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PDP11/6X FP11E FP ADV.
MD-11-DQFPB-A

EP-DQFPB-A-DL-A

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- Column 1: Contains text and small diagrams, possibly related to system specifications or user manuals.
- Column 2: Contains vertical bar patterns, likely representing binary data or test results.
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ADVANCED INSTRUCTION TESTS

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IDENTIFICATION

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

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1. ABSTRACT

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

2. REQUIREMENTS

2.1 EQUIPMENT

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

2.2 STORAGE

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

2.3 PRELIMINARY PROGRAMS

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

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

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

3. LOADING PROCEDURE

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

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

SEE SECTION 5.1
SWITCH REGISTER (00000) IS WORST CASE TEST.

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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 "SLPTST" IF SET, THEN THE TEST SPECIFIED BY THE TEST NUMBER CONTAINED IN THE MEMORY WORD "SLPTST" (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)
SW00	000001	SET=TEST ONLY UNIT SPECIFIED IN SW00 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.

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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 "SLPTST" MATCHES THE NUMBER OF THE TEST CURRENTLY EXECUTING. AT THIS POINT, THE TEST IS LOOPED ON INDEFINATELY, UNTIL EITHER SW<8>=0 OR "SLPTST" IS CHANGED. NOTE THAT IF "SLPTST" DOES NOT MATCH THE TEST NUMBER OF ANY TEST, THE CONTENTS OF "SLPTST" 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

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

6. ERRORS

6.1 FORMAT OF MESSAGES

6.1.1 ALL ERROR MESSAGES CONSIST OF THREE LINES OF DATA:

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

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

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

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

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

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6.1.2 FLOATING POINT UNIT DATA FORMATS:

FLOATING POINT STATUS WORD (FPS):

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

FLOATING EXCEPTION CODES (FEC):

OCTAL	ENABLE	(NOT USED)
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.

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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

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

7. RESTRICTIONS

7.1 STARTING

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

7.2 OPERATIONAL

THERE ARE NO OPERATIONAL RESTRICTIONS.

8. MISCELLANEOUS

8.1 EXECUTION TIME

AVERAGE EXECUTION TIME PER PASS

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

SEC = SECONDS / MIN = MINUTES

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

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

8.2 STACK POINTER

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

8.3 POWER FAIL

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

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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 SECTIONS 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 "ADD" 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

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

9.2 TEST DESCRIPTION

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

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

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

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

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

9.3 SUBROUTINE ABSTRACTS

9.3.1 TRAPCATCHER

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

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

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

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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 FPI1 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:

- SMXCNT - MAXIMUM NUMBER OF ITERATIONS PER TEST (GENERALLY WILL BE 2000(10))
- STSTNM - A COUNTER INDICATING THE NUMBER (1-377(8)) OF THE TEST CURRENTLY BEING EXECUTED
- SLPADR - CONTAINS THE ADDRESS TO WHICH THE SCOPE ROUTINE 10200 WILL LOOP, IF THE CURRENT TEST IS BEING LOOPED UPON
- SLPERR - 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 SLPADR, 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

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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 SIGNALLED. 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 (SERRTB) 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
SERTTL - CUMULATIVE NUMBER OF ERRORS ENCOUNTERED TO DATE
SERRPC - CONTAINS THE PC OF THE "ERROR" INSTRUCTION JUST EXECUTED
SLPERR - CONTAINS THE ADDRESS WHICH WILL BE LOOPED UPON FOR THE ERROR LOOPING FACILITY

9.3.4 ERROR MESSAGE TYPEOUT ROUTINE - STYPERR

THIS ROUTINE (STYPERR 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 SERRTB (ERROR TABLE), AND TYPE OUT THE ERROR MESSAGE, DATA HEADER, AND DATA VALUES ON THE CONSOLE.

9.3.5 TYPE ROUTINE - STYPE

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 - STYPOC

MAINDEC-11-DQFPB-A

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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 STYPE. SEE LISTING FOR OPTIONS AND FURTHER DETAILS.

9.3.7 POWER UP AND DOWN ROUTINES - SPWRUP AND SPWRDN

THESE TWO ROUTINES ARE ENTERED FOR THE POWER UP AND DOWN CONDITIONS, RESPECTIVELY. THE POWER DOWN ROUTINE (SPWRDN) SAVES THE GENERAL REGISTERS AND STACK POINTER. THE POWER UP ROUTINE (SPWRUP) 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 - SEOP

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

10. ACT/APT/XXDP

10.1 ACT COMPATIBILITY

THIS PROGRAM WILL RUN UNDER THE ACT SYSTEM.

10.2 APT COMPATIBILITY

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

10.3 XXDP COMPATIBILITY

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

.ENDR

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

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

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

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

*GENERAL PURPOSE REGISTER DEFINITIONS
R0= %0      ;;GENERAL REGISTER
R1= %1      ;;GENERAL REGISTER
R2= %2      ;;GENERAL REGISTER
R3= %3      ;;GENERAL REGISTER
R4= %4      ;;GENERAL REGISTER
R5= %5      ;;GENERAL REGISTER

```

001100

000011

000012

000015

000200

177776

177774

177772

177570

177570

000000

000001

000002

000003

000004

000005

799 000006
800 000007
801 000006
802 000007

R6= %6
R7= %7
SP= %6
PC= %7
::GENERAL REGISTER
::GENERAL REGISTER
::STACK POINTER
::PROGRAM COUNTER

803
804
805 000000
806 000040
807 000100
808 000140
809 000200
810 000240
811 000300
812 000340

:#PRIORITY LEVEL DEFINITIONS
PR0= 0
PR1= 40
PR2= 100
PR3= 140
PR4= 200
PR5= 240
PR6= 300
PR7= 340
::PRIORITY LEVEL 0
::PRIORITY LEVEL 1
::PRIORITY LEVEL 2
::PRIORITY LEVEL 3
::PRIORITY LEVEL 4
::PRIORITY LEVEL 5
::PRIORITY LEVEL 6
::PRIORITY LEVEL 7

813
814
815 100000
816 040000
817 020000
818 010000
819 004000
820 002000
821 001000
822 000400
823 000200
824 000100
825 000040
826 000020
827 000010
828 000004
829 000002
830 000001

:#"SWITCH REGISTER" SWITCH DEFINITIONS
SW15= 100000
SW14= 40000
SW13= 20000
SW12= 10000
SW11= 4000
SW10= 2000
SW09= 1000
SW08= 400
SW07= 200
SW06= 100
SW05= 40
SW04= 20
SW03= 10
SW02= 4
SW01= 2
SW00= 1

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840

.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

841
842
843 100000
844 040000
845 020000
846 010000
847 004000
848 002000
849 001000
850 000400
851 000200
852 000100
853 000040
854 000020

:#DATA BIT DEFINITIONS (BIT00 TO BIT15)
BIT15= 100000
BIT14= 40000
BIT13= 20000
BIT12= 10000
BIT11= 4000
BIT10= 2000
BIT09= 1000
BIT08= 400
BIT07= 200
BIT06= 100
BIT05= 40
BIT04= 20

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855      000010      BIT03= 10
856      000004      BIT02= 4
857      000002      BIT01= 2
858      000001      BIT00= 1
859      .EQUIV      BIT09,BIT9
860      .EQUIV      BIT08,BIT8
861      .EQUIV      BIT07,BIT7
862      .EQUIV      BIT06,BIT6
863      .EQUIV      BIT05,BIT5
864      .EQUIV      BIT04,BIT4
865      .EQUIV      BIT03,BIT3
866      .EQUIV      BIT02,BIT2
867      .EQUIV      BIT01,BIT1
868      .EQUIV      BIT00,BIT0
869
870      ;#BASIC "CPU" TRAP VECTOR ADDRESSES
871      000004      ERRVEC= 4 ; TIME OUT AND OTHER ERRORS
872      000010      RESVEC= 10 ; RESERVED AND ILLEGAL INSTRUCTIONS
873      000014      TRITVEC=14 ; "T" BIT
874      000014      TRTVEC= 14 ; TRACE TRAP
875      000014      BPTVEC= 14 ; BREAKPOINT TRAP (BPT)
876      000020      IOTVEC= 20 ; INPUT/OUTPUT TRAP (IOT) **SCOPE**
877      000024      PWRVEC= 24 ; POWER FAIL
878      000030      EMTVEC= 30 ; EMULATOR TRAP (EMT) **ERROR**
879      000034      TRAPVEC=34 ; "TRAP" TRAP
880      000060      TKVEC= 60 ; TTY KEYBOARD VECTOR
881      000064      TPVEC= 64 ; TTY PRINTER VECTOR
882      000240      PIRQVEC=240 ; PROGRAM INTERRUPT REQUEST VECTOR
883
884      ;#MED CODES
885      076600      MED= 076600 ; OPCODE
886
887      000022      RWHAMI= 022 ; READ WHAMI
888
889      000144      RFLAG= 144 ; READ FLAGS
890      000344      WFLAG= 344 ; WRITE FLAGS
891
892      ;#FLOATING POINT INTERRUPT VECTOR
893      000244      FPPVEC= 244
894
895      ;#FLOATING POINT REGISTER DEFINITIONS
896      000000      AC0= %0
897      000001      AC1= %1
898      000002      AC2= %2
899      000003      AC3= %3
900      000004      AC4= %4
901      000005      AC5= %5
902
903      ;#BIT PATTERNS FOR TESTS
904      052525      ALTP= 052525 ; 0101...01
905      052525      AP= ALTP
906      125252      ALTN= 125252 ; 1010...10
907      125252      AN= ALTN
908      007417      ALT4P= 007417 ; 0000111100001111
909      170360      ALT4N= 170360 ; 1111000011110000
910      177776      M2= 177776 ; 1111...10 MINUS TWO

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```

911      177777
912      100000
913      077777
914      177777
915      000200
916      100200
917      000177
918      100177
919      040200
920      140200
921      104210
922      000377
923      177400
924
925
926      147757
927      000000
928      000000
929
930
931      177760
932
933
934
935
936      000000
937
938
939
940      000174
941 000174 000000
942 000176 000000
943
944 000200 000137 002162
945
946
947
948
949
950      000204
951      000046
952 000046 033062
953      000052
954 000052 000000
955      000204
956      001000
957
958
959
960
961
962      001000
963      000024
964 000024 000200
965      000044
966 000044 001000
    
```

```

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

```

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

```

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

.SBTTL TRAP CATCHER

```

.=0
;#ALL UNUSED LOCATIONS FROM 4 - 776 CONTAIN A ".+2,HALT"
;#SEQUENCE TO CATCH ILLEGAL TRAPS AND INTERRUPTS
;#LOCATION 0 CONTAINS 0 TO CATCH IMPROPERLY LOADED VECTORS
    
```

```

.=174
DISPREG: .WORD 0      ;; SOFTWARE DISPLAY REGISTER
SWREG:   .WORD 0      ;; SOFTWARE SWITCH REGISTER
.SBTTL   STARTING ADDRESS(ES)
JMP      @#START ;; JUMP TO STARTING ADDRESS OF PROGRAM
    
```

.SBTTL ACT11 HOOKS

```

;*****
;HOOKS REQUIRED BY ACT11
$SVPC=.      ;SAVE PC
.=46
SENDAD      ;;1)SET LOC.46 TO ADDRESS OF SENDAD IN .SEOP
.=52
.WORD 0      ;;2)SET LOC.52 TO ZERO
.$SVPC      ;; RESTORE PC
.=1000
    
```

.SBTTL APT PARAMETER BLOCK

```

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

967	001000	
968		
969		
970		
971		
972	001000	
973	001000	000000
974	001002	001324
975	001004	000001
976	001006	000001
977	001010	000000
978	001012	000014
979		

```

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

$APTHD:
$HIBTS: .WORD 0 ;;TWO HIGH BITS OF 18 BIT MAILBOX ADDR.
$MBADR: .WORD $MAIL ;;ADDRESS OF APT MAILBOX (BITS 0-15)
$STSM: .WORD 1 ;;RUN TIM OF LONGEST TEST
$PASTM: .WORD 1 ;;RUN TIME IN SECS. OF 1ST PASS ON 1 UNIT (QUICK VERIFY)
$UNITM: .WORD 0 ;;ADDITIONAL RUN TIME (SECS) OF A PASS FOR EACH ADDITIONAL UNIT
      .WORD $ETEND-$MAIL/2 ;;LENGTH MAILBOX-ETABLE(WORDS)

```

.SBTTL COMMON TAGS

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

980		
981		
982		
983		
984		
985		
986		001100
987	001100	
988	001100	000000
989	001102	000000
990	001104	000000
991	001106	000000
992	001110	000000
993	001112	000000
994	001114	000000
995	001116	000000
996	001120	000000
997	001122	000001
998	001124	000000
999	001126	000000
1000	001130	000000
1001	001132	000000
1002	001134	000000
1003	001136	000000
1004	001140	000000
1005	001142	000
1006	001143	000
1007	001144	000000
1008	001146	177570
1009	001150	177570
1010	001152	177560
1011	001154	177562
1012	001156	177564
1013	001160	177566
1014	001162	000
1015	001163	002
1016	001164	012
1017	001165	000
1018	001166	000000
1019		
1020	001170	000000
1021	001172	000000
1022	001174	000000
1023	001176	000000
1024	001200	000000
1025	001202	000000
1026	001204	000000
1027	001206	000000
1028	001210	000000
1029	001212	000000
1030	001214	000000
1031	001216	000000
1032	001220	000000
1033	001222	000000
1034	001224	000000
1035	001226	000000

SCMTAG:	.=1100	
	.WORD	0
\$TSTNM:	.WORD	00
\$ERFLG:	.WORD	00
\$ICNT:	.WORD	00
\$LPADR:	.WORD	00
\$LPTST:	.WORD	00
\$LPERR:	.WORD	00
\$ERTTL:	.WORD	00
\$ITEMB:	.WORD	0
\$ERMAX:	.WORD	1
\$ERRPC:	.WORD	0
\$GDADR:	.WORD	00
\$BDADR:	.WORD	00
\$GDDAT:	.WORD	00
\$BDDAT:	.WORD	00
	.WORD	00
\$AUTOB:	.BYTE	00
\$INTAG:	.BYTE	00
	.WORD	0
\$SWR:	.WORD	DSWR
\$DISPLAY:	.WORD	DDISP
\$TKS:	177560	
\$TKB:	177562	
\$TPS:	177564	
\$TPB:	177566	
\$NULL:	.BYTE	0
\$FILLS:	.BYTE	2
\$FILLC:	.BYTE	12
\$TPFLG:	.BYTE	0
\$REGAD:	.WORD	0
\$REG0:	.WORD	0
\$REG1:	.WORD	00
\$REG2:	.WORD	00
\$REG3:	.WORD	00
\$REG4:	.WORD	00
\$REG5:	.WORD	00
\$REG6:	.WORD	00
\$REG7:	.WORD	00
\$REG10:	.WORD	00
\$REG11:	.WORD	00
\$REG12:	.WORD	00
\$REG13:	.WORD	00
\$REG14:	.WORD	00
\$REG15:	.WORD	00
\$REG16:	.WORD	00
\$REG17:	.WORD	0

;; START OF COMMON TAGS

;; CONTAINS THE TEST NUMBER

;; CONTAINS ERROR FLAG

;; CONTAINS SUBTEST ITERATION COUNT

;; CONTAINS SCOPE LOOP ADDRESS

;; CONTAINS TEST NUMBER TO LOOP UPON

;; CONTAINS SCOPE RETURN FOR ERRORS

;; CONTAINS TOTAL ERRORS DETECTED

;; CONTAINS ITEM CONTROL BYTE

;; CONTAINS MAX. ERRORS PER TEST

;; CONTAINS PC OF LAST ERROR INSTRUCTION

;; CONTAINS ADDRESS OF 'GOOD' DATA

;; CONTAINS ADDRESS OF 'BAD' DATA

;; CONTAINS 'GOOD' DATA

;; CONTAINS 'BAD' DATA

;; RESERVED--NOT TO BE USED

;; AUTOMATIC MODE INDICATOR

;; INTERRUPT MODE INDICATOR

;; ADDRESS OF SWITCH REGISTER

;; ADDRESS OF DISPLAY REGISTER

;; TTY KBD STATUS

;; TTY KBD BUFFER

;; TTY PRINTER STATUS REG. ADDRESS

;; TTY PRINTER BUFFER REG. ADDRESS

;; CONTAINS NULL CHARACTER FOR FILLS

;; CONTAINS # OF FILLER CHARACTERS REQUIRED

;; INSERT FILL CHARS. AFTER A "LINE FEED"

;; "TERMINAL AVAILABLE" FLAG (BIT<07>=0=YES)

;; CONTAINS THE ADDRESS FROM WHICH (\$REG0) WAS OBTAINED

;; CONTAINS ((SREGAD)+0)

;; CONTAINS ((SREGAD)+2)

;; CONTAINS ((SREGAD)+4)

;; CONTAINS ((SREGAD)+6)

;; CONTAINS ((SREGAD)+10)

;; CONTAINS ((SREGAD)+12)

;; CONTAINS ((SREGAD)+14)

;; CONTAINS ((SREGAD)+16)

;; CONTAINS ((SREGAD)+20)

;; CONTAINS ((SREGAD)+22)

;; CONTAINS ((SREGAD)+24)

;; CONTAINS ((SREGAD)+26)

;; CONTAINS ((SREGAD)+30)

;; CONTAINS ((SREGAD)+32)

;; CONTAINS ((SREGAD)+34)

;; CONTAINS ((SREGAD)+36)

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COMMON TAGS

1036 001230 000000
1037 001232 000000
1038 001234 000000
1039 001236 000000
1040 001240 000000
1041 001242 000000
1042 001244 000000
1043 001246 000000
1044 001250 000000
1045 001252 000000
1046 001254 000000
1047 001256 000000
1048 001260 000000
1049 001262 000000
1050 001264 000000
1051 001266 000000
1052 001270 000000
1053 001272 000000
1054 001274 000000
1055 001276 000000
1056 001300 000000
1057 001302 000000
1058 001304 000000
1059 001306 000000
1060 001310 000000
1061 001312 000000
1062 001314 177607
1063 001320 077
1064 001321 015
1065 001322 000012
1066
1067
1068
1069
1070
1071 001324
1072 001324 000000
1073 001326 000000
1074 001330 000000
1075 001332 000000
1076 001334 000000
1077 001336 000000
1078 001340 000000
1079 001342 000000
1080 001344
1081 001344 000
1082 001345 000
1083 001346 000000
1084 001350 000000
1085 001352 000000
1086
1087
1088
1089
1090
1091

000377

STMP0: .WORD 0
STMP1: .WORD 0
STMP2: .WORD 0
STMP3: .WORD 0
STMP4: .WORD 0
STMP5: .WORD 0
STMP6: .WORD 0
STMP7: .WORD 0
STMP10: .WORD 0
STMP11: .WORD 0
STMP12: .WORD 0
STMP13: .WORD 0
STMP14: .WORD 0
STMP15: .WORD 0
STMP16: .WORD 0
STMP17: .WORD 0
STMP20: .WORD 0
STMP21: .WORD 0
STMP22: .WORD 0
STMP23: .WORD 0
STMP24: .WORD 0
STMP25: .WORD 0
STMP26: .WORD 0
STMP27: .WORD 0
STIMES: 0
SESCAPE: 0
SBELL: .ASCIZ <207><377><377>
SQUES: .ASCII /?/
SCRLF: .ASCII <15>
SLF: .ASCIZ <12>

.SBTTL APT MAILBOX-ETABLE

.EVEN
SMAIL: .WORD AMSGTY : : APT MAILBOX
SMSGTY: .WORD AFATAL : : MESSAGE TYPE CODE
SFATAL: .WORD ATESTN : : FATAL ERROR NUMBER
STESTN: .WORD APASS : : TEST NUMBER
SPASS: .WORD ADEVCT : : PASS COUNT
SDEVCT: .WORD AUNIT : : DEVICE COUNT
SUNIT: .WORD AMSGAD : : I/O UNIT NUMBER
MSMGAD: .WORD AMSGLG : : MESSAGE ADDRESS
SMSGLG: .WORD : : MESSAGE LENGTH
SETABLE: : : APT ENVIRONMENT TABLE
SENV: .BYTE AENV : : ENVIRONMENT BYTE
SENVN: .BYTE AENVN : : ENVIRONMENT MODE BITS
SSWREG: .WORD ASWRG : : APT SWITCH REGISTER
SUSWR: .WORD AUSWR : : USER SWITCHES
SCPUOP: .WORD ACPUOP : : CPU TYPE, OPTIONS
: :
: : BITS 15-11=CPU TYPE
: : 11/04=01, 11/05=02, 11/20=03, 11/40=04, 11/45=05
: : 11/70=06, PDQ=07, Q=10
: :
: : BIT 10=REAL TIME CLOCK
: : BIT 9=FLOATING POINT PROCESSOR
: : BIT 8=MEMORY MANAGEMENT

J02

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APT MAILBOX-ETABLE

1092 001354
1093

SETEND:
.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 *****

1113	001354	043715	045134	045410	EMV001:	.WORD	EMA,DHA,DTA	: LDCIF,STCFI,STEXP/F,TRAP-TSTR
1114	001362	043715	045134	045416	EMV002:	.WORD	EMA,DHA,DTB	: CMPF,LDCLF,STCFL
1115	001370	043715	045134	045424	EMV003:	.WORD	EMA,DHA,DTC	: LDCID,STCDI,LDEXP/F,STEXP/D
1116	001376	043715	045134	045432	EMV004:	.WORD	EMA,DHA,DTD	: ADDF,SUBF,MULF,DIVF,LDCDF,LDCFD
1117								: STCDF,LDCLD,STCDL
1118	001404	043715	045134	045440	EMV005:	.WORD	EMA,DHA,DTE	: CMPD,MODF,STCFD
1119	001412	043715	045134	045446	EMV006:	.WORD	EMA,DHA,DTF	: LDEXP/D
1120	001420	043715	045134	045454	EMV007:	.WORD	EMA,DHA,DTG	: ADD, SUBD, MULD, DIVD
1121	001426	043715	045134	045462	EMV010:	.WORD	EMA,DHA,DTH	: MODD

***** VECTORS FOR FEC/FEA ERRORS *****

1123	001434	043741	045150	045470	EMV011:	.WORD	EMB,DHB,DTI	: STCFI,TRAP-TSTR
1124	001442	043741	045150	045502	EMV012:	.WORD	EMB,DHB,DTJ	: CMPF,STCFL
1125	001450	043741	045150	045514	EMV013:	.WORD	EMB,DHB,DTK	: STCDI,LDEXP/F
1126	001456	043741	045150	045526	EMV014:	.WORD	EMB,DHB,DTL	: ADDF,SUBF,MULF,DIVF,LDCDF
1127								: LDCFD,STCDF,STCDL
1128	001464	043741	045150	045540	EMV015:	.WORD	EMB,DHB,DTM	: CMPD,MODF
1129	001472	043741	045150	045552	EMV016:	.WORD	EMB,DHB,DTN	: LDEXP/D
1130	001500	043741	045150	045564	EMV017:	.WORD	EMB,DHB,DTO	: ADD, SUBD, MULD, DIVD
1131	001506	043741	045150	045576	EMV020:	.WORD	EMB,DHB,DTP	: MODD

***** VECTORS FOR RESULT ERRORS *****

1133	001514	044125	045210	045624	EMV021:	.WORD	EME,DHC,DTS	: CMPF
1134	001522	044125	045246	045706	EMV022:	.WORD	EME,DHD,DTX	: CMPD
1135	001530	044214	045210	045662	EMV023:	.WORD	EMF,DHC,DTV	: ADDF,SUBF
1136	001536	044214	045246	046016	EMV024:	.WORD	EMF,DHD,DTAB	: ADD, SUBD
1137	001544	044266	045210	045662	EMV025:	.WORD	EMG,DHC,DTV	: MULF,DIVF
1138	001552	044266	045246	046016	EMV026:	.WORD	EMG,DHD,DTAB	: MULD,DIVD
1139	001560	044340	045210	045662	EMV027:	.WORD	EMH,DHC,DTV	: MODF-FRAC
1140	001566	044421	045210	045674	EMV030:	.WORD	EMI,DHC,DTW	: MODF-INT
1141	001574	044340	045246	046016	EMV031:	.WORD	EMH,DHD,DTAB	: MODD-FRAC
1142	001602	044421	045246	046040	EMV032:	.WORD	EMI,DHD,DTAC	: MODD-INT
1143	001610	044555	045210	045662	EMV033:	.WORD	EMK,DHC,DTV	: LDCDF,STCDF
1144	001616	044477	045246	045752	EMV034:	.WORD	EMJ,DHD,DTZ	: LDCFD
1145	001624	044477	045246	045774	EMV035:	.WORD	EMJ,DHD,DTAA	: STCFD
1146	001632	044633	045210	045636	EMV036:	.WORD	EML,DHC,DTT	: LDCIF
1147	001640	044633	045246	045730	EMV037:	.WORD	EML,DHD,DTY	: LDCID
1148	001646	044633	045210	045650	EMV040:	.WORD	EML,DHC,DTU	: LDCLF
1149	001654	044633	045246	045752	EMV041:	.WORD	EML,DHD,DTZ	: LDCLD

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ERROR POINTER TABLE

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

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PROGRAM DEFINED COMMON TAGS

```

1165          .SBTTL PROGRAM DEFINED COMMON TAGS
1166          :#VARIABLES
1167 002000 000000 FPS: .WORD 0 ; FPS STORED HERE AFTER STFPS
1168 002002 000000 FEC: .WORD 0 ; FEC STORED HERE AFTER STST
1169 002004 000000 FEA: .WORD 0 ; FEA STORED HERE AFTER STST
1170 002006 000000 FPPOPC: .WORD 0 ; OLD PC SAVED HERE AFTER TRAP AFTER TRAP
1171 002010 000000 FPPOPS: .WORD 0 ; OLD PS SAVED HERE
1172 002012 000000 FPPOSP: .WORD 0 ; SP AFTER TRAP
1173 002014 000000 EXPFEA: .WORD 0 ; EXPECTED FEA
1174
1175          :#REGISTER CONTENTS, AT ERROR, FOR DISPLAY
1176 002016 000000 EREG0: .WORD 0
1177 002020 000007 EREG1: .WORD 0
1178 002022 00000J EREG2: .WORD 0
1179 002024 000000 EREG3: .WORD 0
1180 002026 000000 EREG4: .WORD 0
1181 002030 000000 EREG5: .WORD 0
1182 002032 000000 EREG6: .WORD 0
1183 002034 000000 EREG7: .WORD 0
1184
1185          :#CONSTANTS
1186 002036 052525 177777 125252 PREVAC: .WORD ALTP,M1,ALTN,0 ; PREV CONTENTS OF FLOAT AC
1187 002044 000000
1188
1189          :#MESSAGES FOR BEGIN PROGRAM/START OF PASS/ETC
1190          BGNMES: .ASCII <15><12><12><12>"MD-11-DQFPB-A>..."
1191 002046 005015 005012 042115
1192 002054 030455 026461 050504
1193 002062 050106 026502 037101
1194 002070 027056 056
1195 002073 120 050104 030455 .ASCIZ "PDP-11/6X F.P.U. ADVANCED INSTRUCTION TESTS"<15><12>
1196 002100 027461 054066 043040
1197 002106 050056 052456 020056
1198 002114 042101 040526 041516
1199 002122 042105 044440 051516
1200 002130 051124 041525 044524
1201 002136 047117 052040 051505
1202 002144 051524 005015 000
1203 002151 015 050012 051501 NWPAS1: .ASCIZ <15><12>"PASS #"
1204 002156 020123 000043

```

```

1205
1206
1207
1208
1209
1210
1211
1212
1213 002162
1214
1215
1216 002162 012706 001100
1217 002166 005026
1218 002170 022706 001146
1219 002174 001374
1220 002176 012706 001100
1221
1222 002202 012737 041530 000020
1223 002210 012737 000340 000022
1224 002216 012737 042006 000030
1225 002224 012737 000340 000032
1226 002232 012737 043442 000034
1227 002240 012737 000340 000036
1228 002246 012737 043510 000024
1229 002254 012737 000340 000026
1230 002262 013737 033032 033024
1231 002270 005037 001310
1232 002274 005037 001312
1233 002300 012737 000001 001122
1234 002306 012737 002306 001110
1235 002314 012737 002314 001114
1236
1237
1238 002322 013746 000004
1239 002326 012737 002362 000004
1240 002334 012737 177570 001146
1241 002342 012737 177570 001150
1242 002350 022777 177777 176570
1243 002356 001012
1244
1245 002360 000403
1246 002362 012716 002370 64$:
1247 002366 000002
1248 002370 012737 000176 001146 65$:
1249 002376 012737 000174 001150
1250 002404 012637 000004 66$:
1251
1252 002410 005037 001332
1253 002414 132737 000200 001345
1254 002422 001403
1255 002424 012737 001346 001146
1256 002432
1257
1258
1259 002432 012737 041470 000244
1260 002440 005037 000246

```

```

.SBTTL START OF PASS ROUTINE
.EVEN ; START ON AN EVEN BOUNDARY
;*****
;.ENABL AMA ; ASSEMBLE ALL RELATIVE REFERENCES AS ABSOLUTE
;*****
START:
.SBTTL INITIALIZE THE COMMON TAGS
;;CLEAR THE COMMON TAGS (SCMTAG) AREA
MOV #SCMTAG,R6 ;;FIRST LOCATION TO BE CLEARED
CLR (R6)+ ;;CLEAR MEMORY LOCATION
CMP #SWR,R6 ;;DONE?
BNE -6 ;;LOOP BACK IF NO
MOV #STACK,SP ;;SETUP THE STACK POINTER
;INITIALIZE A FEW VECTORS
MOV #SSCOPE,@IOTVEC ;;IOT VECTOR FOR SCOPE ROUTINE
MOV #340,@IOTVEC+2 ;;LEVEL 7
MOV #SEERROR,@EMTVEC ;;EMT VECTOR FOR ERROR ROUTINE
MOV #340,@EMTVEC+2 ;;LEVEL 7
MOV #STRAP,@TRAPVEC ;;TRAP VECTOR FOR TRAP CALLS
MOV #340,@TRAPVEC+2 ;;LEVEL 7
MOV #SPWRON,@PWRVEC ;;POWER FAILURE VECTOR
MOV #340,@PWRVEC+2 ;;LEVEL 7
MOV SENDCT,SEOPCT ;;SETUP END-OF-PROGRAM COUNTER
CLR $TIMES ;;INITIALIZE NUMBER OF ITERATIONS
CLR $ESCAPE ;;CLEAR THE ESCAPE ON ERROR ADDRESS
MOV #1,$SERMAX ;;ALLOW ONE ERROR PER TEST
MOV #,$SLPADR ;;INITIALIZE THE LOOP ADDRESS FOR SCOPE
MOV #,$SLPERR ;;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.
MOV @ERRVEC,-(SP) ;;SAVE ERROR VECTOR
MOV #64$,@ERRVEC ;;SET UP ERROR VECTOR
MOV #DSWR,$SWR ;;SETUP FOR A HARDWARE SWICH REGISTER
MOV #DDISP,$DISPLAY ;;AND A HARDWARE DISPLAY REGISTER
CMP #-1,$SWR ;;TRY TO REFERENCE HARDWARE SWR
BNE 66$ ;;BRANCH IF NO TIMEOUT TRAP OCCURRED
;AND THE HARDWARE SWR IS NOT = -1
BR 65$ ;;BRANCH IF NO TIMEOUT
MOV #65$,(SP) ;;SET UP FOR TRAP RETURN
RTI
MOV #SWREG,$SWR ;;POINT TO SOFTWARE SWR
MOV #DISPREG,$DISPLAY
MOV (SP)+,@ERRVEC ;;RESTORE ERROR VECTOR
CLR $PASS ;;CLEAR PASS COUNT
BITB #APTSIZE,$ENVM ;;TEST USER SIZE UNDER APT
BEQ 67$ ;;YES,USE NON-APT SWITCH
MOV #SSWREG,$SWR ;;NO,USE APT SWITCH REGISTER
67$:
; SET UP FPP UNEXPECTED TRAP CATCHER - - - - -
MOV #FPPILT,@FPPVEC ;;NEW PC AT FPP TRAP
CLR @FPPVEC+2 ;;NEW PS AT FPP TRAP

```

```

1261
1262 002444 104401 002046          TYPE      ,BGNMES          ; ID MESSAGE AT START
1263
1264 ;////////////////////////////////////
1265 ; MESSAGE ON WHETHER OR NOT HFP UNIT IS PRESENT
1266 ;
1267 002450 076600 000022          MED          RWHAMI          ;WHAMI INTO RO
1268 002454 032700 000020          BIT          #BIT04,RO      ;IS THERE A HFP UNIT ?
1269 002460 001403                    BEQ          70$              ;NO, BR
1270 002462 104401 002476          TYPE          68$              ;INDICATE FP11-E PRESENT
1271 002466 000453                    BR          NEWPAS            ;GO FOR SUBPASS INIT
1272 002470 104401 002536          70$:          TYPE          69$              ;INDICATE NO FP11-E
1273 002474 000450                    BR          NEWPAS            ;GO FOR SUBPASS INIT
1274
1275 002476 005015 020052 050106 68$: .ASCIZ <15><12>*" FP11-E HFP UNIT PRESENT *"<15><12>
1276 002504 030461 042455 044040
1277 002512 050106 052440 044516
1278 002520 020124 051120 051505
1279 002526 047105 020124 006452
1280 002534 000012
1281 002536 005015 020052 047516 69$: .ASCIZ <15><12>*" NO FP11-E HFP UNIT - ALL TESTS WFP ONLY *"<15><12>
1282 002544 043040 030520 026461
1283 002552 020105 043110 020120
1284 002560 047125 052111 026440
1285 002566 040440 046114 052040
1286 002574 051505 051524 053440
1287 002602 050106 047440 046116
1288 002610 020131 006452 000012
1289 .EVEN
1290
1291 ;////////////////////////////////////
1292
1293 ;*****
1294 ;:NEW PASS ENTERS HERE
1295 ;*****
1296
1297
1298 002616 012706 001100          NEWPAS: MOV      #STACK,SP      ;RESET STACK PTR
1299
1300 002622 032777 010000 176316          BIT          #BIT12,DSWR      ;INHIBIT STATUS TYPEOUTS ?
1301 002630 001011                    BNE          SUBPAS            ;BR IF YES
1302
1303 002632 104401 002151          TYPE          NWPAS1          ;"PASS #"
1304 002636 013746 001332          MOV          $PASS,-(SP)        ;PASS COUNT INTO ...
1305 002642 005216                    INC          (SP)              ; 1-N RANGE
1306 002644 104403                    TYPOS                    ;TYPE OCTAL
1307 002646 006 000                    .BYTE        6,0              ; 6 DIGITS, NO LEADING ZEROS
1308 002650 104401 001321          TYPE          , $CRLF          ;END THE LINE
1309
1310
1311 ;*****
1312 ;:NEW SUBPASS ENTERS HERE
1313 ;*****
1314
1315 002654 076600 000022          SUBPAS: MED          RWHAMI          ;GET WHAMI INTO RO
1316 002660 032700 000020          BIT          #BIT04,RO      ;1=HFP PRESENT, 0=NO

```

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

```

1338
1339
1340
1341
1342
1343 002760 000004
1344 002762 012705 002774
1345 002766 004737 033076
1346
1347 002772 000407
1348
1349 002774
1350 002774 000000 000000
1351 003000 000000 000000
1352 003004 047453 047444
1353 003010 000000
1354
1355
1356
1357
1358
1359
1360
1361 003012 000004
1362 003014 012705 003026
1363 003020 004737 033076
1364
1365 003024 000407
1366
1367 003026
1368 003026 052525 052525
1369 003032 052525 052525
1370 003036 047513 047504
1371 003042 000000
1372
1373
1374
1375
1376
1377
1378
1379 003044 000004
1380 003046 012705 003060
1381 003052 004737 033076
1382
1383 003056 000407
1384
1385 003060
1386 003060 077777 177777
1387 003064 177777 177777
1388 003070 047507 047510
1389 003074 000000
1390
1391
1392
1393

```

```

*****
; *TEST 1 TEST OF CMPF INSTR, DATA SET CMPF-1
; * ALL INTERRUPT ENABLES ON
; * SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST1: SCOPE
MOV #CMPF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#CMPFT ; GO TEST

BR TST2 ;;

CMPF1: ; TEST DATA SET CMPF-1:
.WORD 0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 047453,047444 ; FPS: BEFORE, AFTER
.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
*****
TST2: SCOPE
MOV #CMPF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#CMPFT ; GO TEST

BR TST3 ;;

CMPF2: ; TEST DATA SET CMPF-2:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD ALTP,ALTP ; INITIAL MEM FLOAT NUMBER
.WORD 047513,047504 ; FPS: BEFORE, AFTER
.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
*****
TST3: SCOPE
MOV #CMPF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#CMPFT ; GO TEST

BR TST4 ;;

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

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

```

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T4 TEST OF CMPF INSTR, DATA SET CMPF-4

1394
1395
1396
1397 003076 000004
1398 003100 012705 003112
1399 003104 004737 033076
1400
1401 003110 000407
1402
1403 003112
1404 003112 125252 125252
1405 003116 125252 125252
1406 003122 047453 047444
1407 003126 000000
1408
1409
1410
1411
1412
1413
1414
1415 003130 000004
1416 003132 012705 003144
1417 003136 004737 033076
1418
1419 003142 000407
1420
1421 003144
1422 003144 177777 177777
1423 003150 077777 177777
1424 003154 047457 047440
1425 003160 000000
1426
1427
1428
1429
1430
1431
1432
1433 003162 000004
1434 003164 012705 003176
1435 003170 004737 033076
1436
1437 003174 000407
1438
1439 003176
1440 003176 037777 177777
1441 003202 040000 000000
1442 003206 047517 047500
1443 003212 000000
1444
1445
1446
1447
1448
1449

```

;*          ALL INTERRUPT ENABLES ON
;*          SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST4:  SCOPE
      MOV   #CMPF4,R5      ; PTR TO TEST DATA SET
      JSR   PC,@#CMPFT    ; GO TEST
      BR   TST5           ;;

CMPF4: ; TEST DATA SET CMPF-4:
      .WORD ALTN,ALTN      ; INITIAL AC FLOAT NUMBER
      .WORD ALTN,ALTN      ; INITIAL MEM FLOAT NUMBER
      .WORD 047453,047444 ; FPS: BEFORE, AFTER
      .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
*****
TST5:  SCOPE
      MOV   #CMPF5,R5      ; PTR TO TEST DATA SET
      JSR   PC,@#CMPFT    ; GO TEST
      BR   TST6           ;;

CMPF5: ; TEST DATA SET CMPF-5:
      .WORD LGN,M1         ; INITIAL AC FLOAT NUMBER
      .WORD LGP,M1         ; INITIAL MEM FLOAT NUMBER
      .WORD 047457,047440 ; FPS: BEFORE, AFTER
      .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
*****
TST6:  SCOPE
      MOV   #CMPF6,R5      ; PTR TO TEST DATA SET
      JSR   PC,@#CMPFT    ; GO TEST
      BR   TST7           ;;

CMPF6: ; TEST DATA SET CMPF-6:
      .WORD 037777,M1      ; INITIAL AC FLOAT NUMBER
      .WORD 040000,000000 ; INITIAL MEM FLOAT NUMBER
      .WORD 047517,047500 ; FPS: BEFORE, AFTER
      .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

```


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T7 TEST OF CMPF INSTR, DATA SET CMPF-7

1450
1451 003214 000004
1452 003216 012705 003230
1453 003222 004737 033076
1454
1455 003226 000407
1456
1457 003230
1458 003230 050000 000001
1459 003234 050000 000000
1460 003240 047547 047550
1461 003244 000000
1462
1463
1464
1465
1466
1467
1468
1469 003246 000004
1470 003250 012705 003262
1471 003254 004737 033076
1472
1473 003260 000407
1474
1475 003262
1476 003262 126000 000000
1477 003266 124000 000000
1478 003272 047417 047400
1479 003276 000000
1480
1481
1482
1483
1484
1485
1486
1487 003300 000004
1488 003302 012705 003314
1489 003306 004737 033076
1490
1491 003312 000407
1492
1493 003314
1494 003314 007417 007417
1495 003320 100000 000000
1496 003324 047443 147443
1497 003330 100014
1498
1499
1500
1501
1502
1503
1504
1505 003332 000004

```

*****
TST7:  SCOPE
      MOV    #CMPF7,R5      ; PTR TO TEST DATA SET
      JSR    PC,@#CMPFT    ; GO TEST
      BR     TST10        ;;

CMPF7: ; TEST DATA SET CMPF-7:
      .WORD 050000,000001  ; INITIAL AC FLOAT NUMBER
      .WORD 050000,000000  ; INITIAL MEM FLOAT NUMBER
      .WORD 047547,047550  ; FPS: BEFORE, AFTER
      .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
*****
TST10: SCOPE
      MOV    #CMPF10,R5    ; PTR TO TEST DATA SET
      JSR    PC,@#CMPFT   ; GO TEST
      BR     TST11        ;;

CMPF10: ; TEST DATA SET CMPF-10:
      .WORD 126000,000000  ; INITIAL AC FLOAT NUMBER
      .WORD 124000,000000  ; INITIAL MEM FLOAT NUMBER
      .WORD 047417,047400  ; FPS: BEFORE, AFTER
      .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
*****
TST11: SCOPE
      MOV    #CMPF11,R5    ; PTR TO TEST DATA SET
      JSR    PC,@#CMPFT   ; GO TEST
      BR     TST12        ;;

CMPF11: ; TEST DATA SET CMPF-11:
      .WORD ALT4P,ALT4P    ; INITIAL AC FLOAT NUMBER
      .WORD MO,0           ; INITIAL MEM FLOAT NUMBER
      .WORD 047443,147443  ; FPS: BEFORE, AFTER
      .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
*****
TST12: SCOPE

```

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T12 TEST OF CMPF INSTR, DATA SET CMPF-12

1506 003334 012705 003346
1507 003340 004737 033076
1508
1509 003344 000407
1510
1511 003346
1512 003346 006177 177777
1513 003352 004177 177777
1514 003356 047507 047510
1515 003362 000000
1516
1517
1518
1519
1520
1521
1522
1523 003364 000004
1524 003366 012705 003400
1525 003372 004737 033076
1526
1527 003376 000407
1528
1529 003400
1530 003400 125252 125252
1531 003404 100177 177777
1532 003410 043557 043540
1533 003414 000000
1534
1535
1536
1537
1538
1539
1540
1541 003416 000004
1542 003420 012705 003432
1543 003424 004737 033076
1544
1545 003430 000407
1546
1547 003432
1548 003432 000377 177777
1549 003436 000377 177776
1550 003442 047407 047410
1551 003446 000000
1552
1553
1554

MOV #CMPF12,R5 ; PTR TO TEST DATA SET
JSR PC,@#CMPFT ; GO TEST
BR TST13 ;;
CMPF12: ; TEST DATA SET CMPF-12:
.WORD 006177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 004177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.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

TST13: SCOPE
MOV #CMPF13,R5 ; PTR TO TEST DATA SET
JSR PC,@#CMPFT ; GO TEST
BR TST14 ;;

CMPF13: ; TEST DATA SET CMPF-13:
.WORD ALTN,ALTN ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 043557,043540 ; FPS: BEFORE, AFTER
.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

TST14: SCOPE
MOV #CMPF14,R5 ; PTR TO TEST DATA SET
JSR PC,@#CMPFT ; GO TEST
BR TST15 ;;

CMPF14: ; TEST DATA SET CMPF-14:
.WORD 000377,M1 ; INITIAL AC FLOAT NUMBER
.WORD 000377,M2 ; INITIAL MEM FLOAT NUMBER
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

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T15 TEST OF CMPD INSTR, DATA SET CMPD-1

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1555
1556
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1560 003450 000004
1561 003452 012705 003464
1562 003456 004737 033244
1563
1564 003462 000413
1565
1566 003464
1567 003464 000000 000000 000000
1568 003472 000000
1569 003474 000000 000000 000000
1570 003502 000000
1571 003504 047713 047704
1572 003510 000000
1573
1574
1575
1576
1577
1578
1579
1580 003512 000004
1581 003514 012705 003526
1582 003520 004737 033244
1583
1584 003524 000413
1585
1586 003526
1587 003526 177777 177777 177777
1588 003534 177777
1589 003536 077777 177777 177777
1590 003544 177777
1591 003546 047717 047700
1592 003552 000000
1593
1594
1595
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1597
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1599
1600 003554 000004
1601 003556 012705 003570
1602 003562 004737 033244
1603
1604 003566 000413
1605
1606 003570
1607 003570 170360 170360 170360
1608 003576 170360
1609 003600 170360 170360 170360
1610 003606 170360
```

```
*****
*TEST 15 TEST OF CMPD INSTR, DATA SET CMPD-1
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST15: SCOPE
MOV #CMPD1,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD1 ; GO TEST
BR TST16 ;;
CMPD1: ; TEST DATA SET CMPD-1:
.WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 047713,047704 ; FPS: BEFORE, AFTER
.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
*****
TST16: SCOPE
MOV #CMPD2,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD2 ; GO TEST
BR TST17 ;;
CMPD2: ; TEST DATA SET CMPD-2:
.WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 047717,047700 ; FPS: BEFORE, AFTER
.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
*****
TST17: SCOPE
MOV #CMPD3,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD3 ; GO TEST
BR TST20 ;;
CMPD3: ; TEST DATA SET CMPD-3:
.WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
.WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
```

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T17 TEST OF CMPD INSTR, DATA SET CMPD-3

1611 003610 047713 047704
1612 003614 000000

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

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*TEST 20 TEST OF CMPD INSTR, DATA SET CMPD-4
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES

1620 003616 000004
1621 003620 012705 003632
1622 003624 004737 033244

TST20: SCOPE
MOV #CMPD4,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD4 ; GO TEST

1623
1624 003630 000413

BR TST21 ;;

1625
1626 003632
1627 003632 077777 177777 177777

CMPD4: ; TEST DATA SET CMPD-4:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER

1628 003640 177777
1629 003642 177777 177777 177777

.WORD LGN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

1630 003650 177777
1631 003652 047647 047650
1632 003656 000000

.WORD 047647,047650 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

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*TEST 21 TEST OF CMPD INSTR, DATA SET CMPD-5
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES

1640 003660 000004
1641 003662 012705 003674
1642 003666 004737 033244

TST21: SCOPE
MOV #CMPD5,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD5 ; GO TEST

1643
1644 003672 000413

BR TST22 ;;

1645
1646 003674
1647 003674 007417 007417 007417

CMPD5: ; TEST DATA SET CMPD-5:
.WORD ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER

1648 003702 007417
1649 003704 007417 007417 007417

.WORD ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER

1650 003712 007417
1651 003714 047653 047644
1652 003720 000000

.WORD 047653,047644 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

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*TEST 22 TEST OF CMPD INSTR, DATA SET CMPD-6
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES

1660 003722 000004
1661 003724 012705 003736
1662 003730 004737 033244

TST22: SCOPE
MOV #CMPD6,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD6 ; GO TEST

1663
1664 003734 000413

BR TST23 ;;

1665
1666 003736

CMPD6: ; TEST DATA SET CMPD-6:

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 T22 TEST OF CMPD INSTR, DATA SET CMPD-6

1667	003736	125252	125252	125252	.WORD	ALTN,ALTN,ALTN,ALTN	; INITIAL AC FLOAT NUMBER
1668	003744	125252					
1669	003746	100177	177777	177777	.WORD	ZX1MN,M1,M1,M1	; INITIAL MEM FLOAT NUMBER
1670	003754	177777					
1671	003756	047703	147703		.WORD	047703,147703	; FPS: BEFORE, AFTER
1672	003762	100014			.WORD	100014	; FEC AFTER (0 = N/A)

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*****
*TEST 23      TEST OF CMPD INSTR, DATA SET CMPD-7
*            ALL INTERRUPT ENABLES ON
*            LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

1680	003764	000004			TST23:	SCOPE	
1681	003766	012705	004000			MOV	#CMPD7,R5 ; PTR TO TEST DATA SET
1682	003772	004737	033244			JSR	PC,3#CMPDT ; GO TEST
1683							
1684	003776	000413				BR	TST24 ;;

1686	004000				CMPD7:	; TEST DATA SET CMPD-7:	
1687	004000	002177	177777	177777	.WORD	002177,M1,M1,M1	; INITIAL AC FLOAT NUMBER
1688	004006	177777					
1689	004010	005177	177777	177777	.WORD	005177,M1,M1,M1	; INITIAL MEM FLOAT NUMBER
1690	004016	177777					
1691	004020	047657	047640		.WORD	047657,047640	; FPS: BEFORE, AFTER
1692	004024	000000			.WORD	NA	; FEC AFTER (0 = N/A)

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*****
*TEST 24      TEST OF CMPD INSTR, DATA SET CMPD-10
*            ALL INTERRUPT ENABLES ON
*            LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

1700	004026	000004			TST24:	SCOPE	
1701	004030	012705	004042			MOV	#CMPD10,R5 ; PTR TO TEST DATA SET
1702	004034	004737	033244			JSR	PC,3#CMPDT ; GO TEST
1703							
1704	004040	000413				BR	TST25 ;;

1706	004042				CMPD10:	; TEST DATA SET CMPD-10:	
1707	004042	030000	000000	000000	.WORD	030000,000000,000000,000000	; INITIAL AC FLOAT NUMBER
1708	004050	000000					
1709	004052	027777	177777	177777	.WORD	027777,M1,M1,M1	; INITIAL MEM FLOAT NUMBER
1710	004060	177777					
1711	004062	047647	047650		.WORD	047647,047650	; FPS: BEFORE, AFTER
1712	004066	000000			.WORD	NA	; FEC AFTER (0 = N/A)

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*****
*TEST 25      TEST OF CMPD INSTR, DATA SET CMPD-11
*            ALL INTERRUPT ENABLES ON
*            LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

1720	004070	000004			TST25:	SCOPE	
1721	004072	012705	004104			MOV	#CMPD11,R5 ; PTR TO TEST DATA SET
1722	004076	004737	033244			JSR	PC,3#CMPDT ; GO TEST

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T25 TEST OF CMPD INSTR, DATA SET CMPD-11

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1723
1724 004102 000413 BR TST26 ;;
1725
1726 004104 CMPD11: ; TEST DATA SET CMPD-11:
1727 004104 102000 000000 000000 .WORD 102000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
1728 004112 000000
1729 004114 102000 000000 000000 .WORD 102000,000000,000000,000001 ; INITIAL MEM FLOAT NUMBER
1730 004122 000001
1731 004124 047607 047610 .WORD 047607,047610 ; FPS: BEFORE, AFTER
1732 004130 000000 .WORD NA ; FEC AFTER ( 0 = N/A )

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1733
1734
1735 ;*****
1736 ;*TEST 26 TEST OF CMPD INSTR, DATA SET CMPD-12
1737 ;*
1738 ;* ALL INTERRUPT ENABLES ON
1739 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
1740 ;*****

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1740 004132 000004 TST26: SCOPE
1741 004134 012705 004146 MOV #CMPD12,R5 ; PTR TO TEST DATA SET
1742 004140 004737 033244 JSR PC,2#CMPDT ; GO TEST
1743

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1744 004144 000413 BR TST27 ;;
1745
1746 004146 CMPD12: ; TEST DATA SET CMPD-12:
1747 004146 002000 000000 000000 .WORD 002000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
1748 004154 000000
1749 004156 014000 000000 000000 .WORD 014000,000000,000000,000000 ; INITIAL MEM FLOAT NUMBER
1750 004164 000000
1751 004166 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
1752 004172 000000 .WORD NA ; FEC AFTER ( 0 = N/A )

```

```

1753
1754
1755 ;*****
1756 ;*TEST 27 TEST OF CMPD INSTR, DATA SET CMPD-13
1757 ;*
1758 ;* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
1759 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
1760 ;*****

```

```

1760 004174 000004 TST27: SCOPE
1761 004176 012705 004210 MOV #CMPD13,R5 ; PTR TO TEST DATA SET
1762 004202 004737 033244 JSR PC,2#CMPDT ; GO TEST
1763

```

```

1764 004206 000413 BR TST30 ;;
1765
1766 004210 CMPD13: ; TEST DATA SET CMPD-13:
1767 004210 000000 000000 000000 .WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER
1768 004216 000000
1769 004220 100177 177777 000000 .WORD ZX1MN,M1,0,M1 ; INITIAL MEM FLOAT NUMBER
1770 004226 177777
1771 004230 043713 043704 .WORD 043713,043704 ; FPS: BEFORE, AFTER
1772 004234 000000 .WORD NA ; FEC AFTER ( 0 = N/A )

```

```

1773
1774
1775 ;*****
1776 ;*TEST 30 TEST OF CMPD INSTR, DATA SET CMPD-14
1777 ;*
1778 ;* ALL INTERRUPT ENABLES ON
1779 ;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES

```

FPU ADVANCED INSTR TESTS
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T30 TEST OF CMPD INSTR, DATA SET CMPD-14

1779				
1780	004236	000004		
1781	004240	012705	004252	
1782	004244	004737	033244	
1783				
1784	004250	000413		
1785				
1786	004252			
1787	004252	100777	000000	177777
1788	004260	000001		
1789	004262	100777	000000	177777
1790	004270	000000		
1791	004272	047657	047640	
1792	004276	000000		
1793				
1794				

```

:*****
↑T30: SCOPE
      MOV      #CMPD14,R5      ; PTR TO TEST DATA SET
      JSR      PC,@#CMPDT     ; GO TEST
      BR       TST31          ;;
CMPD14: ; TEST DATA SET CMPD-14:
        .WORD  100777,000000,M1,000001 ; INITIAL AC FLOAT NUMBER
        .WORD  100777,000000,M1,000000 ; INITIAL MEM FLOAT NUMBER
        .WORD  047657,047640          ; FPS: BEFORE, AFTER
        .WORD  NA                      ; FEC AFTER ( 0 = N/A )

