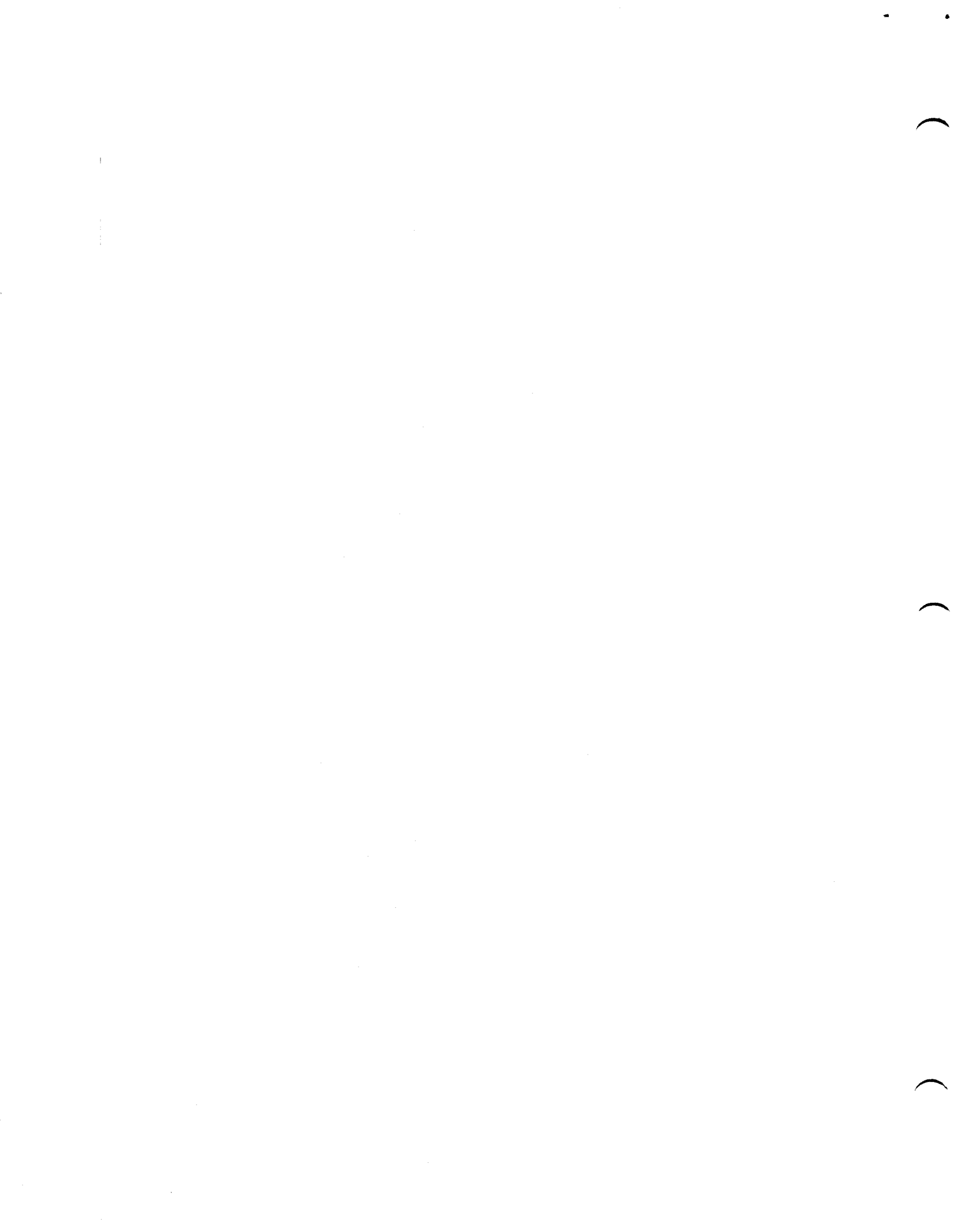


IDENTIFICATION  
-----

PRODUCT CODE: MAINDEC-8E-DØEB-D  
PRODUCT NAME: RANDOM TAD TEST  
DATE CREATED: JUNE 7, 1974  
MAINTAINER: DIAGNOSTIC GROUP  
AUTHOR: MICHAEL DAVIS

COPYRIGHT © 1977  
ORBITAL EQUIPMENT CORPORATION



1. ABSTRACT  
-----

THIS PROGRAM TESTS THE TAD INSTRUCTING OF THE PDP-8E, THE TAD INSTRUCTION, INSTRUCTION ADDRESS, OPERAND ADDRESS AND BOTH OPERANDS ARE PRODUCED BY RANDOM NUMBER GENERATORS.

