

IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DUFPB-R-D
PRODUCT NAME: PDP-11/0X - FP11-E FLOATING POINT UNIT
ADVANCED INSTRUCTION TESTS
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CONTENTS

1. ABSTRACT
2. REQUIREMENTS
 - 2.1 EQUIPMENT
 - 2.2 STORAGE
 - 2.3 PRELIMINARY PROGRAMS
3. LOADING PROCEDURE
4. STARTING PROCEDURE
 - 4.1 CONTROL SWITCH SETTINGS
 - 4.2 STARTING ADDRESS
 - 4.3 PROGRAM/OPERATOR ACTION
5. OPERATING PROCEDURE
 - 5.1 OPERATIONAL SWITCH SETTINGS
 - 5.2 PROGRAM/OPERATOR ACTION
 - 5.3 HOT (FP11-E) / WARM (PDP-11/6X) SELECTION
6. ERRORS
 - 6.1.1 ERROR MESSAGE FORMAT
 - 6.1.2 FLOATING POINT DATA FORMAT
 - 6.2 RECOVERY
 - 6.3 CAUSES
7. RESTRICTIONS
 - 7.1 STARTING
 - 7.2 OPERATIONAL
8. MISCELLANEOUS
 - 8.1 EXECUTION TIME
 - 8.2 STACK POINTER
 - 8.3 POWER FAIL
9. PROGRAM DESCRIPTION
 - 9.1 ORGANIZATION
 - 9.2 TEST DESCRIPTION
 - 9.3 SUBROUTINE ABSTRACTS
10. ACT/APT/XXDP

1. ABSTRACT

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

2. REQUIREMENTS

2.1 EQUIPMENT

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

2.2 STORAGE

THE PROGRAM USES MEMORY 0-46346(8). THE UPPER 2.0K WORDS ARE RESERVED FOR THE XXDP MONITOR, IF EMPLOYED.

2.3 PRELIMINARY PROGRAMS

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

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

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

3. LOADING PROCEDURE

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

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

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

4.2 STARTING ADDRESS

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

4.3 PROGRAM/OPERATOR ACTION

LOADING VIA ABSOLUTE PAPERTAPE:

- (1) LOAD PROGRAM INTO MEMORY USING ABS LOADER.
- (2) LOAD ADDRESS 200 (8).
- (3) SET SWITCHES (SEE SECTION 5.1)
SR=(200000) 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 TIMEOUTS (WHICH IS AN "ERROR MESSAGE" RESULTING FROM AN ERROR DETECTED IN THE HARDWARE)
SW12=1	010000	INHIBIT STATUS TIMEOUTS (WHICH IS A NON-ERROR RELATED INFORMATIVE MESSAGE, SUCH AS "END PASS #XXX")
SW11=1	004000	INHIBIT ITERATIONS PER TEST
SW10	002000	SET=BELL ON ERROR/CLEAR=BELL ON PASS END
SW09=1	001000	LOOP ON ERROR
SW08=1	000400	LOOP ON TEST NUMBER IN "\$LPTST" IF SET, THEN THE TEST SPECIFIED BY THE TEST NUMBER CONTAINED IN THE MEMORY WORD "\$LPTST" (SEE PROGRAM LISTING) WILL SPECIFY THE DESIRED TEST ON WHICH TO LOOP.
SW01	000002	CLEAR=TEST HOT=FP/WARM=FP ALTERNATELY EACH PASS (IE, PASS#1 HFP, PASS#1 WFP, PASS#2 HFP, PASS#2 WFP, ETC)
SW00	000001	SET=TEST ONLY UNIT SPECIFIED IN SW08 SET=SELECT WARM FP, IF SW01=1 CLEAR=SELECT HOT FP, IF SW01=1

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

5.2 PROGRAM/OPERATOR ACTION

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

IF ALL IS WELL, THE PROGRAM TYPES ITS NAME UPON BEGINNING; AND AT THE START OF EACH PASS, THE CURRENT PASS NUMBER (IN OCTAL) IS ECHOED. NOTE THAT SETTING SW<12>=1 WILL INHIBIT THE TYPEOUT OF THE BEGIN AND END PASS MESSAGES.

IF SW<10>=0, THE CONSOLE BELL WILL BE RUNG AT THE END OF EACH PASS. NOTE THAT ONLY SW<10> AFFECTS THE BELL RINGING AT END OF PASS - SW<12> HAS NO EFFECT ON THIS FUNCTION.

IF AN ERROR OCCURS DURING EXECUTION, MANY VARIATIONS IN ACTION ARE POSSIBLE DEPENDING UPON THE SWITCH SETTINGS.

SW<15>=1 WILL CAUSE THE CPU TO HALT AFTER AN ERROR.

SW<13>=1 WILL ALSO INHIBIT ANY ERROR MESSAGE TYPEOUT THAT WOULD OCCUR AT THIS TIME.

SW<10>=1 WILL CAUSE THE CONSOLE BELL TO BE RUNG ONLY WHEN AN ERROR IS DETECTED (AND NOT AT THE END OF A PASS).

SW<9>=1 CAUSES THE PROGRAM TO LOOP ON THE MOST RECENT ERROR, AS LONG AS IT CONTINUES TO OCCUR.

THERE ARE ALSO SEVERAL OTHER GENERAL USE FUNCTIONS DEFINED BY THE SWITCHES:

SW<11>=1 WILL INHIBIT THE ITERATIONS (=2000(10)) PERFORMED OF EACH TEST ON PASSES 2,3,4, ... THRU THE PROGRAM.

SW<14>=1 CAUSES THE PROGRAM TO LOOP INDEFINATELY ON THE CURRENTLY EXECUTING TEST.

SW<8>=1 CAUSES THE PROGRAM TO CONTINUE EXECUTION AS NORMAL, EXCEPT WHEN THE CONTENTS OF MEMORY WORD "\$LPTST" MATCHES THE NUMBER OF THE TEST CURRENTLY EXECUTING. AT THIS POINT, THE TEST IS LOOPED ON INDEFINATELY, UNTIL EITHER SW<8>=0 OR "\$LPTST" IS CHANGED. NOTE THAT IF "\$LPTST" DOES NOT MATCH THE TEST NUMBER OF ANY TEST, THE CONTENTS OF "\$LPTST" ARE EFFECTIVELY IGNORED, AND EXECUTION PROCEEDS NORMALLY.

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

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

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

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

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

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

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

SW00=0 --> TEST HFP FP11-E OPTION ONLY

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

6. ERRORS

6.1 FORMAT OF MESSAGES

6.1.1 ALL ERROR MESSAGES CONSIST OF THREE LINES OF DATA:

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

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

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

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

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

6.1.2 FLOATING POINT UNIT DATA FORMATS:

FLOATING POINT STATUS WORD (FPS):

BIT#	OCTAL	FUNCTION
15	100000	FER = FLOATING ERROR FLAG SET WHEN EITHER FIUV, FIU, FIV, FIC ENABLED AND APPROPRIATE EXCEPTION OCCURRED.
14	040000	FID = FLOATING DISABLE INTERRUPTS NO FP INTERRUPTS TO VECTOR 244(0) IF SET.
13, 12		NOT USED
11	004000	FIUV = FLOATING UNDEFINED VARIABLE INTERRUPT IF SET, (-0) MEMORY DATA IS ERROR
10	002000	FIU = FLOATING INTX UNDERFLOW IF SET AND UNDERFLOW, SET FER, STORE ANSWER, EXPONENT WRONG BY +400(8) IF CLEAR AND UNDERFLOW, ANSWER <= ZERO
9	001000	FIV = FLOATING OVERFLOW INTERRUPT IF SET AND OVERFLOW, SET FER, STORE ANSWER, EXPONENT WRONG BY -400(8) IF CLEAR AND OVERFLOW, ANSWER <= ZERO
8	000400	FIC = FLOATING INTEGER CONVERSION INTERRUPT IF SET AND "STCFI" ERROR, ANSWER <= ZERO, SET ERROR IF CLEAR AND "STCFI" ERROR, ANSWER <= ZERO
7	000200	FD = FLOATING MODE 1=DOUBLE, 64 BIT OPERANDS (4W) 0=SINGLE, 32 BIT OPERANDS (2W)
6	000100	FL = INTEGER MODE 1=LONG, 32 BIT INTEGERS (2W) 0=SHORT, 16 BIT INTEGERS (1W)
5	000040	FT = ROUND/TRUNCATE MODE 1=TRUNCATE RESULTS 0=ROUND RESULTS
4	000020	FMM = PUT FP11-B ONLY IN MAINTENANCE MODE
310	000017	FN-FZ-FV-FC = FLOATING CONDITION CODES

FLOATING EXCEPTION CODES (FEC):

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

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

FLOATING POINT DATA:

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

FIRST WORD: (BOTH F, D MODES)
 B15=SIGN OF NUMBER (1/-, 0/+)
 B14:B7=EXPONENT, 8 BITS, FROM -128./+127.
 B06:B00=FRACTION, 7 BITS
 SECOND WORD: (BOTH F, D MODES)
 B15:B00=FRACTION, 16 BITS
 THIRD, FOURTH WORDS: (ONLY D MODE)
 B15:B00, B15:B00=FRACTION, 32. BITS

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

.1#(WORD1-BIT<06:00>)#(WORD2-BIT<15:00>)

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

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

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

6.2 RECOVERY

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

6.3 CAUSES

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

7. RESTRICTIONS

7.1 STARTING

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

7.2 OPERATIONAL

THERE ARE NO OPERATIONAL RESTRICTIONS.

8. MISCELLANEOUS

8.1 EXECUTION TIME

MODEL	AVERAGE EXECUTION TIME PER PASS	
	SHORTEST PASS	LONGEST PASS
PDP-11/6X MICROCODE	0101	3115
PDP-11/6X W/FP11-E	0101	2130

TIMES SPECIFIED AS (MINUTES):(SECONDS)

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

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

8.2 STACK POINTER

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

THE START OF EACH TEST, AND AT THE END OF A PASS.

8.3 POWER FAIL

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

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

9. PROGRAM DESCRIPTION

9.1 ORGANIZATION

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

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

WHEREVER FEASIBLE, COMMON 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 "ADDF" INSTRUCTION TESTING, FOR EXAMPLE) A SINGLE BODY OF CODE (A SUBROUTINE) IS USED TO PERFORM ALL THE FUNCTIONAL TESTS. WITH A VARIABLE PARAMETER LIST PASSED AT EACH CALL CONTAINING THE DATA OPERANDS AND EXPECTED RESULT FOR EACH INDIVIDUAL TEST. THIS CONSTRUCTION FACILITATES THE ADDITION/DELETION OF TESTS (SHOULD THAT EVER BE NECESSARY), AND ALSO GREATLY CONSERVES MEMORY SPACE REQUIREMENTS WHEN A LARGE NUMBER OF CALLS TO A GIVEN BODY OF CODE ARE REQUIRED.

THE INDIVIDUAL TESTS WITHIN EACH PROGRAM HAVE ALSO BEEN SEQUENCED IN A PARTICULAR ORDER TO FACILITATE THE DETECTION AND RESOLUTION OF ERRORS AS QUICKLY AS POSSIBLE. EACH OF THE TESTS BEGINS AS SIMPLY AS POSSIBLE, FIRST TESTING THE MOST BASIC ELEMENTS. MORE COMPLEX ELEMENTS ARE TESTED AFTERWARDS, EMPLOYING A PHILOSOPHY THAT THE SIMPLER THE TEST, THE BETTER THE RESOLUTION. ALL FUNCTIONS ARE EVENTUALLY TESTED, BUT HOPEFULLY MOST ERRORS WILL BE CAUGHT AND CORRECTED EARLY. A MUCH MORE DETAILED ANALYSIS OF THE SEQUENCE OF TESTS PERFORMED IS PRESENTED IN SECTION 9.2.

9.2 TEST DESCRIPTION

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

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

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

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

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

9.3 SUBROUTINE ABSTRACTS

9.3.1 TRAPCATCHER

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

```

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

```

PLACED AT EACH VECTOR ADDRESS IN LOCATIONS 4-176(8) OF MEMORY. THE FIRST WORD OF EACH PAIR ("PC AFTER TRAP") POINTS TO THE SECOND WORD, WHICH SERVES A DUAL PURPOSE AS

(1) THE NEW LOADED PS (ALL ZEROS), AND (2) THE NEXT INSTRUCTION TO EXECUTE (0=HALT).

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

9.3.2 SCOPE ROUTINE - \$SCOPE

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

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

```

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

```

9.3.3 ERROR ROUTINE - \$ERROR

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

THE CALLING MECHANISM IS SIMILAR TO THAT EMPLOYED FOR THE SCOPE ROUTINE (VIA A TRAP), EXCEPT IN THIS INSTANCE, THE "EMT" INSTRUCTION IS USED, TRAPPING THROUGH LOCATION 30(H). (NOTE THE EQUATE ERROR N=EMT N). THE LOWER BYTE OF THE EMT INSTRUCTION IS CAPABLE OF TRANSMITTING A NUMBER FROM 0-377(H), 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 (\$ERRTB) TO FIND THE APPROPRIATE VALUES TO TYPE (SEE PROGRAM LISTING FOR FURTHER DETAILS).

IMPORTANT VALUES USED IN THIS ROUTINE ARE:

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

9.3.4 ERROR MESSAGE TYPEOUT ROUTINE - \$TYPEPR

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

9.3.5 TYPE ROUTINE - \$TYPE

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

AUTOMATICALLY PLACED.

9.3.6 OCTAL NUMBER TYPE ROUTINE = \$TYPOC

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

9.3.7 POWER UP AND DOWN ROUTINES = \$PWRUP AND \$PWRDN

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

9.3.8 END OF PASS ROUTINE = \$EOP

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

10. ACT/APT/XXDP

10.1 ACT COMPATIBILITY

THIS PROGRAM WILL RUN UNDER THE ACT SYSTEM.

10.2 APT COMPATIBILITY

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

10.3 XXDP COMPATIBILITY

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

14	OPERATIONAL SWITCH SETTINGS
32	BASIC DEFINITIONS
193	TRAP CATCHER
202	STARTING ADDRESS(ES)
205	ACT11 HOOKS
216	APT PARAMETER BLOCK
239	COMMON TAGS
320	APT MAILBOX-ETABLE
355	ERROR POINTER TABLE
426	PROGRAM DEFINED COMMON TAGS
467	START OF PASS ROUTINE
475	INITIALIZE THE COMMON TAGS
601	T1 TEST OF CMPF INSTR, DATA SET CMPF-1
620	T2 TEST OF CMPF INSTR, DATA SET CMPF-2
639	T3 TEST OF CMPF INSTR, DATA SET CMPF-3
658	T4 TEST OF CMPF INSTR, DATA SET CMPF-4
677	T5 TEST OF CMPF INSTR, DATA SET CMPF-5
696	T6 TEST OF CMPF INSTR, DATA SET CMPF-6
715	T7 TEST OF CMPF INSTR, DATA SET CMPF-7
734	T10 TEST OF CMPF INSTR, DATA SET CMPF-10
753	T11 TEST OF CMPF INSTR, DATA SET CMPF-11
772	T12 TEST OF CMPF INSTR, DATA SET CMPF-12
791	T13 TEST OF CMPF INSTR, DATA SET CMPF-13
810	T14 TEST OF CMPF INSTR, DATA SET CMPF-14
830	T15 TEST OF CMPD INSTR, DATA SET CMPD-1
851	T16 TEST OF CMPD INSTR, DATA SET CMPD-2
872	T17 TEST OF CMPD INSTR, DATA SET CMPD-3
893	T20 TEST OF CMPD INSTR, DATA SET CMPD-4
914	T21 TEST OF CMPD INSTR, DATA SET CMPD-5
935	T22 TEST OF CMPD INSTR, DATA SET CMPD-6
956	T23 TEST OF CMPD INSTR, DATA SET CMPD-7
977	T24 TEST OF CMPD INSTR, DATA SET CMPD-10
998	T25 TEST OF CMPD INSTR, DATA SET CMPD-11
1019	T26 TEST OF CMPD INSTR, DATA SET CMPD-12
1040	T27 TEST OF CMPD INSTR, DATA SET CMPD-13
1061	T30 TEST OF CMPD INSTR, DATA SET CMPD-14
1082	T31 TEST OF ADDF INSTR, DATA SET ADDF-1
1102	T32 TEST OF ADDF INSTR, DATA SET ADDF-2
1122	T33 TEST OF ADDF INSTR, DATA SET ADDF-3
1142	T34 TEST OF ADDF INSTR, DATA SET ADDF-4
1162	T35 TEST OF ADDF INSTR, DATA SET ADDF-5
1182	T36 TEST OF ADDF INSTR, DATA SET ADDF-6
1202	T37 TEST OF ADDF INSTR, DATA SET ADDF-7
1222	T40 TEST OF ADDF INSTR, DATA SET ADDF-10
1242	T41 TEST OF ADDF INSTR, DATA SET ADDF-11
1262	T42 TEST OF ADDF INSTR, DATA SET ADDF-12
1282	T43 TEST OF ADDF INSTR, DATA SET ADDF-13
1302	T44 TEST OF ADDF INSTR, DATA SET ADDF-14
1322	T45 TEST OF ADDF INSTR, DATA SET ADDF-15
1342	T46 TEST OF ADDF INSTR, DATA SET ADDF-16
1362	T47 TEST OF ADDF INSTR, DATA SET ADDF-17
1382	T50 TEST OF ADDF INSTR, DATA SET ADDF-20
1402	T51 TEST OF ADDF INSTR, DATA SET ADDF-21
1422	T52 TEST OF ADDF INSTR, DATA SET ADDF-22
1442	T53 TEST OF ADDF INSTR, DATA SET ADDF-23
1463	T54 TEST OF ADDU INSTR, DATA SET ADDU-1

1486	T55 TEST OF ADDU INSTR, DATA SET ADDU-2
1509	T56 TEST OF ADDU INSTR, DATA SET ADDU-3
1532	T57 TEST OF ADDU INSTR, DATA SET ADDU-4
1555	T60 TEST OF ADDU INSTR, DATA SET ADDU-5
1578	T61 TEST OF ADDU INSTR, DATA SET ADDU-6
1601	T62 TEST OF ADDU INSTR, DATA SET ADDU-7
1624	T63 TEST OF ADDU INSTR, DATA SET ADDU-10
1647	T64 TEST OF ADDU INSTR, DATA SET ADDU-11
1670	T65 TEST OF ADDU INSTR, DATA SET ADDU-12
1693	T66 TEST OF ADDU INSTR, DATA SET ADDU-13
1716	T67 TEST OF ADDU INSTR, DATA SET ADDU-14
1739	T70 TEST OF ADDU INSTR, DATA SET ADDU-15
1762	T71 TEST OF ADDU INSTR, DATA SET ADDU-16
1785	T72 TEST OF ADDU INSTR, DATA SET ADDU-17
1808	T73 TEST OF ADDU INSTR, DATA SET ADDU-20
1831	T74 TEST OF ADDU INSTR, DATA SET ADDU-21
1854	T75 TEST OF ADDU INSTR, DATA SET ADDU-22
1877	T76 TEST OF ADDU INSTR, DATA SET ADDU-23
1901	T77 TEST OF SUBF INSTR, DATA SET SUBF-1
1921	T100 TEST OF SUBF INSTR, DATA SET SUBF-2
1941	T101 TEST OF SUBF INSTR, DATA SET SUBF-3
1961	T102 TEST OF SUBF INSTR, DATA SET SUBF-4
1981	T103 TEST OF SUBF INSTR, DATA SET SUBF-5
2001	T104 TEST OF SUBF INSTR, DATA SET SUBF-6
2021	T105 TEST OF SUBF INSTR, DATA SET SUBF-7
2041	T106 TEST OF SUBF INSTR, DATA SET SUBF-10
2061	T107 TEST OF SUBF INSTR, DATA SET SUBF-11
2081	T110 TEST OF SUBF INSTR, DATA SET SUBF-12
2101	T111 TEST OF SUBF INSTR, DATA SET SUBF-13
2121	T112 TEST OF SUBF INSTR, DATA SET SUBF-14
2141	T113 TEST OF SUBF INSTR, DATA SET SUBF-15
2161	T114 TEST OF SUBF INSTR, DATA SET SUBF-16
2182	T115 TEST OF SUBD INSTR, DATA SET SUBD-1
2205	T116 TEST OF SUBD INSTR, DATA SET SUBD-2
2228	T117 TEST OF SUBD INSTR, DATA SET SUBD-3
2251	T120 TEST OF SUBD INSTR, DATA SET SUBD-4
2274	T121 TEST OF SUBD INSTR, DATA SET SUBD-5
2297	T122 TEST OF SUBD INSTR, DATA SET SUBD-6
2320	T123 TEST OF SUBD INSTR, DATA SET SUBD-7
2343	T124 TEST OF SUBD INSTR, DATA SET SUBD-10
2366	T125 TEST OF SUBD INSTR, DATA SET SUBD-11
2389	T126 TEST OF SUBD INSTR, DATA SET SUBD-12
2412	T127 TEST OF SUBD INSTR, DATA SET SUBD-13
2435	T130 TEST OF SUBD INSTR, DATA SET SUBD-14
2458	T131 TEST OF SUBD INSTR, DATA SET SUBD-15
2481	T132 TEST OF SUBD INSTR, DATA SET SUBD-16
2504	T133 TEST OF MULF INSTR, DATA SET MULF-1
2524	T134 TEST OF MULF INSTR, DATA SET MULF-2
2544	T135 TEST OF MULF INSTR, DATA SET MULF-3
2564	T136 TEST OF MULF INSTR, DATA SET MULF-4
2584	T137 TEST OF MULF INSTR, DATA SET MULF-5
2604	T140 TEST OF MULF INSTR, DATA SET MULF-6
2624	T141 TEST OF MULF INSTR, DATA SET MULF-7
2644	T142 TEST OF MULF INSTR, DATA SET MULF-10
2664	T143 TEST OF MULF INSTR, DATA SET MULF-11
2684	T144 TEST OF MULF INSTR, DATA SET MULF-12

2704	T145	TEST OF MULF INSTR, DATA SET MULF-13
2724	T146	TEST OF MULF INSTR, DATA SET MULF-14
2744	T147	TEST OF MULF INSTR, DATA SET MULF-15
2764	T154	TEST OF MULF INSTR, DATA SET MULF-16
2804	T151	TEST OF MULF INSTR, DATA SET MULF-17
2804	T152	TEST OF MULF INSTR, DATA SET MULF-20
2825	T153	TEST OF MULO INSTR, DATA SET MULO-1
2848	T154	TEST OF MULO INSTR, DATA SET MULO-2
2871	T155	TEST OF MULO INSTR, DATA SET MULO-3
2894	T156	TEST OF MULO INSTR, DATA SET MULO-4
2917	T157	TEST OF MULO INSTR, DATA SET MULO-5
2940	T160	TEST OF MULO INSTR, DATA SET MULO-6
2963	T161	TEST OF MULO INSTR, DATA SET MULO-7
2986	T162	TEST OF MULO INSTR, DATA SET MULO-10
3009	T163	TEST OF MULO INSTR, DATA SET MULO-11
3032	T164	TEST OF MULO INSTR, DATA SET MULO-12
3055	T165	TEST OF MULO INSTR, DATA SET MULO-13
3078	T166	TEST OF MULO INSTR, DATA SET MULO-14
3101	T167	TEST OF MULO INSTR, DATA SET MULO-15
3124	T170	TEST OF MULO INSTR, DATA SET MULO-16
3147	T171	TEST OF MULO INSTR, DATA SET MULO-17
3170	T172	TEST OF MULO INSTR, DATA SET MULO-20
3193	T173	TEST OF DIVF INSTR, DATA SET DIVF-1
3213	T174	TEST OF DIVF INSTR, DATA SET DIVF-2
3233	T175	TEST OF DIVF INSTR, DATA SET DIVF-3
3253	T176	TEST OF DIVF INSTR, DATA SET DIVF-4
3273	T177	TEST OF DIVF INSTR, DATA SET DIVF-5
3293	T200	TEST OF DIVF INSTR, DATA SET DIVF-6
3313	T201	TEST OF DIVF INSTR, DATA SET DIVF-7
3333	T202	TEST OF DIVF INSTR, DATA SET DIVF-10
3353	T203	TEST OF DIVF INSTR, DATA SET DIVF-11
3373	T204	TEST OF DIVF INSTR, DATA SET DIVF-12
3393	T205	TEST OF DIVF INSTR, DATA SET DIVF-13
3413	T206	TEST OF DIVF INSTR, DATA SET DIVF-14
3433	T207	TEST OF DIVF INSTR, DATA SET DIVF-15
3453	T210	TEST OF DIVF INSTR, DATA SET DIVF-16
3473	T211	TEST OF DIVF INSTR, DATA SET DIVF-17
3493	T212	TEST OF DIVF INSTR, DATA SET DIVF-20
3513	T213	TEST OF DIVF INSTR, DATA SET DIVF-21
3534	T214	TEST OF DIVO INSTR, DATA SET DIVO-1
3557	T215	TEST OF DIVO INSTR, DATA SET DIVO-2
3580	T216	TEST OF DIVO INSTR, DATA SET DIVO-3
3603	T217	TEST OF DIVO INSTR, DATA SET DIVO-4
3626	T220	TEST OF DIVO INSTR, DATA SET DIVO-5
3649	T221	TEST OF DIVO INSTR, DATA SET DIVO-6
3672	T222	TEST OF DIVO INSTR, DATA SET DIVO-7
3695	T223	TEST OF DIVO INSTR, DATA SET DIVO-10
3718	T224	TEST OF DIVO INSTR, DATA SET DIVO-11
3741	T225	TEST OF DIVO INSTR, DATA SET DIVO-12
3764	T226	TEST OF DIVO INSTR, DATA SET DIVO-13
3787	T227	TEST OF DIVO INSTR, DATA SET DIVO-14
3810	T230	TEST OF DIVO INSTR, DATA SET DIVO-15
3833	T231	TEST OF DIVO INSTR, DATA SET DIVO-16
3856	T232	TEST OF DIVO INSTR, DATA SET DIVO-17
3879	T233	TEST OF DIVO INSTR, DATA SET DIVO-20
3902	T234	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-1

3923	T235	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-2
3944	T236	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-3
3965	T237	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-4
3986	T240	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-5
4007	T241	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-6
4028	T242	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-7
4049	T243	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-10
4070	T244	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-11
4091	T245	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-12
4112	T246	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-13
4133	T247	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-14
4154	T250	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-15
4175	T251	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-16
4196	T252	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-17
4217	T253	TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-20
4239	T254	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-1
4264	T255	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-2
4289	T256	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-3
4314	T257	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-4
4339	T260	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-5
4364	T261	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-6
4389	T262	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-7
4414	T263	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-10
4439	T264	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-11
4464	T265	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-12
4489	T266	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-13
4514	T267	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14
4539	T270	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-15
4564	T271	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-16
4589	T272	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-17
4614	T273	TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-20
4639	T274	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-1
4660	T275	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-2
4681	T276	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-3
4702	T277	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-4
4723	T280	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-5
4744	T281	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-6
4765	T282	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-7
4786	T283	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-10
4807	T284	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-11
4828	T285	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-12
4849	T286	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-13
4870	T287	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-14
4891	T290	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-15
4912	T291	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-16
4933	T292	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-17
4954	T293	TEST OF MODF(1 ACC) INSTR, DATA SET MD1F-20
4976	T314	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-1
5001	T315	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-2
5026	T316	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-3
5051	T317	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-4
5076	T320	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-5
5101	T321	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-6
5126	T322	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-7
5151	T323	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-10
5176	T324	TEST OF MODU(1 ACC) INSTR, DATA SET MD1D-11

5201	T325	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-12
5226	T326	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-13
5251	T327	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-14
5276	T328	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-15
5301	T329	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-16
5326	T330	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-17
5351	T331	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-18
5376	T332	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-19
5396	T333	TEST OF MODD(1 ACC) INSTR, DATA SET MDID-20
5416	T334	TEST OF LDCDF INSTR, DATA SET LDCDF-1
5436	T335	TEST OF LDCDF INSTR, DATA SET LDCDF-2
5456	T336	TEST OF LDCDF INSTR, DATA SET LDCDF-3
5476	T337	TEST OF LDCDF INSTR, DATA SET LDCDF-4
5496	T338	TEST OF LDCDF INSTR, DATA SET LDCDF-5
5516	T339	TEST OF LDCDF INSTR, DATA SET LDCDF-6
5536	T340	TEST OF LDCDF INSTR, DATA SET LDCDF-7
5556	T341	TEST OF LDCDF INSTR, DATA SET LDCDF-8
5576	T342	TEST OF LDCDF INSTR, DATA SET LDCDF-9
5596	T343	TEST OF LDCDF INSTR, DATA SET LDCDF-10
5616	T344	TEST OF LDCDF INSTR, DATA SET LDCDF-11
5636	T345	TEST OF LDCDF INSTR, DATA SET LDCDF-12
5657	T346	TEST OF LDCDF INSTR, DATA SET LDCDF-13
5677	T347	TEST OF LDCDF INSTR, DATA SET LDCDF-14
5697	T348	TEST OF LDCDF INSTR, DATA SET LDCDF-15
5717	T349	TEST OF LDCDF INSTR, DATA SET LDCDF-16
5737	T350	TEST OF LDCDF INSTR, DATA SET LDCDF-17
5757	T351	TEST OF LDCDF INSTR, DATA SET LDCDF-18
5777	T352	TEST OF LDCDF INSTR, DATA SET LDCDF-19
5797	T353	TEST OF LDCDF INSTR, DATA SET LDCDF-20
5818	T354	TEST OF LDCDF INSTR, DATA SET LDCDF-21
5838	T355	TEST OF LDCDF INSTR, DATA SET LDCDF-22
5858	T356	TEST OF LDCDF INSTR, DATA SET LDCDF-23
5878	T357	TEST OF LDCDF INSTR, DATA SET LDCDF-24
5898	T358	TEST OF LDCDF INSTR, DATA SET LDCDF-25
5918	T359	TEST OF LDCDF INSTR, DATA SET LDCDF-26
5938	T360	TEST OF LDCDF INSTR, DATA SET LDCDF-27
5958	T361	TEST OF LDCDF INSTR, DATA SET LDCDF-28
5978	T362	TEST OF LDCDF INSTR, DATA SET LDCDF-29
5998	T363	TEST OF LDCDF INSTR, DATA SET LDCDF-30
6018	T364	TEST OF LDCDF INSTR, DATA SET LDCDF-31
6038	T365	TEST OF LDCDF INSTR, DATA SET LDCDF-32
6059	T366	TEST OF LDCDF INSTR, DATA SET LDCDF-33
6079	T367	TEST OF LDCDF INSTR, DATA SET LDCDF-34
6099	T368	TEST OF LDCDF INSTR, DATA SET LDCDF-35
6119	T369	TEST OF LDCDF INSTR, DATA SET LDCDF-36
6139	T370	TEST OF LDCDF INSTR, DATA SET LDCDF-37
6159	T371	TEST OF LDCDF INSTR, DATA SET LDCDF-38
6179	T372	TEST OF LDCDF INSTR, DATA SET LDCDF-39
6197	T373	TEST OF LDCDF INSTR, DATA SET LDCDF-40
6215	T374	TEST OF LDCDF INSTR, DATA SET LDCDF-41
6233	T375	TEST OF LDCDF INSTR, DATA SET LDCDF-42
6251	T376	TEST OF LDCDF INSTR, DATA SET LDCDF-43
6270	T377	TEST OF LDCDF INSTR, DATA SET LDCDF-44
6289	T378	TEST OF LDCDF INSTR, DATA SET LDCDF-45
6308	T379	TEST OF LDCDF INSTR, DATA SET LDCDF-46
6327	T380	TEST OF LDCDF INSTR, DATA SET LDCDF-47

6346	T415	TEST OF LDCID INSTR, DATA SET LDCID-5
6366	T416	TEST OF LDCID INSTR, DATA SET LDCID-6
6384	T417	TEST OF LDCID INSTR, DATA SET LDCID-7
6402	T418	TEST OF LDCID INSTR, DATA SET LDCID-8
6420	T419	TEST OF LDCID INSTR, DATA SET LDCID-9
6438	T420	TEST OF LDCID INSTR, DATA SET LDCID-10
6456	T421	TEST OF LDCID INSTR, DATA SET LDCID-11
6474	T422	TEST OF LDCID INSTR, DATA SET LDCID-12
6493	T423	TEST OF LDCID INSTR, DATA SET LDCID-13
6512	T424	TEST OF LDCID INSTR, DATA SET LDCID-14
6531	T425	TEST OF LDCID INSTR, DATA SET LDCID-15
6550	T426	TEST OF LDCID INSTR, DATA SET LDCID-16
6569	T427	TEST OF LDCID INSTR, DATA SET LDCID-17
6589	T428	TEST OF LDCID INSTR, DATA SET LDCID-18
6608	T429	TEST OF LDCID INSTR, DATA SET LDCID-19
6627	T430	TEST OF LDCID INSTR, DATA SET LDCID-20
6646	T431	TEST OF LDCID INSTR, DATA SET LDCID-21
6665	T432	TEST OF LDCID INSTR, DATA SET LDCID-22
6684	T433	TEST OF LDCID INSTR, DATA SET LDCID-23
6703	T434	TEST OF LDCID INSTR, DATA SET LDCID-24
6723	T435	TEST OF LDCID INSTR, DATA SET LDCID-25
6743	T436	TEST OF LDCID INSTR, DATA SET LDCID-26
6763	T437	TEST OF LDCID INSTR, DATA SET LDCID-27
6783	T438	TEST OF LDCID INSTR, DATA SET LDCID-28
6803	T439	TEST OF LDCID INSTR, DATA SET LDCID-29
6823	T440	TEST OF LDCID INSTR, DATA SET LDCID-30
6843	T441	TEST OF LDCID INSTR, DATA SET LDCID-31
6864	T442	TEST OF LDCID INSTR, DATA SET LDCID-32
6883	T443	TEST OF LDCID INSTR, DATA SET LDCID-33
6902	T444	TEST OF LDCID INSTR, DATA SET LDCID-34
6921	T445	TEST OF LDCID INSTR, DATA SET LDCID-35
6940	T446	TEST OF LDCID INSTR, DATA SET LDCID-36
6959	T447	TEST OF LDCID INSTR, DATA SET LDCID-37
6978	T448	TEST OF LDCID INSTR, DATA SET LDCID-38
6998	T449	TEST OF LDCID INSTR, DATA SET LDCID-39
7018	T450	TEST OF LDCID INSTR, DATA SET LDCID-40
7038	T451	TEST OF LDCID INSTR, DATA SET LDCID-41
7058	T452	TEST OF LDCID INSTR, DATA SET LDCID-42
7078	T453	TEST OF LDCID INSTR, DATA SET LDCID-43
7098	T454	TEST OF LDCID INSTR, DATA SET LDCID-44
7118	T455	TEST OF LDCID INSTR, DATA SET LDCID-45
7139	T456	TEST OF LDCID INSTR, DATA SET LDCID-46
7159	T457	TEST OF LDCID INSTR, DATA SET LDCID-47
7179	T458	TEST OF LDCID INSTR, DATA SET LDCID-48
7199	T459	TEST OF LDCID INSTR, DATA SET LDCID-49
7219	T460	TEST OF LDCID INSTR, DATA SET LDCID-50
7239	T461	TEST OF LDCID INSTR, DATA SET LDCID-51
7259	T462	TEST OF LDCID INSTR, DATA SET LDCID-52
7279	T463	TEST OF LDCID INSTR, DATA SET LDCID-53
7299	T464	TEST OF LDCID INSTR, DATA SET LDCID-54
7319	T465	TEST OF LDCID INSTR, DATA SET LDCID-55
7339	T466	TEST OF LDCID INSTR, DATA SET LDCID-56
7359	T467	TEST OF LDCID INSTR, DATA SET LDCID-57
7379	T468	TEST OF LDCID INSTR, DATA SET LDCID-58
7399	T469	TEST OF LDCID INSTR, DATA SET LDCID-59
7419	T470	TEST OF LDCID INSTR, DATA SET LDCID-60

7439	T905	TEST OF LDEXP/F INSTR, DATA SET LEXF-20
7459	T906	TEST OF LDEXP/F INSTR, DATA SET LEXF-21
7479	T907	TEST OF LDEXP/F INSTR, DATA SET LEXF-22
7499	T910	TEST OF LDEXP/F INSTR, DATA SET LEXF-23
7519	T911	TEST OF LDEXP/F INSTR, DATA SET LEXF-24
7540	T912	TEST OF LDEXP/D INSTR, DATA SET LEXD-1
7562	T913	TEST OF LDEXP/D INSTR, DATA SET LEXD-2
7584	T914	TEST OF LDEXP/D INSTR, DATA SET LEXD-3
7606	T915	TEST OF LDEXP/D INSTR, DATA SET LEXD-4
7628	T916	TEST OF LDEXP/D INSTR, DATA SET LEXD-5
7650	T917	TEST OF LDEXP/D INSTR, DATA SET LEXD-6
7672	T920	TEST OF LDEXP/D INSTR, DATA SET LEXD-7
7694	T921	TEST OF LDEXP/D INSTR, DATA SET LEXD-10
7716	T922	TEST OF LDEXP/D INSTR, DATA SET LEXD-11
7738	T923	TEST OF LDEXP/D INSTR, DATA SET LEXD-12
7760	T924	TEST OF LDEXP/D INSTR, DATA SET LEXD-13
7782	T925	TEST OF LDEXP/D INSTR, DATA SET LEXD-14
7804	T926	TEST OF LDEXP/D INSTR, DATA SET LEXD-15
7826	T927	TEST OF LDEXP/D INSTR, DATA SET LEXD-16
7848	T930	TEST OF LDEXP/D INSTR, DATA SET LEXD-17
7870	T931	TEST OF LDEXP/D INSTR, DATA SET LEXD-20
7892	T932	TEST OF LDEXP/D INSTR, DATA SET LEXD-21
7914	T933	TEST OF LDEXP/D INSTR, DATA SET LEXD-22
7936	T934	TEST OF LDEXP/D INSTR, DATA SET LEXD-23
7958	T935	TEST OF LDEXP/D INSTR, DATA SET LEXD-24
7981	T936	TEST OF STEXP/F INSTR, DATA SET SEXF-1
7999	T937	TEST OF STEXP/F INSTR, DATA SET SEXF-2
8017	T940	TEST OF STEXP/F INSTR, DATA SET SEXF-3
8035	T941	TEST OF STEXP/F INSTR, DATA SET SEXF-4
8053	T942	TEST OF STEXP/F INSTR, DATA SET SEXF-5
8071	T943	TEST OF STEXP/F INSTR, DATA SET SEXF-6
8089	T944	TEST OF STEXP/F INSTR, DATA SET SEXF-7
8108	T945	TEST OF STEXP/D INSTR, DATA SET SEXD-1
8127	T946	TEST OF STEXP/D INSTR, DATA SET SEXD-2
8146	T947	TEST OF STEXP/D INSTR, DATA SET SEXD-3
8165	T950	TEST OF STEXP/D INSTR, DATA SET SEXD-4
8184	T951	TEST OF STEXP/D INSTR, DATA SET SEXD-5
8203	T952	TEST OF STEXP/D INSTR, DATA SET SEXD-6
8222	T953	TEST OF STEXP/D INSTR, DATA SET SEXD-7
8241		SUB PASS END CONTROL
8284		END OF PASS ROUTINE (MODIFIED SYMAC)
8320		SUBR TO TEST THE CMPP INSTRUCTION
8364		SUBR TO TEST THE CMPP INSTRUCTION
8410		SUBR TO TEST THE ADDF INSTRUCTION
8453		SUBR TO TEST THE ADDD INSTRUCTION
8499		SUBR TO TEST THE SUBF INSTRUCTION
8542		SUBR TO TEST THE SUBD INSTRUCTION
8588		SUBR TO TEST THE MULF INSTRUCTION
8631		SUBR TO TEST THE MULD INSTRUCTION
8677		SUBR TO TEST THE DIVF INSTRUCTION
8720		SUBR TO TEST THE DIVD INSTRUCTION
8767		SUBR TO TEST THE MOUF INSTRUCTION, USING 2 ACCUMULATORS
8823		SUBR TO TEST THE MOUD INSTRUCTION, USING 2 ACCUMULATORS
8884		SUBR TO TEST THE MOUF INSTRUCTION, USING 1 ACCUMULATOR
8940		SUBR TO TEST THE MOUD INSTRUCTION, USING 1 ACCUMULATOR
9001		SUBR TO TEST THE LDCDF INSTRUCTION

9045		SUBR TO TEST THE LDCFD INSTRUCTION
9091		SUBR TO TEST THE STCDF INSTRUCTION
9134		SUBR TO TEST THE STCDF INSTRUCTION
9169		SUBR TO TEST THE LDCIF INSTRUCTION
9202		SUBR TO TEST THE LDCID INSTRUCTION
9239		SUBR TO TEST THE LDCIF INSTRUCTION
9272		SUBR TO TEST THE LDCID INSTRUCTION
9306		SUBR TO TEST THE STCFI INSTRUCTION
9356		SUBR TO TEST THE STCFI INSTRUCTION
9406		SUBR TO TEST THE STCFI INSTRUCTION
9450		SUBR TO TEST THE STCDF INSTRUCTION
9507		SUBR TO TEST THE LDEXP INSTRUCTION, F MODE
9550		SUBR TO TEST THE LDEXP INSTRUCTION, D MODE
9596		SUBR TO TEST THE STEXP INSTRUCTION, F MODE
9636		SUBR TO TEST THE STEXP INSTRUCTION, D MODE
9674		FPP UNEXPECTED TRAP CATCHER
9685		SCOPE HANDLER ROUTINE
9749		ERROR HANDLER ROUTINE
9812		ERROR MESSAGE TIMEOUT ROUTINE (MODIFIED SYMAC)
9878		TIME ROUTINE
9957		APT COMMUNICATIONS ROUTINE
10014		BINARY TO OCTAL (ASCII) AND TYPE
10091		TRAP DECODER
10114		TRAP TABLE
10128		POWER DOWN AND UP ROUTINES
10175		ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC

```
1
2
3      .TITLE  FPU ADVANCED INSTR TESTS
4      ;*COPYRIGHT (C) 1976
5      ;*DIGITAL EQUIPMENT CORP.
6      ;*MAYNARD, MASS. 01754
7      ;*
8      ;*PROGRAM BY DONALD NORTH
9      ;*
10     ;*THIS PROGRAM WAS ASSEMBLED USING THE PDP-11 MAINDEC SYSMAC
11     ;*PACKAGE (MAINDEC-11-DEGAC-C3), JAN 19, 1977.
12     ;*
13     .SBTTL  OPERATIONAL SWITCH SETTINGS
14     ;*
15     ;*      SWITCH      OCTAL      USE
16     ;*      -----
17     ;*      15      100000      HALT ON ERROR
18     ;*      14      040000      LOOP ON CURRENTLY EXECUTING TST
19     ;*      13      020000      INHIBIT ERROR TYPHOUS
20     ;*      12      010000      INHIBIT STATUS TYPHOUS
21     ;*      11      004000      INHIBIT ITERATIONS
22     ;*      10      000000      DBELL ON PASS END
23     ;*      9       002000      DBELL ON ERROR
24     ;*      8       001000      LOOP ON ERROR
25     ;*      7       000400      LOOP ON TEST NUMBER IN "SLPTST"
26     ;*      6       000000      WTEST WFP/WFP ALTERNATELY EACH PASS
27     ;*      5       000002      WTEST ONLY UNIT SPECIFIED IN SWC005
28     ;*      4       000001      WSELECT WFP, IF SWC010=1
29     ;*      3       000001      WSELECT WFP, IF SWC010=1
30     ;*
31     .SBTTL  BASIC DEFINITIONS
32     ;*
33     ;*INITIAL ADDRESS OF THE STACK POINTER *** 1100 ***
34     STACK= 1100
35     .EQUIV  EMT,ERROR      ;BASIC DEFINITION OF ERROR CALL
36     .EQUIV  IOT,SCOPE      ;BASIC DEFINITION OF SCOPE CALL
37     ;*
38     ;*MISCELLANEOUS DEFINITIONS
39     ;*
40     MT= 11      ;CODE FOR HORIZONTAL TAB
41     LF= 12      ;CODE FOR LINE FEED
42     CR= 15      ;CODE FOR CARRIAGE RETURN
43     CRLF= 200   ;CODE FOR CARRIAGE RETURN-LINE FEED
44     PS= 177776  ;PROCESSOR STATUS WORD
45     .EQUIV  PS,PSW
46     STKLMT= 177774 ;STACK LIMIT REGISTER
47     PIRQ= 177772  ;PROGRAM INTERRUPT REQUEST REGISTER
48     OSWR= 177570 ;HARDWARE SWITCH REGISTER
49     DDISP= 177570 ;HARDWARE DISPLAY REGISTER
50     ;*
51     ;*GENERAL PURPOSE REGISTER DEFINITIONS
52     ;*
53     R0= 00      ;GENERAL REGISTER
54     R1= 01      ;GENERAL REGISTER
55     R2= 02      ;GENERAL REGISTER
56     R3= 03      ;GENERAL REGISTER
57     R4= 04      ;GENERAL REGISTER
58     R5= 05      ;GENERAL REGISTER
```

```
1
2
3      .TITLE  BASIC DEFINITIONS
4      ;*
5      ;*GENERAL REGISTER
6      ;*
7      R6= 06      ;GENERAL REGISTER
8      R7= 07      ;GENERAL REGISTER
9      SP= 06      ;STACK POINTER
10     PC= 07      ;PROGRAM COUNTER
11     ;*
12     ;*PRIORITY LEVEL DEFINITIONS
13     ;*
14     PR0= 0       ;PRIORITY LEVEL 0
15     PR1= 40      ;PRIORITY LEVEL 1
16     PR2= 100     ;PRIORITY LEVEL 2
17     PR3= 140     ;PRIORITY LEVEL 3
18     PR4= 200     ;PRIORITY LEVEL 4
19     PR5= 240     ;PRIORITY LEVEL 5
20     PR6= 300     ;PRIORITY LEVEL 6
21     PR7= 340     ;PRIORITY LEVEL 7
22     ;*
23     ;*"SWITCH REGISTER" SWITCH DEFINITIONS
24     ;*
25     SW15= 100000
26     SW14= 40000
27     SW13= 20000
28     SW12= 10000
29     SW11= 4000
30     SW10= 2000
31     SW09= 1000
32     SW08= 400
33     SW07= 200
34     SW06= 100
35     SW05= 40
36     SW04= 20
37     SW03= 10
38     SW02= 4
39     SW01= 2
40     SW00= 1
41     .EQUIV  SW09,SW9
42     .EQUIV  SW08,SW8
43     .EQUIV  SW07,SW7
44     .EQUIV  SW06,SW6
45     .EQUIV  SW05,SW5
46     .EQUIV  SW04,SW4
47     .EQUIV  SW03,SW3
48     .EQUIV  SW02,SW2
49     .EQUIV  SW01,SW1
50     .EQUIV  SW00,SW0
51     ;*
52     ;*DATA BIT DEFINITIONS (BIT00 TO BIT15)
53     ;*
54     BIT15= 100000
55     BIT14= 40000
56     BIT13= 20000
57     BIT12= 10000
58     BIT11= 4000
59     BIT10= 2000
60     BIT09= 1000
61     BIT08= 400
62     BIT07= 200
63     BIT06= 100
64     BIT05= 40
65     BIT04= 20
```

```
113      000010      BIT03= 10
114      000004      BIT02= 4
115      000002      BIT01= 2
116      000001      BIT00= 1
117      .EQUIV BIT09,BIT9
118      .EQUIV BIT08,BIT8
119      .EQUIV BIT07,BIT7
120      .EQUIV BIT06,BIT6
121      .EQUIV BIT05,BIT5
122      .EQUIV BIT04,BIT4
123      .EQUIV BIT03,BIT3
124      .EQUIV BIT02,BIT2
125      .EQUIV BIT01,BIT1
126      .EQUIV BIT00,BIT0
127
128      ;*BASIC "CPU" TRAP VECTOR ADDRESSES
129      LRRVEC= 4      ;TIME OUT AND OTHER ERRORS
130      RESVEC= 10     ;RESERVED AND ILLEGAL INSTRUCTIONS
131      TBITVEC=14     ;"T" BIT
132      TRTVEC= 14     ;TRACE TRAP
133      OPTVEC= 14     ;BREAKPOINT TRAP (OPT)
134      IOTVEC= 20     ;INPUT/OUTPUT TRAP (IOT) **SCOPE**
135      PNRVEC= 24     ;POWER FAIL
136      EMUVEC= 30     ;EMULATOR TRAP (EMU) **EMURR**
137      TRAPVEC=34     ;"TRAP" TRAP
138      TKVEC= 60      ;TTY KEYBOARD VECTOR
139      TPVEC= 64      ;TTY PRINTER VECTOR
140      PIRVEC=240     ;PROGRAM INTERRUPT REQUEST VECTOR
141
142      ;*MED CODES
143      MED= 076000    ;OPCODE
144
145      RNHANI= 022     ;READ WHAMI
146
147      RFLAG= 144     ;READ FLAGS
148      WFLAG= 344     ;WRITE FLAGS
149
150      ;*FLOATING POINT INTERRUPT VECTOR
151      FPPVEC= 244
152
153      ;*FLOATING POINT REGISTER DEFINITIONS
154      AC0= 00
155      AC1= 01
156      AC2= 02
157      AC3= 03
158      AC4= 04
159      AC5= 05
160
161      ;*BIT PATTERNS FOR TESTS
162      ALTP= 052525    ; 0101...01
163      AP= ALTP
164      ALTN= 125252    ; 1010...10
165      AN= ALTN
166      ALT4P= 007417   ; 0000111100001111
167      ALT4N= 170360   ; 1111000011110000
168      A2= 177776      ; 1111...10 MINUS TWO
```

```
169      177777      M1= 177777      ; 1111...11 MINUS ONE, ALL 1'S
170      100000      M0= 100000      ; 1000...00 MINUS ZERO
171      077777      LGP= 077777      ; 0111...11 LGST + NUM (1ST WD FLT)
172      177777      LGN= 177777      ; 1111...11 LGST - NUM (1ST WD FLT)
173      000200      SMP= 000200      ; +120*-120, SMLT + NUM (1ST WD FLT)
174      100200      SMN= 100200      ; -120*-120, SMLT - NUM (1ST WD FLT)
175      000177      ZXIMP= 000177     ; ZERO EXP, ALL 1-S MANT (1ST WD FLT)
176      100177      ZXIMN= 100177     ; ZERO EXP, ALL 1-S MANT (1ST WD FLT)
177      000200      FIP= 000200      ; +1.0E+0, 1ST WD FLT
178      100200      FIN= 100200      ; -1.0E+0, 1ST WD FLT
179      104210      P13Z= 104210      ; 1000100010001000
180      000377      LB= 000377        ; 0000000011111111 LOWER BYTE
181      177400      UB= 177400        ; 1111111100000000 UPPER BYTE
182
183      ;*FPS BIT PATTERNS
184      FPS1= 147757    ; ALL BITS ON (HEADABLE)
185      FPS0= 000000    ; ALL BITS OFF
186      NA= 000000      ; FOR FEC, WHEN NOT APPLICABLE
187
188      ;*PSW BIT PATTERNS
189      CCONLY= 177760  ; FOR BIC TO GET CC BITS ONLY
190
191      .SBTTL TRAP CATCHER
192
193      .SU
194      000000
195      ;*ALL UNUSED LOCATIONS FROM 4 - 776 CONTAIN A ".+J,MALI"
196      ;*SEQUENCE TO CATCH ILLEGAL TRAPS AND INTERRUPTS
197      ;*LOCATION 0 CONTAINS 0 TO CATCH IMPROPERLY LOADED VECTORS
198      .=174
199      000174 000000  DISPREG; .WORD 0      ;SOFTWARE DISPLAY REGISTER
200      000176 000000  SWREG; .WORD 0      ;SOFTWARE SWITCH REGISTER
201      .SBTTL STARTING ADDRESS(ES)
202      000200 000137 002400  JMP .002400 ;JUMP TO STARTING ADDRESS OF PROGRAM
203
204      .SBTTL ACT11 HOOKS
205
206      ;*****
207      ;HOOKS REQUIRED BY ACT11
208      .8SVPC= .      ;SAVE PC
209      .=46
210      .ENDAD .      ;1)SET LOC.46 TO ADDRESS OF .ENDAD IN .SEOP
211      .=52
212      .WORD 0      ;2)SET LOC.52 TO ZERO
213      .8SVPC .      ;RESTORE PC
214      .=1000
215      .SBTTL APT PARAMETER BLOCK
216
217      ;*****
218      ;SET LOCATIONS 24 AND 44 AS REQUIRED FOR APT
219      ;*****
220      .4X= .      ;SAVE CURRENT LOCATION
221      .=24      ;1)SET POWER FAIL TO POINT TO START OF PROGRAM
222      000024 000200  .WORD .      ;2)ON APT START UP
223      000044      .=44      ;3)POINT TO APT INDIRECT ADDRESS PTRN.
224      000044 001000  .APTHDR ;4)POINT TO APT HEADER BLOCK
```

```
225      001000      .R,4X      ;RESET LOCATION COUNTER
226      ;*****
227      ;SETUP APT PARAMETER BLOCK AS DEFINED IN THE APT-PDP11 DIAGNOSTIC
228      ;INTERFACE SPEC.
229
230      001000      SPTMDI
231      001000      000000      SHIST: .WORD 0      ;TWO HIGH BITS OF 18 BIT MAILBOX ADDR.
232      001002      001324      SMAIL: .WORD SMAIL      ;ADDRESS OF APT MAILBOX (BITS 0-15)
233      001004      000001      STSM: .WORD 1      ;RUN TIME OF LONGEST TEST
234      001006      000001      SPASTM: .WORD 1      ;RUN TIME IN SECS. OF 1ST PASS ON 1 UNIT (QUICK VERIFY)
235      001010      000000      SUNITM: .WORD 0      ;ADDITIONAL RUN TIME (SECS) OF A PASS FOR EACH ADDITIONAL UNIT
236      001012      000014      .WORD SETEND-SMAIL/2 ;LENGTH MAILBOX-ETABLE(WORDS)
237
```

```
238      .SBTTL COMMON TAGS
239
240      ;*****
241      ;THIS TABLE CONTAINS VARIOUS COMMON STORAGE LOCATIONS
242      ;USED IN THE PROGRAM.
243
244      001100      001100      .S1100
245      001100      SMTAG: .WORD 0      ;START OF COMMON TAGS
246      ;-----START OF CLEAR COMMON TAGS-----
247      001100      000000      STSNM: .WORD 0      ;CONTAINS THE TEST NUMBER
248      001102      000000      SERFLG: .WORD 0      ;CONTAINS ERROR FLAG
249      001104      000000      STCNT: .WORD 0      ;CONTAINS SUBTEST ITERATION COUNT
250      001106      000000      SLPADR: .WORD 0      ;CONTAINS SCOPE LOOP ADDRESS
251      001110      000000      SLPERR: .WORD 0      ;CONTAINS SCOPE RETURN FOR ERRORS
252      001112      000000      SERTTL: .WORD 0      ;CONTAINS TOTAL ERRORS DETECTED
253      001114      000000      SITEMB: .WORD 0      ;CONTAINS ITEM CONTROL BYTE
254      001116      000000      SERMAX: .WORD 1      ;CONTAINS MAX. ERRORS PER TEST
255      001120      000001      SERRPC: .WORD 0      ;CONTAINS PC OF LAST ERROR INSTRUCTION
256      001122      000000      SGADR: .WORD 0      ;CONTAINS ADDRESS OF "GOOD" DATA
257      001124      000000      SBADR: .WORD 0      ;CONTAINS ADDRESS OF "BAD" DATA
258      001126      000000      SGDDAT: .WORD 0      ;CONTAINS "GOOD" DATA
259      001130      000000      SBDDAT: .WORD 0      ;CONTAINS "BAD" DATA
260      001132      000000      .WORD 0      ;RESERVED--NOT TO BE USED
261      001134      000000      .WORD 0
262      001136      000000      .WORD 0
263      001140      000      SAUTOB: .BYTE 0      ;AUTOMATIC MODE INDICATOR
264      001141      000      SINTAG: .BYTE 0      ;INTERRUPT MODE INDICATOR
265      001142      000000      .WORD 0
266      ;-----END OF CLEAR COMMON TAGS-----
267      001144      177570      SWR: .WORD DSWR      ;ADDRESS OF SWITCH REGISTER
268      001146      177570      DISPLA: .WORD DDISP      ;ADDRESS OF DISPLAY REGISTER
269      001150      000000      SLPTST: .WORD 0      ;CONTAINS TEST NUMBER TO LOOP UPON
270      001152      177560      STKS: 177560      ;TTY KWD STATUS
271      001154      177562      STKB: 177562      ;TTY KWD BUFFER
272      001156      177564      STPS: 177564      ;TTY PRINTER STATUS REG. ADDRESS
273      001160      177566      STPB: 177566      ;TTY PRINTER BUFFER REG. ADDRESS
274      001162      000      SNULL: .BYTE 0      ;CONTAINS NULL CHARACTER FOR FILLS
275      001163      002      SFILL: .BYTE 2      ;CONTAINS # OF FILLER CHARACTERS REQUIRED
276      001164      012      SFILLC: .BYTE 12      ;INSERT FILL CHARS. AFTER A "LINE FEED"
277      001165      000      STPFLG: .BYTE 0      ;"TERMINAL AVAILABLE" FLAG (BIT<07>=0=1=0)
278      001166      000000      SREGAD: .WORD 0      ;CONTAINS THE ADDRESS FROM
279      ;WHICH ((SREG0) WAS OBTAINED
280      001170      000000      SREG0: .WORD 0      ;CONTAINS ((SREG0)+0)
281      001172      000000      SREG1: .WORD 0      ;CONTAINS ((SREG0)+2)
282      001174      000000      SREG2: .WORD 0      ;CONTAINS ((SREG0)+4)
283      001176      000000      SREG3: .WORD 0      ;CONTAINS ((SREG0)+6)
284      001200      000000      SREG4: .WORD 0      ;CONTAINS ((SREG0)+10)
285      001202      000000      SREG5: .WORD 0      ;CONTAINS ((SREG0)+12)
286      001204      000000      SREG6: .WORD 0      ;CONTAINS ((SREG0)+14)
287      001206      000000      SREG7: .WORD 0      ;CONTAINS ((SREG0)+16)
288      001210      000000      SREG10: .WORD 0      ;CONTAINS ((SREG0)+20)
289      001212      000000      SREG11: .WORD 0      ;CONTAINS ((SREG0)+22)
290      001214      000000      SREG12: .WORD 0      ;CONTAINS ((SREG0)+24)
291      001216      000000      SREG13: .WORD 0      ;CONTAINS ((SREG0)+26)
292      001220      000000      SREG14: .WORD 0      ;CONTAINS ((SREG0)+28)
293      001222      000000      SREG15: .WORD 0      ;CONTAINS ((SREG0)+32)
```

```
294 001224 000000 0REG161 .WORD 0 ;;CONTAINS ((REGAD)+34)
295 001226 000000 0REG171 .WORD 0 ;;CONTAINS ((REGAD)+36)
296 001230 000000 0TMP01 .WORD 0 ;;USER DEFINED
297 001232 000000 0TMP11 .WORD 0 ;;USER DEFINED
298 001234 000000 0TMP21 .WORD 0 ;;USER DEFINED
299 001236 000000 0TMP31 .WORD 0 ;;USER DEFINED
300 001240 000000 0TMP41 .WORD 0 ;;USER DEFINED
301 001242 000000 0TMP51 .WORD 0 ;;USER DEFINED
302 001244 000000 0TMP61 .WORD 0 ;;USER DEFINED
303 001246 000000 0TMP71 .WORD 0 ;;USER DEFINED
304 001250 000000 0TMP101 .WORD 0 ;;USER DEFINED
305 001252 000000 0TMP111 .WORD 0 ;;USER DEFINED
306 001254 000000 0TMP121 .WORD 0 ;;USER DEFINED
307 001256 000000 0TMP131 .WORD 0 ;;USER DEFINED
308 001260 000000 0TMP141 .WORD 0 ;;USER DEFINED
309 001262 000000 0TMP151 .WORD 0 ;;USER DEFINED
310 001264 000000 0TMP161 .WORD 0 ;;USER DEFINED
311 001266 000000 0TMP171 .WORD 0 ;;USER DEFINED
312 001270 000000 0TMP201 .WORD 0 ;;USER DEFINED
313 001272 000000 0TMP211 .WORD 0 ;;USER DEFINED
314 001274 000000 0TMP221 .WORD 0 ;;USER DEFINED
315 001276 000000 0TMP231 .WORD 0 ;;USER DEFINED
316 001300 000000 0TMP241 .WORD 0 ;;USER DEFINED
317 001302 000000 0TMP251 .WORD 0 ;;USER DEFINED
318 001304 000000 0TMP261 .WORD 0 ;;USER DEFINED
319 001306 000000 0TMP271 .WORD 0 ;;USER DEFINED
320 001310 000000 0TIMES1 0 ;;MAX. NUMBER OF ITERATIONS
321 001312 000000 0ESCAPE10 ;;ESCAPE ON ERROR ADDRESS
322 001314 177007 000377 0BELL1 .ASCII <207><377><377> ;;CODE FOR BELL
323 001320 077 0SQUES1 .ASCII /? ;;QUESTION MARK
324 001321 015 0CRLF1 .ASCII <15> ;;CARRIAGE RETURN
325 001322 000012 0LF1 .ASCII <12> ;;LINE FEED
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
```