```

M03

FPU ADVANCED INSTR TESTS
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T31 TEST OF ADDF INSTR, DATA SET ADDF-1

1795			
1796			
1797			
1798			
1799			
1800	004300	000004	
1801	004302	012705	004314
1802	004306	004737	033432
1803			
1804	004312	000411	
1805			
1806	004314		
1807	004314	000177	177777
1808	004320	000177	177777
1809	004324	000000	000000
1810	004330	047453	047444
1811	004334	000000	
1812			
1813			
1814			
1815			
1816			
1817			
1818			
1819	004336	000004	
1820	004340	012705	004352
1821	004344	004737	033432
1822			
1823	004350	000411	
1824			
1825	004352		
1826	004352	000000	000000
1827	004356	125252	125252
1828	004362	125252	125252
1829	004366	047407	047410
1830	004372	000000	
1831			
1832			
1833			
1834			
1835			
1836			
1837			
1838	004374	000004	
1839	004376	012705	004410
1840	004402	004737	033432
1841			
1842	004406	000411	
1843			
1844	004410		
1845	004410	052525	052525
1846	004414	000000	000000
1847	004420	052525	052525
1848	004424	047557	047540
1849	004430	000000	
1850			

```

*****
*TEST 31      TEST OF ADDF INSTR, DATA SET ADDF-1
*
*      ALL INTERRUPT ENABLES ON
*      SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST31:  SCOPE
        MOV      #ADDF1,R5      ; PTR TO TEST DATA SET
        JSR      PC,2#ADDFT    ; GO TEST

        BR      TST32          ;;

ADDF1:  ; TEST DATA SET ADDF-1:
        .WORD   ZXIMP,M1      ; INITIAL AC FLOAT NUMBER
        .WORD   ZXIMP,M1      ; INITIAL MEM FLOAT NUMBER
        .WORD   0,0           ; EXPECTED FLOAT RESULT
        .WORD   047453,047444 ; FPS: BEFORE, AFTER
        .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
*****
TST32:  SCOPE
        MOV      #ADDF2,R5      ; PTR TO TEST DATA SET
        JSR      PC,2#ADDFT    ; GO TEST

        BR      TST33          ;;

ADDF2:  ; TEST DATA SET ADDF-2:
        .WORD   0,0           ; INITIAL AC FLOAT NUMBER
        .WORD   ALTN,ALTN      ; INITIAL MEM FLOAT NUMBER
        .WORD   ALTN,ALTN      ; EXPECTED FLOAT RESULT
        .WORD   047407,047410 ; FPS: BEFORE, AFTER
        .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
*****
TST33:  SCOPE
        MOV      #ADDF3,R5      ; PTR TO TEST DATA SET
        JSR      PC,2#ADDFT    ; GO TEST

        BR      TST34          ;;

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

```



```

1851
1852
1853
1854
1855
1856
1857 004432 000004
1858 004434 012705 004446
1859 004440 004737 033432
1860
1861 004444 000411
1862
1863 004446
1864 004446 077777 177777
1865 004452 177777 177777
1866 004456 000000 000000
1867 004462 047513 047504
1868 004466 000000
1869
1870
1871
1872
1873
1874
1875
1876 004470 000004
1877 004472 012705 004504
1878 004476 004737 033432
1879
1880 004502 000411
1881
1882 004504
1883 004504 042000 000000
1884 004510 050177 177777
1885 004514 050200 000000
1886 004520 047417 047400
1887 004524 000000
1888
1889
1890
1891
1892
1893
1894
1895 004526 000004
1896 004530 012705 004542
1897 004534 004737 033432
1898
1899 004540 000411
1900
1901 004542
1902 004542 042000 000000
1903 004546 050177 177777
1904 004552 050177 177777
1905 004556 047457 047440
1906 004562 000000

```

```

*****
*TEST 34 TEST OF ADDF INSTR, DATA SET ADDF-4
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST34: SCOPE
MOV #ADDF4,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF4 ; GO TEST
BR TST35 ;;

```

```

ADDF4: ; TEST DATA SET ADDF-4:
.WORD LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047513,047504 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST35: SCOPE
MOV #ADDF5,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF5 ; GO TEST
BR TST36 ;;

```

```

ADDF5: ; TEST DATA SET ADDF-5:
.WORD 042000,000000 ; INITIAL AC FLOAT NUMBER
.WORD 050177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 050200,000000 ; EXPECTED FLOAT RESULT
.WORD 047417,047400 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST36: SCOPE
MOV #ADDF6,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF6 ; GO TEST
BR TST37 ;;

```

```

ADDF6: ; TEST DATA SET ADDF-6:
.WORD 042000,000000 ; INITIAL AC FLOAT NUMBER
.WORD 050177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 050177,M1 ; EXPECTED FLOAT RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

1907
1908
1909
1910
1911
1912
1913
1914 004564 000004
1915 004566 012705 004600
1916 004572 004737 033432
1917
1918 004576 000411
1919
1920 004600
1921 004600 141777 177777
1922 004604 150177 177777
1923 004610 150177 177777
1924 004614 047507 047510
1925 004620 000000
1926
1927
1928
1929
1930
1931
1932
1933 004622 000004
1934 004624 012705 004636
1935 004630 004737 033432
1936
1937 004634 000411
1938
1939 004636
1940 004636 141777 177777
1941 004642 150177 177777
1942 004646 150177 177777
1943 004652 047547 047550
1944 004656 000000
1945
1946
1947
1948
1949
1950
1951
1952 004660 000004
1953 004662 012705 004674
1954 004666 004737 033432
1955
1956 004672 000411
1957
1958 004674
1959 004674 040177 177777
1960 004700 032200 000000
1961 004704 040200 000000
1962 004710 047457 047440

```

```

*****
*TEST 37 TEST OF ADDF INSTR, DATA SET ADDF-7
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST37: SCOPE
MOV #ADDF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#ADDF7 ; GO TEST
BR TST40 ;;

```

```

ADDF7: ; TEST DATA SET ADDF-7:
.WORD 141777,M1 ; INITIAL AC FLOAT NUMBER
.WORD 150177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 150177,M1 ; EXPECTED FLOAT RESULT
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST40: SCOPE
MOV #ADDF10,R5 ; PTR TO TEST DATA SET
JSR PC,@#ADDF10 ; GO TEST
BR TST41 ;;

```

```

ADDF10: ; TEST DATA SET ADDF-10:
.WORD 141777,M1 ; INITIAL AC FLOAT NUMBER
.WORD 150177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 150177,M1 ; EXPECTED FLOAT RESULT
.WORD 047547,047550 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST41: SCOPE
MOV #ADDF11,R5 ; PTR TO TEST DATA SET
JSR PC,@#ADDF11 ; GO TEST
BR TST42 ;;

```

```

ADDF11: ; TEST DATA SET ADDF-11:
.WORD 040177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 032200,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 040200,000000 ; EXPECTED FLOAT RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER

```

```

1963 004714 000000
1964
1965
1966
1967
1968
1969
1970
1971 004716 000004
1972 004720 012705 004732
1973 004724 004737 033432
1974
1975 004730 000411
1976
1977 004732
1978 004732 140252 125252
1979 004736 140052 125252
1980 004742 140377 177777
1981 004746 047407 047410
1982 004752 000000
1983
1984
1985
1986
1987
1988
1989
1990 004754 000004
1991 004756 012705 004770
1992 004762 004737 033432
1993
1994 004766 000411
1995
1996 004770
1997 004770 040010 104210
1998 004774 040010 104210
1999 005000 040210 104210
2000 005004 047557 047540
2001 005010 000000
2002
2003
2004
2005
2006
2007
2008
2009 005012 000004
2010 005014 012705 005026
2011 005020 004737 033432
2012
2013 005024 000411
2014
2015 005026
2016 005026 174177 177777
2017 005032 074177 177776
2018 005036 166200 000000

```

```

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

*****
*TEST 42 TEST OF ADDF INSTR, DATA SET ADDF-12
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST42: SCOPE
MOV #ADDF12,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF12 ; GO TEST

BR TST43 ;;

ADDF12: ; TEST DATA SET ADDF-12:
.WORD 140252,125252 ; INITIAL AC FLOAT NUMBER
.WORD 140052,125252 ; INITIAL MEM FLOAT NUMBER
.WORD 140377,M1 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

*****
*TEST 43 TEST OF ADDF INSTR, DATA SET ADDF-13
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST43: SCOPE
MOV #ADDF13,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF13 ; GO TEST

BR TST44 ;;

ADDF13: ; TEST DATA SET ADDF-13:
.WORD 040010,104210 ; INITIAL AC FLOAT NUMBER
.WORD 040010,104210 ; INITIAL MEM FLOAT NUMBER
.WORD 040210,104210 ; EXPECTED FLOAT RESULT
.WORD 047557,047540 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

*****
*TEST 44 TEST OF ADDF INSTR, DATA SET ADDF-14
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST44: SCOPE
MOV #ADDF14,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF14 ; GO TEST

BR TST45 ;;

ADDF14: ; TEST DATA SET ADDF-14:
.WORD 174177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 074177,M2 ; INITIAL MEM FLOAT NUMBER
.WORD 166200,000000 ; EXPECTED FLOAT RESULT

```

2019 005042 047507 047510
2020 005046 000000

.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

2021
2022
2023
2024
2025
2026
2027

*TEST 45 TEST OF ADDF INSTR, DATA SET ADDF-15
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

2028 005050 000004
2029 005052 012705 005064
2030 005056 004737 033432

TST45: SCOPE
MOV #ADDF15,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF15 ; GO TEST

2031
2032 005062 000411

BR TST46 ;

2033
2034 005064
2035 005064 142200 000000
2036 005070 050177 177777
2037 005074 050177 177776
2038 005100 047417 047400
2039 005104 000000

ADDF15: ; TEST DATA SET ADDF-15:
.WORD 142200,000000 ; INITIAL AC FLOAT NUMBER
.WORD 050177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 050177,M2 ; EXPECTED FLOAT RESULT
.WORD 047417,047400 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

2040
2041
2042
2043
2044
2045
2046

*TEST 46 TEST OF ADDF INSTR, DATA SET ADDF-16
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

2047 005106 000004
2048 005110 012705 005122
2049 005114 004737 033432

TST46: SCOPE
MOV #ADDF16,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF16 ; GO TEST

2050
2051 005120 000411

BR TST47 ;

2052
2053 005122
2054 005122 077777 177777
2055 005126 077777 177777
2056 005132 000177 177777
2057 005136 047451 147446
2058 005142 100010

ADDF16: ; TEST DATA SET ADDF-16:
.WORD LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD ZX1MP,M1 ; EXPECTED FLOAT RESULT
.WORD 047451,147446 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER (0 = N/A)

2059
2060
2061
2062
2063
2064
2065

*TEST 47 TEST OF ADDF INSTR, DATA SET ADDF-17
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES

2066 005144 000004
2067 005146 012705 005160
2068 005152 004737 033432

TST47: SCOPE
MOV #ADDF17,R5 ; PTR TO TEST DATA SET
JSR PC,@ADDF17 ; GO TEST

2069
2070 005156 000411

BR TST50 ;

2071
2072 005160
2073 005160 104000 000000
2074 005164 004000 000001

ADDF17: ; TEST DATA SET ADDF-17:
.WORD 104000,0 ; INITIAL AC FLOAT NUMBER
.WORD 004000,1 ; INITIAL MEM FLOAT NUMBER

E04

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T47 TEST OF ADDF INSTR, DATA SET ADDF-17

2075 005170 076200 000000
2076 005174 047517 147500
2077 005200 100012

.WORD 076200,0 ; EXPECTED FLOAT RESULT
.WORD 047517,147500 ; FPS: BEFORE, AFTER
.WORD 100012 ; FEC AFTER (0 = N/A)

2078
2079

2080
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2107

2108
2109

2110
2111

2112
2113

2114
2115

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2117

2118
2119

2120
2121

2122
2123

2124
2125

2126
2127

2128
2129

2130

005202 000004
005204 012705 005216
005210 004737 033432

005214 000411

005216
005216 177777 177777
005222 100000 000000
005226 177777 177777
005232 047543 147543
005236 100014

005240 000004
005242 012705 005254
005246 004737 033432

005252 000411

005254
005254 177777 177777
005260 177777 177777
005264 000000 000000
005270 046511 046506
005274 000000

005276 000004
005300 012705 005312
005304 004737 033432

005310 000411

005312
005312 052525 052525

;TEST 50 TEST OF ADDF INSTR, DATA SET ADDF-20
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

TST50: SCOPE
MOV #ADDF20,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDF20 ; GO TEST
BR TST51 ;;

ADDF20: ; TEST DATA SET ADDF-20:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD MD,0 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1 ; EXPECTED FLOAT RESULT
.WORD 047543,147543 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER (0 = N/A)

;TEST 51 TEST OF ADDF INSTR, DATA SET ADDF-21
; OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
; SHORT FLOAT, LONG INTEGER, ROUND MODES

TST51: SCOPE
MOV #ADDF21,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDF21 ; GO TEST
BR TST52 ;;

ADDF21: ; TEST DATA SET ADDF-21:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD D,0 ; EXPECTED FLOAT RESULT
.WORD 046511,046506 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

;TEST 52 TEST OF ADDF INSTR, DATA SET ADDF-22
; -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
; LONG FLOAT, LONG INTEGER, ROUND MODES

TST52: SCOPE
MOV #ADDF22,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDF22 ; GO TEST
BR TST53 ;;

ADDF22: ; TEST DATA SET ADDF-22:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER

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T52 TEST OF ADDF INSTR, DATA SET ADDF-22

2131 005316 100177 177777
2132 005322 052525 052525
2133 005326 043717 043700
2134 005332 000000

.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD ALTP,ALTP ; EXPECTED FLOAT RESULT
.WORD 043717,043700 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
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2148
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2153
2154
2155
2156

```

*****
*TEST 53      TEST OF ADDF INSTR, DATA SET ADDF-23
*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
*              SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

†ST53:  SCOPE
        MOV     #ADDF23,R5      ; PTR TO TEST DATA SET
        JSR    PC,@ADDF23      ; GO TEST
        BR     TST54           ;;

```

```

ADDF23: ; TEST DATA SET ADDF-23:
        .WORD  004000,000001   ; INITIAL AC FLOAT NUMBER
        .WORD  104000,000000   ; INITIAL MEM FLOAT NUMBER
        .WORD  000000,000000   ; EXPECTED FLOAT RESULT
        .WORD  045413,045404   ; FPS: BEFORE, AFTER
        .WORD  NA               ; FEC AFTER ( 0 = N/A )

```

005334 000004
005336 012705 005350
005342 004737 033432
005346 000411
005350
005350 004000 000001
005354 104000 000000
005360 000000 000000
005364 045413 045404
005370 000000

2157
2158
2159
2160
2161
2162 005372 000004
2163 005374 012705 005406
2164 005400 004737 033602
2165
2166 005404 000417
2167
2168 005406
2169 005406 000177 177777 177777
2170 005414 177777
2171 005416 000000 000000 000000
2172 005424 000000
2173 005426 000000 000000 000000
2174 005434 000000
2175 005436 047713 047704
2176 005442 000000
2177
2178
2179
2180
2181
2182
2183
2184 005444 000004
2185 005446 012705 005460
2186 005452 004737 033602
2187
2188 005456 000417
2189
2190 005460
2191 005460 125252 125252 125252
2192 005466 125252
2193 005470 000000 000000 000000
2194 005476 000000
2195 005500 125252 125252 125252
2196 005506 125252
2197 005510 047747 047750
2198 005514 000000
2199
2200
2201
2202
2203
2204
2205
2206 005516 000004
2207 005520 012705 005532
2208 005524 004737 033602
2209
2210 005530 000417
2211
2212 005532

```

*****
*TEST 54      TEST OF ADDD INSTR, DATA SET ADDD-1
*
*      ALL INTERRUPT ENABLES ON
*      LONG FLOAT, LONG INTEGER, ROUND MODES
*****
†ST54:  SCOPE
        MOV      #ADDD1,R5      ; PTR TO TEST DATA SET
        JSR      PC,@#ADDDT    ; GO TEST
        BR       TST55        ;;

ADDD1:  ; TEST DATA SET ADDD-1:
        .WORD    ZX1MP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
        .WORD    0,0,0,0      ; INITIAL MEM FLOAT NUMBER
        .WORD    0,0,0,0      ; EXPECTED FLOAT RESULT
        .WORD    047713,047704 ; FPS: BEFORE, AFTER
        .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
*****
†ST55:  SCOPE
        MOV      #ADDD2,R5      ; PTR TO TEST DATA SET
        JSR      PC,@#ADDDT    ; GO TEST
        BR       TST56        ;;

ADDD2:  ; TEST DATA SET ADDD-2:
        .WORD    ALTN,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
        .WORD    0,0,0,0      ; INITIAL MEM FLOAT NUMBER
        .WORD    ALTN,ALTN,ALTN,ALTN ; EXPECTED FLOAT RESULT
        .WORD    047747,047750 ; FPS: BEFORE, AFTER
        .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
*****
†ST56:  SCOPE
        MOV      #ADDD3,R5      ; PTR TO TEST DATA SET
        JSR      PC,@#ADDDT    ; GO TEST
        BR       TST57        ;;

ADDD3:  ; TEST DATA SET ADDD-3:

```

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T56 TEST OF ADDD INSTR, DATA SET ADDD-3

2213	005532	000177	177777	177777	.WORD	ZXIMP,M1,M1,M1	; INITIAL AC FLOAT NUMBER
2214	005540	177777					
2215	005542	052525	052525	052525	.WORD	ALTP,ALTP,ALTP,ALTP	; INITIAL MEM FLOAT NUMBER
2216	005550	052525					
2217	005552	052525	052525	052525	.WORD	ALTP,ALTP,ALTP,ALTP	; EXPECTED FLOAT RESULT
2218	005560	052525					
2219	005562	047617	047600		.WORD	047617,047600	; FPS: BEFORE, AFTER
2220	005566	000000			.WORD	NA	; FEC AFTER (0 = N/A)

2221
2222

```

*****
;TEST 57      TEST OF ADDD INSTR, DATA SET ADDD-4
;
;            ALL INTERRUPT ENABLES ON
;            LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

TST57:  SCOPE
        MOV     #ADD04,R5      ; PTR TO TEST DATA SET
        JSR    PC,#ADD0T     ; GO TEST
        BR     TST60         ;;

```

```

ADD04:  ; TEST DATA SET ADDD-4:
        .WORD  LGN,M1,M1,M1   ; INITIAL AC FLOAT NUMBER
        .WORD  LGP,M1,M1,M1   ; INITIAL MEM FLOAT NUMBER
        .WORD  0,0,0,0       ; EXPECTED FLOAT RESULT
        .WORD  047653,047644 ; FPS: BEFORE, AFTER
        .WORD  NA            ; FEC AFTER ( 0 = N/A )

```

2231
2232
2233

```

*****
;TEST 60      TEST OF ADDD INSTR, DATA SET ADDD-5
;
;            ALL INTERRUPT ENABLES ON
;            LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST60:  SCOPE
        MOV     #ADD05,R5      ; PTR TO TEST DATA SET
        JSR    PC,#ADD0T     ; GO TEST
        BR     TST61         ;;

```

```

ADD05:  ; TEST DATA SET ADDD-5:
        .WORD  166177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
        .WORD  150000,0,0,0    ; INITIAL MEM FLOAT NUMBER
        .WORD  166200,0,0,0    ; EXPECTED FLOAT RESULT
        .WORD  047607,047610  ; FPS: BEFORE, AFTER
        .WORD  NA            ; FEC AFTER ( 0 = N/A )

```

2234
2235
2236
2237
2238
2239
2240
2241
2242
2243
2244

```

*****
;TEST 61      TEST OF ADDD INSTR, DATA SET ADDD-6

```

2245
2246
2247
2248
2249
2250
2251
2252
2253
2254
2255
2256
2257
2258
2259
2260
2261
2262
2263
2264
2265
2266
2267
2268


```

2269
2270
2271
2272 005714 000004
2273 005716 012705 005730
2274 005722 004737 033602
2275
2276 005726 000417
2277
2278 005730
2279 005730 166177 177777 177777
2280 005736 177777
2281 005740 150000 000000 000000
2282 005746 000000
2283 005750 166177 177777 177777
2284 005756 177777
2285 005760 047647 047650
2286 005764 000000
2287
2288
2289
2290
2291
2292
2293
2294 005766 000004
2295 005770 012705 006002
2296 005774 004737 033602
2297
2298 006000 000417
2299
2300 006002
2301 006002 066177 177777 177777
2302 006010 177777
2303 006012 047777 177777 177777
2304 006020 177777
2305 006022 066177 177777 177777
2306 006030 177777
2307 006032 047717 047700
2308 006036 000000
2309
2310
2311
2312
2313
2314
2315
2316 006040 000004
2317 006042 012705 006054
2318 006046 004737 033602
2319
2320 006052 000417
2321
2322 006054
2323 006054 066177 177777 177777
2324 006062 177777

```

```

;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST61: SCOPE
MOV #ADD6,R5 ; PTR TO TEST DATA SET
JSR PC,@ADD6T ; GO TEST
BR TST62 ;;
ADD6: ; TEST DATA SET ADD-6:
.WORD 166177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 150000,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 166177,M1,M1,M1 ; EXPECTED FLOAT RESULT
.WORD 047647,047650 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

;*****
;TEST 62 TEST OF ADD INSTR, DATA SET ADD-7
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST62: SCOPE
MOV #ADD7,R5 ; PTR TO TEST DATA SET
JSR PC,@ADD7T ; GO TEST
BR TST63 ;;
ADD7: ; TEST DATA SET ADD-7:
.WORD 066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 047777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 066177,M1,M1,M1 ; EXPECTED FLOAT RESULT
.WORD 047717,047700 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

;*****
;TEST 63 TEST OF ADD INSTR, DATA SET ADD-10
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST63: SCOPE
MOV #ADD10,R5 ; PTR TO TEST DATA SET
JSR PC,@ADD10T ; GO TEST
BR TST64 ;;
ADD10: ; TEST DATA SET ADD-10:
.WORD 066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER

```

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T63 TEST OF ADDD INSTR, DATA SET ADDD-10

2325	006064	047777	177777	177777	.WORD	047777,M1,M1,M1	; INITIAL MEM FLOAT NUMBER
2326	006072	177777					
2327	006074	066177	177777	177777	.WORD	066177,M1,M1,M1	; EXPECTED FLOAT RESULT
2328	006102	177777					
2329	006104	047757	047740		.WORD	047757,047740	; FPS: BEFORE, AFTER
2330	006110	000000			.WORD	NA	; FEC AFTER (0 = N/A)

2331
2332
2333

2334 :*****
:TEST 64 TEST OF ADDD INSTR, DATA SET ADDD-11
:*

2335 :* ALL INTERRUPT ENABLES ON
2336 :* LONG FLOAT, SHORT INTEGER, ROUND MODES
:*****

2337 :*****
TST64: SCOPE

2338 006112 000004
2339 006114 012705 006126
2340 006120 004737 033602

2341 MOV #ADDD11,R5 ; PTR TO TEST DATA SET
2342 JSR PC,@#ADDDT ; GO TEST

2343 BR TST65 ;;

2344 ADDD11: ; TEST DATA SET ADDD-11:

2345 006126 004010 104210 104210 .WORD 004010,P132,P132,P132 ; INITIAL AC FLOAT NUMBER

2346 006134 104210 .WORD 004010,P132,P132,P132 ; INITIAL MEM FLOAT NUMBER

2347 006136 004010 104210 104210 .WORD 004010,P132,P132,P132 ; INITIAL MEM FLOAT NUMBER

2348 006144 104210 .WORD 004210,P132,P132,P132 ; EXPECTED FLOAT RESULT

2349 006146 004210 104210 104210 .WORD 004210,P132,P132,P132 ; EXPECTED FLOAT RESULT

2350 006154 104210 .WORD 047617,047600 ; FPS: BEFORE, AFTER

2351 006156 047617 047600 .WORD NA ; FEC AFTER (0 = N/A)

2352 006162 000000
2353
2354

2355 :*****
:TEST 65 TEST OF ADDD INSTR, DATA SET ADDD-12
:*

2356 :* ALL INTERRUPT ENABLES ON
2357 :* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
:*****

2358 :*****
TST65: SCOPE

2359 006164 000004
2360 006166 012705 006200
2361 006172 004737 033602

2362 MOV #ADDD12,R5 ; PTR TO TEST DATA SET
2363 JSR PC,@#ADDDT ; GO TEST

2364 BR TST66 ;;

2365 ADDD12: ; TEST DATA SET ADDD-12:

2366 006200 122200 000000 000000 .WORD 122200,0,0,0 ; INITIAL AC FLOAT NUMBER

2367 006206 000000 .WORD 140177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

2368 006206 000000 .WORD 140177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

2369 006210 140177 177777 177777 .WORD 140177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

2370 006216 177777 .WORD 140200,0,0,0 ; EXPECTED FLOAT RESULT

2371 006220 140200 000000 000000 .WORD 140200,0,0,0 ; EXPECTED FLOAT RESULT

2372 006226 000000 .WORD 047747,047750 ; FPS: BEFORE, AFTER

2373 006230 047747 047750 .WORD NA ; FEC AFTER (0 = N/A)

2374 006234 000000
2375
2376

2377 :*****
:TEST 66 TEST OF ADDD INSTR, DATA SET ADDD-13
:*

2378 :* ALL INTERRUPT ENABLES ON
2379 :* LONG FLOAT, LONG INTEGER, ROUND MODES
2380

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T66 TEST OF ADD INSTR, DATA SET ADD-13

```

2381
2382 006236 000004
2383 006240 012705 006252
2384 006244 004737 033602
2385
2386 006250 000417
2387
2388 006252
2389 006252 042252 125252 125252
2390 006260 125252
2391 006262 042052 125252 125252
2392 006270 125252
2393 006272 042377 177777 177777
2394 006300 177777
2395 006302 047717 047700
2396 006306 000000
2397
2398
2399
2400
2401
2402
2403
2404 006310 000004
2405 006312 012705 006324
2406 006316 004737 033602
2407
2408 006322 000417
2409
2410 006324
2411 006324 074177 177777 177777
2412 006332 177777
2413 006334 174177 177777 177777
2414 006342 177776
2415 006344 056200 000000 000000
2416 006352 000000
2417 006354 047617 047600
2418 006360 000000
2419
2420
2421
2422
2423
2424
2425
2426 006362 000004
2427 006364 012705 006376
2428 006370 004737 033602
2429
2430 006374 000417
2431
2432 006376
2433 006376 132200 000000 000000
2434 006404 000000
2435 006406 050177 177777 177777
2436 006414 177777

```

```

*****
TST66: SCOPE
MOV #ADD13,R5 ; PTR TO TEST DATA SET
JSR PC,@ADD0T ; GO TEST
BR TST67 ;;
ADD13: ; TEST DATA SET ADD-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 ADD INSTR, DATA SET ADD-14
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST67: SCOPE
MOV #ADD14,R5 ; PTR TO TEST DATA SET
JSR PC,@ADD0T ; GO TEST
BR TST70 ;;
ADD14: ; TEST DATA SET ADD-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 ADD INSTR, DATA SET ADD-15
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST70: SCOPE
MOV #ADD15,R5 ; PTR TO TEST DATA SET
JSR PC,@ADD0T ; GO TEST
BR TST71 ;;
ADD15: ; TEST DATA SET ADD-15:
.WORD 132200,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 050177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

```

2437	006416	050177	177777	177777	.WORD	050177,M1,M1,M2 ;	EXPECTED FLOAT RESULT
2438	006424	177776					
2439	006426	047717	047700		.WORD	047717,047700 ;	FPS: BEFORE, AFTER
2440	006432	000000			.WORD	NA ;	FEC AFTER (0 = N/A)

```

*****
*TEST 71      TEST OF ADDO INSTR, DATA SET ADDO-16
*            ALL INTERRUPT ENABLES ON
*            LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

2447					TST71: SCOPE		
2448	006434	000004			MOV	#ADD016,R5 ;	PTR TO TEST DATA SET
2449	006436	012705	006450		JSR	PC,#ADD016 ;	GO TEST
2450	006442	004737	033602				
2451					BR	TST72 ;;	

```

ADD016: ; TEST DATA SET ADDO-16:
.WORD   LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD   ZX1MN,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 )

```

2454	006450						
2455	006450	077777	177777	177777			
2456	006456	177777					
2457	006460	100177	177777	177777			
2458	006466	177777					
2459	006470	077777	177777	177777			
2460	006476	177777					
2461	006500	047603	147603				
2462	006504	100014					

```

*****
*TEST 72      TEST OF ADDO INSTR, DATA SET ADDO-17
*            ALL INTERRUPT ENABLES ON
*            LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

2470	006506	000004			TST72: SCOPE		
2471	006510	012705	006522		MOV	#ADD017,R5 ;	PTR TO TEST DATA SET
2472	006514	004737	033602		JSR	PC,#ADD017 ;	GO TEST
2473							
2474	006520	000417			BR	TST73 ;;	

```

ADD017: ; TEST DATA SET ADDO-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 )

```

2476	006522						
2477	006522	102000	000000	000000			
2478	006530	000001					
2479	006532	002000	000000	000000			
2480	006540	000000					
2481	006542	164200	000000	000000			
2482	006550	000000					
2483	006552	047647	147650				
2484	006556	100012					

```

*****
*TEST 73      TEST OF ADDO INSTR, DATA SET ADDO-20
*            ALL INTERRUPT ENABLES ON
*            LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

2492	006560	000004			TST73: SCOPE		
------	--------	--------	--	--	--------------	--	--

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T73 TEST OF ADDO INSTR, DATA SET ADDO-20

2493	006562	012705	006574	MOV	#ADD020,R5	; PTR TO TEST DATA SET
2494	006566	004737	033602	JSR	PC,3#ADD0T	; GO TEST
2495						
2496	006572	000417		BR	TST74	::
2497						
2498	006574			ADD020:	; TEST DATA SET ADDO-20:	
2499	006574	177777	177777	.WORD	LGN,M1,M1,M1	; INITIAL AC FLOAT NUMBER
2500	006602	177777				
2501	006604	177777	177777	.WORD	LGN,M1,M1,M1	; INITIAL MEM FLOAT NUMBER
2502	006612	177777				
2503	006614	100177	177777	.WORD	ZX1MN,M1,M1,M1	; EXPECTED FLOAT RESULT
2504	006622	177777				
2505	006624	047701	147716	.WORD	047701,147716	; FPS: BEFORE, AFTER
2506	006630	100010		.WORD	100010	; FEC AFTER (0 = N/A)
2507						
2508						
2509						

```

*****
:TEST 74      TEST OF ADDO INSTR, DATA SET ADDO-21
:*           UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
:*           LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

2510				TST74:	SCOPE	
2511				MOV	#ADD021,R5	; PTR TO TEST DATA SET
2512				JSR	PC,3#ADD0T	; GO TEST
2513						
2514	006632	000004		BR	TST75	::
2515	006634	012705	006646			
2516	006640	004737	033602			
2517						
2518	006644	000417				
2519						
2520	006646			ADD021:	; TEST DATA SET ADDO-21:	
2521	006646	002000	000000	.WORD	002000,0,0,0	; INITIAL AC FLOAT NUMBER
2522	006654	000000				
2523	006656	102000	000000	.WORD	102000,0,0,2	; INITIAL MEM FLOAT NUMBER
2524	006664	000002				
2525	006666	000000	000000	.WORD	0,0,0,0	; EXPECTED FLOAT RESULT
2526	006674	000000				
2527	006676	045713	045704	.WORD	045713,045704	; FPS: BEFORE, AFTER
2528	006702	000000		.WORD	NA	; FEC AFTER (0 = N/A)
2529						
2530						

```

*****
:TEST 75      TEST OF ADDO INSTR, DATA SET ADDO-22
:*           -O INTERRUPT ENABLE OFF, ALL OTHERS ON
:*           LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

2531				TST75:	SCOPE	
2532				MOV	#ADD022,R5	; PTR TO TEST DATA SET
2533				JSR	PC,3#ADD0T	; GO TEST
2534						
2535						
2536	006704	000004		BR	TST76	::
2537	006706	012705	006720			
2538	006712	004737	033602			
2539						
2540	006716	000417				
2541						
2542	006720			ADD022:	; TEST DATA SET ADDO-22:	
2543	006720	077777	000000	.WORD	LGP,0,M1,0	; INITIAL AC FLOAT NUMBER
2544	006726	000000				
2545	006730	100000	000000	.WORD	M0,0,0,0	; INITIAL MEM FLOAT NUMBER
2546	006736	000000				
2547	006740	077777	000000	.WORD	LGP,0,M1,0	; EXPECTED FLOAT RESULT
2548	006746	000000				

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T75 TEST OF ADDO INSTR, DATA SET ADDO-22

2549 006750 043757 043740
2550 006754 000000
2551
2552
2553
2554
2555
2556
2557
2558 006756 000004
2559 006760 012705 006772
2560 006764 004737 033602
2561
2562 006770 000417
2563
2564 006772
2565 006772 077777 177777 177777
2566 007000 177777
2567 007002 077777 177777 177777
2568 007010 177777
2569 007012 000000 000000 000000
2570 007020 000000
2571 007022 046611 046606
2572 007026 000000
2573
2574
2575

.WORD 043757,043740 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

: TEST 76 TEST OF ADDO INSTR, DATA SET ADDO-23
: * OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * LONG FLOAT, SHORT INTEGER, ROUND MODES
: *****

TST76: SCOPE
MOV #ADDD23,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDDT ; GO TEST

BR TST77 ;;

ADDD23: ; TEST DATA SET ADDO-23:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 046611,046606 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

2576			
2577			
2578			
2579			
2580			
2581	007030	000004	
2582	007032	012705	007044
2583	007036	004737	033772
2584			
2585	007042	000411	
2586			
2587	007044		
2588	007044	000000	000000
2589	007050	000000	000000
2590	007054	000000	000000
2591	007060	047413	047404
2592	007064	000000	
2593			
2594			
2595			
2596			
2597			
2598			
2599			
2600	007066	000004	
2601	007070	012705	007102
2602	007074	004737	033772
2603			
2604	007100	000411	
2605			
2606	007102		
2607	007102	000177	177777
2608	007106	000177	125252
2609	007112	000000	000000
2610	007116	047453	047444
2611	007122	000000	
2612			
2613			
2614			
2615			
2616			
2617			
2618			
2619	007124	000004	
2620	007126	012705	007140
2621	007132	004737	033772
2622			
2623	007136	000411	
2624			
2625	007140		
2626	007140	000177	052525
2627	007144	100345	123456
2628	007150	000345	123456
2629	007154	047517	047500
2630	007160	000000	
2631			

```

*****
*TEST 77      TEST OF SUBF INSTR, DATA SET SUBF-1
*            ALL INTERRUPT ENABLES ON
*            SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

↑TST77: SCOPE
MOV      #SUBF1,R5      ; PTR TO TEST DATA SET
JSR      PC,@#SUBFT    ; GO TEST

BR       TST100        ;;

```

```

SUBF1: ; TEST DATA SET SUBF-1:
.WORD   0,0            ; INITIAL AC FLOAT NUMBER
.WORD   0,0            ; INITIAL MEM FLOAT NUMBER
.WORD   0,0            ; EXPECTED FLOAT RESULT
.WORD   047413,047404 ; FPS: BEFORE, AFTER
.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
*****

```

```

↑TST100: SCOPE
MOV      #SUBF2,R5     ; PTR TO TEST DATA SET
JSR      PC,@#SUBFT   ; GO TEST

BR       TST101       ;;

```

```

SUBF2: ; TEST DATA SET SUBF-2:
.WORD   ZXIMP,M1       ; INITIAL AC FLOAT NUMBER
.WORD   ZXIMP,ALTN    ; INITIAL MEM FLOAT NUMBER
.WORD   0,0            ; EXPECTED FLOAT RESULT
.WORD   047453,047444 ; FPS: BEFORE, AFTER
.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
*****

```

```

↑TST101: SCOPE
MOV      #SUBF3,R5     ; PTR TO TEST DATA SET
JSR      PC,@#SUBFT   ; GO TEST

BR       TST102       ;;

```

```

SUBF3: ; TEST DATA SET SUBF-3:
.WORD   ZXIMP,ALTP    ; INITIAL AC FLOAT NUMBER
.WORD   100345,123456 ; INITIAL MEM FLOAT NUMBER
.WORD   000345,123456 ; EXPECTED FLOAT RESULT
.WORD   047517,047500 ; FPS: BEFORE, AFTER
.WORD   NA              ; FEC AFTER ( 0 = N/A )

```

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2687

007162 000004
007164 012705 007176
007170 004737 033772

007174 000411

007176
007176 040200 000000
007202 040200 000000
007206 000000 000000
007212 047553 047544
007216 000000

007220 000004
007222 012705 007234
007226 004737 033772

007232 000411

007234
007234 140200 000000
007240 140200 000000
007244 000000 000000
007250 047413 047404
007254 000000

007256 000004
007260 012705 007272
007264 004737 033772

007270 000411

007272
007272 150365 052525
007276 047252 125252
007302 150377 177777
007306 047447 047450
007312 000000

```
*****
*TEST 102 TEST OF SUBF INSTR, DATA SET SUBF-4
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
```

```
TST102: SCOPE
MOV #SUBF4,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST103 ;;
```

```
SUBF4: ; TEST DATA SET SUBF-4:
.WORD FIP,0 ; INITIAL AC FLOAT NUMBER
.WORD FIP,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047553,047544 ; FPS: BEFORE, AFTER
.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
*****
```

```
TST103: SCOPE
MOV #SUBF5,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST104 ;;
```

```
SUBF5: ; TEST DATA SET SUBF-5:
.WORD FIN,0 ; INITIAL AC FLOAT NUMBER
.WORD FIN,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047413,047404 ; FPS: BEFORE, AFTER
.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
*****
```

```
TST104: SCOPE
MOV #SUBF6,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST105 ;;
```

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


2688
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2694
2695 007314 000004
2696 007316 012705 007330
2697 007322 004737 033772
2698
2699 007326 000411
2700
2701 007330
2702 007330 050365 052525
2703 007334 147252 125252
2704 007340 050400 000000
2705 007344 047517 047500
2706 007350 000000
2707
2708
2709
2710
2711
2712
2713
2714 007352 000004
2715 007354 012705 007366
2716 007360 004737 033772
2717
2718 007364 000411
2719
2720 007366
2721 007366 077777 177777
2722 007372 100177 177777
2723 007376 077777 177777
2724 007402 047555 147555
2725 007406 100014
2726
2727
2728
2729
2730
2731
2732
2733 007410 000004
2734 007412 012705 007424
2735 007416 004737 033772
2736
2737 007422 000411
2738
2739 007424
2740 007424 077777 177777
2741 007430 100177 177777
2742 007434 077777 177777
2743 007440 043457 043440

```

*****
*TEST 105 TEST OF SUBF INSTR, DATA SET SUBF-7
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST105: SCOPE
MOV #SUBF7,RS ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST106 ;;

```

```

SUBF7: ; TEST DATA SET SUBF-7:
.WORD 050365,ALTP ; INITIAL AC FLOAT NUMBER
.WORD 147252,ALTN ; INITIAL MEM FLOAT NUMBER
.WORD 050400,0 ; EXPECTED FLOAT RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST106: SCOPE
MOV #SUBF10,RS ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST107 ;;

```

```

SUBF10: ; TEST DATA SET SUBF-10:
.WORD LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGP,M1 ; EXPECTED FLOAT RESULT
.WORD 047555,147555 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST107: SCOPE
MOV #SUBF11,RS ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST110 ;;

```

```

SUBF11: ; TEST DATA SET SUBF-11:
.WORD LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGP,M1 ; EXPECTED FLOAT RESULT
.WORD 043457,043440 ; FPS: BEFORE, AFTER

```

E05

FPU ADVANCED INSTR TESTS
DQFP8A.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 58
T107 TEST OF SUBF INSTR, DATA SET SUBF-11

2744	007444	000000	
2745			
2746			
2747			
2748			
2749			
2750			
2751			
2752	007446	000004	
2753	007450	012705	007462
2754	007454	004737	033772
2755			
2756	007460	000411	
2757			
2758	007462		
2759	007462	177777	177777
2760	007466	071600	000000
2761	007472	177777	177777
2762	007476	047447	047450
2763	007502	000000	
2764			
2765			
2766			
2767			
2768			
2769			
2770			
2771	007504	000004	
2772	007506	012705	007520
2773	007512	004737	033772
2774			
2775	007516	000411	
2776			
2777	007520		
2778	007520	177777	177777
2779	007524	071600	000000
2780	007530	100000	000000
2781	007534	047501	147516
2782	007540	100010	
2783			
2784			
2785			
2786			
2787			
2788			
2789			
2790	007542	000004	
2791	007544	012705	007556
2792	007550	004737	033772
2793			
2794	007554	000411	
2795			
2796	007556		
2797	007556	177777	177777
2798	007562	071600	000000
2799	007566	000000	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
*****
TST110: SCOPE
MOV #SUBF12,R5 ; PTR TO TEST DATA SET
JSR PC,#SUBFT ; GO TEST
BR TST111 ;;

SUBF12: ; TEST DATA SET SUBF-12:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD 071600,0 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.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
*****
TST111: SCOPE
MOV #SUBF13,R5 ; PTR TO TEST DATA SET
JSR PC,#SUBFT ; GO TEST
BR TST112 ;;

SUBF13: ; TEST DATA SET SUBF-13:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD 071600,0 ; INITIAL MEM FLOAT NUMBER
.WORD M0,0 ; EXPECTED FLOAT RESULT
.WORD 047501,147516 ; FPS: BEFORE, AFTER
.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
*****
TST112: SCOPE
MOV #SUBF14,R5 ; PTR TO TEST DATA SET
JSR PC,#SUBFT ; GO TEST
BR TST113 ;;

SUBF14: ; TEST DATA SET SUBF-14:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD 071600,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT

```

F05

FPU ADVANCED INSTR TESTS
D9FPBA.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 59
T112 TEST OF SUBF INSTR, DATA SET SUBF-14

2800 007572 046511 046506
2801 007576 000000
2802
2803
2804
2805
2806
2807
2808
2809 007600 000004
2810 007602 012705 007614
2811 007606 004737 033772
2812
2813 007612 000411
2814
2815 007614
2816 007614 004200 000000
2817 007620 004200 000001
2818 007624 176400 000000
2819 007630 047447 147450
2820 007634 100012
2821
2822
2823
2824
2825
2826
2827
2828 007636 000004
2829 007640 012705 007652
2830 007644 004737 033772
2831
2832 007650 000411
2833
2834 007652
2835 007652 004200 000000
2836 007656 004200 000001
2837 007662 000000 000000
2838 007666 045453 045444
2839 007672 000000
2840
2841
2842

.WORD 046511,046506 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

*TEST 113 TEST OF SUBF INSTR, DATA SET SUBF-15
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

TST113: SCOPE
MOV #SUBF15,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST114 ;;

SUBF15: ; TEST DATA SET SUBF-15:
.WORD 004200,0 ; INITIAL AC FLOAT NUMBER
.WORD 004200,1 ; INITIAL MEM FLOAT NUMBER
.WORD 176400,0 ; EXPECTED FLOAT RESULT
.WORD 047447,147450 ; FPS: BEFORE, AFTER
.WORD 100012 ; FEC AFTER (0 = N/A)

*TEST 114 TEST OF SUBF INSTR, DATA SET SUBF-16
* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

TST114: SCOPE
MOV #SUBF16,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBFT ; GO TEST
BR TST115 ;;

SUBF16: ; TEST DATA SET SUBF-16:
.WORD 004200,0 ; INITIAL AC FLOAT NUMBER
.WORD 004200,1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 045453,045444 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

```

2843
2844
2845
2846
2847
2848 007674 000004
2849 007676 012705 007710
2850 007702 004737 034142
2851
2852 007706 000417
2853
2854 007710
2855 007710 000000 000000 000000
2856 007716 000000
2857 007720 000000 000000 000000
2858 007726 000000
2859 007730 000000 000000 000000
2860 007736 000000
2861 007740 047753 047744
2862 007744 000000
2863
2864
2865
2866
2867
2868
2869
2870 007746 000004
2871 007750 012705 007762
2872 007754 004737 034142
2873
2874 007760 000417
2875
2876 007762
2877 007762 000177 052525 052525
2878 007770 052525
2879 007772 000177 177777 177777
2880 010000 177777
2881 010002 000000 000000 000000
2882 010010 000000
2883 010012 047713 047704
2884 010016 000000
2885
2886
2887
2888
2889
2890
2891
2892 010020 000004
2893 010022 012705 010034
2894 010026 004737 034142
2895
2896 010032 000417
2897
2898 010034

```

```

*****
*TEST 115 TEST OF SUBD INSTR, DATA SET SUBD-1
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST115: SCOPE
MOV #SUBD1,R5 ; PTR TO TEST DATA SET
JSR PC,@#SUBDT ; GO TEST
BR TST116 ;;

SUBD1: ; TEST DATA SET SUBD-1:
.WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047753,047744 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

*****
*TEST 116 TEST OF SUBD INSTR, DATA SET SUBD-2
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST116: SCOPE
MOV #SUBD2,R5 ; PTR TO TEST DATA SET
JSR PC,@#SUBDT ; GO TEST
BR TST117 ;;

SUBD2: ; TEST DATA SET SUBD-2:
.WORD ZXIMP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD ZXIMP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047713,047704 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

*****
*TEST 117 TEST OF SUBD INSTR, DATA SET SUBD-3
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST117: SCOPE
MOV #SUBD3,R5 ; PTR TO TEST DATA SET
JSR PC,@#SUBDT ; GO TEST
BR TST120 ;;

SUBD3: ; TEST DATA SET SUBD-3:

```

H05

FPU ADVANCED INSTR TESTS
DQFPBA.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 61
T117 TEST OF SUBD INSTR, DATA SET SUBD-3

2899	010034	000000	000000	000000	.WORD	0,0,0,0 ; INITIAL AC FLOAT NUMBER
2900	010042	000000				
2901	010044	012345	177777	125252	.WORD	012345,M1,ALTN,MO ; INITIAL MEM FLOAT NUMBER
2902	010052	100000				
2903	010054	112345	177777	125252	.WORD	112345,M1,ALTN,MO ; EXPECTED FLOAT RESULT
2904	010062	100000				
2905	010064	047647	047650		.WORD	047647,047650 ; FPS: BEFORE, AFTER
2906	010070	000000			.WORD	NA ; FEC AFTER (0 = N/A)

```

*****
;TEST 120 TEST OF SUBD INSTR, DATA SET SUBD-4
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

2914	010072	000004			TST120: SCOPE	
2915	010074	012705	010106		MOV	#SUBD4,R5 ; PTR TO TEST DATA SET
2916	010100	004737	034142		JSR	PC,@#SUBDT ; GO TEST
2917						
2918	010104	000417			BR	TST121 ;;
2919						
2920	010106				SUBD4: ; TEST DATA SET SUBD-4:	
2921	010106	140200	000000	000000	.WORD	F1N,0,0,0 ; INITIAL AC FLOAT NUMBER
2922	010114	000000				
2923	010116	140200	000000	000000	.WORD	F1N,0,0,0 ; INITIAL MEM FLOAT NUMBER
2924	010124	000000				
2925	010126	000000	000000	000000	.WORD	0,0,0,0 ; EXPECTED FLOAT RESULT
2926	010134	000000				
2927	010136	047753	047744		.WORD	047753,047744 ; FPS: BEFORE, AFTER
2928	010142	000000			.WORD	NA ; FEC AFTER (0 = N/A)

```

*****
;TEST 121 TEST OF SUBD INSTR, DATA SET SUBD-5
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

2936	010144	000004			TST121: SCOPE	
2937	010146	012705	010160		MOV	#SUBD5,R5 ; PTR TO TEST DATA SET
2938	010152	004737	034142		JSR	PC,@#SUBDT ; GO TEST
2939						
2940	010156	000417			BR	TST122 ;;
2941						
2942	010160				SUBD5: ; TEST DATA SET SUBD-5:	
2943	010160	040200	000000	000000	.WORD	F1P,0,0,0 ; INITIAL AC FLOAT NUMBER
2944	010166	000000				
2945	010170	040200	000000	000000	.WORD	F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER
2946	010176	000000				
2947	010200	000000	000000	000000	.WORD	0,0,0,0 ; EXPECTED FLOAT RESULT
2948	010206	000000				
2949	010210	047613	047604		.WORD	047613,047604 ; FPS: BEFORE, AFTER
2950	010214	000000			.WORD	NA ; FEC AFTER (0 = N/A)

```

*****
;TEST 122 TEST OF SUBD INSTR, DATA SET SUBD-6

```

2951
2952
2953
2954

```

2955                                     ;*
2956                                     ;* ALL INTERRUPT ENABLES ON
2957                                     ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2958                                     ;*
2959                                     ;* *****
2958 010216 000004                          TST122: SCOPE
2959 010220 012705 010232                   MOV     #SUBD6,R5          ; PTR TO TEST DATA SET
2960 010224 004737 034142                   JSR     PC,@#SUBDT        ; GO TEST
2961
2962 010230 000417                             BR      TST123            ;;
2963
2964 010232                                     SUBD6: ; TEST DATA SET SUBD-6:
2965 010232 037252 125252 125252             .WORD  037252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
2966 010240 125252
2967 010242 140365 052525 052525             .WORD  140365,ALTP,ALTP,ALTP ; INITIAL MEM FLOAT NUMBER
2968 010250 052525
2969 010252 040377 177777 177777             .WORD  040377,M1,M1,M1 ; EXPECTED FLOAT RESULT
2970 010260 177777
2971 010262 047757 047740                   .WORD  047757,047740 ; FPS: BEFORE, AFTER
2972 010266 000000                   .WORD  NA ; FEC AFTER ( 0 = N/A )
2973
2974
2975                                     ;* *****
2976                                     ;* TEST 123 TEST OF SUBD INSTR, DATA SET SUBD-7
2977                                     ;*
2978                                     ;* ALL INTERRUPT ENABLES ON
2979                                     ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
2980                                     ;*
2980                                     ;* *****
2980 010270 000004                          TST123: SCOPE
2981 010272 012705 010304                   MOV     #SUBD7,R5          ; PTR TO TEST DATA SET
2982 010276 004737 034142                   JSR     PC,@#SUBDT        ; GO TEST
2983
2984 010302 000417                             BR      TST124            ;;
2985
2986 010304                                     SUBD7: ; TEST DATA SET SUBD-7:
2987 010304 137252 125252 125252             .WORD  137252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
2988 010312 125252
2989 010314 040365 052525 052525             .WORD  040365,ALTP,ALTP,ALTP ; INITIAL MEM FLOAT NUMBER
2990 010322 052525
2991 010324 140400 000000 000000             .WORD  140400,0,0,0 ; EXPECTED FLOAT RESULT
2992 010332 000000
2993 010334 047607 047610                   .WORD  047607,047610 ; FPS: BEFORE, AFTER
2994 010340 000000                   .WORD  NA ; FEC AFTER ( 0 = N/A )
2995
2996
2997                                     ;* *****
2998                                     ;* TEST 124 TEST OF SUBD INSTR, DATA SET SUBD-10
2999                                     ;*
3000                                     ;* ALL INTERRUPT ENABLES ON
3001                                     ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
3002                                     ;*
3002                                     ;* *****
3002 010342 000004                          TST124: SCOPE
3003 010344 012705 010356                   MOV     #SUBD10,R5        ; PTR TO TEST DATA SET
3004 010350 004737 034142                   JSR     PC,@#SUBDT        ; GO TEST
3005
3006 010354 000417                             BR      TST125            ;;
3007
3008 010356                                     SUBD10: ; TEST DATA SET SUBD-10:
3009 010356 177777 177777 000000             .WORD  LGN,M1,0,M1 ; INITIAL AC FLOAT NUMBER
3010 010364 177777

```

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T124 TEST OF SUBD INSTR, DATA SET SUBD-10

3011	010366	100000	000000	177777	.WORD	MO,0,M1,0	; INITIAL MEM FLOAT NUMBER
3012	010374	000000					
3013	010376	177777	177777	000000	.WORD	LGN,M1,0,M1	; EXPECTED FLOAT RESULT
3014	010404	177777					
3015	010406	047603	147603		.WORD	047603,147603	; FPS: BEFORE, AFTER
3016	010412	100014			.WORD	100014	; FEC AFTER (0 = N/A)

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```

*****
*TEST 125 TEST OF SUBD INSTR, DATA SET SUBD-11
*
* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST125: SCOPE
MOV #SUBD11,R5 ; PTR TO TEST DATA SET
JSR PC,@#SUBDT ; GO TEST
BR TST126 ;;

```

```

SUBD11: ; TEST DATA SET SUBD-11:
.WORD LGN,M1,0,M1 ; INITIAL AC FLOAT NUMBER
.WORD MO,0,M1,0 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1,0,M1 ; EXPECTED FLOAT RESULT
.WORD 043707,043710 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 126 TEST OF SUBD INSTR, DATA SET SUBD-12
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST126: SCOPE
MOV #SUBD12,R5 ; PTR TO TEST DATA SET
JSR PC,@#SUBDT ; GO TEST
BR TST127 ;;

```

```

SUBD12: ; TEST DATA SET SUBD-12:
.WORD 104200,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 104200,0,0,1 ; INITIAL MEM FLOAT NUMBER
.WORD 066400,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047717,147700 ; FPS: BEFORE, AFTER
.WORD 100012 ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 127 TEST OF SUBD INSTR, DATA SET SUBD-13
*
* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, LONG INTEGER, ROUND MODES

```

```

3067
3068 010540 000004
3069 010542 012705 010554
3070 010546 004737 034142
3071
3072 010552 000417
3073
3074 010554
3075 010554 104200 000000 000000
3076 010562 000001
3077 010564 104200 000000 000000
3078 010572 000000
3079 010574 000000 000000 000000
3080 010602 000000
3081 010604 045713 045704
3082 010610 000000
3083
3084
3085
3086
3087
3088
3089
3090 010612 000004
3091 010614 012705 010626
3092 010620 004737 034142
3093
3094 010624 000417
3095
3096 010626
3097 010626 077777 177777 177777
3098 010634 177777
3099 010636 161600 000000 000000
3100 010644 000000
3101 010646 077777 177777 177777
3102 010654 177777
3103 010656 047757 047740
3104 010662 000000
3105
3106
3107
3108
3109
3110
3111
3112 010664 000004
3113 010666 012705 010700
3114 010672 004737 034142
3115
3116 010676 000417
3117
3118 010700
3119 010700 077777 177777 177777
3120 010706 177777
3121 010710 161600 000000 000000
3122 010716 000000

```

```

*****
TST127: SCOPE
MOV #SUBD13,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBDT ; GO TEST
BR TST130 ;;
SUBD13: ; TEST DATA SET SUBD-13:
.WORD 104200,0,0,1 ; INITIAL AC FLOAT NUMBER
.WORD 104200,0,0,0 ; 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 130 TEST OF SUBD INSTR, DATA SET SUBD-14
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST130: SCOPE
MOV #SUBD14,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBDT ; GO TEST
BR TST131 ;;
SUBD14: ; TEST DATA SET SUBD-14:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 161600,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; EXPECTED FLOAT RESULT
.WORD 047757,047740 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
*****
*TEST 131 TEST OF SUBD INSTR, DATA SET SUBD-15
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST131: SCOPE
MOV #SUBD15,R5 ; PTR TO TEST DATA SET
JSR PC,@SUBDT ; GO TEST
BR TST132 ;;
SUBD15: ; TEST DATA SET SUBD-15:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 161600,0,0,0 ; INITIAL MEM FLOAT NUMBER

```


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T131 TEST OF SUBD INSTR, DATA SET SUBD-15

3123	010720	000000	000000	000000	.WORD	0,0,0,0	; EXPECTED FLOAT RESULT
3124	010726	000000					
3125	010730	047611	147606		.WORD	047611,147606	; FPS: BEFORE, AFTER
3126	010734	100010			.WORD	100010	; FEC AFTER (0 = N/A)

3127
3128
3129
3130
3131
3132
3133
3134
3135
3136
3137
3138
3139
3140
3141
3142
3143
3144
3145
3146
3147
3148
3149
3150

