

**DataGeneral**

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**TECHNICAL  
STATEMENT**

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TEXT LISTING

068-000323-06

PROGRAM

EXERCISER FOR COMMERCIAL  
ECLIPSE: PART 3

TEXT TAPE

097-000323-06

ABSTRACT

'ECOM3' IS AN EXERCISER PROGRAM DEVELOPED FOR CHECKING OUT THE CENTRAL PROCESSOR INSTRUCTIONS OF COMMERCIAL ECLIPSE AND FOR TESTING ITS RELIABILITY. IT IS DESIGNED TO RUN IN BOTH UNMAPPED AND MAPPED MODE IF THE SYSTEM IS A MAPPED SYSTEM.

0001 .MAIN MACRO REV 06.30 12:54:13 05/17/79  
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: ECOM3 - CONTINUATION OF ECOM2  
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: PART 3 OF EXERCISER FOR COMMERCIAL ECLIPSE  
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: : 0..0 REVISION HISTORY  
: :  
: : REV. 05 WAS CREATED TO  
: : IMPLEMENT THE STANDARDS PROVIDED  
: : BY DLIR.  
: : THIS HAS NOT CHANGED THE PHILOSOPHY  
: : OR TEST PROCEDURES IN THIS PROGRAM.  
: : ALL UNNECESSARY "IDRST" HAVE BEEN  
: : DELETED FROM THIS FILE.  
: :  
: : REV. 06 WAS CREATED TO CORRECT THE MPMPI  
: : WRAP AROUND SIZING PROBLEM (DTR # 249).  
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: NAME: ECOM3.TX PART NUMBER: 097-000323  
: :  
: DESCRIPTION: EXERCISER FOR COMMERCIAL ECLIPSE: PART 3  
: :  
: REVISION HISTORY:  
: REV. DATE  
: 00 08/08/75  
: 01 02/20/76  
: 02 08/06/76  
: 03 12/31/76  
: 04 09/09/77  
: 05 09/15/78  
: 06 11/17/78  
: :  
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0005 .MAIN

0006 .MAIN

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01 14.0 ADDRESS LOCATIONS 200 TO 216 IN PAGE 0 ARE FIXED
02 THE USE OF THESE LOCATIONS ARE AS FOLLOWS:
03
04 LOC 200 IS THE STARTING ADDRESS OF THIS PROGRAM.
05 LOC 201 KEEPS TRACK OF RELOCATED ADDR OF THE TEST
06 CURRENTLY RUNNING AND IS USEFUL FOR DEBUG WHEN
07 LOOPING OCCURS IN THE PROGRAM.
08 LOC 202 CONTAINS THE STARTING ADDR OF THE PROGRAM.
09 LOC 203 SHOWS NUMBER OF PASSES RUN THROUGH THIS
10 PROGRAM.
11 LOC 204 SHOWS INTERNAL PASS COUNT WHICH IS FIXED BY
12 LOCATION 205.
13 LOC 207 IS THE CURRENT PASS COUNT FOR INDIVIDUAL
14 TEST AND SHOWS THE PASSES REMAINING THRU THIS
15 TEST AT A PARTICULAR TIME.
16 LOC 214 IS THE BASE OFFSET USED TO CALCULATE THE
17 CURRENT RELOCATION OF THE PROGRAM.
18 LOC 215 KEEPS TRACK OF THE LISTING ADDR OF THE TEST
19 CURRENTLY RUNNING AND IS USEFUL FOR DEBUG WHEN
20 LOOPING OCCURS IN THE PROGRAM.
21 LOC 216 KEEPS TRACK OF THE CURRENT TEST# (TALLY)
22 RUNNING AND IS USEFUL FOR DEBUG WHEN RUNNING
23 UNDER A NORMAL PROGRAM EXECUTION.
24
25 14.0.1 NOTE:
26 *****
27 LOCATION 216 (TST#N) IS ADVANCED EACH TIME THAT THE
28 "SETUP" MACRO IS EXECUTED FOR STAND ALONE SURTEST
29 EXECUTION. THE SIGNIFICANCE OF THIS ENTRY IS ONLY
30 THAT OF A TALLY OF SURTESTS ENTERED.
31
32
33 14.1 THE FIRST PASS THRU THE PROGRAM WILL RUN VERY FAST
34 (I.E. WITHOUT SUBTEST ITERATIONS). ADDITIONAL PASSES
35 WILL RUN SLOWER AS EACH SURTEST IS RUN ACCORDING TO IT'S
36 ITERATION VALUE SUPPLIED IN IT'S "SETUP" CALL, THIS WILL
37 ALLOW ALL RANDOM NUMBER COMBINATIONS OF ARGUMENTS AND OF
38 BUFFER ADDRESSES TO BE TESTED.
39
40 CAUTION !!! - AT LEAST 2 PASSES OF THE PROGRAM MUST
41 BE RUN WITH "KITTEN" AND "CAT" TO ASSURE THE USER OF
42 THE PROPER FUNCTIONING OF THE ECLIPSE SYSTEM.
43 .EJEC

