       ; EXPECTED FLOAT RESULT
7288  031276  000000
7289  031300  000100                          .WORD   100                ; EXPONENT TO BE LOADED
7290  031302  047757  047740                  .WORD   047757,047740      ; FPS:  BEFORE, AFTER
7291  031306  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
7292
7293
7294                                  ;;*****************************************************************
7295                                  ;*TEST 516       TEST OF LDEXP/D INSTR, DATA SET LEXD=5
7296                                  ;*              ALL INTERRUPT ENABLES ON
7297                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
7298                                  ;;*****************************************************************
7299  031310  000004                  TST516: SCOPE
7300  031312  012705  031324                  MOV     #LEXD5,R5          ; PTR TO TEST DATA SET
7301  031316  004737  041242                  JSR     PC,@#LEXDT         ; GO TEST
7302
7303  031322  000414                          BR      TST517             ;;
7304
7305  031324                          LEXD5:  ; TEST DATA SET LEXD=5:
7306  031324  152252  125252  125252          .WORD   152252,ALTN,ALTN,ALTN    ; INITIAL AC FLOAT NUMBER
7307  031332  125252
7308  031334  140252  125252  125252          .WORD   140252,ALTN,ALTN,ALTN    ; EXPECTED FLOAT RESULT
7309  031342  125252
7310  031344  000001                          .WORD   1                  ; EXPONENT TO BE LOADED
7311  031346  047647  047650                  .WORD   047647,047650      ; FPS:  BEFORE, AFTER
7312  031352  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
7313
7314
7315                                  ;;*****************************************************************
7316                                  ;*TEST 517       TEST OF LDEXP/D INSTR, DATA SET LEXD=6
7317                                  ;*              ALL INTERRUPT ENABLES ON
7318                                  ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
7319                                  ;;*****************************************************************
7320  031354  000004                  TST517: SCOPE
7321  031356  012705  031370                  MOV     #LEXD6,R5          ; PTR TO TEST DATA SET
```



```
7322  031362  004737  041242                  JSR     PC,@#LEXDT         ; GO TEST
7323
7324  031366  000414                          BR      TST520             ;;
7325
7326  031370                          LEXD6:  ; TEST DATA SET LEXD=6:
7327  031370  052217  007417  007417          .WORD   052217,ALT4P,ALT4P,ALT4P         ; INITIAL AC FLOAT NUMBER
7328  031376  007417
7329  031400  040017  007417  007417          .WORD   040017,ALT4P,ALT4P,ALT4P         ; EXPECTED FLOAT RESULT
7330  031406  007417
7331  031410  000000                          .WORD   0                  ; EXPONENT TO BE LOADED
7332  031412  047717  047700                  .WORD   047717,047700      ; FPS:  BEFORE, AFTER
7333  031416  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
7334
7335
7336                                  ;;*****************************************************************
7337                                  ;*TEST 520       TEST OF LDEXP/D INSTR, DATA SET LEXD=7
7338                                  ;*              ALL INTERRUPT ENABLES ON
7339                                  ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
7340                                  ;;*****************************************************************
7341  031420  000004                  TST520: SCOPE
7342  031422  012705  031434                  MOV     #LEXD7,R5          ; PTR TO TEST DATA SET
7343  031426  004737  041242                  JSR     PC,@#LEXDT         ; GO TEST
7344
7345  031432  000414                          BR      TST521             ;;
7346
7347  031434                          LEXD7:  ; TEST DATA SET LEXD=7:
7348  031434  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP    ; INITIAL AC FLOAT NUMBER
7349  031442  052525
7350  031444  137725  052525  052525          .WORD   137725,ALTP,ALTP,ALTP    ; EXPECTED FLOAT RESULT
7351  031452  052525
7352  031454  177777                          .WORD   -1                 ; EXPONENT TO BE LOADED
7353  031456  047607  047610                  .WORD   047607,047610      ; FPS:  BEFORE, AFTER
7354  031462  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
7355
7356
7357                                  ;;*****************************************************************
7358                                  ;*TEST 521       TEST OF LDEXP/D INSTR, DATA SET LEXD=10
7359                                  ;*              ALL INTERRUPT ENABLES ON
7360                                  ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
7361                                  ;;*****************************************************************
7362  031464  000004                  TST521: SCOPE
7363  031466  012705  031500                  MOV     #LEXD10,R5         ; PTR TO TEST DATA SET
7364  031472  004737  041242                  JSR     PC,@#LEXDT         ; GO TEST
7365
7366  031476  000414                          BR      TST522             ;;
7367
7368  031500                          LEXD10: ; TEST DATA SET LEXD=10:
7369  031500  052377  177777  177777          .WORD   052377,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
7370  031506  177777
7371  031510  020177  177777  177777          .WORD   020177,M1,M1,M1    ; EXPECTED FLOAT RESULT
7372  031516  177777
7373  031520  177700                          .WORD   -100               ; EXPONENT TO BE LOADED
7374  031522  047757  047740                  .WORD   047757,047740      ; FPS:  BEFORE, AFTER
7375  031526  000000                          .WORD   NA                 ; FEC AFTER ( 0 = N/A )
7376
7377
```

```
                                ;;*****************************************************************
                                ;*TEST 522       TEST OF LDEXP/D INSTR, DATA SET LEXD=11
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
031530  000004                TST522: SCOPE
031532  012705  031544                MOV     #LEXD11,R5      ; PTR TO TEST DATA SET
031536  004737  041242                JSR     PC,@#LEXDT      ; GO TEST

031542  000414                        BR      TST523          ;;

031544                          LEXD11: ; TEST DATA SET LEXD=11:
031544  152360  170360  170360        .WORD   152360,ALT4N,ALT4N,ALT4N        ; INITIAL AC FLOAT NUMBER
031552  170360
031554  100360  170360  170360        .WORD   100360,ALT4N,ALT4N,ALT4N        ; EXPECTED FLOAT RESULT
031562  170360
031564  177601                        .WORD   -177            ; EXPONENT TO BE LOADED
031566  047647  047650                .WORD   047647,047650   ; FPS:  BEFORE, AFTER
031572  000000                        .WORD   NA              ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 523       TEST OF LDEXP/D INSTR, DATA SET LEXD=12
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
031574  000004                TST523: SCOPE
031576  012705  031610                MOV     #LEXD12,R5      ; PTR TO TEST DATA SET
031602  004737  041242                JSR     PC,@#LEXDT      ; GO TEST

031606  000414                        BR      TST524          ;;

031610                          LEXD12: ; TEST DATA SET LEXD=12:
031610  052200  000000  000000        .WORD   052200,0,0,0    ; INITIAL AC FLOAT NUMBER
031616  000000
031620  000000  000000  000000        .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
031626  000000
031630  177600                        .WORD   -200            ; EXPONENT TO BE LOADED
031632  047713  147704                .WORD   047713,147704   ; FPS:  BEFORE, AFTER
031636  100012                        .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 524       TEST OF LDEXP/D INSTR, DATA SET LEXD=13
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
031640  000004                TST524: SCOPE
031642  012705  031654                MOV     #LEXD13,R5      ; PTR TO TEST DATA SET
031646  004737  041242                JSR     PC,@#LEXDT      ; GO TEST

031652  000414                        BR      TST525          ;;

031654                          LEXD13: ; TEST DATA SET LEXD=13:
031654  152252  125252  125252        .WORD   152252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
031662  125252
```



```
031664  177652  125252  125252        .WORD   177652,ALTN,ALTN,ALTN   ; EXPECTED FLOAT RESULT
031672  125252
031674  177577                        .WORD   -201            ; EXPONENT TO BE LOADED
031676  047607  147610                .WORD   047607,147610   ; FPS:  BEFORE, AFTER
031702  100012                        .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 525       TEST OF LDEXP/D INSTR, DATA SET LEXD=14
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
031704  000004                TST525: SCOPE
031706  012705  031720                MOV     #LEXD14,R5      ; PTR TO TEST DATA SET
031712  004737  041242                JSR     PC,@#LEXDT      ; GO TEST

031716  000414                        BR      TST526          ;;

031720                          LEXD14: ; TEST DATA SET LEXD=14:
031720  052217  007417  007417        .WORD   052217,ALT4P,ALT4P,ALT4P        ; INITIAL AC FLOAT NUMBER
031726  007417
031730  077417  007417  007417        .WORD   077417,ALT4P,ALT4P,ALT4P        ; EXPECTED FLOAT RESULT
031736  007417
031740  177576                        .WORD   -202            ; EXPONENT TO BE LOADED
031742  047757  147740                .WORD   047757,147740   ; FPS:  BEFORE, AFTER
031746  100012                        .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 526       TEST OF LDEXP/D INSTR, DATA SET LEXD=15
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
031750  000004                TST526: SCOPE
031752  012705  031764                MOV     #LEXD15,R5      ; PTR TO TEST DATA SET
031756  004737  041242                JSR     PC,@#LEXDT      ; GO TEST

031762  000414                        BR      TST527          ;;

031764                          LEXD15: ; TEST DATA SET LEXD=15:
031764  152325  052525  052525        .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
031772  052525
031774  177325  052525  052525        .WORD   177325,ALTP,ALTP,ALTP   ; EXPECTED FLOAT RESULT
032002  052525
032004  177575                        .WORD   -203            ; EXPONENT TO BE LOADED
032006  047647  147650                .WORD   047647,147650   ; FPS:  BEFORE, AFTER
032012  100012                        .WORD   100012          ; FEC AFTER ( 0 = N/A )


                                ;;*****************************************************************
                                ;*TEST 527       TEST OF LDEXP/D INSTR, DATA SET LEXD=16
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
032014  000004                TST527: SCOPE
032016  012705  032030                MOV     #LEXD16,R5      ; PTR TO TEST DATA SET
```

```
                                ;
032022  004737  041242          JSR     PC,@#LEXDT      ; GO TEST
                                ;
032026  000414                  BR      TST530          ;;
                                ;
032030                  LEXD16: ; TEST DATA SET LEXD=16:
032030  177600  000000  000000          .WORD   177600,0,0,0    ; INITIAL AC FLOAT NUMBER
032036  000000
032040  140000  000000  000000          .WORD   140000,0,0,0    ; EXPECTED FLOAT RESULT
032046  000000
032050  000000                  .WORD   0               ; EXPONENT TO BE LOADED
032052  047707  047710          .WORD   047707,047710   ; FPS: BEFORE, AFTER
032056  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;
                                ;
                                ;;*****************************************************************
                                ;*TEST 530       TEST OF LDEXP/D INSTR, DATA SET LEXD=17
                                ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
032060  000004          TST530: SCOPE
032062  012705  032074          MOV     #LEXD17,R5      ; PTR TO TEST DATA SET
032066  004737  041242          JSR     PC,@#LEXDT      ; GO TEST
                                ;
032072  000414                  BR      TST531          ;;
                                ;
032074                  LEXD17: ; TEST DATA SET LEXD=17:
032074  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
032102  052525
032104  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
032112  000000
032114  000201                  .WORD   201             ; EXPONENT TO BE LOADED
032116  046651  046646          .WORD   046651,046646   ; FPS: BEFORE, AFTER
032122  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;
                                ;
                                ;;*****************************************************************
                                ;*TEST 531       TEST OF LDEXP/D INSTR, DATA SET LEXD=20
                                ;*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
032124  000004          TST531: SCOPE
032126  012705  032140          MOV     #LEXD20,R5      ; PTR TO TEST DATA SET
032132  004737  041242          JSR     PC,@#LEXDT      ; GO TEST
                                ;
032136  000414                  BR      TST532          ;;
                                ;
032140                  LEXD20: ; TEST DATA SET LEXD=20:
032140  052377  177777  177777          .WORD   052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
032146  177777
032150  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
032156  000000
032160  000200                  .WORD   200             ; EXPONENT TO BE LOADED
032162  046711  046706          .WORD   046711,046706   ; FPS: BEFORE, AFTER
032166  000000                  .WORD   NA              ; FEC AFTER ( 0 = N/A )
                                ;
                                ;
```



```
                                ;
                                ;;*****************************************************************
                                ;*TEST 532       TEST OF LDEXP/D INSTR, DATA SET LEXD=21
                                ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
032170  000004          TST532: SCOPE
032172  012705  032204          MOV     #LEXD21,R5      ; PTR TO TEST DATA SET
032176  004737  041242          JSR     PC,@#LEXDT      ; GO TEST
                                ;
032202  000414                  BR      TST533          ;;
                                ;
032204                  LEXD21: ; TEST DATA SET LEXD=21:
032204  052201  000002  000003          .WORD   052201,2,3,0    ; INITIAL AC FLOAT NUMBER
032212  000000
032214  000004  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
032222  000000
032224  177600                  .WORD   -200            ; EXPONENT TO BE LOADED
032226  045713  045704          .WORD   045713,045704   ; FPS: BEFORE, AFTER
032232  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
                                ;;*****************************************************************
032234  000004          TST533: SCOPE
032236  012705  032250          MOV     #LEXD22,R5      ; PTR TO TEST DATA SET
032242  004737  041242          JSR     PC,@#LEXDT      ; GO TEST
                                ;
032246  000414                  BR      TST534          ;;
                                ;
032250                  LEXD22: ; TEST DATA SET LEXD=22:
032250  152252  125252  125252          .WORD   152252,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
032256  125252
032260  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
032266  000000
032270  177577                  .WORD   -201            ; EXPONENT TO BE LOADED
032272  045613  045604          .WORD   045613,045604   ; FPS: BEFORE, AFTER
032276  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
                                ;;*****************************************************************
032300  000004          TST534: SCOPE
032302  012705  032314          MOV     #LEXD23,R5      ; PTR TO TEST DATA SET
032306  004737  041242          JSR     PC,@#LEXDT      ; GO TEST
                                ;
032312  000414                  BR      TST535          ;;
                                ;
032314                  LEXD23: ; TEST DATA SET LEXD=23:
032314  052217  007417  007417          .WORD   052217,ALT4P,ALT4P,ALT4P        ; INITIAL AC FLOAT NUMBER
032324  007417
```

```
7602  032324  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
7603  032332  000000
7604  032334  177576                          .WORD   -202            ; EXPONENT TO BE LOADED
7605  032336  045753  045744                  .WORD   045753,045744   ; FPS:  BEFORE, AFTER
7606  032342  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7607
7608
7609                                  ;;*****************************************************************
7610                                  ;*TEST 535       TEST OF LDEXP/D INSTR, DATA SET LEXD=24
7611                                  ;*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7612                                  ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
7613                                  ;;*****************************************************************
7614  032344  000004                  TST535: SCOPE
7615  032346  012705  032360                  MOV     #LEXD24,R5      ; PTR TO TEST DATA SET
7616  032352  004737  041242                  JSR     PC,@#LEXDT      ; GO TEST
7617
7618  032356  000414                          BR      TST536          ;;
7619
7620  032360                          LEXD24: ; TEST DATA SET LEXD=24:
7621  032360  152325  052525  052525          .WORD   152325,ALTP,ALTP,ALTP   ; INITIAL AC FLOAT NUMBER
7622  032366  052525
7623  032370  000000  000000  000000          .WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
7624  032376  000000
7625  032400  177575                          .WORD   -203            ; EXPONENT TO BE LOADED
7626  032402  045653  045644                  .WORD   045653,045644   ; FPS:  BEFORE, AFTER
7627  032406  000000                          .WORD   NA              ; FEC AFTER ( 0 = N/A )
7628
7629
7630
```