```

*****
*TEST 132      TEST OF SUBD INSTR, DATA SET SUBD-16
*              OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
*              LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST132: SCOPE
MOV      #SUBD16,R5      ; PTR TO TEST DATA SET
JSR      PC,@SUBDT      ; GO TEST
BR       TST133         ;;

```

```

SUBD16: ; TEST DATA SET SUBD-16:
.WORD   LGP,M1,M1,M1    ; INITIAL AC FLOAT NUMBER
.WORD   161600,0,0,0   ; INITIAL MEM FLOAT NUMBER
.WORD   0,0,0,0        ; EXPECTED FLOAT RESULT
.WORD   046611,046606  ; FPS: BEFORE, AFTER
.WORD   NA              ; FEC AFTER ( 0 = N/A )

```

3134	010736	000004		
3135	010740	012705	010752	
3136	010744	004737	034142	
3138	010750	000417		
3140	010752			
3141	010752	077777	177777	177777
3142	010760	177777		
3143	010762	161600	000000	000000
3144	010770	000000		
3145	010772	000000	000000	000000
3146	011000	000000		
3147	011002	046611	046606	
3148	011006	000000		

M05

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T133 TEST OF MULF INSTR, DATA SET MULF-1

```

3151
3152
3153
3154
3155
3156 011010 000004
3157 011012 012705 011024
3158 011016 004737 034332
3159
3160 011022 000411
3161
3162 011024
3163 011024 000000 000000
3164 011030 177777 177777
3165 011034 000000 000000
3166 011040 047413 047404
3167 011044 000000
3168
3169
3170
3171
3172
3173
3174
3175 011046 000004
3176 011050 012705 011062
3177 011054 004737 034332
3178
3179 011060 000411
3180
3181 011062
3182 011062 077777 177777
3183 011066 000177 177777
3184 011072 000000 000000
3185 011076 047503 047504
3186 011102 000000
3187
3188
3189
3190
3191
3192
3193
3194 011104 000004
3195 011106 012705 011120
3196 011112 004737 034332
3197
3198 011116 000411
3199
3200 011120
3201 011120 123652 125252
3202 011124 017500 000000
3203 011130 103177 177777
3204 011134 047447 047450
3205 011140 000000
3206
    
```

```

*****
*TEST 133 TEST OF MULF INSTR, DATA SET MULF-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
    
```

```

TST133: SCOPE
MOV #MULF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULFT ; GO TEST
BR TST134 ;;
    
```

```

MULF1: ; TEST DATA SET MULF-1:
.WORD 0,0 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047413,047404 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
    
```

```

*****
*TEST 134 TEST OF MULF INSTR, DATA SET MULF-2
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
    
```

```

TST134: SCOPE
MOV #MULF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULFT ; GO TEST
BR TST135 ;;
    
```

```

MULF2: ; TEST DATA SET MULF-2:
.WORD LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZXIMP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047503,047504 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
    
```

```

*****
*TEST 135 TEST OF MULF INSTR, DATA SET MULF-3
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
    
```

```

TST135: SCOPE
MOV #MULF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULFT ; GO TEST
BR TST136 ;;
    
```

```

MULF3: ; TEST DATA SET MULF-3:
.WORD 123652,ALTN ; INITIAL AC FLOAT NUMBER
.WORD 017500,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 103177,M1 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
    
```

N05

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T135 TEST OF MULF INSTR, DATA SET MULF-3

```

3207
3208
3209
3210
3211
3212
3213 011142 000004
3214 011144 012705 011156
3215 011150 004737 034332
3216
3217 011154 000411
3218
3219 011156
3220 011156 017500 000000
3221 011162 023652 125252
3222 011166 003177 177777
3223 011172 047417 047400
3224 011176 000000
3225
3226
3227
3228
3229
3230
3231
3232 011200 000004
3233 011202 012705 011214
3234 011206 004737 034332
3235
3236 011212 000411
3237
3238 011214
3239 011214 036400 000001
3240 011220 106777 177776
3241 011224 105177 177777
3242 011230 047547 047550
3243 011234 000000
3244
3245
3246
3247
3248
3249
3250
3251 011236 000004
3252 011240 012705 011252
3253 011244 004737 034332
3254
3255 011250 000411
3256
3257 011252
3258 011252 036400 000001
3259 011256 106777 177776
3260 011262 105200 000000
3261 011266 047407 047410
3262 011272 000000
    
```

```

*****
*TEST 136 TEST OF MULF INSTR, DATA SET MULF-4
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
    
```

```

†T136: SCOPE
      MOV      #MULF4,R5      ; PTR TO TEST DATA SET
      JSR      PC,@#MULFT    ; GO TEST
      BR       TST137        ;;
    
```

```

MULF4: ; TEST DATA SET MULF-4:
      .WORD   017500,000000 ; INITIAL AC FLOAT NUMBER
      .WORD   023652,ALTN   ; INITIAL MEM FLOAT NUMBER
      .WORD   003177,M1     ; EXPECTED FLOAT RESULT
      .WORD   047417,047400 ; FPS: BEFORE, AFTER
      .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
*****
    
```

```

†T137: SCOPE
      MOV      #MULF5,R5      ; PTR TO TEST DATA SET
      JSR      PC,@#MULFT    ; GO TEST
      BR       TST140        ;;
    
```

```

MULF5: ; TEST DATA SET MULF-5:
      .WORD   036400,000001 ; INITIAL AC FLOAT NUMBER
      .WORD   106777,M2     ; INITIAL MEM FLOAT NUMBER
      .WORD   105177,M1     ; EXPECTED FLOAT RESULT
      .WORD   047547,047550 ; FPS: BEFORE, AFTER
      .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
*****
    
```

```

†T140: SCOPE
      MOV      #MULF6,R5      ; PTR TO TEST DATA SET
      JSR      PC,@#MULFT    ; GO TEST
      BR       TST141        ;;
    
```

```

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

```

3263
3264
3265
3266
3267
3268
3269
3270 011274 000004
3271 011276 012705 011310
3272 011302 004737 034332
3273
3274 011306 000411
3275
3276 011310
3277 011310 140277 000000
3278 011314 060000 000001
3279 011320 160077 000001
3280 011324 047407 047410
3281 011330 000000
3282
3283
3284
3285
3286
3287
3288
3289 011332 000004
3290 011334 012705 011346
3291 011340 004737 034332
3292
3293 011344 000411
3294
3295 011346
3296 011346 060000 000001
3297 011352 040277 000000
3298 011356 060077 000001
3299 011362 047457 047440
3300 011366 000000
3301
3302
3303
3304
3305
3306
3307
3308 011370 000004
3309 011372 012705 011404
3310 011376 004737 034332
3311
3312 011402 000411
3313
3314 011404
3315 011404 140300 000000
3316 011410 160000 000001
3317 011414 060100 000002
3318 011420 047517 047500
    
```

```

*****
*TEST 141 TEST OF MULF INSTR, DATA SET MULF-7
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
    
```

```

TST141: SCOPE
MOV #MULF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULFT ; GO TEST
BR TST142 ;;

MULF7: ; TEST DATA SET MULF-7:
.WORD 140277,000000 ; INITIAL AC FLOAT NUMBER
.WORD 060000,000001 ; INITIAL MEM FLOAT NUMBER
.WORD 160077,000001 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.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
*****
    
```

```

TST142: SCOPE
MOV #MULF10,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULFT ; GO TEST
BR TST143 ;;

MULF10: ; TEST DATA SET MULF-10:
.WORD 060000,000001 ; INITIAL AC FLOAT NUMBER
.WORD 040277,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 060077,000001 ; EXPECTED FLOAT RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.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
*****
    
```

```

TST143: SCOPE
MOV #MULF11,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULFT ; GO TEST
BR TST144 ;;

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

```

3319 011424 000000
3320
3321
3322
3323
3324
3325
3326
3327 011426 000004
3328 011430 012705 011442
3329 011434 004737 034332
3330
3331 011440 000411
3332
3333 011442
3334 011442 060000 000001
3335 011446 140300 000000
3336 011452 160100 000001
3337 011456 047547 047550
3338 011462 000000
3339
3340
3341
3342
3343
3344
3345
3346 011464 000004
3347 011466 012705 011500
3348 011472 004737 034332
3349
3350 011476 000411
3351
3352 011500
3353 011500 002177 177777
3354 011504 002177 177777
3355 011510 044177 177776
3356 011514 047513 147500
3357 011520 100012
3358
3359
3360
3361
3362
3363
3364
3365 011522 000004
3366 011524 012705 011536
3367 011530 004737 034332
3368
3369 011534 000411
3370
3371 011536
3372 011536 170000 000000
3373 011542 050200 000000
3374 011546 100000 000000

```

```

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

*****
*TEST 144 TEST OF MULF INSTR, DATA SET MULF-12
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST144: SCOPE
MOV #MULF12,R5 ; PTR TO TEST DATA SET
JSR PC,@MULFT ; GO TEST

BR TST145 ;;

MULF12: ; TEST DATA SET MULF-12:
.WORD 060000,000001 ; INITIAL AC FLOAT NUMBER
.WORD 140300,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 160100,000001 ; EXPECTED FLOAT RESULT
.WORD 047547,047550 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

*****
*TEST 145 TEST OF MULF INSTR, DATA SET MULF-13
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST145: SCOPE
MOV #MULF13,R5 ; PTR TO TEST DATA SET
JSR PC,@MULFT ; GO TEST

BR TST146 ;;

MULF13: ; TEST DATA SET MULF-13:
.WORD 002177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 002177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 044177,M2 ; EXPECTED FLOAT RESULT
.WORD 047513,147500 ; FPS: BEFORE, AFTER
.WORD 100012 ; FEC AFTER ( 0 = N/A )

*****
*TEST 146 TEST OF MULF INSTR, DATA SET MULF-14
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST146: SCOPE
MOV #MULF14,R5 ; PTR TO TEST DATA SET
JSR PC,@MULFT ; GO TEST

BR TST147 ;;

MULF14: ; TEST DATA SET MULF-14:
.WORD 170000,000000 ; INITIAL AC FLOAT NUMBER
.WORD 050200,000000 ; INITIAL MEM FLOAT NUMBER
.WORD M0,0 ; EXPECTED FLOAT RESULT

```

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T146 TEST OF MULF INSTR, DATA SET MULF-14

3375 011552 047441 147456
3376 011556 100010

.WORD 047441,147456 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER (0 = N/A)

3377
3378
3379
3380
3381
3382

*TEST 147 TEST OF MULF INSTR, DATA SET MULF-15
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

3383
3384 011560 000004
3385 011562 012705 011574
3386 011566 004737 034332

TST147: SCOPE
MOV #MULF15,R5 ; PTR TO TEST DATA SET
JSR PC,@MULFT ; GO TEST

3387
3388 011572 000411

BR TST150 ; ;

3389
3390 011574
3391 011574 177777 177777
3392 011600 100177 177777
3393 011604 177777 177777
3394 011610 047447 147447
3395 011614 100014

MULF15: ; TEST DATA SET MULF-15:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1FN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1 ; EXPECTED FLOAT RESULT
.WORD 047447,147447 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER (0 = N/A)

3396
3397
3398
3399
3400

*TEST 150 TEST OF MULF INSTR, DATA SET MULF-16
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

3401
3402
3403 011616 000004
3404 011620 012705 011632
3405 011624 004737 034332

TST150: SCOPE
MOV #MULF16,R5 ; PTR TO TEST DATA SET
JSR PC,@MULFT ; GO TEST

3406
3407 011630 000411

BR TST151 ; ;

3408
3409 011632
3410 011632 050377 000000
3411 011636 070000 177777
3412 011642 000000 000000
3413 011646 046411 046406
3414 011652 000000

MULF16: ; TEST DATA SET MULF-16:
.WORD 050377,000000 ; INITIAL AC FLOAT NUMBER
.WORD 070000,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 046411,046406 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

3415
3416
3417
3418
3419
3420

*TEST 151 TEST OF MULF INSTR, DATA SET MULF-17
* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

3421
3422 011654 000004
3423 011656 012705 011670
3424 011662 004737 034332

TST151: SCOPE
MOV #MULF17,R5 ; PTR TO TEST DATA SET
JSR PC,@MULFT ; GO TEST

3425
3426 011666 000411

BR TST152 ; ;

3427
3428 011670
3429 011670 002177 177777
3430 011674 002177 177777

MULF17: ; TEST DATA SET MULF-17:
.WORD 002177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 002177,M1 ; INITIAL MEM FLOAT NUMBER

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T151 TEST OF MULF INSTR, DATA SET MULF-17

3431 011700 000000 000000
3432 011704 045553 045544
3433 011710 000000

.WORD 0.0 ; EXPECTED FLOAT RESULT
.WORD 045553,045544 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

3434
3435
3436
3437
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3441
3442
3443
3444
3445
3446
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3448
3449
3450
3451
3452
3453
3454
3455

011712 000004
011714 012705 011726
011720 004737 034332
011724 000411
011726
011726 052525 052525
011732 100000 177777
011736 000000 000000
011742 043513 043504
011746 000000

```
*****  
*TEST 152 TEST OF MULF INSTR, DATA SET MULF-20  
* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON  
* SHORT FLOAT, LONG INTEGER, ROUND MODES  
*****  
TST152: SCOPE  
MOV #MULF20,R5 ; PTR TO TEST DATA SET  
JSR PC,@MULFT ; GO TEST  
BR TST153 ;  
  
MULF20: ; TEST DATA SET MULF-20:  
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER  
.WORD MD,M1 ; INITIAL MEM FLOAT NUMBER  
.WORD 0.0 ; EXPECTED FLOAT RESULT  
.WORD 043513,043504 ; FPS: BEFORE, AFTER  
.WORD NA ; FEC AFTER ( 0 = N/A )
```

F06

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T153 TEST OF MULD INSTR, DATA SET MULD-1

```

3456
3457
3458
3459
3460
3461 011750 000004
3462 011752 012705 011764
3463 011756 004737 034502
3464
3465 011762 000417
3466
3467 011764
3468 011764 077777 177777 177777
3469 011772 177777
3470 011774 000000 000000 000000
3471 012002 000000
3472 012004 000000 000000 000000
3473 012012 000000
3474 012014 047713 047704
3475 012020 000000
3476
3477
3478
3479
3480
3481
3482
3483 012022 000004
3484 012024 012705 012036
3485 012030 004737 034502
3486
3487 012034 000417
3488
3489 012036
3490 012036 000177 177777 177777
3491 012044 177777
3492 012046 177777 177777 177777
3493 012054 177777
3494 012056 000000 000000 000000
3495 012064 000000
3496 012066 047603 047604
3497 012072 000000
3498
3499
3500
3501
3502
3503
3504
3505 012074 000004
3506 012076 012705 012110
3507 012102 004737 034502
3508
3509 012106 000417
3510
3511 012110

```

```

*****
;TEST 153 TEST OF MULD INSTR, DATA SET MULD-1
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST153: SCOPE
MOV #MULD1,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULD1 ; GO TEST
BR TST154 ;;
MULD1: ; TEST DATA SET MULD-1:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047713,047704 ; FPS: BEFORE, AFTER
.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
*****
TST154: SCOPE
MOV #MULD2,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULD2 ; GO TEST
BR TST155 ;;
MULD2: ; TEST DATA SET MULD-2:
.WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047603,047604 ; FPS: BEFORE, AFTER
.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
*****
TST155: SCOPE
MOV #MULD3,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULD3 ; GO TEST
BR TST156 ;;
MULD3: ; TEST DATA SET MULD-3:

```


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T155 TEST OF MULD INSTR, DATA SET MULD-3

3512	012110	023652	125252	125252	.WORD	023652,ALTN,ALTN,ALTN	; INITIAL AC FLOAT NUMBER
3513	012116	125252					
3514	012120	017500	000000	000000	.WORD	017500,0,0,0	; INITIAL MEM FLOAT NUMBER
3515	012126	000000					
3516	012130	003177	177777	177777	.WORD	003177,M1,M1,M1	; EXPECTED FLOAT RESULT
3517	012136	177777					
3518	012140	047757	047740		.WORD	047757,047740	; FPS: BEFORE, AFTER
3519	012144	000000			.WORD	NA	; FEC AFTER (0 = N/A)

3520
3521

```

*****
; *TEST 156      TEST OF MULD INSTR, DATA SET MULD-4
; *
; *              ALL INTERRUPT ENABLES ON
; *              LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

3527	012146	000004			TST156: SCOPE		
3528	012150	012705	012162		MOV	#MULD4,R5	; PTR TO TEST DATA SET
3529	012154	004737	034502		JSR	PC,#MULDT	; GO TEST
3530							
3531	012160	000417			BR	TST157	::

3532							
3533	012162				MULD4: ; TEST DATA SET MULD-4:		
3534	012162	117500	000000	000000	.WORD	117500,0,0,0	; INITIAL AC FLOAT NUMBER
3535	012170	000000					
3536	012172	123652	125252	125252	.WORD	123652,ALTN,ALTN,ALTN	; INITIAL MEM FLOAT NUMBER
3537	012200	125252					
3538	012202	003177	177777	177777	.WORD	003177,M1,M1,M1	; EXPECTED FLOAT RESULT
3539	012210	177777					
3540	012212	047617	047600		.WORD	047617,047600	; FPS: BEFORE, AFTER
3541	012216	000000			.WORD	NA	; FEC AFTER (0 = N/A)

3542
3543

```

*****
; *TEST 157      TEST OF MULD INSTR, DATA SET MULD-5
; *
; *              ALL INTERRUPT ENABLES ON
; *              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

3549	012220	000004			TST157: SCOPE		
3550	012222	012705	012234		MOV	#MULD5,R5	; PTR TO TEST DATA SET
3551	012226	004737	034502		JSR	PC,#MULDT	; GO TEST
3552							
3553	012232	000417			BR	TST160	::

3554							
3555	012234				MULD5: ; TEST DATA SET MULD-5:		
3556	012234	165400	000000	000000	.WORD	165400,0,0,1	; INITIAL AC FLOAT NUMBER
3557	012242	000001					
3558	012244	037577	177777	177777	.WORD	037577,M1,M1,M2	; INITIAL MEM FLOAT NUMBER
3559	012252	177776					
3560	012254	164777	177777	177777	.WORD	164777,M1,M1,M1	; EXPECTED FLOAT RESULT
3561	012262	177777					
3562	012264	047747	047750		.WORD	047747,047750	; FPS: BEFORE, AFTER
3563	012270	000000			.WORD	NA	; FEC AFTER (0 = N/A)

3564
3565

```

*****
; *TEST 160      TEST OF MULD INSTR, DATA SET MULD-6

```

3566
3567

H06

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T160 TEST OF MULD INSTR, DATA SET MULD-6

```

3568
3569
3570
3571 012272 000004
3572 012274 012705 012306
3573 012300 004737 034502
3574
3575 012304 000417
3576
3577 012306
3578 012306 165400 000000 000000
3579 012314 000001
3580 012316 037577 177777 177777
3581 012324 177776
3582 012326 165000 000000 000000
3583 012334 000000
3584 012336 047707 047710
3585 012342 000000
3586
3587
3588
3589
3590
3591
3592
3593 012344 000004
3594 012346 012705 012360
3595 012352 004737 034502
3596
3597 012356 000417
3598
3599 012360
3600 012360 040277 000000 000000
3601 012366 000000
3602 012370 034200 000000 000000
3603 012376 000001
3604 012400 034277 000000 000000
3605 012406 000001
3606 012410 047657 047640
3607 012414 000000
3608
3609
3610
3611
3612
3613
3614
3615 012416 000004
3616 012420 012705 012432
3617 012424 004737 034502
3618
3619 012430 000417
3620
3621 012432
3622 012432 140277 000000 000000
3623 012440 000000

```

```

;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
†T160: SCOPE
MOV #MULD6,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULDT ; GO TEST
BR TST161 ;;
MULD6: ; TEST DATA SET MULD-6:
.WORD 165400,0,0,1 ; INITIAL AC FLOAT NUMBER
.WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
.WORD 165000,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047707,047710 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

;*****
;TEST 161 TEST OF MULD INSTR, DATA SET MULD-7
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
†T161: SCOPE
MOV #MULD7,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULDT ; GO TEST
BR TST162 ;;
MULD7: ; TEST DATA SET MULD-7:
.WORD 040277,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 034200,0,0,1 ; INITIAL MEM FLOAT NUMBER
.WORD 034277,0,0,1 ; EXPECTED FLOAT RESULT
.WORD 047657,047640 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

;*****
;TEST 162 TEST OF MULD INSTR, DATA SET MULD-10
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
†T162: SCOPE
MOV #MULD10,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULDT ; GO TEST
BR TST163 ;;
MULD10: ; TEST DATA SET MULD-10:
.WORD 140277,0,0,0 ; INITIAL AC FLOAT NUMBER

```

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T162 TEST OF MULD INSTR, DATA SET MULD-10

3624	012442	034200	000000	000000	.WORD	034200,0,0,1	; INITIAL MEM FLOAT NUMBER
3625	012450	000001					
3626	012452	134277	000000	000000	.WORD	134277,0,0,1	; EXPECTED FLOAT RESULT
3627	012460	000001					
3628	012462	047607	047610		.WORD	047607,047610	; FPS: BEFORE AFTER
3629	012466	000000			.WORD	NA	; FEC AFTER (0 = N/A)

```

*****
*TEST 163 TEST OF MULD INSTR, DATA SET MULD-11
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

3637	012470	000004			TST163: SCOPE		
3638	012472	012705	012504		MOV	#MULD11,R5	; PTR TO TEST DATA SET
3639	012476	004737	034502		JSR	PC,2#MULDT	; GO TEST
3640							
3641	012502	000417			BR	TST164	::

3643	012504				MULD11: ; TEST DATA SET MULD-11:		
3644	012504	040300	000000	000000	.WORD	040300,0,0,0	; INITIAL AC FLOAT NUMBER
3645	012512	000000					
3646	012514	134200	000000	000000	.WORD	134200,0,0,1	; INITIAL MEM FLOAT NUMBER
3647	012522	000001					
3648	012524	134300	000000	000000	.WORD	134300,0,0,1	; EXPECTED FLOAT RESULT
3649	012532	000001					
3650	012534	047747	047750		.WORD	047747,047750	; FPS: BEFORE AFTER
3651	012540	000000			.WORD	NA	; FEC AFTER (0 = N/A)

```

*****
*TEST 164 TEST OF MULD INSTR, DATA SET MULD-12
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

3659	012542	000004			TST164: SCOPE		
3660	012544	012705	012556		MOV	#MULD12,R5	; PTR TO TEST DATA SET
3661	012550	004737	034502		JSR	PC,2#MULDT	; GO TEST
3662							
3663	012554	000417			BR	TST165	::

3665	012556				MULD12: ; TEST DATA SET MULD-12:		
3666	012556	140300	000000	000000	.WORD	140300,0,0,0	; INITIAL AC FLOAT NUMBER
3667	012564	000000					
3668	012566	134200	000000	000000	.WORD	134200,0,0,1	; INITIAL MEM FLOAT NUMBER
3669	012574	000001					
3670	012576	034300	000000	000000	.WORD	034300,0,0,2	; EXPECTED FLOAT RESULT
3671	012604	000002					
3672	012606	047717	047700		.WORD	047717,047700	; FPS: BEFORE AFTER
3673	012612	000000			.WORD	NA	; FEC AFTER (0 = N/A)

```

*****
*TEST 165 TEST OF MULD INSTR, DATA SET MULD-13
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

3674
3675
3676
3677
3678
3679

J06

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T165 TEST OF MULD INSTR, DATA SET MULD-13

```

3680
3681 012614 000004
3682 012616 012705 012630
3683 012622 004737 034502
3684
3685 012626 000417
3686
3687 012630
3688 012630 177777 177777 177777
3689 012636 177777
3690 012640 177777 177777 177777
3691 012646 177777
3692 012650 037577 177777 177777
3693 012656 177776
3694 012660 047655 147642
3695 012664 100010
3696
3697
3698
3699
3700
3701
3702
3703 012666 000004
3704 012670 012705 012702
3705 012674 004737 034502
3706
3707 012700 000417
3708
3709 012702
3710 012702 077777 177777 177777
3711 012710 177777
3712 012712 077777 177777 177777
3713 012720 177777
3714 012722 000000 000000 000000
3715 012730 000000
3716 012732 046751 046746
3717 012736 000000
3718
3719
3720
3721
3722
3723
3724
3725 012740 000004
3726 012742 012705 012754
3727 012746 004737 034502
3728
3729 012752 000417
3730
3731 012754
3732 012754 003177 177777 177777
3733 012762 177777
3734 012764 101177 177777 177777
3735 012772 177777

```

```

*****
TST165: SCOPE
MOV #MULD13,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULDT ; GO TEST
BR TST166 ;;
MULD13: ; TEST DATA SET MULD-13:
.WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 037577,M1,M1,M2 ; EXPECTED FLOAT RESULT
.WORD 047655,147642 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 166 TEST OF MULD INSTR, DATA SET MULD-14
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST166: SCOPE
MOV #MULD14,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULDT ; GO TEST
BR TST167 ;;
MULD14: ; TEST DATA SET MULD-14:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 046751,046746 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 167 TEST OF MULD INSTR, DATA SET MULD-15
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST167: SCOPE
MOV #MULD15,R5 ; PTR TO TEST DATA SET
JSR PC,@#MULDT ; GO TEST
BR TST170 ;;
MULD15: ; TEST DATA SET MULD-15:
.WORD 003177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

```

K06

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T167 TEST OF MULD INSTR, DATA SET MULD-15

3736 012774 144177 177777 177777 .WORD 144177,M1,M1,M2 ; EXPECTED FLOAT RESULT
3737 013002 177776
3738 013004 047647 147650 .WORD 047647,147650 ; FPS: BEFORE, AFTER
3739 013010 100012 .WORD 100012 ; FEC AFTER (0 = N/A)

3740
3741
3742
3743
3744
3745
3746
3747 013012 000004
3748 013014 012705 013026
3749 013020 004737 034502
3750
3751 013024 000417
3752
3753 013026
3754 013026 103177 177777 177777
3755 013034 177777
3756 013036 001177 177777 177777
3757 013044 177777
3758 013046 000000 000000 000000
3759 013054 000000
3760 013056 045713 045704
3761 013062 000000
3762
3763
3764
3765
3766
3767
3768
3769 013064 000004
3770 013066 012705 013100
3771 013072 004737 034502
3772
3773 013076 000417
3774
3775 013100
3776 013100 052525 052525 052525
3777 013106 052525
3778 013110 100177 177777 177777
3779 013116 177777
3780 013120 052525 052525 052525
3781 013126 052525
3782 013130 047657 147657
3783 013134 100014
3784
3785
3786
3787
3788
3789
3790
3791 013136 000004

```

*****
*TEST 170 TEST OF MULD INSTR, DATA SET MULD-16
* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST170: SCOPE
MOV #MULD16,R5 ; PTR TO TEST DATA SET
JSR PC,@MULDT ; GO TEST
BR TST171 ;;

```

```

MULD16: ; TEST DATA SET MULD-16:
.WORD 103177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 001177,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 171 TEST OF MULD INSTR, DATA SET MULD-17
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

TST171: SCOPE
MOV #MULD17,R5 ; PTR TO TEST DATA SET
JSR PC,@MULDT ; GO TEST
BR TST172 ;;

```

```

MULD17: ; TEST DATA SET MULD-17:
.WORD ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD ALTP,ALTP,ALTP,ALTP ; EXPECTED FLOAT RESULT
.WORD 047657,147657 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 172 TEST OF MULD INSTR, DATA SET MULD-20
* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST172: SCOPE

```

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T172 TEST OF MULD INSTR, DATA SET MULD-20

3792	013140	012705	013152
3793	013144	004737	034502
3794			
3795	013150	000417	
3796			
3797	013152		
3798	013152	125252	125252 125252
3799	013160	125252	
3800	013162	100000	177777 052525
3801	013170	125252	
3802	013172	000000	000000 000000
3803	013200	000000	
3804	013202	043753	043744
3805	013206	000000	
3806			
3807			

```

MOV      #MULD20,R5      ; PTR TO TEST DATA SET
JSR      PC,@#MULDT      ; GO TEST

BR       TST173          ;;

MULD20: ; TEST DATA SET MULD-20:
.WORD   ALTN,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
.WORD   M0,M1,ALTP,ALTN ; INITIAL MEM FLOAT NUMBER
.WORD   0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD   043753,043744 ; FPS: BEFORE, AFTER
.WORD   NA ; FEC AFTER ( 0 = N/A )

```

MO6

FPU ADVANCED INSTR TESTS
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T173 TEST OF DIVF INSTR, DATA SET DIVF-1

```

3808
3809
3810
3811
3812
3813 013210 000004
3814 013212 012705 013224
3815 013216 004737 034672
3816
3817 013222 000411
3818
3819 013224
3820 013224 103177 177777
3821 013230 023652 125252
3822 013234 117500 000000
3823 013240 047447 047450
3824 013244 000000
3825
3826
3827
3828
3829
3830
3831
3832 013246 000004
3833 013250 012705 013262
3834 013254 004737 034672
3835
3836 013260 000411
3837
3838 013262
3839 013262 052525 052525
3840 013266 000000 000000
3841 013272 052525 052525
3842 013276 047517 147517
3843 013302 100004
3844
3845
3846
3847
3848
3849
3850
3851 013304 000004
3852 013306 012705 013320
3853 013312 004737 034672
3854
3855 013316 000411
3856
3857 013320
3858 013320 140400 000000
3859 013324 040500 000000
3860 013330 140052 125252
3861 013334 047447 047450
3862 013340 000000
3863
    
```

```

*****
*TEST 173 TEST OF DIVF INSTR, DATA SET DIVF-1
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
    
```

```

TST173: SCOPE
MOV #DIVF1,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST174 ;;
    
```

```

DIVF1: ; TEST DATA SET DIVF-1:
.WORD 103177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 023652,ALTN ; INITIAL MEM FLOAT NUMBER
.WORD 117500,0 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.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
*****
    
```

```

TST174: SCOPE
MOV #DIVF2,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST175 ;;
    
```

```

DIVF2: ; TEST DATA SET DIVF-2:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; INITIAL MEM FLOAT NUMBER
.WORD ALTP,ALTP ; EXPECTED FLOAT RESULT
.WORD 047517,147517 ; FPS: BEFORE, AFTER
.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
*****
    
```

```

TST175: SCOPE
MOV #DIVF3,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST176 ;;
    
```

```

DIVF3: ; TEST DATA SET DIVF-3:
.WORD 140400,000000 ; INITIAL AC FLOAT NUMBER
.WORD 040500,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 140052,ALTN ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
    
```

```

3864
3865
3866
3867
3868
3869
3870 013342 000004
3871 013344 012705 013356
3872 013350 004737 034672
3873
3874 013354 000411
3875
3876 013356
3877 013356 040400 000000
3878 013362 140500 000000
3879 013366 140052 125253
3880 013372 047507 047510
3881 013376 000000
3882
3883
3884
3885
3886
3887
3888
3889 013400 000004
3890 013402 012705 013414
3891 013406 004737 034672
3892
3893 013412 000411
3894
3895 013414
3896 013414 007417 007417
3897 013420 007417 007417
3898 013424 040200 000000
3899 013430 047417 047400
3900 013434 000000
3901
3902
3903
3904
3905
3906
3907
3908 013436 000004
3909 013440 012705 013452
3910 013444 004737 034672
3911
3912 013450 000411
3913
3914 013452
3915 013452 160400 000000
3916 013456 154000 000000
3917 013462 044600 000000
3918 013466 047557 047540
3919 013472 000000

```

```

*****
*TEST 176 TEST OF DIVF INSTR, DATA SET DIVF-4
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST176: SCOPE
MOV #DIVF4,R5 ; PTR TO TEST DATA SET
JSR PC,@DIVFT ; GO TEST
BR TST177 ;;

DIVF4: ; TEST DATA SET DIVF-4:
.WORD 040400,000000 ; INITIAL AC FLOAT NUMBER
.WORD 140500,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 140052,ALTN+1 ; EXPECTED FLOAT RESULT
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.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
*****
TST177: SCOPE
MOV #DIVF5,R5 ; PTR TO TEST DATA SET
JSR PC,@DIVFT ; GO TEST
BR TST200 ;;

DIVF5: ; TEST DATA SET DIVF-5:
.WORD ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
.WORD ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER
.WORD FIP 0 ; EXPECTED FLOAT RESULT
.WORD 047417,047400 ; FPS: BEFORE, AFTER
.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
*****
TST200: SCOPE
MOV #DIVF6,R5 ; PTR TO TEST DATA SET
JSR PC,@DIVFT ; GO TEST
BR TST201 ;;

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

```



```

3920
3921
3922
3923
3924
3925
3926
3927 013474 000004
3928 013476 012705 013510
3929 013502 004737 034672
3930
3931 013506 000411
3932
3933 013510
3934 013510 000177 177777
3935 013514 177777 177777
3936 013520 000000 000000
3937 013524 047453 047444
3938 013530 000000
3939
3940
3941
3942
3943
3944
3945
3946 013532 000004
3947 013534 012705 013546
3948 013540 004737 034672
3949
3950 013544 000411
3951
3952 013546
3953 013546 160077 000000
3954 013552 140277 000000
3955 013556 060000 000000
3956 013562 047517 047500
3957 013566 000000
3958
3959
3960
3961
3962
3963
3964
3965 013570 000004
3966 013572 012705 013604
3967 013576 004737 034672
3968
3969 013602 000411
3970
3971 013604
3972 013604 160077 000000
3973 013610 040277 000000
3974 013614 160000 000000
3975 013620 047447 047450

```

```

*****
:TEST 201 TEST OF DIVF INSTR, DATA SET DIVF-7
:
: ALL INTERRUPT ENABLES ON
:
: SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

†ST201: SCOPE
MOV #DIVF7,R5 ; PTR TO TEST DATA SET
JSR PC,2#DIVFT ; GO TEST
BR TST202 ;;

```

```

DIVF7: ; TEST DATA SET DIVF-7:
.WORD ZXIMP,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047453,047444 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST202: SCOPE
MOV #DIVF10,R5 ; PTR TO TEST DATA SET
JSR PC,2#DIVFT ; GO TEST
BR TST203 ;;

```

```

DIVF10: ; TEST DATA SET DIVF-10:
.WORD 160077,000000 ; INITIAL AC FLOAT NUMBER
.WORD 140277,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 060000,000000 ; EXPECTED FLOAT RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST203: SCOPE
MOV #DIVF11,R5 ; PTR TO TEST DATA SET
JSR PC,2#DIVFT ; GO TEST
BR TST204 ;;

```

```

DIVF11: ; TEST DATA SET DIVF-11:
.WORD 160077,000000 ; INITIAL AC FLOAT NUMBER
.WORD 040277,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 160000,000000 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER

```

```

3976 013624 000000
3977
3978
3979
3980
3981
3982
3983
3984 013626 000004
3985 013630 012705 013642
3986 013634 004737 034672
3987
3988 013640 000411
3989
3990 013642
3991 013642 060100 000001
3992 013646 040300 000000
3993 013652 060000 000001
3994 013656 047517 047500
3995 013662 000000
3996
3997
3998
3999
4000
4001
4002
4003 013664 000004
4004 013666 012705 013700
4005 013672 004737 034672
4006
4007 013676 000411
4008
4009 013700
4010 013700 060100 000001
4011 013704 140300 000000
4012 013710 160000 000000
4013 013714 047447 047450
4014 013720 000000
4015
4016
4017
4018
4019
4020
4021
4022 013722 000004
4023 013724 012705 013736
4024 013730 004737 034672
4025
4026 013734 000411
4027
4028 013736
4029 013736 000177 177777
4030 013742 100177 177777
4031 013746 000177 177777

```

```

.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
*****
TST204: SCOPE
MOV #DIVF12,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVFT ; GO TEST
BR TST205 ;;

DIVF12: ; TEST DATA SET DIVF-12:
.WORD 060100,000001 ; INITIAL AC FLOAT NUMBER
.WORD 040300,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 060000,000001 ; EXPECTED FLOAT RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
.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
*****
TST205: SCOPE
MOV #DIVF13,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVFT ; GO TEST
BR TST206 ;;

DIVF13: ; TEST DATA SET DIVF-13:
.WORD 060100,000001 ; INITIAL AC FLOAT NUMBER
.WORD 140300,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 160000,000000 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.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
*****
TST206: SCOPE
MOV #DIVF14,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVFT ; GO TEST
BR TST207 ;;

DIVF14: ; TEST DATA SET DIVF-14:
.WORD ZXIMP,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZXIMN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD ZXIMP,M1 ; EXPECTED FLOAT RESULT

```

4032 013752 047543 147543
4033 013756 100014

.WORD 047543,147543 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER (0 = N/A)

4034
4035
4036
4037
4038
4039
4040

```
*****  
*TEST 207 TEST OF DIVF INSTR, DATA SET DIVF-15  
* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON  
* SHORT FLOAT, SHORT INTEGER, ROUND MODES  
*****
```

4041 013760 000004
4042 013762 012705 013774
4043 013766 004737 034672

```
TST207: SCOPE  
MOV #DIVF15,R5 ; PTR TO TEST DATA SET  
JSR PC,2#DIVFT ; GO TEST
```

4044
4045 013772 000411

```
BR TST210 ;;
```

4046
4047 013774
4048 013774 000177 177777
4049 014000 100177 177777
4050 014004 000177 177777
4051 014010 043413 143413
4052 014014 100004

```
DIVF15: ; TEST DATA SET DIVF-15:  
.WORD ZXIMP,M1 ; INITIAL AC FLOAT NUMBER  
.WORD ZXIMN,M1 ; INITIAL MEM FLOAT NUMBER  
.WORD ZXIMP,M1 ; EXPECTED FLOAT RESULT  
.WORD 043413,143413 ; FPS: BEFORE, AFTER  
.WORD 100004 ; FEC AFTER ( 0 = N/A )
```

4053
4054
4055
4056
4057
4058
4059

```
*****  
*TEST 210 TEST OF DIVF INSTR, DATA SET DIVF-16  
* ALL INTERRUPT ENABLES ON  
* SHORT FLOAT, LONG INTEGER, ROUND MODES  
*****
```

4060 014016 000004
4061 014020 012705 014032
4062 014024 004737 034672

```
TST210: SCOPE  
MOV #DIVF16,R5 ; PTR TO TEST DATA SET  
JSR PC,2#DIVFT ; GO TEST
```

4063
4064 014030 000411

```
BR TST211 ;;
```

4065
4066 014032
4067 014032 077777 052525
4068 014036 003777 170360
4069 014042 034177 062134
4070 014046 047515 147502
4071 014052 100010

```
DIVF16: ; TEST DATA SET DIVF-16:  
.WORD LGP,ALTP ; INITIAL AC FLOAT NUMBER  
.WORD 003777,ALT4N ; INITIAL MEM FLOAT NUMBER  
.WORD 034177,062134 ; EXPECTED FLOAT RESULT  
.WORD 047515,147502 ; FPS: BEFORE, AFTER  
.WORD 100010 ; FEC AFTER ( 0 = N/A )
```

4072
4073
4074
4075
4076
4077

```
*****  
*TEST 211 TEST OF DIVF INSTR, DATA SET DIVF-17  
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON  
* SHORT FLOAT, SHORT INTEGER, ROUND MODES  
*****
```

4078
4079 014054 000004
4080 014056 012705 014070
4081 014062 004737 034672

```
TST211: SCOPE  
MOV #DIVF17,R5 ; PTR TO TEST DATA SET  
JSR PC,2#DIVFT ; GO TEST
```

4082
4083 014066 000411

```
BR TST212 ;;
```

4084
4085 014070
4086 014070 177777 052525
4087 014074 103777 170360

```
DIVF17: ; TEST DATA SET DIVF-17:  
.WORD LGN,ALTP ; INITIAL AC FLOAT NUMBER  
.WORD 103777,ALT4N ; INITIAL MEM FLOAT NUMBER
```

4088 014100 000000 000000
4089 014104 046411 046406
4090 014110 000000

.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 046411,046406 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

4091
4092
4093
4094
4095
4096
4097

*TEST 212 TEST OF DIVF INSTR, DATA SET DIVF-20
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

4098 014112 000004
4099 014114 012705 014126
4100 014120 004737 034672

TST212: SCOPE
MOV #DIVF20,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST

4101
4102 014124 000411
4103

BR TST213 ; ;

4104 014126
4105 014126 100200 000000
4106 014132 077777 177777
4107 014136 140400 000000
4108 014142 047547 147550
4109 014146 100012

DIVF20: ; TEST DATA SET DIVF-20:
.WORD SMN,0 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 140400,000000 ; EXPECTED FLOAT RESULT
.WORD 047547,147550 ; FPS: BEFORE, AFTER
.WORD 100012 ; FEC AFTER (0 = N/A)

4110
4111
4112
4113
4114
4115
4116

*TEST 213 TEST OF DIVF INSTR, DATA SET DIVF-21
* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

4117 014150 000004
4118 014152 012705 014164
4119 014156 004737 034672

TST213: SCOPE
MOV #DIVF21,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST

4120
4121 014162 000411
4122

BR TST214 ; ;

4123 014164
4124 014164 000200 000000
4125 014170 177777 177777
4126 014174 000000 000000
4127 014200 045453 045444
4128 014204 000000

DIVF21: ; TEST DATA SET DIVF-21:
.WORD SMP,0 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 045453,045444 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

4129
4130
4131

F07

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T214 TEST OF DIVD INSTR, DATA SET DIVD-1

```

4132
4133
4134
4135
4136
4137 014206 000004
4138 014210 012705 014222
4139 014214 004737 035042
4140
4141 014220 000417
4142
4143 014222
4144 014222 000177 177777 177777
4145 014230 177777
4146 014232 077777 177777 177777
4147 014240 177777
4148 014242 000000 000000 000000
4149 014250 000000
4150 014252 047613 047604
4151 014256 000000
4152
4153
4154
4155
4156
4157
4158
4159 014260 000004
4160 014262 012705 014274
4161 014266 004737 035042
4162
4163 014272 000417
4164
4165 014274
4166 014274 034277 000000 000000
4167 014302 000000
4168 014304 040277 000000 000000
4169 014312 000000
4170 014314 034200 000000 000000
4171 014322 000000
4172 014324 047717 047700
4173 014330 000000
4174
4175
4176
4177
4178
4179
4180
4181 014332 000004
4182 014334 012705 014346
4183 014340 004737 035042
4184
4185 014344 000417
4186
4187 014346

```

```

*****
*TEST 214 TEST OF DIVD INSTR, DATA SET DIVD-1
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST214: SCOPE
MOV #DIVD1,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVDT ; GO TEST
BR TST215 ;;
DIVD1: ; TEST DATA SET DIVD-1:
.WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047613,047604 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
*****
*TEST 215 TEST OF DIVD INSTR, DATA SET DIVD-2
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST215: SCOPE
MOV #DIVD2,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVDT ; GO TEST
BR TST216 ;;
DIVD2: ; TEST DATA SET DIVD-2:
.WORD 034277,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 040277,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 034200,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047717,047700 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
*****
*TEST 216 TEST OF DIVD INSTR, DATA SET DIVD-3
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST216: SCOPE
MOV #DIVD3,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVDT ; GO TEST
BR TST217 ;;
DIVD3: ; TEST DATA SET DIVD-3:

```

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T216 TEST OF DIVD INSTR, DATA SET DIVD-3

4188	014346	134277	000000	000000	.WORD	134277,0,0,0	; INITIAL AC FLOAT NUMBER
4189	014354	000000					
4190	014356	040277	000000	000000	.WORD	040277,0,0,0	; INITIAL MEM FLOAT NUMBER
4191	014364	000000					
4192	014366	134200	000000	000000	.WORD	134200,0,0,0	; EXPECTED FLOAT RESULT
4193	014374	000000					
4194	014376	047647	047650		.WORD	047647,047650	; FPS: BEFORE, AFTER
4195	014402	000000			.WORD	NA	; FEC AFTER (0 = N/A)

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4243

```

*****
;TEST 217 TEST OF DIVD INSTR, DATA SET DIVD-4
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST217: SCOPE
MOV #DIVD4,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVDT ; GO TEST
BR TST220 ;;

```

```

DIVD4: ; TEST DATA SET DIVD-4:
.WORD 134300,0,0,1 ; INITIAL AC FLOAT NUMBER
.WORD 140300,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 034200,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047757,047740 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
;TEST 220 TEST OF DIVD INSTR, DATA SET DIVD-5
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST220: SCOPE
MOV #DIVD5,R5 ; PTR TO TEST DATA SET
JSR PC,@#DIVDT ; GO TEST
BR TST221 ;;

```

```

DIVD5: ; TEST DATA SET DIVD-5:
.WORD 034300,0,0,1 ; INITIAL AC FLOAT NUMBER
.WORD 140300,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 134200,0,0,1 ; EXPECTED FLOAT RESULT
.WORD 047607,047610 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
;TEST 221 TEST OF DIVD INSTR, DATA SET DIVD-6

```

H07

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T221 TEST OF DIVD INSTR, DATA SET DIVD-6

```
4244 ;* ALL INTERRUPT ENABLES ON
4245 ;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4246 ;*****
4247 014530 000004 TST221: SCOPE
4248 014532 012705 014544 MOV #DIVD6,R5 ; PTR TO TEST DATA SET
4249 014536 004737 035042 JSR PC,@#DIVDT ; GO TEST
4250
4251 014542 000417 BR TST222 ;;
4252
4253 014544 DIVD6: ; TEST DATA SET DIVD-6:
4254 014544 100400 000000 000000 .WORD 100400,0,0,0 ; INITIAL AC FLOAT NUMBER
4255 014552 000000 .WORD 000500,0,0,0 ; INITIAL MEM FLOAT NUMBER
4256 014554 000500 000000 000000 .WORD 140052,ALTN,ALTN,ALTN ; EXPECTED FLOAT RESULT
4257 014562 000000 .WORD 047647,047650 ; FPS: BEFORE, AFTER
4258 014564 140052 125252 125252 .WORD NA ; FEC AFTER ( 0 = N/A )
4259 014572 125252
4260 014574 047647 047650
4261 014600 000000
4262
4263
4264 ;*****
4265 ;*TEST 222 TEST OF DIVD INSTR, DATA SET DIVD-7
4266 ;* ALL INTERRUPT ENABLES ON
4267 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
4268 ;*****
4269 014602 000004 TST222: SCOPE
4270 014604 012705 014616 MOV #DIVD7,R5 ; PTR TO TEST DATA SET
4271 014610 004737 035042 JSR PC,@#DIVDT ; GO TEST
4272
4273 014614 000417 BR TST223 ;;
4274
4275 014616 DIVD7: ; TEST DATA SET DIVD-7:
4276 014616 100400 000000 000000 .WORD 100400,0,0,0 ; INITIAL AC FLOAT NUMBER
4277 014624 000000 .WORD 000500,0,0,0 ; INITIAL MEM FLOAT NUMBER
4278 014626 000500 000000 000000 .WORD 140052,ALTN,ALTN,ALTN+1 ; EXPECTED FLOAT RESULT
4279 014634 000000 .WORD 047607,047610 ; FPS: BEFORE, AFTER
4280 014636 140052 125252 125252 .WORD NA ; FEC AFTER ( 0 = N/A )
4281 014644 125253
4282 014646 047607 047610
4283 014652 000000
4284
4285
4286 ;*****
4287 ;*TEST 223 TEST OF DIVD INSTR, DATA SET DIVD-10
4288 ;* ALL INTERRUPT ENABLES ON
4289 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
4290 ;*****
4291 014654 000004 TST223: SCOPE
4292 014656 012705 014670 MOV #DIVD10,R5 ; PTR TO TEST DATA SET
4293 014662 004737 035042 JSR PC,@#DIVDT ; GO TEST
4294
4295 014666 000417 BR TST224 ;;
4296
4297 014670 DIVD10: ; TEST DATA SET DIVD-10:
4298 014670 170360 170360 170360 .WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
4299 014676 170360
```

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T223 TEST OF DIVD INSTR, DATA SET DIVD-10

4300	014700	170360	170360	170360	.WORD	ALT4N,ALT4N,ALT4N,ALT4N	; INITIAL MEM FLOAT NUMBER
4301	014706	170360					
4302	014710	040200	000000	000000	.WORD	F1P,0,0,0	; EXPECTED FLOAT RESULT
4303	014716	000000					
4304	014720	047717	047700		.WORD	047717,047700	; FPS: BEFORE, AFTER
4305	014724	000000			.WORD	NA	; FEC AFTER (0 = N/A)

4306
4307

```

*****
; *TEST 224 TEST OF DIVD INSTR, DATA SET DIVD-11
; *
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

4313	014726	000004			TST224: SCOPE		
4314	014730	012705	014742		MOV	#DIVD11,R5	; PTR TO TEST DATA SET
4315	014734	004737	035042		JSR	PC,#DIVDT	; GO TEST
4316							
4317	014740	000417			BR	TST225	::

4318							
4319	014742				DIVD11: ; TEST DATA SET DIVD-11:		
4320	014742	070200	000000	000000	.WORD	070200,0,0,0	; INITIAL AC FLOAT NUMBER
4321	014750	000000					
4322	014752	050400	000000	000000	.WORD	050400,0,0,0	; INITIAL MEM FLOAT NUMBER
4323	014760	000000					
4324	014762	060000	000000	000000	.WORD	060000,0,0,0	; EXPECTED FLOAT RESULT
4325	014770	000000					
4326	014772	047657	047640		.WORD	047657,047640	; FPS: BEFORE, AFTER
4327	014776	000000			.WORD	NA	; FEC AFTER (0 = N/A)

4328
4329

```

*****
; *TEST 225 TEST OF DIVD INSTR, DATA SET DIVD-12
; *
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

4335	015000	000004			TST225: SCOPE		
4336	015002	012705	015014		MOV	#DIVD12,R5	; PTR TO TEST DATA SET
4337	015006	004737	035042		JSR	PC,#DIVDT	; GO TEST
4338							
4339	015012	000417			BR	TST226	::

4340							
4341	015014				DIVD12: ; TEST DATA SET DIVD-12:		
4342	015014	125252	125252	125252	.WORD	ALTN,ALTN,ALTN,ALTN	; INITIAL AC FLOAT NUMBER
4343	015022	125252					
4344	015024	000000	000000	000000	.WORD	0,0,0,0	; INITIAL MEM FLOAT NUMBER
4345	015032	000000					
4346	015034	125252	125252	125252	.WORD	ALTN,ALTN,ALTN,ALTN	; EXPECTED FLOAT RESULT
4347	015042	125252					
4348	015044	047707	147707		.WORD	047707,147707	; FPS: BEFORE, AFTER
4349	015050	100004			.WORD	100004	; FEC AFTER (0 = N/A)

4350
4351

```

*****
; *TEST 226 TEST OF DIVD INSTR, DATA SET DIVD-13
; *
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

4352
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```

4356
4357 015052 000004
4358 015054 012705 015066
4359 015060 004737 035042
4360
4361 015064 000417
4362
4363 015066
4364 015066 000177 177777 177777
4365 015074 177777
4366 015076 100177 177777 177777
4367 015104 177777
4368 015106 000177 177777 177777
4369 015114 177777
4370 015116 047643 147643
4371 015122 100014
4372
4373
4374
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4376
4377
4378
4379 015124 000004
4380 015126 012705 015140
4381 015132 004737 035042
4382
4383 015136 000417
4384
4385 015140
4386 015140 000177 177777 177777
4387 015146 177777
4388 015150 100177 177777 177777
4389 015156 177777
4390 015160 000177 177777 177777
4391 015166 177777
4392 015170 043643 143643
4393 015174 100004
4394
4395
4396
4397
4398
4399
4400
4401 015176 000004
4402 015200 012705 015212
4403 015204 004737 035042
4404
4405 015210 000417
4406
4407 015212
4408 015212 052525 052525 052525
4409 015220 052525
4410 015222 000200 000000 000000
4411 015230 000000

```

```

*****
TST226: SCOPE
MOV      #DIVD13,R5      ; PTR TO TEST DATA SET
JSR      PC,@#DIVDT     ; GO TEST
BR       TST227         ;;

DIVD13:  ; TEST DATA SET DIVD-13:
.WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
.WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
.WORD   ZX1MP,M1,M1,M1  ; EXPECTED FLOAT RESULT
.WORD   047643,147643   ; FPS: BEFORE, AFTER
.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
*****
TST227: SCOPE
MOV      #DIVD14,R5     ; PTR TO TEST DATA SET
JSR      PC,@#DIVDT    ; GO TEST
BR       TST230        ;;

DIVD14:  ; TEST DATA SET DIVD-14:
.WORD   ZX1MP,M1,M1,M1  ; INITIAL AC FLOAT NUMBER
.WORD   ZX1MN,M1,M1,M1  ; INITIAL MEM FLOAT NUMBER
.WORD   ZX1MP,M1,M1,M1  ; EXPECTED FLOAT RESULT
.WORD   043643,143643   ; FPS: BEFORE, AFTER
.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
*****
TST230: SCOPE
MOV      #DIVD15,R5     ; PTR TO TEST DATA SET
JSR      PC,@#DIVDT    ; GO TEST
BR       TST231        ;;

DIVD15:  ; TEST DATA SET DIVD-15:
.WORD   ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD   SMP,0,0,0        ; INITIAL MEM FLOAT NUMBER

```

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T230 TEST OF DIVD INSTR, DATA SET DIVD-15

4412	015232	012525	052525	052525	.WORD	012525,ALTP,ALTP,ALTP	; EXPECTED FLOAT RESULT
4413	015240	052525					
4414	015242	047615	147602		.WORD	047615,147602	; FPS: BEFORE, AFTER
4415	015246	100010			.WORD	100010	; FEC AFTER (0 = N/A)

```

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```

```

*****
*TEST 231 TEST OF DIVD INSTR, DATA SET DIVD-16
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST231: SCOPE
MOV #DIVD16,R5 ; PTR TO TEST DATA SET
JSR PC,@DIVDT ; GO TEST
BR TST232 ;;

```

```

DIVD16: ; TEST DATA SET DIVD-16:
.WORD ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD SMN,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 046611,046606 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST232: SCOPE
MOV #DIVD17,R5 ; PTR TO TEST DATA SET
JSR PC,@DIVDT ; GO TEST
BR TST233 ;;

```

```

DIVD17: ; TEST DATA SET DIVD-17:
.WORD SMN,M1,ALTN,0 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 140400,M1,ALTN,1 ; EXPECTED FLOAT RESULT
.WORD 047707,147710 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST233: SCOPE

```

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T233 TEST OF DIVD INSTR, DATA SET DIVD-20

4468	015376	012705	015410
4469	015402	004737	035042
4470			
4471	015406	000417	
4472			
4473	015410		
4474	015410	100200	177777 125252
4475	015416	000000	
4476	015420	177777	177777 177777
4477	015426	177777	
4478	015430	000000	000000 000000
4479	015436	000000	
4480	015440	045713	045704
4481	015444	000000	
4482			
4483			

```

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 )

```

M07

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T234 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-1