;SBTTL APT MAILBOX-ETABLE

;EVEN
;MAIL;
;MSGTY1 .WORD MSGTY ;;APT MAILBOX
;FATAL1 .WORD AFATAL ;;MESSAGE TYPE CODE
;TESTN1 .WORD ATESTN ;;FATAL ERROR NUMBER
;PASS1 .WORD APASS ;;TEST NUMBER
;DEVCT1 .WORD ADEVCT ;;PASS COUNT
;UNIT1 .WORD AUNIT ;;DEVICE COUNT
;MSGAD1 .WORD AMSGAD ;;I/O UNIT NUMBER
;MSGGL1 .WORD AMSGLG ;;MESSAGE ADDRESS
;ETABLE1 ;;MESSAGE LENGTH
;ENV1 .BYTE AENV ;;APT ENVIRONMENT TABLE
;ENVN1 .BYTE AENVN ;;ENVIRONMENT BYTE
;SWREG1 .WORD ASWREG ;;ENVIRONMENT MODE BITS
;USWR1 .WORD AUSWR ;;APT SWITCH REGISTER
;CPUOP1 .WORD ACPUOP ;;USER SWITCHES
;*
;*
;*
;*

BIT 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

```
350
351
352 001354
353
```

;*
;*
;ETEND1
;EXIT

BIT 9=FLOATING POINT PROCESSOR
BIT 8=MEMORY MANAGEMENT

```
354 .SMTTL ERROR POINTER TABLE
355
356 001354 SERRTB1
357
358 ;*THIS TABLE CONTAINS THE INFORMATION FOR EACH ERROR THAT CAN OCCUR.
359 ;*THE INFORMATION IS OBTAINED BY USING THE INDEX NUMBER FOUND IN
360 ;*LOCATION ITEM#6. THIS NUMBER INDICATES WHICH ITEM IN THE TABLE IS PERTINENT.
361 ;*NOTE1: IF ITEM#6 IS 0 THE ONLY PERTINENT DATA IS (SERRPC).
362 ;*NOTE2: EACH ITEM IN THE TABLE CONTAINS 4 POINTERS EXPLAINED AS FOLLOWS:
363
364 ;* EM ;POINTS TO THE ERROR MESSAGE
365 ;* DH ;POINTS TO THE DATA HEADER
366 ;* DT ;POINTS TO THE DATA
367 ;* DF ;POINTS TO THE DATA FORMAT
368 ;*NOTE: ERROR VECTOR TABLE (SERRTB) HAS BEEN MODIFIED,
369 ;* ELIMINATING UNUSED VALUE FOR DATA FORMAT POINTER.
370 ;* ERROR TYPING ROUTINE HAS ALSO BEEN MODIFIED
371 ;* ACCORDINGLY.
372
373 ;***** VECTORS FOR FPE ERRORS *****
374 001354 044147 045366 045642 EMV0011 WORD EMA,DNA,DTA ; LDCIF,STCFI,STEXP/F,TRAP-TSTR
375 001362 044147 045366 045650 EMV0021 WORD EMA,DNA,DTB ; CMPF,LDCIF,SICFL
376 001370 044147 045366 045656 EMV0031 WORD EMA,DNA,DTC ; LDCID,STCDI,LDEXP/F,STEXP/D
377 001376 044147 045366 045664 EMV0041 WORD EMA,DNA,DTD ; ADDF,SUMF,MULF,UIVF,LDCDF,LDCFD
378 ; STCDF,LDCLD,STCUL
379 001404 044147 045366 045672 EMV0051 WORD EMA,DNA,DTE ; CMPD,MODF,SICFD
380 001412 044147 045366 045700 EMV0061 WORD EMA,DNA,DTF ; LDEXP/D
381 001420 044147 045366 045706 EMV0071 WORD EMA,DNA,DTG ; ADDD,SUBD,MULD,DIYD
382 001426 044147 045366 045714 EMV0101 WORD EMA,DNA,UTH ; MOOD
383 ;***** VECTORS FOR FEC/FEA ERRORS *****
384 001434 044173 045402 045722 EMV0111 WORD EMB,DNB,DTI ; STCFI,TRAP-TSTR
385 001442 044173 045402 045734 EMV0121 WORD EMB,DNB,DTJ ; CMPF,STCFL
386 001450 044173 045402 045746 EMV0131 WORD EMB,DNB,DTK ; STCDI,LDEXP/F
387 001456 044173 045402 045760 EMV0141 WORD EMB,DNB,DTL ; ADDF,SUMF,MULF,UIVF,LDCDF
388 ; LDCFD,STCDF,SICUL
389 001464 044173 045402 045772 EMV0151 WORD EMB,DNB,DTM ; CMPD,MODF
390 001472 044173 045402 046004 EMV0161 WORD EMB,DNB,DIN ; LDEXP/D
391 001500 044173 045402 046016 EMV0171 WORD EMB,DNB,DTO ; ADDD,SUBD,MULD,DIYD
392 001506 044173 045402 046030 EMV0201 WORD EMB,DNB,DTP ; MOOD
393 ;***** VECTORS FOR RESULT ERRORS *****
394 001514 044357 045442 046056 EMV0211 WORD EML,DNC,DTB ; CMPF
395 001522 044357 045500 046140 EMV0221 WORD EML,DND,DTX ; CMPD
396 001530 044446 045442 046114 EMV0231 WORD EML,DNC,DTY ; ADDF,SUMF
397 001536 044446 045500 046250 EMV0241 WORD EML,DND,DTAB ; ADDD,SUBD
398 001544 044520 045442 046114 EMV0251 WORD EML,DNC,DTV ; MULF,UIVF
399 001552 044520 045500 046250 EMV0261 WORD EML,DND,DTAB ; MULD,UIVU
400 001560 044572 045442 046114 EMV0271 WORD EML,DNC,DTV ; MODF-FRAC
401 001566 044653 045442 046126 EMV0301 WORD EML,DND,DTW ; MODF-INT
402 001574 044572 045500 046250 EMV0311 WORD EML,DND,DTAB ; MODD-FRAC
403 001602 044653 045500 046272 EMV0321 WORD EML,DND,DTAC ; MODD-INT
404 001610 045007 045442 046114 EMV0331 WORD EML,DNC,DTV ; LDCDF,STCDF
405 001616 044731 045500 046204 EMV0341 WORD EML,DND,DTZ ; LDCFD
406 001624 044731 045500 046226 EMV0351 WORD EML,DND,DTAA ; STCFD
407 001632 045065 045442 046070 EMV0361 WORD EML,DNC,DTT ; LDCIF
408 001640 045065 045500 046162 EMV0371 WORD EML,DND,DTY ; LDCID
409 001646 045065 045442 046102 EMV0401 WORD EML,DNC,DTU ; LDCLF
410 001654 045065 045500 046204 EMV0411 WORD EML,DND,DTZ ; LDCLD
```

```
410 001662 045145 045366 046042 EMV0421 WORD EML,DNA,DTC ; STCFI
411 001670 045145 045366 046050 EMV0431 WORD EML,DNA,DTR ; STCDI
412 001676 045145 045442 046102 EMV0441 WORD EML,DNC,DTU ; SICFL
413 001704 045145 045442 046114 EMV0451 WORD EML,DNC,DTV ; STCDL
414 001712 045225 045442 046102 EMV0461 WORD EML,DNC,DTU ; LDEXP/F
415 001720 045225 045500 046226 EMV0471 WORD EML,DND,DTAA ; LDEXP/D
416 001726 045305 045366 046042 EMV0501 WORD EMO,DNA,DTU ; STEXP/F
417 001734 045305 045366 046050 EMV0511 WORD EMO,DNA,DTR ; STEXP/D
418 001742 000000 000000 000000 EMV0521 WORD 0,0,0 ; (UNUSED)
419 001750 000000 000000 000000 EMV0531 WORD 0,0,0 ; (UNUSED)
420 ;***** VECTORS FOR CC COPY ERRORS *****
421 001756 044310 045366 046314 EMV0541 WORD EMO,DNA,DTAU ; STCFI,STCUI,STEXP/F,STEXP/D
422 001764 044310 045366 046322 EMV0551 WORD EMO,DNA,DTAL ; STCFL,STCUL
423 ;***** VECTOR FOR ILLEGAL TRAP CATCHER ROUTINE *****
424 001772 044223 045576 046330 EMV0561 WORD EML,DNF,DTAK ; UNEXPECTED TRAF
```

```
425 .SBTTL PROGRAM DEFINED COMMON TAGS
426 ;*VARIABLES
427 002000 000000 FFS: .WORD 0 ; FFS STORED HERE AFTER STFPS
428 002002 000000 FEC: .WORD 0 ; FEC STORED HERE AFTER STST
429 002004 000000 FEA: .WORD 0 ; FEA STORED HERE AFTER STST
430 002006 000000 FPPOPC: .WORD 0 ; OLD PC SAVED HERE AFTER TRAP AFTER TRAP
431 002010 000000 FPPOSP: .WORD 0 ; OLD PS SAVED HERE
432 002012 000000 FPPOSP: .WORD 0 ; SP AFTER TRAP
433 002014 000000 EXPFEA: .WORD 0 ; EXPECTED FEA
434
435 ;*REGISTER CONTENTS, AT ERROR, FOR DISPLAY
436 002016 000000 LREG1: .WORD 0
437 002020 000000 LREG2: .WORD 0
438 002022 000000 LREG3: .WORD 0
439 002024 000000 LREG4: .WORD 0
440 002026 000000 LREG5: .WORD 0
441 002030 000000 LREG6: .WORD 0
442 002032 000000 LREG7: .WORD 0
443 002034 000000
444
445 ;*CONSTANTS
446 002036 052525 177777 125252 PREVAC: .WORD ALTP,M1,ALTN,0 ; PREV CONTENTS OF FLOAT AC
447 002044 000000
448
449 ;*MESSAGES FOR BEGIN PROGRAM/START OF PASS/ETC
450
451 002046 005015 005012 042115 MSGMES: .ASCII <CR><LF><LF><LF><MD-11-DOFPB>
452 002054 030455 026461 050504
453 002062 050106 026502
454 002066 027102
455 002070 027056
456 002072 042120 026520 030461
457 002100 033057 020130 027106
458 002106 027120 027125 040440
459 002114 053104 047101 042503
460 002122 020104 047111 052123
461 002130 052522 052103 047511
462 002136 020116 042524 052123
463 002144 006523 000012
464 002150 005015 040520 051523 NWPAS1: .ASCII <CR><LF><LF><PASS>
465 002156 021440 000
```

```
466 .SBTTL START OF PASS ROUTINE
467
468
469 ;*****
470 .ENABL AMA ; ASSEMBLE ALL RELATIVE REFERENCES AS ABSOLUTE
471 ;*****
472
473 002400
474
475 .SBTTL INITIALIZE THE COMMON TAGS
476 ;*CLEAR THE COMMON TAGS (SCMTAG) AREA
477 MOV SCMTAG,R6 ; FIRST LOCATION TO BE CLEARED
478 CLR (R6)+ ; CLEAR MEMORY LOCATION
479 CMP $SWR,R6 ; DONE?
480 BNE $=0 ; LOOP BACK IF NO
481 MOV $STACK,SP ; SETUP THE STACK POINTER
482 ;*INITIALIZE A FEW VECTORS
483 MOV $SCOPE,$IOTIVEC ; IOT VECTOR FOR SCOPE ROUTINE
484 MOV $340,$AOTIVEC+2 ; LEVEL 7
485 MOV $ERROR,$EMTIVEC ; EMT VECTOR FOR ERROR ROUTINE
486 MOV $340,$EMTIVEC+2 ; LEVEL 7
487 MOV $TRAP,$OTRAPVEC ; TRAP VECTOR FOR TRAP CALLS
488 MOV $340,$OTRAPVEC+2 ; LEVEL 7
489 MOV $SPWRDN,$SPWRVEC ; POWER FAILURE VECTOR
490 MOV $340,$SPWRVEC+2 ; LEVEL 7
491 MOV $ENDCT,$EOPTCT ; SETUP END-OF-PROGRAM COUNTER
492 CLR $TIMES ; INITIALIZE NUMBER OF ITERATIONS
493 CLR $ESCAPE ; CLEAR THE ESCAPE ON ERROR ADDRESS
494 MOV $1,$ERRMAX ; ALLOW ONE ERROR PER TEST
495 MOV $,$LPAOR ; INITIALIZE THE LOOP ADDRESS FOR SCOPE
496 MOV $,$LPEPR ; SETUP THE ERROR LOOP ADDRESS
497 ;*SIZE FOR A HARDWARE SWITCH REGISTER, IF NOT FOUND OR IT IS
498 ;*EQUAL TO A "-1", SETUP FOR A SOFTWARE SWITCH REGISTER.
499 MOV $ERRVEC,($SP) ; SAVE ERROR VECTOR
500 MOV $640,$ERRVEC ; SETUP FOR A HARDWARE SWITCH REGISTER
501 MOV $DSWR,$SWR ; FIND A HARDWARE DISPLAY REGISTER
502 CMP $=1,$SWR ; TRY TO REFERENCE HARDWARE SWR
503 BNE $=0 ; BRANCH IF NO TIMEOUT TRAP OCCURRED
504 ;*FIND THE HARDWARE SWR IS NOT = -1
505 BR $=0 ; BRANCH IF NO TIMEOUT
506 MOV $650,($SP) ; SETUP FOR TRAP RETURN
507 RTI
508 MOV $SWREG,$SWR ; POINT TO SOFTWARE SWR
509 MOV $DISPREG,$DISPLAY ;
510 MOV ($SP)+,$ERRVEC ; RESTORE ERROR VECTOR
511
512 CLR $PASS ; CLEAR PASS COUNT
513 BITB $APTSIZE,$ENVN ; TEST USER SIZE UNDER APT
514 BEQ $=0 ; YES, USE NON-APT SWITCH
515 MOV $SSWREG,$SWN ; NO, USE APT SWITCH REGISTER
516
517
518 ; SET UP FPP UNEXPECTED TRAP CATCHER - - - - -
519 MOV $FPPILT,$FPPVEC ; NEW PC AT FPP TRAP
520 CLK $FPPVEC+2 ; NEW PS AT FPP TRAP
521
```

```
522 002662 104401 002046          TYPE      ,BGNMES          ; ID MESSAGE AT START
523
524
525
526
527 002666 076600 000022          MED      ,RWHAMI          ;WHAMI INTO R0
528 002672 032700 000020          BIT      @BIT04,R0          ;IS THERE A HFP UNIT ?
529 002676 001403                  BEQ      708          ;NO, BR
530 002700 104401 002714          TYPE      ,608          ;INDICATE FP11-E PRESENT
531 002704 000453                  BR      NEWPAS          ;GO FOR SUBPASS INIT
532 002706 104401 002754          708:    TYPE      ,696          ;INDICATE NO FP11-E
533 002712 000450                  BR      NEWPAS          ;GO FOR SUBPASS INIT
534
535 002714 005015 020052 050106 688:    ,ASCII <15><12>"* FP11-E HFP UNIT PRESENT ?"<15><12>
536 002722 030461 042455 044040
537 002730 050106 052440 044516
538 002736 020124 051120 051505
539 002744 047105 020124 006452
540 002752 000012
541 002754 005015 020052 047516 698:    ,ASCII <15><12>"* NO FP11-E HFP UNIT - ALL TESTS WFP ONLY ?"<15><12>
542 002762 043040 030520 026461
543 002770 020105 043110 020120
544 002776 047125 052111 026440
545 003004 040440 046114 052040
546 003012 051505 051524 053440
547 003020 050106 047440 046116
548 003026 020131 006452 000012
549
550          ,EVEN
551
552
553
554
555
556
557
558 003034 012706 001100          NEWPAS: MOV      @STACK,SP          ;RESET STACK PTR
559
560 003040 012777 010000 176076          BIT      @BIT12,@SWR          ;INHIBIT STATUS TYPEOUTS ?
561 003046 001011                  BNE      SUBPAS          ;BR IF YES
562
563 003050 104401 002150          TYPE      ,NEWPAS          ;"PASS #"
564 003054 013746 001332          MOV      @PASS,=(SP)          ;PASS COUNT INTO ...
565 003060 005216                  INC      (SP)          ; i=N RANGE
566 003062 104403                  TYP08          ;TYPE OCTAL
567 003064 006          ,BYTE      6,0          ; 6 DIGITS, NO LEADING ZEROS
568 003066 104401 001321          TYPE      ,@CRLF          ;END THE LINE
569
570
571
572
573
574
575 003072 012706 001100          SUBPAS: MOV      @STACK,SP          ;RESET SP FOR INSURANCE
576
577 003076 076600 000022          MED      ,RWHAMI          ;GET WHAMI INTO R0
```

```
578 003102 032700 000020          BIT      @BIT04,R0          ;1=HFP PRESENT, 0=NO
579 003106 001403                  BEQ      208          ;IF NO HFP, TEST WARM ONLY
580
581 003110 076600 000144          MED      ,RFLAG          ;GET FLAGS INTO R0
582
583 003114 032777 000002 176022          BIT      @SW01,@SWR          ;SW01: 1=HFP OR WFP TEST ONLY
584 003122 001403                  BEQ      18          ; 0=ALTERNATE HFP/WFP PER PASS
585
586 003124 032777 000001 176012          BIT      @SW00,@SWR          ;SW00: 1=HFP ONLY
587 003132 001403                  BEQ      28          ; 0=WFP ONLY
588 003134 042700 010000          BIC      @BIT12,R0          ;CLEAR HFP ENABLE FLAG<5> FOR WFP
589 003140 000402                  BR      38
590 003142 032700 010000          28:    BIC      @BIT12,R0          ;SET HFP ENABLE FLAG<5> FOR HFP
591 003146 076600 000344          38:    MED      ,RFLAG          ;REWRITE FLAGS
592
593 003152 032700 010000          18:    BIT      @BIT12,R0          ;TEST WHO'S ENABLED! NOT, WARM
594 003156 001404                  BEQ      208          ;SET APPROPRIATE HEADER!
595
596 003160 312737 044132 042504 198:    MOV      @ASCHOT,HOIWRM          ;"HOT: "
597 003166 000403                  BR      218
598 003170 012737 044140 042504 208:    MOV      @ASCHRM,HOIWRM          ;"WARM: "
599 003176                  218:
```

```
000
001
002
003
004
005 003176 000004
006 003200 012705 003212
007 003204 004737 033330
008
009 003210 000407
010
011 003212
012 003212 000000 000000
013 003216 000000 000000
014 003222 047453 047444
015 003226 000000
016
017
018
019
020
021
022
023 003230 000004
024 003232 012705 003244
025 003236 004737 033330
026
027 003242 000407
028
029 003244
030 003244 052525 052525
031 003250 052525 052525
032 003254 047513 047504
033 003260 000000
034
035
036
037
038
039
040
041 003262 000004
042 003264 012705 003276
043 003270 004737 033330
044
045 003274 000407
046
047 003276
048 003276 077777 177777
049 003302 177777 177777
050 003306 047507 047510
051 003312 000000
052
053
054
055

;*****
;*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
```

```
056
057
058
059 003314 000004
060 003316 012705 003330
061 003322 004737 033330
062
063 003326 000407
064
065 003330
066 003330 125252 125252
067 003334 125252 125252
068 003340 047453 047444
069 003344 000000
070
071
072
073
074
075
076
077 003346 000004
078 003350 012705 003362
079 003354 004737 033330
080
081 003360 000407
082
083 003362
084 003362 177777 177777
085 003366 077777 177777
086 003372 047457 047440
087 003376 000000
088
089
090
091
092
093
094
095 003400 000004
096 003402 012705 003414
097 003406 004737 033330
098
099 003412 000407
100
101 003414
102 003414 077777 177777
103 003420 040000 000000
104 003424 047517 047500
105 003430 000000
106
107
108
109
110
111

;*****
;*      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
```

```
712
713 003432 000004
714 003434 012705 003446
715 003440 004737 033330
716
717 003444 000407
718
719 003446
720 003446 050000 000001
721 003452 050000 000000
722 003456 047547 047550
723 003462 000000
724
725
726
727
728
729
730
731 003464 000004
732 003466 012705 003500
733 003472 004737 033330
734
735 003476 000407
736
737 003500
738 003500 120000 000000
739 003504 120000 000000
740 003510 047417 047400
741 003514 000000
742
743
744
745
746
747
748
749 003516 000004
750 003520 012705 003532
751 003524 004737 033330
752
753 003530 000407
754
755 003532
756 003532 007417 007417
757 003536 100000 000000
758 003542 047443 147443
759 003546 100014
760
761
762
763
764
765
766
767 003550 000004

*****
TEST7: SCOPE
      MOV 8CMPF7,R5 ; PTR TO TEST DATA SET
      JSR PC,8CMPFT ; 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 8CMPF10,R5 ; PTR TO TEST DATA SET
      JSR PC,8CMPFT ; GO TEST
      BR TST11 ;;

CMPF10: ; TEST DATA SET CMPF-10:
      .WORD 120000,000000 ; INITIAL AC FLOAT NUMBER
      .WORD 120000,000000 ; 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 8CMPF11,R5 ; PTR TO TEST DATA SET
      JSR PC,8CMPFT ; GO TEST
      BR TST12 ;;

CMPF11: ; TEST DATA SET CMPF-11:
      .WORD ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
      .WORD M0,0 ; 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
```

```
768 003552 012705 003564
769 003556 004737 033330
770
771 003562 000407
772
773 003564
774 003564 006177 177777
775 003570 004177 177777
776 003574 047507 047510
777 003600 000000
778
779
780
781
782
783
784
785 003602 000004
786 003604 012705 003616
787 003610 004737 033330
788
789 003614 000407
790
791 003616
792 003616 125252 125252
793 003622 100177 177777
794 003626 043557 043540
795 003632 000000
796
797
798
799
800
801
802
803 003634 000004
804 003636 012705 003650
805 003642 004737 033330
806
807 003646 000407
808
809 003650
810 003650 000377 177777
811 003654 000377 177776
812 003660 047407 047410
813 003664 000000
814
815
816

*****
MOV 8CMPF12,R5 ; PTR TO TEST DATA SET
JSR PC,8CMPFT ; 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 8CMPF13,R5 ; PTR TO TEST DATA SET
      JSR PC,8CMPFT ; GO TEST
      BR TST14 ;;

CMPF13: ; TEST DATA SET CMPF-13:
      .WORD ALTN,ALTN ; INITIAL AC FLOAT NUMBER
      .WORD 2X1MM,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 8CMPF14,R5 ; PTR TO TEST DATA SET
      JSR PC,8CMPFT ; 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 )
```

```
017
018
019
020
021
022 003666 000004
023 003670 012705 003702
024 003674 004737 033476
025
026 003700 000413
027
028 003702
029 003702 000000 000000 000000 CMPD1: ; TEST DATA SET CMPD-11
030 003710 000000 ; WORD 0,0,0 ; INITIAL AC FLOAT NUMBER
031 003712 000000 000000 ; WORD 0,0,0 ; INITIAL MEM FLOAT NUMBER
032 003720 000000
033 003722 047713 047704 ; WORD 047713,047704 ; FPS: BEFORE, AFTER
034 003726 000000 ; WORD NA ; FEC AFTER ( 0 = N/A )
035
036
037
038
039
040
041
042 003730 000004
043 003732 012705 003744
044 003736 004737 033476
045
046 003742 000413
047
048 003744
049 003744 177777 177777 177777 CMPD2: ; TEST DATA SET CMPD-21
050 003752 177777 ; WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
051 003754 177777 177777 177777 ; WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
052 003762 177777
053 003764 047717 047700 ; WORD 047717,047700 ; FPS: BEFORE, AFTER
054 003770 000000 ; WORD NA ; FEC AFTER ( 0 = N/A )
055
056
057
058
059
060
061
062 003772 000004
063 003774 012705 004006
064 004000 004737 033476
065
066 004004 000413
067
068 004006
069 004006 170360 170360 170360 CMPD3: ; TEST DATA SET CMPD-31
070 004014 170360 ; WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
071 004016 170360 170360 170360 ; WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
072 004024 170360
```

```
073 004026 047713 047704 ; WORD 047713,047704 ; FPS: BEFORE, AFTER
074 004032 000000 ; WORD NA ; FEC AFTER ( 0 = N/A )
075
076
077
078
079
080
081
082 004034 000004
083 004036 012705 004050
084 004042 004737 033476
085
086 004046 000413
087
088 004050
089 004050 077777 177777 177777 CMPD4: ; TEST DATA SET CMPD-41
090 004056 177777 ; WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
091 004060 177777 177777 177777 ; WORD LGN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
092 004066 177777
093 004070 047647 047650 ; WORD 047647,047650 ; FPS: BEFORE, AFTER
094 004074 000000 ; WORD NA ; FEC AFTER ( 0 = N/A )
095
096
097
098
099
100
101
102 004076 000004
103 004100 012705 004112
104 004104 004737 033476
105
106 004110 000413
107
108 004112
109 004112 007417 007417 007417 CMPD5: ; TEST DATA SET CMPD-51
110 004120 007417 ; WORD ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
111 004122 007417 007417 007417 ; WORD ALT4P,ALT4P,ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER
112 004130 007417
113 004132 047653 047644 ; WORD 047653,047644 ; FPS: BEFORE, AFTER
114 004136 000000 ; WORD NA ; FEC AFTER ( 0 = N/A )
115
116
117
118
119
120
121
122 004140 000004
123 004142 012705 004154
124 004146 004737 033476
125
126 004152 000413
127
128 004154
```

```
929 004154 125252 125252 125252 .WORD ALTN,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
930 004162 125252
931 004164 100177 177777 177777 .WORD EX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
932 004172 177777
933 004174 047703 147703 .WORD 047703,147703 ; FPS: BEFORE, AFTER
934 004200 100014 .WORD 100014 ; FEC AFTER ( 0 = N/A )
935
936
937
938
939
940
941
942 004202 000004
943 004204 012705 004216
944 004210 004737 033476
945
946 004214 000413
947
948 004216
949 004216 002177 177777 177777 CMPD7: ; TEST DATA SET CMPD-7:
950 004224 177777 .WORD 002177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
951 004226 005177 177777 177777 .WORD 005177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
952 004234 177777
953 004236 047657 047640 .WORD 047657,047640 ; FPS: BEFORE, AFTER
954 004242 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
955
956
957
958
959
960
961
962 004244 000004
963 004246 012705 004260
964 004252 004737 033476
965
966 004256 000413
967
968 004260
969 004260 000000 000000 000000 CMPD10: ; TEST DATA SET CMPD-10:
970 004266 000000 .WORD 030000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
971 004270 027777 177777 177777 .WORD 027777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
972 004276 177777
973 004300 047647 047650 .WORD 047647,047650 ; FPS: BEFORE, AFTER
974 004304 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
975
976
977
978
979
980
981
982 004306 000004
983 004310 012705 004322
984 004314 004737 033476

*****
;*TEST 23 TEST OF CMPD INSTR, DATA SET CMPD-7
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST23: SCOPE
MOV #CMPD7,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD7 ; GO TEST
BR TST24 ;
*****
CMPD7: ; TEST DATA SET CMPD-7:
;WORD 002177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
;WORD 005177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
;WORD 047657,047640 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

*****
;*TEST 24 TEST OF CMPD INSTR, DATA SET CMPD-10
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST24: SCOPE
MOV #CMPD10,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD10 ; GO TEST
BR TST25 ;
*****
CMPD10: ; TEST DATA SET CMPD-10:
;WORD 030000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
;WORD 027777,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
;WORD 047647,047650 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

*****
;*TEST 25 TEST OF CMPD INSTR, DATA SET CMPD-11
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST25: SCOPE
MOV #CMPD11,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD11 ; GO TEST
```

```
985
986 004320 000413 BR TST26 ;
987
988 004322
989 004322 102000 000000 000000 CMPD11: ; TEST DATA SET CMPD-11:
990 004330 000000 .WORD 102000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
991 004332 102000 000000 000000 .WORD 102000,000000,000000,000001 ; INITIAL MEM FLOAT NUMBER
992 004340 000001
993 004342 047607 047610 .WORD 047607,047610 ; FPS: BEFORE, AFTER
994 004346 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
995
996
997
998
999
1000
1001
1002 004350 000004
1003 004352 012705 004364
1004 004356 004737 033476
1005
1006 004362 000413
1007
1008 004364
1009 004364 002000 000000 000000 CMPD12: ; TEST DATA SET CMPD-12:
1010 004372 000000 .WORD 002000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
1011 004374 014000 000000 000000 .WORD 014000,000000,000000,000000 ; INITIAL MEM FLOAT NUMBER
1012 004402 000000
1013 004404 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
1014 004410 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
1015
1016
1017
1018
1019
1020
1021
1022 004412 000004
1023 004414 012705 004426
1024 004420 004737 033476
1025
1026 004424 000413
1027
1028 004426
1029 004426 000000 000000 000000 CMPD13: ; TEST DATA SET CMPD-13:
1030 004434 000000 .WORD 000000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
1031 004436 100177 177777 000000 .WORD EX1MN,M1,0,M1 ; INITIAL MEM FLOAT NUMBER
1032 004444 177777
1033 004446 043713 043704 .WORD 043713,043704 ; FPS: BEFORE, AFTER
1034 004452 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
1035
1036
1037
1038
1039
1040
1041
1042 004412 000004
1043 004414 012705 004426
1044 004420 004737 033476

*****
;*TEST 26 TEST OF CMPD INSTR, DATA SET CMPD-14
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST26: SCOPE
MOV #CMPD12,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD12 ; GO TEST
BR TST27 ;
*****
CMPD12: ; TEST DATA SET CMPD-12:
;WORD 002000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
;WORD 014000,000000,000000,000000 ; INITIAL MEM FLOAT NUMBER
;WORD 047757,047740 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

*****
;*TEST 27 TEST OF CMPD INSTR, DATA SET CMPD-13
;* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST27: SCOPE
MOV #CMPD13,R5 ; PTR TO TEST DATA SET
JSR PC,#CMPD13 ; GO TEST
BR TST30 ;
*****
CMPD13: ; TEST DATA SET CMPD-13:
;WORD 000000,000000,000000,000000 ; INITIAL AC FLOAT NUMBER
;WORD EX1MN,M1,0,M1 ; INITIAL MEM FLOAT NUMBER
;WORD 043713,043704 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

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

```
1041
1042 004454 000004
1043 004456 012705 004470
1044 004462 004737 033476
1045
1046 004466 000413
1047
1048
1049 004470 100777 000000 177777
1050 004476 000001
1051 004500 100777 000000 177777
1052 004506 000000
1053 004510 047657 047640
1054 004514 000000
1055
1056

;*****
TST30: SCOPE
MOV 0CMPD14,R5 ; PTR TO TEST DATA SET
JBR PC,0CMPD1 ; 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 )
```

```
1057
1058
1059
1060
1061
1062 004516 000001
1063 004520 012705 004532
1064 004524 004737 033664
1065
1066 004530 000411
1067
1068 004532
1069 004532 000177 177777
1070 004536 000177 177777
1071 004542 000000 000000
1072 004546 047453 047444
1073 004552 000000
1074
1075
1076
1077
1078
1079
1080
1081 004554 000004
1082 004556 012705 004570
1083 004562 004737 033664
1084
1085 004566 000411
1086
1087 004570
1088 004570 000000 000000
1089 004574 125252 125252
1090 004600 125252 125252
1091 004604 047407 047410
1092 004610 000000
1093
1094
1095
1096
1097
1098
1099
1100 004612 000004
1101 004614 012705 004626
1102 004620 004737 033664
1103
1104 004624 000411
1105
1106 004626
1107 004626 052525 052525
1108 004632 000000 000000
1109 004636 052525 052525
1110 004642 047557 047540
1111 004646 000000
1112

;*****
;*TEST 31 TEST OF ADDF INSTR, DATA SET ADDF-1
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST31: SCOPE
MOV 0ADDF1,R5 ; PTR TO TEST DATA SET
JBR PC,0ADDF1 ; GO TEST
BR TST32 ;

ADDF1: ; TEST DATA SET ADDF-1:
.WORD 2X1MP,M1 ; INITIAL AC FLOAT NUMBER
.WORD 2X1MP,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 0ADDF2,R5 ; PTR TO TEST DATA SET
JBR PC,0ADDF2 ; 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 0ADDF3,R5 ; PTR TO TEST DATA SET
JBR PC,0ADDF3 ; 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 )
```

```
1113
1114
1115
1116
1117
1118
1119 004650 000004
1120 004652 012705 004664
1121 004656 004737 033664
1122
1123 004662 000411
1124
1125 004664
1126 004664 077777 177777
1127 004670 177777 177777
1128 004674 000000 000000
1129 004700 047513 047504
1130 004704 000000
1131
1132
1133
1134
1135
1136
1137
1138 004706 000004
1139 004710 012705 004722
1140 004714 004737 033664
1141
1142 004720 000411
1143
1144 004722
1145 004722 042000 000000
1146 004726 050177 177777
1147 004732 050200 000000
1148 004736 047417 047400
1149 004742 000000
1150
1151
1152
1153
1154
1155
1156
1157 004744 000004
1158 004746 012705 004760
1159 004752 004737 033664
1160
1161 004756 000411
1162
1163 004760
1164 004760 042000 000000
1165 004764 050177 177777
1166 004770 050177 177777
1167 004774 047457 047440
1168 005000 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 ; FLC 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 ; FLC 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 ; FLC AFTER ( 0 = N/A )
```

```
1169
1170
1171
1172
1173
1174
1175
1176 005002 000004
1177 005004 012705 005016
1178 005010 004737 033664
1179
1180 005014 000411
1181
1182 005016
1183 005016 141777 177777
1184 005022 150177 177777
1185 005026 150177 177777
1186 005032 047507 047510
1187 005036 000000
1188
1189
1190
1191
1192
1193
1194
1195 005040 000004
1196 005042 012705 005054
1197 005046 004737 033664
1198
1199 005052 000411
1200
1201 005054
1202 005054 141777 177777
1203 005060 150177 177777
1204 005064 150177 177777
1205 005070 047547 047550
1206 005074 000000
1207
1208
1209
1210
1211
1212
1213
1214 005076 000004
1215 005100 012705 005112
1216 005104 004737 033664
1217
1218 005110 000411
1219
1220 005112
1221 005112 040177 177777
1222 005116 032200 000000
1223 005122 040200 000000
1224 005126 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 ; FLC 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 ; FLC 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
```

```
1225 005132 000000      ,WORD      NA      ; FPC AFTER ( 0 = N/A )
1226
1227
1228
1229
1230
1231
1232
1233 005134 000004
1234 005136 012705 005150
1235 005142 004737 033664
1236
1237 005146 000411
1238
1239
1240 005150 140252 125252
1241 005154 140052 125252
1242 005160 140377 177777
1243 005164 047407 047410
1244 005170 000000
1245
1246
1247
1248
1249
1250
1251
1252 005172 000004
1253 005174 012705 005206
1254 005200 004737 033664
1255
1256 005204 000411
1257
1258 005206
1259 005206 040010 104210
1260 005212 040010 104210
1261 005216 040210 104210
1262 005222 047557 047540
1263 005226 000000
1264
1265
1266
1267
1268
1269
1270
1271 005230 000004
1272 005232 012705 005244
1273 005236 004737 033664
1274
1275 005242 000411
1276
1277 005244
1278 005244 174177 177777
1279 005250 074177 177776
1280 005254 166200 000000

;*****
;*TEST 42      TEST OF ADDF INSTR, DATA SET ADDF-14
;*      ALL INTERRUPT ENABLES ON
;*      SHORT FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST42:  SCOPE
        MOV      #ADDF12,R5      ; PTR TO TEST DATA SET
        JSR      PC,#ADDF12      ; GU 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                ; FPC AFTER ( 0 = N/A )

;*****
;*TEST 43      TEST OF ADDF INSTR, DATA SET ADDF-14
;*      ALL INTERRUPT ENABLES ON
;*      SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST43:  SCOPE
        MOV      #ADDF13,R5      ; PTR TO TEST DATA SET
        JSR      PC,#ADDF13      ; GU 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                ; FPC 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      ; GU 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
```

```
1281 005260 047507 047510      ,WORD    047507,047510    ; FPS: BEFORE, AFTER
1282 005264 000000      ,WORD      NA      ; FPC AFTER ( 0 = N/A )
1283
1284
1285
1286
1287
1288
1289
1290 005266 000004
1291 005270 012705 005302
1292 005274 004737 033664
1293
1294 005300 000411
1295
1296 005302
1297 005302 142200 000000
1298 005306 050177 177777
1299 005312 050177 177776
1300 005316 047417 047400
1301 005322 000000
1302
1303
1304
1305
1306
1307
1308
1309 005324 000004
1310 005326 012705 005340
1311 005332 004737 033664
1312
1313 005336 000411
1314
1315 005340
1316 005340 077777 177777
1317 005344 077777 177777
1318 005350 000177 177777
1319 005354 047451 147446
1320 005360 100010
1321
1322
1323
1324
1325
1326
1327
1328 005362 000004
1329 005364 012705 005376
1330 005370 004737 033664
1331
1332 005374 000411
1333
1334 005376
1335 005376 104000 000000
1336 005402 004000 000001

;*****
;*TEST 45      TEST OF ADDF INSTR, DATA SET ADDF-15
;*      ALL INTERRUPT ENABLES ON
;*      SHORT FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST45:  SCOPE
        MOV      #ADDF15,R5      ; PTR TO TEST DATA SET
        JSR      PC,#ADDF15      ; GU TEST
        BR       TST46          ;;

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                ; FPC AFTER ( 0 = N/A )

;*****
;*TEST 46      TEST OF ADDF INSTR, DATA SET ADDF-16
;*      ALL INTERRUPT ENABLES ON
;*      SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST46:  SCOPE
        MOV      #ADDF16,R5      ; PTR TO TEST DATA SET
        JSR      PC,#ADDF16      ; GU TEST
        BR       TST47          ;;

ADDF16: ; TEST DATA SET ADDF-16:
        ,WORD    LGP,M1            ; INITIAL AC FLOAT NUMBER
        ,WORD    LGP,M1            ; INITIAL MEM FLOAT NUMBER
        ,WORD    2XIMP,M1          ; EXPECTED FLOAT RESULT
        ,WORD    047451,147446    ; FPS: BEFORE, AFTER
        ,WORD    100010            ; FPC AFTER ( 0 = N/A )

;*****
;*TEST 47      TEST OF ADDF INSTR, DATA SET ADDF-17
;*      ALL INTERRUPT ENABLES ON
;*      SHORT FLOAT, LONG INTEGER, ROUND MODES
;*****
TST47:  SCOPE
        MOV      #ADDF17,R5      ; PTR TO TEST DATA SET
        JSR      PC,#ADDF17      ; GU TEST
        BR       TST50          ;;

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

```
1337 005406 076200 000000 .WORD 076200,0 ; EXPECTED FLOAT RESULT
1338 005412 047517 147500 .WORD 047517,147500 ; FPS: BEFORE, AFTER
1339 005416 100012 .WORD 100012 ; FEC AFTER ( 0 = N7A )
1340
1341
1342 *****
1343 ;*TEST 50 TEST OF ADDF INSTR, DATA SET ADDF-20
1344 ;* ALL INTERRUPT ENABLES ON
1345 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
1346 *****
1347 005420 000004 TST50: SCOPE
1348 005422 012705 MOV #ADDF20,R5 ; PTR TO TEST DATA SET
1349 005426 004737 JSR PC,00ADDF2 ; GO TEST
1350
1351 BR TST51 ;
1352
1353 ADDF20: ; TEST DATA SET ADDF-20:
1354 005434 177777 .WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
1355 005440 100000 .WORD M0,0 ; INITIAL MEM FLOAT NUMBER
1356 005444 177777 .WORD LGN,M1 ; EXPECTED FLOAT RESULT
1357 005450 047543 .WORD 047543,147543 ; FPS: BEFORE, AFTER
1358 005454 100014 .WORD 100014 ; FEC AFTER ( 0 = N7A )
1359
1360 *****
1361 ;*TEST 51 TEST OF ADDF INSTR, DATA SET ADDF-21
1362 ;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1363 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
1364 *****
1365
1366 005456 000004 TST51: SCOPE
1367 005460 012705 MOV #ADDF21,R5 ; PTR TO TEST DATA SET
1368 005464 004737 JSR PC,00ADDF2 ; GO TEST
1369
1370 BR TST52 ;
1371
1372 ADDF21: ; TEST DATA SET ADDF-21:
1373 005472 177777 .WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
1374 005476 177777 .WORD LGN,M1 ; INITIAL MEM FLOAT NUMBER
1375 005502 000000 .WORD 0,0 ; EXPECTED FLOAT RESULT
1376 005506 046511 .WORD 046511,046506 ; FPS: BEFORE, AFTER
1377 005512 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
1378
1379 *****
1380 ;*TEST 52 TEST OF ADDF INSTR, DATA SET ADDF-22
1381 ;* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
1382 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
1383 *****
1384
1385 005514 000004 TST52: SCOPE
1386 005516 012705 MOV #ADDF22,R5 ; PTR TO TEST DATA SET
1387 005522 004737 JSR PC,00ADDF2 ; GO TEST
1388
1389 BR TST53 ;
1390
1391 ADDF22: ; TEST DATA SET ADDF-22:
1392 005530 052525 .WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
```

```
1393 005534 100177 177777 .WORD ZX1MM,M1 ; INITIAL MEM FLOAT NUMBER
1394 005540 052525 052525 .WORD ALTP,ALTP ; EXPECTED FLOAT RESULT
1395 005544 043717 043700 .WORD 043717,043700 ; FPS: BEFORE, AFTER
1396 005550 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
1397
1398 *****
1399 ;*TEST 53 TEST OF ADDF INSTR, DATA SET ADDF-23
1400 ;* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1401 ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
1402 *****
1403
1404 005552 000004 TST53: SCOPE
1405 005554 012705 MOV #ADDF23,R5 ; PTR TO TEST DATA SET
1406 005560 004737 JSR PC,00ADDF2 ; GO TEST
1407
1408 BR TST54 ;
1409
1410 ADDF23: ; TEST DATA SET ADDF-23:
1411 005566 004000 .WORD 004000,000001 ; INITIAL AC FLOAT NUMBER
1412 005572 100000 .WORD 100000,000000 ; INITIAL MEM FLOAT NUMBER
1413 005576 000000 .WORD 000000,000000 ; EXPECTED FLOAT RESULT
1414 005602 045413 045404 .WORD 045413,045404 ; FPS: BEFORE, AFTER
1415 005606 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
1416
1417
1418
```

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1419
1420
1421
1422
1423
1424 005610 000004
1425 005612 012705 005624
1426 005616 004737 034034
1427
1428 005622 000417
1429
1430 005624
1431 005624 000177 177777 177777
1432 005632 177777
1433 005634 000000 000000 000000
1434 005642 000000
1435 005644 000000 000000 000000
1436 005652 000000
1437 005654 047713 047704
1438 005660 000000
1439
1440
1441
1442
1443
1444
1445
1446 005662 000004
1447 005664 012705 005676
1448 005670 004737 034034
1449
1450 005674 000417
1451
1452 005676
1453 005676 125252 125252 125252
1454 005704 125252
1455 005706 000000 000000 000000
1456 005714 000000
1457 005716 125252 125252 125252
1458 005724 125252
1459 005726 047747 047750
1460 005732 000000
1461
1462
1463
1464
1465
1466
1467
1468 005734 000004
1469 005736 012705 005750
1470 005742 004737 034034
1471
1472 005746 000417
1473
1474 005750

*****
;*TEST 54 TEST OF ADDD INSTR, DATA SET ADDD-1
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST54: SCOPE
MOV #ADDD1,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDDT ; GO TEST
BR TST55 ;;

ADDD1: ; TEST DATA SET ADDD-1:
;WORD ZIMP,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
*****
TST55: SCOPE
MOV #ADDD2,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDDT ; GO TEST
BR TST56 ;;

ADDD2: ; TEST DATA SET ADDD-2:
;WORD ALIN,ALIN,ALIN,ALIN ; INITIAL AC FLOAT NUMBER
;WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
;WORD ALIN,ALIN,ALIN,ALIN ; 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
*****
TST56: SCOPE
MOV #ADDD3,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDDT ; GO TEST
BR TST57 ;;

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

```
1475 005750 000177 177777 177777
1476 005756 177777
1477 005760 052525 052525 052525
1478 005766 052525
1479 005770 052525 052525 052525
1480 005776 052525
1481 006000 047617 047600
1482 006004 000000
1483
1484
1485
1486
1487
1488
1489
1490 006006 000004
1491 006010 012705 006022
1492 006014 004737 034034
1493
1494 006020 000417
1495
1496 006022
1497 006022 177777 177777 177777
1498 006030 177777
1499 006032 177777 177777 177777
1500 006040 177777
1501 006042 000000 000000 000000
1502 006050 000000
1503 006052 047653 047644
1504 006056 000000
1505
1506
1507
1508
1509
1510
1511
1512 006060 000004
1513 006062 012705 006074
1514 006066 004737 034034
1515
1516 006072 000417
1517
1518 006074
1519 006074 166177 177777 177777
1520 006102 177777
1521 006104 150000 000000 000000
1522 006112 000000
1523 006114 166200 000000 000000
1524 006122 000000
1525 006124 047607 047610
1526 006130 000000
1527
1528
1529
1530

*****
;*TEST 57 TEST OF ADDD INSTR, DATA SET ADDD-4
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST57: SCOPE
MOV #ADDD4,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDDT ; GO TEST
BR TST58 ;;

ADDD4: ; TEST DATA SET ADDD-4:
;WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
;WORD LGF,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 )

*****
;*TEST 58 TEST OF ADDD INSTR, DATA SET ADDD-5
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST58: SCOPE
MOV #ADDD5,R5 ; PTR TO TEST DATA SET
JSR PC,#ADDDT ; GO TEST
BR TST59 ;;

ADDD5: ; 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 )

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

```
1531
1532
1533
1534 000132 000004
1535 000134 012705 000146
1536 000140 004737 034034
1537
1538 000144 000417
1539
1540 000146
1541 000146 166177 177777 177777
1542 000154 177777
1543 000156 150000 000000 000000
1544 000164 000000
1545 000166 166177 177777 177777
1546 000174 177777
1547 000176 047647 047650
1548 000202 000000
1549
1550
1551
1552
1553
1554
1555
1556 000204 000004
1557 000206 012705 000220
1558 000212 004737 034034
1559
1560 000216 000417
1561
1562 000220
1563 000220 000177 177777 177777
1564 000226 177777
1565 000230 047777 177777 177777
1566 000236 177777
1567 000240 000177 177777 177777
1568 000246 177777
1569 000250 047717 047700
1570 000254 000000
1571
1572
1573
1574
1575
1576
1577
1578 000256 000004
1579 000260 012705 000272
1580 000264 004737 034034
1581
1582 000270 000417
1583
1584 000272
1585 000272 000177 177777 177777
1586 000300 177777

;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST61: SCOPE
MOV 0ADDD6,R5 ; PTR TO TEST DATA SET
JSR PC,00ADDDT ; GO TEST
BR TST62 ;;

ADDD6: ; TEST DATA SET ADDD-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 = N7A )

;*****
;*TEST 62 TEST OF ADDD INSTR, DATA SET ADDD-7
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST62: SCOPE
MOV 0ADDD7,R5 ; PTR TO TEST DATA SET
JSR PC,00ADDDT ; GO TEST
BR TST63 ;;

ADDD7: ; TEST DATA SET ADDD-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 = N7A )

;*****
;*TEST 63 TEST OF ADDD INSTR, DATA SET ADDD-10
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST63: SCOPE
MOV 0ADDD10,R5 ; PTR TO TEST DATA SET
JSR PC,00ADDDT ; GO TEST
BR TST64 ;;

ADDD10: ; TEST DATA SET ADDD-10:
;WORD 066177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
```

```
1587 000302 047777 177777 177777
1588 000310 177777
1589 000312 000177 177777 177777
1590 000320 177777
1591 000322 047757 047740
1592 000326 000000
1593
1594
1595
1596
1597
1598
1599
1600 000330 000004
1601 000332 012705 000344
1602 000336 004737 034034
1603
1604 000342 000417
1605
1606 000344
1607 000344 004010 104210 104210
1608 000352 104210
1609 000354 004010 104210 104210
1610 000362 104210
1611 000364 004210 104210 104210
1612 000372 104210
1613 000374 047617 047600
1614 000400 000000
1615
1616
1617
1618
1619
1620
1621
1622 000402 000004
1623 000404 012705 000416
1624 000410 004737 034034
1625
1626 000414 000417
1627
1628 000416
1629 000416 122200 000000 000000
1630 000424 000000
1631 000426 100177 177777 177777
1632 000434 177777
1633 000436 100200 000000 000000
1634 000444 000000
1635 000446 047747 047750
1636 000452 000000
1637
1638
1639
1640
1641
1642

;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST64: SCOPE
MOV 0ADDD11,R5 ; PTR TO TEST DATA SET
JSR PC,00ADDDT ; GO TEST
BR TST65 ;;

ADDD11: ; TEST DATA SET ADDD-11:
;WORD 004010,P132,P132,P132 ; INITIAL AC FLOAT NUMBER
;WORD 004010,P132,P132,P132 ; INITIAL MEM FLOAT NUMBER
;WORD 004210,P132,P132,P132 ; EXPECTED FLOAT RESULT
;WORD 047617,047600 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N7A )

;*****
;*TEST 64 TEST OF ADDD INSTR, DATA SET ADDD-11
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST64: SCOPE
MOV 0ADDD11,R5 ; PTR TO TEST DATA SET
JSR PC,00ADDDT ; GO TEST
BR TST65 ;;

ADDD11: ; TEST DATA SET ADDD-11:
;WORD 004010,P132,P132,P132 ; INITIAL AC FLOAT NUMBER
;WORD 004010,P132,P132,P132 ; INITIAL MEM FLOAT NUMBER
;WORD 004210,P132,P132,P132 ; EXPECTED FLOAT RESULT
;WORD 047617,047600 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N7A )

;*****
;*TEST 65 TEST OF ADDD INSTR, DATA SET ADDD-12
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST65: SCOPE
MOV 0ADDD12,R5 ; PTR TO TEST DATA SET
JSR PC,00ADDDT ; GO TEST
BR TST66 ;;

ADDD12: ; TEST DATA SET ADDD-12:
;WORD 122200,0,0,0 ; INITIAL AC FLOAT NUMBER
;WORD 140177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
;WORD 140200,0,0,0 ; EXPECTED FLOAT RESULT
;WORD 047747,047750 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N7A )

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

```
1643
1644 006454 000004
1645 006456 012705 006470
1646 006462 004737 034034
1647
1648 006466 000417
1649
1650
1651 006470 042252 125252 125252 ADDD13: ; TEST DATA SET ADDD=13:
1652 006476 125252 ;WORD 042252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
1653 006500 042052 125252 125252 ;WORD 042052,ALTN,ALTN,ALTN ; INITIAL MEM FLOAT NUMBER
1654 006506 125252 ;WORD 042377,M1,M1,M1 ; EXPECTED FLOAT RESULT
1655 006510 042377 177777 177777 ;WORD 047717,047700 ; FPS: BEFORE, AFTER
1656 006516 177777 ;WORD NA ; FEC AFTER ( 0 = N7A )
1657 006520 047717 047700
1658 006524 000000
1659
1660
1661
1662
1663
1664
1665
1666 006526 000004
1667 006530 012705 006542
1668 006534 004737 034034
1669
1670 006540 000417
1671
1672 006542
1673 006542 074177 177777 177777 ADDD14: ; TEST DATA SET ADDD=14:
1674 006550 177777 ;WORD 074177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
1675 006552 174177 177777 177777 ;WORD 174177,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
1676 006560 177776 ;WORD 056200,0,0,0 ; EXPECTED FLOAT RESULT
1677 006562 056200 000000 000000 ;WORD 047617,047600 ; FPS: BEFORE, AFTER
1678 006570 000000 ;WORD NA ; FEC AFTER ( 0 = N7A )
1679 006572 047617 047600
1680 006576 000000
1681
1682
1683
1684
1685
1686
1687
1688 006600 000004
1689 006602 012705 006614
1690 006606 004737 034034
1691
1692 006612 000417
1693
1694 006614
1695 006614 132200 000000 000000 ADDD15: ; TEST DATA SET ADDD=15:
1696 006622 000000 ;WORD 132200,0,0,0 ; INITIAL AC FLOAT NUMBER
1697 006624 000177 177777 177777 ;WORD 050177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
1698 006632 177777
```

```
1699 006634 050177 177777 177777 ;WORD 050177,M1,M1,M2 ; EXPECTED FLOAT RESULT
1700 006642 177776 ;WORD 047717,047700 ; FPS: BEFORE, AFTER
1701 006644 047717 047700 ;WORD NA ; FEC AFTER ( 0 = N7A )
1702 006650 000000
1703
1704
1705
1706
1707
1708
1709
1710 006652 000004
1711 006654 012705 006666
1712 006660 004737 034034
1713
1714 006664 000417
1715
1716 006666
1717 006666 077777 177777 177777 ADDD16: ; TEST DATA SET ADDD=16:
1718 006674 177777 ;WORD LCP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
1719 006676 100177 177777 177777 ;WORD EX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
1720 006704 177777 ;WORD LCP,M1,M1,M1 ; EXPECTED FLOAT RESULT
1721 006706 077777 177777 177777 ;WORD 047603,147603 ; FPS: BEFORE, AFTER
1722 006714 177777 ;WORD 100014 ; FEC AFTER ( 0 = N7A )
1723 006716 047603 147603
1724 006722 100014
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1732 006724 000004
1733 006726 012705 006740
1734 006732 004737 034034
1735
1736 006736 000417
1737
1738 006740
1739 006740 102000 000000 000000 ADDD17: ; TEST DATA SET ADDD=17:
1740 006746 000001 ;WORD 102000,0,0,1 ; INITIAL AC FLOAT NUMBER
1741 006750 002000 000000 000000 ;WORD 002000,0,0,0 ; INITIAL MEM FLOAT NUMBER
1742 006756 000000 ;WORD 104200,0,0,0 ; EXPECTED FLOAT RESULT
1743 006760 104200 000000 000000 ;WORD 047647,147650 ; FPS: BEFORE, AFTER
1744 006766 000000 ;WORD 100012 ; FEC AFTER ( 0 = N7A )
1745 006770 047647 147650
1746 006774 100012
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1754 006776 000004
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1755 007000 012705 007012      MOV      $ADDD20,R5      ; PTR TO TEST DATA SET
1756 007004 004737 034034      JSR      PC,$ADDDT      ; GO TEST
1757
1758 007010 000417      BR       TST74          ;;
1759
1760 007012      ADDD20: ; TEST DATA SET ADDD-20:
1761 007012 177777 177777 177777 .WORD    LGN,M1,M1,M1      ; INITIAL AC FLOAT NUMBER
1762 007020 177777 177777 177777 .WORD    LGN,M1,M1,M1      ; INITIAL MEM FLOAT NUMBER
1763 007022 177777 177777 177777 .WORD    LGN,M1,M1,M1      ; INITIAL MEM FLOAT NUMBER
1764 007030 177777 177777 177777 .WORD    EX1MN,M1,M1,M1    ; EXPECTED FLOAT RESULT
1765 007032 100177 177777 177777 .WORD    $X1MN,M1,M1,M1    ; EXPECTED FLOAT RESULT
1766 007040 177777 177777 177777 .WORD    047701,147716    ; FPS: BEFORE, AFTER
1767 007042 047701 147716 .WORD    100010          ; FEC AFTER ( 0 = N/A )
1768 007046 100010
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1776 007050 000004      ;*****
1777 007052 012705 007064      ;TEST 74      TEST OF ADDD INSTR, DATA SET ADDD-21
1778 007056 004737 034034      ;*          UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1779                                LONG FLOAT, LONG INTEGER, ROUND MODES
1780                                ;*****
1781 TST74: SCOPE
1782      MOV      $ADDD21,R5      ; PTR TO TEST DATA SET
1783      JSR      PC,$ADDDT      ; GO TEST
1784
1785      BR       TST75          ;;
1786
1787 007062 000417      ADDD21: ; TEST DATA SET ADDD-21:
1788 007064 002000 000000 000000 .WORD    002000,0,0,0      ; INITIAL AC FLOAT NUMBER
1789 007072 000000 000000 000000 .WORD    002000,0,0,2      ; INITIAL MEM FLOAT NUMBER
1790 007074 102000 000000 000000 .WORD    102000,0,0,2      ; INITIAL MEM FLOAT NUMBER
1791 007102 000000 000000 000000 .WORD    0,0,0,0 ; EXPECTED FLOAT RESULT
1792 007104 000000 000000 000000 .WORD    0,0,0,0 ; EXPECTED FLOAT RESULT
1793 007112 000000 000000 000000 .WORD    045713,045704    ; FPS: BEFORE, AFTER
1794 007114 045713 045704 .WORD    NA          ; FEC AFTER ( 0 = N/A )
1795 007120 000000
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1811 007166 043757 043740      .WORD    043757,043740    ; FPS: BEFORE, AFTER
1812 007172 000000      .WORD    NA          ; FEC AFTER ( 0 = N/A )
1813
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1820 007174 000004      ;*****
1821 007176 012705 007210      ;TEST 76      TEST OF ADDD INSTR, DATA SET ADDD-23
1822 007202 004737 034034      ;*          OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
1823                                LONG FLOAT, SHORT INTEGER, ROUND MODES
1824                                ;*****
1825 TST76: SCOPE
1826      MOV      $ADDD23,R5      ; PTR TO TEST DATA SET
1827      JSR      PC,$ADDDT      ; GO TEST
1828
1829      BR       TST77          ;;
1830
1831 007206 000417      ADDD23: ; TEST DATA SET ADDD-23:
1832 007210 077777 177777 177777 .WORD    LGP,M1,M1,M1      ; INITIAL AC FLOAT NUMBER
1833 007216 177777 177777 177777 .WORD    LGP,M1,M1,M1      ; INITIAL MEM FLOAT NUMBER
1834 007220 177777 177777 177777 .WORD    LGP,M1,M1,M1      ; INITIAL MEM FLOAT NUMBER
1835 007226 177777 177777 177777 .WORD    0,0,0,0 ; EXPECTED FLOAT RESULT
1836 007230 000000 000000 000000 .WORD    0,0,0,0 ; EXPECTED FLOAT RESULT
1837 007236 000000 000000 000000 .WORD    046611,046600    ; FPS: BEFORE, AFTER
1838 007240 046611 046600 .WORD    NA          ; FEC AFTER ( 0 = N/A )
1839 007244 000000
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1843 007246 000004
1844 007250 012705 007262
1845 007254 004737 034224
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1847 007260 000411
1848
1849 007262
1850 007262 000000 000000
1851 007266 000000 000000
1852 007272 000000 000000
1853 007276 047413 047404
1854 007302 000000
1855
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1862 007304 000004
1863 007306 012705 007320
1864 007312 004737 034224
1865
1866 007316 000411
1867
1868 007320
1869 007320 000177 177777
1870 007324 000177 125252
1871 007330 000000 000000
1872 007334 047453 047444
1873 007340 000000
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1881 007342 000004
1882 007344 012705 007356
1883 007350 004737 034224
1884
1885 007354 000411
1886
1887 007356
1888 007356 000177 052525
1889 007362 000345 123456
1890 007366 000345 123456
1891 007372 047517 047500
1892 007376 000000
1893

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*****
*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,0#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,0#SUBFT ; GO TEST
BR TST101 ;

SUBF2: ; TEST DATA SET SUBF-2:
.WORD 2X1MP,M1 ; INITIAL AC FLOAT NUMBER
.WORD 2X1MP,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,0#SUBFT ; GO TEST
BR TST102 ;

SUBF3: ; TEST DATA SET SUBF-3:
.WORD 2X1MP,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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1900 007400 000004
1901 007402 012705 007414
1902 007406 004737 034224
1903
1904 007412 000411
1905
1906 007414
1907 007414 000200 000000
1908 007420 000200 000000
1909 007424 000000 000000
1910 007430 047553 047544
1911 007434 000000
1912
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1914
1915
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1918
1919 007436 000004
1920 007440 012705 007452
1921 007444 004737 034224
1922
1923 007450 000411
1924
1925 007452
1926 007452 100200 000000
1927 007456 100200 000000
1928 007462 000000 000000
1929 007466 047413 047404
1930 007472 000000
1931
1932
1933
1934
1935
1936
1937
1938 007474 000004
1939 007476 012705 007510
1940 007502 004737 034224
1941
1942 007506 000411
1943
1944 007510
1945 007510 150365 052525
1946 007514 047252 125252
1947 007520 150377 177777
1948 007524 047447 047450
1949 007530 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,0#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,0#SUBFT ; GO TEST
BR TST104 ;

SUBF5: ; TEST DATA SET SUBF-5:
.WORD FIP,0 ; INITIAL AC FLOAT NUMBER
.WORD FIP,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,0#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 )

*****

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1950
1951
1952
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1957 007532 000004
1958 007534 012705 007546
1959 007540 004737 034224
1960
1961 007544 000411
1962
1963 007546
1964 007546 050365 052525
1965 007552 147252 125252
1966 007556 050400 000000
1967 007562 047517 047500
1968 007566 000000
1969
1970
1971
1972
1973
1974
1975
1976 007570 000004
1977 007572 012705 007604
1978 007576 004737 034224
1979
1980 007602 000411
1981
1982 007604
1983 007604 077777 177777
1984 007610 100177 177777
1985 007614 077777 177777
1986 007620 047555 147555
1987 007624 100014
1988
1989
1990
1991
1992
1993
1994
1995 007626 000004
1996 007630 012705 007642
1997 007634 004737 034224
1998
1999 007640 000411
2000
2001 007642
2002 007642 077777 177777
2003 007646 100177 177777
2004 007652 077777 177777
2005 007656 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,R5 ; 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,R5 ; 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 EX1MN,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  
;* 00 INTERRUPT ENABLE OFF, ALL OTHERS ON  
;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****  
TST107: SCOPE  
MOV #SUBF11,R5 ; 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 EX1MN,M1 ; INITIAL MEM FLOAT NUMBER  
;WORD LGP,M1 ; EXPECTED FLOAT RESULT  
;WORD 043457,043440 ; FPS: BEFORE, AFTER
```