```
7631                                  ;;*****************************************************************
7632                                  ;*TEST 536       TEST OF STEXP/F INSTR, DATA SET SEXF=1
7633                                  ;*              ALL INTERRUPT ENABLES ON
7634                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
7635                                  ;;*****************************************************************
7636  032410  000004                  TST536: SCOPE
7637  032412  012705  032424                  MOV     #SEXF1,R5       ; PTR TO TEST DATA SET
7638  032416  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7639
7640  032422  000405                          BR      TST537          ;;
7641
7642  032424                          SEXF1:  ; TEST DATA SET SEXF=1:
7643  032424  177777  177777                  .WORD   M1,M1   ; INITIAL AC FLOAT NUMBER
7644  032430  000177                          .WORD   177             ; EXPONENT EXPECTED TO BE STORED
7645  032432  047457  047440                  .WORD   047457,047440   ; FPS:  BEFORE, AFTER
7646
7647
7648                                  ;;*****************************************************************
7649                                  ;*TEST 537       TEST OF STEXP/F INSTR, DATA SET SEXF=2
7650                                  ;*              ALL INTERRUPT ENABLES ON
7651                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7652                                  ;;*****************************************************************
7653  032436  000004                  TST537: SCOPE
7654  032440  012705  032452                  MOV     #SEXF2,R5       ; PTR TO TEST DATA SET
7655  032444  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7656
7657  032450  000405                          BR      TST540          ;;
7658
7659  032452                          SEXF2:  ; TEST DATA SET SEXF=2:
7660  032452  000052  125252                  .WORD   000052,ALTN     ; INITIAL AC FLOAT NUMBER
7661  032456  000100                          .WORD   100             ; EXPONENT EXPECTED TO BE STORED
7662  032460  047517  047500                  .WORD   047517,047500   ; FPS:  BEFORE, AFTER
7663
7664
7665                                  ;;*****************************************************************
7666                                  ;*TEST 540       TEST OF STEXP/F INSTR, DATA SET SEXF=3
7667                                  ;*              ALL INTERRUPT ENABLES ON
7668                                  ;*              SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
7669                                  ;;*****************************************************************
7670  032464  000004                  TST540: SCOPE
7671  032466  012705  032500                  MOV     #SEXF3,R5       ; PTR TO TEST DATA SET
7672  032472  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7673
7674  032476  000405                          BR      TST541          ;;
7675
7676  032500                          SEXF3:  ; TEST DATA SET SEXF=3:
7677  032500  140270  107070                  .WORD   140270,107070   ; INITIAL AC FLOAT NUMBER
7678  032504  000001                          .WORD   1               ; EXPONENT EXPECTED TO BE STORED
7679  032506  047557  047540                  .WORD   047557,047540   ; FPS:  BEFORE, AFTER
7680
7681
7682                                  ;;*****************************************************************
7683                                  ;*TEST 541       TEST OF STEXP/F INSTR, DATA SET SEXF=4
7684                                  ;*              ALL INTERRUPT ENABLES ON
7685                                  ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
7686                                  ;;*****************************************************************
```

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7687  032512  000004                  TST541: SCOPE
7688  032514  012705  032526                  MOV     #SEXF4,R5       ; PTR TO TEST DATA SET
7689  032520  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7690
7691  032524  000405                  TST542  BR      TST542          ;!
7692
7693  032526                          SEXF4:  ; TEST DATA SET SEXF=4:
7694  032526  040125  007417                  .WORD   040125,ALT4P    ; INITIAL AC FLOAT NUMBER
7695  032532  000000                          .WORD   0               ; EXPONENT EXPECTED TO BE STORED
7696  032534  047413  047404                  .WORD   047413,047404   ; FPS: BEFORE, AFTER
7697
7698
7699                                  ;!*************************************************************
7700                                  ;*TEST 542       TEST OF STEXP/F INSTR, DATA SET SEXF=5
7701                                  ;*              ALL INTERRUPT ENABLES ON
7702                                  ;*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
7703                                  ;!*************************************************************
7704  032540  000004                  TST542: SCOPE
7705  032542  012705  032554                  MOV     #SEXF5,R5       ; PTR TO TEST DATA SET
7706  032546  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7707
7708  032552  000405                  TST543  BR      TST543          ;!
7709
7710  032554                          SEXF5:  ; TEST DATA SET SEXF=5:
7711  032554  137760  170360                  .WORD   137760,ALT4N    ; INITIAL AC FLOAT NUMBER
7712  032560  177777                          .WORD   -1              ; EXPONENT EXPECTED TO BE STORED
7713  032562  047407  047410                  .WORD   047407,047410   ; FPS: BEFORE, AFTER
7714
7715
7716                                  ;!*************************************************************
7717                                  ;*TEST 543       TEST OF STEXP/F INSTR, DATA SET SEXF=6
7718                                  ;*              ALL INTERRUPT ENABLES ON
7719                                  ;*              SHORT FLOAT, LONG INTEGER, ROUND MODES
7720                                  ;!*************************************************************
7721  032566  000004                  TST543: SCOPE
7722  032570  012705  032602                  MOV     #SEXF6,R5       ; PTR TO TEST DATA SET
7723  032574  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7724
7725  032600  000405                  TST544  BR      TST544          ;!
7726
7727  032602                          SEXF6:  ; TEST DATA SET SEXF=6:
7728  032602  100307  070707                  .WORD   100307,070707   ; INITIAL AC FLOAT NUMBER
7729  032606  177601                          .WORD   -177            ; EXPONENT EXPECTED TO BE STORED
7730  032610  047507  047510                  .WORD   047507,047510   ; FPS: BEFORE, AFTER
7731
7732
7733                                  ;!*************************************************************
7734                                  ;*TEST 544       TEST OF STEXP/F INSTR, DATA SET SEXF=7
7735                                  ;*              ALL INTERRUPT ENABLES ON
7736                                  ;*              SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
7737                                  ;!*************************************************************
7738  032614  000004                  TST544: SCOPE
7739  032616  012705  032630                  MOV     #SEXF7,R5       ; PTR TO TEST DATA SET
7740  032622  004737  041432                  JSR     PC,@#SEXFT      ; GO TEST
7741
7742  032626  000405                  TST545  BR      TST545          ;!
```



```
7743
7744  032630                          SEXF7:  ; TEST DATA SET SEXF=7:
7745  032630  000000  000000                  .WORD   0,0             ; INITIAL AC FLOAT NUMBER
7746  032634  177600                          .WORD   -200            ; EXPONENT EXPECTED TO BE STORED
7747  032636  047447  047450                  .WORD   047447,047450   ; FPS: BEFORE, AFTER
7748
7749
7750
```

```
                                ;;*****************************************************************
                                ;*TEST 545       TEST OF STEXP/D INSTR, DATA SET SEXD=1
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
032642  000004                TST545: SCOPE
032644  012705  032656                MOV     #SEXD1,R5       ; PTR TO TEST DATA SET
032650  004737  041566                JSR     PC,@#SEXADT     ; GO TEST

032654  000407                        BR      TST546          ;;

032656                          SEXD1:  ; TEST DATA SET SEXD=1:
032656  077600  000000  000000        .WORD   077600,0,0,0    ; INITIAL AC FLOAT NUMBER
032664  000000
032666  000177                        .WORD   177             ; EXPONENT EXPECTED TO BE STORED
032670  047717  047700                .WORD   047717,047700   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 546       TEST OF STEXP/D INSTR, DATA SET SEXD=2
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
                                ;;*****************************************************************
032674  000004                TST546: SCOPE
032676  012705  032710                MOV     #SEXD2,R5       ; PTR TO TEST DATA SET
032702  004737  041566                JSR     PC,@#SEXADT     ; GO TEST

032706  000407                        BR      TST547          ;;

032710                          SEXD2:  ; TEST DATA SET SEXD=2:
032710  040360  170360  170360        .WORD   040360,ALT4N,ALT4N,ALT4N        ; INITIAL AC FLOAT NUMBER
032716  170360
032720  000001                        .WORD   1               ; EXPONENT EXPECTED TO BE STORED
032722  047657  047640                .WORD   047657,047640   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 547       TEST OF STEXP/D INSTR, DATA SET SEXD=3
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, SHORT INTEGER, ROUND MODES
                                ;;*****************************************************************
032726  000004                TST547: SCOPE
032730  012705  032742                MOV     #SEXD3,R5       ; PTR TO TEST DATA SET
032734  004737  041566                JSR     PC,@#SEXADT     ; GO TEST

032740  000407                        BR      TST550          ;;

032742                          SEXD3:  ; TEST DATA SET SEXD=3:
032742  140107  070707  070707        .WORD   140107,070707,070707,070707     ; INITIAL AC FLOAT NUMBER
032750  070707
032752  000000                        .WORD   0               ; EXPONENT EXPECTED TO BE STORED
032754  047613  047604                .WORD   047613,047604   ; FPS:  BEFORE, AFTER


                                ;;*****************************************************************
                                ;*TEST 550       TEST OF STEXP/D INSTR, DATA SET SEXD=4
```



```
                                ;*              ALL INTERRUPT ENABLES ON
                                ;*              LONG FLOAT, LONG INTEGER, ROUND MODES
                                ;;*****************************************************************
032760  000004                TST550: SCOPE
032762  012705  032774                MOV     #SEXD4,R5       ; PTR TO TEST DATA SET
032766  004737  041566                JSR     PC,@#SEXADT     ; GO TEST

032772  000407                        BR      TST551          ;;

032774                          SEXD4:  ; TEST DATA SET SEXD=4:
032774  037652  125252  125252        .WORD   037652,ALTN,ALTN,ALTN   ; INITIAL AC FLOAT NUMBER
033002  125252
033004  177777                        .WORD   -1              ; EXPONENT EXPECTED TO BE STORED
033006  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
                                ;;*****************************************************************
033012  000004                TST551: SCOPE
033014  012705  033026                MOV     #SEXD5,R5       ; PTR TO TEST DATA SET
033020  004737  041566                JSR     PC,@#SEXADT     ; GO TEST

033024  000407                        BR      TST552          ;;

033026                          SEXD5:  ; TEST DATA SET SEXD=5:
033026  120070  107070  107070        .WORD   120070,107070,107070,107070     ; INITIAL AC FLOAT NUMBER
033034  107070
033036  177700                        .WORD   -100            ; EXPONENT EXPECTED TO BE STORED
033040  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
                                ;;*****************************************************************
033044  000004                TST552: SCOPE
033046  012705  033060                MOV     #SEXD6,R5       ; PTR TO TEST DATA SET
033052  004737  041566                JSR     PC,@#SEXADT     ; GO TEST

033056  000407                        BR      TST553          ;;

033060                          SEXD6:  ; TEST DATA SET SEXD=6:
033060  000217  007417  007417        .WORD   000217,ALT4P,ALT4P,ALT4P        ; INITIAL AC FLOAT NUMBER
033066  007417
033070  177601                        .WORD   -177            ; EXPONENT EXPECTED TO BE STORED
033072  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
```

```
                                       ;;*************************************************************
033076  000004                         TST553: SCOPE
033100  012705  033112                         MOV     #SEXD7,R5          ; PTR TO TEST DATA SET
033104  004737  041566                         JSR     PC,@#$EXDT         ; GO TEST

033110  000407                                 BR      TST554             ;;

033112                                 SEXD7:  ; TEST DATA SET SEXD-7:
033112  000177  177777  177777                 .WORD   000177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
033120  177777
033122  177600                                 .WORD   -200               ; EXPONENT EXPECTED TO BE STORED
033124  047607  047610                         .WORD   047607,047610      ; FPS: BEFORE, AFTER
```



```
                                       ;;*************************************************************
                                       .SBTTL  SUB PASS END CONTROL

033130                                 TST554: ;FORCE LAST TEST NUMBER
033130  000004                                 SCOPE              ;CHECK FOR TEST ITERATIONS HERE
033132  005037  001310                         CLR     $TIMES             ;DONT ITERATE THIS "TEST"
033136  005037  001104                         CLR     $ERFLG             ;NO ERRORS HERE
033142  005037  001102                         CLR     $TSTNM             ;ZAP TEST #0 WHEN DONE WITH A PASS

                                               ;IF TEST ONLY EITHER HFP OR WFP, ENTER "EOP" ROUTINE DIRECTLY

                                               ; IF IN ALTERNATE HFP/WFP MODE,
                                               ;   COMPLEMENT FLAG<5>, HFP ENABLE BIT,
                                               ;   ENTER EOP ROUTINE ONLY IF ABOUT TO TEST HFP NEXT,
                                               ;       TESTING SEQUENCE IS:  PASS#1  HFP SUB-PASS
                                               ;                             PASS#1  WFP SUB-PASS
                                               ;                             PASS#2  HFP SUB-PASS
                                               ;                               ...

033146  076600  000022                         MED     ,RWHAMI            ;GET WHAMI INTO R0
033152  032700  000020                         BIT     #BIT04,R0          ;1=HFP PRESENT, 0=NONE
033156  001423                                 BEQ     $EOP               ;EXIT IF NONE

033160  032777  000002  145756                 BIT     #SW01,@SWR         ;1=HFP OR WFP TEST ONLY
033166  001017                                 BNE     $EOP               ;0=ALTERNATE HFP AND WFP TESTS

033170  012701  010000                         MOV     #BIT12,R1          ;HFP PRESENT, AND IN ALTERNATE MODE;
033174  076600  000144                         MED     ,RFLAG             ;SO READ FLAGS,
033200  030100                                 BIT     R1,R0              ;COMPLEMENT FLAG<5>=BIT12=HFP ENABLE FLAG
033202  001402                                 BEQ     1$                 ;
033204  040100                                 BIC     R1,R0              ;CLEAR BIT 12
033206  000401                                 BR      2$                 ;
033210  050100                         1$:     BIS     R1,R0              ;SET BIT 12
033212  076600  000344                 2$:     MED     ,WFLAG             ;REWRITE FLAGS

033216  030100                                 BIT     R1,R0              ;HFP OR WFP NEXT ?
033220  001002                                 BNE     $EOP               ;IF HFP AGAIN, START NEW PASS
033222  000137  003072                         JMP     @#$SUBPAS          ;IF WFP, NEXT SUBPASS


                                       ;;*************************************************************

                                       .SBTTL  END OF PASS ROUTINE (MODIFIED SYSMAC)

                                       ;*INCREMENT THE PASS NUMBER ($PASS)
                                       ;*IF SW<10>=0, DING BELL ON PASS END
                                       ;*IF THERE'S A MONITOR, GO TO IT
                                       ;*  ELSE JUMP TO NEWPAS


033226                                 $EOP:                              ;
033226  005037  001104                         CLR     $ERFLG             ;ZERO ERROR COUNT
033232  005037  001102                         CLR     $TSTNM             ;ZERO TEST NUMBER
033236  005037  001310                         CLR     $TIMES             ;ZERO NUMBER OF ITERATIONS
033242  005237  001332                         INC     $PASS              ;INCREMENT PASS COUNT,
033246  042737  100000  001332                 BIC     #100000,$PASS      ;  BUT NEVER LET IN GO NEGATIVE
```

```
7934  033254  005327                  DEC     (PC)+           ;PASS LOOP ?
7935  033256  000001          $EOPCT: .WORD   1               ;
7936  033260  003021                  BGT     $DOAGN          ;YES
7937  033262  012737                  MOV     (PC)+,@(PC)+    ;RESTORE COUNTER
7938  033264  000001          $ENDCT: .WORD   1               ;
7939  033266  033256                  $EOPCT                  ;
7940  033270  032777  002000  145046  BIT     #SW10,@SWR      ;BELL ON PASS END ?
7941  033276  001002                  BNE     $GET42          ;NO
7942  033300  104401  001314          TYPE    ,$BELL          ;YES
7943
7944  033304  013700  000042  $GET42: MOV     @#42,R0         ;GET MONITOR ADDRESS
7945  033310  001405                  BEQ     $DOAGN          ;NO MONITOR
7946  033312  000005                  RESET                   ;CLEAR WORLD
7947
7948  033314  004710          $ENDAD: JSR     PC,(R0)         ;GO TO MONITOR
7949  033316  000240                  NOP                     ;
7950  033320  000240                  NOP                     ;RESERVED FOR ACT11
7951  033322  000240                  NOP                     ;
7952
7953  033324  000137  003034  $DOAGN: JMP     @#NEWPAS        ;RETURN
7954
7955
```



```
7956                                  .SBTTL  SUBR TO TEST THE CMPF INSTRUCTION
7957
7958  033330                  CMPFT:
7959  033330  012700  000007          MOV     #7,R0           ; LOAD $TMP0=6
7960  033334  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
7961  033336  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
7962  033342  012122                  MOV     (R1)+,(R2)+     ;
7963  033344  077002                  SOB     R0,.-2          ;
7964  033346  012737  033354  001112  MOV     #CMPFL,@LPERR   ; ERROR LOOPING ADDRESS
7965
7966  033354  170001          CMPFL:  SETF                    ; F MODE
7967  033356  172715                  LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
7968  033360  170165  000010          LDFPS   10(R5)          ; INITIAL FPS
7969
7970  033364  173765  000004  CMPFI:  CMPF    4(R5),AC3       ; (MEM)-(AC3)
7971
7972  033370  170237  002000          STFPS   FPS             ; STORE FPS AFTER
7973  033374  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
7974  033400  174337  001170          STF     AC3,$REG0       ; STORE AC NUMBER
7975
7976  033404  023765  002000  000012  CMP     FPS,12(R5)      ; CHECK FPS
7977  033412  001401                  BEQ     65$             ; FPS IS OK
7978  033414  104002                  ERROR   2               ; FPS BAD
7979  033416  005765  000014  65$:    TST     14(R5)          ; DOES FEC/FEA APPLY?
7980  033422  100014                  BPL     66$             ; NO = SKIP TEST
7981  033424  012737  033364  002014  MOV     #CMPFI,EXPFEA   ; GET EXPECTED FEA
7982  033432  123765  002002  000014  CMPB    FEC,14(R5)      ; COMPARE FEC-S
7983  033440  001004                  BNE     64$             ; NOT EQUAL
7984  033442  023737  002004  002014  CMP     FEA,EXPFEA      ; COMPARE FEA-S
7985  033450  001401                  BEQ     66$             ; FEC, FEA OK
7986  033452  104012          64$:    ERROR   12              ; FEC OR FEA ARE BAD
7987  033454                  66$:
7988
7989  033454  023715  001170          CMP     $REG0,(R5)      ; 1ST WORD OF RESULT CHECK?
7990  033460  001004                  BNE     67$             ; NO
7991  033462  023765  001172  000002  CMP     $REG1,2(R5)     ; 2ND WORD OF RESULT CHECK?
7992  033470  001401                  BEQ     68$             ; ALL WORDS OK
7993  033472  104021          67$:    ERROR   21              ; NUMBERS NOT EQUAL
7994  033474                  68$:
7995
7996  033474  000207                  RTS     PC              ; RETURN TO TEST CALLER
7997
7998
7999                                  ;;**************************************************************
8000                                  .SBTTL  SUBR TO TEST THE CMPD INSTRUCTION
8001
8002  033476                  CMPDT:
8003  033476  012700  000013          MOV     #13,R0          ; LOAD $TMP0=12
8004  033502  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
8005  033504  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
8006  033510  012122                  MOV     (R1)+,(R2)+     ;
8007  033512  077002                  SOB     R0,.-2          ;
8008  033514  012737  033522  001112  MOV     #CMPDL,@LPERR   ; ERROR LOOPING ADDRESS
8009
8010  033522  170011          CMPDL:  SETD                    ; D MODE
8011  033524  172615                  LDD     (R5),AC2        ; INITIAL AC FLOAT NUMBER
```

```
033526  170165  000020                      LDFPS   20(R5)            ; INITIAL FPS

033532  173665  000010              CMPDI:  CMPD    10(R5),AC2        ; (MEM)-(AC2)

033536  170237  002000                      STFPS   FPS               ; STORE FPS AFTER
033542  170337  002002                      STST    FEC               ; STORE FEC/FEA AFTER
033546  174237  001170                      STD     AC2,$REG0         ; STORE AC AFTER

033552  023765  002000  000022              CMP     FPS,22(R5)        ; CHECK FPS
033560  001401                              BEQ     65$               ; FPS IS OK
033562  104005                              ERROR   5                 ; FPS BAD
033564  005765  000024              65$:    TST     24(R5)            ; DOES FEC/FEA APPLY?
033570  100014                              BPL     66$               ; NO - SKIP TEST
033572  012737  033532  002014              MOV     #CMPDI,EXPFEA     ; GET EXPECTED FEA
033600  123765  002002  000024              CMPB    FEC,24(R5)        ; COMPARE FEC-S
033606  001004                              BNE     64$               ; NOT EQUAL
033610  023737  002004  002014              CMP     FEA,EXPFEA        ; COMPARE FEA-S
033616  001401                              BEQ     66$               ; FEC, FEA OK
033620  104015                      64$:    ERROR   15                ; FEC OR FEA ARE BAD
033622                              66$:

033622  023715  001170                      CMP     $REG0,(R5)        ; 1ST WORD OF RESULT CHECK?
033626  001014                              BNE     67$               ; NO
033630  023765  001172  000002              CMP     $REG1,2(R5)       ; 2ND WORD OF RESULT CHECK?
033636  001010                              BNE     67$               ; NO
033640  023765  001174  000004              CMP     $REG2,4(R5)       ; 3RD WORD OF RESULT CHECK?
033646  001004                              BNE     67$               ; NO
033650  023765  001176  000006              CMP     $REG3,6(R5)       ; 4TH WORD OF RESULT CHECK?
033656  001401                              BEQ     68$               ; ALL WORDS OK
033660  104022                      67$:    ERROR   22                ; NUMBERS NOT EQUAL
033662                              68$:

033662  000207                              RTS     PC                ; RETURN TO TEST CALLER

```



```
                                    .SBTTL  SUBR TO TEST THE ADDF INSTRUCTION

033664                              ADDFT:
033664  012700  000011                      MOV     #11,R0            ; LOAD $TMP0-10
033670  010501                              MOV     R5,R1             ;   WITH TEST DATA SETS
033672  012702  001230                      MOV     #$TMP0,R2         ;   FOR DISPLAY LATER
033676  012122                              MOV     (R1)+,(R2)+       ;
033700  077002                              SOB     R0,.-2            ;
033702  012737  033710  001112              MOV     #ADDFL,$LPERR     ; ERROR LOOPING ADDRESS

033710  170001                      ADDFL:  SETF                      ; F MODE
033712  172515                              LDF     (R5),AC1          ; INITIAL AC FLOAT NUMBER
033714  170165  000014                      LDFPS   14(R5)            ; INITIAL FPS

033720  172165  000004              ADDFI:  ADDF    4(R5),AC1         ; (AC1)+(MEM)->AC1

033724  170237  002000                      STFPS   FPS               ; STORE FPS AFTER
033730  170337  002002                      STST    FEC               ; STORE FEC/FEA AFTER
033734  174137  001170                      STF     AC1,$REG0         ; RESULT OF ADDF

033740  023765  002000  000016              CMP     FPS,16(R5)        ; CHECK FPS
033746  001401                              BEQ     65$               ; FPS IS OK
033750  104004                              ERROR   4                 ; FPS BAD
033752  005765  000020              65$:    TST     20(R5)            ; DOES FEC/FEA APPLY?
033756  100014                              BPL     66$               ; NO - SKIP TEST
033760  012737  033720  002014              MOV     #ADDFI,EXPFEA     ; GET EXPECTED FEA
033766  123765  002002  000020              CMPB    FEC,20(R5)        ; COMPARE FEC-S
033774  001004                              BNE     64$               ; NOT EQUAL
033776  023737  002004  002014              CMP     FEA,EXPFEA        ; COMPARE FEA-S
034004  001401                              BEQ     66$               ; FEC, FEA OK
034006  104014                      64$:    ERROR   14                ; FEC OR FEA ARE BAD
034010                              66$:

034010  023765  001170  000010              CMP     $REG0,10(R5)      ; 1ST WORD OF RESULT CHECK?
034016  001004                              BNE     67$               ; NO
034020  023765  001172  000012              CMP     $REG1,12(R5)      ; 2ND WORD OF RESULT CHECK?
034026  001401                              BEQ     68$               ; ALL WORDS OK
034030  104023                      67$:    ERROR   23                ; NUMBERS NOT EQUAL
034032                              68$:

034032  000207                              RTS     PC                ; RETURN TO TEST CALLER

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

034034                              ADDDT:
034034  012700  000017                      MOV     #17,R0            ; LOAD $TMP0-16
034040  010501                              MOV     R5,R1             ;   WITH TEST DATA SETS
034042  012702  001230                      MOV     #$TMP0,R2         ;   FOR DISPLAY LATER
034046  012122                              MOV     (R1)+,(R2)+       ;
034050  077002                              SOB     R0,.-2            ;
034052  312737  034060  001112              MOV     #ADDDL,$LPERR     ; ERROR LOOPING ADDRESS

034060  170011                      ADDDL:  SETD                      ; D MODE
034062  172415                              LDD     (R5),AC0          ; INITIAL AC FLOAT NUMBER
034064  170165  000030                      LDFPS   30(R5)            ; INITIAL FPS
```

```
                                ;
034070  172065  000010  ADDDI:  ADDD    10(R5),AC0      ; (AC0)+(MEM)->AC0
                                ;
034074  170237  002000          STFPS   FPS             ; STORE FPS AFTER
034100  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
034104  174037  001170          STD     AC0,$REG0       ; RESULT OF ADDD
                                ;
034110  023765  002000  000032          CMP     FPS,32(R5)      ; CHECK FPS
034116  001401                          BEQ     65$             ; FPS IS OK
034120  104007                          ERROR   7               ; FPS BAD
034122  005765  000034          65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
034126  100014                          BPL     66$             ; NO - SKIP TEST
034130  012737  034070  002014          MOV     #ADDDI,EXPFEA   ; GET EXPECTED FEA
034136  123765  002002  000036          CMPB    FEC,36(R5)      ; COMPARE FEC-5
034144  001004                          BNE     64$             ; NOT EQUAL
034146  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-5
034154  001401                          BEQ     66$             ; FEC, FEA OK
034156  104017                  64$:    ERROR   17              ; FEC OR FEA ARE BAD
034160                          66$:
                                ;
034160  023765  001170  000020          CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
034166  001014                          BNE     67$             ; NO
034170  023765  001172  000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
034176  001010                          BNE     67$             ; NO
034200  023765  001174  000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
034206  001004                          BNE     67$             ; NO
034210  023765  001176  000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
034216  001401                          BEQ     68$             ; ALL WORDS OK
034220  104024                  67$:    ERROR   24              ; NUMBERS NOT EQUAL
034222                          68$:
                                ;
034222  000207                          RTS     PC              ; RETURN TO TEST CALLER
                                ;
```



```
                                ;
                                .SBTTL  SUBR TO TEST THE SUBF INSTRUCTION
                                ;
034224                  SUBFT:
034224  012700  000011          MOV     #11,R0          ; LOAD $TMP0=10
034230  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
034232  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
034236  012122                  MOV     (R1)+,(R2)+     ;
034240  077002                  SOB     R0,.-2          ;
034242  012737  034250  001112          MOV     #SUBFL,$LPERR   ; ERROR LOOPING ADDRESS
                                ;
034250  170001          SUBFL:  SETF                    ; F MODE
034252  172415                  LDF     (R5),AC0        ; INITIAL AC FLOAT NUMBER
034254  170165  000014          LDFPS   14(R5)          ; INITIAL FPS
                                ;
034260  173065  000004          SUBFI:  SUBF    4(R5),AC0       ; (AC0)-(MEM)->AC0
                                ;
034264  170237  002000          STFPS   FPS             ; STORE FPS AFTER
034270  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
034274  174037  001170          STF     AC0,$REG0       ; RESULT OF SUBF
                                ;
034300  023765  002000  000016          CMP     FPS,16(R5)      ; CHECK FPS
034306  001401                          BEQ     65$             ; FPS IS OK
034310  104004                          ERROR   4               ; FPS BAD
034312  005765  000020          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
034316  100014                          BPL     66$             ; NO - SKIP TEST
034320  012737  034260  002014          MOV     #SUBFI,EXPFEA   ; GET EXPECTED FEA
034326  123765  002002  000020          CMPB    FEC,20(R5)      ; COMPARE FEC-5
034334  001004                          BNE     64$             ; NOT EQUAL
034336  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-5
034344  001401                          BEQ     66$             ; FEC, FEA OK
034346  104014                  64$:    ERROR   14              ; FEC OR FEA ARE BAD
034350                          66$:
                                ;
034350  023765  001170  000010          CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
034356  001004                          BNE     67$             ; NO
034360  023765  001172  000012          CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
034366  001401                          BEQ     68$             ; ALL WORDS OK
034370  104023                  67$:    ERROR   23              ; NUMBERS NOT EQUAL
034372                          68$:
                                ;
034372  000207                          RTS     PC              ; RETURN TO TEST CALLER
                                ;
                                ;;*****************************************************************
                                .SBTTL  SUBR TO TEST THE SUBD INSTRUCTION
                                ;
034374                  SUBDT:
034374  012700  000017          MOV     #17,R0          ; LOAD $TMP0=16
034400  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
034402  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
034406  012122                  MOV     (R1)+,(R2)+     ;
034410  077002                  SOB     R0,.-2          ;
034412  012737  034420  001112          MOV     #SUBDL,$LPERR   ; ERROR LOOPING ADDRESS
                                ;
034420  170011          SUBDL:  SETD                    ; D MODE
034422  172715                  LDD     (R5),AC3        ; INITIAL AC FLOAT NUMBER
034424  170165  000030          LDFPS   30(R5)          ; INITIAL FPS
```

```
                                
                        SUBDI:  SUBD    10(R5),AC3      ; (AC3)-(MEM)->AC3
                                
                                STFPS   FPS             ; STORE FPS AFTER
                                STST    FEC             ; STORE FEC/FEA AFTER
                                STD     AC3,$REG0       ; RESULT OF SUBD
                                
                                CMP     FPS,32(R5)      ; CHECK FPS
                                BEQ     65$             ; FPS IS OK
                                ERROR   7               ; FPS BAD
                        65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
                                BPL     66$             ; NO - SKIP TEST
                                MOV     #SUBDI,EXPFEA   ; GET EXPECTED FEA
                                CMPB    FEC,34(R5)      ; COMPARE FEC-S
                                BNE     64$             ; NOT EQUAL
                                CMP     FEA,EXPFEA      ; COMPARE FEA-S
                                BEQ     66$             ; FEC, FEA OK
                        64$:    ERROR   17              ; FEC OR FEA ARE BAD
                        66$:
                                
                                CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
                                BNE     67$             ; NO
                                CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
                                BNE     67$             ; NO
                                CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
                                BNE     67$             ; NO
                                CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
                                BEQ     68$             ; ALL WORDS OK
                        67$:    ERROR   24              ; NUMBERS NOT EQUAL
                        68$:
                                
                                RTS     PC              ; RETURN TO TEST CALLER
                                
```



```
                                .SBTTL  SUBR TO TEST THE MULF INSTRUCTION
                                
                        MULFT:
                                MOV     #11,R0          ; LOAD $TMP0=10
                                MOV     R5,R1           ;   WITH TEST DATA SETS
                                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
                                MOV     (R1)+,(R2)+     ;
                                SUB     R0,,=2          ;
                                MOV     #MULFL,$LPERR   ; ERROR LOOPING ADDRESS
                                
                        MULFL:  SETF                    ; F MODE
                                LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
                                LDFPS   14(R5)          ; INITIAL FPS
                                
                        MULFI:  MULF    4(R5),AC3       ; (AC3)*(MEM)->AC3
                                
                                STFPS   FPS             ; STORE FPS AFTER
                                STST    FEC             ; STORE FEC/FEA AFTER
                                STF     AC3,$REG0       ; RESULT OF MULF
                                
                                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     #MULFI,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 MULD INSTRUCTION
                                
                        MULDT:
                                MOV     #17,R0          ; LOAD $TMP0=16
                                MOV     R5,R1           ;   WITH TEST DATA SETS
                                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
                                MOV     (R1)+,(R2)+     ;
                                SUB     R0,,=2          ;
                                MOV     #MULDL,$LPERR   ; ERROR LOOPING ADDRESS
                                
                        MULDL:  SETD                    ; D MODE
                                LDD     (R5),AC2        ; INITIAL AC FLOAT NUMBER
                                LDFPS   30(R5)          ; INITIAL FPS
```

```
        034770  171265  000010          MULDI:  MULD    10(R5),AC2          ; (AC2)*(MEM)->AC2

        034774  170237  002000                  STFPS   FPS                 ; STORE FPS AFTER
        035000  170337  002002                  STST    FEC                 ; STORE FEC/FEA AFTER
        035004  174237  001170                  STD     AC2,$REG0           ; RESULT OF MULD

        035010  023765  002000  000032          CMP     FPS,32(R5)          ; CHECK FPS
        035016  001401                          BEQ     65$                 ; FPS IS OK
        035020  104007                          ERROR   7                   ; FPS BAD
        035022  005765  000034          65$:    TST     34(R5)              ; DOES FEC/FEA APPLY?
        035026  100014                          BPL     66$                 ; NO - SKIP TEST
        035030  012737  034770  002014          MOV     #MULDI,EXPFEA       ; GET EXPECTED FEA
        035036  123765  002002  000034          CMPB    FEC,34(R5)          ; COMPARE FEC-S
        035044  001004                          BNE     64$                 ; NOT EQUAL
        035046  023737  002004  002014          CMP     FEA,EXPFEA          ; COMPARE FEA-S
        035054  001401                          BEQ     66$                 ; FEC, FEA OK
        035056  104017                  64$:    ERROR   17                  ; FEC OR FEA ARE BAD
        035060                          66$:

        035060  023765  001170  000020          CMP     $REG0,20(R5)        ; 1ST WORD OF RESULT CHECK?
        035066  001014                          BNE     67$                 ; NO
        035070  023765  001172  000022          CMP     $REG1,22(R5)        ; 2ND WORD OF RESULT CHECK?
        035076  001010                          BNE     67$                 ; NO
        035100  023765  001174  000024          CMP     $REG2,24(R5)        ; 3RD WORD OF RESULT CHECK?
        035106  001004                          BNE     67$                 ; NO
        035110  023765  001176  000026          CMP     $REG3,26(R5)        ; 4TH WORD OF RESULT CHECK?
        035116  001401                          BEQ     68$                 ; ALL WORDS OK
        035120  104026                  67$:    ERROR   26                  ; NUMBERS NOT EQUAL
        035122                          68$:

        035122  000207                          RTS     PC                  ; RETURN TO TEST CALLER
```



```
                                        .SBTTL  SUBR TO TEST THE DIVF INSTRUCTION

        035124                          DIVFT:
        035124  012700  000011                  MOV     #11,R0              ; LOAD $TMP0-10
        035130  010501                          MOV     R5,R1               ;   WITH TEST DATA SETS
        035132  012702  001230                  MOV     #$TMP0,R2           ;   FOR DISPLAY LATER
        035136  012122                          MOV     (R1)+,(R2)+         ;
        035140  077002                          SOB     R0,.-2              ;
        035142  012737  035150  001112          MOV     #DIVFL,$LPERR       ; ERROR LOOPING ADDRESS

        035150  170001                  DIVFL:  SETF                        ; F MODE
        035152  172515                          LDF     (R5),AC2            ; INITIAL AC FLOAT NUMBER
        035154  170165  000014                  LDFPS   14(R5)              ; INITIAL FPS

        035160  174665  000004          DIVFI:  DIVF    4(R5),AC2           ; (AC2)/(MEM)->AC2

        035164  170237  002000                  STFPS   FPS                 ; STORE FPS AFTER
        035170  170337  002002                  STST    FEC                 ; STORE FEC/FEA AFTER
        035174  174237  001170                  STF     AC2,$REG0           ; RESULT OF DIVF

        035200  023765  002000  000016          CMP     FPS,16(R5)          ; CHECK FPS
        035206  001401                          BEQ     65$                 ; FPS IS OK
        035210  104004                          ERROR   4                   ; FPS BAD
        035212  005765  000020          65$:    TST     20(R5)              ; DOES FEC/FEA APPLY?
        035216  100014                          BPL     66$                 ; NO - SKIP TEST
        035220  012737  035160  002014          MOV     #DIVFI,EXPFEA       ; GET EXPECTED FEA
        035226  123765  002002  000020          CMPB    FEC,20(R5)          ; COMPARE FEC-S
        035234  001004                          BNE     64$                 ; NOT EQUAL
        035236  023737  002004  002014          CMP     FEA,EXPFEA          ; COMPARE FEA-S
        035244  001401                          BEQ     66$                 ; FEC, FEA OK
        035246  104014                  64$:    ERROR   14                  ; FEC OR FEA ARE BAD
        035250                          66$:

        035250  023765  001170  000010          CMP     $REG0,10(R5)        ; 1ST WORD OF RESULT CHECK?
        035256  001004                          BNE     67$                 ; NO
        035260  023765  001172  000012          CMP     $REG1,12(R5)        ; 2ND WORD OF RESULT CHECK?
        035266  001401                          BEQ     68$                 ; ALL WORDS OK
        035270  104025                  67$:    ERROR   25                  ; NUMBERS NOT EQUAL
        035272                          68$:

        035272  000207                          RTS     PC                  ; RETURN TO TEST CALLER


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

        035274                          DIVDT:
        035274  012700  000017                  MOV     #17,R0              ; LOAD $TMP0-16
        035300  010501                          MOV     R5,R1               ;   WITH TEST DATA SETS
        035302  012702  001230                  MOV     #$TMP0,R2           ;   FOR DISPLAY LATER
        035306  012122                          MOV     (R1)+,(R2)+         ;
        035310  077002                          SOB     R0,.-2              ;
        035312  012737  035320  001112          MOV     #DIVDL,$LPERR       ; ERROR LOOPING ADDRESS

        035320  170011                  DIVDL:  SETD                        ; D MODE
        035322  172515                          LDD     (R5),AC1            ; INITIAL AC FLOAT NUMBER
        035324  170165  000030                  LDFPS   30(R5)              ; INITIAL FPS
```

```
                                
                        DIVDI:  DIVD    10(R5),AC1      ; (AC1)/(MEM)->AC1
                                
                                STFPS   FPS             ; STORE FPS AFTER
                                STST    FEC             ; STORE FEC/FEA AFTER
                                STD     AC1,$REG0       ; RESULT OF DIVD
                                
                                CMP     FPS,32(R5)      ; CHECK FPS
                                BEQ     65$             ; FPS IS OK
                                ERROR   7               ; FPS BAD
                        65$:    TST     34(R5)          ; DOES FEC/FEA APPLY?
                                BPL     66$             ; NO - SKIP TEST
                                MOV     #DIVDI,EXPFEA   ; GET EXPECTED FEA
                                CMPB    FEC,34(R5)      ; COMPARE FEC-S
                                BNE     64$             ; NOT EQUAL
                                CMP     FEA,EXPFEA      ; COMPARE FEA-S
                                BEQ     66$             ; FEC, FEA OK
                        64$:    ERROR   17              ; FEC OR FEA ARE BAD
                        66$:
                                
                                CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
                                BNE     67$             ; NO
                                CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
                                BNE     67$             ; NO
                                CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
                                BNE     67$             ; NO
                                CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
                                BEQ     68$             ; ALL WORDS OK
                        67$:    ERROR   26              ; NUMBERS NOT EQUAL
                        68$:
                                
                                RTS     PC              ; RETURN TO TEST CALLER
                                
                                
```



```
                                .SBTTL  SUBR TO TEST THE MODF INSTRUCTION, USING 2 ACCUMULATORS
                                
                        MD2FT:
                                MOV     #13,R0          ; LOAD $TMP0=12
                                MOV     R5,R1           ;   WITH TEST DATA SETS
                                MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
                                MOV     (R1)+,(R2)+     ;
                                SOB     R0,.-2          ;
                                MOV     #MD2FL,$LPERR   ; ERROR LOOPING ADDRESS
                                
                        MD2FL:  SETF                    ; F MODE
                                LDF     (R5),AC2        ; INITIAL AC FLOAT NUMBER
                                LDF     PREVAC,AC3      ; FOR FEC=14 TEST
                                LDFPS   20(R5)          ; INITIAL FPS
                                
                        MD2FI:  MODF    4(R5),AC2       ; FRAC((AC2)*(MEM))->AC2
                                                        ;  INT((AC2)*(MEM))->AC3
                                
                                STFPS   FPS             ; STORE FPS AFTER
                                STST    FEC             ; STORE FEC/FEA AFTER
                                STF     AC2,$REG0       ; STORE FRAC PART
                                STF     AC3,$REG2       ; STORE INT PART
                                
                                CMP     FPS,22(R5)      ; CHECK FPS
                                BEQ     65$             ; FPS IS OK
                                ERROR   5               ; FPS BAD
                        65$:    TST     24(R5)          ; DOES FEC/FEA APPLY?
                                BPL     66$             ; NO - SKIP TEST
                                MOV     #MD2FI,EXPFEA   ; GET EXPECTED FEA
                                CMPB    FEC,24(R5)      ; COMPARE FEC-S
                                BNE     64$             ; NOT EQUAL
                                CMP     FEA,EXPFEA      ; COMPARE FEA-S
                                BEQ     66$             ; FEC, FEA OK
                        64$:    ERROR   15              ; FEC OR FEA ARE BAD
                        66$:
                                
                                ; CHECK FRACTION PART
                                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$:    ERROR   27              ; NUMBERS NOT EQUAL
                        68$:
                                
                                ; CHECK INTEGER PART
                                CMP     $REG2,14(R5)    ; 1ST WORD OF RESULT CHECK?
                                BNE     69$             ; NO
                                CMP     $REG3,16(R5)    ; 2ND WORD OF RESULT CHECK?
                                BEQ     70$             ; ALL WORDS OK
                        69$:    ERROR   30              ; NUMBERS NOT EQUAL
                        70$:
                                
                                RTS     PC              ; RETURN TO TEST CALLER
                                
                                
                                ;;*****************************************************************
```