```

4484
4485
4486
4487
4488
4489 015446 000004
4490 015450 012705 015462
4491 015454 004737 035232
4492
4493 015460 000413
4494
4495 015462
4496 015462 000000 000000
4497 015466 000000 000000
4498 015472 000000 000000
4499 015476 000000 000000
4500 015502 047513 047504
4501 015506 000000
4502
4503
4504
4505
4506
4507
4508
4509 015510 000004
4510 015512 012705 015524
4511 015516 004737 035232
4512
4513 015522 000413
4514
4515 015524
4516 015524 000177 177777
4517 015530 077777 177777
4518 015534 000000 000000
4519 015540 000000 000000
4520 015544 047553 047544
4521 015550 000000
4522
4523
4524
4525
4526
4527
4528
4529 015552 000004
4530 015554 012705 015566
4531 015560 004737 035232
4532
4533 015564 000413
4534
4535 015566
4536 015566 177777 177777
4537 015572 100177 177777
4538 015576 000000 000000
4539 015602 000000 000000
    
```

```

*****
*TEST 234 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
    
```

```

†TST234: SCOPE
MOV #MD2F1,R5 ; PTR TO TEST DATA SET
JSR PC,2#MD2FT ; GO TEST
BR TST235 ;;
    
```

```

MD2F1: ; TEST DATA SET MD2F-1:
.WORD 0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047513,047504 ; FPS: BEFORE, AFTER
.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
*****
    
```

```

†TST235: SCOPE
MOV #MD2F2,R5 ; PTR TO TEST DATA SET
JSR PC,2#MD2FT ; GO TEST
BR TST236 ;;
    
```

```

MD2F2: ; TEST DATA SET MD2F-2:
.WORD ZXIMP,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047553,047544 ; FPS: BEFORE, AFTER
.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
*****
    
```

```

†TST236: SCOPE
MOV #MD2F3,R5 ; PTR TO TEST DATA SET
JSR PC,2#MD2FT ; GO TEST
BR TST237 ;;
    
```

```

MD2F3: ; TEST DATA SET MD2F-3:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
    
```

4540 015606 043413 043404
4541 015612 000000

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

4542
4543
4544
4545
4546
4547
4548
4549 015614 000004
4550 015616 012705 015630
4551 015622 004737 035232

: *TEST 237 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-4
: * ALL INTERRUPT ENABLES ON
: * SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

TST237: SCOPE
MOV #MD2F4,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD2FT ; GO TEST

BR TST240 ;;

4552
4553 015626 000413
4554
4555 015630
4556 015630 177777 177777
4557 015634 100177 177777
4558 015640 177777 177777
4559 015644 052525 177777
4560 015650 047447 147447
4561 015654 100014

MD2F4: ; TEST DATA SET MD2F-4:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD ALTP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047447,147447 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER (0 = N/A)

4562
4563
4564
4565
4566
4567
4568
4569 015656 000004
4570 015660 012705 015672
4571 015664 004737 035232

: *TEST 240 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-5
: * ALL INTERRUPT ENABLES ON
: * SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

TST240: SCOPE
MOV #MD2F5,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD2FT ; GO TEST

BR TST241 ;;

4572
4573 015670 000413
4574
4575 015672
4576 015672 042177 000000
4577 015676 140200 000000
4578 015702 000000 000000
4579 015706 142177 000000
4580 015712 047553 047544
4581 015716 000000

MD2F5: ; TEST DATA SET MD2F-5:
.WORD 042177,0 ; INITIAL AC FLOAT NUMBER
.WORD FIN,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 142177,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047553,047544 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

4582
4583
4584
4585
4586
4587
4588
4589 015720 000004
4590 015722 012705 015734
4591 015726 004737 035232

: *TEST 241 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-6
: * ALL INTERRUPT ENABLES ON
: * SHORT FLOAT, LONG INTEGER, ROUND MODES

TST241: SCOPE
MOV #MD2F6,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD2FT ; GO TEST

BR TST242 ;;

4592
4593 015732 000413
4594
4595 015734

MD2F6: ; TEST DATA SET MD2F-6:

4596	015734	040200	000000
4597	015740	140177	177777
4598	015744	140177	177777
4599	015750	000000	000000
4600	015754	047507	047510
4601	015760	000000	

```

.WORD F1P,0 ; INITIAL AC FLOAT NUMBER
.WORD 140177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 140177,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

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4609	015762	000004	
4610	015764	012705	015776
4611	015770	004737	035232
4613	015774	000413	
4615	015776		
4616	015776	142176	077600
4617	016002	140200	000000
4618	016006	037777	000000
4619	016012	042176	000000
4620	016016	047457	047440
4621	016022	000000	

```

*****
*TEST 242 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-7
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

TST242: SCOPE
MOV #MD2F7,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2FT ; GO TEST
BR TST243 ;;

```

```

MD2F7: ; TEST DATA SET MD2F-7:
.WORD 142176,077600 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0 ; INITIAL MEM FLOAT NUMBER
.WORD 037777,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 042176,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

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4629	016024	000004	
4630	016026	012705	016040
4631	016032	004737	035232
4633	016036	000413	
4635	016040		
4636	016040	042177	100000
4637	016044	040200	000000
4638	016050	040000	000000
4639	016054	042177	000000
4640	016060	047417	047400
4641	016064	000000	

```

*****
*TEST 243 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-10
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST243: SCOPE
MOV #MD2F10,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2FT ; GO TEST
BR TST244 ;;

```

```

MD2F10: ; TEST DATA SET MD2F-10:
.WORD 042177,M0 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0 ; INITIAL MEM FLOAT NUMBER
.WORD 040000,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 042177,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047417,047400 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

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4649

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4651

4649	016066	000004	
4650	016070	012705	016102
4651	016074	004737	035232

```

*****
*TEST 244 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-11
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST244: SCOPE
MOV #MD2F11,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2FT ; GO TEST

```

```

4652
4653 016100 000413
4654
4655 016102
4656 016102 140200 000000
4657 016106 040377 177777
4658 016112 140177 177776
4659 016116 140200 000000
4660 016122 047547 047550
4661 016126 000000

```

BR TST245 ;;

```

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

```

```

4662
4663
4664
4665
4666
4667
4668

```

```

*****
; TEST 245 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-12
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

4669 016130 000004
4670 016132 012705 016144
4671 016136 004737 035232

```

```

TST245: SCOPE
MOV #MD2F12,R5 ; PTR TO TEST DATA SET
JSR PC,#MD2FT ; GO TEST

```

```

4672
4673 016142 000413

```

BR TST246 ;;

```

4674
4675 016144
4676 016144 060452 125252
4677 016150 021700 000000
4678 016154 040177 177400
4679 016160 042177 000000
4680 016164 047517 047500
4681 016170 000000

```

```

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 )

```

```

4682
4683
4684
4685
4686
4687
4688

```

```

*****
; TEST 246 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-13
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

4689 016172 000004
4690 016174 012705 016206
4691 016200 004737 035232

```

```

TST246: SCOPE
MOV #MD2F13,R5 ; PTR TO TEST DATA SET
JSR PC,#MD2FT ; GO TEST

```

```

4692
4693 016204 000413

```

BR TST247 ;;

```

4694
4695 016206
4696 016206 041000 000001
4697 016212 141377 177776
4698 016216 140177 177777
4699 016222 142177 000000
4700 016226 047547 047550
4701 016232 000000

```

```

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 142177,000000 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047547,047550 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

4702
4703
4704
4705
4706
4707

```

```

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

```

```

4708
4709 016234 000004
4710 016236 012705 016250
4711 016242 004737 035232
4712
4713 016246 000413
4714
4715 016250
4716 016250 041000 000001
4717 016254 141377 177776
4718 016260 140200 000000
4719 016264 142177 000000
4720 016270 047507 047510
4721 016274 000000
4722
4723
4724
4725
4726
4727
4728
4729 016276 000004
4730 016300 012705 016312
4731 016304 004737 035232
4732
4733 016310 000413
4734
4735 016312
4736 016312 077600 000000
4737 016316 044452 125252
4738 016322 000000 000000
4739 016326 004052 125252
4740 016332 047411 147406
4741 016336 100010
4742
4743
4744
4745
4746
4747
4748
4749 016340 000004
4750 016342 012705 016354
4751 016346 004737 035232
4752
4753 016352 000413
4754
4755 016354
4756 016354 077600 000000
4757 016360 044452 125252
4758 016364 000000 000000
4759 016370 000000 000000
4760 016374 046411 046406
4761 016400 000000
4762
4763

```

```

*****
†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 140200,000000 ; 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 )

```



```

4764
4765
4766
4767
4768
4769 016402 000004
4770 016404 012705 016416
4771 016410 004737 035232
4772
4773 016414 000413
4774
4775 016416
4776 016416 001577 177777
4777 016422 101000 000000
4778 016426 142377 177777
4779 016432 000000 000000
4780 016436 047547 147550
4781 016442 100012
4782
4783
4784
4785
4786
4787
4788
4789 016444 000004
4790 016446 012705 016460
4791 016452 004737 035232
4792
4793 016456 000413
4794
4795 016460
4796 016460 001577 177777
4797 016464 101000 000000
4798 016470 000000 000000
4799 016474 000000 000000
4800 016500 045553 045544
4801 016504 000000
4802
4803
4804

```

```

*****
:TEST 252 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-17
:* ALL INTERRUPT ENABLES ON
:* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST252: SCOPE
MOV #MD2F17,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2FT ; GO TEST
BR TST253 ;;

```

```

MD2F17: ; TEST DATA SET MD2F-17:
.WORD 001577,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,0 ; INITIAL MEM FLOAT NUMBER
.WORD 142377,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047547,147550 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST253: SCOPE
MOV #MD2F20,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2FT ; GO TEST
BR TST254 ;;

```

```

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

```

F08

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MACY11 27(1006) 09-FEB-77 10:05 PAGE 98
T254 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-1

4805				
4806				
4807				
4808				
4809				
4810	016506	000004		
4811	016510	012705	016522	
4812	016514	004737	035434	
4813				
4814	016520	000423		
4815				
4816	016522			
4817	016522	000000	000000	000000
4818	016530	000000		
4819	016532	000000	000000	000000
4820	016540	000000		
4821	016542	000000	000000	000000
4822	016550	000000		
4823	016552	000000	000000	000000
4824	016560	000000		
4825	016562	047653	047644	
4826	016566	000000		
4827				
4828				
4829				
4830				
4831				
4832				
4833				
4834	016570	000004		
4835	016572	012705	016604	
4836	016576	004737	035434	
4837				
4838	016602	000423		
4839				
4840	016604			
4841	016604	000177	177777	177777
4842	016612	177777		
4843	016614	177777	177777	177777
4844	016622	177777		
4845	016624	000000	000000	000000
4846	016632	000000		
4847	016634	000000	000000	000000
4848	016642	000000		
4849	016644	047713	047704	
4850	016650	000000		
4851				
4852				
4853				
4854				
4855				
4856				
4857				
4858	016652	000004		
4859	016654	012705	016666	
4860	016660	004737	035434	

```

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

BR TST255 ;;

MD2D1: ; TEST DATA SET MD2D-1:
.WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER

.WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER

.WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT

.WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT

.WORD 047653,047644 ; FPS: BEFORE, AFTER
.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
; *
*****
TST255: SCOPE
MOV #MD2D2,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD2DT ; GO TEST

BR TST256 ;;

MD2D2: ; TEST DATA SET MD2D-2:
.WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER

.WORD LGN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER

.WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT

.WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT

.WORD 047713,047704 ; FPS: BEFORE, AFTER
.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
; *
*****
TST256: SCOPE
MOV #MD2D3,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD2DT ; GO TEST

```

```

4861
4862 016664 000423
4863
4864 016666
4865 016666 077777 177777 177777
4866 016674 177777
4867 016676 100177 177777 177777
4868 016704 177777
4869 016706 000000 000000 000000
4870 016714 000000
4871 016716 000000 000000 000000
4872 016724 000000
4873 016726 043653 043644
4874 016732 000000
4875
4876
4877
4878
4879
4880
4881
4882 016734 000004
4883 016736 012705 016750
4884 016742 004737 035434
4885
4886 016746 000423
4887
4888 016750
4889 016750 077777 177777 177777
4890 016756 177777
4891 016760 100177 177777 177777
4892 016766 177777
4893 016770 077777 177777 177777
4894 016776 177777
4895 017000 052525 177777 125252
4896 017006 000000
4897 017010 047713 147713
4898 017014 100014
4899
4900
4901
4902
4903
4904
4905
4906 017016 000004
4907 017020 012705 017032
4908 017024 004737 035434
4909
4910 017030 000423
4911
4912 017032
4913 017032 042177 000000 000000
4914 017040 000000
4915 017042 040200 000000 000000
4916 017050 000000

```

```

BR TST257 ;;
MD2D3: ; TEST DATA SET MD2D-3:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 043653,043644 ; FPS: BEFORE, AFTER
.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
*****
†ST257: SCOPE
MOV #MD2D4,R5 ; PTR TO TEST DATA SET
JSR PC,#MD2DT ; GO TEST
BR TST260 ;;
MD2D4: ; TEST DATA SET MD2D-4:
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGP,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD ALTP,M1,ALTN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047713,147713 ; FPS: BEFORE, AFTER
.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
*****
†ST260: SCOPE
MOV #MD2D5,R5 ; PTR TO TEST DATA SET
JSR PC,#MD2DT ; GO TEST
BR TST261 ;;
MD2D5: ; TEST DATA SET MD2D-5:
.WORD 042177,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER

```

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T260 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-5

4917	017052	000000	000000	000000	.WORD	0,0,0,0	; EXPECTED FRACTION-PART FLOAT RESULT
4918	017060	000000					
4919	017062	042177	000000	000000	.WORD	042177,0,0,0	; EXPECTED INTEGER-PART FLOAT RESULT
4920	017070	000000					
4921	017072	047613	047604		.WORD	047613,047604	; FPS: BEFORE, AFTER
4922	017076	000000			.WORD	NA	; FEC AFTER (0 = N/A)

4923
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4939
4940
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4945
4946
4947
4948
4949
4950
4951
4952
4953
4954
4955
4956
4957
4958
4959
4960
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4969
4970
4971
4972

```

*****
*TEST 261      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-6
*              ALL INTERRUPT ENABLES ON
*              LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST261: SCOPE
MOV      #MD2D6,R5      ; PTR TO TEST DATA SET
JSR      PC,@#MD2DT     ; GO TEST
BR       TST262        ;;

MD2D6: ; TEST DATA SET MD2D-6:
.WORD   F1N,0,0,0      ; INITIAL AC FLOAT NUMBER
.WORD   040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD   140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD   0,0,0,0       ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD   047747,047750 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST262: SCOPE
MOV      #MD2D7,R5      ; PTR TO TEST DATA SET
JSR      PC,@#MD2DT     ; GO TEST
BR       TST263        ;;

MD2D7: ; TEST DATA SET MD2D-7:
.WORD   042176,077600,0,0 ; INITIAL AC FLOAT NUMBER
.WORD   F1N,0,0,0        ; INITIAL MEM FLOAT NUMBER
.WORD   137777,0,0,0     ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD   142176,0,0,0     ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD   047607,047610    ; FPS: BEFORE, AFTER
.WORD   NA                ; FEC AFTER ( 0 = N/A )

```

I08

FPU ADVANCED INSTR TESTS
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MACY11 27(1006) 09-FEB-77 10:05 PAGE 101
T263 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-10

4973
4974
4975
4976
4977
4978 017244 000004
4979 017246 012705 017260
4980 017252 004737 035434
4981
4982 017256 000423
4983
4984 017260
4985 017260 142177 100000 000000
4986 017266 000000
4987 017270 040200 000000 000000
4988 017276 000000
4989 017300 140000 000000 000000
4990 017306 000000
4991 017310 142177 000000 000000
4992 017316 000000
4993 017320 047747 047750
4994 017324 000000
4995
4996
4997
4998
4999
5000
5001
5002 017326 000004
5003 017330 012705 017342
5004 017334 004737 035434
5005
5006 017340 000423
5007
5008 017342
5009 017342 140200 000000 000000
5010 017350 000000
5011 017352 140377 177777 177777
5012 017360 177777
5013 017362 040177 177777 177777
5014 017370 177776
5015 017372 040200 000000 000000
5016 017400 000000
5017 017402 047617 047600
5018 017406 000000
5019
5020
5021
5022
5023
5024
5025
5026 017410 000004
5027 017412 012705 017424
5028 017416 004737 035434

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

BR TST264 ;;

MD2D10: ; TEST DATA SET MD2D-10:
.WORD 142177,MO,0,0 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 140000,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 142177,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047747,047750 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

5002
5003
5004
5005
5006
5007
5008
5009
5010
5011
5012
5013
5014
5015
5016
5017
5018
5019
5020
5021
5022
5023
5024
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```
*****
*TEST 264 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-11
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST264: SCOPE
MOV #MD2D11,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD2DT ; GO TEST

BR TST265 ;;

MD2D11: ; TEST DATA SET MD2D-11:
.WORD F1N,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD F1P,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047617,047600 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

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

J08

FPU ADVANCED INSTR TESTS
DQFPBA.P11 09-FEB-77 10:02

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T265 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-12

```

5029
5030 017422 000423 BR TST266 ;;
5031
5032 017424 MD2D12: ; TEST DATA SET MD2D-12:
5033 017424 167452 125252 125252 .WORD 167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5034 017432 125252
5035 017434 112700 000000 000000 .WORD 112700,0,0,0 ; INITIAL MEM FLOAT NUMBER
5036 017442 000000
5037 017444 040177 177777 177777 .WORD 040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
5038 017452 177400
5039 017454 042177 000000 000000 .WORD 042177,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5040 017462 000000
5041 017464 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
5042 017470 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5043
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```

```

*****
; *TEST 266 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-13
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

5050 017472 000004 †TST266: SCOPE
5051 017474 012705 017506 MOV #MD2D13,R5 ; PTR TO TEST DATA SET
5052 017500 004737 035434 JSR PC,#MD2DT ; GO TEST
5053
5054 017504 000423 BR TST267 ;;
5055

```

```

5056 017506 MD2D13: ; TEST DATA SET MD2D-13:
5057 017506 041000 000000 000000 .WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
5058 017514 000001
5059 017516 037577 177777 177777 .WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5060 017524 177776
5061 017526 040177 177777 177777 .WORD 040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5062 017534 177777
5063 017536 040200 000000 000000 .WORD 040200,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5064 017544 000000
5065 017546 047657 047640 .WORD 047657,047640 ; FPS: BEFORE, AFTER
5066 017552 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5067
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```

```

*****
; *TEST 267 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

5070
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5074 017554 000004 †TST267: SCOPE
5075 017556 012705 017570 MOV #MD2D14,R5 ; PTR TO TEST DATA SET
5076 017562 004737 035434 JSR PC,#MD2DT ; GO TEST
5077
5078 017566 000423 BR TST270 ;;
5079

```

```

5080 017570 MD2D14: ; TEST DATA SET MD2D-14:
5081 017570 041000 000000 000000 .WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
5082 017576 000001
5083 017600 037577 177777 177777 .WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5084 017606 177776

```

FPU ADVANCED INSTR TESTS
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T267 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14

5085	017610	040200	000000	000000	.WORD	040200,0,0,0	; EXPECTED FRACTION-PART FLOAT RESULT
5086	017616	000000					
5087	017620	040200	000000	000000	.WORD	040200,0,0,0	; EXPECTED INTEGER-PART FLOAT RESULT
5088	017626	000000					
5089	017630	047617	047600		.WORD	047617,047600	; FPS: BEFORE, AFTER
5090	017634	000000			.WORD	NA	; FEC AFTER (0 = N/A)

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```

*****
;TEST 270 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-15
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

TST270: SCOPE
MOV #MD2D15,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2DT ; GO TEST
BR TST271 ;;

```

```

MD2D15: ; TEST DATA SET MD2D-15:
.WORD 140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
.WORD 077600,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 100052,AN,AN,AN ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047651,147646 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER ( 0 = N/A )

```

```

*****
;TEST 271 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-16
;
; OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST271: SCOPE
MOV #MD2D16,R5 ; PTR TO TEST DATA SET
JSR PC,@MD2DT ; GO TEST
BR TST272 ;;

```

```

MD2D16: ; TEST DATA SET MD2D-16:
.WORD 140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
.WORD 077600,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 046751,046746 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

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.....
*TEST 272      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-17
*              ALL INTERRUPT ENABLES ON
*              LONG FLOAT, SHORT INTEGER, ROUND MODES
*              .....
TST272: SCOPE
```

```
MOV      #MD2D17,R5      ; PTR TO TEST DATA SET
JSR      PC,@MD2DT      ; GO TEST
BR       TST273        ;;
```

```
MD2D17: ; TEST DATA SET MD2D-17:
.WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
.WORD   042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD   0,0,0,0        ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD   047617,147600  ; FPS: BEFORE, AFTER
.WORD   100012         ; FEC AFTER ( 0 = N/A )
```

```
.....
*TEST 273      TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-20
*              UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
*              LONG FLOAT, LONG INTEGER, ROUND MODES
*              .....
TST273: SCOPE
```

```
MOV      #MD2D20,R5      ; PTR TO TEST DATA SET
JSR      PC,@MD2DT      ; GO TEST
BR       TST274        ;;
```

```
MD2D20: ; TEST DATA SET MD2D-20:
.WORD   101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD   101000,0,0,0    ; INITIAL MEM FLOAT NUMBER
.WORD   0,0,0,0        ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD   0,0,0,0        ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD   045713,045704  ; FPS: BEFORE, AFTER
.WORD   NA              ; FEC AFTER ( 0 = N/A )
```


M08

FPU ADVANCED INSTR TESTS
DQFP8A.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 105
T274 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-1

5189			
5190			
5191			
5192			
5193			
5194	020146	000004	
5195	020150	012705	020162
5196	020154	004737	035676
5197			
5198	020160	000413	
5199			
5200	020162		
5201	020162	000000	000000
5202	020166	000000	000000
5203	020172	000000	000000
5204	020176	052525	177777
5205	020202	047513	047504
5206	020206	000000	
5207			
5208			
5209			
5210			
5211			
5212			
5213			
5214	020210	000004	
5215	020212	012705	020224
5216	020216	004737	035676
5217			
5218	020222	000413	
5219			
5220	020224		
5221	020224	000177	177777
5222	020230	077777	177777
5223	020234	000000	000000
5224	020240	052525	177777
5225	020244	047553	047544
5226	020250	000000	
5227			
5228			
5229			
5230			
5231			
5232			
5233			
5234	020252	000004	
5235	020254	012705	020266
5236	020260	004737	035676
5237			
5238	020264	000413	
5239			
5240	020266		
5241	020266	177777	177777
5242	020272	100177	177777
5243	020276	000000	000000
5244	020302	052525	177777

```

*****
; TEST 274 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-1
; * ALL INTERRUPT ENABLES ON
; * SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST274: SCOPE
MOV #MDIF1,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST
BR TST275 ;;

MDIF1: ; TEST DATA SET MDIF-1:
.WORD 0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047513,047504 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
; TEST 275 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-2
; * ALL INTERRUPT ENABLES ON
; * SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST275: SCOPE
MOV #MDIF2,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST
BR TST276 ;;

MDIF2: ; TEST DATA SET MDIF-2:
.WORD ZXIMP,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047553,047544 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
; TEST 276 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-3
; * -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
; * SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST276: SCOPE
MOV #MDIF3,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST
BR TST277 ;;

MDIF3: ; TEST DATA SET MDIF-3:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZXIMN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT

```

5245 020306 043413 043404
5246 020312 000000

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

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5253

*TEST 277 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-4
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

5254 020314 000004
5255 020316 012705 020330
5256 020322 004737 035676

TST277: SCOPE
MOV #MDIF4,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST
BR TST300 ;

5257
5258 020326 000413
5259

MDIF4: ; TEST DATA SET MDIF-4:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047447,147447 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER (0 = N/A)

5260 020330
5261 020330 177777 177777
5262 020334 100177 177777
5263 020340 177777 177777
5264 020344 052525 177777
5265 020350 047447 147447
5266 020354 100014
5267
5268
5269

*TEST 300 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-5
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

5270
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5272
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5274 020356 000004
5275 020360 012705 020372
5276 020364 004737 035676

TST300: SCOPE
MOV #MDIF5,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST
BR TST301 ;

5277
5278 020370 000413
5279

MDIF5: ; TEST DATA SET MDIF-5:
.WORD 042177,0 ; INITIAL AC FLOAT NUMBER
.WORD FIN,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047553,047544 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

5280 020372
5281 020372 042177 000000
5282 020376 140200 000000
5283 020402 000000 000000
5284 020406 052525 177777
5285 020412 047553 047544
5286 020416 000000
5287
5288
5289

*TEST 301 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-6
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES

5290
5291
5292
5293

5294 020420 000004
5295 020422 012705 020434
5296 020426 004737 035676

TST301: SCOPE
MOV #MDIF6,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST
BR TST302 ;

5297
5298 020432 000413
5299

MDIF6: ; TEST DATA SET MDIF-6:

5300 020434

5301 020434 040200 000000
5302 020440 140177 177777
5303 020444 140177 177777
5304 020450 052525 177777
5305 020454 047507 047510
5306 020460 000000

.WORD F1P,0 ; INITIAL AC FLOAT NUMBER
.WORD 140177,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 140177,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

5307
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5313

*TEST 302 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-7
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

5314 020462 000004
5315 020464 012705 020476
5316 020470 004737 035676
5317
5318 020474 000413
5319

†ST302: SCOPE
MOV #MDIF7,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST

BR TST303 ;;

5320 020476
5321 020476 142176 077600
5322 020502 140200 000000
5323 020506 037777 000000
5324 020512 052525 177777
5325 020516 047457 047440
5326 020522 000000

MDIF7: ; TEST DATA SET MDIF-7:
.WORD 142176,077600 ; INITIAL AC FLOAT NUMBER
.WORD F1N,0 ; INITIAL MEM FLOAT NUMBER
.WORD 037777,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

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*TEST 303 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-10
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

5334 020524 000004
5335 020526 012705 020540
5336 020532 004737 035676
5337
5338 020536 000413
5339

†ST303: SCOPE
MOV #MDIF10,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST

BR TST304 ;;

5340 020540
5341 020540 042177 100000
5342 020544 040200 000000
5343 020550 040000 000000
5344 020554 052525 177777
5345 020560 047417 047400
5346 020564 000000

MDIF10: ; TEST DATA SET MDIF-10:
.WORD 042177,M0 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0 ; INITIAL MEM FLOAT NUMBER
.WORD 040000,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047417,047400 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

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*TEST 304 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-11
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

5354 020566 000004
5355 020570 012705 020602
5356 020574 004737 035676

†ST304: SCOPE
MOV #MDIF11,R5 ; PTR TO TEST DATA SET
JSR PC,#MDIFT ; GO TEST

5357
5358 020600 000413
5359
5360 020602
5361 020602 140200 000000
5362 020606 040377 177777
5363 020612 140177 177776
5364 020616 052525 177777
5365 020622 047547 047550
5366 020626 000000
5367
5368
5369
5370
5371
5372
5373
5374 020630 000004
5375 020632 012705 020644
5376 020636 004737 035676
5377
5378 020642 000413
5379
5380 020644
5381 020644 060452 125252
5382 020650 021700 000000
5383 020654 040177 177400
5384 020660 052525 177777
5385 020664 047517 047500
5386 020670 000000
5387
5388
5389
5390
5391
5392
5393
5394 020672 000004
5395 020674 012705 020706
5396 020700 004737 035676
5397
5398 020704 000413
5399
5400 020706
5401 020706 041000 000001
5402 020712 141377 177776
5403 020716 140177 177777
5404 020722 052525 177777
5405 020726 047547 047550
5406 020732 000000
5407
5408
5409
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5411
5412

```
BR      TST305      ;;
MDIF11: ; TEST DATA SET MDIF-11:
.WORD  FIN,0      ; INITIAL AC FLOAT NUMBER
.WORD  040377,M1  ; INITIAL MEM FLOAT NUMBER
.WORD  140177,M2  ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD  AP,M1      ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD  047547,047550 ; FPS: BEFORE, AFTER
.WORD  NA         ; FEC AFTER ( 0 = N/A )
```

```
*****
;TEST 305 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-12
;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
```

```
TST305: SCOPE
MOV      #MDIF12,R5 ; PTR TO TEST DATA SET
JSR      PC,2#MDIFT ; GO TEST
BR      TST306      ;;
```

```
MDIF12: ; TEST DATA SET MDIF-12:
.WORD  060452,ALTN ; INITIAL AC FLOAT NUMBER
.WORD  021700,0    ; INITIAL MEM FLOAT NUMBER
.WORD  040177,UB   ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD  AP,M1      ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD  047517,047500 ; FPS: BEFORE, AFTER
.WORD  NA         ; FEC AFTER ( 0 = N/A )
```

```
*****
;TEST 306 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-13
;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
```

```
TST306: SCOPE
MOV      #MDIF13,R5 ; PTR TO TEST DATA SET
JSR      PC,2#MDIFT ; GO TEST
BR      TST307      ;;
```

```
MDIF13: ; TEST DATA SET MDIF-13:
.WORD  041000,000001 ; INITIAL AC FLOAT NUMBER
.WORD  141377,M2     ; INITIAL MEM FLOAT NUMBER
.WORD  140177,M1     ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD  AP,M1        ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD  047547,047550 ; FPS: BEFORE, AFTER
.WORD  NA           ; FEC AFTER ( 0 = N/A )
```

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

5413
 5414 020734 000004
 5415 020736 012705 020750
 5416 020742 004737 035676
 5417
 5418 020746 000413
 5419
 5420 020750
 5421 020750 041000 000001
 5422 020754 141377 177776
 5423 020760 140200 000000
 5424 020764 052525 177777
 5425 020770 047507 047510
 5426 020774 000000
 5427
 5428
 5429
 5430
 5431
 5432
 5433
 5434 020776 000004
 5435 021000 012705 021012
 5436 021004 004737 035676
 5437
 5438 021010 000413
 5439
 5440 021012
 5441 021012 077600 000000
 5442 021016 040452 125252
 5443 021022 000000 000000
 5444 021026 052525 177777
 5445 021032 047411 147406
 5446 021036 100010
 5447
 5448
 5449
 5450
 5451
 5452
 5453
 5454 021040 000004
 5455 021042 012705 021054
 5456 021046 004737 035676
 5457
 5458 021052 000413
 5459
 5460 021054
 5461 021054 077600 000000
 5462 021060 040452 125252
 5463 021064 000000 000000
 5464 021070 052525 177777
 5465 021074 046411 046406
 5466 021100 000000
 5467
 5468

```

†ST307: SCOPE
MOV #MDIF14,R5 ; PTR TO TEST DATA SET
JSR PC,2#MD1FT ; GO TEST

BR TST310 ;;

```

```

MDIF14: ; TEST DATA SET MDIF-14:
.WORD 041000,000001 ; INITIAL AC FLOAT NUMBER
.WORD 141377,M2 ; INITIAL MEM FLOAT NUMBER
.WORD 140200,000000 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*TEST 310 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-15
*
* ALL INTERRUPT ENABLES ON
*
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

```

```

†ST310: SCOPE
MOV #MDIF15,R5 ; PTR TO TEST DATA SET
JSR PC,2#MD1FT ; GO TEST

BR TST311 ;;

```

```

MDIF15: ; TEST DATA SET MDIF-15:
.WORD 077600,0 ; INITIAL AC FLOAT NUMBER
.WORD 040452,ALTN ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047411,147406 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER ( 0 = N/A )

```

```

*TEST 311 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-16
*
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
*
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

```

```

†ST311: SCOPE
MOV #MDIF16,R5 ; PTR TO TEST DATA SET
JSR PC,2#MD1FT ; GO TEST

BR TST312 ;;

```

```

MDIF16: ; TEST DATA SET MDIF-16:
.WORD 077600,0 ; INITIAL AC FLOAT NUMBER
.WORD 040452,ALTN ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 046411,046406 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

5469
5470
5471
5472
5473
5474 021102 000004
5475 021104 012705 021116
5476 021110 004737 035676
5477
5478 021114 000413
5479
5480 021116
5481 021116 001577 177777
5482 021122 101000 000000
5483 021126 142377 177777
5484 021132 052525 177777
5485 021136 047547 147550
5486 021142 100012
5487
5488
5489
5490
5491
5492
5493
5494 021144 000004
5495 021146 012705 021160
5496 021152 004737 035676
5497
5498 021156 000413
5499
5500 021160
5501 021160 001577 177777
5502 021164 101000 000000
5503 021170 000000 000000
5504 021174 052525 177777
5505 021200 045553 045544
5506 021204 000000
5507
5508
5509

```

```

*****
*TEST 312 TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-17
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

†TST312: SCOPE
MOV #MD1F17,R5 ; PTR TO TEST DATA SET
JSR PC,#MD1FT ; GO TEST
BR TST313 ;;

```

```

MD1F17: ; TEST DATA SET MD1F-17:
.WORD 001577,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,0 ; INITIAL MEM FLOAT NUMBER
.WORD 142377,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047547,147550 ; FPS: BEFORE, AFTER
.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
*****

```

```

†TST313: SCOPE
MOV #MD1F20,R5 ; PTR TO TEST DATA SET
JSR PC,#MD1FT ; GO TEST
BR TST314 ;;

```

```

MD1F20: ; TEST DATA SET MD1F-20:
.WORD 001577,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 045553,045544 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

F09

FPU ADVANCED INSTR TESTS
 DQFPBA.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 111
 T314 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-1

```

5510
5511
5512
5513
5514
5515 021206 000004
5516 021210 012705 021222
5517 021214 004737 036100
5518
5519 021220 000423
5520
5521 021222
5522 021222 000000 000000 000000
5523 021230 000000
5524 021232 000000 000000 000000
5525 021240 000000
5526 021242 000000 000000 000000
5527 021250 000000
5528 021252 052525 177777 125252
5529 021260 000000
5530 021262 047653 047644
5531 021266 000000
5532
5533
5534
5535
5536
5537
5538
5539 021270 000004
5540 021272 012705 021304
5541 021276 004737 036100
5542
5543 021302 000423
5544
5545 021304
5546 021304 000177 177777 177777
5547 021312 177777
5548 021314 177777 177777 177777
5549 021322 177777
5550 021324 000000 000000 000000
5551 021332 000000
5552 021334 052525 177777 125252
5553 021342 000000
5554 021344 047713 047704
5555 021350 000000
5556
5557
5558
5559
5560
5561
5562
5563 021352 000004
5564 021354 012705 021366
5565 021360 004737 036100

```

```

*****
; *TEST 314 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-1
; *
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
; *
*****
†T314: SCOPE
MOV #MD1D1,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD1DT ; GO TEST

BR TST315 ;;

MD1D1: ; TEST DATA SET MD1D-1:
.WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; 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 047653,047644 ; FPS: BEFORE, AFTER
.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
; *
*****
†T315: SCOPE
MOV #MD1D2,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD1DT ; GO TEST

BR TST316 ;;

MD1D2: ; TEST DATA SET MD1D-2:
.WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1,M1,M1 ; 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 047713,047704 ; FPS: BEFORE, AFTER
.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
; *
*****
†T316: SCOPE
MOV #MD1D3,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD1DT ; GO TEST

```

```

5566
5567 021364 000423 BR TST317 ;;
5568
5569 021366 MD1D3: ; TEST DATA SET MD1D-3:
5570 021366 077777 177777 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
5571 021374 177777
5572 021376 100177 177777 177777 .WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
5573 021404 177777
5574 021406 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5575 021414 000000
5576 021416 052525 177777 125252 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5577 021424 000000
5578 021426 043653 043644 .WORD 043653,043644 ; FPS: BEFORE, AFTER
5579 021432 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5580
5581

```

```

*****
; TEST 317 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-4
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

5582
5583
5584
5585
5586
5587 021434 000004 †ST317: SCOPE
5588 021436 012705 021450 MOV #MD1D4,R5 ; PTR TO TEST DATA SET
5589 021442 004737 036100 JSR PC,@#MD1DT ; GO TEST
5590
5591 021446 000423 BR TST320 ;;
5592
5593 021450 MD1D4: ; TEST DATA SET MD1D-4:
5594 021450 077777 177777 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
5595 021456 177777
5596 021460 100177 177777 177777 .WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
5597 021466 177777
5598 021470 077777 177777 177777 .WORD LGP,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5599 021476 177777
5600 021500 052525 177777 125252 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5601 021506 000000
5602 021510 047713 147713 .WORD 047713,147713 ; FPS: BEFORE, AFTER
5603 021514 100014 .WORD 100014 ; FEC AFTER ( 0 = N/A )
5604
5605

```

```

*****
; TEST 320 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-5
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

5606
5607
5608
5609
5610
5611 021516 000004 †ST320: SCOPE
5612 021520 012705 021532 MOV #MD1D5,R5 ; PTR TO TEST DATA SET
5613 021524 004737 036100 JSR PC,@#MD1DT ; GO TEST
5614
5615 021530 000423 BR TST321 ;;
5616
5617 021532 MD1D5: ; TEST DATA SET MD1D-5:
5618 021532 042177 000000 000000 .WORD 042177,0,0,0 ; INITIAL AC FLOAT NUMBER
5619 021540 000000
5620 021542 040200 000000 000000 .WORD F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER
5621 021550 000000

```


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T320 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-5

5622	021552	000000	000000	000000	.WORD	0,0,0,0	; EXPECTED FRACTION-PART FLOAT RESULT
5623	021560	000000					
5624	021562	052525	177777	125252	.WORD	AP,M1,AN,0	; EXPECTED INTEGER-PART FLOAT RESULT
5625	021570	000000					
5626	021572	047613	047604		.WORD	047613,047604	; FPS: BEFORE, AFTER
5627	021576	000000			.WORD	NA	; FEC AFTER (0 = N/A)

```

5628
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5657
5658

```

```

*****
*TEST 321 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-6
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST321: SCOPE
MOV #MD1D6,R5 ; PTR TO TEST DATA SET
JSR PC,@MD1DT ; GO TEST
BR TST322 ;;

```

```

MD1D6: ; TEST DATA SET MD1D-6:
.WORD FIN,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047747,047750 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

5635	021600	000004					
5636	021602	012705	021614				
5637	021606	004737	036100				
5638							
5639	021612	000423					
5640							
5641	021614						
5642	021614	140200	000000	000000			
5643	021622	000000					
5644	021624	040177	177777	177777			
5645	021632	177777					
5646	021634	140177	177777	177777			
5647	021642	177777					
5648	021644	052525	177777	125252			
5649	021652	000000					
5650	021654	047747	047750				
5651	021660	000000					

```

*****
*TEST 322 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-7
*
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST322: SCOPE
MOV #MD1D7,R5 ; PTR TO TEST DATA SET
JSR PC,@MD1DT ; GO TEST
BR TST323 ;;

```

```

MD1D7: ; TEST DATA SET MD1D-7:
.WORD 042176,077600,0,0 ; INITIAL AC FLOAT NUMBER
.WORD FIN,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 137777,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047607,047610 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

5659	021662	000004					
5660	021664	012705	021676				
5661	021670	004737	036100				
5662							
5663	021674	000423					
5664							
5665	021676						
5666	021676	042176	077600	000000			
5667	021704	000000					
5668	021706	140200	000000	000000			
5669	021714	000000					
5670	021716	137777	000000	000000			
5671	021724	000000					
5672	021726	052525	177777	125252			
5673	021734	000000					
5674	021736	047607	047610				
5675	021742	000000					

5676
5677

```

5678
5679
5680
5681
5682
5683 021744 000004
5684 021746 012705 021760
5685 021752 004737 036100
5686
5687 021756 000423
5688
5689 021760
5690 021760 142177 100000 000000
5691 021766 000000
5692 021770 040200 000000 000000
5693 021776 000000
5694 022000 140000 000000 000000
5695 022006 000000
5696 022010 052525 177777 125252
5697 022016 000000
5698 022020 047747 047750
5699 022024 000000

```

```

*****
: *TEST 323 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-10
: *
: * ALL INTERRUPT ENABLES ON
: * LONG FLOAT, LONG INTEGER, TRUNCATE MODES
: *
*****

```

```

†ST323: SCOPE
MOV #MD1D10,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD1DT ; GO TEST
BR TST324 ;;

```

```

MD1D10: ; TEST DATA SET MD1D-10:
.WORD 142177,MD,0,0 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 140000,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047747,047750 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

5700
5701
5702
5703
5704
5705
5706
5707 022026 000004
5708 022030 012705 022042
5709 022034 004737 036100
5710
5711 022040 000423
5712
5713 022042
5714 022042 140200 000000 000000
5715 022050 000000
5716 022052 140377 177777 177777
5717 022060 177777
5718 022062 040177 177777 177777
5719 022070 177776
5720 022072 052525 177777 125252
5721 022100 000000
5722 022102 047617 047600
5723 022106 000000

```

```

*****
: *TEST 324 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-11
: *
: * ALL INTERRUPT ENABLES ON
: * LONG FLOAT, SHORT INTEGER, ROUND MODES
: *
*****

```

```

†ST324: SCOPE
MOV #MD1D11,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD1DT ; GO TEST
BR TST325 ;;

```

```

MD1D11: ; TEST DATA SET MD1D-11:
.WORD F1N,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 040177,M1,M1,M2 ; 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 )

```

```

5724
5725
5726
5727
5728
5729
5730
5731 022110 000004
5732 022112 012705 022124
5733 022116 004737 036100

```

```

*****
: *TEST 325 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-12
: *
: * ALL INTERRUPT ENABLES ON
: * LONG FLOAT, LONG INTEGER, TRUNCATE MODES
: *
*****

```

```

†ST325: SCOPE
MOV #MD1D12,R5 ; PTR TO TEST DATA SET
JSR PC,@#MD1DT ; GO TEST

```

```

5734
5735 022122 000423          BR      TST326          ;;
5736
5737 022124          MD1D12: ; TEST DATA SET MD1D-12:
5738 022124 167452 125252 125252 .WORD 167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5739 022132 125252
5740 022134 112700 000000 000000 .WORD 112700,0,0,0 ; INITIAL MEM FLOAT NUMBER
5741 022142 000000
5742 022144 040177 177777 177777 .WORD 040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
5743 022152 177400
5744 022154 052525 177777 125252 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5745 022162 000000
5746 022164 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
5747 022170 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5748
5749

```

```

*****
: *TEST 326 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-13
: *
: * ALL INTERRUPT ENABLES ON
: * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
: *
*****

```

```

5750
5751
5752
5753
5754
5755 022172 000004          †TST326: SCOPE
5756 022174 012705 022206      MOV     #MD1D13,R5 ; PTR TO TEST DATA SET
5757 022200 004737 036100      JSR     PC,#MD1DT ; GO TEST
5758
5759 022204 000423          BR      TST327          ;;
5760

```

```

5761 022206          MD1D13: ; TEST DATA SET MD1D-13:
5762 022206 041000 000000 000000 .WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
5763 022214 000001
5764 022216 037577 177777 177777 .WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5765 022224 177776
5766 022226 040177 177777 177777 .WORD 040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5767 022234 177777
5768 022236 052525 177777 125252 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5769 022244 000000
5770 022246 047657 047640 .WORD 047657,047640 ; FPS: BEFORE, AFTER
5771 022252 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5772
5773

```

```

*****
: *TEST 327 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-14
: *
: * ALL INTERRUPT ENABLES ON
: * LONG FLOAT, SHORT INTEGER, ROUND MODES
: *
*****

```

```

5774
5775
5776
5777
5778
5779 022254 000004          †TST327: SCOPE
5780 022256 012705 022270      MOV     #MD1D14,R5 ; PTR TO TEST DATA SET
5781 022262 004737 036100      JSR     PC,#MD1DT ; GO TEST
5782
5783 022266 000423          BR      TST330          ;;
5784

```

```

5785 022270          MD1D14: ; TEST DATA SET MD1D-14:
5786 022270 041000 000000 000000 .WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
5787 022276 000001
5788 022300 037577 177777 177777 .WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5789 022306 177776

```

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T327 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-14

5790	022310	040200	000000	000000	.WORD	040200,0,0,0	; EXPECTED FRACTION-PART FLOAT RESULT
5791	022316	000000					
5792	022320	052525	177777	125252	.WORD	AP,M1,AN,0	; EXPECTED INTEGER-PART FLOAT RESULT
5793	022326	000000					
5794	022330	047617	047600		.WORD	047617,047600	; FPS: BEFORE, AFTER
5795	022334	000000			.WORD	NA	; FEC AFTER (0 = N/A)

```

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5805
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```

```

*****
*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,ALTN,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,ALTN,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 )

```

```

5846
5847
5848
5849
5850
5851 022502 000004
5852 022504 012705 022516
5853 022510 004737 036100
5854
5855 022514 000423
5856
5857 022516
5858 022516 101577 177777 177777
5859 022524 177777
5860 022526 101000 000000 000000
5861 022534 000000
5862 022536 042377 177777 177777
5863 022544 177777
5864 022546 052525 177777 125252
5865 022554 000000
5866 022556 047617 147600
5867 022562 100012
5868
5869
5870
5871
5872
5873
5874
5875 022564 000004
5876 022566 012705 022600
5877 022572 004737 036100
5878
5879 022576 000423
5880
5881 022600
5882 022600 101577 177777 177777
5883 022606 177777
5884 022610 101000 000000 000000
5885 022616 000000
5886 022620 000000 000000 000000
5887 022626 000000
5888 022630 052525 177777 125252
5889 022636 000000
5890 022640 045713 045704
5891 022644 000000
5892
5893

```

```

*****
; TEST 332 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-17
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST332: SCOPE
MOV #MD1D17,R5 ; PTR TO TEST DATA SET
JSR PC,@MD1DT ; GO TEST
BR TST333 ;;

MD1D17: ; TEST DATA SET MD1D-17:
.WORD 101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
.WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
.WORD 047617,147600 ; FPS: BEFORE, AFTER
.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
*****
TST333: SCOPE
MOV #MD1D20,R5 ; PTR TO TEST DATA SET
JSR PC,@MD1DT ; GO TEST
BR TST334 ;;

MD1D20: ; TEST DATA SET MD1D-20:
.WORD 101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,0,0,0 ; 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 045713,045704 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

5894
5895
5896
5897
5898
5899 022646 000004
5900 022650 012705 022662
5901 022654 004737 036342
5902
5903 022660 000411
5904
5905 022662
5906 022662 000000 000000 000000
5907 022670 000000
5908 022672 000000 000000
5909 022676 047413 047404
5910 022702 000000
5911
5912
5913
5914
5915
5916
5917
5918 022704 000004
5919 022706 012705 022720
5920 022712 004737 036342
5921
5922 022716 000411
5923
5924 022720
5925 022720 100177 177777 177777
5926 022726 177777
5927 022730 052525 177777
5928 022734 047503 147514
5929 022740 100014
5930
5931
5932
5933
5934
5935
5936
5937 022742 000004
5938 022744 012705 022756
5939 022750 004737 036342
5940
5941 022754 000411
5942
5943 022756
5944 022756 000177 177777 177777
5945 022764 177777
5946 022766 000000 000000
5947 022772 047453 047444
5948 022776 000000
5949

```

```

*****
*TEST 334 TEST OF LCDF INSTR, DATA SET LCDF-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST334: SCOPE
MOV #LCDF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDFT ; GO TEST
BR TST335 ;;

LCDF1: ; TEST DATA SET LCDF-1:
.WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047413,047404 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

*****
*TEST 335 TEST OF LCDF INSTR, DATA SET LCDF-2
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST335: SCOPE
MOV #LCDF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDFT ; GO TEST
BR TST336 ;;

LCDF2: ; TEST DATA SET LCDF-2:
.WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD ALTP,M1 ; EXPECTED FLOAT RESULT
.WORD 047503,147514 ; FPS: BEFORE, AFTER
.WORD 100014 ; FEC AFTER ( 0 = N/A )

*****
*TEST 336 TEST OF LCDF INSTR, DATA SET LCDF-3
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST336: SCOPE
MOV #LCDF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDFT ; GO TEST
BR TST337 ;;

LCDF3: ; TEST DATA SET LCDF-3:
.WORD ZX1MP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047453,047444 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

5950
5951
5952
5953
5954
5955
5956 023000 000004
5957 023002 012705 023014
5958 023006 004737 036342
5959
5960 023012 000411
5961
5962 023014
5963 023014 040200 000000 000000
5964 023022 000000
5965 023024 040200 000000
5966 023030 047557 047540
5967 023034 000000
5968
5969
5970
5971
5972
5973
5974
5975 023036 000004
5976 023040 012705 023052
5977 023044 004737 036342
5978
5979 023050 000411
5980
5981 023052
5982 023052 140200 000000 100000
5983 023060 000000
5984 023062 140200 000001
5985 023066 047407 047410
5986 023072 000000
5987
5988
5989
5990
5991
5992
5993
5994 023074 000004
5995 023076 012705 023110
5996 023102 004737 036342
5997
5998 023106 000411
5999
6000 023110
6001 023110 140200 000000 100000
6002 023116 000000
6003 023120 140200 000000
6004 023124 047447 047450
6005 023130 000000

```

*****
*TEST 337 TEST OF LCDF INSTR, DATA SET LCDF-4
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST337: SCOPE
MOV #LCDF4,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF4 ; GO TEST
BR TST340 ;;

```

```

LCDF4: ; TEST DATA SET LCDF-4:
.WORD F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER
.WORD F1P,0 ; EXPECTED FLOAT RESULT
.WORD 047557,047540 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 340 TEST OF LCDF INSTR, DATA SET LCDF-5
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST340: SCOPE
MOV #LCDF5,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF5 ; GO TEST
BR TST341 ;;

```

```

LCDF5: ; TEST DATA SET LCDF-5:
.WORD F1N,0,M0,0 ; INITIAL MEM FLOAT NUMBER
.WORD F1N,1 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 341 TEST OF LCDF INSTR, DATA SET LCDF-6
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

TST341: SCOPE
MOV #LCDF6,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF6 ; GO TEST
BR TST342 ;;

```

```

LCDF6: ; TEST DATA SET LCDF-6:
.WORD F1N,0,M0,0 ; INITIAL MEM FLOAT NUMBER
.WORD F1N,0 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

6006
6007
6008
6009
6010
6011
6012
6013 023132 000004
6014 023134 012705 023146
6015 023140 004737 036342
6016
6017 023144 000411
6018
6019 023146
6020 023146 077777 177777 177777
6021 023154 177777
6022 023156 000000 000000
6023 023162 047511 147506
6024 023166 100010
6025
6026
6027
6028
6029
6030
6031
6032 023170 000004
6033 023172 012705 023204
6034 023176 004737 036342
6035
6036 023202 000411
6037
6038 023204
6039 023204 077777 177777 177777
6040 023212 177777
6041 023214 077777 177777
6042 023220 047557 047540
6043 023224 000000
6044
6045
6046
6047
6048
6049
6050
6051 023226 000004
6052 023230 012705 023242
6053 023234 004737 036342
6054
6055 023240 000411
6056
6057 023242
6058 023242 121177 177777 100000
6059 023250 000000
6060 023252 121200 000000
6061 023256 047407 047410

```

*****
*TEST 342 TEST OF LCDF INSTR, DATA SET LCDF-7
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

†ST342: SCOPE
MOV #LCDF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF7 ; GO TEST
BR TST343 ;;

LCDF7: ; TEST DATA SET LCDF-7:
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047511,147506 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 343 TEST OF LCDF INSTR, DATA SET LCDF-10
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

†ST343: SCOPE
MOV #LCDF10,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF10 ; GO TEST
BR TST344 ;;

LCDF10: ; TEST DATA SET LCDF-10:
.WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGP,M1 ; EXPECTED FLOAT RESULT
.WORD 047557,047540 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
*TEST 344 TEST OF LCDF INSTR, DATA SET LCDF-11
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

†ST344: SCOPE
MOV #LCDF11,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF11 ; GO TEST
BR TST345 ;;

LCDF11: ; TEST DATA SET LCDF-11:
.WORD 121177,M1,M0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 121200,0 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER

```



```

6062 023262 000000
6063
6064
6065
6066
6067
6068
6069
6070 023264 000004
6071 023266 012705 023300
6072 023272 004737 036342
6073
6074 023276 000411
6075
6076 023300
6077 023300 121177 177777 100000
6078 023306 000000
6079 023310 121177 177777
6080 023314 047447 047450
6081 023320 000000
6082
6083
6084
6085
6086
6087
6088
6089 023322 000004
6090 023324 012705 023336
6091 023330 004737 036342
6092
6093 023334 000411
6094
6095 023336
6096 023336 040200 000000 077777
6097 023344 177777
6098 023346 040200 000000
6099 023352 047517 047500
6100 023356 000000
6101
6102
6103
6104
6105
6106
6107
6108 023360 000004
6109 023362 012705 023374
6110 023366 004737 036342
6111
6112 023372 000411
6113
6114 023374
6115 023374 040200 000000 077777
6116 023402 177777
6117 023404 040200 000000

```

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

```

*****
;TEST 345 TEST OF LCDF INSTR, DATA SET LCDF-12
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

†TST345: SCOPE
MOV #LCDF12,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF12 ; GO TEST
BR TST346 ;;

```

```

LCDF12: ; TEST DATA SET LCDF-12:
.WORD 121177,M1,MO,0 ; INITIAL MEM FLOAT NUMBER
.WORD 121177,M1 ; EXPECTED FLOAT RESULT
.WORD 047447,047450 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
;TEST 346 TEST OF LCDF INSTR, DATA SET LCDF-13
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

†TST346: SCOPE
MOV #LCDF13,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF13 ; GO TEST
BR TST347 ;;

```

```

LCDF13: ; TEST DATA SET LCDF-13:
.WORD F1P,0,LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD F1P,0 ; EXPECTED FLOAT RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

*****
;TEST 347 TEST OF LCDF INSTR, DATA SET LCDF-14
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

†TST347: SCOPE
MOV #LCDF14,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCDF14 ; GO TEST
BR TST350 ;;

```

