IDENTIFICATION

PRODUCT CODE:

MAINDEC-11-DZDVA-B-D

PRODUCT NAME:

BASIC R/W TEST AND ROM INSTRUCTION EXERCISER

DATE RELEASED:

21-APRIL-76

MAINTAINER:

DIAGNOSTICS

AUTHOR:

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1. ABSTRACT

The function of the DV11 diagnostics are to verify that the option operates according to specifications. The diagnostics verfly that there are no malfunctions and the all operations of the DV11 are correct in its environent.

Parameters may be set to alert diagnostics as to the DV11 configuration by using the "TRIAL" program (DZDVE SA:210). All questions should be answered and then each diagnostic will "OVERLAY" these parameters which are stored in the "STATUS TABLE" (see section 8.4a). The alternative to "TRIAL" program is "AUTO SIZING" (see Section 8.5).

DZDVA does R/W tests on both primary registers and all secondary registers. Tests are made to verify that no inter-action between secondary registers of any lines exists. DZDVA also exercises all micro-code instructions and verifies internal registers used by the micro processor. Interupts and NPRS are also tested in this diagnostic. NOTE: FOR EASE OF DIAGNOSIS: ALL (4) LINE CARDS MAY BE PULLED OUT OF THE SYSTEM UNIT AS MAY THE TWO MODEM CONTROL MODULES. ALSO THE DIAGNOSTIC IN NO WAY READS OR USES THE ROMS THAT ARE IN THE DV11.

Currently there are six off line diagnostics that are to be run in sequence to insure that if an error should occur it will be detected at an early stage and insuring that diagnosis of error will be immediate to problem

NOTE: Additional diagnostics may be added in the future.

The six diagnostics are:

- 1. DZDVA [REV] Basis R/W test and ROM instruction exerciser.
 2. DZDVB [REV] Static line card tests.

 - 3. DZDVC [REV] 'FREE RUNNING' Rom tests part 1.
 - 4. DZDVD [REV] 'FREE RUNNING' Rom tests part 2.
 - DZDVE [REV] Modem control and cable tests plus manual parameter input. [TRIAL PROGRAM]
 - 6. DZDVF [REV] Asynchronous Line Card Tests.

2. REQUIREMENTS

2.1 EQUIPMENT

Any PDP11 family CPU (WITH MINIMUM 8K MEMORY) ASR 33 (or equilivalent) DV11-AA MUX CNTRL UNIT AT LEAST ONE OF THE FOLLOWING DV11-BA 8 LINE SYNC MODULES DV11-BB 8 LINE ASYNC MODULES DV11-BC 4 SYNC LINES, 4 ASYNC LINES

2.2 STORAGE

Program Will use all 8K of memory except where ABL and BOOTSTRAP LOADER reside. Location 1500 thru 1736 are especially to be noted and to be untouched by operator after DV11 trial program has been executed; or after the 'AUTO SIZING' has been done.

- 3. LOADING PROCEEDURE
- 3.1 METHOD

All programs are in absolute format and are loaded using the ABSOLUTE LOADER, NOTE: if the diagnostics are on a media such as DISK, MAGTAPE, DECTAPE, or CASSETTE; follow instructions for the monitor which has been provided on that specific media.

ABSOLUTE LOADER starting address *500

MEMORY * SIZE
4k 17
8k 37

8k 37 12k 57

16k 77

20k 117

24k 137

28k 157

- 3.1.1 Place address of ABS loader into switch register.
 (also place "HALT" SW up)
- 3.1.2 Depress 'LOAD ADDRESS' key on console and release,
- 3.1.3 Depress 'START KEY' on console and release (program should now be loading into CPU)

4. STARTING PROCEEDURE

- A. Set switch register to 000200
- B. Depress 'LOAD ADDRESS' key and release
- C. Set SWR to zero for 'AUTO SIZING' or leave

leave SWR bit 7=1 to use existing parameters set up by DV11 trial program or a previously run DV11 diagnostic that used the 'AUTO SIZING', (section 7.2 and 8.4,8.5 may be helpful)

D. Depress 'START KEY' and release the program will type Maindec Name and program name (if this was the first start up of the program) and also the following:

"MAP OF DV11 STATUS" 1500 175000

1502 000300

1504 000226

1506 000062

1510 000226 1512 000062

1512 000062 1514 000226

1516 000062

1520 000226

1522 000062

The above is only an example; This would indicate the status table starting at add. 1500 in the program. THE STATUS TABLE MUST BE VERIFIED BY THE USER IF AUTO SIZING IS DONE, For information of status table see section 8.4 for help.

The program will type 'R' and proceed to run the diagnostic

4.1 CONTROL SWITCH SETTINGS

NOTE: If there is no read SWR(177570); SWR may be modified at Loc 176 or by hitting Control "G" < G> on console terminal.

SW 15 Set: Halt on error

SW 14 Set: Loop on current test

SW 13 Set: Inhibit error print out

SW 12 Set: Inhibit **ALL** type out/bell on error.

SW 11 Set: Inhibit iterations. (quick pass)

SW 10 Set: Escape to next test

SW 09 Set: Loop with current data

SW 08 Set: Catch error and loop on it

SW 07 Set: Use previous status table. CLR-do AUTO SIZE.

SW 06 Set: Reserved

SW 05 Set: Reserved

SW 04 Set: Reserved

SW 03 Set: Reserved

SW 02 Set: Lock on selected test

SW 01 Set: Restart program at selected test

SW 00 Set: Reselect DV11's desired active.

4.1.2 SWITCH REGISTER RESTRICTIONS

SW 00 RESELECT DV11'S DESIRED ACTIVE, please note that a message is typed out for setting the switch register equal to DV11's active, this means if the system has four DV11s; bits 00,01,02,03 will be set in loc 'DVACTV' from the switch register. Using this switch(SW00) alters that location; therefore if four DV11s are in the system ***DO NOT*** set switchs greater than SW 03 in the up position, this would be a fatal error, do not select more active DV11s than has been given information about in trial program.

METHOD: A: Load address 200

B: Start with SW 00=1

C: Program will type message

D: Set the binary number of DV11s desired active EXAMPLE: 1=1
DV11; 3=2 DV11; 7=3 DV11; 17=4 DV11 37=5 DV11 etc. PRESS
CONTINUE.

E: Number (IF VALID) will be in data lights (excluding 11/05)
F: Set with any other switch settings desired. PRESS CONTINUE.

- SW 01 RESTART PROGRAM AT SELECTED TEST it is strongly suggested that at least one pass has been made before trying to select a test that is not in the order of sequence the reason being is that the program has to clear areas and set up parameters. Also when a test is selected ALWAYS START AT THE VERY BEGINNING OF THAT TEST.
- SW 09 LOOP ON CURRENT DATA; this switch will only work if call "SCOPI" is in that test. The reason being that most tests deal with blocks of different data to be sent or received all at once thus in block data; one pattern cann't be singled out.

4.1.3 SWITCH REGISTER PRIORITYS

ERROR SWITCHES

- 1. SW 12 Delete print out/bell on error.
- 2. SW 13 Delete error printout.
- 3. SW 15 Halt on the error.
- 4. SW 08 Goto beginning of the test(on error).
- 5. SW 10 Goto next test(on error).

SCOPE SWITCHES

1. SW 09 (if enabled by "SCOP1") on an error; If an "*" is printed in front of the test no. (ex. *TEST NO. 10) SW09 is incorporated in that test and therefore SW09 is *usually* the best switch for the scope loop (SW14=0, SW10=0, SW09=i, SW08=0). If SW09 is not enabled; and there is a *HARD* error (constant); SW08 is best.

(SW14=1,0, SW10=0, SW09=0, SW08=1), for intermittemt errors; SW14=1 will loop on test reguardless of error or not error.

(SW14=1, SW10=0, SW09=0, SW08=1,0)

- 2. SW 14
- 3. SW 11

4.2 STARTING ADDRESS

starting address is at 000200 there are no other starting addresses for the DV11 diagnostics previously mentioned except for DZDVE which is: 000200 for the modem control and cable tests and 000210 for the manual parameter input program.

NOTE: If address 000042 is non-zero the program assumes it is under ACT11 or XXDP control and will act accordingly after *ALL* available DV11's are tested the program will return to 'XXDP' or 'ACT-11'.

5. OPERATING PROCEDURE

When program is initially started messages as described in section four will be printed.

and program will begin running the diagnostic

5.2 PROGRAM AND/OR OPERATOR ACTION

The typical approach should be

- Halt on error (via SW 15=1) when ever an error occurs,
- 2. Clear SW 15.
- 3. Set SW 14: (loop on this test)
- 4. Set SW 13: (inhibit error print out)

The TEST NUMBER and PC will be typed out and possibily an error message (this depends on the test) to give the operator an idea as to the source of the problem, if it is necessary to know more information concerning the error report; LOOK IN THE LISTING for that TEST NUMBER which was typed out and then NOTE THE PC of the ERROR REPORT this way the EXACT FUNCTIONING of the test CAN BE INTERPEDITED.

6. ERRORS

As described previously there will always be a TEST NUMBER and PC typed out at the time of an error (providing SW 13 ± 0 and SW 12 ± 0), in most cases additional information will be supplied to the the error message which is to give the operator an indication of the error.

6.2 ERROR RECOVERY

If for some reason the DVii should 'HANG THE BUS' (gain control of bus so that console manual functions are inhibited) an init or power down/up is necessary for operator to regain control of cpu. If this should happen; look in location 'TSTNO' (address 1224) for the number of the test that was running at the time of the catastrophic error. In this way the operator will have an idea as to what the DVii was doing at the time of the error.

7. RESTRICTIONS

7.1 STARTING RESTRICTIONS

See section 4. (PLEASE)
Status table should be verified reguardless of how program was started.
Also it is important to use this listing along with the information printed on the TTY to completly isolate problems.

7.2 OPERATING RESTRICTIONS

DV11 trial program must be run prior to the first and only the first running of any DV11 diagnostic if "AUTO SIZING" is not used.

NOTE: If no program other than a DV11 diagnostic was loaded after DV11 trial or if core memory has not been changed; or if there is no DV11 configuration changes; the DV11 trial program need never be run again. However if any of the above have been violated the DV11 trial program must be run again before running the diagnostics NOTE: An alternative to the above is attempting the "AUTO SIZING" when program is initially started with SW07=0.

- 7.3 HARDWARE CONFIGURATION RESTRICTIONS (SYNC LINE CARDS ONLY)
 - 1. Hardware must be set to FULL DUPLEX
 - 2. Parity off.
 - 3. All lines of a particular line card must be configured the same,
- 8. MISCELLANEOUS
- 8.1 EXECUTION TIME

All Dv11 device diagnostics will give an "END PASS" message (providing no errors and sw12=0) within 4 mins. This is assuming SW11=1 (DELETE ITERATIONS) is set to give the fastest possible execution. The actual execution time depends greatly on the PDP11 CPU configuration.

8.2 PASS COMPLETE

NOTE: *EVERY* time the program is started; the tests will run as if SW11 (delete iterations) was up (=1). This is to "VERIFY NO *HARD* ERRORS" as soon as possible. Therefore the first pass =EACH TIME PROGRAM IS STARTED= Will be a "QUICK PASS" untill all DV11"s in system are tested, when the diagnostic has completed a pass the following is an example of the print out to be expected.

END PASS DZDVA-B CSR: 175000 VEC: 300 PASSES: 000001 ERRORS: 000000

NOTE: The numbers for CSR and VEC are not necessarily the values for the device. They are only for this example.

NOTE: DZDVE (MODEM AND CABLE TEST) END PASS message is a large "END"

NOTE: DZDVE (MODEM AND CABLE TEST) END PASS message is a large "END" typed out on tty, please note that each character printed is actually and "END PASS" indication. This was used in place of "BELL" because if swi2=1 and an error occured the BELL may be mistaken for END PASS. The pass execution is so fast that the standard END PASS was too lengthly. THEREFORE each char is an "END PASS and the entire "END" is not required for acceptance.

8.4 KEY LOCATIONS

```
RETURN (1212)
               Contains the address where program will return when
               iteration count is reached or if loop on test is
               asserted.
       (1214)
               Contains the address of the next test to be peformed.
NEXT
TSTNO (1224)
               Contains the number of the test now being peformed.
RUN
      (1302)
               The bit in 'RUN' always points one past the DV11
               currently
                             being
                                      tested.
                                                   EXAMPLE:
                                                                 (RUN)
               1302/0000000001000000 Means that DV11 no.05 is the DV11
               now running.
DVCR00-DVCR17
DVSTØØ-DVST17
(1500) - (1736)
               These locations contain the information needed to test
               up to 8 (decimal) DViis sequentialy, they contain the
               CSR, VECTOR and STATUS concerning the configuration of
               each DV11.
DVACTV (1276)
               Each bit set in this location indicates that the
               associated DV11 will be tested in turn.
                                                             EXAMPLE:
               (DVACTV) 1276/000000000000011111 means that DV11 no.
               00,01,02,03,04 will be tested. EXAMPLE: (DVACTV)
               1276/00000000000010001 Means that DV11 no. 00,04 will be
               tested.
DVSCR (1356)
               Contains the receiver csr of the current DV11 under
               test.
L00.03 (1412)
L04.07 (1414)
LØ8,11 (1416)
L12.15 (1420)
               Contains the status of the current DV11 under test.
       BIT 15 Set:
                       Line card *NOT installed (AND WONT BE TESTED)
       BIT 14 Set:
                       Reserved
       BIT 13 Set:
                       Reserved
       BIT 12 Set:
                       One sync, #0: two syncs.
       BIT 11 Set:
                       Async line card, =0 Sync line card.
       BIT 10 Set:
                       Reserved
       BIT 09
               Seti
                       Bits per char, (used with bit8)
       BIT 08 Set:
                       Bits per char. (used with bit9)
               BIT09 BIT08 BITS PER CHAR.
                 Ø
                        Ø
                 0
                        1
                               7
                        Ø
       BIT 07-00
                       SYNC "A" for specified line card,
                       BITS 07-00 MUST BE ALL ZEROS FOR TESTING OF AN
                       ASYNC LINE CARD.
```

8.4A MORE ON THAT "STATUS TABLE" (1500-1736)

1512

1514

1516

1520

1522

```
'MAP OF DV11 STATUS'
1500
        175000
1502
        000300
1504
        000226
1506
        000062
1510
        000226
1512
        000062
1514
        004000
1516
        000000
1520
        004000
1522
        000000
```

SYNC 'A' AND SYNC'B' MUST BE SET TO ZEROS FOR AN ASYNC LINE CARD. The above information will be repeated for each of up to 8 DV11's in the system(these will follow under this table). EXPLANATION: 1500 175000 This is the system control register for the 1st DV11 in the system. 1502 000300 This is vector 'A' for the first DV11 in the system, 1504 000226 This represents 'SYNC A' and the software status for the ist line card in the ist DV11. The bits are as follows: BIT 15 Set: Line card *NOT installed (AND WONT BE TESTED) BIT 14 Set: Reserved BIT 13 Set: Reserved BIT 12 Set: One sync, #0: two syncs. BIT 11 Set: Async line card, =0 Sync line card. BIT 10 Set: Reserved BIT 09 Set: Bits per char. (used with bit8) BIT 08 Set: Bits per char. (used with bit9) BIT09 BIT08 BITS PER CHAR. Ø 0 1 BIT 07-00 SYNC 'A' for specified line card. 000062 This represents 'SYNC B' for the 1st line card, 1506 1510 000226 This is "SYNC A" and line status for the 2nd line card. (for bits defination see explanation for line card 1),

000062 This is 'SYNC B' for the second line card.

000062 This is 'SYNC B' for line card no. 3.

000062 This is SYNC B for the 4th line card.

The above is repeated for each DV11 in the system. The table is filled by AUTO SIZING or by the manual parameter input program as described previously. Also if desired by user; the locations may be altered by hand (toggled in) to suit the specific configuration.

000226 This is "SYNC A" and line status for the 3rd line card.

000226 This is 'SYNC A' and line status for the 4th line card,

(for bits defination see explanation for line card i).

(for bits defination see explanation for line card 1);

- 8.5 *** METHOD OF AUTO SIZING ***
- 8.5.1 FINDING THE CONTROL STATUS REGISTER.

The program will start at address 175000 and start "REFERENCEING" address. If a NON-EX MEMORY TRAP occures; the pointer (holding 175000) is updated by 10 and the above is repeated untill address 175400 is reached. If a "SLAVE SYNC RESPONSE" was issued by the DV11 (or any other device) (no nxm trap)(and it(SEL0)was=0); pointer plus 12 (SEL12) is tested to contain 177777 (MUST BE EXACTLY 177777); if a trap is encountered or if SEL12 does not contain 177777 the above updating is performed. If SEL12 was equal to 177777 the pointer is stored away and the routine continues as above; NOTE: If the program does not find your DV11; something is wrong and AUTO SIZING should not be done.

8.5.2 FINDING THE VECTOR

The vector area (address 300-776) is filled with the instruction IOT and ".+2" (next address). Bit7 and Bit6 (RX INTERUPT AND RX INTERUPT IE) are set into DVscr register; a delay is made and if no interupt occures (because of a bad DVi1) the program assumes vector address 300 and the problem should be fixed in the diagnostic. Once the problem is fixed; the program should be re-setup again to get correct vector. If an interupt occured; the address to which the DVi1 interupted to is picked up and reported as the vector. NOTE; if the vector reported is not the vector set up by you; there is a problem and AUTO SIZING should not be done.

8.5.3 PARAMETER ASSUMPTIONS.

since too much hardware would need to be turned on to SIZE the rest of the parameters; the program must assume the remaining variations. The result if not to your specific configuration may be altered by hang (toggle in) is desired. In this way 95% of the parameter setup was done by the program and 5% by you.

THEREFORE:

- 1) ALL LINE CARDS(4) ARE ASSUMED TO BE INSTALLED.
- Set Biti5 of status map of any (approiate) line cards missing
- 2) TWO SYNCS.
 - Set Bit12 if you have a 4 line group set for 1 sync.
- 3) EIGHT BITS PER CHAR.
- Adjust bits 9 and bit 8 in status map for your correct config.
- 4) SYNCHRONOUS LINE CARDS INSTALLED.
 - Set BIT11 for Async line and ZERO sync chars.
- 5) SYNC "A"=226 AND SYNC "B"=062

In all adjustments please refer to section 8.4a for greater detail.

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2	MAINDEC-11-DZDVA-B/<377>/BASIC DV11 CONTROLLER MODULES TESTING COPYRIGHT 1972, DIGITAL EQUIPMENT CORP., MAYNARD, MASS. 01754
1119	ROUTINE USED TO "AUTO SIZE" THE DV11 CSR AND VECTOR. NOTE: THE CSR MAY BE ANY WHERE IN THE FLOATING
	ADDRESS RANGE (175000:175400) AND THE VECTOR MAY BE ANY WHERE IN THE FLOATING VECTOR RANGE (300:770)
	FEORITING VECTOR RANGE (SWELFIE)
1211	**************************************
1240	**************************************
	DIFFERENT NUMBER AND VERIFY EACH WAS INDIVIDUALLY ADDRESSED.
1309	**************************************
4338	CLEAR BIT2, VERIFY BIT2 WAS CLEARED.
1335	**************************************
1361	**************************************
1387	**************************************
1413	**************************************
1439	TEST THAT BIT 7(RECEIVER INTERUPT) CANNOT BE WRITTEN WHEN BIT 9 (SYSTEM MAINTAINCE) IS NOT SET.
	THEN VERIFY THAT BIT 7 CAN BE WRITTEN WHEN BIT 9 IS SET.

1472	**************************************	
	SYSTEM CONTROL REGISTER READ/WRITE TEST. SET BIT8, VERIFY BIT8 WAS SET.	
	CLEAR BITS, VERIFY BITS WAS CLEARED.	
1498	**************************************	
	SET BIT9, VERIFY BIT9 WAS SET. CLEAR BIT9, VERIFY BIT9 WAS CLEARED.	
1524	**************************************	
	SYSTEM CONTROL REGISTER READ/WRITE TEST.	
	SET BIT10, VERIFY BIT10 WAS SET.	
	CLEAR BIT10, VERIFY BIT10 WAS CLEARED.	
1550	**************************************	
	SYSTEM CONTROL REGISTER READ/WRITE TEST.	
	SET BIT12, VERIFY BIT12 WAS SET.	
	CLEAR BIT12, VERIFY BIT12 WAS CLEARED.	
1576	**************************************	
	SYSTEM CONTROL REGISTER READ/WRITE TEST.	
	SET BIT13, VERIFY BIT13 WAS SET.	
	CLEAR BIT13, VERIFY BIT13 WAS CLEARED.	
1602	***********************************	
1603	SYSTEM CONTROL REGISTER READ/WRITE TEST.	
	SET BIT3+BIT0, VERIFY BIT3+BIT0 WAS SET.	
	CLEAR BIT3+BIT0, VERIFY BIT3+BIT0 WAS CLEARED.	
1628	********************* TEST 17 *****************	
	TEST THAT BIT 15(NPR STATUS OVERFLOW INTERUPT)	
	CANNOT BE WRITTEN WHEN BIT 9 (SYSTEM MAINTAINCE)	
	IS NOT SET,	
	THEN VERIFY THAT BIT 15 CAN BE WRITTEN WHEN	
	BIT 9 IS SET,	
1660	************************* TEST 20 **************	
	TEST THAT BITS IN DVSCR CLEARS	
	BIT7 OF DVSCR,	
1682	*************************************	
1002	RECEIVER INTERUPT CHARACTER REGISTER TEST	
	TEST THAT RECEIVER INTERUPT CHARACTER REGISTER CANNOT BE WRITTE	N
	WRITE RECEIVER INTERUPT CHARACTER REGISTER WITH ALL 1'S	
	AND VERIFY THAT ALL O'S ARE READ BACK,	
1704	**************************************	
	LINE CONTROL REGISTER READ/WRITE TEST.	
	SET BIT9, VERIFY BIT9 WAS SET.	
	CLEAR BIT9, VERIFY BIT9 WAS CLEARED.	

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197	6	*	*	* #	* 1	* *	**	++	**	# 4	+#	**	#4	*	**	. 1	ľE	ST		34	4	**	*	# 1	* 4	**	普鲁	*	**	**	*	**	**	**	**	사 뜻 삼
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2002	**************************************	*
2028	**************************************	*
2054	*********************** TEST 37 ***********************************	*
2080	**************************************	*
2117	**************************************	*
2155 2157	NPR STATUS REG. TEST TEST THAT NPR STATUS REG. CANNOT BE WRITTEN READ THE NPR STATUS REG. AND STORE THE DATA;	*
2181	COMPLEMENT THE DATA AND WRITE THE NPR STATUS REG. VERIFING THAT THE NPR STATUS REG. DID NOT CHANGE. ***********************************	*
2207	SET BITO, VERIFY BITO WAS SET. CLEAR BITO, VERIFY BITO WAS CLEARED. ***********************************	*
2233	CLEAR BIT1, VERIFY BIT1 WAS CLEARED. ***********************************	**
2259	CLEAR BIT2, VERIFY BIT2 WAS CLEARED. ***********************************	*
	CLEAR BIT3, VERIFY BIT3 WAS CLEARED.	

- PART 2
 FILL ALL RAMS WITH ALL 1'S AND THEN
 CLEAR JUST ONE BIT AT A TIME VERIFYING
 THAT ONLY THAT ONE BIT IS CLEAR AND THAT
 ALL OTHER RAMS STILL CONTAIN ALL 1'S.
 THERE SHOULD BE ONLY ONE BIT CLEARED AT
 ONE TIME.

```
2647
      MEMORY EXTENSION READ/WRITE TEST
      VERIFY BITS 4 AND 5 OF EACH LINE
      SECONDARY REGISTERS EXERCISED ARE:
            TX BUS ADDRESS (PRIMARY)
             TX BUS ADDRESS (SECONDARY)
       04
             RX BUS ADDRESS
       10
            TX TABLE BASE ADDRESS
             RX TABLE BASE ADDRESS
       11
      NOTE THAT ALL LINES (00-16) ARE EXERCISED.
2705
      ********************** TEST 60 *********************
      INITIALIZATION TESTS
      SET ALL POSSIBLE BITS IN ALL THE PRIMARY REGISTERS
      AND VERIFY THAT ALL THE BITS ARE CLEARED
      BY A BUS RESET
2771
      ***********************
      INITIALIZATION TESTS
      SET ALL POSSIBLE BITS IN ALL THE PRIMARY REGISTERS
      AND VERIFY THAT ALL THE BITS ARE CLEARED
      BY A MASTER CLEAR
2836
      ******************** TEST 62 ***************
      ATTACK OF THE SPECIAL FUNCTIONS REGISTER.
      BEGIN CHECK OF THE DVSFR.
      SUMARY OF PROC. INSTRUCTIONS
      BIT14 BIT13 BIT12 INSTRUCTION
       Ø
            0 0
                     BRANCH "A"
                 1 ALU OPERATION
        Ø
            1
                 Ø
                      RAM OPERATION
                1 DATA TRANSFER
        Ø
            1
            Ø
               Ø NPR OPERATION
                      SET/CLEAR OPERATION
               0
           1
                      BCC CALCULATION
                      BRANCH "B"
2853
      VERIFY THAT "ROM STEP"
      IS SELF-CLEARING AND THAT
      THE DATA IN THE DVSFR
      IS CHANGED WHEN THE ROM IS STEPPED.
2882
      ********************** TEST 63 **************
      BASIC TEST OF DVSFR
      TEST THAT "BRANCH A" INSTRUCTION.
      POINTS TESTED:
      BIT11 BIT10 BIT09 BIT08 BR "A" BR "B" FUNCTION
                                L H PLUS 3 VOLTS
        Ø
             Ø
                   Ø 1
        0
                                LeH HeH DVSCR08 (=0.=1)
                         1
                                H
                                       H NPR SILO NOT AVAIL.
```

```
H SILO FULL
                             Н
                                          NXM
2960
      ********************** TEST 64 ****************
      TEST OF BRANCH B"
      TEST THAT POINT 16 (GROUND)
      MAKES LCR BIT1=1 AND BIT0=1.
2982
      TEST OF BRANCH B
      CHECKING "DEFAULT" STATES OF THE DV11 SIGNALS.
      BIT11 BIT10 BIT09 BIT08 FUNCTION
       1
             Ø
                   Ø
                          0
                              DATA NOT AVAIL.
       1
             0
                   Ø
                          1
                              REQUEST BUS
       1
             Ø
                          0
                              MEMORY PARITY ERROR
                   1
                         1
                              WRITE INHIBIT
3040
      BASIC TEST OF THE
      "SET/CLEAR INSTRUCTION.
      TEST THAT THE SET/CLEAR CAN DO:
      CLEAR DVSCR 08
      SET DVSCR10
      SET RECEIVER INTERUPT (DVSCRØ7)
3091
      ***********************************
      BASIC TEST OF THE
      "SET/CLEAR INSTRUCTION.
      TEST THAT THE SET/CLEAR CAN:
      BIT 14 BIT12 BITØ3 BITØ2 BITØ1 BITØØ FUNCTION
             1 1 0 0 0 SET RICR 15
      - 1
       1
                                       SET RICR 14
                                   1
                                       SET RICR 13
       1
                                   Ø
                                       SET RICR 12
3160
      BASIC TEST OF DVSFR.
3162
      TEST OF "SET/CLEAR" AND
      "BRANCH A" AND "BRANCH B" FUNCTIONS.
3175
      TEST SET/CLEAR FUNCTION
      FOR ALU BIT02
3187
      TEST SET/CLEAR FUNCTION
      FOR RAM OUTPUT BITOO
```

3200	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BITØ1
3213	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BITØ2
3226	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BIT03
3239	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BITØ4
3252	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BITØ5
3265	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BITØ6
3278	TEST SET/CLEAR FUNCTION FOR RAM OUTPUT BIT07
3304	**************************************
	TEST THE FILLING THE SILO PRODUCES "SILO FULL"
	ON EXACTLY THE 128 LOAD. SET/CLEAR IS USED TO TEST SILO.
	SET/CLEAR "SILO IN" AND SET/CLEAR "SILO OUT" ARE EXERCISED TOO.
3362	**************************************
	TEST THAT AFTER AN INIT
	THAT "RECV CHARACTER WAITING" IS FALSE (HIGH) AND THEN VERIFY
	THAT WHEN "SILO IN" IS ASSERTED THAT
	THAT "RCVED CHARACTER WAITING" IS TRUE (LOW)
	AND MAKES "BRANCH A" TRUE.
3401	TEST THAT SETTING DVSCR07
	INHIBITS RCV CHAR WAITING FROM APPEARING TRUE: AND THAT CLEARING
	DVSCRØ7 MAKES IT APPEAR TRUE AGAIN.
3404	MEGAR AN
3421	**************************************
	BITS 07,06,05,04 OF DVSFR INDICATE THE SOURCE
	BITS 03,02,01,00 OF DVSFR INDICATE THE DESTINATION.
3436	TEST TO XFR SOURCE REGISTERS TO THE DVRIC
	REGISTER VERIFYING THAT THE FOLLOWING REGISTERS
	ARE CLEARED AND THAT THE XFR BUS IS CLEAR AFTER
	A MSTCLR. REGISTER FUNCTION
	0000 GROUND

```
3442
        0001
                       GROUND
         0010
                       GROUND
        0011
                       GROUND
         0100
                       GROUND
         0101
                       MASTER SCAN 0-3/0-3
         0110
                       ALU RESULT 8-11/0-3
        0111
                       ALU RESULT 5-7/0-2
        1000
                       LOW BYTE=B REG 8-15 ; HIGH BYTE=GRND
        1001
                       LO BYTE=NPR OUT ; HI BYTE=CDC REG
        1010
                       RAM OUTPUT 0-2/8-10
        1011
                       RAM OUTPUT
        1101
                       NPR INPUT REGISTER
        1110
                       BCC REGISTER
        1111
                       ALU RESULT REGISTER
3474
        TEST OF SET RAM OUTPUT BITO
        AND THE USE OF THE DATA XFER INSTR.
       PLACE RAM BITØ INTO THE DVRIC REG
3484
       TEST TO SET RAM OUTPUT DATA BIT3
        AND THE USE OF THE "DATA TRANSFER" INSTRUCTION
       TO PLACE BITS INTO THE DVRIC REGISTER.
3495
        TEST TO SET RAM OUTPUT DATA BIT4
       AND THE USE OF THE "DATA TRANSFER" INSTRUCTION
       TO PLACE BIT4 INTO THE DVRIC REGISTER.
3506
        TEST TO SET RAM OUTPUT DATA BIT7
       AND THE USE OF THE "DATA TRANSFER" INSTRUCTION
       TO PLACE BIT7 INTO THE DVRIC REGISTER.
3539
       *********************** TEST 74 ****************
       BASIC TEST OF THE "ALU OPERATION" INSTRUCTION.
       FIRST PART: ISSUE AN INIT AND MOVE
        THE ALU RESULT REGISTER TO THE DYRIC
       REGISTER VERIFING THAT IT IS ZERO.
        SECOND PART: DO A FUNCTION "F=A"
       THEN MOV "F" TO THE DVRIC REGISTER VERIFING IT TO
       BE ZERO
       THIRD PART: DO A FUNCTION "FRA+B"; MOVING
        "F" TO DVRIC AND MAKING SURE IT IS ZERO.
       THUS THE FOLLOWING HAS BEEN TESTED:
       ALU RESULT, "A" REG, AND "B" REG ALL ZEROED ON INIT.
3583
        TEST OF ALU OPERATIONS.
```