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SWPDP 4.2

4.2. SWITCH SETTINGS

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: LOCATION "SWREG" IS USED TO SELECT THE PROGRAM OPTIONS
: (NOT SYSTEM CONFIGURATION). WHILE RUNNING UNDER DTOS,
: THIS LOCATION WILL BE LOADED BY THE MONITOR.
: HOWEVER UNDER STAND ALONE AND PROGRAM LOAD MODES THIS
: LOCATION WILL BE SET ACCORDING TO THE ANSWERS SUPPLIED
: BY THE OPERATOR. IN ANY CASE THE OPTIONS CAN BE CHANGED
: OR VERIFIED BY USING ONE OF THE COMMANDS GIVEN IN SEC.
: 4.2.2

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4.2.1 SWITCH OPTIONS

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: DIFFERENT BITS AND THEIR INTERPRETATION AT LOCATION
: "SWREG" IS AS FOLLOWS:

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BIT	OCTAL VALUE	BINARY VALUE	INTERPRETATION
1	40000	1	LOOP ON ERROR SKIP LOOPING ON ERROR
2	20000	1	PRINT TO CONSOLE ABORT PRINT OUT TO CONSOLE
3	10000	1	DO NOT PRINT % FAILURE PRINT % FAILURE
4	04000	1	ALLOW END OF PASS PRINT OUT SUPPRESS END OF PASS PRINT OUT
5	02000	1	DO NOT PRINT ON THE LINE PRINTER PRINT ON THE LINE PRINTER
6	01000	1	DO NOT HALT ON ERROR HALT ON ERROR
7	0	0	DO NOT PRINT SUMMARY AND/OR PASSING OF EACH SURTEST PRINT SUMMARY AND/OR PASSING OF EACH SURTEST
8	00200	1	PRINT ONLY THE FIRST ERROR PRINT EVERY ERROR

4.2.2 SWITCH COMMANDS

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: ONCE THE PROGRAM STARTS EXECUTING THE STATE OF ANY OF
: THE BITS CAN BE CHANGED BY HITTING KEYS 1-5, A-F. THE
: PROGRAM WILL CONTINUE RUNNING AFTER UPDATING THE OPTIONS.
: EACH KEY WILL COMPLEMENT THE STATE OF THE BIT AFFILIAT-
: ED WITH IT, THUS BIT 4 CAN BE ALTERED BY HITTING KEY 4.
: SETTING OF ANY BIT OF LOCATION "SWREG" WILL SET BIT 0.
: (DEFAULT MODE IS DEFINED AS ALL BITS OF SWREG SET TO 0)
: THE PROGRAM CAN BE LOCKED INTO SWITCH MODIFICATION MODE
: BY TYPING A 0, IN WHICH CASE MORE THAN ONE BIT CAN BE
: CHANGED BEFORE CONTROL IS ALLOWED TO RETURN TO THE
: MAIN PROGRAM.

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OTHER COMMANDS

"CR" A "RETURN" CAN BE TYPED TO CONTINUE THE PROGRAM AFTER ITS LOCKED IN A SWITCH MODIFICATION MODE

"D" THIS COMMAND GIVEN AT ANY TIME WILL RESET "SWREG" TO DEFAULT MODE AND RESTART THE PROGRAM.

"R" THIS COMMAND GIVEN AT ANY TIME WILL RESTART THE PROGRAM. SWITCHES ARE LEFT WITH THE VALUES THEY HAD BEFORE THE COMMAND WAS ISSUED.

"O" THIS COMMAND GIVEN AT ANY TIME WILL CAUSE THE PROGRAM CONTROL TO GO TO 001 (NOTE: THIS IS AN OPTIONAL COMMAND AND IS AVAILABLE ONLY IF ODTK IS PRESENT)

"M" THIS COMMAND GIVEN AT ANY TIME WILL PRINT THE CURRENT OPERATING MODES.

BIT BINARY INTERPRETATION

VALUE	VALUE
00010	0
00001	1

DISABLE MPMU/MMPUI MAP DUMP

ENABLE MPMU/MMPUI MAP DUMP

DO NOT ENABLE QUICK VERIFY OPTION

ENABLE QUICK VERIFY (QV) MODE EXECUTION

STARTING ADDRESS = 200 IN STAND ALONE MODE.

IF 'CAT' OR 'KITTEEN' WAS LOADED FROM NTOS AND RSTART WAS NEEDED, THEN USE AS FOLLOWS:

STARTING ADDR = 170 (FOR START WITH NO 'CAT')

STARTING ADDR = 171 (FOR START WITH 'CAT')

MONITOR LOCATION 203 TO CHECK THE CURRENT PASS COUNT.

