

DataGeneral

**TECHNICAL
STATEMENT**

TEXT LISTING

068-000103-02

PROGRAM

BIG MULTIPLEXOR DIAGNOSTIC

TEXT TAPE

097-000103-02

ABSTRACT

BIG MULTIPLEXOR DIAGNOSTIC PERFORMS A GATE BY GATE TEST OF THE TYPE BIG MULTIPLEXOR LOGIC. THE TEST INCLUDES MOST OF THE LOGIC ON THE 15 X 15 INCH MULTIPLEXOR BOARDS BUT DOES NOT INCLUDE BUS DROP UNIT OR LINE DRIVER CARDS.

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MACRO REV 06.30
08:53:51 02/15/79
*****
; NAME: BMD.TX
; PART NUMBER: 097-000103
;
; DESCRIPTION: BIG MULTIPLEXOR DIAGNOSTIC
;
; REVISION HISTORY:
;
; REV. DATE
; 00 06/01/73
; 01 01/24/75
; 02 07/23/76
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; BIG MULTIPLEXER DIAGNOSTIC

;1. ABSTRACT
; MULTIPLEXER DIAGNOSTIC PERFORMS A GATE BY GATE TEST OF
; THE TYPE BIG MULTIPLEXER LOGIC. THE TEST INCLUDES MOST
; OF THE LOGIC ON THE 15X15 INCH MULTIPLEXER BOARDS BUT DOES
; NOT INCLUDE BUS DROP UNIT OR LINE DRIVER CARDS. THE TEST
; MAY BE EXECUTED WITHOUT RECONFIGURATION OF THE SYSTEM
; CABLES. IN MULTIPROCESSOR SYSTEMS IT MAY BE EXECUTED
; WHILE OTHER PROCESSORS ASSUME THE COMMUNICATIONS LOAD.

;2. MACHINE REQUIREMENTS
;2.1 NOVA(EXCEPT MICRO)/ECLIPSE FAMILY PROCESSOR
;2.2 12K READ/WRITE MEMORY
;2.3 CONSOLE TELETYPE
;2.4 COMMUNICATIONS MULTIPLEXER

;3. SWITCH SETTINGS
;3.1 STARTING ADDRESS=200
;3.2 SWITCH 1(1)=REQUEST OPERATOR PARAMETERS
; (UPON STARTING THE PROGRAM)
;3.3 SWITCH 1(1)=PROCEED FROM ERROR
;3.4 SWITCH 2(1)=INHIBIT TTY OUTPUT
;3.5 SWITCH 3(1)=PRINT FAILURE RATE
;3.6 SWITCH 5(1)=OUTPUT TO LPT

;4. OPERATING PROCEDURE

;NOTE: WHEN IT IS DESIRED TO START THE PROGRAM AT A GIVEN
; ADDRESS AND ALSO HAVE A GIVEN CONFIGURATION OF DATA
; SWITCHES SET UPON STARTING,DO THE FOLLOWING:
;
; ENTER STARTING ADDRESS IN DATA SWITCHES,PRESS "EXAMINE",
; RESET ALL DATA SWITCHES EXCEPT THOSE DESIRED TO BE ON,
; PRESS "CONTINUE".

;4.1 LOAD THE PROGRAM VIA THE BINARY LOADER,
; SET SWITCHES TO 200, WITH DTOS(AUTO STARTS AT 200).
; PRESS START;OR LOAD WITH DTOS(AUTO STARTS AT 200).
;4.3.1 THE PROGRAM WILL RESPOND BY REQUESTING THE OPERATOR
; TO TYPE THE DEVICE CODE, A 2 DIGIT OCTAL NUMBER FOLLOWED
; BY A CARRIAGE RETURN IS EXPECTED. THIS NUMBER SHOULD
; CORRESPOND TO THE PRIME DEVICE CODE (USUALLY 347).
; THE OPERATOR WILL TYPE "0" IF NO LINES
; HAVE THE PARITY OPTION. OTHER POSSIBLE
; RESPONSES ARE "256","512","1024".
; THE OPERATOR WILL TYPE A 1 OR 0 TO THE
; MODERN QUESTION.