TEST OF ALL ALU OPERATIONS USED BY DV11.
FUNCTIONS TESTED: (NOTE THAT "F" IS ALU RESULT)

1

1

BIT12 BIT05 BIT04 BIT03 BIT02 BIT01 BIT00 FUNCTION

1

Ø

Ø

1

Ø

F=-1

F=0

FEA

FEB

DVSFR BITS:

1

1

1

1

Ø

0

1

0

1

								DECDOC	AFF	, שש
	1 1 1 0	1	1 0	1 1	1 1	1 0	F=A+1 F=A+B			
3601	FUNCTION TE F=-1, RIC_F	STED								
3618	TEST THAT I				ALL 1	's)				
3628	NEXT SET OF F=0,RIC_F	FUNCT	IONS:							
3642	NEXT SET OF F=A+1, RIC_F									
3676	NEXT SET OF F=A+1, A_F, E			. F						
3707	NEXT SET OF		IONS:							
3729	NEXT SET OF CATCH "SET/ F=-1,S/C[AI	CLEAR"	THAT V	Was Mi	SSED.					
3748	NEXT SET OF CATCH ANOTH F=-1,S/C(AL	ER "SE	T/CLEAR			MISSEI)			
3770	**************************************	NER TES T THAT BY INIT	ST. THE MA T. HAT THI	ASTER E MAST	SCANNE ER SCA	R NNER		经验检验	申替货贷款	***
3810	***	****	****	TEST	77 ***	****	****	***	***	**

BASIC TESTS OF THE "RAM OPERATION" INSTRUCTION, VERIFY THE READ PORTION OF THE RAM OPERATION, LOAD ALL SECONDARY REGISTERS OF ALL LINES

WITH DIFFERENT NUMBERS AND VERIFY THAT THE RAM OPERATION CAN READ THE CORRECT SEC. REG. INTO THE DVRIC REG.

```
3870
       TEST OF BRANCH A TEST POINTS
       THAT WERE PREVIOUSLY SKIPPED BECAUSE
       FUNCTIONS:
       BIT11 BIT10
                     BITØ9
                            BITØ8
                                   FUNCTION
        Ø
                0
                       0
                              0
                                   ALU 15=1,0
                Ø
                       Ø
                              Ø
                                   ALU 13- =1,0
        1
                Ø
                       Ø
                                        -12=1.0
                0
        1
                       1
                              Ø
                                   ALU 00=1,0
        1
                Ø
                                   ALU 01=1.0
                1
        1
                                   ALU 02=1,0
        1
                       Ø
                                   ALU 03=1.0
        1
                                   ALU 04=1.0
3891
       BRANCH "A" TEST OF ALU 15
3919
       BRANCH "A" TEST OF ALU 13-
3947
       BRANCH "A" TEST OF ALU -12
3975
       BRANCH "A" TEST OF ALU 00
4003
       BRANCH "A" TEST OF ALU Ø1
4031
       BRANCH "A" TEST OF ALU 02
4059
       BRANCH "A" TEST OF ALU 03
4087
       BRANCH "A" TEST OF ALU 04
4118
       ************************
       TEST OF BRANCH "B" "RAM OUTPUT 0-14=0".
       TEST TO A RAM READ AND "FLOAT" A "1" FROM
       RAM Ø TO 14 ; EXPECTING "RAM Ø14=0" TO BE FALSE.
       THEN THE "1" IS SHIFTED INTO BIT15 AND
       "RAM 0-14=0" SHOULD BE FALSE.
       THIS ALSO TEST "BRB" [RAM OUTPUT BIT15] TRUE.
4169
       **********************************
4170
       TEST OF THE RAM WRITE OPERATION.
       WRITE ALL SECONDARY REGISTERS FOR ALL LINES
       WITH DIFFERENT DATA BY USING THE ROM
```

AND VERIFY THE DATA BY THE UNIBUS.

```
4272
     ************************
     BASIC TEST FOR THE "BCC OPERATION"
     POLYNOMIAL SELECTION TABLE:
     RAM OUTPUT BITØ4 BITØ3 POLY
                0 0
                            LRC 8
                Ø
                   1
                            CRC 16
               1
                  1
                            CRC CCITT
4281
     4282
     TEST OF LRC 8.
     PATTERNS ARE:
     A REG B REG BCC (EXPECTED)
          0°S 0°S
       0 ° S
          1'5 1'5
       1'5
          Ø'S 1'S
       1 " S
           1'S 0'S
     4353
     TEST OF POLYNOMIAL "CRC 16"
     TEST THAT BITS 9-13 OF THE "B" REG APPEAR
     IN BITS 1-5 OF THE BCC REG.
     4401
     TEST OF THE BCC OPERATION USING
     USING CRC16 FOR THE POLYNOMIAL
     SPECIFIC DATA PATTERNS ARE USED TO
     ISOLATE FAULTS AS SOON AS POSSIBLE
4683
     TEST TO RUN A BINARY COUNT (000-377) PATTERN
     THROUGH THE BCC GENERATION LOGIC.
     THE POLYNOMIAL USED WILL BE LRC8 .
     THE BCC REGISTER WILL BE BUILT UP AFTER
     EACH CHARACTER -*NOT ZEROED OUT *-
4728
     TEST TO RUN A BINARY COUNT (000-377) PATTERN
4730
     THROUGH THE BCC GENERATION LOGIC.
     THE POLYNOMIAL USED WILL BE CRC16 .
     THE BCC REGISTER WILL BE BUILT UP AFTER
     EACH CHARACTER - #NOT ZEROED OUT *=
4773
     TEST TO RUN A BINARY COUNT (000-377)PATTERN
     THROUGH THE BCC GENERATION LOGIC.
     THE POLYNOMIAL USED WILL BE CRC.CCITT .
     THE BCC REGISTER WILL BE BUILT UP AFTER
     EACH CHARACTER -*NOT ZEROED OUT *-
```

4818	TEST THAT SETTING BIT9 BIT7 AND BIT9 BIT6	****
	RECV IE AND RECV INTR PRODUCE AN INTERUPT ON VECTOR "A"	
4858	**************************************	****
	TEST THAT SETTING BIT12 AND BIT10	
	STORE IE AND NPR STAT OVFLOW PRODUCE AN INTERUPT ON VECTOR	"8"
4898	****************** TEST 113 ****************	****
	TEST THAT SETTING BIT15 BIT9 AND BIT13 BIT9	
	NPR STAT INTR AND NPR STAT IE PRODUCE AN INTERUPT ON VECTO	R "B"
4939	********************* TEST 114 *****************	****
	TEST TO VERIFY THAT VECTOR "A"	
	OCCURES BEFOR VECTOR "B" EVEN	
	WHEN VECTOR "B" IS ENABLED BEFORE	
	VECTOR "A",	
4980	******************** TEST 115 *************	****
	PRIORITY INTERUPT TESTS.	
	SET PS TO PRIORITY 7 AND VERIFY	
	THAT THE DV11 DOESN'T INTERUPT.	
5005	********************* TEST 116 *****************	****
	PRIORITY INTERUPT TESTS.	
	SET PS TO PRIORITY 6 AND VERIFY	
	THAT THE DV11 DOESN'T INTERUPT.	
5030	*********************** TEST 117 *****************	****
	PRIORITY INTERUPT TESTS.	
	SET PS TO PRIORITY 5 AND VERIFY	
	THAT THE DV11 DOESN'T INTERUPT,	
5055	********************** TEST 120 ***************	****
	PRIORITY INTERUPT TESTS.	
	SET PS TO PRIORITY 4 AND VERIFY	
	THAT THE DV11 DOES INTERUPT.	
5081	*********************** TEST 121 **************	****
	TEST THAT BIT15(NPR STATUS INTR) WILL	
	SET WHEN AN ENTRY IS MADE INTO THE	
	NPR STATUS REGISTER.	
	ALSO VERIFY THAT READING THE DVNSR CLEARS DVSCR BIT15.	
5113	********************** TEST 122 ***********	***
	TEST TO WRITE PATTERNS THROUGH	
	THE NPR STATUS REGISTER.	
	BITS WRITTEN: 11,10,09,08,03,02,01,00	
	(WHEN BIT 15 OF DVSCR IS SET SO SHOULD BIT 15 OF DVNSR)	

- 5159 #****** FIRST PLANNED ATTEMPT *******

 TO EXECUTE NPR, ********

- VIA THE NPR LOGIC.

 LOACATION "NPRLOC" WILL HAVE A BINARY COUNT PATTERN
 PLACED INTO IT AND READ INTO THE DV11 AND XFERED
 INTO THE DVRIC REGISTER.
 NOTE: THIS TEST USES AN ODD ADDRESS FOR THE NPR OPERATION.

PAGE: 0028

```
;STARTING PROCEDURE
;LOAD PROGRAM
;LOAD ADDRESS 000200
;PRESS START
;PROGRAM WILL TYPE "MAINDEC-11-DZDVA-B/<377>/BASIC DV11 CONTROLLER MODULES TESTI
;PROGRAM WILL TYPE "R" TO INDICATE THAT TESTING HAS STARTED
;AT THE END OF A PASS, PROGRAM WILL TYPE PASS COMPLETE MESSAGE
;AND THEN RESUME TESTING
10
11
12
13
14
15
16
17
18
19
20
21
22
                                                                                              SWITCH REGISTER OPTIONS
                                                                                                                                                            ;=1,HALT ON ERROR
;=1,LOOP ON CURRENT TEST
;=1,LINHBIT ERROR TYPEOUT
;=1,DELETE TYPEOUT/BELL ON ERROR,
;=1,INHIBIT ITERATIONS
                               100000
                                                                                              SW15=100000
                               040000
020000
010000
004000
                                                                                              SW14=49000
SW13=20000
SW12=10000
SW11=4000
23
24
25
26
27
28
29
30
31
32
33
34
35
                                                                                              SW11=4000
SW10=2000
SW09=1000
SW08=400
SW07=200
SW06=100
SW05=40
SW04=20
                                                                                                                                                             j=1, INDIBIT TERRATIONS
j=1,ESCAPE TO NEXT TEST ON ERROR
j=1,LOOP WITH CURRENT DATA
j=1,LOOP ON ERROR
j=1, DO "AUTO SIZING" ON INITAL START UP.
                                002000
001000
                                000400
                                999299
999199
999949
                                000020
                                000010
000004
                                                                                              SW03=10
SW02=4
                                                                                                                                                            ;LOCK ON TEST SELECT
;RESTART PROGRAM AT SELECTED TEST
;RESELECT DV11 DESIRED ACTIVE
;NOTE: THIS MUST NOT EXCEED ORIGINAL COUNT
                                                                                              SW01=2
                                000002
                                000001
                                                                                              SW00=1
```

```
DZDVA-B MACY11 27(732)
DZDVAB,P11 GENERA
                                           7(732) 18-MAR-76 15:06 PAGE 3
General Definations and Equivalencies
           36
37
38
39
41
42
43
44
45
44
45
55
55
55
55
55
55
55
                                                                                                             REGISTER DEFINITIONS
                                                                                                                                                       ; GENERAL REGISTER
; FROCESSOR STACK POINTER
; PROCESSOR STACK POINTER
                                           999999
999991
                                                                                                            R1=81
R2=82
R3=83
R4=84
R5=85
                                           000002
000003
                                            000004
                                            000005
                                           000006
000007
                                                                                                             ,LOCATION EQUIVALENCIES
                                           177776
                                                                                                            PS=177776
STACK=1200
                                                                                                                                                        PROCESSOR STATUS WORD
                                           100000
                                                                                                             BIT15#100000
                                           949999
929999
919999
                                                                                                            BIT13=20000
BIT13=20000
BIT12=10000
                                           004000
002000
001000
000400
                                                                                                            BIT11=4000
BIT10=2000
BIT9=1000
           601663665667890177777777890
                                                                                                            BIT9#1000
BIT8#400
BIT6#100
BIT5#40
BIT4#20
BIT3#10
BIT2#4
BIT1#2
                                           000200
000100
000040
                                           000020
000010
000004
                                           000002
                                            000001
                                                                                                            ALUBBIT12
RAMBBIT13
XFRBBIT13+BIT12
NPRBBIT14
SCBBIT14+BIT12
BCCBBIT14+BIT13
BRBBBIT14+BIT13+BIT12
                                           010000
                                           020000
030000
040000
050000
                                           969999
979999
```

81 82

(

```
83
84
                                                                                        | TRAPCATCAER FOR ILLEGAL INTERRUPTS
| THE STANDARD "TRAP CATCHER" IS PLACED
| BETWEEN ADDRESS 0 TO ADDRESS 776.
| IT LOOKS LIKE "PC+2 HALT".
         85
86
87
        88
90
91
92
93
94
95
96
97
                                   000000
                                                                                         .=0
                                                                                                           STANDARD INTERRUPT VECTORS
                                   000024
                                                                                         .=24
                                                                                                                                                               ; POWER FAIL HANDLER
; SERVICE AT LEVEL 7
; EEROR HANDLER
; SERVICE AT LEVEL 7
; GENERAL HANDLER DISPATCH SERVICE
; SERVICE AT LEVEL 7
                                                                                                          .PFAIL
340
.HLT
340
.TRPSRV
340
                                   004402
000340
                 000024
000026
        99
                  000030
                                   004002
                 000032
000034
000036
                                   000340
003750
000340
      102
      103
104
105
                                   000040
000001
000001
                                                                                         .=40
                 000040
000042
000044
                                                                                                           .BLKW 1
.BLKW 1
.BLKW 1
                                                                                                                                                                ;SAVE FOR ACT-11 OR DDP2
;RETURN ADDRESS IF UNDER ACT-11 OR DDP2
;SAVE FOR ACT-11 OR DDP2
;FOR USE WITH ACT-11 OR DDP2
      106
                                   000001
      107
                  000046
                                   002560
                                                                                                           LOGICAL
      109
110
111
112
                                  000174
000000
000176
                                                                                        .=174
LIGHT:
.=176
SSWR;
                 000174
                                                                                                          Ø
                 000176
                                   000000
                                   999299
      114
115
                                                                                         .=200
               000200 000137
                                                    001742
                                                                                                          JMP
                                                                                                                            START
                                                                                                                                                               ; GO TO START OF PROGRAM
      117
118
119
(2)
                               001000
005377
                                                                                        .=1900
MTITLE: .ASCIZ <377><12>/MAINDEC-11-DZDVA-B/<377>/BASIC DV11 CONTROLLER MODULES TESTING
                                                    040515 047111
               001000
                                                                                        .=1200
LIGHTS:
                                   001200
                                  177570
      122
                 001200
                                                                                                          177570
                 001202
                                                                                        SWR:
                                                                                                           INDIRECT POINTERS TO TELETYPE VECTORS AND REGISTERS
      125
                001204
001206
001210
                                  177560
177562
177564
                                                                                                                                                               TELETYPE KEYBOARD CONTROL REGISTER TELETYPE KEYBOARD DATA BUFFER TELEPRINTER CONTROL REGISTER TELEPRINTER DATA BUFFER
                                                                                        TKCSR:
TKDBR:
TPCSR:
                                                                                                         177560
177562
177564
      131
                                                                                                           PROGRAM CONTROL PARAMETERS
                                                                                        RETURN: Ø
NEXT: Ø
LOCK: Ø
                001214
001216
001220
                                                                                                                                                                ;SCOPE ADDRESS FOR LOOP ON TEST
;ADDRESS OF NEXT TEST TO BE EXECUTED
;ADDRESS FOR LOCK ON CURRENT DATA
                                000000
                                  000000
000000
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 5
DZDVAB.p11 PROGRAM PARAMETERS, VARIABLES, AND TRAP CALLS.
                                                                                                                                                                                                                                                                         PAGE: 0030
                                                                                                                                                                ; NUMBER OF ITERATIONS THAT CURRENT TEST WILL BE EXECUTED ; NUMBER OF ITEREATIONS COMPLETED ; NUMBER OF TEST IN PROGRES ; NUMBER OF PASSES COMPLETED
      138
139
                 001222
001224
                                   000000
      140
141
142
143
                                                                                         TSTNO: Ø
PASCNT: Ø
ERRCNT: Ø
                 001226
001230
                                  999999
999999
                                                                                                                                                                 TOTAL NUMBER OF ERRORS
                 001232
                                   000000
                 001234
                                  000000
                                                                                         LSTERR: Ø
                                                                                                           PROGRAM VARIABLES
      146
147
148
149
150
151
152
                001236
001240
001242
001244
                                 999999
999999
999999
                                                                                                                                                                DV STATUS WORD STORAGE
                                                                                        SYNCX:
CLKX:
MASKX:
                                                                                                                                                               ; TEMPORARY STORAGE
; RS STORAGE
                 001246
                                   000000
                                                                                        TEMP1:
      153
154
155
                 001250
001252
001254
001256
                                                                                        TEMP2:
TEMP3:
TEMP4:
TEMP5:
                                   999999
                                   000000
000000
      156
157
158
159
                                   999999
                                   999999
999999
                                                                                        SAVRØ:
SAVR1:
                 001260
                 001262
001264
                                                                                        SAVR2:
      160
161
162
163
                 001266
001270
001272
001274
                                                                                        SAVR3:
SAVR4:
SAVR5:
                                   999999
                                  999999
999999
                                                                                      SAVSP:
SAVPC:
DVACTV: BLKB 1
DVNUM: BLKB 1
SAVACT: BLKB 1
SAVNUM: BLKB 1
SAVNUM: BLKB 1
                                                                                                                                                                ; STORAGE
; STORAGE
; PROGRAM COUNTER STORAGE
; PROGRAM COUNTER STORAGE
; DV11'S SELECTED ACTIVE,
; OCTAL NUMBER OF DV11'S,
; ORIGINAL ACTV, DEVICES,
; WORKABLE NUMBER,
; POINTER ONE PAST RUNNING DEVICE,
                 001276
001300
001301
001302
                                   000000
      165
166
167
                                   000001
000001
                                   000001
                                   000001
000001
001306
                 001303
001304
       168
                                                                                        RUN: ,BLKB ;
.EVEN
CREAM: DV,MAP
                 001306
                                   001500
                                                                                                                                                                ; TABLE POINTER,
```

PAGE: 0032

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 6
DZDVAB,P11 PROGRAM PARAMETERS, VARIABLES, AND TRAP CALLS.
```

```
172
173
                                                     PROGRAM CONTROL FLAGS
174
175
176
177
178
                                           INIFLG: .BYTE
                                                                                 ; PROGRAM INITIALIZATION FLAG
     001310
                  000
                                           ERRFLG: BYTE
                                                                                 ;ERROR OCCURED FLAG
;LOCK ON CURRENT TEST FLAG
     001311
                  000
000
                                           QV.FLG:
179
180
                                                                                 QUICK VERIFY FLAG.
JON FIRST PASS OF EACH DV11 ITERATIONS WILL BE SUPPRESSE
                                           .EVEN
181
182
               000000
183
184
                                                    ; DEFINITIONS FOR TRAP SUBROUTINE CALLS ; POINTERS TO SUBROUTINES CAN BE FOUND ; IN THE TABLE IMMEDIATLY FOLLOWING THE DEFINITIONS
185
186
187
                                           ; TRPTAB: SCOPE TRAP+0 ; CALL TO SCOPE LOOP AND ITERATION HANDLER
190 001314
               104400
     SCOPE
SCOPI=TRAP+1
SCOP1
TYPE=TRAP+2
                                                                       ; CALL TO LOOP ON CURRENT DATA HANDLER
193
194
               104402
                                                                       :CALL TO TELETYPE OUTPUT ROUTINE
                                           TYPE
INSTRUTRAP+3
     001320
     104403
001322 003120
                                                                       ; CALL TO ASCII STRING INPUT ROUTINE
                                           ,INSTR
INSTER=TRAP+4
198
                                                                        .CALL TO INPUT ERROR HANDLER
                                           .INSTER
PARAMETRAP+5
                                                                       ; CALL TO NUMERICAL DATA INPUT ROUTINE
201
               104405
                                                     .PARAM
               003244
104406
003444
     001326
                                           SAV05#TRAP+6
.SAV05
RESØ5#TRAP+7
                                                                        ; CALL TO REGISTER SAVE ROUTINE
    001330
                                                                       | CALL TO REGISTER RESTORE ROUTINE
205
               104407
                                           RES05=TRAP+7
RES05
CONVRT=TRAP+10
CONVRT
CNVRT=TRAP+11
     001332 003504
                                                                        ; CALL TO DATA OUTPUT ROUTINE
     001334 003536
208
                                                                        ; CALL TO DATA OUTPUT ROUNTINE WITHOUT CR/LF.
209
               104411
    001336 003542
104412
001340 004556
                                           .CNVRT
MSTCLR=TRAP+12
                                                                        ; CALL TO ISUE A MASTER CLEAR
                                           MSTCLR
RAMCUR#TRAP+13
RAMCUR
DELAY#TRAP+14
213
214
215
                                                                        :CALL TO CLEAR THE RAMS
     104414
001344 004476
                                                                       ; CALL TO VARIABLE DELAY COUNTER
                                           .DELAY
ROMCLK=TRAP+15
.ROMCLK
DATACLK=TRAP+16
     104415
001346 004566
                                                                        ; CALL TO CLOCK ROM ONCE
218
219
                                                                        CALL TO CLK DATA
     001350 004576
                                                    DATACLK
222
223
```

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 7
DZDVAB,P11 PROGRAM PARAMETERS, VARIABLES, AND TRAP CALLS.
                                                                                                                                                 DV11 VECTOR AND REGISTER INDIRECT POINTERS
         224
                                                                                                                                                                                                POINTER TO DV11 RECEIVER INTERRUPT VECTOR
POINTER TO DV11 RECEIVER INTERRUPT SERVICE PS
PPOINTER TO DV11 TRANSMITTER INTERRUPT SERVICE PS
PPOINTER TO DV11 TRANSMITTER INTERRUPT SERVICE PS
PPOINTER TO DV11 SYSTEM CONTROL REGISTER HIGH BYTE,
PPOINTER TO DV11 SYSTEM CONTROL REGISTER REGISTER
PPOINTER TO DV11 NEXT RECEIVED CHARACTER REGISTER
PPOINTER TO DV11 LIME PRAMETER REGISTER
PPOINTER TO DV11 SECONDARY REGISTER SELECT REGISTER
PPOINTER TO DV11 SECONDARY REGISTER SELECT HIGH BYTE,
PPOINTER TO DV11 SECONDARY REGISTER ACCESS REGISTER
PPOINTER TO DV11 SPECIAL FUNCTIONS REGISTER
PPOINTER TO DV11 NPE STATUS REGISTER
PPOINTER TO DV11 NPE STATUS REGISTER
PPOINTER TO RESERVED REGISTER,
                       001352
001354
001356
                                             999999
999999
999999
                                                                                                                        DVRVEC: 0
DVRLVL: 0
DVTVEC: 0
         228
229
                                                000000
000000
                                                                                                                        DVTLVL: Ø
DVSCR: Ø
DVSCRH: Ø
                        001360
          230
         231
232
                        001364
                                                000000
                                                999999
999999
999999
                                                                                                                        DVRICE Ø
DVLCR: Ø
DVSRS: Ø
                        901366
                       001370
001372
          233
         235
236
237
                                                999999
999999
999999
                                                                                                                        DVSRSH: 0
DVSRA: 0
DVSFR: 0
                        001374
                        001376
001400
         238
                        001402
001404
                                                000000
                                                                                                                         DVNSR:
         239
                                             000000
                                                                                                                         RESVIGE Ø
         241
                                                                                                                                                 DV11 CONTROL INDICATORS FOR CURRENT DV11 UNDER TEST
         243
244
245
                                                                                                                        MASK.A: .BYTE 000
MASK.B: .BYTE 000
MASK.C: .BYTE 000
MASK.C: .BYTE 000
                                                                                                                                                                                                  JLAST CHAR TO TEST AND PARITY MASK FOR LINES 00-03
JLAST CHAR TO TEST AND PARITY MASK FOR LINES 04-07
JLAST CHAR TO TEST AND PARITY MASK FOR LINES 09-11
JLAST CHAR TO TEST AND PARITY MASK FOR LINES 12-15
                      001406
                                                         000
         246
247
                       001407
                                                         000
                                                         aaa
                       001411
                                                         000
                                                                                                                                                                                                  NUMBER OF CLOCKS NEEDED FOR ONE CHAR FOR LINES 00-03 INUMBER OF CLOCKS NEEDED FOR ONE CHAR FOR LINES 04-07 NUMBER OF CLOCKS NEEDED FOR ONE CHAR FOR LINES 05 12-15 NUMBER OF CLOCKS NEEDED FOR ONE CHAR FOR LINES 12-15
                                                                                                                        CLK.A: .BYTE 8.
CLK.C: .BYTE 8.
CLK.C: .BYTE 8.
CLK.D: .BYTE 8.
                       001412
                                                         010
         252
253
                        001414
                                                         Ø10
Ø10
         254
255
256
257
                                                                                                                        L00.03: 000000
L04.07: 000000
L08.11: 000000
L12.15: 000000
                       001416
001420
                                                 800000
                                                                                                                                                                                                  ; PARAMETERS FOR LINES 00-03; PARAMETERS FOR LINES 04-07; PARAMETERS FOR LINES 08-11; PARAMETERS FOR LINES 12-15
                                               000000
                        001422
001424
                                                000000
000000
         259
26Ø
                                                                                                                        SYNC2A: 000000
SYNC2B: 000000
SYNC2C: 000000
SYNC2D: 000000
                        001426
001430
                                                000000
                                                                                                                                                                                                  ISYNC 2
                                                000000
000000
000000
                        001432
001434
          262
263
                                                                                                                                                                          SUMMARY
          266
267
                                                                                                                                                                                                                        5 BITS PER CHAR.
6 BITS PER CHAR.
7 BITS PER CHAR.
8 BITS PER CHAR.
                                                                                                                                                 MASK,X
                                                                                                                                                                                                  040
                                                                                                                                                                                                  100
                                                                                                                                                                                                 200
          269
270
         271
272
273
                                                                                                                                                                                                                          5 BITS PER CHAR.
6 BITS PER CHAR.
7 BITS PER CHAR.
8 BITS PER CHAR.
                                                                                                                                                                                                  005
                                                                                                                                                 CLK.X
```