2006 007662 000000
2007
2008
2009
2010
2011
2012
2013
2014 007664 000004
2015 007666 012705 007700
2016 007672 004737 034224
2017
2018 007676 000411
2019
2020 007700
2021 007700 177777 177777
2022 007704 071600 000000
2023 007710 177777 177777
2024 007714 047447 047450
2025 007720 000000
2026
2027
2028
2029
2030
2031
2032
2033 007722 000004
2034 007724 012705 007736
2035 007730 004737 034224
2036
2037 007734 000411
2038
2039 007736
2040 007736 177777 177777
2041 007742 071600 000000
2042 007746 100000 000000
2043 007752 047501 147516
2044 007756 100010
2045
2046
2047
2048
2049
2050
2051
2052 007760 000004
2053 007762 012705 007774
2054 007766 004737 034224
2055
2056 007772 000411
2057
2058 007774
2059 007774 177777 177777
2060 010000 071600 000000
2061 010004 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 M0,0 ; EXPECTED FLOAT RESULT
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2062 010010 046511 046506
2063 010014 000000
2064
2065
2066
2067
2068
2069
2070
2071 010016 000004
2072 010020 012705 010032
2073 010024 004737 034224
2074
2075 010030 000411
2076
2077 010032
2078 010032 004200 000000
2079 010036 004200 000001
2080 010042 176400 000000
2081 010046 047447 147450
2082 010052 100012
2083
2084
2085
2086
2087
2088
2089
2090 010054 000004
2091 010056 012705 010070
2092 010062 004737 034224
2093
2094 010066 000411
2095
2096 010070
2097 010070 004200 000000
2098 010074 004200 000001
2099 010100 000000 000000
2100 010104 045453 045444
2101 010110 000000
2102
2103
2104

;*TEST 113 TEST OF SUBF INSTR, DATA SET SUBF-14
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES

TST113: SCOPE
MOV #SUBF15,R5 ; PTR TO TEST DATA SET
JSR PC,00SUBFT ; 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 = N7A)

;*TEST 114 TEST OF SUBF INSTR, DATA SET SUBF-10
;* 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,00SUBFT ; 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 = N7A)

2105
2106
2107
2108
2109
2110 010112 000004
2111 010114 012705 010126
2112 010120 004737 034374
2113
2114 010124 000417
2115
2116 010126
2117 010126 000000 000000 000000
2118 010134 000000
2119 010136 000000 000000 000000
2120 010144 000000
2121 010146 000000 000000 000000
2122 010154 000000
2123 010156 047753 047744
2124 010162 000000
2125
2126
2127
2128
2129
2130
2131
2132 010164 000004
2133 010166 012705 010200
2134 010172 004737 034374
2135
2136 010176 000417
2137
2138 010200
2139 010200 000177 052525 052525
2140 010206 052525
2141 010210 000177 177777 177777
2142 010216 177777
2143 010220 000000 000000 000000
2144 010226 000000
2145 010230 047713 047704
2146 010234 000000
2147
2148
2149
2150
2151
2152
2153
2154 010236 000004
2155 010240 012705 010252
2156 010244 004737 034374
2157
2158 010250 000417
2159
2160 010252

;*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,00SUBD1 ; 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 = N7A)

;*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,00SUBD1 ; GO TEST
BR TST117 ;
SUBD2: ; TEST DATA SET SUBD-2:
.WORD EX1MP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD EX1MP,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 = N7A)

;*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,00SUBD1 ; GO TEST
BR TST120 ;
SUBD3: ; TEST DATA SET SUBD-3:

```
2161 010252 000000 000000 000000 .WORD 0,0,0,0 ; INITIAL AC FLOAT NUMBER
2162 010260 000000 000000 000000 .WORD 012345,M1,ALTN,M0 ; INITIAL MEM FLOAT NUMBER
2163 010262 012345 177777 125252 .WORD 012345,M1,ALTN,M0 ; INITIAL MEM FLOAT NUMBER
2164 010270 100000 000000 000000 .WORD 112345,M1,ALTN,M0 ; EXPECTED FLOAT RESULT
2165 010272 112345 177777 125252 .WORD 112345,M1,ALTN,M0 ; EXPECTED FLOAT RESULT
2166 010300 100000 000000 000000 .WORD 047647,047650 ; FPS: BEFORE, AFTER
2167 010302 047647 047650 .WORD NA ; FEC AFTER ( 0 = N/A )
2168 010306 000000 000000 000000
2169
2170
2171
2172 *****
2173 ;*TEST 120 TEST OF SUBD INSTR, DATA SET SUBD=4
2174 ;* ALL INTERRUPT ENABLES ON
2175 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2176 *****
2177 TST120: SCOPE
2178 MOV #SUBD4,R5 ; PTR TO TEST DATA SET
2179 JBR PC,#SUBDT ; GO TEST
2180
2181 BR TST121 ;;
2182
2183 SUBD4: ; TEST DATA SET SUBD=4
2184 .WORD FIN,0,0,0 ; INITIAL AC FLOAT NUMBER
2185 .WORD FIN,0,0,0 ; INITIAL MEM FLOAT NUMBER
2186 .WORD FIN,0,0,0 ; INITIAL MEM FLOAT NUMBER
2187 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
2188 .WORD 047753,047744 ; FPS: BEFORE, AFTER
2189 .WORD NA ; FEC AFTER ( 0 = N/A )
2190
2191
2192
2193 *****
2194 ;*TEST 121 TEST OF SUBD INSTR, DATA SET SUBD=5
2195 ;* ALL INTERRUPT ENABLES ON
2196 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
2197 *****
2198 TST121: SCOPE
2199 MOV #SUBD5,R5 ; PTR TO TEST DATA SET
2200 JBR PC,#SUBDT ; GO TEST
2201
2202 BR TST122 ;;
2203
2204 SUBD5: ; TEST DATA SET SUBD=5
2205 .WORD FIP,0,0,0 ; INITIAL AC FLOAT NUMBER
2206 .WORD FIP,0,0,0 ; INITIAL MEM FLOAT NUMBER
2207 .WORD FIP,0,0,0 ; INITIAL MEM FLOAT NUMBER
2208 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
2209 .WORD 047613,047604 ; FPS: BEFORE, AFTER
2210 .WORD NA ; FEC AFTER ( 0 = N/A )
2211
2212
2213
2214 *****
2215 ;*TEST 122 TEST OF SUBD INSTR, DATA SET SUBD=6
2216 *****
```

```
2217
2218
2219 ;* ALL INTERRUPT ENABLES ON
2220 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
2221 *****
2222 TST122: SCOPE
2223 MOV #SUBD6,R5 ; PTR TO TEST DATA SET
2224 JBR PC,#SUBDT ; GO TEST
2225
2226 BR TST123 ;;
2227
2228 SUBD6: ; TEST DATA SET SUBD=6
2229 .WORD 037252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
2230 .WORD 140365,ALTP,ALTP,ALTP ; INITIAL MEM FLOAT NUMBER
2231 .WORD 040377,M1,M1,M1 ; EXPECTED FLOAT RESULT
2232 .WORD 047757,047740 ; FPS: BEFORE, AFTER
2233 .WORD NA ; FEC AFTER ( 0 = N/A )
2234
2235
2236
2237 *****
2238 ;*TEST 123 TEST OF SUBD INSTR, DATA SET SUBD=7
2239 ;* ALL INTERRUPT ENABLES ON
2240 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
2241 *****
2242 TST123: SCOPE
2243 MOV #SUBD7,R5 ; PTR TO TEST DATA SET
2244 JBR PC,#SUBDT ; GO TEST
2245
2246 BR TST124 ;;
2247
2248 SUBD7: ; TEST DATA SET SUBD=7
2249 .WORD 137252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
2250 .WORD 040365,ALTP,ALTP,ALTP ; INITIAL MEM FLOAT NUMBER
2251 .WORD 140400,0,0,0 ; EXPECTED FLOAT RESULT
2252 .WORD 047607,047610 ; FPS: BEFORE, AFTER
2253 .WORD NA ; FEC AFTER ( 0 = N/A )
2254
2255
2256
2257 *****
2258 ;*TEST 124 TEST OF SUBD INSTR, DATA SET SUBD=10
2259 ;* ALL INTERRUPT ENABLES ON
2260 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
2261 *****
2262 TST124: SCOPE
2263 MOV #SUBD10,R5 ; PTR TO TEST DATA SET
2264 JBR PC,#SUBDT ; GO TEST
2265
2266 BR TST125 ;;
2267
2268 SUBD10: ; TEST DATA SET SUBD=10
2269 .WORD LGN,M1,0,M1 ; INITIAL AC FLOAT NUMBER
2270
2271
2272
```

```
2273 010604 100000 000000 177777 .WORD M0,0,M1,0 ; INITIAL MEM FLOAT NUMBER
2274 010612 000000 177777 000000 .WORD LGN,M1,0,M1 ; EXPECTED FLOAT RESULT
2275 010614 177777 177777 000000 .WORD 047603,147603 ; FPS: BEFORE, AFTER
2276 010622 177777 .WORD 100014 ; FEC AFTER ( 0 = N/A )
2277 010624 047603 147603
2278 010630 100014
2279
2280
2281
2282
2283
2284
2285
2286 010632 000004
2287 010634 012705 010646
2288 010640 004737 034374
2289
2290 010644 000417
2291
2292 010646
2293 010646 177777 177777 000000 SUBD111 ; TEST DATA SET SUBD-111;
2294 010654 177777 .WORD LGN,M1,0,M1 ; INITIAL AC FLOAT NUMBER
2295 010656 100000 177777 .WORD M0,0,M1,0 ; INITIAL MEM FLOAT NUMBER
2296 010664 000000 .WORD LGN,M1,0,M1 ; EXPECTED FLOAT RESULT
2297 010666 177777 177777 000000
2298 010674 177777
2299 010676 043707 043710
2300 010702 000000 .WORD 043707,043710 ; FPS: BEFORE, AFTER
2301 .WORD NA ; FEC AFTER ( 0 = N/A )
2302
2303
2304
2305
2306
2307
2308 010704 000004
2309 010706 012705 010720
2310 010712 004737 034374
2311
2312 010716 000417
2313
2314 010720
2315 010720 104200 000000 000000 SUBD121 ; TEST DATA SET SUBD-121;
2316 010726 000000 .WORD 104200,0,0,0 ; INITIAL AC FLOAT NUMBER
2317 010730 104200 000000 000000 .WORD 104200,0,0,1 ; INITIAL MEM FLOAT NUMBER
2318 010736 000001 .WORD 066400,0,0,0 ; EXPECTED FLOAT RESULT
2319 010740 066400 000000 000000
2320 010746 000000 .WORD 047717,147700 ; FPS: BEFORE, AFTER
2321 010750 047717 147700 .WORD 100012 ; FEC AFTER ( 0 = N/A )
2322 010754 100012
2323
2324
2325
2326
2327
2328
2329
2330 010756 000004
2331 010760 012705 010772
2332 010764 004737 034374
2333
2334 010770 000417
2335
2336 010772
2337 010772 104200 000000 000000 SUBD131 ; TEST DATA SET SUBD-131;
2338 011000 000001 .WORD 104200,0,0,1 ; INITIAL AC FLOAT NUMBER
2339 011002 104200 000000 000000 .WORD 104200,0,0,0 ; INITIAL MEM FLOAT NUMBER
2340 011010 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
2341 011012 000000 000000 000000
2342 011020 000000 .WORD 045713,045704 ; FPS: BEFORE, AFTER
2343 011022 045713 045704 .WORD NA ; FEC AFTER ( 0 = N/A )
2344 011026 000000
2345
2346
2347
2348
2349
2350
2351
2352 011030 000004
2353 011032 012705 011044
2354 011036 004737 034374
2355
2356 011042 000417
2357
2358 011044
2359 011044 077777 177777 177777 SUBD141 ; TEST DATA SET SUBD-141;
2360 011052 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2361 011054 101000 000000 000000 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
2362 011062 000000 .WORD LGP,M1,M1,M1 ; EXPECTED FLOAT RESULT
2363 011064 077777 177777 177777
2364 011072 177777 .WORD 047757,047740 ; FPS: BEFORE, AFTER
2365 011074 047757 047740 .WORD NA ; FEC AFTER ( 0 = N/A )
2366 011100 000000
2367
2368
2369
2370
2371
2372
2373
2374 011102 000004
2375 011104 012705 011116
2376 011110 004737 034374
2377
2378 011114 000417
2379
2380 011116
2381 011116 077777 177777 177777 SUBD151 ; TEST DATA SET SUBD-151;
2382 011124 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2383 011126 101000 000000 000000 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
2384 011134 000000
```

```
2329
2330 010756 000004
2331 010760 012705 010772
2332 010764 004737 034374
2333
2334 010770 000417
2335
2336 010772
2337 010772 104200 000000 000000 SUBD131 ; TEST DATA SET SUBD-131;
2338 011000 000001 .WORD 104200,0,0,1 ; INITIAL AC FLOAT NUMBER
2339 011002 104200 000000 000000 .WORD 104200,0,0,0 ; INITIAL MEM FLOAT NUMBER
2340 011010 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
2341 011012 000000 000000 000000
2342 011020 000000 .WORD 045713,045704 ; FPS: BEFORE, AFTER
2343 011022 045713 045704 .WORD NA ; FEC AFTER ( 0 = N/A )
2344 011026 000000
2345
2346
2347
2348
2349
2350
2351
2352 011030 000004
2353 011032 012705 011044
2354 011036 004737 034374
2355
2356 011042 000417
2357
2358 011044
2359 011044 077777 177777 177777 SUBD141 ; TEST DATA SET SUBD-141;
2360 011052 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2361 011054 101000 000000 000000 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
2362 011062 000000 .WORD LGP,M1,M1,M1 ; EXPECTED FLOAT RESULT
2363 011064 077777 177777 177777
2364 011072 177777 .WORD 047757,047740 ; FPS: BEFORE, AFTER
2365 011074 047757 047740 .WORD NA ; FEC AFTER ( 0 = N/A )
2366 011100 000000
2367
2368
2369
2370
2371
2372
2373
2374 011102 000004
2375 011104 012705 011116
2376 011110 004737 034374
2377
2378 011114 000417
2379
2380 011116
2381 011116 077777 177777 177777 SUBD151 ; TEST DATA SET SUBD-151;
2382 011124 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2383 011126 101000 000000 000000 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
2384 011134 000000
```

```
2385 011136 000000 000000 000000 .WORD 0.0,0.0 ; EXPECTED FLOAT RESULT
2386 011144 000000 000000 000000 .WORD 0.0,0.0 ; EXPECTED FLOAT RESULT
2387 011146 047611 147606 .WORD 047611,147606 ; FPS: BEFORE, AFTER
2388 011152 100010 000000 .WORD 100010 ; FEC AFTER ( 0 = N7A )
2389
2390
2391
2392 *****
2393 ;*TEST 132 TEST OF SUBD INSTR, DATA SET SUBD-10
2394 ;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2395 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
2396 *****
2396 011154 000004 TST132: SCOPE
2397 011156 012705 011170 MOV #SUBD10,R5 ; PTR TO TEST DATA SET
2398 011162 004737 034374 JSR PC,#SUBDT ; GO TEST
2399
2400 011166 000417 BR TST133 ;
2401
2402 011170 SUBD10: ; TEST DATA SET SUBD-10:
2403 011170 077777 177777 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2404 011176 177777 177777 177777 .WORD LGM,M1 ; INITIAL MEM FLOAT NUMBER
2405 011200 161600 000000 000000 .WORD 161600,0.0,0.0 ; INITIAL MEM FLOAT NUMBER
2406 011206 000000 000000 000000 .WORD 0.0,0.0 ; EXPECTED FLOAT RESULT
2407 011210 000000 000000 000000 .WORD 0.0,0.0 ; EXPECTED FLOAT RESULT
2408 011216 000000 000000 000000 .WORD 0.0,0.0 ; EXPECTED FLOAT RESULT
2409 011220 046611 046606 .WORD 046611,046606 ; FPS: BEFORE, AFTER
2410 011224 000000 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
2411
2412
```

```
2413 *****
2414 ;*TEST 133 TEST OF MULF INSTR, DATA SET MULF-1
2415 ;* ALL INTERRUPT ENABLES ON
2416 ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
2417 *****
2418 011226 000004 TST133: SCOPE
2419 011230 012705 011242 MOV #MULF1,R5 ; PTR TO TEST DATA SET
2420 011234 004737 034564 JSR PC,#MULFT ; GO TEST
2421
2422 011240 000411 BR TST134 ;
2423
2424 011242 MULF1: ; TEST DATA SET MULF-1:
2425 011242 000000 000000 000000 .WORD 0.0 ; INITIAL AC FLOAT NUMBER
2426 011246 177777 177777 177777 .WORD LGM,M1 ; INITIAL MEM FLOAT NUMBER
2427 011252 000000 000000 000000 .WORD 0.0 ; EXPECTED FLOAT RESULT
2428 011256 047413 047404 .WORD 047413,047404 ; FPS: BEFORE, AFTER
2429 011262 000000 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
2430
2431
2432 *****
2433 ;*TEST 134 TEST OF MULF INSTR, DATA SET MULF-2
2434 ;* ALL INTERRUPT ENABLES ON
2435 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
2436 *****
2437 011264 000004 TST134: SCOPE
2438 011266 012705 011300 MOV #MULF2,R5 ; PTR TO TEST DATA SET
2439 011272 004737 034564 JSR PC,#MULFT ; GO TEST
2440
2441 011276 000411 BR TST135 ;
2442
2443 011300 MULF2: ; TEST DATA SET MULF-2:
2444 011300 077777 177777 177777 .WORD LGP,M1 ; INITIAL AC FLOAT NUMBER
2445 011304 000177 177777 177777 .WORD ZX,M1,M1 ; INITIAL MEM FLOAT NUMBER
2446 011310 000000 000000 000000 .WORD 0.0 ; EXPECTED FLOAT RESULT
2447 011314 047503 047504 .WORD 047503,047504 ; FPS: BEFORE, AFTER
2448 011320 000000 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
2449
2450 *****
2451 ;*TEST 135 TEST OF MULF INSTR, DATA SET MULF-3
2452 ;* ALL INTERRUPT ENABLES ON
2453 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2454 *****
2455 011322 000004 TST135: SCOPE
2456 011324 012705 011336 MOV #MULF3,R5 ; PTR TO TEST DATA SET
2457 011330 004737 034564 JSR PC,#MULFT ; GO TEST
2458
2459 011334 000411 BR TST136 ;
2460
2461 011336 MULF3: ; TEST DATA SET MULF-3:
2462 011336 123652 125252 .WORD 123652,ALTN ; INITIAL AC FLOAT NUMBER
2463 011342 017500 000000 000000 .WORD 017500,000000 ; INITIAL MEM FLOAT NUMBER
2464 011346 103177 177777 177777 .WORD 103177,M1 ; EXPECTED FLOAT RESULT
2465 011352 047447 047450 .WORD 047447,047450 ; FPS: BEFORE, AFTER
2466 011356 000000 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
2467
2468
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2469
2470
2471
2472
2473
2474
2475 011360 000004
2476 011362 012705 011374
2477 011366 004737 034564
2478
2479 011372 000411
2480
2481 011374
2482 011374 217500 000000
2483 011400 023652 125252
2484 011404 003177 177777
2485 011410 047417 047400
2486 011414 000000
2487
2488
2489
2490
2491
2492
2493
2494 011416 000004
2495 011420 012705 011432
2496 011424 004737 034564
2497
2498 011430 000411
2499
2500 011432
2501 011432 036400 000001
2502 011436 106777 177776
2503 011442 105177 177777
2504 011446 047547 047550
2505 011452 000000
2506
2507
2508
2509
2510
2511
2512
2513 011454 000004
2514 011456 012705 011470
2515 011462 004737 034564
2516
2517 011466 000411
2518
2519 011470
2520 011470 036400 000001
2521 011474 106777 177776
2522 011500 105200 000000
2523 011504 047407 047410
2524 011510 000000

```

*****
*TEST 136 TEST OF MULF INSTR, DATA SET MULF-4
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST136: 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 = N7A )

*****
*TEST 137 TEST OF MULF INSTR, DATA SET MULF-5
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST137: 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 = N7A )

*****
*TEST 140 TEST OF MULF INSTR, DATA SET MULF-6
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST140: 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 = N7A )

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2525
2526
2527
2528
2529
2530
2531
2532 011512 000004
2533 011514 012705 011526
2534 011520 004737 034564
2535
2536 011524 000411
2537
2538 011526
2539 011526 106277 000000
2540 011532 000000 000001
2541 011536 106077 000001
2542 011542 047407 047410
2543 011546 000000
2544
2545
2546
2547
2548
2549
2550
2551 011550 000004
2552 011552 012705 011564
2553 011556 004737 034564
2554
2555 011562 000411
2556
2557 011564
2558 011564 000000 000001
2559 011570 040277 000000
2560 011574 000077 000001
2561 011600 047457 047460
2562 011604 000000
2563
2564
2565
2566
2567
2568
2569
2570 011606 000004
2571 011610 012705 011622
2572 011614 004737 034564
2573
2574 011620 000411
2575
2576 011622
2577 011622 106300 000000
2578 011626 100000 000001
2579 011632 000100 000002
2580 011636 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 106277,000000    ; INITIAL AC FLOAT NUMBER
      .WORD 000000,000001    ; INITIAL MEM FLOAT NUMBER
      .WORD 106077,000001    ; EXPECTED FLOAT RESULT
      .WORD 047407,047410    ; FPS: BEFORE, AFTER
      .WORD NA                ; FEC AFTER ( 0 = N7A )

*****
*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 000000,000001    ; INITIAL AC FLOAT NUMBER
      .WORD 040277,000000    ; INITIAL MEM FLOAT NUMBER
      .WORD 000077,000001    ; EXPECTED FLOAT RESULT
      .WORD 047457,047460    ; FPS: BEFORE, AFTER
      .WORD NA                ; FEC AFTER ( 0 = N7A )

*****
*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 106300,000000    ; INITIAL AC FLOAT NUMBER
      .WORD 100000,000001    ; INITIAL MEM FLOAT NUMBER
      .WORD 000100,000002    ; EXPECTED FLOAT RESULT
      .WORD 047517,047500    ; FPS: BEFORE, AFTER

```

```
2581 011642 000000      ,WORD NA      ; FEC AFTER ( 0 = N/A )
2582
2583
2584
2585
2586
2587
2588
2589 011644 000004      ;*****
2590 011646 012705 011660 ;*TEST 144 TEST OF MULF INSTR, DATA SET MULF-12
2591 011652 004737 034564 ;* ALL INTERRUPT ENABLES ON
2592 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2593 011656 000411      ;*****
2594
2595 011660
2596 011660 000000 000001
2597 011664 140300 000000
2598 011670 100100 000001
2599 011674 047547 047550
2600 011700 000000
2601
2602
2603
2604
2605
2606
2607
2608 011702 000004      ;*****
2609 011704 012705 011716 ;*TEST 145 TEST OF MULF INSTR, DATA SET MULF-13
2610 011710 004737 034564 ;* ALL INTERRUPT ENABLES ON
2611 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
2612 011714 000411      ;*****
2613
2614 011716
2615 011716 002177 177777
2616 011722 002177 177777
2617 011726 044177 177776
2618 011732 047513 147500
2619 011736 100012
2620
2621
2622
2623
2624
2625
2626
2627 011740 000004      ;*****
2628 011742 012705 011754 ;*TEST 146 TEST OF MULF INSTR, DATA SET MULF-14
2629 011746 004737 034564 ;* ALL INTERRUPT ENABLES ON
2630 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2631 011752 000411      ;*****
2632
2633 011754
2634 011754 170000 000000
2635 011760 050200 000000
2636 011764 100000 000000
2637
2638
2639
2640
2641
2642
2643
2644
2645
2646 011770 000004      ;*****
2647 011772 012705 012012 ;*TEST 147 TEST OF MULF INSTR, DATA SET MULF-15
2648 011774 004737 034564 ;* ALL INTERRUPT ENABLES ON
2649 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2650 012010 000411      ;*****
2651
2652 012012
2653 012012 177777 177777
2654 012016 100177 177777
2655 012022 177777 177777
2656 012026 047447 147447
2657 012032 100014
2658
2659
2660
2661
2662
2663
2664
2665 012034 000004      ;*****
2666 012036 012705 012050 ;*TEST 150 TEST OF MULF INSTR, DATA SET MULF-16
2667 012042 004737 034564 ;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2668 ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
2669 012046 000411      ;*****
2670
2671 012050
2672 012050 000377 000000
2673 012054 070000 000000
2674 012060 000000 000000
2675 012064 046411 046406
2676 012070 000000
2677
2678
2679
2680
2681
2682
2683
2684 012072 000004      ;*****
2685 012074 012705 012106 ;*TEST 151 TEST OF MULF INSTR, DATA SET MULF-17
2686 012100 004737 034564 ;* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2687 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2688 012104 000411      ;*****
2689
2690 012106
2691 012106 002177 177777
2692 012112 002177 177777
```

```
2637 011770 047441 147456      ,WORD 047441,147456 ; FFS: BEFORE, AFTER
2638 011774 100010      ,WORD 100010 ; FEC AFTER ( 0 = N/A )
2639
2640
2641
2642
2643
2644
2645
2646 011776 000004      ;*****
2647 012000 012705 012012 ;*TEST 147 TEST OF MULF INSTR, DATA SET MULF-15
2648 012004 004737 034564 ;* ALL INTERRUPT ENABLES ON
2649 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
2650 012010 000411      ;*****
2651
2652 012012
2653 012012 177777 177777
2654 012016 100177 177777
2655 012022 177777 177777
2656 012026 047447 147447
2657 012032 100014
2658
2659
2660
2661
2662
2663
2664
2665 012034 000004      ;*****
2666 012036 012705 012050 ;*TEST 150 TEST OF MULF INSTR, DATA SET MULF-16
2667 012042 004737 034564 ;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2668 ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
2669 012046 000411      ;*****
2670
2671 012050
2672 012050 000377 000000
2673 012054 070000 000000
2674 012060 000000 000000
2675 012064 046411 046406
2676 012070 000000
2677
2678
2679
2680
2681
2682
2683
2684 012072 000004      ;*****
2685 012074 012705 012106 ;*TEST 151 TEST OF MULF INSTR, DATA SET MULF-17
2686 012100 004737 034564 ;* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
2687 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
2688 012104 000411      ;*****
2689
2690 012106
2691 012106 002177 177777
2692 012112 002177 177777
```

2693 012116 000000 000000
2694 012122 045553 045544
2695 012126 000000
2696
2697
2698
2699
2700
2701
2702
2703 012130 000004
2704 012132 012705 012144
2705 012136 004737 034564
2706
2707 012142 000411
2708
2709 012144
2710 012144 052525 052525
2711 012150 100000 177777
2712 012154 000000 000000
2713 012160 043513 043504
2714 012164 000000
2715
2716
2717

.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 045553,045544 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N7A)

;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,0#MULFT ; GO TEST
BR TST153 ;

MULF20: ; TEST DATA SET MULF-20:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD MM,M1 ; INITIAL MEM FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 043513,043504 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER (0 = N7A)

2718
2719
2720
2721
2722
2723 012166 000004
2724 012174 012705 012202
2725 012174 004737 034734
2726
2727 012200 000417
2728
2729 012202
2730 012202 077777 177777 177777
2731 012210 177777
2732 012212 000000 000000 000000
2733 012220 000000
2734 012222 000000 000000
2735 012224 000000
2736 012232 047713 047704
2737 012230 000000
2738
2739
2740
2741
2742
2743
2744
2745 012240 000004
2746 012242 012705 012254
2747 012246 004737 034734
2748
2749 012252 000417
2750
2751 012254
2752 012254 000177 177777 177777
2753 012262 177777
2754 012264 177777 177777 177777
2755 012272 177777
2756 012274 000000 000000 000000
2757 012302 000000
2758 012304 047603 047604
2759 012310 000000
2760
2761
2762
2763
2764
2765
2766
2767 012312 000004
2768 012314 012705 012326
2769 012320 004737 034734
2770
2771 012324 000417
2772
2773 012326

;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,0#MULDT ; 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 = N7A)

;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,0#MULDT ; GO TEST
BR TST155 ;

MULD2: ; TEST DATA SET MULD-2:
.WORD EX1MP,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 = N7A)

;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,0#MULDT ; GO TEST
BR TST156 ;

MULD3: ; TEST DATA SET MULD-3:


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FPU ADVANCED INSTR TESTS          MAC111 47(1006) 25-APR-77 00119 PAGE 60
DQFPBH.P11 19-APR-77 13137      T102    TEST OF MULD INSTR, DATA SET MULD-10
                                           SEQ 0227

2886 012660 034200 000000 000000 .WORD 034200,0,0,1 ; INITIAL MEM FLOAT NUMBER
2887 012666 000001 000000 .WORD 134277,0,0,1 ; EXPECTED FLOAT RESULT
2888 012670 134277 000000 000000 .WORD 047607,047610 ; FPS: BEFORE, AFTER
2889 012676 000001 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
2890 012700 047607 047610
2891 012704 000000
2892
2893
2894
2895
2896
2897
2898
2899 012706 000004
2900 012710 012705 012722
2901 012714 004737 034734
2902
2903 012720 000417
2904
2905 012722
2906 012722 040300 000000 000000 MULD111 ; TEST DATA SET MULD-111
2907 012730 000000 .WORD 040300,0,0,0 ; INITIAL AC FLOAT NUMBER
2908 012732 134200 000000 000000 .WORD 134200,0,0,1 ; INITIAL MEM FLOAT NUMBER
2909 012740 000001 000000 000000 .WORD 134300,0,0,1 ; EXPECTED FLOAT RESULT
2910 012742 134300 000000 000000 .WORD 047747,047750 ; FPS: BEFORE, AFTER
2911 012750 000001 047750 .WORD NA ; FEC AFTER ( 0 = N7A )
2912 012752 047747
2913 012756 000000
2914
2915
2916
2917
2918
2919
2920
2921 012760 000004
2922 012762 012705 012774
2923 012766 004737 034734
2924
2925 012772 000417
2926
2927 012774
2928 012774 140300 000000 000000 MULD121 ; TEST DATA SET MULD-121
2929 013002 000000 .WORD 140300,0,0,0 ; INITIAL AC FLOAT NUMBER
2930 013004 134200 000000 000000 .WORD 134200,0,0,1 ; INITIAL MEM FLOAT NUMBER
2931 013012 000001 000000 000000 .WORD 034300,0,0,2 ; EXPECTED FLOAT RESULT
2932 013014 034300 000000 000000 .WORD 047717,047700 ; FPS: BEFORE, AFTER
2933 013022 000002 047700 .WORD NA ; FEC AFTER ( 0 = N7A )
2934 013024 047717
2935 013030 000000
2936
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2938
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FPU ADVANCED INSTR TESTS          MAC111 47(1006) 25-APR-77 09119 PAGE 61
DQFPBH.P11 19-APR-77 13137      T105    TEST OF MULD INSTR, DATA SET MULD-11
                                           SEQ 0228

2942
2943 013032 000004
2944 013034 012705 013046
2945 013040 004737 034734
2946
2947 013044 000417
2948
2949 013046
2950 013046 177777 177777 177777 MULD131 ; TEST DATA SET MULD-131
2951 013054 177777 .WORD LGN,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2952 013056 177777 177777 177777 .WORD LGN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2953 013064 177777 .WORD 037577,M1,M1,M2 ; EXPECTED FLOAT RESULT
2954 013066 037577 177777 177777 .WORD 047655,147642 ; FPS: BEFORE, AFTER
2955 013074 177776 147642 .WORD 100010 ; FEC AFTER ( 0 = N7A )
2956 013076 047655
2957 013102 100010
2958
2959
2960
2961
2962
2963
2964
2965 013104 000004
2966 013106 012705 013120
2967 013112 004737 034734
2968
2969 013116 000417
2970
2971 013120
2972 013120 077777 177777 177777 MULD141 ; TEST DATA SET MULD-141
2973 013126 177777 .WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2974 013130 077777 177777 177777 .WORD LGP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2975 013136 177777 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
2976 013140 000000 000000 000000 .WORD 046751,046746 ; FPS: BEFORE, AFTER
2977 013146 000000 046746 .WORD NA ; FEC AFTER ( 0 = N7A )
2978 013150 046751
2979 013154 000000
2980
2981
2982
2983
2984
2985
2986
2987 013156 000004
2988 013160 012705 013172
2989 013164 004737 034734
2990
2991 013170 000417
2992
2993 013172
2994 013172 003177 177777 177777 MULD151 ; TEST DATA SET MULD-151
2995 013200 177777 .WORD 003177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
2996 013202 101177 177777 177777 .WORD 101177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
2997 013210 177777

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```
2998 013212 144177 177777 177777 .WORD 144177,M1,M1,M2 ; EXPECTED FLOAT RESULT
2999 013220 177776 .WORD 047647,147650 ; FPS: BEFORE, AFTER
3000 013222 047647 147650 .WORD 100012 ; FEC AFTER ( 0 = N7A )
3001 013226 100012
3002
3003
3004
3005
3006
3007
3008
3009 013230 000004
3010 013232 012705 013244
3011 013236 004737 034734
3012
3013 013242 000417
3014
3015 013244
3016 013244 123177 177777 177777 MULD16: ; TEST DATA SET MULD-16:
3017 013252 177777 .WORD 103177,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
3018 013254 001177 177777 177777 .WORD 001177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
3019 013262 177777 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
3020 013264 000000 000000 000000
3021 013272 000000
3022 013274 045713 045704 .WORD 045713,045704 ; FPS: BEFORE, AFTER
3023 013300 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
3024
3025
3026
3027
3028
3029
3030
3031 013302 000004
3032 013304 012705 013316
3033 013310 004737 034734
3034
3035 013314 000417
3036
3037 013316
3038 013316 052525 052525 052525 MULD17: ; TEST DATA SET MULD-17:
3039 013324 052525 .WORD ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
3040 013326 100177 177777 177777 .WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
3041 013334 177777 .WORD ALTP,ALTP,ALTP,ALTP ; EXPECTED FLOAT RESULT
3042 013336 052525 052525 052525
3043 013344 052525
3044 013346 047657 147657 .WORD 047657,147657 ; FPS: BEFORE, AFTER
3045 013352 100014 .WORD 100014 ; FEC AFTER ( 0 = N7A )
3046
3047
3048
3049
3050
3051
3052
3053 013354 000004
3054
3055
3056
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3054 013356 012705 013370
3055 013362 004737 034734
3056
3057 013366 000417
3058
3059 013370
3060 013370 125252 125252 125252 MULD20: ; TEST DATA SET MULD-20:
3061 013376 125252 .WORD ALTN,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
3062 013400 100000 177777 052525 .WORD M0,M1,ALTP,ALTN ; INITIAL MEM FLOAT NUMBER
3063 013406 125252 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
3064 013410 000000 000000 000000
3065 013416 000000
3066 013420 043753 043744 .WORD 043753,043744 ; FPS: BEFORE, AFTER
3067 013424 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
3068
3069
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3070
3071
3072
3073
3074
3075 013426 000004
3076 013430 012705 013442
3077 013434 004737 035124
3078
3079 013440 000411
3080
3081 013442
3082 013442 103177 177777
3083 013446 023052 125252
3084 013452 117500 000000
3085 013456 047447 047450
3086 013462 000000
3087
3088
3089
3090
3091
3092
3093
3094 013464 000004
3095 013466 012705 013500
3096 013472 004737 035124
3097
3098 013476 000411
3099
3100 013500
3101 013500 052525 052525
3102 013504 000000 000000
3103 013510 052525 052525
3104 013514 047517 147517
3105 013520 100004
3106
3107
3108
3109
3110
3111
3112
3113 013522 000004
3114 013524 012705 013536
3115 013530 004737 035124
3116
3117 013534 000411
3118
3119 013536
3120 013536 140400 000000
3121 013542 040500 000000
3122 013546 140052 125252
3123 013552 047447 047450
3124 013556 000000
3125

```

```

;*****
;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
JSH PC,#DIVFT ; GO TEST
BR TST174 ;;
DIVF1: ; TEST DATA SET DIVF-1:
.WORD 103177,M1 ; INITIAL AC FLOAT NUMBER
.WORD 023052,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
JSH PC,#DIVFT ; GO TEST
BR TST175 ;;
DIVF2: ; TEST DATA SET DIVF-2:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD 0,M ; 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
JSH 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 )
;*****
;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
JSH 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
JSH PC,#DIVFT ; GO TEST
BR TST200 ;;
DIVF5: ; TEST DATA SET DIVF-5:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD ALTP,ALTP ; 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
JSH PC,#DIVFT ; GO TEST
BR TST201 ;;
DIVF6: ; TEST DATA SET DIVF-6:
.WORD 100400,000000 ; INITIAL AC FLOAT NUMBER
.WORD 154000,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 044000,000000 ; EXPECTED FLOAT RESULT
.WORD 047557,047540 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

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3126
3127
3128
3129
3130
3131
3132 013560 000004
3133 013562 012705 013574
3134 013566 004737 035124
3135
3136 013572 000411
3137
3138 013574
3139 013574 040400 000000
3140 013600 140500 000000
3141 013604 140052 125253
3142 013610 047507 047510
3143 013614 000000
3144
3145
3146
3147
3148
3149
3150
3151 013616 000004
3152 013620 012705 013632
3153 013624 004737 035124
3154
3155 013630 000411
3156
3157 013632
3158 013632 007417 007417
3159 013636 007417 007417
3160 013642 040200 000000
3161 013646 047417 047400
3162 013652 000000
3163
3164
3165
3166
3167
3168
3169
3170 013654 000004
3171 013656 012705 013670
3172 013662 004737 035124
3173
3174 013666 000411
3175
3176 013670
3177 013670 100400 000000
3178 013674 134000 000000
3179 013700 140000 000000
3180 013704 047557 047540
3181 013710 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
JSH 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
JSH PC,#DIVFT ; GO TEST
BR TST200 ;;
DIVF5: ; TEST DATA SET DIVF-5:
.WORD ALTP,ALTP ; INITIAL AC FLOAT NUMBER
.WORD ALTP,ALTP ; 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
JSH PC,#DIVFT ; GO TEST
BR TST201 ;;
DIVF6: ; TEST DATA SET DIVF-6:
.WORD 100400,000000 ; INITIAL AC FLOAT NUMBER
.WORD 154000,000000 ; INITIAL MEM FLOAT NUMBER
.WORD 044000,000000 ; EXPECTED FLOAT RESULT
.WORD 047557,047540 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

```

3182
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3189 013712 000004
3190 013714 012705 013726
3191 013720 004737 035124
3192
3193 013724 000411
3194
3195 013726 000177 177777
3196 013726 000177 177777
3197 013732 177777 177777
3198 013736 000000 000000
3199 013742 047453 047444
3200 013746 000000
3201
3202
3203
3204
3205
3206
3207
3208 013750 000004
3209 013752 012705 013764
3210 013756 004737 035124
3211
3212 013762 000411
3213
3214 013764
3215 013764 100077 000000
3216 013770 100277 000000
3217 013774 000000 000000
3218 014000 047517 047500
3219 014004 000000
3220
3221
3222
3223
3224
3225
3226
3227 014006 000004
3228 014010 012705 014022
3229 014014 004737 035124
3230
3231 014020 000411
3232
3233 014022
3234 014022 100077 000000
3235 014026 000277 000000
3236 014032 100000 000000
3237 014036 047447 047450

```
*****  
;TEST 201 TEST OF DIVF INSTR, DATA SET DIVF=7  
;* ALL INTERRUPT ENABLES ON  
;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****  
TST201: SCOPE  
MOV #DIVF7,R5 ; PTR TO TEST DATA SET  
JSR PC,#DIVFT ; GO TEST  
  
BR TST202 ;  
  
DIVF7: ; TEST DATA SET DIVF=7:  
;WORD 2X1MP,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 MOVES  
*****  
TST202: SCOPE  
MOV #DIVF10,R5 ; PTR TO TEST DATA SET  
JSR PC,#DIVFT ; GO TEST  
  
BR TST203 ;  
  
DIVF10: ; TEST DATA SET DIVF=10:  
;WORD 100077,000000 ; INITIAL AC FLOAT NUMBER  
;WORD 100277,000000 ; INITIAL MEM FLOAT NUMBER  
;WORD 000000,000000 ; 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  
*****  
TST203: SCOPE  
MOV #DIVF11,R5 ; PTR TO TEST DATA SET  
JSR PC,#DIVFT ; GO TEST  
  
BR TST204 ;  
  
DIVF11: ; TEST DATA SET DIVF=11:  
;WORD 100077,000000 ; INITIAL AC FLOAT NUMBER  
;WORD 000277,000000 ; INITIAL MEM FLOAT NUMBER  
;WORD 100000,000000 ; EXPECTED FLOAT RESULT  
;WORD 047447,047450 ; FPS: BEFORE, AFTER
```

3238 014042 000000
3239
3240
3241
3242
3243
3244
3245
3246 014044 000004
3247 014046 012705 014060
3248 014052 004737 035124
3249
3250 014056 000411
3251
3252 014060
3253 014060 000100 000001
3254 014064 000300 000000
3255 014070 000000 000001
3256 014074 047517 047500
3257 014100 000000
3258
3259
3260
3261
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3263
3264
3265 014102 000004
3266 014104 012705 014116
3267 014110 004737 035124
3268
3269 014114 000411
3270
3271 014116
3272 014116 000100 000001
3273 014122 100300 000000
3274 014126 100000 000000
3275 014132 047447 047450
3276 014136 000000
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3283
3284 014140 000004
3285 014142 012705 014154
3286 014146 004737 035124
3287
3288 014152 000411
3289
3290 014154
3291 014154 000177 177777
3292 014160 100177 177777
3293 014164 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 MOVES  
*****  
TST204: SCOPE  
MOV #DIVF12,R5 ; PTR TO TEST DATA SET  
JSR PC,#DIVFT ; GO TEST  
  
BR TST205 ;  
  
DIVF12: ; TEST DATA SET DIVF=12:  
;WORD 000100,000001 ; INITIAL AC FLOAT NUMBER  
;WORD 000300,000000 ; INITIAL MEM FLOAT NUMBER  
;WORD 000000,000001 ; 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 000100,000001 ; INITIAL AC FLOAT NUMBER  
;WORD 100300,000000 ; INITIAL MEM FLOAT NUMBER  
;WORD 100000,000000 ; 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 2X1MP,M1 ; INITIAL AC FLOAT NUMBER  
;WORD 2X1MN,M1 ; INITIAL MEM FLOAT NUMBER  
;WORD 2X1MP,M1 ; EXPECTED FLOAT RESULT
```

3294 014170 047543 147543
3295 014174 100014
3296
3297
3298
3299
3300
3301
3302
3303 014176 000004
3304 014200 012705 014212
3305 014204 004737 035124
3306
3307 014210 000411
3308
3309 014212
3310 014212 000177 177777
3311 014210 100177 177777
3312 014222 000177 177777
3313 014226 043413 143413
3314 014232 100004
3315
3316
3317
3318
3319
3320
3321
3322 014234 000004
3323 014236 012705 014250
3324 014242 004737 035124
3325
3326 014246 000411
3327
3328 014250
3329 014250 077777 052525
3330 014254 003777 170360
3331 014260 034177 062134
3332 014264 047515 147502
3333 014270 100010
3334
3335
3336
3337
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3339
3340
3341 014272 000004
3342 014274 012705 014306
3343 014300 004737 035124
3344
3345 014304 000411
3346
3347 014306
3348 014306 177777 052525
3349 014312 103777 170360

*TEST 207 TEST OF DIVF INSTR, DATA SET DIVF-14
*
* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES

TST207: SCOPE
MOV #DIVF15,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST210 ;
DIVF15: ; TEST DATA SET DIVF-15:
WORD ZK1NP,M1 ; INITIAL AC FLOAT NUMBER
WORD ZK1NM,M1 ; INITIAL MEM FLOAT NUMBER
WORD ZK1NP,M1 ; EXPECTED FLOAT RESULT
WORD 043413,143413 ; FPS: BEFORE, AFTER
WORD 100004 ; FEC AFTER (0 = N/A)

*TEST 210 TEST OF DIVF INSTR, DATA SET DIVF-15
*
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES

TST210: SCOPE
MOV #DIVF16,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST211 ;
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)

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

TST211: SCOPE
MOV #DIVF17,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST212 ;
DIVF17: ; TEST DATA SET DIVF-17:
WORD LGN,ALTP ; INITIAL AC FLOAT NUMBER
WORD 103777,ALT4N ; INITIAL MEM FLOAT NUMBER

3350 014316 000000 000000
3351 014322 046411 046406
3352 014326 000000
3353
3354
3355
3356
3357
3358
3359
3360 014330 000004
3361 014332 012705 014344
3362 014336 004737 035124
3363
3364 014342 000411
3365
3366 014344
3367 014344 100200 000000
3368 014350 077777 177777
3369 014354 100400 000000
3370 014360 047547 147550
3371 014364 100012
3372
3373
3374
3375
3376
3377
3378
3379 014366 000004
3380 014370 012705 014402
3381 014374 004737 035124
3382
3383 014400 000411
3384
3385 014402
3386 014402 000200 000000
3387 014406 177777 177777
3388 014412 000000 000000
3389 014416 045453 045444
3390 014422 000000
3391
3392
3393

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

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

TST212: SCOPE
MOV #DIVF20,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST213 ;
DIVF20: ; TEST DATA SET DIVF-20:
WORD SMN,0 ; INITIAL AC FLOAT NUMBER
WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
WORD 100400,000000 ; EXPECTED FLOAT RESULT
WORD 047547,147550 ; FPS: BEFORE, AFTER
WORD 100012 ; FEC AFTER (0 = N/A)

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

TST213: SCOPE
MOV #DIVF21,R5 ; PTR TO TEST DATA SET
JSR PC,#DIVFT ; GO TEST
BR TST214 ;
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)

```
3394
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3399 014424 000004
3400 014426 012705 014440
3401 014432 004737 035274
3402
3403 014436 000417
3404
3405 014440
3406 014440 000177 177777 177777
3407 014446 177777
3408 014450 077777 177777 177777
3409 014456 177777
3410 014460 000000 000000 000000
3411 014466 000000
3412 014470 047613 047604
3413 014474 000000
3414
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3421 014476 000004
3422 014500 012705 014512
3423 014504 004737 035274
3424
3425 014510 000417
3426
3427 014512
3428 014512 034277 000000 000000
3429 014520 000000
3430 014522 000277 000000 000000
3431 014530 000000
3432 014532 034200 000000 000000
3433 014540 000000
3434 014542 047717 047700
3435 014546 000000
3436
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3441
3442
3443 014550 000004
3444 014552 012705 014564
3445 014556 004737 035274
3446
3447 014562 000417
3448
3449 014564

*****
;TEST 214 TEST OF DIVD INSTR, DATA SET DIVD-1
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST214: SCOPE
MOV 0DIVD1,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST215 ;;

DIVD1: ; TEST DATA SET DIVD-1
;WORD 2XIMP,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 = N7A )

*****
;TEST 215 TEST OF DIVD INSTR, DATA SET DIVD-2
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST215: SCOPE
MOV 0DIVD2,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; 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 = N7A )

*****
;TEST 216 TEST OF DIVD INSTR, DATA SET DIVD-3
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST216: SCOPE
MOV 0DIVD3,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST217 ;;

DIVD3: ; TEST DATA SET DIVD-3
```

```
3450 014564 134277 000000 000000
3451 014572 000000
3452 014574 040277 000000 000000
3453 014602 000000
3454 014604 134200 000000 000000
3455 014612 000000
3456 014614 047647 047650
3457 014620 000000
3458
3459
3460
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3463
3464
3465 014622 000004
3466 014624 012705 014636
3467 014630 004737 035274
3468
3469 014634 000417
3470
3471 014636
3472 014636 134300 000000 000000
3473 014644 000001
3474 014646 140300 000000 000000
3475 014654 000000
3476 014656 034200 000000 000000
3477 014664 000000
3478 014666 047757 047740
3479 014672 000000
3480
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3486
3487 014674 000004
3488 014676 012705 014710
3489 014702 004737 035274
3490
3491 014706 000417
3492
3493 014710
3494 014710 034300 000000 000000
3495 014716 000001
3496 014720 140300 000000 000000
3497 014726 000000
3498 014730 134200 000000 000000
3499 014736 000001
3500 014740 047607 047610
3501 014744 000000
3502
3503
3504
3505

*****
;TEST 217 TEST OF DIVD INSTR, DATA SET DIVD-4
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST217: SCOPE
MOV 0DIVD4,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; 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 = N7A )

*****
;TEST 220 TEST OF DIVD INSTR, DATA SET DIVD-5
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST220: SCOPE
MOV 0DIVD5,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; 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 = N7A )

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

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```

3562 015116 170360 170360 .WORD ALT4N,ALT4N,ALT4N,ALT4N ; INITIAL MEM FLOAT NUMBER
3563 015124 170360 .WORD F1P,0,0,0 ; EXPECTED FLOAT RESULT
3564 015126 000000 000000 .WORD
3565 015134 000000 .WORD
3566 015136 047717 047700 .WORD 047717,047700 ; FPS: BEFORE, AFTER
3567 015142 000000 .WORD NA ; FLC AFTER ( 0 = N/A )
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3575 015144 000004
3576 015146 012705 015100
3577 015152 004737 035274
3578
3579 015156 000417
3580
3581 015160
3582 015160 070200 000000 000000 DIVD11: ; TEST DATA SET DIVD=11:
3583 015166 000000 .WORD 070200,0,0,0 ; INITIAL AC FLOAT NUMBER
3584 015170 000000 000000 000000 .WORD 050400,0,0,0 ; INITIAL MEM FLOAT NUMBER
3585 015176 000000 .WORD
3586 015200 000000 000000 000000 .WORD 060000,0,0,0 ; EXPECTED FLOAT RESULT
3587 015204 000000 .WORD
3588 015212 047657 047640 .WORD 047657,047640 ; FPS: BEFORE, AFTER
3589 015214 000000 .WORD NA ; FLC AFTER ( 0 = N/A )
3590
3591
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3593
3594
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3596
3597 015216 000004
3598 015220 012705 015232
3599 015224 004737 035274
3600
3601 015230 000417
3602
3603 015232
3604 015232 125252 125252 125252 DIVD12: ; TEST DATA SET DIVD=12:
3605 015240 125252 .WORD ALTN,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
3606 015242 000000 000000 000000 .WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
3607 015250 000000 .WORD
3608 015252 125252 125252 125252 .WORD ALTN,ALTN,ALTN,ALTN ; EXPECTED FLOAT RESULT
3609 015260 125252 .WORD
3610 015262 047707 147707 .WORD 047707,147707 ; FPS: BEFORE, AFTER
3611 015266 100004 .WORD 100004 ; FLC AFTER ( 0 = N/A )
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3618
3619 015270 000004
3620 015272 012705 015304
3621 015276 004737 035274
3622
3623 015302 000417
3624
3625 015304
3626 015304 000177 177777 177777
3627 015312 177777
3628 015314 100177 177777 177777
3629 015322 177777
3630 015324 000177 177777 177777
3631 015332 177777
3632 015334 047643 147643
3633 015340 100014
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3641 015342 000004
3642 015344 012705 015356
3643 015350 004737 035274
3644
3645 015354 000417
3646
3647 015356
3648 015356 000177 177777 177777
3649 015364 177777
3650 015366 100177 177777 177777
3651 015374 177777
3652 015376 000177 177777 177777
3653 015404 177777
3654 015406 043643 143643
3655 015412 100004
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3662
3663 015414 000004
3664 015416 012705 015430
3665 015422 004737 035274
3666
3667 015426 000417
3668
3669 015430
3670 015430 052525 052525 052525
3671 015436 052525
3672 015440 000000 000000
3673 015446 000000

;*****
TST226: SCOPE
MOV 0DIVD13,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST227 ;;

DIVD13: ; TEST DATA SET DIVD-13:
;WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
;WORD ZXIMN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
;WORD ZXIMP,M1,M1,M1 ; EXPECTED FLOAT RESULT
;WORD 047643,147643 ; FPS: BEFORE, AFTER
;WORD 100014 ; FLC AFTER ( 0 = N7A )

;*****
;*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 0DIVD14,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST230 ;;

DIVD14: ; TEST DATA SET DIVD-14:
;WORD ZXIMP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
;WORD ZXIMN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
;WORD ZXIMP,M1,M1,M1 ; EXPECTED FLOAT RESULT
;WORD 043643,143643 ; FPS: BEFORE, AFTER
;WORD 100004 ; FLC AFTER ( 0 = N7A )

;*****
;*TEST 230 TEST OF DIVD INSTR, DATA SET DIVD-15
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST230: SCOPE
MOV 0DIVD15,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST231 ;;

DIVD15: ; TEST DATA SET DIVD-15:
;WORD ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
;WORD 000000,000000 ; INITIAL MEM FLOAT NUMBER
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3674 015450 012525 052525 052525
3675 015456 052525
3676 015460 047615 147602
3677 015464 100010
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3683
3684
3685 015466 000004
3686 015470 012705 015502
3687 015474 004737 035274
3688
3689 015500 000417
3690
3691 015502
3692 015502 052525 052525 052525
3693 015510 052525
3694 015512 100200 000000 000000
3695 015520 000000
3696 015522 000000 000000 000000
3697 015530 000000
3698 015532 046611 046606
3699 015530 000000
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3707 015540 000004
3708 015542 012705 015554
3709 015546 004737 035274
3710
3711 015552 000417
3712
3713 015554
3714 015554 100200 177777 125252
3715 015562 000000
3716 015564 077777 177777 177777
3717 015572 177777
3718 015574 100400 177777 125252
3719 015602 000001
3720 015604 047707 147710
3721 015610 100012
3722
3723
3724
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3729 015612 000004

;*****
;*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 0DIVD16,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST232 ;;

DIVD16: ; TEST DATA SET DIVD-16:
;WORD ALTP,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
;WORD 000000,000000 ; INITIAL MEM FLOAT NUMBER
;WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
;WORD 046611,046606 ; FPS: BEFORE, AFTER
;WORD NA ; FLC AFTER ( 0 = N7A )

;*****
;*TEST 232 TEST OF DIVD INSTR, DATA SET DIVD-17
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST232: SCOPE
MOV 0DIVD17,R5 ; PTR TO TEST DATA SET
JSR PC,00DIVDT ; GO TEST
BR TST233 ;;

DIVD17: ; TEST DATA SET DIVD-17:
;WORD 000000,M1,ALTN,0 ; INITIAL AC FLOAT NUMBER
;WORD LCP,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
;WORD 100400,M1,ALTN,1 ; EXPECTED FLOAT RESULT
;WORD 047707,147710 ; FPS: BEFORE, AFTER
;WORD 100012 ; FLC AFTER ( 0 = N7A )

;*****
;*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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```
3730 015614 012705 015626      MOV    #DIVD20,R5      ; PTR TO TEST DATA SET
3731 015620 004737 035274      JSR     PC,#DIVDT      ; GU TEST
3732
3733 015624 000417      BR      TST234      ;;
3734
3735 015626      DIVD20: ; TEST DATA SET DIVD-20:
3736 015626 100200 177777 125252 .WORD    54N,M1,ALTN,0      ; INITIAL AC FLOAT NUMBER
3737 015634 000000      ;*
3738 015636 177777 177777 177777 .WORD    LGN,M1,M1,M1      ; INITIAL MEM FLOAT NUMBER
3739 015644 177777      ;*
3740 015646 000000 000000 000000 .WORD    0,0,0,0      ; EXPECTED FLOAT RESULT
3741 015654 000000      ;*
3742 015656 045713 045704 .WORD    045713,045704      ; FPS: BEFORE, AFTER
3743 015662 000000      .WORD    NA      ; PEC AFTER ( 0 = N7A )
3744
3745
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3751 015664 000004      ;*****
3752 015666 012705 015700      ;*TEST 234 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-1
3753 015672 004737 035464      ;* ALL INTERRUPT ENABLES ON
3754      ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
3755      ;*****
3756      TST234: SCOPE
3757      MOV    #MD2F1,R5      ; PTR TO TEST DATA SET
3758      JSR     PC,#MD2FT      ; GU TEST
3759
3760      BR      TST235      ;;
3761
3762      MD2F1: ; TEST DATA SET MD2F-1:
3763      .WORD    0,0      ; INITIAL AC FLOAT NUMBER
3764      .WORD    0,0      ; INITIAL MEM FLOAT NUMBER
3765      .WORD    0,0      ; EXPECTED FRACTION-PART FLOAT RESULT
3766      .WORD    0,0      ; EXPECTED INTEGER-PART FLOAT RESULT
3767      .WORD    047513,047504      ; FPS: BEFORE, AFTER
3768      .WORD    NA      ; PEC AFTER ( 0 = N7A )
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3791 015726 000004      ;*****
3792 015730 012705 015742      ;*TEST 235 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-2
3793 015734 004737 035464      ;* ALL INTERRUPT ENABLES ON
3794      ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
3795      ;*****
3796      TST235: SCOPE
3797      MOV    #MD2F2,R5      ; PTR TO TEST DATA SET
3798      JSR     PC,#MD2FT      ; GU TEST
3799
3800      BR      TST236      ;;
3801
3802      MD2F2: ; TEST DATA SET MD2F-2:
3803      .WORD    2X1MP,M1      ; INITIAL AC FLOAT NUMBER
3804      .WORD    LGP,M1      ; INITIAL MEM FLOAT NUMBER
3805      .WORD    0,0      ; EXPECTED FRACTION-PART FLOAT RESULT
3806      .WORD    0,0      ; EXPECTED INTEGER-PART FLOAT RESULT
3807      .WORD    047553,047544      ; FPS: BEFORE, AFTER
3808      .WORD    NA      ; PEC AFTER ( 0 = N7A )
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3831 015770 000004      ;*****
3832 015772 012705 016004      ;*TEST 236 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-3
3833 015776 004737 035464      ;* -0 INTERRUPT ENABLE OFF, ALL OTHERS ON
3834      ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
3835      ;*****
3836      TST236: SCOPE
3837      MOV    #MD2F3,R5      ; PTR TO TEST DATA SET
3838      JSR     PC,#MD2FT      ; GU TEST
3839
3840      BR      TST237      ;;
3841
3842      MD2F3: ; TEST DATA SET MD2F-3:
3843      .WORD    LGN,M1      ; INITIAL AC FLOAT NUMBER
3844      .WORD    2X1MN,M1      ; INITIAL MEM FLOAT NUMBER
3845      .WORD    0,0      ; EXPECTED FRACTION-PART FLOAT RESULT
3846      .WORD    0,0      ; EXPECTED INTEGER-PART FLOAT RESULT
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3002 010024 043413 043404
3003 010030 000000
3004
3005
3006
3007
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3010
3011 010032 000004
3012 010034 012705 010046
3013 010040 004737 035464
3014
3015 010044 000413
3016
3017 010046
3018 010046 177777 177777
3019 010052 100177 177777
3020 010056 177777 177777
3021 010062 052525 177777
3022 010066 047447 147447
3023 010072 100014
3024
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3030
3031 010074 000004
3032 010076 012705 010110
3033 010102 004737 035464
3034
3035 010106 000413
3036
3037 010110
3038 010110 042177 000000
3039 010114 140200 000000
3040 010120 000000 000000
3041 010124 142177 000000
3042 010130 047553 047544
3043 010134 000000
3044
3045
3046
3047
3048
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3050
3051 010136 000004
3052 010140 012705 010152
3053 010144 004737 035464
3054
3055 010150 000413
3056
3057 010152

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

;*****
;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 ; GU TEST

BR TST240 ;

MD2F4: ; TEST DATA SET MD2F-4:
.WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
.WORD 2X,MN,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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU TEST

BR TST241 ;

MD2F5: ; TEST DATA SET MD2F-5:
.WORD 042177,0 ; INITIAL AC FLOAT NUMBER
.WORD F1N,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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU TEST

BR TST242 ;

MD2F6: ; TEST DATA SET MD2F-6:
.WORD F1P,0 ; INITIAL AC FLOAT NUMBER
.WORD F1N,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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU TEST

BR TST243 ;

MD2F7: ; TEST DATA SET MD2F-7:
.WORD 142176,077600 ; INITIAL AC FLOAT NUMBER
.WORD F1N,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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU 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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU TEST

3058 010152 040220 000000
3059 010156 140177 177777
3060 010162 140177 177777
3061 010166 000000 000000
3062 010172 047507 047510
3063 010176 000000
3064
3065
3066
3067
3068
3069
3070
3071 010200 000004
3072 010202 012705 010214
3073 010206 004737 035464
3074
3075 010212 000413
3076
3077 010214
3078 010214 142176 077600
3079 010220 140220 000000
3080 010224 037777 000000
3081 010230 042176 000000
3082 010234 047457 047440
3083 010240 000000
3084
3085
3086
3087
3088
3089
3090
3091 010242 000004
3092 010244 012705 010256
3093 010250 004737 035464
3094
3095 010254 000413
3096
3097 010256
3098 010256 042177 100000
3099 010262 042200 000000
3000 010266 000000 000000
3001 010272 042177 000000
3002 010276 047417 047400
3003 010302 000000
3004
3005
3006
3007
3008
3009
3010
3011 010304 000004
3012 010306 012705 010320
3013 010312 004737 035464

.WORD 141P,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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU TEST

BR TST243 ;

MD2F7: ; TEST DATA SET MD2F-7:
.WORD 142176,077600 ; INITIAL AC FLOAT NUMBER
.WORD F1N,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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU 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 ; FLC AFTER (0 = N/A)