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

035666                                  MD2DT:
035666  012700  000023                          MOV     #23,R0          ; LOAD $IMPU=22
035672  010501                                  MOV     R5,R1           ;   WITH TEST DATA SETS
035674  012702  001230                          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
035700  012122                                  MOV     (R1)+,(R2)+     ;
035702  077002                                  SOB     R0,.-2          ;
035704  012737  035712  001112                  MOV     #MD2DL,@LPEXR   ; ERROR LOOPING ADDRESS

035712  170011                          MD2DL:  SETD                    ; D MODE
035714  172415                                  LDD     (R5),AC0        ; INITIAL AC FLOAT NUMBER
035716  172537  002036                          LDD     PREVAC,AC1      ; FOR FEC=14 TEST
035722  170165  000040                          LDFPS   40(R5)          ; INITIAL FPS

035726  171465  000010                  MD2DI:  MODD    10(R5),AC0      ; FRAC[(AC0)*(MEM)]=>AC0
                                                                        ;  INT[(AC0)*(MEM)]=>AC1

035732  170237  002000                          STFPS   FPS             ; STORE FPS AFTER
035736  170337  002002                          STST    FEC             ; STORE FEC/FEA AFTER
035742  174037  001170                          STD     AC0,$REG0       ; STORE FRAC PART
035746  174137  001200                          STD     AC1,$REG4       ; STORE INT PART

035752  023765  002000  000042                  CMP     FPS,42(R5)      ; CHECK FPS
035760  001401                                  BEQ     65$             ; FPS IS OK
035762  104010                                  ERROR   10              ; FPS BAD
035764  005765  000044                  65$:    TST     44(R5)          ; DOES FEC/FEA APPLY?
035770  100014                                  BPL     66$             ; NO - SKIP TEST
035772  012737  035726  002014                  MOV     #MD2DI,EXPFEA   ; GET EXPECTED FEA
036000  123765  002002  000044                  CMPB    FEC,44(R5)      ; COMPARE FEC-S
036006  001004                                  BNE     64$             ; NOT EQUAL
036010  023737  002004  002014                  CMP     FEA,EXPFEA      ; COMPARE FEA-S
036016  001401                                  BEQ     66$             ; FEC, FEA OK
036020  104020                          64$:    ERROR   20              ; FEC OR FEA ARE BAD
036022                                  66$:

                                        ; CHECK FRACTION PART OF RESULT
036022  023765  001170  000020                  CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
036030  001014                                  BNE     67$             ; NO
036032  023765  001172  000022                  CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
036040  001010                                  BNE     67$             ; NO
036042  023765  001174  000024                  CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
036050  001004                                  BNE     67$             ; NO
036052  023765  001176  000026                  CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
036060  001401                                  BEQ     68$             ; ALL WORDS OK
036062  104031                          67$:    ERROR   31              ; NUMBERS NOT EQUAL
036064                                  68$:

                                        ; CHECK INTEGER PART
036064  023765  001200  000030                  CMP     $REG4,30(R5)    ; 1ST WORD OF RESULT CHECK?
036072  001014                                  BNE     69$             ; NO
036074  023765  001202  000032                  CMP     $REG5,32(R5)    ; 2ND WORD OF RESULT CHECK?
036102  001010                                  BNE     69$             ; NO
036104  023765  001204  000034                  CMP     $REG6,34(R5)    ; 3RD WORD OF RESULT CHECK?
036112  001004                                  BNE     69$             ; NO
036114  023765  001206  000036                  CMP     $REG7,36(R5)    ; 4TH WORD OF RESULT CHECK?
```



```
036122  001401                                  BEQ     70$             ; ALL WORDS OK
036124  104032                          69$:    ERROR   32              ; NUMBERS NOT EQUAL
036126                                  70$:

036126  000207                                  RTS     PC              ; RETURN TO TEST CALLER
```

```
                                .SBTTL  SUBR TO TEST THE MODF INSTRUCTION, USING 1 ACCUMULATOR
                        ;
                        MD1FT:
036130                          MOV     #13,R0          ; LOAD $TMP0=12
036130  012700  000013          MOV     R5,R1           ;   WITH TEST DATA SETS
036134  010501                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
036136  012702  001230          MOV     (R1)+,(R2)+     ;
036142  012122                  SOB     R0,.-2          ;
036144  077002                  MOV     #MD1FL,$LPERR   ; ERROR LOOPING ADDRESS
036146  012737  036154  001112
                        ;
036154  170001          MD1FL:  SETF                    ; F MODE
036156  172715                  LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
036160  172637  002036          LDF     PREVAC,AC2      ; AC2 SHOULD NOT CHANGE
036164  170165  000020          LDFPS   20(R5)          ; INITIAL FPS
                        ;
036170  171765  000004  MD1FI:  MODF    4(R5),AC3       ; FRAC[(AC3)*(MEM)]->AC3
                                                        ;  INT[(AC3)*(MEM)]->LOST
                        ;
036174  170237  002000          STFPS   FPS             ; STORE FPS AFTER
036200  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
036204  174337  001170          STF     AC3,$REG0       ; STORE FRAC PART
036210  174237  001174          STF     AC2,$REG2       ; STORE UNCHANGED AC3
                        ;
036214  023765  002000  000022          CMP     FPS,22(R5)      ; CHECK FPS
036222  001401                  BEQ     65$             ; FPS IS OK
036224  104005                  ERROR   5               ; FPS BAD
036226  005765  000024  65$:    TST     24(R5)          ; DOES FEC/FEA APPLY?
036232  100014                  BPL     66$             ; NO - SKIP TEST
036234  012737  036170  002014          MOV     #MD1FI,EXPFEA   ; GET EXPECTED FEA
036242  123765  002002  000024          CMPB    FEC,24(R5)      ; COMPARE FEC-S
036250  001004                  BNE     64$             ; NOT EQUAL
036252  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
036260  001401                  BEQ     66$             ; FEC, FEA OK
036262  104015          64$:    ERROR   15              ; FEC OR FEA ARE BAD
036264                  66$:
                        ;
                                ; CHECK FRACTION PART
036264  023765  001170  000010          CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
036272  001004                  BNE     67$             ; NO
036274  023765  001172  000012          CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
036302  001401                  BEQ     68$             ; ALL WORDS OK
036304  104027          67$:    ERROR   27              ; NUMBERS NOT EQUAL
036306                  68$:
                        ;
                                ; CHECK UNCHANGED PART
036306  023765  001174  000014          CMP     $REG2,14(R5)    ; 1ST WORD OF RESULT CHECK?
036314  001004                  BNE     69$             ; NO
036316  023765  001176  000016          CMP     $REG3,16(R5)    ; 2ND WORD OF RESULT CHECK?
036324  001401                  BEQ     70$             ; ALL WORDS OK
036326  104030          69$:    ERROR   30              ; NUMBERS NOT EQUAL
036330                  70$:
                        ;
036330  000207                  RTS     PC              ; RETURN TO TEST CALLER
                        ;
                        ;;*************************************************************
```



```
                                .SBTTL  SUBR TO TEST THE MODD INSTRUCTION, USING 1 ACCUMULATOR
                        ;
                        MD1DT:
036332                          MOV     #23,R0          ; LOAD $TMP0=22
036332  012700  000023          MOV     R5,R1           ;   WITH TEST DATA SETS
036336  010501                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
036340  012702  001230          MOV     (R1)+,(R2)+     ;
036344  012122                  SOB     R0,.-2          ;
036346  077002                  MOV     #MD1DL,$LPERR   ; ERROR LOOPING ADDRESS
036350  012737  036356  001112
                        ;
036356  170011          MD1DL:  SETD                    ; D MODE
036360  172515                  LDD     (R5),AC1        ; INITIAL AC FLOAT NUMBER
036362  172437  002036          LDD     PREVAC,AC0      ; AC0 SHOULD NOT CHANGE
036366  170165  000040          LDFPS   40(R5)          ; INITIAL FPS
                        ;
036372  171565  000010  MD1DI:  MODD    10(R5),AC1      ; FRAC[(AC1)*(MEM)]->AC1
                                                        ;  INT[(AC1)*(MEM)]->LOST
                        ;
036376  170237  002000          STFPS   FPS             ; STORE FPS AFTER
036402  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
036406  174137  001170          STD     AC1,$REG0       ; STORE FRAC PART
036412  174037  001200          STD     AC0,$REG4       ; STORE UNCHANGED AC0
                        ;
036416  023765  002000  000042          CMP     FPS,42(R5)      ; CHECK FPS
036424  001401                  BEQ     65$             ; FPS IS OK
036426  104010                  ERROR   10              ; FPS BAD
036430  005765  000044  65$:    TST     44(R5)          ; DOES FEC/FEA APPLY?
036434  100014                  BPL     66$             ; NO - SKIP TEST
036436  012737  036372  002014          MOV     #MD1DI,EXPFEA   ; GET EXPECTED FEA
036444  123765  002002  000044          CMPB    FEC,44(R5)      ; COMPARE FEC-S
036452  001004                  BNE     64$             ; NOT EQUAL
036454  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
036462  001401                  BEQ     66$             ; FEC, FEA OK
036464  104020          64$:    ERROR   20              ; FEC OR FEA ARE BAD
036466                  66$:
                        ;
                                ; CHECK FRACTION PART OF RESULT
036466  023765  001170  000020          CMP     $REG0,20(R5)    ; 1ST WORD OF RESULT CHECK?
036474  001014                  BNE     67$             ; NO
036476  023765  001172  000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
036504  001010                  BNE     67$             ; NO
036506  023765  001174  000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
036514  001004                  BNE     67$             ; NO
036516  023765  001176  000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
036524  001401                  BEQ     68$             ; ALL WORDS OK
036526  104031          67$:    ERROR   31              ; NUMBERS NOT EQUAL
036530                  68$:
                        ;
                                ; CHECK UNCHANGED PART
036530  023765  001200  000030          CMP     $REG4,30(R5)    ; 1ST WORD OF RESULT CHECK?
036536  001014                  BNE     69$             ; NO
036540  023765  001202  000032          CMP     $REG5,32(R5)    ; 2ND WORD OF RESULT CHECK?
036546  001010                  BNE     69$             ; NO
036550  023765  001204  000034          CMP     $REG6,34(R5)    ; 3RD WORD OF RESULT CHECK?
036556  001004                  BNE     69$             ; NO
036560  023765  001206  000036          CMP     $REG7,36(R5)    ; 4TH WORD OF RESULT CHECK?
```

```
 8632  036566  001401                  BEQ     70$             ; ALL WORDS OK
 8633  036570  104032                  ERROR   32              ; NUMBERS NOT EQUAL
 8634  036572                          70$:
 8635
 8636  036572  000207                  RTS     PC              ; RETURN TO TEST CALLER
```



```
 8637                                   .SBTTL  SUBR TO TEST THE LDCDF INSTRUCTION
 8638
 8639  036574                          LCDFT:
 8640  036574  012700  000011          MOV     #11,R0          ; LOAD $TMP0=10
 8641  036600  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
 8642  036602  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 8643  036606  012122                  MOV     (R1)+,(R2)+     ;
 8644  036610  077002                  SOB     R0,.-2          ;
 8645  036612  012737  036620  001112  MOV     #LCDFL,$LPEMR   ; ERROR LOOPING ADDRESS
 8646
 8647  036620  170011                  LCDFL:  SETD                    ; D MODE
 8648  036622  172537  002036          LDF     PREVAC,AC1      ; PREV CONTENTS TO ACC; FOR FEC=14 TEST
 8649  036626  170165  000014          LDFPS   14(R5)          ; INITIAL FPS
 8650
 8651  036632  177515                  LCDFI:  LDCDF   (R5),AC1        ; DTOF((MEM))->AC1
 8652
 8653  036634  170237  002000          STFPS   FPS             ; STORE FPS AFTER
 8654  036640  170137  002002          STST    FEC             ; STORE FEC/FEA AFTER
 8655  036644  174137  001170          STF     AC1,$REG0       ; STORE RESULT
 8656
 8657  036650  023765  002000  000010  CMP     FPS,16(R5)      ; CHECK FPS
 8658  036656  001401                  BEQ     65$             ; FPS IS OK
 8659  036660  104004                  ERROR   4               ; FPS BAD
 8660  036662  005765  000020          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
 8661  036666  100014                  BPL     66$             ; NO - SKIP TEST
 8662  036670  012737  036632  002014  MOV     #LCDFI,EXPFEA   ; GET EXPECTED FEA
 8663  036676  123765  002002  000020  CMPB    FEC,20(R5)      ; COMPARE FEC-8
 8664  036704  001004                  BNE     64$             ; NOT EQUAL
 8665  036706  023737  002004  002014  CMP     FEA,EXPFEA      ; COMPARE FEA-8
 8666  036714  001401                  BEQ     65$             ; FEC, FEA OK
 8667  036716  104014                  64$:    ERROR   14              ; FEC OR FEA ARE BAD
 8668  036720                          65$:
 8669
 8670  036720  023765  001170  000010  CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
 8671  036726  001004                  BNE     67$             ; NO
 8672  036730  023765  001172  000012  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
 8673  036736  001401                  BEQ     68$             ; ALL WORDS OK
 8674  036740  104033                  67$:    ERROR   33              ; NUMBERS NOT EQUAL
 8675  036742                          68$:
 8676
 8677  036742  000207                  RTS     PC              ; RETURN TO TEST CALLER
 8678
 8679
 8680                                   ;;*****************************************************************
 8681                                   .SBTTL  SUBR TO TEST THE LDCFD INSTRUCTION
 8682
 8683  036744                          LCFDT:
 8684  036744  012700  000011          MOV     #11,R0          ; LOAD $TMP0=10
 8685  036750  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
 8686  036752  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 8687  036756  012122                  MOV     (R1)+,(R2)+     ;
 8688  036760  077002                  SOB     R0,.-2          ;
 8689  036762  012737  036770  001112  MOV     #LCFDL,$LPEMR   ; ERROR LOOPING ADDRESS
 8690
 8691  036770  170011                  LCFDL:  SETD                    ; D MODE
 8692  036772  172537  002036          LDD     PREVAC,AC2      ; PREV CONTENTS TO ACC; FOR FEC=14 TEST
```

```
 8693  037776  170165  000014                  LDFPS   14(R5)          ; INITIAL FPS
 8694
 8695  037002  177615                  LCFDI:  LDCFD   (R5),AC2        ; FIOD[(MEM)]->AC2
 8696
 8697  037004  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 8698  037010  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
 8699  037014  174237  001170                  STD     AC2,$REG0       ; STORE RESULT
 8700
 8701  037020  023765  002000  000016          CMP     FPS,16(R5)      ; CHECK FPS
 8702  037026  001401                          BEQ     65$             ; FPS IS OK
 8703  037030  104004                          ERROR   4               ; FPS BAD
 8704  037032  005765  000020          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
 8705  037036  100014                          BPL     66$             ; NO - SKIP TEST
 8706  037040  012737  037002  002014          MOV     #LCFDI,EXPFEA   ; GET EXPECTED FEA
 8707  037046  123765  002002  000020          CMPB    FEC,20(R5)      ; COMPARE FEC-S
 8708  037054  001004                          BNE     64$             ; NOT EQUAL
 8709  037056  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
 8710  037064  001401                          BEQ     66$             ; FEC, FEA OK
 8711  037066  104014                  64$:    ERROR   14              ; FEC OR FEA ARE BAD
 8712  037070                          66$:
 8713
 8714  037070  023765  001170  000004          CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
 8715  037076  001014                          BNE     67$             ; NO
 8716  037100  023765  001172  000006          CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
 8717  037106  001010                          BNE     67$             ; NO
 8718  037110  023765  001174  000010          CMP     $REG2,10(R5)    ; 3RD WORD OF RESULT CHECK?
 8719  037116  001004                          BNE     67$             ; NO
 8720  037120  023765  001176  000012          CMP     $REG3,12(R5)    ; 4TH WORD OF RESULT CHECK?
 8721  037126  001401                          BEQ     68$             ; ALL WORDS OK
 8722  037130  104034                  67$:    ERROR   34              ; NUMBERS NOT EQUAL
 8723  037132                          68$:
 8724
 8725  037132  000207                          RTS     PC              ; RETURN TO TEST CALLER
 8726
```



```
 8727                                     .SBTTL  SUBR TO TEST THE STCDF INSTRUCTION
 8728
 8729  037134                          SCDFT:
 8730  037134  012700  000011                  MOV     #11,R0          ; LOAD $TMP0=10
 8731  037140  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
 8732  037142  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 8733  037146  012122                          MOV     (R1)+,(R2)+     ;
 8734  037150  077002                          SOB     R0,.-2          ;
 8735  037152  012737  037160  001112          MOV     #SCDFL,$LPERR   ; ERROR LOOPING ADDRESS
 8736
 8737  037160  170011                  SCDFL:  SETD                    ; D MODE
 8738  037162  172715                          LDD     (R5),AC3        ; INITIAL AC FLOAT NUMBER
 8739  037164  170165  000014                  LDFPS   14(R5)          ; INITIAL FPS
 8740
 8741  037170  176337  001170          SCDFI:  STCDF   AC3,$REG0       ; DIOF[(AC3)]->MEM
 8742
 8743  037174  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
 8744  037200  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER
 8745
 8746  037204  023765  002000  000016          CMP     FPS,16(R5)      ; CHECK FPS
 8747  037212  001401                          BEQ     65$             ; FPS IS OK
 8748  037214  104004                          ERROR   4               ; FPS BAD
 8749  037216  005765  000020          65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
 8750  037222  100014                          BPL     66$             ; NO - SKIP TEST
 8751  037224  012737  037170  002014          MOV     #SCDFI,EXPFEA   ; GET EXPECTED FEA
 8752  037232  123765  002002  000020          CMPB    FEC,20(R5)      ; COMPARE FEC-S
 8753  037240  001004                          BNE     64$             ; NOT EQUAL
 8754  037242  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
 8755  037250  001401                          BEQ     66$             ; FEC, FEA OK
 8756  037252  104014                  64$:    ERROR   14              ; FEC OR FEA ARE BAD
 8757  037254                          66$:
 8758
 8759  037254  023765  001170  000010          CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
 8760  037262  001004                          BNE     67$             ; NO
 8761  037264  023765  001172  000012          CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
 8762  037272  001401                          BEQ     68$             ; ALL WORDS OK
 8763  037274  104033                  67$:    ERROR   33              ; NUMBERS NOT EQUAL
 8764  037276                          68$:
 8765
 8766  037276  000207                          RTS     PC              ; RETURN TO TEST CALLER
 8767
 8768
 8769                                     ;;*****************************************************************
 8770                                     .SBTTL  SUBR TO TEST THE STCFD INSTRUCTION
 8771
 8772  037300                          SCFDT:
 8773  037300  012700  000012                  MOV     #12,R0          ; LOAD $TMP0=11
 8774  037304  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
 8775  037306  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 8776  037312  012122                          MOV     (R1)+,(R2)+     ;
 8777  037314  077002                          SOB     R0,.-2          ;
 8778  037316  012737  037324  001112          MOV     #SCFDL,$LPERR   ; ERROR LOOPING ADDRESS
 8779
 8780  037324  170011                  SCFDL:  SETD                    ; USE D MODE
 8781  037326  172415                          LDD     (R5),AC0        ; INITIAL F FLOAT NUM, FOLLOW W/JUNK
 8782  037330  170165  000020                  LDFPS   20(R5)          ; INITIAL FPS
```