ZDVA-B		27(732) PROGRAM	18-MAR-76 : PARAMETERS,	VARIABLES,	8 And Trap	CALLS.		PAGE	0033
276							BLE AND ADDRESS ASSIGNMENTS		
277 278					;				
279	991599	001500		.#1500 DV.MAP:					
281		000001		DVCRØØ:	BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 00		
	001502 001504	000001 000001		DVTRØØ:	.BLKW 1		; VECTOR "A" FOR DV11 NUMBER 00 ; PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 00		
284	001506	000001		SYNA00:	BLKW 1		SYNC TWO PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 09		
286	001510 001512	900001		SYNBØØ:	.BLKW 1		SYNC TWO		
287 288	001514 001516			SYNCØØ:	BLKW 1		PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 00 SYNC TWO		
289	001520	000001		DVØØ.D:	BLKW 1 BLKW 1		PARAMETER FOR LINES 12-15 FOR DV11 NUMBER 00		
291		000001					GOVERNMENT THE PROPERTY OF THE PROPERTY OF		
	ØØ1524 ØØ1526				.BLKW 1		;CONTROL STATUS REGISTER FOR DV11 NUMBER 01 ;VECTOR "A" FOR DV11 NUMBER 01		
294	001530 001532	000001		DVØ1.A:	BLKW 1		PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 01		
296	001534	000001		DVØ1,B:	BLKW 1		PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 01		
	001536 001540			SYNBØ1: DVØ1.C:	.BLKW 1		; SYNC TWO ; PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 01		
299	001542	000001		SYNCØ1:	.BLKW 1		SYNC TWO		
301	001544 001546				.BLKW 1		; PARAMETER FOR LINES 12-15 FOR DV11 NUMBER Ø1 ; SYNC TWO		
302	001550	000001		DVCRØ2:	BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 02		
304	001552	000001		DVTRØ2:	BLKW 1		VECTOR "A" FOR DV11 NUMBER 02		
	001554 001556			SYNAØ2:	BLKW 1		; PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 02 ; SYNC TWO		
307	001560 001562	000001		DVØ2,B:	BLKW 1		PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 02		
309	001564	000001		DVØ2,C:	BLKW 1		PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 02		
310 311	001566 001570			SYNC02: DV02.D:	.BLKW 1		SYNC TWO PARAMETER FOR LINES 12=15 FOR DV11 NUMBER 02		
312		000001		SYNDØ2:	BLKW 1		SYNC TWO		
		000001		DVCRØ3:	BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 03		
	001576 001600			DVTRØ3:	BLKW 1		; VECTOR "A" FOR DV11 NUMBER 03 ; PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 03		
317	001602	000001		SYNAG3:	.BLKW 1		SYNC TWO		
	001604 001606			SYNBØ3:	.BLKW 1		PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 03		
320	001610 001612	000001		DVØ3.C:	BLKW 1		PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 03		
322	001614	000001		DVØ3,D:	BLKW 1		PARAMETER FOR LINES 12-15 FOR DV11 NUMBER 03		
323 324	001616	000001		SYNDØ3;	BLKW 1		SYNC TWO		
325		000001			.BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 04 VECTOR "A" FOR DV11 NUMBER 04		
327	001622 001624	000001 000001		DVØ4,A:	,BLKW 1		PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 04		
328 329					,BLKW 1		SYNC TWO PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 04		
330 331	001632	000001		SYNBØ4:	BLKW 1 BLKW 1		SYNC TWO PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 04		
331	001634	000001		5,54,60	*DEKH T		leaveners for frues sa-fr for part mounter sa		
ZDVA=B	MACYLL	27(732)	18-MAR-76	SIGE PAGE	•			DACE.	2224
ZDVAB,			PARAMETERS,			CALLS.		PAGE!	0034
332	001636	000001		SYNCØ4:	,BLKW 1		SYNC TWO		
		000001 000001		DVØ4.D:	BLKW 1		PARAMETER FOR LINES 12-15 FOR DV11 NUMBER 04		
335									
337		000001 000001		DVCR05: DVTR05:	.BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 05 VECTOR "A" FOR DV11 NUMBER 05		
		000001 000001		DVØ5.A:	BLKW 1		PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 05		
340	001654	000001		DV05,B:	.BLKW 1		SYNC TWO PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 05		
		000001 000001		SYNBØ5:	BLKW 1		;SYNC TWO ;PARAMETER FOR LINES 09-11 FOR DV11 NUMBER 05		
343	001662	000001 000001		SYNCØ5 ;	BLKW 1		SYNC TWO		
345		000001		SYNDØ5:	.BLKW 1		FPARAMETER FOR LINES 12-15 FOR DV11 NUMBER 05 FSYNC TWO		
346 347	001670	000001		DVCR46:	BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 06		
348	001672	000001		DVTRØ6;	BLKW 1		VECTOR "A" FOR DV11 NUMBER 06		
350	001676			SYNAG6;	.BLKW 1		PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 06		
	001700	000001 000001		DVØ6.B1	BLKW 1		PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 06		
353	001704	000001		DV06,C:	BLKW 1		; PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 06		
355	001710	000001 000001		DV06_D:	BLKW 1		SYNC TWO PARAMETER FOR LINES 12-15 FOR DV11 NUMBER 06		
356 357	001712	000001		SYNDØ6:	BLKW 1		SYNC TWO		
358	001714			DVCRØ7 :	BLKW 1		CONTROL STATUS REGISTER FOR DV11 NUMBER 07		
360		000001		DVTRØ7: DVØ7.A:	.BLKW 1		; VECTOR "A" FOR DV11 NUMBER 07 ; PARAMETER FOR LINES 00-03 FOR DV11 NUMBER 07		
361	001722	000001 000001		SYNA07:	BLKW 1		SYNC TWO		
363	001726	000001		SYNBØ7:	BLKW 1		; PARAMETER FOR LINES 04-07 FOR DV11 NUMBER 07 ; SYNC TWO		
	001730 001732			DV07.C:	.BLKW 1		PARAMETER FOR LINES 08-11 FOR DV11 NUMBER 07		
	001734	000001		DVØ7.D:	BLKW 1		PARAMETER FOR LINES 12-15 FOR DV11 NUMBER 07		
368	001736				BLKW 1		SYNC TWO		
369	001740	000000		DV, END:	000000				

```
; PROGRAM INITIALIZATION
; LOCK OUT INTERRUPTS
; SET UP PROCESSOR STACK
; SET UP POWER FAIL VECTOR
; CLEAR PROGRAM CONTROL FLAGS AND COUNTS
; TYPE TITLE MESSAGE
      372
373
      374
375
                                                                                                                                                                       LOCK OUT INTERRUPTS

SET UP STACK
SET UP POWER FAIL VECTOR
SAVE NUMBER OF DEVICES IN SYSTEM.
CLEAR PASS COUNT
CLEAR ERROR FLAG
                               012737
012706
012737
113737
005037
                001742
001750
001754
                                                 000340
001200
                                                                177776 .START: MOV
                                                                                                                     #STACK, SP
#.PFAIL, @#24
DVNUM, SAVNUM
                                                                                                    MOV
                                                  004402
001301
001230
                                                                   000024
                                                                                                    MOV
                                                                                                    MOVB
                001762
001770
      381
382
                                                                                                                     PASCNT
                                105037
105037
105037
012737
                                                  001311
001313
001500
                001774
002000
                                                                                                    CLRB
                                                                                                                     ERRFLG
                                                                                                                                                                       JCLEAR ERROR FLAG
JZERO QUICK VERIFY FLAG
JGET MAP POINTER,
JPOINT POINTER TO FIRST DEVICE,
JCLEAR ERROR COUNT
JCLEAR LAST ERROR POINTER
JSET UP FOR TEST 1
JSET UP FOR POWER FAIL BEFORE
JTESTING STARTS
JHAS INITIALIZATION BEEN PERFORMED
JBR IF YES
                                                                                                    CLRB
MOV
MOVB
                                                                                                                     QV,FLG
#DV,MAP,CREAM
#1,RUN
ERRCNT
                                                                   001306
                002004
                                112737
ØØ5Ø37
ØØ5Ø37
                002012
                                                  000001
                                                                   001304
                                                  001232
001234
                                                                                                    CLR
CLR
                002020
002024
                                                                                                                     LSTERR
      388
                002030
002036
                                 012737
                                                  000001
                                                                   001226
                                                                                                     MOV
                                                                                                                     #1.TSTNO
                                                                                                                      # .START, RETURN
                                                  001742
                                                                                                    MOV
      391
                                                                                                                     INIFLG
                                 105737
                                                  001310
                                                                                                    TSTB
      392
                002044
                002050
002050
002052
002056
                                 991963
913746
913746
                                                                                                    BNE
MOV
                                                                                                                     4, = (SP)
6, = (SP)
                                                  000004
000006
      394
395
                                                                                                     MOV
                002062
002066
002074
                                 005037
012737
005777
                                                  000006
002104
177102
                                                                                                    CLR
MOV
TST
                                                                                                                      #808,4
                                                                   000004
      398
                002100
002102
002104
002106
                                 000240
                                                                                                     NOP
                                 000407
022626
012737
                                                                                                                     S1S
(SP)+,(SP)+
#LIGHT,LIGHTS
#SSWR,SWR
(SP)+,6
(SP)+,6
(SP)+,4
,MIITLE
INIFLG
      401
402
403
                                                                                    80$1
                                                  000174
900176
000006
                                                                   001200
                                                                                                     MOV
                002114
002122
002126
                                 012737
                                                                   001202
                                                                                                     MOV
                                 012637
012637
104402
                                                                                    8181
                                                  0000004
                                                                                                                                                                       TYPE TITLE MESSAGE
                                                                                                     TYPE
      406
                002132
                                                  001000
      407
                                 105137
105777
100402
                                                  001310
177034
                                                                                                                                                                       ; IF NOT SET FLAG AND DO
;BIT7=1??
;BR IF NO AUTO SIZE
;GO DO THE AUTO SIZE
                002136
                                                                                                    COMB
                                                                                                     TSTB
                002142
002146
                                                                                                    BMI
JSR
      409
                                                                                                                     168
PC.CSRMAP
                                                  006624
005461
001500
177054
177777
                                 004737
104402
012737
017737
                002150
002154
                                                                                                    TYPE
MOV
MOV
                                                                                                                     ,XHEAD
#DV,MAP,TEMP1
@TEMP1,TEMP2
#177777,TEMP2
                                                                                                                                                      ; TYPE HEADER
; SET POINTER
; SET DATA
                                                                   001246
001250
       412
                002160
                002166
                                                                                    58:
      414
415
416
                                 022737
001406
104410
                002174
002202
                                                                                                                                                                        ALL DONE?
                                                                   001250
                                                                                                     CMP
                                                                                                    BEQ
CONVRT
                                                                                                                                                                        BR IF YES
                002204
                002206
002210
002216
                                 005506
062737
000763
005737
                                                                                                     XSTATO
                                                  000002
                                                                                                     ADD
                                                                                                                      #2, TEMP1
                                                                                                                                                                        UPDATE POINTER
      419
                                                                                                     BR
                                                                                                                      5$
0#42
                                                                                                                                                                        IS PROGRAM RUNNING UNDER MONITOR
                                                  000042
                862228
                                                                                   151
                002224
002226
                                 001030
032777
                                                                                                    BNE
                                                                                                                     3$
#SW00, @SWR
                                                                                                                                                                       BR IF YES
SELECT SPECIFIC DEVICES??
                                                   000001 176746
       422
                                                                                                                                                                        BR IF NO.
       423
                002234
                                 001424
                                                                                                    BEQ
                                                                                                                     35
                                 104402
                                                                                                                       MNEW
                                                  005402
                                                                                                     TYPE
                                                                                                                                                                        ZERO DATA LIGHTS
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 11
DZDVAB_P11 PROGRAM INITIALIZATION AND START UP.
                                                                                                                                                                                                                                                         PAGE: 0036
                                                                                                                                                                      , WAIT FOR USER TO TELL WHAT DEVICES TO RUN
, IS THE NUMBER IS OK,
, TELL USER OF INVALID NUMBER,
, STOP EVERY THING,
, RESTART THE PROGRAM AGAIN,
, GET NEW DEVICE PATTERN
, SHOW THE USER WHAT HE SELECTED,
, USE ONLY LOW BYTE,
, CONTINUE DYNAMIC SWITCHES,
, PREPARE TO CLEAR THE FLOATING
, VECTOR AREA, 308-776
, START PUTTING "PC+2 - HALT"
, IN VECTOR AREA,
, POP POINTERS
, ALL DOWE?;
, BR IF NO.
              002244
002246
002254
002256
                                 000000
127737
                                                                                                    HALT
                                                                                                                     eswr, savact
                                                  176730 001302
                                                                                                    CMPB
BLOS
      428
                                 101404
                                                                                                    TYPE
HALT
                                                  005243
                                                                                                                      MERR3
               002262
                                 000000
                Ø02264
Ø02266
                                 000776
      431
                                                                                                    BR
                                                                                                     MOVB
                                                                                                                    0SWR, DVACTV
DVACTV, R0
#~C<377>, R0
                                                  176710 001300 261
                                                  001300
177400
                                                                                                    MOVB
BIC
                002274
                                 113700
      434
                002300
                                 042700
000000
                                                                                                    HALT
                002306
002312
002316
                                012700
012701
                                                  000300
                                                                                   381
                                                                                                     MOV
MOV
                                                                                                                     #300,R0
                                                                                                                     #302,R1
R1,(R0)+
(R1)+
(R0)+,(R1)+
                                                                                   481
      438
                                010120
                                                                                                     MOV
                002320
002322
002324
                                                                                                    CLR
CMP
                                005021
                                022021
                                022700
001372
                                                  001000
                                                                                                    CMP
                                                                                                                     #1000, RO
                002330
                                                                                                    BNE
                                                                                                                                                                        BR IF NO
      443
444
445
                                                                                                    ITEST START AND RESTART
      446
447
448
449
                                                                                                                                                                      | LOCK OUT INTERRUPTS
| SET UP STACK
| IS PROGRAM UNDER MONITOR CONTROL
| BR IF YES
| CHECK FOR LOCK ON TEST
| BR IF NO LOCK DESIRED,
| TYPE LOCK SELECTED,
| ADJUST SCOPE ROUTINE,
| SET UP TO LOCK
                002332
002340
002344
                               012737
012706
005737
                                                  000340 177776 .BEGIN:
                                                  001200
                                                                                                     MOV
                                                                                                                     #STACK, SP
                                                  000042
                                                                                                    TAT
                                                                                                                     8#42
                                                                                                                     38
#BIT2.08WR
                                                  000004
                                                                176622
                002360
002362
                                                                                                                     18
,MLOCK
*NOP,TTST
#NOP,TTST+2
      452
453
                                001411
                                                                                                    BEQ
                                                                                                    TYPE
MOV
MOV
                                                  005301
                ØØ2366
ØØ2374
                                 Ø12737
Ø12737
                                                  000240
000240
                                                                  002702
002704
      456
457
458
                                                                                                                                                                       JEONTINUE ALONG.
JPREPARE NORMAL SCOPE ROUTINE
JLOCK NOT SELECTED, SET UP FOR NORMAL SCOPE LOOP
                002402
                                 999496
                                                                                                    BR
                002404
002412
002420
                                 Ø13737
Ø13737
                                                  003014
003016
                                                                  002702
002704
                                                                                                                     BRW, TTST
                                                                                                     MOV
                                                                                                    MOV
                                                                                                                     BRX, TTST+2
      459
                                 012737
                                                                                                    MOV
                                                                                                                     #CYCLE, RETURN
                                                                                                                                                                       START AT "CYCLE" FIND WHICH DEVICE TO TEST
                002420
                                                  005666
                                                                   901214
                ØØ2426
ØØ2432
                                 104402
                                                  ØØ5171
176556
                                                                                                    TYPE
JMP
                                                                                                                                                                       TYPE RESTING
                                                                                                                     , MR
ORETURN
```

```
DZDVA-B MACY11 27(732) 18-MAR-76
                                                                15:06 PAGE 12
                                                                                                                                                                                                                          PAGE: 0037
                             END OF PASS ROUTINE
                                                                                        ;END OF PASS
;TYPE NAME OF TEST
;UPDATE PASS COUNT
;CHECK FOR EXIT TO ACT-11
      466
467
                                                                                        RESTART TEST
                                                                                                                                    ; MAKE THE WORLD CLEAN AGAIN,
; CLEAR LAST ERROR PC
; CLEAR ERROR FLAG
; UPDATE PASS COUNT
; DISPLAY PASS COUNT
; TYPE END PASS
; TYPE CSR
; SHOW IT
; TYPE YECTOR
; SHOW IT
              002436
002440
002444
002450
                             000005
005037
                                                                          .EOP:
                                                                                        RESET
      469
                                                                                                       LSTERR
                                            001234
      470
                                                                                        CLR
CLRB
                             105037
005237
013777
                                            001311
001230
001230
                                                                                                       ERRFLG
                                                                                                       PASCNT
PASCNT, @LIGHTS
               002454
                             104402
104402
104411
104402
               002462
                                            005145
                                                                                        TYPE
                                                                                                       . MEPASS
              002466
002472
002476
                                            005330
                                                                                                        MCSRX
      476
477
                                            005336
                                                                                        TYPE
                                                                                                       . MVECX
               002502
002506
                              104411
104402
                                                                                                                                     SHOW IT
                                            002612
005344
                                                                                        CNVRT
                                                                                                        MPASSX
                                                                                                                                     TYPE
      480
               002512
                              104411
                                            002620
                                                                                        CNVRT
                                                                                                       XPASS
                                                                                                                                     SHOW
               002516
                                                                                        TYPE
                                                                                                        MERRX
                                                                                                                                     TYPE ERRORS
                             104402
104411
105337
001017
112737
113737
                                                                                                                                    JITPL ERRORS
JEMOW IT
JAKE ALL DEVICES TESTED?
JBR IF NO.
JSET THE QUICK VERIFY FLAG.
JRESTORE THE COUNT
JCHECK FOR ACT-11 OR DDP
JIF NOT, CONTINUE TESTING
               002522
               002526
002532
                                            001303
                                                                                                       RESTRT
#377,QV.FLG
DVNUM,SAVNUM
                                                                                        BNE
              002534
002542
002550
                                            000377
                                                                                        MOVB
                                                                                                       0#42,R1
RESTRT
      487
                              013701
      488
               002554
                             001406
                                                                                        BEQ
                                                                                        RESET
                                                                                                                                     STOP THE SHOW -- CLEAR THE WORLD
                              000005
               002560
                                                                         LOGICAL:
                             004711
                                                                                        JSR
                                                                                                       PC. (R1)
      491
               002560
                             000240
000240
000240
              002562
002564
                                                                                        NOP
NOP
      494
              002566
      495
              002570
                              000240
                                                                                        NOP
                             012737
000137
                                            ØØ5666
ØØ5666
                                                                                        MOV
                                                                         RESTRT:
                                                                                                       #CYCLE, RETURN
                                                           001214
                                                                                                       CACTE
               002600
      498
               002604
                             000001
                                                                         XCSR:
              002606
002610
002612
                             006
001362
                                                                                          BYTE
                                                 002
                                                                         XVEC:
      501
502
                             000001
                                                                                          BYTE
               002614
                                  003
                                                  002
               002616
                              001352
                                                                                        DVRVEC
                                                                         XPASS:
      504
505
               002620
                              000001
                                                                                          BYTE
               002622
                                  006
                                                  002
                                                                                                       6.2
              Ø02624
Ø02626
                             001230
000001
                                                                                        PASCNT
                                                                         XERR:
                                                                                          BYTE
      508
               002630
                                  006
                                                  002
                                                                                                      6,2
               002632
                             001232
                                                                                        ERRCNT
                                                                                        SCOPE LOOP AND INTERATION HANDLER
      512
              002634
002634
                                                                                                                                    ; IS THERE A REAL SWR? ; BR IF YES
                             022737
                                                                                                       #177570,SWR
      515
                                            177570
                                                         001202
                             001411
017746
042716
              002642
002644
                                                                                                       648
@TKDBR, = (SP)
#BIT7, (SP)
                                                                                        BEQ
                                                                                                                                     ;SAVE KEYBOARD CHAR
;CLEAR PARITY BIT
               002650
                                                                                        BIC
                                            000200
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DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
                                                                                                                                                                                                                          PAGE: 00
                                                                                                                                     ; WAS IT CNTRL 'G' ?
; BR IF NO.
; SERVICE "CNTRL 'G'".
              002654
002660
                             122726
                                            000007
                                                                                        CMPB
                             991002
904737
905037
                                                                                        BNE
                                                                                                       .+6
PC, SERV.G
               002662
                                            004640
                                                                                                                                     ;SERVICE "CTRL GG",
;CLEAR LAST ERROR PC,
;SAVE RØ ON THE STACK,
;*LOOP ON THIS TEST";
;BR IF NO. (IF LOCK SWØ1=1; THIS LOC =240)
;GOTO 38 (IF LOCK SWØ1=1; THIS LOC =240)
               002666
                                                                          6481
                                                                                        CLR
                                                                                                       LATERR
              002672
002674
002702
                             010016
032777
001407
                                                                                                       RØ,(SP)
#BIT14,05WR
                                            040000
                                                         176300
      525
                                                                         TTST:
                                                                                        BEQ
                                                                                                                                     GOTO 38 (I
KEYBOAD DONE?
      526
               002704
                              999437
                                                                                                       @TKCSR
                                                                                                                                    ;KEYBOAD DONE?
;BR IF NO, (LOCK; HIT KEY TO GOTO NEXT TEST)
;CLEAR DONE BIT
;CONTINUE
;DELETE ITERATION? (QUICK PASS)
;BR IF YES
;HAVE PASSES BEECOMPLETED?
;BR IF QUICK PASS,
;UPDATE ITERATION COUNTER
;ARE ALL ITERATIONS DONE??
;BR IF NOT YET
;PREPARE FOR NEW TEST
;START ICOUNTER AT Ø
      528
               002712
                              100034
                                                                                        BPL
               002714
                             017700
000415
032777
                                            176266
                                                                                        MOV
                                                                                                       eTKDBR, RØ
               002720
002722
002730
                                                                                                       2$
#8W11,@SWR
                                            004000 176252 188
                             001011
105737
                                                                                        BNE
               002732
                                                                                        TSTB
BEQ
                                                                                                       QV,FLG
                              001406
005237
               002736
002740
                                            001224
                                                                                        INC
                                                                                                       LPCNT
                             023737
001014
                                            001224
                                                          001222
                                                                                                       LPCNT, ICOUNT
                                                                                                       38
ERRFLG
                                            001311
                                                                         281
                                                                                        CLRB
               002754
002760
                              105037
                                                                                                      LPCNT
LOCK
#20, ICOUNT
NEXT, RETURN
                                                                                        CLR
CLR
MOV
                                                                                                                                     START ICOUNTER AT Ø
               002764
002770
                             005037
012737
                                                                                                                                     RESET ITERATIONS
                              013737
                                                                                                                                     ;GET NEXT TEST
;POP RØ OFF OF THE STACK
;FAKE AN "RTI"
;GO DO THE TEST
      542
543
               002776
                                            001216
                                                           001214
                                                                                        MOV
               003004
                             011600
                                                                         3 $ 8
              003006
003010
                             022626
000177
                                                                                        POP25P
                                            176200
                                                                                                       ORETURN
                                                                                        JMP
      546
                                                                                        1407
               003014
                             001407
                                                                         BRWs
               003016
                                                                                        CHECK FOR FREEZE ON CURRENT DATA
      549
550
              003020
003026
003030
                             Ø32777
                                                                                       BIT
                                            001000 176154
                                                                          .SCOP1:
                                                                                                       #SWØ9.08WR
                                                                                                                                     : IS SW09=1 (SET)?
                             001405
005737
                                                                                        BEQ
TST
      553
                                                                                                       18
LOCK
                                                                                                                                     BR IF NOT SET,
                                            001220
               003034
003036
                             001402
                                                                                        BEQ
      556
                                            001220
                                                                                        MOV
                                                                                                       LOCK, (SP)
                                                                                                                                    ;GOTO THE ADDRESS IN LOCK, ;GO BACK,
      557
               003042
                              000002
                                                                          181
                                                                                        TELETYPE OUTPUT ROUTINE
      560
                                                                                                                                    ;SAVE RS ON THE STACK,
;GET ADDRESS OF MESSAGE,
;POP OVER ADDRESS,
;INNIBIT ALL PRINT OUT?;
;BR IF NO PRINT OUT WANTED (SW12=1)
;IS NUMBER MINUS; (MSB=1(BIT7))
;BR IF NUMBER IS PLUS
*TYPE A CRYLF!
                                                                          .TYPE:
                                                                                        MOV
                                                                                                       R5, -(SP)
                                                                                                       02(SP),R5
#2,2(SP)
#SW12,0SWR
      563
564
               003046
                             017605
                                            000002
                                                                                        MOV
                             Ø62766
Ø32777
                                                                                        ADD
BIT
               003052
               003060
003066
      569
                              901012
105715
                                                                                        BNE
               003070
                                                                                        TSTB
BPL
                                                                                                       (R5)
28
,MCRLF
@TPCSR
      568
               003072
                              100000
      569
570
571
                             104402
                                                                                                                                     TYPE A CRYLF;
TYPE A CRYLF;
TTY READY?
IBR IF NO.
IPRINT CURRENT CHAR,
IF NOT ZERO KEEP PRINTING;
IEND OF OUTPUT, RESTORE R5
                                                                                        TYPE
               003100
                                            176104
                                                                          281
                             100375
112577
               003104
                                                                                        BPL
                                                                                                       28
(R5)+,@TPDBR
               003106
                                                                                        MOVB
```

003112 003114

001362 012605

BNE

(SP)+,R5

381

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DZDVAB.P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
           003116 000002
                                                                                                               2 GO HOME
     575
                                                             .INSTR: MOV
                                                                                      R3, -(SP)
R4, -(SP)
                                                                                                               ; SAVE R3 ON STACK
; SAVE R4 ON STACK
    578
            003120
                        010346
            003122
003124
                        310446
017637
                                                                                      04(SP), MSG
#2,4(SP)
                                    000004 003142
000002 000004
                                                                         MOV
    581
            003132
                        062766
            003140
003142
003144
003150
                                                             .INST1: TYPE
     582
                        104402
                        000000
012704
012703
                                                             "MSG:
                                                                         MOV
                                                                                      #INBUF,R4
                                                                         MOV
     585
                                     000007
                                                                                      #7,R3
@TKCSR
            003154
003160
003162
                        105777
100375
117714
                                    176024
                                                             18:
                                                                         TSTB
                                                                         BPL
MOVB
                                                                                      18
eTKDBR, (R4)
                                    176020
    588
                                                                                      #200,(R4)
(R4)+,#15
INSTR2
    589
590
591
            003166
003172
                        142714
122427
                                    000200
000015
                                                                         BICB
                                                                         CMPB
BEQ
TSTB
            003176
                        001417
                                    176004
                                                                                      OTPCSR
     592
            003300
                        105777
                        100375
017777
                                                                         BPL
                                   175774 175776
                                                                                      @TKDBR,@TPDBR
                                                                         DEC
            003214
                        005303
    595
            003216
003220
                        001356
012604
                                                                         BNE
                                                                          MOV
                                                                                       (SP)+,R4
                                                                                      (SP)+,R3
    598
            003222
                        012603
                                                              .INSTE: TYPE
    599
            003224
                        104402
                                    005100
                                                                                      R3, -(SP)
R4, -(SP)
,INST1
(SP)+,R4
                        010346
010446
000741
            003232
003234
    601
    602
                                                                         BR
MOV
            003236
003240
                        Ø12604
Ø12603
                                                             INSTR28
                                                                                                              RESTORE RA
                                                                         MOV
                                                                                                              RESTORE R3
            003242
                        0000002
    605
     506
                                                                          CONVERT ASCII STRING TO OCTAL
    608
    609
           003244 010546
003246 010446
003250 016605
003254 012537
                                                             .PARAM: MOV
    610
                                                                                      R5. - (SP)
                                                                                      R4,=(SP)
4(SP),R5
(R5)+,LOLIM
                                                                         MOV
                                    000004
    612
    613
                                    003434
                                                                         MOV
                                                                                      (R5)+, LOLIM
(R5)+, HILIM
(R5)+, DEVADR
(R5)+, LOBITS
(R5)+, ADRCNT
R5, 4(SP)
                                    003436
003440
003442
                                                                         MOV
            003260
                        012537
            003264
003270
                        Ø12537
112537
    616
                                                                         MOVB
    617
            003274
003300
                        112537
Ø10566
                                    003443
                                                                         MOVE
    618
     619
            003304
                        005005
                                                             PARAM18
                                                                         CLR
                                                                                      R5
SINBUF.R4
     620
            003306
                        012704
                                    005520
                                                                          MOV
                                    000015
                                                                         CMPB
                                                                                      #15,(R4)
PARERR
                                                                          BEQ
     622
            003316
                        001420
                                                                                      (R4),#60
PARERR
(R4),#67
                                    000060
                                                                         CMPB
     623
    624
625
            003324
003326
                        002415
121427
                                                                         BLT
                                     000067
                                                                                      PARERR
    626
            003332
                        003012
                                                                         BGT
            003334
003340
003342
                        142714
152405
122714
                                                                                      #60,(R4)
(R4)+,R5
#15,(R4)
     627
                                    000060
                                                                          BICB
                                   000015
     629
                                                                         CMPB
            003346
                        001406
                                                                          BEG
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DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
                        006309
                                                                         ASL
    632
            003352
                        996395
                                                                          ASL
                                                                                      25
                       006305
000760
                                                                          ASL
    634
            003356
                                                             PARERR: INSTER
                                                                                      13
    635
            003360
                        104404
                        000750
                                                                         BR
                                                                                     PARAM1
    637
    638
                                                                          TEST TO SEE IF NUMBER IS WITHIN LIMITS
    639
640
641
            003364 020537 003436
                                                             LIMITS: CMP
                                                                                      R5.HILIM
            003370
003372
003376
                        101373
020537
103770
133705
                                                                         BHI
CMP
BLO
                                                                                      PARERR
RS, LOLIM
PARERR
    645
            003400
                                    003442
                                                                         BITB
                                                                                      LOBITS, R5
     648
                                                                         STORE NUMBER AT SPECIFIED ADDRESS
    649
65Ø
651
652
            003406
003412
003414
                                                                         MOV
MOV
                                                                                     DEVADR,R4
R5,(R4)+
#2,R5
ADRCNT
                        010524
                                    999992
                                                                         ADD
                        105337
001372
012604
                                                                         DECB
                                                                                      18
(SP)+,R4
    655
            003426
                                                                         MOV
           003430
003432
003434
003436
                                                                                      (SP)+, R5
    656
                        012605
                                                                         MOV
    657
                                                                         RTI
    658
659
                                                             LOLIM:
                        999999
                                                             HILIM: Ø
DEVADR: Ø
LOBITS: Ø
ADRCNT=LOBITS+1
                        000000
    660
661
662
                        000000
000000
003443
            003440
003442
    663
                                                                          SAVE PC OF TEST THAT FAILED AND RO-RS
    665
                                                                          .
.
.
    666
            003446 016637 990004 901276 .SAV05: MQY
                                                                                      4(SP), SAVPC
     669
                                                                          SAVE ROORS
    670
671
672
673
            003452 010537
003456 010437
003462 010337
                                                                                                              SAVE R5
SAVE R4
SAVE R3
                                                                                      R5, SAVR5
R4, SAVR4
                                    001270
001266
                                                                          MOV
                                                                                      R3, SAVR3
R2, SAVR2
                                                                         MOV
            003466
003472
003476
    674
                        010237
010137
                                    001264
001262
                                                                          MOV
                                                                         MOV
                                                                                      R1, SAVR1
RØ, SAVRØ
                                                                                                               SAVE RI
    676
                        010037
                                    001260
                        000002
    578
579
                                                                         ; RESTORE RO-RS
     688
            003504
003510
003514
                        013700
013701
013702
                                                                         MOV
                                                                                      SAVRØ, RØ
                                                             .RESØ5:
                                                                                                               RESTORE RO
```

001262 001264

001266 001270

001272

683

686

003520 003524 003530

013703 013704 013705

MOV

MOV

MOV

MOV

SAVR1.R1

SAVR2,R2 SAVR3,R3 SAVR4,R4

SAVR5, R5

RESTORE RI RESTORE R2 RESTORE R3 RESTORE R4 RESTORE R5

```
LEAVE
                      003534 000002
                                                                                                                                                           CONVERT OCTAL NUMBER TO ASCII AND OUTPUT TO TELEPRINTER
          689
          690
                        003536
003542
003544
003546
003550
                                                104402 005104
                                                                                                                                 .CONVR:
          692
                                                                                                                                                                                   ,MCRLF
RØ,=(SP)
R1,=(SP)
R3,=(SP)
R4,=(SP)
R5,=(SP)
                                                  010046
010146
010346
010446
010546
                                                                                                                                  CNVRT: MOV
         696
697
698
                                                                                                                                                           MOV
                          003552
                                                                                                                                                                                   R9,-(SP)

#12(SP),R1

#2,12(SP)