```

LCDF14: ; TEST DATA SET LCDF-14:
.WORD F1P,0,LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD F1P,0 ; EXPECTED FLOAT RESULT

```

6118 023410 047557 047540
6119 023414 000000

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

6120
6121
6122
6123
6124
6125
6126

*TEST 350 TEST OF LCDF INSTR, DATA SET LCDF-15
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES

6127 023416 000004
6128 023420 012705 023432
6129 023424 004737 036342

TST350: SCOPE
MOV #LCDF15,R5 ; PTR TO TEST DATA SET
JSR PC,#LCDF15 ; GO TEST

6130
6131 023430 000411

BR TST351 ;;

6132
6133 023432
6134 023432 177777 177777 100000

LCDF15: ; TEST DATA SET LCDF-15:
.WORD LGN,M1,MO,0 ; INITIAL MEM FLOAT NUMBER

6135 023440 000000
6136 023442 000000 000000
6137 023446 046511 046506
6138 023452 000000

.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 046511,046506 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

6139
6140
6141
6142
6143
6144
6145

*TEST 351 TEST OF LCDF INSTR, DATA SET LCDF-16
* -O INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

6146 023454 000004
6147 023456 012705 023470
6148 023462 004737 036342

TST351: SCOPE
MOV #LCDF16,R5 ; PTR TO TEST DATA SET
JSR PC,#LCDF16 ; GO TEST

6149
6150 023466 000411

BR TST352 ;;

6151
6152 023470
6153 023470 100000 177777 177777

LCDF16: ; TEST DATA SET LCDF-16:
.WORD MO,M1,M1,0 ; INITIAL MEM FLOAT NUMBER

6154 023476 000000
6155 023500 000000 000000
6156 023504 043453 043444
6157 023510 000000

.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 043453,043444 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

6158
6159
6160

E10

FPU ADVANCED INSTR TESTS
DQFPBA.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 123
T352 TEST OF LDCFD INSTR, DATA SET LCFD-1

6161				
6162				
6163				
6164				
6165				
6166	023512	000004		
6167	023514	012705	023526	
6168	023520	004737	036512	
6169				
6170	023524	000411		
6171				
6172	023526			
6173	023526	100000	000000	
6174	023532	052525	177777	125252
6175	023540	000000		
6176	023542	047643	147654	
6177	023546	100014		
6178				
6179				
6180				
6181				
6182				
6183				
6184				
6185	023550	000004		
6186	023552	012705	023564	
6187	023556	004737	036512	
6188				
6189	023562	000411		
6190				
6191	023564			
6192	023564	125252	125252	
6193	023570	125252	125252	000000
6194	023576	000000		
6195	023600	047607	047610	
6196	023604	000000		
6197				
6198				
6199				
6200				
6201				
6202				
6203				
6204	023606	000004		
6205	023610	012705	023622	
6206	023614	004737	036512	
6207				
6208	023620	000411		
6209				
6210	023622			
6211	023622	000000	000000	
6212	023626	000000	000000	000000
6213	023634	000000		
6214	023636	047753	047744	
6215	023642	000000		
6216				

```
*****  
*TEST 352 TEST OF LDCFD INSTR, DATA SET LCFD-1  
* ALL INTERRUPT ENABLES ON  
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****
```

```
TST352: SCOPE  
MOV #LCFD1,R5 ; PTR TO TEST DATA SET  
JSR PC,@#LCFDT ; GO TEST  
BR TST353 ;;
```

```
LCFD1: ; TEST DATA SET LCFD-1:  
.WORD MO,0 ; INITIAL MEM FLOAT NUMBER  
.WORD ALTP,M1,ALTN,0 ; EXPECTED FLOAT RESULT  
.WORD 047643,147654 ; FPS: BEFORE, AFTER  
.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  
*****
```

```
TST353: SCOPE  
MOV #LCFD2,R5 ; PTR TO TEST DATA SET  
JSR PC,@#LCFDT ; GO TEST  
BR TST354 ;;
```

```
LCFD2: ; TEST DATA SET LCFD-2:  
.WORD ALTN,ALTN ; INITIAL MEM FLOAT NUMBER  
.WORD ALTN,ALTN,0,0 ; EXPECTED FLOAT RESULT  
.WORD 047607,047610 ; FPS: BEFORE, AFTER  
.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  
*****
```

```
TST354: SCOPE  
MOV #LCFD3,R5 ; PTR TO TEST DATA SET  
JSR PC,@#LCFDT ; GO TEST  
BR TST355 ;;
```

```
LCFD3: ; TEST DATA SET LCFD-3:  
.WORD 0,0 ; INITIAL MEM FLOAT NUMBER  
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT  
.WORD 047753,047744 ; FPS: BEFORE, AFTER  
.WORD NA ; FEC AFTER ( 0 = N/A )
```

F10

FPU ADVANCED INSTR TESTS
DQFP8A.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 124
T354 TEST OF LDCFD INSTR, DATA SET LCFD-3

6217
6218
6219
6220
6221
6222
6223 023644 000004
6224 023646 012705 023660
6225 023652 004737 036512
6226
6227 023656 000411
6228
6229 023660
6230 023660 077777 177777
6231 023664 077777 177777 000000
6232 023672 000000
6233 023674 047717 047700
6234 023700 000000
6235
6236
6237
6238
6239
6240
6241
6242 023702 000004
6243 023704 012705 023716
6244 023710 004737 036512
6245
6246 023714 000411
6247
6248 023716
6249 023716 000177 177777
6250 023722 000000 000000 000000
6251 023730 000000
6252 023732 047653 047644
6253 023736 000000
6254
6255
6256
6257
6258
6259
6260
6261 023740 000004
6262 023742 012705 023754
6263 023746 004737 036512
6264
6265 023752 000411
6266
6267 023754
6268 023754 177777 177777
6269 023760 177777 177777 000000
6270 023766 000000
6271 023770 047607 047610
6272 023774 000000

```

*****
*TEST 355 TEST OF LDCFD INSTR, DATA SET LCFD-4
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

†ST355: SCOPE
MOV #LCFD4,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCFDT ; GO TEST
BR TST356 ;;

```

```

LCFD4: ; TEST DATA SET LCFD-4:
.WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGP,M1,0,0 ; EXPECTED FLOAT RESULT
.WORD 047717,047700 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST356: SCOPE
MOV #LCFD5,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCFDT ; GO TEST
BR TST357 ;;

```

```

LCFD5: ; TEST DATA SET LCFD-5:
.WORD ZXIMP,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD 047653,047644 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST357: SCOPE
MOV #LCFD6,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCFDT ; GO TEST
BR TST360 ;;

```

```

LCFD6: ; TEST DATA SET LCFD-6:
.WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
.WORD LGN,M1,0,0 ; EXPECTED FLOAT RESULT
.WORD 047607,047610 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

G10

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T357 TEST OF LDCFD INSTR, DATA SET LCFD-6

6273
6274
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6280
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6283
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6289
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6291
6292
6293
6294
6295
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6297
6298
6299
6300
6301
6302
6303
6304
6305
6306
6307
6308
6309
6310
6311
6312
6313

023776 000004
024000 012705 024012
024004 004737 036512

024010 000411

024012
024012 100177 177777
024016 000000 000000 000000
024024 000000
024026 043753 043744
024032 000000

024034 000004
024036 012705 024050
024042 004737 036512

024046 000411

024050
024050 007417 007417
024054 007417 007417 000000
024062 000000
024064 047717 047700
024070 000000

```
*****  
*TEST 360 TEST OF LDCFD INSTR, DATA SET LCFD-7  
* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON  
* LONG FLOAT, LONG INTEGER, TRUNCATE MODES  
*****  
TST360: SCOPE  
MOV #LCFD7,R5 ; PTR TO TEST DATA SET  
JSR PC,@#LCFDT ; GO TEST  
  
BR TST361 ;;  
  
LCFD7: ; TEST DATA SET LCFD-7:  
.WORD ZX1MN,M1 ; INITIAL MEM FLOAT NUMBER  
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT  
  
.WORD 043753,043744 ; FPS: BEFORE, AFTER  
.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  
*****  
TST361: SCOPE  
MOV #LCFD10,R5 ; PTR TO TEST DATA SET  
JSR PC,@#LCFDT ; GO TEST  
  
BR TST362 ;;  
  
LCFD10: ; TEST DATA SET LCFD-10:  
.WORD ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER  
.WORD ALT4P,ALT4P,0,0 ; EXPECTED FLOAT RESULT  
  
.WORD 047717,047700 ; FPS: BEFORE, AFTER  
.WORD NA ; FEC AFTER ( 0 = N/A )
```

H10

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T362 TEST OF STCDF INSTR, DATA SET SCDF-1

```
6314
6315
6316
6317
6318
6319 024072 000004
6320 024074 012705 024106
6321 024100 004737 036702
6322
6323 024104 000411
6324
6325 024106
6326 024106 000000 000000 000000
6327 024114 000000
6328 024116 000000 000000
6329 024122 047753 047744
6330 024126 000000
6331
6332
6333
6334
6335
6336
6337
6338 024130 000004
6339 024132 012705 024144
6340 024136 004737 036702
6341
6342 024142 000411
6343
6344 024144
6345 024144 140200 000000 100000
6346 024152 000000
6347 024154 140200 000001
6348 024160 047707 047710
6349 024164 000000
6350
6351
6352
6353
6354
6355
6356
6357 024166 000004
6358 024170 012705 024202
6359 024174 004737 036702
6360
6361 024200 000411
6362
6363 024202
6364 024202 040200 000000 100000
6365 024210 000000
6366 024212 040200 000000
6367 024216 047657 047640
6368 024222 000000
6369

;*****
;TEST 362 TEST OF STCDF INSTR, DATA SET SCDF-1
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST362: SCOPE
MOV #SCDF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST363 ;;

SCDF1: ; TEST DATA SET SCDF-1:
.WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047753,047744 ; FPS: BEFORE, AFTER
.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
;*****
TST363: SCOPE
MOV #SCDF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST364 ;;

SCDF2: ; TEST DATA SET SCDF-2:
.WORD FIN,0,MO,0 ; INITIAL AC FLOAT NUMBER
.WORD FIN,1 ; EXPECTED FLOAT RESULT
.WORD 047707,047710 ; FPS: BEFORE, AFTER
.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
;*****
TST364: SCOPE
MOV #SCDF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST365 ;;

SCDF3: ; TEST DATA SET SCDF-3:
.WORD F1P,0,MO,0 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0 ; EXPECTED FLOAT RESULT
.WORD 047657,047640 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

```

6370
6371
6372
6373
6374
6375
6376 024224 000004
6377 024226 012705 024240
6378 024232 004737 036702
6379
6380 024236 000411
6381
6382 024240
6383 024240 000177 177777 177777
6384 024246 177777
6385 024250 000000 000000
6386 024254 047613 047604
6387 024260 000000
6388
6389
6390
6391
6392
6393
6394
6395 024262 000004
6396 024264 012705 024276
6397 024270 004737 036702
6398
6399 024274 000411
6400
6401 024276
6402 024276 040200 000000 100000
6403 024304 000000
6404 024306 040200 000001
6405 024312 047717 047700
6406 024316 000000
6407
6408
6409
6410
6411
6412
6413
6414 024320 000004
6415 024322 012705 024334
6416 024326 004737 036702
6417
6418 024332 000411
6419
6420 024334
6421 024334 177777 177777 177777
6422 024342 177777
6423 024344 177777 177777
6424 024350 047747 047750
6425 024354 000000

```

```

*****
*TEST 365 TEST OF STCDF INSTR, DATA SET SCDF-4
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST365: SCOPE
MOV #SCDF4,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST366 ;;

```

```

SCDF4: ; TEST DATA SET SCDF-4:
.WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047613,047604 ; FPS: BEFORE, AFTER
.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
*****
TST366: SCOPE
MOV #SCDF5,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST367 ;;

```

```

SCDF5: ; TEST DATA SET SCDF-5:
.WORD FIP,0,MO,0 ; INITIAL AC FLOAT NUMBER
.WORD FIP,1 ; EXPECTED FLOAT RESULT
.WORD 047717,047700 ; FPS: BEFORE, AFTER
.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
*****
TST367: SCOPE
MOV #SCDF6,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST370 ;;

```

```

SCDF6: ; TEST DATA SET SCDF-6:
.WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1 ; EXPECTED FLOAT RESULT
.WORD 047747,047750 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

6426
6427
6428
6429
6430
6431
6432
6433 024356 000004
6434 024360 012705 024372
6435 024364 004737 036702
6436
6437 024370 000411
6438
6439 024372
6440 024372 040200 000000 077777
6441 024400 177777
6442 024402 040200 000000
6443 024406 047617 047600
6444 024412 000000
6445
6446
6447
6448
6449
6450
6451
6452 024414 000004
6453 024416 012705 024430
6454 024422 004737 036702
6455
6456 024426 000411
6457
6458 024430
6459 024430 177777 177777 177777
6460 024436 177777
6461 024440 100000 000000
6462 024444 047601 147616
6463 024450 100010
6464
6465
6466
6467
6468
6469
6470
6471 024452 000004
6472 024454 012705 024466
6473 024460 004737 036702
6474
6475 024464 000411
6476
6477 024466
6478 024466 040200 000000 077777
6479 024474 177777
6480 024476 040200 000000
6481 024502 047757 047740

```

*****
;TEST 370 TEST OF STCDF INSTR, DATA SET SCDF-7
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST370: SCOPE
MOV #SCDF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST371 ;;

```

```

SCDF7: ; TEST DATA SET SCDF-7:
.WORD F1P,0,LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0 ; EXPECTED FLOAT RESULT
.WORD 047617,047600 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST371: SCOPE
MOV #SCDF10,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST372 ;;

```

```

SCDF10: ; TEST DATA SET SCDF-10:
.WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD M0,0 ; EXPECTED FLOAT RESULT
.WORD 047601,147616 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST372: SCOPE
MOV #SCDF11,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDFT ; GO TEST
BR TST373 ;;

```

```

SCDF11: ; TEST DATA SET SCDF-11:
.WORD F1P,0,LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD F1P,0 ; EXPECTED FLOAT RESULT
.WORD 047757,047740 ; FPS: BEFORE, AFTER

```


K10

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T372 TEST OF STCDF INSTR, DATA SET SCDF-11

6482 024506 000000 .WORD NA ; FEC AFTER (0 = N/A)

6483
6484
6485
6486
6487
6488
6489
6490 024510 000004
6491 024512 012705 024524
6492 024516 004737 036702
6493
6494 024522 000411
6495
6496 024524
6497 024524 101777 177777 100000
6498 024532 000000
6499 024534 102000 000000
6500 024540 047707 047710
6501 024544 000000
6502
6503
6504
6505
6506
6507
6508
6509 024546 000004
6510 024550 012705 024562
6511 024554 004737 036702
6512
6513 024560 000411
6514
6515 024562
6516 024562 101777 177777 100000
6517 024570 000000
6518 024572 101777 177777
6519 024576 047647 047650
6520 024602 000000
6521
6522
6523
6524
6525
6526
6527
6528 024604 000004
6529 024606 012705 024620
6530 024612 004737 036702
6531
6532 024616 000411
6533
6534 024620
6535 024620 077777 177777 100000
6536 024626 000000
6537 024630 000000 000000

```
*****
*TEST 373 TEST OF STCDF INSTR, DATA SET SCDF-12
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
```

```
TST373: SCOPE
MOV #SCDF12,R5 ; PTR TO TEST DATA SET
JSR PC,#SCDFT ; GO TEST
BR TST374 ;;
```

```
SCDF12: ; TEST DATA SET SCDF-12:
.WORD 101777,M1,MO,0 ; INITIAL AC FLOAT NUMBER
.WORD 102000,0 ; EXPECTED FLOAT RESULT
.WORD 047707,047710 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

```
*****
*TEST 374 TEST OF STCDF INSTR, DATA SET SCDF-13
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
```

```
TST374: SCOPE
MOV #SCDF13,R5 ; PTR TO TEST DATA SET
JSR PC,#SCDFT ; GO TEST
BR TST375 ;;
```

```
SCDF13: ; TEST DATA SET SCDF-13:
.WORD 101777,M1,MO,0 ; INITIAL AC FLOAT NUMBER
.WORD 101777,M1 ; EXPECTED FLOAT RESULT
.WORD 047647,047650 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

```
*****
*TEST 375 TEST OF STCDF INSTR, DATA SET SCDF-14
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
```

```
TST375: SCOPE
MOV #SCDF14,R5 ; PTR TO TEST DATA SET
JSR PC,#SCDFT ; GO TEST
BR TST376 ;;
```

```
SCDF14: ; TEST DATA SET SCDF-14:
.WORD LGP,M1,MO,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
```

L10

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T375 TEST OF STCDF INSTR, DATA SET SCDF-14

6538 024634 046611 046606
6539 024640 000000
6540
6541
6542

.WORD 046611,046606 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

M10

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T376 TEST OF STCFD INSTR, DATA SET SCFD-1

```

6543
6544
6545
6546
6547
6548 024642 000004
6549 024644 012705 024656
6550 024650 004737 037046
6551
6552 024654 000412
6553
6554 024656
6555 024656 052525 052525 052525
6556 024664 052525
6557 024666 052525 052525 000000
6558 024674 000000
6559 024676 047417 047400
6560
6561
6562
6563
6564
6565
6566
6567 024702 000004
6568 024704 012705 024716
6569 024710 004737 037046
6570
6571 024714 000412
6572
6573 024716
6574 024716 000177 177777 177777
6575 024724 177777
6576 024726 000000 000000 000000
6577 024734 000000
6578 024736 047513 047504
6579
6580
6581
6582
6583
6584
6585
6586 024742 000004
6587 024744 012705 024756
6588 024750 004737 037046
6589
6590 024754 000412
6591
6592 024756
6593 024756 177777 177777 177777
6594 024764 177777
6595 024766 177777 177777 000000
6596 024774 000000
6597 024776 047407 047410
6598

```

```

*****
*TEST 376 TEST OF STCFD INSTR, DATA SET SCFD-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST376: SCOPE
MOV #SCFD1,R5 ; PTR TO TEST DATA SET
JSR PC,@SCFDT ; GO TEST
BR TST377 ;;
SCFD1: ; TEST DATA SET SCFD-1:
.WORD ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD ALTP,ALTP,0,0 ; EXPECTED FLOAT RESULT
.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
*****
TST377: SCOPE
MOV #SCFD2,R5 ; PTR TO TEST DATA SET
JSR PC,@SCFDT ; GO TEST
BR TST400 ;;
SCFD2: ; TEST DATA SET SCFD-2:
.WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.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
*****
TST400: SCOPE
MOV #SCFD3,R5 ; PTR TO TEST DATA SET
JSR PC,@SCFDT ; GO TEST
BR TST401 ;;
SCFD3: ; TEST DATA SET SCFD-3:
.WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD LGN,M1,0,0 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER

```

6599
6600
6601
6602
6603
6604
6605
6606
6607
6608
6609
6610
6611
6612
6613
6614
6615
6616
6617
6618
6619
6620
6621
6622
6623
6624
6625
6626
6627
6628
6629
6630
6631
6632
6633
6634
6635
6636
6637
6638
6639
6640
6641
6642
6643
6644
6645
6646
6647
6648
6649
6650
6651
6652
6653
6654

025002 000004
025004 012705 025016
025010 004737 037046

025014 000412

025016
025016 170360 170360 170360
025024 170360
025026 170360 170360 000000
025034 000000
025036 047547 047550

025042 000004
025044 012705 025056
025050 004737 037046

025054 000412

025056
025056 000000 000000 000000
025064 000000
025066 000000 000000 000000
025074 000000
025076 047453 047444

025102 000004
025104 012705 025116
025110 004737 037046

025114 000412

025116
025116 077777 000000 177777
025124 177777
025126 077777 000000 000000
025134 000000
025136 047517 047500

```
*****  
:TEST 401 TEST OF STCFD INSTR, DATA SET SCFD-4  
: ALL INTERRUPT ENABLES ON  
: SHORT FLOAT, LONG INTEGER, TRUNCATE MODES  
:*****  
TST401: SCOPE  
MOV #SCFD4,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SCFDT ; GO TEST  
  
BR TST402 ;;  
  
SCFD4: ; TEST DATA SET SCFD-4:  
.WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER  
.WORD ALT4N,ALT4N,0,0 ; EXPECTED FLOAT RESULT  
.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  
:*****  
TST402: SCOPE  
MOV #SCFD5,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SCFDT ; GO TEST  
  
BR TST403 ;;  
  
SCFD5: ; TEST DATA SET SCFD-5:  
.WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER  
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT  
.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  
:*****  
TST403: SCOPE  
MOV #SCFD6,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SCFDT ; GO TEST  
  
BR TST404 ;;  
  
SCFD6: ; TEST DATA SET SCFD-6:  
.WORD LGP,0,M1,M1 ; INITIAL AC FLOAT NUMBER  
.WORD LGP,0,0,0 ; EXPECTED FLOAT RESULT  
.WORD 047517,047500 ; FPS: BEFORE, AFTER
```

B11

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T403 TEST OF STCFD INSTR, DATA SET SCFD-6

6655
6656

```

6657
6658
6659
6660
6661
6662 025142 000004
6663 025144 012705 025156
6664 025150 004737 037170
6665
6666 025154 000405
6667
6668 025156
6669 025156 100000
6670 025160 144000 000000
6671 025164 047407 047410
6672
6673
6674
6675
6676
6677
6678
6679 025170 000004
6680 025172 012705 025204
6681 025176 004737 037170
6682
6683 025202 000405
6684
6685 025204
6686 025204 007417
6687 025206 043160 170000
6688 025212 047457 047440
6689
6690
6691
6692
6693
6694
6695
6696 025216 000004
6697 025220 012705 025232
6698 025224 004737 037170
6699
6700 025230 000405
6701
6702 025232
6703 025232 000000
6704 025234 000000 000000
6705 025240 047413 047404
6706
6707
6708
6709
6710
6711
6712

```

```

*****
;TEST 404 TEST OF LDCIF INSTR, DATA SET LCIF-1
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST404: SCOPE
MOV #LCIF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCIFT ; GO TEST
BR TST405 ;;

LCIF1: ; TEST DATA SET LCIF-1:
.WORD 100000 ; INITIAL INTEGER VALUE
.WORD 144000,000000 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER

*****
;TEST 405 TEST OF LDCIF INSTR, DATA SET LCIF-2
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST405: SCOPE
MOV #LCIF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCIFT ; GO TEST
BR TST406 ;;

LCIF2: ; TEST DATA SET LCIF-2:
.WORD 007417 ; INITIAL INTEGER VALUE
.WORD 043160,170000 ; EXPECTED FLOAT RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER

*****
;TEST 406 TEST OF LDCIF INSTR, DATA SET LCIF-3
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST406: SCOPE
MOV #LCIF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCIFT ; GO TEST
BR TST407 ;;

LCIF3: ; TEST DATA SET LCIF-3:
.WORD 000000 ; INITIAL INTEGER VALUE
.WORD 000000,000000 ; EXPECTED FLOAT RESULT
.WORD 047413,047404 ; FPS: BEFORE, AFTER

*****
;TEST 407 TEST OF LDCIF INSTR, DATA SET LCIF-4
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

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T407 TEST OF LDCIF INSTR, DATA SET LCIF-4

6713	025244	000004	
6714	025246	012705	025260
6715	025252	004737	037170
6716			
6717	025256	000405	
6718			
6719	025260		
6720	025260	170360	
6721	025262	143161	000000
6722	025266	047447	047450
6723			
6724			
6725			
6726			
6727			
6728			
6729			
6730	025272	000004	
6731	025274	012705	025306
6732	025300	004737	037170
6733			
6734	025304	000405	
6735			
6736	025306		
6737	025306	077777	
6738	025310	043777	177000
6739	025314	047417	047400
6740			
6741			
6742			

```

TST407: SCOPE
MOV      #LCIF4,R5      ; PTR TO TEST DATA SET
JSR      PC,#LCIFT     ; GO TEST

BR       TST410        ;;

```

```

LCIF4: ; TEST DATA SET LCIF-4:
.WORD   170360 ; INITIAL INTEGER VALUE
.WORD   143161,000000 ; EXPECTED FLOAT RESULT
.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
*****

```

```

TST410: SCOPE
MOV      #LCIF5,R5      ; PTR TO TEST DATA SET
JSR      PC,#LCIFT     ; GO TEST

BR       TST411        ;;

```

```

LCIF5: ; TEST DATA SET LCIF-5:
.WORD   077777 ; INITIAL INTEGER VALUE
.WORD   043777,177000 ; EXPECTED FLOAT RESULT
.WORD   047417,047400 ; FPS: BEFORE, AFTER

```

E11

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T411 TEST OF LDCID INSTR, DATA SET LDCID-1

```

6743
6744
6745
6746
6747
6748 025320 000004
6749 025322 012705 025334
6750 025326 004737 037270
6751
6752 025332 000407
6753
6754 025334
6755 025334 107070
6756 025336 143743 110000 000000
6757 025344 000000
6758 025346 047600 047610
6759
6760
6761
6762
6763
6764
6765
6766 025352 000004
6767 025354 012705 025366
6768 025360 004737 037270
6769
6770 025364 000407
6771
6772 025366
6773 025366 000000
6774 025370 000000 000000 000000
6775 025376 000000
6776 025400 047653 047644
6777
6778
6779
6780
6781
6782
6783
6784 025404 000004
6785 025406 012705 025420
6786 025412 004737 037270
6787
6788 025416 000407
6789
6790 025420
6791 025420 077777
6792 025422 043777 177000 000000
6793 025430 000000
6794 025432 047657 047640
6795
6796
6797
6798

```

```

*****
;TEST 411 TEST OF LDCID INSTR, DATA SET LDCID-1
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST411: SCOPE
MOV #LDCID1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LDCIDT ; GO TEST
BR TST412 ;;

LDCID1: ; TEST DATA SET LDCID-1:
.WORD 107070 ; INITIAL INTEGER VALUE
.WORD 143743,110000,0,0 ; EXPECTED FLOAT RESULT
.WORD 047600,047610 ; FPS: BEFORE, AFTER

*****
;TEST 412 TEST OF LDCID INSTR, DATA SET LDCID-2
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST412: SCOPE
MOV #LDCID2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LDCIDT ; GO TEST
BR TST413 ;;

LDCID2: ; TEST DATA SET LDCID-2:
.WORD 000000 ; INITIAL INTEGER VALUE
.WORD 000000,000000,0,0 ; EXPECTED FLOAT RESULT
.WORD 047653,047644 ; FPS: BEFORE, AFTER

*****
;TEST 413 TEST OF LDCID INSTR, DATA SET LDCID-3
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST413: SCOPE
MOV #LDCID3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LDCIDT ; GO TEST
BR TST414 ;;

LDCID3: ; TEST DATA SET LDCID-3:
.WORD 077777 ; INITIAL INTEGER VALUE
.WORD 043777,177000,0,0 ; EXPECTED FLOAT RESULT
.WORD 047657,047640 ; FPS: BEFORE, AFTER

*****
;TEST 414 TEST OF LDCID INSTR, DATA SET LDCID-4

```


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T414 TEST OF LDCID INSTR, DATA SET LCID-4

6799				
6800				
6801				
6802	025436	000004		
6803	025440	012705	025452	
6804	025444	004737	037270	
6805				
6806	025450	000407		
6807				
6808	025452			
6809	025452	070707		
6810	025454	043743	107000	000000
6811	025462	000000		
6812	025464	047617	047600	
6813				
6814				
6815				
6816				
6817				
6818				
6819				
6820	025470	000004		
6821	025472	012705	025504	
6822	025476	004737	037270	
6823				
6824	025502	000407		
6825				
6826	025504			
6827	025504	100000		
6828	025506	144000	000000	000000
6829	025514	000000		
6830	025516	047647	047650	
6831				
6832				
6833				

```

;*          ALL INTERRUPT ENABLES ON
;*          LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
†TST414: SCOPE
MOV      #LCID4,R5      ; PTR TO TEST DATA SET
JSR      PC,@#LCIDT    ; GO TEST
BR       TST415        ;;

LCID4:   ; TEST DATA SET LCID-4:
.WORD   070707        ; INITIAL INTEGER VALUE
.WORD   043743,107000,0,0 ; EXPECTED FLOAT RESULT
.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
;*****
†TST415: SCOPE
MOV      #LCID5,R5      ; PTR TO TEST DATA SET
JSR      PC,@#LCIDT    ; GO TEST
BR       TST416        ;;

LCID5:   ; TEST DATA SET LCID-5:
.WORD   100000        ; INITIAL INTEGER VALUE
.WORD   144000,000000,0,0 ; EXPECTED FLOAT RESULT
.WORD   047647,047650 ; FPS: BEFORE, AFTER

```

G11

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T416 TEST OF LDCLF INSTR, DATA SET LCLF-1

6834
6835
6836
6837
6838
6839 025522 000004
6840 025524 012705 025536
6841 025530 004737 037410
6842
6843 025534 000406
6844
6845 025536
6846 025536 077777 177777
6847 025542 050000 000000
6848 025546 047517 047500
6849
6850
6851
6852
6853
6854
6855
6856 025552 000004
6857 025554 012705 025566
6858 025560 004737 037410
6859
6860 025564 000406
6861
6862 025566
6863 025566 077777 177777
6864 025572 047777 177777
6865 025576 047557 047540
6866
6867
6868
6869
6870
6871
6872
6873 025602 000004
6874 025604 012705 025616
6875 025610 004737 037410
6876
6877 025614 000406
6878
6879 025616
6880 025616 170360 170360
6881 025622 147160 170361
6882 025626 047507 047510
6883
6884
6885
6886
6887
6888
6889

```
*****
*TEST 416 TEST OF LDCLF INSTR, DATA SET LCLF-1
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST416: SCOPE
MOV #LCLF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST417 ;;

LCLF1: ; TEST DATA SET LCLF-1:
.WORD 077777,M1 ; INITIAL INTEGER VALUE
.WORD 050000,000000 ; EXPECTED FLOAT RESULT
.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
*****
TST417: SCOPE
MOV #LCLF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST420 ;;

LCLF2: ; TEST DATA SET LCLF-2:
.WORD 077777,M1 ; INITIAL INTEGER VALUE
.WORD 047777,M1 ; EXPECTED FLOAT RESULT
.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
*****
TST420: SCOPE
MOV #LCLF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST421 ;;

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

H11

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T421 TEST OF LDCLF INSTR, DATA SET LCLF-4

6890	025632	000004	
6891	025634	012705	025646
6892	025640	004737	037410
6893			
6894	025644	000406	
6895			
6896	025646		
6897	025646	000000	000000
6898	025652	000000	000000
6899	025656	047513	047504
6900			
6901			
6902			
6903			
6904			
6905			
6906			
6907	025662	000004	
6908	025664	012705	025676
6909	025670	004737	037410
6910			
6911	025674	000406	
6912			
6913	025676		
6914	025676	077777	177677
6915	025702	047777	177777
6916	025706	047517	047500
6917			
6918			
6919			
6920			
6921			
6922			
6923			
6924	025712	000004	
6925	025714	012705	025726
6926	025720	004737	037410
6927			
6928	025724	000406	
6929			
6930	025726		
6931	025726	100000	000000
6932	025732	150000	000000
6933	025736	047547	047550
6934			
6935			
6936			
6937			
6938			
6939			
6940			
6941	025742	000004	
6942	025744	012705	025756
6943	025750	004737	037410
6944			
6945	025754	000406	

```
TST421: SCOPE
MOV #LCLF4,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST422 ;;
```

```
LCLF4: ; TEST DATA SET LCLF-4:
.WORD 000000,000000 ; INITIAL INTEGER VALUE
.WORD 000000,000000 ; EXPECTED FLOAT RESULT
.WORD 047513,047504 ; FPS: BEFORE, AFTER
```

```
*****
; *TEST 422 TEST OF LDCLF INSTR, DATA SET LCLF-5
; * ALL INTERRUPT ENABLES ON
; * SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
```

```
TST422: SCOPE
MOV #LCLF5,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST423 ;;
```

```
LCLF5: ; TEST DATA SET LCLF-5:
.WORD 077777,177677 ; INITIAL INTEGER VALUE
.WORD 047777,M1 ; EXPECTED FLOAT RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
```

```
*****
; *TEST 423 TEST OF LDCLF INSTR, DATA SET LCLF-6
; * ALL INTERRUPT ENABLES ON
; * SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
```

```
TST423: SCOPE
MOV #LCLF6,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST424 ;;
```

```
LCLF6: ; TEST DATA SET LCLF-6:
.WORD 100000,000000 ; INITIAL INTEGER VALUE
.WORD 150000,000000 ; EXPECTED FLOAT RESULT
.WORD 047547,047550 ; FPS: BEFORE, AFTER
```

```
*****
; *TEST 424 TEST OF LDCLF INSTR, DATA SET LCLF-7
; * ALL INTERRUPT ENABLES ON
; * SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
```

```
TST424: SCOPE
MOV #LCLF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLFT ; GO TEST
BR TST425 ;;
```

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T424 TEST OF LDCLF INSTR, DATA SET LCLF-7

6946			
6947	025756		
6948	025756	043434	070707
6949	025762	047616	034343
6950	025766	047557	047540
6951			
6952			
6953			

LCLF7: ; TEST DATA SET LCLF-7:
 .WORD 043434,070707 ; INITIAL INTEGER VALUE
 .WORD 047616,034343 ; EXPECTED FLOAT RESULT
 .WORD 047557,047540 ; FPS: BEFORE, AFTER

```

6954
6955
6956
6957
6958
6959 025772 000004
6960 025774 012705 026006
6961 026000 004737 037510
6962
6963 026004 000410
6964
6965 026006
6966 026006 007417 007417
6967 026012 047160 170360 170000
6968 026020 000000
6969 026022 047717 047700
6970
6971
6972
6973
6974
6975
6976
6977 026026 000004
6978 026030 012705 026042
6979 026034 004737 037510
6980
6981 026040 000410
6982
6983 026042
6984 026042 100000 000000
6985 026046 150000 000000 000000
6986 026054 000000
6987 026056 047747 047750
6988
6989
6990
6991
6992
6993
6994
6995 026062 000004
6996 026064 012705 026076
6997 026070 004737 037510
6998
6999 026074 000410
7000
7001 026076
7002 026076 077777 177777
7003 026102 047777 177777 177000
7004 026110 000000
7005 026112 047757 047740
7006
7007
7008
7009

```

```

*****
; *TEST 425 TEST OF LDCLD INSTR, DATA SET LCLD-1
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST425: SCOPE
MOV #LCLD1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLDT ; GO TEST
BR TST426 ;;

LCLD1: ; TEST DATA SET LCLD-1:
.WORD 007417,007417 ; INITIAL INTEGER VALUE
.WORD 047160,170360,170000,0 ; EXPECTED FLOAT RESULT
.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
*****
TST426: SCOPE
MOV #LCLD2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLDT ; GO TEST
BR TST427 ;;

LCLD2: ; TEST DATA SET LCLD-2:
.WORD 100000,000000 ; INITIAL INTEGER VALUE
.WORD 150000,000000,000000,0 ; EXPECTED FLOAT RESULT
.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
*****
TST427: SCOPE
MOV #LCLD3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LCLDT ; GO TEST
BR TST430 ;;

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

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

```

K11

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T430 TEST OF LDCLD INSTR, DATA SET LCLD-4

7010				
7011				
7012				
7013	026116	000004		
7014	026120	012705	026132	
7015	026124	004737	037510	
7016				
7017	026130	000410		
7018				
7019	026132			
7020	026132	107070	161616	
7021	026136	147743	107070	162000
7022	026144	000000		
7023	026146	047700	047710	
7024				
7025				
7026				
7027				
7028				
7029				
7030				
7031	026152	000004		
7032	026154	012705	026166	
7033	026160	004737	037510	
7034				
7035	026164	000410		
7036				
7037	026166			
7038	026166	000000	000000	
7039	026172	000000	000000	000000
7040	026200	000000		
7041	026202	047753	047744	
7042				
7043				
7044				

```

;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST430: SCOPE
MOV #LCLD4,R5 ; PTR TO TEST DATA SET
JSR PC,#LCLDT ; GO TEST
BR TST431 ;;

LCLD4: ; TEST DATA SET LCLD-4:
.WORD 107070,161616 ; INITIAL INTEGER VALUE
.WORD 147743,107070,162000,0 ; EXPECTED FLOAT RESULT
.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
;*****
TST431: SCOPE
MOV #LCLD5,R5 ; PTR TO TEST DATA SET
JSR PC,#LCLDT ; GO TEST
BR TST432 ;;

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

```

```

7045
7046
7047
7048
7049
7050 026206 000004
7051 026210 012705 026222
7052 026214 004737 037630
7053
7054 026220 000406
7055
7056 026222
7057 026222 000000 000000
7058 026226 000000
7059 026230 047453 047444
7060 026234 000000
7061
7062
7063
7064
7065
7066
7067
7068 026236 000004
7069 026240 012705 026252
7070 026244 004737 037630
7071
7072 026250 000406
7073
7074 026252
7075 026252 041532 000000
7076 026256 000066
7077 026260 047457 047440
7078 026264 000000
7079
7080
7081
7082
7083
7084
7085
7086 026266 000004
7087 026270 012705 026302
7088 026274 004737 037630
7089
7090 026300 000406
7091
7092 026302
7093 026302 052525 052525
7094 026306 000000
7095 026310 047452 147445
7096 026314 100006
7097
7098
7099
7100

```

```

*****
*TEST 432 TEST OF STCFI INSTR, DATA SET SCFI-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST432: SCOPE
MOV #SCFI1,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFIT ; GO TEST
BR TST433 ;;

SCFI1: ; TEST DATA SET SCFI-1:
.WORD 000000,000000 ; INITIAL FLOAT VALUE
.WORD 000000 ; EXPECTED INTEGER RESULT
.WORD 047453,047444 ; FPS: BEFORE, AFTER
.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
*****
TST433: SCOPE
MOV #SCFI2,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFIT ; GO TEST
BR TST434 ;;

SCFI2: ; TEST DATA SET SCFI-2:
.WORD 041532,000000 ; INITIAL FLOAT VALUE
.WORD 000066 ; EXPECTED INTEGER RESULT
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.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
*****
TST434: SCOPE
MOV #SCFI3,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFIT ; GO TEST
BR TST435 ;;

SCFI3: ; TEST DATA SET SCFI-3:
.WORD 052525,052525 ; INITIAL FLOAT VALUE
.WORD 000000 ; EXPECTED INTEGER RESULT
.WORD 047452,147445 ; FPS: BEFORE, AFTER
.WORD 100006 ; FEC AFTER ( 0 = N/A )

*****
*TEST 435 TEST OF STCFI INSTR, DATA SET SCFI-4

```

M11

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T435 TEST OF STCFI INSTR, DATA SET SCFI-4

7101			
7102			
7103			
7104	026316	000004	
7105	026320	012705	026332
7106	026324	004737	037630
7107			
7108	026330	000406	
7109			
7110	026332		
7111	026332	141531	177777
7112	026336	177712	
7113	026340	047407	047410
7114	026344	000000	
7115			
7116			
7117			
7118			
7119			
7120			
7121			
7122	026346	000004	
7123	026350	012705	026362
7124	026354	004737	037630
7125			
7126	026360	000406	
7127			
7128	026362		
7129	026362	041532	000000
7130	026366	000066	
7131	026370	047417	047400
7132	026374	000000	
7133			
7134			
7135			
7136			
7137			
7138			
7139			
7140	026376	000004	
7141	026400	012705	026412
7142	026404	004737	037630
7143			
7144	026410	000406	
7145			
7146	026412		
7147	026412	172011	123456
7148	026416	000000	
7149	026420	047052	047045
7150	026424	000000	
7151			
7152			
7153			
7154			
7155			
7156			

```

;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST435: SCOPE
MOV #SCFI4,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFIT ; GO TEST
BR TST436 ;;

SCFI4: ; TEST DATA SET SCFI-4:
.WORD 141531,M1 ; INITIAL FLOAT VALUE
.WORD 177712 ; EXPECTED INTEGER RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.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
;*****
TST436: SCOPE
MOV #SCFI5,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFIT ; GO TEST
BR TST437 ;;

SCFI5: ; TEST DATA SET SCFI-5:
.WORD 041532,000000 ; INITIAL FLOAT VALUE
.WORD 000066 ; EXPECTED INTEGER RESULT
.WORD 047417,047400 ; FPS: BEFORE, AFTER
.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
;*****
TST437: SCOPE
MOV #SCFI6,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFIT ; GO TEST
BR TST440 ;;

SCFI6: ; TEST DATA SET SCFI-6:
.WORD 172011,123456 ; INITIAL FLOAT VALUE
.WORD 000000 ; EXPECTED INTEGER RESULT
.WORD 047052,047045 ; FPS: BEFORE, AFTER
.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

```


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T440 TEST OF STCFI INSTR, DATA SET SCFI-7

7157			
7158	026426	000004	
7159	026430	012705	026442
7160	026434	004737	037630
7161			
7162	026440	000406	
7163			
7164	026442		
7165	026442	000000	177777
7166	026446	000000	
7167	026450	047413	047404
7168	026454	000000	
7169			
7170			
7171			

```

*****
TST440: SCOPE
MOV #SCFI7,R5 ; PTR TO TEST DATA SET
JSR PC,@SCFIT ; GO TEST
BR TST441 ;;

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

```

```

7172
7173
7174
7175
7176
7177 026456 000004
7178 026460 012705 026472
7179 026464 004737 040026
7180
7181 026470 000410
7182
7183 026472
7184 026472 044000 000000 000000
7185 026500 000000
7186 026502 000000
7187 026504 047652 147645
7188 026510 100006
7189
7190
7191
7192
7193
7194
7195
7196 026512 000004
7197 026514 012705 026526
7198 026520 004737 040026
7199
7200 026524 000410
7201
7202 026526
7203 026526 043777 177377 177777
7204 026534 177777
7205 026536 077777
7206 026540 047617 047600
7207 026544 000000
7208
7209
7210
7211
7212
7213
7214
7215 026546 000004
7216 026550 012705 026562
7217 026554 004737 040026
7218
7219 026560 000410
7220
7221 026562
7222 026562 000000 000000 000000
7223 026570 000000
7224 026572 000000
7225 026574 047613 047604
7226 026600 000000
7227

```

```

*****
*TEST 441 TEST OF STCDI INSTR, DATA SET SCDI-1
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST441: SCOPE
MOV #SCDI1,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDIT ; GO TEST
BR TST442 ;;

SCDI1: ; TEST DATA SET SCDI-1:
.WORD 044000,000000,000000,000000 ; INITIAL FLOAT VALUE
.WORD 000000 ; EXPECTED INTEGER RESULT
.WORD 047652,147645 ; FPS: BEFORE, AFTER
.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
*****
TST442: SCOPE
MOV #SCDI2,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDIT ; GO TEST
BR TST443 ;;

SCDI2: ; TEST DATA SET SCDI-2:
.WORD 043777,177377,M1,M1 ; INITIAL FLOAT VALUE
.WORD 077777 ; EXPECTED INTEGER RESULT
.WORD 047617,047600 ; FPS: BEFORE, AFTER
.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
*****
TST443: SCOPE
MOV #SCDI3,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDIT ; GO TEST
BR TST444 ;;

SCDI3: ; TEST DATA SET SCDI-3:
.WORD 000000,000000,000000,000000 ; INITIAL FLOAT VALUE
.WORD 000000 ; EXPECTED INTEGER RESULT
.WORD 047613,047604 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

7228
7229
7230
7231
7232
7233
7234 026602 000004
7235 026604 012705 026616
7236 026610 004737 040026
7237
7238 026614 000410
7239
7240 026616
7241 026616 143161 007777 177777
7242 026624 177777
7243 026626 170360
7244 026630 047607 047610
7245 026634 000000
7246
7247
7248
7249
7250
7251
7252
7253 026636 000004
7254 026640 012705 026652
7255 026644 004737 040026
7256
7257 026650 000410
7258
7259 026652
7260 026652 143777 177777 177777
7261 026660 177777
7262 026662 100001
7263 026664 047647 047650
7264 026670 000000
7265
7266
7267
7268
7269
7270
7271
7272 026672 000004
7273 026674 012705 026706
7274 026700 004737 040026
7275
7276 026704 000410
7277
7278 026706
7279 026706 152525 052525 177777
7280 026714 000000
7281 026716 000000
7282 026720 047212 047205
7283 026724 000000

```

```

*****
*TEST 444 TEST OF STCDI INSTR, DATA SET SCDI-4
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

†ST444: SCOPE
MOV #SCDI4,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDIT ; GO TEST
BR TST445 ;;

```

```

SCDI4: ; TEST DATA SET SCDI-4:
.WORD 143161,007777,M1,M1 ; INITIAL FLOAT VALUE
.WORD 170360 ; EXPECTED INTEGER RESULT
.WORD 047607,047610 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST445: SCOPE
MOV #SCDI5,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDIT ; GO TEST
BR TST446 ;;

```

```

SCDI5: ; TEST DATA SET SCDI-5:
.WORD 143777,M1,M1,M1 ; INITIAL FLOAT VALUE
.WORD 100001 ; EXPECTED INTEGER RESULT
.WORD 047647,047650 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST446: SCOPE
MOV #SCDI6,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDIT ; GO TEST
BR TST447 ;;

```

```

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

```

7284
7285
7286
7287
7288
7289
7290
7291
7292
7293
7294
7295
7296
7297
7298
7299
7300
7301
7302
7303
7304
7305

026726 000004
026730 012705 026742
026734 004737 040026

026740 000410

026742
026742 140377 177777 177777
026750 052525
026752 177777
026754 047647 047650
026760 000000

```
*****  
:TEST 447 TEST OF STCDI INSTR, DATA SET SCDI-7  
:* ALL INTERRUPT ENABLES ON  
:* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****  
↑ST447: SCOPE  
MOV #SCDI7,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SCDIT ; GO TEST  
  
BR TST450 ;;  
  
SCDI7: ; TEST DATA SET SCDI-7:  
.WORD 140377,M1,M1,052525 ; INITIAL FLOAT VALUE  
  
.WORD M1 ; EXPECTED INTEGER RESULT  
.WORD 047647,047650 ; FPS: BEFORE, AFTER  
.WORD NA ; FEC AFTER ( 0 = N/A )
```

```

7306
7307
7308
7309
7310
7311 026762 000004
7312 026764 012705 026776
7313 026770 004737 040224
7314
7315 026774 000407
7316
7317 026776
7318 026776 047777 177777
7319 027002 077777 177600
7320 027006 047517 047500
7321 027012 000000
7322
7323
7324
7325
7326
7327
7328
7329 027014 000004
7330 027016 012705 027030
7331 027022 004737 040224
7332
7333 027026 000407
7334
7335 027030
7336 027030 150000 000001
7337 027034 000000 000000
7338 027040 047512 147505
7339 027044 100006
7340
7341
7342
7343
7344
7345
7346
7347 027046 000004
7348 027050 012705 027062
7349 027054 004737 040224
7350
7351 027060 000407
7352
7353 027062
7354 027062 037777 177777
7355 027066 000000 000000
7356 027072 047553 047544
7357 027076 000000
7358
7359
7360
7361

```

```

*****
*TEST 450 TEST OF STCFL INSTR, DATA SET SCFL-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST450: SCOPE
MOV #SCFL1,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFLT ; GO TEST
BR TST451 ;;

SCFL1: ; TEST DATA SET SCFL-1:
.WORD 047777,M1 ; INITIAL FLOAT VALUE
.WORD 077777,177600 ; EXPECTED INTEGER RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
.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
*****
TST451: SCOPE
MOV #SCFL2,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFLT ; GO TEST
BR TST452 ;;

SCFL2: ; TEST DATA SET SCFL-2:
.WORD 150000,000001 ; INITIAL FLOAT VALUE
.WORD 000000,000000 ; EXPECTED INTEGER RESULT
.WORD 047512,147505 ; FPS: BEFORE, AFTER
.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
*****
TST452: SCOPE
MOV #SCFL3,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFLT ; GO TEST
BR TST453 ;;

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

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

```

```

7362
7363
7364
7365 027100 000004
7366 027102 012705 027114
7367 027106 004737 040224
7368
7369 027112 000407
7370
7371 027114
7372 027114 000000 000000
7373 027120 000000 000000
7374 027124 047553 047544
7375 027130 000000
7376
7377
7378
7379
7380
7381
7382
7383 027132 000004
7384 027134 012705 027146
7385 027140 004737 040224
7386
7387 027144 000407
7388
7389 027146
7390 027146 147777 177777
7391 027152 100000 000200
7392 027156 047507 047510
7393 027162 000000
7394
7395
7396
7397
7398
7399
7400
7401 027164 000004
7402 027166 012705 027200
7403 027172 004737 040224
7404
7405 027176 000407
7406
7407 027200
7408 027200 040577 177777
7409 027204 000000 000003
7410 027210 047517 047500
7411 027214 000000
7412
7413
7414
7415
7416
7417

```

```

;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST453: SCOPE
MOV #SCFL4,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFLT ; GO TEST
BR TST454 ;;

SCFL4: ; TEST DATA SET SCFL-4:
.WORD 000000,000000 ; INITIAL FLOAT VALUE
.WORD 000000,000000 ; EXPECTED INTEGER RESULT
.WORD 047553,047544 ; FPS: BEFORE, AFTER
.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
;*****
TST454: SCOPE
MOV #SCFL5,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFLT ; GO TEST
BR TST455 ;;

SCFL5: ; TEST DATA SET SCFL-5:
.WORD 147777,M1 ; INITIAL FLOAT VALUE
.WORD 100000,000200 ; EXPECTED INTEGER RESULT
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.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
;*****
TST455: SCOPE
MOV #SCFL6,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCFLT ; GO TEST
BR TST456 ;;

SCFL6: ; TEST DATA SET SCFL-6:
.WORD 040577,M1 ; INITIAL FLOAT VALUE
.WORD 000000,000003 ; EXPECTED INTEGER RESULT
.WORD 047517,047500 ; FPS: BEFORE, AFTER
.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

```

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T456 TEST OF STCFL INSTR, DATA SET SCFL-7

7418			
7419	027216	000004	
7420	027220	012705	027232
7421	027224	004737	040224
7422			
7423	027230	000407	
7424			
7425	027232		
7426	027232	066666	123456
7427	027236	000000	000000
7428	027242	047152	047145
7429	027246	000000	
7430			
7431			
7432			

```

*****
†T456: SCOPE
      MOV      #SCFL7,R5      ; PTR TO TEST DATA SET
      JSR      PC,@#SCFLT    ; GO TEST
      BR       TST457        ;;
SCFL7: ; TEST DATA SET SCFL-7:
      .WORD   066666,123456  ; INITIAL FLOAT VALUE
      .WORD   000000,000000  ; EXPECTED INTEGER RESULT
      .WORD   047152,047145  ; FPS: BEFORE, AFTER
      .WORD   NA              ; FEC AFTER ( 0 = N/A )

```

```

7433      ;*****
7434      ;*TEST 457      TEST OF STCDL INSTR, DATA SET SCDL-1
7435      ;*
7436      ;*          ALL INTERRUPT ENABLES ON
7437      ;*          LONG FLOAT, LONG INTEGER, ROUND MODES
7438      ;*****
7438 027250 000004
7439 027252 012705 027264
7440 027256 004737 040432
7441
7442 027262 000411
7443
7444 027264
7445 027264 050000 177000 177000  SCDL1: ; TEST DATA SET SCDL-1:
7446 027272 177000                .WORD 050000,177000,177000,177000 ; INITIAL FLOAT VALUE
7447 027274 000000 000000        .WORD 000000,000000 ; EXPECTED INTEGER RESULT
7448 027300 047712 147705        .WORD 047712,147705 ; FPS: BEFORE, AFTER
7449 027304 100006                .WORD 100006 ; FEC AFTER ( 0 = N/A )
7450
7451
7452      ;*****
7453      ;*TEST 460      TEST OF STCDL INSTR, DATA SET SCDL-2
7454      ;*
7455      ;*          ALL INTERRUPT ENABLES ON
7456      ;*          LONG FLOAT, LONG INTEGER, ROUND MODES
7457      ;*****
7457 027306 000004
7458 027310 012705 027322
7459 027314 004737 040432
7460
7461 027320 000411
7462
7463 027322
7464 027322 047777 177777 177377  SCDL2: ; TEST DATA SET SCDL-2:
7465 027330 177777                .WORD 047777,M1,177377,M1 ; INITIAL FLOAT VALUE
7466 027332 077777 177777        .WORD 077777,M1 ; EXPECTED INTEGER RESULT
7467 027336 047717 047700        .WORD 047717,047700 ; FPS: BEFORE, AFTER
7468 027342 000000                .WORD NA ; FEC AFTER ( 0 = N/A )
7469
7470
7471      ;*****
7472      ;*TEST 461      TEST OF STCDL INSTR, DATA SET SCDL-3
7473      ;*
7474      ;*          ALL INTERRUPT ENABLES ON
7475      ;*          LONG FLOAT, LONG INTEGER, ROUND MODES
7476      ;*****
7476 027344 000004
7477 027346 012705 027360
7478 027352 004737 040432
7479
7480 027356 000411
7481
7482 027360
7483 027360 137777 125252 177777  SCDL3: ; TEST DATA SET SCDL-3:
7484 027366 177777                .WORD 137777,125252,M1,M1 ; INITIAL FLOAT VALUE
7485 027370 000000 000000        .WORD 000000,000000 ; EXPECTED INTEGER RESULT
7486 027374 047713 047704        .WORD 047713,047704 ; FPS: BEFORE, AFTER
7487 027400 000000                .WORD NA ; FEC AFTER ( 0 = N/A )
7488

```



```

7489
7490
7491
7492
7493
7494
7495 027402 000004
7496 027404 012705 027416
7497 027410 004737 040432
7498
7499 027414 000411
7500
7501 027416
7502 027416 147777 177777 177777
7503 027424 177777
7504 027426 100000 000001
7505 027432 047707 047710
7506 027436 000000
7507
7508
7509
7510
7511
7512
7513
7514 027440 000004
7515 027442 012705 027454
7516 027446 004737 040432
7517
7518 027452 000411
7519
7520 027454
7521 027454 047160 170360 177777
7522 027462 177777
7523 027464 007417 007417
7524 027470 047757 047740
7525 027474 000000
7526
7527
7528
7529
7530
7531
7532
7533 027476 000004
7534 027500 012705 027512
7535 027504 004737 040432
7536
7537 027510 000411
7538
7539 027512
7540 027512 000177 177777 125252
7541 027520 101010
7542 027522 000000 000000
7543 027526 047713 047704
7544 027532 000000

```

```

*****
*TEST 462 TEST OF STCDL INSTR, DATA SET SCDL-4
* ALL INTERRUPT ENABLES ON
* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

†ST462: SCOPE
MOV #SCDL4,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDLT ; GO TEST
BR TST463 ;;

```

```

SCDL4: ; TEST DATA SET SCDL-4:
.WORD 147777,M1,M1,M1 ; INITIAL FLOAT VALUE
.WORD 100000,000001 ; EXPECTED INTEGER RESULT
.WORD 047707,047710 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST463: SCOPE
MOV #SCDL5,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDLT ; GO TEST
BR TST464 ;;

```

```

SCDL5: ; TEST DATA SET SCDL-5:
.WORD 047160,170360,M1,M1 ; INITIAL FLOAT VALUE
.WORD 007417,007417 ; EXPECTED INTEGER RESULT
.WORD 047757,047740 ; FPS: BEFORE, AFTER
.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
*****

```

```

†ST464: SCOPE
MOV #SCDL6,R5 ; PTR TO TEST DATA SET
JSR PC,@#SCDLT ; GO TEST
BR TST465 ;;

```

```

SCDL6: ; TEST DATA SET SCDL-6:
.WORD 000177,M1,125252,101010 ; INITIAL FLOAT VALUE
.WORD 000000,000000 ; EXPECTED INTEGER RESULT
.WORD 047713,047704 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

7545
7546
7547
7548
7549
7550
7551
7552
7553
7554
7555
7556
7557
7558
7559
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7561
7562
7563
7564
7565
7566

```

*****
*TEST 465      TEST OF STCDL INSTR, DATA SET SCDL-7
*              INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
*              LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST465: SCOPE
        MOV      #SCDL7,R5      ; PTR TO TEST DATA SET
        JSR     PC,@#SCDLT     ; GO TEST
        BR      TST466        ;;