2. REQUIREMENTS  
-----

2.1 EQUIPMENT  
-----

PDP-8E EQUIPPED WITH AT LEAST 4K OF MEMORY;

TELETYPE.

2.2 STORAGE  
-----

THE PROGRAM IS LOADED INTO LOCATIONS 6600 THRU 7577, THE TEST AREA IS 0000-6577, TEMPORARY STORAGE LOCATIONS ARE LOCATED ON PAGE 0.

2.3 PRELIMINARY PROGRAMS  
-----

MAINDEC=8E-D0AA, D0BA, D0CA, D0DA

3. LOADING PROCEDURE  
-----

THE STANDARD PROCEDURE FOR LOADING BINARY TAPES IS TO BE USED.

4. STARTING PROCEDURE  
-----

4.1 STARTING ADDRESS  
-----

0200

4.2 CONTROL SWITCH SETTINGS  
-----

SR00=1, SUPPRESS HALT ON ERROR  
SR03=1, SUPPRESS END OF PASS TYPEOUT  
SR09=1, HOLD DATA 1 CONSTANT  
SR10=1, HOLD DATA 2 CONSTANT  
SR11=1, HOLD INSTRUCTION CONSTANT

- 4.3 OPERATOR ACTION
- 4.3.1 SET SR TO 0200
- 4.3.2 PRESS LOAD ADDRESS SWITCH
- 4.3.3 SET SR TO 0000
- 4.3.4 PRESS CLEAR AND CONTINUE SWITCHES
- 5. OPERATING PROCEDURE
- 6. ERRORS
- 6.1 ERROR HALT
- 6.2 ERROR RECOVERY

SAME AS 4.

IF THE RESULTS OF THE TAD INSTRUCTION ARE INCORRECT, THAT IS IF THE ACTUAL AND SIMULATED LINKS, OR THE ACTUAL AND SIMULATED SUMS DO NOT AGREE, THE PROGRAM WILL HALT AT 7407 WITH DATA1 IN THE AC.

DEPRESS CONTINUE TO DISPLAY DATA2 IN THE AC,  
 DEPRESS CONTINUE TO DISPLAY TAD INSTRUCTION IN AC,  
 DEPRESS CONTINUE TO DISPLAY INSTRUCTION ADDRESS IN AC,  
 DEPRESS CONTINUE TO DISPLAY DATA2 ADDRESS IN AC,  
 DEPRESS CONTINUE TO DISPLAY INDIRECT POINTER (USED BY INDIRECT TAD) IN AC,  
 DEPRESS CONTINUE TO RESUME TEST

SEE 6.1

6.3

LOOPING  
-----

SET SR00=1 TO PREVENT HALT AFTER ERROR,  
SET SR03=1 TO SUPPRESS END OF PASS TYPEOUT,  
SET SR09-SR11=1 TO HOLD INSTRUCTION AND DATA CONSTANT,

7.

RESTRICTIONS  
-----

NONE

8.

EXECUTION TIME  
-----

THE PROGRAM PERFORMS 4096 RANDOM TESTS IN APPROXIMATELY 5 SECONDS. THE PROGRAM WILL TYPE "T" AFTER EACH 4096 RANDOM TESTS UNLESS SR03=1.

9.

PROGRAM DESCRIPTION  
-----

THE PROGRAM IS LOADED INTO LOCATIONS 6600-7577, WITH TEMPORARY STORAGE LOCATIONS ON PAGE 0;

THE PROGRAM USES SEPARATE RANDOM NUMBER GENERATORS TO GENERATE THE TAD INSTRUCTION, INSTRUCTION AND DATA ADDRESSES, AND THE TWO ARGUMENTS TO BE "TADDED". THE INSTRUCTIONS AND DATA ARE STORED IN THEIR PREVIOUSLY GENERATED ADDRESSES. THE PROGRAM TRANSFERS TO THE LOCATION OF THE INSTRUCTION AND EXECUTES IT. THE PROGRAM THEN TRANSFERS TO A COMPARISON ROUTINE WHERE THE ACTUAL RESULT OF THE TAD INSTRUCTION IS COMPARED TO A SIMULATED TAD. THE SIMULATOR IS SIMILAR TO THE ONE USED IN MAINDEC-8E-D0CA-D. NO TADS ARE USED IN THE PROGRAM ITSELF.

AFTER 4096 TESTS, THE PROGRAM TYPES "T" AND CONTINUES TESTING.