(R1)+,WRDCNT

(R1)+,CHRCNT

(R1)+,SPACNT

9(R1)+,BINWRD

BINWRD,R4
                         003554
003560
003566
                                                  017601
062766
012137
                                                                              000012
                                                                                                                                                           MOV
                                                                                                                                                           ADD
MOV
                                                                             000002
003742
                         003572
003576
003602
                                                  112137
112137
112137
Ø13137
                                                                            003744
003745
003746
                                                                                                                                 188
                                                                                                                                                           MOVB
          702
703
                                                                                                                                                           MOV
MOV
          704
705
706
                         003606
003612
003616
                                                  013704
113705
012700
                                                                             003746
003744
                                                                                                                                 281
                                                                                                                                                           MOVB
MOV
MOV
                                                                                                                                                                                    CHRCNT, R5
                                                                             005562
                         003622
003624
003630
003634
                                                  010403
042703
062703
          707
708
709
710
711
712
                                                                                                                                 351
                                                                                                                                                                                     R4,R3
#177770,R3
                                                                                                                                                           BIC
ADD
MOVB
                                                   110320
                                                                                                                                                                                    R3, (RØ)+
                         003636
003640
003642
                                                    800241
                                                                                                                                                           CLC
                                                                                                                                                            ROR
                                                                                                                                                                                    R4
                                                                                                                                                           CLC
ROR
          713
714
                                                   000241
                         003644
003646
003650
003652
                                                                                                                                                                                    R4
                                                    806004
                                                                                                                                                          CLC
ROR
DEC
          715
716
717
                                                   000241
                                                  906904
905395
                                                                                                                                                           BNE
                         003654
                                                   001362
                         003656
003662
                                                                                                                                                                                     #MDATA, R3
                                                                             005624
                                                                                                                                 488
                                                                                                                                                                                   -(RØ),(R3)+
CHRCNT
          720
                                                  114023
                         003664
003670
003672
003676
                                                   105337
                                                                            003744
                                                                                                                                                           DECB
          721
723
724
725
726
                                                  001374
105737
001405
                                                                                                                                                           BNE
                                                                                                                                                                                     SPACNT
                                                                                                                                                           BEQ
                                                                                                                                                                                     68
#640,(R3)+
                         003700
003704
003710
                                                  112723
105337
001373
                                                                             000040
                                                                                                                                 581
                                                                                                                                                           MOVE
                                                                                                                                                           DECB
BNE
CLRB
                                                                                                                                                                                     SPACNT
                                                                                                                                                                                     58
(R3)
                          003712
                                                   105013
                                                                                                                                 68:
          729
730
731
                         003714
003720
003724
                                                                                                                                                           TYPE
DEC
BNE
                                                                                                                                                                                       MDATA
                                                                                                                                                                                     WRDCNT
                                                                              003742
                                                   001322
                                                                                                                                                                                    18
(SP)+,R5
                         003726
003730
003730
003732
003734
                                                   012605
012604
012603
012601
                                                                                                                                                           MOV
                                                                                                                                                                                     (SP)+,R4
(SP)+,R3
(SP)+,R1
(SP)+,R0
                                                                                                                                                           MOV
                                                                                                                                                           MOV
          736
737
738
                         003736
003740
                                                    012600
                                                                                                                                                           MOV
                                                    999992
                         003742
                                                   999999
                                                                                                                                 WRDCNT:
          739
740
741
                                                    000000
003745
                          003744
                                                                                                                                 CHRCNTS
                                                                                                                                  SPACNT=CHRCNT+1
                         003746
                                                                                                                                 BINWRD: 0
                                                   000000
DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 17
DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
                                                                                                                                                                                                                                                                                                                                                                                                PAGE: 0042
          744
745
746
747
                                                                                                                                                            TRAP DISPATCH SERVICE
ARGUMENT OF TRAP IS EXTRACTED
AND USED AS OFFSET TO OBTAIN POINTER
TO SELECTED SUBROUTINE
           748
                                                                                                                                                                                    (SP),-(SP)
#2,(SP)
#(SP),(SP)
(SP)
#177001,(SP)
                                                                                                                                                                                                                                                                  ;GET PC OF RETURN
;=PC OF TRAP
;GET TRP
;GET TRP
;MULTIPLY TRAP ARG BY 2
;CLEAR UNWANTED BITS
;POINTER TO SUBROUTINE ADDRESS
;GO TO SUBROUTINE
;
                         003750
003752
                                                  Ø11646
162716
                                                                                                                                  .TRPSR: MOV
           750
                                                                                                                                                            SUB
                         003756
003762
003764
003770
003774
          751
752
753
                                                  Ø17616
Ø06316
Ø42716
                                                                              999999
                                                                                                                                 TRPOK:
                                                                                                                                                           ASL
BIC
                                                                              177001
                                                                                                                                                                                     *,TRPTAB,(SP)
8(SP),(SP)
8(SP)+
                                                   Ø62716
Ø17616
                                                                                                                                                           ADD
          757
          758
759
760
                                                                                                                                                            PERROR HANDLER
                         004002
                                                                                                                                                                                                                                       ; IS THERE A REAL SWR?
; SR IF YES
; SAVE KEYBOARD CHAR
; CLEAR PARITY BIT
; WAS IT CNTRL "G" 7
; BR IF NO.
; SERVICE "CNTRL "G"".
; BELL ON ERROR?
; BR IF NO BELL
; TTY READY.
                         004002
004010
004012
                                                  022737
001411
017746
                                                                            177570 001202
                                                                                                                                                           CMP
                                                                                                                                                                                     #177570,8WR
                                                                                                                                                                                   648

0TKDBR, -(SP)

#BIT7, (SP)

#7, (SP)+

,+6

PC, SERV. G

#812, 0SWR

*882
                                                                                                                                                           BEQ
Mov
                                                                             175170
          765
766
767
                          004016
                                                   042716
                                                                                                                                                           CMPB
                          004022
                                                                              000007
                          004026
                                                  001002
004737
032777
001406
                                                                                                                                                           BNE
          768
769
                          004030
                                                                              004640
                                                                                                                                                           JSR
                          004034
                                                                              010000 175140
          770
771
772
773
                          004042
                                                                                                                                                                                                                                       JBR IF NO BELL
JTTY READY,
JOON'T WAIT IF TTY NOT READY,
JOON'T WAIT IF TTY NOT READY,
JOON'T WAIT IF TTY NOT READY,
JUDIETE ERROR PRINT OUT?
JBR IF NO PRINT OUT WANTED,
JWAS THIS ERROR FOUND LAST TIME?
JBR IF YES
JRECORD BEING HERE
JRECORD BEING HER
JRECORD BEING
J
                                                                                                                                                           BEQ
                                                                                                                                                                                     XBX
                                                                             175140
                                                                                                                                                                                     @TPCSR
                          004044
                                                   105777
                                                                                                                                                           TSTB
                                                                                                                                                           BPL
MOVB
BIT
                                                                                                                                                                                     XBX
#207,@TPDBR
#SW13,@SWR
                                                    100003
                         004052
004060
004066
                                                    112777
                                                                              000207
020000
                                                                                                   175132
175114
                                                                                                                              XBXs
                                                   991105
                                                                                                                                                           BNE
                                                                                                                                                                                     HALTS
                                                  821637
801484
811637
          776
                          004070
                                                                             001234
                                                                                                                                                           CMP
                                                                                                                                                                                     (SP), LSTERR
         777
778
779
                         004074
                                                                                                                                                           BEQ
                                                                              001234
                                                                                                                                                                                     (SP) LSTERR
                                                                                                                                                           MOV
                          004102
                                                   105037
                                                                              001311
                         904106
904110
904112
                                                   104406
011605
162705
                                                                                                                                                           MOV
                                                                                                                                                                                     (SP).R5
                                                                                                                                                                                     #2,R5
(R5),R4
                                                                             000002
                                                                                                                                                            SUB
                                                   Ø115Ø4
ØØ63Ø4
                          004116
                                                                                                                                                           MOV
          784
785
786
                          004120
                                                                                                                                                           ASL
                                                                                                                                                                                    R4
(R5),R4
                          004122
004124
                                                   061504
                                                                                                                                                                                                                                        ; DOUBLE IT
; MULT AGAIN
; CLEAR JUNK
; GET POINTER
; GET ERROR MESSAGE
; GET DATA HEADRER
; GET DATA TABLE
                                                                                                                                                           ASL
BIC
ADD
                                                    006304
                                                                                                                                                                                    R4
#177001,R4
                         004126
004132
                                                  Ø427Ø4
Ø627Ø4
                                                                              177001
                                                                            033124
004252
004264
                                                                                                                                                                                     #.ERRTAB,R4
(R4)+,ERRMSG
(R4)+,DATAHD
(R4),DATABP
                         004136
004142
                                                   Ø12437
Ø12437
                                                                                                                                                           MOV
                                                                                                                                                           MOV
          790
                         004146
004152
                                                  011437
105737
                                                                             004276
001311
                                                                                                                                                                                                                                         TYPE HEADREER
                                                                                                                                                           TSTB
                                                                                                                                                                                     ERRFLG
                         004156
004160
004164
004166
                                                  001403
005737
001040
104402
                                                                                                                                                                                    TYPMSG
DATABP
TYPDAT
          793
                                                                                                                                                           BEQ
TST
                                                                                                                                                                                                                                         BR IF YES DOES DATA TABLE EXIST?
                                                                              004276
```

BNE

, MCRLF , MCRLF LOCK

TYPMSG: TYPE TYPE TST

005104

005104

004172 004176

104402

BR IF YES.

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 18
DZDVAB_P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
                                                                                                                                                                                                                    PAGE: 0043
DZDVAB . P11
             004202
004204
                            001402
104402
                                                                                                   MASTEK
                                                                                     TYPE
     800
     8Ø1
8Ø2
             004210
004214
004220
                            104402
104411
104402
                                          005366
                                                                       161
                                                                                     TYPE
                                                                                                    . MTSTN
                                          004374
005454
                                                                                     CNVRT
                                                                                                   XTSTN
MERRPC
                                                                                                                                SHOW IT
     803
                                                                                                                                ;SHOW IT
;GIVE A CR/LF
;NO MORE HEADER UNLESS NO DATA TABLE,
;IS THERE AN ERROR MESSAGE?
;BR IF NO.
             004224
004230
004234
                            104411
104402
112737
005737
                                          994366
                                                                                     CNVRT
                                                                                                    ERTABO
                                                                                                   ,MCRLF
#-1,ERRFLG
ERRMSG
                                          005104
177777
                                                                                     TYPE
     806
     807
              004242
                                          004252
                                                                                     TST
             004246
004250
004252
                            001402
104402
                                                                                                   WRKO, FM
                                                                                     TYPE
                                                                                                                                TYPE
                                                                                                                                        ERROR MESSAGE
                            000000
                                                                       ERRMSG: Ø
             004254
004254
004260
                                                                       WRKO,FM:
                                                                                                   DATAHD
                                                                                                                                 DATA HEADER?
                            001402
104402
000000
005737
001402
104410
                                                                                                   TYPDAT
                                                                                                                                BR IF NO
     813
                                                                                     BEQ
             004260
004264
004264
004272
004274
004276
004300
                                                                                     TYPE
                                                                                                                                TYPE
                                                                       DATAHD:
                                                                                                                                        DATA HEADER
                                                                                                                                ;DATA TABLE?
                                          004276
                                                                       TYPDAT: TST
                                                                                                   DATABP
RESREG
                                                                                     BEQ
                                                                                     CONVRT
                                                                                                                                 SHOW
                                                                                                                                ;SHOW
; DATA TABLE
;RESTORE PROC REGISTERS
;HALT ON ERROR?
;BR IF NO HALT ON ERROR
;SAVE RO
;SHOW ERROR PC IN DATA LIGHTS
                                                                       DATABP: Ø
Resreg: Resø5
     820
                            104407
             004302
004306
004310
     821
                            005777
                                          174674
                                                                       HALTSI
                                                                                     TST
                                                                                                   aswr
                                                                                     BPL
PUSHRØ
MOV
                            100005
                                                                                                   EXITER
     823
             004312
004316
004320
004322
                                                                                                   2(SP).RØ
                            016600
                                          000002
     825
826
827
                                                                                                                                HALT
GET RO
JUPDATE ERROR COUNT
                                                                                     HALT
POPRØ
                            000000
                            012600
005237
                                                                       EXITER:
                                                                                     INC
                                                                                                                                JUPDATE ERROR COUN

GOTO TOP OF TEST?

BR IF YES

GOTO NEXT TEST?

BR IF NO

SET FOR NEXT TEST
                                                                                     BIT
              004326
                            032777
                                          000400
                                                      174646
                                                                                                   #SWØ8, #SWR
             004326
004334
004336
004344
                           001007
032777
001407
                                                                                                   *SW10, @SWR
                                          002000
                                                      174636
     830
     831
832
833
834
                                                                                     BEQ
             004344
004346
004354
004360
004364
                            013737
012706
000177
000002
                                          001216
                                                                                     MOV
MOV
JMP
RTI
                                                                                                   NEXT. RETURN
                                                                                                                                RESET SP
                                          001200
174630
                                                                                                   #STACK, SP
                                                                                                   PRETURN
                                                                                                                                RETURN
                            00000
                                                                       ERTABØ:
             004370
004372
                                               002
                            006
001276
                                                                                                   6,2
                                                                                     SAVPC
                                                                       XTSTN:
                                                                                     BYTE
     840
                            001226
                                                                                     TSTNO
              004400
                                                                                     ENTER HERE ON POWER FAILURE
             004402
004402
004410
                                                                                    MOV
HALT
                                                                                                                                              SET UP FOR POWER UP TRAP HALT ON POWER DOWN NORMAL
     848
                            000000
                            000777
                                                                                     PROCESSOR WILL TRAP HERE WHEN POWER IS RESTORED
     851
             004414
004414 012737 004402 000024
                                                                                    MOV
                                                                                                   #.PFAIL, 24
                                                                                                                               ; SET UP FOR POWER FAILURE
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 19
DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
                                                                                                                                                                                                                    PAGE: 0044
                                                                                                                                RESET THE STACK POINTER
READY FOR TIMMER
PULS ONE TO THE TIMER!
BR IF MORE TO GO
TTPE THE MESSAGE
TELL WHAT TEST TO RETURN TO.
             004422
004426
004432
                                          001200
                                                                                                   #STACK, SP
     856
857
                            005037
005237
                                          005562
005562
                                                                                     CLR
INC
                                                                                                   TEMP
            004436
004440
                            001375
104402
                                                                                     BNE
                                          005107
                                                                                     TYPE
             004444
004450
004454
004460
004462
004464
004470
                            104411
105037
005037
104412
     860
                                          004470
                                                                                     CNVRT
                                                                                                    PFTAB
                                                                                                   ERRFLG
LSTERR
                                                                                     CLRB
                                                                                                                                 START CLEAN
                                                                                     CLR
MSTCLR
                                                                                                                                START CLEAN UP OF DEVICE
CLEAR IT ALL!
START DOING THAT TEST AGAIN,
                                                                                     RAMCLR
                            000177
                                          174524
                                                                                                   PRETURN
                                                                       PFTAB:
                            000001
     867
                                 003
                                               002
                                                                       BYTE
                                                                                     3.2
             004474
004476
004500
                            001226
010046
013700
     868
                                                                                                   RØ,-(SP)
18,RØ
RØ
                                                                       DELAY
                                                                                     MOV
                                          004514
     870
             004504
004506
004510
004512
                            005300
001376
012600
000002
                                                                                     DEC
                                                                                                   .=2
(SP)+,RØ
                                                                                     MOV
     874
                                                                                     RTI
     875
             004514
                            000036
                                                                       18:
     877
             ØØ4516
ØØ4516
                                                                        RAMCLRE
                           Ø12777
Ø10146
Ø1Ø446
                                                                                                                               ; ISSUE A MASTER CLEAR
; SAVE R1 ON THE STACK
; SAVE R4 ON THE STACK
                                          004000 174636
                                                                                     MOV
                                                                                                   #MRESET, ODVSCR
             994516
994524
994526
994539
994534
994549
                                                                                                   R1,=(SP)
R4,=(SP)
     88Ø
881
                                                                                     MOV
                                                                                                                               JGET SECONDARY SEL, REG,
JGET SECONDARY REGISTER ACCESS REG,
JZERO THE SECONDARY REGISTER,
HBIT9-BIT8-BIT8-BIT1+BIT6>+BIT9,(R1)
                                                                                                   DVSRS,R1
DVSRA,R4
                            013701
013704
                                          001372
001376
                                                                                     MOV
                                                                                     MOV
CLR
ADD
                            005014
062711
001374
                                                                       181
                                                                                                   (R4)

**C<BIT11+BIT10+
                                          170361
             004546
004550
004552
004554
     885
                                                                                     BNE
                            912604
                                                                                                                                RESTORE R4
    887
                                                                                     MOV
                            012601
                                                                                                   (SP)+.R1
                            000002
                                                                                     RTI
     889
890
891
                                                                       MSTCLR:
             004556
004564
                            012777
                                          004000 174576
                                                                                                   #MRESET, ODVSCR ; ISSUE MASTER CLEAR.
                            000002
     893
894
895
             Ø04566
Ø04566
                                                                       .ROMCLK:
                            052777
                                          000002 174566
                                                                                    BIS
                                                                                                   #BIT1, @DV8CR
     896
             004574
                            000002
              004576
                                                                       .DATACLK:
             004576
004600
004602
004610
                            010046
005000
052777
017737
                                                                                     MOV
CLR
BIS
     899
                                                                                                   RØ, - (SP)
     900
901
902
                                          000400
                                                                                                   #BITS, SDVLCR
                                                        004636
                                                                      161
                                                                                     MOV
             004616
004622
004624
004626
004630
004630
     903
                            106037
                                                                                                   38+1
     904
905
                           103003
                                                                                     BCC
                                                                                                   2$
                                                                                                   RØ
                                                                                     BNE
HLT
MOV
     906
                            001370
                            104000
```

281

38:

004634

000000

909

(SP)+. RØ

BLKW 1

PAGE: 0046

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 20
DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
```

```
004000 174336 SERV.G: BIT
                                                                                                                #4000,9TKCSR
                                                                                                                                                  ; RX BUSY?
912 004640 032777
913 004646 001374
914 004650 017737
915 004656 013777
                                                                                                                SERV.G
@SWR,908
                                                                                                                                                  BR IF YES
                                                                                               BNE
                                            174326
                                                             005072
                                                                                               MOV
                                                                                                                908,85WR
,898
,888
                                            005072
005052
                                                                                               MOV
916
917
918
919
          004664
004670
004674
004700
                          104402
104411
104402
105777
                                                                                               TYPE
                                            005054
005074
174300
                                                                                               CNVRT
                                                                                              TYPE
TSTB
                                                                                                                ,918
eTKCSR
                                                                                                                                                  , WAIT FOR DONE,
          004700
004706
004712
004716
004722
004724
004730
                          105777
100375
017746
042716
122726
001450
005077
105777
920
921
922
923
924
                                                                                                                eTKDBR, -(SP)
                                                                                               BPL
                                             174274
                                                                                                                #BIT7,(8P)
#15,(8P)+
                                            000200
000015
                                                                                               CMPB
                                                                                               BEQ
CLR
TSTB
                                                                                                                . SWR
                                            174252
174254
925
926
                                                                                                                PTPCSR
                          100375
016677
000241
006177
006177
006177
          004734
004736
004744
004746
                                                                                               BPL
MOV
CLC
ROL
                                           177776 174246
                                                                                                                -2(SP), OTPDBR
929
                                            174230
                                                                                                                eswr
          004752
004756
004762
                                                                                              ROL
ROL
BCS
CMP
                                            174224
174220
                                                                                                                BSWR
932
933
                                                                                                                1$
-2(SP),#60
                                                                                                                                                   ERROR
          004764
004772
004774
                          026627
002731
026627
                                            177776 000060
                                                                                                                18
-2(SP),#67
936
937
938
939
940
                                          177776 000067
          005002
005004
005012
005020
                          003325
042766
056677
105777
                                                                                               BGT
                                                                                                               15
#"C<7>,-2(SP)
-2(SP), 9SWR
9TKCSR
                                                                                              BIC
BIS
TSTB
                                            174160
                          105777
100375
017746
042716
122726
001332
                                                                                                               941
942
943
          005024
005026
005032
                                                                                               BPL
MOV
BIC
                                            174154
                                            000200
000015
          005036
                                                                                               CMPB
          005042
                                                                                              BNE
TYPE
                                            005104
                                                                                                                , MCRLF
                                                                              581
946
947
948
949
950
951
952
953
954
          005044
005050
                         104402
                                                                                               RTS
          005052 020377
005060 036451
                                            051450
000057
                                                             051127
                                                                             8981
                                                                                               .ASCIZ <377>? (SWR)=/?
                                                                              .EVEN
          005064
                            000001
                                                                                              BYTE 6.0
          005066
005070
                           006
005072
                                                                             9081 , MORD 0
9181 , ASCIZ 7/=/7
EYEN
MGM: , ASCIZ / 7/
MCRLF: , ASCIZ <15><12>
MPFAILE , ASCIZ <377>/PWR FAILED, RESTART AT TEST /
MEPASS: , ASCIZ <377>/END PASS DZDVA-B /
955
956
957
958
                         000000
036457
          005072
          005074
                                            000057
                                            000077
          005100
                            020040
                           005015
377
377
(2)
(2)
          005104
005107
                                            000
053520
(2)
          005145
                                            047105
                                                             020104
                         377
377
050377
377
377
377
                                                                             MER; ASCIZ <377>/ZND PASS DEDVA-B /
MER; ASCIZ <377>/ZND PASS DEDVA-B /
MERR2: ASCIZ <377>/PROGRAM INDICATES NO DEVICES PRESENT./
MERR3: ASCIZ <377>/INSUFFICIENT DATA!/
MTSTPC: ASCIZ <377>/LOCK ON SELECTED TEST/
          005171
005174
005243
                                            000122
047522
047111
                                                            051107
052523
052123
045503
```

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 21
DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
```

```
MCSRX: ASCIZ
MVECX: ASCIZ
MPASSX: ASCIZ
MERRX: ASCIZ
MITSTN: ASCIZ
MASTEK: ASCIZ
MNEW: ASCIZ
        005330
005336
005344
005355
                                        035122 000040
035103 000040
051523 051505
051122 051117
                                                                                                       /C8R1 /
                        051503
(2)
(2)
(2)
                       042526
040520
105
                                                                                                    /VEC: /
/PASSES: /
                                                                                                    /ERRORS: /
/TEST NO: /
/*/
4377>/SET SWITCH REG TO DV11*S DESIRED ACTIVE./
                       042524
000052
051777
(2)
(2)
(2)
        005366
005400
005402
                                        052123 047040
                                        MERRPC: ASCIZ /PC: /
XHEAD: ASCIZ <377>/MAP OF DV11 STATUS/<377>
EVEN
XSTATQ: 2
                        Ø4152Ø
377
         005454
         005461
(2)
(2)
959
96Ø
961
         005506
                      000002
         005510
005512
005514
                       006
001246
                                                                                     .BYTE
TEMP1
                                             003
                                             002
                              006
                                                                                       BYTE
                                                                                                    6,2
962
         005516 001250
                                                                                     TEMP2
963
964
965
                                                                      EVEN
                                                                                     BUFFERS FOR INPUT-OUTPUT
966
967
968
969
970
971
972
        005520 000000
005562
005562 000000
                                                                      INBUF:
                                                                      .=.+40
TEMP:
.=.+40
MDATA;
         005624
```

```
ROUTINE USED TO "CYCLE" THROUGH UP TO EIGHT DV11'S
;THIS ROUTINE SETS UP THE CONTROL ADDRESS FOR THE DIAGNOSTIC
;AND RUNS THE SPECIFIED DV11'S. THIS ROUTINE *MUST*
  976
977
                                                                                               JBE RUN FIRST BEFORE ENTERING THE DIAGNOSTIC FOR THE SETUP NECESSARY,
  979
  980
  981
982
983
984
985
                                                                                                                                               ; ARE ANY DV11'S TO BE TESTED?
; BR IF OK.
,NO DV11'S SELECTED11
; STOP THE SHOW,
; DISQUALIFY CONT. SW.
; IS THIS ONE "ACTIVE"
; BR IF GOOD ONE FOUND.
; CLEAR PROC. CARRY BIT.
; UPDATE POINTER
; UPDATE ADDRESS POINTER.
           005666
005672
005674
005700
                            105737
                                            001300
                                                                             CYCLE:
                                                                                                              DVACTV
                            001004
104402
00000
                                                                                              BNE
                                                                                                               ,MERR2
                                            005174
                                                                                              TYPE
                                                                                               HALT
            005702
                            000776
  986
                                                                                               BR
                                                                                                              RUN, DVACTV
  987
            005704
                            133737
                                            001304 001300
                                                                                              BITB
  988
           005712
005714
                            001020
000241
                                                                                              CLC
  99ø
991
992
           005714
005716
005722
005726
005734
                            106137
                                                                                              ROLS
                                                                                                              RUN
                            105537
105537
962737
022737
                                            001304
001304
000024
001740
                                                                                                              RUN
#24,CREAM
#DV,END,CREAM
                                                                                              ADCB
ADD
  993
994
995
996
                                                            001306
                                                                                              CMP
                                                                                                                                                ;KEEP GOING; NOT ALL TESTED FOR,
;RESET ADDRESS POINTER,
;KEEP LOOKING FOR ACTIVE DV11
;CLEAR PROC. CARRY,
;UPDATE POINTER,
;CATCH CARRY,
;GET ADDRESS POINTER,
           005742
005744
005752
                            Ø01360
Ø12737
                                             001500
                                                                                                               #DV, MAP, CREAM
                            000754
                                                                                              BR
           005754
005756
005762
                            000241
106137
105537
                                                                                              CLC
ROLB
ADCB
MOV
  997
998
                                                                             28:
                                             001304
                                                                                                              RUN
                                            001304
001306
000024
                                                                                                              RUN
CREAM, RØ
  999
            005766
1000
                            013700
1001
           005772
006000
                                                                                              ADD
                                                                                                               #24, CREAM
#DV, END, CREAM
                                                             991396
                                                                                                                                                UPDATE.
                                             001740
                                                             001306
                                                                                                                                                ; ALL DONE?
1003
                                                                                                                                                ;BR IF NO.
;RESTORE POINTER.
;LOAD SYSTEM CTRL, REG
;LOAD VECTOR
            006006
1004
                            881883
                                                                                              BNE
                                                                                                              *DV.MAP, CREAM
(RØ)+, DVSCR
(RØ)+, DVRVEC
1005
           006010
006016
                            012737
012037
                                            001500
001362
001352
                                                                                              MOV
                                                            001306
                                                                             38:
1007
            006022
                            012037
                                                                                               MOV
                                            001352
001416
001426
001420
001430
001422
001432
001432
                                                                                                              (R0)+,DVRVEC
(R0)+,L00.03
(R0)+,SYNC2A
(R0)+,SYNC2B
(R0)+,SYNC2B
(R0)+,L08.11
(R0)+,SYNC2C
(R0)+,L12.15
1008
            006026
006032
                            012037
012037
                                                                                               MOV
                                                                                                                                                GET LINE PARAMETERS. 00-03
1010
                            012037
                                                                                              MOV
            006036
                                                                                                                                                                                             04-07
1011
            006042
                            012037
                                                                                              MOV
1012
            906046
906052
                            Ø12037
Ø12037
Ø12037
Ø12037
                                                                                                                                                                                             08-11
                                                                                              MOV
1014
            006056
                                                                                              MOV
                                                                                                                                                                                             12-15
                                                                                              MOV
            006062
                            012037
                                                                                                               (RØ)+, SYNC2D
                                                                                                              #2,RØ
DVSCR,DVSCRH
                                                                                                                                                SAVE CORE THIS WAY!
1016
            006066
006072
                            012700
013737
                                            000002
001362
                                                                                                                                                ;GET SYS CTRL, REG HIGH BYTE,
;GOT IT.
;GET NXT REC. CHAR REG.
                                                            001364
                                                                                              MOV
1018
1019
1020
           006100
006104
006112
006116
                            005237
013737
005237
013737
                                            001364
001364
001366
001366
                                                                                                              DVSCRH
                                                             001366
                                                                                                               DVSCRH, DVRIC
                                                                                                                                                ;GOT IT
;GET LN, PAR,REG,
;GOT IT
;GET SEC, REG, SEL, REG,
                                                                                              INC
                                                                                                              DVRIC DVLCR
1021
                                                             001370
           006124
006130
006136
                                            001370
001370
001372
                                                                                                              RØ, DVLCR
DVLCR, DVSRS
RØ, DVSRS
                            Ø60037
Ø13737
                                                                                              ADD
MOV
1022
1024
                            060037
                                                                                              ADD
                                                                                                                                                GOT IT
                                                                                                              DVSRS, DVSRSH
DVSRSH
                                                                                                                                                GET HIGH BYTE,
1025
            006142
                            Ø13737
                                            001372
                                                            001374
                                                                                              MOV
                            005237
013737
                                                                                              INC
                                            001374
001374
                                                                                                                                                SEC. REG. ACCESS.
                                                             001376
                                                                                                              DVSRSH, DVSRA
            006154
1027
                            005237
```

DZDVA-8 MACY11 27(732) 18-MAR-76 15:06 PAGE 23
DZDVAB.P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.) 006166 006174 DVSRA, DVSFR RØ, DVSFR :SPEC. FUN. REG. 001400 001400 001402 001402 1030 060037 ADD 1031 1032 1033 013737 060037 013737 DVSFR, DVNSR RØ, DVNSR DVNSR, RESV16 006200 006206 001402 MOV NPR STAT. REG. 006212 001404 MOV RESERVED REG 1034 006220 060037 001404 ADD RØ, RESV16 1035 006224 013737 001352 MOV DVRVEC. DVRLVL PTY LVL ADD RØ, DVRLVL DVRLVL, DVTVEC RØ, DVTVEC 1037 006232 060037 001354 1038 1039 1040 006236 006244 006250 013737 060037 013737 001354 001356 001356 001356 TX VEC ADD DVTVEC, DVTLVL RØ, DVTLVL 001360 MOV TX LVL 1041 1042 1043 1044 006256 001360 ADD 012700 012701 012702 004737 MOV 006262 006266 001416 #L00.03.R0 LOAD STAUS 00-03 001406 001412 006516 MOV MOV JSR #MASK.A,R1 #CLK.A,R2 PC,FIX.00 ; PREPARE MASK, ; PREPARE CLOCKS ; GO AND CALCULATE CONFIGURATION. 1045 ØØ6272 ØØ6276 1047 MOV MOV ;LOAD STAUS 00-03 ;PREPARE MASK. ;PREPARE CLOCKS 1048 006302 012700 001420 #L04.07,R0 #MASK.B,R1 1049 006306 006312 001407 001413 012701 012702 #CLK.B,R2 PC,FIX.00 MOV 006516 1051 006316 004737 JSR GO AND CALCULATE CONFIGURATION, 1052 006322 012700 001422 MOV #LØ8.11.RØ :LOAD STAUS 00-03 ;PREPARE MASK, ;PREPARE CLOCKS ;GO AND CALCULATE CONFIGURATION. 012701 012702 1054 ØØ6326 ØØ6332 001410 MOV #MASK.C.R1 MOV JSR 1055 #CLK.C,R2 PC,FIX.00 1056 006516 004737 006342 006346 006352 006356 012700 012701 012702 001424 001411 001415 006516 #L12.15,R0 #MASK.D,R1 #CLK.D.R2 PC,FIX.00 1058 MOV ;LOAD STAUS 00-03 1059 MOV MOV PREPARE MASK. 1061 004737 JSR GO AND CALCULATE CONFIGURATION. 006362 006370 006372 006372 1062 Ø32777 172612 #8WØ1, @SWR 001445 BEQ 1064 45: 000042 1065 005737 TST 0#42 001042 104402 104403 1066 1067 1068 006376 006400 006404 BNE TYPE INSTR MTSTN 78 , MCRLF 005104 1069 1070 1071 006406 006410 006412 005366 104405 PARAM 000001 1072 006414 001000 1000 1073 1074 1075 006416 006420 006421 TSTNO 001226 000 BYTE 991 1 MOV CMP 1076 1077 1078 006422 006426 006430 012700 007256 *TST1,R0 (PC)+,(R0) 022710 MOV (PC)+, 8 (PC)+ 006432 006434 006442 006444 006452 006454 001015 023760 001011 BNE 1079 68 TSTNO, 2(RØ) 001226 000002 BNE 68 #TSTNO,4(RØ)