MONITOR LOCATION X6000 TO MAKE SURE THAT 'CAT' OR 'KITTEEN' IS RUNNING, IN CASES WHERE THE PROGRAM IS STARTED WITH 'CAT' OR 'KITTEEN'. ( X = THE NUMBER OF THE HIGHEST MEMORY MODULE IN THE SYSTEM AND IS 1 THR' 7) MODULO 8.K .

LOCATION X6000 MUST HAVE PATTERN CHANGING FROM ZEROS TO ALL ONES TO INC/SWAP PATTERN.

-EJEC

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OPERATING PROCEDURE/OPERATOR INPUT

LOAD THE PROGRAM VIA THE BINARY LOADER OR INSERT A PRELOADED MEMORY MODULE.

SET SWITCHES TO 200.

PRESS START.

THE PROGRAM WILL RUN UNTIL MANUALLY STOPPED. IN CASE OF MALFUNCTIONING, THE PROGRAM WILL PRINT ERROR MESSAGE AND TAKE APPROPRIATE ACTION AS PER THE SW SETTINGS.

PROGRAM OUTPUT/ERROR DESCRIPTION

FOR ANY ERRORS DETECTED, THE PROGRAM WILL PRINT ERROR REPORT OR % FAILURES DEPENDING UPON THE SW SETTINGS.

FOR ALL ERRORS, APPROPRIATE PROGRAM INFORMATION WILL BE PRINTED WHICH CONSISTS OF TEST# ALL ACCUMULATORS, CARRY, LISTING PC OF FERR, LOGICAL RELOCATED PC OF FRA, PHYSICAL PC (OCTAL) WHERE ERROR OCCURED AND THEN THE PROGRAM WILL GO INTO SCOPE LOOP. % FAILURE RATE MAY BE PRINTED AT THIS TIME BY USING THE PROFFR SWITCHES.

IF THE ERROR IS DETECTED IN MAPPED ENVIRONMENT, ADDITIONAL DATA ABOUT CURRENT MAP WILL BE PRINTED SHOWING THE BEGIN AND END OF THE 32K MODULE THAT LOGICAL 32K IS MAPPED TO. IF THE PROGRAM IS LOADED FROM 'OTOS', IT WILL ALSO PRINT 'OTOSIK' SHOWING THAT 'OTOSIK' IS NOT MAPPED AND MUST BE SKIPPED OVER TO DETERMINE THE PHYSICAL BLOCK OF FAILING ADDR IF IT HAPPENS TO BE ABOVE 'OTOSIK', THE CONTENTS OF THE MPMU/MMPUI MAP WILL BE DUMPED TO THE SELECTED DISPLAY DEVICE IF SWT 'C' IS = 1 AND SWT 'O' IS = 1.

THE PROGRAM WILL LOOP IN THE TEST THAT IS FAILING IF SW#1 IS 0 AND SWT 'IS' OF SWREG = 0. SEE 4.4.1 BELOW !!!

THE PRINTING OF ERROR REPORT CAN BE AROITED BY SETTING SW#2 TO 1 AND/OR SW#5 TO 0.

IF LOOPING OCCURS IN THE PROGRAM, SELECT MONITOR MODE AND CHECK LOCATION 216 TO FIND OUT THE TEST THAT WAS RUNNING BEFORE THE LOOPING OCCURRED.

LOCATION 215 WILL HAVE THE LISTING ADDRESS AND LOCATION 201 WILL HAVE THE RELOCATED ADDRESS OF THE FAILING TEST.

CAUTION

ERRORS AT "XFERR" AND "XFERR#" SIGNIFY THAT AN ERROR WAS DETECTED IN BASIC "RAM" (XFERR) PROGRAM RELOCATION OR "RLM" MAP MODE (XFERR) PROGRAM RELOCATION. IF EITHER OCCUR, IT IS HIGHLY PROBABLE THAT THE PROGRAM SEGMENT THAT WAS TRANSFERED IS NOT CORRECT, AND THE USER SHOULD RUN THE BASIC ECLIPSE DIAGNOSTICS!!!