SCDL7:  ; TEST DATA SET SCDL-7:
        .WORD   062141,125252,052525,125252      ; INITIAL FLOAT VALUE
        .WORD   000000,000000      ; EXPECTED INTEGER RESULT
        .WORD   047312,047305      ; FPS: BEFORE, AFTER
        .WORD   NA                  ; FEC AFTER ( 0 = N/A )

```

```

027534 000004
027536 012705 027550
027542 004737 040432
027546 000411
027550
027550 062141 125252 052525
027556 125252
027560 000000 000000
027564 047312 047305
027570 000000

```

```

7567
7568
7569
7570
7571
7572 027572 000004
7573 027574 012705 027606
7574 027600 004737 040640
7575
7576 027604 000410
7577
7578 027606
7579 027606 020177 177777
7580 027612 000377 177777
7581 027616 000201
7582 027620 047555 147542
7583 027624 100010
7584
7585
7586
7587
7588
7589
7590
7591 027626 000004
7592 027630 012705 027642
7593 027634 004737 040640
7594
7595 027640 000410
7596
7597 027642
7598 027642 120000 000000
7599 027646 100000 000000
7600 027652 000200
7601 027654 047501 147516
7602 027660 100010
7603
7604
7605
7606
7607
7608
7609
7610 027662 000004
7611 027664 012705 027676
7612 027670 004737 040640
7613
7614 027674 000410
7615
7616 027676
7617 027676 020125 052525
7618 027702 077725 052525
7619 027706 000177
7620 027710 047457 047440
7621 027714 000000
7622

```

```

*****
*TEST 466 TEST OF LDEXP/F INSTR, DATA SET LEXF-1
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

TST466: SCOPE
MOV #LEXF1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST467 ;;

```

```

LEXF1: ; TEST DATA SET LEXF-1:
.WORD 020177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 000377,M1 ; EXPECTED FLOAT RESULT
.WORD 201 ; EXPONENT TO BE LOADED
.WORD 047555,147542 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST467: SCOPE
MOV #LEXF2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST470 ;;

```

```

LEXF2: ; TEST DATA SET LEXF-2:
.WORD 120000,0 ; INITIAL AC FLOAT NUMBER
.WORD 100000,0 ; EXPECTED FLOAT RESULT
.WORD 200 ; EXPONENT TO BE LOADED
.WORD 047501,147516 ; FPS: BEFORE, AFTER
.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
*****

```

```

TST470: SCOPE
MOV #LEXF3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST471 ;;

```

```

LEXF3: ; TEST DATA SET LEXF-3:
.WORD 020125,ALTP ; INITIAL AC FLOAT NUMBER
.WORD 077725,ALTP ; EXPECTED FLOAT RESULT
.WORD 177 ; EXPONENT TO BE LOADED
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

7623
7624
7625
7626
7627
7628
7629 027716 000004
7630 027720 012705 027732
7631 027724 004737 040640
7632
7633 027730 000410
7634
7635 027732
7636 027732 120052 125252
7637 027736 160052 125252
7638 027742 000100
7639 027744 047407 047410
7640 027750 000000
7641
7642
7643
7644
7645
7646
7647
7648 027752 000004
7649 027754 012705 027766
7650 027760 004737 040640
7651
7652 027764 000410
7653
7654 027766
7655 027766 020017 007417
7656 027772 040217 007417
7657 027776 000001
7658 030000 047557 047540
7659 030004 000000
7660
7661
7662
7663
7664
7665
7666
7667 030006 000004
7668 030010 012705 030022
7669 030014 004737 040640
7670
7671 030020 000410
7672
7673 030022
7674 030022 120160 170360
7675 030026 140160 170360
7676 030032 000000
7677 030034 047507 047510
7678 030040 000000

```

```

*****
: *TEST 471 TEST OF LDEXP/F INSTR, DATA SET LEXF-4
: * ALL INTERRUPT ENABLES ON
: * SHORT FLOAT, SHORT INTEGER, ROUND MODES
: *
: *****
TST471: SCOPE
MOV #LEXF4,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST472 ;;

```

```

LEXF4: ; TEST DATA SET LEXF-4:
.WORD 120052,ALTN ; INITIAL AC FLOAT NUMBER
.WORD 160052,ALTN ; EXPECTED FLOAT RESULT
.WORD 100 ; EXPONENT TO BE LOADED
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.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
: *
: *****
TST472: SCOPE
MOV #LEXF5,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST473 ;;

```

```

LEXF5: ; TEST DATA SET LEXF-5:
.WORD 020017,ALT4P ; INITIAL AC FLOAT NUMBER
.WORD 040217,ALT4P ; EXPECTED FLOAT RESULT
.WORD 1 ; EXPONENT TO BE LOADED
.WORD 047557,047540 ; FPS: BEFORE, AFTER
.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
: *
: *****
TST473: SCOPE
MOV #LEXF6,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST474 ;;

```

```

LEXF6: ; TEST DATA SET LEXF-6:
.WORD 120160,ALT4N ; INITIAL AC FLOAT NUMBER
.WORD 140160,ALT4N ; EXPECTED FLOAT RESULT
.WORD 0 ; EXPONENT TO BE LOADED
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

```

7679
7680
7681
7682
7683
7684
7685
7686 030042 000004
7687 030044 012705 030056
7688 030050 004737 040640
7689
7690 030054 000410
7691
7692 030056
7693 030056 020177 177777
7694 030062 037777 177777
7695 030066 177777
7696 030070 047457 047440
7697 030074 000000
7698
7699
7700
7701
7702
7703
7704
7705 030076 000004
7706 030100 012705 030112
7707 030104 004737 040640
7708
7709 030110 000410
7710
7711 030112
7712 030112 120000 000000
7713 030116 120000 000000
7714 030122 177700
7715 030124 047407 047410
7716 030130 000000
7717
7718
7719
7720
7721
7722
7723
7724 030132 000004
7725 030134 012705 030146
7726 030140 004737 040640
7727
7728 030144 000410
7729
7730 030146
7731 030146 020125 052525
7732 030152 000325 052525
7733 030156 177601
7734 030160 047557 047540

```

```

*****
: TEST 474 TEST OF LDEXP/F INSTR, DATA SET LEXF-7
: *
: * ALL INTERRUPT ENABLES ON
: * SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
: *
*****

```

```

TST474: SCOPE
MOV #LEXF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXF7 ; GO TEST
BR TST475 ;;

```

```

LEXF7: ; TEST DATA SET LEXF-7:
.WORD 020177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 037777,M1 ; EXPECTED FLOAT RESULT
.WORD -1 ; EXPONENT TO BE LOADED
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.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
: *
*****

```

```

TST475: SCOPE
MOV #LEXF10,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXF10 ; GO TEST
BR TST476 ;;

```

```

LEXF10: ; TEST DATA SET LEXF-10:
.WORD 120000,0 ; INITIAL AC FLOAT NUMBER
.WORD 120000,0 ; EXPECTED FLOAT RESULT
.WORD -100 ; EXPONENT TO BE LOADED
.WORD 047407,047410 ; FPS: BEFORE, AFTER
.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
: *
*****

```

```

TST476: SCOPE
MOV #LEXF11,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXF11 ; GO TEST
BR TST477 ;;

```

```

LEXF11: ; TEST DATA SET LEXF-11:
.WORD 020125,ALTP ; INITIAL AC FLOAT NUMBER
.WORD 000325,ALTP ; EXPECTED FLOAT RESULT
.WORD -177 ; EXPONENT TO BE LOADED
.WORD 047557,047540 ; FPS: BEFORE, AFTER

```

```

7735 030164 000000
7736
7737
7738
7739
7740
7741
7742
7743 030166 000004
7744 030170 012705 030202
7745 030174 004737 040640
7746
7747 030200 000410
7748
7749 030202
7750 030202 120052 125252
7751 030206 100052 125252
7752 030212 177600
7753 030214 047503 147514
7754 030220 100012
7755
7756
7757
7758
7759
7760
7761
7762 030222 000004
7763 030224 012705 030236
7764 030230 004737 040640
7765
7766 030234 000410
7767
7768 030236
7769 030236 020017 007417
7770 030242 077617 007417
7771 030246 177577
7772 030250 047457 147440
7773 030254 100012
7774
7775
7776
7777
7778
7779
7780
7781 030256 000004
7782 030260 012705 030272
7783 030264 004737 040640
7784
7785 030270 000410
7786
7787 030272
7788 030272 120160 170360
7789 030276 177560 170360
7790 030302 177576

```

```

.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
*****
TST477: SCOPE
MOV #LEXF12,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST500 ;;

LEXF12: ; TEST DATA SET LEXF-12:
.WORD 120052,ALTN ; INITIAL AC FLOAT NUMBER
.WORD 100052,ALTN ; EXPECTED FLOAT RESULT
.WORD -200 ; EXPONENT TO BE LOADED
.WORD 047503,147514 ; FPS: BEFORE, AFTER
.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
*****
TST500: SCOPE
MOV #LEXF13,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST501 ;;

LEXF13: ; TEST DATA SET LEXF-13:
.WORD 020017,ALT4P ; INITIAL AC FLOAT NUMBER
.WORD 077617,ALT4P ; EXPECTED FLOAT RESULT
.WORD -201 ; EXPONENT TO BE LOADED
.WORD 047457,147440 ; FPS: BEFORE, AFTER
.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
*****
TST501: SCOPE
MOV #LEXF14,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXFT ; GO TEST
BR TST502 ;;

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

```

7791 030304 047507 147510
7792 030310 100012

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

7793
7794
7795
7796
7797
7798
7799

*TEST 502 TEST OF LDEXP/F INSTR, DATA SET LEXF-15
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

7800 030312 000004
7801 030314 012705 030326
7802 030320 004737 040640

TST502: SCOPE
MOV #LEXF15,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF15 ; GO TEST
BR TST503 ;;

7803
7804 030324 000410
7805

LEXF15: ; TEST DATA SET LEXF-15:

7806 030326
7807 030326 020177 177777
7808 030332 077377 177777
7809 030336 177575
7810 030340 047457 147440
7811 030344 100012

.WORD 020177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 077377,M1 ; EXPECTED FLOAT RESULT
.WORD -203 ; EXPONENT TO BE LOADED
.WORD 047457,147440 ; FPS: BEFORE, AFTER
.WORD 100012 ; FEC AFTER (0 = N/A)

7812
7813
7814
7815
7816
7817
7818

*TEST 503 TEST OF LDEXP/F INSTR, DATA SET LEXF-16
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

7819 030346 000004
7820 030350 012705 030362
7821 030354 004737 040640

TST503: SCOPE
MOV #LEXF16,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF16 ; GO TEST
BR TST504 ;;

7822
7823 030360 000410
7824

LEXF16: ; TEST DATA SET LEXF-16:

7825 030362
7826 030362 142000 000000
7827 030366 140000 000000
7828 030372 000000
7829 030374 047547 047550
7830 030400 000000

.WORD 142000,0 ; INITIAL AC FLOAT NUMBER
.WORD 140000,0 ; EXPECTED FLOAT RESULT
.WORD 0 ; EXPONENT TO BE LOADED
.WORD 047547,047550 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

7831
7832
7833
7834
7835
7836
7837

*TEST 504 TEST OF LDEXP/F INSTR, DATA SET LEXF-17
* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES

7838 030402 000004
7839 030404 012705 030416
7840 030410 004737 040640

TST504: SCOPE
MOV #LEXF17,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF17 ; GO TEST
BR TST505 ;;

7841
7842 030414 000410
7843

LEXF17: ; TEST DATA SET LEXF-17:

7844 030416
7845 030416 020177 177777
7846 030422 000000 000000

.WORD 020177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT

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T504 TEST OF LDEXP/F INSTR, DATA SET LEXF-17

7847 030426 000201
7848 030430 046551 046546
7849 030434 000000

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

7850
7851
7852
7853
7854
7855
7856

: TEST 505 TEST OF LDEXP/F INSTR, DATA SET LEXF-20
: * OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * SHORT FLOAT, LONG INTEGER, ROUND MODES
: *****

7857 030436 000004
7858 030440 012705 030452
7859 030444 004737 040640

TST505: SCOPE
MOV #LEXF20,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF20 ; GO TEST

7860
7861 030450 000410

BR TST506 ; ;

7862
7863 030452
7864 030452 120000 000000
7865 030456 000000 000000
7866 030462 000200
7867 030464 046511 046506
7868 030470 000000

LEXF20: ; TEST DATA SET LEXF-20:
.WORD 120000,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 200 ; EXPONENT TO BE LOADED
.WORD 046511,046506 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

7869
7870
7871
7872
7873
7874
7875

: TEST 506 TEST OF LDEXP/F INSTR, DATA SET LEXF-21
: * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * SHORT FLOAT, LONG INTEGER, ROUND MODES
: *****

7876 030472 000004
7877 030474 012705 030506
7878 030500 004737 040640

TST506: SCOPE
MOV #LEXF21,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF21 ; GO TEST

7879
7880 030504 000410

BR TST507 ; ;

7881
7882 030506
7883 030506 120052 125252
7884 030512 000000 000000
7885 030516 177600
7886 030520 045513 045504
7887 030524 000000

LEXF21: ; TEST DATA SET LEXF-21:
.WORD 120052,ALTN ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD -200 ; EXPONENT TO BE LOADED
.WORD 045513,045504 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

7888
7889
7890
7891
7892
7893
7894

: TEST 507 TEST OF LDEXP/F INSTR, DATA SET LEXF-22
: * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
: *****

7895 030526 000004
7896 030530 012705 030542
7897 030534 004737 040640

TST507: SCOPE
MOV #LEXF22,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF22 ; GO TEST

7898
7899 030540 000410

BR TST510 ; ;

7900
7901 030542
7902 030542 020017 007417

LEXF22: ; TEST DATA SET LEXF-22:
.WORD 020017,ALT4P ; INITIAL AC FLOAT NUMBER

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

7903 030546 000000 000000
7904 030552 177577
7905 030554 045453 045444
7906 030560 000000

.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD -201 ; EXPONENT TO BE LOADED
.WORD 045453,045444 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

7907
7908

:TEST 510 TEST OF LDEXP/F INSTR, DATA SET LEXF-23
: * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * SHORT FLOAT, LONG INTEGER, ROUND MODES
:*****

7909
7910
7911
7912
7913

7914 030562 000004
7915 030564 012705 030576
7916 030570 004737 040640
7917

TST510: SCOPE
MOV #LEXF23,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF24 ; GO TEST

7918 030574 000410
7919

BR TST511 ;

7920 030576

LEXF23: ; TEST DATA SET LEXF-23:
.WORD 120160,ALT4N ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD -202 ; EXPONENT TO BE LOADED
.WORD 045513,045504 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

7921 030576 120160 170360
7922 030602 000000 000000
7923 030606 177576
7924 030610 045513 045504
7925 030614 000000

7926
7927

:TEST 511 TEST OF LDEXP/F INSTR, DATA SET LEXF-24
: * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
:*****

7928
7929
7930
7931
7932

7933 030616 000004
7934 030620 012705 030632
7935 030624 004737 040640
7936

TST511: SCOPE
MOV #LEXF24,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXF24 ; GO TEST

7937 030630 000410
7938

BR TST512 ;

7939 030632

LEXF24: ; TEST DATA SET LEXF-24:
.WORD 020177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD -203 ; EXPONENT TO BE LOADED
.WORD 045453,045444 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N/A)

7940 030632 020177 177777
7941 030636 000000 000000
7942 030642 177575
7943 030644 045453 045444
7944 030650 000000

7945
7946

7947

E13

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

```

7948
7949
7950
7951
7952
7953 030652 000004
7954 030654 012705 030666
7955 030660 004737 041010
7956
7957 030664 000414
7958
7959 030666
7960 030666 152325 052525 052525
7961 030674 052525
7962 030676 100325 052525 052525
7963 030704 052525
7964 030706 000201
7965 030710 047645 147652
7966 030714 100010
7967
7968
7969
7970
7971
7972
7973
7974 030716 000004
7975 030720 012705 030732
7976 030724 004737 041010
7977
7978 030730 000414
7979
7980 030732
7981 030732 052377 177777 177777
7982 030740 177777
7983 030742 000177 177777 177777
7984 030750 177777
7985 030752 000200
7986 030754 047711 147706
7987 030760 100010
7988
7989
7990
7991
7992
7993
7994
7995 030762 000004
7996 030764 012705 030776
7997 030770 004737 041010
7998
7999 030774 000414
8000
8001 030776
8002 030776 152360 170360 170360
8003 031004 170360

```

```

*****
; *TEST 512 TEST OF LDEXP/D INSTR, DATA SET LEXD-1
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

TST512: SCOPE
MOV #LEXD1,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST513 ;;

```

```

LEXD1: ; TEST DATA SET LEXD-1:
.WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD 100325,ALTP,ALTP,ALTP ; EXPECTED FLOAT RESULT
.WORD 201 ; EXPONENT TO BE LOADED
.WORD 047645,147652 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER ( 0 = N/A )

```

```

*****
; *TEST 513 TEST OF LDEXP/D INSTR, DATA SET LEXD-2
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

TST513: SCOPE
MOV #LEXD2,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST514 ;;

```

```

LEXD2: ; TEST DATA SET LEXD-2:
.WORD 052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 000177,M1,M1,M1 ; EXPECTED FLOAT RESULT
.WORD 200 ; EXPONENT TO BE LOADED
.WORD 047711,147706 ; FPS: BEFORE, AFTER
.WORD 100010 ; FEC AFTER ( 0 = N/A )

```

```

*****
; *TEST 514 TEST OF LDEXP/D INSTR, DATA SET LEXD-3
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

TST514: SCOPE
MOV #LEXD3,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST515 ;;

```

```

LEXD3: ; TEST DATA SET LEXD-3:
.WORD 152360,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER

```

F13

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T514 TEST OF LDEXP/D INSTR, DATA SET LEXD-3

8004	031006	177760	170360	170360	.WORD	177760,ALT4N,ALT4N,ALT4N	; EXPECTED FLOAT RESULT
8005	031014	170360					
8006	031016	000177			.WORD	177	; EXPONENT TO BE LOADED
8007	031020	047607	047610		.WORD	047607,047610	; FPS: BEFORE, AFTER
8008	031024	000000			.WORD	NA	; FEC AFTER (0 = N/A)

```

8009
8010
8011
8012
8013
8014
8015
*****
; TEST 515 TEST OF LDEXP/D INSTR, DATA SET LEXD-4
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

†ST515: SCOPE
MOV #LEXD4,R5 ; PTR TO TEST DATA SET
JSR PC,2#LEXDT ; GO TEST
BR TST516 ;;

```

8016	031026	000004			LEXD4: ; TEST DATA SET LEXD-4:		
8017	031030	012705	031042	000000	.WORD	052200,0,0,0	; INITIAL AC FLOAT NUMBER
8018	031034	004737	041010	000000	.WORD	060000,0,0,0	; EXPECTED FLOAT RESULT
8019							
8020	031040	000414			.WORD	100	; EXPONENT TO BE LOADED
8021					.WORD	047757,047740	; FPS: BEFORE, AFTER
8022	031042				.WORD	NA	; FEC AFTER (0 = N/A)

```

8030
8031
8032
8033
8034
8035
8036
*****
; TEST 516 TEST OF LDEXP/D INSTR, DATA SET LEXD-5
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

†ST516: SCOPE
MOV #LEXD5,R5 ; PTR TO TEST DATA SET
JSR PC,2#LEXDT ; GO TEST
BR TST517 ;;

```

8043	031106				LEXD5: ; TEST DATA SET LEXD-5:		
8044	031106	152252	125252	125252	.WORD	152252,ALTN,ALTN,ALTN	; INITIAL AC FLOAT NUMBER
8045	031114	125252			.WORD	140252,ALTN,ALTN,ALTN	; EXPECTED FLOAT RESULT
8046	031116	140252	125252	125252			
8047	031124	125252			.WORD	1	; EXPONENT TO BE LOADED
8048	031126	000001			.WORD	047647,047650	; FPS: BEFORE, AFTER
8049	031130	047647	047650		.WORD	NA	; FEC AFTER (0 = N/A)
8050	031134	000000					

```

8051
8052
8053
8054
8055
8056
8057
*****
; TEST 517 TEST OF LDEXP/D INSTR, DATA SET LEXD-6
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

†ST517: SCOPE
MOV #LEXD6,R5 ; PTR TO TEST DATA SET

```

8058	031136	000004					
8059	031140	012705	031152				

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TS17 TEST OF LDEXP/D INSTR, DATA SET LEXD-6

```

8060 031144 004737 041010 JSR PC,#LEXDT ; GO TEST
8061
8062 031150 000414 BR TST520 ;;
8063
8064 031152 LEXD6: ; TEST DATA SET LEXD-6:
8065 031152 052217 007417 007417 .WORD 052217,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
8066 031160 007417
8067 031162 040017 007417 007417 .WORD 040017,ALT4P,ALT4P,ALT4P ; EXPECTED FLOAT RESULT
8068 031170 007417
8069 031172 000000 .WORD 0 ; EXPONENT TO BE LOADED
8070 031174 047717 047700 .WORD 047717,047700 ; FPS: BEFORE, AFTER
8071 031200 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
8072
8073

```

```

*****
;TEST 520 TEST OF LDEXP/D INSTR, DATA SET LEXD-7
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****

```

```

8078
8079 031202 000004 †TST520: SCOPE
8080 031204 012705 031216 MOV #LEXD7,R5 ; PTR TO TEST DATA SET
8081 031210 004737 041010 JSR PC,#LEXDT ; GO TEST
8082
8083 031214 000414 BR TST521 ;;
8084
8085 031216 LEXD7: ; TEST DATA SET LEXD-7:
8086 031216 152325 052525 052525 .WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
8087 031224 052525
8088 031226 137725 052525 052525 .WORD 137725,ALTP,ALTP,ALTP ; EXPECTED FLOAT RESULT
8089 031234 052525
8090 031236 177777 .WORD -1 ; EXPONENT TO BE LOADED
8091 031240 047607 047610 .WORD 047607,047610 ; FPS: BEFORE, AFTER
8092 031244 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
8093
8094

```

```

*****
;TEST 521 TEST OF LDEXP/D INSTR, DATA SET LEXD-10
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

8095
8096
8097
8098
8099
8100 031246 000004 †TST521: SCOPE
8101 031250 012705 031262 MOV #LEXD10,R5 ; PTR TO TEST DATA SET
8102 031254 004737 041010 JSR PC,#LEXDT ; GO TEST
8103
8104 031260 000414 BR TST522 ;;
8105
8106 031262 LEXD10: ; TEST DATA SET LEXD-10:
8107 031262 052377 177777 177777 .WORD 052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
8108 031270 177777
8109 031272 020177 177777 177777 .WORD 020177,M1,M1,M1 ; EXPECTED FLOAT RESULT
8110 031300 177777
8111 031302 177700 .WORD -100 ; EXPONENT TO BE LOADED
8112 031304 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
8113 031310 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
8114
8115

```

H13

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T522 TEST OF LDEXP/D INSTR, DATA SET LEXD-11

```

8116      ;*****
8117      ;*TEST 522      TEST OF LDEXP/D INSTR, DATA SET LEXD-11
8118      ;*
8119      ;*
8120      ;*
8121      ;*****
8121 031312 000004
8122 031314 012705 031326
8123 031320 004737 041010
8124
8125 031324 000414
8126
8127 031326
8128 031326 152360 170360 170360
8129 031334 170360
8130 031336 100360 170360 170360
8131 031344 170360
8132 031346 177601
8133 031350 047647 047650
8134 031354 000000
8135
8136
8137
8138      ;*****
8138      ;*TEST 523      TEST OF LDEXP/D INSTR, DATA SET LEXD-12
8139      ;*
8140      ;*
8141      ;*
8142      ;*****
8142 031356 000004
8143 031360 012705 031372
8144 031364 004737 041010
8145
8146 031370 000414
8147
8148 031372
8149 031372 052200 000000 000000
8150 031400 000000
8151 031402 000000 000000 000000
8152 031410 000000
8153 031412 177600
8154 031414 047713 147704
8155 031420 100012
8156
8157
8158      ;*****
8158      ;*TEST 524      TEST OF LDEXP/D INSTR, DATA SET LEXD-13
8159      ;*
8160      ;*
8161      ;*
8162      ;*****
8163 031422 000004
8164 031424 012705 031436
8165 031430 004737 041010
8166
8167 031434 000414
8168
8169 031436
8170 031436 152252 125252 125252
8171 031444 125252

```

```

;*****
;*TEST 522      TEST OF LDEXP/D INSTR, DATA SET LEXD-11
;*
;*
;*
;*****
TST522: SCOPE
MOV      #LEXD11,R5      ; PTR TO TEST DATA SET
JSR      PC,@#LEXD11    ; GO TEST
BR       TST523         ;;

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

;*****
;*TEST 523      TEST OF LDEXP/D INSTR, DATA SET LEXD-12
;*
;*
;*
;*****
TST523: SCOPE
MOV      #LEXD12,R5      ; PTR TO TEST DATA SET
JSR      PC,@#LEXD12    ; GO TEST
BR       TST524         ;;

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

;*****
;*TEST 524      TEST OF LDEXP/D INSTR, DATA SET LEXD-13
;*
;*
;*
;*****
TST524: SCOPE
MOV      #LEXD13,R5      ; PTR TO TEST DATA SET
JSR      PC,@#LEXD13    ; GO TEST
BR       TST525         ;;

LEXD13: ; TEST DATA SET LEXD-13:
.WORD    152252,ALT4N,ALT4N,ALT4N      ; INITIAL AC FLOAT NUMBER

```

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T524 TEST OF LDEXP/D INSTR, DATA SET LEXD-13

8172	031446	177652	125252	125252	.WORD	177652,ALTN,ALTN,ALTN	; EXPECTED FLOAT RESULT
8173	031454	125252					
8174	031456	177577			.WORD	-201	; EXPONENT TO BE LOADED
8175	031460	047607	147610		.WORD	047607,147610	; FPS: BEFORE, AFTER
8176	031464	100012			.WORD	100012	; FEC AFTER (0 = N/A)

8177
8178
8179

```

*****
;TEST 525 TEST OF LDEXP/D INSTR, DATA SET LEXD-14
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****

```

```

↑ST525: SCOPE
MOV #LEXD14,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST526 ;;

```

8184	031466	000004			LEXD14: ; TEST DATA SET LEXD-14:		
8185	031470	012705	031502		.WORD	052217,ALT4P,ALT4P,ALT4P	; INITIAL AC FLOAT NUMBER
8186	031474	004737	041010				
8187							
8188	031500	000414					
8189							
8190	031502						
8191	031502	052217	007417	007417	.WORD	077417,ALT4P,ALT4P,ALT4P	; EXPECTED FLOAT RESULT
8192	031510	007417					
8193	031512	077417	007417	007417	.WORD	-202	; EXPONENT TO BE LOADED
8194	031520	007417			.WORD	047757,147740	; FPS: BEFORE, AFTER
8195	031522	177576			.WORD	100012	; FEC AFTER (0 = N/A)
8196	031524	047757	147740				
8197	031530	100012					

8198
8199

```

*****
;TEST 526 TEST OF LDEXP/D INSTR, DATA SET LEXD-15
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

↑ST526: SCOPE
MOV #LEXD15,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST527 ;;

```

8205	031532	000004			LEXD15: ; TEST DATA SET LEXD-15:		
8206	031534	012705	031546		.WORD	152325,ALTP,ALTP,ALTP	; INITIAL AC FLOAT NUMBER
8207	031540	004737	041010				
8208							
8209	031544	000414					
8210							
8211	031546						
8212	031546	152325	052525	052525	.WORD	177325,ALTP,ALTP,ALTP	; EXPECTED FLOAT RESULT
8213	031554	052525					
8214	031556	177325	052525	052525	.WORD	-203	; EXPONENT TO BE LOADED
8215	031564	052525			.WORD	047647,147650	; FPS: BEFORE, AFTER
8216	031566	177575			.WORD	100012	; FEC AFTER (0 = N/A)
8217	031570	047647	147650				
8218	031574	100012					

8219
8220

```

*****
;TEST 527 TEST OF LDEXP/D INSTR, DATA SET LEXD-16
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
*****

```

```

↑ST527: SCOPE
MOV #LEXD16,R5 ; PTR TO TEST DATA SET

```

8221
8222
8223
8224
8225
8226 031576 000004
8227 031600 012705 031612

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T527 TEST OF LDEXP/D INSTR, DATA SET LEXD-16

```

8228 031604 004737 041010 JSR PC,@#LEXDT ; GO TEST
8229
8230 031610 000414 BR TST530 ;;
8231
8232 031612 LEXD16: ; TEST DATA SET LEXD-16:
8233 031612 177600 000000 000000 .WORD 177600,0,0,0 ; INITIAL AC FLOAT NUMBER
8234 031620 000000
8235 031622 140000 000000 000000 .WORD 140000,0,0,0 ; EXPECTED FLOAT RESULT
8236 031630 000000
8237 031632 000000 .WORD 0 ; EXPONENT TO BE LOADED
8238 031634 047707 047710 .WORD 047707,047710 ; FPS: BEFORE, AFTER
8239 031640 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
8240
8241
8242
8243
8244
8245
8246

```

```

*****
: *TEST 530 TEST OF LDEXP/D INSTR, DATA SET LEXD-17
: *
: * OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
: *
*****

```

```

8247 031642 000004 TST530: SCOPE
8248 031644 012705 031656 MOV #LEXD17,R5 ; PTR TO TEST DATA SET
8249 031650 004737 041010 JSR PC,@#LEXDT ; GO TEST
8250
8251 031654 000414 BR TST531 ;;
8252
8253 031656 LEXD17: ; TEST DATA SET LEXD-17:
8254 031656 152325 052525 052525 .WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
8255 031664 052525
8256 031666 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
8257 031674 000000
8258 031676 000201 .WORD 201 ; EXPONENT TO BE LOADED
8259 031700 046651 046646 .WORD 046651,046646 ; FPS: BEFORE, AFTER
8260 031704 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
8261
8262
8263
8264
8265
8266
8267

```

```

*****
: *TEST 531 TEST OF LDEXP/D INSTR, DATA SET LEXD-20
: *
: * OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
: * LONG FLOAT, LONG INTEGER, ROUND MODES
: *
*****

```

```

8268 031706 000004 TST531: SCOPE
8269 031710 012705 031722 MOV #LEXD20,R5 ; PTR TO TEST DATA SET
8270 031714 004737 041010 JSR PC,@#LEXDT ; GO TEST
8271
8272 031720 000414 BR TST532 ;;
8273
8274 031722 LEXD20: ; TEST DATA SET LEXD-20:
8275 031722 052377 177777 177777 .WORD 052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
8276 031730 177777
8277 031732 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
8278 031740 000000
8279 031742 000200 .WORD 200 ; EXPONENT TO BE LOADED
8280 031744 046711 046706 .WORD 046711,046706 ; FPS: BEFORE, AFTER
8281 031750 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
8282
8283

```

```

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8285
8286
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8288
8289 031752 000004
8290 031754 012705 031766
8291 031760 004737 041010
8292
8293 031764 000414
8294
8295 031766
8296 031766 052201 000002 000003
8297 031774 000000
8298 031776 000000 000000 000000
8299 032004 000000
8300 032006 177600
8301 032010 045713 045704
8302 032014 000000
8303
8304
8305
8306
8307
8308
8309
8310 032016 000004
8311 032020 012705 032032
8312 032024 004737 041010
8313
8314 032030 000414
8315
8316 032032
8317 032032 152252 125252 125252
8318 032040 125252
8319 032042 000000 000000 000000
8320 032050 000000
8321 032052 177577
8322 032054 045613 045604
8323 032060 000000
8324
8325
8326
8327
8328
8329
8330
8331 032062 000004
8332 032064 012705 032076
8333 032070 004737 041010
8334
8335 032074 000414
8336
8337 032076
8338 032076 052217 007417 007417
8339 032104 007417

```

```

*****
:TEST 532 TEST OF LDEXP/D INSTR, DATA SET LEXD-21
:* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
:* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST532: SCOPE
MOV #LEXD21,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST533 ;;
LEXD21: ; TEST DATA SET LEXD-21:
.WORD 052201,2,3,0 ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD -200 ; EXPONENT TO BE LOADED
.WORD 045713,045704 ; FPS: BEFORE, AFTER
.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
*****
TST533: SCOPE
MOV #LEXD22,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST534 ;;
LEXD22: ; TEST DATA SET LEXD-22:
.WORD 152252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
.WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
.WORD -201 ; EXPONENT TO BE LOADED
.WORD 045613,045604 ; FPS: BEFORE, AFTER
.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
*****
TST534: SCOPE
MOV #LEXD23,R5 ; PTR TO TEST DATA SET
JSR PC,@#LEXDT ; GO TEST
BR TST535 ;;
LEXD23: ; TEST DATA SET LEXD-23:
.WORD 052217,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER

```


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T534 TEST OF LDEXP/D INSTR, DATA SET LEXD-23

8340	032106	000000	000000	000000	.WORD	0,0,0,0 ; EXPECTED FLOAT RESULT
8341	032114	000000				
8342	032116	177576			.WORD	-202 ; EXPONENT TO BE LOADED
8343	032120	045753	045744		.WORD	045753,045744 ; FPS: BEFORE, AFTER
8344	032124	000000			.WORD	NA ; FEC AFTER (0 = N/A)

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8364
8365
8366
8367
8368

```

*****
*TEST 535 TEST OF LDEXP/D INSTR, DATA SET LEXD-24
* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****

```

```

†T535: SCOPE
MOV #LEXD24,R5 ; PTR TO TEST DATA SET
JSR PC,#LEXDT ; GO TEST
BR TST536 ;;

```

```

LEXD24: ; TEST DATA SET LEXD-24:
.WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER

```

		000000	000000	000000	.WORD	0,0,0,0 ; EXPECTED FLOAT RESULT
		177575			.WORD	-203 ; EXPONENT TO BE LOADED
		045653	045644		.WORD	045653,045644 ; FPS: BEFORE, AFTER
		000000			.WORD	NA ; FEC AFTER (0 = N/A)

M13

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T536 TEST OF STEXP/F INSTR, DATA SET SEXF-1

8369
8370
8371
8372
8373
8374 032172 000004
8375 032174 012705 032206
8376 032200 004737 041200
8377
8378 032204 000405
8379
8380 032206
8381 032206 177777 177777
8382 032212 000177
8383 032214 047457 047440
8384
8385
8386
8387
8388
8389
8390
8391 032220 000004
8392 032222 012705 032234
8393 032226 004737 041200
8394
8395 032232 000405
8396
8397 032234
8398 032234 060052 125252
8399 032240 000100
8400 032242 047517 047500
8401
8402
8403
8404
8405
8406
8407
8408 032246 000004
8409 032250 012705 032262
8410 032254 004737 041200
8411
8412 032260 000405
8413
8414 032262
8415 032262 140270 107070
8416 032266 000001
8417 032270 047557 047540
8418
8419
8420
8421
8422
8423
8424

```
*****  
: *TEST 536 TEST OF STEXP/F INSTR, DATA SET SEXF-1  
: * ALL INTERRUPT ENABLES ON  
: * SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES  
: *****  
TST536: SCOPE  
MOV #SEXF1,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SEXFT ; GO TEST  
  
BR TST537 ;;
```

```
SEXF1: ; TEST DATA SET SEXF-1:  
.WORD M1,M1 ; INITIAL AC FLOAT NUMBER  
.WORD 177 ; EXPONENT EXPECTED TO BE STORED  
.WORD 047457,047440 ; FPS: BEFORE, AFTER
```

```
*****  
: *TEST 537 TEST OF STEXP/F INSTR, DATA SET SEXF-2  
: * ALL INTERRUPT ENABLES ON  
: * SHORT FLOAT, LONG INTEGER, ROUND MODES  
: *****
```

```
TST537: SCOPE  
MOV #SEXF2,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SEXFT ; GO TEST  
  
BR TST540 ;;
```

```
SEXF2: ; TEST DATA SET SEXF-2:  
.WORD 060052,ALTN ; INITIAL AC FLOAT NUMBER  
.WORD 100 ; EXPONENT EXPECTED TO BE STORED  
.WORD 047517,047500 ; FPS: BEFORE, AFTER
```

```
*****  
: *TEST 540 TEST OF STEXP/F INSTR, DATA SET SEXF-3  
: * ALL INTERRUPT ENABLES ON  
: * SHORT FLOAT, LONG INTEGER, TRUNCATE MODES  
: *****
```

```
TST540: SCOPE  
MOV #SEXF3,R5 ; PTR TO TEST DATA SET  
JSR PC,@#SEXFT ; GO TEST  
  
BR TST541 ;;
```

```
SEXF3: ; TEST DATA SET SEXF-3:  
.WORD 140270,107070 ; INITIAL AC FLOAT NUMBER  
.WORD 1 ; EXPONENT EXPECTED TO BE STORED  
.WORD 047557,047540 ; FPS: BEFORE, AFTER
```

```
*****  
: *TEST 541 TEST OF STEXP/F INSTR, DATA SET SEXF-4  
: * ALL INTERRUPT ENABLES ON  
: * SHORT FLOAT, SHORT INTEGER, ROUND MODES  
: *****
```

N13

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T541 TEST OF STEXP/F INSTR, DATA SET SEXF-4

8425 032274 000004
8426 032276 012705 032310
8427 032302 004737 041200
8428
8429 032306 000405
8430
8431 032310
8432 032310 040125 007417
8433 032314 000000
8434 032316 047413 047404
8435
8436
8437
8438
8439
8440
8441

TST541: SCOPE
MOV #SEXF4,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXFT ; GO TEST

BR TST542 ;;

SEXF4: ; TEST DATA SET SEXF-4:
.WORD 040125,ALT4P ; INITIAL AC FLOAT NUMBER
.WORD 0 ; EXPONENT EXPECTED TO BE STORED
.WORD 047413,047404 ; FPS: BEFORE, AFTER

*TEST 542 TEST OF STEXP/F INSTR, DATA SET SEXF-5
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

8442 032322 000004
8443 032324 012705 032336
8444 032330 004737 041200
8445
8446 032334 000405
8447
8448 032336
8449 032336 137760 170360
8450 032342 177777
8451 032344 047407 047410
8452
8453
8454
8455
8456
8457
8458

TST542: SCOPE
MOV #SEXF5,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXFT ; GO TEST

BR TST543 ;;

SEXF5: ; TEST DATA SET SEXF-5:
.WORD 137760,ALT4N ; INITIAL AC FLOAT NUMBER
.WORD -1 ; EXPONENT EXPECTED TO BE STORED
.WORD 047407,047410 ; FPS: BEFORE, AFTER

*TEST 543 TEST OF STEXP/F INSTR, DATA SET SEXF-6
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES

8459 032350 000004
8460 032352 012705 032364
8461 032356 004737 041200
8462
8463 032362 000405
8464
8465 032364
8466 032364 100307 070707
8467 032370 177601
8468 032372 047507 047510
8469
8470
8471

TST543: SCOPE
MOV #SEXF6,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXFT ; GO TEST

BR TST544 ;;

SEXF6: ; TEST DATA SET SEXF-6:
.WORD 100307,070707 ; INITIAL AC FLOAT NUMBER
.WORD -177 ; EXPONENT EXPECTED TO BE STORED
.WORD 047507,047510 ; FPS: BEFORE, AFTER

*TEST 544 TEST OF STEXP/F INSTR, DATA SET SEXF-7
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

8476 032376 000004
8477 032400 012705 032412
8478 032404 004737 041200
8479
8480 032410 000405

TST544: SCOPE
MOV #SEXF7,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXFT ; GO TEST

BR TST545 ;;

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T544 TEST OF STEXP/F INSTR, DATA SET SEXF-7

8481			
8482	032412		
8483	032412	000000	000000
8484	032416	177600	
8485	032420	047447	047450
8486			
8487			
8488			

SEXF7: ; TEST DATA SET SEXF-7:
 .WORD 0,0 ; INITIAL AC FLOAT NUMBER
 .WORD -200 ; EXPONENT EXPECTED TO BE STORED
 .WORD 047447,047450 ; FPS: BEFORE, AFTER

```

8489
8490
8491
8492
8493
8494 032424 000004
8495 032426 012705 032440
8496 032432 004737 041334
8497
8498 032436 000407
8499
8500 032440
8501 032440 077600 000000 000000
8502 032446 000000
8503 032450 000177
8504 032452 047717 047700
8505
8506
8507
8508
8509
8510
8511
8512 032456 000004
8513 032460 012705 032472
8514 032464 004737 041334
8515
8516 032470 000407
8517
8518 032472
8519 032472 040360 170360 170360
8520 032500 170360
8521 032502 000001
8522 032504 047657 047640
8523
8524
8525
8526
8527
8528
8529
8530 032510 000004
8531 032512 012705 032524
8532 032516 004737 041334
8533
8534 032522 000407
8535
8536 032524
8537 032524 140107 070707 070707
8538 032532 070707
8539 032534 000000
8540 032536 047613 047604
8541
8542
8543
8544

```

```

*****
; *TEST 545 TEST OF STEXP/D INSTR, DATA SET SEXD-1
; *
; * ALL INTERRUPT ENABLES ON
; * LONG FLOAT, LONG INTEGER, ROUND MODES
*****
†ST545: SCOPE
MOV #SEXD1,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXDT ; GO TEST
BR TST546 ;;
SEXD1: ; TEST DATA SET SEXD-1:
.WORD 077600,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD 177 ; EXPONENT EXPECTED TO BE STORED
.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
*****
†ST546: SCOPE
MOV #SEXD2,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXDT ; GO TEST
BR TST547 ;;
SEXD2: ; TEST DATA SET SEXD-2:
.WORD 040360,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
.WORD 1 ; EXPONENT EXPECTED TO BE STORED
.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
*****
†ST547: SCOPE
MOV #SEXD3,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXDT ; GO TEST
BR TST550 ;;
SEXD3: ; TEST DATA SET SEXD-3:
.WORD 140107,070707,070707,070707 ; INITIAL AC FLOAT NUMBER
.WORD 0 ; EXPONENT EXPECTED TO BE STORED
.WORD 047613,047604 ; FPS: BEFORE, AFTER

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

```

```

8545      ;*          ALL INTERRUPT ENABLES ON
8546      ;*          LONG FLOAT, LONG INTEGER, ROUND MODES
8547      ;*****
8548 032542 000004      †T550: SCOPE
8549 032544 012705 032556      MOV      #SEXD4,R5      ; PTR TO TEST DATA SET
8550 032550 004737 041334      JSR      PC,@#SEXDT      ; GO TEST
8551
8552 032554 000407      BR      TST551      ;;
8553
8554 032556      SEXD4: ; TEST DATA SET SEXD-4:
8555 032556 037652 125252 125252      .WORD   037652,ALTN,ALTN,ALTN      ; INITIAL AC FLOAT NUMBER
8556 032564 125252
8557 032566 177777      .WORD   -1      ; EXPONENT EXPECTED TO BE STORED
8558 032570 047707 047710      .WORD   047707,047710      ; FPS: BEFORE, AFTER
8559
8560
8561      ;*****
8562      ;*TEST 551      TEST OF STEXP/D INSTR, DATA SET SEXD-5
8563      ;*          ALL INTERRUPT ENABLES ON
8564      ;*          LONG FLOAT, LONG INTEGER, TRUNCATE MODES
8565      ;*****
8566 032574 000004      †T551: SCOPE
8567 032576 012705 032610      MOV      #SEXD5,R5      ; PTR TO TEST DATA SET
8568 032602 004737 041334      JSR      PC,@#SEXDT      ; GO TEST
8569
8570 032606 000407      BR      TST552      ;;
8571
8572 032610      SEXD5: ; TEST DATA SET SEXD-5:
8573 032610 120070 107070 107070      .WORD   120070,107070,107070,107070      ; INITIAL AC FLOAT NUMBER
8574 032616 107070
8575 032620 177700      .WORD   -100      ; EXPONENT EXPECTED TO BE STORED
8576 032622 047747 047750      .WORD   047747,047750      ; FPS: BEFORE, AFTER
8577
8578
8579      ;*****
8580      ;*TEST 552      TEST OF STEXP/D INSTR, DATA SET SEXD-6
8581      ;*          ALL INTERRUPT ENABLES ON
8582      ;*          LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
8583      ;*****
8584 032626 000004      †T552: SCOPE
8585 032630 012705 032642      MOV      #SEXD6,R5      ; PTR TO TEST DATA SET
8586 032634 004737 041334      JSR      PC,@#SEXDT      ; GO TEST
8587
8588 032640 000407      BR      TST553      ;;
8589
8590 032642      SEXD6: ; TEST DATA SET SEXD-6:
8591 032642 000217 007417 007417      .WORD   000217,ALT4P,ALT4P,ALT4P      ; INITIAL AC FLOAT NUMBER
8592 032650 007417
8593 032652 177601      .WORD   -177      ; EXPONENT EXPECTED TO BE STORED
8594 032654 047647 047650      .WORD   047647,047650      ; FPS: BEFORE, AFTER
8595
8596
8597      ;*****
8598      ;*TEST 553      TEST OF STEXP/D INSTR, DATA SET SEXD-7
8599      ;*          ALL INTERRUPT ENABLES ON
8600      ;*          LONG FLOAT, SHORT INTEGER, ROUND MODES

```

E14

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T553 TEST OF STEXP/D INSTR, DATA SET SEXD-7

8601
8602 032660 000004
8603 032662 012705 032674
8604 032666 004737 041334
8605
8606 032672 000407
8607
8608 032674
8609 032674 000177 177777 177777
8610 032702 177777
8611 032704 177600
8612 032706 047607 047610
8613
8614
8615

```

;*****
TST553: SCOPE
MOV #SEXD7,R5 ; PTR TO TEST DATA SET
JSR PC,@#SEXDT ; GO TEST
BR TST554 ;;
SEXD7: ; TEST DATA SET SEXD-7:
.WORD 000177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD -200 ; EXPONENT EXPECTED TO BE STORED
.WORD 047607,047610 ; FPS: BEFORE, AFTER

```

F14

FPU ADVANCED INSTR TESTS
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T553 TEST OF STEXP/D INSTR, DATA SET SEXD-7

```

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

```


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 END OF PASS ROUTINE (MODIFIED SYSMAC)

8672	033030	012737			MOV	(PC)+,2(PC)+	;RESTORE COUNTER
8673	033032	000001			SENDCT: .WORD	1	:
8674	033034	033024			\$EOPCT		:
8675	033036	032777	002000	146102	BIT	#SW10,2SWR	;BELL ON PASS END ?
8676	033044	001002			BNE	\$GET42	;NO
8677	033046	104401	001314		TYPE	,SBELL	;YES
8678							
8679	033052	013700	000042		\$GET42: MOV	2#42,RO	;GET MONITOR ADDRESS
8680	033056	001405			BEQ	\$DOAGN	;NO MONITOR
8681	033060	000005			RESET		;CLEAR WORLD
8682							
8683	033062	004710			SENDAD: JSR	PC,(RO)	;GO TO MONITOR
8684	033064	000240			NOP		:
8685	033066	000240			NOP		;RESERVED FOR ACT11
8686	033070	000240			NOP		:
8687							
8688	033072	000137	002616		\$DOAGN: JMP	2#NEWPAS	;RETURN
8689							
8690							

```

      .SBTTL SUBR TO TEST THE CMPF INSTRUCTION
      CMPFT:
8691      MOV      #7,R0          ; LOAD $TMP0-6
8692      MOV      R5,R1          ; WITH TEST DATA SETS
8693      MOV      #TMP0,R2       ; FOR DISPLAY LATER
8694      MOV      (R1)+(R2)+
8695      SOB      R0,-2
8696      MOV      #CMPFL,$LPERR ; ERROR LOOPING ADDRESS
8697      MOV      #CMPFL,$LPERR ;
8698      MOV      #CMPFL,$LPERR ;
8699      MOV      #CMPFL,$LPERR ;
8700
8701      CMPFL: SETF          ; F MODE
8702      LDF      (R5),AC3       ; INITIAL AC FLOAT NUMBER
8703      LDFPS   10(R5)         ; INITIAL FPS
8704
8705      CMPFI: CMPF      4(R5),AC3 ; (MEM)-(AC3)
8706
8707      STFPS   FPS             ; STORE FPS AFTER
8708      STST    FEC            ; STORE FEC/FEA AFTER
8709      STF     AC3,$REG0      ; STORE AC NUMBER
8710
8711      CMP     FPS,12(R5)       ; CHECK FPS
8712      BEQ    65$             ; FPS IS OK
8713      ERROR  2              ; FPS BAD
8714      TST    14(R5)          ; DOES FEC/FEA APPLY?
8715      BPL    66$             ; NO - SKIP TEST
8716      MOV    #CMPFI,EXPFEA   ; GET EXPECTED FEA
8717      CMPB   FEC,14(R5)      ; COMPARE FEC-S
8718      BNE    64$             ; NOT EQUAL
8719      CMP    FEA,EXPFEA      ; COMPARE FEA-S
8720      BEQ    66$             ; FEC, FEA OK
8721      ERROR  12             ; FEC OR FEA ARE BAD
8722
8723
8724      CMP     $REG0,(R5)       ; 1ST WORD OF RESULT CHECK?
8725      BNE    67$             ; NO
8726      CMP     $REG1,2(R5)    ; 2ND WORD OF RESULT CHECK?
8727      BEQ    68$             ; ALL WORDS OK
8728      ERROR  21             ; NUMBERS NOT EQUAL
8729
8730
8731      RTS     PC              ; RETURN TO TEST CALLER
8732
8733
8734      ;*****
8735      .SBTTL SUBR TO TEST THE CMPD INSTRUCTION
8736
8737      CMPDT:
8738      MOV      #13,R0         ; LOAD $TMP0-12
8739      MOV      R5,R1          ; WITH TEST DATA SETS
8740      MOV      #TMP0,R2       ; FOR DISPLAY LATER
8741      MOV      (R1)+(R2)+
8742      SOB      R0,-2
8743      MOV      #CMPDL,$LPERR ; ERROR LOOPING ADDRESS
8744
8745      CMPDL: SETD          ; D MODE
8746      LDD     (R5),AC2       ; INITIAL AC FLOAT NUMBER

```


.SBTTL SUBR TO TEST THE ADDF INSTRUCTION

```

8781
8782
8783 033432
8784 033432 012700 000011
8785 033436 010501
8786 033440 012702 001230
8787 033444 012122
8788 033446 077002
8789 033450 012737 033456 001114
8790
8791 033456 170001
8792 033460 172515
8793 033462 170165 000014
8794
8795 033466 172165 000004
8796
8797 033472 170237 002000
8798 033476 170337 002002
8799 033502 174137 001170
8800
8801 033506 023765 002000 000016
8802 033514 001401
8803 033516 104004
8804 033520 005765 000020
8805 033524 100014
8806 033526 012737 033466 002014
8807 033534 123765 002002 000020
8808 033542 001004
8809 033544 023737 002004 002014
8810 033552 001401
8811 033554 104014
8812 033556
8813
8814 033556 023765 001170 000010
8815 033564 001004
8816 033566 023765 001172 000012
8817 033574 001401
8818 033576 104023
8819 033600
8820
8821 033600 000207
8822
8823
8824
8825
8826 033602
8827 033602 012700 000017
8828 033606 010501
8829 033610 012702 001230
8830 033614 012122
8831 033616 077002
8832 033620 012737 033626 001114
8833
8834 033626 170011
8835 033630 172415
8836 033632 170165 000030

```

```

ADDFT:
MOV #11,R0 ; LOAD $TMP0-10
MOV R5,R1 ; WITH TEST DATA SETS
MOV #TMP0,R2 ; FOR DISPLAY LATER
MOV (R1)+(R2)+
SOB R0,-2
MOV #ADDFL,$LPERR ; ERROR LOOPING ADDRESS

ADDFL:
SETF ; F MODE
LDF (R5),AC1 ; INITIAL AC FLOAT NUMBER
LDFPS 14(R5) ; INITIAL FPS

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

STFPS FPS ; STORE FPS AFTER
STST FEC ; STORE FEC/FEA AFTER
STF AC1,$REG0 ; RESULT OF ADDF

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 #ADDFI,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$:
ERROR 23 ; NUMBERS NOT EQUAL
68$:

RTS PC ; RETURN TO TEST CALLER

```

.SBTTL SUBR TO TEST THE ADDD INSTRUCTION

```

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

ADDDL:
SETD ; D MODE
LDD (R5),ACC ; INITIAL AC FLOAT NUMBER
LDFPS 30(R5) ; INITIAL FPS

```



```

8870          .SBTTL SUBR TO TEST THE SUBF INSTRUCTION
8871
8872 033772          SUBFT:
8873 033772 012700 000011      MOV #11,R0          ; LOAD $TMPO-10
8874 033776 010501          MOV R5,R1          ; WITH TEST DATA SETS
8875 034000 012702 001230      MOV $TMPO,R2       ; FOR DISPLAY LATER
8876 034004 012122          MOV (R1)+,(R2)+
8877 034006 077002          SOB RO,-2
8878 034010 012737 034016 001114  MOV #SUBFL,$LPERR ; ERROR LOOPING ADDRESS
8879
8880 034016 170001          SUBFL: SETF          ; F MODE
8881 034020 172415          LDF (R5),AC0       ; INITIAL AC FLOAT NUMBER
8882 034022 170165 000014      LDFPS 14(R5)      ; INITIAL FPS
8883
8884 034026 173065 000004      SUBFI: SUBF 4(R5),AC0 ; (AC0)-(MEM)->AC0
8885
8886 034032 170237 002000      STFPS FPS         ; STORE FPS AFTER
8887 034036 170337 002002      STST FEC         ; STORE FEC/FEA AFTER
8888 034042 174037 001170      STF AC0,$REGO    ; RESULT OF SUBF
8889
8890 034046 023765 002000 000016  CMP FPS,16(R5)    ; CHECK FPS
8891 034054 001401          BEQ 65$          ; FPS IS OK
8892 034056 104004          ERROR 4          ; FPS BAD
8893 034060 005765 000020      65$: TST 20(R5)       ; DOES FEC/FEA APPLY?
8894 034064 100014          BPL 66$          ; NO - SKIP TEST
8895 034066 012737 034026 002014  MOV #SUBFI,EXPFEA ; GET EXPECTED FEA
8896 034074 123765 002002 000020  CMPB FEC,20(R5)  ; COMPARE FEC-S
8897 034102 001004          BNE 64$          ; NOT EQUAL
8898 034104 023737 002004 002014  CMP FEA,EXPFEA   ; COMPARE FEA-S
8899 034112 001401          BEQ 66$          ; FEC, FEA OK
8900 034114 104014          64$: ERROR 14   ; FEC OR FEA ARE BAD
8901 034116          66$:
8902
8903 034116 023765 001170 000010  CMP $REGO,10(R5) ; 1ST WORD OF RESULT CHECK?
8904 034124 001004          BNE 67$          ; NO
8905 034126 023765 001172 000012  CMP $REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
8906 034134 001401          BEQ 68$          ; ALL WORDS OK
8907 034136 104023          67$: ERROR 23   ; NUMBERS NOT EQUAL
8908 034140          68$:
8909
8910 034140 000207          RTS PC          ; RETURN TO TEST CALLER
8911
8912 ;:*****
8913 ;.SBTTL SUBR TO TEST THE SUBD INSTRUCTION
8914
8915 034142          SUBDT:
8916 034142 012700 000017      MOV #17,R0          ; LOAD $TMPO-16
8917 034146 010501          MOV R5,R1          ; WITH TEST DATA SETS
8918 034150 012702 001230      MOV $TMPO,R2       ; FOR DISPLAY LATER
8919 034154 012122          MOV (R1)+,(R2)+
8920 034156 077002          SOB RO,-2
8921 034160 012737 034166 001114  MOV #SUBDL,$LPERR ; ERROR LOOPING ADDRESS
8922
8923 034166 170011          SUBDL: SETD         ; D MODE
8924 034170 172715          LDD (R5),AC3     ; INITIAL AC FLOAT NUMBER
8925 034172 170165 000030      LDFPS 30(R5)     ; INITIAL FPS