RØ. RETURN

MOV

1082

022760

001005 010037

```
DZDVA-B MACY11 27(732) 18-MAR-76 15106 PAGE 24
DZDVAB,P11 GENERAL UTILITIES (TYPE OUT,ERROR,SCOPE,ETC.)
                                                                                                                                                                                                                                                                      PAGE: 0049
                 006460 104402 005104
006464 000412
006466 005720
006470 020027 031174
                                                                                                                           , MCRLF
     1085
     1086
1087
1088
1089
1099
1091
1092
1093
1094
                                                                                                          BR
                                                                                                         TST
CMP
BNE
                                                                                                                           (RØ)+
RØ, #TLAST+10
58
                 006466 005720

006470 020027

006474 001354

006476 104402

006502 000733

006504 012737

006512 000177
                                                                                                         TYPE
BR
MOV
                                                     005100
                                                                                                                             MQM
                                                                                                                            48
#TST1,RETURN
                                                     007256
                                                                                                                                                               PREPARE RETURN ADDRESS
                                                                    001214
                                                                                        7#:
8#:
                                                     172476
                                                                                                          JMP
                                                                                                                            ARETURN
                                                                                                                                                               GO START TESTING.
                                                                                                                                                               ;GET PARAMETERS.
;CLEAR JUNK.
;TEST FOR EIGHT BITS.
;BR IF NOT 8 BITS.
;SET
                                                                                        FIX.00:
                                                                                                         MOV
BIC
                                                                                                                            (RØ),R3
#°C<1400>,R3
                  006516
                                   011003
     1096
1097
                 006520 042703
006524 005703
006526 001004
                                                    176377
                                                                                                          TST
BNE
                                                                                                                            R3
1#
     1098
     1099
1100
1101
                                                                                                                            (R1)
                  006530
                                   105011
                                                                                                          CLRB
                                   112712
                                                                                                         MOVB
BR
CMP
                 006532
006536
                                                     000010
                                                                                                                            #8,,(R2)
                                                                                                                            48
#400,R3
                 006540
006544
006546
006552
006556
006564
006564
                                                                                                                                                               CHECK FOR SEVEN BITS.
     1102
1103
1104
                                   022703
001005
112711
112712
                                                    000400
                                                                                        181
                                                                                                          BNE
                                                    000200
000007
                                                                                                          MOVB
MOVB
                                                                                                                            #200,(R1)
#7,(R2)
     1105
1106
1107
1108
1109
                                                                                                         CMP
BNE
MOVB
MOVB
                                  022703
001005
112711
                                                                                                                            #1000,R3
                                                                                                                                                               ; CHECK FOR SIX BITS. ; BR IF NOT SIX BITS.
                                                    001000
                                                                                        281
                                                                                                                           #1000,R3
3#
#300,(R1)
#6,(R2)
4#
#340,(R1)
                                                     000300
     1110
1111
1112
1113
1114
1115
                 006572
006576
006600
006604
                                  112712
000404
112711
112712
                                                     000006
                                                                                                          BR
MOVB
                                                                                                                                                               ; IF NONE OF THE ABOVE; MUST BE 5 BITS.
                                                     000340
                                                                                        38;
                                                                                                          MOVB
BIT
BEQ
INCB
                                                     000005
                                                                                                                            #5. (R2)
                                                                                                                           *PARBIT,(RØ)
58
(R2)
                                                                                                                                                               ; PARITY ENABLED?
; IF =0; THEN NO PARITY.
; PLUS ONE TO THE CLOCK!
                                                     040000
                                                                                        48:
                                   105212
     1116
                  006616
                                                                                        581
                                                                                                          RTS
                                                                                                          ; *ROUTINE USED TO "AUTO SIZE" THE DV11
     1119
                                                                                                         J-KOUTINE USED TO "AUTO SIZE" THE DV11

J*CSR AND VECTOR,
J*NOTE: THE CSR MAY BE ANY WHERE IN THE FLOATING

ADDRESS RANGE (175000:1175400)

**AND THE VECTOR MAY BE ANY WHERE IN THE

FLOATING VECTOR RANGE (390:770)
     1120
1121
1122
1123
     1124
1125
1126
1127
                                                                                        AUTO.SIZE:
                  006622
                                                                                       RESET
CSRMAP: MOV
18:
                                                                                                                                                              ; INSURE A BUS INIT,
; LOAD MAP POINTER,
; ZERO ENTIRE MAP
; ALL DONE?
; BR IF NO
; SET OCTAL NUMBER OF DV11'S TO Ø
                 996622
996624
996639
                                000005
012702
005022
     1128
                                                                                                                            *DV.MAP,R2
(R2)+
*DV.END,R2
                                                     001500
     1129
                                                                                                         CLR
     1131
1132
1133
                                  022702
001374
105037
012702
                  006632
                                                     001740
                 006636
006640
006644
                                                                                                          BNE
CLRB
MOV
                                                                                                                           18
DVNUM
                                                    001301
001500
175000
007074
                                                                                                                           *DV.MAP,R2
*175000,R1
*68,8*4
(R1)
     1134
                                                                                                                                                              ;SET FOR FIRST ADDRESS TO BE TESTED
;SET FOR NON-EXISTANT DEVICE TIME OUT
;IF DV11 DVSCR 5/B 8
;IF NO DEV; TRAP TO 4, IF NO BIT 8 THEN NO DV11
;IF DV11 THEN DVSFR S/B ALL 1°S ON INIT1
;BR IF NOT DV11
                 006650 012701
006654 012737
006662 005711
                                                                                                          MOV
     1135
                                                                      000004
     1136
1137
                                                                                        281
                                                                                                          TST
                 006664 001037
006666 022761
006674 001033
                                                                                                         BNE
CMP
BNE
                                                                                                                            #177777,12(R1)
                                                    177777 000012
D:
```

		27(732)							PAGE	0050
ZDVAB.	P11	GENERAL	UTILITIE	S (TYPE	OUT, ERR	DR, SCOPE	E,ETC.)			
1141	006676	005761	000016			TST	16(R1)	; IF DV11 THEN RESV16 S/B ALL 0'S		
1142	006702	001030	000010			BNE	38	BR IF NOT DV11		
1143	000.02	001030			AT THE			AT R1 HOLDS A DV11 CSR ADDRESS,		
1144	006704	010122			,	MOV	R1,(R2)+	STORE CSR IN CORE TABLE.		
1145	006706	005722				TST	(R2)+	POP OVER VECTOR STORE AREA		
1146	006710	052722	000226			BIS	#226, (R2)+	SET LINE CARD 1 STAT AND SYNC		
1147	006714	052722	000062			BIS	#62,(R2)+			
1148	006720	052722	000226			BIS	#226, (R2)+	SET LINE CARD 2 STAT AND SYNC		
1149	006724	052722	000062			BIS	#62,(R2)+			
1150	006730	052722	000226			BIS	#226, (R2)+	SET LINE CARD 3 STAT AND SYNC		
1151	006734	052722	000062			BIS	#62,(R2)+			
1152	006740	052722	000226			BIS	#226,(R2)+	SET LINE CARD 4 STAT AND SYNC		
1153	006744	Ø52722	000062			BIS	#62,(R2)+	• Property of the property of the control of th		
1154	ØØ675Ø	105237	001301			INCB	DVNUM	; UPDATE DEVICE COUNTER		
1155	006754	122737	000010	001301		CMPB	#10,DVNUM	; ARE MAX, NO. OF DEV FOUND?		
1156	006762	001405				BEQ	100\$	YES DON'T LOOK FOR ANY MORE.		
1157	006764	062701	000010		34:	ADD	#10,R1	; UPDATE CSR POINTER ADDRESS		
1158	006770	022701	175400			CMP	#175400,R1	가게 보는 이 (1985년) 1일 - 1일 <u>- 1일 (1985년)</u> 기가 가는 것이다.		
1159	006774	001332			200	BNE	28	;BR IF MORE ADDRESS TO CHECK,		
1160	006776	012722	177777		1005:	MOV	#177777, (R2)+	; TERMINATER,		
1161	007002	105037	001300			CLRB	DVACTV			
1162	007006	105737	001301			TSTB	DVNUM	WERE ANY DV11'S FOUND AT ALL?		
1163	007012	001423				BEQ	54	FERROR AUTO SIZER FOUND NO DV11 S IN THIS SYS	•	
1164	007014	113701	001301			MOVB	DVNUM, R1	ALUM NUMBER OF RESTORA		
1165	007020	110137	001303			MOVB	R1, SAVNUM	; SAVE NUMBER OF DEVICES		
1166	007024	000241	001300		461	CLC	DVACMV	APPENANT ACMITE DECICED AF DEVICES		
1167	007026 007032	106137 105237	001300			ROLB	DVACTV	GENERATE ACTIVE REGISTER OF DEVICES.		
1169	007032	005301	001300			DEC	DVACTV	SET THE BIT		
1170	997949	001371				BNE	R1	BR IF MORE TO GENERATE		
1171	007042	012737	999996	000004		MOV	48 #6,8#4	RESTORE TRAP VECTOR		
1172	007050	113737		001302		MOVB	DVACTV, SAVACT	SAVE ACTIVE REGISTER		
1173	007056	000137	007102			JMP	VECMAP	GO FIND THE VECTOR NOW.		
1174	007062	104402	005174		541	TYPE	MERR2	NOTIFY OPR THAT NO DV11'S FOUND.		
1175	007066	005000			•••	CLR	RØ	MAKE DATA LIGHTS ZERO		
1176	007070	000000				HALT		STOP THE SHOW		
1177	607072	000776				BR	1.72	DISABLE CONT. SW.		
1178	007074	012716	006764		681	HOV	#38,(8P)	PENTERED BY NON-EXISTANT TIME-OUT.		
1179	007100	000002				RTI	***************************************	RETURN TO MAINSTREAM		
1180										
1181	007102	Ø12737	000340	000022	VECHAP:	MOV	#340,0#22	SET IOT TRAP PRIO TO 7		
1182	007110	012737	007232	868638		MOV	#48,0#20	SET IOT TRAP VECTOR		
1183	007116	012702	001500			MOV	#DV.MAP,R2	SET SOFTWARE POINTER		
1184	007122		000300			MOA	#300,R0	;FLOATING VECTORS START HERE.		
1185	007126	912791	000302			MOV	#302,R1	PC OF IOT INSTR.		
1186	007132	910120			181	MOV	R1,(R0)+	START FILLING VECTOR AREA		
1187	007134	012721	000004			MOV	#4,(R1)+	; WITH .+2; IOT		
1188	007140	022021				CMP	(RØ)+,(R1)+	;ADD 2 TO RØ +R1		
1189	007142	020127	001000			CMP	R1,#1000			
1190	007146	101771				BLOS	18	BR IF MORE TO FILL		
1191	007150	113737		001246		MOVB	DVACTV, TEMP1	STORE TEMPORALLY		
1192		006037	001246		281	ROR	TEMP1	BRING OUT A BIT		
1193	007162	103034				BCC	54	BR IF ALL DONE		
1194	007164	005037	177776			CLR	PS	ZERO CPU PRIO		
1195	007170	012772	001300	000000		MOV	#BIT9+BIT7+BIT6			
1196	007176	005000				CLR	RØ	ATTEMPT TO FORCE AN INTERUPT		

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DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 26
DZDVAB,P11 GENERAL UTILITIES (TYPE OUT, ERROR, SCOPE, ETC.)
                                                                                                                      STALL FOR TIME TO INTERUPT
                                                                              INC
BNE
   1197
            007200 005200
                                                                                           001376
052762
042772
            007202
            007204
007212
                                       000300
176777
                                                                              BIS
BIC
CLR
                                                                                                                      NO INTERUPT ASSUME 300 AND FIX DV11 LATER
                                                    000002
                                                    000000
   1200
   1201
1202
1203
                                       400000
             007220
                         005072
            007224
007230
007232
                         062702
062702
000752
051662
                                                                                                                      ;POP SOFTWARE POINTER
;KEEP GOING
;GET VECTOR ADDRESS
;CLEAR JUNK
                                       000024
                                                                              ADD
                                                                                           #24,R2
28
(SP),2(R2)
#7,2(R2)
(SP)+,(SP)+
#36,(SP)
                                                                              BR
BIS
BIC
   1204
1205
                                       000002
000007 000002
            007235
007244
007246
                         Ø42762
Ø22626
Ø12716
                                                                                                                      POP IOT JUNK OFF STACK
SET FOR RETURN
                                                                              CMP
MOV
   1206
                                       007212
   1208
1209
            007252
007254
                         000002
                                                                              RTI
                                                                                           PC
                                                                 58:
                                                                              RTS
                                                                                                                      ; ALL DONE WITH "AUTO SIZING"
```

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DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 27
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                              PAGE: 0052
                                                                                                1212
                                                                                                1213
    1214
    1216
1217
1218
1219
                                                                                     TEST 1
                                                                                TST1:
                                                                                                               #1,TSTNO
#TST2,NEXT
#1$,LOCK
#8,,RØ
DVSCR,R1
                                                                                                MOV
               007256 012737
007264 012737
                                               000001
007366
                                                               001226
001216
                                                                                                MOV
    1220
1221
1221
               007272
007300
007304
                             012737
012700
013701
                                               007324
000010
001362
                                                                                                MOV
                                                                                                                                               ;SET FOR MAX, 8 PRI, REGISTERS
;GET FIRST PRI, ADDRESS
;SET FOR TIME-OUT TRAP,
;SAFE GUARD,
;REFERENCE THE ADDRESS,
                                                                                                MOV
                               012737
012737
    1223
                                                                999994
                                                                                                MOV
    1224
                                                                                               MOV
    1225
               007324
                               005711
                                                                               18:
                                                                                                               (R1)
                                                                                                                                               ;REFERENCE THE ADDRESS,
;STALL
; FOR TIME,
;IF SW89=1; GOTO 18;
;UPDATE TO NEXT ADDRESS,
;ARE ALL ADDRESS CHECKED?
;BR IF NO,
;RESET TRAP ZONE,
               007326 000240
007330 000240
007332 104401
007334 062701
    1226
                                                                                                NOP
    1227
1228
                                                                                               SCOP1
    1229
                                               000002
                                                                                                               #2.R1
                               005300
001370
012737
005037
104400
011602
104001
   1230
1231
1232
1233
               007340
007342
007344
007352
                                                                                                               RØ
18
#6,4
                                                                                               DEC
                                                                                               BNE
                                                000006
                                                              000004
                                                                                               CLR
SCOPE
MOV
                                                000006
                                                                                                                                               SCOPE THIS TEST
SAVE THE TRAP PC
REPORT TIME-OUT TRAP
RETURN TO MAIN PROGRAM
                                                                                                               (SP), R2
               007360
007362
                                                                               281
    1235
1236
                                                                                                HLT
   1237
1238
1239
   1240
1241
1242
1243
1244
1245
1246
                                                                                               1247
                                                                                     TEST 2
               007366 012737
007374 012737
007402 012737
007410 012700
007414 013703
007420 005013
                                              000002
007620
007436
007600
                                                                                TST2:
                                                                                               MOV
                                                               001226
                                                                                                               #2.TSTNO
                                                                                                               *T8T3, NEXT
*1*, LOCK
*3$, RØ
DVSCR, R3
    1250
                                                               001216
                                                                                                MOV
MOV
MOV
    1251
                                                                001220
                                                                                                                                               ;SET DATA TABLE POINTER
;SET DV POINTER
;SET DV POINTER
;START REG AT ZERO
;ZERO SEC, REG SEL,
;ZERO SEC REG ACCESS
;PUT DATA INTO EXPECTED
;WRITE EXPECTED INTO DV REGISTER
;READ REGISTER INTO FOUND LOC
;DOES EXPECTED=RECEIVED;
;BR IF YES
    1252
1253
1254
                                               001362
                                                                                               CLR
CLR
CLR
                                                                                                               (R3)
ODVSRS
ODVSRA
    1255
1256
1257
               007422
007426
007432
                               005077
005077
012702
                                               171744
171744
000010
                                                                                               MOV
MOV
MOV
                                                                                                               #8.,R2
(RØ),R5
R5,(R3)
               007436
007440
007442
007444
    1258
                               011005
                                                                                18:
                               010513
011304
020504
    1259
    1260
                                                                                                                (R3),R4
R5,R4
648
                                                                                               CMP
BEQ
HLT
    1262
1263
1264
               907446
907450
907452
                               001401
104003
104401
                                                                                                                                                BR IF YES THIS IS A DATA ERROR *NOT* A DUEL ADDRESSING ERROR. NOT
                                                                                               SCOP1
CMP
CMP
                                                                                                                                                ; SW09=1?
; POP DATA POINTERS AND HRDW POINTER
; DON'T DO THE DYNSR!
                                                                                6481
                                                                                                               (RØ)+,(R3)+
R3,DVNSR
```

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS.
                                                                                    PAGE 28
COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                     ;BR IF NOT DVNSR
;POP POINTERS AROUND DVNSR
;UPDATE REGISTER COUNTER
;DON'T DO THE DVLCR;
;BR IF NOT THE DVLCR
;POP POINTERS AROUND THE DVLCR
               007462 001002
007464 022320
007466 005302
                                                                                                                    48
(R3)+,(RØ)+
                                                                                                   CMP
    1268
    1269
                                                                                                                    R2
               007470
007474
007476
                                020337
001002
022320
                                                                                                   CMP
BNE
CMP
                                                                                                                    R3, DVLCR
    1270
                                                 001370
                                                                                                                    (R3)+,(RØ)+
                                                                                                                                                     JUPDATE THE REGISTER COUNTER DITTO
BR IF MORE TO GO
               007500
007502
                                005302
005302
                                                                                                   DEC
    1274
     1275
                007504 001354
                                                                                                    BNE
                                                                                  CHECK DUEL ADDRESSING......
MOV #38, RØ
MOV #28, LOCK
    1276
1277
1277
1278
                                                                                                                                                    ;SET DATA POINTER
;SET HRDW POINTER
;SET IF SW99:
;SET EIGHT PRIMARY REGISTERS
;LOAD DATA INTO EXPECTED
;READ THE DV REGISTER
;DOES THE DATA COMPARE
                007506
007512
007516
                                                 007600
001362
007530
                               013703
                                                                  001220
                                012737
               007524
007530
007532
                                012702
012702
011005
011304
                                                                                                   MOV
MOV
MOV
                                                                                                                    #8,,R2
(RØ),R5
(R3),R4
    1281
    1282
                007534
007536
007540
007542
                                020504
001401
104003
                                                                                                   CMP
                                                                                                                                                     ;BR IF OK
;NOW THIS WAS A DUEL ADDRESSING ERROR,
;SW09=1?
                                                                                                   BEQ
    1284
1285
                                                                                                   SCOP1
    1286
                                                                                   6581
                                                                                                                                                     ;SM09=1?
;POP POINTERS
;DON'T DO THE DYNSR
;BR IF NOT DYNSR
;POP POINTERS
;SET REG COUNTER
;DON'T DO THE DYLCR
;BR IF NOT DYLCR
;POP POINTERS
               007544
007546
007552
                                022023
020337
001002
                                                                                                   CMP
CMP
BNE
                                                                                                                    (RØ)+,(R3)+
R3,DVNSR
    1287
1288
                                                 001402
     1289
                                                                                                                    (R3)+,(R0)+
                007554
007556
007560
                                022320
005302
020337
                                                                                                   CMP
DEC
CMP
     1290
                                                                                                                    R2
R3, DVLCR
     1291
                                                 001370
                                                                                   581
     1292
    1293
1294
1295
               007564
007566
007570
                                001002
022320
005302
                                                                                                   BNE
                                                                                                   CMP
DEC
DEC
                                                                                                                                                     POP POINTERS
SET REG POINTER
DITTO
                                                                                                                    (Ř3)+,(RØ)+
    1296
1297
                007572
                                 005302
                                                                                  781
                                                                                                  BNE
SCOPE
, WORD
, WORD
, WORD
                007574
007576
007600
                                                                                                                                                     BR IF MORE TO GO
SCOPE THIS TEST
DVSCR
                                001355
    1298
1299
                                 104400
                                                                                                                   000010
000000
                                                                                  38:
                                                                                                                                                     DVRIC
DVLCR
DVSRS
    1300
                007602
                                 300000
               007604
007606
007610
007612
                                                                                                                   SKIP
001400
000300
    1301
1302
                                000000
001400
                                                                                                    WORD
                                                                                                    WORD
    1303
                                 000300
                                                                                                                                                     :DVSRA
                                                                                                    WORD WORD
                                 100000
                                                                                                                    100000
                                                                                                                                                      DVSFR
    1305
                                                                                                    WORD
                                                                                                                    000060
                                                                                                                                                      RESV16
                007616
                                 000060
     1307
    1308
                                                                                                   1310
    1311
1312
1313
                                                                                         TEST 3
     1316
                                                                                                                   #3,TSTNO
#TST4,NEXT
DVSCR,R3
#BIT2,R5
                                                                                                   MOV
MOV
                                                                                   TST3:
     1317
                007620
                              012737
                                                 000003
                                                                  001226
                007626
007634
                                012737
012737
013703
012705
                                                                                                                                                    ;SET REGISTER TO BE TESTED.
;SET "EXPECTED ".
;WRITE THE REGISTER.
;READ THE REGISTER.
    1320
                007640
                                                 000004
                                                                                                    MOV
                                                                                                   MOV
DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 29
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                      PAGE: 0054
                                                                                                                                                     ;RS=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
;CLEAR BIT2
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
                007650
007652
007654
                                 020504
001401
104003
                                                                                                    BEQ
                                                                                                                    18
    1325
                                                                                                    HLT
               007656
007660
007662
007664
    1326
1327
                                 040513
011304
                                                                                                   BIC
MOV
                                                                                                                    R5,(R3)
(R3),R4
                                 005005
    1328
                                                                                                    CLR
                                                                                                                    R5
                                020504
001401
104003
                                                                                                                    R5,R4
                                                                                                   CMP
BEQ
    1329
    1330
                                                                                                                    28
                007670
                                                                                                                                                      COMPARISON ERROR
                                                                                                    HLT
     1332
                007672
                                104400
                                                                                   281
                                                                                                                                                      SCOPE THIS TEST
    1333
1334
1335
1336
                                                                                                   1337
     1339
    1340
                                                                                       TEST 4
               007674
007702
007710
007714
007720
007722
    1343
1344
1345
                              012737
012737
013703
                                                 000004
007750
001362
                                                                                                   MOV
MOV
                                                                                                                   #TST5,NEXT
DVSCR,R3
#BIT3,R5
R5,(R3)
(R3),R4
                                                                                                                                                    ;SET REGISTER TO BE TESTED,
;SET "EXPECTED",
;WRITE THE REGISTER,
;READ THE REGISTER,
;RS=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
    1346
1347
1348
1349
                                012705
010513
011304
020504
                                                                                                   MOV
MOV
                                                                                                   CMP
BEQ
HLT
BIC
MOV
                                                                                                                   R5,R4
               007726
007730
007732
007734
                                001401
104003
040513
    1350
    1351
1352
1353
1354
                                                                                                                                                     ;COMPARISON ERROR,
;CLEAR BIT3
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                   18:
                                                                                                                    R5.(R3)
                                                                                                                   (R3),R4
R5
R5,R4
                                 011304
               007736
007740
007742
                                005005
020504
001401
                                                                                                   CLR
CMP
    1356
                                                                                                   BEQ
HLT
     1357
     1358
                                                                                   281
                                                                                                   SCOPE
    1359
    1360
                                                                                                   1363
     1364
     1366
     1367
                                                                                        TEST 5
                007750
007756
007764
                              012737
012737
013703
                                                 000005
010024
001362
                                                                                   TST5:
                                                                  001226
                                                                                                   MOV
                                                                                                                   #5. TSTNO
                                                                                                   MOV
MOV
                                                                                                                    *TST6, NEXT
DVSCR, R3
*BIT4, R5
    1370
                                                                  001216
    1371
                                                                                                                                                     ; SET REGISTER TO BE TESTED.
; SET "EXPECTED ".
    1372
1373
1374
                007770
                                                                                                                                                     JETT "EXPECTED";
JUNITE THE REGISTER,
JREAD THE REGISTER,
JREAGOOD, RASUNKNOWN,
JARE THEY THE SAME?
JCOMPARISON ERROR,
JCLEAR BIT4
                                                                                                                    R5,(R3)
(R3),R4
R5,R4
                                 010513
                007774
007776
                                                                                                   MOV
                                011304
020504
001401
```

BEQ

HLT

R5,(R3)

010002

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 30 DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                           PAGE: 0055
                                                                                                                                              ;READ THE REGISTER.
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
               010010
010012
010014
                             011304
005005
                                                                                                               (R3),R4
                                                                                               CLR
                                                                                                              R5
R5,R4
                               020504
     1381
                010016
010020
                                                                                               BEQ
HLT
     1384
                                                                                               SCOPE
                010022
                              104400
    1385
1386
1387
1388
1389
1390
                                                                                              TEST 6
               010024 012737
010032 012737
010040 013703
                                                             Ø01226 TST6:
                                                                                                              #6,TSTNO
#TST7,NEXT
DVSCR,R3
#BIT5,R5
     1395
                                               000006
                                                                                               MOV
                               012737
012737
013703
012705
     1396
1397
                                                                                               MOV
                                                                                                                                              ;SET REGISTER TO BE TESTED.;SET "EXPECTED".
;WRITE THE REGISTER.;READ THE REGISTER.;READ THE REGISTER.;ARE THEY THE SAME?;COMPARISON ERROR,COMPARISON ERROR;CLEAR BITS;READ THE REGISTER.;SET "EXPECTED"
;READ THE REGISTER.
     1398
                010044
                                                000040
                                                                                               MOV
     1399
1400
1401
                               010513
011304
020504
                                                                                                               R5,(R3)
(R3),R4
R5,R4
                010050
010052
                                                                                                MOV
                                                                                               MOV
                010054
     1402
1403
1404
1405
                010056
010060
010062
                               001401
104003
040513
011304
                                                                                               BEQ
                                                                                                               18
                                                                                               HLT
BIC
MOV
                                                                                                               3
R5,(R3)
(R3),R4
R5
R5,R4
                010064
     1406
                010066
                                005005
                                                                                               CLR
                                                                                               CMP
BEQ
HLT
                                                                                                                                              ;SET "EXPECTED"
;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
    1407
                               020504
001401
                010072
                                                                                                               28
     1409
1410
    1411
1412
1413
1414
1415
                                                                                               1416
    1417
1418
1419
                                                                                FEST 7
    1420
1421
1422
1423
               010100 012737
010106 012737
010114 013703
010120 012705
010124 010513
                                                                                                              #7, TSTNO
#TST10, NEXT
DVSCR, R3
#BIT6, R5
R5, (R3)
(R3), R4
                                               000007
010154
001362
                                                                                               MOV
                                                                                                                                              ;SET REGISTER TO BE TESTED,
;SET "EXPECTED",
;WRITE THE REGISTER,
;READ THE REGISTER,
;RSS-GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
                                                                                               MOV
    1424
1425
1425
                                                                                               MOV
                010126
                               011304
                                                                                               MOV
                               020504
001401
104003
     1427
                                                                                               CMP
    1429
                010134
                                                                                               HLT
                010136
010140
010142
010144
                                                                                                                                               CLEAR BIT6
;READ THE REGISTER,
;SET "EXPECTED"
                                                                                               BIC
                                                                                                               R5,(R3)
(R3),R4
                                040513
                                011304
                                005005
                                                                                               CLR
     1432
                                                                                                               R5
                                                                                                               R5,R4
                                                                                                                                               ;R5=G00D; R4=?
;BR IF OK
                                020504
                                                                                               CMP
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 31 DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYR
                                                                                                                                                                                                                                          PAGE: 0056
                                                                                      COPYRIGHT 1975 DIGITAL EQUIP, CORP.
    1435 010150 104003
1436 010152 104400
                                                                                                                                              COMPARISON ERROR
                                                                                               SCOPE
    1437
1438
1439
                                                                                             1440
1441
1442
    1445
1446
                                                                                  TEST 10
              010154 012737
010162 012737
010170 013703
010174 005005
                                              000010 001226
010250 001216
001362
    1449
                                                                                                             #10,TSTNO
#TST11,NEXT
DVSCR,R3
             010162
010170
010174
                                                                                              MOV
                                                                                                                                            SET REGISTER POINTER INTO R3
SET EXPECTED RESULT
SATTEMPT TO SET BIT 7
SEAD BACK REGISTER
BIT 7 SHOULD NOT BE SET
JUNSCR NOT ALL Ø'S
SET BIT 7+BIT9 IN THE DVSCR
                                                                                                              R5
#BIT7,(R3)
                             012713
011304
001401
   1453
              010176
                                              000200
              010202
010204
                                                                                                              (R3),R4
                                                                                              BEQ
HLT
   1456
              010206
                              104003
                                                                                                              #BIT7+BIT9,R5
             010210
010214
010216
010220
                             012705
010513
011304
020504
                                                                                              MOV
                                                                                                             R5,(R3)
(R3),R4
R5,R4
                                                                                              MOV
                                                                                                                                              ; READ REGISTER
   1459
1460
                                                                                              MOV
                                                                                                                                             IS BIT 9 AND BIT 7 SET?

BR IF OK

DVSCR ERROR

CLEAR BIT 7
   1461
1462
1463
             010222
010222
010224
010226
                              001401
104003
042705
                                                                                              BEQ
                                                                                                             2#
3
#BIT7,R5
#BIT7,(R3)
(R3),R4
R5,R4
38
                                              000200
                                                                             281
             010232
010236
010240
010242
                             042713
011304
020504
                                                                                              BIC
                                                                                                                                              DITTO
   1465
1466
1467
                                                                                                                                             ; READ REGISTER
; COMPARE OK?
                                                                                             CMP
BEQ
HLT
                                                                                                                                             ;BR IF YES
;DVSCR ERROR
;SCOPE THIS TEST
                                                                             381
   1470
   1472
                                                                                             1477
                                                                                  TEST 11
             010250 012737 000011
                                                                                                            #11,TSTNO
#TST12,NEXT
DVSCR,R3
#BIT8,R5
R5,(R3)
                                                                                             MOV
                                                             001226
             010256
010264
010270
010274
                             012737
013703
012705
   1481
  1482
1483
1484
                                                                                                                                            ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ".
;WRITE THE REGISTER,
;READ THE REGISTER,
;RS=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
                                                                                             MOV
                                                                                              MOV
                             010513
  1485
1486
1487
             010276
010300
010302
                             011304
020504
                                                                                              MOV
                                                                                                             (R3),R4
                                                                                                             R5,R4
                                                                                             CMP
                              001401
```

COMPARISON ERROR, CLEAR BITS READ THE REGISTER.