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:4.3.2 THE PROGRAM WILL REQUEST MULTIPLEXER AND NUMBER OF LINES
: FOR EACH MULTIPLEXER, DEFINITIONS. START BY TYPING, IN
: DECIMAL, THE HIGHEST PRIORITY MULTIPLEXER NUMBER, SLASH
: (/), AND THE NUMBER OF LINES ON THAT MULTIPLEXER. IF THE
: SYSTEM CONTAINS ONLY ONE MULTIPLEXER, TERMINATE INPUT WITH
: A CARRIAGE RETURN. IF OTHER UNITS ARE TO BE TESTED,
: SEPARATE GROUPS VIA A COMMA(,) AND CONTINUE TYPING
: (MULTIPLEXER/LINES) GROUPS IN ORDER OF PRIORITY FROM THIS
: HIGH TO LOW. FOR EXAMPLE: 3/64, 8/32 "CARRIAGE".
: WILL CAUSE THE PROGRAM TO TEST 64 LINES ON MULTIPLEXER
: 3, AND 32 LINES ON MULTIPLEXER EIGHT. A LINE FEED MAY BE
: USED IN PLACE OF A COMMA FOR FORMAT PURPOSES.
:4.4 WHEN OPERATOR INPUT IS COMPLETE, AS SIGNALLED VIA A
: CARRIAGE RETURN, EXECUTION OF THE TEST PROGRAM WILL BEGIN.
: AT THE START OF EACH PROGRAM ITERATION, THE MULTIPLEXER
: WILL BE TYPED. WHEN TESTING UP THAT MULTIPLEXER IS
: COMPLETE, THE NUMBER OF THE NEXT MULTIPLEXER TO BE TESTED
: IS TYPED.

:5. ERROR DESCRIPTION
:5.1 IF A MALFUNCTION IS DETECTED THE PROGRAM WILL HALT AT
: LOCATION "ERR1+1". THE CONTENTS OF AC3 WILL CONTAIN
: THE ADDRESS OF THE FAILING ROUTINE. THE OPERATOR MAY
: EXAMINE OTHER AC'S AND CHANGE SWITCH SETTINGS AT THIS TIME.
: IF SWITCHES 1 AND 2 ARE ZERO, PRESSING CONTINUE WILL CAUSE
: A TTY PRINTOUT OF THE ERROR ADDRESS. THE ROUTINE WILL ENTER
: A LOOP SUITABLE FOR SCOPING.
:5.2 WHEN THE PROGRAM IS IN A SCOPE LOOP SETTING, SWITCH 3(1)
: WILL CAUSE THE FAILURE RATE TO BE PRINTED. SETTING SWITCH
: 1(1) WILL CAUSE THE PROGRAM TO PROCEED TO THE NEXT TEST.

:6. PROGRAM DESCRIPTION
:6.1 THE MULTIPLEXER DIAGNOSTIC IS A GATE BY GATE TEST OF
: MOST OF THE MULTIPLEXER LOGIC. EACH ROUTINE BEGINS WITH
: AN INITIALIZING SUBROUTINE (SETUP) AND ENDS WITH AN
: ITERATION SUBROUTINE (LOOP). BOTH SETUP AND LOOP ISSUE
: AN I/O RESET. IN SOME CASES THIS MAY BE USED TO SYNC
: A SCOPE. IN OTHER CASES, IT MAY BE BEST TO SYNC ON MULTI-
: PLEXER INSTRUCTIONS OR MAINTENANCE BITS.
:6.2 AN I/O RESET PULSE SETS ALL MULTIPLEXERS TO MAINTENANCE
: MODE. A MULTIPLEXER WITH ITS DOWN FLOP SET WILL RESPOND
: TO THE MAINTENANCE INSTRUCTION "DIC-MUX2". BECAUSE THE
: PROGRAM NEVER RESETS MAINTENANCE MODE, THE MULTIPLEXERS MAY
: BE TESTED WHILE STILL CONNECTED TO THE COMMUNICATIONS
: SYSTEM. NATURALLY THIS IS A FUNCTION OF THE TYPE OF MAL-
: FUNCTION PRESENT.

:7. MISC
:7.1 IN THE EVENT OF SUCCESSFUL OPERATION OF THIS TEST, THE
: MULTIPLEXER RELIABILITY TEST SHOULD BE RUN IF
: A PROBLEM STILL EXISTS.
:7.2 DON'T RUN TEST ROUTINES OUT OF SEQUENCE
: AS A TEST MAY REQUIRE SCRATCH
: PAD DATA FROM A PREVIOUS TEST. AFTER A
: POWER DOWN, RESTART THE PROGRAM FROM THE
: BEGINNING.

.EOT

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**00000 TOTAL ERRORS, 00000 PASS 1 ERRORS