

DataGeneral

**TECHNICAL
STATEMENT**

TEXT LISTING

068-000250-02

PROGRAM

ECLIPSE CP DIAGNOSTIC, PART 5

TEXT TAPE

097-000250-02

ABSTRACT

'ECLIPSEE' CP DIAGNOSTIC PROGRAM IS USED TO CHECK OUT THE LOGIC OF OPERATIONS OF TWO WORD EXTENDED INSTRUCTIONS, COMPARE LIMITS INSTRUCTION, MODIFY STACK POINTER INSTRUCTION, HALVE INSTRUCTION, AND DISPATCH INSTRUCTION OF THE ECLIPSE PROCESSOR.

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0001 ECLPSE      MACRO REV 06.50      11:53:06 07/15/74
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          PART NUMBER: 097-000250

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: NAME: ECLIPSEE.TX
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: DESCRIPTION: ECLIPSE CENTRAL PROCESSOR DIAGNOSTIC, PART 5
:
: REVISION HISTORY:
:
: REV.      DATE
:
: 00      12/20/74
: 01      04/11/75
: 02      08/06/76
:
: COPYRIGHT (C) DATA GENERAL CORPORATION, 1974, 1975, 1976
: ALL RIGHTS RESERVED.
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: L11L ECLPSE
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: ECLIPSEE - CONTINUATION OF ECLIPSED
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: PART 5 OF CENTRAL PROCESSOR DIAGNOSTIC FOR
: ECLIPSE.
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CENTRAL PROCESSOR DIAGNOSTIC FOR ECLIPSE: PART 5
PROGRAM NAME
ECLIPSEE
GENERAL DESCRIPTION
'ECLIPSEE', CP DIAGNOSTIC PROGRAM IS USED TO CHECK
OUT THE LOGIC OF OPERATIONS OF TWO WORK EXTENDED
INSTRUCTIONS, COMPARE LIMITS INSTRUCTION, MODIFY
STACK POINTER INSTRUCTION, HALVE INSTRUCTION
AND DISPATCH INSTRUCTION OF THE ECLIPSEE PROCESSOR.
THE INSTRUCTIONS TESTED ARE AS FOLLOWS:
IURI, XURI, ANDI, ADDI, HLV, CLW, MSP, PSHJ, ELEF,
ELDA, ESTA, EISZ, EDZS, EJSR, EJSR AND DSPA
THE OP CODE AND THE DESCRIPTION OF EACH INSTRUCTION
IS GIVEN BEFORE ITS TESTS.
LOCATIONS 200 TO 205 IN PAGE 0 ARE FIXED FOR ECLIPSE
CP TESTS.
LOCATION 203 KEEPS TRACK OF NUMBER OF PASSES RUN
THROUGH ECLIPSEE PROGRAM.
LOCATION 201 KEEPS TRACK OF THE TEST RUNNING AT
PRESENT AND IS USEFUL FOR DEBUG WHEN LOOPING
OCCURS IN THE PROGRAM.
LOCATION 202 CONTAINS THE STARTING ADDRESS OF
ECLIPSEE PROGRAM.
LOCATION 200 IS USED BY DTUS.
LOCATION 204 KEEPS TRACK OF INTERNAL PASS COUNT
WHICH IS FIXED BY LOCATION 205.
FIRST PASS THROUGH ECLIPSEE TEST TAKES 10 SECONDS.
NEXT PASSES THROUGH ECLIPSEE TEST TAKE HALF A MINUTE.
MACHINE REQUIREMENTS
ECLIPSEE PROCESSOR
4K READ-WRITE MEMORY
SWITCH SETTINGS
STAND-ALONE STARTING ADDRESS = 200
MONITOR LOCATION 203 TO CHECK THE CURRENT PASS COUNT.

10004 ECLPSE
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IF PROGRAM WAS LOADED WITH 'CATS', OR 'KITTEENS', AND
A RESTART IS NECESSARY, START AS FOLLOWS:
STARTING ADDRESS 170 (FOR START W/O 'CAT')
STARTING ADDRESS 171 (FOR START WITH 'CAT')
MONITOR LOCATION 200 TO VERIFY 'CAT' OR 'KITTEEN'
OPERATION. NORMALLY THIS LOCATION CONTAINS A PATTERN
CHANGING FROM ZEROS TO ALL ONES TO AN INC/SWAP PATTERN.
X=THE HIGHEST NUMBERED MEMORY MODULE (1<7)
OPERATING PROCEDURE/OPERATOR INPUT
LOAD THE PROGRAM VIA THE BINARY LOADER OR INSERT A
PRELOADED MEMORY MODULE.
SET SWITCHES TO 200.
PUSH START.
THE PROGRAM WILL RUN UNTIL MANUALLY STOPPED OR UNTIL
AN ERROR IS DETECTED.
PROGRAM OUTPUT/ERROR DESCRIPTION
FOR ANY MALFUNCTION DETECTED BY THE TEST, THE PROGRAM
WILL HALT. (PROGRAM COUNTER-1) IS THE ERROR HALT
LOCATION.
REFER TO THE LISTING FOR EXPLANATION OF THE ERROR.
TO LOOP ON ERROR, STORE 'JMP TO BEGINNING OF TEST
THAT FAILED' IN THE ERROR HALT LOCATION AND START
PROGRAM AT THE BEGINNING OF THE TEST.
IF LOOPING OCCURS IN THE PROGRAM, STOP THE COMPUTER
AND CHECK LOCATION 201 TO FIND OUT THE TEST THAT
WAS RUNNING BEFORE THE LOOPING OCCURRED.
PROGRAM DESCRIPTION/THEORY OF OPERATION
EACH TEST IS COMPLETE IN ITSELF, SO THE PROGRAM CAN
BE STARTED FROM ANY TEST WITHOUT CAUSING ANY
INITIALIZATION ERRORS.
ECLIPSEE IS A MICRO-PROGRAMMED COMPUTER.
EACH INSTRUCTION IS ACCOMPLISHED BY SET OF MICRO
CODE WORDS CONTAINED IN (512 X 56) WORDS ROM.
THE TESTS ARE WRITTEN SO AS TO FOLLOW THE MICRO
CODE FLOW FOR THE INSTRUCTION, AND IDENTIFY THE
ERROR CAUSE TO AN UNIQUE MICROCODE WORD AND
TO ITS INDIVIDUAL FIELDS WHENEVER POSSIBLE.
ADDITIONAL DIAGNOSTIC REFERRING TO THE LRU PRINTS
IS ALSO GIVEN.
THE OPERATOR SHOULD HAVE CAPABILITY OF READING
SIMPLE MICROCODES TO USE THIS PROGRAM TO ITS
UTMOST EFFICIENCY.

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RESTRICTIONS/MISC

CERTAIN INSTRUCTIONS LIKE BL*, XCT, BAM, ETC.,
DO ALLOW INTERRUPTS TO OCCUR DURING THEIR
EXECUTION. THIS FEATURE OF THOSE INSTRUCTIONS IS
NOT CHECKED IN THIS TEST.

*EOT

0006 ECLPE

**00000 TOTAL ERRORS, 00000 PASS 1 ERRORS