IDENTIFICATION

PRODUCT CODE:	MAINDEC-08-DKVTA-A-D
PRODUCT NAME:	VT78 MOS MEMORY DIAGNOSTIC
DATE: RELEASED:	JUNE 1977
MAINTAINER:	DIAGNOSTIC GROUP
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1. ABSTRACT

THE VT78 MOS MEMORY TEST IS INTENDED FOR USE ON THE VT78 SYSTEM, ALTHOUGH IT WILL RUN ON MOST PDP-8 SYSTEMS. ALTHOUGH DESIGNED TO TEST 16K OF MOS MEMORY, THE PROGRAM WILL TEST SYSTEMS EQUIPPED WITH FROM 4K TO 32K WORDS OF MOS MEMORY BY CHANGING BITS 6-11 OF HCW1 (LOC 21).
AUTOMATIC PROGRAM RELOCATION IS PROVIDED IN ORDER TO TEST ALL MEMORY FIELDS FROM EACH MEMORY FIELD.

SINCE THE VT78 HAS NO HARDWARE SWITCH REGISTER, THE STANDARD CONSOLE PACKAGE HAS BEEN INCLUDED IN THE PROGRAM. THIS PROVIDES AN INTERFACE BETWEEN THE OPERATOR AND THE DIAGNOSTIC VIA THE VT78 VIDEO DISPLAY-KEYBOARD TERMINAL.

THIS DIAGNOSTIC WILL RUN UNDER APT CONTROL.

2. REQUIREMENTS

2.1 EQUIPMENT

A VT78 VIDEO-KEYBOARD TERMINAL

2.2 STORAGE

THE PROGRAM OCCUPIES CORE LOCATIONS 0000 TO 3177, WITH LOCATIONS 5600 TO 7777 USED AS A BUFFER AREA.

2.3 PRELIMINARY PROGRAMS

THE VT78 RESIDENT CONTROL PANEL PROGRAM AND THE VT78 CPU DIAGNOSTIC MUST HAVE BEEN SUCESSFULLY RUN.

3. LOADING PROCEDURE

THE PROGRAM IS NORMALLY LOADED FROM THE FLOPPY DISKETTE WHICH IS PROVIDED WITH THE RELEASE PACKAGE. THE PROGRAM MAY BE LOADED INTO ANY DESIRED CORE STACK BY HAVING BIN IN THAT CORE STACK.

4. ERRORS

THE CONTENTS OF A GIVEN MEMORY TEST LOCATION SHOULD ALWAYS BE EQUAL TO ITS ADDRESS OR THE COMPLEMENT OF ITS ADDRESS. IF IT IS NOT, A TEST ERROR WILL RESULT. A RELOCATION ERROR WILL OCCUR IF THE RELOCATION COMPARISON CHECK FAILS. FOR THE DYNAMIC TESTS THE MESSAGE "A DYNAMIC ERROR HAS OCCURED IN FIELD X" WILL BE DISPLAYED, WHERE X IS THE FIELD UNDER TEST WHEN THE ERROR OCCURED.

NOTE: THE PURPOSE OF THE DYNAMIC TESTS IS JUST TO DETECT DYNAMIC PROBLEMS IN MOS MEMORY. DUE TO THE NATURE OF THESE TESTS, PROGRAM DIAGNOSIS DOWN TO A CHIP LEVEL IS IMPOSSIBLE. THE ONLY INFORMATION WHICH MAY BE OF USE IN DEBUGGING IS LOCATION 100 OF THE FAILING FIELD. IT MAY CONTAIN THE ADDRESS +1 FROM WHICH THE PROGRAM ENTERED THE ERROR ROUTINE.

4.1 MARCH TEST ERROR TYPEOUTS

FOR THE FIRST ERROR ENCOUNTERED A HEADER WILL BE TYPED OUT FOLLOWED BY THE PERTINENT DATA. FOR ALL SUBSEQUENT ERRORS, ONLY THE PERTINENT DATA WILL BE TYPED. THE FORMAT IS AS FOLLOWS:

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PR  LOC  ADDR   GOOD  BAD
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PR LOC = THE PROGRAM ADDRESS WHERE THE ERROR JMS OCCURRED. (INCLUDES FIELD)

ADDR = THE ADDRESS OF THE LOCATION IN ERROR. (INCLUDES FIELD)

GOOD = WHAT THE DATA SHOULD BE.

BAD = WHAT THE DATA IS.

4.2 RELOCATION ERROR TYPEOUTS

ALL RELOCATION ERRORS ARE IN THE FOLLOWING FORMAT:

XXXXX RELOCATION ERROR AT LOCATION YYYYY

XXXXX = THE PROGRAM ADDRESS WHERE THE ERROR JMS OCCURRED. (INCLUDES FIELD)

YYYYY = THE ADDRESS OF THE LOCATION IN ERROR (INCLUDES FIELD)

NOTE: AFTER EACH ERROR PRINT-OUT THE PROGRAM CONTINUES ON WITH THE NEXT SEQUENTIAL MEMORY LOCATION.