;*****
;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 ; GU TEST

```
3914
3915 016316 000413
3916
3917 016320
3918 016320 140200 000000
3919 016324 040377 177777
3920 016330 140177 177776
3921 016336 140200 000000
3922 016340 047547 047550
3923 016344 000000
3924
3925
3926
3927
3928
3929
3930
3931 016346 000004
3932 016350 012705 016362
3933 016354 004737 035464
3934
3935 016360 000413
3936
3937 016362
3938 016362 000452 125252
3939 016366 021700 000000
3940 016372 040177 177400
3941 016376 042177 000000
3942 016402 047517 047500
3943 016406 000000
3944
3945
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3948
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3950
3951 016410 000004
3952 016412 012705 016424
3953 016416 004737 035464
3954
3955 016422 000413
3956
3957 016424
3958 016424 041400 000001
3959 016430 141377 177776
3960 016434 140177 177777
3961 016440 142177 000000
3962 016444 047547 047550
3963 016450 000000
3964
3965
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;*****
;TEST 245 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-12
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, LONG INTEGER, ROUND MODES
;*****
TST245: SCOPE
MOV #MD2F12,R5 ; PTR TO TEST DATA SET
JBR PC,#MD2FT ; GO TEST
BR TST246 ;;

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

;*****
;TEST 246 TEST OF MODF(2 ACC) INSTR, DATA SET MD2F-13
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST246: SCOPE
MOV #MD2F13,R5 ; PTR TO TEST DATA SET
JBR PC,#MD2FT ; GO TEST
BR TST247 ;;

MD2F13: ; TEST DATA SET MD2F-13:
;WORD 041000,000001 ; INITIAL AC FLOAT NUMBER
;WORD 141377,M2 ; INITIAL MEM FLOAT NUMBER
;WORD 140177,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
;WORD 142177,000000 ; EXPECTED INTEGER-PART FLOAT RESULT
;WORD 047547,047550 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

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

```
3970
3971 016452 000004
3972 016454 012705 016466
3973 016460 004737 035464
3974
3975 016464 000413
3976
3977 016466
3978 016466 041000 000001
3979 016472 141377 177776
3980 016476 140200 000000
3981 016502 042177 000000
3982 016506 047507 047510
3983 016512 000000
3984
3985
3986
3987
3988
3989
3990
3991 016514 000004
3992 016516 012705 016530
3993 016522 004737 035464
3994
3995 016526 000413
3996
3997 016530
3998 016530 077600 000000
3999 016534 044452 125252
4000 016540 000000 000000
4001 016544 040052 125252
4002 016550 047411 147406
4003 016554 100010
4004
4005
4006
4007
4008
4009
4010
4011 016556 000004
4012 016560 012705 016572
4013 016564 004737 035464
4014
4015 016570 000413
4016
4017 016572
4018 016572 077600 000000
4019 016576 044452 125252
4020 016602 000000 000000
4021 016606 000000 000000
4022 016612 046411 046406
4023 016616 000000
4024
4025

;*****
TST247: SCOPE
MOV #MD2F14,R5 ; PTR TO TEST DATA SET
JBR 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
JBR 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 040052,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
JBR 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 )
```

```
0026
0027
0028
0029
0030
0031 016620 000004
0032 016622 012705 016634
0033 016626 004737 035464
0034
0035 016632 000413
0036
0037 016634
0038 016634 001577 177777
0039 016640 101000 000000
0040 016644 142377 177777
0041 016650 000000 000000
0042 016654 047547 147550
0043 016660 100012
0044
0045
0046
0047
0048
0049
0050
0051 016662 000004
0052 016664 012705 016676
0053 016670 004737 035464
0054
0055 016674 000413
0056
0057 016676
0058 016676 001577 177777
0059 016702 101000 000000
0060 016706 000000 000000
0061 016712 000000 000000
0062 016716 045553 045544
0063 016722 000000
0064
0065
0066

;*****
;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 = N7A )

;*****
;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 = N7A )

;*****
;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 = N7A )

;*****
;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 2X1MP,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 = N7A )

;*****
;TEST 256 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-3
;*
;* ALL 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
```

```
0067
0068
0069
0070
0071
0072 016724 000004
0073 016726 012705 016740
0074 016732 004737 035666
0075
0076 016736 000423
0077
0078 016740
0079 016740 000000 000000 000000
0080 016746 000000 000000 000000
0081 016750 000000 000000 000000
0082 016756 000000 000000 000000
0083 016760 000000 000000 000000
0084 016766 000000 000000 000000
0085 016770 000000 000000 000000
0086 016776 000000 000000 000000
0087 017000 047653 047644
0088 017004 000000
0089
0090
0091
0092
0093
0094
0095
0096 017006 000004
0097 017010 012705 017022
0098 017014 004737 035666
0099
0100 017020 000423
0101
0102 017022
0103 017022 000177 177777 177777
0104 017030 177777 177777 177777
0105 017032 177777 177777 177777
0106 017040 177777 177777 177777
0107 017042 000000 000000 000000
0108 017050 000000 000000 000000
0109 017052 000000 000000 000000
0110 017060 000000 000000 000000
0111 017062 047713 047704
0112 017066 000000
0113
0114
0115
0116
0117
0118
0119
0120 017070 000004
0121 017072 012705 017104
0122 017076 004737 035666

;*****
;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 = N7A )

;*****
;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 2X1MP,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 = N7A )

;*****
;TEST 256 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-3
;*
;* ALL 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
```

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4123
4124 017102 000423 BR TST257 ;
4125
4126 017104 MD2D3: ; TEST DATA SET MD2D-3:
4127 017104 077777 177777 177777 .WORD LGF,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
4128 017112 177777 .WORD
4129 017114 100177 177777 177777 .WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
4130 017122 177777 .WORD
4131 017124 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4132 017132 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4133 017134 000000 000000 000000 .WORD
4134 017142 000000 .WORD
4135 017144 043653 043644 .WORD 043653,043644 ; FPS: BEFORE, AFTER
4136 017150 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
4137
4138
4139
4140
4141 ;*****
4142 ;*TEST 257 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-4
4143 ;* ALL INTERRUPT ENABLES ON
4144 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
4145 ;*****
4146 017152 000004 TST257: SCOPE
4147 017154 012705 MOV #MD2D4,R5 ; PTR TO TEST DATA SET
4148 017160 004737 JSR PC,#MD2DT ; GO TEST
4149
4150 017164 000423 BR TST260 ;
4151
4152 017166 MD2D4: ; TEST DATA SET MD2D-4:
4153 017174 177777 .WORD LGF,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
4154 017176 100177 177777 177777 .WORD ZX1MN,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
4155 017204 177777 .WORD
4156 017206 077777 177777 177777 .WORD LGF,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4157 017214 177777 .WORD
4158 017216 052525 177777 125252 .WORD ALTP,M1,ALTN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4159 017224 000000 .WORD
4160 017226 047713 147713 .WORD 047713,147713 ; FPS: BEFORE, AFTER
4161 017232 100014 .WORD 100014 ; FEC AFTER ( 0 = N/A )
4162
4163
4164 ;*****
4165 ;*TEST 260 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-5
4166 ;* ALL INTERRUPT ENABLES ON
4167 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
4168 ;*****
4169 017234 000004 TST260: SCOPE
4170 017236 012705 MOV #MD2D5,R5 ; PTR TO TEST DATA SET
4171 017242 004737 JSR PC,#MD2DT ; GO TEST
4172
4173 017246 000423 BR TST261 ;
4174
4175 017250 MD2D5: ; TEST DATA SET MD2D-5:
4176 017254 042177 0,0,0 .WORD 042177,0,0,0 ; INITIAL AC FLOAT NUMBER
4177 017260 000000 000000 000000 .WORD FIP,0,0,0 ; INITIAL MEM FLOAT NUMBER
4178 017266 000000
```

```
4179 017270 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4180 017276 000000 000000 000000 .WORD
4181 017300 042177 000000 000000 .WORD 042177,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4182 017306 000000 .WORD
4183 017310 047613 047604 .WORD 047613,047604 ; FPS: BEFORE, AFTER
4184 017314 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
4185
4186
4187
4188 ;*****
4189 ;*TEST 261 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-6
4190 ;* ALL INTERRUPT ENABLES ON
4191 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
4192 ;*****
4193 017316 000004 TST261: SCOPE
4194 017320 012705 MOV #MD2D6,R5 ; PTR TO TEST DATA SET
4195 017324 004737 JSR PC,#MD2DT ; GO TEST
4196
4197 017330 000423 BR TST262 ;
4198
4199 017332 MD2D6: ; TEST DATA SET MD2D-6:
4200 017340 100200 000000 000000 .WORD FIN,0,0,0 ; INITIAL AC FLOAT NUMBER
4201 017342 000177 177777 177777 .WORD 000177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
4202 017350 177777 .WORD
4203 017352 100177 177777 177777 .WORD 100177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4204 017360 177777 .WORD
4205 017362 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4206 017370 000000 .WORD
4207 017372 047747 047750 .WORD 047747,047750 ; FPS: BEFORE, AFTER
4208 017376 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
4209
4210
4211 ;*****
4212 ;*TEST 262 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-7
4213 ;* ALL INTERRUPT ENABLES ON
4214 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
4215 ;*****
4216 017400 000004 TST262: SCOPE
4217 017402 012705 MOV #MD2D7,R5 ; PTR TO TEST DATA SET
4218 017406 004737 JSR PC,#MD2DT ; GO TEST
4219
4220 017412 000423 BR TST263 ;
4221
4222 017414 MD2D7: ; TEST DATA SET MD2D-7:
4223 017416 042176 077600 0,0,0 .WORD 042176,077600,0,0 ; INITIAL AC FLOAT NUMBER
4224 017422 000000 .WORD
4225 017424 100200 000000 000000 .WORD FIN,0,0,0 ; INITIAL MEM FLOAT NUMBER
4226 017432 000000 .WORD
4227 017434 137777 177777 177777 .WORD 137777,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4228 017442 000000 .WORD
4229 017444 142176 0,0,0,0 .WORD 142176,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4230 017452 000000 .WORD
4231 017454 047607 047610 .WORD 047607,047610 ; FPS: BEFORE, AFTER
4232 017460 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
4233
4234
```

```
4235 ;*****
4236 ;*TEST 263 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-10
4237 ;* ALL INTERRUPT ENABLES ON
4238 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
4239 ;*****
4240 TST263: SCOPE
4241 MOV #MD2D10,R5 ; PTR TO TEST DATA SET
4242 JSH PC,#MD2DT ; GU TEST
4243 BR TST264 ;
4244
4245 MD2D10: ; TEST DATA SET MD2D-10:
4246 ;WORD 142177,M0,0,0 ; INITIAL AC FLOAT NUMBER
4247 ;WORD F1P,0,0,0 ; INITIAL MEM FLOAT NUMBER
4248 ;WORD 140000,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4249 ;WORD 142177,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4250 ;WORD 047747,047750 ; FPS: BEFORE, AFTER
4251 ;WORD NA ; FEC AFTER ( 0 = N7A )
4252
4253 ;*****
4254 ;*TEST 264 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-11
4255 ;* ALL INTERRUPT ENABLES ON
4256 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
4257 ;*****
4258 TST264: SCOPE
4259 MOV #MD2D11,R5 ; PTR TO TEST DATA SET
4260 JSH PC,#MD2DT ; GU TEST
4261 BR TST265 ;
4262
4263 MD2D11: ; TEST DATA SET MD2D-11:
4264 ;WORD F1N,0,0,0 ; INITIAL AC FLOAT NUMBER
4265 ;WORD 140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
4266 ;WORD 040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
4267 ;WORD F1P,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4268 ;WORD 047617,047600 ; FPS: BEFORE, AFTER
4269 ;WORD NA ; FEC AFTER ( 0 = N7A )
4270
4271 ;*****
4272 ;*TEST 265 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-12
4273 ;* ALL INTERRUPT ENABLES ON
4274 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
4275 ;*****
4276 TST265: SCOPE
4277 MOV #MD2D12,R5 ; PTR TO TEST DATA SET
4278 JSH PC,#MD2DT ; GU TEST
4279 BR TST266 ;
4280
4281 MD2D12: ; TEST DATA SET MD2D-12:
4282 ;WORD 167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
4283 ;WORD 112700,0,0,0 ; INITIAL MEM FLOAT NUMBER
4284 ;WORD 040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
4285 ;WORD 042177,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4286 ;WORD 047757,047740 ; FPS: BEFORE, AFTER
4287 ;WORD NA ; FEC AFTER ( 0 = N7A )
4288
4289 ;*****
4290 ;*TEST 266 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-13
4291 ;* ALL INTERRUPT ENABLES ON
4292 ;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4293 ;*****
4294 TST266: SCOPE
4295 MOV #MD2D13,R5 ; PTR TO TEST DATA SET
4296 JSH PC,#MD2DT ; GU TEST
4297 BR TST267 ;
4298
4299 MD2D13: ; TEST DATA SET MD2D-13:
4300 ;WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
4301 ;WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
4302 ;WORD 040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4303 ;WORD 040200,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4304 ;WORD 047657,047640 ; FPS: BEFORE, AFTER
4305 ;WORD NA ; FEC AFTER ( 0 = N7A )
4306
4307 ;*****
4308 ;*TEST 267 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14
4309 ;* ALL INTERRUPT ENABLES ON
4310 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
4311 ;*****
4312 TST267: SCOPE
4313 MOV #MD2D14,R5 ; PTR TO TEST DATA SET
4314 JSH PC,#MD2DT ; GU TEST
4315 BR TST270 ;
4316
4317 MD2D14: ; TEST DATA SET MD2D-14:
4318 ;WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
4319 ;WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
```

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4291 ;*****
4292 ;*TEST 266 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-13
4293 ;* ALL INTERRUPT ENABLES ON
4294 ;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
4295 ;*****
4296 TST266: SCOPE
4297 MOV #MD2D13,R5 ; PTR TO TEST DATA SET
4298 JSH PC,#MD2DT ; GU TEST
4299 BR TST267 ;
4300
4301 MD2D13: ; TEST DATA SET MD2D-13:
4302 ;WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
4303 ;WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
4304 ;WORD 040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4305 ;WORD 040200,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4306 ;WORD 047657,047640 ; FPS: BEFORE, AFTER
4307 ;WORD NA ; FEC AFTER ( 0 = N7A )
4308
4309 ;*****
4310 ;*TEST 267 TEST OF MODD(2 ACC) INSTR, DATA SET MD2D-14
4311 ;* ALL INTERRUPT ENABLES ON
4312 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
4313 ;*****
4314 TST267: SCOPE
4315 MOV #MD2D14,R5 ; PTR TO TEST DATA SET
4316 JSH PC,#MD2DT ; GU TEST
4317 BR TST270 ;
4318
4319 MD2D14: ; TEST DATA SET MD2D-14:
4320 ;WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
4321 ;WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
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4347 020026 000000 000000 000000 .WORD 040200,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4348 020034 000000 000000 000000 .WORD 040200,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4349 020036 000000 000000 000000 .WORD 040200,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4350 020044 000000 000000 000000 .WORD 047617,047600 ; FPS: BEFORE, AFTER
4351 020046 047617 047600 .WORD NA ; FEC AFTER ( 0 = N7A )
4352 020052 000000 000000 000000
4353
4354
4355
4356
4357
4358
4359
4360 020054 000000 000000 000000
4361 020056 012705 020070
4362 020062 004737 035666
4363
4364 020066 000423
4365
4366 020070
4367 020070 140452 125252 125252 MD2D15: ; TEST DATA SET MD2D-15:
4368 020076 125252 .WORD 140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
4369 020100 077600 000000 000000 .WORD 077600,0,0,0 ; INITIAL MEM FLOAT NUMBER
4370 020106 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4371 020110 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4372 020116 000000 000000 000000 .WORD 100052,AN,AN,AN ; EXPECTED INTEGER-PART FLOAT RESULT
4373 020120 100052 125252 125252 .WORD 047651,047646 ; FPS: BEFORE, AFTER
4374 020126 125252 .WORD 100010 ; FEC AFTER ( 0 = N7A )
4375 020130 047651 047646
4376 020134 100010
4377
4378
4379
4380
4381
4382
4383
4384 020136 000000 000000 000000
4385 020140 012705 020152
4386 020144 004737 035666
4387
4388 020150 000423
4389
4390 020152
4391 020152 140452 125252 125252 MD2D16: ; TEST DATA SET MD2D-16:
4392 020160 125252 .WORD 140452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
4393 020162 077600 000000 000000 .WORD 077600,0,0,0 ; INITIAL MEM FLOAT NUMBER
4394 020170 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4395 020172 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4396 020200 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4397 020202 000000 000000 000000 .WORD 046751,046746 ; FPS: BEFORE, AFTER
4398 020210 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
4399 020212 046751 046746
4400 020216 000000
4401
4402
```

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4403
4404
4405
4406
4407
4408 020220 000000 000000 000000
4409 020222 012705 020234
4410 020226 004737 035666
4411
4412 020232 000423
4413
4414 020234
4415 020236 101577 177777 177777 MD2D17: ; TEST DATA SET MD2D-17:
4416 020242 177777 .WORD 101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
4417 020244 101000 000000 000000 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
4418 020252 000000 000000 000000 .WORD 042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4419 020254 042377 177777 177777 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4420 020262 177777 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4421 020264 000000 000000 000000 .WORD 047617,047600 ; FPS: BEFORE, AFTER
4422 020272 000000 .WORD 100012 ; FEC AFTER ( 0 = N7A )
4423 020274 047617 047600
4424 020300 100012
4425
4426
4427
4428
4429
4430
4431
4432 020302 000000 000000 000000
4433 020304 012705 020316
4434 020310 004737 035666
4435
4436 020314 000423
4437
4438 020316
4439 020316 101577 177777 177777 MD2D20: ; TEST DATA SET MD2D-20:
4440 020324 177777 .WORD 101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
4441 020326 101000 000000 000000 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
4442 020334 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4443 020336 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4444 020344 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4445 020346 000000 000000 000000 .WORD 045713,045704 ; FPS: BEFORE, AFTER
4446 020354 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
4447 020356 045713 045704
4448 020362 000000
4449
4450
```

```
4451 ;*****
4452 ;*TEST 274 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-1
4453 ;*
4454 ;* ALL INTERRUPT ENABLES ON
4455 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
4456 ;*****
4456 TST274: SCOPE
4457 MOV #MDIF1,R5 ; PTR TO TEST DATA SET
4458 JSR PC,#MDIFT ; GO TEST
4459
4460 BR TST275 ;;
4461
4462 MDIF1: ; TEST DATA SET MDIF-1:
4463 .WORD 0.0 ; INITIAL AC FLOAT NUMBER
4464 .WORD 0.0 ; INITIAL MEM FLOAT NUMBER
4465 .WORD 0.0 ; EXPECTED FRACTION-PART FLOAT RESULT
4466 .WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
4467 .WORD 047513,047504 ; FFS: BEFORE, AFTER
4468 .WORD NA ; FEC AFTER ( 0 = N7A )
4469
4470 ;*****
4471 ;*TEST 275 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-2
4472 ;*
4473 ;* ALL INTERRUPT ENABLES ON
4474 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4475 ;*****
4476 TST275: SCOPE
4477 MOV #MDIF2,R5 ; PTR TO TEST DATA SET
4478 JSR PC,#MDIFT ; GO TEST
4479
4480 BR TST276 ;;
4481
4482 MDIF2: ; TEST DATA SET MDIF-2:
4483 .WORD Z1MP,M1 ; INITIAL AC FLOAT NUMBER
4484 .WORD LGP,M1 ; INITIAL MEM FLOAT NUMBER
4485 .WORD 0.0 ; EXPECTED FRACTION-PART FLOAT RESULT
4486 .WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
4487 .WORD 047553,047544 ; FFS: BEFORE, AFTER
4488 .WORD NA ; FEC AFTER ( 0 = N7A )
4489
4490 ;*****
4491 ;*TEST 276 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-3
4492 ;*
4493 ;* ALL INTERRUPT ENABLES OFF, ALL OTHERS ON
4494 ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
4495 ;*****
4496 TST276: SCOPE
4497 MOV #MDIF3,R5 ; PTR TO TEST DATA SET
4498 JSR PC,#MDIFT ; GO TEST
4499
4500 BR TST277 ;;
4501
4502 MDIF3: ; TEST DATA SET MDIF-3:
4503 .WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
4504 .WORD Z1MN,M1 ; INITIAL MEM FLOAT NUMBER
4505 .WORD 0.0 ; EXPECTED FRACTION-PART FLOAT RESULT
4506 .WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
```

```
4507 .WORD 043413,043404 ; FFS: BEFORE, AFTER
4508 .WORD NA ; FEC AFTER ( 0 = N7A )
4509
4510 ;*****
4511 ;*TEST 277 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-4
4512 ;*
4513 ;* ALL INTERRUPT ENABLES ON
4514 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
4515 ;*****
4516 TST277: SCOPE
4517 MOV #MDIF4,R5 ; PTR TO TEST DATA SET
4518 JSR PC,#MDIFT ; GO TEST
4519
4520 BR TST300 ;;
4521
4522 MDIF4: ; TEST DATA SET MDIF-4:
4523 .WORD LGN,M1 ; INITIAL AC FLOAT NUMBER
4524 .WORD Z1MN,M1 ; INITIAL MEM FLOAT NUMBER
4525 .WORD LGN,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4526 .WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
4527 .WORD 047447,147447 ; FFS: BEFORE, AFTER
4528 .WORD 100014 ; FEC AFTER ( 0 = N7A )
4529
4530 ;*****
4531 ;*TEST 300 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-5
4532 ;*
4533 ;* ALL INTERRUPT ENABLES ON
4534 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
4535 ;*****
4536 TST300: SCOPE
4537 MOV #MDIF5,R5 ; PTR TO TEST DATA SET
4538 JSR PC,#MDIFT ; GO TEST
4539
4540 BR TST301 ;;
4541
4542 MDIF5: ; TEST DATA SET MDIF-5:
4543 .WORD 042177.0 ; INITIAL AC FLOAT NUMBER
4544 .WORD FIN,0 ; INITIAL MEM FLOAT NUMBER
4545 .WORD 0.0 ; EXPECTED FRACTION-PART FLOAT RESULT
4546 .WORD AP,M1 ; EXPECTED INTEGER-PART FLOAT RESULT
4547 .WORD 047553,047544 ; FFS: BEFORE, AFTER
4548 .WORD NA ; FEC AFTER ( 0 = N7A )
4549
4550 ;*****
4551 ;*TEST 301 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-6
4552 ;*
4553 ;* ALL INTERRUPT ENABLES ON
4554 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
4555 ;*****
4556 TST301: SCOPE
4557 MOV #MDIF6,R5 ; PTR TO TEST DATA SET
4558 JSR PC,#MDIFT ; GO TEST
4559
4560 BR TST302 ;;
4561
4562 MDIF6: ; TEST DATA SET MDIF-6:
```

4563 020652 040200 000000
4564 020656 140177 177777
4565 020662 140177 177777
4566 020666 052525 177777
4567 020672 047507 047510
4568 020676 000000
4569
4570
4571
4572
4573
4574
4575
4576 020700 000004
4577 020702 012705 020714
4578 020706 004737 036130
4579
4580 020712 000413
4581
4582 020714
4583 020714 142176 077600
4584 020720 140200 000000
4585 020724 037777 000000
4586 020730 052525 177777
4587 020734 047457 047440
4588 020740 000000
4589
4590
4591
4592
4593
4594
4595
4596 020742 040004
4597 020744 012705 020756
4598 020750 004737 036130
4599
4600 020754 000413
4601
4602 020756
4603 020756 042177 100000
4604 020762 040200 000000
4605 020766 040000 000000
4606 020772 052525 177777
4607 020776 047417 047400
4608 021002 000000
4609
4610
4611
4612
4613
4614
4615
4616 021004 040004
4617 021006 012705 021020
4618 021012 004737 036130

```
*****  
*TEST 302 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF=7  
* ALL INTERRUPT ENABLES ON  
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****  
TST302: SCOPE  
      MOV 0MDIF7,R5 ; PTR TO TEST DATA SET  
      JSR PC,00MDIFT ; GO TEST  
  
      BR TST303 ;  
  
MDIF7: ; TEST DATA SET MDIF=7:  
      .WORD 142176,077600 ; INITIAL AC FLOAT NUMBER  
      .WORD FIN,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 )  
  
*****  
*TEST 303 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF=10  
* ALL INTERRUPT ENABLES ON  
* SHORT FLOAT, SHORT INTEGER, ROUND MODES  
*****  
TST303: SCOPE  
      MOV 0MDIF10,R5 ; PTR TO TEST DATA SET  
      JSR PC,00MDIFT ; GO TEST  
  
      BR TST304 ;  
  
MDIF10: ; TEST DATA SET MDIF=10:  
      .WORD 042177,00 ; INITIAL AC FLOAT NUMBER  
      .WORD FIN,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 )  
  
*****  
*TEST 304 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF=11  
* ALL INTERRUPT ENABLES ON  
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES  
*****  
TST304: SCOPE  
      MOV 0MDIF11,R5 ; PTR TO TEST DATA SET  
      JSR PC,00MDIFT ; GO TEST
```

4619
4620 021016 000413
4621
4622 021020
4623 021020 140200 000000
4624 021024 004377 177777
4625 021030 140177 177776
4626 021034 052525 177777
4627 021040 047547 047550
4628 021044 000000
4629
4630
4631
4632
4633
4634
4635
4636 021046 000004
4637 021050 012705 021062
4638 021054 004737 036130
4639
4640 021060 000413
4641
4642 021062
4643 021062 060452 125252
4644 021066 021700 000000
4645 021072 040177 177400
4646 021076 052525 177777
4647 021102 047517 047500
4648 021106 000000
4649
4650
4651
4652
4653
4654
4655
4656 021110 000004
4657 021112 012705 021124
4658 021116 004737 036130
4659
4660 021122 000413
4661
4662 021124
4663 021124 041000 000001
4664 021130 141377 177776
4665 021134 140177 177777
4666 021140 052525 177777
4667 021144 047547 047550
4668 021150 000000
4669
4670
4671
4672
4673
4674

```
*****  
*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 0MDIF12,R5 ; PTR TO TEST DATA SET  
      JSR PC,00MDIFT ; 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 040177,00 ; 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 0MDIF13,R5 ; PTR TO TEST DATA SET  
      JSR PC,00MDIFT ; 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  
*****
```

```
4675
4676 021152 000004
4677 021154 012705 021166
4678 021160 004737 036130
4679
4680 021164 000413
4681
4682 021166
4683 021166 041000 000001
4684 021172 141377 177776
4685 021176 140200 000000
4686 021202 052525 177777
4687 021206 047507 047510
4688 021212 000000
4689
4690
4691
4692
4693
4694
4695
4696 021214 000004
4697 021216 012705 021230
4698 021222 004737 036130
4699
4700 021226 000413
4701
4702 021230
4703 021230 077600 000000
4704 021234 040452 125252
4705 021240 000000 000000
4706 021244 052525 177777
4707 021250 047411 147406
4708 021254 100010
4709
4710
4711
4712
4713
4714
4715
4716 021256 000004
4717 021260 012705 021272
4718 021264 004737 036130
4719
4720 021270 000413
4721
4722 021272
4723 021272 077600 000000
4724 021276 040452 125252
4725 021302 000000 000000
4726 021306 052525 177777
4727 021312 046411 046406
4728 021316 000000
4729
4730

;*****
;TEST 310 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-15
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST310: SCOPE
MOV 0MDIF15,R5 ; PTR TO TEST DATA SET
JSR PC,0MD1FT ; GO TEST
BR TST310 ;;

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 NA ; 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
;*****
TST311: SCOPE
MOV 0MDIF16,R5 ; PTR TO TEST DATA SET
JSR PC,0MD1FT ; GO TEST
BR TST311 ;;

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 )

;*****
;TEST 312 TEST OF MODF(1 ACC) INSTR, DATA SET MDIF-17
;
; ALL INTERRUPT ENABLES ON
; SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST312: SCOPE
MOV 0MDIF17,R5 ; PTR TO TEST DATA SET
JSR PC,0MD1FT ; GO TEST
BR TST312 ;;

MDIF17: ; TEST DATA SET MDIF-17:
.WORD 001577,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,M ; 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 MDIF-20
;
; UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
; SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST313: SCOPE
MOV 0MDIF20,R5 ; PTR TO TEST DATA SET
JSR PC,0MD1FT ; GO TEST
BR TST313 ;;

MDIF20: ; TEST DATA SET MDIF-20:
.WORD 001577,M1 ; INITIAL AC FLOAT NUMBER
.WORD 101000,M ; 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 )
```

```
4731
4732
4733
4734
4735
4736 021320 000004
4737 021322 012705 021334
4738 021326 004737 036130
4739
4740 021332 000413
4741
4742 021334
4743 021334 001577 177777
4744 021340 101000 000000
4745 021344 142377 177777
4746 021350 052525 177777
4747 021354 047547 147550
4748 021360 100012
4749
4750
4751
4752
4753
4754
4755
4756 021362 000004
4757 021364 012705 021376
4758 021370 004737 036130
4759
4760 021374 000413
4761
4762 021376
4763 021376 001577 177777
4764 021402 101000 000000
4765 021406 000000 000000
4766 021412 052525 177777
4767 021416 045553 045544
4768 021422 000000
4769
4770
4771
```

```
4772
4773
4774
4775
4776
4777 021424 000004
4778 021426 012705 021440
4779 021432 004737 036332
4780
4781 021436 000423
4782
4783 021440
4784 021440 000000 000000 000000
4785 021446 000000
4786 021450 000000 000000 000000
4787 021456 000000
4788 021460 000000 000000 000000
4789 021466 000000
4790 021470 052525 177777 125252
4791 021476 000000
4792 021500 047653 047644
4793 021504 000000
4794
4795
4796
4797
4798
4799
4800
4801 021506 000004
4802 021510 012705 021522
4803 021514 004737 036332
4804
4805 021520 000423
4806
4807 021522
4808 021522 000177 177777 177777
4809 021530 177777
4810 021532 177777 177777 177777
4811 021540 177777
4812 021542 000000 000000
4813 021550 000000
4814 021552 052525 177777 125252
4815 021560 000000
4816 021562 047713 047704
4817 021566 000000
4818
4819
4820
4821
4822
4823
4824
4825 021570 000004
4826 021572 012705 021604
4827 021576 004737 036332

;*****
;*TEST 314 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-1
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST314: SCOPE
MOV #MD1D1,R5 ; PTR TO TEST DATA SET
JSR PC,00MD1DT ; 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 = N7A )

;*****
;*TEST 315 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-2
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST315: SCOPE
MOV #MD1D2,R5 ; PTR TO TEST DATA SET
JSR PC,00MD1DT ; GO TEST
BR TST316 ;

MD1D2: ; TEST DATA SET MD1D-2
.WORD Z1MP,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 = N7A )

;*****
;*TEST 316 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-3
;* 00 INTERRUPT ENABLE OFF, ALL OTHERS ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST316: SCOPE
MOV #MD1D3,R5 ; PTR TO TEST DATA SET
JSR PC,00MD1DT ; GO TEST
```

```
4828
4829 021602 000423
4830
4831 021604
4832 021604 077777 177777 177777
4833 021612 177777
4834 021614 000177 177777 177777
4835 021622 177777
4836 021624 000000 000000 000000
4837 021632 000000
4838 021634 052525 177777 125252
4839 021642 000000
4840 021644 043653 043644
4841 021650 000000
4842
4843
4844
4845
4846
4847
4848
4849 021652 000004
4850 021654 012705 021666
4851 021660 004737 036332
4852
4853 021664 000423
4854
4855 021666
4856 021666 077777 177777 177777
4857 021674 177777
4858 021676 000177 177777 177777
4859 021704 177777
4860 021706 077777 177777 177777
4861 021714 177777
4862 021716 052525 177777 125252
4863 021724 000000
4864 021726 047713 047713
4865 021732 100014
4866
4867
4868
4869
4870
4871
4872
4873 021734 000004
4874 021736 012705 021750
4875 021742 004737 036332
4876
4877 021746 000423
4878
4879 021750
4880 021750 042177 000000 000000
4881 021756 000000
4882 021760 000000 000000 000000
4883 021766 000000

;*****
;*TEST 317 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-4
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST317: SCOPE
MOV #MD1D4,R5 ; PTR TO TEST DATA SET
JSR PC,00MD1DT ; GO TEST
BR TST320 ;

MD1D4: ; TEST DATA SET MD1D-4
.WORD LGP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD Z1MN,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 043653,043644 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

;*****
;*TEST 318 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-5
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST318: SCOPE
MOV #MD1D5,R5 ; PTR TO TEST DATA SET
JSR PC,00MD1DT ; GO TEST
BR TST321 ;

MD1D5: ; TEST DATA SET MD1D-5
.WORD 042177,0,0,0 ; INITIAL AC FLOAT NUMBER
.WORD FIP,0,0,0 ; INITIAL MEM FLOAT NUMBER
```

FPU ADVANCED INSTR TESTS MAC111 27(1006) 25-APR-77 09:19 PAGE 98
 DQFP88,P11 19-APR-77 13:37 T320 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-5 850 0265

```

4884 021770 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4885 021776 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4886 022000 052525 177777 125252 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4887 022006 000000 000000 000000 .WORD 047613,047604 ; FPS: BEFORE, AFTER
4888 022010 047613 047604 .WORD NA ; FEC AFTER ( 0 = N7A )
4889 022014 000000 000000 000000
4890
4891
4892
4893
4894
4895
4896
4897 022016 000004 000000 000000
4898 022020 012705 022032
4899 022024 004737 036332
4900
4901 022030 000423
4902
4903 022032
4904 022032 140200 000000 000000 MD1D6: ; TEST DATA SET MD1D-6
4905 022040 000000 000000 .WORD FIN,0,0,0 ; INITIAL AC FLOAT NUMBER
4906 022042 040177 177777 177777 .WORD 040177,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
4907 022050 177777 177777 .WORD 140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4908 022052 140177 177777 177777 .WORD 140177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
4909 022060 177777 177777 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4910 022062 052525 177777 125252 .WORD 047747,047750 ; FPS: BEFORE, AFTER
4911 022070 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
4912 022072 047747 047750
4913 022076 000000 000000 000000
4914
4915
4916
4917
4918
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4920
4921 022100 000004 000000 000000
4922 022102 012705 022114
4923 022106 004737 036332
4924
4925 022112 000423
4926
4927 022114
4928 022114 042176 077600 000000 MD1D7: ; TEST DATA SET MD1D-7
4929 022122 000000 000000 .WORD 042176,077600,M,0 ; INITIAL AC FLOAT NUMBER
4930 022124 140200 000000 000000 .WORD FIN,0,0,0 ; INITIAL MEM FLOAT NUMBER
4931 022132 000000 000000 .WORD 137777,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4932 022134 137777 000000 000000 .WORD 137777,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4933 022142 000000 000000 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4934 022144 052525 177777 125252 .WORD 047607,047610 ; FPS: BEFORE, AFTER
4935 022152 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
4936 022154 047607 047610
4937 022160 000000 000000 000000
4938
4939

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FPU ADVANCED INSTR TESTS MAC111 27(1006) 25-APR-77 09:19 PAGE 99
 DQFP88,P11 19-APR-77 13:37 T323 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-10 850 0266

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4941
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4945 022162 000004 000000 000000
4946 022164 012705 022176
4947 022170 004737 036332
4948
4949 022174 000423
4950
4951 022176
4952 022176 142177 100000 000000 MD1D10: ; TEST DATA SET MD1D-10
4953 022204 000000 000000 .WORD FIN,0,0,0 ; INITIAL AC FLOAT NUMBER
4954 022206 040200 000000 000000 .WORD FIP,0,0,0 ; INITIAL MEM FLOAT NUMBER
4955 022214 000000 000000 .WORD 140000,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4956 022216 140000 000000 000000 .WORD 140000,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
4957 022224 000000 000000 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4958 022226 052525 177777 125252 .WORD 047747,047750 ; FPS: BEFORE, AFTER
4959 022234 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
4960 022236 047747 047750
4961 022242 000000 000000 000000
4962
4963
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4965
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4969 022244 000004 000000 000000
4970 022246 012705 022260
4971 022252 004737 036332
4972
4973 022256 000423
4974
4975 022260
4976 022260 140200 000000 000000 MD1D11: ; TEST DATA SET MD1D-11
4977 022266 000000 000000 .WORD FIN,0,0,0 ; INITIAL AC FLOAT NUMBER
4978 022270 140377 177777 177777 .WORD 140377,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
4979 022276 177777 177777 .WORD 040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
4980 022300 040177 177777 177777 .WORD 040177,M1,M1,M2 ; EXPECTED FRACTION-PART FLOAT RESULT
4981 022306 177776 177776 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
4982 022310 052525 177777 125252 .WORD 047617,047600 ; FPS: BEFORE, AFTER
4983 022316 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
4984 022320 047617 047600
4985 022324 000000 000000 000000
4986
4987
4988
4989
4990
4991
4992
4993 022326 000004 000000 000000
4994 022330 012705 022342
4995 022334 004737 036332

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```
4996
4997 022340 000423 BR TST326 ;
4998
4999 022342 ; TEST DATA SET MD1D-12:
5000 022342 167452 125252 125252 .WORD 167452,AN,AN,AN ; INITIAL AC FLOAT NUMBER
5001 022350 125252 .WORD 112700,0,0,0 ; INITIAL MEM FLOAT NUMBER
5002 022352 112700 000000 000000 .WORD 040177,M1,M1,UB ; EXPECTED FRACTION-PART FLOAT RESULT
5003 022360 000000 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5004 022362 040177 177777 177777 .WORD 047757,047740 ; FPS: BEFORE, AFTER
5005 022370 177400 .WORD NA ; FEC AFTER ( 0 = N/A )
5006 022372 052525 177777 125252 .WORD
5007 022400 000000 .WORD
5008 022402 047757 047740 .WORD
5009 022406 000000 .WORD
5010
5011
5012
5013
5014
5015
5016
5017 022410 000004 TST326: SCOPE
5018 022412 012705 022424 MOV #MD1D13,R5 ; PTR TO TEST DATA SET
5019 022416 004737 036332 JSR PC,#MD1DT ; GO TEST
5020
5021 022422 000423 BR TST327 ;
5022
5023 022424 ; TEST DATA SET MD1D-13:
5024 022424 041000 000000 000000 .WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
5025 022432 000001 .WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5026 022434 037577 177777 177777 .WORD 040177,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5027 022442 177776 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5028 022444 040177 177777 177777 .WORD
5029 022452 177777 .WORD
5030 022454 052525 177777 125252 .WORD
5031 022462 000000 .WORD
5032 022464 047657 047640 .WORD
5033 022470 000000 .WORD
5034
5035
5036
5037
5038
5039
5040
5041 022472 000004 TST327: SCOPE
5042 022474 012705 022506 MOV #MD1D14,R5 ; PTR TO TEST DATA SET
5043 022500 004737 036332 JSR PC,#MD1DT ; GO TEST
5044
5045 022504 000423 BR TST330 ;
5046
5047 022506 ; TEST DATA SET MD1D-14:
5048 022506 041000 000000 000000 .WORD 041000,0,0,1 ; INITIAL AC FLOAT NUMBER
5049 022514 000001 .WORD 037577,M1,M1,M2 ; INITIAL MEM FLOAT NUMBER
5050 022516 037577 177777 177777 .WORD
5051 022524 177776 .WORD
```

```
5052 022526 040200 000000 000000 .WORD 040200,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5053 022534 000000 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5054 022536 052525 177777 125252 .WORD
5055 022544 000000 .WORD
5056 022546 047617 047600 .WORD
5057 022552 000000 .WORD
5058
5059
5060
5061
5062
5063
5064
5065 022554 000004 TST330: SCOPE
5066 022556 012705 022570 MOV #MD1D15,R5 ; PTR TO TEST DATA SET
5067 022562 004737 036332 JSR PC,#MD1DT ; GO TEST
5068
5069 022566 000423 BR TST331 ;
5070
5071 022570 ; TEST DATA SET MD1D-15:
5072 022570 142452 125252 125252 .WORD 142452,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
5073 022576 125252 .WORD 077600,0,0,0 ; INITIAL MEM FLOAT NUMBER
5074 022600 077600 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5075 022606 000000 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5076 022610 000000 000000 000000 .WORD
5077 022616 000000 .WORD
5078 022620 052525 177777 125252 .WORD
5079 022626 000000 .WORD
5080 022630 047651 147646 .WORD
5081 022634 100010 .WORD
5082
5083
5084
5085
5086
5087
5088
5089 022636 000004 TST331: SCOPE
5090 022640 012705 022652 MOV #MD1D16,R5 ; PTR TO TEST DATA SET
5091 022644 004737 036332 JSR PC,#MD1DT ; GO TEST
5092
5093 022654 000423 BR TST332 ;
5094
5095 022657 ; TEST DATA SET MD1D-16:
5096 022657 142452 125252 125252 .WORD 142452,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
5097 022660 125252 .WORD 077600,0,0,0 ; INITIAL MEM FLOAT NUMBER
5098 022662 077600 000000 000000 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5099 022670 000000 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5100 022672 000000 000000 000000 .WORD
5101 022674 000000 .WORD
5102 022676 052525 177777 125252 .WORD
5103 022710 000000 .WORD
5104 022712 046751 046746 .WORD
5105 022716 000000 .WORD
5106
5107
```

```
5108 ;*****
5109 ;*TEST 332 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-17
5110 ;*
5111 ;* ALL INTERRUPT ENABLES ON
5112 ;* LONG FLOAT, SHORT INTEGER, ROUND MODES
5113 ;*****
5113 TST332: SCOPE
5114 MOV #MD1D17,R5 ; PTR TO TEST DATA SET
5115 JBR PC,#MD1DT ; GO TEST
5116
5117 BR TST333 ;
5118
5119 MD1D17: ; TEST DATA SET MD1D-17:
5120 .WORD 101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
5121
5122 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
5123
5124 .WORD 042377,M1,M1,M1 ; EXPECTED FRACTION-PART FLOAT RESULT
5125
5126 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5127
5128 .WORD 047617,147600 ; FPS: BEFORE, AFTER
5129 .WORD 100012 ; FEC AFTER ( 0 = N/A )
5130
5131
5132 ;*****
5133 ;*TEST 333 TEST OF MODD(1 ACC) INSTR, DATA SET MD1D-20
5134 ;*
5135 ;* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5136 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
5137 ;*****
5137 TST333: SCOPE
5138 MOV #MD1D20,R5 ; PTR TO TEST DATA SET
5139 JBR PC,#MD1DT ; GO TEST
5140
5141 BR TST334 ;
5142
5143 MD1D20: ; TEST DATA SET MD1D-20:
5144 .WORD 101577,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
5145
5146 .WORD 101000,0,0,0 ; INITIAL MEM FLOAT NUMBER
5147
5148 .WORD 0,0,0,0 ; EXPECTED FRACTION-PART FLOAT RESULT
5149
5150 .WORD AP,M1,AN,0 ; EXPECTED INTEGER-PART FLOAT RESULT
5151
5152 .WORD 045713,045704 ; FPS: BEFORE, AFTER
5153 .WORD NA ; FEC AFTER ( 0 = N/A )
5154
5155
```

```
5156 ;*****
5157 ;*TEST 334 TEST OF LDCDF INSTR, DATA SET LCDF-1
5158 ;*
5159 ;* ALL INTERRUPT ENABLES ON
5160 ;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
5161 ;*****
5161 TST334: SCOPE
5162 MOV #LCDF1,R5 ; PTR TO TEST DATA SET
5163 JBR PC,#LCDFT ; GO TEST
5164
5165 BR TST335 ;
5166
5167 LCDF1: ; TEST DATA SET LCDF-1:
5168 .WORD 0,0,0,0 ; INITIAL MEM FLOAT NUMBER
5169
5170 .WORD 0,0 ; EXPECTED FLOAT RESULT
5171
5172 .WORD 047413,047404 ; FPS: BEFORE, AFTER
5173 .WORD NA ; FEC AFTER ( 0 = N/A )
5174
5175 ;*****
5176 ;*TEST 335 TEST OF LDCDF INSTR, DATA SET LCDF-4
5177 ;*
5178 ;* ALL INTERRUPT ENABLES ON
5179 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
5180 ;*****
5180 TST335: SCOPE
5181 MOV #LCDF2,R5 ; PTR TO TEST DATA SET
5182 JBR PC,#LCDFT ; GO TEST
5183
5184 BR TST336 ;
5185
5186 LCDF2: ; TEST DATA SET LCDF-2:
5187 .WORD 2X1M,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
5188
5189 .WORD ALTP,M1 ; EXPECTED FLOAT RESULT
5190
5191 .WORD 047503,147514 ; FPS: BEFORE, AFTER
5192 .WORD 100014 ; FEC AFTER ( 0 = N/A )
5193
5194 ;*****
5195 ;*TEST 336 TEST OF LDCDF INSTR, DATA SET LCDF-3
5196 ;*
5197 ;* ALL INTERRUPT ENABLES ON
5198 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
5199 ;*****
5199 TST336: SCOPE
5200 MOV #LCDF3,R5 ; PTR TO TEST DATA SET
5201 JBR PC,#LCDFT ; GO TEST
5202
5203 BR TST337 ;
5204
5205 LCDF3: ; TEST DATA SET LCDF-3:
5206 .WORD 2X1M,M1,M1,M1 ; INITIAL MEM FLOAT NUMBER
5207
5208 .WORD 0,0 ; EXPECTED FLOAT RESULT
5209
5210 .WORD 047453,047444 ; FPS: BEFORE, AFTER
5211 .WORD NA ; FEC AFTER ( 0 = N/A )
5212
```

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5212
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5215
5216
5217
5218 023216 000004
5219 023220 012705 023232
5220 023224 004737 036574
5221
5222 023230 000411
5223
5224 023232
5225 023232 040200 000000 000000
5226 023240 000000
5227 023242 040200 000000
5228 023246 047557 047540
5229 023252 000000
5230
5231
5232
5233
5234
5235
5236
5237 023254 000004
5238 023256 012705 023270
5239 023262 004737 036574
5240
5241 023266 000411
5242
5243 023270
5244 023274 140200 000000 100000
5245 023276 000000
5246 023300 140200 000001
5247 023304 047407 047410
5248 023310 000000
5249
5250
5251
5252
5253
5254
5255
5256 023312 000004
5257 023314 012705 023326
5258 023320 004737 036574
5259
5260 023324 000411
5261
5262 023326
5263 023326 140200 000000 100000
5264 023334 000000
5265 023336 140200 000000
5266 023342 047447 047450
5267 023346 000000

*****
*TEST 337 TEST OF LDCDF INSTR, DATA SET LDCDF-4
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST337: SCOPE
MOV 0LCDF4,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF4 ; GO TEST
BR TST340 ;;

LDCDF4: ; TEST DATA SET LDCDF-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 LDCDF INSTR, DATA SET LDCDF-5
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST340: SCOPE
MOV 0LCDF5,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF5 ; GO TEST
BR TST341 ;;

LDCDF5: ; TEST DATA SET LDCDF-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 LDCDF INSTR, DATA SET LDCDF-6
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
*****
TST341: SCOPE
MOV 0LCDF6,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF6 ; GO TEST
BR TST342 ;;

LDCDF6: ; TEST DATA SET LDCDF-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 )

*****
*TEST 342 TEST OF LDCDF INSTR, DATA SET LDCDF-7
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, ROUND MODES
*****
TST342: SCOPE
MOV 0LCDF7,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF7 ; GO TEST
BR TST343 ;;

LDCDF7: ; TEST DATA SET LDCDF-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 LDCDF INSTR, DATA SET LDCDF-10
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
*****
TST343: SCOPE
MOV 0LCDF10,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF10 ; GO TEST
BR TST344 ;;

LDCDF10: ; TEST DATA SET LDCDF-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 LDCDF INSTR, DATA SET LDCDF-11
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST344: SCOPE
MOV 0LCDF11,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF11 ; GO TEST
BR TST345 ;;

LDCDF11: ; TEST DATA SET LDCDF-11:
.WORD 121177,M1,M0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 121200,0 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER
```

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5268
5269
5270
5271
5272
5273
5274
5275 023350 000004
5276 023352 012705 023364
5277 023356 004737 036574
5278
5279 023362 000411
5280
5281 023364
5282 023364 077777 177777 177777
5283 023372 177777
5284 023374 000000 000000
5285 023400 047511 147506
5286 023404 100010
5287
5288
5289
5290
5291
5292
5293
5294 023406 000004
5295 023410 012705 023422
5296 023414 004737 036574
5297
5298 023420 000411
5299
5300 023422
5301 023422 077777 177777 177777
5302 023430 177777
5303 023432 077777 177777
5304 023436 047557 047540
5305 023442 000000
5306
5307
5308
5309
5310
5311
5312
5313 023444 000004
5314 023446 012705 023460
5315 023452 004737 036574
5316
5317 023456 000411
5318
5319 023460
5320 023460 121177 177777 100000
5321 023466 000000
5322 023470 121200 000000
5323 023474 047407 047410

*****
*TEST 344 TEST OF LDCDF INSTR, DATA SET LDCDF-11
* ALL INTERRUPT ENABLES ON
* SHORT FLOAT, SHORT INTEGER, ROUND MODES
*****
TST344: SCOPE
MOV 0LCDF11,R5 ; PTR TO TEST DATA SET
JSR PC,00LCDF11 ; GO TEST
BR TST345 ;;

LDCDF11: ; TEST DATA SET LDCDF-11:
.WORD 121177,M1,M0,0 ; INITIAL MEM FLOAT NUMBER
.WORD 121200,0 ; EXPECTED FLOAT RESULT
.WORD 047407,047410 ; FPS: BEFORE, AFTER
```

```
5324 023500 000000          ,WORD NA          ; FEC AFTER ( 0 = N/A )
5325
5326
5327
5328 *****
5329 ;*TEST 345 TEST OF LDCDF INSTR, DATA SET LCDF-12
5330 ;* ALL INTERRUPT ENABLES ON
5331 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
5332 *****
5333 TST345: SCOPE
5334 MOV RLCDF12,R5 ; PTR TO TEST DATA SET
5335 JSR PC,R5LCDF1 ; GO TEST
5336
5337 BR TST346 ;
5338
5339 LCDF12: ; TEST DATA SET LCDF-12:
5340 ,WORD 121177,M1,M0,0 ; INITIAL MEM FLOAT NUMBER
5341
5342 ,WORD 121177,M1 ; EXPECTED FLOAT RESULT
5343 ,WORD 047447,047450 ; FPS: BEFORE, AFTER
5344 ,WORD NA ; FEC AFTER ( 0 = N/A )
5345
5346 *****
5347 ;*TEST 346 TEST OF LDCDF INSTR, DATA SET LCDF-13
5348 ;* ALL INTERRUPT ENABLES ON
5349 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
5350 *****
5351 TST346: SCOPE
5352 MOV RLCDF13,R5 ; PTR TO TEST DATA SET
5353 JSR PC,R5LCDF1 ; GO TEST
5354
5355 BR TST347 ;
5356
5357 LCDF13: ; TEST DATA SET LCDF-13:
5358 ,WORD FIP,0,LGP,M1 ; INITIAL MEM FLOAT NUMBER
5359
5360 ,WORD FIP,0 ; EXPECTED FLOAT RESULT
5361 ,WORD 047517,047500 ; FPS: BEFORE, AFTER
5362 ,WORD NA ; FEC AFTER ( 0 = N/A )
5363
5364 *****
5365 ;*TEST 347 TEST OF LDCDF INSTR, DATA SET LCDF-14
5366 ;* ALL INTERRUPT ENABLES ON
5367 ;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
5368 *****
5369 TST347: SCOPE
5370 MOV RLCDF14,R5 ; PTR TO TEST DATA SET
5371 JSR PC,R5LCDF1 ; GO TEST
5372
5373 BR TST350 ;
5374
5375 LCDF14: ; TEST DATA SET LCDF-14:
5376 ,WORD FIP,0,LGP,M1 ; INITIAL MEM FLOAT NUMBER
5377
5378 ,WORD FIP,0 ; EXPECTED FLOAT RESULT
5379 ,WORD 047517,047500 ; FPS: BEFORE, AFTER
5380 ,WORD NA ; FEC AFTER ( 0 = N/A )
```

```
5380 023626 047557 047540          ,WORD 047557,047540 ; FPS: BEFORE, AFTER
5381 023632 000000          ,WORD NA          ; FEC AFTER ( 0 = N/A )
5382
5383
5384 *****
5385 ;*TEST 350 TEST OF LDCDF INSTR, DATA SET LCDF-15
5386 ;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5387 ;* SHORT FLOAT, LONG INTEGER, ROUND MODES
5388 *****
5389 TST350: SCOPE
5390 MOV RLCDF15,R5 ; PTR TO TEST DATA SET
5391 JSR PC,R5LCDF1 ; GO TEST
5392
5393 BR TST351 ;
5394
5395 LCDF15: ; TEST DATA SET LCDF-15:
5396 ,WORD LGN,M1,M0,0 ; INITIAL MEM FLOAT NUMBER
5397
5398 ,WORD 0,0 ; EXPECTED FLOAT RESULT
5399 ,WORD 046511,046500 ; FPS: BEFORE, AFTER
5400 ,WORD NA ; FEC AFTER ( 0 = N/A )
5401
5402 *****
5403 ;*TEST 351 TEST OF LDCDF INSTR, DATA SET LCDF-16
5404 ;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
5405 ;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
5406 *****
5407 TST351: SCOPE
5408 MOV RLCDF16,R5 ; PTR TO TEST DATA SET
5409 JSR PC,R5LCDF1 ; GO TEST
5410
5411 BR TST352 ;
5412
5413 LCDF16: ; TEST DATA SET LCDF-16:
5414 ,WORD M0,M1,M1,0 ; INITIAL MEM FLOAT NUMBER
5415
5416 ,WORD 0,0 ; EXPECTED FLOAT RESULT
5417 ,WORD 043453,043444 ; FPS: BEFORE, AFTER
5418 ,WORD NA ; FEC AFTER ( 0 = N/A )
5419
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5421
5422
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5423
5424
5425
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5427
5428 023730 000004
5429 023732 012705 023744
5430 023736 004737 036744
5431
5432 023742 000411
5433
5434 023744
5435 023744 100000 000000
5436 023750 052525 177777 125252
5437 023756 000000
5438 023760 047643 147654
5439 023764 100014
5440
5441
5442
5443
5444
5445
5446
5447 023766 000004
5448 023770 012705 024002
5449 023774 004737 036744
5450
5451 024000 000411
5452
5453 024002
5454 024002 125252 125252
5455 024006 125252 125252 000000
5456 024014 000000
5457 024016 047607 047610
5458 024022 000000
5459
5460
5461
5462
5463
5464
5465
5466 024024 000004
5467 024026 012705 024040
5468 024032 004737 036744
5469
5470 024036 000411
5471
5472 024040
5473 024040 000000 000000
5474 024044 000000 000000 000000
5475 024052 000000
5476 024054 047753 047744
5477 024060 000000
5478

;*****
;*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,0LCFDT ; GO TEST
BR TST353 ;
LCFD1: ; TEST DATA SET LCFD=1:
;WORD M0,0 ; INITIAL MEM FLOAT NUMBER
;WORD ALTN,M1,ALTN,0 ; EXPECTED FLOAT RESULT
;WORD 047643,147654 ; FPS: BEFORE, AFTER
;WORD 100014 ; FEC AFTER ( 0 = N7A )

;*****
;*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,0LCFDT ; 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 = N7A )

;*****
;*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,0LCFDT ; 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 = N7A )
```

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5479
5480
5481
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5484
5485 024062 000004
5486 024064 012705 024076
5487 024070 004737 036744
5488
5489 024074 000411
5490
5491 024076
5492 024076 077777 177777
5493 024102 177777 177777 000000
5494 024110 000000
5495 024112 047717 047700
5496 024116 000000
5497
5498
5499
5500
5501
5502
5503
5504 024120 000004
5505 024122 012705 024134
5506 024126 004737 036744
5507
5508 024132 000411
5509
5510 024134
5511 024134 000177 177777
5512 024140 000000 000000 000000
5513 024146 000000
5514 024150 047653 047644
5515 024154 000000
5516
5517
5518
5519
5520
5521
5522
5523 024156 000004
5524 024160 012705 024172
5525 024164 004737 036744
5526
5527 024170 000411
5528
5529 024172
5530 024172 177777 177777
5531 024176 177777 177777 000000
5532 024204 000000
5533 024206 047607 047610
5534 024212 000000

;*****
;*TEST 355 TEST OF LDCFD INSTR, DATA SET LCFD=4
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST355: SCOPE
MOV #LCFD4,R5 ; PTR TO TEST DATA SET
JSR PC,0LCFDT ; 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 = N7A )

;*****
;*TEST 356 TEST OF LDCFD INSTR, DATA SET LCFD=5
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST356: SCOPE
MOV #LCFD5,R5 ; PTR TO TEST DATA SET
JSR PC,0LCFDT ; 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 = N7A )

;*****
;*TEST 357 TEST OF LDCFD INSTR, DATA SET LCFD=6
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST357: SCOPE
MOV #LCFD6,R5 ; PTR TO TEST DATA SET
JSR PC,0LCFDT ; GO TEST
BR TST358 ;
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 = N7A )
```

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5535
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5541
5542 024214 000004
5543 024216 012705 024230
5544 024242 004737 036744
5545
5546 024226 000411
5547
5548 024230
5549 024230 100177 177777
5550 024234 000000 000000 000000
5551 024242 000000
5552 024244 043753 043744
5553 024250 000000
5554
5555
5556
5557
5558
5559
5560
5561 024252 000004
5562 024254 012705 024266
5563 024260 004737 036744
5564
5565 024264 000411
5566
5567 024260
5568 024266 007417 007417
5569 024272 007417 000000
5570 024300 000000
5571 024302 047717 047700
5572 024306 000000
5573
5574
5575

;*****
;TEST 360 TEST OF LDCFD INSTR, DATA SET LCFD=0
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST360: SCOPE
MOV 0LCFD7,R5 ; PTR TO TEST DATA SET
JBR PC,08LCFDT ; GO TEST
BR TST361 ;;

LCFD7: ; TEST DATA SET LCFD=7
;WORD 0X1MN,M1 ; INITIAL MEM FLOAT NUMBER
;WORD 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 0LCFD10,R5 ; PTR TO TEST DATA SET
JBR PC,08LCFDT ; GO TEST
BR TST362 ;;

LCFD10: ; TEST DATA SET LCFD=10
;WORD ALT4P,ALT4P ; INITIAL MEM FLOAT NUMBER
;WORD ALT4P,ALT4P,0 ; EXPECTED FLOAT RESULT
;WORD 047717,047700 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

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5576
5577
5578
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5580
5581 024310 000004
5582 024312 012705 024324
5583 024316 004737 037134
5584
5585 024322 000411
5586
5587 024324
5588 024324 000000 000000 000000
5589 024332 000000
5590 024334 000000 000000
5591 024340 047753 047744
5592 024344 000000
5593
5594
5595
5596
5597
5598
5599
5600 024346 000004
5601 024350 012705 024362
5602 024354 004737 037134
5603
5604 024360 000411
5605
5606 024362
5607 024362 140200 000000 100000
5608 024370 000000
5609 024372 140200 000001
5610 024376 047707 047710
5611 024402 000000
5612
5613
5614
5615
5616
5617
5618
5619 024404 000004
5620 024406 012705 024420
5621 024412 004737 037134
5622
5623 024416 000411
5624
5625 024420
5626 024420 040200 000000 100000
5627 024426 000000
5628 024430 040200 000000
5629 024434 047657 047640
5630 024440 000000
5631

;*****
;TEST 362 TEST OF SCDF INSTR, DATA SET SCDF=1
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, TRUNCATE MODES
;*****
TST362: SCOPE
MOV 0SCDF1,R5 ; PTR TO TEST DATA SET
JBR PC,08SCDFT ; GO TEST
BR TST363 ;;

SCDF1: ; TEST DATA SET SCDF=1
;WORD 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 SCDF INSTR, DATA SET SCDF=4
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST363: SCOPE
MOV 0SCDF4,R5 ; PTR TO TEST DATA SET
JBR PC,08SCDFT ; GO TEST
BR TST364 ;;

SCDF4: ; TEST DATA SET SCDF=4
;WORD FIN,0,M0,0 ; 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 SCDF INSTR, DATA SET SCDF=3
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST364: SCOPE
MOV 0SCDF3,R5 ; PTR TO TEST DATA SET
JBR PC,08SCDFT ; GO TEST
BR TST365 ;;

SCDF3: ; TEST DATA SET SCDF=3
;WORD FIP,0,M0,0 ; INITIAL AC FLOAT NUMBER
;WORD FIP,0 ; EXPECTED FLOAT RESULT
;WORD 047657,047640 ; FPS: BEFORE, AFTER
;WORD NA ; FEC AFTER ( 0 = N/A )

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5632
5633
5634
5635
5636
5637
5638 024442 000004
5639 024444 012705 024456
5640 024450 004737 037134
5641
5642 024454 000411
5643
5644 024456
5645 024456 000177 177777 177777
5646 024464 177777
5647 024466 000000 000000
5648 024472 047613 047604
5649 024476 000000
5650
5651
5652
5653
5654
5655
5656
5657 024500 000004
5658 024502 012705 024514
5659 024506 004737 037134
5660
5661 024512 000411
5662
5663 024514
5664 024514 040200 000000 100000
5665 024522 000000
5666 024524 040200 000001
5667 024530 047717 047700
5668 024534 000000
5669
5670
5671
5672
5673
5674
5675
5676 024536 000004
5677 024540 012705 024552
5678 024544 004737 037134
5679
5680 024550 000411
5681
5682 024552
5683 024552 177777 177777 177777
5684 024560 177777
5685 024562 177777 177777
5686 024566 047747 047750
5687 024572 000000

*****
;TEST 365 TEST OF STCDF INSTR, DATA SET SCDF-3
;*
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
*****
TST365: SCOPE
MOV #SCDF4,R5 ; PTR TO TEST DATA SET
JSR PC,0#SCDFT ; GU TEST
BR TST366 ;;

SCDF4: ; TEST DATA SET SCDF-4:
.WORD 2X1MP,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
.WORD 0,0 ; EXPECTED FLOAT RESULT
.WORD 047613,047604 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

*****
;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,0#SCDFT ; GU TEST
BR TST367 ;;

SCDF5: ; TEST DATA SET SCDF-5:
.WORD FIP,0,M0,0 ; INITIAL AC FLOAT NUMBER
.WORD FIP,1 ; EXPECTED FLOAT RESULT
.WORD 047717,047700 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

*****
;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,0#SCDFT ; GU 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 = N7A )

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5688
5689
5690
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5692
5693
5694
5695 024574 000004
5696 024576 012705 024610
5697 024602 004737 037134
5698
5699 024606 000411
5700
5701 024610
5702 024613 040200 000000 077777
5703 024616 177777
5704 024620 040200 000000
5705 024624 047617 047600
5706 024630 000000
5707
5708
5709
5710
5711
5712
5713
5714 024632 000004
5715 024634 012705 024646
5716 024640 004737 037134
5717
5718 024644 000411
5719
5720 024646
5721 024646 177777 177777 177777
5722 024654 177777
5723 024656 100000 000000
5724 024662 047601 147616
5725 024666 100010
5726
5727
5728
5729
5730
5731
5732
5733 024670 000004
5734 024672 012705 024704
5735 024676 004737 037134
5736
5737 024702 000411
5738
5739 024704
5740 024704 040200 000000 077777
5741 024712 177777
5742 024714 040200 000000
5743 024720 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,0#SCDFT ; GU TEST
BR TST371 ;;

SCDF7: ; TEST DATA SET SCDF-7:
.WORD FIP,0,LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD FIP,0 ; EXPECTED FLOAT RESULT
.WORD 047617,047600 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

*****
;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,0#SCDFT ; GU 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 = N7A )

*****
;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,0#SCDFT ; GU TEST
BR TST373 ;;

SCDF11: ; TEST DATA SET SCDF-11:
.WORD FIP,0,LGP,M1 ; INITIAL AC FLOAT NUMBER
.WORD FIP,1 ; EXPECTED FLOAT RESULT
.WORD 047757,047740 ; FPS: BEFORE, AFTER