```
 8783
 8784  037334  176037  001170          STCFD   AC0,$REG0       ; FTOD[(AC0)]=>MEM
 8785
 8786  037340  170237  002000          STFPS   FPS             ; STORE FPS AFTER
 8787
 8788  037344  023765  002000  000022  CMP     FPS,22(R5)      ; CHECK FPS OK
 8789  037352  001401                  BEQ     648             ; OK, BRANCH
 8790  037354  104005                  ERROR   5               ; FPS BAD
 8791  037356                  648:
 8792
 8793  037356  023765  001170  000010  CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
 8794  037364  001014                  BNE     65$             ; NO
 8795  037366  023765  001172  000012  CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
 8796  037374  001010                  BNE     65$             ; NO
 8797  037376  023765  001174  000014  CMP     $REG2,14(R5)    ; 3RD WORD OF RESULT CHECK?
 8798  037404  001004                  BNE     65$             ; NO
 8799  037406  023765  001176  000016  CMP     $REG3,16(R5)    ; 4TH WORD OF RESULT CHECK?
 8800  037414  001401                  BEQ     66$             ; ALL WORDS OK
 8801  037416  104035                  ERROR   35              ; NUMBERS NOT EQUAL
 8802  037420                  65$:
 8803  037420                  66$:
 8804  037420  000207                  RTS     PC              ; RETURN TO TEST CALLER
```



```
 8805                          .SBTTL  SUBR TO TEST THE LDCIF INSTRUCTION
 8806
 8807  037422                  LCIFT:
 8808  037422  012700  000005          MOV     #5,R0           ; LOAD $IMP0=4
 8809  037426  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
 8810  037430  012702  001230          MOV     #$IMP0,R2       ;   FOR DISPLAY LATER
 8811  037434  012122                  MOV     (R1)+,(R2)+     ;
 8812  037436  077002                  SOB     R0,.-2          ;
 8813  037440  012737  037446  001112  MOV     #LCIFL,$LPERR   ; ERROR LOOPING ADDRESS
 8814
 8815  037446  170165  000006  LCIFL:  LDFPS   6(R5)           ; INITIAL FPS
 8816
 8817  037452  177215                  LDCIF   (R5),AC2        ; F[(MEM)]=>AC2
 8818
 8819  037454  170237  002000          STFPS   FPS             ; STORE FPS AFTER
 8820  037460  174237  001170          STF     AC2,$REG0       ; STORE RESULT
 8821
 8822  037464  023765  002000  000010  CMP     FPS,10(R5)      ; CHECK FPS OK
 8823  037472  001401                  BEQ     64$             ; OK, BRANCH
 8824  037474  104001                  ERROR   1               ; FPS BAD
 8825  037476                  64$:
 8826
 8827  037476  023765  001170  000002  CMP     $REG0,2(R5)     ; 1ST WORD OF RESULT CHECK?
 8828  037504  001004                  BNE     65$             ; NO
 8829  037506  023765  001172  000004  CMP     $REG1,4(R5)     ; 2ND WORD OF RESULT CHECK?
 8830  037514  001401                  BEQ     66$             ; ALL WORDS OK
 8831  037516  104036                  ERROR   36              ; NUMBERS NOT EQUAL
 8832  037520                  66$:
 8833
 8834  037520  000207                  RTS     PC              ; RETURN TO TEST CALLER
 8835
 8836
 8837                          ;;*****************************************************************
 8838                          .SBTTL  SUBR TO TEST THE LDCID INSTRUCTION
 8839
 8840  037522                  LCIDT:
 8841  037522  012700  000007          MOV     #7,R0           ; LOAD $IMP0=6
 8842  037526  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
 8843  037530  012702  001230          MOV     #$IMP0,R2       ;   FOR DISPLAY LATER
 8844  037534  012122                  MOV     (R1)+,(R2)+     ;
 8845  037536  077002                  SOB     R0,.-2          ;
 8846  037540  012737  037546  001112  MOV     #LCIDL,$LPERR   ; ERROR LOOPING ADDRESS
 8847
 8848  037546  170165  000012  LCIDL:  LDFPS   12(R5)          ; INITIAL FPS
 8849
 8850  037552  177315                  LDCID   (R5),AC3        ; D[(MEM)]=>AC3
 8851
 8852  037554  170237  002000          STFPS   FPS             ; STORE FPS AFTER
 8853  037560  174337  001170          STD     AC3,$REG0       ; STORE RESULT
 8854
 8855  037564  023765  002000  000014  CMP     FPS,14(R5)      ; CHECK FPS OK
 8856  037572  001401                  BEQ     64$             ; OK, BRANCH
 8857  037574  104003                  ERROR   3               ; FPS BAD
 8858  037576                  64$:
 8859
 8860  037576  023765  001170  000002  CMP     $REG0,2(R5)     ; 1ST WORD OF RESULT CHECK?
```

```
8861  037604  001014                  BNE     65$                     ; NO
8862  037606  023765  001172  000004          CMP     $REG1,4(R5)     ; 2ND WORD OF RESULT CHECK?
8863  037614  001010                  BNE     65$                     ; NO
8864  037616  023765  001174  000006          CMP     $REG2,6(R5)     ; 3RD WORD OF RESULT CHECK?
8865  037624  001004                  BNE     65$                     ; NO
8866  037626  023765  001176  000010          CMP     $REG3,10(R5)    ; 4TH WORD OF RESULT CHECK?
8867  037634  001401                  BEQ     66$                     ; ALL WORDS OK
8868  037636  104037                  65$:    ERROR   37              ; NUMBERS NOT EQUAL
8869  037640                          66$:
8870
8871  037640  000207                  RTS     PC                      ; RETURN TO TEST CALLER
8872
8873
8874                                  ;;*************************************************************
8875                                  .SBTTL  SUBR TO TEST THE LDCLF INSTRUCTION
8876
8877  037642                          LCLFT:
8878  037642  012700  000006          MOV     #6,R0                   ; LOAD $TMP0-5
8879  037646  010501                  MOV     R5,R1                   ;   WITH TEST DATA SETS
8880  037650  012702  001230          MOV     #$TMP0,R2               ;   FOR DISPLAY LATER
8881  037654  012122                  MOV     (R1)+,(R2)+             ;
8882  037656  077002                  SOB     R0,.-2                  ;
8883  037660  012737  037666  001112  MOV     #LCLFL,@LPEMR           ; ERROR LOOPING ADDRESS
8884
8885  037666  170165  000010          LCLFL:  LDFPS   10(R5)          ; INITIAL FPS
8886
8887  037672  177015                  LDCLF   (R5),AC0                ; F[(MEM)(MEM)]->AC0
8888
8889  037674  170237  002000          STFPS   FPS                     ; STORE FPS AFTER
8890  037700  174037  001170          STF     AC0,$REG0               ; STORE RESULT
8891
8892  037704  023765  002000  000012  CMP     FPS,12(R5)              ; CHECK FPS OK
8893  037712  001401                  BEQ     64$                     ; OK, BRANCH
8894  037714  104002                  ERROR   2                       ; FPS BAD
8895  037716                          64$:
8896
8897  037716  023765  001170  000004  CMP     $REG0,4(R5)             ; 1ST WORD OF RESULT CHECK?
8898  037724  001004                  BNE     65$                     ; NO
8899  037726  023765  001172  000006  CMP     $REG1,6(R5)             ; 2ND WORD OF RESULT CHECK?
8900  037734  001401                  BEQ     66$                     ; ALL WORDS OK
8901  037736  104040                  65$:    ERROR   40              ; NUMBERS NOT EQUAL
8902  037740                          66$:
8903
8904  037740  000207                  RTS     PC                      ; RETURN TO TEST CALLER
8905
8906
8907                                  ;;*************************************************************
8908                                  .SBTTL  SUBR TO TEST THE LDCLD INSTRUCTION
8909
8910  037742                          LCLDT:
8911  037742  012700  000010          MOV     #10,R0                  ; LOAD $TMP0-7
8912  037746  010501                  MOV     R5,R1                   ;   WITH TEST DATA SETS
8913  037750  012702  001230          MOV     #$TMP0,R2               ;   FOR DISPLAY LATER
8914  037754  012122                  MOV     (R1)+,(R2)+             ;
8915  037756  077002                  SOB     R0,.-2                  ;
8916  037760  012737  037766  001112  MOV     #LCLDL,@LPEMR           ; ERROR LOOPING ADDRESS
```



```
8917
8918  037766  170165  000014          LCLDL:  LDFPS   14(R5)          ; INITIAL FPS
8919
8920  037772  177115                  LDCLD   (R5),AC1                ; D[(MEM)(MEM)]->AC1
8921
8922  037774  170237  002000          STFPS   FPS                     ; STORE FPS AFTER
8923  040000  174137  001170          STD     AC1,$REG0               ; STORE RESULT
8924
8925  040004  023765  002000  000016  CMP     FPS,16(R5)              ; CHECK FPS OK
8926  040012  001401                  BEQ     64$                     ; OK, BRANCH
8927  040014  104004                  ERROR   4                       ; FPS BAD
8928  040016                          64$:
8929
8930  040016  023765  001170  000004  CMP     $REG0,4(R5)             ; 1ST WORD OF RESULT CHECK?
8931  040024  001014                  BNE     65$                     ; NO
8932  040026  023765  001172  000006  CMP     $REG1,6(R5)             ; 2ND WORD OF RESULT CHECK?
8933  040034  001010                  BNE     65$                     ; NO
8934  040036  023765  001174  000010  CMP     $REG2,10(R5)            ; 3RD WORD OF RESULT CHECK?
8935  040044  001004                  BNE     65$                     ; NO
8936  040046  023765  001176  000012  CMP     $REG3,12(R5)            ; 4TH WORD OF RESULT CHECK?
8937  040054  001401                  BEQ     66$                     ; ALL WORDS OK
8938  040056  104041                  65$:    ERROR   41              ; NUMBERS NOT EQUAL
8939  040060                          66$:
8940
8941  040060  000207                  RTS     PC                      ; RETURN TO TEST CALLER
```

```
                                .SBTTL  SUBR TO TEST THE STCFI INSTRUCTION
                        ;
000062                  SCFIT:
000062  012700  000006          MOV     #6,R0           ; LOAD $TMP0=5
000066  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
000070  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
000074  012122                  MOV     (R1)+,(R2)+     ;
000076  077002                  SOB     R0,.-2          ;
000100  012737  000106  001112  MOV     #SCFIL,$LPERR   ; ERROR LOOPING ADDRESS
                        ;
000106  170001          SCFIL:  SETF                    ; F MODE
000110  172715                  LDF     (R5),AC3        ; INITIAL AC FLOAT NUMBER
000112  170165  000006          LDFPS   6(R5)           ; INITIAL FPS
                        ;
000116  175737  001170  SCFII:  STCFI   AC3,$REG0       ; I|(AC3)|->MEM
                        ;
000122  013737  177776  001172  MOV     @#PS,$REG1      ; SAVE CC-S
000130  170237  002000          STFPS   FPS             ; STORE FPS AFTER
000134  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
                        ;
000140  023765  002000  000010  CMP     FPS,10(R5)      ; CHECK FPS
000146  001401                  BEQ     65$             ; FPS IS OK
000150  104001                  ERROR   1               ; FPS BAD
000152  005765  000012  65$:    TST     12(R5)          ; DOES FEC/FEA APPLY?
000156  100014                  BPL     66$             ; NO - SKIP TEST
000160  012737  000116  002014  MOV     #SCFII,EXPFEA   ; GET EXPECTED FEA
000166  123765  002002  000012  CMPB    FEC,12(R5)      ; COMPARE FEC-S
000174  001004                  BNE     64$             ; NOT EQUAL
000176  023737  002004  002014  CMP     FEA,EXPFEA      ; COMPARE FEA-S
000204  001401                  BEQ     66$             ; FEC, FEA OK
000206  104011          64$:    ERROR   11              ; FEC OK FEA ARE BAD
000210                  66$:
                        ;
000210  013737  002000  001174  MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
000216  042737  177760  001172  BIC     #CCONLY,$REG1   ;
000224  042737  177760  001174  BIC     #CCONLY,$REG2   ;
000232  023737  001172  001174  CMP     $REG1,$REG2     ; CC-S COPIED?
000240  001401                  BEQ     67$             ;
000242  104054                  ERROR   54              ; NOT EQUAL, SIGNAL ERROR
000244                  67$:
                        ;
000244  023765  001170  000004  CMP     $REG0,4(R5)     ; INTEGER RESULT CHECK?
000252  001401                  BEQ     68$             ;
000254  104042                  ERROR   42              ; NOT EQUAL, SIGNAL ERROR
000256                  68$:
                        ;
000256  000207                  RTS     PC              ; RETURN TO TEST CALLER
                        ;
                        ;
                        ;;*****************************************************************
                                .SBTTL  SUBR TO TEST THE STCDI INSTRUCTION
                        ;
000260                  SCDIT:
000260  012700  000010          MOV     #10,R0          ; LOAD $TMP0=7
000264  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
000266  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
```



```
000272  012122                  MOV     (R1)+,(R2)+     ;
000274  077002                  SOB     R0,.-2          ;
000276  012737  000304  001112  MOV     #SCDIL,$LPERR   ; ERROR LOOPING ADDRESS
                        ;
000304  170011          SCDIL:  SETD                    ; D MODE
000306  172415                  LDD     (R5),AC0        ; INITIAL AC FLOAT NUMBER
000310  170165  000012          LDFPS   12(R5)          ; INITIAL FPS
                        ;
000314  175437  001170  SCDII:  STCDI   AC0,$REG0       ; I|(AC0)|->MEM
                        ;
000320  013737  177776  001172  MOV     @#PS,$REG1      ; SAVE CC-S
000326  170237  002000          STFPS   FPS             ; STORE FPS AFTER
000332  170337  002002          STST    FEC             ; STORE FEC/FEA AFTER
                        ;
000336  023765  002000  000014  CMP     FPS,14(R5)      ; CHECK FPS
000344  001401                  BEQ     65$             ; FPS IS OK
000346  104003                  ERROR   3               ; FPS BAD
000350  005765  000016  65$:    TST     16(R5)          ; DOES FEC/FEA APPLY?
000354  100014                  BPL     66$             ; NO - SKIP TEST
000356  012737  000314  002014  MOV     #SCDII,EXPFEA   ; GET EXPECTED FEA
000364  123765  002002  000016  CMPB    FEC,16(R5)      ; COMPARE FEC-S
000372  001004                  BNE     64$             ; NOT EQUAL
000374  023737  002004  002014  CMP     FEA,EXPFEA      ; COMPARE FEA-S
000402  001401                  BEQ     66$             ; FEC, FEA OK
000404  104013          64$:    ERROR   13              ; FEC OK FEA ARE BAD
000406                  66$:
                        ;
000406  013737  002000  001174  MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
000414  042737  177760  001172  BIC     #CCONLY,$REG1   ;
000422  042737  177760  001174  BIC     #CCONLY,$REG2   ;
000430  023737  001172  001174  CMP     $REG1,$REG2     ; CC-S COPIED?
000436  001401                  BEQ     67$             ;
000440  104054                  ERROR   54              ; NOT EQUAL, SIGNAL ERROR
000442                  67$:
                        ;
000442  023765  001170  000010  CMP     $REG0,10(R5)    ; INTEGER RESULT CHECK?
000450  001401                  BEQ     68$             ;
000452  104043                  ERROR   43              ; NOT EQUAL, SIGNAL ERROR
000454                  68$:
                        ;
000454  000207                  RTS     PC              ; RETURN TO TEST CALLER
                        ;
                        ;
                        ;;*****************************************************************
                                .SBTTL  SUBR TO TEST THE STCFL INSTRUCTION
                        ;
000456                  SCFLT:
000456  012700  000007          MOV     #7,R0           ; LOAD $TMP0=6
000462  010501                  MOV     R5,R1           ;   WITH TEST DATA SETS
000464  012702  001230          MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
000470  012122                  MOV     (R1)+,(R2)+     ;
000472  077002                  SOB     R0,.-2          ;
000474  012737  000502  001112  MOV     #SCFLL,$LPERR   ; ERROR LOOPING ADDRESS
                        ;
000502  170001          SCFLL:  SETF                    ; F MODE
000504  172515                  LDF     (R5),AC1        ; INITIAL AC FLOAT NUMBER
```

```
040506  170165  000010                    LDFPS   10(R5)          ; INITIAL FPS

040512  175537  001170            SCFLI:  STCFL   AC1,$REG0       ; L[(AC1)]->MEM

040516  013737  177776  001174            MOV     @#PS,$REG2      ; SAVE CC-S
040524  170237  002000                    STFPS   FPS             ; STORE FPS AFTER
040530  170337  002002                    STST    FEC             ; STORE FEC/FEA AFTER

040534  023765  002000  000012            CMP     FPS,12(R5)      ; CHECK FPS
040542  001401                            BEQ     65$             ; FPS IS OK
040544  104002                            ERROR   2               ; FPS BAD
040546  005765  000014            65$:    TST     14(R5)          ; DOES FEC/FEA APPLY?
040552  100014                            BPL     66$             ; NO - SKIP TEST
040554  012737  040512  002014            MOV     #SCFLI,EXPFEA   ; GET EXPECTED FEA
040562  123765  002002  000014            CMPB    FEC,14(R5)      ; COMPARE FEC-S
040570  001004                            BNE     64$             ; NOT EQUAL
040572  023737  002004  002014            CMP     FEA,EXPFEA      ; COMPARE FEA-S
040600  001401                            BEQ     66$             ; FEC, FEA OK
040602  104012                    64$:    ERROR   12              ; FEC OR FEA ARE BAD
040604                            66$:

040604  013737  002000  001176            MOV     FPS,$REG3       ; GET FPS, PS CC BITS ONLY
040612  042737  177760  001174            BIC     #CCONLY,$REG2   ;
040620  042737  177760  001176            BIC     #CCONLY,$REG3   ;
040626  023737  001174  001176            CMP     $REG2,$REG3     ; CC-S COPIED?
040634  001401                            BEQ     67$             ;
040636  104055                            ERROR   55              ; NOT EQUAL, SIGNAL ERROR
040640                            67$:

040640  023765  001170  000004            CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
040646  001004                            BNE     68$             ; NO
040650  023765  001172  000006            CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
040656  001401                            BEQ     69$             ; ALL WORDS OK
040660  104044                    68$:    ERROR   44              ; NUMBERS NOT EQUAL
040662                            69$:

040662  000207                            RTS     PC              ; RETURN TO TEST CALLER


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

040664                            SCDLT:
040664  012700  000011                    MOV     #11,R0          ; LOAD $TMP0-10
040670  010501                            MOV     R5,R1           ;   WITH TEST DATA SETS
040672  012702  001230                    MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
040676  012122                            MOV     (R1)+,(R2)+     ;
040700  077002                            SOB     R0,.-2          ;
040702  012737  040710  001112            MOV     #SCDLL,$LPERR   ; ERROR LOOPING ADDRESS

040710  170011                    SCDLL:  SETD                    ; D MODE
040712  172615                            LDD     (R5),AC2        ; INITIAL AC FLOAT NUMBER
040714  170165  000014                    LDFPS   14(R5)          ; INITIAL FPS

040720  175637  001170            SCDLI:  STCDL   AC2,$REG0       ; L[(AC2)]->MEM,MEM

```



```
040724  013737  177776  001174            MOV     @#PS,$REG2      ; SAVE CC-S
040732  170237  002000                    STFPS   FPS             ; STORE FPS AFTER
040736  170337  002002                    STST    FEC             ; STORE FEC/FEA AFTER

040742  023765  002000  000016            CMP     FPS,16(R5)      ; CHECK FPS
040750  001401                            BEQ     65$             ; FPS IS OK
040752  104004                            ERROR   4               ; FPS BAD
040754  005765  000020            65$:    TST     20(R5)          ; DOES FEC/FEA APPLY?
040760  100014                            BPL     66$             ; NO - SKIP TEST
040762  012737  040720  002014            MOV     #SCDLI,EXPFEA   ; GET EXPECTED FEA
040770  123765  002002  000020            CMPB    FEC,20(R5)      ; COMPARE FEC-S
040776  001004                            BNE     64$             ; NOT EQUAL
041000  023737  002004  002014            CMP     FEA,EXPFEA      ; COMPARE FEA-S
041006  001401                            BEQ     66$             ; FEC, FEA OK
041010  104014                    64$:    ERROR   14              ; FEC OR FEA ARE BAD
041012                            66$:

041012  013737  002000  001176            MOV     FPS,$REG3       ; GET FPS, PS CC BITS ONLY
041020  042737  177760  001174            BIC     #CCONLY,$REG2   ;
041026  042737  177760  001176            BIC     #CCONLY,$REG3   ;
041034  023737  001174  001176            CMP     $REG2,$REG3     ; CC-S COPIED?
041042  001401                            BEQ     67$             ;
041044  104055                            ERROR   55              ; NOT EQUAL, SIGNAL ERROR
041046                            67$:

041046  023765  001170  000010            CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
041054  001004                            BNE     68$             ; NO
041056  023765  001172  000012            CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
041064  001401                            BEQ     69$             ; ALL WORDS OK
041066  104045                    68$:    ERROR   45              ; NUMBERS NOT EQUAL
041070                            69$:

041070  000207                            RTS     PC              ; RETURN TO TEST CALLER
```

```
                                .SBTTL  SUBR TO TEST THE LDEXP INSTRUCTION, F MODE

001072                          LEXFT:
001072  012700  000010                  MOV     #10,R0          ; LOAD #TMP0=7
001076  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
001100  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
001104  012122                          MOV     (R1)+,(R2)+     ;
001106  077002                          SOB     R0,.-2          ;
001110  012737  001116  001112          MOV     #LEXFL,@LPERR   ; ERROR LOOPING ADDRESS

001116  170001                  LEXFL:  SETF                    ; F MODE
001120  172515                          LDF     (R5),AC1        ; INITIAL FLOAT NUMBER
001122  170165  000012                  LDFPS   12(R5)          ; INITIAL FPS

001126  176565  000010          LEXFI:  LDEXP   10(R5),AC1      ; EXP! MEM => AC1

001132  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
001136  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER

001142  023765  002000  000014          CMP     FPS,14(R5)      ; CHECK FPS
001150  001401                          BEQ     65$             ; FPS IS OK
001152  104003                          ERROR   3               ; FPS BAD
001154  005765  000016          65$:    TST     16(R5)          ; DOES FEC/FEA APPLY?
001160  100014                          BPL     66$             ; NO - SKIP TEST
001162  012737  001126  002014          MOV     #LEXFI,EXPFEA   ; GET EXPECTED FEA
001170  123765  002002  000016          CMPB    FEC,16(R5)      ; COMPARE FEC-S
001176  001004                          BNE     64$             ; NOT EQUAL
001200  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
001206  001401                          BEQ     66$             ; FEC, FEA OK
001210  104013                  64$:    ERROR   13              ; FEC OR FEA ARE BAD
001212                          66$:

001212  174137  001170                  STF     AC1,$REG0       ; STORE RESULTANT FLOAT NUMBER
001216  023765  001170  000004          CMP     $REG0,4(R5)     ; 1ST WORD OF RESULT CHECK?
001224  001004                          BNE     67$             ; NO
001226  023765  001172  000006          CMP     $REG1,6(R5)     ; 2ND WORD OF RESULT CHECK?
001234  001401                          BEQ     68$             ; ALL WORDS OK
001236  104046                  67$:    ERROR   46              ; NUMBERS NOT EQUAL
001240                          68$:

001240  000207                          RTS     PC              ; RETURN TO TEST CALLER

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

001242                          LEXDT:
001242  012700  000014                  MOV     #14,R0          ; LOAD #TMP0=13
001246  010501                          MOV     R5,R1           ;   WITH TEST DATA SETS
001250  012702  001230                  MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
001254  012122                          MOV     (R1)+,(R2)+     ;
001256  077002                          SOB     R0,.-2          ;
001260  012737  001266  001112          MOV     #LEXDL,@LPERR   ; ERROR LOOPING ADDRESS

001266  170011                  LEXDL:  SETD                    ; D MODE
001270  172415                          LDD     (R5),AC0        ; INITIAL FLOAT NUMBER
001272  170165  000022                  LDFPS   22(R5)          ; INITIAL FPS
```



```
001276  176465  000020          LEXDI:  LDEXP   20(R5),AC0      ; EXP! MEM => AC0

001302  170237  002000                  STFPS   FPS             ; STORE FPS AFTER
001306  170337  002002                  STST    FEC             ; STORE FEC/FEA AFTER