-EJEC

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:4.4.7 FATAL ERRORS
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: UNPREDICTABLE ERRORS SUCH AS STACK OVER/
: UNDER FLOW, MAPPED PROTECTION FAULTS, ERCC PROTECTION
: FAULTS AND FALSE LOCATION EXECUTION LINKAGE AS WELL AS
: "XFERR" AND "XFERRM" RELOCATION CHECK SUM ERROR AND WORD
: TRANSFER VERIFICATION ERRORS WILL RESULT IN PROGRAM HALT
: EXECUTION WHEN ENCOUNTERED IN DTOS "LOAD MORE". THESE
: ERRORS ARE ALL CONSIDERED UNRECOVERABLE AND THE USER IS
: ADVISED TO RUN THE BASIC ECLIPSE DIAGNOSTICS. IF THESE
: TYPE OF ERRORS ARE ENCOUNTERED DURING NON-LOAD MODE OF
: EXECUTION UNDER THE DTOS MONITOR, THE PROGRAM WILL THEN
: ABORT FURTHER EXECUTION AND DISPLAY THE FOLLOWING
: OUTPUT BELOW:
:
:4.4.8 MONITOR MODE EXECUTION FATAL ERROR DISPLAY
:-----
: (TYPICALLY)
:
: PROGRAM ABORTING
: *LOC: OF LOGICAL PHYSICAL TEST#
: *FATAL PC = 000021 0000021 101
: *ERROR ID = 177777
:
: SEE 4.4.3 BELOW FOR ERROR CODE ID
:
:4.4.9 BYTE FORMAT ERROR DISPLAY
:-----
:
: ERROR DEST SOURCE DEST SOURCE SOURCE BYTE DEST BYTE
: BYTE BYTE COUNT BYTE BYTE WORD RIGHT WORD RIGHT
: FORMAT CODE ADDR ADDR ADDR /LEFT ADDR /LEFT
: (VALUES) (AC0) (AC1) (AC2) (AC3)
: INITIAL: (DLONG) (SLONG) (DEST) (SORS) (SORS/2)BIT<15> (DEST/2)BIT<
: EXPECTED: (ENAZ0) (ENAZ1) (ENAZ2) (ENAZ3) (ENAZ3/2)BIT<15> (ENAZ2/2)BIT<
: SOURCE BYTE
: EXPECTED = @(SORS)
:
: DEST BYTE
: EXPECTED = @(DEST)
:
: CAUTION:
:
: THE (SYMBOLIC) LOCATIONS ABOVE, WHEN USED, ARE VALID
: RELATIVE INFORMATION ON BYTE ERROR PRINTOUT. IN SOME
: CASES, WHERE SUBSTITUTE LOCATIONS ARE USED, THIS
: INFORMATION WILL BE MISLEADING. IN THESE CASES, ONLY
: THE CONTENTS OF THE ACCUMULATORS BEING TESTED IS
: SIGNIFICANT.
:
:4.4.10 WHEN SWITCH 6 OF THE SWITCH REGISTER IS SET =1,

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THE PROGRAM WILL HALT ON ERROR. TO CONTINUE:
1. CLEAR SWITCH 6 VIA THE CONSOLE.
2. HIT CONTINUE ON THE FRONT PANEL.
THE PROGRAM WILL THEN CONTINUE RUNNING WITH THE NEXT
TEST. IT WILL NOT HALT ON ERROR UNLESS SWITCH 6 IS
AGAIN SET VIA THE CONSOLE.