```

```
5744 024724 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5745
5746
5747
5748
5749
5750
5751
5752 024726 000004
5753 024730 012705 024742
5754 024734 004737 037134
5755
5756 024740 000411
5757
5758 024742
5759 024742 101777 177777 100000 SCDF12: ; TEST DATA SET SCDF-12:
5760 024750 000000 .WORD 101777,M1,M0,0 ; INITIAL AC FLOAT NUMBER
5761 024752 102000 000000 .WORD 102000,0 ; EXPECTED FLOAT RESULT
5762 024756 047707 047710 .WORD 047707,047710 ; FPS: BEFORE, AFTER
5763 024762 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5764
5765
5766
5767
5768
5769
5770
5771 024764 000004
5772 024766 012705 025000
5773 024772 004737 037134
5774
5775 024776 000411
5776
5777 025000
5778 025000 101777 177777 100000 SCDF13: ; TEST DATA SET SCDF-13:
5779 025006 000000 .WORD 101777,M1,M0,0 ; INITIAL AC FLOAT NUMBER
5780 025010 101777 177777 .WORD 101777,M1 ; EXPECTED FLOAT RESULT
5781 025014 047647 047650 .WORD 047647,047650 ; FPS: BEFORE, AFTER
5782 025020 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5783
5784
5785
5786
5787
5788
5789
5790 025022 000004
5791 025024 012705 025036
5792 025030 004737 037134
5793
5794 025034 000411
5795
5796 025036
5797 025036 077777 177777 100000 SCDF14: ; TEST DATA SET SCDF-14:
5798 025044 000000 .WORD LGP,M1,M0,0 ; INITIAL AC FLOAT NUMBER
5799 025046 000000 .WORD 0,0 ; EXPECTED FLOAT RESULT
```

```
5800 025052 046011 046006 .WORD 046011,046006 ; FPS: BEFORE, AFTER
5801 025056 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
5802
5803
5804
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5005
5006
5007
5008
5009
5010 025060 000004
5011 025062 012705 025074
5012 025066 004737 037300
5013
5014 025072 000412
5015
5016 025074
5017 025074 052525 052525 052525 SCFD1: ; TEST DATA SET SCFD-11
5018 025102 052525 ; INITIAL AC FLOAT NUMBER
5019 025104 052525 052525 000000 .WORD ALTP,ALTP,0,0 ; EXPECTED FLOAT RESULT
5020 025112 000000
5021 025114 047417 047400 .WORD 047417,047400 ; FPS: BEFORE, AFTER
5022
5023
5024
5025
5026
5027
5028
5029 025120 000004
5030 025122 012705 025134
5031 025126 004737 037300
5032
5033 025132 000412
5034
5035 025134
5036 025134 000177 177777 177777 SCFD2: ; TEST DATA SET SCFD-21
5037 025142 177777 ; INITIAL AC FLOAT NUMBER
5038 025144 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
5039 025152 000000
5040 025154 047513 047504 .WORD 047513,047504 ; FPS: BEFORE, AFTER
5041
5042
5043
5044
5045
5046
5047
5048 025160 000004
5049 025162 012705 025174
5050 025166 004737 037300
5051
5052 025172 000412
5053
5054 025174
5055 025174 177777 177777 177777 SCFD3: ; TEST DATA SET SCFD-31
5056 025202 177777 ; INITIAL AC FLOAT NUMBER
5057 025204 177777 177777 000000 .WORD LGN,M1,0,0 ; EXPECTED FLOAT RESULT
5058 025212 000000
5059 025214 047407 047410 .WORD 047407,047410 ; FPS: BEFORE, AFTER
5060
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5061
5062
5063
5064
5065
5066
5067 025220 000004
5068 025222 012705 025234
5069 025226 004737 037300
5070
5071 025232 000412
5072
5073 025234
5074 025234 170360 170360 170360 SCFD4: ; TEST DATA SET SCFD-41
5075 025242 170360 ; INITIAL AC FLOAT NUMBER
5076 025244 170360 170360 000000 .WORD ALT4N,ALT4N,0,0 ; EXPECTED FLOAT RESULT
5077 025252 000000
5078 025254 047547 047550 .WORD 047547,047550 ; FPS: BEFORE, AFTER
5079
5080
5081
5082
5083
5084
5085
5086 025260 000004
5087 025262 012705 025274
5088 025266 004737 037300
5089
5090 025272 000412
5091
5092 025274
5093 025274 000000 000000 000000 SCFD5: ; TEST DATA SET SCFD-51
5094 025302 000000 ; INITIAL AC FLOAT NUMBER
5095 025304 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
5096 025312 000000
5097 025314 047453 047444 .WORD 047453,047444 ; FPS: BEFORE, AFTER
5098
5099
5100
5101
5102
5103
5104
5105 025320 000004
5106 025322 012705 025334
5107 025326 004737 037300
5108
5109 025332 000412
5110
5111 025334
5112 025334 177777 000000 177777 SCFD6: ; TEST DATA SET SCFD-61
5113 025342 177777 ; INITIAL AC FLOAT NUMBER
5114 025344 177777 000000 000000 .WORD LGP,0,M1,M1 ; EXPECTED FLOAT RESULT
5115 025352 000000
5116 025354 047517 047500 .WORD 047517,047500 ; FPS: BEFORE, AFTER
```

5917
5918

5919
5920
5921
5922
5923
5924 025360 000004
5925 025362 012705 025374
5926 025366 004737 037422
5927
5928 025372 000405
5929
5930 025374
5931 025374 100000
5932 025376 144000 000000
5933 025402 047407 047410
5934
5935
5936
5937
5938
5939
5940
5941 025406 000004
5942 025410 012705 025422
5943 025414 004737 037422
5944
5945 025420 000405
5946
5947 025422
5948 025422 007417
5949 025424 043100 170000
5950 025430 047457 047440
5951
5952
5953
5954
5955
5956
5957
5958 025434 000004
5959 025436 012705 025450
5960 025442 004737 037422
5961
5962 025446 000405
5963
5964 025450
5965 025450 000000
5966 025452 000000 000000
5967 025456 047413 047404
5968
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5970
5971
5972
5973
5974

```

;*****
;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,00LCIFT         ; 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,00LCIFT         ; GO TEST
        BR      TST406            ;;

LCIF2:   ; TEST DATA SET LCIF=2
        .WORD   007417 ; INITIAL INTEGER VALUE
        .WORD   043100,170000 ; 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,00LCIFT         ; 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
;*****

```

5975 025462 000004
5976 025461 012705 025476
5977 025470 004737 037422
5978
5979 025474 000405
5980
5981 025476
5982 025476 170360
5983 025500 143161 000000
5984 025504 047447 047450
5985
5986
5987
5988
5989
5990
5991
5992 025510 000004
5993 025512 012705 025524
5994 025516 004737 037422
5995
5996 025522 000405
5997
5998 025524
5999 025524 077777
0000 025526 043777 177000
0001 025532 047417 047400
0002
0003
0004

TST407: SCOPE
MOV 0LCIF4,R5 ; PTR TO TEST DATA SET
JSH PC,00LCIFT ; 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 LCIF INSTR, DATA SET LCIF-5
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST410: SCOPE
MOV 0LCIF5,R5 ; PTR TO TEST DATA SET
JSH PC,00LCIFT ; 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

0005
0006
0007
0008
0009
0010 025536 000004
0011 025540 012705 025552
0012 025544 004737 037522
0013
0014 025550 000407
0015
0016 025552
0017 025552 107070
0018 025554 143743 110000 000000
0019 025562 000000
0020 025564 047600 047610
0021
0022
0023
0024
0025
0026
0027
0028 025570 000004
0029 025572 012705 025604
0030 025576 004737 037522
0031
0032 025602 000407
0033
0034 025604
0035 025604 000000
0036 025606 000000 000000 000000
0037 025614 000000
0038 025616 047653 047644
0039
0040
0041
0042
0043
0044
0045
0046 025622 000004
0047 025624 012705 025636
0048 025630 004737 037522
0049
0050 025634 000407
0051
0052 025636
0053 025640 077777
0054 025640 043777 177000 000000
0055 025646 000000
0056 025650 047657 047640
0057
0058
0059
0060

;*****
;*TEST 411 TEST OF LCID INSTR, DATA SET LCID-1
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST411: SCOPE
MOV 0LCID1,R5 ; PTR TO TEST DATA SET
JSH PC,00LCIDT ; GO TEST
BR TST412 ;
LCID1: ; TEST DATA SET LCID-1:
.WORD 107070 ; INITIAL INTEGER VALUE
.WORD 143743,110000,0,0 ; EXPECTED FLOAT RESULT
.WORD 047600,047610 ; FPS: BEFORE, AFTER
;*****
;*TEST 412 TEST OF LCID INSTR, DATA SET LCID-2
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST412: SCOPE
MOV 0LCID2,R5 ; PTR TO TEST DATA SET
JSH PC,00LCIDT ; GO TEST
BR TST413 ;
LCID2: ; TEST DATA SET LCID-2:
.WORD 000000 ; INITIAL INTEGER VALUE
.WORD 000000,000000,0,0 ; EXPECTED FLOAT RESULT
.WORD 047653,047644 ; FPS: BEFORE, AFTER
;*****
;*TEST 413 TEST OF LCID INSTR, DATA SET LCID-3
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST413: SCOPE
MOV 0LCID3,R5 ; PTR TO TEST DATA SET
JSH PC,00LCIDT ; GO TEST
BR TST414 ;
LCID3: ; TEST DATA SET LCID-3:
.WORD 077777 ; INITIAL INTEGER VALUE
.WORD 043777,177000,0,0 ; EXPECTED FLOAT RESULT
.WORD 047657,047640 ; FPS: BEFORE, AFTER
;*****
;*TEST 414 TEST OF LCID INSTR, DATA SET LCID-4

```
0061      ;*
0062      ;*      ALL INTERRUPT ENABLES ON
0063      ;*      LONG FLOAT, SHORT INTEGER, ROUND MODES
0064      ;******
0065      TST414: SCOPE
0066      MOV      #LCID4,R5      ; PTR TO TEST DATA SET
0067      JSR      PC,00LCIDT      ; GO TEST
0068      BR       TST415      ;;
0069
0070      LCI04: ; TEST DATA SET LCI0-4:
0071      .WORD    070707 ; INITIAL INTEGER VALUE
0072      .WORD    043743 ; EXPECTED FLOAT RESULT
0073      .WORD    000000
0074      .WORD    047617 047600 ; FPS: BEFORE, AFTER
0075
0076      ;******
0077      ;*TEST 415 TEST OF LDCID INSTR, DATA SET LCI0-3
0078      ;*
0079      ;*      ALL INTERRUPT ENABLES ON
0080      ;*      LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
0081      ;******
0082      TST415: SCOPE
0083      MOV      #LCID5,R5      ; PTR TO TEST DATA SET
0084      JSR      PC,00LCIDT      ; GO TEST
0085      BR       TST416      ;;
0086
0087      LCI05: ; TEST DATA SET LCI0-5:
0088      .WORD    100000 ; INITIAL INTEGER VALUE
0089      .WORD    140000 ; EXPECTED FLOAT RESULT
0090      .WORD    000000
0091      .WORD    047647 047650 ; FPS: BEFORE, AFTER
0092
0093
0094
0095
```

```
0096      ;******
0097      ;*TEST 416 TEST OF LDCLF INSTR, DATA SET LCLF-1
0098      ;*
0099      ;*      ALL INTERRUPT ENABLES ON
0100      ;*      SHORT FLOAT, LONG INTEGER, ROUND MODES
0101      ;******
0102      TST416: SCOPE
0103      MOV      #LCLF1,R5      ; PTR TO TEST DATA SET
0104      JSR      PC,00LCLFT      ; GO TEST
0105      BR       TST417      ;;
0106
0107      LCLF1: ; TEST DATA SET LCLF-1:
0108      .WORD    077777,M1      ; INITIAL INTEGER VALUE
0109      .WORD    050000,000000 ; EXPECTED FLOAT RESULT
0110      .WORD    047517,047500 ; FPS: BEFORE, AFTER
0111
0112
0113      ;******
0114      ;*TEST 417 TEST OF LDCLF INSTR, DATA SET LCLF-4
0115      ;*
0116      ;*      ALL INTERRUPT ENABLES ON
0117      ;*      SHORT FLOAT, LONG INTEGER, TRUNCATE MODES
0118      ;******
0119      TST417: SCOPE
0120      MOV      #LCLF2,R5      ; PTR TO TEST DATA SET
0121      JSR      PC,00LCLFT      ; GO TEST
0122      BR       TST420      ;;
0123
0124      LCLF2: ; TEST DATA SET LCLF-2:
0125      .WORD    077777,M1      ; INITIAL INTEGER VALUE
0126      .WORD    047777,M1      ; EXPECTED FLOAT RESULT
0127      .WORD    047557,047540 ; FPS: BEFORE, AFTER
0128
0129
0130      ;******
0131      ;*TEST 420 TEST OF LDCLF INSTR, DATA SET LCLF-3
0132      ;*
0133      ;*      ALL INTERRUPT ENABLES ON
0134      ;*      SHORT FLOAT, LONG INTEGER, ROUND MODES
0135      ;******
0136      TST420: SCOPE
0137      MOV      #LCLF3,R5      ; PTR TO TEST DATA SET
0138      JSR      PC,00LCLFT      ; GO TEST
0139      BR       TST421      ;;
0140
0141      LCLF3: ; TEST DATA SET LCLF-3:
0142      .WORD    170360,170360 ; INITIAL INTEGER VALUE
0143      .WORD    147160,170361 ; EXPECTED FLOAT RESULT
0144      .WORD    047507,047510 ; FPS: BEFORE, AFTER
0145
0146
0147      ;******
0148      ;*TEST 421 TEST OF LDCLF INSTR, DATA SET LCLF-4
0149      ;*
0150      ;*      ALL INTERRUPT ENABLES ON
0151      ;*      SHORT FLOAT, LONG INTEGER, ROUND MODES
0152      ;******
```

0152 026050 000004
0153 026052 012705 026064
0154 026056 004737 037642
0155
0156 026062 000406
0157
0158 026064
0159 026064 000000 000000
0160 026070 000000 000000
0161 026074 047513 047504
0162
0163
0164
0165
0166
0167
0168
0169 026100 000004
0170 026102 012705 026114
0171 026106 004737 037642
0172
0173 026112 000406
0174
0175 026114
0176 026114 077777 177677
0177 026120 047777 177777
0178 026124 047517 047500
0179
0180
0181
0182
0183
0184
0185
0186 026130 000004
0187 026132 012705 026144
0188 026136 004737 037642
0189
0190 026142 000406
0191
0192 026144
0193 026144 100000 000000
0194 026150 150000 000000
0195 026154 047547 047550
0196
0197
0198
0199
0200
0201
0202
0203 026160 000004
0204 026162 012705 026174
0205 026166 004737 037642
0206
0207 026172 000406

TST421: SCOPE
MOV #LCLF4,R5 ; PTR TO TEST DATA SET
JBR 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 MOVES
;*****
TST422: SCOPE
MOV #LCLF5,R5 ; PTR TO TEST DATA SET
JBR 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 MOVES
;*****
TST423: SCOPE
MOV #LCLF6,R5 ; PTR TO TEST DATA SET
JBR 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 MOVES
;*****
TST424: SCOPE
MOV #LCLF7,R5 ; PTR TO TEST DATA SET
JBR PC,#LCLFT ; GO TEST

BR TST425 ;

0208
0209 026174
0210 026174 043434 070707
0211 026200 047616 034343
0212 026204 047557 047540
0213
0214
0215

LCLF7: ; TEST DATA SET LCLF-7:
.WORD 043434,070707 ; INITIAL INTEGER VALUE
.WORD 047616,034343 ; EXPECTED FLOAT RESULT
.WORD 047557,047540 ; FPS: BEFORE, AFTER

```
0210 ;*****
0211 ;TEST 425 TEST OF LDCLO INSTR, DATA SET LCLD-1
0212 ;* ALL INTERRUPT ENABLES ON
0213 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
0214 ;*****
0221 TST425: SCOPE
0222 MOV $LCLD1,R5 ; PTR TO TEST DATA SET
0223 JSR PC,$LCLD1 ; GO TEST
0224 BR TST426 ;;
0225
0226 LCLD1: ; TEST DATA SET LCLD-1
0227 ;WORD 007417,007417 ; INITIAL INTEGER VALUE
0228 ;WORD 047160,170360,170000,0 ; EXPECTED FLOAT RESULT
0229 ;WORD 047717,047700 ; FPS: BEFORE, AFTER
0230
0231 ;*****
0232 ;TEST 426 TEST OF LDCLO INSTR, DATA SET LCLD-2
0233 ;* ALL INTERRUPT ENABLES ON
0234 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
0235 ;*****
0239 TST426: SCOPE
0240 MOV $LCLD2,R5 ; PTR TO TEST DATA SET
0241 JSR PC,$LCLD2 ; GO TEST
0242 BR TST427 ;;
0243
0244 LCLD2: ; TEST DATA SET LCLD-2
0245 ;WORD 100000,000000 ; INITIAL INTEGER VALUE
0246 ;WORD 150000,000000,000000,0 ; EXPECTED FLOAT RESULT
0247 ;WORD 047747,047750 ; FPS: BEFORE, AFTER
0248
0249 ;*****
0250 ;TEST 427 TEST OF LDCLO INSTR, DATA SET LCLD-3
0251 ;* ALL INTERRUPT ENABLES ON
0252 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
0253 ;*****
0257 TST427: SCOPE
0258 MOV $LCLD3,R5 ; PTR TO TEST DATA SET
0259 JSR PC,$LCLD3 ; GO TEST
0260 BR TST430 ;;
0261
0262 LCLD3: ; TEST DATA SET LCLD-3
0263 ;WORD 077777,M1 ; INITIAL INTEGER VALUE
0264 ;WORD 047777,M1,177000,0 ; EXPECTED FLOAT RESULT
0265 ;WORD 047757,047740 ; FPS: BEFORE, AFTER
0266
0267 ;*****
0268 ;TEST 430 TEST OF LDCLO INSTR, DATA SET LCLD-4
```

```
0272 ;* ALL INTERRUPT ENABLES ON
0273 ;* LONG FLOAT, LONG INTEGER, ROUND MODES
0274 ;*****
0275 TST430: SCOPE
0276 MOV $LCLD4,R5 ; PTR TO TEST DATA SET
0277 JSR PC,$LCLD4 ; GO TEST
0278 BR TST431 ;;
0279
0280 LCLD4: ; TEST DATA SET LCLD-4
0281 ;WORD 107070,161616 ; INITIAL INTEGER VALUE
0282 ;WORD 147743,107070,162000,0 ; EXPECTED FLOAT RESULT
0283 ;WORD 047700,047710 ; FPS: BEFORE, AFTER
0284
0285 ;*****
0286 ;TEST 431 TEST OF LDCLO INSTR, DATA SET LCLD-5
0287 ;* ALL INTERRUPT ENABLES ON
0288 ;* LONG FLOAT, LONG INTEGER, TRUNCATE MODES
0289 ;*****
0293 TST431: SCOPE
0294 MOV $LCLD5,R5 ; PTR TO TEST DATA SET
0295 JSR PC,$LCLD5 ; GO TEST
0296 BR TST432 ;;
0297
0298 LCLD5: ; TEST DATA SET LCLD-5
0299 ;WORD 000000,000000 ; INITIAL INTEGER VALUE
0300 ;WORD 000000,000000,000000,0 ; EXPECTED FLOAT RESULT
0301 ;WORD 047753,047744 ; FPS: BEFORE, AFTER
0302
0303 ;*****
0304 ;*****
0305 ;*****
0306 ;*****
```

0307
0308
0309
0310
0311
0312 026424 000004
0313 026426 012705 026440
0314 026432 004737 040002
0315
0316 026436 000406
0317
0318 026440
0319 026444 000000 000000
0320 026444 000000
0321 026446 047453 047444
0322 026452 000000
0323
0324
0325
0326
0327
0328
0329
0330 026454 000004
0331 026456 012705 026470
0332 026462 004737 040002
0333
0334 026466 000406
0335
0336 026470
0337 026470 041532 000000
0338 026474 000006
0339 026476 047457 047440
0340 026502 000000
0341
0342
0343
0344
0345
0346
0347
0348 026504 000004
0349 026506 012705 026520
0350 026512 004737 040002
0351
0352 026516 000406
0353
0354 026520
0355 026520 052525 052525
0356 026524 000000
0357 026526 047452 147445
0358 026532 100000
0359
0360
0361
0362

```
*****
;*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   000006 ; 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   052524,052525 ; 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
```

0363
0364
0365
0366 026534 000004
0367 026536 012705 026550
0368 026542 004737 040002
0369
0370 026546 000406
0371
0372 026550
0373 026550 141531 177777
0374 026554 177712
0375 026556 047407 047410
0376 026562 000000
0377
0378
0379
0380
0381
0382
0383
0384 026564 000004
0385 026566 012705 026600
0386 026572 004737 040002
0387
0388 026576 000406
0389
0390 026600
0391 026600 041532 000000
0392 026604 000006
0393 026606 047417 047400
0394 026612 000000
0395
0396
0397
0398
0399
0400
0401
0402 026614 000004
0403 026616 012705 026630
0404 026622 004737 040002
0405
0406 026626 000406
0407
0408 026630
0409 026630 172011 123456
0410 026634 000000
0411 026636 047052 047045
0412 026642 000000
0413
0414
0415
0416
0417
0418

```
;*
;* 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,NA      ; 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   000006 ; 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
```

0419
0420 026644 000004
0421 026646 012705 026660
0422 026652 004737 040062
0423
0424 026656 000400
0425
0426 026660
0427 026660 000000 177777
0428 026664 000000
0429 026666 047413 047404
0430 026672 000000
0431
0432
0433

```

;*****
TST440: SCOPE
        MOV     $SCFI7,R5      ; PTR TO TEST DATA SET
        JSR     PC,$SCFI7      ; 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 )

```

0434
0435
0436
0437
0438
0439 026674 000004
0440 026676 012705 026710
0441 026702 004737 040260
0442
0443 026706 000410
0444
0445 026710
0446 026710 044000 000000 000000
0447 026716 000000
0448 026720 000000
0449 026722 047652 147645
0450 026726 100006
0451
0452
0453
0454
0455
0456
0457
0458
0459 026730 000004
0460 026732 012705 026744
0461 026736 004737 040260
0462
0463 026742 000410
0464
0465 026744 043777 177377 177777
0466 026752 177777
0467 026754 077777
0468 026756 047617 047600
0469 026762 000000
0470
0471
0472
0473
0474
0475
0476
0477 026764 000004
0478 026766 012705 027000
0479 026772 004737 040260
0480
0481 026776 000410
0482
0483 027000
0484 027000 000000 000000 000000
0485 027006 000000
0486 027010 000000
0487 027012 047613 047604
0488 027016 000000
0489

```

;*****
;*TEST 441 TEST OF STCDI INSTR, DATA SET SCDI-1
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST441: SCOPE
        MOV     $SCDI1,R5      ; PTR TO TEST DATA SET
        JSR     PC,$SCDI1      ; 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     $SCDI2,R5      ; PTR TO TEST DATA SET
        JSR     PC,$SCDI2      ; 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     $SCDI3,R5      ; PTR TO TEST DATA SET
        JSR     PC,$SCDI3      ; 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 )

```

```

0490
0491
0492
0493
0494
0495
0496 027020 000004
0497 027022 012705 027034
0498 027026 004737 040260
0499
0500 027032 000410
0501
0502 027034
0503 027034 143161 007777 177777
0504 027042 177777
0505 027044 170360
0506 027046 047607 047610
0507 027052 000000
0508
0509
0510
0511
0512
0513
0514
0515 027054 000004
0516 027056 012705 027070
0517 027062 004737 040260
0518
0519 027060 000410
0520
0521 027070
0522 027070 143777 177777 177777
0523 027076 177777
0524 027100 100001
0525 027102 047647 047650
0526 027106 000000
0527
0528
0529
0530
0531
0532
0533
0534 027110 000004
0535 027112 012705 027124
0536 027116 004737 040260
0537
0538 027122 000410
0539
0540 027124
0541 027124 152525 052525 177777
0542 027132 000000
0543 027134 000000
0544 027136 047212 047205
0545 027142 000000

;*****
;*TEST 444 TEST OF STCDI INSTR, DATA SET SCD1-4
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST444: SCOPE
MOV #SCD14,R5 ; PTR TO TEST DATA SET
JSR PC,0#SCDIT ; GO TEST
BR TST445 ;;

SCD14: ; TEST DATA SET SCD1-4
.WORD 143161,007777,M1,M1 ; INITIAL FLOAT VALUE
.WORD 170360 ; EXPECTED INTEGER RESULT
.WORD 047607,047610 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

;*****
;*TEST 445 TEST OF STCDI INSTR, DATA SET SCD1-5
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST445: SCOPE
MOV #SCD15,R5 ; PTR TO TEST DATA SET
JSR PC,0#SCDIT ; GO TEST
BR TST446 ;;

SCD15: ; TEST DATA SET SCD1-5
.WORD 143777,M1,M1,M1 ; INITIAL FLOAT VALUE
.WORD 100001 ; EXPECTED INTEGER RESULT
.WORD 047647,047650 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

;*****
;*TEST 446 TEST OF STCDI INSTR, DATA SET SCD1-6
;* INTEGER CONVERSION INTERRUPT ENABLE OFF, ALL OTHERS ON
;* LONG FLOAT, SHORT INTEGER, ROUND MODES
;*****
TST446: SCOPE
MOV #SCD16,R5 ; PTR TO TEST DATA SET
JSR PC,0#SCDIT ; GO TEST
BR TST447 ;;

SCD16: ; TEST DATA SET SCD1-6
.WORD 152525,052525,M1,000000 ; INITIAL FLOAT VALUE
.WORD 000000 ; EXPECTED INTEGER RESULT
.WORD 047212,047205 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

```

```

0546
0547
0548
0549
0550
0551
0552
0553 027144 000004
0554 027146 012705 027160
0555 027152 004737 040260
0556
0557 027156 000410
0558
0559 027160
0560 027160 140377 177777 177777
0561 027166 052525
0562 027170 177777
0563 027172 047647 047650
0564 027176 000000
0565
0566
0567

;*****
;*TEST 447 TEST OF STCDI INSTR, DATA SET SCD1-7
;* ALL INTERRUPT ENABLES ON
;* LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST447: SCOPE
MOV #SCD17,R5 ; PTR TO TEST DATA SET
JSR PC,0#SCDIT ; GO TEST
BR TST450 ;;

SCD17: ; TEST DATA SET SCD1-7
.WORD 140377,M1,M1,052525 ; INITIAL FLOAT VALUE
.WORD M1 ; EXPECTED INTEGER RESULT
.WORD 047647,047650 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N7A )

```

056H
056J
057A
057I
0574
057J 027200 000004
057H 027202 012705 027214
0575 027206 004737 040456
0576
0577 027212 000407
0578
0579 027214
0580 027214 047777 177777
0581 027220 077777 177600
0582 027224 047517 047500
0583 027230 000000
0584
0585
0586
0587
0588
0589
0590
0591 027232 000004
0592 027234 012705 027246
0593 027240 004737 040456
0594
0595 027244 000407
0596
0597 027246
0598 027246 150000 000001
0599 027252 000000 000000
0600 027256 047512 147505
0601 027262 100006
0602
0603
0604
0605
0606
0607
0608
0609 027264 000004
0610 027266 012705 027300
0611 027272 004737 040456
0612
0613 027276 000407
0614
0615 027300
0616 027320 037777 177777
0617 027304 000000 000000
0618 027310 047553 047544
0619 027314 000000
0620
0621
0622
0623

```
*****  
;*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              ; FLC 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         ; FLC 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              ; FLC AFTER ( 0 = N/A )  
  
*****  
;*TEST 453 TEST OF STCFL INSTR, DATA SET SCFL=4
```

0624
0625
0626
0627 027316 000004
0628 027320 012705 027332
0629 027324 004737 040456
0630
0631 027330 000407
0632
0633 027332
0634 027332 000000 000000
0635 027336 000000 000000
0636 027342 047553 047544
0637 027346 000000
0638
0639
0640
0641
0642
0643
0644
0645 027350 000004
0646 027352 012705 027364
0647 027356 004737 040456
0648
0649 027362 000407
0650
0651 027364
0652 027364 147777 177777
0653 027370 100000 000200
0654 027374 047507 047510
0655 027400 000000
0656
0657
0658
0659
0660
0661
0662
0663 027402 000004
0664 027404 012705 027416
0665 027410 004737 040456
0666
0667 027414 000407
0668
0669 027416
0670 027416 040577 177777
0671 027422 000000 000003
0672 027426 047517 047500
0673 027432 000000
0674
0675
0676
0677
0678
0679

```
*****  
;* 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              ; FLC 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              ; FLC 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              ; FLC 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
```

0680
0681 027434 000004
0682 027436 012705 027450
0683 027442 004737 040456
0684
0685 027446 000407
0686
0687 027450
0688 027450 000000 123456
0689 027454 000000 000000
0690 027460 047152 047145
0691 027464 000000
0692
0693
0694

```

*****
TST456: SCOPE
      MOV      $SCFL7,R5      ; PTR TO TEST DATA SET
      JSR      PC,$0$SCFLT    ; GO TEST
      BR       TST457        ;;

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

```

0695
0696
0697
0698
0699
0700 027466 000004
0701 027470 012705 027502
0702 027474 004737 040664
0703
0704 027500 000411
0705
0706 027502
0707 027502 000000 177000 177000
0708 027510 177000
0709 027512 000000 000000
0710 027516 047712 147705
0711 027522 100006
0712
0713
0714
0715
0716
0717
0718
0719 027524 000004
0720 027526 012705 027540
0721 027532 004737 040664
0722
0723 027536 000411
0724
0725 027540
0726 027540 047777 177777 177377
0727 027546 177777
0728 027550 047777 177777
0729 027554 047717 047700
0730 027556 000000
0731
0732
0733
0734
0735
0736
0737
0738 027562 000004
0739 027564 012705 027576
0740 027570 004737 040664
0741
0742 027574 000411
0743
0744 027576
0745 027576 177777 125252 177777
0746 027584 177777
0747 027586 000000 000000
0748 027612 047713 047704
0749 027616 000000
0750

```

*****
; *TEST 457      TEST OF STCDL INSTR, DATA SET SCDL=1
; *              ALL INTERRUPT ENABLES ON
; *              LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST457: SCOPE
      MOV      $SCDL1,R5      ; PTR TO TEST DATA SET
      JSR      PC,$0$SCDLT    ; GO TEST
      BR       TST460        ;;

SCDL1:  ; TEST DATA SET SCDL=1:
      .WORD    000000,177000,177000,177000  ; INITIAL FLOAT VALUE
      .WORD    000000,000000  ; EXPECTED INTEGER RESULT
      .WORD    047712,147705  ; FPS: BEFORE, AFTER
      .WORD    100006         ; FEC AFTER ( 0 = N/A )
*****

; *TEST 460      TEST OF STCDL INSTR, DATA SET SCDL=2
; *              ALL INTERRUPT ENABLES ON
; *              LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST460: SCOPE
      MOV      $SCDL2,R5      ; PTR TO TEST DATA SET
      JSR      PC,$0$SCDLT    ; GO TEST
      BR       TST461        ;;

SCDL2:  ; TEST DATA SET SCDL=2:
      .WORD    047777,M1,177377,M1  ; INITIAL FLOAT VALUE
      .WORD    077777,M1           ; EXPECTED INTEGER RESULT
      .WORD    047717,047700      ; FPS: BEFORE, AFTER
      .WORD    NA                  ; FEC AFTER ( 0 = N/A )
*****

; *TEST 461      TEST OF STCDL INSTR, DATA SET SCDL=3
; *              ALL INTERRUPT ENABLES ON
; *              LONG FLOAT, LONG INTEGER, ROUND MODES
*****
TST461: SCOPE
      MOV      $SCDL3,R5      ; PTR TO TEST DATA SET
      JSR      PC,$0$SCDLT    ; GO TEST
      BR       TST462        ;;

SCDL3:  ; TEST DATA SET SCDL=3:
      .WORD    177777,125252,M1,M1  ; INITIAL FLOAT VALUE
      .WORD    000000,000000  ; EXPECTED INTEGER RESULT
      .WORD    047713,047704      ; FPS: BEFORE, AFTER
      .WORD    NA                  ; FEC AFTER ( 0 = N/A )
*****

```

```
0751
0752
0753
0754
0755
0756
0757 027620 000004
0758 027622 012705 027634
0759 027626 004737 040664
0760
0761 027632 000411
0762
0763 027634
0764 027634 147777 177777 177777
0765 027642 177777
0766 027644 100000 000001
0767 027650 047707 047710
0768 027654 000000
0769
0770
0771
0772
0773
0774
0775
0776 027656 000004
0777 027660 012705 027672
0778 027664 004737 040664
0779
0780 027670 000411
0781
0782 027672
0783 027672 047160 170360 177777
0784 027700 177777
0785 027702 007417 007417
0786 027706 047757 047740
0787 027712 000000
0788
0789
0790
0791
0792
0793
0794
0795 027714 000004
0796 027716 012705 027730
0797 027722 004737 040664
0798
0799 027726 000411
0800
0801 027730
0802 027730 000177 177777 125252
0803 027736 101010
0804 027740 000000 000000
0805 027744 047713 047704
0806 027750 000000

;*****
;TEST 462 TEST OF STCDL INSTR, DATA SET SCDL=3
;
; ALL INTERRUPT ENABLES ON
; LONG FLOAT, LONG INTEGER, ROUND MODES
;*****
TST462: 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
;*****
TST463: 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
;*****
TST464: 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 )
```

```
0807
0808
0809
0810
0811
0812
0813
0814 027752 000004
0815 027754 012705 027766
0816 027760 004737 040664
0817
0818 027764 000411
0819
0820 027766
0821 027766 062141 125252 052525
0822 027774 125252
0823 027776 000000 000000
0824 030002 047312 047305
0825 030006 000000
0826
0827
0828

;*****
;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 )
```

```
0629
0630
0631
0632
0633
0634 030010 000004
0635 030012 012705 030024
0636 030016 004737 041072
0637
0638 030022 000410
0639
0640 030024
0641 030024 020177 177777
0642 030030 000377 177777
0643 030034 000201
0644 030036 047555 147542
0645 030042 100010
0646
0647
0648
0649
0650
0651
0652
0653 030044 000004
0654 030046 012705 030060
0655 030052 004737 041072
0656
0657 030056 000410
0658
0659 030060
0660 030060 120000 000000
0661 030064 100000 000000
0662 030070 000200
0663 030072 047551 147516
0664 030076 100010
0665
0666
0667
0668
0669
0670
0671
0672 030100 000004
0673 030102 012705 030114
0674 030106 004737 041072
0675
0676 030112 000410
0677
0678 030114
0679 030114 020125 052525
0680 030120 077725 052525
0681 030124 000177
0682 030126 047457 047440
0683 030132 000000
0684

;*****
;TEST 466 TEST OF LDEXP/F INSTR, DATA SET LEXF-1
;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, LONG INTEGER, TRUNCATE MOVES
;*****
TST466: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST467 ;;

LEXF1: ; TEST DATA SET LEXF-1:
.WORD 020177,R1 ; INITIAL AC FLOAT NUMBER
.WORD 000377,R1 ; 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 MOVES
;*****
TST467: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST468 ;;

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 047551,147516 ; 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 MOVES
;*****
TST470: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST471 ;;

LEXF3: ; TEST DATA SET LEXF-3:
.WORD 020125,ALT0 ; INITIAL AC FLOAT NUMBER
.WORD 077725,ALT0 ; EXPECTED FLOAT RESULT
.WORD 177 ; EXPONENT TO BE LOADED
.WORD 047457,047440 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )

;*****
;TEST 471 TEST OF LDEXP/F INSTR, DATA SET LEXF-4
;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, SHORT INTEGER, ROUND MOVES
;*****
TST471: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST472 ;;

LEXF4: ; TEST DATA SET LEXF-4:
.WORD 120052,ALT0 ; INITIAL AC FLOAT NUMBER
.WORD 100052,ALT0 ; 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 MOVES
;*****
TST472: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST473 ;;

LEXF5: ; TEST DATA SET LEXF-5:
.WORD 020017,ALT40 ; INITIAL AC FLOAT NUMBER
.WORD 040217,ALT40 ; 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 MOVES
;*****
TST473: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST474 ;;

LEXF6: ; TEST DATA SET LEXF-6:
.WORD 120100,ALT40 ; INITIAL AC FLOAT NUMBER
.WORD 100100,ALT40 ; EXPECTED FLOAT RESULT
.WORD 0 ; EXPONENT TO BE LOADED
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

```
0685
0686
0687
0688
0689
0690
0691 030134 000004
0692 030136 012705 030150
0693 030142 004737 041072
0694
0695 030146 000410
0696
0697 030150
0698 030150 120052 125252
0699 030154 100052 125252
0700 030160 000100
0701 030162 047407 047410
0702 030166 000000
0703
0704
0705
0706
0707
0708
0709
0710 030170 000004
0711 030172 012705 030204
0712 030176 004737 041072
0713
0714 030202 000410
0715
0716 030204
0717 030204 020017 007417
0718 030210 040217 007417
0719 030214 000001
0720 030216 047557 047540
0721 030222 000000
0722
0723
0724
0725
0726
0727
0728 030224 000004
0729 030226 012705 030240
0730 030232 004737 041072
0731
0732 030236 000410
0733
0734 030240
0735 030240 120100 170300
0736 030244 100100 170300
0737 030250 000000
0738 030252 047507 047510
0739 030256 000000
0740

;*****
;TEST 471 TEST OF LDEXP/F INSTR, DATA SET LEXF-4
;*
;* ALL INTERRUPT ENABLES ON
;* SHORT FLOAT, SHORT INTEGER, ROUND MOVES
;*****
TST471: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST472 ;;

LEXF4: ; TEST DATA SET LEXF-4:
.WORD 120052,ALT0 ; INITIAL AC FLOAT NUMBER
.WORD 100052,ALT0 ; 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 MOVES
;*****
TST472: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST473 ;;

LEXF5: ; TEST DATA SET LEXF-5:
.WORD 020017,ALT40 ; INITIAL AC FLOAT NUMBER
.WORD 040217,ALT40 ; 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 MOVES
;*****
TST473: SCOPE
MOV R1,PC,R5 ; PTR TO TEST DATA SET
JSR PC,00LEXFT ; GO TEST
BR TST474 ;;

LEXF6: ; TEST DATA SET LEXF-6:
.WORD 120100,ALT40 ; INITIAL AC FLOAT NUMBER
.WORD 100100,ALT40 ; EXPECTED FLOAT RESULT
.WORD 0 ; EXPONENT TO BE LOADED
.WORD 047507,047510 ; FPS: BEFORE, AFTER
.WORD NA ; FEC AFTER ( 0 = N/A )
```

0941
0942
0943
0944
0945
0946
0947
0948 030260 000004
0949 030262 012705 030274
0950 030266 004737 041072
0951
0952 030272 000410
0953
0954 030274 020177 177777
0955 030274 020177 177777
0956 030300 037777 177777
0957 030304 177777
0958 030306 047457 047440
0959 030312 000000
0960
0961
0962
0963
0964
0965
0966
0967 030314 000004
0968 030316 012705 030330
0969 030322 004737 041072
0970
0971 030326 000410
0972
0973 030330
0974 030330 120000 000000
0975 030334 120000 000000
0976 030340 177700
0977 030342 047407 047410
0978 030346 000000
0979
0980
0981
0982
0983
0984
0985
0986 030350 000004
0987 030352 012705 030364
0988 030356 004737 041072
0989
0990 030362 000410
0991
0992 030364
0993 030364 020125 052525
0994 030370 000325 052525
0995 030374 177601
0996 030376 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     $LEXP7,R5      ; PTR TO TEST DATA SET  
      JSR     PC,$$LEXFT     ; GO TEST  
      BR      TST475        ;;  
  
LEXP7: ; 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     $LEXP10,R5     ; PTR TO TEST DATA SET  
      JSR     PC,$$LEXFT     ; GO TEST  
      BR      TST476        ;;  
  
LEXP10: ; 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     $LEXP11,R5     ; PTR TO TEST DATA SET  
      JSR     PC,$$LEXFT     ; GO TEST  
      BR      TST477        ;;  
  
LEXP11: ; 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
```

0997 030402 000000
0998
0999
1000
1001
1002
1003
1004
1005 030404 000004
1006 030406 012705 030420
1007 030412 004737 041072
1008
1009 030416 000410
1010
1011 030420
1012 030420 120052 125252
1013 030424 100052 125252
1014 030430 177600
1015 030432 047503 147514
1016 030436 100012
1017
1018
1019
1020
1021
1022
1023
1024 030440 000004
1025 030442 012705 030454
1026 030446 004737 041072
1027
1028 030452 000410
1029
1030 030454
1031 030454 020017 007417
1032 030460 077017 007417
1033 030464 177577
1034 030466 047457 147440
1035 030472 100012
1036
1037
1038
1039
1040
1041
1042
1043 030474 000004
1044 030476 012705 030510
1045 030502 004737 041072
1046
1047 030506 000410
1048
1049 030510
1050 030510 120160 170360
1051 030514 177560 170360
1052 030520 177570

.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     $LEXP12,R5     ; PTR TO TEST DATA SET  
      JSR     PC,$$LEXFT     ; GO TEST  
      BR      TST500        ;;  
  
LEXP12: ; 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     $LEXP13,R5     ; PTR TO TEST DATA SET  
      JSR     PC,$$LEXFT     ; GO TEST  
      BR      TST501        ;;  
  
LEXP13: ; TEST DATA SET LEXF-13:  
      .WORD   020017,ALT4P    ; INITIAL AC FLOAT NUMBER  
      .WORD   077017,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     $LEXP14,R5     ; PTR TO TEST DATA SET  
      JSR     PC,$$LEXFT     ; GO TEST  
      BR      TST502        ;;  
  
LEXP14: ; TEST DATA SET LEXF-14:  
      .WORD   120160,ALT4N    ; INITIAL AC FLOAT NUMBER  
      .WORD   177560,ALT4N    ; EXPECTED FLOAT RESULT  
      .WORD   -202          ; EXPONENT TO BE LOADED
```

7053 030522 047507 147510
7054 030526 100012
7055
7056
7057
7058
7059
7060
7061
7062 030530 000004
7063 030532 012705 030544
7064 030536 004737 041072
7065
7066 030542 000410
7067
7068 030544
7069 030544 020177 177777
7070 030550 077377 177777
7071 030554 177375
7072 030556 047457 147440
7073 030562 100012
7074
7075
7076
7077
7078
7079
7080
7081 030564 000004
7082 030566 012705 030600
7083 030572 004737 041072
7084
7085 030576 000410
7086
7087 030600
7088 030604 142000 000000
7089 030604 140000 000000
7090 030610 000000
7091 030612 047547 047550
7092 030616 000000
7093
7094
7095
7096
7097
7098
7099
7100 030620 000004
7101 030622 012705 030634
7102 030626 004737 041072
7103
7104 030632 000410
7105
7106 030634
7107 030634 020177 177777
7108 030640 000000 000000

```
*****  
;TEST 502 TEST OF LDEXP/F INSTR, DATA SET LEXF-15  
;* ALL INTERRUPT ENABLES ON  
;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****  
TST502: SCOPE  
MOV $LEXP15,R5 ; PTR TO TEST DATA SET  
JSR PC,$LEXP15 ; GO TEST  
BR TST503 ;  
  
LEXF15: ; TEST DATA SET LEXF-15:  
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 )  
  
*****  
;TEST 503 TEST OF LDEXP/F INSTR, DATA SET LEXF-16  
;* ALL INTERRUPT ENABLES ON  
;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES  
*****  
TST503: SCOPE  
MOV $LEXP16,R5 ; PTR TO TEST DATA SET  
JSR PC,$LEXP16 ; GO TEST  
BR TST504 ;  
  
LEXF16: ; TEST DATA SET LEXF-16:  
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 )  
  
*****  
;TEST 504 TEST OF LDEXP/F INSTR, DATA SET LEXF-17  
;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON  
;* SHORT FLOAT, LONG INTEGER, TRUNCATE MODES  
*****  
TST504: SCOPE  
MOV $LEXP17,R5 ; PTR TO TEST DATA SET  
JSR PC,$LEXP17 ; GO TEST  
BR TST505 ;  
  
LEXF17: ; TEST DATA SET LEXF-17:  
WORD 020177,M1 ; INITIAL AC FLOAT NUMBER  
WORD 0,0 ; EXPECTED FLOAT RESULT
```

7109 030644 000201
7110 030646 046551 046546
7111 030652 000000
7112
7113
7114
7115
7116
7117
7118
7119 030654 000004
7120 030656 012705 030670
7121 030662 004737 041072
7122
7123 030666 000410
7124
7125 030670
7126 030674 120000 000000
7127 030674 000000 000000
7128 030700 000200
7129 030702 046511 046506
7130 030700 000000
7131
7132
7133
7134
7135
7136
7137
7138 030710 000004
7139 030712 012705 030724
7140 030716 004737 041072
7141
7142 030722 000410
7143
7144 030724
7145 030724 120052 125252
7146 030730 000000 000000
7147 030734 177000
7148 030736 045513 045504
7149 030742 000000
7150
7151
7152
7153
7154
7155
7156
7157 030744 000004
7158 030746 012705 030760
7159 030752 004737 041072
7160
7161 030756 000410
7162
7163 030760
7164 030760 020017 007417

```
*****  
;TEST 505 TEST OF LDEXP/F INSTR, DATA SET LEXF-20  
;* OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON  
;* SHORT FLOAT, LONG INTEGER, ROUND MODES  
*****  
TST505: SCOPE  
MOV $LEXP20,R5 ; PTR TO TEST DATA SET  
JSR PC,$LEXP20 ; GO TEST  
BR TST506 ;  
  
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 )  
  
*****  
;TEST 506 TEST OF LDEXP/F INSTR, DATA SET LEXF-21  
;* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON  
;* SHORT FLOAT, LONG INTEGER, ROUND MODES  
*****  
TST506: SCOPE  
MOV $LEXP21,R5 ; PTR TO TEST DATA SET  
JSR PC,$LEXP21 ; GO TEST  
BR TST507 ;  
  
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 )  
  
*****  
;TEST 507 TEST OF LDEXP/F INSTR, DATA SET LEXF-22  
;* UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON  
;* SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES  
*****  
TST507: SCOPE  
MOV $LEXP22,R5 ; PTR TO TEST DATA SET  
JSR PC,$LEXP22 ; GO TEST  
BR TST510 ;  
  
LEXF22: ; TEST DATA SET LEXF-22:  
WORD 020017,ALT4V ; INITIAL AC FLOAT NUMBER
```

```

7165 030764 000000 000000
7166 030770 177577
7167 030772 045453 045444
7168 030776 000000
7169
7170
7171
7172
7173
7174
7175
7176 031000 000004
7177 031002 012705 031014
7178 031006 004737 041072
7179
7180 031012 000410
7181
7182 031014
7183 031014 120160 170360
7184 031020 000000 000000
7185 031024 177576
7186 031026 045513 045504
7187 031032 000000
7188
7189
7190
7191
7192
7193
7194
7195 031034 000004
7196 031036 012705 031050
7197 031042 004737 041072
7198
7199 031046 000410
7200
7201 031050
7202 031050 020177 177777
7203 031054 000000 000000
7204 031060 177575
7205 031062 045453 045444
7206 031066 000000
7207
7208
7209

;*****
;TEST 510 TEST OF LDEXP/F INSTR, DATA SET LEXP-23
;
; UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
; SHORT FLOAT, LONG INTEGER, ROUND MODES
;*****
TST510: SCOPE
MOV $LEXP23,R5 ; PTR TO TEST DATA SET
JSR PC,$$LEXPFT ; GO TEST
BR TST511 ;;

LEXP23: ; TEST DATA SET LEXP-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 )

;*****
;TEST 511 TEST OF LDEXP/F INSTR, DATA SET LEXP-24
;
; UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
; SHORT FLOAT, SHORT INTEGER, TRUNCATE MODES
;*****
TST511: SCOPE
MOV $LEXP24,R5 ; PTR TO TEST DATA SET
JSR PC,$$LEXPFT ; GO TEST
BR TST512 ;;

LEXP24: ; TEST DATA SET LEXP-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 )

```

```

7210
7211
7212
7213
7214
7215 031070 000004
7216 031072 012705 031104
7217 031076 004737 041242
7218
7219 031102 000414
7220
7221 031104
7222 031104 152325 052525 052525
7223 031112 052525
7224 031114 100325 052525 052525
7225 031122 052525
7226 031124 000401
7227 031126 047645 147652
7228 031132 100010
7229
7230
7231
7232
7233
7234
7235
7236 031134 000004
7237 031136 012705 031150
7238 031142 004737 041242
7239
7240 031146 000414
7241
7242 031150
7243 031150 052377 177777 177777
7244 031156 177777
7245 031160 000177 177777 177777
7246 031166 177777
7247 031170 000200
7248 031172 047711 147706
7249 031176 100010
7250
7251
7252
7253
7254
7255
7256
7257 031200 000004
7258 031202 012705 031214
7259 031206 004737 041242
7260
7261 031212 000414
7262
7263 031214
7264 031214 152360 170360 170360
7265 031222 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,$$LEXDFT ; 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,$$LEXDFT ; 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,$$LEXDFT ; GO TEST
BR TST515 ;;

LEXD3: ; TEST DATA SET LEXD-3:
.WORD 152360,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER

```