```



```

8959      .SBTTL SUBR TO TEST THE MULF INSTRUCTION
8960
8961 034332      MULFT:
8962 034332 012700 000011      MOV #11,R0 ; LOAD $TMPO-10
8963 034336 010501      MOV R5,R1 ; WITH TEST DATA SETS
8964 034340 012702 001230      MOV #TMPO,R2 ; FOR DISPLAY LATER
8965 034344 012122      MOV (R1)+(R2)+ ;
8966 034346 077002      SOB R0,-2 ;
8967 034350 012737 034356 001114      MOV #MULFL,$LPERR ; ERROR LOOPING ADDRESS
8968
8969 034356 170001      MULFL: SETF ; F MODE
8970 034360 172715      LDF (R5),AC3 ; INITIAL AC FLOAT NUMBER
8971 034362 170165 000014      LDFPS 14(R5) ; INITIAL FPS
8972
8973 034366 171365 000004      MULFI: MULF 4(R5),AC3 ; (AC3)*(MEM)->AC3
8974
8975 034372 170237 002000      STFPS FPS ; STORE FPS AFTER
8976 034376 170337 002002      STST FEC ; STORE FEC/FEA AFTER
8977 034402 174337 001170      STF AC3,$REGO ; RESULT OF MULF
8978
8979 034406 023765 002000 000016      CMP FPS,16(R5) ; CHECK FPS
8980 034414 001401      BEQ 65$ ; FPS IS OK
8981 034416 104004      ERROR 4 ; FPS BAD
8982 034420 005765 000020      65$: TST 20(R5) ; DOES FEC/FEA APPLY?
8983 034424 100014      BPL 66$ ; NO - SKIP TEST
8984 034426 012737 034366 002014      MOV #MULFI,EXPFEA ; GET EXPECTED FEA
8985 034434 123765 002002 000020      CMPB FEC,20(R5) ; COMPARE FEC-S
8986 034442 001004      BNE 64$ ; NOT EQUAL
8987 034444 023737 002004 002014      CMP FEA,EXPFEA ; COMPARE FEA-S
8988 034452 001401      BEQ 66$ ; FEC, FEA OK
8989 034454 104014      64$: ERROR 14 ; FEC OR FEA ARE BAD
8990 034456      66$:
8991
8992 034456 023765 001170 000010      CMP $REGO,10(R5) ; 1ST WORD OF RESULT CHECK?
8993 034464 001004      BNE 67$ ; NO
8994 034466 023765 001172 000012      CMP $REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
8995 034474 001401      BEQ 68$ ; ALL WORDS OK
8996 034476 104025      67$: ERROR 25 ; NUMBERS NOT EQUAL
8997 034500      68$:
8998
8999 034500 000207      RTS PC ; RETURN TO TEST CALLER
9000

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.SBTTL SUBR TO TEST THE MULD INSTRUCTION

```

9003
9004 034502      MULDT:
9005 034502 012700 000017      MOV #17,R0 ; LOAD $TMPO-16
9006 034506 010501      MOV R5,R1 ; WITH TEST DATA SETS
9007 034510 012702 001230      MOV #TMPO,R2 ; FOR DISPLAY LATER
9008 034514 012122      MOV (R1)+(R2)+ ;
9009 034516 077002      SOB R0,-2 ;
9010 034520 012737 034526 001114      MOV #MULD, $LPERR ; ERROR LOOPING ADDRESS
9011
9012 034526 170011      MULDL: SETD ; D MODE
9013 034530 172615      LDD (R5),AC2 ; INITIAL AC FLOAT NUMBER
9014 034532 170165 000030      LDFPS 30(R5) ; INITIAL FPS

```



```

.SBTTL SUBR TO TEST THE DIVF INSTRUCTION
DIVFT:
9048
9049
9050 034672 012700 000011      MOV      #11,R0      ; LOAD $TMP0-10
9051 034672 010501              MOV      R5,R1      ; WITH TEST DATA SETS
9052 034676 012702 001230      MOV      #TMP0,R2   ; FOR DISPLAY LATER
9053 034700 012122              MOV      (R1)+(R2)+
9054 034704 077002              SOB      RO,-2
9055 034706 012737 034716 001114  MOV      #DIVFL,$LPERR ; ERROR LOOPING ADDRESS
9056 034710
9057
9058 034716 170001      DIVFL:  SETF      ; F MODE
9059 034720 172615      LDF      (R5),AC2   ; INITIAL AC FLOAT NUMBER
9060 034722 170165 000014      LDFPS   14(R5)     ; INITIAL FPS
9061
9062 034726 174665 000004      DIVFI:  DIVF      4(R5),AC2 ; (AC2)/(MEM)->AC2
9063
9064 034732 170237 002000      STFPS   FPS        ; STORE FPS AFTER
9065 034736 170337 002002      STST    FEC        ; STORE FEC/FEA AFTER
9066 034742 174237 001170      STF     AC2,$REGO  ; RESULT OF DIVF
9067
9068 034746 023765 002000 000016      CMP     FPS,16(R5) ; CHECK FPS
9069 034754 001401          BEQ     65$        ; FPS IS OK
9070 034756 104004          ERROR   4         ; FPS BAD
9071 034760 005765 000020      65$:   TST     20(R5)   ; DOES FEC/FEA APPLY?
9072 034764 100014          BPL     66$        ; NO - SKIP TEST
9073 034766 012737 034726 002014      MOV     #DIVFI,EXPFEA ; GET EXPECTED FEA
9074 034774 123765 002002 000020      CMPB   FEC,20(R5)  ; COMPARE FEC-S
9075 035002 001004          BNE     64$        ; NOT EQUAL
9076 035004 023737 002004 002014      CMP     FEA,EXPFEA ; COMPARE FEA-S
9077 035012 001401          BEQ     66$        ; FEC, FEA OK
9078 035014 104014          64$:   ERROR   14   ; FEC OR FEA ARE BAD
9079 035016
9080
9081 035016 023765 001170 000010      CMP     $REGO,10(R5) ; 1ST WORD OF RESULT CHECK?
9082 035024 001004          BNE     67$        ; NO
9083 035026 023765 001172 000012      CMP     $REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
9084 035034 001401          BEQ     68$        ; ALL WORDS OK
9085 035036 104025          67$:   ERROR   25   ; NUMBERS NOT EQUAL
9086 035040
9087
9088 035040 000207      RTS     PC         ; RETURN TO TEST CALLER
9089
9090
9091
9092
9093
9094 035042 012700 000017      .: *****
.SBTTL SUBR TO TEST THE DIVD INSTRUCTION
DIVDT:
9095 035042 010501              MOV      #17,R0      ; LOAD $TMP0-16
9096 035046 012702 001230      MOV      R5,R1      ; WITH TEST DATA SETS
9097 035050 012122              MOV      #TMP0,R2   ; FOR DISPLAY LATER
9098 035054 012122              MOV      (R1)+(R2)+
9099 035056 077002              SOB      RO,-2
9100 035060 012737 035066 001114  MOV      #DIVDL,$LPERR ; ERROR LOOPING ADDRESS
9101
9102
9103 035066 170011      DIVDL:  SETD      ; D MODE
          LDD      (R5),AC1 ; INITIAL AC FLOAT NUMBER
          LDFPS   30(R5)  ; INITIAL FPS

```

```

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

```

E15

FPU ADVANCED INSTR TESTS
 DQFPBA.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 188
 SUBR TO TEST THE MODF INSTRUCTION, USING 2 ACCUMULATORS

```

.SBTTL SUBR TO TEST THE MODF INSTRUCTION, USING 2 ACCUMULATORS
MD2FT:
9138
9139
9140 035232
9141 035232 012700 000013
9142 035236 010501
9143 035240 012702 001230
9144 035244 012122
9145 035246 077002
9146 035250 012737 035256 001114
9147
9148 035256 170001 MD2FL: SETF ; F MODE
9149 035260 172615 LDF (R5),AC2 ; INITIAL AC FLOAT NUMBER
9150 035262 172737 002036 LDF PREVAC,AC3 ; FOR FEC-14 TEST
9151 035266 170165 000020 LDFPS 20(R5) ; INITIAL FPS
9152
9153 035272 171665 000004 MD2FI: MODF 4(R5),AC2 ; FRAC[(AC2)*(MEM)]->AC2
9154 ; INT[(AC2)*(MEM)]->AC3
9155
9156 035276 170237 002000 STFPS FPS ; STORE FPS AFTER
9157 035302 170337 002002 STST FEC ; STORE FEC/FEA AFTER
9158 035306 174237 001170 STF AC2,$REG0 ; STORE FRAC PART
9159 035312 174337 001174 STF AC3,$REG2 ; STORE INT PART
9160
9161 035316 023765 002000 000022 CMP FPS,22(R5) ; CHECK FPS
9162 035324 001401 BEQ 65$ ; FPS IS OK
9163 035326 104005 ERROR 5 ; FPS BAD
9164 035330 005765 000024 65$: TST 24(R5) ; DOES FEC/FEA APPLY?
9165 035334 100014 BPL 66$ ; NO - SKIP TEST
9166 035336 012737 035272 002014 MOV #MD2FI,EXPFEA ; GET EXPECTED FEA
9167 035344 123765 002002 000024 CMPB FEC,24(R5) ; COMPARE FEC-S
9168 035352 001004 BNE 64$ ; NOT EQUAL
9169 035354 023737 002004 002014 CMP FEA,EXPFEA ; COMPARE FEA-S
9170 035362 001401 BEQ 66$ ; FEC, FEA OK
9171 035364 104015 64$: ERROR 15 ; FEC OR FEA ARE BAD
9172 035366
9173
9174 ; CHECK FRACTION PART
9175 035366 023765 001170 000010 CMP $REG0,10(R5) ; 1ST WORD OF RESULT CHECK?
9176 035374 001004 BNE 67$ ; NO
9177 035376 023765 001172 000012 CMP $REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
9178 035404 001401 BEQ 68$ ; ALL WORDS OK
9179 035406 104027 67$: ERROR 27 ; NUMBERS NOT EQUAL
9180 035410 68$:
9181
9182 ; CHECK INTEGER PART
9183 035410 023765 001174 000014 CMP $REG2,14(R5) ; 1ST WORD OF RESULT CHECK?
9184 035416 001004 BNE 69$ ; NO
9185 035420 023765 001176 000016 CMP $REG3,16(R5) ; 2ND WORD OF RESULT CHECK?
9186 035426 001401 BEQ 70$ ; ALL WORDS OK
9187 035430 104030 69$: ERROR 30 ; NUMBERS NOT EQUAL
9188 035432 70$:
9189
9190 035432 000207 RTS PC ; RETURN TO TEST CALLER
9191
9192
9193
; ;*****

```

FPU ADVANCED INSTR TESTS
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MACY11 27(1006) 09-FEB-77 10:05 PAGE 189
 SUBR TO TEST THE MODD INSTRUCTION, USING 2 ACCUMULATORS

```

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

MD2DT:
9194
9195
9196 035434
9197 035434 012700 000023
9198 035440 010501
9199 035442 012702 001230
9200 035446 012122
9201 035450 077002
9202 035452 012737 035460 001114
9203
9204 035460 170011
9205 035462 172415
9206 035464 172537 002036
9207 035470 170165 000040
9208
9209 035474 171465 000010
9210
9211
9212 035500 170237 002000
9213 035504 170337 002002
9214 035510 174037 001170
9215 035514 174137 001200
9216
9217 035520 023765 002000 000042
9218 035526 001401
9219 035530 104010
9220 035532 005765 000044
9221 035536 100014
9222 035540 012737 035474 002014
9223 035546 123765 002002 000044
9224 035554 001004
9225 035556 023737 002004 002014
9226 035564 001401
9227 035566 104020
9228 035570
9229
9230
9231 035570 023765 001170 000020
9232 035576 001014
9233 035600 023765 001172 000022
9234 035606 001010
9235 035610 023765 001174 000024
9236 035616 001004
9237 035620 023765 001176 000026
9238 035626 001401
9239 035630 104031
9240 035632
9241
9242
9243 035632 023765 001200 000030
9244 035640 001014
9245 035642 023765 001202 000032
9246 035650 001010
9247 035652 023765 001204 000034
9248 035660 001004
9249 035662 023765 001206 000036

MOV #23,R0 ; LOAD $TMP0-22
MOV R5,R1 ; WITH TEST DATA SETS
MOV #TMP0,R2 ; FOR DISPLAY LATER
MOV (R1)+,(R2)+
SOB R0,-2
MOV #MD2DL,$LPERR ; ERROR LOOPING ADDRESS

MD2DL:
SETD ; D MODE
LDD (R5),ACO ; INITIAL AC FLOAT NUMBER
LDD PREVAC,AC1 ; FOR FEC-14 TEST
LDFPS 40(R5) ; INITIAL FPS

MD2DI:
MODD 10(R5),ACO ; FRAC[(ACO)*(MEM)]->ACO
; INT[(ACO)*(MEM)]->AC1

STFPS FPS ; STORE FPS AFTER
STST FEC ; STORE FEC/FEA AFTER
STD ACO,$REG0 ; STORE FRAC PART
STD AC1,$REG4 ; STORE INT PART

CMP FPS,42(R5) ; CHECK FPS
BEQ 65$ ; FPS IS OK
ERROR 10 ; FPS BAD

65$:
TST 44(R5) ; DOES FEC/FEA APPLY?
BPL 66$ ; NO - SKIP TEST
MOV #MD2DI,EXPFEA ; GET EXPECTED FEA
CMPB FEC,44(R5) ; COMPARE FEC-S
BNE 64$ ; NOT EQUAL
CMP FEA,EXPFEA ; COMPARE FEA-S
BEQ 66$ ; FEC, FEA OK
ERROR 20 ; FEC OR FEA ARE BAD

64$:
66$:
; CHECK FRACTION PART OF RESULT
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
ERROR 31 ; NUMBERS NOT EQUAL

67$:
68$:
; CHECK INTEGER PART
CMP $REG4,30(R5) ; 1ST WORD OF RESULT CHECK?
BNE 69$ ; NO
CMP $REG5,32(R5) ; 2ND WORD OF RESULT CHECK?
BNE 69$ ; NO
CMP $REG6,34(R5) ; 3RD WORD OF RESULT CHECK?
BNE 69$ ; NO
CMP $REG7,36(R5) ; 4TH WORD OF RESULT CHECK?

```

G15

FPU ADVANCED INSTR TESTS
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MACY11 27(1006) 09-FEB-77 10:05 PAGE 190
SUBR TO TEST THE MODD INSTRUCTION, USING 2 ACCUMULATORS

9250 035670 001401
9251 035672 104032
9252 035674
9253
9254 035674 000207

69\$: BEQ 70\$
ERROR 32
70\$:

; ALL WORDS OK
; NUMBERS NOT EQUAL

RTS PC

; RETURN TO TEST CALLER

H15

FPU ADVANCED INSTR TESTS
DQFPBA.P11 09-FEB-77 10:02

MACY11 27(1006) 09-FEB-77 10:05 PAGE 191
SUBR TO TEST THE MODF INSTRUCTION, USING 1 ACCUMULATOR

```
.SBTTL SUBR TO TEST THE MODF INSTRUCTION, USING 1 ACCUMULATOR
MD1FT:
9255 MOV #13,R0 ; LOAD $TMP0-12
9256 MOV R5,R1 ; WITH TEST DATA SETS
9257 035676 012700 000013 MOV #TMP0,R2 ; FOR DISPLAY LATER
9258 035676 010501 001230 MOV (R1)+,(R2)+
9259 035702 012702 001230 SOB R0,-2
9260 035704 012702 001230 MOV #MD1FL,$LPERR ; ERROR LOOPING ADDRESS
9261 035710 012122
9262 035712 077002
9263 035714 012737 035722 001114 MD1FL: SETF ; F MODE
9264 035722 170001 LDF (R5),AC3 ; INITIAL AC FLOAT NUMBER
9265 035724 172715 LDF PREVAC,AC2 ; AC2 SHOULD NOT CHANGE
9266 035726 172637 002036 LDFPS 20(R5) ; INITIAL FPS
9267 035726 172637 002036
9268 035732 170165 000020 MD1FI: MODF 4(R5),AC3 ; FRAC[(AC3)*(MEM)]->AC3
9269 035736 171765 000004 ; INT[(AC3)*(MEM)]->LOST
9270 035736 171765 000004
9271
9272
9273 035742 170237 002000 STFPS FPS ; STORE FPS AFTER
9274 035746 170337 002002 STST FEC ; STORE FEC/FEA AFTER
9275 035752 174337 001170 STF AC3,$REG0 ; STORE FRAC PART
9276 035756 174237 001174 STF AC2,$REG2 ; STORE UNCHANGED AC3
9277
9278 035762 023765 002000 000022 CMP FPS,22(R5) ; CHECK FPS
9279 035770 001401 BEQ 65$ ; FPS IS OK
9280 035772 104005 ERROR 5 ; FPS BAD
9281 035774 005765 000024 65$: TST 24(R5) ; DOES FEC/FEA APPLY?
9282 036000 100014 BPL 66$ ; NO - SKIP TEST
9283 036002 012737 035736 002014 MOV #MD1FI,EXPFEA ; GET EXPECTED FEA
9284 036010 123765 002002 000024 CMPB FEC,24(R5) ; COMPARE FEC-S
9285 036016 001004 BNE 64$ ; NOT EQUAL
9286 036020 023737 002004 002014 CMP FEA,EXPFEA ; COMPARE FEA-S
9287 036026 001401 BEQ 66$ ; FEC, FEA OK
9288 036030 104015 64$: ERROR 15 ; FEC OR FEA ARE BAD
9289 036032 66$:
9290
9291
9292 036032 023765 001170 000010 ; CHECK FRACTION PART
9293 036040 001004 CMP $REG0,10(R5) ; 1ST WORD OF RESULT CHECK?
9294 036042 023765 001172 000012 BNE 67$ ; NO
9295 036050 001401 CMP $REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
9296 036052 104027 67$: BEQ 68$ ; ALL WORDS OK
9297 036054 68$: ERROR 27 ; NUMBERS NOT EQUAL
9298
9299
9300 036054 023765 001174 000014 ; CHECK UNCHANGED PART
9301 036062 001004 CMP $REG2,14(R5) ; 1ST WORD OF RESULT CHECK?
9302 036064 023765 001176 000016 BNE 69$ ; NO
9303 036072 001401 CMP $REG3,16(R5) ; 2ND WORD OF RESULT CHECK?
9304 036074 104030 69$: BEQ 70$ ; ALL WORDS OK
9305 036076 70$: ERROR 30 ; NUMBERS NOT EQUAL
9306
9307 036076 000207 RTS PC ; RETURN TO TEST CALLER
9308
9309
9310 ;*****
```

```

9311          .SBTTL  SUBR TO TEST THE MODD INSTRUCTION, USING 1 ACCUMULATOR
9312
9313 036100    MD1DT:
9314 036100    012700 000023    MOV      #23,R0          ; LOAD $TMPD-22
9315 036104    010501          MOV      R5,R1          ; WITH TEST DATA SETS
9316 036106    012702 001230    MOV      #TMPD,R2          ; FOR DISPLAY LATER
9317 036112    012122          MOV      (R1)+,(R2)+
9318 036114    077002          SOB      RO,-2
9319 036116    012737 036124 001114  MOV      #MD1DL,$LPERR ; ERROR LOOPING ADDRESS
9320
9321 036124    170011    MD1DL: SETD          ; D MODE
9322 036126    172515          LDD      (R5),AC1        ; INITIAL AC FLOAT NUMBER
9323 036130    172437 002036          LDD      PREVAC,AC0     ; AC0 SHOULD NOT CHANGE
9324 036134    170165 000040          LDFPS   40(R5)         ; INITIAL FPS
9325
9326 036140    171565 000010    MD1DI: MODD      10(R5),AC1 ; FRAC[(AC1)*(MEM)]->AC1
9327                                     ; INT[(AC1)*(MEM)]->LOST
9328
9329 036144    170237 002000          STFPS   FPS             ; STORE FPS AFTER
9330 036150    170337 002002          STST    FEC             ; STORE FEC/FEA AFTER
9331 036154    174137 001170          STD     AC1,$REGD       ; STORE FRAC PART
9332 036160    174037 001200          STD     AC0,$REG4       ; STORE UNCHANGED AC0
9333
9334 036164    023765 002000 000042          CMP     FPS,42(R5)      ; CHECK FPS
9335 036172    001401          BEQ     65$             ; FPS IS OK
9336 036174    104010          ERROR   10             ; FPS BAD
9337 036176    005765 000044          65$:   TST     44(R5)      ; DOES FEC/FEA APPLY?
9338 036202    100014          BPL     66$             ; NO - SKIP TEST
9339 036204    012737 036140 002014          MOV     #MD1DI,EXPFEA  ; GET EXPECTED FEA
9340 036212    123765 002002 000044          CMPB   FEC,44(R5)      ; COMPARE FEC-S
9341 036220    001004          BNE     64$             ; NOT EQUAL
9342 036222    023737 002004 002014          CMP     FEA,EXPFEA     ; COMPARE FEA-S
9343 036230    001401          BEQ     66$             ; FEC, FEA OK
9344 036232    104020          64$:   ERROR   20             ; FEC OR FEA ARE BAD
9345 036234          66$:
9346
9347                                     ; CHECK FRACTION PART OF RESULT
9348 036234    023765 001170 000020          CMP     $REGD,20(R5)    ; 1ST WORD OF RESULT CHECK?
9349 036242    001014          BNE     67$             ; NO
9350 036244    023765 001172 000022          CMP     $REG1,22(R5)    ; 2ND WORD OF RESULT CHECK?
9351 036252    001010          BNE     67$             ; NO
9352 036254    023765 001174 000024          CMP     $REG2,24(R5)    ; 3RD WORD OF RESULT CHECK?
9353 036262    001004          BNE     67$             ; NO
9354 036264    023765 001176 000026          CMP     $REG3,26(R5)    ; 4TH WORD OF RESULT CHECK?
9355 036272    001401          BEQ     68$             ; ALL WORDS OK
9356 036274    104031          67$:   ERROR   31             ; NUMBERS NOT EQUAL
9357 036276          68$:
9358
9359                                     ; CHECK UNCHANGED PART
9360 036276    023765 001200 000030          CMP     $REG4,30(R5)    ; 1ST WORD OF RESULT CHECK?
9361 036304    001014          BNE     69$             ; NO
9362 036306    023765 001202 000032          CMP     $REG5,32(R5)    ; 2ND WORD OF RESULT CHECK?
9363 036314    001010          BNE     69$             ; NO
9364 036316    023765 001204 000034          CMP     $REG6,34(R5)    ; 3RD WORD OF RESULT CHECK?
9365 036324    001004          BNE     69$             ; NO
9366 036326    023765 001206 000036          CMP     $REG7,36(R5)    ; 4TH WORD OF RESULT CHECK?

```


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SUBR TO TEST THE MODD INSTRUCTION, USING 1 ACCUMULATOR

9367 036334 001401
9368 036336 104032
9369 036340
9370
9371 036340 000207

69\$: BEQ 70\$
ERROR 32
70\$:
RTS PC

; ALL WORDS OK
; NUMBERS NOT EQUAL
; RETURN TO TEST CALLER

.SBTTL SUBR TO TEST THE LDCDF INSTRUCTION

```

9372
9373
9374 036342
9375 036342 012700 000011
9376 036346 010501
9377 036350 012702 001230
9378 036354 012122
9379 036356 077002
9380 036360 012737 036366 001114
9381
9382 036366 170011
9383 036370 172537 002036
9384 036374 170165 000014
9385
9386 036400 177515
9387
9388 036402 170237 002000
9389 036406 170337 002002
9390 036412 174137 001170
9391
9392 036416 023765 002000 000016
9393 036424 001401
9394 036426 104004
9395 036430 005765 000020 65$:
9396 036434 100014
9397 036436 012737 036400 002014
9398 036444 123765 002002 000020
9399 036452 001004
9400 036454 023737 002004 002014
9401 036462 001401
9402 036464 104014 64$:
9403 036466 66$:
9404
9405 036466 023765 001170 000010
9406 036474 001004
9407 036476 023765 001172 000012
9408 036504 001401
9409 036506 104033 67$:
9410 036510 68$:
9411
9412 036510 000207
9413
9414
9415
9416
9417
9418 036512
9419 036512 012700 000011
9420 036516 010501
9421 036520 012702 001230
9422 036524 012122
9423 036526 077002
9424 036530 012737 036536 001114
9425
9426 036536 170011
9427 036540 172637 002036

```

```

LCDFT:
MOV #11,R0 ; LOAD STMP0-10
MOV R5,R1 ; WITH TEST DATA SETS
MOV #STMP0,R2 ; FOR DISPLAY LATER
MOV (R1)+,(R2)+
SOB R0,-2
MOV #LCDFL,$LPERR ; ERROR LOOPING ADDRESS

LCDFL:
SETD ; D MODE
LDF PREVAC,AC1 ; PREV CONTENTS TO ACC; FOR FEC-14 TEST
LDFPS 14(R5) ; INITIAL FPS

LCDFI:
LDCDF (R5),AC1 ; DTOF[(MEM)]->AC1

STFPS FPS ; STORE FPS AFTER
STST FEC ; STORE FEC/FEA AFTER
STF AC1,$REG0 ; STORE RESULT

CMP FPS,16(R5) ; CHECK FPS
BEQ 65$ ; FPS IS OK
ERROR 4 ; FPS BAD
TST 20(R5) ; DOES FEC/FEA APPLY?
BPL 66$ ; NO - SKIP TEST
MOV #LCDFI,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
ERROR 14 ; FEC OR FEA ARE BAD

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
ERROR 33 ; NUMBERS NOT EQUAL

RTS PC ; RETURN TO TEST CALLER

```

.SBTTL SUBR TO TEST THE LDCDF INSTRUCTION

```

LCDFT:
MOV #11,R0 ; LOAD STMP0-10
MOV R5,R1 ; WITH TEST DATA SETS
MOV #STMP0,R2 ; FOR DISPLAY LATER
MOV (R1)+,(R2)+
SOB R0,-2
MOV #LCDFL,$LPERR ; ERROR LOOPING ADDRESS

LCDFL:
SETD ; D MODE
LDD PREVAC,AC2 ; PREV CONTENTS TO ACC; FOR FEC-14 TEST

```

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 SUBR TO TEST THE LDCFD INSTRUCTION

9428	036544	170165	000014		LDFPS	14(R5)	; INITIAL FPS
9429							
9430	036550	177615			LCFDI: LDCFD	(R5),AC2	; FTOD[(MEM)]->AC2
9431							
9432	036552	170237	002000		STFPS	FPS	; STORE FPS AFTER
9433	036556	170337	002002		STST	FEC	; STORE FEC/FEA AFTER
9434	036562	174237	001170		STD	AC2,\$REGO	; STORE RESULT
9435							
9436	036566	023765	002000	000016	CMP	FPS,16(R5)	; CHECK FPS
9437	036574	001401			BEQ	65\$; FPS IS OK
9438	036576	104004			ERROR	4	; FPS BAD
9439	036600	005765	000020		65\$: TST	20(R5)	; DOES FEC/FEA APPLY?
9440	036604	100014			BPL	66\$; NO - SKIP TEST
9441	036606	012737	036550	002014	MOV	8LCFDI,EXPFEA	; GET EXPECTED FEA
9442	036614	123765	002002	000020	CMPB	FEC,20(R5)	; COMPARE FEC-S
9443	036622	001004			BNE	64\$; NOT EQUAL
9444	036624	023737	002004	002014	CMP	FEA,EXPFEA	; COMPARE FEA-S
9445	036632	001401			BEQ	66\$; FEC, FEA OK
9446	036634	104014			64\$: ERROR	14	; FEC OR FEA ARE BAD
9447	036636				66\$:		
9448							
9449	036636	023765	001170	000004	CMP	\$REGO,4(R5)	; 1ST WORD OF RESULT CHECK?
9450	036644	001014			BNE	67\$; NO
9451	036646	023765	001172	000006	CMP	\$REG1,6(R5)	; 2ND WORD OF RESULT CHECK?
9452	036654	001010			BNE	67\$; NO
9453	036656	023765	001174	000010	CMP	\$REG2,10(R5)	; 3RD WORD OF RESULT CHECK?
9454	036664	001004			BNE	67\$; NO
9455	036666	023765	001176	000012	CMP	\$REG3,12(R5)	; 4TH WORD OF RESULT CHECK?
9456	036674	001401			BEQ	68\$; ALL WORDS OK
9457	036676	104034			67\$: ERROR	34	; NUMBERS NOT EQUAL
9458	036700				68\$:		
9459							
9460	036700	000207			RTS	PC	; RETURN TO TEST CALLER
9461							

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FPU ADVANCED INSTR TESTS
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SUBR TO TEST THE STCDF INSTRUCTION

```

9462          .SBTTL  SUBR TO TEST THE STCDF INSTRUCTION
9463
9464 036702          SCDFI:  MOV      #11,R0          ; LOAD $TMP0-10
9465 036702 012700 000011      MOV      R5,R1          ; WITH TEST DATA SETS
9466 036706 010501          MOV      #TMP0,R2          ; FOR DISPLAY LATER
9467 036710 012702 001230      MOV      (R1)+(R2)+      ;
9468 036714 012122          SOB      R0,-2          ;
9469 036716 077002          MOV      #SCDFL,$LPERR ; ERROR LOOPING ADDRESS
9470 036720 012737 036726 001114
9471
9472 036726 170011          SCDFL:  SETD         ; D MODE
9473 036730 172715          LDD      (R5),AC3      ; INITIAL AC FLOAT NUMBER
9474 036732 170165 000014      LDFPS   14(R5)        ; INITIAL FPS
9475
9476 036736 176337 001170          SCDFI:  STCDF      AC3,$REG0 ; DTOF[(AC3)]->MEM
9477
9478 036742 170237 002000          STFPS   FPS          ; STORE FPS AFTER
9479 036746 170337 002002          STST    FEC          ; STORE FEC/FEA AFTER
9480
9481 036752 023765 002000 000016      CMP      FPS,16(R5)   ; CHECK FPS
9482 036760 001401          BEQ     65$          ; FPS IS OK
9483 036762 104004          ERROR   4          ; FPS BAD
9484 036764 005765 000020          65$:  TST      20(R5)   ; DOES FEC/FEA APPLY?
9485 036770 100014          BPL     66$          ; NO - SKIP TEST
9486 036772 012737 036736 002014      MOV      #SCDFI,EXPFEA ; GET EXPECTED FEA
9487 037000 123765 002002 000020      CMPB    FEC,20(R5)   ; COMPARE FEC-S
9488 037006 001004          BNE     64$          ; NOT EQUAL
9489 037010 023737 002004 002014      CMP      FEA,EXPFEA  ; COMPARE FEA-S
9490 037016 001401          BEQ     66$          ; FEC, FEA OK
9491 037020 104014          64$:  ERROR   14      ; FEC OR FEA ARE BAD
9492 037022          66$:
9493
9494 037022 023765 001170 000010      CMP      $REG0,10(R5) ; 1ST WORD OF RESULT CHECK?
9495 037030 001004          BNE     67$          ; NO
9496 037032 023765 001172 000012      CMP      $REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
9497 037040 001401          BEQ     68$          ; ALL WORDS OK
9498 037042 104033          67$:  ERROR   33      ; NUMBERS NOT EQUAL
9499 037044          68$:
9500
9501 037044 000207          RTS      PC          ; RETURN TO TEST CALLER
9502
9503
9504          ;*****
9505          .SBTTL  SUBR TO TEST THE STCDF INSTRUCTION
9506
9507 037046          SCFDI:  MOV      #12,R0          ; LOAD $TMP0-11
9508 037046 012700 000012      MOV      R5,R1          ; WITH TEST DATA SETS
9509 037052 010501          MOV      #TMP0,R2          ; FOR DISPLAY LATER
9510 037054 012702 001230      MOV      (R1)+(R2)+      ;
9511 037060 012122          SOB      R0,-2          ;
9512 037062 077002          MOV      #SCFDL,$LPERR ; ERROR LOOPING ADDRESS
9513 037064 012737 037072 001114
9514
9515 037072 170011          SCFDL:  SETD         ; USE D MODE
9516 037074 172415          LDD      (R5),AC0    ; INITIAL F FLOAT NUM, FOLLOW W/JUNK
9517 037076 170165 000020      LDFPS   20(R5)        ; INITIAL FPS

```

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SUBR TO TEST THE STCFD INSTRUCTION

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

```

9540      .SBTTL SUBR TO TEST THE LDCIF INSTRUCTION
9541
9542      LCIFT:
9543      037170 012700 000005      MOV      #5,R0      ; LOAD $TMPO-4
9544      037174 010501      MOV      R5,R1      ; WITH TEST DATA SETS
9545      037176 012702 001230      MOV      #TMPO,R2      ; FOR DISPLAY LATER
9546      037202 012122      MOV      (R1)+,(R2)+
9547      037204 077002      SOB      RO,-2
9548      037206 012737 037214 001114      MOV      #LCIFL,$LPERR ; ERROR LOOPING ADDRESS
9549
9550      LCIFL: LDFPS 6(R5)      ; INITIAL FPS
9551
9552      LDCIF (R5),AC2      ; F[(MEM)]->AC2
9553
9554      STFPS FPS      ; STORE FPS AFTER
9555      037222 170237 002000      STF      AC2,$REGO    ; STORE RESULT
9556      037226 174237 001170
9557      037232 023765 002000 000010      CMP      FPS,10(R5)   ; CHECK FPS OK
9558      037240 001401      BEQ      64$          ; OK, BRANCH
9559      037242 104001      ERROR    1           ; FPS BAD
9560      037244      64$:
9561
9562      037244 023765 001170 000002      CMP      $REGO,2(R5)  ; 1ST WORD OF RESULT CHECK?
9563      037252 001004      BNE      65$          ; NO
9564      037254 023765 001172 000004      CMP      $REG1,4(R5)  ; 2ND WORD OF RESULT CHECK?
9565      037262 001401      BEQ      66$          ; ALL WORDS OK
9566      037264 104036      65$: ERROR 36        ; NUMBERS NOT EQUAL
9567      037266      66$:
9568
9569      037266 000207      RTS      PC           ; RETURN TO TEST CALLER
9570
9571
9572      ;:*****
9573      .SBTTL SUBR TO TEST THE LDCID INSTRUCTION
9574
9575      LCIDT:
9576      037270 012700 000007      MOV      #7,R0      ; LOAD $TMPO-6
9577      037274 010501      MOV      R5,R1      ; WITH TEST DATA SETS
9578      037276 012702 001230      MOV      #TMPO,R2      ; FOR DISPLAY LATER
9579      037302 012122      MOV      (R1)+,(R2)+
9580      037304 077002      SOB      RO,-2
9581      037306 012737 037314 001114      MOV      #LCIDL,$LPERR ; ERROR LOOPING ADDRESS
9582
9583      LCIDL: LDFPS 12(R5)     ; INITIAL FPS
9584
9585      LDCID (R5),AC3      ; D[(MEM)]->AC3
9586
9587      STFPS FPS      ; STORE FPS AFTER
9588      037322 170237 002000      STD      AC3,$REGO    ; STORE RESULT
9589      037326 174337 001170
9590      037332 023765 002000 000014      CMP      FPS,14(R5)   ; CHECK FPS OK
9591      037340 001401      BEQ      64$          ; OK, BRANCH
9592      037342 104003      ERROR    3           ; FPS BAD
9593      037344      64$:
9594
9595      037344 023765 001170 000002      CMP      $REGO,2(R5)  ; 1ST WORD OF RESULT CHECK?

```

```

9596 037352 001014          BNE    65$          ; NO
9597 037354 023765 001172 000004    CMP    $REG1,4(R5) ; 2ND WORD OF RESULT CHECK?
9598 037362 001010          BNE    65$          ; NO
9599 037364 023765 001174 000006    CMP    $REG2,6(R5) ; 3RD WORD OF RESULT CHECK?
9600 037372 001004          BNE    65$          ; NO
9601 037374 023765 001176 000010    CMP    $REG3,10(R5); 4TH WORD OF RESULT CHECK?
9602 037402 001401          BEQ    66$          ; ALL WORDS OK
9603 037404 104037          65$:  ERROR    37    ; NUMBERS NOT EQUAL
9604 037406          66$:
9605
9606 037406 000207          RTS    PC          ; RETURN TO TEST CALLER
9607
9608
9609
9610

```

:SBTTL SUBR TO TEST THE LDCLF INSTRUCTION

```

9611
9612 037410          LCLFT:
9613 037410 012700 000006    MOV    #6,R0      ; LOAD $TMP0-5
9614 037414 010501          MOV    R5,R1      ; WITH TEST DATA SETS
9615 037416 012702 001230    MOV    $TMP0,R2   ; FOR DISPLAY LATER
9616 037422 012122          MOV    (R1)+(R2)+
9617 037424 077002          SOB    RO,-2
9618 037426 012737 037434 001114    MOV    #LCLFL,$LPERR ; ERROR LOOPING ADDRESS
9619
9620 037434 170165 000010    LCLFL: LDFPS 10(R5) ; INITIAL FPS
9621
9622 037440 177015          LDCLF (R5),ACD   ; F[(MEM)(MEM)]->ACD
9623
9624 037442 170237 002000    STFPS FPS        ; STORE FPS AFTER
9625 037446 174037 001170    STF    ACD,$REG0 ; STORE RESULT
9626
9627 037452 023765 002000 000012    CMP    FPS,12(R5) ; CHECK FPS OK
9628 037460 001401          BEQ    64$        ; OK, BRANCH
9629 037462 104002          64$:  ERROR    2    ; FPS BAD
9630 037464
9631
9632 037464 023765 001170 000004    CMP    $REG0,4(R5) ; 1ST WORD OF RESULT CHECK?
9633 037472 001004          BNE    65$        ; NO
9634 037474 023765 001172 000006    CMP    $REG1,6(R5) ; 2ND WORD OF RESULT CHECK?
9635 037502 001401          BEQ    66$        ; ALL WORDS OK
9636 037504 104040          65$:  ERROR    40    ; NUMBERS NOT EQUAL
9637 037506          66$:
9638
9639 037506 000207          RTS    PC          ; RETURN TO TEST CALLER
9640
9641
9642
9643
9644

```

:SBTTL SUBR TO TEST THE LDCLD INSTRUCTION

```

9645 037510          LCLDT:
9646 037510 012700 000010    MOV    #10,R0     ; LOAD $TMP0-7
9647 037514 010501          MOV    R5,R1     ; WITH TEST DATA SETS
9648 037516 012702 001230    MOV    $TMP0,R2   ; FOR DISPLAY LATER
9649 037522 012122          MOV    (R1)+(R2)+
9650 037524 077002          SOB    RO,-2
9651 037526 012737 037534 001114    MOV    #LCLDL,$LPERR ; ERROR LOOPING ADDRESS

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SUBR TO TEST THE LDCLD INSTRUCTION

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

E16

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SUBR TO TEST THE STCFI INSTRUCTION

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

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F16

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SUBR TO TEST THE STCDI INSTRUCTION

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

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:SBTTL SUBR TO TEST THE STCFL INSTRUCTION

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SUBR TO TEST THE STCFL INSTRUCTION

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

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SUBR TO TEST THE STCDL INSTRUCTION

9845	040472	013737	177776	001174	MOV	2#PS,\$REG2	;	SAVE CC-S
9846	040500	170237	002000		STFPS	FPS	;	STORE FPS AFTER
9847	040504	170337	002002		STST	FEC	;	STORE FEC/FEA AFTER
9848								
9849	040510	023765	002000	000016	CMP	FPS,16(R5)	;	CHECK FPS
9850	040516	001401			BEQ	65\$;	FPS IS OK
9851	040520	104004			ERROR	4	;	FPS BAD
9852	040522	005765	000020		TST	20(R5)	;	DOES FEC/FEA APPLY?
9853	040526	100014			BPL	66\$;	NO - SKIP TEST
9854	040530	012737	040466	002014	MOV	#SCDLI,EXPFEA	;	GET EXPECTED FEA
9855	040536	123765	002002	000020	CMPB	FEC,20(R5)	;	COMPARE FEC-S
9856	040544	001004			BNE	64\$;	NOT EQUAL
9857	040546	023737	002004	002014	CMP	FEA,EXPFEA	;	COMPARE FEA-S
9858	040554	001401			BEQ	66\$;	FEC, FEA OK
9859	040556	104014			ERROR	14	;	FEC OR FEA ARE BAD
9860	040560							
9861								
9862	040560	013737	002000	001176	MOV	FPS,\$REG3	;	GET FPS, PS CC BITS ONLY
9863	040566	042737	177760	001174	BIC	#CCONLY,\$REG2	;	
9864	040574	042737	177760	001176	BIC	#CCONLY,\$REG3	;	
9865	040602	023737	001174	001176	CMP	\$REG2,\$REG3	;	CC-S COPIED?
9866	040610	001401			BEQ	67\$;	
9867	040612	104055			ERROR	55	;	NOT EQUAL, SIGNAL ERROR
9868	040614							
9869								
9870	040614	023765	001170	000010	CMP	\$REG0,10(R5)	;	1ST WORD OF RESULT CHECK?
9871	040622	001004			BNE	68\$;	NO
9872	040624	023765	001172	000012	CMP	\$REG1,12(R5)	;	2ND WORD OF RESULT CHECK?
9873	040632	001401			BEQ	69\$;	ALL WORDS OK
9874	040634	104045			ERROR	45	;	NUMBERS NOT EQUAL
9875	040636							
9876								
9877	040635	000207			RTS	PC	;	RETURN TO TEST CALLER

FPU ADVANCED INSTR TESTS
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SUBR TO TEST THE LDEXP INSTRUCTION, F MODE

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9878          .SBTTL  SUBR TO TEST THE LDEXP INSTRUCTION, F MODE
9879
9880 040640          LEXFT:
9881 040640 012700 000010      MOV    #10,R0          ; LOAD $TMPQ-7
9882 040644 010501          MOV    R5,R1          ; WITH TEST DATA SETS
9883 040646 012702 001230      MOV    #TMPQ,R2        ; FOR DISPLAY LATER
9884 040652 012122          MOV    (R1)+,(R2)+
9885 040654 077002          SOB    RO,-2
9886 040656 012737 040664 001114  MOV    #LEXFL,$LPERR ; ERROR LOOPING ADDRESS
9887
9888 040664 170001          LEXFL: SETF          ; F MODE
9889 040666 172515          LDF    (R5),AC1      ; INITIAL FLOAT NUMBER
9890 040670 170165 000012      LDFPS 12(R5)        ; INITIAL FPS
9891
9892 040674 176565 000010      LEXFI: LDEXP 10(R5),AC1 ; EXP: MEM -> AC1
9893
9894 040700 170237 002000      STFPS FPS          ; STORE FPS AFTER
9895 040704 170337 002002      STST  FEC          ; STORE FEC/FEA AFTER
9896
9897 040710 023765 002000 000014  CMP    FPS,14(R5)   ; CHECK FPS
9898 040716 001401          BEQ    65$         ; FPS IS OK
9899 040720 104003          ERROR 3           ; FPS BAD
9900 040722 005765 000016      65$: TST    16(R5)   ; DOES FEC/FEA APPLY?
9901 040726 100014          BPL    66$         ; NO - SKIP TEST
9902 040730 012737 040674 002014  MOV    #LEXFI,EXPFEA ; GET EXPECTED FEA
9903 040736 123765 002002 000016  CMPB  FEC,16(R5)   ; COMPARE FEC-S
9904 040744 001004          BNE    64$         ; NOT EQUAL
9905 040746 023737 002004 002014  CMP    FEA,EXPFEA  ; COMPARE FEA-S
9906 040754 001401          BEQ    66$         ; FEC, FEA OK
9907 040756 104013          64$: ERROR 13      ; FEC OR FEA ARE BAD
9908 040760          66$:
9909
9910 040760 174137 001170          STF    AC1,$REGD    ; STORE RESULTANT FLOAT NUMBER
9911 040764 023765 001170 000004  CMP    $REGD,4(R5)  ; 1ST WORD OF RESULT CHECK?
9912 040772 001004          BNE    67$         ; NO
9913 040774 023765 001172 000006  CMP    $REG1,6(R5) ; 2ND WORD OF RESULT CHECK?
9914 041002 001401          BEQ    68$         ; ALL WORDS OK
9915 041004 104046          67$: ERROR 46      ; NUMBERS NOT EQUAL
9916 041006          68$:
9917
9918 041006 000207          RTS    PC          ; RETURN TO TEST CALLER
9919
9920          ;*****
9921          .SBTTL  SUBR TO TEST THE LDEXP INSTRUCTION, D MODE
9922
9923 041010          LEXDT:
9924 041010 012700 000014      MOV    #14,R0          ; LOAD $TMPQ-13
9925 041014 010501          MOV    R5,R1          ; WITH TEST DATA SETS
9926 041016 012702 001230      MOV    #TMPQ,R2        ; FOR DISPLAY LATER
9927 041022 012122          MOV    (R1)+,(R2)+
9928 041024 077002          SOB    RO,-2
9929 041026 012737 041034 001114  MOV    #LEXDL,$LPERR ; ERROR LOOPING ADDRESS
9930
9931 041034 170011          LEXDL: SETD         ; D MODE
9932 041036 172415          LDD    (R5),AC0    ; INITIAL FLOAT NUMBER
9933 041040 170165 000022      LDFPS 22(R5)        ; INITIAL FPS

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FPU ADVANCED INSTR TESTS
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SUBR TO TEST THE STEXP INSTRUCTION, F MODE

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

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SUBR TO TEST THE STEXP INSTRUCTION, D MODE

10023	041374	013737	177776	001172	MOV	2#PS, \$REG1	; GET PS RIGHT AWAY
10024	041402	170237	002000		STFPS	FPS	; STORE FPS AFTER
10025							
10026	041406	023765	002000	000014	CMP	FPS, 14(R5)	; CHECK FPS OK
10027	041414	001401			BEQ	64\$; OK, BRANCH
10028	041416	104003			ERROR	3	; FPS BAD
10029	041420			64\$:			
10030							
10031	041420	013737	002000	001174	MOV	FPS, \$REG2	; GET FPS, PS CC BITS ONLY
10032	041426	042737	177760	001172	BIC	#CCONLY, \$REG1	
10033	041434	042737	177760	001174	BIC	#CCONLY, \$REG2	
10034	041442	023737	001172	001174	CMP	\$REG1, \$REG2	; CC-S COPIED?
10035	041450	001401			BEQ	65\$	
10036	041452	104054			ERROR	54	; NOT EQUAL, SIGNAL ERROR
10037	041454			65\$:			
10038							
10039	041454	023765	001170	000010	CMP	\$REG0, 10(R5)	; EXP CHECK?
10040	041462	001401			BEQ	66\$	
10041	041464	104051			ERROR	51	; NOT EQUAL, SIGNAL ERROR
10042	041466			66\$:			
10043							
10044	041466	000207			RTS	PC	; RETURN TO TEST CALLER

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041536 001114
041540 000416
041542 013746 000004
041546 012737 041566 000004
041554 005737 177060
041560 012637 000004
041564 000463
041566 022626
041570 012637 000004
041574 000423
041576 032777 000400 137342
041604 001404
041606 023737 001112 001102
041614 001465
041616 005737 001104
041622 001421
041624 023737 001122 001104
041632 101015
041634 032777 001000 137304
041642 001404
041644 013737 001114 001110
041652 000446
041654 005037 001104
041660 005037 001310
041664 000415
041666 032777 004000 137252
041674 001011
041676 005737 001332
041702 001406
041704 005237 001106
041710 023737 001310 001106
041716 002024
041720 012737 000001 001106
041726 013737 042004 001310
041734 005237 001102
041740 013737 001102 001330
041746 011637 001110

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

$SCOPE:
64$:
1$: BIT #BIT14,2SWR ;;LOOP ON PRESENT TEST?
   BNE $OVER ;;YES IF SW14=1
*****START OF CODE FOR THE XOR TESTER*****
$XTSTR: BR 6$
   MOV 2$ERRVEC, -(SP) ;;IF RUNNING ON THE "XOR" TESTER CHANGE
   MOV 2$ERRVEC, 2$ERRVEC ;;THIS INSTRUCTION TO A "NOP" (NOP=240)
   TST 2$177060 ;;SAVE THE CONTENTS OF THE ERROR VECTOR
   MOV (SP)+, 2$ERRVEC ;;SET FOR TIMEOUT
   BR 2$VLAD ;;TIME OUT ON XOR?
   CMP (SP)+, (SP)+ ;;RESTORE THE ERROR VECTOR
   MOV (SP)+, 2$ERRVEC ;;GO TO THE NEXT TEST
   BR 7$ ;;CLEAR THE STACK AFTER A TIME OUT
5$: ;;RESTORE THE ERROR VECTOR
   BR 7$ ;;LOOP ON THE PRESENT TEST
6$: *****END OF CODE FOR THE XOR TESTER*****
   BIT #BIT08,2SWR ;;LOOP ON SPEC. TEST?
   BEQ 2$ ;;BR IF NO
   CMP SLPTST, STSTNM ;;ON THE RIGHT TEST?
   BEQ $OVER ;;BR IF YES
2$: TST SERFLG ;;HAS AN ERROR OCCURRED?
   BEQ 3$ ;;BR IF NO
   CMP SERMAX, SERFLG ;;MAX. ERRORS FOR THIS TEST OCCURRED?
   BHI 3$ ;;BR IF NO
   BIT #BIT09,2SWR ;;LOOP ON ERROR?
   BEQ 4$ ;;BR IF NO
7$: MOV SLPERR, SLPADR ;;SET LOOP ADDRESS TO LAST SCOPE
   BR $OVER
4$: CLR SERFLG ;;ZERO THE ERROR FLAG
   CLR $TIMES ;;CLEAR THE NUMBER OF ITERATIONS TO MAKE
   BR 1$ ;;ESCAPE TO THE NEXT TEST
3$: BIT #BIT11,2SWR ;;INHIBIT ITERATIONS?
   BNE 1$ ;;BR IF YES
   TST $PASS ;;IF FIRST PASS OF PROGRAM
   BEQ 1$ ;;INHIBIT ITERATIONS
   INC $ICNT ;;INCREMENT ITERATION COUNT
   CMP $TIMES, $ICNT ;;CHECK THE NUMBER OF ITERATIONS MADE
   BGE $OVER ;;BR IF MORE ITERATION REQUIRED
1$: MOV #1, $ICNT ;;REINITIALIZE THE ITERATION COUNTER
   MOV $MXCNT, $TIMES ;;SET NUMBER OF ITERATIONS TO DO
   INC STSTNM ;;COUNT TEST NUMBERS
   MOV STSTNM, $TESTN ;;SET TEST NUMBER IN APT MAILBOX
   MOV (SP), SLPADR ;;SAVE SCOPE LOOP ADDRESS
```

C01

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SCOPE HANDLER ROUTINE

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

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10133 042006
10134 042006 010037 002016
10135 042012 010137 002020
10136 042016 010237 002022
10137 042022 010337 002024
10138 042026 010437 002026
10139 042032 010537 002030
10140 042036 010637 002032
10141 042042 062737 000004 002032
10142 042050 011637 002034
10143 042054 005237 001104
10144 042060 001775
10145 042062 013777 001102 137060
10146 042070 032777 002000 137050
10147 042076 001402
10148 042100 104401 001314
10149 042104 005237 001116
10150 042110 011637 001124
10151 042114 162737 000002 001124
10152 042122 117737 136776 001120
10153 042130 032777 020000 137010
10154 042136 001004
10155 042140 004737 042250
10156 042144 104401 001321
10157 042150
10158 042150 122737 000001 001344
10159 042156 001007
10160 042160 113737 001120 042172
10161 042166 004737 042764
10162 042172 000
10163 042173 000
10164 042174 000777
10165 042176 005777 136744
10166 042202 100001
10167 042204 000000
10168 042206 032777 001000 136732
10169 042214 001402
10170 042216 013716 001114
10171 042222 005737 001312
10172 042226 001402
10173 042230 013716 001312
10174 042234

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

SERROR:
MOV R0, EREG0 ; DISPLAY R0
MOV R1, EREG1 ; R1
MOV R2, EREG2 ; R2
MOV R3, EREG3 ; R3
MOV R4, EREG4 ; R4
MOV R5, EREG5 ; R5
MOV R6, EREG6 ; GET R6(SP) BEFORE TRAP
ADD #4, EREG6
MOV (SP), EREG7 ; PC -> ERROR CALL INSTR
INC $ERFLG ; SET THE ERROR FLAG
BEQ 7$ ; DON'T LET THE FLAG GO TO ZERO
MOV $STSTNM, $DISPLAY ; DISPLAY TEST NUMBER
BIT #BIT10, $SWR ; BELL ON ERROR?
BEQ 1$ ; NO - SKIP
TYPE $SBELL ; RING BELL
INC $ERTTL ; COUNT THE NUMBER OF ERRORS
MOV (SP), $ERRPC ; GET ADDRESS OF ERROR INSTRUCTION
SUB #2, $ERRPC
MOVB $ERRPC, $ITEMB ; STRIP AND SAVE THE ERROR ITEM CODE
BIT #BIT13, $SWR ; SKIP TYPEOUT IF SET
BNE 20$ ; SKIP TYPEOUTS
JSR PC, $STYPERR ; GO TO USER ERROR ROUTINE
TYPE $SRLF

20$:
CMPB #APTENV, $ENV ; RUNNING IN APT MODE
BNE 2$ ; NO, SKIP APT ERROR REPORT
MOVB $ITEMB, 21$ ; SET ITEM NUMBER AS ERROR NUMBER
JSR PC, $SATY4 ; REPORT FATAL ERROR TO APT

21$:
.BYTE 0
.BYTE 0

22$:
BR 22$ ; APT ERROR LOOP
TST $SWR ; HALT ON ERROR
BPL 3$ ; SKIP IF CONTINUE
HALT ; HALT ON ERROR!

3$:
BIT #BIT09, $SWR ; LOOP ON ERROR SWITCH SET?
BEQ 4$ ; BR IF NO
MOV $LPERR, (SP) ; FUDGE RETURN FOR LOOPING
TST $ESCAPE ; CHECK FOR AN ESCAPE ADDRESS
BEQ 5$ ; BR IF NONE
MOV $ESCAPE, (SP) ; FUDGE RETURN ADDRESS FOR ESCAPE

4$:
5$:

```

E01

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ERROR HANDLER ROUTINE

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

GO1

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ERROR MESSAGE TYPEOUT ROUTINE (MODIFIED SYSMAC)

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

.SBTTL TYPE ROUTINE

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042464 105737 001165
042470 100002
042472 000000
042474 000430
042476 010046
042500 017600 000002
042504 122737 000001 001344
042512 001011
042514 132737 000100 001345
042522 001405
042524 010037 042534
042530 004737 042754
042534 000000
042536 132737 000040 001345
042544 001003
042546 112046
042550 001005
042552 005726
042554 012600
042556 062716 000002
042562 000002
042564 122716 000011
042570 001430
042572 122716 000200
042576 001006
042600 005726
042602 104401
042604 001321
042606 105037 042742
042612 000755
042614 004737 042676
042620 123726 001164
042624 001350
042626 013746 001162
042632 105366 000001
042636 002770
042640 004737 042676
042644 105337 042742

```

*****
*ROUTINE TO TYPE ASCIZ MESSAGE. MESSAGE MUST TERMINATE WITH A 0 BYTE.
*THE ROUTINE WILL INSERT A NUMBER OF NULL CHARACTERS AFTER A LINE FEED.
*NOTE1: $NULL CONTAINS THE CHARACTER TO BE USED AS THE FILLER CHARACTER.
*NOTE2: $FILLS CONTAINS THE NUMBER OF FILLER CHARACTERS REQUIRED.
*NOTE3: $FILLC CONTAINS THE CHARACTER TO FILL AFTER.
*
*CALL:
*1) USING A TRAP INSTRUCTION
* TYPE ,MESADR ;;MESADR IS FIRST ADDRESS OF AN ASCIZ STRING
*OR
* TYPE
* MESADR
*
STYPE: TSTB $TPFLG ;; IS THERE A TERMINAL?
BPL 1$ ;; BR IF YES
HALT ;; HALT HERE IF NO TERMINAL
BR 3$ ;; LEAVE
1$: MOV RO,-(SP) ;; SAVE RO
MOV 22(SP),RO ;; GET ADDRESS OF ASCIZ STRING
CMPB #APTENV,$ENV ;; RUNNING IN APT MODE
BNE 62$ ;; NO, GO CHECK FOR APT CONSOLE
BITB #APTPOOL,$ENVM ;; SPOOL MESSAGE TO APT
BEQ 62$ ;; NO, GO CHECK FOR CONSOLE
MOV RO,61$ ;; SETUP MESSAGE ADDRESS FOR APT
JSR PC,$ATY3 ;; SPOOL MESSAGE TO APT
61$: .WORD 0 ;; MESSAGE ADDRESS
62$: BITB #APTCSUP,$ENVM ;; APT CONSOLE SUPPRESSED
BNE 60$ ;; YES, SKIP TYPE OUT
2$: MOVB (RO)+,-(SP) ;; PUSH CHARACTER TO BE TYPED ONTO STACK
BNE 4$ ;; BR IF IT ISN'T THE TERMINATOR
TST (SP)+ ;; IF TERMINATOR POP IT OFF THE STACK
60$: MOV (SP)+,RO ;; RESTORE RO
3$: ADD #2,(SP) ;; ADJUST RETURN PC
RTI ;; RETURN
4$: CMPB #HT,(SP) ;; BRANCH IF <HT>
BEQ 8$
CMPB #CRLF,(SP) ;; BRANCH IF NOT <CRLF>
BNE 5$
TST (SP)+ ;; POP <CR><LF> EQUIV
TYPE ;; TYPE A CR AND LF
$CRLF
CLRB $CHARCNT ;; CLEAR CHARACTER COUNT
BR 2$ ;; GET NEXT CHARACTER
5$: JSR PC,$TYPEC ;; GO TYPE THIS CHARACTER
6$: CMPB $FILLC,(SP)+ ;; IS IT TIME FOR FILLER CHARS.?
BNE 2$ ;; IF NO GO GET NEXT CHAR.
MOV $NULL,-(SP) ;; GET # OF FILLER CHARS. NEEDED
AND THE NULL CHAR.
7$: DECB 1(SP) ;; DOES A NULL NEED TO BE TYPED?
BLT 6$ ;; BR IF NO--GO POP THE NULL OFF OF STACK
JSR PC,$TYPEC ;; GO TYPE A NULL
DECB $CHARCNT ;; DO NOT COUNT AS A COUNT

```



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

```

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

```

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APT COMMUNICATIONS ROUTINE

K01

10383

000040

APTCSUP=040

.SBTTL BINARY TO OCTAL (ASCII) AND TYPE

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043214 017646 000000
043220 116637 000001
043226 112637 043441
043232 062716 000002
043236 000406
043240 112737 000001
043246 112737 000006
043254 112737 000005
043262 010346
043264 010446
043266 010546
043270 113704 043441
043274 005404
043276 062704 000006
043302 110437 043440
043306 113704 043437
043312 016605 000012
043316 005003
043320 006105
043322 000404
043324 006105
043326 006105
043330 006105
043332 010503
043334 006103
043336 105337 043440
043342 100016
043344 042703 177770
043350 001002
043352 005704
043354 001403

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*****
*THIS ROUTINE IS USED TO CHANGE A 16-BIT BINARY NUMBER TO A 6-DIGIT
*OCTAL (ASCII) NUMBER AND TYPE IT.
*STYPOS---ENTER HERE TO SETUP SUPPRESS ZEROS AND NUMBER OF DIGITS TO TYPE
*CALL:
*      MOV      NUM,-(SP)      ;;NUMBER TO BE TYPED
*      TYPOS    ;;CALL FOR TYPEOUT
*      .BYTE   N              ;;N=1 TO 6 FOR NUMBER OF DIGITS TO TYPE
*      .BYTE   M              ;;M=1 OR 0
*                               ;;1=TYPE LEADING ZEROS
*                               ;;0=SUPPRESS LEADING ZEROS
*
*STYPON----ENTER HERE TO TYPE OUT WITH THE SAME PARAMETERS AS THE LAST
*STYPOS OR STYPOC
*CALL:
*      MOV      NUM,-(SP)      ;;NUMBER TO BE TYPED
*      TYPON    ;;CALL FOR TYPEOUT
*
*STYPOC---ENTER HERE FOR TYPEOUT OF A 16 BIT NUMBER
*CALL:
*      MOV      NUM,-(SP)      ;;NUMBER TO BE TYPED
*      TYPOC    ;;CALL FOR TYPEOUT
*
*STYPOS: MOV      2(SP),-(SP)    ;;PICKUP THE MODE
*        MOVVB   1(SP),SOFILL   ;;LOAD ZERO FILL SWITCH
*        MOVVB   (SP)+,SOMODE+1 ;;NUMBER OF DIGITS TO TYPE
*        ADD     #2,(SP)        ;;ADJUST RETURN ADDRESS
*        BR      STYPON
*STYPOC: MOVVB   #1,SOFILL      ;;SET THE ZERO FILL SWITCH
*        MOVVB   #6,SOMODE+1    ;;SET FOR SIX(6) DIGITS
*STYPON: MOVVB   #5,SOCNT       ;;SET THE ITERATION COUNT
*        MOV     R3,-(SP)       ;;SAVE R3
*        MOV     R4,-(SP)       ;;SAVE R4
*        MOV     R5,-(SP)       ;;SAVE R5
*        MOVVB   SOMODE+1,R4    ;;GET THE NUMBER OF DIGITS TO TYPE
*        NEG     R4
*        ADD     #6,R4          ;;SUBTRACT IT FOR MAX. ALLOWED
*        MOVVB   R4,SOMODE      ;;SAVE IT FOR USE
*        MOVVB   SOFILL,R4     ;;GET THE ZERO FILL SWITCH
*        MOV     12(SP),R5     ;;PICKUP THE INPUT NUMBER
*        CLR     R3            ;;CLEAR THE OUTPUT WORD
*1$:     ROL     R5            ;;ROTATE MSB INTO "C"
*        BR     3$            ;;GO DO MSB
*2$:     ROL     R5            ;;FORM THIS DIGIT
*        ROL     R5
*        ROL     R5
*        MOV     R5,R3
*3$:     ROL     R3            ;;GET LSB OF THIS DIGIT
*        DECB   SOMODE        ;;TYPE THIS DIGIT?
*        BPL    7$            ;;BR IF NO
*        BIC    #177770,R3    ;;GET RID OF JUNK
*        BNE   4$            ;;TEST FOR 0
*        TST   R4            ;;SUPPRESS THIS 0?
*        BEQ   5$            ;;BR IF YES

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.SBTTL TRAP DECODER

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

```
STRAP:  MOV    RO, -(SP)           ;; SAVE RO
        MOV    2(SP), RO          ;; GET TRAP ADDRESS
        TST   -(RO)              ;; BACKUP BY 2
        MOVB  (RO), RO           ;; GET RIGHT BYTE OF TRAP
        ASL   RO                 ;; POSITION FOR INDEXING
        MOV   STRPAD(RO), RO      ;; INDEX TO TABLE
        RTS   RO                 ;; GO TO ROUTINE
```

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

```
STRAP2: MOV    (SP), -(SP)        ;; MOVE THE PC DOWN
        MOV    4(SP), 2(SP)      ;; MOVE THE PSW DOWN
        RTI                          ;; RESTORE THE PSW
```

.SBTTL TRAP TABLE

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

```
ROUTINE
-----
STRPAD:  .WORD  STRAP2
        $TYPE  ;; CALL=TYPE      TRAP+1(104401)  TTY TYPEOUT ROUTINE
        $TYPOC ;; CALL=TYPOC    TRAP+2(104402)  TYPE OCTAL NUMBER (WITH LEADING ZEROS)
        $TYPOS ;; CALL=TYPOS    TRAP+3(104403)  TYPE OCTAL NUMBER (NO LEADING ZEROS)
        $TYPON ;; CALL=TYPON    TRAP+4(104404)  TYPE OCTAL NUMBER (AS PER LAST CALL)
```

043442 010046
043444 016600 000002
043450 005740
043452 111000
043454 006300
043456 016000 043476
043462 000200

043464 011646
043466 016666 000004 000002
043474 000002

043476 043464
043500 042464
043502 043240
043504 043214
043506 043254

.SBTTL POWER DOWN AND UP ROUTINES

```

10498
10499
10500
10501
10502 043510 012737 043662 000024
10503 043516 012737 000340 000026
10504 043524 010046
10505 043526 010146
10506 043530 010246
10507 043532 010346
10508 043534 010446
10509 043536 010546
10510 043540 017746 135402
10511 043544 010637 043666
10512 043550 012737 043562 000024
10513 043556 000000
10514 043560 000776
10515
10516
10517
10518 043562 012737 043662 000024
10519 043570 013706 043666
10520 043574 005037 043666
10521 043600 005237 043666
10522 043604 001375
10523 043606 011600
10524 043610 076600 000226
10525 043614 012677 135326
10526 043620 012605
10527 043622 012604
10528 043624 012603
10529 043626 012602
10530 043630 012601
10531 043632 012600
10532 043634 012737 043510 000024
10533 043642 012737 000340 000026
10534 043650 104401
10535 043652 043670 SPWRMG: .WORD $POWER
10536 043654 012716 MOV (PC)+, (SP)
10537 043656 002162 SPWRAD: .WORD START
10538 043660 000002 RTI
10539 043662 000000 $ILLUP: HALT
10540 043664 000776 BR .-2
10541 043666 000000 $SAVR6: 0
10542 043670 005015 047520 042527 $POWER: .ASCIZ <15><12>"POWER"
10543 043676 000122
10544

```

```

*****
:POWER DOWN ROUTINE
$PWRDN: MOV $ILLUP, @PWRVEC ;; SET FOR FAST UP
MOV @340, @PWRVEC+2 ;; PRIO:7
MOV RO, -(SP) ;; PUSH RO ON STACK
MOV R1, -(SP) ;; PUSH R1 ON STACK
MOV R2, -(SP) ;; PUSH R2 ON STACK
MOV R3, -(SP) ;; PUSH R3 ON STACK
MOV R4, -(SP) ;; PUSH R4 ON STACK
MOV R5, -(SP) ;; PUSH R5 ON STACK
MOV @SWR, -(SP) ;; PUSH @SWR ON STACK
MOV SP, $SAVR6 ;; SAVE SP
MOV @PWRUP, @PWRVEC ;; SET UP VECTOR
HALT
BR .-2 ;; HANG UP
*****
:POWER UP ROUTINE
$PWRUP: MOV $ILLUP, @PWRVEC ;; SET FOR FAST DOWN
MOV $SAVR6, SP ;; GET SP
CLR $SAVR6 ;; WAIT LOOP FOR THE TTY
1$: INC $SAVR6 ;; WAIT FOR THE INC
BNE 1$ OF WORD
MOV (SP), RO ;; GET SAVED SWR OFF STACK
MED 226 ;; RESTORE SWR CONTENTS
MOV (SP)+, @SWR ;; POP STACK INTO @SWR
MOV (SP)+, R5 ;; POP STACK INTO R5
MOV (SP)+, R4 ;; POP STACK INTO R4
MOV (SP)+, R3 ;; POP STACK INTO R3
MOV (SP)+, R2 ;; POP STACK INTO R2
MOV (SP)+, R1 ;; POP STACK INTO R1
MOV (SP)+, RO ;; POP STACK INTO RO
MOV @PWRDN, @PWRVEC ;; SET UP THE POWER DOWN VECTOR
MOV @340, @PWRVEC+2 ;; PRIO:7
TYPE ;; REPORT THE POWER FAILURE
SPWRMG: .WORD $POWER ;; POWER FAIL MESSAGE POINTER
MOV (PC)+, (SP) ;; RESTART AT START
SPWRAD: .WORD START ;; RESTART ADDRESS
RTI
$ILLUP: HALT ;; THE POWER UP SEQUENCE WAS STARTED
BR .-2 ;; BEFORE THE POWER DOWN WAS COMPLETE
$SAVR6: 0 ;; PUT THE SP HERE
$POWER: .ASCIZ <15><12>"POWER"
.EVEN

```

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ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC

```

10545 .SBTTL ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC
10546
10547 ; MESSAGE PREFIXES
10548 043700 047510 035124 000040 ASCHOT: .ASCIZ "HOT: "
10549 043706 040527 046522 020072 ASCWRM: .ASCIZ "WARM: "
10550 043714 000
10551
10552 ; ERROR MESSAGES HERE
10553 043715 122 041505 044505 EMA: .ASCIZ "RECEIVED FPS IS BAD"
10554 043722 042526 020104 050106
10555 043730 020123 051511 041040
10556 043736 042101 000
10557 043741 122 041505 044505 EMB: .ASCIZ "RECEIVED FEC/FEA IS BAD"
10558 043746 042526 020104 042506
10559 043754 027503 042506 020101
10560 043762 051511 041040 042101
10561 043770 000
10562 043771 125 042516 050130 EMC: .ASCIZ "UNEXPECTED FLOATING POINT TRAP, IGNORED & CONTINUING"
10563 043776 041505 042524 020104
10564 044004 046106 040517 044524
10565 044012 043516 050040 044517
10566 044020 052116 052040 040522
10567 044026 026120 044440 047107
10568 044034 051117 042105 023040
10569 044042 041440 047117 044524
10570 044050 052516 047111 000107
10571 044056 050103 020125 051520 EMD: .ASCIZ "CPU PS CONDITION CODES SET INCORRECTLY"
10572 044064 041440 047117 044504
10573 044072 044524 047117 041440
10574 044100 042117 051505 051440
10575 044106 052105 044440 041516
10576 044114 051117 042522 052103
10577 044122 054514 000
10578 044125 103 050115 043050 EME: .ASCIZ "CMP(F/D) OPERATION - REGISTER MODIFIED AFTER EXECUTION"
10579 044132 042057 020051 050117
10580 044140 051105 052101 047511
10581 044146 020116 020055 042522
10582 044154 044507 052123 051105
10583 044162 046440 042117 043111
10584 044170 042511 020104 043101
10585 044176 042524 020122 054105
10586 044204 041505 052125 047511
10587 044212 000116
10588 044214 042101 027504 052523 EMF: .ASCIZ "ADD/SUB(F/D) OPERATION - RESULT INCORRECT"
10589 044222 024102 027506 024504
10590 044230 047440 042520 040522
10591 044236 044524 047117 026440
10592 044244 051040 051505 046125
10593 044252 020124 047111 047503
10594 044260 051122 041505 000124
10595 044266 052515 027514 044504 EMG: .ASCIZ "MUL/DIV(F/D) OPERATION - RESULT INCORRECT"
10596 044274 024126 027506 024504
10597 044302 047440 042520 040522
10598 044310 044524 047117 026440
10599 044316 051040 051505 046125
10600 044324 020124 047111 047503

```

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ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC

10601	044332	051122	041505	000124	
10602	044340	047515	024104	027506	EMH: .ASCIZ "MOD(F/D) OPERATION - FRACTIONAL RESULT INCORRECT"
10603	044346	024504	047440	042520	
10604	044354	040522	044524	047117	
10605	044362	026440	043040	040522	
10606	044370	052103	047511	040516	
10607	044376	020114	042522	052523	
10608	044404	052114	044440	041516	
10609	044412	051117	042522	052103	
10610	044420	000			
10611	044421	115	042117	043050	EMI: .ASCIZ "MOD(F/D) OPERATION - INTEGER RESULT INCORRECT"
10612	044426	042057	020051	050117	
10613	044434	051105	052101	047511	
10614	044442	020116	020055	047111	
10615	044450	042524	042507	020122	
10616	044456	042522	052523	052114	
10617	044464	044440	041516	051117	
10618	044472	042522	052103	000	
10619	044477	106	047514	052101	EMJ: .ASCIZ "FLOAT-TO-DOUBLE CONVERSION - RESULT INCORRECT"
10620	044504	052055	026517	047504	
10621	044512	041125	042514	011440	
10622	044520	047117	042526	051522	
10623	044526	047511	020116	020055	
10624	044534	042522	052523	052114	
10625	044542	044440	041516	051117	
10626	044550	042522	052103	000	
10627	044555	104	052517	046102	EMK: .ASCIZ "DOUBLE-TO-FLOAT CONVERSION - RESULT INCORRECT"
10628	044562	026505	047524	043055	
10629	044570	047514	052101	041440	
10630	044576	047117	042526	051522	
10631	044604	047511	020116	020055	
10632	044612	042522	052523	052114	
10633	044620	044440	041516	051117	
10634	044626	042522	052103	000	
10635	044633	106	054111	042105	EML: .ASCIZ "FIXED-TO-FLOATING CONVERSION - RESULT INCORRECT"
10636	044640	052055	026517	046106	
10637	044646	040517	044524	043516	
10638	044654	041440	047117	042526	
10639	044662	051522	047511	020116	
10640	044670	020055	042522	052523	
10641	044676	052114	044440	041516	
10642	044704	051117	042522	052103	
10643	044712	000			
10644	044713	106	047514	052101	EMM: .ASCIZ "FLOATING-TO-FIXED CONVERSION - RESULT INCORRECT"
10645	044720	047111	026507	047524	
10646	044726	043055	054111	042105	
10647	044734	041440	047117	042526	
10648	044742	051522	047511	020116	
10649	044750	020055	042522	052523	
10650	044756	052114	044440	041516	
10651	044764	051117	042522	052103	
10652	044772	000			
10653	044773	114	040517	020104	EMN: .ASCIZ "LOAD EXPONENT(F/D) OPERATION - RESULT INCORRECT"
10654	045000	054105	047520	042516	
10655	045006	052116	043050	042057	
10656	045014	020051	050117	051105	

E02

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10657	045022	052101	047511	020116
10658	045030	020055	042522	052523
10659	045036	052114	044440	041516
10660	045044	051117	042522	052103
10661	045052	000		
10662	045053	123	047524	042522
10663	045060	042440	050130	047117
10664	045066	047105	024124	027506
10665	045074	024504	047440	042520
10666	045102	040522	044524	047117
10667	045110	026440	051040	051505
10668	045116	046125	020124	047111
10669	045124	047503	051122	041505
10670	045132	000124		

EMO: .ASCIZ "STORE EXPONENT(F/D) OPERATION - RESULT INCORRECT"

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 ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC

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

```

10702                                     ; DATA ADDRESS VECTOR
10703                                     .EVEN
10704 045410 001240 002000 000000 DTA: .WORD STMP4,FPS,0
10705 045416 001242 002000 000000 DTB: .WORD STMP5,FPS,0
10706 045424 001244 002000 000000 DTC: .WORD STMP6,FPS,0
10707 045432 001246 002000 000000 DTD: .WORD STMP7,FPS,0
10708 045440 001252 002000 000000 DTE: .WORD STMP11,FPS,0
10709 045446 001254 002000 000000 DTF: .WORD STMP12,FPS,0
10710 045454 001262 002000 000000 DTG: .WORD STMP15,FPS,0
10711 045462 001272 002000 000000 DTH: .WORD STMP21,FPS,0
10712 045470 001242 002002 002014 DTI: .WORD STMP5,FEC,EXPFEA,FEA,0
10713 045476 002004 000000
10714 045502 001244 002002 002014 DTJ: .WORD STMP6,FEC,EXPFEA,FEA,0
10715 045510 002004 000000
10716 045514 001246 002002 002014 DTK: .WORD STMP7,FEC,EXPFEA,FEA,0
10717 045522 002004 000000
10718 045526 001250 002002 002014 DTL: .WORD STMP10,FEC,EXPFEA,FEA,0
10719 045534 002004 000000
10720 045540 001254 002002 002014 DTM: .WORD STMP12,FEC,EXPFEA,FEA,0
10721 045546 002004 000000
10722 045552 001256 002002 002014 DTN: .WORD STMP13,FEC,EXPFEA,FEA,0
10723 045560 002004 000000
10724 045564 001264 002002 002014 DTO: .WORD STMP16,FEC,EXPFEA,FEA,0
10725 045572 002004 000000
10726 045576 001274 002002 002014 DTP: .WORD STMP22,FEC,EXPFEA,FEA,0
10727 045604 002004 000000
10728 045610 001234 001170 000000 DTQ: .WORD STMP2,$REG0,0
10729 045616 001240 001170 000000 DTR: .WORD STMP4,$REG0,0
10730 045624 001230 001232 001170 DTS: .WORD STMP0,$TMP1,$REG0,$REG1,0
10731 045632 001172 000000
10732 045636 001232 001234 001170 DTT: .WORD STMP1,$TMP2,$REG0,$REG1,0
10733 045644 001172 000000
10734 045650 001234 001236 001170 DTU: .WORD STMP2,$TMP3,$REG0,$REG1,0
10735 045656 001172 000000
10736 045662 001240 001242 001170 DTV: .WORD STMP4,$TMP5,$REG0,$REG1,0
10737 045670 001172 000000
10738 045674 001244 001246 001174 DTW: .WORD STMP6,$TMP7,$REG2,$REG3,0
10739 045702 001176 000000
10740 045706 001230 001232 001234 DTX: .WORD STMP0,$TMP1,$TMP2,$TMP3
10741 045714 001236
10742 045716 001170 001172 001174 .WORD $REG0,$REG1,$REG2,$REG3,0
10743 045724 001176 000000
10744 045730 001232 001234 001236 DTY: .WORD STMP1,$TMP2,$TMP3,$TMP4
10745 045736 001240
10746 045740 001170 001172 001174 .WORD $REG0,$REG1,$REG2,$REG3,0
10747 045746 001176 000000
10748 045752 001234 001236 001240 DTZ: .WORD STMP2,$TMP3,$TMP4,$TMP5
10749 045760 001242
10750 045762 001170 001172 001174 .WORD $REG0,$REG1,$REG2,$REG3,0
10751 045770 001176 000000
10752 045774 001240 001242 001244 DTAA: .WORD STMP4,$TMP5,$TMP6,$TMP7
10753 046002 001246
10754 046004 001170 001172 001174 .WORD $REG0,$REG1,$REG2,$REG3,0
10755 046012 001176 000000
10756 046016 001250 001252 001254 DTAB: .WORD STMP10,$TMP11,$TMP12,$TMP13
10757 046024 001256

```

H02

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

; THE END
.END

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

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CROSS REFERENCE TABLE -- USER SYMBOLS

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

MD2F3	015566	4530	4535#															
MD2F4	015630	4550	4555#															
MD2F5	015672	4570	4575#															
MD2F6	015734	4590	4595#															
MD2F7	015776	4610	4615#															
MED =	076600	885#	1267	1315	1319	1329	8632	8640	8646	10524								
MULDI	034536	9016#	9027															
MULDI	034526	9010	9012#															
MULDT	034502	3463	3485	3507	3529	3551	3573	3595	3617	3639	3661	3683	3705	3727				
		3749	3771	3793	9004#													
MULD1	011764	3462	3467#															
MULD10	012432	3616	3621#															
MULD11	012504	3638	3643#															
MULD12	012556	3660	3665#															
MULD13	012630	3682	3687#															
MULD14	012702	3704	3709#															
MULD15	012754	3726	3731#															
MULD16	013026	3748	3753#															
MULD17	013100	3770	3775#															
MULD2	012036	3484	3489#															
MULD20	013152	3792	3797#															
MULD3	012110	3506	3511#															
MULD4	012162	3528	3533#															
MULD5	012234	3550	3555#															
MULD6	012306	3572	3577#															
MULD7	012360	3594	3599#															
MULFI	034366	8973#	8984															
MULFL	034356	8967	8969#															
MULFT	034332	3158	3177	3196	3215	3234	3253	3272	3291	3310	3329	3348	3367	3386				
		3405	3424	3443	8961#													
MULF1	011024	3157	3162#															
MULF10	011346	3290	3295#															
MULF11	011404	3309	3314#															
MULF12	011442	3328	3333#															
MULF13	011500	3347	3352#															
MULF14	011536	3366	3371#															
MULF15	011574	3385	3390#															
MULF16	011632	3404	3409#															
MULF17	011670	3423	3428#															
MULF2	011062	3176	3181#															
MULF20	011726	3442	3447#															
MULF3	011120	3195	3200#															
MULF4	011156	3214	3219#															
MULF5	011214	3233	3238#															
MULF6	011252	3252	3257#															
MULF7	011310	3271	3276#															
MO =	100000	912#	1495	2093	2545	2780	2901	2903	3011	3033	3374	3449	3800	4636				
		4985	5341	5690	5982	6001	6058	6077	6134	6153	6173	6345	6364	6402				
		6461	6497	6516	6535													
M1 =	177777	911#	1186	1386	1387	1422	1423	1440	1512	1513	1531	1548	1587	1589				
		1627	1629	1669	1687	1689	1709	1769	1787	1789	1807	1808	1864	1865				
		1884	1903	1904	1921	1922	1923	1940	1941	1942	1959	1980	2016	2036				
		2054	2055	2056	2092	2094	2111	2112	2131	2169	2213	2235	2237	2257				
		2279	2283	2301	2303	2305	2323	2325	2327	2369	2393	2411	2413	2435				
		2437	2455	2457	2459	2499	2501	2503	2543	2547	2565	2567	2607	2685				
		2721	2722	2723	2740	2741	2742	2759	2761	2778	2797	2879	2901	2903				

2969	3009	3011	3013	3031	3033	3035	3097	3101	3119	3141	3164	3182
3183	3203	3222	3241	3353	3354	3391	3392	3393	3411	3429	3430	3449
3468	3490	3492	3516	3538	3558	3560	3580	3688	3690	3692	3710	3712
3732	3734	3736	3754	3756	3778	3800	3820	3934	3935	4029	4030	4031
4048	4049	4050	4106	4125	4144	4146	4364	4366	4368	4386	4388	4390
4452	4454	4456	4474	4476	4516	4517	4536	4537	4556	4557	4558	4559
4597	4598	4657	4698	4776	4778	4796	4841	4843	4865	4867	4889	4891
4893	4895	4939	4941	5011	5013	5037	5059	5061	5083	5153	5157	5177
5204	5221	5222	5224	5241	5242	5244	5261	5262	5263	5264	5284	5302
5303	5304	5324	5344	5362	5364	5384	5403	5404	5424	5444	5464	5481
5483	5484	5501	5504	5528	5546	5548	5552	5570	5572	5576	5594	5596
5598	5600	5624	5644	5646	5648	5672	5696	5716	5718	5720	5742	5744
5764	5766	5768	5788	5792	5816	5840	5858	5862	5864	5882	5888	5925
5927	5944	6020	6039	6041	6058	6077	6079	6096	6115	6134	6153	6174
6230	6231	6249	6268	6269	6287	6383	6421	6423	6440	6459	6478	6497
6516	6518	6535	6574	6593	6595	6650	6846	6863	6864	6915	7002	7003
7111	7165	7203	7241	7260	7279	7298	7300	7318	7354	7390	7408	7464
7466	7483	7502	7521	7540	7579	7580	7693	7694	7807	7808	7845	7940
7981	7983	8107	8109	8275	8381	8609						
910#	1549	2017	2037	2413	2437	3240	3259	3355	3558	3580	3692	3736
4658	4697	4717	5013	5059	5083	5363	5402	5422	5718	5764	5788	
928#	1353	1371	1389	1407	1425	1443	1461	1479	1515	1533	1551	1572
1592	1612	1632	1652	1692	1712	1732	1752	1772	1792	1811	1830	1849
1868	1887	1906	1925	1944	1963	1982	2001	2020	2039	2115	2134	2153
2176	2198	2220	2242	2264	2286	2308	2330	2352	2374	2396	2418	2440
2528	2550	2572	2592	2611	2630	2649	2668	2687	2706	2744	2763	2801
2839	2862	2884	2906	2928	2950	2972	2994	3038	3082	3104	3148	3167
3186	3205	3224	3243	3262	3281	3300	3319	3338	3414	3433	3452	3475
3497	3519	3541	3563	3585	3607	3629	3651	3673	3717	3761	3805	3824
3862	3881	3900	3919	3938	3957	3976	3995	4014	4090	4128	4151	4173
4195	4217	4239	4261	4283	4305	4327	4437	4481	4501	4521	4541	4581
4601	4621	4641	4661	4681	4701	4721	4761	4801	4826	4850	4874	4922
4946	4970	4994	5018	5042	5066	5090	5138	5186	5206	5226	5246	5286
5306	5326	5346	5366	5386	5406	5426	5466	5506	5531	5555	5579	5627
5651	5675	5699	5723	5747	5771	5795	5843	5891	5910	5948	5967	5986
6005	6043	6062	6081	6100	6119	6138	6157	6196	6215	6234	6253	6272
6291	6310	6330	6349	6368	6387	6406	6425	6444	6482	6501	6520	6539
7060	7078	7114	7132	7150	7168	7207	7226	7245	7264	7283	7302	7321
7357	7375	7393	7411	7429	7468	7487	7506	7525	7544	7563	7621	7640
7659	7678	7697	7716	7735	7830	7849	7868	7887	7906	7925	7944	8008
8029	8050	8071	8092	8113	8134	8239	8260	8281	8302	8323	8344	8365
1271	1273	1298#	8688									
1203#	1303											
788#												
882#												
1186#	9150	9206	9267	9323	9383	9427						
805#												
806#												
807#												
808#												
809#												
810#												
811#												
812#												
785#	786	9693	9743	9793	9845	9983	10023					
786#												

ME = 177776

NR = 000000

NEWPAS 002616
 NMPAS1 002151
 PIRQ = 177772
 PIRQVE= 000240
 PREVAC 002036
 PRO = 000000
 PR1 = 000040
 PR2 = 000100
 PR3 = 000140
 PR4 = 000200
 PR5 = 000240
 PR6 = 000300
 PR7 = 000340
 PS = 177776
 PSM = 177776

K03

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CROSS REFERENCE TABLE -- USER SYMBOLS

TST102	007162	2623	2638#
TST103	007220	2642	2657#
TST104	007256	2661	2676#
TST105	007314	2680	2695#
TST106	007352	2699	2714#
TST107	007410	2718	2733#
TST11	003300	1473	1487#
TST110	007446	2737	2752#
TST111	007504	2756	2771#
TST112	007542	2775	2790#
TST113	007600	2794	2809#
TST114	007636	2813	2828#
TST115	007674	2832	2848#
TST116	007746	2852	2870#
TST117	010020	2874	2892#
TST12	003332	1491	1505#
TST120	010072	2896	2914#
TST121	010144	2918	2936#
TST122	010216	2940	2958#
TST123	010270	2962	2980#
TST124	010342	2984	3002#
TST125	010414	3006	3024#
TST126	010466	3028	3046#
TST127	010540	3050	3068#
TST13	003364	1509	1523#
TST130	010612	3072	3090#
TST131	010664	3094	3112#
TST132	010736	3116	3134#
TST133	011010	3138	3156#
TST134	011046	3160	3175#
TST135	011104	3179	3194#
TST136	011142	3198	3213#
TST137	011200	3217	3232#
TST14	003416	1527	1541#
TST140	011236	3236	3251#
TST141	011274	3255	3270#
TST142	011332	3274	3289#
TST143	011370	3293	3308#
TST144	011426	3312	3327#
TST145	011464	3331	3346#
TST146	011522	3350	3365#
TST147	011560	3369	3384#
TST15	003450	1545	1560#
TST150	011616	3388	3403#
TST151	011654	3407	3422#
TST152	011712	3426	3441#
TST153	011750	3445	3461#
TST154	012022	3465	3483#
TST155	012074	3487	3505#
TST156	012146	3509	3527#
TST157	012220	3531	3549#
TST16	003512	1564	1580#
TST160	012272	3553	3571#
TST161	012344	3575	3593#
TST162	012416	3597	3615#
TST163	012470	3619	3637#

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CROSS REFERENCE TABLE -- USER SYMBOLS

TST164	012542	3641	3659#
TST165	012614	3663	3681#
TST166	012666	3685	3703#
TST167	012740	3707	3725#
TST17	003554	1584	1600#
TST170	013012	3729	3747#
TST171	013064	3751	3769#
TST172	013136	3773	3791#
TST173	013210	3795	3813#
TST174	013246	3817	3832#
TST175	013304	3836	3851#
TST176	013342	3855	3870#
TST177	013400	3874	3889#
TST2	003012	1347	1361#
TST20	003616	1604	1620#
TST200	013436	3893	3908#
TST201	013474	3912	3927#
TST202	013532	3931	3946#
TST203	013570	3950	3965#
TST204	013626	3969	3984#
TST205	013664	3988	4003#
TST206	013722	4007	4022#
TST207	013760	4026	4041#
TST21	003660	1624	1640#
TST210	014016	4045	4060#
TST211	014054	4064	4079#
TST212	014112	4083	4098#
TST213	014150	4102	4117#
TST214	014206	4121	4137#
TST215	014260	4141	4159#
TST216	014332	4163	4181#
TST217	014404	4185	4203#
TST22	003722	1644	1660#
TST220	014456	4207	4225#
TST221	014530	4229	4247#
TST222	014602	4251	4269#
TST223	014654	4273	4291#
TST224	014726	4295	4313#
TST225	015000	4317	4335#
TST226	015052	4339	4357#
TST227	015124	4361	4379#
TST23	003764	1664	1680#
TST230	015176	4383	4401#
TST231	015250	4405	4423#
TST232	015322	4427	4445#
TST233	015374	4449	4467#
TST234	015446	4471	4489#
TST235	015510	4493	4509#
TST236	015552	4513	4529#
TST237	015614	4533	4549#
TST24	004026	1684	1700#
TST240	015656	4553	4569#
TST241	015720	4573	4589#
TST242	015762	4593	4609#
TST243	016024	4613	4629#
TST244	016066	4633	4649#

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CROSS REFERENCE TABLE -- USER SYMBOLS

TST245	016130	4653	4669#
TST246	016172	4673	4689#
TST247	016234	4693	4709#
TST25	004070	1704	1720#
TST250	016276	4713	4729#
TST251	016340	4733	4749#
TST252	016402	4753	4769#
TST253	016444	4773	4789#
TST254	016506	4793	4810#
TST255	016570	4814	4834#
TST256	016652	4838	4858#
TST257	016734	4862	4882#
TST26	004132	1724	1740#
TST260	017016	4886	4906#
TST261	017100	4910	4930#
TST262	017162	4934	4954#
TST263	017244	4958	4978#
TST264	017326	4982	5002#
TST265	017410	5006	5026#
TST266	017472	5030	5050#
TST267	017554	5054	5074#
TST27	004174	1744	1760#
TST270	017636	5078	5098#
TST271	017720	5102	5122#
TST272	020002	5126	5146#
TST273	020064	5150	5170#
TST274	020146	5174	5194#
TST275	020210	5198	5214#
TST276	020252	5218	5234#
TST277	020314	5238	5254#
TST3	003044	1365	1379#
TST30	004236	1764	1780#
TST300	020356	5258	5274#
TST301	020420	5278	5294#
TST302	020462	5298	5314#
TST303	020524	5318	5334#
TST304	020566	5338	5354#
TST305	020630	5358	5374#
TST306	020672	5378	5394#
TST307	020734	5398	5414#
TST31	004300	1784	1800#
TST310	020776	5418	5434#
TST311	021040	5438	5454#
TST312	021102	5458	5474#
TST313	021144	5478	5494#
TST314	021206	5498	5515#
TST315	021270	5519	5539#
TST316	021352	5543	5563#
TST317	021434	5567	5587#
TST32	004336	1804	1819#
TST320	021516	5591	5611#
TST321	021600	5615	5635#
TST322	021662	5639	5659#
TST323	021744	5663	5683#
TST324	022026	5687	5707#
TST325	022110	5711	5731#

TST326	022172	5735	5755#
TST327	022254	5759	5779#
TST33	004374	1823	1838#
TST330	022336	5783	5803#
TST331	022420	5807	5827#
TST332	022502	5831	5851#
TST333	022564	5855	5875#
TST334	022646	5879	5899#
TST335	022704	5903	5918#
TST336	022742	5922	5937#
TST337	023000	5941	5956#
TST34	004432	1842	1857#
TST340	023036	5960	5975#
TST341	023074	5979	5994#
TST342	023132	5998	6013#
TST343	023170	6017	6032#
TST344	023226	6036	6051#
TST345	023264	6055	6070#
TST346	023322	6074	6089#
TST347	023360	6093	6108#
TST35	004470	1861	1876#
TST350	023416	6112	6127#
TST351	023454	6131	6146#
TST352	023512	6150	6166#
TST353	023550	6170	6185#
TST354	023606	6189	6204#
TST355	023644	6208	6223#
TST356	023702	6227	6242#
TST357	023740	6246	6261#
TST36	004526	1880	1895#
TST360	023776	6265	6280#
TST361	024034	6284	6299#
TST362	024072	6303	6319#
TST363	024130	6323	6338#
TST364	024166	6342	6357#
TST365	024224	6361	6376#
TST366	024262	6380	6395#
TST367	024320	6399	6414#
TST37	004564	1899	1914#
TST370	024356	6418	6433#
TST371	024414	6437	6452#
TST372	024452	6456	6471#
TST373	024510	6475	6490#
TST374	024546	6494	6509#
TST375	024604	6513	6528#
TST376	024642	6532	6548#
TST377	024702	6552	6567#
TST4	003076	1383	1397#
TST40	004622	1918	1933#
TST400	024742	6571	6586#
TST401	025002	6590	6605#
TST402	025042	6609	6624#
TST403	025102	6628	6643#
TST404	025142	6647	6662#
TST405	025170	6666	6679#
TST406	025216	6683	6696#

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TST407	025244	6700	6713#
TST41	004660	1937	1952#
TST410	025272	6717	6730#
TST411	025320	6734	6748#
TST412	025352	6752	6766#
TST413	025404	6770	6784#
TST414	025436	6788	6802#
TST415	025470	6806	6820#
TST416	025522	6824	6839#
TST417	025552	6843	6856#
TST42	004716	1956	1971#
TST420	025602	6860	6873#
TST421	025632	6877	6890#
TST422	025662	6894	6907#
TST423	025712	6911	6924#
TST424	025742	6928	6941#
TST425	025772	6945	6959#
TST426	026026	6963	6977#
TST427	026062	6981	6995#
TST43	004754	1975	1990#
TST430	026116	6999	7013#
TST431	026152	7017	7031#
TST432	026206	7035	7050#
TST433	026236	7054	7068#
TST434	026266	7072	7086#
TST435	026316	7090	7104#
TST436	026346	7108	7122#
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TST442	026512	7181	7196#
TST443	026546	7200	7215#
TST444	026602	7219	7234#
TST445	026636	7238	7253#
TST446	026672	7257	7272#
TST447	026726	7276	7291#
TST45	005050	2013	2028#
TST450	026762	7295	7311#
TST451	027014	7315	7329#
TST452	027046	7333	7347#
TST453	027100	7351	7365#
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TST456	027216	7405	7419#
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TST460	027306	7442	7457#
TST461	027344	7461	7476#
TST462	027402	7480	7495#
TST463	027440	7499	7514#
TST464	027476	7518	7533#
TST465	027534	7537	7552#
TST466	027572	7556	7572#
TST467	027626	7576	7591#
TST47	005144	2051	2066#

FPU ADVANCED INSTR TESTS
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CROSS REFERENCE TABLE -- USER SYMBOLS

TST470	027662	7595	7610#
TST471	027716	7614	7629#
TST472	027752	7633	7648#
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TST474	030042	7671	7686#
TST475	030076	7690	7705#
TST476	030132	7709	7724#
TST477	030166	7728	7743#
TST5	003130	1401	1415#
TST50	005202	2070	2085#
TST500	030222	7747	7762#
TST501	030256	7766	7781#
TST502	030312	7785	7800#
TST503	030346	7804	7819#
TST504	030402	7823	7838#
TST505	030436	7842	7857#
TST506	030472	7861	7876#
TST507	030526	7880	7895#
TST51	005240	2089	2104#
TST510	030562	7899	7914#
TST511	030616	7918	7933#
TST512	030652	7937	7953#
TST513	030716	7957	7974#
TST514	030762	7978	7995#
TST515	031026	7999	8016#
TST516	031072	8020	8037#
TST517	031136	8041	8058#
TST52	005276	2108	2123#
TST520	031202	8062	8079#
TST521	031246	8083	8100#
TST522	031312	8104	8121#
TST523	031356	8125	8142#
TST524	031422	8146	8163#
TST525	031466	8167	8184#
TST526	031532	8188	8205#
TST527	031576	8209	8226#
TST53	005334	2127	2142#
TST530	031642	8230	8247#
TST531	031706	8251	8268#
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TST534	032062	8314	8331#
TST535	032126	8335	8352#
TST536	032172	8356	8374#
TST537	032220	8378	8391#
TST54	005372	2146	2162#
TST540	032246	8395	8408#
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TST543	032350	8446	8459#
TST544	032376	8463	8476#
TST545	032424	8480	8494#
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		4590	4610	4630	4650	4670	4690	4710	4730	4750	4770	4790	4811	4835
		4859	4883	4907	4931	4955	4979	5003	5027	5051	5075	5099	5123	5147
		5171	5195	5215	5235	5255	5275	5295	5315	5335	5355	5375	5395	5415
		5435	5455	5475	5495	5516	5540	5564	5588	5612	5636	5660	5684	5708
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		6978	6996	7014	7032	7051	7069	7087	7105	7123	7141	7159	7178	7197
		7216	7235	7254	7273	7292	7312	7330	7348	7366	7384	7402	7420	7439
		7458	7477	7496	7515	7534	7553	7573	7592	7611	7630	7649	7668	7687
		7706	7725	7744	7763	7782	7801	7820	7839	7858	7877	7896	7915	7934
		7954	7975	7996	8017	8038	8059	8080	8101	8122	8143	8164	8185	8206
		8227	8248	8269	8290	8311	8332	8353	8375	8392	8409	8426	8443	8460
		8477	8495	8513	8531	8549	8567	8585	8603	10061	10062	10063	10064	10065
		10071	10083	10085	10086	10089	10090	10091	10098	10099	10100	10112	10115	10118
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SSWRMK=	000000	10065	10087											
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		9834	9883	9926	9972	10012	10730	10740						
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STMP10	001250	1044#	10718	10756										
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STMP2	001234	1038#	10728	10732	10734	10740	10744	10748						
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		1401	1410	1416#	1419	1428	1434#	1437	1446	1452#	1455	1464	1470#	1473
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1561#	1564	1575	1581#	1584	1595	1601#	1604	1615	1621#	1624	1635	1641#
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1735	1741#	1744	1755	1761#	1764	1775	1781#	1784	1795	1801#	1804	1814
1820#	1823	1833	1839#	1842	1852	1858#	1861#	1871	1877#	1880	1890	1896#
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1985	1991#	1994	2004	2010#	2013	2023	2029#	2032	2042	2048#	2051	2061
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2339#	2342	2355	2361#	2364	2377	2383#	2386	2399	2405#	2408	2421	2427#
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2871#	2874	2887	2893#	2896	2909	2915#	2918	2931	2937#	2940	2953	2959#
2962	2975	2981#	2984	2997	3003#	3006	3019	3025#	3028	3041	3047#	3050
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3157#	3160	3170	3176#	3179	3189	3195#	3198	3208	3214#	3217	3227	3233#
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3322	3328#	3331	3341	3347#	3350	3360	3366#	3369	3379	3385#	3388	3398
3404#	3407	3417	3423#	3426	3436	3442#	3445	3456	3462#	3465	3478	3484#
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3588	3594#	3597	3610	3616#	3619	3632	3638#	3641	3654	3660#	3663	3676
3682#	3685	3698	3704#	3707	3720	3726#	3729	3742	3748#	3751	3764	3770#
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5150	5165	5171#	5174	5189	5195#	5198	5209	5215#	5218	5229	5235#	5238
5249	5255#	5258	5269	5275#	5278	5289	5295#	5298	5309	5315#	5318	5329
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COMM41	743#	7137													
COMM42	743#														
COMM43	743#	7416													
COMM44	743#	7269													
COMM45	743#														
COMM46	743#	7549													
COMM47	743#														
ENDCOM	883#														
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	9132	9163	9171	9179	9187	9219	9227	9239	9251	9280	9288	9296	9304	9336	9344
	9356	9368	9394	9402	9409	9438	9446	9457	9483	9491	9498	9525	9536	9559	9566
	9592	9603	9629	9636	9662	9673	9699	9707	9715	9720	9749	9757	9765	9770	9799
	9807	9815	9822	9851	9859	9867	9874	9899	9907	9915	9942	9950	9962	9988	9996
	10001	10028	10036	10041	10052										
ESCAPE	883#														
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	1930	1949	1968	1987	2006	2025	2044	2063	2082	2159	2181	2203	2225	2247	2269
	2291	2313	2335	2357	2379	2401	2423	2445	2467	2489	2578	2597	2616	2635	2654
	2673	2692	2711	2749	2768	2806	2845	2867	2889	2911	2933	2955	2977	2999	3043
	3087	3109	3153	3172	3191	3210	3229	3248	3267	3286	3305	3324	3343	3362	3381
	3458	3480	3502	3524	3546	3568	3590	3612	3634	3656	3673	3722	3766	3810	3829
	3848	3867	3886	3905	3924	3943	3962	3981	4000	4019	4057	4095	4134	4156	4178
	4200	4222	4244	4266	4288	4310	4332	4354	4398	4442	4486	4506	4546	4566	4586
	4606	4626	4646	4666	4686	4706	4726	4766	4807	4831	4879	4903	4927	4951	4975
	4999	5023	5047	5071	5095	5143	5191	5211	5251	5271	5291	5311	5331	5351	5371
	5391	5411	5431	5471	5512	5536	5584	5608	5632	5656	5680	5704	5728	5752	5776
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	6182	6201	6220	6239	6258	6296	6316	6335	6354	6373	6392	6411	6430	6449	6468
	6487	6506	6545	6564	6583	6602	6621	6640	6659	6676	6693	6710	6727	6745	6763
	6781	6799	6817	6836	6853	6870	6887	6904	6921	6938	6956	6974	6992	7010	7028
	7047	7065	7083	7101	7119	7155	7174	7193	7212	7231	7250	7288	7308	7326	7344
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	7683	7702	7721	7740	7759	7778	7797	7816	7950	7971	7992	8013	8034	8055	8076
	8097	8118	8139	8160	8181	8202	8223	8371	8388	8405	8422	8439	8456	8473	8491
	8509	8527	8545	8563	8581	8599									
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	6143	6277													
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	7911	7930	8286	8307	8328	8349									
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	7835	7854	8244	8265											
FCOM4	743#	7137	7269	7416	7549										
FPRGTO	743#														
FPRGT1	743#														
FPSFEC	743#	8711	8755	8801	8844	8890	8933	8979	9022	9068	9111	9161	9217	9278	9334
	9392	9436	9481	9697	9747	9797	9849	9897	9940						
FPSTST	743#	9523	9557	9590	9627	9660	9986	10026							
GENCOM	743#														
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	2179	2201	2223	2245	2267	2289	2311	2333	2355	2377	2399	2421	2443	2465	2487
	2509	2531	2553	2576	2595	2614	2633	2652	2671	2690	2709	2728	2747	2766	2785
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	3129	3151	3170	3189	3208	3227	3246	3265	3284	3303	3322	3341	3360	3379	3398
	3417	3436	3456	3478	3500	3522	3544	3566	3588	3610	3632	3654	3676	3698	3720
	3742	3764	3786	3808	3827	3846	3865	3884	3903	3922	3941	3960	3979	3998	4017
	4036	4055	4074	4093	4112	4132	4154	4176	4198	4220	4242	4264	4286	4308	4330
	4352	4374	4396	4418	4440	4462	4484	4504	4524	4544	4564	4584	4604	4624	4644
	4664	4684	4704	4724	4744	4764	4784	4805	4829	4853	4877	4901	4925	4949	4973
	4997	5021	5045	5069	5093	5117	5141	5165	5189	5209	5229	5249	5269	5289	5309
	5329	5349	5369	5389	5409	5429	5449	5469	5489	5510	5534	5558	5582	5606	5630
	5654	5678	5702	5726	5750	5774	5798	5822	5846	5870	5894	5913	5932	5951	5970
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GENTS2	6562	6581	6600	6619	6638										
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GENTS3	7452	7471	7490	7509	7528	7547									
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	8137	8158	8179	8200	8221	8242	8263	8284	8305	8326	8347	8369	8386	8403	8420
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GENTS4	743#														
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GETSMR	883#														
GTSTD	743#	8824	8913	9002	9091										
GTSTF	743#	8781	8870	8959	9048										
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HTSTF	743#														
MOVDIS	743#	8693	8737	8783	8826	8872	8915	8961	9004	9050	9093	9140	9196	9257	9313
	9374	9418	9464	9507	9542	9575	9612	9645	9679	9729	9779	9831	9880	9923	9969
MOVDI1	10009														
	8694#	8738#	8784#	8827#	8873#	8916#	8962#	9005#	9051#	9094#	9141#	9197#	9258#	9314#	9375#
	9419#	9465#	9508#	9543#	9576#	9613#	9646#	9680#	9730#	9780#	9832#	9881#	9924#	9970#	10010#
MOVDI2	8694#	8738#	8784#	8827#	8873#	8916#	8962#	9005#	9051#	9094#	9141#	9197#	9258#	9314#	9375#
	9419#	9465#	9508#	9543#	9576#	9613#	9646#	9680#	9730#	9780#	9832#	9881#	9924#	9970#	10010#
MULT	883#														
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	1890	1909	1928	1947	1966	1985	2004	2023	2042	2061	2080	2099	2118	2137	2157
	2179	2201	2223	2245	2267	2289	2311	2333	2355	2377	2399	2421	2443	2465	2487
	2509	2531	2553	2576	2595	2614	2633	2652	2671	2690	2709	2728	2747	2766	2785
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	3129	3151	3170	3189	3208	3227	3246	3265	3284	3303	3322	3341	3360	3379	3398
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	3742	3764	3786	3808	3827	3846	3865	3884	3903	3922	3941	3960	3979	3998	4017
	4036	4055	4074	4093	4112	4132	4154	4176	4198	4220	4242	4264	4286	4308	4330
	4352	4374	4396	4418	4440	4462	4484	4504	4524	4544	4564	4584	4604	4624	4644
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	5329	5349	5369	5389	5409	5429	5449	5469	5489	5510	5534	5558	5582	5606	5630
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	5989	6008	6027	6046	6065	6084	6103	6122	6141	6161	6180	6199	6218	6237	6256
	6275	6294	6314	6333	6352	6371	6390	6409	6428	6447	6466	6485	6504	6523	6543

	6562	6581	6600	6619	6638	6657	6674	6691	6708	6725	6743	6761	6779	6797	6815
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	7099	7117	7135	7153	7172	7191	7210	7229	7248	7267	7286	7306	7324	7342	7360
	7378	7396	7414	7433	7452	7471	7490	7509	7528	7547	7567	7586	7605	7624	7643
	7662	7681	7700	7719	7738	7757	7776	7795	7814	7833	7852	7871	7890	7909	7928
	7948	7969	7990	8011	8032	8053	8074	8095	8116	8137	8158	8179	8200	8221	8242
	8263	8284	8305	8326	8347	8369	8386	8403	8420	8437	8454	8471	8489	8507	8525
	8543	8561	8579	8597											
POP	883#	10373	10374	10525	10526										
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REPORT	883#														
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	1595	1615	1635	1655	1675	1695	1715	1735	1755	1775	1795	1814	1833	1852	1871
	1890	1909	1928	1947	1966	1985	2004	2023	2042	2061	2080	2099	2118	2137	2157
	2179	2201	2223	2245	2267	2289	2311	2333	2355	2377	2399	2421	2443	2465	2487
	2509	2531	2553	2576	2595	2614	2633	2652	2671	2690	2709	2728	2747	2766	2785
	2804	2823	2843	2865	2887	2909	2931	2953	2975	2997	3019	3041	3063	3085	3107
	3129	3151	3170	3189	3208	3227	3246	3265	3284	3303	3322	3341	3360	3379	3398
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	4997	5021	5045	5069	5093	5117	5141	5165	5189	5209	5229	5249	5269	5289	5309
	5329	5349	5369	5389	5409	5429	5449	5469	5489	5510	5534	5558	5582	5606	5630
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	7378	7396	7414	7433	7452	7471	7490	7509	7528	7547	7567	7586	7605	7624	7643
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	8543	8561	8579	8597											
SBTST2	743#	1467	1539	1817	1874	1969	2026	2140	2579	2655	3154	3211	3249	3268	3401
SCOM0	743#	4039	4077	4527	4627	4727	4747	5232	5332	5432	5452	5897	5973	6049	6546
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SCOM6	4245	4311	4355	4377	4808	4856	5048	5096	5513	5561	5753	5801	6164	6240	6355
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SCOM7	7972	8056	8140	8224	8266	8287	8492	8546							
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SPACE	883#														
STARS	883#														
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UPCODE	743#	10523													
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	1034	1035													
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SSESCA	883#														
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FPU ADVANCED INSTR TESTS
DQFPBA.P11 09-FEB-77 10:02

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CROSS REFERENCE TABLE -- MACRO NAMES

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. ABS. 046114 000

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

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RUN-TIME: 58 61 5 SECONDS
RUN-TIME RATIO: 933/126=7.4
CORE USED: 33K (66 PAGES)