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01      : 4.5  NEW MMPU/MMPUI MAP DUMP UTILITY
02      :
03      : 4.5.1  AUTO MAP DUMP DISPLAY
04      : FOLLOWING ERROR DETECTION OR TRACE REQUEST EXECUTION
05      : I.E. SEE 4.9 BELOW. THE CURRENT CONTENTS OF THE MMPUI/
06      : MMPUI WILL BE DISPLAYED IF EXECUTION IS DURING THE
07      : MAP MODE, AND SWITCH "C" = 1.
08      : ADDITIONAL MAP DUMP DISPLAYS WILL OCCUR ONLY WHEN THE
09      : CONTENTS OF THE MMPU/MMPUI MAP HAVE BEEN MODIFIED.
10      :
11      : 4.5.2  MANUAL MAP DUMP DISPLAY (USER) REQUESTED
12      : IF THE USER SHOULD NEED TO DISPLAY THE CONTENTS OF
13      : THE MMPU/MMPUI, HE MAY DO SO BY HALTING THE PROGRAM
14      : AND START AGAIN AT LOC. 220 (OCTAL). THE PROGRAM HALTS
15      : FOLLOWING THE DISPLAY AWAITING THE USER. IF THE USER
16      : DEPRESSES CONTINUE THE PROGRAM WILL EXECUTE THE MMPUI/
17      : MMPUI MAP DUMP DISPLAY UTILITY AGAIN.
18      : NOTE:
19      : IT IS THE USERS RESPONSIBILITY TO RESTART THE PROG-
20      : RAM FOLLOWING MANUAL MODE MMPU/MMPUI MAP DUMP DISPLAY
21      : EXECUTION REQUESTS.
22      : SWITCH "C" MUST = 1. I.E. BE SET TO ENABLE MAP MMPU/MMPUI
23      : DUMP DISPLAY. ALSO SEE SWT"2" AND SWT"5" CONTROL ABOVE.
24      :
25      : 4.6  PROGRAM DESCRIPTION/THEORY OF OPERATION
26      :
27      : 4.6.1  MOST TESTS ARE MODULAR, SO THE PROGRAM CAN
28      : BE STARTED FROM ANY TEST WITHOUT CAUSING ANY
29      : INITIALIZATION ERRORS. SEE NOTF 4.0.1 ABOVE !!!
30      :
31      : 4.6.2  WHEN THE PROGRAM IS STARTED FROM CONSOLE OR VIA 'DTOS',
32      : IT WILL SCAN THE SYSTEM AND WILL PRINT THE SIZE OF THE
33      : MEMORY. THE 1ST PASS WILL RUN VERY FAST AS EACH TEST
34      : IS RUN ONLY ONCE IN THE FIRST PASS. ALL OTHER PASSES
35      : WILL TAKE MORE TIME AS EACH TEST IS RUN ACCORDING TO THE
36      : TEST ITERATION COUNT SPECIFIED IN EACH SUBTEST.
37      : AFTER THE 1ST PASS, 'ECONI' IS RELOCATED IN AVAILABLE
38      : LOGICAL MEMORY AND THE AREAS BELOW (CALLED 'LRUFF') AND
39      : ABOVE (CALLED 'HBU?F') THE RELOCATED PROGRAM ARE USED
40      : AS SCRATCH BUFFER AREA. 1 RELOCATED CYCLE IS RUN
41      : FOR EACH LOGICAL 32K MODULE.
42      : ON MAPPED ECLIPSE, 2 CYCLES ARE RUN UNMAPPED AS DESCRIBED
43      : ABOVE. THEN THE FIRST 32K ARE MAPPED TO ITSELF AND 2 MORE
44      : CYCLES ARE RUN OUT OF WHICH THE 1ST ONE IS NON-RELOCATED.
45      : THEN THE PROGRAM 1ST 16K IS MOVED TO NEXT 16K AND LOGICAL
46      : 32K ARE MAPPED TO 32K FROM THERE ONWARDS AND 2 CYCLES
47      : ARE RUN. THIS CONTINUES UNTIL THERE IS AT LEAST 32K LEFT
48      : ABOVE THE PROGRAM. THEN THE PROGRAM WILL PRINT 'PASS XX'.
49      : THE ORIGINAL COPY OF THE PROG IS ALWAYS LEFT UNTOUCHED
50      : IN THE 1ST 16K.
51      : WHEN THE PROGRAM IS LOADED FROM 'DTOS', 1K OCCUPIED BY
52      : 'DTOS' MONITOR, CAT OR KITTEN IS ALWAYS LEFT UNTOUCHED.
53      : THE NUMBER OF PASSES EACH TEST IS RUN IN MAPPED MODE
54      : IS ADJUSTED ACCORDING TO THE SIZE OF THE TOTAL MEMORY SO
55      : AS TO EQUALIZE THE RUN TIME FOR DIFFERENT SIZE SYSTEMS
56      :
57      : NOTE: DUE TO THE WAY THE PROGRAM IS RUN (AS DESCRIBED
58      : ABOVE) THE MAXIMUM PROGRAM SIZE ALLOWED IS 15K. THIS
59      : WILL LEAVE ROOM (1K) FOR THE CAT WITHIN THE FIRST
60      : 32K OF THE SYSTEM WHEN THE PROGRAM IS RELOCATED.