```

7266 031224 177760 170360 170360 .WORD 177760,ALT4N,ALT4N,ALT4N ; EXPECTED FLOAT RESULT
7267 031232 170360 .WORD 177 ; EXPONENT TO BE LOADED
7268 031234 0000177 .WORD 047607,047610 ; FPS: BEFORE, AFTER
7269 031236 047607 047610 .WORD NA ; FEC AFTER ( 0 = N/A )
7270 031242 000000
7271
7272
7273
7274
7275
7276
7277
7278 031244 000004
7279 031246 012705 031260
7280 031252 004737 041242
7281
7282 031256 000014
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7284 031260
7285 031260 052200 000000 000000 LEXD4: ; TEST DATA SET LEXU-4:
7286 031266 000000 .WORD 052200,0,0,0 ; INITIAL AC FLOAT NUMBER
7287 031270 000000 000000 000000 .WORD 000000,0,0,0 ; EXPECTED FLOAT RESULT
7288 031276 000000
7289 031300 000100 .WORD 100 ; EXPONENT TO BE LOADED
7290 031302 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
7291 031306 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7299 031310 000004
7300 031312 012705 031324
7301 031316 004737 041242
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7303 031322 000014
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7305 031324
7306 031324 152252 125252 125252 LEXD5: ; TEST DATA SET LEXU-5:
7307 031332 125252 .WORD 152252,ALTN,ALTN,ALTN ; INITIAL AC FLOAT NUMBER
7308 031334 140252 125252 125252 .WORD 140252,ALTN,ALTN,ALTN ; EXPECTED FLOAT RESULT
7309 031342 125252
7310 031344 000001 .WORD 1 ; EXPONENT TO BE LOADED
7311 031346 047647 047650 .WORD 047647,047650 ; FPS: BEFORE, AFTER
7312 031352 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7320 031354 000004
7321 031356 012705 031370
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7326 031370
7327 031370 052217 007417 007417 LEXD6: ; TEST DATA SET LEXU-6:
7328 031376 007417 .WORD 052217,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7329 031400 000017 007417 007417 .WORD 040017,ALT4P,ALT4P,ALT4P ; EXPECTED FLOAT RESULT
7330 031406 007417
7331 031410 000000 .WORD 0 ; EXPONENT TO BE LOADED
7332 031412 047717 047700 .WORD 047717,047700 ; FPS: BEFORE, AFTER
7333 031416 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7341 031420 000004
7342 031422 012705 031434
7343 031426 004737 041242
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7345 031432 000014
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7347 031434
7348 031434 152325 052525 052525 LEXD7: ; TEST DATA SET LEXU-7:
7349 031442 052525 .WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
7350 031444 137725 052525 052525 .WORD 137725,ALTP,ALTP,ALTP ; EXPECTED FLOAT RESULT
7351 031452 052525
7352 031454 177777 .WORD -1 ; EXPONENT TO BE LOADED
7353 031456 047607 047610 .WORD 047607,047610 ; FPS: BEFORE, AFTER
7354 031462 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7362 031464 000004
7363 031466 012705 031500
7364 031472 004737 041242
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7366 031476 000014
7367
7368 031500
7369 031500 052377 177777 177777 LEXD10: ; TEST DATA SET LEXU-10:
7370 031506 177777 .WORD 052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
7371 031510 020177 177777 177777 .WORD 020177,M1,M1,M1 ; EXPECTED FLOAT RESULT
7372 031516 177777
7373 031520 177700 .WORD -100 ; EXPONENT TO BE LOADED
7374 031522 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
7375 031526 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7322 031362 004737 041242 JSK PC,0,LEXDT ; GU TEST
7323
7324 031366 000014 BR TST520 ;
7325
7326 031370
7327 031370 052217 007417 007417 LEXD6: ; TEST DATA SET LEXU-6:
7328 031376 007417 .WORD 052217,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7329 031400 000017 007417 007417 .WORD 040017,ALT4P,ALT4P,ALT4P ; EXPECTED FLOAT RESULT
7330 031406 007417
7331 031410 000000 .WORD 0 ; EXPONENT TO BE LOADED
7332 031412 047717 047700 .WORD 047717,047700 ; FPS: BEFORE, AFTER
7333 031416 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7341 031420 000004
7342 031422 012705 031434
7343 031426 004737 041242
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7345 031432 000014
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7347 031434
7348 031434 152325 052525 052525 LEXD7: ; TEST DATA SET LEXU-7:
7349 031442 052525 .WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
7350 031444 137725 052525 052525 .WORD 137725,ALTP,ALTP,ALTP ; EXPECTED FLOAT RESULT
7351 031452 052525
7352 031454 177777 .WORD -1 ; EXPONENT TO BE LOADED
7353 031456 047607 047610 .WORD 047607,047610 ; FPS: BEFORE, AFTER
7354 031462 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7362 031464 000004
7363 031466 012705 031500
7364 031472 004737 041242
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7366 031476 000014
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7368 031500
7369 031500 052377 177777 177777 LEXD10: ; TEST DATA SET LEXU-10:
7370 031506 177777 .WORD 052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
7371 031510 020177 177777 177777 .WORD 020177,M1,M1,M1 ; EXPECTED FLOAT RESULT
7372 031516 177777
7373 031520 177700 .WORD -100 ; EXPONENT TO BE LOADED
7374 031522 047757 047740 .WORD 047757,047740 ; FPS: BEFORE, AFTER
7375 031526 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7383 031530 000004
7384 031532 012705 031544
7385 031536 004737 041242
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7387 031542 000414
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7390 031544 152360 170360 170360 LEXD11: TEST DATA SET LEXD-11:
7391 031552 170360 .WORD 152360,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
7392 031554 100360 170360 170360 .WORD 100360,ALT4N,ALT4N,ALT4N ; EXPECTED FLOAT RESULT
7393 031562 170360
7394 031564 177601 .WORD -177 ; EXPONENT TO BE LOADED
7395 031566 047647 047650 .WORD 047647,047650 ; FPS: BEFORE, AFTER
7396 031572 000000 .WORD NA ; FEC AFTER ( 0 = N/A )
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7404 031574 000004
7405 031576 012705 031610
7406 031602 004737 041242
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7408 031606 000414
7409
7410 031610
7411 031610 052200 000000 000000 LEXD12: TEST DATA SET LEXD-12:
7412 031616 000000 .WORD 052200,0,0,0 ; INITIAL AC FLOAT NUMBER
7413 031620 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7414 031626 000000
7415 031630 177601 .WORD -200 ; EXPONENT TO BE LOADED
7416 031632 047713 147704 .WORD 047713,147704 ; FPS: BEFORE, AFTER
7417 031636 100012 .WORD 100012 ; FEC AFTER ( 0 = N/A )
7418
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7425 031640 000004
7426 031642 012705 031654
7427 031646 004737 041242
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7429 031652 000414
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7431 031654
7432 031654 152252 125252 125252 LEXD13: TEST DATA SET LEXD-13:
7433 031662 125252 .WORD 152252,ALT4N,ALT4N,ALT4N ; INITIAL AC FLOAT NUMBER
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7434 031664 177652 125252 125252 .WORD 177652,ALT4N,ALT4N,ALT4N ; EXPECTED FLOAT RESULT
7435 031672 125252
7436 031674 177577 .WORD -201 ; EXPONENT TO BE LOADED
7437 031676 047607 147610 .WORD 047607,147610 ; FPS: BEFORE, AFTER
7438 031702 100012 .WORD 100012 ; FEC AFTER ( 0 = N/A )
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7446 031704 000004
7447 031706 012705 031720
7448 031712 004737 041242
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7450 031716 000414
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7452 031720
7453 031720 052217 007417 007417 LEXD14: TEST DATA SET LEXD-14:
7454 031726 007417 .WORD 052217,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7455 031730 077417 007417 007417 .WORD 077417,ALT4P,ALT4P,ALT4P ; EXPECTED FLOAT RESULT
7456 031736 007417
7457 031740 177576 .WORD -202 ; EXPONENT TO BE LOADED
7458 031742 047757 147740 .WORD 047757,147740 ; FPS: BEFORE, AFTER
7459 031746 100012 .WORD 100012 ; FEC AFTER ( 0 = N/A )
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7467 031750 000004
7468 031752 012705 031764
7469 031756 004737 041242
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7471 031762 000414
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7473 031764
7474 031764 152325 052525 052525 LEXD15: TEST DATA SET LEXD-15:
7475 031772 052525 .WORD 152325,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7476 031774 177325 052525 052525 .WORD 177325,ALT4P,ALT4P,ALT4P ; EXPECTED FLOAT RESULT
7477 032002 052525
7478 032004 177575 .WORD -203 ; EXPONENT TO BE LOADED
7479 032006 047647 147650 .WORD 047647,147650 ; FPS: BEFORE, AFTER
7480 032012 100012 .WORD 100012 ; FEC AFTER ( 0 = N/A )
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7489 032016 012705 032030
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7490 032022 004737 041242 JSR PC,00LEXTD ; GO TEST
7491
7492 032026 000414 BR TST530 ;
7493
7494 032030 LEXD161 ; TEST DATA SET LEXU-161
7495 032030 177600 000000 000000 .WORD 177600,0,0,0 ; INITIAL AC FLOAT NUMBER
7496 032036 000000 000000 000000 .WORD 140000,0,0,0 ; EXPECTED FLOAT RESULT
7497 032040 140000 000000 000000 .WORD 0 ; EXPONENT TO BE LOADED
7498 032046 000000 000000 000000 .WORD 047707,047710 ; FPS: BEFORE, AFTER
7499 032050 000000 000000 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
7500
7501 032052 047707 047710
7502 032056 000000
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7505 *****
7506 *TEST 530 TEST OF LDEXP/D INSTR, DATA SET LEXU-17
7507 * OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7508 * LONG FLOAT, SHORT INTEGER, TRUNCATE MODES
7509 *****
7509 032060 000004 TST530: SCOPE
7510 032062 012705 032074 MOV 0LEXD17,R5 ; PTR TO TEST DATA SET
7511 032066 004737 041242 JSR PC,00LEXTD ; GO TEST
7512
7513 BR TST531 ;
7514
7515 032074 LEXD171 ; TEST DATA SET LEXU-171
7516 032074 152325 052525 052525 .WORD 152325,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7517 032102 052525 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7518 032104 000000 000000 000000 .WORD 201 ; EXPONENT TO BE LOADED
7519 032112 000000 000000 000000 .WORD 046651,046646 ; FPS: BEFORE, AFTER
7520 032114 000201 046646 .WORD NA ; FEC AFTER ( 0 = N7A )
7521 032116 046651 046646
7522 032122 000000
7523
7524 *****
7525 *TEST 531 TEST OF LDEXP/D INSTR, DATA SET LEXU-20
7526 * OVERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7527 * LONG FLOAT, LONG INTEGER, ROUND MODES
7528 *****
7529 032124 000004 TST531: SCOPE
7530 032126 012705 032140 MOV 0LEXD20,R5 ; PTR TO TEST DATA SET
7531 032132 004737 041242 JSR PC,00LEXTD ; GO TEST
7532
7533 BR TST532 ;
7534
7535 032140 LEXD201 ; TEST DATA SET LEXU-201
7536 032140 052377 177777 177777 .WORD 052377,M1,M1,M1 ; INITIAL AC FLOAT NUMBER
7537 032146 177777 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7538 032150 000000 000000 000000 .WORD 200 ; EXPONENT TO BE LOADED
7539 032156 000000 000000 000000 .WORD 046711,046706 ; FPS: BEFORE, AFTER
7540 032160 000200 046706 .WORD NA ; FEC AFTER ( 0 = N7A )
7541 032162 046711 046706
7542 032166 000000
7543
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7546 *****
7547 *TEST 532 TEST OF LDEXP/D INSTR, DATA SET LEXU-21
7548 * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7549 * LONG FLOAT, LONG INTEGER, ROUND MODES
7550 *****
7551 032170 000004 TST532: SCOPE
7552 032172 012705 032204 MOV 0LEXD21,R5 ; PTR TO TEST DATA SET
7553 032176 004737 041242 JSR PC,00LEXTD ; GO TEST
7554
7555 BR TST533 ;
7556
7557 032204 LEXD211 ; TEST DATA SET LEXU-211
7558 032204 052201 000002 000003 .WORD 052201,2,3,0 ; INITIAL AC FLOAT NUMBER
7559 032212 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7560 032214 000000 000000 000000 .WORD -200 ; EXPONENT TO BE LOADED
7561 032222 000000 000000 000000 .WORD 045713,045704 ; FPS: BEFORE, AFTER
7562 032224 177000 045704 .WORD NA ; FEC AFTER ( 0 = N7A )
7563 032226 045713 045704
7564 032232 000000
7565
7566 *****
7567 *TEST 533 TEST OF LDEXP/D INSTR, DATA SET LEXU-22
7568 * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7569 * LONG FLOAT, SHORT INTEGER, ROUND MODES
7570 *****
7571 032234 000004 TST533: SCOPE
7572 032236 012705 032250 MOV 0LEXD22,R5 ; PTR TO TEST DATA SET
7573 032242 004737 041242 JSR PC,00LEXTD ; GO TEST
7574
7575 BR TST534 ;
7576
7577 032250 LEXD221 ; TEST DATA SET LEXU-221
7578 032250 152252 125252 125252 .WORD 152252,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7579 032256 125252 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7580 032260 000000 000000 000000 .WORD -201 ; EXPONENT TO BE LOADED
7581 032266 000000 000000 000000 .WORD 045613,045604 ; FPS: BEFORE, AFTER
7582 032270 177577 045604 .WORD NA ; FEC AFTER ( 0 = N7A )
7583 032272 045613 045604
7584 032276 000000
7585
7586 *****
7587 *TEST 534 TEST OF LDEXP/D INSTR, DATA SET LEXU-23
7588 * UNDERFLOW INTERRUPT ENABLE OFF, ALL OTHERS ON
7589 * LONG FLOAT, LONG INTEGER, TRUNCATE MODES
7590 *****
7591 032300 000004 TST534: SCOPE
7592 032302 012705 032314 MOV 0LEXD23,R5 ; PTR TO TEST DATA SET
7593 032306 004737 041242 JSR PC,00LEXTD ; GO TEST
7594
7595 BR TST535 ;
7596
7597 032312 LEXD231 ; TEST DATA SET LEXU-231
7598 032314 052217 007417 007417 .WORD 052217,ALT4P,ALT4P,ALT4P ; INITIAL AC FLOAT NUMBER
7599 032316 007417 007417 007417
7600 032324 007417
7601
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7602 032324 000000 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7603 032332 000000
7604 032334 177576 .WORD -202 ; EXPONENT TO BE LOADED
7605 032336 045753 045744 .WORD 045753,045744 ; FPS: BEFORE, AFTER
7606 032342 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
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7614 032344 000004
7615 032346 012705 032360
7616 032352 004737 041242
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7618 032356 000414
7619
7620 032360
7621 032360 152325 052525 052525 LEXD24: ; TEST DATA SET LEXU-24:
7622 032366 052525 .WORD 152325,ALTP,ALTP,ALTP ; INITIAL AC FLOAT NUMBER
7623 032370 000000 000000 .WORD 0,0,0,0 ; EXPECTED FLOAT RESULT
7624 032376 000000
7625 032400 177575 .WORD -203 ; EXPONENT TO BE LOADED
7626 032402 045053 045644 .WORD 045653,045644 ; FPS: BEFORE, AFTER
7627 032406 000000 .WORD NA ; FEC AFTER ( 0 = N7A )
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7636 032410 000004
7637 032412 012705 032424
7638 032416 004737 041432
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7640 032422 000405
7641
7642 032424
7643 032424 177777 177777 SEXF1: ; TEST DATA SET SEXF-1:
7644 032430 000177 .WORD M1,M1 ; INITIAL AC FLOAT NUMBER
7645 032432 047457 047440 .WORD 177 ; EXPONENT EXPECTED TO BE STORED
7646 .WORD 047457,047440 ; FPS: BEFORE, AFTER
7647
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7653 032436 000004
7654 032440 012705 032452
7655 032444 004737 041432
7656
7657 032450 000405
7658
7659 032452
7660 032452 000052 125252 SEXF2: ; TEST DATA SET SEXF-2:
7661 032456 000100 .WORD 000052,ALTN ; INITIAL AC FLOAT NUMBER
7662 032460 047517 047500 .WORD 100 ; EXPONENT EXPECTED TO BE STORED
7663 .WORD 047517,047500 ; FPS: BEFORE, AFTER
7664
7665
7666
7667
7668
7669
7670 032464 000004
7671 032466 012705 032500
7672 032472 004737 041432
7673
7674 032476 000405
7675
7676 032500
7677 032500 140270 107070 SEXF3: ; TEST DATA SET SEXF-3:
7678 032504 000001 .WORD 140270,107070 ; INITIAL AC FLOAT NUMBER
7679 032506 047557 047540 .WORD 1 ; EXPONENT EXPECTED TO BE STORED
7680 .WORD 047557,047540 ; FPS: BEFORE, AFTER
7681
7682
7683
7684
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7688
7689
7690
```

7687 032512 000004
7688 032514 012705 032526
7689 032520 004737 041432
7690
7691 032524 000405
7692
7693 032526
7694 032526 040125 007417
7695 032532 000000
7696 032534 047413 047404
7697
7698
7699
7700
7701
7702
7703
7704 032540 000004
7705 032542 012705 032554
7706 032546 004737 041432
7707
7708 032552 000405
7709
7710 032554
7711 032554 137760 170360
7712 032560 177777
7713 032562 047407 047410
7714
7715
7716
7717
7718
7719
7720
7721 032566 000004
7722 032570 012705 032602
7723 032574 004737 041432
7724
7725 032600 000405
7726
7727 032602
7728 032602 100307 070707
7729 032606 177001
7730 032610 047507 047510
7731
7732
7733
7734
7735
7736
7737
7738 032614 000004
7739 032616 012705 032630
7740 032622 004737 041432
7741
7742 032626 000405

TST541: SCOPE
MOV 0SEXF4,R5 ; PTR TO TEST DATA SET
JSR PC,00SEAF4 ; 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
;*****
TST542: SCOPE
MOV 0SEXF5,R5 ; PTR TO TEST DATA SET
JSR PC,00SEAF5 ; GO TEST
BR TST543 ;
SEXF5: ; TEST DATA SET SEXF-5:
.WORD 137760,ALT4H ; 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
;*****
TST543: SCOPE
MOV 0SEXF6,R5 ; PTR TO TEST DATA SET
JSR PC,00SEAF6 ; 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
;*****
TST544: SCOPE
MOV 0SEXF7,R5 ; PTR TO TEST DATA SET
JSR PC,00SEAF7 ; GO TEST
BR TST545 ;

7743
7744 032630
7745 032630 000000 000000
7746 032634 177000
7747 032636 047447 047450
7748
7749
7750

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

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7751
7752
7753
7754
7755
7756 032642 000004
7757 032644 012705 032656
7758 032650 004737 041566
7759
7760 032654 000407
7761
7762 032656
7763 032656 077600 000000 000000 SEXD1: ; TEST DATA SET SEXD-1:
7764 032664 000000 ; INITIAL AC FLOAT NUMBER
7765 032666 000177 ; EXPONENT EXPECTED TO BE STORED
7766 032670 047717 047700 ; FPS: BEFORE, AFTER
7767
7768
7769
7770
7771
7772
7773
7774 032674 000004
7775 032676 012705 032710
7776 032702 004737 041566
7777
7778 032706 000407
7779
7780 032710
7781 032710 040360 170360 170360 SEXD2: ; TEST DATA SET SEXD-2:
7782 032716 170360 ; INITIAL AC FLOAT NUMBER
7783 032720 000001
7784 032722 047657 047640 ; EXPONENT EXPECTED TO BE STORED
7785 ; FPS: BEFORE, AFTER
7786
7787
7788
7789
7790
7791
7792 032726 000004
7793 032730 012705 032742
7794 032734 004737 041566
7795
7796 032740 000407
7797
7798 032742
7799 032742 140107 070707 070707 SEXD3: ; TEST DATA SET SEXD-3:
7800 032750 070707 ; INITIAL AC FLOAT NUMBER
7801 032752 000000
7802 032754 047613 047604 ; EXPONENT EXPECTED TO BE STORED
7803 ; FPS: BEFORE, AFTER
7804
7805
7806
7807
7808
7809
7810
7811
7812
7813
7814
7815
7816
7817
7818
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7820
7821
7822
7823
7824
7825
7826
7827
7828 033012 000004
7829 033014 012705 033026
7830 033020 004737 041566
7831
7832 033024 000407
7833
7834 033026
7835 033026 120070 107070 107070 SEXD4: ; TEST DATA SET SEXD-4:
7836 033034 107070 ; INITIAL AC FLOAT NUMBER
7837 033036 177700
7838 033040 047747 047750 ; EXPONENT EXPECTED TO BE STORED
7839 ; FPS: BEFORE, AFTER
7840
7841
7842
7843
7844
7845
7846
7847 033044 000004
7848 033046 012705 033060
7849 033052 004737 041566
7850
7851 033056 000407
7852
7853 033060
7854 033060 000217 007417 007417 SEXD5: ; TEST DATA SET SEXD-5:
7855 033070 177601 ; INITIAL AC FLOAT NUMBER
7856 033072 047647 047650 ; EXPONENT EXPECTED TO BE STORED
7857 ; FPS: BEFORE, AFTER
7858
7859
7860
7861
7862
```

```
7807
7808
7809
7810 032760 000004
7811 032762 012705 032774
7812 032766 004737 041566
7813
7814 032772 000407
7815
7816 032774
7817 032774 037652 125252 125252 SEXD4: ; TEST DATA SET SEXD-4:
7818 033002 125252 ; INITIAL AC FLOAT NUMBER
7819 033004 177777
7820 033006 047707 047710 ; EXPONENT EXPECTED TO BE STORED
7821 ; FPS: BEFORE, AFTER
7822
7823
7824
7825
7826
7827
7828 033012 000004
7829 033014 012705 033026
7830 033020 004737 041566
7831
7832 033024 000407
7833
7834 033026
7835 033026 120070 107070 107070 SEXD5: ; TEST DATA SET SEXD-5:
7836 033034 107070 ; INITIAL AC FLOAT NUMBER
7837 033036 177700
7838 033040 047747 047750 ; EXPONENT EXPECTED TO BE STORED
7839 ; FPS: BEFORE, AFTER
7840
7841
7842
7843
7844
7845
7846
7847 033044 000004
7848 033046 012705 033060
7849 033052 004737 041566
7850
7851 033056 000407
7852
7853 033060
7854 033060 000217 007417 007417 SEXD6: ; TEST DATA SET SEXD-6:
7855 033070 177601 ; INITIAL AC FLOAT NUMBER
7856 033072 047647 047650 ; EXPONENT EXPECTED TO BE STORED
7857 ; FPS: BEFORE, AFTER
7858
7859
7860
7861
7862
```

7063
7064 033076 000004
7065 033100 012705 033112
7066 033104 004737 041506
7067
7068 033110 000407
7069
7070 033112
7071 033112 000177 177777 177777
7072 033120 177777
7073 033122 177600
7074 033124 047607 047610
7075
7076
7077

```

TSTSS3: SCOPE
MOV 05EXD7,R5 ; PTR TO TEST DATA SET
JBR PC,018EXDT ; GO TEST

BR TSTSS4 ;;

SEXD7: ; TEST DATA SET SEXD=7:
WORD 000177,R1,R1,R1 ; INITIAL AC FLOAT NUMBER
WORD -200 ; EXPONENT EXPECTED TO BE STORED
WORD 047607,047610 ; FPU BEFORE, AFTER

```

7078
7079
7080
7081 033130
7082 033130 000004
7083 033132 005037 001310
7084 033136 005037 001104
7085 033142 005037 001102
7086
7087
7088
7089
7090
7091
7092
7093
7094
7095
7096
7097 033146 076600 000022
7098 033152 032700 000020
7099 033156 001423
7100
7101 033160 032777 000002 145756
7102 033166 001017
7103
7104 033170 012701 010000
7105 033174 076600 000144
7106 033200 000100
7107 033202 001402
7108 033204 000100
7109 033206 000401
7110 033210 000100
7111 033212 076600 000344
7112
7113 033216 000100
7114 033220 001002
7115 033222 000137 003072
7116
7117
7118
7119
7120
7121
7122
7123
7124
7125
7126
7127
7128 033226
7129 033226 005037 001104
7130 033232 005037 001102
7131 033236 005037 001310
7132 033242 005237 001332
7133 033246 042737 100000 001332

```

TSTSS4: ;FORCE LAST TEST NUMBER
SCOPE ;CHECK FOR TEST ITERATIONS HERE
CLR STIMES ;DONT ITERATE THIS "TEST"
CLR SERFLG ;NO ERRORS HERE
CLR STSTNN ;ZAP TEST # WHEN DONE WITH A PASS

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

; IF IN ALTERNATE HFP/WFP MODE,
; COMPLEMENT FLAG<3>, HFP ENABLE BIT,
; ENTER EOP ROUTINE ONLY IF ABOUT TO TEST HFP NEXT,
; TESTING SEQUENCE IS: PASS#1 HFP SUB-PASS
; PASS#1 HFP SUB-PASS
; PASS#2 HFP SUB-PASS
; ...

MED ,RWHAMI ;GET WHAMI INTO R0
BIT 081704,R0 ;HFP PRESENT, 0=NONE
BEO 0EOP ;EXIT IF NONE

BIT 08001,08WR ;HFP OR WFP TEST ONLY
BEO 0EOP ;HFP ALTERNATE HFP AND WFP TESTS

MOV 08112,R1 ;HFP PRESENT, AND IN ALTERNATE MODE
MED ,RFLAG ;SO READ FLAG
BIT R1,R0 ;COMPLEMENT FLAG<3>=BIT12=HFP ENABLE FLAG
BEO 10 ;
BIC R1,R0 ;CLEAR BIT 12
BR 20 ;
BIS R1,R0 ;SET BIT 12
MED ,RFLAG ;REWRITE FLAG

BIT R1,R0 ;HFP OR WFP NEXT ?
BEO 0EOP ;IF HFP AGAIN, START NEW PASS
JMP 00SUBPAS ;IF WFP, NEXT SUBPASS

;*****
;SBTTL END OF PASS ROUTINE (MODIFIED SISMAL)

;INCREMENT THE PASS NUMBER (SPASS)
;IF SW<10>=00, USING BELL ON PASS END
;IF THERE'S A MONITOR, GO TO IT
; ELSE JUMP TO NEWPAS

0EOP:
CLR SERFLG ;ZERO ERROR COUNT
CLR STSTNN ;ZERO TEST NUMBER
CLR STIMES ;ZERO NUMBER OF ITERATIONS
INC SPASS ;INCREMENT PASS COUNT,
BIC 0100000,SPASS ; BUT NEVER LET IN GO NEGATIVE

```

```
7934 033254 005327          DEC      (PC)+          ;PASS LOOP 7
7935 033256 000001          SEOPCT: .WORD      1          ;
7936 033260 003021          BGT      SDOAGN          ;YES
7937 033262 012737          MOV      (PC)+,0(PC)+      ;RESTORE COUNTER
7938 033264 000001          SENDCT: .WORD      1          ;
7939 033266 033256          SEOPCT          ;
7940 033270 032777 002000 145046 BIT      05W10,05WR      ;BELL ON PASS END ?
7941 033276 001002          BNE      SGET42          ;NO
7942 033300 104401 001314          TYPE      ,SBELL      ;YES
7943
7944 033304 013700 000042          SGET42: MOV      0*42,R0      ;GET MONITOR ADDRESS
7945 033310 001405          BEU      SDOAGN          ;NO MONITOR
7946 033312 000005          RESET          ;CLEAR WORLD
7947
7948 033314 004710          SENDAD: JSR      PC,(R0)      ;GO TO MONITOR
7949 033316 000240          NOP          ;
7950 033320 000240          NOP          ;RESERVED FOR ACT11
7951 033322 000240          NOP          ;
7952
7953 033324 000137 003034          SDOAGN: JMP      0*NEWPAD      ;RETURN
7954
7955
```

```
7956          .SUBTL  SUBR TO TEST THE CMPF INSTRUCTION
7957
7958 033330 012700 000007          CMPFT:  MOV      R0,R0          ; LOAD STMPW=6
7959 033334 014501          MOV      R0,R1          ; WITH TEST DATA SETS
7960 033336 012702 001230          MOV      0*STMPW,R2      ; FOR DISPLAY LATER
7961 033342 012122          MOV      (R1)+,(R2)+      ;
7962 033344 017002          SOB      R0,-2          ;
7963 033346 012737 033354 001112          MOV      0*CMPFL,0LPERR      ; ERROR LOOPING ADDRESS
7964
7965
7966 033354 170001          CMPFL:  SETF          ; F MODE
7967 033356 172715          LDF      (R0),AC3      ; INITIAL AC FLOAT NUMBER
7968 033360 170165 000010          LDTPS      10(R0)      ; INITIAL FPS
7969
7970 033364 173765 000004          CMPFI:  CMPF      4(R0),AC3      ; (MEM)-(AC3)
7971
7972 033370 170237 002000          STTPS      FPS          ; STORE FPS AFTER
7973 033374 170337 002002          STST      FEC          ; STORE FEC/FEA AFTER
7974 033400 174337 001170          STF      AC3,0REG0      ; STORE AC NUMBER
7975
7976 033404 023765 002000 000012          CMP      FPS,12(R0)      ; CHECK FPS
7977 033412 001401          BEQ      650          ; FPS IS OK
7978 033414 104002          ERROR      2          ; FPS BAD
7979 033416 005765 000014          650:  TST      14(R0)      ; DOES FEC/FEA APPLY?
7980 033422 100014          BPL      660          ; NO - SKIP TEST
7981 033424 012737 033364 002014          MOV      0*CMPFI,EXPFEA      ; GET EXPECTED FEA
7982 033432 143765 002002 000014          CMPB      FEC,14(R0)      ; COMPARE FEC-S
7983 033440 001004          BNE      640          ; NOT EQUAL
7984 033442 023737 002004 002014          CMP      FEA,EXPFEA      ; COMPARE FEA-S
7985 033450 001401          BEQ      660          ; FEC, FEA OK
7986 033452 104012          640:  ERROR      12          ; FEC OR FEA ARE BAD
7987 033454          660:
7988
7989 033454 023715 001170          CMP      0*REG0,(R0)      ; 1ST WORD OF RESULT CHECK?
7990 033460 001004          BNE      670          ; NO
7991 033462 023765 001172 000002          CMP      0*REG1,2(R0)      ; 2ND WORD OF RESULT CHECK?
7992 033470 001401          BEQ      680          ; ALL WORDS OK
7993 033472 104021          670:  ERROR      21          ; NUMBERS NOT EQUAL
7994 033474          680:
7995
7996 033474 000201          RTS      PC          ; RETURN TO TEST CALLER
7997
7998
7999          ;*****
8000          .SUBTL  SUBR TO TEST THE CMPD INSTRUCTION
8001
8002 033476 012700 000013          CMPDT:  MOV      R0,R0          ; LOAD STMPW=12
8003 033478 010501          MOV      R0,R1          ; WITH TEST DATA SETS
8004 033502 012702 001230          MOV      0*STMPW,R2      ; FOR DISPLAY LATER
8005 033504 012122          MOV      (R1)+,(R2)+      ;
8006 033510 012122          SOB      R0,-2          ;
8007 033512 017002          MOV      0*CMPDL,0LPERR      ; ERROR LOOPING ADDRESS
8008 033514 012737 033522 001112          MOV      0*CMPDL,0LPERR      ;
8009
8010 033522 170011          CMPDL:  SETD          ; D MODE
8011 033524 172615          LOD      (R0),AC2      ; INITIAL AC FLOAT NUMBER
```

```
0012 033526 170165 000020      LDFFS 20(R5)      ; INITIAL FPS
0013
0014 033532 173665 000010      CMPD1: CMPD 10(R5),AC2 ; (MEM)-(AC2)
0015
0016 033536 170237 002000      STFFS FPS      ; STORE FPS AFTER
0017 033542 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
0018 033546 174237 001170      STD AC2,0REG0  ; STORE AC AFTER
0019
0020 033552 023765 002000 000022  CMP FPS,22(R5)  ; CHECK FPS
0021 033560 001401          BEQ 658        ; FPS IS OK
0022 033562 104005          ERROR 5          ; FPS BAD
0023 033564 005765 000024 658:  TST 24(R5)      ; DOES FEC/FEA APPLY?
0024 033570 100014          BPL 668        ; NU - SKIP TEST
0025 033572 012737 033532 002014  MOV 0CMPD1,EXPFEA ; GET EXPECTED FEA
0026 033600 123765 002002 000024  CMPB FEC,24(R5)  ; COMPARE FEC-S
0027 033606 001004          BNE 648        ; NOT EQUAL
0028 033610 023737 002004 002014  CMP FEA,EXPFEA   ; COMPARE FEA-S
0029 033616 001401          BEQ 668        ; FEC, FEA OK
0030 033620 104015 648:      ERROR 15        ; FEC OR FEA ARE BAD
0031 033622 668:
0032
0033 033622 023715 001170      CMP 0REG0,(R5)   ; 1ST WORD OF RESULT CHECK?
0034 033626 001014          BNE 678        ; NO
0035 033630 023765 001172 000002  CMP 0REG1,2(R5)  ; 2ND WORD OF RESULT CHECK?
0036 033636 001010          BNE 678        ; NO
0037 033640 023765 001174 000004  CMP 0REG2,4(R5)  ; 3RD WORD OF RESULT CHECK?
0038 033646 001004          BNE 678        ; NO
0039 033650 023765 001176 000006  CMP 0REG3,6(R5)  ; 4TH WORD OF RESULT CHECK?
0040 033656 001401          BEQ 688        ; ALL WORDS OK
0041 033660 104022 678:      ERROR 22        ; NUMBERS NOT EQUAL
0042 033662 688:
0043
0044 033662 000207          RTS PC          ; RETURN TO TEST CALLER
0045
```

```
0046      .SBTTL SUBR TO TEST THE ADDF INSTRUCTION
0047
0048      ADDF1: MOV 011,R0      ; LOAD STMP0=10
0049 033664 012700 000011      MOV R0,R1      ; WITH TEST DATA SETS
0050 033670 010501          MOV 0STMP0,R2      ; FOR DISPLAY LATER
0051 033672 012702 001230      MOV (R1)+(R2)+  ;
0052 033676 012122          SOB R0,-2        ;
0053 033700 077002          MOV 0ADDF1,0LPERA  ; ERROR LOOPING ADDRESS
0054 033702 012737 033710 001112
0055
0056 033710 170001      ADDFL: SETF      ; F MODE
0057 033712 172515      LDF (R5),AC1      ; INITIAL AC FLOAT NUMBER
0058 033714 170165 000014      LDFFS 14(R5)  ; INITIAL FPS
0059
0060 033720 172165 000004      ADDF1: ADDF 4(R5),AC1  ; (AC1)+(MEM)->AC1
0061
0062 033724 170237 002000      STFFS FPS      ; STORE FPS AFTER
0063 033730 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
0064 033734 174137 001170      STF AC1,0REG0  ; RESULT OF ADDF
0065
0066 033740 023765 002000 000016  CMP FPS,16(R5)  ; CHECK FPS
0067 033746 001401          BEQ 658        ; FPS IS OK
0068 033750 104004          ERROR 4          ; FPS BAD
0069 033752 005765 000020 658:  TST 20(R5)      ; DOES FEC/FEA APPLY?
0070 033756 100014          BPL 668        ; NU - SKIP TEST
0071 033760 012737 033720 002014  MOV 0ADDF1,EXPFEA ; GET EXPECTED FEA
0072 033766 123765 002002 000020  CMPB FEC,20(R5)  ; COMPARE FEC-S
0073 033774 001004          BNE 648        ; NOT EQUAL
0074 033776 023737 002004 002014  CMP FEA,EXPFEA   ; COMPARE FEA-S
0075 034004 001401          BEQ 668        ; FEC, FEA OK
0076 034006 104014 648:      ERROR 14        ; FEC OR FEA ARE BAD
0077 034010 668:
0078
0079 034010 023765 001170 000010  CMP 0REG0,10(R5)  ; 1ST WORD OF RESULT CHECK?
0080 034016 001004          BNE 678        ; NO
0081 034020 023765 001172 000012  CMP 0REG1,12(R5)  ; 2ND WORD OF RESULT CHECK?
0082 034026 001401          BEQ 688        ; ALL WORDS OK
0083 034030 104023 678:      ERROR 23        ; NUMBERS NOT EQUAL
0084 034032 688:
0085
0086 034032 000207          RTS PC          ; RETURN TO TEST CALLER
0087
0088      ;*****
0089      .SBTTL SUBR TO TEST THE ADDD INSTRUCTION
0090
0091      ADDD1: MOV 017,R0      ; LOAD STMP0=16
0092 034034 012700 000017      MOV R0,R1      ; WITH TEST DATA SETS
0093 034040 010501          MOV 0STMP0,R2      ; FOR DISPLAY LATER
0094 034042 012702 001230      MOV (R1)+(R2)+  ;
0095 034046 012122          SOB R0,-2        ;
0096 034050 077002          MOV 0ADDD1,0LPERA  ; ERROR LOOPING ADDRESS
0097 034052 012737 034000 001112
0098
0099 034060 170011      ADDDL: SETD      ; D MODE
0100 034062 172415      LDD (R5),AC0      ; INITIAL AC FLOAT NUMBER
0101 034064 170165 000030      LDFFS 30(R5)  ; INITIAL FPS
```

0102									
0103	034070	172065	000010		ADDI:	ADD	10(R5),AC0		; (AC0)+(MEM)->AC0
0104									
0105	034074	170237	002000		STFPB	FPS			; STORE FPS AFTER
0106	034100	170337	002002		STST	FEC			; STORE FEC/FEA AFTER
0107	034104	174037	001170		STD	AC0,0REG0			; RESULT OF ADDO
0108									
0109	034110	023765	002000	000032	CMP	FPS,32(R5)			; CHECK FPS
0110	034116	001401			BEQ	650			; FPS IS OK
0111	034120	104007			ERROR	7			; FPS BAD
0112	034122	005765	000034	650:	TST	34(R5)			; DOES FEC/FEA APPLY?
0113	034126	100014			BPL	660			; NO - SKIP TEST
0114	034130	012737	034070	002014	MOV	0ADDI,EXPFEA			; GET EXPECTED FEA
0115	034136	123765	002002	000034	CMPS	FEC,34(R5)			; COMPARE FEC-S
0116	034144	001004			BNE	640			; NOT EQUAL
0117	034146	023737	002004	002014	CMP	FEA,EXPFEA			; COMPARE FEA-S
0118	034154	001401			BEQ	660			; FEC, FEA OK
0119	034156	104017			ERROR	17			; FEC ON FEA ARE BAD
0120	034160				660:				
0121									
0122	034160	023765	001170	000020	CMP	0REG0,20(R5)			; 1ST WORD OF RESULT CHECK?
0123	034166	001014			BNE	670			; NO
0124	034170	023765	001172	000022	CMP	0REG1,22(R5)			; 2ND WORD OF RESULT CHECK?
0125	034176	001010			BNE	670			; NO
0126	034200	023765	001174	000024	CMP	0REG2,24(R5)			; 3RD WORD OF RESULT CHECK?
0127	034206	001004			BNE	670			; NO
0128	034210	023765	001176	000026	CMP	0REG3,26(R5)			; 4TH WORD OF RESULT CHECK?
0129	034216	001401			BEQ	680			; ALL WORDS OK
0130	034220	104024			ERROR	24			; NUMBERS NOT EQUAL
0131	034222				670:				
0132					680:				
0133	034222	000207			RTS	PC			; RETURN TO TEST CALLER
0134									

0135									
0136									
0137	034224								
0138	034224	012700	000011		SUBFT:	MOV	011,R0		; LOAD SIMPO-10
0139	034230	010501				MOV	RS,R1		; WITH TEST DATA SETS
0140	034232	012702	001230			MOV	0STMP0,R2		; FOR DISPLAY LATER
0141	034236	012122				MOV	(R1)+(R2)+		
0142	034240	077002				SUB	R0,-2		
0143	034242	012737	034250	001112		MOV	0SUBFL,0LPER		; ERROR LOOPING ADDRESS
0144									
0145	034250	170001			SUBFL:	SETF			; F MODE
0146	034252	172415			LDF	(R5),AC0			; INITIAL AC FLOAT NUMBER
0147	034254	170105	000014		LDFPS	14(R5)			; INITIAL FPS
0148									
0149	034260	173065	000004		SUBFI:	SUBF	4(R5),AC0		; (AC0)-(MEM)->AC0
0150									
0151	034264	170237	002000		STFPB	FPS			; STORE FPS AFTER
0152	034270	170337	002002		STST	FEC			; STORE FEC/FEA AFTER
0153	034274	174037	001170		STF	AC0,0REG0			; RESULT OF SUBF
0154									
0155	034300	023765	002000	000016	CMP	FPS,16(R5)			; CHECK FPS
0156	034306	001401			BEQ	650			; FPS IS OK
0157	034310	104004			ERROR	4			; FPS BAD
0158	034312	005765	000020	650:	TST	20(R5)			; DOES FEC/FEA APPLY?
0159	034316	100014			BPL	660			; NO - SKIP TEST
0160	034320	012737	034260	002014	MOV	0SUBFI,EXPFEA			; GET EXPECTED FEA
0161	034326	123765	002002	000020	CMPS	FEC,20(R5)			; COMPARE FEC-S
0162	034334	001004			BNE	640			; NOT EQUAL
0163	034336	023737	002004	002014	CMP	FEA,EXPFEA			; COMPARE FEA-S
0164	034344	001401			BEQ	660			; FEC, FEA OK
0165	034346	104014			ERROR	14			; FEC ON FEA ARE BAD
0166	034350				640:				
0167					660:				
0168	034350	023765	001170	000010	CMP	0REG0,10(R5)			; 1ST WORD OF RESULT CHECK?
0169	034356	001004			BNE	670			; NO
0170	034360	023765	001172	000012	CMP	0REG1,12(R5)			; 2ND WORD OF RESULT CHECK?
0171	034366	001401			BEQ	680			; ALL WORDS OK
0172	034370	104023			ERROR	23			; NUMBERS NOT EQUAL
0173	034372				670:				
0174					680:				
0175	034372	000207			RTS	PC			; RETURN TO TEST CALLER
0176									
0177									
0178									
0179									
0180	034374								
0181	034374	012700	000017		SUBDT:	MOV	017,R0		; LOAD SIMPO-16
0182	034400	010501				MOV	RS,R1		; WITH TEST DATA SETS
0183	034402	012702	001230			MOV	0STMP0,R2		; FOR DISPLAY LATER
0184	034406	012122				MOV	(R1)+(R2)+		
0185	034410	077002				SUB	R0,-2		
0186	034412	012737	034420	001112		MOV	0SUBDL,0LPER		; ERROR LOOPING ADDRESS
0187									
0188	034420	170011			SUBDL:	SETD			; D MODE
0189	034422	172715			LDD	(R5),AC3			; INITIAL AC FLOAT NUMBER
0190	034424	170105	000030		LDFPS	30(R5)			; INITIAL FPS

```
0191      034430 173365 000010      SUBDI: SUBD 10(R5),AC3 ; (AC3)-(MEM)->AC3
0192
0193
0194      034434 170237 002000      STFPS FFS ; STORE FFS AFTER
0195      034440 170337 002002      STST FEC ; STORE FEC/FEA AFTER
0196      034444 174337 001170      STD AC3,8REG0 ; RESULT OF SUBD
0197
0198      034450 023765 002000 000032      CMP FFS,32(R5) ; CHECK FFS
0199      034456 001401      BEQ 650 ; FFS IS OK
0200      034460 104007      ERROR 7 ; FFS BAD
0201      034462 005765 000034      TST 34(R5) ; DOES FEC/FEA APPLY?
0202      034466 100014      BPL 660 ; NO - SKIP TEST
0203      034470 012737 034430 002014      MOV #SUBDI,EXPFEA ; GET EXPECTED FEA
0204      034476 123765 002002 000034      CMPB FEC,34(R5) ; COMPARE FEC-S
0205      034504 001004      BNE 648 ; NOT EQUAL
0206      034506 023737 002004 002014      CMP FEA,EXPFEA ; COMPARE FEA-S
0207      034514 001401      BEQ 660 ; FEC, FEA OK
0208      034516 104017      ERROR 17 ; FEC OR FEA ARE BAD
0209      034520
0210
0211      034520 023765 001170 000020      CMP #REG0,20(R5) ; 1ST WORD OF RESULT CHECK?
0212      034526 001014      BNE 670 ; NO
0213      034530 023765 001172 000022      CMP #REG1,22(R5) ; 2ND WORD OF RESULT CHECK?
0214      034536 001010      BNE 670 ; NO
0215      034540 023765 001174 000024      CMP #REG2,24(R5) ; 3RD WORD OF RESULT CHECK?
0216      034546 001004      BNE 670 ; NO
0217      034550 023765 001176 000026      CMP #REG3,26(R5) ; 4TH WORD OF RESULT CHECK?
0218      034556 001401      BEQ 680 ; ALL WORDS OK
0219      034560 104024      ERROR 24 ; NUMBERS NOT EQUAL
0220      034562
0221
0222      034562 000207      RTS PC ; RETURN TO TEST CALLER
0223
```

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0224      .SMITL SUBR TO TEST THE MULF INSTRUCTION
0225
0226      034564 012700 000011      MULFI: MOV #11,R0 ; LOAD STMP0-10
0227      034570 010501      MOV R5,R1 ; WITH TEST DATA SETS
0228      034572 012702 001230      MOV #STMP0,R2 ; FOR DISPLAY LATER
0229      034576 012122      MOV (R1)+(R2)+ ;
0230      034600 017002      SUB #0,-2 ;
0231      034602 012737 034610 001112      MOV #MULFI,8LPEHR ; ERROR LOOPING ADDRESS
0232
0233
0234      034610 170001      MULFL: SETF ; F MODE
0235      034612 172715      LDF (R5),AC3 ; INITIAL AC FLOAT NUMBER
0236      034614 170105 000014      LOFPS 14(R5) ; INITIAL FFS
0237
0238      034620 171365 000004      MULFI: MULF 4(R5),AC3 ; (AC3)-(MEM)->AC3
0239
0240      034624 170237 002000      STFPS FFS ; STORE FFS AFTER
0241      034630 170337 002002      STST FEC ; STORE FEC/FEA AFTER
0242      034634 174337 001170      STD AC3,8REG0 ; RESULT OF MULF
0243
0244      034640 023765 002000 000016      CMP FFS,16(R5) ; CHECK FFS
0245      034646 001401      BEQ 650 ; FFS IS OK
0246      034650 104004      ERROR 4 ; FFS BAD
0247      034652 005765 000020      TST 20(R5) ; DOES FEC/FEA APPLY?
0248      034656 100014      BPL 660 ; NO - SKIP TEST
0249      034660 012737 034620 002014      MOV #MULFI,EXPFEA ; GET EXPECTED FEA
0250      034666 123765 002002 000020      CMPB FEC,20(R5) ; COMPARE FEC-S
0251      034674 001004      BNE 648 ; NOT EQUAL
0252      034676 023737 002004 002014      CMP FEA,EXPFEA ; COMPARE FEA-S
0253      034704 001401      BEQ 660 ; FEC, FEA OK
0254      034706 104014      ERROR 14 ; FEC OR FEA ARE BAD
0255      034710
0256
0257      034710 023765 001170 000010      CMP #REG0,10(R5) ; 1ST WORD OF RESULT CHECK?
0258      034716 001004      BNE 670 ; NO
0259      034720 023765 001172 000012      CMP #REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
0260      034726 001401      BEQ 680 ; ALL WORDS OK
0261      034730 104025      ERROR 25 ; NUMBERS NOT EQUAL
0262      034732
0263
0264      034732 000207      RTS PC ; RETURN TO TEST CALLER
0265
0266      .SMITL SUBR TO TEST THE MULD INSTRUCTION
0267
0268
0269      034734 012700 000017      MULDI: MOV #17,R0 ; LOAD STMP0-16
0270      034740 010501      MOV R5,R1 ; WITH TEST DATA SETS
0271      034742 012702 001230      MOV #STMP0,R2 ; FOR DISPLAY LATER
0272      034746 012122      MOV (R1)+(R2)+ ;
0273      034750 017002      SUB #0,-2 ;
0274      034752 012737 034760 001112      MOV #MULDI,8LPEHR ; ERROR LOOPING ADDRESS
0275
0276
0277      034760 170011      MULDI: SETD ; D MODE
0278      034762 172015      LDD (R5),AC2 ; INITIAL AC FLOAT NUMBER
0279      034764 170165 000030      LOFPS 30(R5) ; INITIAL FFS
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0200      034770 11265 000010      MULD1: MULD 10(R5),AC2      ; (AC2)*(MEM)->AC4
0201      034774 110237 002000      STFPS FPS      ; STORE FPS AFTER
0202      035000 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
0203      035004 174237 001170      STD AC2,0REG0      ; RESULT OF MULD
0204      035010 023765 002000 000032      CMP FPS,32(R5)      ; CHECK FPS
0205      035016 001401      BEQ 658      ; FPS IS OK
0206      035020 104007      ERROR 7      ; FPS BAD
0207      035022 005765 000034      658: TST 34(R5)      ; DOES FEC/FEA APPLY?
0208      035026 100014      BPL 608      ; NO - SKIP TEST
0209      035030 012737 034770 002014      MOV #MULD1,EXPFEA      ; GET EXPECTED FEA
0210      035036 123765 002002 000034      CMPS FEC,34(R5)      ; COMPARE FEC-S
0211      035044 001004      BNE 648      ; NOT EQUAL
0212      035046 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
0213      035054 001401      BEQ 608      ; FEC, FEA OK
0214      035056 104017      648: ERROR 17      ; FEC OR FEA ARE BAD
0215      035060      608:
0216      035064 023765 001170 000020      CMP 0REG0,20(R5)      ; 1ST WORD OF RESULT CHECK?
0217      035066 001014      BNE 678      ; NO
0218      035070 023765 001172 000022      CMP 0REG1,22(R5)      ; 2ND WORD OF RESULT CHECK?
0219      035076 001010      BNE 678      ; NO
0220      035100 023765 001174 000024      CMP 0REG2,24(R5)      ; 3RD WORD OF RESULT CHECK?
0221      035106 001004      BNE 678      ; NO
0222      035110 023765 001176 000026      CMP 0REG3,26(R5)      ; 4TH WORD OF RESULT CHECK?
0223      035116 001401      BEQ 608      ; ALL WORDS OK
0224      035120 104026      678: ERROR 26      ; NUMBERS NOT EQUAL
0225      035122
0226      035122 000207      RTS PC      ; RETURN TO TEST CALLER
0227
```

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0313      035124      012700 000011      .SBTTL SUBR TO TEST THE DIVF INSTRUCTION
0314      035130 010501      DIVF1: MOV #17,R0      ; LOAD STMP0-10
0315      035132 012702 001230      MOV #R1      ; WITH TEST DATA SETS
0316      035136 012122      MOV #STMP0,R2      ; FOR DISPLAY LATER
0317      035140 077002      MOV (R1)+(R2)+      ;
0318      035142 012737 035150 001112      SOB #0,-2      ;
0319      035150      MOV #DIVFL,0LPERR      ; ERROR LOOPING ADDRESS
0320      035152 170001      DIVFL: SETF (R5),AC2      ; F MODE
0321      035154 170165 000014      LDF 14(R5)      ; INITIAL AC FLOAT NUMBER
0322      035160 174065 000004      LDFFS      ; INITIAL FPS
0323      035164 170237 002000      DIVF1: DIVF 4(R5),AC2      ; (AC2)/(MEM)->AC4
0324      035170 170337 002002      STFPS FPS      ; STORE FPS AFTER
0325      035174 174237 001170      STST FEC      ; STORE FEC/FEA AFTER
0326      035200 023765 002000 000016      STD AC2,0REG0      ; RESULT OF DIVF
0327      035206 001401      CMP FPS,16(R5)      ; CHECK FPS
0328      035210 104004      BEQ 658      ; FPS IS OK
0329      035212 005765 000020      658: ERROR 4      ; FPS BAD
0330      035216 000014      TST 20(R5)      ; DOES FEC/FEA APPLY?
0331      035220 012737 035160 002014      BPL 608      ; NO - SKIP TEST
0332      035226 123765 002002 000020      MOV #DIVF1,EXPFEA      ; GET EXPECTED FEA
0333      035234 001004      CMPS FEC,20(R5)      ; COMPARE FEC-S
0334      035236 023737 002004 002014      BNE 648      ; NOT EQUAL
0335      035240 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
0336      035244 001401      BEQ 608      ; FEC, FEA OK
0337      035246 104014      648: ERROR 14      ; FEC OR FEA ARE BAD
0338      035250      608:
0339      035250 023765 001170 000010      CMP 0REG0,10(R5)      ; 1ST WORD OF RESULT CHECK?
0340      035256 001004      BNE 678      ; NO
0341      035260 023765 001172 000012      CMP 0REG1,12(R5)      ; 2ND WORD OF RESULT CHECK?
0342      035266 001401      BEQ 608      ; ALL WORDS OK
0343      035270 104025      678: ERROR 25      ; NUMBERS NOT EQUAL
0344      035272
0345      035272 000207      RTS PC      ; RETURN TO TEST CALLER
0346      035274
0347      035274      012700 000017      ;*****
0348      035300 010501      .SBTTL SUBR TO TEST THE DIVD INSTRUCTION
0349      035302 012702 001230      DIVD1: MOV #17,R0      ; LOAD STMP0-10
0350      035306 012122      MOV #R1      ; WITH TEST DATA SETS
0351      035310 077002      MOV #STMP0,R2      ; FOR DISPLAY LATER
0352      035312 012737 035320 001112      MOV (R1)+(R2)+      ;
0353      035320      SOB #0,-2      ;
0354      035322      MOV #DIVDL,0LPERR      ; ERROR LOOPING ADDRESS
0355      035324 170011      DIVDL: SETD (R5),AC1      ; D MODE
0356      035326 172515 000030      LDD 30(R5)      ; INITIAL AC FLOAT NUMBER
0357      035328 170165      LDFFS      ; INITIAL FPS
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0369      035330 174565 000010      DIVD1: DIVD 10(R5),AC1      ; (AC1)/(MEM)->AC1
0370      035334 170237 002000      STFPS FFS      ; STORE FFS AFTER
0371      035340 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
0372      035344 174137 001170      STD AC1,0REG0      ; RESULT OF DIVD
0373      035350 023765 002000 000032      CMP FFS,32(R5)      ; CHECK FFS
0374      035356 001401 658      BEQ 658      ; FFS IS OK
0375      035360 104007 658      ERROR 7      ; FFS BAD
0376      035362 005765 000034      TST 34(R5)      ; DOES FEC/FEA APPLY?
0377      035366 100014 658      BPL 658      ; NO - SKIP TEST
0378      035370 012737 035330 002014      MOV #DIVD1,EXPFEA      ; GET EXPECTED FEA
0379      035376 123765 002002 000034      CMPB FEC,34(R5)      ; COMPARE FEC-S
0380      035404 001004 648      BNE 648      ; NOT EQUAL
0381      035406 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
0382      035414 001401 648      BEQ 648      ; FEC, FEA OK
0383      035416 104017 648      ERROR 17      ; FEC OR FEA ARE BAD
0384      035420 023765 001170 000020      CMP 0REG0,20(R5)      ; 1ST WORD OF RESULT CHECK?
0385      035426 001014 678      BNE 678      ; NO
0386      035430 023765 001172 000022      CMP 0REG1,22(R5)      ; 2ND WORD OF RESULT CHECK?
0387      035436 001010 678      BNE 678      ; NO
0388      035440 023765 001174 000024      CMP 0REG2,24(R5)      ; 3RD WORD OF RESULT CHECK?
0389      035446 001004 678      BNE 678      ; NO
0390      035450 023765 001176 000026      CMP 0REG3,26(R5)      ; 4TH WORD OF RESULT CHECK?
0391      035456 001401 688      BEQ 688      ; ALL WORDS OK
0392      035460 104020 688      ERROR 26      ; NUMBERS NOT EQUAL
0393      035462 000207      RTS PC      ; RETURN TO TEST CALLER
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0393      035464 012700 000013      MODFT1: MOV #13,R0      ; LOAD STMP0-12
0394      035470 010501 001230      MOV R5,R1      ; WITH TEST DATA SETS
0395      035472 012704 001230      MOV 0STMP0,R2      ; FOR DISPLAY LATER
0396      035476 012122 035510 001112      MOV (R1)+(R2)+      ;
0397      035500 017002 658      SOB R0,-2      ;
0398      035502 012737 658      MOV #MOD2FL,SLPENR      ; ERROR LOOPING ADDRESS
0399      035510 170001      MOD2FL: SETF      ; F MODE
0400      035512 172015      LDF (R5),AC2      ; INITIAL AC FLOAT NUMBER
0401      035514 172737 002036      LDF PREVAC,AC3      ; FOR FEC-14 TEST
0402      035520 170105 000020      LDFFS 20(R5)      ; INITIAL FFS
0403      035524 171065 000004      MOD2FI: MODF 4(R5),AC2      ; FMAC((AC2)*(MEM))->AC2
0404      035526 174137 001170      INT((AC2)*(MEM))->AC3
0405      035530 170237 002000      STFPS FFS      ; STORE FFS AFTER
0406      035534 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
0407      035540 174237 001170      STF AC2,0REG0      ; STORE FRAC PART
0408      035544 174337 001174      STF AC1,0REG2      ; STORE INT PART
0409      035550 023765 002000 000022      CMP FFS,22(R5)      ; CHECK FFS
0410      035556 001401 658      BEQ 658      ; FFS IS OK
0411      035560 104005 658      ERROR 5      ; FFS BAD
0412      035562 005765 000024      TST 24(R5)      ; DOES FEC/FEA APPLY?
0413      035566 100014 658      BPL 658      ; NO - SKIP TEST
0414      035570 012737 035524 002014      MOV #MOD2FI,EXPFEA      ; GET EXPECTED FEA
0415      035576 123765 002002 000024      CMPB FEC,24(R5)      ; COMPARE FEC-S
0416      035604 001004 648      BNE 648      ; NOT EQUAL
0417      035606 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
0418      035614 001401 648      BEQ 648      ; FEC, FEA OK
0419      035616 104015 648      ERROR 15      ; FEC OR FEA ARE BAD
0420      035620 023765 001170 000010      ; CHECK FRACTION PART
0421      035626 001004 678      CMP 0REG0,10(R5)      ; 1ST WORD OF RESULT CHECK?
0422      035630 023765 001172 000012      BNE 678      ; NO
0423      035636 001401 678      CMP 0REG1,12(R5)      ; 2ND WORD OF RESULT CHECK?
0424      035640 104027 688      BEQ 688      ; ALL WORDS OK
0425      035642 688      ERROR 27      ; NUMBERS NOT EQUAL
0426      035644 023765 001174 000014      ; CHECK INTEGER PART
0427      035650 001004 678      CMP 0REG2,14(R5)      ; 1ST WORD OF RESULT CHECK?
0428      035652 023765 001176 000016      BNE 678      ; NO
0429      035654 001401 678      CMP 0REG3,16(R5)      ; 2ND WORD OF RESULT CHECK?
0430      035656 104030 708      BEQ 708      ; ALL WORDS OK
0431      035658 708      ERROR 30      ; NUMBERS NOT EQUAL
0432      035660 000207      RTS PC      ; RETURN TO TEST CALLER
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0459      ,SMTTL SUMR TO TEST THE MODD INSTRUCTION, USING 2 ACCUMULATORS
0460
0461      035666      012700      000023      MD2DI:      MOV      R23,R0      ; LOAD STMPD=22
0462      035666      012700      000023      MD2DI:      MOV      R5,R1      ; WITH TEST DATA SETS
0463      035672      010501      001230      MD2DI:      MOV      R0,STMPD,R2      ; FOR DISPLAY LATER
0464      035674      012702      001230      MD2DI:      MOV      (R1)+(R2)+      ;
0465      035700      012122      001230      MD2DI:      SUB      R0,-2      ;
0466      035702      017002      001112      MD2DI:      MOV      RMD2DL,SLPERR      ; ERROR LOOPING ADDRESS
0467      035704      012737      035712      001112      MD2DI:      SETD      LDD      (R5),AC0      ; D MODE
0468      035712      170011      002000      MD2DI:      LDD      PREVAC,AC1      ; INITIAL AC FLOAT NUMBER
0469      035714      172415      002000      MD2DI:      LDD      LDFPB      40(R5)      ; FOR FEC=14 TEST
0470      035716      172537      002036      MD2DI:      MODD      10(R5),AC0      ; INITIAL FPS
0471      035722      170165      000040      MD2DI:      MODD      10(R5),AC0      ; FHAC((AC0)*(MEM))=>AC0
0472      035726      171465      000010      MD2DI:      INT((AC0)*(MEM))=>AC1
0473
0474
0475
0476
0477      035732      170237      002000      STFPS      FPS      ; STORE FPS AFTER
0478      035736      170337      002002      STST      FEC      ; STORE FEC/FEA AFTER
0479      035742      170037      001170      STD      AC0,REG0      ; STORE FRAC PART
0480      035746      174137      001200      STD      AC1,REG0      ; STORE INT PART
0481
0482      035752      023765      002000      000042      CMP      FPS,42(R5)      ; CHECK FPS
0483      035760      001401      002000      BEQ      656      ; FPS IS OK
0484      035762      104010      000044      ERRUR      10      ; FPS BAD
0485      035764      005765      000044      656:      TST      44(R5)      ; DUES FEC/FEA APPLT
0486      035770      100014      002014      BPL      668      ; NO - SKIP TEST
0487      035772      012737      035726      002014      MOV      RMD2DI,EXPFLA      ; GET EXPECTED FEA
0488      036000      123765      002002      000044      CMPB      FEC,44(R5)      ; COMPARE FEC-S
0489      036006      001004      002004      BNE      648      ; NOT EQUAL
0490      036010      023737      002004      002014      CMP      FEA,EXPFLA      ; COMPARE FEA-S
0491      036016      001401      002004      BEQ      668      ; FEC, FEA OK
0492      036020      104020      002004      648:      ERROR      20      ; FEC ON FEA ARE BAD
0493      036022      104020      002004      668:
0494
0495
0496      036022      023765      001170      000020      ; CHECK FRACTION PART OF RESULT
0497      036030      001014      000020      CMP      REG0,20(R5)      ; 1ST WORD OF RESULT CHECK?
0498      036032      023765      001172      000022      BNE      678      ; NO
0499      036040      001010      000022      CMP      REG1,22(R5)      ; 2ND WORD OF RESULT CHECK?
0500      036042      023765      001174      000024      BNE      678      ; NO
0501      036050      001004      000024      CMP      REG2,24(R5)      ; 3RD WORD OF RESULT CHECK?
0502      036052      023765      001176      000026      BNE      678      ; NO
0503      036060      001401      000026      CMP      REG3,26(R5)      ; 4TH WORD OF RESULT CHECK?
0504      036062      104031      000026      BEQ      688      ; ALL WORDS OK
0505      036064      104031      000026      678:      ERROR      31      ; NUMBERS NOT EQUAL
0506      036064      104031      000026      688:
0507
0508      036064      023765      001200      000030      ; CHECK INTEGER PART
0509      036072      001014      000030      CMP      REG0,30(R5)      ; 1ST WORD OF RESULT CHECK?
0510      036074      023765      001202      000032      BNE      698      ; NO
0511      036102      001010      000032      CMP      REG5,32(R5)      ; 2ND WORD OF RESULT CHECK?
0512      036104      023765      001204      000034      BNE      698      ; NO
0513      036112      001004      000034      CMP      REG6,34(R5)      ; 3RD WORD OF RESULT CHECK?
0514      036114      023765      001206      000036      BNE      698      ; NO
0515      036114      023765      001206      000036      CMP      REG7,36(R5)      ; 4TH WORD OF RESULT CHECK?
```

```
0515      036122      001401      698:      BEW      708      ; ALL WORDS OK
0516      036124      104032      708:      ERROR      32      ; NUMBERS NOT EQUAL
0517      036126
0518
0519      036126      000207      RTS      PC      ; RETURN TO TEST CALLER
```

```
0520      ;BTTTL SUBR TO TEST THE MODF INSTRUCTION, USING 1 ACCUMULATOR
0521
0522      MD1FT:  MOV     #13,R0      ; LOAD STMP0-12
0523              MOV     R5,R1      ; WITH TEST DATA BITS
0524              MOV     #STMP0,R2   ; FOR DISPLAY LATER
0525              MOV     (R1)+(R2)+ ;
0526              SOB     R0,-2       ;
0527              MOV     #MD1FL,SLPERR ; ERROR LOOPING ADDRESS
0528
0529
0530      MD1FL:  SETF     (R5),AC3    ; F MODE
0531              LDF     PREVAC,AC2  ; INITIAL AC FLOAT NUMBER
0532              LDF     20(R5)      ; AC2 SHOULD NOT CHANGE
0533              LDFFS    20(R5)     ; INITIAL FPS
0534
0535      MD1FI:  MODF     4(R5),AC3   ; FRAC((AC3)*(MEM))=>AC3
0536              ; INT((AC3)*(MEM))=>LOST
0537
0538              STFPS    FPS        ; STORE FPS AFTER
0539              STST     FEC        ; STORE FEC/FEA AFTER
0540              STF      AC3,REG0    ; STORE FRAC PART
0541              STF      AC2,REG2    ; STORE UNCHANGED AC3
0542
0543      036214 023765 002000 000022  CMP     FPS,22(R5)    ; CHECK FPS
0544      036222 001401 000000 000000  BEQ     658          ; FPS IS OK
0545      036224 104005 000000 000000  ERROR    5          ; FPS BAD
0546      036226 005765 000024 000000  TST      24(R5)      ; DOES FEC/FEA APPLY?
0547      036232 100014 000000 000000  BPL      660          ; NO - SKIP TEST
0548      036234 012737 036170 002014  MOV     #MD1FI,EXPFEA ; GET EXPECTED FEA
0549      036242 123765 002002 000024  CMPB    FEC,24(R5)    ; COMPARE FEC-S
0550      036250 001004 000000 000000  BNE      648          ; NOT EQUAL
0551      036252 023737 002004 002014  CMP     FEA,EXPFEA    ; COMPARE FEA-S
0552      036260 001401 000000 000000  BEQ     660          ; FEC, FEA OK
0553      036262 104015 000000 000000  ERROR    15          ; FEC OR FEA ARE BAD
0554      036264
0555
0556      ; CHECK FRACTION PART
0557      036264 023765 001170 000010  CMP     $REG0,10(R5)  ; 1ST WORD OF RESULT CHECK?
0558      036272 001004 000000 000000  BNE      678          ; NO
0559      036274 023765 001172 000012  CMP     $REG1,12(R5)  ; 2ND WORD OF RESULT CHECK?
0560      036302 001401 000000 000000  BEQ     688          ; ALL WORDS OK
0561      036304 104027 000000 000000  ERROR    27          ; NUMBERS NOT EQUAL
0562
0563
0564      ; CHECK UNCHANGED PART
0565      036306 023765 001174 000014  CMP     $REG2,14(R5)  ; 1ST WORD OF RESULT CHECK?
0566      036314 001004 000000 000000  BNE      698          ; NO
0567      036316 023765 001176 000016  CMP     $REG3,16(R5)  ; 2ND WORD OF RESULT CHECK?
0568      036324 001401 000000 000000  BEQ     708          ; ALL WORDS OK
0569      036326 104030 000000 000000  ERROR    30          ; NUMBERS NOT EQUAL
0570      036330
0571
0572      RTS      PC              ; RETURN TO TEST CALLER
0573
0574
0575      ;*****
```

```
0576      ;BTTTL SUBR TO TEST THE MODD INSTRUCTION, USING 1 ACCUMULATOR
0577
0578      MD1DT:  MOV     #23,R0      ; LOAD STMP0-22
0579              MOV     R5,R1      ; WITH TEST DATA BITS
0580              MOV     #STMP0,R2   ; FOR DISPLAY LATER
0581              MOV     (R1)+(R2)+ ;
0582              SOB     R0,-2       ;
0583              MOV     #MD1DL,SLPERR ; ERROR LOOPING ADDRESS
0584
0585
0586      MD1DL:  SETD     (R5),AC1    ; D MODE
0587              LDD     PREVAC,AC0  ; INITIAL AC FLOAT NUMBER
0588              LDD     40(R5)      ; AC0 SHOULD NOT CHANGE
0589              LDFFS    40(R5)     ; INITIAL FPS
0590
0591      MD1DI:  MODD     10(R5),AC1  ; FRAC((AC1)*(MEM))=>AC1
0592              ; INT((AC1)*(MEM))=>LOST
0593
0594              STFPS    FPS        ; STORE FPS AFTER
0595              STST     FEC        ; STORE FEC/FEA AFTER
0596              STD      AC1,REG0    ; STORE FRAC PART
0597              STD      AC0,REG4    ; STORE UNCHANGED AC0
0598
0599      036372 171565 000010 000000  CMP     FPS,42(R5)    ; CHECK FPS
0600      036374 001401 000000 000000  BEQ     658          ; FPS IS OK
0601      036376 104010 000000 000000  ERROR    10          ; FPS BAD
0602      036378 005765 000024 000000  TST      44(R5)      ; DOES FEC/FEA APPLY?
0603      036380 100014 000000 000000  BPL      660          ; NO - SKIP TEST
0604      036382 012737 036372 002014  MOV     #MD1DI,EXPFEA ; GET EXPECTED FEA
0605      036384 123765 002002 000044  CMPB    FEC,44(R5)    ; COMPARE FEC-S
0606      036386 001004 000000 000000  BNE      648          ; NOT EQUAL
0607      036388 023737 002004 002014  CMP     FEA,EXPFEA    ; COMPARE FEA-S
0608      036390 001401 000000 000000  BEQ     660          ; FEC, FEA OK
0609      036392 104020 000000 000000  ERROR    20          ; FEC OR FEA ARE BAD
0610      036394
0611
0612      ; CHECK FRACTION PART OF RESULT
0613      036396 023765 001170 000020  CMP     $REG0,20(R5)  ; 1ST WORD OF RESULT CHECK?
0614      036398 001014 000000 000000  BNE      678          ; NO
0615      036400 023765 001172 000022  CMP     $REG1,22(R5)  ; 2ND WORD OF RESULT CHECK?
0616      036402 001010 000000 000000  BNE      678          ; NO
0617      036404 023765 001174 000024  CMP     $REG2,24(R5)  ; 3RD WORD OF RESULT CHECK?
0618      036406 001014 000000 000000  BNE      678          ; NO
0619      036408 023765 001176 000026  CMP     $REG3,26(R5)  ; 4TH WORD OF RESULT CHECK?
0620      036410 001401 000000 000000  BEQ     688          ; ALL WORDS OK
0621      036412 104031 000000 000000  ERROR    31          ; NUMBERS NOT EQUAL
0622      036414
0623
0624      ; CHECK UNCHANGED PART
0625      036416 023765 001200 000030  CMP     $REG4,30(R5)  ; 1ST WORD OF RESULT CHECK?
0626      036418 001014 000000 000000  BNE      698          ; NO
0627      036420 023765 001202 000032  CMP     $REG5,32(R5)  ; 2ND WORD OF RESULT CHECK?
0628      036422 001010 000000 000000  BNE      698          ; NO
0629      036424 023765 001204 000034  CMP     $REG6,34(R5)  ; 3RD WORD OF RESULT CHECK?
0630      036426 001014 000000 000000  BNE      698          ; NO
0631      036428 023765 001206 000036  CMP     $REG7,36(R5)  ; 4TH WORD OF RESULT CHECK?
```

```
0632 036566 001401      BEQ    700      ; ALL WORDS OK
0633 036570 104032      ERROR  32      ; NUMBERS NOT EQUAL
0634 036572
0635
0636 036572 000207      RTS     PC      ; RETURN TO TEST CALLER
```

```
0637      .SBTTL SUBR TO TEST THE LDCDF INSTRUCTION
0638
0639      LDCDFI:
0640 036574 012700 000011      MOV    R1,R0      ; LOAD STMP0-10
0641 036600 010501      MOV    R5,R1      ; WITH TEST DATA SETS
0642 036602 012702 001230      MOV    STMP0,R2      ; FOR DISPLAY LATER
0643 036606 012122      MOV    (R1)+(R2)+
0644 036610 017002      SUB     R0,-2
0645 036612 012737 036620 001112      MOV    LDCDFL,SLPEHR ; ERROR LOOPING ADDRESS
0646
0647 036620 110011      LDCDFL: SETD     ; D MODE
0648 036622 112537 002036      LDF     PREVAC,AC1 ; PREV CONTENTS TO ACC; FOR FEC-14 TEST
0649 036626 110165 000014      LDFFS   14(R5)      ; INITIAL FPS
0650
0651 036632 117515      LDCDFI: LDCDF  (R5),AC1      ; DUF([MEM])=>AC1
0652
0653 036634 110237 002000      STFPS   FPS      ; STORE FPS AFTER
0654 036640 110137 002002      STST    FEC      ; STORE FEC/FEA AFTER
0655 036644 114137 000170      STF     AC1,0REG0      ; STORE RESULT
0656
0657 036650 013765 002000 000010      CNP     FPS,16(R5) ; CHECK FPS
0658 036656 001401      BLO     650      ; FPS IS OK
0659 036660 104004      ERROR  4      ; FPS BAD
0660 036662 005765 000020 650:    TST     20(R5)      ; DUBS FEC/FEA APPLI?
0661 036666 100014      BPL     660      ; NO - SKIP TEST
0662 036670 012737 036632 002014      MOV    LDCDFI,EXPFEA ; GET EXPECTED FEA
0663 036676 113765 002002 000020      CNPB   FEC,20(R5) ; COMPARE FEC-S
0664 036704 001004      BNE     640      ; NOT EQUAL
0665 036706 013737 002004 002014      CNP     FEA,EXPFEA ; COMPARE FEA-S
0666 036714 001401      BEQ     660      ; FEC, FEA OK
0667 036716 104014      ERROR  14      ; FEC OR FEA ARE BAD
0668 036720
0669
0670 036720 023765 001170 000010      CNP     SREG0,10(R5) ; 1ST WORD OF RESULT CHECK?
0671 036726 001004      BNE     670      ; NO
0672 036730 013765 001172 000012      CNP     SREG1,12(R5) ; 2ND WORD OF RESULT CHECK?
0673 036736 001401      BEQ     680      ; ALL WORDS OK
0674 036740 104033      ERROR  33      ; NUMBERS NOT EQUAL
0675 036742
0676
0677 036742 000207      RTS     PC      ; RETURN TO TEST CALLER
0678
0679
0680      ;*****
0681      .SBTTL SUBR TO TEST THE LDCDF INSTRUCTION
0682
0683 036744 012700 000011      LDCDFI:
0684 036744 012700 000011      MOV    R1,R0      ; LOAD STMP0-10
0685 036750 010501      MOV    R5,R1      ; WITH TEST DATA SETS
0686 036752 012702 001230      MOV    STMP0,R2      ; FOR DISPLAY LATER
0687 036756 012122      MOV    (R1)+(R2)+
0688 036760 017002      SUB     R0,-2
0689 036762 012737 036770 001112      MOV    LCFDL,SLPEHR ; ERROR LOOPING ADDRESS
0690
0691 036770 110011      LCFDL: SETD     ; D MODE
0692 036772 112537 002036      LOD     PREVAC,AC2 ; PREV CONTENTS TO ACC; FOR FEC-14 TEST
```

```

8693 030775 170165 000014      LDFPS 14(R5)      ; INITIAL FPS
8694                                ;
8695 037002 177615      LCFDI: LDCFD (R5),AC2      ; FIOD(MEM)->PAC4
8696                                ;
8697 037004 170237 002000      STFPS FPS      ; STORE FPS AFTER
8698 037010 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
8699 037014 174237 001170      STD AC2,8REG0      ; STORE RESULT
8700                                ;
8701 037020 023765 002000 000016      CMP FPS,16(R5)      ; CHECK FPS
8702 037026 001401      BEQ 658      ; FPS IS OK
8703 037030 104004      ERROR 4      ; FPS BAD
8704 037032 005765 000020      658: TST 20(R5)      ; DOES FEC/FEA APPLY?
8705 037036 100014      BPL 668      ; NO - SKIP TEST
8706 037040 012737 037002 002014      MOV 8LCFDI,EXPFLA      ; GET EXPECTED FEA
8707 037046 123765 002002 000020      CMPB FEC,20(R5)      ; COMPARE FEC-S
8708 037054 001604      BNE 648      ; NOT EQUAL
8709 037056 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
8710 037064 001401      BEQ 668      ; FEC, FEA OK
8711 037066 104014      648: ERROR 14      ; FEC OR FEA ARE BAD
8712 037070      668:
8713                                ;
8714 037070 023765 001170 000004      CMP 8REG0,4(R5)      ; 1ST WORD OF RESULT CHECK?
8715 037076 001014      BNE 678      ; NO
8716 037100 023765 001172 000006      CMP 8REG1,6(R5)      ; 2ND WORD OF RESULT CHECK?
8717 037106 001010      BNE 678      ; NO
8718 037110 023765 001174 000010      CMP 8REG2,10(R5)      ; 3RD WORD OF RESULT CHECK?
8719 037116 001004      BNE 678      ; NO
8720 037120 023765 001176 000012      CMP 8REG3,12(R5)      ; 4TH WORD OF RESULT CHECK?
8721 037126 001401      BEQ 688      ; ALL WORDS OK
8722 037130 104034      678: ERROR 34      ; NUMBERS NOT EQUAL
8723 037132
8724
8725 037132 000207      RTS PC      ; RETURN TO TEST CALLER
8726