001312  023765  002000  000024          CMP     FPS,24(R5)      ; CHECK FPS
001320  001401                          BEQ     65$             ; FPS IS OK
001322  104006                          ERROR   6               ; FPS BAD
001324  005765  000026          65$:    TST     26(R5)          ; DOES FEC/FEA APPLY?
001330  100014                          BPL     66$             ; NO - SKIP TEST
001332  012737  001276  002014          MOV     #LEXDI,EXPFEA   ; GET EXPECTED FEA
001340  123765  002002  000026          CMPB    FEC,26(R5)      ; COMPARE FEC-S
001346  001004                          BNE     64$             ; NOT EQUAL
001350  023737  002004  002014          CMP     FEA,EXPFEA      ; COMPARE FEA-S
001356  001401                          BEQ     66$             ; FEC, FEA OK
001360  104010                  64$:    ERROR   16              ; FEC OR FEA ARE BAD
001362                          66$:

001362  174037  001170                  STD     AC0,$REG0       ; STORE RESULTANT FLOAT NUMBER
001366  023765  001170  000010          CMP     $REG0,10(R5)    ; 1ST WORD OF RESULT CHECK?
001374  001014                          BNE     67$             ; NO
001376  023765  001172  000012          CMP     $REG1,12(R5)    ; 2ND WORD OF RESULT CHECK?
001404  001010                          BNE     67$             ; NO
001406  023765  001174  000014          CMP     $REG2,14(R5)    ; 3RD WORD OF RESULT CHECK?
001414  001004                          BNE     67$             ; NO
001416  023765  001176  000016          CMP     $REG3,16(R5)    ; 4TH WORD OF RESULT CHECK?
001424  001401                          BEQ     68$             ; ALL WORDS OK
001426  104047                  67$:    ERROR   47              ; NUMBERS NOT EQUAL
001430                          68$:

001430  000207                          RTS     PC              ; RETURN TO TEST CALLER
```

```
 9232                                   .SBTTL  SUBR TO TEST THE STEXP INSTRUCTION, F MODE
 9233
 9234  041432                           SEXFT:
 9235  041432  012700  000005                   MOV     #5,R0           ; LOAD $TMP0=4
 9236  041436  010501                           MOV     R5,R1           ;   WITH TEST DATA SETS
 9237  041440  012702  001230                   MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 9238  041444  012122                           MOV     (R1)+,(R2)+     ;
 9239  041446  077002                           SOB     R0,.-2          ;
 9240  041450  012737  041456  001112           MOV     #SEXFL,$LPERR   ; ERROR LOOPING ADDRESS
 9241
 9242  041456  170001                   SEXFL:  SETF                    ; F MODE
 9243  041460  172615                           LDF     (R5),AC2        ; INITIAL FLOAT NUMBER
 9244  041462  170165  000006                   LDFPS   6(R5)           ; INITIAL FPS
 9245
 9246  041466  175237  001170           SEXFI:  STEXP   AC2,$REG0       ; EXP: AC2 => MEM
 9247
 9248  041472  013737  177776  001172           MOV     @#PS,$REG1      ; GET PS RIGHT AWAY, FOR CC BITS
 9249  041500  170237  002000                   STFPS   FPS             ; STORE FPS AFTER
 9250
 9251  041504  023765  002000  000010           CMP     FPS,10(R5)      ; CHECK FPS OK
 9252  041512  001401                           BEQ     648             ; OK, BRANCH
 9253  041514  104001                           ERROR   1               ; FPS BAD
 9254  041516                           648:
 9255
 9256  041516  013737  002000  001174           MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
 9257  041524  042737  177760  001172           BIC     #CCONLY,$REG1   ;
 9258  041532  042737  177760  001174           BIC     #CCONLY,$REG2   ;
 9259  041540  023737  001172  001174           CMP     $REG1,$REG2     ; CC=S COPIED?
 9260  041546  001401                           BEQ     658             ;
 9261  041550  104054                           ERROR   54              ; NOT EQUAL, SIGNAL ERROR
 9262  041552                           658:
 9263
 9264  041552  023765  001170  000004           CMP     $REG0,4(R5)     ; EXP CHECK?
 9265  041560  001401                           BEQ     668             ;
 9266  041562  104050                           ERROR   50              ; NOT EQUAL, SIGNAL ERROR
 9267  041564                           668:
 9268
 9269  041564  000207                           RTS     PC              ; RETURN TO TEST CALLER
 9270
 9271                                   ;;*****************************************************************
 9272                                   .SBTTL  SUBR TO TEST THE STEXP INSTRUCTION, D MODE
 9273
 9274  041566                           SEXDT:
 9275  041566  012700  000007                   MOV     #7,R0           ; LOAD $TMP0=6
 9276  041572  010501                           MOV     R5,R1           ;   WITH TEST DATA SETS
 9277  041574  012702  001230                   MOV     #$TMP0,R2       ;   FOR DISPLAY LATER
 9278  041600  012122                           MOV     (R1)+,(R2)+     ;
 9279  041602  077002                           SOB     R0,.-2          ;
 9280  041604  012737  041612  001112           MOV     #SEXDL,$LPERR   ; ERROR LOOPING ADDRESS
 9281
 9282  041612  170011                   SEXDL:  SETD                    ; D MODE
 9283  041614  172715                           LDD     (R5),AC3        ; INITIAL FLOAT NUMBER
 9284  041616  170165  000012                   LDFPS   12(R5)          ; INITIAL FPS
 9285
 9286  041622  175337  001170           SEXDI:  STEXP   AC3,$REG0       ; EXP: AC3 => MEM
 9287
```



```
 9288  041626  013737  177776  001172           MOV     @#PS,$REG1      ; GET PS RIGHT AWAY
 9289  041634  170237  002000                   STFPS   FPS             ; STORE FPS AFTER
 9290
 9291  041640  023765  002000  000014           CMP     FPS,14(R5)      ; CHECK FPS OK
 9292  041646  001401                           BEQ     648             ; OK, BRANCH
 9293  041650  104003                           ERROR   3               ; FPS BAD
 9294  041652                           648:
 9295
 9296  041652  013737  002000  001174           MOV     FPS,$REG2       ; GET FPS, PS CC BITS ONLY
 9297  041660  042737  177760  001172           BIC     #CCONLY,$REG1   ;
 9298  041666  042737  177760  001174           BIC     #CCONLY,$REG2   ;
 9299  041674  023737  001172  001174           CMP     $REG1,$REG2     ; CC=S COPIED?
 9300  041702  001401                           BEQ     658             ;
 9301  041704  104054                           ERROR   54              ; NOT EQUAL, SIGNAL ERROR
 9302  041706                           658:
 9303
 9304  041706  023765  001170  000010           CMP     $REG0,10(R5)    ; EXP CHECK?
 9305  041714  001401                           BEQ     668             ;
 9306  041716  104051                           ERROR   51              ; NOT EQUAL, SIGNAL ERROR
 9307  041720                           668:
 9308
 9309  041720  000207                           RTS     PC              ; RETURN TO TEST CALLER
```

```
                                        .SBTTL  FPP UNEXPECTED TRAP CATCHER

041722 010637 002012    FPPILT: MOV     SP,FPPOSP       ; SP AFTER TRAP
041726 012637 002006            MOV     (SP)+,FPPOPC    ; POP OLD PC FOR DISPLAY
041732 012637 002010            MOV     (SP)+,FPPOPS    ; POP OLD PS FOR DISPLAY
041736 170237 002000            STFPS   FPS             ; GET FPS
041742 170337 002002            STST    FEC             ; GET FEC/FEA
041746 104056                   ERROR   56              ; SIGNAL UNEXPECTED FPP TRAP
041750 013746 002010            MOV     FPPOPS,-(SP)    ; PUSH PS
041754 013746 002006            MOV     FPPOPC,-(SP)    ; PUSH PC
041760 000002                   RTI                     ; CONTINUE,  RECOVERY AT LAST TRAP ONLY
```



```
                                        .SBTTL  SCOPE HANDLER ROUTINE

                                        ;;**************************************************************
                                        ;*THIS ROUTINE CONTROLS THE LOOPING OF SUBTESTS. IT WILL INCREMENT
                                        ;*AND LOAD THE TEST NUMBER($TSTNM) INTO THE DISPLAY REG.(DISPLAY<15:10>)
                                        ;*THE SWITCH OPTIONS PROVIDED BY THIS ROUTINE ARE:
                                        ;*SW14=1         LOOP ON TEST
                                        ;*SW11=1         INHIBIT ITERATIONS
                                        ;*SW09=1         LOOP ON ERROR
                                        ;*SW08=1         LOOP ON TEST IN "$LPTST"
                                        ;*CALL
                                        ;*      SCOPE           ;;SCOPE=IOT

041762                                  $SCOPE::
041762                                  64$:
041762 032777 040000 137154     10$:    BIT     #BIT14,@#SWR    ;;LOOP ON PRESENT TEST?
041770 PB1114                           BNE     $OVER           ;;YES IF SW14=1
                                        ;;#####START OF CODE FOR THE XOR TESTER#####
041772 000416                   $XTSTR: BR      6$              ;;IF RUNNING ON THE "XOR" TESTER CHANGE
                                        ;;THIS INSTRUCTION TO A "NOP" (NOP=240)
041774 013746 000004                    MOV     @#ERRVEC,-(SP)  ;;SAVE THE CONTENTS OF THE ERROR VECTOR
042000 012737 042020 000004             MOV     #5$,@#ERRVEC    ;;SET FOR TIMEOUT
042006 005737 177060                    TST     @#177060        ;;TIME OUT ON XOR?
042012 012637 000004                    MOV     (SP)+,@#ERRVEC  ;;RESTORE THE ERROR VECTOR
042016 000463                           BR      $SVLAD          ;;GO TO THE NEXT TEST
042020 022626                   5$:     CMP     (SP)+,(SP)+     ;;CLEAR THE STACK AFTER A TIME OUT
042022 012637 000004                    MOV     (SP)+,@#ERRVEC  ;;RESTORE THE ERROR VECTOR
042026 000423                           BR      7$              ;;LOOP ON THE PRESENT TEST
042030                                  6$:;#####END OF CODE FOR THE XOR TESTER#####
042030 032777 000400 137106             BIT     #BIT08,@#SWR    ;;LOOP ON SPEC. TEST?
042036 001404                           BEQ     2$              ;;BR IF NO
042040 023737 001150 001102             CMP     $LPTST,$TSTNM   ;;ON THE RIGHT TEST?
042046 001465                           BEQ     $OVER           ;;BR IF YES
042050 005737 001104            2$:     TST     $ERFLG          ;;HAS AN ERROR OCCURRED?
042054 001421                           BEQ     3$              ;;BR IF NO
042056 023737 001120 001104             CMP     $ERMAX,$ERFLG   ;;MAX. ERRORS FOR THIS TEST OCCURRED?
042064 101015                           BHI     3$              ;;BR IF NO
042066 032777 001000 137050             BIT     #BIT09,@#SWR    ;;LOOP ON ERROR?
042074 001404                           BEQ     4$              ;;BR IF NO
042076 013737 001112 001110     7$:     MOV     $LPERR,$LPADR   ;;SET LOOP ADDRESS TO LAST SCOPE
042104 PH0446                           BR      $OVER
042106 005037 001104            4$:     CLR     $ERFLG          ;;ZERO THE ERROR FLAG
042112 005037 001310                    CLR     $TIMES          ;;CLEAR THE NUMBER OF ITERATIONS TO MAKE
042116 000415                           BR      1$              ;;ESCAPE TO THE NEXT TEST
042120 032777 004000 137016     3$:     BIT     #BIT11,@#SWR    ;;INHIBIT ITERATIONS?
042126 001011                           BNE     1$              ;;BR IF YES
042130 005737 001332                    TST     $PASS           ;;IF FIRST PASS OF PROGRAM
042134 001406                           BEQ     1$              ;;      INHIBIT ITERATIONS
042136 005237 001106                    INC     $ICNT           ;;INCREMENT ITERATION COUNT
042142 023737 001310 001106             CMP     $TIMES,$ICNT    ;;CHECK THE NUMBER OF ITERATIONS MADE
042150 002024                           BGE     $OVER           ;;BR IF MORE ITERATION REQUIRED
042152 012737 000001 001106     1$:     MOV     #1,$ICNT        ;;REINITIALIZE THE ITERATION COUNTER
042160 013737 042236 001310             MOV     #MXCNT,$TIMES   ;;SET NUMBER OF ITERATIONS TO DO
042166 005237 001102            $SVLAD: INC     $TSTNM          ;;COUNT TEST NUMBERS
042172 013737 001102 001330             MOV     $TSTNM,$TESTN   ;;SET TEST NUMBER IN APT MAILBOX
042200 011637 001110                    MOV     (SP),$LPADR     ;;SAVE SCOPE LOOP ADDRESS
```

```
 9377  042204  011637  001112                MOV     (SP),$LPERR     ;;SAVE ERROR LOOP ADDRESS
 9378  042210  005037  001312                CLR     $ESCAPE         ;;CLEAR THE ESCAPE FROM ERROR ADDRESS
 9379  042214  012737  000001  001120        MOV     #1,$ERMAX       ;;ONLY ALLOW ONE(1) ERROR ON NEXT TEST
 9380  042222  013777  001102  136716 $OVER: MOV     $TSTNM,@DISPLAY ;;DISPLAY TEST NUMBER
 9381  042230  013716  001110                MOV     $LPADR,(SP)     ;;FUDGE RETURN ADDRESS
 9382  042234  000002                        RTI                     ;;FIXES PS
 9383  042236  003720                $MXCNT: 2000.                   ;;MAX. NUMBER OF ITERATIONS
```



```
 9384                                       .SBTTL  ERROR HANDLER ROUTINE
 9385
 9386                                       ;;**********************************************************
 9387                                       ;*THIS ROUTINE WILL INCREMENT THE ERROR FLAG AND THE ERROR COUNT,
 9388                                       ;*SAVE THE ERROR ITEM NUMBER AND THE ADDRESS OF THE ERROR CALL
 9389                                       ;*AND GO TO $TYPERR ON ERROR
 9390                                       ;*THE SWITCH OPTIONS PROVIDED BY THIS ROUTINE ARE:
 9391                                       ;*SW15=1        HALT ON ERROR
 9392                                       ;*SW13=1        INHIBIT ERROR TYPEOUTS
 9393                                       ;*SW10=1        BELL ON ERROR
 9394                                       ;*SW09=1        LOOP ON ERROR
 9395                                       ;*CALL
 9396                                       ;*      ERROR   N       ;;ERROR=EMT AND N=ERROR ITEM NUMBER
 9397
 9398  042240                               $ERROR:
 9399  042240  010037  002016                        MOV     R0,EREG0        ; DISPLAY R0
 9400  042244  010137  002020                        MOV     R1,EREG1        ;         R1
 9401  042250  010237  002022                        MOV     R2,EREG2        ;         R2
 9402  042254  010337  002024                        MOV     R3,EREG3        ;         R3
 9403  042260  010437  002026                        MOV     R4,EREG4        ;         R4
 9404  042264  010537  002030                        MOV     R5,EREG5        ;         R5
 9405  042270  010637  002032                        MOV     R6,EREG6        ; GET R6(SP) BEFORE TRAP
 9406  042274  062737  000004  002032                ADD     #4,EREG6        ;
 9407  042302  011637  002034                        MOV     (SP),EREG7      ; PC -> ERROR CALL INSTR
 9408  042306  005237  001104                73:     INC     $ERFLG          ;;SET THE ERROR FLAG
 9409  042312  001775                                BEQ     7$              ;;DON'T LET THE FLAG GO TO ZERO
 9410  042314  013777  001102  136624                MOV     $TSTNM,@DISPLAY ;;DISPLAY TEST NUMBER
 9411  042322  032777  002000  136614                BIT     #BIT10,@SWR     ;;BELL ON ERROR?
 9412  042330  001402                                BEQ     1$              ;;NO - SKIP
 9413  042332  104401  001314                        TYPE    ,$BELL          ;;RING BELL
 9414  042336  005237  001114                1$:     INC     $ERTTL          ;;COUNT THE NUMBER OF ERRORS
 9415  042342  011637  001122                        MOV     (SP),$ERRPC     ;;GET ADDRESS OF ERROR INSTRUCTION
 9416  042346  162737  000002  001122                SUB     #2,$ERRPC
 9417  042354  117737  136542  001116                MOVB    @$ERRPC,$ITEMB  ;;STRIP AND SAVE THE ERROR ITEM CODE
 9418  042362  032777  020000  136554                BIT     #BIT13,@SWR     ;;SKIP TYPEOUT IF SET
 9419  042370  001004                                BNE     20$             ;;SKIP TYPEOUTS
 9420  042372  004737  042502                        JSR     PC,$TYPERR      ;;GO TO USER ERROR ROUTINE
 9421  042376  104401  001321                        TYPE    ,$CRLF
 9422  042402                               20$:
 9423  042402  122737  000001  001344                CMPB    $APTENV,$ENV    ;;RUNNING IN APT MODE
 9424  042410  001007                                BNE     2$              ;;NO,SKIP APT ERROR REPORT
 9425  042412  113737  001116  042424                MOVB    $ITEMB,21$      ;;SET ITEM NUMBER AS ERROR NUMBER
 9426  042420  004737  043216                        JSR     PC,$ATY4        ;;REPORT FATAL ERROR TO APT
 9427  042424     000                       21$:    .BYTE   0
 9428  042425     000                               .BYTE   0
 9429  042426  000777                       22$:    BR      22$             ;;APT ERROR LOOP
 9430  042430  005777  136510                2$:     TST     @SWR            ;;HALT ON ERROR
 9431  042434  100001                                BPL     3$              ;;SKIP IF CONTINUE
 9432  042436  000000                                HALT                    ;;HALT ON ERROR!
 9433  042440  032777  001000  136476        3$:     BIT     #BIT09,@SWR     ;;LOOP ON ERROR SWITCH SET?
 9434  042446  001402                                BEQ     4$              ;;BR IF NO
 9435  042450  013716  001112                        MOV     $LPERR,(SP)     ;;FUDGE RETURN FOR LOOPING
 9436  042454  005737  001312                4$:     TST     $ESCAPE         ;;CHECK FOR AN ESCAPE ADDRESS
 9437  042460  001402                                BEQ     5$              ;;BR IF NONE
 9438  042462  013716  001312                        MOV     $ESCAPE,(SP)    ;;FUDGE RETURN ADDRESS FOR ESCAPE
 9439  042466                               5$:
```

```
 9440  042466  022737  033314  000042          CMP     $$ENDAD,@#42    ;;ACT-11 AUTO-ACCEPT?
 9441  042474  001001                          BNE     6$              ;;BRANCH IF NO
 9442  042476  000000                          HALT                    ;;YES
 9443  042500                          6$:
 9444  042500  000002                  6$:     RTI                     ;RETURN
```



```
 9445                                   ;;*****************************************************************
 9446
 9447                                   .SBTTL  ERROR MESSAGE TYPEOUT ROUTINE (MODIFIED SISMAC)
 9448
 9449                                   ;*THIS ROUTINE USES THE "ITEM CONTROL BYTE" ($ITEMB) TO DETERMINE WHICH
 9450                                   ;*ERROR IS TO BE REPORTED.  IT THEN OBTAINS, FROM THE "ERROR TABLE",
 9451                                   ;*($ERRTB) THE ERROR MESSAGE, DATA HEADER, AND DATA VALUES TO PRINT.
 9452                                   ;*THIS ROUTINE IS IDENTICAL TO THE SYSMAC ROUTINE $ERRTYP, EXCEPT THIS
 9453                                   ;*ROUTINE PUTS A <HT> BETWEEN OCTAL TYPED DATA VALUES, SO THAT EACH
 9454                                   ;*VALUE STARTS AT A HORIZONTAL TAB STOP.  ALSO, THE DATA FORMAT
 9455                                   ;*POINTER HAS BEEN ELIMINATED FROM THE ERROR VECTOR.  THIS ROUTINE
 9456                                   ;*ALSO ALWAYS PRINTS $TESTN AND $ERRPC AS THE FIRST TWO DATA ELEMENTS
 9457                                   ;*(WITH APPROPRIATE HEADERS).
 9458
 9459  042502                          $TYPERR:
 9460  042502  104401                          TYPE                    ; TYPE "HOT" OR "#ARM"
 9461  042504  001321                  HOTWRM: .WORD   $CRLF            ; PTR TO MESSAGE
 9462  042506  010046                          MOV     R0,-(SP)        ; SAVE R0
 9463  042510  010146                          MOV     R1,-(SP)        ; SAVE R1
 9464  042512  005000                          CLR     R0              ; PICKUP ITEM INDEX
 9465  042514  153700  001116                  BISB    @#$ITEMB,R0     ;
 9466  042520  001004                          BNE     1$              ; IF ITEM NUMBER FROM ERROR 0,
 9467                                                                  ;   JUST TYPE PC OF ERROR
 9468  042522  013746  001122                  MOV     $ERRPC,-(SP)    ; GET ERROR PC FOR TYPEOUT
 9469  042526  104402                          TYPOC                   ; TYPE OCTAL, ALL DIGITS
 9470  042530  000452                          BR      7$              ; EXIT
 9471  042532  005300                  1$:     DEC     R0              ; ADJUST ERROR # FOR TABLE INDEX
 9472  042534  006300                          ASL     R0              ;   OF 6 BYTES/ENTRY
 9473  042536  010001                          MOV     R0,R1           ;
 9474  042540  006300                          ASL     R0              ;
 9475  042542  060100                          ADD     R1,R0           ;
 9476  042544  062700  001354                  ADD     @#$ERRTB,R0     ; FORM TABLE PTR
 9477  042550  012037  042560                  MOV     (R0)+,2$        ; PICKUP "ERROR MESSAGE" PTR
 9478  042554  001404                          BEQ     3$              ; SKIP TYPEOUT IF NULL
 9479  042556  104401                          TYPE                    ; TYPE "ERROR MESSAGE"
 9480  042560  000000                  2$:     .WORD   0               ; "ERROR MESSAGE" PTR HERE
 9481  042562  104401  001321                  TYPE    ,$CRLF          ; CR & LF
 9482  042566  104401  042676          3$:     TYPE    ,11$            ; "TEST #    ERR PC" HEADER
 9483  042572  012037  042602                  MOV     (R0)+,4$        ; PICKUP "DATA HEADER" PTR
 9484  042576  001402                          BEQ     5$              ; SKIP TYPEOUT IF NULL
 9485  042600  104401                          TYPE                    ; TYPE "DATA HEADER"
 9486  042602  000000                  4$:     .WORD   0               ; "DATA HEADER" PTR HERE
 9487  042604  104401  001321          5$:     TYPE    ,$CRLF          ; CR & LF
 9488  042610  017746  000054                  MOV     @$$,-(SP)       ; ($TESTN)
 9489  042614  104402                          TYPOC                   ; OCTAL W/ LEADING ZEROS
 9490  042616  104401  042674                  TYPE    ,12$            ; <HT>
 9491  042622  017746  000044                  MOV     @$$,-(SP)       ; ($ERRPC)
 9492  042626  104402                          TYPOC                   ; OCTAL W/ LEADING ZEROS
 9493  042630  104401  042674                  TYPE    ,12$            ; <HT>
 9494  042634  011000                          MOV     (R0),R0         ; PICKUP "DATA TABLE" PTR
 9495  042636  001407                          BEQ     7$              ; EXIT IF NULL
 9496  042640  013046                  6$:     MOV     @(R0)+,-(SP)    ; SAVE ... FOR TYPEOUT
 9497  042642  104402                          TYPOC                   ; TYPE OCTAL, ALL DIGITS
 9498  042644  005710                          TST     (R0)            ; ANOTHER NUMBER ?
 9499  042646  001403                          BEQ     7$              ; NO - EXIT
 9500  042650  104401  042674                  TYPE    ,12$            ; TAB BETWEEN ELEMENTS
```

```
9501  042654  000771                    BR      6$              ; LOOP ON DATA TABLE VECTOR
9502  042656  012601                7$: MOV     (SP)+,R1        ; RESTORE R1
9503  042660  012600                    MOV     (SP)+,R0        ; RESTORE R0
9504  042662  104401  001321            TYPE    ,$CRLF          ; CR & LF
9505  042666  000207                    RTS     PC              ; RETURN
9506  042670  001330                8$: .WORD   $TESTN          ;
9507  042672  001122                9$: .WORD   $ERRPC          ;
9508  042674  000011               10$: .ASCIZ  <11>            ; <HT>
9509  042676  042524  052123  021440 11$: .ASCIZ  "TEST # ERR PC "
9510  042704  042411  051122  050040
9511  042712  000503     000
9512          042716                    .EVEN
```