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: DIAGNOSTIC SUPPORT FEATURES
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: DIAGNOSTIC SUPPORT FEATURES HAVE BEEN ADDED
: TO ASSIST THE USER IN IDENTIFICATION OF THE IMPACT
: OF PROGRAM RELOCATION OR THE EXECUTION IN MAP MODE.
: THE USER MUST MODIFY THE ASSOCIATED CONTROL ENTRIES
: TO ENABLE THEM, BE ADVISED, THE USER MUST RESTORE
: THE PROGRAM TO THE ORIGINAL STATE AND VERIFY NORMAL
: EXECUTION BEFORE ASSUMING THAT THE SYSTEMS CONFIGURA-
: TION IS FUNCTIONALLY CORRECT".
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: 4.7.1
: PROGRAM RELOCATION CHECKSUM
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:
: PRIOR TO RELOCATION IN NONMAPPED MODE A NEW "COR" CHECK
: WORD IS GENERATED, WHICH IS VERIFIED FOLLOWING THE RAM
: REEXECUTION. IF THE CHECK WORDS DO NOT COMPARE THE
: PROGRAM HALTS. DUE TO THE NATURE OF THE PROGRAM OVERLAP-
: PING ON RELOCATION AND MODIFYING THE SOURCE BUFFER FROM
: WHICH IT HAS TRANSFERRED THIS TYPE OF ERROR IS UNRECOVER-
: ABLE AND THE USER IS ADVISED TO RUN THE BASIC ECLIPSE
: DIAGNOSTICS.
:
: 4.7.2
: PROGRAM RELOCATION VERIFICATION
: -----
:
: DURING MAPPED MODE EXECUTION THE SOURCE BUFFER AREA
: IS VERIFIED WORD FOR WORD (EXCEPT LOC. 0 THRU 17 OCTAL)
: AND IF AN ERROR IS DETECTED THE PROGRAM HALTS. THIS
: IS A FATAL CONDITION IN THAT THE PROGRAM SEGMENT THAT IS
: TO BE EXECUTED NEXT MAY BE IN ERROR.
:
: WITH SLIGHT MODIFICATION (I.E. THE ADDITION OF A HALT) AT
: LOCATION "MAPFLT:" THE USER MAY RESTART THE FAILING
: PROGRAM FOLLOWING A "XFERR:" HALT IN RAM ABOVE AT LOC.
: "RETRY". THE OMISSION OF THE HALT ENTRY WILL RESULT IN
: MAP MODE EXECUTION FOLLOWING THE VERIFICATION AND COULD
: MISLEAD THE USER IF FURTHER ERRORS RESULT.
:
: NOTE:
: ADDRESSES SPECIFIED ABOVE ARE IN RELOCATED MEMORY AREA
: I.E. THE PROGRAM LISTING ADDRESS PLUS THE CONTENTS OF
: "RELOC:" FOR "MAPFLT:" AND "RETRY:"
: ALSO NOTE THAT THE ABOVE PROCEDURE WILL VERIFY THE
: ABILITY OF THE RM TO MOVE THE SOURCE CODE CURRENTLY
: RESIDENT TO THE DESTINATION BUFFER SPECIFIED. IF THE
: ADDRESS RANGE SPECIFIED ALLOWED THE ORIGINAL SOURCE
: BUFFER TO OVERLAY THE DESTINATION BUFFER, THE PROGRAM
: WILL HAVE BEEN WIPED OUT ON THE ORIGINAL TRANSFER.
: CAUTION:
: -----
: ALWAYS RUN THE BASIC ECLIPSE DIAGNOSTICS FOLLOWING
: PROGRAM CHECKSUM OR VERIFICATION ERRORS.
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: 4.7
: INHERIT MAP EXECUTION
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:
: LOCATION "DMAZ?" MAY BE ALTERED TO ANY NON-ZERO ENTRY
: AND THIS WILL INHERIT MAP MODE PROGRAM EXECUTION FOR
: THE PURPOSE OF EVALUATING THE OPERATIONAL CAPABILITY OF
: THE PROGRAM WITHOUT THE MAP (MMPU/MMPUI) ENABLED.
:
: "DMAZ?" IS LOCATION "376" OCTAL AND MUST BE SET IN NON-
: MAP MODE.
:
: CAUTION:
: -----
: IT IS THE USERS RESPONSIBILITY TO RESTORE THE PROGRAM
: TO ITS ORIGINAL STATE AND VERIFY THE PROPER EXECUTION .
:
: 4.7.4
: LOCK ON FIXED RELOCATION BASE ADDRESS
: -----
:
: LOCATION "RLW20:" MAY BE ALTERED TO ANY VALUE IN THE
: RANGE OF GREATER THAN 16K (I.E. 40000 OCTAL) AND 16K LESS
: THAN THE CONTENTS OF "MAXLOC:". THIS WILL FIX THE LOGICAL
: ADDRESS OFFSET USED DURING RELOCATION AND EXECUTION OF
: THE PROGRAM, FOR THE PURPOSE OF EVALUATING THE OPERATION
: CAPABILITY OF THE PROGRAM WITHOUT RANDOM RELOCATION-NOTE
: HOWEVER THAT DURING MAP MODE EXECUTION THAT THE PHYSICAL
: ADDRESSES WILL THEN VARY ACCORDING TO AVAILABLE PHYSICAL
: STORAGE.
: CAUTION:
: -----
: DO NOT SELECT A VALUE THAT WILL OVERLAY THE "CAT"
: "XITTEN" DTOS 1K.
:
: "RLW20" IS LOCATION "377" OCTAL AND MUST BE SET IN NON
: -MAP MODE.
:
: 4.7.5
: FIXED RELOCATION ADDRESS = 0
: -----
:
: LOCATION "RLW70:" MAY BE SET EQUAL TO "100000" OCTAL,
: I.E. BIT <0> = 1. THIS ENABLES RELOCATION XFER EXECUT-
: ION TO TAKE PLACE AS ALWAYS, BUT THE PROGRAM IS ALWAYS
: TRANSFERRED TO LOGICAL LOCATION "0". THIS IS ESPECIALLY
: USEFUL IN SYSTEMS WHERE IN MAPPED MODE THE PROGRAM
: FAILS IN RELOCATION AND A SPECIFIC AREA OF PHYSICAL
: MEMORY IS SUSPECT OF BEING INSTRUCTION EXECUTION OR
: DATA XFER SENSITIVE. IN MAPPED MODE THE BASIC 16K PRO-
: GRAM IS REPOSITIONED UP 16K (PHYSICALLY) AFTER EVERY
: THIRD EXECUTION CYCLE AND EVENTUALLY RESIDES IN THE
: SUSPECTED PHYSICAL AREA WHILE THE PROGRAM CODE BASIC-
: ALLY REFLECTS THE PROGRAM LISTING.
:
: CAUTION
: -----
: IT IS THE USERS RESPONSIBILITY TO RESTORE THE PROGRAM
: TO ITS ORIGINAL STATE AND VERIFY PROPER EXECUTION.
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:4.7.6 INHIBIT ITERATION(S) CONTROL
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:
: WHEN PROGRAM EXECUTION IS STARTED AT LOC. 176 OCTAL THE
: ITERATION CONTROL FLAG IS COMPLETED. I.E. NORMALLY THE
: PROGRAM WILL EXECUTE WITH ITERATIONS FOLLOWING FIRST PASS
: EXECUTION (WITHOUT ERRORS). WHEN STARTED AT LOC. 174
: THE CONTROL ENTRY IS COMPLETED AND THE FIRST TIME THAT
: THE PROGRAM IS STARTED AT THAT LOCATION ITERATIONS WILL BE
: SUPPRESSED IN ANY SUCCESSIVE PASSES AS WELL. NOTE THAT IF
: THE USER WISHES TO RETURN TO THE NORMAL MODE OF OPERATION HE
: JUST STARTS AT LOC. 176 OCTAL AGAIN.
:
:4.7.7 RESTRICTION
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:
: THE PASS COUNT ENTRY IS NOT ADVANCED IF EITHER ITERATIONS,
: MAPPED EXECUTION OR RELOCATION CONTROL ARE INVOKED.
: I.E. END OF PASS WILL BE SIGNIFIED BY THE FOLLOWING OUTPUT:
: PASS = 0
: PASS = 0
: ETC.
: THIS IS TO ASSURE THAT THE USER WILL KNOW THAT NORMAL
: PROGRAM EXECUTION HAS BEEN SUSPENDED.
:
:4.8 NEW FEATURES
:-----
:
:4.8.1 QUICK VERIFY EXECUTION
:-----
:
: FOR LARGE S/230 OR C/230 (256.K MEMORY) SYSTEMS A
: METHOD FOR QUICK VERIFICATION OF SYSTEMS INTEGRITY
: HAS BEEN ADDED. IT'S PRIMARY INTENDED USE IS FOR THE
: REDUCTION OF EXECUTION TIME FOLLOWING CORRECTIVE MAIN-
: TENANCE. IT MAY ALSO BE USED AS A QUICK METHOD OF USER
: VERIFICATION OF SYSTEMS CAPABILITY PRIOR TO LONG TERM
: RELIABILITY TESTING. (I.E. OVER NIGHT RUNALL OR CRUNALL
: EXECUTION UNDER DTOS).
: CAUTION:
:-----
:
: BE SURE TO RETURN THE SWREG SETTING TO NON-
: QUICK VERIFY MODE USING THE DTOS "SWREG" COMMAND.
:
: RESTRICTION
:-----
:
: THIS METHOD OF OPERATION IS "NOT RECOMMENDED"
: FOR FINAL SYSTEMS ACCEPTANCE, OR IN CASES WHERE FAILURES
: OCCUR EITHER RANDOMLY OR INFREQUENTLY.
: JEJC