```

```

8727                                ;SBTTL SUBR TO TEST THE STCDF INSTRUCTION
8728                                ;
8729 037134 012700 000011      SCDFI: MOV #11,R0      ; LOAD SIMPO=10
8730 037140 010501      MOV R5,R1      ; WITH TEST DATA SETS
8731 037142 012702 001230      MOV 8TMP0,R2      ; FOR DISPLAY LATER
8732 037146 012122      MOV (R1)+,(R2)+      ;
8733 037150 017002      SUB R0,-2      ;
8734 037152 012737 037160 001112      MOV 8CDFI,8LPERH      ; ERROR LOOPING ADDRESS
8735
8736                                ;
8737 037160 170011      SCDFI: SETD (R5),AC3      ; D MODE
8738 037162 172715      LDD 14(R5)      ; INITIAL AC FLOAT NUMBER
8739 037164 170165 000014      LDFPS 14(R5)      ; INITIAL FPS
8740                                ;
8741 037170 176337 001170      SCDFI: STCDF AC3,8REG0      ; DIOF([AC3])->MEM
8742                                ;
8743 037171 170237 002000      STFPS FPS      ; STORE FPS AFTER
8744 037200 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
8745                                ;
8746 037204 023765 002000 000016      CMP FPS,16(R5)      ; CHECK FPS
8747 037212 001401      BEQ 658      ; FPS IS OK
8748 037214 104004      ERROR 4      ; FPS BAD
8749 037216 005765 000020      658: TST 20(R5)      ; DOES FEC/FEA APPLY?
8750 037222 100014      BPL 668      ; NO - SKIP TEST
8751 037224 012737 037170 002014      MOV 8CDFI,EXPFLA      ; GET EXPECTED FEA
8752 037232 123765 002002 000020      CMPB FEC,20(R5)      ; COMPARE FEC-S
8753 037240 001004      BNE 648      ; NOT EQUAL
8754 037242 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
8755 037250 001401      BEQ 668      ; FEC, FEA OK
8756 037252 104014      648: ERROR 14      ; FEC OR FEA ARE BAD
8757 037254      668:
8758                                ;
8759 037254 023765 001170 000010      CMP 8REG0,10(R5)      ; 1ST WORD OF RESULT CHECK?
8760 037262 001004      BNE 678      ; NO
8761 037264 023765 001172 000012      CMP 8REG1,12(R5)      ; 2ND WORD OF RESULT CHECK?
8762 037272 001401      BEQ 688      ; ALL WORDS OK
8763 037274 104033      678: ERROR 33      ; NUMBERS NOT EQUAL
8764 037276
8765
8766 037276 000207      RTS PC      ; RETURN TO TEST CALLER
8767
8768                                ;*****
8769                                ;SBTTL SUBR TO TEST THE STCDF INSTRUCTION
8770                                ;
8771                                ;
8772 037300      SCDFI: MOV #12,R0      ; LOAD SIMPO=11
8773 037304 010501      MOV R5,R1      ; WITH TEST DATA SETS
8774 037306 012702 001230      MOV 8TMP0,R2      ; FOR DISPLAY LATER
8775 037312 012122      MOV (R1)+,(R2)+      ;
8776 037314 017002      SUB R0,-2      ;
8777 037316 012737 037324 001112      MOV 8CDFI,8LPERH      ; ERROR LOOPING ADDRESS
8778
8779                                ;
8780 037324 170011      SCDFI: SETD (R5),AC0      ; USE D MODE
8781 037326 172415      LDD 20(R5)      ; INITIAL F FLOAT NUM, FOLLOW #/JUNA
8782 037330 170165 000020      LDFPS 20(R5)      ; INITIAL FPS

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```

0783
0784 037334 176037 001170 STCFD AC0,8REG0 ; FTOD((AC0))->MEM
0785
0786 037340 170237 002000 STFPS FPS ; STORE FPS AFTER
0787
0788 037344 023765 002000 000022 CMP FPS,22(R5) ; CHECK FPS OK
0789 037352 001401 BEQ 648 ; OK, BRANCH
0790 037354 104005 RRROR 5 ; FPS BAD
0791 037356
0792
0793 037356 023765 001170 000010 CMP 8REG0,10(R5) ; 1ST WORD OF RESULT CHECK?
0794 037364 001014 BNE 658 ; NO
0795 037366 023765 001172 000012 CMP 8REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
0796 037374 001010 BNE 658 ; NO
0797 037376 023765 001174 000014 CMP 8REG2,14(R5) ; 3RD WORD OF RESULT CHECK?
0798 037404 001404 BNE 658 ; NO
0799 037406 023765 001176 000016 CMP 8REG3,16(R5) ; 4TH WORD OF RESULT CHECK?
0800 037414 001401 BEQ 668 ; ALL WORDS OK
0801 037416 104035 RRROR 35 ; NUMBERS NOT EQUAL
0802 037420
0803
0804 037420 000207 RTS PC ; RETURN TO TEST CALLER
  
```

```

0805
0806
0807 037422 012700 000005 .SBTTL SUBR TO TEST THE LDCIF INSTRUCTION
0808 LCIF: MOV R5,R0 ; LOAD STMP0=4
0809 037426 010501 MOV R5,R1 ; WITH TEST DATA SETS
0810 037430 012702 001230 MOV 8TMP0,R2 ; FOR DISPLAY LATER
0811 037434 012122 MOV (R1)+(R2)+ ;
0812 037436 077002 SUB R0,-2 ;
0813 037440 012737 037446 001112 MOV 8LCIFL,8LPERH ; ERROR LOOPING ADDRESS
0814
0815 037446 170165 000006 LCIFL: LDFPS 6(R5) ; INITIAL FPS
0816
0817 037452 177215 LDCIF (R5),AC2 ; F[(MEM)]->AC2
0818
0819 037454 170237 002000 STFPS FPS ; STORE FPS AFTER
0820 037460 174237 001170 ST AC2,8REG0 ; STORE RESULT
0821
0822 037464 023765 002000 000010 CMP FPS,10(R5) ; CHECK FPS OK
0823 037472 001401 BEQ 648 ; OK, BRANCH
0824 037474 104001 RRROR 1 ; FPS BAD
0825 037476
0826
0827 037476 023765 001170 000002 CMP 8REG0,2(R5) ; 1ST WORD OF RESULT CHECK?
0828 037504 001004 BNE 658 ; NO
0829 037506 023765 001172 000004 CMP 8REG1,4(R5) ; 2ND WORD OF RESULT CHECK?
0830 037514 001401 BEQ 668 ; ALL WORDS OK
0831 037516 104036 RRROR 36 ; NUMBERS NOT EQUAL
0832 037520
0833
0834 037520 000207 RTS PC ; RETURN TO TEST CALLER
0835
0836
0837
0838
0839
0840 037522 012700 000007 .SBTTL SUBR TO TEST THE LDCID INSTRUCTION
0841 LCIDI: MOV R7,R0 ; LOAD STMP0=6
0842 037526 010501 MOV R5,R1 ; WITH TEST DATA SETS
0843 037530 012702 001230 MOV 8TMP0,R2 ; FOR DISPLAY LATER
0844 037534 012122 MOV (R1)+(R2)+ ;
0845 037536 077002 SUB R0,-2 ;
0846 037540 012737 037546 001112 MOV 8LCIDL,8LPERH ; ERROR LOOPING ADDRESS
0847
0848 037546 170165 000012 LCIDL: LDFPS 12(R5) ; INITIAL FPS
0849
0850 037552 177315 LDCID (R5),AC3 ; D[(MEM)]->AC3
0851
0852 037554 170237 002000 STFPS FPS ; STORE FPS AFTER
0853 037560 174237 001170 ST AC3,8REG0 ; STORE RESULT
0854
0855 037564 023765 002000 000014 CMP FPS,14(R5) ; CHECK FPS OK
0856 037572 001401 BEQ 648 ; OK, BRANCH
0857 037574 104003 RRROR 3 ; FPS BAD
0858 037576
0859
0860 037576 023765 001170 000002 CMP 8REG0,2(R5) ; 1ST WORD OF RESULT CHECK?
  
```

```

0061 037604 001014      BNE 658      ; NO
0062 037606 023765 001172 000004      CMP 0REG1,4(R5) ; 2ND WORD OF RESULT CHECK?
0063 037614 001010      BNE 658      ; NO
0064 037616 023765 001174 000006      CMP 0REG2,6(R5) ; 3RD WORD OF RESULT CHECK?
0065 037624 001004      BNE 658      ; NO
0066 037626 023765 001176 000010      CMP 0REG3,10(R5) ; 4TH WORD OF RESULT CHECK?
0067 037634 001401      BEQ 668      ; ALL WORDS OK
0068 037636 104037      658: ERROR 37 ; NUMBERS NOT EQUAL
0069 037640      668:
0070
0071 037640 000207      RTS PC ; RETURN TO TEST CALLER
0072
0073
0074
0075
0076
0077 037642      LCLFT:
0078 037642 012700 000006      MOV 0R0 ; LOAD 0TMP0=5
0079 037646 010501      MOV R5,R1 ; WITH TEST DATA SETS
0080 037650 012702 001230      MOV 0TMP0,R2 ; FOR DISPLAY LATER
0081 037654 012122      MOV (R1)+,(R2)+ ;
0082 037656 077002      SOB R0,-2 ;
0083 037660 012737 037666 001112      MOV 0LCLFL,0LPEHR ; ERROR LOOPING ADDRESS
0084
0085 037666 170165 000010      LCLFL: LDFFS 10(R5) ; INITIAL FPS
0086
0087 037672 177015      LDCLF (R5),AC0 ; D[(MEM)(MEM)]->AC0
0088
0089 037674 170237 002000      STFPS FPS ; STORE FPS AFTER
0090 037700 174037 001170      STF AC0,0REG0 ; STORE RESULT
0091
0092 037704 023765 002000 000012      CMP FPS,12(R5) ; CHECK FPS OK
0093 037712 001401      BEQ 648 ; OK, BRANCH
0094 037714 104002      648: ERROR 2 ; FPS BAD
0095 037716
0096
0097 037716 023765 001170 000004      CMP 0REG0,4(R5) ; 1ST WORD OF RESULT CHECK?
0098 037724 001004      BNE 658 ; NO
0099 037726 023765 001172 000006      CMP 0REG1,6(R5) ; 2ND WORD OF RESULT CHECK?
0100 037734 001401      BEQ 668 ; ALL WORDS OK
0101 037736 104040      658: ERROR 40 ; NUMBERS NOT EQUAL
0102 037740      668:
0103
0104 037740 000207      RTS PC ; RETURN TO TEST CALLER
0105
0106
0107
0108
0109
0110 037742      LCLDT:
0111 037742 012700 000010      MOV 0R0 ; LOAD 0TMP0=7
0112 037746 010501      MOV R5,R1 ; WITH TEST DATA SETS
0113 037750 012702 001230      MOV 0TMP0,R2 ; FOR DISPLAY LATER
0114 037754 012122      MOV (R1)+,(R2)+ ;
0115 037756 077002      SOB R0,-2 ;
0116 037760 012737 037766 001112      MOV 0LCLDL,0LPEHR ; ERROR LOOPING ADDRESS

```

```

0117
0118 037766 170165 000014      LCLDL: LDFFS 14(R5) ; INITIAL FPS
0119
0120 037772 177115      LDCLD (R5),AC1 ; D[(MEM)(MEM)]->AC1
0121
0122 037774 170237 002000      STFPS FPS ; STORE FPS AFTER
0123 040000 174137 001170      STD AC1,0REG0 ; STORE RESULT
0124
0125 040004 023765 002000 000016      CMP FPS,16(R5) ; CHECK FPS OK
0126 040012 001401      BEQ 648 ; OK, BRANCH
0127 040014 104004      648: ERROR 4 ; FPS BAD
0128 040016
0129
0130 040016 023765 001170 000004      CMP 0REG0,4(R5) ; 1ST WORD OF RESULT CHECK?
0131 040024 001014      BNE 658 ; NO
0132 040026 023765 001172 000006      CMP 0REG1,6(R5) ; 2ND WORD OF RESULT CHECK?
0133 040034 001010      BNE 658 ; NO
0134 040036 023765 001174 000010      CMP 0REG2,10(R5) ; 3RD WORD OF RESULT CHECK?
0135 040044 001004      BNE 658 ; NO
0136 040046 023765 001176 000012      CMP 0REG3,12(R5) ; 4TH WORD OF RESULT CHECK?
0137 040054 001401      BEQ 668 ; ALL WORDS OK
0138 040056 104041      658: ERROR 41 ; NUMBERS NOT EQUAL
0139 040060      668:
0140
0141 040060 000207      RTS PC ; RETURN TO TEST CALLER

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SLU 0354

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0098      040272      012122      MOV      (R1)+,(R2)+      ;
0099      040274      017002      R0,=-2      ;
0000      040276      012737      040304      001112      MOV      $SCDIL,$LPEXH      ; ERROR LOOPING ADDRESS
0001
0002      040304      1/0011      SCDDI1:  SETD      ; D MODE
0003      040306      1/2415      LDD      (R5),AC0      ; INITIAL AC FLOAT NUMBER
0004      040310      1/0105      000012      LDFPB      12(R5)      ; INITIAL FFS
0005
0006      040314      1/5437      001170      SCDDI1:  STCDI      AC0,$REG0      ; 1[(AC0)]->MEM
0007
0008      040320      013737      177776      001172      MOV      00PB,$REG1      ; SAVE CC-S
0009      040326      1/0237      002000      STFPB      FFS      ; STORE FFS AFTER
0010      040332      1/0337      002002      STST      FEC      ; STORE FEC/FEA AFTER
0011
0012      040336      623765      002000      000014      CMP      FFS,14(R5)      ; CHECK FFS
0013      040344      001401      BEQ      658      ; FFS IS OK
0014      040346      104003      LRROR      3      ; FFS BAD
0015      040350      005765      000016      658:  TST      16(R5)      ; DOES FEC/FEA APPLY?
0016      040354      100014      BPL      668      ; NO - SKIP TEST
0017      040356      012737      040314      002014      MOV      $SCDII,EXPFEA      ; GET EXPECTED FEA
0018      040364      137665      002002      000016      CNPB      FEC,16(R5)      ; COMPARE FEC-S
0019      040372      001004      BNE      648      ; NOT EQUAL
0020      040374      023737      002004      002014      CNP      FEA,EXPFEA      ; COMPARE FEA-S
0021      040402      001401      BEQ      668      ; FEC, FEA OK
0022      040404      104013      648:  LRROR      13      ; FEC OK FEA ARE BAD
0023      040406      668:
0024
0025      040406      013737      002000      001174      MOV      FFS,$REG2      ; GET FFS, FS CC BITS ONLY
0026      040414      042737      177760      001172      BIC      $CCONLY,$REG1      ;
0027      040422      042737      177760      001174      BIC      $CCONLY,$REG2      ;
0028      040430      023737      001172      001174      CNP      $REG1,$REG2      ; CC-S COPIED?
0029      040436      001401      BEQ      678      ;
0030      040440      104054      LRROR      54      ; NOT EQUAL, SIGNAL ERROR
0031      040442      678:
0032
0033      040442      023765      001170      000010      CMP      $REG0,10(R5)      ; INTEGER RESULT CHECK?
0034      040450      001401      BEQ      688      ;
0035      040452      104043      LRROR      43      ; NOT EQUAL, SIGNAL ERROR
0036      040454      688:
0037
0038      040454      000207      RTS      PC      ; RETURN TO TEST CALLER
0039
0040
0041
0042      ;*****
0043      .SBTTL  SUBR TO TEST THE STCFL INSTRUCTION
0044
0045      040456      SCFLT1:
0046      040456      012700      000007      MOV      #7,R0      ; LOAD SIMP0=6
0047      040462      010501      MOV      R5,R1      ; WITH TEST DATA SETS
0048      040464      012702      001230      MOV      $TMP0,R2      ; FOR DISPLAY LATER
0049      040470      012122      MOV      (R1)+,(R2)+
0050      040472      017002      SUB      R0,=-2
0051      040474      012737      040502      001112      MOV      $SCFLL,$LPEXH      ; ERROR LOOPING ADDRESS
0052
0053      040502      1/0001      SCFLL:  SETF      ; F MODE
0054      040504      172515      LDF      (R5),AC1      ; INITIAL AC FLOAT NUMBER

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9054 040506 170165 000010      LDPPB 10(R5)      ; INITIAL FPS
9055
9056 040512 175537 001170      SCFLI: STCFL AC1,8REG0      ; L1(AC1)->MEM
9057
9058 040516 013737 177776 001174      MOV 04PS,8REG2      ; SAVE CC-S
9059 040524 170237 002000      STFPB FPS      ; STORE FPS AFTER
9060 040530 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
9061
9062 040534 023765 002000 000012      CMP FPS,12(R5)      ; CHECK FPS
9063 040542 001401      BEQ 658      ; FPS IS OK
9064 040544 104002      ERROR 2      ; FPS BAD
9065 040546 005765 000014      TST 14(R5)      ; DOES FEC/FEA APPLY?
9066 040552 100014      BPL 668      ; NO - SKIP TEST
9067 040554 012737 040512 002014      MOV 8SCFLI,EXPFEA      ; GET EXPECTED FEA
9068 040562 123765 002002 000014      CMPB FEC,14(R5)      ; COMPARE FEC-S
9069 040570 001004      BNE 648      ; NOT EQUAL
9070 040572 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
9071 040600 001401      BEQ 668      ; FEC, FEA OK
9072 040602 104012      ERROR 12      ; FEC OR FEA ARE BAD
9073 040604
9074
9075 040604 013737 002000 001176      MOV FPS,8REG3      ; GET FPS, PS CC BITS ONLY
9076 040612 042737 177760 001174      BIC 8CONLY,8REG2      ;
9077 040620 042737 177760 001176      BIC 8CONLY,8REG3      ;
9078 040626 023737 001174 001176      CMP 8REG2,8REG3      ; CC-S COPIED?
9079 040634 001401      BEQ 678      ;
9080 040636 104055      ERROR 55      ; NOT EQUAL, SIGNAL ERROR
9081 040640
9082
9083 040640 023765 001170 000004      CMP 8REG0,4(R5)      ; 1ST WORD OF RESULT CHECK?
9084 040646 001004      BNE 688      ; NO
9085 040650 023765 001172 000006      CMP 8REG1,6(R5)      ; 2ND WORD OF RESULT CHECK?
9086 040656 001401      BEQ 698      ; ALL WORDS OK
9087 040660 104044      ERROR 44      ; NUMBERS NOT EQUAL
9088 040662
9089
9090 040662 000207      RTS PC      ; RETURN TO TEST CALLER
9091
9092
9093
9094
9095
9096
9097 040664 012700 000011      SCDLI: MOV #11,R0      ; LOAD SIMPO-10
9098 040670 010501      MOV R5,R1      ; WITH TEST DATA SETS
9099 040672 012702 001230      MOV 8TMP0,R2      ; FOR DISPLAY LATER
9100 040676 012122      MOV (R1)+(R2)+      ;
9101 040700 077002      SOB R0,-2      ;
9102 040702 012737 040710 001112      MOV 8CDLL,8LPERR      ; ERROR LOOPING ADDR&S
9103
9104 040710 170011      SCDLI: SETD      ; D MODE
9105 040712 172615      LOD (R5),AC2      ; INITIAL AC FLOAT NUMBER
9106 040714 170165 000014      LDPPB 14(R5)      ; INITIAL FPS
9107
9108 040720 175637 001170      SCDLI: STCDL AC2,8REG0      ; L1(AC2)->MEM,MEM
9109

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9110 040724 013737 177776 001174      MOV 04PS,8REG2      ; SAVE CC-S
9111 040732 170237 002000      STFPB FPS      ; STORE FPS AFTER
9112 040736 170337 002002      STST FEC      ; STORE FEC/FEA AFTER
9113
9114 040742 023765 002000 000016      CMP FPS,16(R5)      ; CHECK FPS
9115 040750 001401      BEQ 658      ; FPS IS OK
9116 040752 104004      ERROR 4      ; FPS BAD
9117 040754 005765 000020      TST 20(R5)      ; DOES FEC/FEA APPLY?
9118 040760 100014      BPL 668      ; NO - SKIP TEST
9119 040762 012737 040720 002014      MOV 8CDLI,EXPFEA      ; GET EXPECTED FEA
9120 040770 123765 002002 000020      CMPB FEC,20(R5)      ; COMPARE FEC-S
9121 040776 001004      BNE 648      ; NOT EQUAL
9122 041000 023737 002004 002014      CMP FEA,EXPFEA      ; COMPARE FEA-S
9123 041006 001401      BEQ 668      ; FEC, FEA OK
9124 041010 104014      ERROR 14      ; FEC OR FEA ARE BAD
9125 041012
9126
9127 041012 013737 002000 001176      MOV FPS,8REG3      ; GET FPS, PS CC BITS ONLY
9128 041020 042737 177760 001174      BIC 8CONLY,8REG2      ;
9129 041026 042737 177760 001176      BIC 8CONLY,8REG3      ;
9130 041034 023737 001174 001176      CMP 8REG2,8REG3      ; CC-S COPIED?
9131 041042 001401      BEQ 678      ;
9132 041044 104055      ERROR 55      ; NOT EQUAL, SIGNAL ERROR
9133 041046
9134
9135 041046 023765 001170 000010      CMP 8REG0,10(R5)      ; 1ST WORD OF RESULT CHECK?
9136 041054 001004      BNE 688      ; NO
9137 041056 023765 001172 000012      CMP 8REG1,12(R5)      ; 2ND WORD OF RESULT CHECK?
9138 041064 001401      BEQ 698      ; ALL WORDS OK
9139 041066 104045      ERROR 45      ; NUMBERS NOT EQUAL
9140 041070
9141
9142 041070 000207      RTS PC      ; RETURN TO TEST CALLER

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```
9143 .SMTTL SUBR TO TEST THE LDEAP INSTRUCTION, F MODE
9144
9145 041072 012700 000010 LEAFT: MOV R10,R0 ; LOAD SIMPO-7
9146 041072 010901 MOV R5,R1 ; WITH TEST DATA SETS
9147 041076 012702 001230 MOV 00TMP0,R2 ; FOR DISPLAY LATER
9148 041100 012122 MOV (R1)+,(R2)+ ;
9149 041104 012122 SOB R0,-2 ;
9150 041106 017002 MOV 0LEXFL,0LPERR ; ERROR LOOPING ADDRESS
9151 041110 012737 041116 001112
9152
9153 041116 170001 LEXFL: SETF ; F MODE
9154 041120 172515 LDF (R5),AC1 ; INITIAL FLOAT NUMBER
9155 041122 170165 000012 LDFFS 12(R5) ; INITIAL FPS
9156
9157 041126 176565 000010 LEXFI: LDEXP 10(R5),AC1 ; EXP! MEM -> AC1
9158
9159 041132 170337 002000 STFPS FPS ; STORE FPS AFTER
9160 041136 170337 002002 STST FEC ; STORE FEC/FEA AFTER
9161
9162 041142 023765 002000 000014 CMP FPS,14(R5) ; CHECK FPS
9163 041150 001401 BEQ 658 ; FPS IS OK
9164 041152 104003 ERKOR 3 ; FPS BAD
9165 041154 005765 000016 658: TST 16(R5) ; DOES FEC/FEA APPLY?
9166 041160 100014 BPL 660 ; NO - SKIP TEST
9167 041162 012737 041126 002014 MOV 0LEXFI,EXPFEA ; GET EXPECTED FEA
9168 041170 123765 002002 000016 CMPB FEC,16(R5) ; COMPARE FEC-S
9169 041176 001004 BNE 648 ; NOT EQUAL
9170 041200 023737 002004 002014 CMP FEA,EXPFEA ; COMPARE FEA-S
9171 041206 001401 BEQ 660 ; FEC, FEA OK
9172 041210 104013 648: ERROR 13 ; FEC OR FEA ARE BAD
9173 041212 660:
9174
9175 041212 174137 001170 67F AC1,0REG0 ; STORE RESULTANT FLOAT NUMBER
9176 041216 023765 001170 000004 CMP 0REG0,4(R5) ; 1ST WORD OF RESULT CHECK?
9177 041224 001004 BNE 678 ; NO
9178 041226 023765 001172 000006 CMP 0REG1,6(R5) ; 2ND WORD OF RESULT CHECK?
9179 041234 001401 BEQ 660 ; ALL WORDS OK
9180 041236 104046 678: ERKOR 46 ; NUMBERS NOT EQUAL
9181 041240 660:
9182
9183 041240 000207 PTS PC ; RETURN TO TEST CALLER
9184
9185 *****
9186 .SMTTL SUBR TO TEST THE LDEXP INSTRUCTION, D MODE
9187
9188 041242 LEXDI:
9189 041242 012700 000014 MOV R14,R0 ; LOAD SIMPO-13
9190 041246 010901 MOV R5,R1 ; WITH TEST DATA SETS
9191 041250 012702 001230 MOV 00TMP0,R2 ; FOR DISPLAY LATER
9192 041254 012122 MOV (R1)+,(R2)+ ;
9193 041256 017002 SOB R0,-2 ;
9194 041260 012737 041266 001112 MOV 0LEXDL,0LPERR ; ERROR LOOPING ADDRESS
9195
9196 041266 170011 LEXDL: SETD ; D MODE
9197 041270 172415 LDD (R5),AC0 ; INITIAL FLOAT NUMBER
9198 041272 170165 000022 LDFFS 22(R5) ; INITIAL FPS
```

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9199
9200 041276 176465 000020 LEXDI: LDEXP 20(R5),AC0 ; EXP! MEM -> AC0
9201
9202 041302 170237 002000 STFPS FPS ; STORE FPS AFTER
9203 041306 170337 002002 STST FEC ; STORE FEC/FEA AFTER
9204
9205 041312 023765 002000 000024 CMP FPS,24(R5) ; CHECK FPS
9206 041320 001401 BEQ 658 ; FPS IS OK
9207 041322 104006 ERKOR 6 ; FPS BAD
9208 041324 005765 000026 658: TST 26(R5) ; DOES FEC/FEA APPLY?
9209 041330 100014 BPL 660 ; NO - SKIP TEST
9210 041332 012737 041276 002014 MOV 0LEXDI,EXPFEA ; GET EXPECTED FEA
9211 041340 123765 002002 000026 CMPB FEC,26(R5) ; COMPARE FEC-S
9212 041346 001004 BNE 648 ; NOT EQUAL
9213 041350 023737 002004 002014 CMP FEA,EXPFEA ; COMPARE FEA-S
9214 041356 001401 BEQ 660 ; FEC, FEA OK
9215 041360 104016 648: ERROR 16 ; FEC OR FEA ARE BAD
9216 041362 660:
9217
9218 041362 174037 001170 STD AC0,0REG0 ; STORE RESULTANT FLOAT NUMBER
9219 041366 023765 001170 000010 CMP 0REG0,10(R5) ; 1ST WORD OF RESULT CHECK?
9220 041374 001014 BNE 678 ; NO
9221 041376 023765 001172 000012 CMP 0REG1,12(R5) ; 2ND WORD OF RESULT CHECK?
9222 041404 001014 BNE 678 ; NO
9223 041406 023765 001174 000014 CMP 0REG2,14(R5) ; 3RD WORD OF RESULT CHECK?
9224 041414 001004 BNE 678 ; NO
9225 041416 023765 001176 000016 CMP 0REG3,16(R5) ; 4TH WORD OF RESULT CHECK?
9226 041424 001401 BEQ 660 ; ALL WORDS OK
9227 041426 104047 678: ERKOR 47 ; NUMBERS NOT EQUAL
9228 041430 660:
9229
9230 041430 000207 RTS PC ; RETURN TO TEST CALLER
9231
```

```
9232          .SBTTL SUBR TO TEST THE STEXP INSTRUCTION, F MODE
9233
9234          SEXFT:
9235      041432 012700 000005      MOV     R5,R0      ; LOAD STMP0=4
9236      041436 010501             MOV     R5,R1      ; WITH TEST DATA SETS
9237      041440 012702 001230      MOV     R0,STMP0,R2    ; FOR DISPLAY LATER
9238      041444 012122             MOV     (R1)+,(R2)+
9239      041446 077002             SOB     R0,-2
9240      041450 012737 041456 001112  MOV     R0,-2      ; ERROR LOOPING ADDRESS
9241
9242      041456 170001             SEXFL: SETF     ; F MODE
9243      041460 172615             LDF      (R5),AC2    ; INITIAL FLOAT NUMBER
9244      041462 170165 000006             LOFPS    6(R5)    ; INITIAL FPS
9245
9246      041466 175237 001170             SEXFI: STEXP   AC2,REG0    ; EXP: AC2 -> MEM
9247
9248      041472 013737 177776 001172      MOV     R0PS,REG1    ; GET PS RIGHT AWAY, FOR CC BITS
9249      041500 170237 002000             STFPS    FPS
9250
9251      041504 023765 002000 000010      CMP     FPS,10(R5)  ; CHECK FPS OK
9252      041512 001401             BEQ      648      ; OK, BRANCH
9253      041514 104001             ERROR    1          ; FPS BAD
9254
9255
9256      041516 013737 002000 001174      MOV     FPS,REG2    ; GET FPS, PS CC BITS ONLY
9257      041524 042737 177760 001172      BIC     R0ONLY,REG1
9258      041532 042737 177760 001174      BIC     R0ONLY,REG2
9259      041540 023737 001172 001174      CMP     REG1,REG2    ; CC-B COPIED?
9260      041546 001401             BEQ      658      ;
9261      041550 104054             ERROR    54          ; NOT EQUAL, SIGNAL ERROR
9262
9263
9264      041552 023765 001170 000004      CMP     RPE0,4(R5)  ; EXP CHECK?
9265      041560 001401             BEQ      668      ;
9266      041562 104050             ERROR    50          ; NOT EQUAL, SIGNAL ERROR
9267
9268
9269      041564 000207             RTS     PC          ; RETURN TO TEST CALLER
9270
9271      ;*****
9272      .SBTTL SUBR TO TEST THE STEXP INSTRUCTION, D MODE
9273
9274      041566 012700 000007             SEXDT:
9275      041572 010501             MOV     R5,R1      ; LOAD STMP0=6
9276      041574 012702 001230      MOV     R0,STMP0,R2    ; WITH TEST DATA SETS
9277      041600 012122             MOV     (R1)+,(R2)+    ; FOR DISPLAY LATER
9278      041602 077002             SOB     R0,-2
9279      041604 012737 041612 001112  MOV     R0,-2      ; ERROR LOOPING ADDRESS
9280
9281
9282      041612 170011             SEXDL: SETD     ; D MODE
9283      041614 172715             LOD      (R5),AC3    ; INITIAL FLOAT NUMBER
9284      041616 170165 000012             LOFPS    12(R5)   ; INITIAL FPS
9285
9286
9287      041622 175337 001170             SEXDI: STEXP   AC3,REG0    ; EXP: AC3 -> MEM
```

```
9288      041626 013737 177776 001172      MOV     R0PS,REG1    ; GET PS RIGHT AWAY
9289      041634 170237 002000             STFPS    FPS
9290
9291      041640 023765 002000 000014      CMP     FPS,14(R5)  ; CHECK FPS OK
9292      041646 001401             BEQ      648      ; OK, BRANCH
9293      041650 104003             ERROR    3          ; FPS BAD
9294
9295
9296      041652 013737 002000 001174      MOV     FPS,REG2    ; GET FPS, PS CC BITS ONLY
9297      041660 042737 177760 001172      BIC     R0ONLY,REG1
9298      041666 042737 177760 001174      BIC     R0ONLY,REG2
9299      041674 023737 001172 001174      CMP     REG1,REG2    ; CC-B COPIED?
9300      041702 001401             BEQ      658      ;
9301      041704 104054             ERROR    54          ; NOT EQUAL, SIGNAL ERROR
9302
9303
9304      041706 023765 001170 000010      CMP     RREG0,10(R5) ; EXP CHECK?
9305      041714 001401             BEQ      668      ;
9306      041716 104051             ERROR    51          ; NOT EQUAL, SIGNAL ERROR
9307
9308
9309      041720 000207             RTS     PC          ; RETURN TO TEST CALLER
```

9310
9311
9312 041722 010637 002012
9313 041726 012637 002006
9314 041732 012637 002010
9315 041736 170237 002000
9316 041742 170337 002002
9317 041746 104056
9318 041750 013746 002010
9319 041754 013746 002006
9320 041760 000002

.SBTTL FPP UNEXPECTED TRAP CATCHER

FPPILT: MOV SP,FPPOSP ; SP AFTER TRAP
MOV (SP)+,FPPOPC ; POP OLD PC FOR DISPLAY
MOV (SP)+,FPPOPB ; POP OLD PS FOR DISPLAY
STFPB FFB ; GET FFB
STST FEC ; GET FEC/FEA
ERROR 56 ; SIGNAL UNEXPECTED FPP TRAP
MOV FPPOPB,-(SP) ; PUSH PS
MOV FPPOPC,-(SP) ; PUSH PC
RTI ; CONTINUE, RECOVER AT LAST TRAP ONLY

9321
9322
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9333
9334 041762
9335 041762
9336 041762 032777 040000 137154
9337 041770 001114
9338
9339 041772 000416
9340
9341 041774 013746 000004
9342 042000 012737 042020 000004
9343 042006 005737 177060
9344 042012 012637 000004
9345 042016 000463
9346 042020 022626
9347 042022 012637 000004
9348 042026 000423
9349 042030
9350 042030 032777 000400 137106
9351 042036 001404
9352 042040 023737 001150 001102
9353 042046 001465
9354 042050 005737 001104
9355 042054 001421
9356 042056 023737 001120 001104
9357 042064 101015
9358 042066 032777 001000 137450
9359 042074 001404
9360 042076 013737 001112 001110 701
9361 042104 000446
9362 042106 005037 001104
9363 042112 005037 001310
9364 042116 000415
9365 042120 032777 004000 137016 301
9366 042126 001011
9367 042130 005737 001332
9368 042134 001406
9369 042136 005237 001106
9370 042142 023737 001310 001106
9371 042150 002024
9372 042152 012737 000000 001106 101
9373 042160 013747 042236 001310
9374 042166 005237 001102
9375 042172 013737 001102 001330
9376 042200 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<1510>)
;THE SWITCH OPTIONS PROVIDED BY THIS ROUTINE ARE:
;SW14=1 LOOP ON TEST
;SW11=1 INHIBIT ITERATIONS
;SW00=1 LOOP ON ERROR
;SW00=1 LOOP ON TEST IN "SLPTST"
;CALL
;* SCOPE ;:SCOPE=IOT
;SCOPE:
648:
101 BIT 0BIT14,0SWR ;LOOP ON PRESENT TEST?
BNE 0OVER ;YES IF SW14=1
;*****START OF CODE FOR THE XOR TESTER*****
EXTSTR: BR 60 ;IF RUNNING ON THE "XOR" TESTER CHANGE
;THIS INSTRUCTION TO A "NOP" (NOP=240)
MOV 0ERRVEC,-(SP) ;SAVE THE CONTENTS OF THE ERROR VECTOR
MOV 556,0ERRVEC ;SET FOR TIMEOUT
TST 0177060 ;TIME OUT ON XOR?
MOV (SP)+,0ERRVEC ;RESTORE THE ERROR VECTOR
BP 0SVLAD ;GO TO THE NEXT TEST
561 CMP (SP)+,(SP)+ ;CLEAR THE STACK AFTER A TIME OUT
MOV (SP)+,0ERRVEC ;RESTORE THE ERROR VECTOR
BR 78 ;LOOP ON THE PRESENT TEST
681;*****END OF CODE FOR THE XOR TESTER*****
BIT 0BIT00,0SWR ;LOOP ON SPEC. TEST?
BEQ 20 ;BR IF NO
CMP 0SLPTST,0STSTNM ;ON THE RIGHT TEST?
BEQ 0OVER ;BR IF YES
201 TST 0ERRFLG ;HAS AN ERROR OCCURRED?
BEQ 30 ;BR IF NO
CMP 0ERRMAX,0ERRFLG ;MAX. ERRORS FOR THIS TEST OCCURRED?
BHI 30 ;BR IF NO
BIT 0BIT00,0SWR ;LOOP ON ERROR?
BEQ 40 ;BR IF NO
701 MOV 0SLPERR,0SLPADR ;SET LOOP ADDRESS TO LAST SCOPE
BR 0OVER
401 CLR 0ERRFLG ;ZERO THE ERROR FLAG
CLR 0TIMES ;CLEAN THE NUMBER OF ITERATIONS TO MAKE
BR 10 ;ESCAPE TO THE NEXT TEST
301 BIT 0BIT11,0SWR ;INHIBIT ITERATIONS?
BNE 10 ;BR IF YES
TST 0PASS ;IF FIRST PASS OF PROGRAM
BFO 10 ; INHIBIT ITERATIONS
INC 0ICNT ;INCREMENT ITERATION COUNT
CMP 0TIMES,0ICNT ;CHECK THE NUMBER OF ITERATIONS MADE
0OVER ;BR IF MORE ITERATION REQUIRED
MOV 01,0ICNT ;REINITIALIZE THE ITERATION COUNTER
MOV 0MAXCNT,0TIMES ;SET NUMBER OF ITERATIONS TO DO
0SVLAD: INC 0STSTNM ;COUNT TEST NUMBERS
MOV 0STSTNM,0TESTN ;SET TEST NUMBER IN APT MAILBOX
MOV (SP),0SLPADR ;SAVE SCOPE LOOP ADDRESS

```
9377 042204 011637 001112      MOV      (SP),SLPERR      ;SAVE ERROR LOOP ADDRESS
9378 042217 005037 001112      CLR      $ESCAPE        ;CLEAR THE ESCAPE FROM ERROR ADDRESS
9379 042214 012737 000001 001120  MOV      $1,$ERRMAX      ;ONLY ALLOW ONE(1) ERROR ON NEXT TEST
9380 042222 013777 001102 136716 00VER, MOV      $STNM,$DISPLAY  ;DISPLAY TEST NUMBER
9381 042230 013716 001110      MOV      SLPADR,(SP)      ;FUDGE RETURN ADDRESS
9382 042234 000002      RTI                          ;FIXES PS
9383 042236 003720      $MXCNT: 2000.      ;MAX. NUMBER OF ITERATIONS
```

```
9384                                     .SBTTL  ERROR HANDLER ROUTINE
9385
9386                                     ;*****
9387 ;THIS ROUTINE WILL INCREMENT THE ERROR FLAG AND THE ERROR COUNT,
9388 ;SAVE THE ERROR ITEM NUMBER AND THE ADDRESS OF THE ERROR CALL
9389 ;AND GO TO $TYPERR ON ERROR
9390 ;THE SWITCH OPTIONS PROVIDED BY THIS ROUTINE ARE:
9391 ;$SW15=1      HALT ON ERROR
9392 ;$SW13=1      INHIBIT ERROR TYPEOUTS
9393 ;$SW10=1      BELL ON ERROR
9394 ;$SW09=1      LOOP ON ERROR
9395 ;CALL
9396 ;*          ERROR      N          ;ERROR=EMT AND N=ERROR ITEM NUMBER
9397
9398 $ERROR:
9399 042240 010037 002016      MOV      R0,REG0      ; DISPLAY R0
9400 042244 010137 002020      MOV      R1,REG1      ;          R1
9401 042250 010237 002022      MOV      R2,REG2      ;          R2
9402 042254 010337 002024      MOV      R3,REG3      ;          R3
9403 042260 010437 002026      MOV      R4,REG4      ;          R4
9404 042264 010537 002030      MOV      R5,REG5      ;          R5
9405 042270 010637 002032      MOV      R6,REG6      ; GET R6(SP) BEFORE TRAP
9406 042274 002737 000004 002032  ADD      $4,REG6      ;
9407 042302 011637 002034      MOV      (SP),REG7      ; PC -> ERROR CALL INSTN
9408 042306 005237 001104 73:  INC      $ERRFLG      ;SET THE ERROR FLAG
9409 042312 001775      BEQ      76      ;DON'T LET THE FLAG GO TO ZERO
9410 042314 013777 001102 136024  MOV      $STNM,$DISPLAY  ;DISPLAY TEST NUMBER
9411 042322 032777 002000 136014  BIT      $BIT10,$SWR      ;BELL ON ERROR?
9412 042330 001402      BEQ      18      ;NO - SKIP
9413 042332 104401 001314      TYPE      ,BELL      ;RING BELL
9414 042336 005237 001114 18:  INC      $ERTTL      ;COUNT THE NUMBER OF ERRORS
9415 042342 011637 001122      MOV      (SP),$ERRPC      ;GET ADDRESS OF ERROR INSTRUCTION
9416 042346 162737 000002 001122  SUB      $2,$ERRPC      ;
9417 042354 117737 136542 001116  MOV      $ERRPC,$ITEMB      ;STRIP AND SAVE THE ERROR ITEM CODE
9418 042362 032777 020000 136554  BIT      $BIT13,$SWR      ;SKIP TYPEOUT IF SET
9419 042370 001004      BNE      208      ;SKIP TYPEOUTS
9420 042372 004737 042502      JSR      PC,$TYPERR      ;GO TO USER ERROR ROUTINE
9421 042376 104401 001321 208:  TYPE      ,CRLF      ;
9422 042402 122737 000001 001344 208:  CMFPB  $APTENV,$ENV      ;RUNNING IN APT MODE
9423 042410 001007      BNE      28      ;NO,SKIP APT ERROR REPORT
9424 042412 113737 001116 042424  MOV      $ITEMB,218      ;SET ITEM NUMBER AS ERROR NUMBER
9425 042420 004737 043216      JSR      PC,$ATI4      ;REPORT FATAL ERROR TO APT
9426 042424 000      218:  .BYTE      0
9427 042425 000      .BYTE      0
9428 042426 000777 228:  BR      228      ;APT ERROR LOOP
9429 042430 005777 136510 201:  TST      $SWR      ;HALT ON ERROR
9430 042434 100001      BPL      38      ;SKIP IF CONTINUE
9431 042436 000000      HALT      ;HALT ON ERROR!
9432 042440 032777 001000 136476 38:  BIT09,$SWR      ;LOOP ON ERROR SWITCH SET?
9433 042446 001402      BEQ      48      ;BR IF NO
9434 042450 013716 001112      MOV      SLPERR,(SP)      ;FUDGE RETURN FOR LOOPING
9435 042454 005737 001312 48:  TST      $ESCAPE      ;CHECK FOR AN ESCAPE ADDRESS
9436 042460 001402      HFC      58      ;BR IF NONE
9437 042462 013716 001312      MOV      $ESCAPE,(SP)      ;FUDGE RETURN ADDRESS FOR ESCAPE
9438
9439 042466
```

```
9440 042466 022737 033314 000042 CMP #ENDAD,0042 ;FACT=11 AUTO-ACCEPIT
9441 042474 001001 BNE 68 ;;BRANCH IF NO
9442 042476 000000 HALT ;;YES
9443 042500 68: ;
9444 042500 000002 640: RTI ;RETURN
```

```
9445 ;*****
9446 ;SBTTL ERROR MESSAGE TYPEOUT ROUTINE (MODIFIED SISMAC)
9447
9448 ;THIS ROUTINE USES THE "ITEM CONTROL BYTE" (ITEMB) TO DETERMINE WHICH
9449 ;ERROR IS TO BE REPORTED. IT THEN OBTAINS, FROM THE "ERROR TABLE",
9450 ;(SERRTB) THE ERROR MESSAGE, DATA HEADER, AND DATA VALUES TO PRINT.
9451 ;THIS ROUTINE IS IDENTICAL TO THE SYSMAC ROUTINE SERRTP, EXCEPT THIS
9452 ;ROUTINE PUTS A <HT> BETWEEN OCTAL TYPED DATA VALUES, SO THAT EACH
9453 ;VALUE STARTS AT A HORIZONTAL TAB STOP. ALSO, THE DATA FORMAT
9454 ;POINTER HAS BEEN ELIMINATED FROM THE ERROR VECTOR. THIS ROUTINE
9455 ;ALSO ALWAYS PRINTS TESTN AND SERRPC AS THE FIRST TWO DATA ELEMENTS
9456 ;(WITH APPROPRIATE HEADERS).
9457
9458 STYPEPR:
9459     TYPE      ; TYPE "HOT" OR "AKM"
9460     NOTWRM:   WORD      ; PTR TO MESSAGE
9461     MOV       R0,-(SP)   ; SAVE P0
9462     MOV       R1,-(SP)   ; SAVE R1
9463     CLR       R0         ; PICKUP ITEM INDX
9464     BISS      000ITEMB,R0
9465     BNE      10         ; IF ITEM NUMBER FROM ERROR 0,
9466                         ; JUST TYPE PC OF ERROR
9467     MOV       SERRPC,-(SP) ; GET ERROR PC FOR TYPEOUT
9468     TYPOC     ; TYPE OCTAL, ALL DIGITS
9469     BR        70         ; EXIT
9470     DEC       R0         ; ADJUST ERROR # FOR TABLE INDEX
9471     ASL       R0         ; OF 6 BYTES/ENTRY
9472     MOV       R0,R1
9473     ASL       R0
9474     ADD       R1,R0
9475     ADD       000ERRTB,R0 ; FORM TABLE PTR
9476     MOV       (R0)+,20    ; PICKUP "ERROR MESSAGE" PTR
9477     BEQ       30         ; SKIP TYPEOUT IF NULL
9478     TYPE      30         ; TYPE "ERROR MESSAGE"
9479     ; "ERROR MESSAGE" PTR HERE
9480     ; CR & LF
9481     TYPE      0,0CRLF     ; CR & LF
9482     TYPE      0,110      ; TEST "ERR PC" HEADER
9483     MOV       (R0)+,40    ; PICKUP "DATA HEADER" PTR
9484     BEQ       50         ; SKIP TYPEOUT IF NULL
9485     TYPE      50         ; TYPE "DATA HEADER"
9486     ; "DATA HEADER" PTR HERE
9487     ; CR & LF
9488     TYPE      0,0CRLF     ; CR & LF
9489     MOV       000,-(SP)   ; (TESTN)
9490     TYPOC     ; OCTAL W/ LEADING ZEROS
9491     MOV       0100,-(SP) ; <HT>
9492     TYPOC     ; (SERRPC)
9493     MOV       000,-(SP)   ; OCTAL W/ LEADING ZEROS
9494     TYPE      0,100      ; <HT>
9495     MOV       (P0),R0     ; PICKUP "DATA TABLE" PTR
9496     BEQ       70         ; EXIT IF NULL
9497     MOV       0(R0)+,-(SP) ; SAVE ... FOR TYPEOUT
9498     TYPOC     ; TYPE OCTAL, ALL DIGITS
9499     TST       (R0)        ; ANOTHER NUMBER ?
9500     BEQ       70         ; NO - EXIT
9501     TYPE      100        ; TAB BETWEEN ELEMENTS
```

```
9501 042654 000771      BR      68      ; LOOP ON DATA TABLE VECTOR
9502 042656 012601      701  MOV    (SP)+,R1      ; RESTORE R1
9503 042660 012600      MOV    (SP)+,R0      ; RESTORE R0
9504 042662 144401 001321 TYPE    ,CRLF      ; CR & LF
9505 042666 000207      RTS      PC      ; RETURN
9506 042670 001330      001  .WORD 0TESTN      ;
9507 042672 001122      901  .WORD 0ERRPC      ;
9508 042674 000011      1001 .ASCII <11>      ; <HT>
9509 042676 042524 052123 021440 1101 .ASCII "TEST 0 ERR PC"
9510 042704 042411 051122 050040      .EVEN
9511 042712 004503 000
9512 042716
```

```
9513 .SBTTL TYPE ROUTINE
9514
9515 ;*****
9516 ;ROUTINE TO TYPE ASCII MESSAGE. MESSAGE MUST TERMINATE WITH A 0 BYTE.
9517 ;THE ROUTINE WILL INSERT A NUMBER OF NULL CHARACTERS AFTER A LINE FEED.
9518 ;NOTE1: 0NULL CONTAINS THE CHARACTER TO BE USED AS THE FILLER CHARACTER.
9519 ;NOTE2: 0FILLS CONTAINS THE NUMBER OF FILLER CHARACTERS REQUIRED.
9520 ;NOTE3: 0FILLC CONTAINS THE CHARACTER TO FILL AFTER.
9521 ;
9522 ;CALLS
9523 ;1) USING A TRAP INSTRUCTION
9524 ;* TYPE ,MESADR ;MESADR IS FIRST ADDRESS OF AN ASCII STRING
9525 ;*
9526 ;* TYPE
9527 ;* MESADR
9528 ;*
9529
9530 042716 105737 001165 0TYPE: TSTB 0TPFLG ;IS THERE A TERMINAL?
9531 042722 100002      BPL 10 ;BR IF YES
9532 042724 000000      BR 30 ;HALT HERE IF NO TERMINAL
9533 042726 000430      DR 30 ;LEAVE
9534 042730 010046      MOV R0,-(SP) ;SAVE R0
9535 042732 017000 000002 02(SP),R0 ;GET ADDRESS OF ASCII STRING
9536 042736 122737 000001 001344 0APTVN,ENVN ;RUNNING IN APT MODE
9537 042744 001011      BNE 620 ;NO,GO CHECK FOR APT CONSOLE
9538 042746 132737 000100 001345 0APTSPOOL,ENVN ;SPOOL MESSAGE TO APT
9539 042754 001405      BEQ 620 ;NO,GO CHECK FOR CONSOLE
9540 042756 010037 042766      MOV R0,610 ;SETUP MESSAGE ADDRESS FOR APT
9541 042762 004737 043206      JSR PC,0ATY3 ;SPOOL MESSAGE TO APT
9542 042766 000000      .WORD 0 ;MESSAGE ADDRESS
9543 042770 132737 000040 001345 620: B1TB 0APTCBUP,ENVN ;APT CONSOLE SUPPRESSED
9544 042776 001003      BNE 600 ;YES,SKIP TYPE OUT
9545 043000 112046      201  MOV0 (R0)+,-(SP) ;PUSH CHARACTER TO BE TYPED ONTO STACK
9546 043002 001005      BNE 40 ;BR IF IT ISN'T THE TERMINATOR
9547 043004 005726      TST (SP)+ ;IF TERMINATOR POP IT OFF THE STACK
9548 043006 012600      MOV (SP)+,R0 ;RESTORE R0
9549 043010 002716 000002 301  ADD 02,(SP) ;ADJUST RETURN PC
9550 043014 000002      RTI ;RETURN
9551 043016 122716 000011 401  CMPB 0HT,(SP) ;BRANCH IF <HT>
9552 043022 001430      BEQ 00 ;
9553 043024 122716 000200      CMPB 0CRLF,(SP) ;BRANCH IF NOT <CRLF>
9554 043030 001000      BNE 50 ;
9555 043032 005726      TST (SP)+ ;POP <CR><LF> EQUIV
9556 043034 104401      TYPE ;TYPE A CR AND LF
9557 043036 001321      SCRLF
9558 043040 105037 043174      CLRB ;CLEAR CHARACTER COUNT
9559 043044 000755      RR 20 ;GET NEXT CHARACTER
9560 043046 004737 043130 501  JSR PC,0TYPEC ;GO TYPE THIS CHARACTER
9561 043052 123726 001164 601  CMPB 0FILLC,(SP)+ ;IS IT TIME FOR FILLER CHARS.?
9562 043056 001350      BNE 20 ;IF NO GO GET NEXT CHAR.
9563 043060 013746 001162      MOV 0NULL,-(SP) ;GET # OF FILLER CHARS. NEEDED
9564 ;AND THE NULL CHAR.
9565 043064 105366 000001 701  DECB 1(SP) ;DOES A NULL NEED TO BE TYPED?
9566 043070 002770      BLT 60 ;BR IF NO--GO POP THE NULL OFF OF STACK
9567 043072 004737 043130      JSR PC,0TYPELC ;GO TYPE A NULL
9568 043076 105337 043174      DECB 0CHARCNT ;DO NOT COUNT AS A COUNT
```

```
9569 043102 000770          BR      78          ;LOOP
9570
9571          ;HORIZONTAL TAB PROCESSOR
9572
9573 043104 112716 000040 001  MOVB  8' ,(SP)          ;REPLACE TAB WITH SPACE
9574 043110 044737 043130 001  JSR   PC,STYPEC          ;TYPE A SPACE
9575 043114 132737 000007 043174 BITB  07,0CHARCNT          ;BRANCH IF NOT AT
9576 043122 001372          BNE  00          ;TAB STOP
9577 043124 005726          TST   (SP)+          ;POP SPACE OFF STACK
9578 043126 000724          BR      28          ;GET NEXT CHARACTER
9579 043130 105777 136022          STYPEC: TSTB  00TPS          ;WAIT UNTIL PRINTER IS READY
9580 043134 100375          BPL   STYPEC
9581 043136 116077 000002 136014  MOVB  2(SP),00TPB          ;LOAD CHAR TO BE TYPED INTO DATA REG.
9582 043144 122766 000015 000002  CMPB  0CR,2(SP)          ;IS CHARACTER A CARRIAGE RETURN?
9583 043152 001003          BNE  10          ;BRANCH IF NO
9584 043154 105037 043174          CLRB  0CHARCNT          ;YES--CLEAN CHARACTER COUNT
9585 043160 000406          BR      STYPEX          ;EXIT
9586 043162 122766 000012 000002 101  CMPB  0LF,2(SP)          ;IS CHARACTER A LINE FEED?
9587 043170 001402          BEQ   STYPEX          ;BRANCH IF YES
9588 043172 105227          INCB  (PC)+          ;COUNT THE CHARACTER
9589 043174 000000          ;CHARCNT+1,WORD 0
9590 043176 000207          STYPEX: RTS      PC          ;CHARACTER COUNT STORAGE
9591
```

```
9592          ;SBTTL APT COMMUNICATIONS ROUTINE
9593
9594
9595 043200 112737 000001 043444 04TY1: MOVB  01,0FFLG          ;TO REPORT FATAL ERROR
9596 043206 112737 000001 043442 04TY3: MOVB  01,0MFLG          ;TO TYPE A MESSAGE
9597 043214 000403          BR      04TYC
9598 043216 112737 000001 043444 04TY4: MOVB  01,0FFLG          ;TO ONLY REPORT FATAL ERROR
9599 043224 04TYC:
9600 043224 010046          MOV   R0,-(SP)          ;PUSH R0 ON STACK
9601 043226 010146          MOV   R1,-(SP)          ;PUSH R1 ON STACK
9602 043230 105737 043442          TSTB  0MFLG          ;SHOULD TYPE A MESSAGE?
9603 043234 001450          BEQ   00          ;IF NOT: BR
9604 043236 122737 000001 001344          CMPB  0APTENV,0ENV          ;OPERATING UNDER APT?
9605 043244 001031          BNE  30          ;IF NOT: BR
9606 043246 132737 000100 001345          BITB  0APTSP0OL,0ENVM          ;SHOULD SPOOL MESSAGE?
9607 043254 001425          BEQ   30          ;IF NOT: BR
9608 043256 017600 000004          MOV   04(SP),R0          ;GET MESSAGE ADDR.
9609 043262 002766 000002 000004          ADD   02,4(SP)          ;BUMP RETURN ADDR.
9610 043270 005737 001324          TST   0MSGTYPE          ;SEE IF DONE W/ LAST XMISSION?
9611 043274 001375          BNE  10          ;IF NOT: WAIT
9612 043276 010037 001340          MOV   R0,0MSGAD          ;PUT ADDR IN MAILBOX
9613 043302 105720          TSTB  (R0)+          ;FIND END OF MESSAGE
9614 043304 001376          BNE  20
9615 043306 103700 001340          SUB   0MSGAD,R0          ;SUB START OF MESSAGE
9616 043312 006700          ASR   R0
9617 043314 010037 001342          MOV   R0,0MSGLGTH          ;GET MESSAGE LGTH IN WORDS
9618 043320 012737 000004          MOV   04,0MSGTYPE          ;PUT LENGTH IN MAILBOX
9619 043326 000413          BR      00
9620 043330 017637 000004 043354 301  MOV   04(SP),40          ;PUT MSG ADDR IN JSR LINKAGE
9621 043336 002766 000002 000004          ADD   02,4(SP)          ;BUMP RETURN ADDRESS
9622 043344 013746 177776          MOV   177776,-(SP)          ;PUSH 177776 ON STACK
9623 043350 004737 042716          JSR   PC,STYPE          ;CALL TYPE MACRO
9624 043354 000000          ;WORD 0
9625 043356          ;0
9626 043356 105737 043444          1001  TSTB  0FFLG          ;SHOULD REPORT FATAL ERROR?
9627 043362 001416          BEQ   120          ;IF NOT: BR
9628 043364 005737 001344          TST   0ENV          ;RUNNING UNDER APT?
9629 043370 001413          BEQ   120          ;IF NOT: BR
9630 043372 005737 001324          TST   0MSGTYPE          ;FINISHED LAST MESSAGE?
9631 043376 001375          BNE  110          ;IF NOT: WAIT
9632 043400 017637 000004 001326          MOV   04(SP),0FATAL          ;GET ERROR #
9633 043406 002766 000002 000004          ADD   02,4(SP)          ;BUMP RETURN ADDR.
9634 043414 005237 001324          INC   0MSGTYPE          ;TELL APT TO TAKE ERROR
9635 043420 105037 043444          1201  CLRB  0FFLG          ;CLEAR FATAL FLAG
9636 043424 105037 043443          CLRB  0LFLG          ;CLEAR LOG FLAG
9637 043430 105037 043442          CLRB  0MFLG          ;CLEAR MESSAGE FLAG
9638 043434 012001          MOV   (SP)+,R1          ;POP STACK INTO R1
9639 043436 012000          MOV   (SP)+,R0          ;POP STACK INTO R0
9640 043440 000207          RTS      PC          ;RETURN
9641 043442 000          0MFLG: .BYTE 0          ;MSGG. FLAG
9642 043443 000          0LFLG: .BYTE 0          ;LOG FLAG
9643 043444 000          0FFLG: .BYTE 0          ;FATAL FLAG
9644
9645          APTISIZE=200
9646          APTENV=001
9647          APTSP0OL=100
```