```
9513                                    .SBTTL  TYPE ROUTINE
9514
9515                                    ;;*****************************************************************
9516                                    ;*ROUTINE TO TYPE ASCIZ MESSAGE. MESSAGE MUST TERMINATE WITH A 0 BYTE.
9517                                    ;*THE ROUTINE WILL INSERT A NUMBER OF NULL CHARACTERS AFTER A LINE FEED.
9518                                    ;*NOTE1:        $NULL CONTAINS THE CHARACTER TO BE USED AS THE FILLER CHARACTER.
9519                                    ;*NOTE2:        $FILLS CONTAINS THE NUMBER OF FILLER CHARACTERS REQUIRED.
9520                                    ;*NOTE3:        $FILLC CONTAINS THE CHARACTER TO FILL AFTER.
9521                                    ;*
9522                                    ;*CALL:
9523                                    ;*1) USING A TRAP INSTRUCTION
9524                                    ;*      TYPE    ,MESADR         ;;MESADR IS FIRST ADDRESS OF AN ASCIZ STRING
9525                                    ;*OR
9526                                    ;*      TYPE
9527                                    ;*      MESADR
9528                                    ;*
9529
9530  042716  105737  001165    $TYPE:: TSTB    $TPFLG          ;;IS THERE A TERMINAL?
9531  042722  100002                    BPL     1$              ;;BR IF YES
9532  042724  000000                    HALT                    ;;HALT HERE IF NO TERMINAL
9533  042726  000430                    BR      3$              ;;LEAVE
9534  042730  010046                1$: MOV     R0,-(SP)        ;;SAVE R0
9535  042732  017600  000002            MOV     @2(SP),R0       ;;GET ADDRESS OF ASCIZ STRING
9536  042736  122737  000001  001344    CMPB    #APTENV,$ENV    ;;RUNNING IN APT MODE
9537  042744  001011                    BNE     6$              ;;NO,GO CHECK FOR APT CONSOLE
9538  042746  132737  000100  001345    BITB    #APTSPOOL,$ENVM ;;SPOOL MESSAGE TO APT
9539  042754  001405                    BEQ     6$              ;;NO,GO CHECK FOR CONSOLE
9540  042756  010037  042766            MOV     R0,61$          ;;SETUP MESSAGE ADDRESS FOR APT
9541  042762  004737  043206            JSR     PC,$ATY3        ;;SPOOL MESSAGE TO APT
9542  042766  000000               61$: .WORD   0               ;;MESSAGE ADDRESS
9543  042770  132737  000040  001345 6$: BITB    #APTCSUP,$ENVM  ;;APT CONSOLE SUPPRESSED
9544  042776  001003                    BNE     60$             ;;YES,SKIP TYPE OUT
9545  043000  112046                2$: MOVB    (R0)+,-(SP)     ;;PUSH CHARACTER TO BE TYPED ONTO STACK
9546  043002  001005                    BNE     4$              ;;BR IF IT ISN'T THE TERMINATOR
9547  043004  005726                    TST     (SP)+           ;;IF TERMINATOR POP IT OFF THE STACK
9548  043006  012600               60$: MOV     (SP)+,R0        ;;RESTORE R0
9549  043010  062716  000002        3$: ADD     #2,(SP)         ;;ADJUST RETURN PC
9550  043014  000002                    RTI                     ;;RETURN
9551  043016  122716  000011        4$: CMPB    #HT,(SP)        ;;BRANCH IF <HT>
9552  043022  001430                    BEQ     8$
9553  043024  122716  000200            CMPB    #CRLF,(SP)      ;;BRANCH IF NOT <CRLF>
9554  043030  001006                    BNE     5$
9555  043032  005726                    TST     (SP)+           ;;POP  <CR><LF> EQUIV
9556  043034  104401                    TYPE                    ;;TYPE A CR AND LF
9557  043036  001321                    $CRLF
9558  043040  105037  043174            CLRB    $CHARCNT        ;;CLEAR CHARACTER COUNT
9559  043044  000755                    BR      2$              ;;GET NEXT CHARACTER
9560  043046  004737  043130        5$: JSR     PC,$TYPEC       ;;GO TYPE THIS CHARACTER
9561  043052  123726  001164        6$: CMPB    $FILLC,(SP)+    ;;IS IT TIME FOR FILLER CHARS.?
9562  043056  001350                    BNE     2$              ;;IF NO GO GET NEXT CHAR.
9563  043060  013746  001162            MOV     $NULL,-(SP)     ;;GET # OF FILLER CHARS. NEEDED
9564                                                            ;;AND THE NULL CHAR.
9565  043064  105366  000001        7$: DECB    1(SP)           ;;DOES A NULL NEED TO BE TYPED?
9566  043070  002770                    BLT     6$              ;;BR IF NO--GO POP THE NULL OFF OF STACK
9567  043072  004737  043130            JSR     PC,$TYPEC       ;;GO TYPE A NULL
9568  043076  105337  043174            DECB    $CHARCNT        ;;DO NOT COUNT AS A COUNT
```

```
 9569  043102  000770                        BR      7$              ;;LOOP
 9570
 9571                                  ;HORIZONTAL TAB PROCESSOR
 9572
 9573  043104  112716  000040          8$:   MOVB    #' ,(SP)        ;;REPLACE TAB WITH SPACE
 9574  043110  004737  043130          9$:   JSR     PC,$TYPEC       ;;TYPE A SPACE
 9575  043114  132737  000007  043174        BITB    #7,$CHARCNT     ;;BRANCH IF NOT AT
 9576  043122  001372                        BNE     9$              ;;TAB STOP
 9577  043124  005726                        TST     (SP)+           ;;POP SPACE OFF STACK
 9578  043126  000724                        BR      2$              ;;GET NEXT CHARACTER
 9579  043130  105777  136022        $TYPEC: TSTB    @$TPS           ;;WAIT UNTIL PRINTER IS READY
 9580  043134  100375                        BPL     $TYPEC
 9581  043136  116677  000002  136014        MOVB    2(SP),@$TPB     ;;LOAD CHAR TO BE TYPED INTO DATA REG.
 9582  043144  122766  000015  000002        CMPB    #CR,2(SP)       ;;IS CHARACTER A CARRIAGE RETURN?
 9583  043152  001003                        BNE     1$              ;;BRANCH IF NO
 9584  043154  105037  043174                CLRB    $CHARCNT        ;;YES--CLEAR CHARACTER COUNT
 9585  043160  000486                        BR      $TYPEX          ;;EXIT
 9586  043162  122766  000012  000002  1$:   CMPB    #LF,2(SP)       ;;IS CHARACTER A LINE FEED?
 9587  043170  001402                        BEQ     $TYPEX          ;;BRANCH IF YES
 9588  043172  105227                        INCB    (PC)+           ;;COUNT THE CHARACTER
 9589  043174  000000          $CHARCNT:.WORD  0                       ;;CHARACTER COUNT STORAGE
 9590  043176  000207          $TYPEX: RTS     PC
 9591
```



```
 9592                                  .SBTTL  APT COMMUNICATIONS ROUTINE
 9593
 9594                                  ;;*****************************************************************
 9595  043200  112737  000001  043444  $ATY1:  MOVB    #1,$FFLG        ;;TO REPORT FATAL ERROR
 9596  043206  112737  000001  043442  $ATY3:  MOVB    #1,$MFLG        ;;TO TYPE A MESSAGE
 9597  043214  000403                        BR      $ATYC
 9598  043216  112737  000001  043444  $ATY4:  MOVB    #1,$FFLG        ;;TO ONLY REPORT FATAL ERROR
 9599  043224                        $ATYC:
 9600  043224  010046                        MOV     R0,-(SP)        ;;PUSH R0 ON STACK
 9601  043226  010146                        MOV     R1,-(SP)        ;;PUSH R1 ON STACK
 9602  043230  105737  043442                TSTB    $MFLG           ;;SHOULD TYPE A MESSAGE?
 9603  043234  001450                        BEQ     5$              ;;IF NOT:  BR
 9604  043236  122737  000001  001344        CMPB    #APTENV,$ENV    ;;OPERATING UNDER APT?
 9605  043244  001031                        BNE     3$              ;;IF NOT:  BR
 9606  043246  132737  000100  001345        BITB    #APTSPOOL,$ENVM ;;SHOULD SPOOL MESSAGES?
 9607  043254  001425                        BEQ     3$              ;;IF NOT:  BR
 9608  043256  017600  000004                MOV     @4(SP),R0       ;;GET MESSAGE ADDR.
 9609  043262  062766  000002  000004        ADD     #2,4(SP)                ;;BUMP RETURN ADDR.
 9610  043270  005737  001324          1$:   TST     $MSGTYPE        ;;SEE IF DONE W/ LAST XMISSION?
 9611  043274  001375                        BNE     1$              ;;IF NOT:  WAIT
 9612  043276  010037  001340                MOV     R0,$MSGAD       ;;PUT ADDR IN MAILBOX
 9613  043302  105720                  2$:   TSTB    (R0)+           ;;FIND END OF MESSAGE
 9614  043304  001376                        BNE     2$
 9615  043306  163700  001340                SUB     $MSGAD,R0       ;;SUB START OF MESSAGE
 9616  043312  006200                        ASR     R0              ;;GET MESSAGE LNGTH IN WORDS
 9617  043314  010037  001342                MOV     R0,$MSGLGT      ;;PUT LENGTH IN MAILBOX
 9618  043320  012737  000004  001324        MOV     #4,$MSGTYPE     ;;TELL APT TO TAKE MSG.
 9619  043326  000413                        BR      5$
 9620  043330  017637  000004  043354  3$:   MOV     @4(SP),4$       ;;PUT MSG ADDR IN JSR LINKAGE
 9621  043336  062766  000002  000004        ADD     #2,4(SP)                ;;BUMP RETURN ADDRESS
 9622  043344  013746  177776                MOV     177776,-(SP)    ;;PUSH 177776 ON STACK
 9623  043350  004737  042716                JSR     PC,$TYPE        ;;CALL TYPE MACRO
 9624  043354  000000                  4$:   .WORD   0
 9625  043356                          5$:
 9626  043356  105737  043444          10$:  TSTB    $FFLG           ;;SHOULD REPORT FATAL ERROR?
 9627  043362  001416                        BEQ     12$             ;;IF NOT:  BR
 9628  043364  005737  001344                TST     $ENV            ;;RUNNING UNDER APT?
 9629  043370  001413                        BEQ     12$             ;;IF NOT:  BR
 9630  043372  005737  001324          11$:  TST     $MSGTYPE        ;;FINISHED LAST MESSAGE?
 9631  043376  001375                        BNE     11$             ;;IF NOT:  WAIT
 9632  043400  017637  000004  001326        MOV     @4(SP),$FATAL   ;;GET ERROR #
 9633  043406  062766  000002  000004        ADD     #2,4(SP)                ;;BUMP RETURN ADDR.
 9634  043414  105237  001324                INC     $MSGTYPE        ;;TELL APT TO TAKE ERROR
 9635  043420  105037  043444          12$:  CLRB    $FFLG           ;;CLEAR FATAL FLAG
 9636  043424  105037  043443                CLRB    $LFLG           ;;CLEAR LOG FLAG
 9637  043430  105037  043442                CLRB    $MFLG           ;;CLEAR MESSAGE FLAG
 9638  043434  012601                        MOV     (SP)+,R1        ;;POP STACK INTO R1
 9639  043436  012600                        MOV     (SP)+,R0        ;;POP STACK INTO R0
 9640  043440  000207                        RTS     PC              ;;RETURN
 9641  043442  000                   $MFLG:  .BYTE   0               ;;MESSG. FLAG
 9642  043443  000                   $LFLG:  .BYTE   0               ;;LOG FLAG
 9643  043444  000                   $FFLG:  .BYTE   0               ;;FATAL FLAG
 9644                                        .EVEN
 9645                                  APTSIZE=200
 9646                                  APTENV=001
 9647                                  APTSPOOL=100
```

```
 9648          000040                  APTCSUP=040
```



```
 9649                                  .SBTTL  BINARY TO OCTAL (ASCII) AND TYPE
 9650
 9651                                  ;;**********************************************************
 9652                                  ;*THIS ROUTINE IS USED TO CHANGE A 16-BIT BINARY NUMBER TO A 6-DIGIT
 9653                                  ;*OCTAL (ASCII) NUMBER AND TYPE IT.
 9654                                  ;*$TYPOS---ENTER HERE TO SETUP SUPPRESS ZEROS AND NUMBER OF DIGITS TO TYPE
 9655                                  ;*CALL:
 9656                                  ;*      MOV     NUM,-(SP)       ;;NUMBER TO BE TYPED
 9657                                  ;*      TYPOS                   ;;CALL FOR TYPEOUT
 9658                                  ;*      .BYTE   N               ;;N=1 TO 6 FOR NUMBER OF DIGITS TO TYPE
 9659                                  ;*      .BYTE   M               ;;M=1 OR 0
 9660                                  ;*                                      ;;1=TYPE LEADING ZEROS
 9661                                  ;*                                      ;;0=SUPPRESS LEADING ZEROS
 9662                                  ;*
 9663                                  ;*$TYPON----ENTER HERE TO TYPE OUT WITH THE SAME PARAMETERS AS THE LAST
 9664                                  ;*$TYPOS OR $TYPOC
 9665                                  ;*CALL:
 9666                                  ;*      MOV     NUM,-(SP)       ;;NUMBER TO BE TYPED
 9667                                  ;*      TYPON                   ;;CALL FOR TYPEOUT
 9668                                  ;*
 9669                                  ;*$TYPOC---ENTER HERE FOR TYPEOUT OF A 16 BIT NUMBER
 9670                                  ;*CALL:
 9671                                  ;*      MOV     NUM,-(SP)       ;;NUMBER TO BE TYPED
 9672                                  ;*      TYPOC                   ;;CALL FOR TYPEOUT
 9673
 9674  043446  017646  000000          $TYPOS: MOV     @(SP),-(SP)     ;;PICKUP THE MODE
 9675  043452  116637  000001  043671          MOVB    1(SP),$0FILL    ;;LOAD ZERO FILL SWITCH
 9676  043460  112637  043673                  MOVB    (SP)+,$OMODE+1  ;;NUMBER OF DIGITS TO TYPE
 9677  043464  062716  000002                  ADD     #2,(SP)         ;;ADJUST RETURN ADDRESS
 9678  043470  000406                          BR      $TYPON
 9679  043472  112737  000001  043671  $TYPOC: MOVB    #1,$0FILL       ;;SET THE ZERO FILL SWITCH
 9680  043500  112737  000006  043673          MOVB    #6,$OMODE+1     ;;SET FOR SIX(6) DIGITS
 9681  043506  112737  000005  043670  $TYPON: MOVB    #5,$OCNT        ;;SET THE ITERATION COUNT
 9682  043514  010346                          MOV     R3,-(SP)        ;;SAVE R3
 9683  043516  010446                          MOV     R4,-(SP)        ;;SAVE R4
 9684  043520  010546                          MOV     R5,-(SP)        ;;SAVE R5
 9685  043522  113704  043673                  MOVB    $OMODE+1,R4     ;;GET THE NUMBER OF DIGITS TO TYPE
 9686  043526  005404                          NEG     R4
 9687  043530  062704  000006                  ADD     #6,R4           ;;SUBTRACT IT FOR MAX. ALLOWED
 9688  043534  110437  043672                  MOVB    R4,$OMODE       ;;SAVE IT FOR USE
 9689  043540  113704  043671                  MOVB    $0FILL,R4       ;;GET THE ZERO FILL SWITCH
 9690  043544  016605  000012                  MOV     12(SP),R5       ;;PICKUP THE INPUT NUMBER
 9691  043550  005003                          CLR     R3              ;;CLEAR THE OUTPUT WORD
 9692  043552  006105                  1$:     ROL     R5              ;;ROTATE MSB INTO "C"
 9693  043554  103403                          BCS     3$              ;;GO DO MSB
 9694  043556  006105                  2$:     ROL     R5              ;;FORM THIS DIGIT
 9695  043560  006105                          ROL     R5
 9696  043562  006105                          ROL     R5
 9697  043564  010503                          MOV     R5,R3
 9698  043566  006103                  3$:     ROL     R3              ;;GET LSB OF THIS DIGIT
 9699  043570  105337  043672                  DECB    $OMODE          ;;TYPE THIS DIGIT?
 9700  043574  100015                          BPL     7$              ;;BR IF NO
 9701  043576  042703  177770                  BIC     #177770,R3      ;;GET RID OF JUNK
 9702  043602  001002                          BNE     4$              ;;TEST FOR 0
 9703  043604  005704                          TST     R4              ;;SUPPRESS THIS 0?
 9704  043606  001403                          BEQ     5$              ;;BR IF YES
```

```
 9705  043610  005201                 48$:    INC     R4              ;;DON'T SUPPRESS ANYMORE 0'S
 9706  043612  052703  000060                 BIS     #'0,R3          ;;MAKE THIS DIGIT ASCII
 9707  043616  052703  000040         58$:    BIS     #' ,R3          ;;MAKE ASCII IF NOT ALREADY
 9708  043622  110337  043666                 MOVB    R3,8$           ;;SAVE FOR TYPING
 9709  043626  104401  043666                 TYPE    ,8$             ;;GO TYPE THIS DIGIT
 9710  043632  105337  043670                 DECB    $OCNT           ;;COUNT BY 1
 9711  043636  003347                         BGT     2$              ;;BR IF MORE TO DO
 9712  043640  002402                         BLT     6$              ;;BR IF DONE
 9713  043642  005204                         INC     R4              ;;INSURE LAST DIGIT ISN'T A BLANK
 9714  043644  000741                         BR      2$              ;;GO DO THE LAST DIGIT
 9715  043646  012605                 6$:     MOV     (SP)+,R5        ;;RESTORE R5
 9716  043650  012604                         MOV     (SP)+,R4        ;;RESTORE R4
 9717  043652  012603                         MOV     (SP)+,R3        ;;RESTORE R3
 9718  043654  016666  000002  000004         MOV     2(SP),4(SP)     ;;SET THE STACK FOR RETURNING
 9719  043662  012616                         MOV     (SP)+,(SP)
 9720  043664  000002                         RTI                     ;;RETURN
 9721  043666  000             8$:     .BYTE   0               ;;STORAGE FOR ASCII DIGIT
 9722  043667  000                     .BYTE   0               ;;TERMINATOR FOR TYPE ROUTINE
 9723  043670  000             $OCNT:  .BYTE   0               ;;OCTAL DIGIT COUNTER
 9724  043671  000             $0FILL: .BYTE   0               ;;ZERO FILL SWITCH
 9725  043672  000000           $OMODE: .WORD   0               ;;NUMBER OF DIGITS TO TYPE
```



```
 9726                                   .SBTTL  TRAP DECODER
 9727
 9728                                   ;;**************************************************************
 9729                                   ;*THIS ROUTINE WILL PACKUP THE LOWER BYTE OF THE "TRAP" INSTRUCTION
 9730                                   ;*AND USE IT TO INDEX THROUGH THE TRAP TABLE FOR THE STARTING ADDRESS
 9731                                   ;*OF THE DESIRED ROUTINE. THEN USING THE ADDRESS OBTAINED IT WILL
 9732                                   ;*GO TO THAT ROUTINE.
 9733
 9734  043674  010046                 $TRAP:  MOV     R0,-(SP)        ;;SAVE R0
 9735  043676  016600  000002                 MOV     2(SP),R0        ;;GET TRAP ADDRESS
 9736  043702  005740                         TST     -(R0)           ;;BACKUP BY 2
 9737  043704  111000                         MOVB    (R0),R0         ;;GET RIGHT BYTE OF TRAP
 9738  043706  006300                         ASL     R0              ;;POSITION FOR INDEXING
 9739  043710  016000  043730                 MOV     $TRPAD(R0),R0   ;;INDEX TO TABLE
 9740  043714  000200                         RTS     R0              ;;GO TO ROUTINE
 9741
 9742
 9743                                   ;;THIS IS USE TO HANDLE THE "GETPRI" MACRO
 9744
 9745  043716  011646                 $TRAP2: MOV     (SP),-(SP)      ;;MOVE THE PC DOWN
 9746  043720  016666  000004  000002         MOV     4(SP),2(SP)     ;;MOVE THE PSW DOWN
 9747  043726  000002                         RTI                     ;;RESTORE THE PSW
 9748
 9749                                   .SBTTL  TRAP TABLE
 9750
 9751                                   ;*THIS TABLE CONTAINS THE STARTING ADDRESSES OF THE ROUTINES CALLED
 9752                                   ;*BY THE "TRAP" INSTRUCTION.
 9753
 9754                                   ;       ROUTINE
 9755                                   ;       -------
 9756  043730  043716                 $TRPAD: .WORD   $TRAP2
 9757  043732  042716                         $TYPE   ;;CALL=TYPE      TRAP+1(104401)  TTY TYPEOUT ROUTINE
 9758  043734  043472                         $TYPOC  ;;CALL=TYPOC     TRAP+2(104402)  TYPE OCTAL NUMBER (WITH LEADING ZEROS)
 9759  043736  043446                         $TYPOS  ;;CALL=TYPOS     TRAP+3(104403)  TYPE OCTAL NUMBER (NO LEADING ZEROS)
 9760  043740  043506                         $TYPON  ;;CALL=TYPON     TRAP+4(104404)  TYPE OCTAL NUMBER (AS PER LAST CALL)
 9761
 9762
```

```
                                        .SBTTL  POWER DOWN AND UP ROUTINES

                                        ;;**************************************************************
                                        ;POWER DOWN ROUTINE
043742  012737  044114  000024  $PWRDN: MOV     #$ILLUP,@#PWRVEC ;;SET FOR FAST UP
043750  012737  000340  000026          MOV     #340,@#PWRVEC+2 ;;PRIO:7
043756  010046                        MOV     R0,-(SP)        ;;PUSH R0 ON STACK
043760  010146                        MOV     R1,-(SP)        ;;PUSH R1 ON STACK
043762  010246                        MOV     R2,-(SP)        ;;PUSH R2 ON STACK
043764  010346                        MOV     R3,-(SP)        ;;PUSH R3 ON STACK
043766  010446                        MOV     R4,-(SP)        ;;PUSH R4 ON STACK
043770  010546                        MOV     R5,-(SP)        ;;PUSH R5 ON STACK
043772  017746  135146                MOV     @SWR,-(SP)      ;;PUSH @SWR ON STACK
043776  010637  044120                MOV     SP,@$AVR6       ;;SAVE SP
044002  012737  044014  000024        MOV     #@PWRUP,@#PWRVEC ;;SET UP VECTOR
044010  000000                        HALT
044012  000776                        BR      .-2             ;;HANG UP

                                        ;;**************************************************************
                                        ;POWER UP ROUTINE
044014  012737  044114  000024  $PWRUP: MOV     #$ILLUP,@#PWRVEC ;;SET FOR FAST DOWN
044022  013706  044120                MOV     @$AVR6,SP       ;;GET SP
044026  005037  044120                CLR     @$AVR6          ;;WAIT LOOP FOR THE TTY
044032  005237  044120          1$:   INC     @$AVR6          ;;WAIT FOR THE INC
044036  001375                        BNE     1$              ;;OF  WORD
044040  011600                        MOV     (SP),R0         ;GET SAVED SWR OFF STACK
044042  076600  000226                MED     ,226            ;RESTORE SWR CONTENTS
044046  012677  135072                MOV     (SP)+,@SWR      ;;POP STACK INTO @SWR
044052  012605                        MOV     (SP)+,R5        ;;POP STACK INTO R5
044054  012604                        MOV     (SP)+,R4        ;;POP STACK INTO R4
044056  012603                        MOV     (SP)+,R3        ;;POP STACK INTO R3
044060  012602                        MOV     (SP)+,R2        ;;POP STACK INTO R2
044062  012601                        MOV     (SP)+,R1        ;;POP STACK INTO R1
044064  012600                        MOV     (SP)+,R0        ;;POP STACK INTO R0
044066  012737  043742  000024        MOV     #@PWRDN,@#PWRVEC ;;SET UP THE POWER DOWN VECTOR
044074  012737  000340  000026        MOV     #340,@#PWRVEC+2 ;;PRIO:7
044102  104401                        TYPE                    ;REPORT THE POWER FAILURE
044104  044122                $PWRMG: .WORD   $POWER          ;;POWER FAIL MESSAGE POINTER
044106  012716                        MOV     (PC)+,(SP)      ;;RESTART AT START
044110  002000                $PWRAD: .WORD   START           ;;RESTART ADDRESS
044112  000002                        RTI
044114  000000                $ILLUP: HALT                    ;;THE POWER UP SEQUENCE WAS STARTED
044116  000776                        BR      .-2             ;; BEFORE THE POWER DOWN WAS COMPLETE
044120  000000                $$AVR6: 0                       ;;PUT THE SP HERE
044122  005015  047520  042527  $POWER: .ASCIZ  <15><12>"POWER"
044130  000122
                                        .EVEN
```



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

                                        ; MESSAGE PREFIXES
044132  047510  035124  000040  ASCHOT: .ASCIZ  "HOT: "
044140  040527  046522  020072  ASCWRM: .ASCIZ  "WARM: "
044146      000

                                        ; ERROR MESSAGES HERE
044147      122  041505  044505  EMA:    .ASCIZ  "RECEIVED FPS IS BAD"
044154  042520  020104  050106
044162  020123  051511  041040
044170  042101      000
044173      122  041505  044505  EMB:    .ASCIZ  "RECEIVED FEC/FEA IS BAD"
044200  042520  020104  042506
044206  027503  042506  020101
044214  051511  041040  042101
044222      000
044223      125  042516  050130  EMC:    .ASCIZ  "UNEXPECTED FLOATING POINT TRAP, IGNORED & CONTINUING"
044230  041505  042524  020104
044236  046106  040517  044524
044244  043516  050040  044517
044252  052116  052040  040522
044260  026120  044440  047107
044266  051117  042105  023040
044274  041440  047117  044524
044302  052516  047111  000107
044310  050103  020125  051520  EMD:    .ASCIZ  "CPU PS CONDITION CODES SET INCORRECTLY"
044316  041440  047117  044504
044324  044524  047117  041440
044332  042117  051505  051440
044340  052105  044440  041516
044346  051117  042522  052103
044354  054514      000
044357      103  050115  043050  EME:    .ASCIZ  "CMP(F/D) OPERATION - REGISTER MODIFIED AFTER EXECUTION"
044364  042057  020051  050117
044372  051105  052101  047511
044400  020116  020055  042522
044406  044507  052123  051105
044414  046440  042117  043111
044422  042511  020104  043101
044430  042524  020122  054105
044436  041505  052125  047511
044444  000116
044446  042101  027504  052523  EMF:    .ASCIZ  "ADD/SUB(F/D) OPERATION - RESULT INCORRECT"
044454  024102  027506  024504
044462  047440  042520  040522
044470  044524  047117  026440
044476  051040  051505  046125
044504  020124  047111  047503
044512  051122  041505  000124
044520  052515  027514  044504  EMG:    .ASCIZ  "MUL/DIV(F/D) OPERATION - RESULT INCORRECT"
044526  024126  027506  024504
044534  047440  042520  040522
044542  044524  047117  026440
044550  051040  051505  046125
044556  020124  047111  047503
```