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0016 .MAIN

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:4.8.2 SELECTION OF GV
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:
: QUICK VERIFICATION MODE OF OPERATION MAY BE SELECTED
: AT ANY TIME SIMPLY BY HITTING KEY "F" ON THE
: ITI DURING PROGRAM EXECUTION.
: IT MAY ALSO BE SELECTED BEFORE LOADING THE PROGRAM WHEN
: RUNNING UNDER DTOS BY FIRST UTILIZING THE SWREG COMMAND
: AND INSERTING "(ICR)". WHEN SELECTED IN THIS MANNER,
: THE GV OPTION IS ENABLED FOR ANY FUTURE DTOS PROGRAMS.
: THEREFORE, IF IT IS NOT DESIRED ON OTHER PROGRAMS,
: THE SWREG MUST BE CLEARED BY USING THE SWREG COMMAND
: AND RESPONDING WITH "0(CR)".
:
:4.8.3 ERROR CODE ID
:-----
:
: A METHOD OF RELATING TO PROBABLE CAUSE OF FAILURES HAS
: BEEN ADDED TO THE ECLIPSE EXERCISER PROGRAMS THAT USE
: THE "REPACK" BASIC ECLIPSE EXERCISER UTILITY PACKAGE.
: TWO VALUES OF ERROR CODE CAN BE GENERATED FOR EACH HARD
: FAILURE, ONCE THEY HAVE BEEN RECORDED THE HISTORY OF ALL
: PAST FAILURES CAN BE REFERENCED TO AFFECT REPAIR.
:
:4.8.4 PROBABLE FAULT ID SELECTION
:-----
:
: WHEN QUICK VERIFY MODE IS EXECUTED ABOVE PROBABLE FAULT
: (ERROR CODE ID) SELECTION IS ENABLED AND A COURSE ID
: VALUE IS GENERATED WHEN AN ERROR IS ENCOUNTERED. IT CAN
: BE IN THE RANGE OF 000 THRU 100 OCTAL.
:
: WHEN DTOS "LOAD" MODE PROGRAM EXECUTION IS EXECUTED AND
: SW "1" IS SELECTED FOR SWITCH REGISTER SELECTION A SECOND OR
: FINE ID VALUE IS GENERATED WHEN ERRORS ARE ENCOUNTERED. IT
: CAN BE IN THE RANGE OF 000000 THRU 177776 OCTAL.
:
: DURING MONITOR MODE EXECUTION UNDER DTOS ANOTHER UNIQUE
: PROBABLE FAULT (ERROR CODE ID) IS GENERATED AND IT'S
: VALUE IS 177777 OCTAL. THIS ENTRY SIGNIFIES THAT A FATAL
: ERROR HAS BEEN ENCOUNTERED DURING PROGRAM EXECUTION.
:
: THE PROBABLE FAULT (ERROR CODE ID) IS APPENDED TO ANY OF
: THE ADDITIONAL ERROR INFORMATION AT COMPLETION OF THE FIRST
: PASS OF PROGRAM EXECUTION, UNDER CONTROL OF THE SWITCH
: REGISTER SELECTION.
: JEJC