HLT

BIC

18:

010304 010306 010310

```
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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP,
                                                                                                                                                                                                                                                                                                                                                                                                           PAGE: 0057
                                                                                                                                                                                                                                               ;SET "EXPECTED"
;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                                                                                CLR
CMP
BEQ
                          010312 005005
010314 020504
        1492
        1493
1494
1495
                                                    001401
104003
104400
                                                                                                                                                                                         24
                          010316
010320
                                                                                                                                                                 SCOPE
                          010322
       1496
1497
1498
                                                                                                                                                                1499
1500
1501
1502
        1503
1504
                                                                                                                                             TEST 12
        1505
                                                                                                                                     TST12:
                          010324 012737
010332 012737
010340 013703
010344 012705
                                                                               000012 001226
010400 001216
001362
                                                                                                                                                               MOV
                                                                                                                                                                                         #12.TSTNO
        1506
                                                                                                                                                                                          #T5T13, NEXT
DVSCR, R3
#BIT9, R5
R5, (R3)
         1507
                                                                                                                                                                                                                                                 ; SET REGISTER TO BE TESTED,
; SET "EXPECTED ".
; WRITE THE REGISTER.
        1508
                                                                                                                                                                 MOV
        1509
                                                                                001000
        1510
1511
1512
                          010350
010352
010354
                                                     010513
011304
                                                                                                                                                                 MOV
                                                                                                                                                                                                                                                NRITE THE REGISTER,
PREAD THE REGISTER,
PREAGOD; R4=UNKNOWN,
PARE THEY THE SAME?
PCOMPARISON ERROR,
PCLEAR BIT9
PREAD THE REGISTER,
PSET "SEPECTED"
PREAGOOD; R4=?
PREAGOOD; R4=?
PREAGOOD; R4=?
PREAGOOD; R4=?
PREAGOOD; R5=PREAGOOD;
PREAGOOD;
PREAG
                                                                                                                                                                MOV
                                                                                                                                                                                           (R3),R4
R5,R4
                                                      020504
                           010356
010360
010362
                                                      001401
104003
040513
        1513
                                                                                                                                                                 BEQ
                                                                                                                                                                                           18
                                                                                                                                                                 HLT
BIC
MOV
        1514
1515
                                                                                                                                                                                          R5,(R3)
(R3),R4
                                                      011304
        1516
                           010364
                                                                                                                                                                CLR
CMP
BEQ
HLT
        1517
1518
1519
                           010366
010370
010372
                                                                                                                                                                                          R5
R5,R4
28
                                                      005005
                                                     020504
001401
        1520
                                                      104003
                                                                                                                                     281
                                                                                                                                                                 SCOPE
                            010376
        1522
1523
                                                                                                                                                                1524
1525
1526
        1527
        1529
                                                                                                                                             TEST 13
        1530
                                                                                                                                                                                         #13,TSTNO
#TST14,NEXT
DVSCR,R3
#BIT10,R5
R5,(R3)
(R3),R4
                                                                               000013
010454
001362
                                                                                                                                                                 MOV
                                                                                                          001226
001216
                          010406
010414
010420
010424
010426
                                                                                                                                                                                                                                               ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ".
;WRITE THE REGISTER,
;READ THE REGISTER,
;READ THE REGISTER,
;ARE THEY THE SAMET;
;COMPARISON ERROR,
;CLEAR BIT10
;READ THE REGISTER,
;SET "EXPECTED"
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=7
;BR IF OK
;COMPARISON ERROR
        1533
                                                      012737
013703
        1534
                                                                                                                                                                 MOV
        1535
1536
1537
                                                      012705
010513
                                                                                                                                                                 MOV
                                                      011304
                                                                                                                                                                 MOV
                          010426
010430
010432
010434
010440
010442
        1538
1539
1540
                                                      020504
001401
104003
                                                                                                                                                                                           R5,R4
                                                                                                                                                                 BEQ
HLT
BIC
        1541
1542
1543
                                                                                                                                                                                           85. (R3)
                                                       040513
                                                                                                                                     181
                                                                                                                                                                                           (R3),R4
R5
R5,R4
                                                      011304
005005
                                                                                                                                                                 MOV
                                                                                                                                                                 CLR
CMP
                           010444
010446
010450
        1544
                                                      020504
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                                                                                                                  15:06 PAGE 33
STICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                                                                                                                                            PAGE: 0058
                          010452 104400
                                                                                                                                     24:
                                                                                                                                                                 SCOPE
                                                                                                                                                                                                                                                 SCOPE THIS TEST
       1548
1549
1550
                                                                                                                                                                1551
1552
1553
        1554
        1555
                                                                                                                                             TEST 14
        1557
                                                                                                                                                                                         #14,TSTNO
#TST15,NEXT
DVSCR,R3
#BIT12,R5
R5,(R3)
(R3),R4
                                                                                000014
010530
001362
          558
                                                                                                          001226
001216
                                                                                                                                      T5T14:
                                                                                                                                                                MOV
        1559
1560
                            010462
010470
                                                      012737
013703
                                                                                                                                                                                                                                               ;SET REGISTER TO BE TESTED.;
;SET "EXPECTED ".
;WRITE THE REGISTER.;
;READ THE REGISTER.;
;R5=GOOD; R4=UNKNOWN.
;ARE THEY THE SAME?;
;COMPARISON ERROR.;
;CLEAR BIT12;
;READ THE REGISTER.;
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
                                                                                                                                                                 MOV
                                                     012705
010513
011304
                                                                                                                                                                MOV
        1561
1562
                           010474
010500
                           010502
        1563
1564
                           010504
                                                      020504
                                                                                                                                                                CMP
BEQ
HLT
BIC
MOV
CLR
CMP
                                                                                                                                                                                           R5 , R4
                          010504
010506
010510
010512
010514
010516
010520
010522
        1565
1566
1567
                                                      001401
104003
                                                                                                                                                                                           18
                                                      040513
                                                                                                                                     161
                                                                                                                                                                                           R5. (R3)
                                                                                                                                                                                         R5, (R3), R4
R5
R5, R4
28
                                                     011304
005005
020504
        1568
        1570
1571
                                                                                                                                                                                                                                                 BR IF OK
COMPARISON ERROR
SCOPE THIS TEST
                                                      001401
       1572
1573
1574
                           010524
                                                                                                                                                                 SCOPE
                                                                                                                                     28:
                           010526
                                                      104400
       1575
1576
1577
1578
1579
1580
1581
                                                                                                                                                                 1582
                                                                                                                                            TEST 15
       1583
1584
1585
                          010530
010536
                                                     Ø12737
Ø12737
                                                                                000015
010604
                                                                                                          001226
001216
                                                                                                                                                                 MOV
                                                                                                                                                                                          #15,TSTNO
#TST16,NEXT
DVSCR,R3
#BIT13,R5
                                                                                                                                                                 MOV
                                                                                                                                                                                                                                               ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ".
;WRITE THE REGISTER,
;READ THE REGISTER,
;REAGOD; RA=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
;CLEAR BITI3
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
                          010544
010550
010554
        1586
                                                     013703
012705
                                                                                 001362
        1587
1588
1589
                                                                                 020000
                                                                                                                                                                 MOV
                                                                                                                                                                                          R5,(R3)
(R3),R4
R5,R4
                                                      010513
                                                                                                                                                                 MOV
                          010556
010560
010562
                                                     011304
020504
001401
                                                                                                                                                                MOV
       1590
1591
1592
                                                                                                                                                                 BEQ
                                                                                                                                                                 HLT
BIC
                            010564
                                                      104001
                                                                                                                                                                                         3
R5,(R3)
(R3),R4
       1593
1594
1595
                          010566
010570
010572
                                                     040513
011304
                                                                                                                                     18:
                                                                                                                                                                 MOV
                                                                                                                                                                                          R5
R5,R4
28
                                                      005005
        1596
                           010574
                                                     020504
001401
104003
                                                                                                                                                                CMP
BEQ
        1598
                                                                                                                                                                                                                                                 COMPARISON ERROR
                            010600
                            010602
                                                      104400
                                                                                                                                     261
                                                                                                                                                                 SCOPE
```

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                 1603
     1604
1605
1606
    1607
                                                                                                     TEST 16
     1609
                                                                                                                 MOV
     1610
1611
1612
1613
                  Ø1Ø6Ø4
Ø1Ø612
Ø1Ø62Ø
Ø1Ø624
                                     012737
012737
013703
012705
                                                        000016
010660
001362
                                                                           001226
                                                                                              TST16:
                                                                                                                                     #16.TSTNO
                                                                                                                                    #TST17,NEXT
DVSCR,R3
#BIT3+BIT0,R5
                                                                           001216
                                                                                                                  MOV
MOV
                                                                                                                                                                          ;SET REGISTER TO BE TESTED.
;SET "EXPECTED ".
;WRITE THE REGISTER.
;READ THE REGISTER.
;RSEGOOD; R4=UNKNOWN.
;ARE THEY THE SAME;
;COMPARISON ERROR.
;CLEAR BIT3+BIT0
;READ THE REGISTER.
;SET "EXPECTED"
;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
                                                                                                                  MOV
                                                         000011
     1614
1615
                  Ø1Ø63Ø
Ø1Ø632
                                     Ø10513
Ø11304
Ø20504
                                                                                                                                     R5,(R3)
(R3),R4
R5,R4
                                                                                                                  MOV
                                                                                                                 MOV
    1616
1617
1618
1619
                   010634
                  010636
010640
010642
                                     001401
104003
040513
                                                                                                                 BEQ
HLT
BIC
                                                                                                                                     18
                                                                                                                                     R5,(R3)
                                                                                              18:
                                    011304
005005
020504
001401
104003
104400
    1620
1621
1622
                  010644
010646
010650
                                                                                                                                     (R3),R4
R5
R5,R4
                                                                                                                  MOV
                                                                                                                 CLR
CMP
BEQ
HLT
SCOPE
    1623
1624
1625
                  Ø10652
Ø10654
Ø10656
                                                                                                                                                                           COMPARISON ERROR
    1626
1627
1628
1629
1630
1631
1632
1633
1634
1635
1636
                                                                                                                 TEST 17
    1637
1638
1639
1640
                  010660 012737
010666 012737
010674 013703
                                                        000017
010754
001362
                                                                                                                 MOA
MOA
MOA
                                                                                                                                    #17,TSTNO
#TST20,NEXT
DVSCR,R3
                                                                          001226
001216
                                                                                               TST17:
                                                                                                                                                                          ; SET REGISTER POINTER INTO R3
; SET EXPECTED RESULT
; ATTEMPT TO SET BIT 15
; READ BACK REGISTER
; BIT 15 SHOULD NOT BE SET
; DVSCR NOT ALL Ø'S
; SET BIT 15+BIT9 IN THE DVSCR
                                                                                                                 CLR
MOV
MOV
                  010700
010702
                                    005005
012713
                                                                                                                                     R5
#BIT15,(R3)
    1641
1642
1643
1644
1645
1646
1647
1648
1649
1650
                                                        100000
                                    012713
011304
001401
104003
012705
010513
011304
020504
                                                                                                                                    (R3),R4
                   010706
                                                                                                                  BEQ
                  Ø10712
Ø10714
                                                                                                                  HLT
                                                                                                                                     3
#BIT15+BIT9,R5
                                                        101000
                                                                                               181
                                                                                                                                     R5,(R3)
(R3),R4
R5,R4
                                                                                                                  MOV
                   010720
                                                                                                                                                                          ; READ REGISTER
; IS BIT 9 AND BIT 15 SET?
;BE IF OK
;DVSCR ERROR
;CLEAR BIT 15
;DITTO
;READ REGISTER
;COMPARE OK?
;BE IF YES
;DVSCR ERROR
;SCOPE THIS TEST
                  010722
010724
010726
                                                                                                                  MOV
                                                                                                                 BEQ
HLT
BIC
BIC
MOV
                                                                                                                                     28
                  010726
010730
010732
010736
010742
010744
010746
010750
    1651
1652
1653
1654
                                     104003
042705
042713
011304
                                                                                                                                     #BIT15,R5
#BIT15,(R3)
(R3),R4
                                                         100000
                                                                                               28:
                                                        100000
    1655
1656
1657
                                     020504
001401
104003
                                                                                                                 CMP
BEQ
HLT
                                                                                                                                     38
                                     104400
                                                                                               381
                                                                                                                  SCOPE
```

165 166	,							*** TEST 20 ******************
166							HAT BITS IN DV	SCR CLEARS
166							F DVSCR.	
166						1:****	***	*******
166								
166					; TEST			
166		012737	000020	001226	TST20:	MOV	#36 MEMUA	
166		Ø12737	011032	001216	101201		#20, TSTNO #TST21, NEXT	
166		013703	001362	001410			DVSCR,R3	GET POINTER
167		012705	000400				#BIT8,R5	GET GOOD
167		012713	000200				#BIT7,(R3)	SET BIT7
167		052713	000400				#BIT8, (R3)	SET BITS
167	011010	027777	170352	170350		CMP	@DVRIC, @DVRIC	WASTE TIME
167	011016	011304				MOV	(R3),R4	READ SCR
167		020504				CMP	R5, R4	BITS ONLY SET?
167		001401				BEQ	18	BR IF YES
167		104003					3	BITS NOT ONLY BIT SET OR 8 ISN'T SET!
167		005013			18:		(R3)	;LEAVE REG=0
167		104400				SCOPE		SCOPE
168								
168								가고 <u>하는</u> 바다 그 그 것이 하는 물리는 그는 다른 이 것으로 들었다.
168								*** TEST 21 ******************
168								ARACTER REGISTER TEST NTERUPT CHARACTER REGISTER CANNOT BE WRITTEN.
168						I ATPOT I	UNI MEPERADIK TI	
168	100					, *WRITE	RECEIVER INTER	UPT CHARACTER REGISTER WITH ALL 1'S
168						; *WRITE ; *AND VE	RECEIVER INTERS	UPT CHARACTER REGISTER WITH ALL 1'S
	re Wage					; *WRITE ; *AND VE	RECEIVER INTERS	UPT CHARACTER REGISTER WITH ALL 1'S
168					: TEST	; *WRITE ; *AND VE ; : ****	RECEIVER INTERS	UPT CHARACTER REGISTER WITH ALL 1'S
168					; TEST	; *WRITE ; *AND VE ; : ****	RECEIVER INTERS	UPT CHARACTER REGISTER WITH ALL 1'S
168 168 168 169	0 0 1 0 0 0 1 1 0 3 2		000021	ØØ122 5		; *WRITE ; *AND VE ; ******	RECEIVER INTERS	UPT CHARACTER REGISTER WITH ALL 1'S
168 168 168 169 169	011032 011040	012737	000021 011072	001226 001216	,	; *WRITE ; *AND VE ; ! ***** 21 MOV	RECEIVER INTERI	UPT CHARACTER REGISTER WITH ALL 1'S
168 168 169 169 169 169	011032 011040 011046				,	;*WRITE ;*AND VE ;:***** 21 MOV MOV	RECEIVER INTERI RIFY THAT ALL 6 ***********************************	UPT CHARACTER REGISTER WITH ALL 1'S
168 168 169 169 169 169	011032 011040 011046	Ø12737 Ø137Ø3	011072		,	; *WRITE ; *AND VE ; ****** 21 MOV MOV MOV	RECEIVER INTERI RIFY THAT ALL 6 ***********************************	UPT CHARACTER REGISTER WITH ALL 1'S
168 168 169 169 169 169 169	011032 011040 011046 011052	012737 013703 005005	011072 001366		,	; *WRITE ; *AND VE ; : ****** 21 MOV MOV MOV CLR	RECEIVER INTERIRIFY THAT ALL 6 ************* #21,TSTNO #TST22,NEXT DVRIC,R3 R5	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK, ************************************
168 168 169 169 169 169 169	011032 011040 011046 011052 011054	012737 013703 005005 012713	011072		,	;*WRITE ;*AND VE ;!****** 21 MOV MOV MOV CLR MOV	RECEIVER INTERI RIFY THAT ALL (***********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK. ************************************
168 168 169 169 169 169 169 169	011032 011040 011046 011052 011054	012737 013703 005005 012713 011304	011072 001366		,	;*WRITE ;*AND VE ;!****** 21 MOV MOV MOV CLR MOV MOV	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S J'S ARE READ BACK, SET THE REGISTER, J'SET EXPECTED (ZERO) J'MRITE REGISTER WITH ALL 1'S J'READ THE REGISTER, J'READ THE REGISTER,
168 168 169 169 169 169 169 169 169	011032 011040 011046 011052 011054 011054 011060	012737 013703 005005 012713 011304 020504	011072 001366		,	;*WRITE ;*AND VE ;:****** 21 MOV MOV MOV MOV MOV MOV MOV CMP	RECEIVER INTERI RIFY THAT ALL (***********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK. ************************************
168 168 169 169 169 169 169 169 169 169	911032 911040 911046 911054 911054 911064 911066	012737 013703 005005 012713 011304 020504 001401	011072 001366		,	;*WRITE ;*AND VE ;:****** 21 MOV MOV MOV MOV MOV MOV MOV MOV MOV MOV	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK. ***********************************
168 168 169 169 169 169 169 169 169 169	011032 011040 011046 011052 011054 011054 011060 011064 011064	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	;*WRITE ;*AND VE ;;****** 21 MOV MOV MOV MOV MOV MOV MOV MOV MOV MOV	RECEIVER INTERI RIFY THAT ALL (***********************************	JPT CHARACTER REGISTER WITH ALL 1'S JO'S ARE READ BACK. GET THE REGISTER. JSET EXPECTED (ZERO) JWRITE REGISTER WITH ALL 1'S JREAD THE REGISTER. JIS THE REGISTER EQUAL TO ZERO. JBR IF OK. JBR IF OK. JREGISTER NOT ZERO.
168 168 169 169 169 169 169 169 169 169 170	011032 011046 011052 011055 011054 011054 011066 011066 011066	012737 013703 005005 012713 011304 020504 001401	011072 001366		,	;*WRITE ;*AND VE ;:****** 21 MOV MOV MOV MOV MOV MOV MOV MOV MOV MOV	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK, ***********************************
168 168 169 169 169 169 169 169 169 170 170	011032 011040 011046 011052 011054 011065 011066 011066 011066	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	;*WRITE ;*AND VE ;;****** 21 MOV MOV MOV MOV MOV MOV MOV MOV MOV MOV	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S JO'S ARE READ BACK. GET THE REGISTER. JSET EXPECTED (ZERO) JWRITE REGISTER WITH ALL 1'S JREAD THE REGISTER. JIS THE REGISTER EQUAL TO ZERO. JBR IF OK. JREGISTER NOT ZERO.
168 168 169 169 169 169 169 169 169 170 170	011032 011040 011046 011052 011054 011062 011064 011064 011064 011064	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	; **RITE ; *AND VE ; !****** 21 MOV MOV MOV CLR MOV CMP BEG CMP BEG CMP SCOPE	RECEIVER INTERIRIFY THAT ALL 6 ************* #21,TSTNO #TST22,NEXT DVRIC,R3 R5 #=1,(R3) (R3),R4 R5,R4 18 3	JPT CHARACTER REGISTER WITH ALL 1'S JO'S ARE READ BACK. GET THE REGISTER. JSET EXPECTED (ZERO) JMRITE REGISTER WITH ALL 1'S JREAD THE REGISTER. JIS THE REGISTER EQUAL TO ZERO. JBR IF OK. JREGISTER NOT ZERO. JSCOPE THIS TEST.
168 168 169 169 169 169 169 169 169 170 170	911032 911040 911046 911054 911054 911064 911066 911066	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	; **RITE ; *AND VE ; !****** 21 MOV MOV MOV MOV MOV MOV MOV MOV MOV SEQ HLT SCOPE	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK, ***********************************
168 168 169 169 169 169 169 169 169 170 170	011032 011040 011046 011052 011052 011063 011064 011064 011064 011066	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	+WRITE +AND VE +AND VE +AND VE 11***********************************	RECEIVER INTER RIFY THAT ALL 6 ************** \$21,TSINO *TST72,NEXT DVRIC,R3 R5 #-1,(R3) (R3),R4 R5,R4 18 3 **********************************	JPT CHARACTER REGISTER WITH ALL 1'S JO'S ARE READ BACK. GET THE REGISTER, JSET EXPECTED (ZERO) JWRITE REGISTER WITH ALL 1'S JREAD THE REGISTER EQUAL TO ZERO, JSET IN THE REGISTER EQUAL TO ZERO, JSCOPE THIS TEST.
168 168 169 169 169 169 169 169 169 170 170 170	011032 011040 011046 011052 011054 011056 011060 011066 011066	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	##RITE +AND VE +AND VE +AND VE +AND VE +AND VE +AND VE COV MOV MOV MOV MOV MOV BEQ HLT SCOPE ####################################	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK, "SET THE REGISTER,
168 168 169 169 169 169 169 169 170 170 170 170	011032 011040 011046 6 011054 6 011054 7 011054 011050 011060 011064 011066 011066	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	##RITE +AND VE +AND VE +AND VE +AND VE +AND VE -AND VE -AND VE -AND VE +AND VE	RECEIVER INTER RIFY THAT ALL 6 ************** #21, TSTNO #TST22, NEXT DVRIC, R3 R5 #-1, (R3) (R3), R4 R5, R4 18 3 **********************************	JPT CHARACTER REGISTER WITH ALL 1'S J'S ARE READ BACK, SET THE REGISTER, SET EXPECTED (ZERO) SWRITE REGISTER WITH ALL 1'S FREAD THE REGISTER WITH ALL 1'S FREAD THE REGISTER EQUAL TO ZERO, SET TO SET ON, FREGISTER NOT ZERO, SCOPE THIS TEST. WAS TEST 22 **********************************
168 168 169 169 169 169 169 169 170 170 170 170 170 170	011032 011040 011046 011054 011054 011060 011062 011064 011064 011066	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	##RITE +AND VE +AND VE +AND VE +AND VE +AND VE -AND VE -AND VE -AND VE +AND VE	RECEIVER INTER RIFY THAT ALL 6 ************** #21, TSTNO #TST22, NEXT DVRIC, R3 R5 #-1, (R3) (R3), R4 R5, R4 18 3 **********************************	JPT CHARACTER REGISTER WITH ALL 1'S 3'S ARE READ BACK, "SET THE REGISTER,
168 168 169 169 169 169 169 169 169 170 170 170 170 170 170	011032 2011040 011046 6 011054 6 011055 7 011050 7 011060 7 011064 7 011064 7 011064	012737 013703 005005 012713 011304 020504 001401 104003	011072 001366		TST21:	+WRITE +AND VE +AND	RECEIVER INTER RIFY THAT ALL 6 ************** #21, TSTNO #TST22, NEXT DVRIC, R3 R5 #-1, (R3) (R3), R4 R5, R4 18 3 **********************************	JPT CHARACTER REGISTER WITH ALL 1'S J'S ARE READ BACK, SET THE REGISTER, SET EXPECTED (ZERO) SWRITE REGISTER WITH ALL 1'S FREAD THE REGISTER WITH ALL 1'S FREAD THE REGISTER EQUAL TO ZERO, SET TO SET ON, FREGISTER NOT ZERO, SCOPE THIS TEST. WAS TEST 22 **********************************
168 168 169 169 169 169 169 169 170 170 170 170 170 170 170	011032 011040 011046 011052 011054 011060 011060 011066	012737 013703 00506705 012713 011304 020404 101401 1044003 104400	011072 001366 177777	001216	75T21:	+ HRITE + AND VE	RECEIVER INTER RIFY THAT ALL 6 ************** #21, TSTNO #TST22, NEXT DVRIC, R3 R5 #-1, (R3) (R3), R4 R5, R4 18 3 **********************************	JPT CHARACTER REGISTER WITH ALL 1'S J'S ARE READ BACK, SET THE REGISTER, SET EXPECTED (ZERO) SWRITE REGISTER WITH ALL 1'S FREAD THE REGISTER WITH ALL 1'S FREAD THE REGISTER EQUAL TO ZERO, SET TO SET ON, FREGISTER NOT ZERO, SCOPE THIS TEST. WAS TEST 22 **********************************
168 168 169 169 169 169 169 169 170 170 170 170 170 170 170 170 171 171	011032 011040 011046 6 011054 7 011054 7 011060 011062 011064 011066 011066 011070	012737 013703 005005 012713 011304 020504 001401 104003 104400	011072 001366 177777	991226	75T211 18:	+WRITE +AND VE +AND	RECEIVER INTER RIFY THAT ALL 6 ****************** #21, TSTNO #TST22, NEXT DVRIC, R3 R5 #-1, (R3) (R3), R4 R5, R4 13 3 *********************************	JPT CHARACTER REGISTER WITH ALL 1'S J'S ARE READ BACK, SET THE REGISTER, SET EXPECTED (ZERO) SWRITE REGISTER WITH ALL 1'S FREAD THE REGISTER WITH ALL 1'S FREAD THE REGISTER EQUAL TO ZERO, SET TO SET ON, FREGISTER NOT ZERO, SCOPE THIS TEST. WAS TEST 22 **********************************
168 168 169 169 169 169 169 169 170 170 170 170 170 170 171 171 171	011032 011040 011046 6 011054 7 011054 7 011060 011062 011064 011066 011066 011070	012737 013703 005005 012713 011304 001401 104003 104400	011072 001366 177777	001216	75T21:	**HRITE **AND VE	RECEIVER INTER RIFY THAT ALL 6 ***********************************	JPT CHARACTER REGISTER WITH ALL 1'S J'S ARE READ BACK. ;GET THE REGISTER. ; SET EXPECTED (ZERO) ; WRITE REGISTER WITH ALL 1'S ;READ THE REGISTER. ; IS THE REGISTER EQUAL TO ZERO. ; BR IF OK. ; REGISTER NOT ZERO. ; SCOPE THIS TEST. *** TEST 22 **********************************

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                           #BIT9,R5 ;SET "EXPECTED ".
R5,(R3) ;WRITE THE REGISTER.
(R3),R4 ;READ THE REGISTER.
#BIT5+BIT4+BIT1+BIT0,R4 ;CLEAR UNWANTED BITS
R5,R4 ;R5=GOOD; R4=UNKNOWN.
18 ;ARE THEY THE SAME?
3 ;COMPARISON ERROR.
R5,(R3) ;CLEAR BIT9
(R3),R4 ;READ THE REGISTER.
#BIT5+BIT4+BIT1+BIT0,R4 ;CLEAR UNWANTED BITS
R5,R4 ;R5=GOOD; R4=?
28
                                                                    001000
                                                                                                                                         MOV
                      011116
                                             010513
                                             011304
042704
020504
                     011120
011122
                                                                                                                                         MOV
                                                                    000063
      1718
      1719
                      011126
      1720
1721
1722
                      011130
011132
011134
                                             001401
104003
040513
                                                                                                                                        BEG
                                                                                                                                        BIC
MOV
                      011136
011140
011144
011146
                                             011304
042704
005005
                                                                    000063
                                                                                                                                        BIC
CLR
      1725
                                                                                                                                                                                                            ;R5=GOOD; R4=?
;BR IF OK
                                                                                                                                        CMP
      1726
                                             020504
                      011150
011152
011154
                                            001401
104003
104400
       1727
                                                                                                                                       BEQ
HLT
                                                                                                                                                                                                            COMPARISON ERROR
                                                                                                                                        SCOPE
                                                                                                                 281
      1729
      1729
1730
1731
1732
1733
1734
1735
                                                                                                                                        1737
                                                                                                                         TEST 23
       1739
                                                                                                                                        MOV
      1740
1741
1742
1743
                      011156
011164
011172
011176
                                                                   000023 001226
011242 001216
                                                                                                                 TST23:
                                            012737
                                                                                                                                                              #23.TSTNO
                                            012737
013703
012705
                                                                                                                                                             *TST24, NEXT
DVLCR, R3
*BIT10, R5
                                                                   Ø11242
ØØ137Ø
                                                                                                                                        MOA
                                                                    002000
                                                                                                                                        MOV
MOV
                      011202
011204
011206
                                             010513
011304
042704
                                                                                                                                        MOV
BIC
CMP
                                                                   000063
      1746
                      011212
011214
011216
011220
                                             020504
001401
104003
       1747
                                                                                                                                        BEQ
HLT
BIC
      1748
1749
      1750
                                              040513
                                                                                                                 181
                                                                                                                                       MOV
BIC
CLR
CMP
       1752
                                              042704
                                                                   000063
                      011230
011232
011234
011236
                                             005005
020504
      1753
1754
      1755
1756
1757
                                             001401
104003
104400
                                                                                                                                        BEQ
HLT
                      011240
                                                                                                                 26:
                                                                                                                                        SCOPE
       1758
                                                                                                                                        1760
1761
      1762
1763
      1764
       1765
                                                                                                                       TEST 24
       1767
                                                                                                                                       MOV
                                                                                                                                                              #24, TSTNO
#TST25, NEXT
DVLCR, R3
       1768
                      Ø11242
Ø11250
Ø11256
                                                                                                                                                                                                           ; SET REGISTER TO BE TESTED.
DZDVA-8 MACY11 27(732) 18-MAR-76 15106 PAGE 37
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                                                                                 PAGE: 0062
                                                                                                                                                              011262
011266
011270
                                             012705
                                                                    004000
      1772
1773
                                             010513
                                                                                                                                         MOV
                                             011304
                                                                                                                                         MOV
                      Ø11272
Ø11276
                                             042704
020504
                                                                                                                                        CMP
      1776
                      011300
                                              881481
                                                                                                                                         REG
                      011302
011304
011306
      1777
1778
                                              104003
                                                                                                                                        HLT
BIC
                                                                                                                 181
                                                                                                                                                               (R3),R4 ;READ THE REGISTER,
#BIT5+BIT4+BIT1+BIT0,R4 ;CLEAR UNWANTED BITS
;SET "EXPECTED"
      1779
                                              011304
                                                                                                                                         MOV
      1780
1781
1782
1783
                                             042704
005005
020504
                      011310
                                                                                                                                        BIC
                                                                    000063
                                                                                                                                                               R5
R5,R4
28
3
                      Ø11314
Ø11316
                                                                                                                                                                                                             ;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                                                        CMP
                      011320
011322
                                                                                                                                        BEQ
HLT
      1785
                                                                                                                                         SCOPE
                                                                                                                 281
                      Ø11324
                                              104400
      1786
1787
1788
1789
                                                                                                                                        1790
1791
1792
1793
      1794
1795
1796
1797
                                                                                                                      TEST 25
                     011326
011334
011342
011346
011352
011354
                                                                                                                                                              #25,TSTNO
#TST26,NEXT
DVLCR,R3
#BIT12,R5
                                            Ø12737
                                                                    000025
                                                                                           001226
                                                                                                                 TST25:
                                                                                                                                        MOV
                                             012737
013703
012705
                                                                    011412
001370
                                                                                                                                        MOV
MOV
                                                                                                                                                              ### TST26 NEXT

DVLCR,R3

pset register to be tested.

### SET register.

### PREAD THE REGISTER.

### PREAD THE SAME?

### SAME?

### SAME THEY THE SAME?

### COMPARISON ERROR.

### SET REGISTER

### SAME THEY THE BAGISTER

### S
                                                                                                                                         MOV
                                                                                                                                        MOV
      1800
                                              010513
011304
                                                                                                                                        MOV
BIC
       1802
                      011356
                                              042704
                                                                    000063
      1803
                      Ø11362
Ø11364
                                              020504
001401
                                                                                                                                        CMP
                                                                                                                                        BEQ
HLT
BIC
                     011366
011370
011372
011374
011400
011402
011404
                                             104003
040513
011304
       1805
      1806
                                                                                                                 181
                                                                                                                                                               (R3),R4 ;READ THE REGISTER,
#BIT5+BIT4+BIT1+BIT0,R4 ;CLEAR UNWANTED BITS
R5 ;SET "EXPECTED"
                                                                                                                                         MOV
                                             042704
005005
020504
                                                                                                                                        BIC
CLR
CMP
      1808
                                                                    000063
      1809
                                                                                                                                                               R5
R5,R4
26
3
                                                                                                                                                                                                             ;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
      1811
                                              001401
                                                                                                                                        BEQ
HLT
                                                                                                                 281
                                                                                                                                         SCOPE
      1814
      1815
1816
                                                                                                                                         1817
1818
       1820
      1821
       1822
                                                                                                                       TEST 26
                                                                                                                 T8T261
                                                                                                                                                              #26,TSTNO
#TST27,NEXT
DVLCR,R3
                                              Ø12737
Ø12737
                                                                                           001226
                                                                                                                                        MOV
```

; SET REGISTER TO BE TESTED.