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9866  044564  051122  041505  000124
9867  044572  047515  024104  027506  EMH:    .ASCIZ  "MOD(F/D) OPERATION - FRACTIONAL RESULT INCORRECT"
9868  044600  024504  047440  042520
9869  044606  040522  044524  047117
9870  044614  026440  043040  040522
9871  044622  052103  047511  040516
9872  044630  020114  042522  052523
9873  044636  052114  044440  041516
9874  044644  051117  042522  052103
9875  044652     000
9876  044653     115  042117  043050  EMI:    .ASCIZ  "MOD(F/D) OPERATION - INTEGER RESULT INCORRECT"
9877  044660  042057  020051  050117
9878  044666  051105  052101  047511
9879  044674  020116  020055  047111
9880  044702  042524  042507  020122
9881  044710  042522  052523  052114
9882  044716  044440  041516  051117
9883  044724  042522  052103     000
9884  044731     106  047514  052101  EMJ:    .ASCIZ  "FLOAT-TO-DOUBLE CONVERSION - RESULT INCORRECT"
9885  044736  052055  026517  047504
9886  044744  041125  042514  041440
9887  044752  047117  042526  051522
9888  044760  047511  020116  020055
9889  044766  042522  052523  052114
9890  044774  044440  041516  051117
9891  045002  042522  052103     000
9892  045007     104  052517  046102  EMK:    .ASCIZ  "DOUBLE-TO-FLOAT CONVERSION - RESULT INCORRECT"
9893  045014  026505  047524  043055
9894  045022  047514  052101  041440
9895  045030  047117  042526  051522
9896  045036  047511  020116  020055
9897  045044  042522  052523  052114
9898  045052  044440  041516  051117
9899  045060  042522  052103     000
9900  045065     106  054111  042105  EML:    .ASCIZ  "FIXED-TO-FLOATING CONVERSION - RESULT INCORRECT"
9901  045072  052055  026517  046106
9902  045100  040517  044524  043516
9903  045106  041440  047117  042526
9904  045114  051522  047511  020116
9905  045122  020055  042522  052523
9906  045130  052114  044440  041516
9907  045136  051117  042522  052103
9908  045144     000
9909  045145     106  047514  052101  EMM:    .ASCIZ  "FLOATING-TO-FIXED CONVERSION - RESULT INCORRECT"
9910  045152  047111  026507  047524
9911  045160  043055  054111  042105
9912  045166  041440  047117  042526
9913  045174  051522  047511  020116
9914  045202  020055  042522  052523
9915  045210  052114  044440  041516
9916  045216  051117  042522  052103
9917  045224     000
9918  045225     114  040517  020104  EMN:    .ASCIZ  "LOAD EXPONENT(F/D) OPERATION - RESULT INCORRECT"
9919  045232  054105  047520  042516
9920  045240  052116  043050  042057
9921  045246  020051  050117  051105
```



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9922  045254  052101  047511  020116
9923  045262  020055  042522  052523
9924  045270  052114  044440  041516
9925  045276  051117  042522  052103
9926  045304     000
9927  045305     123  047524  042522  EMO:    .ASCIZ  "STORE EXPONENT(F/D) OPERATION - RESULT INCORRECT"
9928  045312  042440  050130  047117
9929  045320  047105  024124  027506
9930  045326  024504  047440  042520
9931  045334  040522  044524  047117
9932  045342  026440  051040  051505
9933  045350  046125  020124  047111
9934  045356  047503  051122  041505
9935  045364  000124
```

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 9936                                                    ; DATA HEADERS HERE
 9937  045366  054105  023520  004504  DHA:    .ASCIZ  "EXP'D  RCV'D"
 9938  045374  041522  023526  000104
 9939  045402  054105  023520  026504  DHB:    .ASCIZ  "EXP'D-FEC-RCV'D        EXP'D-FEA-RCV'D"
 9940  045410  042506  026503  041522
 9941  045416  023526  004504  054105
 9942  045424  023520  026504  042506
 9943  045432  026501  041522  023526
 9944  045440  000104
 9945  045442  026455  042455  050130  DHC:    .ASCIZ  "---EXPECTED--- ---RECEIVED---"
 9946  045450  041505  042524  026504
 9947  045456  026455  026411  026455
 9948  045464  042522  042503  053111
 9949  045472  042105  026455  000055
 9950  045500  026455  026455  026455  DHD:    .ASCIZ  "-----------EXPECTED----------- -----------RECEIVED-----------"
 9951  045506  026455  026455  042455
 9952  045514  050130  041505  042524
 9953  045522  026504  026455  026455
 9954  045530  026455  026455  026455
 9955  045536  026411  026455  026455
 9956  045544  026455  026455  026455
 9957  045552  042522  042503  053111
 9958  045560  042105  026455  026455
 9959  045566  026455  026455  026455
 9960  045574  000055
 9961  045576  046117  020104  041520  DHF:    .ASCIZ  "OLD PC OLD PS  NEW SP   FPS     FEC     FEA"
 9962  045604  047411  042114  050040
 9963  045612  000523  042516  020127
 9964  045620  050123  020011  050106
 9965  045626  000523  043040  041505
 9966  045634  020011  042506  000101
```



```
 9967                                                    ; DATA ADDRESS VECTOR
 9968                                                    .EVEN
 9969  045642  001240  002000  000000  DTA:    .WORD   $TMP4,FPS,0
 9970  045650  001242  002000  000000  DTB:    .WORD   $TMP5,FPS,0
 9971  045656  001244  002000  000000  DTC:    .WORD   $TMP6,FPS,0
 9972  045664  001246  002000  000000  DTD:    .WORD   $TMP7,FPS,0
 9973  045672  001252  002000  000000  DTE:    .WORD   $TMP11,FPS,0
 9974  045700  001254  002000  000000  DTF:    .WORD   $TMP12,FPS,0
 9975  045706  001262  002000  000000  DTG:    .WORD   $TMP15,FPS,0
 9976  045714  001272  002000  000000  DTH:    .WORD   $TMP21,FPS,0
 9977  045722  001242  002002  002014  DTI:    .WORD   $TMP5,FEC,EXPFEA,FEA,0
 9978  045730  002004  000000
 9979  045734  001244  002002  002014  DTJ:    .WORD   $TMP6,FEC,EXPFEA,FEA,0
 9980  045742  002004  000000
 9981  045746  001246  002002  002014  DTK:    .WORD   $TMP7,FEC,EXPFEA,FEA,0
 9982  045754  002004  000000
 9983  045756  001250  002002  002014  DTL:    .WORD   $TMP10,FEC,EXPFEA,FEA,0
 9984  045766  002004  000000
 9985  045772  001254  002002  002014  DTM:    .WORD   $TMP12,FEC,EXPFEA,FEA,0
 9986  046000  002004  000000
 9987  046004  001256  002002  002014  DTN:    .WORD   $TMP13,FEC,EXPFEA,FEA,0
 9988  046012  002004  000000
 9989  046016  001264  002002  002014  DTO:    .WORD   $TMP16,FEC,EXPFEA,FEA,0
 9990  046024  002004  000000
 9991  046030  001274  002002  002014  DTP:    .WORD   $TMP22,FEC,EXPFEA,FEA,0
 9992  046036  002004  000000
 9993  046042  001234  001170  000000  DTQ:    .WORD   $TMP2,$REG0,0
 9994  046050  001240  001170  000000  DTR:    .WORD   $TMP4,$REG0,0
 9995  046056  001230  001232  001170  DTS:    .WORD   $TMP0,$TMP1,$REG0,$REG1,0
 9996  046064  001172  000000
 9997  046070  001232  001234  001170  DTT:    .WORD   $TMP1,$TMP2,$REG0,$REG1,0
 9998  046076  001172  000000
 9999  046102  001234  001236  001170  DTU:    .WORD   $TMP2,$TMP3,$REG0,$REG1,0
10000  046110  001172  000000
10001  046114  001240  001242  001170  DTV:    .WORD   $TMP4,$TMP5,$REG0,$REG1,0
10002  046122  001172  000000
10003  046126  001244  001246  001174  DTW:    .WORD   $TMP6,$TMP7,$REG2,$REG3,0
10004  046134  001176  000000
10005  046140  001230  001232  001234  DTX:    .WORD   $TMP0,$TMP1,$TMP2,$TMP3
10006  046146  001236
10007  046150  001172  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10008  046156  001176  000000
10009  046162  001232  001234  001236  DTY:    .WORD   $TMP1,$TMP2,$TMP3,$TMP4
10010  046170  001240
10011  046172  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10012  046200  001176  000000
10013  046204  001234  001236  001240  DTZ:    .WORD   $TMP2,$TMP3,$TMP4,$TMP5
10014  046212  001242
10015  046214  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10016  046222  001176  000000
10017  046226  001240  001242  001244  DTAA:   .WORD   $TMP4,$TMP5,$TMP6,$TMP7
10018  046234  001246
10019  046236  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
10020  046244  001176  000000
10021  046250  001250  001252  001254  DTAB:   .WORD   $TMP10,$TMP11,$TMP12,$TMP13
10022  046256  001256
```

```
 10023  046260  001170  001172  001174          .WORD   $REG0,$REG1,$REG2,$REG3,0
 10024  046266  001176  000000
 10025  046272  001260  001262  001264  DTAC:   .WORD   $TMP14,$TMP15,$TMP16,$TMP17
 10026  046300  001266
 10027  046302  001200  001202  001204          .WORD   $REG4,$REG5,$REG6,$REG7,0
 10028  046310  001206  000000
 10029  046314  001174  001172  000000  DTAD:   .WORD   $REG2,$REG1,0
 10030  046322  001176  001174  000000  DTAE:   .WORD   $REG3,$REG2,0
 10031  046330  002006  002010  002012  DTAK:   .WORD   FPPOPC,FPPOPS,FPPOSP,FPS,FEC,FEA,0
 10032  046336  002000  002002  002004
 10033  046344  000000
 10034
 10035
 10036                                  ; THE END
 10037          000001                  .END
```



```
ABASE = 000000            330
ACDW1 = 000002            330
ACDW2 = 000004            330
ACPUOP= 000000            330    345
ADDDI   034073           8103#  8114
ADDDL   034060           8097   8099#
ADDDT   034034           1426   1448   1470   1492   1514   1536   1558   1580   1602   1624   1646   1668   1690
                         1712   1734   1756   1778   1800   1822   8091#
ADDD1   005624           1425   1430#
ADDD10  006272           1579   1584#
ADDD11  006344           1601   1606#
ADDD12  006416           1623   1628#
ADDD13  006470           1645   1650#
ADDD14  006542           1667   1672#
ADDD15  006614           1689   1694#
ADDD16  006666           1711   1716#
ADDD17  006740           1733   1738#
ADDD2   005676           1447   1452#
ADDD20  007012           1755   1760#
ADDD21  007064           1777   1782#
ADDD22  007136           1799   1804#
ADDD23  007210           1821   1826#
ADDD3   005750           1469   1474#
ADDD4   006022           1491   1496#
ADDD5   006074           1513   1518#
ADDD6   006146           1535   1540#
ADDD7   006220           1557   1562#
ADDFI   033720           8060#  8071
ADDFL   033710           8054   8056#
ADDFT   033664           1064   10#3   1102   1121   1140   1159   1178   1197   1216   1235   1254   1273   1292
                         1311   1330   1349   1368   1387   1406   8048#
ADDF1   004532           1063   1068#
ADDF10  005054           1196   1201#
ADDF11  005112           1215   1220#
ADDF12  005150           1234   1239#
ADDF13  005206           1253   1258#
ADDF14  005244           1272   1277#
ADDF15  005302           1291   1296#
ADDF16  005340           1310   1315#
ADDF17  005376           1329   1334#
ADDF2   004570           1082   1087#
ADDF20  005434           1348   1353#
ADDF21  005472           1367   1372#
ADDF22  005530           1386   1391#
ADDF23  005566           1405   1410#
ADDF3   004626           1101   1106#
ADDF4   004664           1120   1125#
ADDF5   004722           1139   1144#
ADDF6   004760           1158   1163#
ADDF7   005016           1177   1182#
ADDW0 = 000000            330
ADDW1 = 000002            330
ADDW10= 000020            330
ADDW11= 000022            330
ADDW12= 000024            330
ADDW13= 000026            330
```

```
CMPF12  003564          768     773#
CMPF13  003616          786     791#
CMPF14  003650          804     809#
CMPF2   003244          624     629#
CMPF3   003276          642     647#
CMPF4   003330          660     665#
CMPF5   003362          678     683#
CMPF6   003414          696     701#
CMPF7   003446          714     719#
CR    = 000015           41#    451     456     464    9582    9592
CRLF  = 000200           42#   9553    9592
DDISP = 177570           48#    268     501
DMA     045366          373     374     375     376     378     379     380     381     410     411     416     417     421
                        422    9937#
DMB     045402          383     384     385     386     388     389     390     391    9939#
DMC     045442          393     395     397     399     400     403     406     408     412     413     414    9945#
DMD     045500          394     396     398     401     402     404     405     407     409     415    9950#
DMF     045576          424    9961#
DISPLA  001146          268#    501*    509*   9380*   9410*
DISPRE  000174          199#    509
DIVD1   035330         8370#   8381
DIVDL   035320         8364    8366#
DIVDT   035274         3401    3423    3445    3467    3489    3511    3533    3555    3577    3599    3621    3643    3665
                       3687    3709    3731    8358#
DIVD1   014440         3400    3405#
DIVD10  015106         3554    3559#
DIVD11  015160         3576    3581#
DIVD12  015232         3598    3603#
DIVD13  015304         3620    3625#
DIVD14  015356         3642    3647#
DIVD15  015430         3664    3669#
DIVD16  015502         3686    3691#
DIVD17  015554         3708    3713#
DIVD2   014512         3422    3427#
DIVD20  015626         3730    3735#
DIVD3   014564         3444    3449#
DIVD4   014636         3466    3471#
DIVD5   014710         3488    3493#
DIVD6   014762         3510    3515#
DIVD7   015034         3532    3537#
DIVFI   035160         8327#   8338
DIVFL   035150         8321    8323#
DIVFT   035124         3077    3096    3115    3134    3153    3172    3191    3210    3229    3248    3267    3286    3305
                       3324    3343    3362    3381    8315#
DIVF1   013442         3076    3081#
DIVF10  013764         3209    3214#
DIVF11  014042         3228    3233#
DIVF12  014060         3247    3252#
DIVF13  014116         3266    3271#
DIVF14  014154         3285    3290#
DIVF15  014212         3304    3309#
DIVF16  014250         3323    3328#
DIVF17  014306         3342    3347#
DIVF2   013500         3095    3100#
DIVF20  014344         3361    3366#
DIVF21  014402         3380    3385#
```



```
DIVF3   013536          3114    3119#
DIVF4   013574          3133    3138#
DIVF5   013632          3152    3157#
DIVF6   013670          3171    3176#
DIVF7   013726          3190    3195#
DSWR  = 177570            47#    267     500
DTA     045642          373    9969#
DTAA    046226          405     415   10017#
DTAB    046250          396     398     401   10021#
DTAC    046272          402   10025#
DTAD    046314          421   10029#
DTAE    046322          422   10030#
DTAF    046330          424   10031#
DTB     045650          374    9970#
DTC     045656          375    9971#
DTD     045664          376    9972#
DTE     045672          378    9973#
DTF     045700          379    9974#
DTG     045706          380    9975#
DTH     045714          381    9976#
DTI     045722          383    9977#
DTJ     045734          384    9979#
DTK     045746          385    9981#
DTL     045760          386    9983#
DTM     045772          388    9985#
DTN     046004          389    9987#
DTO     046016          390    9989#
DTP     046030          391    9991#
DTQ     046042          410     416    9993#
DTR     046050          411     417    9994#
DTS     046056          393    9995#
DTT     046070          406    9997#
DTU     046102          408     412     414    9999#
DTV     046114          395     397     399     403     413   10001#
DTW     046126          400   10003#
DTX     046140          394   10005#
DTY     046162          407   10009#
DTZ     046204          404     409   10013#
EMA     044147          373     374     375     376     378     379     380     381    9818#
EMB     044173          383     384     385     386     388     389     390     391    9822#
EMC     044223          424    9827#
EMD     044310          421     422    9836#
EME     044357          393     394    9843#
EMF     044446          395     396    9853#
EMG     044520          397     398    9860#
EMH     044572          399     401    9867#
EMI     044653          400     402    9876#
EMJ     044731          404     405    9884#
EMK     045007          403    9892#
EML     045065          406     407     408     409    9900#
EMM     045145          410     411     412     413    9909#
EMN     045225          414     415    9918#
EMU     045305          416     417    9927#
EMIVEC= 000300          136#    484*    485*
EMV001  001354          373#
EMV002  001362          374#
```

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EMV003  001370          375#
EMV004  001376          376#
EMV005  001404          378#
EMV006  001412          379#
EMV007  001420          380#
EMV010  001426          381#
EMV011  001434          383#
EMV012  001442          384#
EMV013  001450          385#
EMV014  001456          386#
EMV015  001464          388#
EMV016  001472          389#
EMV017  001500          390#
EMV020  001506          391#
EMV021  001514          393#
EMV022  001522          394#
EMV023  001530          395#
EMV024  001536          396#
EMV025  001544          397#
EMV026  001552          398#
EMV027  001560          399#
EMV030  001566          400#
EMV031  001574          401#
EMV032  001602          402#
EMV033  001610          403#
EMV034  001616          404#
EMV035  001624          405#
EMV036  001632          406#
EMV037  001640          407#
EMV040  001646          408#
EMV041  001654          409#
EMV042  001662          410#
EMV043  001670          411#
EMV044  001676          412#
EMV045  001704          413#
EMV046  001712          414#
EMV047  001720          415#
EMV050  001726          416#
EMV051  001734          417#
EMV052  001742          418#
EMV053  001750          419#
EMV054  001756          421#
EMV055  001764          422#
EMV056  001772          424#
EREG0   002010          436#  9399*
EREG1   002020          437#  9400*
EREG2   002022          438#  9401*
EREG3   002024          439#  9402*
EREG4   002026          440#  9403*
EREG5   002030          441#  9404*
EREG6   002032          442#  9405*  9406*
EREG7   002034          443#  9407*
ERRVEC= 000004          129#   498    499*   510*  9341  9342*  9344*  9347*
EXPFEA  002014          433#  7981*  7984   8025*  8028  8071*  8074  8114*  8117  8160*  8163  8203*  8206
                       8249*  8252*  8292*  8295  8338*  8341  8381*  8384  8431*  8434  8497*  8490  8548*
                       8551   8604*  8607   8662*  8665  8706*  8709  8751*  8754  8967*  8970  9017*  9020
```



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                       9067*  9070   9119*  9122   9167*  9170   9210*  9213   9977   9979   9981   9983   9985
                       9987   9989   9991
FEA     002004          429#  7984   8028   8074   8117   8163   8206   8252   8295   8341   8384   8434   8490
                       8551   8607   8665   8709   8754   8970   9020   9070   9122   9170   9213   9977   9979
                       9981   9983   9985   9987   9989   9991  10031
FEC     002002          428#  7973*  7982   8017*  8026   8063*  8072   8106*  8115   8152*  8161   8195*  8204
                       8241*  8250   8284*  8293   8330*  8339   8373*  8382   8422*  8432   8478*  8488   8539*
                       8549   8595*  8605   8654*  8663   8698*  8707   8744*  8752   8960*  8968   9010*  9018
                       9060*  9068   9112*  9120   9160*  9168   9203*  9211   9316*  9977   9979   9981   9983
                       9985   9987   9989   9991  10031
FPPILT  141722          519   9312#
FPPOPC  002006          430#  9313*  9319  10031
FPPOPS  002010          431#  9314*  9318  10031
FPPOSP  002012          432#  9312*  10031
FPPVEC= 000244          151#   519*   520*
FPS     002002          427#  7972*  7976   8016*  8020   8062*  8066   8105*  8109   8151*  8155   8194*  8198
                       8240*  8244   8283*  8287   8329*  8333   8372*  8376   8421*  8426   8477*  8482   8538*
                       8543   8594*  8599   8653*  8657   8697*  8701   8743*  8746   8786*  8788   8819*  8822
                       8852*  8855   8889*  8892   8922*  8925   8959*  8962   8975   9009*  9012   9025   9059*
                       9062   9075   9111*  9114   9127   9159*  9162   9202*  9205   9249*  9251   9256   9289*
                       9291   9296   9315*  9969   9970   9971   9972   9973   9974   9975   9976  10031
FPSW    = 000000         185#
FPSX    = 147757         184#
FIN     = 140200         178#  1926   1927   2183   2185   3839   3879   3918   3921   4199   4225   4271   4544
                       4584   4623   4904   4930   4976   5244   5246   5263   5265   5607   5609
FIP     = 040200         177#  1907   1908   2205   2207   3160   3564   3858   3899   4177   4249   4277   4563
                       4604   4682   4954   5225   5227   5358   5360   5377   5379   5626   5628   5664   5666
                       5702   5704   5740   5742
GNS     = ****** U       198   9757   9758   9759   9760
HOIWPM  042504           596*   598*  9461#
HT      = 000011          39#  9551   9592
IOIVEC= 000250           134#   482*   483*
LB      = 000377         180#
LCDFI   036632          8651#  8662
LCDFL   036620          8645   8647#
LCDFT   036574          5163   5182   5201   5220   5239   5258   5277   5296   5315   5334   5353   5372   5391
                        5410   8639#
LCDF1   023100          5162   5167#
LCDF10  023422          5295   5300#
LCDF11  023460          5314   5319#
LCDF12  023516          5333   5338#
LCDF13  023554          5352   5357#
LCDF14  023612          5371   5376#
LCDF15  023650          5390   5395#
LCDF16  023706          5409   5414#
LCDF2   023136          5181   5186#
LCDF3   023174          5200   5205#
LCDF4   023232          5219   5224#
LCDF5   023270          5238   5243#
LCDF6   023326          5257   5262#
LCDF7   023364          5276   5281#
LCFD1   037002          8695*  8706
LCFDL   036770          8689   8691#
LCFDT   036734          5430   5449   5468   5487   5506   5525   5544   5563   8693#
LCFD1   023744          5429   5434#
LCFD10  024260          5562   5567#
```

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LCFD2   024002          5448    5453#
LCFD3   024040          5467    5472#
LCFD4   024076          5486    5491#
LCFD5   024134          5505    5510#
LCFD6   024172          5524    5529#
LCFD7   024230          5543    5548#
LC1DL   037546          8846    8848#
LC1DT   037522          6012    6030    6048    6066    6084    8840#
LC1D1   025552          6011    6016#
LC1D2   025604          6029    6034#
LC1D3   025636          6047    6052#
LC1D4   025670          6065    6070#
LC1D5   025722          6083    6088#
LC1FL   037446          8813    8815#
LC1FT   037422          5926    5943    5960    5977    5994    8807#
LC1F1   025374          5925    5930#
LC1F2   025422          5942    5947#
LC1F3   025450          5959    5964#
LC1F4   025476          5976    5981#
LC1F5   025524          5993    5998#
LC2DL   037766          8916    8918#
LC2D1   037742          6223    6241    6259    6277    6295    8910#
LC2D1   026224          6222    6227#
LC2D2   026260          6240    6245#
LC2D3   026314          6258    6263#
LC2D4   026350          6276    6281#
LC2D5   026404          6294    6299#
LC2FL   037666          8883    8885#
LC2FT   037642          6103    6120    6137    6154    6171    6188    6205    8877#
LC2F1   025754          6102    6107#
LC2F2   026004          6119    6124#
LC2F3   026034          6136    6141#
LC2F4   026064          6153    6158#
LC2F5   026114          6170    6175#
LC2F6   026144          6187    6192#
LC2F7   026174          6204    6209#
LEXD1   041276          9200#   9210
LEXDL   041266          9194    9196#
LEXDT   041242          7217    7238    7259    7280    7301    7322    7343    7364    7385    7406    7427    7448    7469
                        7490    7511    7532    7553    7574    7595    7616    9188#
LEXD1   031104          7216    7221#
LEXD10  031500          7363    7368#
LEXD11  031544          7384    7389#
LEXD12  031610          7405    7410#
LEXD13  031654          7426    7431#
LEXD14  031720          7447    7452#
LEXD15  031764          7468    7473#
LEXD16  032030          7489    7494#
LEXD17  032074          7510    7515#
LEXD2   031150          7237    7242#
LEXD20  032140          7531    7536#
LEXD21  032204          7552    7557#
LEXD22  032250          7573    7578#
LEXD23  032314          7594    7599#
LEXD24  032360          7615    7620#
LEXD3   031214          7258    7263#
```