```

9649      .SBTTL BINARY TO OCTAL (ASCII) AND TYPE
9650
9651      ;;*****
9652      ;;THIS ROUTINE IS USED TO CHANGE A 16-BIT BINARY NUMBER TO A 6-DIGIT
9653      ;;OCTAL (ASCII) NUMBER AND TYPE IT.
9654      ;;STYPOS---ENTER HERE TO SETUP SUPPRESS ZEROS AND NUMBER OF DIGITS TO TYPE
9655      ;;CALL:
9656      ;;      MOV     NUM,=(SP)          ;;NUMBER TO BE TYPED
9657      ;;      TYPON  ;;CALL FOR TYPEOUT
9658      ;;      .BYTE  N                  ;;N=1 TO 6 FOR NUMBER OF DIGITS TO TYPE
9659      ;;      .BYTE  M                  ;;M=1 OR 0
9660      ;;      ;;TYPE LEADING ZEROS
9661      ;;      ;;SUPPRESS LEADING ZEROS
9662
9663      ;;STYPON---ENTER HERE TO TYPE OUT WITH THE SAME PARAMETERS AS THE LAST
9664      ;;STYPOS OR STYPOC
9665      ;;CALL:
9666      ;;      MOV     NUM,=(SP)          ;;NUMBER TO BE TYPED
9667      ;;      TYPON  ;;CALL FOR TYPEOUT
9668
9669      ;;STYPOC---ENTER HERE FOR TYPEOUT OF A 16 BIT NUMBER
9670      ;;CALL:
9671      ;;      MOV     NUM,=(SP)          ;;NUMBER TO BE TYPED
9672      ;;      TYPON  ;;CALL FOR TYPEOUT
9673
9674      43446 117646 000000 43671 STYPOS: MOV     0(SP),-(SP)      ;;PICKUP THE MODE
9675      43452 116637 000001 43671 MOV     1(SP),0FFILL    ;;LOAD ZERO FILL SWITCH
9676      43460 112637 043673 43671 MOV     (SP)+,0MODE+1    ;;NUMBER OF DIGITS TO TYPE
9677      43464 062716 000402 43671 ADD     #2,(SP)          ;;ADJUST RETURN ADDRESS
9678      43470 000406 43671 BR         STYPON
9679      43472 112737 000201 43671 STYPOC: MOV     #1,0FFILL    ;;SET THE ZERO FILL SWITCH
9680      43500 112737 000006 43673 MOV     #6,0MODE+1    ;;SET FOR SIX(6) DIGITS
9681      43506 112737 000005 43670 STYPON: MOV     #5,0CNT      ;;SET THE ITERATION COUNT
9682      43514 110346 43671 MOV     R3,=(SP)      ;;SAVE R3
9683      43516 110446 43671 MOV     R4,=(SP)      ;;SAVE R4
9684      43520 110546 43671 MOV     R5,=(SP)      ;;SAVE R5
9685      43522 113704 043673 43671 MOV     0MODE+1,R4    ;;GET THE NUMBER OF DIGITS TO TYPE
9686      43526 110540 43671 NEG     R4
9687      43530 110724 000006 43671 ADD     #6,R4          ;;SUBTRACT IT FOR MAX. ALLOWED
9688      43534 110437 043672 43671 MOV     R4,0MODE      ;;SAVE IT FOR USE
9689      43540 113704 043671 43671 MOV     0FFILL,R4    ;;GET THE ZERO FILL SWITCH
9690      43544 110605 000012 43671 MOV     12(SP),R5    ;;PICKUP THE INPUT NUMBER
9691      43550 110503 43671 CLF     R3
9692      43552 110105 43671 13:  ROL     R3
9693      43554 110491 43671 BR     R3
9694      43556 110105 43671 25:  ROL     R5
9695      43560 110105 43671 25:  ROL     R5
9696      43562 110105 43671 ROL     R5
9697      43564 110543 43671 MOV     R5,R3
9698      43566 110103 43671 38:  ROL     R3
9699      43570 110547 043672 43672 DECB    0MODE
9700      43574 110491 43671 BFL     R4
9701      43576 110703 177770 43671 BIC     #177770,R3
9702      43602 110102 43671 BNE     #0
9703      43604 110574 43671 TST     R4
9704      43606 110103 43671 RFL     #0
  
```

```

9705 043610 005201      401 INC R4          ;DON'T SUPPRESS ANIMORE 0'S
9706 043612 052703 000000 501 BIS #0,R3      ;MAKE THIS DIGIT ASCII
9707 043616 052703 000040 501 BIS #0,R3      ;MAKE ASCII IF NOT ALREADY
9708 043622 110337 043666 701 MOVB R3,R0      ;SAVE FOR TYPING
9709 043626 104001 043666 701 TYPE ,R0      ;GO TYPE THIS DIGIT
9710 043632 105337 043670 701 DECB 00CNT      ;COUNT BY 1
9711 043636 003347 701 BGT 20          ;BR IF MORE TO DO
9712 043640 002402 701 BLT 60          ;BR IF DONE
9713 043642 005204 701 INC R4          ;INSURE LAST DIGIT ISN'T A BLANK
9714 043644 000741 701 BR 20          ;GO DO THE LAST DIGIT
9715 043646 012005 601 MOV (SP)+,R5      ;RESTORE R5
9716 043650 012004 601 MOV (SP)+,R4      ;RESTORE R4
9717 043652 012003 601 MOV (SP)+,R3      ;RESTORE R3
9718 043654 016006 000002 000004 601 MOV 2(SP),4(SP)      ;SET THE STACK FOR RETURNING
9719 043662 012016 601 MOV (SP)+,(SP)
9720 043664 000002 601 RTI          ;RETURN
9721 043666 0000 601 .BYTE 0          ;STORAGE FOR ASCII DIGIT
9722 043667 0000 601 .BYTE 0          ;TERMINATOR FOR TYPE ROUTINE
9723 043670 0000 601 .BYTE 0          ;OCTAL DIGIT COUNTER
9724 043671 0000 601 .BYTE 0          ;ZERO FILL SWITCH
9725 043672 000000 601 .WORD 0          ;NUMBER OF DIGITS TO TYPE

```

```

9726 .SBTTL TRAP DECODER
9727
9728 ;*****
9729 ;THIS ROUTINE WILL PICKUP THE LOWER BYTE OF THE "TRAP" INSTRUCTION
9730 ;AND USE IT TO INDEX THROUGH THE TRAP TABLE FOR THE STARTING ADDRESS
9731 ;OF THE DESIRED ROUTINE. THEN USING THE ADDRESS OBTAINED IT WILL
9732 ;GO TO THAT ROUTINE.
9733
9734 043674 010046 000002 043730 043706 005740 701 MOV R0,-(SP)      ;SAVE R0
9735 043676 016000 000002 701 MOV 2(SP),R0      ;GET TRAP ADDRESS
9736 043702 005740 701 TST -(R0)          ;BACKUP BY 2
9737 043704 111000 701 MOVB (R0),R0      ;GET RIGHT BYTE OF TRAP
9738 043706 006300 701 ASL R0          ;POSITION FOR INDEXING
9739 043710 016000 043730 701 MOV STRPAD(R0),R0      ;INDEX TO TABLE
9740 043714 000200 701 RTS R0          ;GO TO ROUTINE
9741
9742
9743 ;THIS IS USE TO HANDLE THE "GETPRI" MACRO
9744
9745 043716 011046 000004 000002 043720 000002 701 MOV (SP),-(SP)      ;MOVE THE PC DOWN
9746 043722 016006 000004 000002 701 MOV 4(SP),2(SP)      ;MOVE THE PSW DOWN
9747 043726 000002 701 RTI          ;RESTORE THE PSW
9748
9749 .SBTTL TRAP TABLE
9750
9751 ;THIS TABLE CONTAINS THE STARTING ADDRESSES OF THE ROUTINES CALLED
9752 ;BY THE "TRAP" INSTRUCTION.
9753
9754 ; ROUTINE
9755 ; -----
9756 043730 043710 043732 042716 043734 043472 043736 043446 043740 043506
9757 043732 042716 043734 043472 043736 043446 043740 043506
9758 043734 043472 043736 043446 043740 043506
9759 043736 043446 043740 043506
9760 043740 043506
9761
9762

```

```
9763          .SBTTL POWER DOWN AND UP ROUTINES
9764
9765          ;*****
9766          ;POWER DOWN ROUTINE
9767          SPWRDN: MOV     $ILLUP,$PWRVEC    ;SET FOR FAST UP
9768                  MOV     $340,$PWRVEC+2    ;PHIO:7
9769                  MOV     R0,=(SP)           ;PUSH R0 ON STACK
9770                  MOV     R1,=(SP)           ;PUSH R1 ON STACK
9771                  MOV     R2,=(SP)           ;PUSH R2 ON STACK
9772                  MOV     R3,=(SP)           ;PUSH R3 ON STACK
9773                  MOV     R4,=(SP)           ;PUSH R4 ON STACK
9774                  MOV     R5,=(SP)           ;PUSH R5 ON STACK
9775                  MOV     $SWR,=(SP)         ;PUSH $SWR ON STACK
9776                  MOV     SP,$SAVR6         ;SAVE SP
9777                  MOV     $PWRUP,$PWRVEC    ;SET UP VECTOR
9778                  HALT
9779                  BR      .-2               ;HANG UP
9780
9781          ;*****
9782          ;POWER UP ROUTINE
9783          SPWRUP: MOV     $ILLUP,$PWRVEC    ;SET FOR FAST DOWN
9784                  MOV     $SAVR6,SP         ;GET SP
9785                  CLR     $SAVR6            ;WAIT LOOP FOR THE TTY
9786                  INC     $SAVR6            ;WAIT FOR THE INC
9787                  HNE     18                ;OF WORD
9788                  MOV     (SP),R0           ;GET SAVED SWR OFF STACK
9789                  MED     $226             ;RESTORE SWR CONTENTS
9790                  MOV     (SP)+,$SWR        ;POPP STACK INTO $SWR
9791                  MOV     (SP)+,R5          ;POPP STACK INTO R5
9792                  MOV     (SP)+,R4          ;POPP STACK INTO R4
9793                  MOV     (SP)+,R3          ;POPP STACK INTO R3
9794                  MOV     (SP)+,R2          ;POPP STACK INTO R2
9795                  MOV     (SP)+,R1          ;POPP STACK INTO R1
9796                  MOV     (SP)+,R0          ;POPP STACK INTO R0
9797                  MOV     $PWRDN,$PWRVEC    ;SET UP THE POWER DOWN VECTOR
9798                  MOV     $340,$PWRVEC+2    ;PHIO:7
9799                  TYPE
9800                  .WORD   $POWER            ;REPORT THE POWER FAILURE
9801                  MOV     (PC)+,(SP)         ;POWER FAIL MESSAGE POINTER
9802                  .WORD   START             ;RESTART AT START
9803                  RTI
9804                  .SBTTL: HALT               ;THE POWER UP SEQUENCE WAS STARTED
9805                  BR      .-2               ;BEFORE THE POWER DOWN WAS COMPLETE
9806                  .SAVR6: 0
9807                  .POWER: <15><12>"POWER" ;PUT THE SP HERE
9808
9809                  .EVEN
```

```
9810          .SBTTL ERROR MESSAGES, DATA HEADERS, DATA VECTORS, ETC
9811
9812          ; MESSAGE PREFIXES
9813          $44132 $47510 $35124 $00040 ASCHOT: .ASCII "HOT: "
9814          $44144 $40527 $46522 $20072 ASCWRN: .ASCII "WARN: "
9815          $44146
9816
9817          ; ERROR MESSAGES HERE
9818          $44147 122 $41505 $44505 EMA: .ASCII "RECEIVED FPS IS BAD"
9819          $44154 $42526 $20104 $50106
9820          $44162 $20123 $51511 $41040
9821          $44170 $42101 $000
9822          $44173 122 $41505 $44505 EMB: .ASCII "RECEIVED FEC/FEA IS BAD"
9823          $44200 $42526 $20104 $42506
9824          $44206 $42503 $42506 $20101
9825          $44214 $51511 $41040 $42101
9826          $44222 $000
9827          $44223 125 $42516 $50130 EMC: .ASCII "UNEXPECTED FLOATING POINT TRAP, IGNORED & CONTINUING"
9828          $44230 $41505 $42524 $20104
9829          $44236 $46106 $40517 $44524
9830          $44244 $43516 $50040 $44517
9831          $44252 $52116 $52040 $40522
9832          $44260 $26123 $44440 $47107
9833          $44266 $51117 $42105 $23040
9834          $44274 $41440 $47117 $44524
9835          $44302 $52516 $47111 $00107
9836          $44310 $50103 $20125 $51520 END: .ASCII "CPU PS CONDITION CODES SET INCORRECTLY"
9837          $44316 $41440 $47117 $44504
9838          $44324 $44524 $47117 $41440
9839          $44332 $42117 $51505 $51440
9840          $44340 $52105 $44440 $41516
9841          $44346 $51117 $42522 $52103
9842          $44354 $54514 $000
9843          $44357 103 $50115 $43050 EME: .ASCII "CMP(F/D) OPERATION - REGISTER MODIFIED AFTER EXECUTION"
9844          $44364 $42057 $20051 $50117
9845          $44372 $51105 $52101 $47511
9846          $44400 $20116 $20055 $42522
9847          $44406 $44527 $52123 $51105
9848          $44414 $46440 $42117 $43111
9849          $44422 $42511 $20104 $43101
9850          $44430 $42524 $20122 $44105
9851          $44436 $41505 $52125 $47511
9852          $44444 $40116
9853          $44446 $42101 $27504 $52523 EMF: .ASCII "ADD/SUB(F/D) OPERATION - RESULT INCORRECT"
9854          $44454 $24102 $27506 $24504
9855          $44462 $47440 $42523 $40522
9856          $44470 $44524 $47117 $26440
9857          $44476 $51040 $51505 $46125
9858          $44484 $20124 $47111 $47503
9859          $44492 $51122 $41505 $40124
9860          $44520 $52515 $27514 $44504 ENG: .ASCII "MUL/DIV(F/D) OPERATION - RESULT INCORRECT"
9861          $44526 $24126 $27506 $24504
9862          $44534 $47430 $42520 $40522
9863          $44542 $44524 $47117 $26440
9864          $44550 $51040 $51505 $46125
9865          $44556 $20124 $47111 $47503
```

9866	044564	051120	041505	000124	
9867	044572	047515	024104	027506	EMH: .ASCIZ "MOD(F/D) OPERATION = FRACTIONAL RESULT INCORRECT"
9868	044600	024504	047440	042520	
9869	044606	040522	044524	047117	
9870	044614	026440	043040	040522	
9871	044622	052103	047511	040516	
9872	044630	020114	042522	052523	
9873	044636	052114	044440	041516	
9874	044644	051117	042522	052103	
9875	044652	000			
9876	044653	115	042117	043050	EMI: .ASCIZ "MOD(F/D) OPERATION = INTEGER RESULT INCORRECT"
9877	044660	042057	020051	050117	
9878	044666	051105	052101	047511	
9879	044674	020116	020055	047111	
9880	044702	042524	042507	020122	
9881	044710	042522	052523	052114	
9882	044716	044440	041516	051117	
9883	044724	042522	052103	000	
9884	044731	106	047514	052101	EMJ: .ASCIZ "FLOAT-TO-DOUBLE CONVERSION = RESULT INCORRECT"
9885	044736	052055	026517	047504	
9886	044744	041125	042514	041440	
9887	044752	047117	042526	051522	
9888	044760	047511	020116	020055	
9889	044766	042522	052523	052114	
9890	044774	044440	041516	051117	
9891	045002	042522	052103	000	
9892	045007	104	052517	046102	EMK: .ASCIZ "DOUBLE-TO-FLOAT CONVERSION = RESULT INCORRECT"
9893	045014	026505	047524	043055	
9894	045022	047514	052101	041440	
9895	045030	047117	042526	051522	
9896	045036	047511	020116	020055	
9897	045044	042522	052523	052114	
9898	045052	044440	041516	051117	
9899	045060	042522	052103	000	
9900	045065	106	054111	042105	EML: .ASCIZ "FIXED-TO-FLOATING CONVERSION = RESULT INCORRECT"
9901	045072	052055	026517	046106	
9902	045100	040517	044524	043516	
9903	045106	041440	047117	042526	
9904	045114	051522	047511	020116	
9905	045122	020055	042522	052523	
9906	045130	052114	044440	041516	
9907	045136	051117	042522	052103	
9908	045144	000			
9909	045145	106	047514	052101	EMN: .ASCIZ "FLOATING-TO-FIXED CONVERSION = RESULT INCORRECT"
9910	045152	047111	026507	047524	
9911	045160	043055	054111	042105	
9912	045166	041440	047117	042526	
9913	045174	051522	047511	020116	
9914	045202	020055	042522	052523	
9915	045210	052114	044440	041516	
9916	045216	051117	042522	052103	
9917	045224	000			
9918	045225	114	040517	020104	EMO: .ASCIZ "LOAD EXPONENT(F/D) OPERATION = RESULT INCORRECT"
9919	045232	054105	047520	042516	
9920	045240	052116	043050	042057	
9921	045246	020051	050117	051105	

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

```
9936
9937 045366 054105 023520 004504 DHA: , DATA HEADERS HERE
9938 045374 041522 023526 000104 ,ASCII "EXP'D RCV'D"
9939 045402 054105 023520 026504 DHB: ,ASCII "EXP'D-FEC-RCV'D" EXP'D-FEA-RCV'D"
9940 045410 042506 076503 041522
9941 045416 023526 004504 054105
9942 045424 023520 026504 042506
9943 045432 076501 041522 023526
9944 045440 000104
9945 045442 076455 042455 050130 DHC: ,ASCII "---EXPECTED--- ---RECEIVED---"
9946 045450 041505 042524 026504
9947 045456 026455 026411 026455
9948 045464 042522 042503 053111
9949 045472 042105 026455 000055
9950 045500 026455 026455 026455 DHD: ,ASCII "-----EXPECTED----- -----RECEIVED-----"
9951 045506 026455 026455 042455
9952 045514 050130 041505 042524
9953 045522 026504 026455 026455
9954 045530 026455 026455 026455
9955 045536 026411 026455 026455
9956 045544 026455 026455 026455
9957 045552 042522 042503 053111
9958 045560 042105 026455 026455
9959 045566 026455 026455 026455
9960 045574 000055
9961 045576 046117 020104 041520 DHF: ,ASCII "OLD PC OLD PS NEW SP FPS FLC FEA"
9962 045600 047411 042114 050040
9963 045612 004523 042516 020127
9964 045620 050123 020011 050106
9965 045626 004523 043040 041505
9966 045634 020011 042506 000101
```

```
9967
9968 , DATA ADDRESS VECTOR
9969 045642 001240 002000 000000 DTA: ,EVEN
9970 045650 001242 002000 000000 DTB: ,WORD STMP4,FPS,0
9971 045656 001244 002000 000000 DTC: ,WORD STMP5,FPS,0
9972 045664 001246 002000 000000 DTD: ,WORD STMP6,FPS,0
9973 045672 001252 002000 000000 DTE: ,WORD STMP7,FPS,0
9974 045700 001254 002000 000000 DTF: ,WORD STMP11,FPS,0
9975 045706 001262 002000 000000 DTF: ,WORD STMP12,FPS,0
9976 045714 001272 002000 000000 DTG: ,WORD STMP13,FPS,0
9977 045722 001242 002002 002014 DTH: ,WORD STMP15,FPS,0
9978 045730 002004 000000 DTH: ,WORD STMP21,FPS,0
9979 045734 001244 002002 002014 DTI: ,WORD STMP5,FEC,EXPFEA,FEA,0
9980 045742 002004 000000 DTI: ,WORD STMP6,FEC,EXPFEA,FEA,0
9981 045746 001246 002002 002014 DTK: ,WORD STMP7,FEC,EXPFEA,FEA,0
9982 045754 002004 000000 DTK: ,WORD STMP10,FLC,EXPFEA,FEA,0
9983 045760 001250 002002 002014 DTL: ,WORD STMP12,FEC,EXPFEA,FEA,0
9984 045766 002004 000000 DTL: ,WORD STMP13,FEC,EXPFEA,FEA,0
9985 045772 001254 002002 002014 DTM: ,WORD STMP16,FEC,EXPFEA,FEA,0
9986 046000 002004 000000 DTM: ,WORD STMP13,FEC,EXPFEA,FEA,0
9987 046004 001256 002002 002014 DTN: ,WORD STMP16,FEC,EXPFEA,FEA,0
9988 046012 002004 000000 DTN: ,WORD STMP22,FLC,EXPFEA,FEA,0
9989 046016 001264 002002 002014 DTO: ,WORD STMP2,REG0,0
9990 046024 002004 000000 DTO: ,WORD STMP4,REG0,0
9991 046030 001274 002002 002014 DTP: ,WORD STMP0,STMP1,REG0,REG1,0
9992 046036 002004 000000 DTP: ,WORD STMP2,STMP3,REG0,REG1,0
9993 046042 001234 001170 DTQ: ,WORD STMP2,STMP3,REG0,REG1,0
9994 046050 001240 001170 DTR: ,WORD STMP4,STMP5,REG0,REG1,0
9995 046056 001230 001232 001170 DTS: ,WORD STMP6,STMP7,REG2,REG3,0
9996 046064 001172 000000 DTS: ,WORD STMP0,STMP1,STMP2,STMP3
9997 046070 001232 001234 001170 DTT: ,WORD STMP0,STMP1,STMP2,STMP3
9998 046076 001172 000000 DTT: ,WORD STMP0,STMP1,STMP2,STMP3
9999 046102 001234 001236 001170 DTU: ,WORD STMP2,STMP3,REG0,REG1,0
10000 046110 001172 000000 DTU: ,WORD STMP4,STMP5,REG0,REG1,0
10001 046114 001240 001170 DTV: ,WORD STMP6,STMP7,REG2,REG3,0
10002 046122 001172 000000 DTV: ,WORD STMP0,STMP1,STMP2,STMP3
10003 046126 001244 001246 001174 DTW: ,WORD STMP0,STMP1,STMP2,STMP3
10004 046134 001176 000000 DTW: ,WORD STMP0,STMP1,STMP2,STMP3
10005 046140 001230 001232 001234 DTX: ,WORD STMP0,STMP1,STMP2,STMP3
10006 046146 001236 001172 001174 DTX: ,WORD STMP0,STMP1,STMP2,STMP3
10007 046150 001172 001172 001174 DTX: ,WORD STMP0,STMP1,STMP2,STMP3
10008 046156 001176 000000 DTX: ,WORD STMP0,STMP1,STMP2,STMP3
10009 046162 001232 001234 001236 DTZ: ,WORD STMP1,STMP2,STMP3,STMP4
10010 046170 001240 001240 001174 DTZ: ,WORD STMP1,STMP2,STMP3,STMP4
10011 046172 001170 001172 001174 DTZ: ,WORD STMP0,STMP1,STMP2,STMP3
10012 046200 001176 000000 DTZ: ,WORD STMP2,STMP3,STMP4,STMP5
10013 046204 001234 001236 001240 DTZ: ,WORD STMP2,STMP3,STMP4,STMP5
10014 046212 001242 001172 001174 DTZ: ,WORD STMP4,STMP5,STMP6,STMP7
10015 046218 001170 001172 001174 DTZ: ,WORD STMP4,STMP5,STMP6,STMP7
10016 046222 001176 000000 DTZ: ,WORD STMP4,STMP5,STMP6,STMP7
10017 046226 001240 001242 001244 DTAA: ,WORD STMP4,STMP5,STMP6,STMP7
10018 046234 001246 001170 001172 DTAA: ,WORD STMP4,STMP5,STMP6,STMP7
10019 046238 001170 001172 001174 DTAA: ,WORD STMP4,STMP5,STMP6,STMP7
10020 046244 001176 000000 DTAA: ,WORD STMP4,STMP5,STMP6,STMP7
10021 046250 001250 001252 001254 DTAB: ,WORD STMP10,STMP11,STMP12,STMP13
10022 046256 001256
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[illegible][illegible]

EMV003 001370 375#
EMV004 001376 376#
EMV005 001404 378#
EMV006 001412 379#
EMV007 001420 380#
EMV010 001426 381#
EMV011 001434 383#
EMV012 001442 384#
EMV013 001450 385#
EMV014 001456 386#
EMV015 001464 388#
EMV016 001472 389#
EMV017 001500 390#
EMV020 001506 391#
EMV021 001514 393#
EMV022 001522 394#
EMV023 001530 395#
EMV024 001536 396#
EMV025 001544 397#
EMV026 001552 398#
EMV027 001560 399#
EMV030 001566 400#
EMV031 001574 401#
EMV032 001602 402#
EMV033 001610 403#
EMV034 001616 404#
EMV035 001624 405#
EMV036 001632 406#
EMV037 001640 407#
EMV040 001646 408#
EMV041 001654 409#
EMV042 001662 410#
EMV043 001670 411#
EMV044 001676 412#
EMV045 001704 413#
EMV046 001712 414#
EMV047 001720 415#
EMV050 001726 416#
EMV051 001734 417#
EMV052 001742 418#
EMV053 001750 419#
EMV054 001756 421#
EMV055 001764 422#
EMV056 001772 424#
ERE00 002010 436# 9349#
ERE01 002020 437# 9400#
ERE02 002022 438# 9401#
ERE03 002024 439# 9402#
ERE04 002026 440# 9403#
ERE05 002030 441# 9404#
ERE06 002032 442# 9405# 9406#
ERE07 002034 443# 9407#
ERRVLC= 000004 129# 490# 499# 510# 9341# 9342# 9344# 9347#
EXPFLA 002014 433# 7981# 7984 8025# 8020 8071# 8074 8114# 8117 8160# 8161 8203# 8206#
8249# 8252 8292# 8295 8330# 8341 8381# 8384 8431# 8434 8487# 8490 8548#
8551 8604# 8607 8662# 8665 8706# 8709 8751# 8754 8967# 8970 9017# 9020

FLA 002004 9067# 9070 9119# 9122 9167# 9170 9210# 9213 9977 9979 9981 9983 9985
429# 7984 8020 8074 8117 8163 8206 8252 8295 8341 8384 8434 8490
8551 8607 8665 8709 8754 8770 9020 9070 9122 9170 9213 9977 9979
FLC 002002 9981 9983 9985 9987 9989 9991 10031
428# 7973# 7982 8017# 8026 8063# 8072 8106# 8115 8152# 8161 8195# 8204
8241# 8250 8284# 8293 8330# 8339 8373# 8382 8422# 8432 8478# 8480 8539#
8549 8595# 8605 8654# 8663 8698# 8707 8744# 8752 8960# 8968 9010# 9018
9060# 9068 9112# 9120 9160# 9168 9203# 9211 9316# 9977 9979 9981 9983
9985 9987 9989 9991 10031
FPPILT 141722 519 9312#
FPPOPC 002006 430# 9313# 9319 10031
FPPUFS 002010 431# 9314# 9318 10031
FPPUSP 002012 432# 9312# 10031
FPPVLC= 000243 151# 519# 520#
FPS 002002 427# 7972# 7976 8016# 8020 8062# 8066 8105# 8109 8151# 8155 8194# 8198
8240# 8244 8283# 8287 8329# 8333 8372# 8376 8421# 8426 8477# 8482 8538#
8543 8594# 8599 8653# 8657 8697# 8701 8743# 8746 8786# 8788 8819# 8822
8852# 8855 8889# 8892 8922# 8925 8959# 8962 8975 9009# 9012 9025 9059#
9062 9075 9111# 9114 9127 9159# 9162 9202# 9205 9249# 9251 9256 9289#
9291 9296 9315# 9969 9970 9971 9972 9973 9974 9975 9976 10031
FPS# = 000000 185#
FPS1 = 147757 184#
FIN = 140200 178# 1926 1927 2103 2105 3839 3879 3910 3921 4199 4225 4271 4544
4584 4623 4904 4930 4976 5244 5246 5263 5265 5607 5609
FIP = 040200 177# 1907 1908 2205 2207 3160 3564 3858 3899 4177 4249 4277 4563
4604 4802 4954 5225 5227 5358 5360 5377 5379 5626 5628 5664 5666
5702 5704 5740 5742 5759 9757 9758 9760
GNS = ***** U
HOIWP= 042504 596# 598# 9461#
HT = 000011 39# 9551 9592
IOIVLC= 000020 134# 482# 483#
LB = 000377 180#
LCDP1 036632 8651# 8662
LCDP2 036620 8645 8647#
LCDP3 036574 5163 5172 5201 5220 5239 5258 5277 5296 5315 5334 5353 5372 5391
5410 8639#
5412 5167#
LCDP1 023100 5295 5300#
LCDP10 023422 5314 5319#
LCDP11 023460 5333 5338#
LCDP12 023516 5352 5357#
LCDP13 023554 5371 5376#
LCDP14 023612 5390 5395#
LCDP15 023650 5409 5414#
LCDP16 023706 5181 5186#
LCDP2 023136 5208 5205#
LCDP3 023174 5219 5224#
LCDP4 023232 5238 5243#
LCDP5 023270 5257 5262#
LCDP6 023320 5276 5281#
LCDP7 023364 8695# 8706
LCDP8 023402 8689 8691#
LCDP9 023440 5430 5449 5468 5487 5506 5525 5544 5563 8603#
LCDP10 023474 5429 5434#
LCDP11 023510 5562 5567#

[illegible]

LEAD4	031260	7279	72840																	
LEAD5	031324	7300	73050																	
LEAD6	031370	7321	73260																	
LEAD7	031431	7342	73470																	
LEAF1	041126	91570	9167																	
LEAF1	041126	9151	91530																	
LEAF1	041072	6836	6835	6074	6893	6912	6931	6950	6969	6988	7007	7026	7045	7064						
		7083	7102	7121	7140	7159	7178	7197	91450											
LEAF1	030023	6835	68400																	
LEAF10	030337	6968	69730																	
LEAF11	030364	6987	69920																	
LEAF12	030420	7006	70110																	
LEAF13	030454	7025	70300																	
LEAF14	030510	7044	70490																	
LEAF15	030544	7063	70680																	
LEAF16	030600	7082	70870																	
LEAF17	030634	7101	71060																	
LEAF2	030060	6854	68590																	
LEAF20	030670	7120	71250																	
LEAF21	030724	7139	71440																	
LEAF22	030760	7158	71630																	
LEAF23	031014	7177	71820																	
LEAF24	031050	7196	72010																	
LEAF3	030114	6873	68780																	
LEAF4	030150	6892	68970																	
LEAF5	030204	6911	69160																	
LEAF6	030240	6930	69350																	
LEAF7	030274	6949	69540																	
LF	000012	400	451	456	464	9586	9592													
LGN	077777	1720	649	684	849	891	1127	1354	1356	1373	1374	1497	1761	1763						
		2021	2023	2040	2059	2271	2275	2293	2297	2420	2653	2655	2754	2950						
		2952	3197	3340	3307	3730	3794	3810	3820	4105	4503	4523	4525	4810						
		5396	5530	5531	5683	5685	5721	5855	5857											
LGP	077777	1710	648	685	851	889	1126	1316	1317	1499	1717	1721	1805	1809						
		1827	1839	1983	1905	2004	2004	2359	2363	2381	2403	2444	2730	2972						
		2974	3329	3360	3400	3716	3779	4127	4191	4155	4484	4832	4856	4860						
		5282	5301	5303	5358	5377	5492	5493	5702	5740	5797	5912	5914							
MD101	036372	85910	8604																	
MD10L	036396	8584	85860																	
MD10T	036332	4779	4803	4827	4851	4875	4899	4923	4947	4971	4995	5019	5043	5067						
		5091	5115	5139	85780															
MD101	021440	4778	47830																	
MD1010	022176	4946	49510																	
MD1011	022260	4970	49750																	
MD1012	022342	4994	49990																	
MD1013	022424	5018	50230																	
MD1014	022506	5042	50470																	
MD1015	022576	5066	50710																	
MD1016	022657	5090	50950																	
MD1017	022734	5114	51190																	
MD102	021522	4802	48070																	
MD1020	023015	5138	51430																	
MD103	021604	4826	48310																	
MD104	021666	4850	48550																	
MD105	021750	4874	48790																	
MD106	022032	4898	49030																	

[illegible]

MD2F3	016204	3792	3797#															
MD2F4	016046	3812	3817#															
MD2F5	016110	3832	3837#															
MD2F6	016152	3852	3857#															
MD2F7	016214	3872	3877#															
MD	076600#	143#	527	577	581	591	7097	7905	7911	9709								
MULD1	034770	8281#	8292															
MULD0L	034760	8275	8277#															
MULD1	034734	2725	2747	2769	2791	2813	2835	2857	2879	2901	2923	2945	2967	2989				
		3011	3033	3055	8269#													
MULD1	012202	2724	2729#															
MULD1J	012650	2870	2803#															
MULD11	012722	2900	2905#															
MULD12	012774	2922	2927#															
MULD13	013046	2944	2949#															
MULD14	013120	2966	2971#															
MULD15	013172	2988	2993#															
MULD16	013244	3010	3015#															
MULD17	013316	3032	3037#															
MULD2	012254	2746	2751#															
MULD20	013371	3054	3059#															
MULD3	012326	2768	2773#															
MULD4	012400	2790	2795#															
MULD5	012452	2812	2817#															
MULD6	012524	2834	2839#															
MULD7	012576	2856	2861#															
MULF1	034620	8238#	8249															
MULFL	034610	8232	8234#															
MULFT	034564	2420	2439	2450	2477	2496	2515	2534	2553	2572	2591	2610	2629	2648				
		2667	2686	2705	8226#													
MULF1	011242	2419	2424#															
MULF10	011564	2552	2557#															
MULF11	011622	2571	2576#															
MULF12	011660	2590	2595#															
MULF13	011716	2609	2614#															
MULF14	011754	2628	2633#															
MULF15	012012	2647	2652#															
MULF16	012050	2666	2671#															
MULF17	012106	2685	2690#															
MULF2	011300	243#	2443#															
MULF20	012144	2744	2709#															
MULF3	011336	2457	2462#															
MULF4	011374	2476	2481#															
MULF5	011432	2495	2500#															
MULF6	011470	2514	2519#															
MULF7	011526	2533	2538#															
MD	1000000	170#	757	1355	1807	2042	2103	2105	2273	2295	2636	2711	3062	3098				
		4247	4603	4952	5244	5263	5320	5339	5390	5415	5435	5607	5626	5664				
		5723	5759	5778	5797													
M1	177777	159#	446	644	649	684	685	702	774	775	793	810	849	851				
		899	891	931	949	951	971	1031	1049	1051	1069	1070	1126	1127				
		1146	1165	1166	1183	1104	1105	1202	1203	1204	1221	1242	1278	1298				
		1316	1317	1318	1354	1156	1373	1374	1393	1431	1475	1497	1499	1519				
		1541	1545	1563	1565	1567	1585	1587	1589	1641	1655	1673	1675	1697				
		1699	1717	1719	1721	1761	1763	1765	1805	1809	1827	1829	1869	1947				
		1983	1984	1985	2002	2003	2004	2021	2023	2040	2059	2101	2163	2165				

		2231	2271	2273	2275	2293	2295	2297	2359	2363	2381	2403	2426	2444
		2445	2465	2484	2503	2615	2616	2653	2654	2655	2673	2691	2692	2711
		2730	2752	2754	2778	2800	2820	2822	2842	2850	2952	2954	2972	2974
		2994	2996	2998	3016	3018	3040	3062	3082	3196	3197	3291	3292	3293
		3310	3311	3312	3366	3387	3406	3408	3626	3628	3630	3640	3650	3652
		3714	3716	3718	3736	3738	3778	3779	3798	3799	3818	3819	3820	3821
		3859	3860	3919	3960	4038	4040	4058	4103	4105	4127	4129	4151	4153
		4155	4157	4201	4203	4273	4275	4299	4321	4323	4345	4415	4419	4439
		4466	4483	4484	4486	4503	4504	4506	4523	4544	4525	4526	4546	4564
		4565	4566	4586	4606	4624	4626	4646	4665	4686	4686	4706	4726	4743
		4745	4746	4763	4766	4790	4800	4810	4814	4832	4834	4838	4856	4858
		4860	4862	4886	4906	4908	4910	4934	4958	4976	4980	4982	5004	5006
		5026	5028	5030	5050	5054	5078	5102	5120	5124	5126	5144	5150	5187
		5189	5206	5202	5301	5303	5320	5339	5341	5358	5377	5396	5415	5436
		5492	5493	5511	5530	5531	5549	5645	5683	5645	5702	5721	5740	5759
		5778	5780	5797	5836	5855	5857	5912	6100	6125	6126	6177	6264	6265
		6373	6427	6465	6503	6522	6541	6560	6562	6580	6616	6652	6670	6726
		6728	6745	6764	6783	6802	6841	6842	6955	6956	7069	7070	7107	7202
		7243	7245	7369	7371	7537	7643	7871						
M2	= 177776	1680	811	1279	1299	1675	1699	2502	2521	2617	2820	2842	2954	2998
NA	= 200000	3920	3959	3979	4275	4321	4345	4625	4664	4684	4980	5026	5050	
		1800	615	633	651	669	687	705	723	741	777	795	813	834
		854	874	894	914	954	974	994	1014	1034	1054	1073	1092	1111
		1130	1149	1168	1187	1206	1225	1244	1263	1282	1301	1377	1396	1415
		1438	1450	1462	1504	1526	1548	1570	1592	1614	1636	1654	1680	1702
		1790	1812	1834	1854	1873	1892	1911	1930	1949	1968	2006	2025	2063
		2101	2124	2146	2168	2190	2212	2234	2256	2300	2344	2366	2410	2429
		2448	2467	2486	2505	2524	2543	2562	2581	2600	2676	2695	2714	2737
		2759	2781	2803	2825	2847	2869	2891	2913	2935	2979	3023	3067	3086
		3124	3143	3162	3181	3200	3219	3238	3257	3276	3352	3390	3413	3435
		3457	3479	3501	3523	3545	3567	3589	3699	3743	3763	3783	3803	3843
		3863	3883	3903	3923	3943	3963	3983	4023	4063	4088	4112	4136	4164
		4208	4232	4256	4280	4304	4328	4352	4400	4448	4468	4488	4508	4548
		4568	4588	4608	4628	4648	4668	4688	4728	4768	4793	4817	4841	4889
		4913	4937	4961	4985	5009	5033	5057	5105	5153	5172	5210	5229	5248
		5267	5305	5324	5343	5362	5381	5400	5419	5458	5477	5496	5515	5534
		5553	5572	5592	5611	5630	5649	5668	5687	5706	5744	5763	5782	5801
		6322	6340	6376	6394	6412	6430	6469	6488	6507	6526	6545	6564	6583
		6619	6637	6655	6673	6691	6730	6749	6768	6787	6806	6825	6843	6902
		6921	6940	6959	6978	6997	7092	7111	7130	7149	7168	7187	7206	7227
		7291	7312	7333	7354	7375	7396	7501	7522	7543	7564	7585	7606	7627
		531	533	558	559									
		4640	563											
		460												
		1400												
		4460	8415	8471	8532	8588	8648	8692						
		630												
		640												
		650												
		660												
		670												
		680												
		690												
		700												
		430	44	8958	9006	9058	9110	9240	9280					
		440												
NEWPAS	= 000304													
NEWPAS1	= 000150													
PIHQ	= 177772													
PIHQVE	= 000240													
PREVAC	= 000236													
PM0	= 000000													
PR1	= 000040													
PR2	= 000100													
PR3	= 000140													
PR4	= 000200													
PR5	= 000240													
PR6	= 000300													
PR7	= 000340													
PS	= 177776													
PSW	= 177776													

PNRVEC	= 000024	1350	4880	4890	97670	97680	97770	97830	97970	97980				
P132	= 104210	1790	1607	1609	1611									
RESVEC	= 000010	1300												
RWLAG	= 000144	1470	501	7905										
RWHAM1	= 000022	1450	527	577	7897									
SCDF1	= 037170	87410	8751											
SCDFL	= 037160	8735	8737											
SCDFT	= 037133	5583	5602	5621	5640	5659	5670	5697	5716	5735	5754	5773	5792	87290
SCDF1	= 024324	5502	5507											
SCDF10	= 024646	5715	5720											
SCDF11	= 024704	5734	5739											
SCDF12	= 024742	5753	5758											
SCDF13	= 025000	5772	5777											
SCDF14	= 025036	5791	5796											
SCDF2	= 024362	5601	5606											
SCDF3	= 024420	5620	5625											
SCDF4	= 024456	5639	5644											
SCDF5	= 024514	5658	5663											
SCDF6	= 024552	5677	5682											
SCDF7	= 024610	5696	5701											
SCD11	= 040314	90060	9017											
SCD1L	= 040304	9000	9002											
SCD1T	= 040260	6441	6460	6479	6490	6517	6536	6555	89940					
SCD11	= 026710	6440	6445											
SCD12	= 026744	6459	6464											
SCD13	= 027000	6478	6483											
SCD14	= 027034	6497	6502											
SCD15	= 027070	6516	6521											
SCD16	= 027124	6535	6540											
SCD17	= 027160	6554	6559											
SCD1L	= 040720	91080	9119											
SCD1L	= 040710	9102	9104											
SCD1T	= 040664	6702	6721	6740	6759	6778	6797	6816	90960					
SCD1L	= 027502	6701	6706											
SCD12	= 027540	6720	6725											
SCD13	= 027576	6739	6744											
SCD14	= 027634	6758	6763											
SCD15	= 027672	6777	6782											
SCD16	= 027730	6796	6801											
SCD17	= 027766	6815	6820											
SCDFL	= 037324	8778	8780											
SCDFD1	= 037300	8812	8831	8850	8869	8880	8907	87720						
SCDFD1	= 025074	8811	8816											
SCDFD2	= 025134	8830	8835											
SCDFD3	= 025174	8849	8854											
SCDFD4	= 025234	8868	8873											
SCDFD5	= 025274	8887	8892											
SCDFD6	= 025334	8906	8911											
SCF11	= 040116	89560	8967											
SCF1L	= 040106	8950	8952											
SCF11	= 040062	6314	6332	6350	6360	6386	6404	6422	89440					
SCF11	= 026440	6313	6318											
SCF12	= 026470	6331	6336											
SCF13	= 026520	6349	6354											
SCF14	= 026550	6367	6372											
SCF15	= 026600	6385	6390											

[illegible]

SUBTL	#34256	8143	8145#												
SUBT	#34224	1845	1864	1883	1902	1921	1940	1959	1978	1997	2016	2035	2054	2073	
		2092	8137#												
SUBT1	#07262	1844	1849#												
SUBT10	#07604	1977	1982#												
SUBT11	#07642	1996	2001#												
SUBT12	#07706	2015	2020#												
SUBT13	#07736	2034	2039#												
SUBT14	#07774	2053	2058#												
SUBT15	#10037	2072	2077#												
SUBT16	#14076	2091	2096#												
SUBT2	#07324	1863	1868#												
SUBT3	#07356	1882	1887#												
SUBT4	#07414	1901	1906#												
SUBT5	#07452	1920	1925#												
SUBT6	#07514	1939	1944#												
SUBT7	#07546	1958	1963#												
SUBTAS	#03072	561	575#												
SWR	#01144	267#	47#	7915											
		9359	9365	9411	9418	9430	9433	9775	9790#	986	7901	7940	9336	9350	
		208#	508												
SWRLEG	#00176	93#													
SW0	#000401	88#	98	586											
SW01	#000002	87#	97	503	7901										
SW02	#000004	86#	96												
SW03	#000100	85#	95												
SW04	#000020	84#	94												
SW05	#000040	83#	93												
SW06	#001000	82#	92												
SW07	#002000	81#	91												
SW08	#004000	80#	90												
SW09	#010000	79#	89												
SW1	#000002	97#													
SW10	#002000	78#	7940												
SW11	#004000	77#													
SW12	#010000	76#													
SW13	#020000	75#													
SW14	#040000	74#													
SW15	#100000	73#													
SW2	#000004	96#													
SW3	#000010	95#													
SW4	#000020	94#													
SW5	#000040	93#													
SW6	#000100	92#													
SW7	#002000	91#													
SW8	#004000	90#													
SW9	#010000	89#													
TBLTVE	#000014	131#													
TKVVC	#000060	138#													
TPVVC	#000064	139#													
TRAPVE	#000034	137#	406#	487#											
TPVVC	#000014	132#													
TST1	#003176	605#													
IST10	#03464	717	731#												
IST100	#07304	1847	1862#												
IST101	#07342	1866	1881#												

TST102	007400	1895	19000
TST103	007430	1904	19190
TST104	007474	1923	19300
TST105	007532	1942	19570
TST106	007570	1961	19760
TST107	007626	1980	19950
TST11	003516	735	7490
TST110	007664	1999	20140
TST111	007722	2018	20330
TST112	007760	2037	20520
TST113	010016	2056	20710
TST114	010054	2075	20900
TST115	010112	2094	21100
TST116	010164	2114	21320
TST117	010236	2136	21540
TST12	003550	753	7670
TST120	010310	2158	21760
TST121	010362	2180	21980
TST122	010434	2202	22200
TST123	010506	2224	22420
TST124	010560	2246	22640
TST125	010632	2268	22860
TST126	010704	2290	23080
TST127	010756	2312	23300
TST13	003602	771	7850
TST130	011030	2334	23520
TST131	011102	2356	23740
TST132	011154	2378	23960
TST133	011226	2400	24180
TST134	011264	2422	24370
TST135	011322	2441	24560
TST136	011360	2460	24750
TST137	011416	2479	24940
TST14	003634	789	8030
TST140	011454	2498	25130
TST141	011512	2517	25320
TST142	011550	2536	25510
TST143	011606	2555	25700
TST144	011644	2574	25890
TST145	011702	2593	26080
TST146	011740	2612	26270
TST147	011776	2631	26460
TST15	003666	807	8220
TST150	012034	2650	26650
TST151	012072	2669	26840
TST152	012130	2688	27030
TST153	012166	2707	27230
TST154	012240	2727	27450
TST155	012312	2749	27670
TST156	012364	2771	27890
TST157	012436	2793	28110
TST16	003730	826	8420
TST160	012510	2815	28330
TST161	012562	2837	28550
TST162	012634	2859	28770
TST163	012706	2881	28990

TST164	012760	2903	29210
TST165	013032	2925	29430
TST166	013104	2947	29650
TST167	013156	2969	29870
TST17	003772	846	8620
TST170	013230	2991	30090
TST171	013302	3013	30310
TST172	013354	3035	30530
TST173	013426	3057	30750
TST174	013464	3079	30940
TST175	013522	3098	31130
TST176	013560	3117	31320
TST177	013616	3136	31510
TST2	003730	809	8230
TST20	004034	866	8820
TST200	013654	3155	31700
TST201	013712	3174	31890
TST202	013750	3193	32080
TST203	014006	3212	32270
TST204	014044	3231	32460
TST205	014102	3250	32650
TST206	014140	3269	32840
TST207	014176	3288	33030
TST21	004076	886	9020
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SOVLF	042222											
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SPKDN	043742											

SPHHNG	044104	9800#																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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3054	3076	3095	3114	3133	3152	3171	3190	3209	3228	3247	3266	3285
3304	3323	3342	3361	3380	3400	3422	3444	3466	3488	3510	3532	3554
3576	3598	3620	3642	3664	3686	3708	3730	3752	3772	3792	3812	3832
3852	3872	3892	3912	3932	3952	3972	3992	4012	4032	4052	4073	4097
4121	4145	4169	4193	4217	4241	4265	4289	4313	4337	4361	4385	4409
4433	4457	4477	4497	4517	4537	4557	4577	4597	4617	4637	4657	4677
4697	4717	4737	4757	4778	4802	4826	4850	4874	4898	4922	4946	4970
4994	5018	5042	5066	5090	5114	5138	5162	5181	5200	5219	5238	5257
5276	5295	5314	5333	5352	5371	5390	5409	5429	5448	5467	5486	5505
5524	5543	5562	5582	5601	5620	5639	5658	5677	5696	5715	5734	5753
5772	5791	5811	5830	5849	5868	5887	5906	5925	5942	5959	5976	5993
6011	6029	6047	6065	6083	6102	6119	6136	6153	6170	6187	6204	6222
6240	6258	6276	6294	6313	6331	6349	6367	6385	6403	6421	6440	6459
6478	6497	6516	6535	6554	6574	6592	6610	6628	6646	6664	6682	6701
6720	6739	6758	6777	6796	6815	6835	6854	6873	6892	6911	6930	6949
6968	6987	7006	7025	7044	7063	7082	7101	7120	7139	7158	7177	7196
7216	7237	7258	7279	7300	7321	7342	7363	7384	7405	7426	7447	7468
7489	7510	7531	7552	7573	7594	7615	7637	7658	7671	7688	7705	7722
7739	7757	7775	7793	7811	7829	7847	7865	7883	7902	7920	7938	7956
9336	9348	9350	9351	9354	9355	9356	9363	9364	9365	9377	9380	9383
9390	9391	9392	9393	9394	9411	9418	9430	9433	9445	9803		
88WPEG	001346											
88WHRK	000000											
88ESTN	001330											
88IMES	001310											
88K8	001154											
88K8	001152											
88MP0	001230											
88MP1	001232											
88MP10	001230											
88MP11	001252											
88MP12	001254											
88MP13	001256											
88MP14	001260											
88MP15	001262											
88MP16	001264											
88MP17	001266											
88MP2	001234											
88MP20	001270											
88MP21	001272											
88MP22	001274											
88MP23	001276											
88MP24	001300											
88MP25	001302											
88MP26	001304											
88MP27	001306											
88MP3	001236											
88MP4	001240											
88MP5	001242											
88MP6	001244											
88MP7	001246											
88TN	000554											
8525	8581	8642	8686	8732	8775	8810	8843	8860	8913	8947	8997	9047
9099	9140	9191	9237	9277	9305	10005						
2978	9995	9997	10005	10009								
3044	9983	10021										
3058	9973	10021										
3068	9974	9985	10021									
3078	9987	10021										
3088	10025											
3098	9975	10025										
3108	9989	10025										
3118	10025											
2988	9993	9997	9999	10005	10009	10013						
3128												
3138	9976											
3148	9991											
3158												
3168												
3178												
3188												
3198												
2998	9999	10005	10009	10013								
3008	9969	9994	10001	10009	10013	10017						
3018	9970	9977	10001	10013	10017							
3028	9971	9979	10003	10017								
3038	9972	9981	10003	10017								
18	12	600	606	609	618	624	627	636	642	645	654	660
663	672	678	681	690	696	699	708	714	717	726	732	735
744	750	753	762	768	771	780	786	789	798	804	807	817

8238	826	837	8438	846	857	8638	866	877	8838	886	897	9038
906	917	9238	926	937	9438	946	957	9638	966	977	9838	986
997	10038	1006	1017	10238	1026	1037	10438	1046	1057	10638	1066	1076
10828	1085	1095	11018	1104	1114	11208	1123	1133	11398	1142	1152	11588
1161	1171	11778	1180	1190	11968	1199	1209	12158	1216	1228	12348	1237
1247	12538	1256	1266	12728	1275	1285	12918	1294	1304	13108	1313	1323
13298	1332	1342	13488	1351	1361	13678	1370	1380	13868	1389	1399	14058
1408	1419	14258	1428	1441	14478	1450	1463	1469	1472	1485	14918	1494
1507	15138	1516	1529	15358	1538	1551	15578	1560	1573	15798	1582	1595
16018	1604	1617	16238	1626	1639	16458	1648	1661	16678	1670	1683	16898
1692	1705	17118	1714	1727	17338	1736	1749	17558	1758	1771	17778	1780
1793	17998	1802	1815	18218	1824	1838	18448	1847	1857	18638	1866	1876
18828	1885	1895	19018	1904	1914	19208	1923	1933	19398	1942	1952	19588
1961	1971	19778	1980	1990	19968	1999	2009	20158	2018	2028	20348	2037
2047	20538	2056	2066	20728	2075	2085	20918	2094	2105	21118	2114	2127
21338	2136	2149	21558	2158	2171	21778	2180	2193	21998	2202	2215	22218
2224	2237	22438	2246	2259	22658	2268	2281	22878	2290	2303	23098	2312
2325	23318	2334	2347	23538	2356	2369	23758	2378	2391	23978	2400	2413
24198	2422	2432	24388	2441	2451	24578	2460	2470	24768	2479	2489	24958
2498	2508	25148	2517	2527	25338	2536	2546	25528	2555	2565	25718	2574
2584	25908	2593	2603	26098	2612	2622	26288	2631	2641	26478	2650	2660
26668	2669	2679	26858	2688	2698	27048	2707	2718	27248	2727	2740	27468
2749	2762	27688	2771	2784	27908	2793	2806	28128	2815	2828	28348	2837
2850	28568	2859	2872	28788	2881	2894	29008	2903	2916	29228	2925	2936
29448	2947	2960	29668	2969	2982	29888	2991	3004	30108	3013	3026	30328
3035	3048	30548	3057	3070	30768	3079	3089	30958	3098	3108	31148	3117
31278	3133	3136	3146	31528	3155	3165	31718	3174	3184	31908	3193	3203
32098	3212	3222	32288	3231	3241	32478	3250	3260	32668	3269	3279	32858
3288	32908	3304	3307	3317	33238	3326	3336	33428	3345	3355	33618	3364
3374	33808	3383	3394	34008	3403	3416	34228	3425	3438	34448	3447	3460
34668	3469	3482	34888	3491	3504	35108	3513	3526	35328	3535	3540	35548
3557	3570	35768	3579	3592	35988	3601	3614	36208	3623	3636	36428	3645
3658	36648	3667	3680	36868	3689	3702	37088	3711	3724	37308	3733	3746
37528	3755	3766	37728	3775	3786	37928	3795	3806	38128	3815	3826	38328
3835	3846	38528	3855	3866	38728	3875	3886	38928	3895	3906	39128	3915
3926	39328	3935	3946	39528	3955	3966	39728	3975	3986	39928	3995	4006
40128	4015	4026	40328	4035	4046	40528	4055	4067	40738	4076	4091	40978
4100	4115	41218	4124	4139	41458	4148	4163	41698	4172	4187	41938	4196
4211	42178	4220	4235	42418	4244	4259	42658	4268	4283	42898	4292	4307
43138	4316	4331	43378	4340	4355	43618	4364	4379	43858	4391	4403	44098
4412	4427	44338	4436	4451	44578	4460	4471	44778	4480	4491	44978	4501
4511	45178	4520	4531	45378	4540	4551	45578	4560	4571	45778	4581	4591
45978	4600	4611	46178	4620	4631	46378	4640	4651	46578	4660	4671	46778
4680	4691	46978	4700	4711	47178	4720	4731	47378	4740	4751	47578	4760
4772	47788	4781	4796	48028	4805	4820	48268	4829	4844	48508	4853	4860
48748	4877	4892	48988	4901	4916	49228	4925	4940	49468	4949	4964	49708
4973	4988	49948	4997	5012	50188	5021	5036	50428	5045	5060	50668	5069
5084	50908	5093	5108	51148	5117	5132	51388	5141	5156	51628	5165	5175
51818	5184	5194	52008	5203	5213	52198	5222	5232	52388	5241	5251	52578
5260	5270	52768	5279	5289	52958	5298	5308	53148	5317	5327	53338	5336
5346	53528	5355	5365	53718	5374	5384	53908	5393	5403	54098	5412	5423
54298	5432	5442	54488	5451	5461	54678	5470	5480	54868	5489	5499	55058
5508	5518	55248	5527	5537	55438	5546	5556	55628	5565	5576	55828	5585
5595	56018	5604	5614	56208	5623	5633	56398	5642	5652	56588	5661	5671
56778	5680	5690	56968	5699	5709	57158	5718	5728	57348	5737	5747	57538
5756	5766	57728	5775	5785	57918	5794	5805	58118	5814	5824	58308	5833

		5843	5849*	5852	5862	5868*	5871	5881	5887*	5890	5900	5906*	5909	5919
		5925*	5928	5936	5942*	5945	5953	5959*	5962	5970	5976*	5979	5987	5993*
		5996	6005	6011*	6014	6023	6029*	6032	6041	6047*	6050	6059	6065*	6068
		6077	6083*	6086	6096	6102*	6105	6113	6119*	6122	6130	6136*	6139	6147
		6153*	6156	6164	6173*	6173	6181	6187*	6190	6198	6204*	6207	6216	6222*
		6225	6234	6240*	6243	6252	6258*	6261	6270	6276*	6279	6288	6294*	6297
		6307	6313*	6316	6325	6331*	6334	6343	6349*	6352	6361	6367*	6370	6379
		6395*	6398	6397	6403*	6406	6415	6421*	6424	6434	6440*	6443	6453	6459*
		6462	6472	6478*	6481	6491	6497*	6500	6510	6516*	6519	6529	6535*	6538
		6548	6554*	6557	6560	6574*	6577	6586	6592*	6595	6604	6610*	6613	6622
		6628*	6631	6640	6646*	6649	6658	6664*	6667	6676	6682*	6685	6695	6701*
		6704	6714	6720*	6723	6733	6739*	6742	6752	6758*	6761	6771	6777*	6780
		6790	6796*	6799	6809	6815*	6818	6829	6835*	6838	6848	6854*	6857	6867
		6873*	6876	6886	6892*	6895	6895	6911*	6914	6924	6930*	6933	6943	6949*
		6952	6962	6968*	6971	6981	6987*	6990	7000	7006*	7009	7019	7025*	7028
		7038	7044*	7047	7057	7063*	7066	7076	7082*	7085	7095	7101*	7104	7114
		7120*	7123	7133	7139*	7142	7152	7158*	7161	7171	7177*	7180	7190	7196*
		7209	7210*	7216*	7219	7231	7237*	7240	7252	7258*	7261	7273	7279*	7282
		7294	7300*	7303	7315	7321*	7324	7336	7342*	7345	7357	7363*	7366	7378
		7384*	7387	7399	7405*	7408	7420	7426*	7429	7441	7447*	7450	7462	7468*
		7471	7483	7489*	7492	7504	7510*	7513	7525	7531*	7534	7546	7552*	7555
		7567	7573*	7576	7588	7594*	7597	7609	7615*	7618	7631	7637*	7640	7648
		7654*	7657	7665	7671*	7674	7682	7688*	7691	7699	7705*	7708	7716	7722*
		7725	7733	7739*	7742	7751	7757*	7760	7769	7775*	7778	7787	7793*	7796
		7805	7810*	7814	7823	7829*	7832	7841	7847*	7850	7859	7865*	7868	7878
STPB	W41160	273*	9581*											
STPFLG	W41165	277*	9530											
STPS	W41156	272*	9579											
STRAP	W43674	486	9734*											
STRAP2	W43716	9745*	9756											
STRP	W43805	9749*	9758*	9759*	9760*	9761*								
STRPAD	W43730	9739	9756*											
STSTM	W41004	233*												
STSTM*	W41102	248*	7885*	7930*	9352	9374*	9375	9380	9384	9410	9445			
STYPBN	***** U	9761												
STYPDS	***** U	9761												
STYPE	W42716	9530*	9623	9749	9757									
STYPEC	W43133	9560	9567	9574	9579*	9580								
STYPER	W42502	9420	9459*											
STYPEX	W43176	9585	9597	9598*										
STYPOC	W43472	9679*	9758											
STYPON	W43506	9678	9681*	9760										
STYPOS	W43446	9674*	9759											
SUNIT	W41336	337*												
SUNIT*	W41210	235*												
SUBWK	W401350	344*												
XTSTK	W41772	9339*												
W4FILL	W43671	9675*	9679*	9689	9724*									
W4WCAT	***** U	9336	9420											
	W46346	194*	198*	208	209*	211*	213*	214*	220	221*	223*	225*	244*	326
		468*	479	494	495	7963	8007	8053	8096	8142	8185	8231	8274	8320
		8363	8410	8466	8527	8583	8644	8688	8734	8777	8812	8845	8882	8915
		8949	8999	9049	9101	9150	9193	9239	9279	9383	9384	9445	9512*	9592
		9644*	9779	9805										
ASTA	***** U	9596	9599											
AX	W41004	220*	225											

[illegible]

[illegible]