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 38
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                              PAGE: 0063
                                                                                                               #BIT13,R5 ;SET "EXPECTED ".

P5,(R3) ;WRITE THE REGISTER.

(R3),R4 ;READ THE REGISTER.

#BIT5+BIT4+BIT1+BIT0,R4 ;CLEAR UNWANTED BITS

R5,R4 ;RS=GOOD; R4=UNKNOWN.

1$ ;ARE THEY THE SAME?

3 ;COMPARISON ERROR.

R5,(R3) ;CLEAR BIT13

(R3),R4 ;READ THE REGISTER.

#BIT5+BIT4+BIT1+BIT0,R4 ;CLEAR UNWANTED BITS

R5,R4 ;RS=GOOD; R4=?

2$ ;BR IF OK

3 ;COMPARISON ERROR

;SCOPE THIS TEST
               011432 012705
011436 010513
011440 011304
011442 042704
011445 020504
011450 001401
011452 104003
                                                                                                 MOV
                                               020000
    1828
                                                                                                 MOV
    1829
1830
                                                                                                MOV
                                                                                                 CMP
    1831
    1832
1833
                                                                                                 BEQ
                                                                                                HLT
    1834
1835
1836
1837
1838
1839
1840
               Ø11454
Ø11456
                               040513
                                                                                18:
                               011304
042704
                                                                                                 MOV
               011460
011464
011466
011470
011472
                                                                                                BIC
CLR
CMP
                               005005
020504
001401
104003
                                                                                                BEQ
HLT
                                                                                                SCOPE
    1841
1842
1843
1844
1845
1846
1847
1848
1849
                011474 104400
                                                                               281
                                                                                                TEST 27
               011476 012737
011504 012737
011512 013703
011516 012705
    1852
1853
1854
1855
                                                000027 001226
011562 001216
001370
                                                                                TST27:
                                                                                                               #27, TSTNO
#TST30, NEXT
DVLCR, R3
#BIT14, R5
                                                                                                MOV
                                                                                                               040000
                                                                                                 MOV
                               010513
011304
    1856
1857
                Ø11522
Ø11524
                                                                                                 MOV
                011526
011532
011534
011536
    1858
                               042704
                                                000063
                                                                                                 BIC
    1859
                               020504
001401
                                                                                                CMP
                                                                                                HLT
BIC
MOV
    1861
1862
1863
1864
                                104003
               011540
011542
011544
011550
011552
011554
                               040513
011304
042704
                                                                                181
                                                                                                 BIC
    1865
1866
1867
                               005005
                                                                                                CLR
                               020504
001401
104003
    1868
                011556
                                                                                                 HLT
    1869
                011560
                               104400
                                                                                28:
                                                                                                 SCOPE
    1870
                                                                                                1873
1874
1875
    1876
1877
1878
                                                                                    TEST 30
                011562 012737
011570 012737
011576 013703
                                                                                               MOV
                                                                                                               #30,TSTNO
#TST31,NEXT
DVSRS,R3
                                                               001226
001216
                                                                                                                                                .SET REGISTER TO BE TESTED.
                                                                                                 MOV
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 39
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. PAGE 39
                                                                                                                                                                                                                                              PAGE: 0064
                                                                                        COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                ; SET "EXPECTED ", WRITE THE REGISTER, ; READ THE REGISTER, R. S. GOOD; RAUNKNOW, ; ARE THEY THE SAME?; COMPARISON ERROR, CLEAR BITO
                              012705
                                                                                                                #BITØ, R5
                                                                                                                R5,(R3)
(R3),R4
R5,R4
                              010513
011304
                                                                                                 MOV
MOV
    1884
               011606
                011610
    1886
1887
                011612 020504
011614 001401
                                                                                                 CMP
                                                                                                 BEQ
HLT
    1888
1889
1890
                                104003
040513
011304
                011616
011620
011622
                                                                                                                R5.(R3)
                                                                                181
                                                                                                 BIC
                                                                                                                                                ;CLEAR BITO
;READ THE REGISTER,
;SET "EXPECTED"
;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                                (R3),R4
R5
R5,R4
                                                                                                CLR
CMP
BEQ
HLT
SCOPE
                011624
011626
011630
                              005005
020504
001401
    1893
    1896
    1897
    1898
1899
1900
                                                                                                1901
     1902
    1903
1904
                                                                                    TEST 31
     1005
                                                                                                 MOV
                011636 012737
011644 012737
011652 013703
                                                                                 TST31:
                                                000031
                                                                                                                #31,TSTNO
                                                                                                 MOV
MOV
                                                                                                                *TST32, NEXT
DVSRS, R3
*BIT1, R5
                                                011712
001372
                                                                001216
                                                                                                                                                ;SET REGISTER TO BE TESTED.
;SET "EXPECTED ".
;WRITE THE REGISTER.
;READ THE REGISTER.
;REAGODD; R4=UNKNOWN.
;ARE THEY THE SAME?
    1908
    1909
                Ø11656
Ø11662
                                012705
010513
                                                                                                                R5, (R3)
(R3), R4
R5, R4
                                                                                                 MOV
                911664
                                011304
                011666
011670
011672
                               020504
001401
104003
                                                                                                 CMP
BEQ
    1913
                                                                                                                                                ; ARE THEY THE SAME?; COMPARISON ERROR, CLEAR BIT1; READ THE REGISTER, SET "EXPECTED"; R5=GOOD; R4=?
                                                                                                HLT
BIC
MOV
CLR
    1915
1916
1917
1918
                011674
011676
011700
011702
                                040513
011304
                                                                                                                R5,(R3)
(R3),R4
                                                                                18:
                               005005
020504
                                                                                                                R5
                                                                                                 CMP
BEQ
HLT
                                                                                                                R5,R4
                                                                                                                                                 BR IF OK
COMPARISON ERROR
SCOPE THIS TEST
                011710
    1921
                                                                                281
    1922
    1923
1924
1925
                                                                                                1928
    1929
1930
                                                                                     TEST 32
    1931
1932
                                               000032
011766
001372
                                                               001226
001216
                011712
                               012737
                                                                                                MOV
                                                                                                                #32, TSTNO
#TST33, NEXT
                Ø11720
Ø11726
Ø11732
                               Ø12737
Ø12737
Ø13703
Ø12705
                                                                                                 MOV
                                                                                                                                                ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ".
;WRITE THE REGISTER.
                                                                                                                DVSRS,R3
#BIT2,R5
    1934
1935
                                                                                                MOV
                                                000004
    1936
1937
1938
                011736
011740
011742
                                010513
011304
020504
                                                                                                                R5,(R3)
(R3),R4
R5,R4
                                                                                                                                                 READ THE REGISTER, RS=GOOD; R4=UNKNOWN.
                                                                                                 MOV
```

CMP

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 40 COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                            PAGE: 0065
                                                                                                                                                        ;ARE THEY THE SAME?
;COMPARISON ERROR.
;CLEAR BIT2
;READ THE REGISTER.
;SET "EXPECTED"
;RS=GOOD; R4=?
                                                                                                      BEQ
                                                                                                                       18
    1940
1941
1942
                Ø11746
Ø11750
                                 104003
040513
                                                                                                                       R5,(R3)
(R3),R4
                011752
011754
                                  811384
                                                                                                      MOV
    1942
1943
1944
1945
                                 005005
020504
001401
                                                                                                      CLR
CMP
BEQ
                011756
011760
                                                                                                                                                         BR IF OK
COMPARISON ERROR
SCOPE THIS TEST
                                                                                                                       28
    1946
1947
1948
                Ø11762
Ø11764
                                  104003
                                                                                                      HLT
                                                                                                       SCOPE
    1949
1950
1951
1952
1953
1954
                                                                                                      1956
1957
1958
                                                                                         TEST 33
                                                                                      TST33:
                 Ø11766
Ø11774
                                                  000033 001226
012042 001216
                                                                                                                       #33, TSTNO
#TST34, NEXT
                                Ø12737
Ø12737
     1959
                                                                                                      MOV
                                                                                                                                                        ;SET REGISTER TO BE TESTED,
;SET "EXPECTED",
;WRITE THE REGISTER,
;READ THE REGISTER,
;RSAGOOD; RAEUNKNOWN,
;ARE THEY THE SAMET;
;COMPARISON ERROR,
                                                                                                                       #TST34,N
DVSR6,R3
#BIT3,R5
R5,(R3)
(R3),R4
R5,R4
     1968
1961
1962
                                  013703
012705
010513
                                                                                                      MOV
MOV
MOV
                 012006
012012
     1963
1964
                                                                                                      MOV
                                                                                                      CMP
BEQ
HLT
     1965
                                  001401
104003
                 012020
012022
                                                                                                                       3
                                                                                                                                                         COMPARISON ERROR,
CLEAR BIT3
READ THE REGISTER,
SET "EXPECTED"
RS=GOOD; R4=?
BR IF OK
COMPARISON ERROR
SCOPE THIS TEST
    1968
1968
1969
1970
1971
1972
                                 040513
011304
005005
                                                                                                      BIC
MOV
CLR
CMP
                 Ø12024
Ø12026
                                                                                                                       R5,(R3)
(R3),R4
                                                                                     181
                                                                                                                       R5
R5,R4
28
                 012030
                 012032
012034
                                 020504
001401
104003
                                                                                                      BEQ
HLT
                 012036
     1973
                 012040
                                  104400
                                                                                     281
                                                                                                      SCOPE
    1974
1975
1976
                                                                                                      1977
1978
1979
    1980
1981
1982
                                                                                          TEST 34
                                                                                                                       #34,TSTNO
#TST35,NEXT
DVSR8,R3
#BIT8,R5
                 012042
012050
012056
012062
                                 012737
012737
013703
                                                  000034
012116
001372
                                                                                     TST34:
                                                                                                      MOV
    1985
1986
1987
                                                                                                      MOV
MOV
                                                                                                                                                         ; SET REGISTER TO BE TESTED. ; SET "EXPECTED ".
                                  012705
                                                   000400
                                                                                                                                                         JSET "EXPECTED";
JWRITE THE REGISTER,
JREAD THE REGISTER,
JRS=GOOD; R4=UNKNOWN,
JARE THEY THE SAME?
JCOMPARISON ERROR,
JCLEAR BIT8
JREAD THE REGISTER,
    1988
1989
1990
                 012066
012070
012072
                                 010513
011304
020504
                                                                                                      MOV
CMP
                                                                                                                       R5,(R3)
(R3),R4
R5,R4
    1991
1992
1993
                                  001401
104003
040513
                 012074
012076
                                                                                                      BEQ
HLT
                                                                                                                       R5, (R3)
                 012100
                                                                                     18:
                                                                                                      BIC
                 012102
                                  011304
                                                                                                       MOV
                                                                         15:06 PAGE 41
STICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP,
DZDVA-B MACY11 27(732) 18-MAR-76 15:06
DZDVAB.p11 DV11 DEVICE DIAGNOSTICS.
                                                                                                                                                                                                                                                            PAGE: 0066
                                                                                                                                                        ;SET "EXPECTED"
;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                 Ø12104
                                 005005
                                                                                                      CLR
CMP
                                                                                                                       R5,R4
    1996
1997
1998
1999
                012106 020504
012110 001401
012112 104003
012114 104400
                                                                                                      BEQ
HLT
                                                                                                      SCOPE
                                                                                     281
     2000
    2001
                                                                                                      2003
2004
     2005
     2006
     2007
                                                                                          TEST 35
     2009
                                                                                                                      #35,TSTNO
#TST36,NEXT
DVSRS,R3
#BIT9,R5
R5,(R3)
(R3),R4
R5,R4
     2010
2011
                 000035
012172
001372
                                                                                      TST35:
                                                                                                      MOV
                                                                                                      MOV
MOV
                                                                                                                                                        ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ".
;WRITE THE REGISTER,
;READ THE REGISTER,
;R5=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
;CLEAR BIT9
     2012
2013
                                                                                                      MOV
MOV
MOV
                 Ø12142
Ø12144
Ø12146
                                 010513
011304
    2016
2017
2018
                                 020504
                                                                                                      CMP
                                 001401
104003
040513
                                                                                                      BEQ
HLT
BIC
MOV
                 Ø12150
Ø12152
                                                                                                                       R5,(R3)
    2019
                 012154
                                                                                     18:
                                                                                                                                                         ;CLEAR BIT9
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                                       (R3),R4
R5
R5,R4
     2020
                 012156
                                  011304
                 Ø12160
Ø12162
Ø12164
                                005005
020504
001401
                                                                                                      CLR
CMP
BEQ
    2021
2022
    2023
2024
2025
                                                                                                      HLT
SCOPE
     2026
                                                                                                      2028
2029
     2030
     2031
2032
     2033
2034
                                                                                          TEST 36
     2035
                                                                                                      MOV
MOV
MOV
MOV
     2036
2037
                                                                                      TST36:
                 012172
012200
                                Ø12737
Ø12737
                                                  000036
012246
001372
002000
                                                                    001226
001216
                                                                                                                       #36.TSTNO
                                                                                                                       *TST37, NEXT
DV8RS,R3
*BIT10,R5
R5,(R3)
     2038
2039
                 Ø12206
Ø12212
                                 013703
012705
                                                                                                                                                         ;SET REGISTER TO BE TESTED.
;SET "EXPECTED ".
;WRITE THE REGISTER.
     2040
                 012216
012220
                                  010513
011304
                                                                                                                                                         ; write the Register,
; READ THE REGISTER,
; RS=GOOD; R4=UMKNOWN,
; ARE THEY THE SAME;
; COMPARISON ERROR,
; CLEAR BIT19
; READ THE REGISTER,
; SET "EXPECTED"
                                                                                                                       (R3),R4
R5,R4
                                                                                                       HOV
                 012222
012224
012226
                                  020504
001401
104003
     2042
2043
                                                                                                       BEQ
     2044
2045
2046
2047
                                                                                                       HLT
                                  040513
011304
005005
020504
                                                                                                                       R5,(R3)
(R3),R4
R5
                 Ø12230
Ø12232
                                                                                      18:
                  Ø12234
Ø12236
                                                                                                       CLR
                                                                                                                       R5,R4
28
3
                                                                                                                                                          ;R5#GOOD; R4#?
;BR IF OK
;COMPARISON ERROR
```

HLT

2048

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 42
DZDVAB_P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                PAGE: 0067
                                                                                                SCOPE
                                                                                                                                                 SCOPE THIS TEST
             012244 104400
    2052
   2053
2054
2055
                                                                                                      2056
   2057
2058
    2059
                                                                                    TEST 37
                                                                                                                #37,TSTNO
#TST40,NEXT
DVSRS,R3
#BIT11,R5
               012246 012737
012254 012737
012262 013703
                                                                                TST37:
                                               000037
    2062
                                                                                                MOV
    2063
                                               012322
                                                                001216
                                                                                                                                                 ;SET REGISTER TO BE TESTED.
;SET "EXPECTED".
;WRITE THE REGISTER.
;READ THE REGISTER.
;REAGOOD; R4=UNKNOWN.
;ARE THEY THE SAME?
;COMPARISON ERROR.
                                               001372
                                                                                                MOV
    2065
               Ø12266
Ø12272
                               012705
010513
                                               004000
                                                                                                                R5 . (R3)
                                                                                                MOV
               012274
012276
                               011304
020504
                                                                                                                (R3),R4
R5,R4
                                                                                                 MOV
                                                                                                CMP
BEQ
    2068
               012300
012302
012304
    2069
                                001401
    2070
                                                                                                HLT
                                                                                                BIC
MOV
CLR
                                                                                                                R5,(R3)
(R3),R4
R5
                                                                                                                                                  CLEAR BIT11
;READ THE REGISTER,
;SET "EXPECTED"
                               Ø4Ø513
Ø113Ø4
    2071
    2072
               012306
    2073
2074
2075
               012310
                               005005
                                                                                                                R5,R4
25
3
               012312
012314
012316
                                                                                                                                                  ;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                CMP
                                                                                                 BEQ
                               001401
                               104003
    2076
                                                                                                 HLT
    2077
                                                                                281
                                                                                                SCOPE
    2079
                                                                                                2082
    2083
    2084
2085
2086
                                                                                     TEST 40
    2087
                                                                                                                #40,TSTNO
#TST41,NEXT
DVSRA,R3
#=1,R5
R5,(R3)
(R3),R4
                                               000040
012424
001376
                                                                                                MOV
               012322 012737
012330 012737
                                                                001226
001216
    2089
    2090
                                                                                                                                                 ; SET CSR POINTER INTO R3
; SET EXPECTED TO ALL 1'S
; WRITE REGISTER WITH EXPECTED DATA
; READ THE REGISTER
; WAS READ EQUAL TO WRITTEN??
; BR IF YES
; PRIMARY REGISTER READ/WRITE TEST
; SET DATA TO AFED.
    2091
2092
2093
               012336
012342
012346
                               013703
                                                                                                 MOV
                               012705
010513
                                                                                                 MOV
               012350
012352
012354
012356
    2004
                               011304
                                                                                                 MOV
    2095
2095
2096
2097
                               020504
001401
104003
                                                                                                 BEQ
HLT
    2098
2099
2100
               012360
012362
012364
                                                                                                                                                  ;SET DATA TO ZERO
;WRITE REGISTER
;READ REGISTER
;REGISTER WRITTEN OK?
                                                                                                CLR
MOV
MOV
                                995995
                                                                                18:
                                010513
011304
                                                                                                                 R5,(R3)
(R3),R4
               012366
012370
012372
012374
    2101
                                020504
                                                                                                 CMP
                                                                                                                 R5 , R4
                                                                                                                                                  BR IF YES
PRIMARY REGISTER DATA ERROR
SET FOR "FLOATING 1"
                               001401
104003
    2103
                                                                                                                  3
#1,R5
    2104
                                012705
                                               000001
                                                                                281
                                                                                                 MOV
                                                                                                                                                  WRITE DATA
                                                                                                 MOV
DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 43
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                PAGE: 0068
               012404
012406
012410
012412
012414
012416
                                                                                                                                                  ;DATA OK?
;BR IF YES
;DATA ERROR
                               020504
001401
                                                                                                 BEQ
                                                                                                                3
   2109
                               104003
                                                                                                HLT
                                                                                                                                                 ;DATA ERROR
;ZERO CPU CARRY
;UPDATE DATA
;BR IF MORE TO GO
;LEAVE REG ALL Ø'S
;SCOPE THIS TEST.
   2110
2111
2111
2112
                               000241
006105
001370
                                                                                                CLC
                                                                                                BNE
                                                                                                                 (R3)
    2115
    2116
2117
2118
                                                                                                 2119
    2120
    2121
    2123
2124
2125
                                                                                    TEST 41
                                                                                                MOV
    2126
2127
2128
2129
               012424 012737
012432 012737
012440 012777
012446 013703
                                                                                                                #41,TSTNO
#TST42,NEXT
#BIT3,@DVSCR
DVSFR,R3
                                                                                TST411
                                                                                                                                               JSET SOURCE SEL

JSET CSR POINTER INTO R3

JSET EXPECTED TO ALL 1'S

JWRITE REGISTER WITH EXPECTED DATA

FREAD THE REGISTER

JWAS READ EQUAL TO WRITTEN??

JBR IF YES

JPRIMARY REGISTER READ/WRITE TEST

JSET DATA TO ZERO

JWRITE REGISTER

FREAD REGISTER

JREAD REGISTER WRITTEN OK?

JREAD REGISTER DATA ERROR

JEFT YES

JWRITE DATA

JWRITE DATA

JREAD DATA
                                               012534
000010
001400
                                                                001216
166714
                                                                                                 MOV
    2130
2131
2132
2133
               012452
012456
012460
012462
                                                                                                                 #=1,R5
R5,(R3)
(R3),R4
                                012705
                                                                                                 MOV
                               010513
011304
020504
                                                                                                MOV
                                                                                                                R5,R4
1$
3
R5
                                                                                                CMP
               012462
012464
012466
012470
012472
012474
012476
012500
012500
    2134
2135
2136
                                001401
104003
005005
                                                                                181
                                                                                                                R5,(R3)
(R3),R4
R5,R4
    2137
                                010513
                                                                                                 MOV
                                                                                                MOV
CMP
BEQ
   2138
2139
                                011304
020504
    2140
2141
2142
2143
2144
                                001401
                                                                                                 HLT
MOV
MOV
                                               000001
                                                                                                                 R5,(R3)
(R3),R4
R5,R4
                012510
012512
                                010513
                                                                                                MOV
CMP
BEQ
HLT
                                                                                                                                                  ;READ DATA
;DATA OK?
;BR IF YES
    2145
2146
2147
2148
2149
2150
               012514
012516
012520
                               020504
001401
104003
                                                                                                                 48
                                                                                                                                                  DATA ERROR
                                                                                                                                                 DATA ERROR
JZERO CPU CARRY
JUPDATE DATA
BR IF MORE TO GO
LEAVE REG ALL 0°S
SCOPE THIS TEST.
                               000241
006105
001370
                                                                                                CLC
ROL
BNE
               012522
               012524
012526
012530
                                                                                                                 R5
    2151
                                005013
                                                                                                                 (R3)
    2152
2153
2154
    2155
2156
2157
                                                                                                 2158
2159
```

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DZDVA-B NACY11 27(732) 18-MAR-76 15:06 PAGE 44
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                             PAGE: 0069
    2163
2164
                                                                                         TEST 42
    2165
2166
2167
                TST42: MOV
MOV
MOV
                                                                                                                       #42,TSTNO
#TST43,NEXT
DVNSR,R3
                                                   000042
012576
                                                                   001226
001216
    2168
                                                   001402
    2168
2169
2170
2171
2172
2173
2174
2175
                                                                                                                                                         ;GET THE REGISTER,
;READ THE REGISTER INTO R5
;SAVE REG INTO R4
;MAKE R4 OPPOSITE TO REGISTER
;WRITE THE REGISTER WITH THE COMPLIMENT
;READ THE REGISTER,
;IS THE REGISTER EQUAL TO ZERO.
                                 011305
010504
005104
010413
011304
                 Ø12554
Ø12556
                                                                                                       MOV
                                                                                                                       (R3),R5
R5,R4
                Ø12560
Ø12562
Ø12564
                                                                                                      MOV
MOV
                                                                                                                       R4
R4,(R3)
(R3),R4
R5,R4
                                  220504
                 012566
                                                                                                       CMP
                                 001401
104003
104400
                                                                                                                                                         BR IF OK, REGISTER NOT ZERO, SCOPE THIS TEST.
                                                                                                      BEQ
HLT
    2176
                 012570
                 012572
012574
    2177
2178
                                                                                     181
                                                                                                       SCOPE
    2179
2180
2181
                                                                                                      2182
    2185
    2186
2187
2188
                                                                                           TEST 43
    2189
2190
2191
2192
                                                   000043 001226
012652 001216
001404
                                                                                                                       #43,TSTNO
#TST44,NEXT
RESV16,R3
#BIT0,R5
                 012576 012737
012604 012737
012612 013703
012616 012705
                                                                                     TST43:
                                                                                                      MOV
                                                                                                       MOV
MOV
                                                                                                                                                        ;SET REGISTER TO BE TESTED.
;SET "EXPECTED ".
;WRITE THE REGISTER,
;READ THE REGISTER,
;RS=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME;
;COMPARISON ERROR
;CLEAR BITØ
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;COPE THIS TEST
                                                   000001
                                                                                                       MOV
    2193
2194
2195
                Ø12622
Ø12624
Ø12626
                                 010513
011304
020504
                                                                                                       MOV
MOV
                                                                                                                       R5,(R3)
(R3),R4
                                                                                                      CMP
                                                                                                                       R5, R4
    2196
2197
2198
2199
                912639
912632
912634
912636
                                 001401
104003
                                                                                                       BEQ
                                                                                                                       R5,(R3)
(R3),R4
                                                                                     181
                                  040513
                                  011304
                                                                                                       MOV
                Ø1264Ø
Ø12642
Ø12644
                                 005005
020504
001401
                                                                                                      CLR
CMP
BEQ
                                                                                                                       R5
R5,R4
28
    2200
    2202
                                 104003
                 012646
                                                                                                       HLT
                                                                                     281
    2205
     2206
                                                                                                      2209
    2212
                                                                                         TEST 44
                                                                                                                       #44,TSTNO
#TST45,NEXT
RESV16,R3
#BIT1,R5
                                                                                     TST44:
                                                                                                      MOV
                012652 012737 000044
012660 012737 012726
                                                                    001216
    2216
                                                                                                       MOV
MOV
                                                                                                                                                         ; SET REGISTER TO BE TESTED.
; SET "EXPECTED ".
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 45
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                             PAGE: 0070
                                                                                                                                                         ;WRITE THE REGISTER,
;READ THE REGISTER,
;R5=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
;CLEAR BIT1
                                                                                                                       R5,(R3)
(R3),R4
R5,R4
    2219 012676
2220 012700
2221 012702
2222 012704
                                 010513
011304
020504
                                                                                                      MOV
                                 001401
104003
040513
011304
                                                                                                                       18
                                                                                                       BEQ
    2223 012706
2224 012710
2225 012712
                                                                                                       HLT
BIC
                                                                                                                       R5,(R3)
                                                                                     181
                                                                                                                                                         ;CLEAR BIT;
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                       MOV
                                                                                                                       (R3),R4
                012714
012716
012720
                                 005005
020504
001401
                                                                                                                       R5
R5,R4
28
3
    2226
2227
                                                                                                      CLR
CMP
                                                                                                      BEQ
HLT
SCOPE
    2228
    2229
                012722
                                  104003
                012724
    2231
2232
                                                                                                      2235
    2236
2237
2238
2239
                                                                                           TEST 45
    2240
2241
2242
   2240 9241 912726 912737 9242 912734 912737 9243 912742 913793 9244 912745 912745 912755 912754 912755 92594 912756 912756 914903 9259 912764 949513 9251 912766 911494
                                                                                     TST45:
                                                  000045 001226
013002 001216
                                                                                                                       #45, TSTNO
                                                                                                                       #15176, NEXT
RESV16, R3
#BIT2, R5
R5, (R3)
(R3), R4
R5, R4
                                                                                                                                                        ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ",
;HRITE THE REGISTER,
;READ THE REGISTER,
;RS-GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
;CLEAR BIT2
;READ THE REGISTER,
;SET "EXPECTED"
;RS-GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                      MOV
MOV
   2244
2245
2246
2247
2248
2249
                                                                                                      MOV
                                                                                                      CMP
BEQ
                                                                                                       HLT
                                                                                                                       R5,(R3)
(R3),R4
                                                                                     18:
                Ø12766
Ø1277Ø
                                 011304
005005
                                                                                                                       R5
R5,R4
2#
                                                                                                      CLR
                                 020504
001401
104003
    2253
                012772
                                                                                                       CMP
                                                                                                      BEQ
HLT
    2256
                013000
                                  104400
                                                                                     281
                                                                                                       SCOPE
    2257
2258
2259
2260
2261
```

TEST 46

TST46:

MOV MOV MOV

MOV MOV MOV CMP

BEQ

#46, TSTNO #TST47, NEXT RESV16, R3 #BIT3, R5 R5, (R3) (R3), R4 R5, R4

;SET REGISTER TO BE TESTED, ;SET "EXPECTED ", ;WRITE THE REGISTER, ;READ THE REGISTER, ;RS=GOOD; R4=UNKNOWN, ;ARE THEY THE SAME?