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LEXD4   031260          7279    7284#
LEXD5   031324          7300    7305#
LEXD6   031370          7321    7326#
LEXD7   031431          7342    7347#
LEXF1   041126          9157#   9167
LEXFL   041116          9151    9153#
LEXFT   041072          6836    6855    6874    6893    6912    6931    6950    6969    6988    7007    7026    7045    7064
                        7083    7102    7121    7140    7159    7178    7197    9145#
LEXF1   030024          6835    6840#
LEXF10  030330          6968    6973#
LEXF11  030364          6987    6992#
LEXF12  030420          7006    7011#
LEXF13  030454          7025    7030#
LEXF14  030510          7044    7049#
LEXF15  030544          7063    7068#
LEXF16  030600          7082    7087#
LEXF17  030634          7101    7106#
LEXF2   030060          6854    6859#
LEXF20  030670          7120    7125#
LEXF21  030724          7139    7144#
LEXF22  030760          7158    7163#
LEXF23  031014          7177    7182#
LEXF24  031050          7196    7201#
LEXF3   030114          6873    6878#
LEXF4   030150          6892    6897#
LEXF5   030204          6911    6916#
LEXF6   030240          6930    6935#
LEXF7   030274          6949    6954#
LF      = 000012          40#     451     456     464    9586    9592
LGN     = 177777         172#     669     684     849     891    1127    1354    1356    1373    1374    1497    1761    1763
                        2021    2023    2040    2059    2271    2275    2293    2297    2420    2653    2655    2754    2950
                        2952    3197    3348    3387    3738    3798    3818    3820    4105    4503    4523    4525    4810
                        5396    5530    5531    5683    5685    5721    5855    5857
LGP     = 077777         171#     648     685     851     889    1126    1316    1317    1499    1717    1721    1805    1809
                        1827    1829    1983    1985    2002    2004    2359    2363    2301    2403    2444    2730    2972
                        2974    3329    3368    3408    3716    3779    4127    4151    4155    4484    4832    4856    4860
                        5282    5301    5303    5358    5377    5492    5493    5702    5740    5797    5912    5914
MD1D1   036372          8591#   8604
MD1DL   036356          8584    8586#
MD1DT   036332          4779    4803    4827    4851    4875    4899    4923    4947    4971    4995    5019    5043    5067
                        5091    5115    5139    8578#
MD1D1   021440          4778    4783#
MD1D10  022176          4946    4951#
MD1D11  022260          4970    4975#
MD1D12  022342          4994    4999#
MD1D13  022424          5018    5023#
MD1D14  022506          5042    5047#
MD1D15  022570          5066    5071#
MD1D16  022652          5090    5095#
MD1D17  022734          5114    5119#
MD1D2   021522          4802    4807#
MD1D20  023016          5138    5143#
MD1D3   021604          4826    4831#
MD1D4   021666          4850    4855#
MD1D5   021750          4874    4879#
MD1D6   022032          4898    4903#
```

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MD1D7   022114          4922    4927#
MD1F1   036170          8535#   8548
MD1FL   036154          8520    8530#
MD1FT   036130          4458    4478    4498    4518    4538    4558    4578    4598    4618    4638    4658    4678    4698
                        4718    4738    4758    8522#
MD1F1   020400          4457    4462#
MD1F10  020756          4597    4602#
MD1F11  021020          4617    4622#
MD1F12  021062          4637    4642#
MD1F13  021124          4657    4662#
MD1F14  021166          4677    4682#
MD1F15  021230          4697    4702#
MD1F16  021272          4717    4722#
MD1F17  021334          4737    4742#
MD1F2   020442          4477    4482#
MD1F20  021376          4757    4762#
MD1F3   020504          4497    4502#
MD1F4   020546          4517    4522#
MD1F5   020610          4537    4542#
MD1F6   020652          4557    4562#
MD1F7   020714          4577    4582#
MD2DI   035726          8474#   8487
MD2DL   035712          8467    8469#
MD2DT   035666          4074    4098    4122    4146    4170    4194    4218    4242    4266    4290    4314    4338    4362
                        4386    4410    4434    8461#
MD2D1   016740          4073    4078#
MD2D10  017476          4241    4246#
MD2D11  017560          4265    4270#
MD2D12  017642          4289    4294#
MD2D13  017724          4313    4318#
MD2D14  020006          4337    4342#
MD2D15  020070          4361    4366#
MD2D16  020157          4385    4390#
MD2D17  020234          4409    4414#
MD2D2   017022          4091    4102#
MD2D20  020316          4433    4438#
MD2D3   017104          4121    4126#
MD2D4   017166          4145    4150#
MD2D5   017250          4169    4174#
MD2D6   017332          4193    4198#
MD2D7   017414          4217    4222#
MD2FI   035524          8418#   8431
MD2FL   035510          8411    8413#
MD2FT   035464          3753    3773    3793    3813    3833    3853    3873    3893    3913    3933    3953    3973    3993
                        4013    4033    4053    8405#
MD2F1   015700          3752    3757#
MD2F10  016756          3892    3897#
MD2F11  016320          3912    3917#
MD2F12  016362          3932    3937#
MD2F13  016424          3952    3957#
MD2F14  016466          3972    3977#
MD2F15  016530          3992    3997#
MD2F16  016572          4012    4017#
MD2F17  016634          4032    4037#
MD2F2   015742          3772    3777#
MD2F20  016676          4052    4057#
```



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MD2F3   016004          3792    3797#
MD2F4   016046          3812    3817#
MD2F5   016110          3832    3837#
MD2F6   016152          3852    3857#
MD2F7   016214          3872    3877#
MED     = 076600          143#   527     577     581     591    7897    7905    7911    9789
MULDI   034770          8281#   8292
MULDL   034760          8275    8277#
MULDT   034734          2725    2747    2769    2791    2813    2835    2857    2879    2901    2923    2945    2967    2989
                        3011    3033    3055    8269#
MULD1   012202          2724    2729#
MULD10  012650          2878    2883#
MULD11  012722          2900    2905#
MULD12  012774          2922    2927#
MULD13  013046          2944    2949#
MULD14  013120          2966    2971#
MULD15  013172          2988    2993#
MULD16  013244          3010    3015#
MULD17  013316          3032    3037#
MULD2   012254          2746    2751#
MULD20  013370          3054    3059#
MULD3   012326          2768    2773#
MULD4   012400          2790    2795#
MULD5   012452          2812    2817#
MULD6   012524          2834    2839#
MULD7   012576          2856    2861#
MULFI   034620          8238#   8249
MULFL   034610          8232    8234#
MULFT   034564          2420    2439    2458    2477    2496    2515    2534    2553    2572    2591    2610    2629    2648
                        2667    2686    2705    8226#
MULF1   011242          2419    2424#
MULF10  011564          2552    2557#
MULF11  011622          2571    2576#
MULF12  011660          2590    2595#
MULF13  011716          2609    2614#
MULF14  011754          2628    2633#
MULF15  012012          2647    2652#
MULF16  012050          2666    2671#
MULF17  012106          2685    2690#
MULF2   011300          2439    2443#
MULF20  012144          2704    2709#
MULF3   011336          2457    2462#
MULF4   011374          2476    2481#
MULF5   011432          2495    2500#
MULF6   011470          2514    2519#
MULF7   011526          2533    2538#
M0      = 100000          170#   757     1355    1807    2042    2163    2165    2273    4295    2636    2711    3062    3898
                        4247    4603    4952    5244    5263    5320    5339    5396    5415    5435    5607    5626    5664
                        5723    5759    5778    5797
M1      = 177777          169#   446     648     649     684     685     702     774     775     793     810     849     851
                         889    891     931     949     951     971    1031    1049    1051    1069    1070    1126    1127
                        1146    1165    1166    1183    1184    1185    1202    1203    1204    1221    1242    1278    1298
                        1316    1317    1318    1354    1356    1373    1374    1393    1431    1475    1497    1499    1519
                        1541    1545    1563    1565    1567    1585    1587    1589    1631    1655    1673    1675    1697
                        1699    1717    1719    1721    1761    1763    1765    1805    1809    1827    1829    1869    1947
                        1983    1984    1985    2002    2003    2004    2021    2023    4040    2059    2141    2163    2165
```

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                    2231   2271   2273   2275   2293   2295   2297   2359   2363   2381   2403   2426   2444
                    2445   2465   2484   2503   2615   2616   2653   2654   2655   2673   2691   2692   2711
                    2730   2752   2754   2778   2800   2820   2822   2842   2850   2952   2954   2972   2974
                    2994   2996   2998   3016   3018   3040   3062   3082   3196   3197   3291   3292   3293
                    3310   3311   3312   3368   3387   3406   3408   3626   3628   3630   3648   3650   3652
                    3714   3716   3718   3736   3738   3778   3779   3798   3799   3818   3819   3820   3821
                    3859   3860   3919   3960   4038   4040   4058   4103   4105   4127   4129   4151   4153
                    4155   4157   4201   4203   4273   4275   4299   4321   4323   4345   4415   4419   4439
                    4466   4483   4484   4486   4503   4504   4506   4523   4524   4525   4526   4546   4564
                    4565   4566   4586   4606   4624   4626   4646   4665   4666   4686   4706   4726   4743
                    4745   4746   4763   4766   4790   4808   4810   4814   4832   4834   4838   4856   4858
                    4860   4862   4886   4906   4908   4910   4934   4958   4976   4980   4982   5004   5006
                    5026   5028   5030   5050   5054   5078   5102   5120   5124   5126   5144   5150   5187
                    5189   5206   5282   5301   5303   5320   5339   5341   5358   5377   5396   5415   5436
                    5492   5493   5511   5530   5531   5549   5645   5683   5685   5702   5721   5740   5759
                    5778   5780   5797   5836   5855   5857   5912   6100   6125   6126   6177   6264   6265
                    6373   6427   6465   6503   6522   6541   6560   6562   6580   6616   6652   6670   6726
                    6728   6745   6764   6783   6802   6841   6842   6955   6956   7069   7070   7107   7202
                    7243   7245   7369   7371   7537   7643   7871
M2      = 177776    1688   811    1279   1299   1675   1699   2502   2521   2617   2820   2842   2954   2998
                    3920   3959   3979   4275   4321   4345   4625   4664   4684   4980   5026   5050
NA      = 000000    1868   615    633    651    669    687    705    723    741    777    795    813    834
                    854    874    894    914    954    974    994    1014   1034   1054   1073   1092   1111
                    1130   1149   1168   1187   1206   1225   1244   1263   1282   1301   1377   1396   1415
                    1438   1460   1482   1504   1526   1548   1570   1592   1614   1636   1658   1680   1702
                    1790   1812   1834   1856   1873   1892   1911   1930   1949   1968   2006   2025   2063
                    2101   2124   2146   2168   2190   2212   2234   2256   2300   2344   2366   2410   2429
                    2448   2467   2486   2505   2524   2543   2562   2581   2600   2676   2695   2714   2737
                    2759   2781   2803   2825   2847   2869   2891   2913   2935   2979   3023   3067   3086
                    3124   3143   3162   3181   3200   3219   3238   3257   3276   3352   3390   3413   3435
                    3457   3479   3501   3523   3545   3567   3589   3699   3743   3763   3783   3803   3843
                    3863   3883   3903   3923   3943   3963   3983   4023   4063   4088   4112   4136   4184
                    4208   4232   4256   4280   4304   4328   4352   4400   4448   4468   4488   4508   4548
                    4568   4588   4608   4628   4648   4668   4688   4728   4768   4793   4817   4841   4889
                    4913   4937   4961   4985   5009   5033   5057   5105   5153   5172   5210   5229   5248
                    5267   5305   5324   5343   5362   5381   5400   5419   5458   5477   5496   5515   5534
                    5553   5572   5592   5611   5630   5649   5668   5687   5706   5744   5763   5782   5801
                    6322   6340   6376   6394   6412   6430   6469   6488   6507   6526   6545   6564   6583
                    6619   6637   6655   6673   6691   6730   6749   6768   6787   6806   6825   6883   6902
                    6921   6940   6959   6978   6997   7092   7111   7130   7149   7168   7187   7206   7270
                    7291   7312   7333   7354   7375   7396   7501   7522   7543   7564   7585   7606   7627
NEWPAS  = 003034    531    533    558*   7953
NWPAS1  = 002150    4648   563
PIRQ    = 177772    468
PIRQVE= 000240      1408
PREVAC  = 002036    4468   8415   8471   8532   8588   8648   8692
PR0     = 000000    638
PR1     = 000040    648
PR2     = 000100    658
PR3     = 000140    668
PR4     = 000200    678
PR5     = 000240    688
PR6     = 000300    698
PR7     = 000340    708
PS      = 177776    438    44     8958   9006   9058   9110   9248   9288
PSW     = 177776    448
```



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PWRVEC= 000024      1358   488*   483*   9767*  9760*  9777*  9783*  9797*  9790*
P13X    = 104210    1798   1607   1609   1611
RESVEC= 000010      1308
RFLAG = 000144      1478   581    7905
RWHAMI= 000022      1458   527    577    7897
SCDFI   037170      8741#  8751
SCDFL   037160      8735   8737#
SCDFT   037134      5583   5602   5621   5640   5659   5678   5697   5716   5735   5754   5773   5792   8729#
SCDF1   024324      5582   5587#
SCDF10  024646      5715   5720#
SCDF11  024704      5734   5739#
SCDF12  024742      5753   5758#
SCDF13  025000      5772   5777#
SCDF14  025036      5791   5796#
SCDF2   024362      5601   5606#
SCDF3   024420      5620   5625#
SCDF4   024456      5639   5644#
SCDF5   024514      5658   5663#
SCDF6   024552      5677   5682#
SCDF7   024610      5696   5701#
SCDI1   040314      9006#  9017
SCDIL   040304      9000   9002#
SCDIT   040260      6441   6460   6479   6498   6517   6536   6555   8994#
SCDI1   026710      6440   6445#
SCDI2   026744      6459   6464#
SCDI3   027000      6478   6483#
SCDI4   027034      6497   6502#
SCDI5   027070      6516   6521#
SCDI6   027124      6535   6540#
SCDI7   027160      6554   6559#
SCDL1   040720      9108#  9119
SCDLL   040710      9102   9104#
SCDL1   040664      6702   6721   6740   6759   6778   6797   6816   9096#
SCDL1   027502      6701   6706#
SCDL2   027540      6720   6725#
SCDL3   027576      6739   6744#
SCDL4   027634      6758   6763#
SCDL5   027672      6777   6782#
SCDL6   027730      6796   6801#
SCDL7   027766      6815   6820#
SCFDL   037324      8778   8780#
SCFDT   037300      5812   5831   5850   5869   5888   5907   8772#
SCFD1   025074      5811   5816#
SCFD2   025134      5830   5835#
SCFD3   025174      5849   5854#
SCFD4   025234      5868   5873#
SCFD5   025274      5887   5892#
SCFD6   025334      5906   5911#
SCFI1   040116      8956#  8967
SCFIL   040106      8950   8952#
SCFIT   040062      6314   6332   6350   6368   6386   6404   6422   8944#
SCFI1   026440      6313   6318#
SCFI2   026470      6331   6336#
SCFI3   026520      6349   6354#
SCFI4   026550      6367   6372#
SCFI5   026600      6385   6390#
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SCFI6   #26630          6403    6408#
SCFI7   #26660          6421    6426#
SCFL1   #40512          9056#   9067
SCFLL   #40502          9050    9052#
SCFLT   #40456          6575    6593    6611    6629    6647    6665    6683    9044#
SCFL1   #27214          6574    6579#
SCFL2   #27246          6592    6597#
SCFL3   #27300          6610    6615#
SCFL4   #27332          6628    6633#
SCFL5   #27364          6646    6651#
SCFL6   #27416          6664    6669#
SCFL7   #27450          6682    6687#
SEXDI   #41622          9286#
SEXDL   #41612          9280    9282#
SEXDT   #41566          7750    7776    7794    7812    7830    7848    7866    9274#
SEXD1   #32656          7757    7762#
SEXD2   #32710          7775    7780#
SEXD3   #32742          7793    7798#
SEXD4   #32774          7811    7816#
SEXD5   #33026          7829    7834#
SEXD6   #33060          7847    7852#
SEXD7   #33112          7865    7870#
SEXFI   #41466          9246#
SEXFL   #41456          9240    9242#
SEXFT   #41432          7638    7655    7672    7689    7706    7723    7740    9234#
SEXF1   #32424          7637    7642#
SEXF2   #32452          7654    7659#
SEXF3   #32500          7671    7676#
SEXF4   #32526          7698    7693#
SEXF5   #32554          7705    7710#
SEXF6   #32602          7722    7727#
SEXF7   #32630          7739    7744#
SMN     = 100200         174#   3367    3694    3714    3736
SMP     = #00200         173#   3386    3672
STACK   = #01100          34#    400     558     575
STAPT   #02400          202     473#    9802
STKLMT= 177774           45#
SUBDI   #34434          8192#   8203
SUBDL   #34420          8186    8188#
SUBDT   #34374          2112    2134    2156    2178    2200    2222    2244    2266    2288    2310    2332    2354    2376
                        2398    8180#
SUBD1   #10126          2111    2116#
SUBD10  #10574          2265    2270#
SUBD11  #10646          2287    2292#
SUBD12  #10720          2309    2314#
SUBD13  #10772          2331    2336#
SUBD14  #11044          2353    2358#
SUBD15  #11116          2375    2380#
SUBD16  #11170          2397    2402#
SUBD2   #10220          2133    2138#
SUBD3   #10252          2155    2160#
SUBD4   #10324          2177    2182#
SUBD5   #10376          2199    2204#
SUBD6   #10450          2221    2226#
SUBD7   #10522          2243    2248#
SUBF1   #34260          8149#   8160
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SUBFL   #34250          8143    8145#
SUBFT   #34224          1845    1864    1883    1902    1921    1940    1959    1978    1997    2016    2035    2054    2073
                        2092    8137#
SUBF1   #07262          1844    1849#
SUBF10  #07604          1977    1982#
SUBF11  #07642          1996    2001#
SUBF12  #07700          2015    2020#
SUBF13  #07736          2034    2039#
SUBF14  #07774          2053    2058#
SUBF15  #10032          2072    2077#
SUBF16  #10070          2091    2096#
SUBF2   #07320          1863    1868#
SUBF3   #07356          1882    1887#
SUBF4   #07414          1901    1906#
SUBF5   #07452          1920    1925#
SUBF6   #07510          1939    1944#
SUBF7   #07546          1958    1963#
SUBPAS  #03072           561     575#   7915
SWR     #01144           267#    478     500*    502     508*    515*    560     583     586     7901    7940    9336    9350
                        9358    9365    9411    9418    9430    9433    9775    9790*
SWREG   #00176           200#    508
SW0     = #00001          98#
SW00    = #00001          88#     98      586
SW01    = #00002          87#     97      583     7901
SW02    = #00004          86#     96
SW03    = #00010          85#     95
SW04    = #00020          84#     94
SW05    = #00040          83#     93
SW06    = #00100          82#     92
SW07    = #00200          81#     91
SW08    = #00400          80#     90
SW09    = #01000          79#     89
SW1     = #00002          97#
SW10    = #02000          78#     7940
SW11    = #04000          77#
SW12    = #10000          76#
SW13    = #20000          75#
SW14    = #40000          74#
SW15    = 100000          73#
SW2     = #00004          96#
SW3     = #00010          95#
SW4     = #00020          94#
SW5     = #00040          93#
SW6     = #00100          92#
SW7     = #00200          91#
SW8     = #00400          90#
SW9     = #01000          89#
TBITVE= #00014          131#
TKVEC = #00060          138#
TPVEC = #00064          139#
TRAPVE= #00034          137#    486*    487*
TRIVEC= #00014          132#
TST1    #03176          605#
TST10   #03464          717     731#
TST100  #07304         1847    1862#
TST101  #07342         1866    1881#
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TST103	007436	1904	1919#
TST104	007474	1923	1938#
TST105	007532	1942	1957#
TST106	007570	1961	1976#
TST107	007626	1980	1995#
TST11	003516	735	749#
TST110	007664	1999	2014#
TST111	007722	2018	2033#
TST112	007760	2037	2052#
TST113	010016	2056	2071#
TST114	010054	2075	2090#
TST115	010112	2094	2110#
TST116	010164	2114	2132#
TST117	010236	2136	2154#
TST12	003550	753	767#
TST120	010310	2158	2176#
TST121	010362	2180	2198#
TST122	010434	2202	2220#
TST123	010506	2224	2242#
TST124	010560	2246	2264#
TST125	010632	2268	2286#
TST126	010704	2290	2308#
TST127	010756	2312	2330#
TST13	003602	771	785#
TST130	011030	2334	2352#
TST131	011102	2356	2374#
TST132	011154	2378	2396#
TST133	011226	2400	2418#
TST134	011264	2422	2437#
TST135	011322	2441	2456#
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TST137	011416	2479	2494#
TST14	003634	789	803#
TST140	011454	2498	2513#
TST141	011512	2517	2532#
TST142	011550	2536	2551#
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TST144	011644	2574	2589#
TST145	011702	2593	2608#
TST146	011740	2612	2627#
TST147	011776	2631	2646#
TST15	003666	807	822#
TST150	012034	2650	2665#
TST151	012072	2669	2684#
TST152	012130	2688	2703#
TST153	012166	2707	2723#
TST154	012240	2727	2745#
TST155	012312	2749	2767#
TST156	012364	2771	2789#
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TST16	003730	826	842#
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TST161	012562	2837	2855#
TST162	012634	2859	2877#
TST163	012706	2881	2899#

TST164	012760	2903	2921#
TST165	013032	2925	2943#
TST166	013104	2947	2965#
TST167	013156	2969	2987#
TST17	003772	846	862#
TST170	013230	2991	3009#
TST171	013302	3013	3031#
TST172	013354	3035	3053#
TST173	013426	3057	3075#
TST174	013464	3079	3094#
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TST202	013750	3193	3208#
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TST205	014102	3250	3265#
TST206	014140	3269	3284#
TST207	014176	3288	3303#
TST21	004076	886	902#
TST210	014234	3307	3322#
TST211	014272	3326	3341#
TST212	014330	3345	3360#
TST213	014366	3364	3379#
TST214	014424	3383	3399#
TST215	014476	3403	3421#
TST216	014550	3425	3443#
TST217	014622	3447	3465#
TST22	004140	906	922#
TST220	014674	3469	3487#
TST221	014746	3491	3509#
TST222	015020	3513	3531#
TST223	015072	3535	3553#
TST224	015144	3557	3575#
TST225	015216	3579	3597#
TST226	015270	3601	3619#
TST227	015342	3623	3641#
TST23	004202	926	942#
TST230	015414	3645	3663#
TST231	015466	3667	3685#
TST232	015540	3689	3707#
TST233	015612	3711	3729#
TST234	015664	3733	3751#
TST235	015726	3755	3771#
TST236	015770	3775	3791#
TST237	016032	3795	3811#
TST24	004244	946	962#
TST240	016074	3815	3831#
TST241	016136	3835	3851#
TST242	016200	3855	3871#
TST243	016242	3875	3891#
TST244	016304	3895	3911#

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TST41   005076          1199   1214#
TST410  025510          5979   5992#
TST411  025536          5996   6010#
TST412  025570          6014   6028#
TST413  025622          6032   6046#
TST414  025654          6050   6064#
TST415  025706          6068   6082#
TST416  025740          6086   6101#
TST417  025770          6105   6118#
TST42   005134          1218   1233#
TST420  026020          6122   6135#
TST421  026050          6139   6152#
TST422  026100          6156   6169#
TST423  026130          6173   6186#
TST424  026160          6190   6203#
TST425  026210          6207   6221#
TST426  026244          6225   6239#
TST427  026300          6243   6257#
TST43   005172          1237   1252#
TST430  026334          6261   6275#
TST431  026370          6279   6293#
TST432  026421          6297   6312#
TST433  026454          6316   6330#
TST434  026504          6334   6348#
TST435  026534          6352   6366#
TST436  026564          6370   6384#
TST437  026614          6388   6402#
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TST440  026644          6406   6420#
TST441  026674          6424   6439#
TST442  026730          6443   6458#
TST443  026764          6462   6477#
TST444  027020          6481   6496#
TST445  027054          6500   6515#
TST446  027110          6519   6534#
TST447  027144          6538   6553#
TST45   005266          1275   1290#
TST450  027200          6557   6573#
TST451  027232          6577   6591#
TST452  027264          6595   6609#
TST453  027316          6613   6627#
TST454  027350          6631   6645#
TST455  027402          6649   6663#
TST456  027434          6667   6681#
TST457  027466          6685   6700#
TST46   005324          1294   1309#
TST460  027524          6704   6719#
TST461  027562          6723   6738#
TST462  027620          6742   6757#
TST463  027656          6761   6776#
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UB      = 177400         181#   3940    4299    4645    5004
WFLAG   = 000344         148#    591    7911
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FCOM1       1#   782  1019  1382  1795  1992  2283  2700  3050  3300  3638  3788  4117  4493  4822
            5405  5539
FCOM2       1#  1401  1773  2087  2327  2681  3006  3376  3726  4048  4429  4753  5134  7135  7154
            7173  7192  7540  75
```