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0017 \*MAIN  
0019 \*MAIN  
\*\*00001 TOTAL ERRORS, 00000 PASS 1 ERRORS

01 NEW TRACE CAPABILITY  
02 \*\*\*\*\*  
03  
04 THE USER MAY TRACE PROGRAM EXECUTION OF ANY "SINGL  
05 MEMORY REFERENCE INSTRUCTION" BY REPLACING IT WITH A  
06 TRACE CALL "XOP" INSTRUCTION. I.E. "104030" (OCTAL).  
07 THIS WILL RESULT IN THE FOLLOWING TYPICAL DISPLAY OUTPUT  
08 AT "XOP" TRACE CALL EXECUTION:  
09 TRACE: "N"  
10  
11  
12 \*TEST# CRY AC0 AC1 AC2 AC3 LISTING LOGICAL  
13 \*XXX X XXXXX XXXXX XXXXX XXXXX XXXX  
14  
15 NOTE:  
16 SEE 4.9.2 CAUTION BELOW. ALSO NOTE THAT DISPLAY  
17 TRACE: "N" (WHERE "N") SIGNIFIES THE OCTAL NUMBER OF  
18 CURRENT TRACE "XOP" CALL BEING EXECUTED. THIS VALUE  
19 WILL NORMALLY INCREMENT BY ONE EACH TIME EXCEPT WHEN  
20 "TCM?T" HAS BEEN MODIFIED BY THE USER. SEE 4.9.5 BELOW.  
21 4.5.1 MPMU/MMPUI AUTO MAP DUMP DISPLAY AND 4.4.9 BYTE FORMAT  
22 DISPLAY WILL ACCOMPANY THE REQUESTED TRACE INFORMATION IF  
23 APPLICABLE AT THE TIME OF EXECUTION. THE USER MAY REPLACE  
24 LOCATION "DER?G;" SYMBOLIC WITH THE INSTRUCTION THAT WOULD  
25 HAVE BEEN EXECUTED.  
26  
27 \*4.9.2 CAUTION  
28 \*\*\*\*\*  
29 ADDRESSING MODES THAT REQUIRE RELATIVE MEMORY REFERENCES  
30 BY THE INSTRUCTION REPLACED MUST BE JUDICIOUSLY SELECTED  
31 BY THE USER.  
32  
33 \*4.9.3 ADDITIONAL TRACE CAPABILITY  
34 \*\*\*\*\*  
35 EXTENDED INSTRUCTION EXECUTION  
36 \*\*\*\*\*  
37 THE MORE ADVANCED USER MAY MODIFY LOCATIONS "DER?G;"  
38 THRU "DER?G;+2" TO ALLOW THE EXECUTION OF EXTENDED INST-  
39 Ructions, DURING TRACE EXECUTION. SEE CAUTION 4.9.2  
40 ABOVE.  
41  
42 \*4.9.5 "N"TH OCCURANCE EXECUTION OF TRACE CALLS  
43 \*\*\*\*\*  
44 THE MORE ADVANCED USER MAY MODIFY LOCATION "TCM?T;"  
45 SYMBOLIC, TO ENABLE SELECTIVE "XOP" TRACE CALL ON  
46 THE "N"TH OCCURANCE OF THE "XOP". WHERE "N"TH IS A  
47 POSITIVE OCTAL NUMBER OF "XOP" TRACE INSTRUCTIONS  
48 BETWEEN INFORMATION THAT IS DISPLAYED.  
49 NOTE:  
50 THE FIRST OCCURANCE OF THE "XOP" TRACE CALL WILL ALWAYS  
51 RESULT IN INFORMATION DISPLAY EXECUTION.  
52  
53 \*EOT

0019 -MAIN

ENUNT 000000U 9/33  
E2PKD 001044 MC 4/20  
S2MPD 005717 MC 6/01