2262 2263 2265

2266 2267

2268

2269 2270

2271

013002

013010 013016 013022

013026 013030 013032 013034

012737 012737 013703 012705

013056

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 46
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                 PAGE: 0071
                               104003
040513
011304
                                                                                                                                                  ; COMPARISON ERROR.
               Ø13Ø36
Ø13Ø4Ø
                                                                                                                 R5,(R3)
(R3),R4
R5
                                                                                                                                                  CLEAR BIT3
FREAD THE REGISTER,
SET "EXPECTED"
                                                                                                 BIC
MOV
    2276
2277
               013042
                                                                                                 CLR
                               005005
                                                                                                                 R5,R4
                                                                                                                                                 ;R5=GOOD; R4=?;BR IF OK;COMPARISON ERROR;SCOPE THIS TEST
                               003003
020504
001401
104003
    2280
               013050
   2281
2282
2283
2284
               013052
                                                                                 281
                                                                                                 SCOPE
                                                                                                 2285
    2286
2287
   2288
2289
2290
                                                                                 : TEST 47
    2292
               013056 012737
013064 012737
013072 013703
013076 012705
013102 010513
                                                                                                                 #47,TSTNO
#TST50,NEXT
RESV16,R3
#BIT4,R5
R5,(R3)
(R3),R4
                                                                001226
001216
                                                                                                 MOV
                                               000047
013132
    2293
2294
                                                                                                                                                 ;SET REGISTER TO BE TESTED,
;SET "EXPECTED ",
;WRITE THE REGISTER,
;READ THE REGISTER,
;R55GOOD; R45UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
;CLEAR BIT4
;READ THE REGISTER,
;SET "EXPECTED"
;R55GOOD; R4=?
;BR IF OK
    2295
                                                001404
                                                                                                  MOV
                                                                                                 MOV
    2296
2297
               013104
013106
013110
                              011304
020504
001401
104003
    2298
2299
                                                                                                  CMP
    2300
    2301
               013112
                                                                                                 HLT
   2302
2303
2304
               013114
013116
013120
                               040513
011304
005005
                                                                                                                  R5.(R3)
                                                                                 161
                                                                                                 MOV
CLR
CMP
                                                                                                                 (R3),R4
R5
R5,R4
                               020504
001401
104003
104400
    2305
               013122
    23Ø6
23Ø7
                                                                                                  BEQ
                                                                                                 HLT
SCOPE
                                                                                                                                                  COMPARISON ERROR
    2308
               013130
                                                                                281
    2309
2310
2311
2312
                                                                                                 2313
2314
2315
   2316
2317
2318
                                                                                    TEST 50
               000050
013206
001404
000040
                                                                                                                 #50, TSTNO
#TST51, NEXT
RESV16, R3
#BIT5, R5
    2319
2320
                                                               001226
001216
                                                                                 TST50:
                                                                                                 MOV
                                                                                                 MOV
                                                                                                                                                 ;SET REGISTER TO BE TESTED.;SET "EXPECTED ".
;WRITE THE REGISTER,
;READ THE REGISTER,
;RS=GOOD; R4=UNKNOWN.
;ARE THEY THE SAME?
    2321
2322
                                                                                                  MOV
                                                                                                                 R5, (R3)
(R3), R4
R5, R4
   2323
2324
2325
               Ø13156
Ø1316Ø
                               010513
011304
                                                                                                  MOV
                                                                                                 MOV
CMP
BEQ
               013162
                                020504
    2326
                013164
                                                                                                 HLT
BIC
MOV
                                                                                                                                                  ; COMPARISON ERROR,
; CLEAR BITS
; READ THE REGISTER,
; SET "EXPECTED"
               Ø13166
Ø1317Ø
                               104003
                                                                                18:
                                                                                                                  R5, (R3)
    2328
                               011304
005005
                                                                                                                 (R3),R4
R5
DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 47
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                 PAGE: 0072
                                                                                                                                                 ;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
               013176 020504
013200 001401
013202 104003
                                                                                                                 R5,R4
    2333
                                                                                                 HLT
   2334
2335
2336
                                                                                 28:
                                                                                                  SCOPE
    2337
2338
2339
                                                                                                 2340
2341
    2342
                                                                                     TEST 51
    2344
2345
2346
                                                                                 TST51:
                                                                                                                #51,TSTNO
#TST52,NEXT
RESV16,R3
#BIT6,R5
R5,(R3)
(R3),R4
               013206 012737
013214 012737
013222 013703
013226 012705
                                               000051
013262
001404
000100
                                                                001216
                                                                                                 MOV
                                                                                                                                                  ;SET REGISTER TO BE TESTED,
;SET "EXPECTED",
;WRITE THE REGISTER,
;READ THE REGISTER,
;RS=GOOD; R4=UNKNOWN,
;ARE THEY THE SAME?
;COMPARISON ERROR,
                                                                                                 MOV
MOV
MOV
    2347
2348
    2349
2350
                013232
013234
                               010513
011304
    2351
2352
2353
               013236
013240
013242
                               020504
001401
104003
                                                                                                  HLT
    2354
2355
2356
2357
                                                                                                                 R5,(R3)
(R3),R4
R5
                                                                                                                                                  CLEAR BIT6
READ THE REGISTER,
SET "EXPECTED"
               Ø13244
Ø13246
                               040513
011304
                                                                                 18:
                                                                                                 MOV
CLR
                013250
013252
                               005005
020504
                                                                                                                 R5,R4
28
3
                                                                                                                                                  ;R5=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                  CMP
                                                                                                 HLT
SCOPE
                Ø13260
                                                                                 281
    2360
    2361
    2362
                                                                                                 2363
2364
    2365
2366
2367
    2368
    2369
2370
2371
                                                                                    TEST 52
               013262 012737
013270 012737
013276 013703
013302 012705
                                               000052 001226
013336 001216
                                                                                 T8T521
                                                                                                 MOV
                                                                                                                  #52, TSTNO
                                                                                                 MOV
MOV
                                                                                                                  #TST53, NEXT
RESV16, R3
#BIT7, R5
                                                                                                                                                 ;SET REGISTER TO BE TESTED.
;SET "EXPECTED ".
;WRITE THE REGISTER.
;READ THE REGISTER.
;RS=GOOD; R4=UNKNOWN.
;ARE THEY THE SAME?
;COMPARISON ERROR.
;CLEAR BIT?
    2375
2376
2377
                                                                                                                 R5,(R3)
(R3),R4
R5,R4
               Ø13306
Ø13310
                               010513
011304
                                                                                                  MOV
                               020504
001401
104003
040513
011304
                013312
                                                                                                  CMP
   2378
2379
                013314
               013316
013320
013322
                                                                                                 HLT
BIC
    2380
2381
                                                                                 181
                                                                                                                  R5, (R3)
                                                                                                                                                  ;CLEAR BITT
;READ THE REGISTER,
;SET "EXPECTED"
;RS=GOOD; R4=?
;BR IF OK
;COMPARISON ERROR
;SCOPE THIS TEST
                                                                                                                 (R3),R4
R5
R5,R4
                                                                                                  MOV
               Ø13324
Ø13326
Ø1333Ø
                               005005
020504
001401
    2382
                                                                                                  BEO
```

Ø13332 Ø13334

2385

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DZDVAB.P11 DV11 DEVICE DIAGNOSTICS.
                                                                                      COPYRIGHT 1975 DIGITAL EQUIP, CORP.
    2387
                                                                                              2389
    239Ø
2391
    2392
    2395
2396
                                                                                               TEST 53
    2399
               Ø13336
Ø13344
Ø13352
                              012737
012737
013703
                                               000053
013472
                                                              001226
001216
                                                                              TST53:
                                                                                                             #53,TSTNO
#TST54,NEXT
DVSCR,R3
    2401
                                                                                              MOV
                                                                                               MOV
MOV
    2402
2403
                                                                                                                                             ;SET DVSCR POINTER
;MAKE SURE IT =0
;LOAD EXPECTED RESULTS
;"WRITE" BYTE (LOW) BIT3
;READ (WORD) RESULT
;MAKE SURE ONLY BIT3 IS SET
                                               001362
    2404
2405
2406
               013356
013360
013364
                                                                                                              (R3)
#BIT3,R5
R5,(R3)
(R3),R4
                                                                                               CLR
                               012705
110513
                                               000010
               013366
013370
013372
013374
    2407
                               011304
                                                                                               MOV
    2408
2409
2410
                               020504
001401
104003
012705
                                                                                                                                             MAKE SURE ONLY BIT3 IS SET

JBR IF OK

JDVSCR WRONG

JSET EXPECTED DATA

J'WRITE" BYTE (HIGH) BIT0 (BIT0 OF WORD)

JREAD (WORD) RESULT
                                                                                               HLT
MOV
              013374
013376
013402
013410
013414
013416
013420
013422
                                                                                                              #BIT8+BIT3,R5
                                               000410
                                                                              181
                                                                                                              #BIT0,1(R3)
(R3),R4
R5,R4
                                112763
                                               000001 000001
                                                                                               MOVB
                                                                                               MOV
    2413
2414
2415
                               011304
                                                                                               CMP
BEQ
                                                                                                                                              10K?
                               001401
104003
005013
013703
                                                                                                                                             ;
DVSCR WRONG
;LEAVE REGISTERED CLEARED
;GET NEXT REGISTER FOR BYTE TEST.
;MAKE SURE WORD IS =0.
;SET EXPECTED
;MRITE BYTE (LOW) BIT3
;READ RESULT
;OK?
                                                                                               HLT
CLR
MOV
    2416
2417
2418
                                                                              281
                                               001372
                                                                                                              DVSRS, R3
               013426
013430
013434
                                                                                                              (R3)
#BIT3,R5
    2420
                               012705
                                               000010
    2421
                               110513
                                                                                               MOVB
                                                                                                              R5, (R3)
    2422
2423
2424
2425
               Ø13436
Ø1344Ø
Ø13442
                               011304
020504
001401
104003
                                                                                               MOV
                                                                                                              (R3),R4
R5,R4
                                                                                               CMP
BEQ
              013444
013446
013452
013460
013462
013464
                                                                                                                                              DVSRS WRONG
                                                                                               HLT
    2425
2426
2427
2428
2429
2430
                                                                                              MOV
MOVB
MOV
CMP
                                                                                                              #BIT0+BIT3,R5
#BIT0,1(R3)
(R3),R4
R5,R4
                                                                                                                                              ; SET EXPECTED; WRITE BYTE (HIGH) BITE (BITE OF WORD); READ RESULT
                                               000410
                                               000001 000001
                               112763
011304
                               020504
001401
104003
                                                                                                                                              10K
                                                                                               BEQ
                                                                                                                                              ;
;DVSRS FAILED
;SCOPE TEST
```

HLT

SCOPE

581

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(

2431 2432 2433

013470

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```
2437
2439
2441
                                                                                   TEST 54
                                                                              TST54:
           013472
013500
013506
013514
013516
                                            000054 001226
013674 001216
                                                                                               MOV
                                                                                                              #54.TSTNO
                            012737
                                                                                               MOV
                                                                                                               #TST55, NEXT
#18,LOCK
                                                                                                                                              2445
2446
2447
                                                                                              MOV
CLR
CLR
                            012737
                            005000
005001
                                                                                                               R1
2448
2449
2450
           013520
013524
013530
013534
                                                                                                              DVSRA,R2
RØ,9DVSRS
R1,9DVSRSH
                            013702
                                             001376
                            110077
110177
005004
                                                                             181
                                                                                               MOVB
                                                                                                              R1,60V8
R4
R4,(R2)
(R2),R3
R4,R3
648
                                                                                               CLR
MOV
2451
2452
2453
2454
2455
            013536
013540
013542
                                                                              281
                                                                                               MOV
                            020403
                                                                                               CMP
           013544
013546
013550
                            001401
104002
104401
2456
2457
                                                                                                              2
                                                                             6481
                                                                                               SCOP1
                                                                                                              R4
28
#1,R4
#38,LOCK
R4,(R2)
(R2),R3
R4,R3
           Ø13552
Ø13554
2458
2459
                            005104
                                                                                              COM
2460
2461
2462
           013556
013562
013570
                            Ø12704
Ø12737
                                             000001
013570
                                                          001220
                                                                                               MOV
MOV
CMP
                            010412
                                                                             381
2463
2464
           013572
013574
                            011203
020403
001401
           013576
013600
                                                                                               BEQ
2465
                                                                                                               658
                                                                                                                                                BR IF OK
                                                                                              HLT
SCOP1
2466
                            104002
                                                                                                                                                SECONDARY REGISTER READ/WRITE ERROR
                                                                                                                                               JSECONDARY REGISTER READ/WRITE

JSENG9=17

JEERO CPU CARRY

JFLOAT THE 1

JIF NOT DONE WRITE NEW PATTERN

JGET TREADY FOR THE "FLOATING 6"

JSET IF SW69=1

JWRITE DATA

JDATA OK??
2467
2468
           Ø136Ø2
Ø136Ø4
                            104401
                                                                              6581
                                                                                              CLC
ROL
BNE
MOV
                                                                                                              R4
36
#"C<1>,R4
#4$,LOCK
R4,(R2)
(R2),R3
2469
2470
2471
2472
           013606
013610
013612
013616
                            996194
                             001367
                            012704
012737
                                             013624 001220
                                                                                               MOV
2473
2474
           Ø13624
Ø13626
                            010412
011203
                                                                                               MOV
                                                                              481
2475
2476
           Ø13630
Ø13632
                            020403
001401
                                                                                               CMP
                                                                                                               R4.R3
                                                                                                                                                ;BR IF OK;
;SECONDARY REGISTER DATA COMPARE ERROR
;SW09=1??
                                                                                               BEQ
HLT
2477
2478
2479
           Ø13634
Ø13636
Ø13640
                            104002
104401
000261
                                                                                               SCOP1
                                                                                                                                               ; SM09=1??
; SET CPU CARRY
; SET CPU CARRY
; CHANGE DATA PATTERN
; IF NOT DONE , GO BACK WITH NEW PATTERN
; ZERO THE REGISTER (ALL DONE WITH THIS ONE,
; UPDATE THE SEC REG POINTER
; ALL LERO SEC REG POINTER
; UPDATE LINE NUMBER POINTER
; UPDATE LINES DONE?
; BR IF NO
                                                                              6681
                                                                                               SEC
                                                                                              ROL
BCS
CLR
INC
CMP
BNE
           Ø13642
Ø13644
Ø13646
                                                                                                              R4
4s
(R2)
2480
2481
2482
2483
                             005012
            013650
                            005201
2484
2485
           Ø13652
Ø13656
                            022701
001322
                                             000020
           013660
013662
013664
                                                                                              CLR
2486
                            005001
                                                                                                               R1
RØ
                                                                                               CMP
                                                                                                               #16., RØ
                                                                                               BNE
2489
            013670
                             001315
                                                                                                               18
```

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```

```
SCOPE
                                                                                                                                                                     ; SCOPE THIS TEST
 2490 013672 104400
2491
2492
2493
2494
2495
2496
2497
                                                                                                            2498
2499
2500
                                                                                          : TEST 55
2501
2502
2503
2501
2502 013674
2503 013702
2504 013710
2505 013716
2506 013720
                                                                                                                                #55, TSTNO
#TST56, NEXT
                                Ø12737
Ø12737
                                                    000055 001226
014034 001216
                                                                                                             MOV
                                                                                                                              #TST56, NEXT
#28, LOCK
R0 ; SELECT THE LINE NUMBER,
R1 ; SET FOR SEC, REG, POINTER,
R4 ; SET DATA
DVSRA,R2 ; SET ACCESS REGISTER,
R0,90VSRS ; SELECT THE LINE NUMBER
R1,00VSRS ; SELECT THE SEC, REG,
R4,(R2) ; WRITE SEC, REG,
R5-B00010001000100010,R4
R1 ; UPDATE DATA
R1 ; UPDATE SECONDARY REG, POINTER
#16,R1 ; ALL SEC, REG, DONE?
15 ; RI F NO
R1 ; FASET SEC, REG, POINTER TO ZERO,
R4 ; ZERO DATA COMPARE
#25,LOCK ; SET FOR LOCK,
R1,00VSRSH ; GET SEC, REG,
R2),R3 ; RAED SEC, REG,
R4,R3 ; RAEGOOD; R3=UMKNOWN
36 ; RI F ALL OK
2 ; SECONDARY REGISTER ADDRESSING ERROR
LOCK ON REG, (SW09=1)
                                                                                                                               #TST56, NEXT
#28, LOCK
RØ
R1
R4
DVSRA, R2
RØ, 9DVSRS
R1, 9DVSRSH
R4, (R2)
                                 012737
005000
005001
                                                                                                             MOV
CLR
CLR
                                                     013770 001220
                                                                                          6581
2506 013720
2507 013722
2508 013724
2509 013730
2510 013730
2511 013740
2512 013742
2513 013742
2515 013750
2516 013750
                                 005004
013702
110077
110177
                                                                                                             CLR
                                                    001376
165436
165434
                                                                                                             MOV
MOVB
                                                                                          18:
                                                                                                             MOVB
                                 010412
062704
                                                                                                             MOV
                                                    010421
             013746
013750
013754
013756
013760
013762
013770
                                 005201
022701
001367
005001
                                                                                                             INC
CMP
BNE
CLR
                                                    000020
2516
2517
2518
2519
2520
                                 005004
012737
110177
                                                                                                             CLR
MOV
MOVB
                                                    013770 001220
165400
                                                                                         28:
             013774
013776
014000
014002
014004
014006
014012
2521
2522
2523
2524
                                 Ø11203
Ø2Ø4Ø3
                                                                                                             MOV
                                                                                                             CMP
BEQ
                                 001401
                                                                                                              HLT
                                                                                                                                2525
2526
2527
                                 104401
062704
005201
                                                                                                             SCOP1
ADD
INC
CMP
                                                                                          38:
                                                    010421
                                                                                                                               #16.,R1
28
RØ
                                005201
022701
001363
005200
022700
001333
104400
2528
2529
2530
              014014
014020
014022
                                                    000020
                                                                                                              BNE
                                                                                                             INC
2530 014022
2531 014024
2532 014030
2533 014032
2534
2535
2536
2537
2538
                                                     000000
                                                                                                             BNE
SCOPE
                                                                                                             2539
2549
2541
2542
2543
                                                                                               TEST 56
                                                                                                               10V #56, TSTNO
2545 014034 012737 000056 001226 TST56: MOV
```

ZDVA-B		27(732) DV11 DE		76 15:0 GNOSTICS			1975 DIGITAL EQU	IP, CORP,	PAGE	0076
	1.5									
2546	014042	012737		001222		MOV	#2,ICOUNT			
2547	014050	012737	014432	001216		MOV	#TST57,NEXT			
2548	014056	012737	014150	001220		MOV	#48,LOCK			
2549	014064	005000				CLR	RØ	; SELECT THE LINE NUMBER		
2550	014066	005001				CLR	R1	;R1 = SECONDARY REGISTER SELECT.		
2551	014070	005004				CLR	R4	; SET DATA TO BE WRITTEN.		
2552	014072	013702	001376			MOV	DVSRA,R2	SET "SECONDARY REGISTER ACCESS" POINTER.		
2553	014076	110077	165270		16:	MOVB	RØ, @DVSRS	GET THE LINE NUMBER SELECTED.		
2554	014102	110177	165266		28:	MOVB	R1, @DVSRSH	GET THE SECONDARY REGISTER,		
2555	014106	010412				MOV	R4,(R2)	WRITE THE SECONDARY REG.		
2556	014110	005201				INC	R1	UPDATE SECONDARY REG. POINTER.		
2557	014112	022701	000020			CMP	#16.,R1	ALL SEC. REG. DONE?		
2558	014116	001371				BNE	28	BR IF NO.		
2559	014120	005001				CLR	Ri	ZERO SEC.REG.POINTER		
2560	014122	062704	010421			ADD	#"B<00010001000			
2561								; UPDATE DATA POINTER.		
2562	014126	005200				INC	RØ	UPDATE LINE POINTER.		
2563	014130	022700	000020			CMP	#16.,RØ	ALL LINES DONE?		
2564	Ø14134	001360	200000			BNE	18	BR IF NO.		
2565		22.300				- W	••	IDV TI. HOT		
2566	Ø14136	805000				CLR	RØ	SELECT LINE NUMBER		
2567	014140	005001				CLR	Ri	START SEC. REG. AT Ø		
2568	014142	005004				CLR	R4	ZERO DATA COMPARE.		
2569	014144	110077	165222		381	MOVB	R9, 0DVSRS	SELECT LINE NUMBER.		
2570	Ø14150	110177	165220		451	MOVB	R1, aDVSRSH	SELECT SEC.REG.		
	014154	011203			***	MOV	(R2),R3			
2572	Ø14156	020403				CMP		READ THE SEC. REG.		
2573	014160	001401					R4,R3	; WAS DATA CORRECT?		
2574	014162					BEQ	58	BR IF OK		
2575	014164	104002			58:	HLT SCOP1	2	SECONDARY REG. ADDRESSING ERROR.		
2576	014166	005201			301	INC	D.	;LOCK ON REGISTER? (SW09=1)		
2577	014170	022701	000020			CMP	R1	UPDATE SEC. REG. POINTER		
2578	014174	001365	000020				#16,,R1	FALL SEC. REG. FOR THIS LINE DONE?		
2579	014176	062704	010421			BNE	48	;BR IF NO.		
2580	614110	002/04	010421			ADD	# B<00010001000			
2581	014202	005001				CLR		UPDATE DATA		
2582	014204	005200					R1	SET FOR SEC. REG.		
2583	014206	022700	000020			INC CMP	RØ	UPDATE LINE NUMBER POINTER.		
2584	014212	001354	000020				#16.,RØ	; ALL LINES DONE?		
2585	D17416	001334				BNE	3\$	BR IF NO		
2586										
2587						*PART		. ACO IND MUCH		
2588							ALL RAMS WITH AL			
2589								A TIME VERIFYING		
2590								T IS CLEAR AND THAT		
2591							OTHER RAMS STILL			400
2592								ONE BIT CLEARED AT		
2592						S*ONE	LTWE.			
2594	014214	005077	165164			CI D	ADECUAC	ALEN MING PANNE BLACK		
2595	014220	005037	001220			CLR	PRESV16	CLEAR "LOC FOUND FLAG".		
2596	014224	013702	001376		MAD 47-	CLR	FOCK	TOTAL BOTHMEN MO DUCKA		
2597	014230	005077	165136		MAR17:	MOV	DVSRA,R2	LOAD POINTER TO DVSRA		
2598	014234	012712				CLR	PDVSRS	; SET LINE AND SEC REG POINTER TO ZERO		
2599	~14534	212118	177777		18:	MOV	#"B<11111111111			
2600	014240	862777	170361	165124		200	#2020TM11.DT-12	PREPARE TO LOAD ALL 1'S INTO ALL RAM LOC		
2601	~14940	302111	1,6301	103124		ADD	* Centritentin	+BIT9+BIT8+BIT3+BIT2+BIT1+BIT0>+BIT0, @DVSR ;UPDATE LINE AND SEC REG POINTERS.	•	

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                         IP, CORP,

;BR IF NOT ALL DONE FILLING 1'S,
;ZERO LINE * POINTER
;ZERO LINE * POINTER
;ZERO SEC REG * POINTER
;ALT INITAL DATA
;LOAD LINE *
;LOAD DATA
;LOAD DATA
;ZERO POINTERS
11111>,(R2)
;YERIFY ONLY ONE LOC, HAS ONE BIT CLEARED
;BR IF LOC, OK
;BET "LOC FOUND FLAG",
;SAVE DATA
;IS THIS THE RIGHT LINE?
;BR IF YES
;MRONG LINE HAS CLEARED BIT!
;IS THIS THE RIGHT SEC REG?
;BR IF YES
;HACNG SEC REG HAS CLEARED BIT,
;IS THE ACTUAL DATA OK?
;BR IF YES
;ACTUAL DATA WAS WRONG,
;BIT9+BIT9+BIT3+BIT2+BIT1+BIT8>+BIT9, SDV$RS
;BR IF NOT DONE,
;HAS A LOC BEEN FOUND?
;BR IF YES
;NO LOC WAS FOUND WITH A ZERO BIT,
;CLEAR "LOC FOUND FLAG",
;SHIFT IN A 1
;CHANGE DATA PATERN
;DO IT ALL OVER AGAIN
;LOAD LINE NO,
;LOAD SEC REG
;PUT RAM LOC BACK TO ALL 1'S,
;UPDATE SEC REG POINTER
;UPDATE SEC REG POINTER
;JALL SEC REG DONE?
;BR IF NO
;ECOPE THIS TERT.
                                                                                                                                                                                                                                                                                                                     PAGE: 0077
     2602 014246 001372
                                                                                                                            BNE
                                        001372
005000
005001
012704
110077
110177
     2603 014250
2604 014252
2605 014254
                                                                                                                            CLR
                                                                                                                                                RØ
R1
**C<BITØ>,R4
RØ,*DV$R$
R1,*DV$R$H
R4,(R2)
**DV$R$
                                                                                                                            MOV
     2606 P14260
2607 P14264
2608 P1427
                                                               165106
                                                                                                                            MOVB
                                                              165104
                                                                                                                             MOVB
                                                                                                                            MOV
                                         010412
                  014272
014276
                                                               165074
                                                                                                        10081
                                                                                                                            CME
                                                                                                                                                 #"B<11111111111
     2611
2612 014302
2613 014304
2614 014312
2615 014314
                                                                                                                            BEQ
                                                             177777 165072
                                                                                                                                                 #=1,0RESV16
(R2),R3
R0,0DVSRS
                                         012777
                                                                                                                             MOV
                                        011203
120077
                                                             165952
                                                                                                                            CMPB
                 014320
014322
014324
014330
014332
                                         001401
104002
120177
                                                                                                                            BEQ
                                                                                                                            HLT
CMPB
                                                                                                                                                 R1, ODVSRSH
                                                              165044
                                                                                                        481
     2618
                                         001401
104002
020403
                                                                                                                            REG
                                                                                                                                                 2
R4,R3
    2621 014334
2622 014336
2623 014340
2624 014342
2625 014352
2627 014352
2627 014352
2628 014362
2638 014362
2631 014362
2631 014362
2631 014400
2635 014400
2637 014410
2639 014416
2639 014416
2639 014416
2639 014416
2639 014416
2640 014422
2642 014428
2644 014438
                                                                                                        581
     2621
                                         001401
                                                                                                                            BEQ
                                                                                                                                                2
**C<BIT11+BIT10
                                                              170361 165022 681
                                         001352
005777
                                                                                                                            BNE
                                                                                                                                                 1008
                                                             165026
                                                                                                                                                 GRESV16
                                                                                                                            TST
                                         001001
104000
                                          005077
                                                              165016
                                                                                                        781
                                                                                                                                                 ORESV16
                                         000261
                                                                                                                            SEC
                                         103732
                                                                                                                            BCS
                                                                                                                                                 35
RØ, ØDVSRS
                                                             164772
164770
                                                                                                                            MOVB
                                        110177
010412
005201
                                                                                                                            MOVB
MOV
INC
CMP
                                                                                                                                                 R1, ODVSRSH
R4, (R2)
                                        022701
001317
005001
                                                                                                                                                 #16.,R1
2#
R1
R0
                                                              000020
                                         005200
                                                                                                                            INC
                                                                                                                                                                                            ; ALL LINES DONE?
; BR IF NO
; SCOPE THIS TEST.
                                                                                                                                                #16.,RØ
                                                              000020
                                                                                                                            SCOPE
                                         194400
     2646
2647
2648
2649
2650
                                                                                                                            2651
     2652
2653
     2654
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DZDVAB_P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                                                    PAGE: 0078
    2658
2659
                                                                                                             TEST 57
    2661 2662 014432 012737 009057 001226 2663 014440 012737 014626 001216 2665 014454 005900 2666 014456 012737 014596 001220 2669 014452 012737 009050 2669 014472 012737 000005 001246 2670
                                                                                                       TST57:
                                                                                                                                                #57, TSTNO
#TST60, NEXT
#28, LOCK
                                                                                                                            MOV
                                                                                                                            MOV
                                                                                                                            MOV
                                                                                                                                                                                          ;R@=LINE NUMBER (START AT 0)
;SET R2 =BASE ADDRESS(OVLCR)
;R44GOOD DATA (BOTH EA BITS SET AT START)
;R5 IS COUNTER OF SEC REGISTERS
;TEMP1 IS COUNTER OF COMB. OF EA BITS.
;EX; 11,10,01,00
;TEMP5=SEC, REGISTER POINTER,
;LOAD DVSCR NITH EA BITS.
;SEL THE LINE NUMBER
;GET SEC REG.
;SEL THE SEC. REGISTER
;HIT THE SEC,REG,ACCESS REGISTER,
;SAVE THE DVLINE PARM, REG.
R3
                                                                                                                                                DVLCR,R2
#BIT5+BIT4,R4
                                                                                                                            MOV
                                                                                                                                                 #5,R5
#4,TEMP1
                                                                                                                            MOV
                                         012737
                                                                                                                            MOV
                                                                                                                                                 #MEMEXT, TEMP5
                                                               014620
                                                                                                                                                R4, 0DVSCR
R0, 0DVSRS
0TEMP5, R1
R1, 0DVSRSH
0DVSRA
                 014506
014512
014516
014522
014526
014532
                                        010477
110077
117701
110177
005077
017703
                                                                                                       281
     2672
2673
                                                              164650
                                                                                                                            MOVB
                                                               164534
                                                              164646
164644
164632
     2675
                                                                                                                            CLR
     2676
2677
                                                                                                                                                 #DVLCR, R3
#"C<BIT5+BIT4>
                                                                                                                             MOV
     2678
2679
                                          042703
                                                                                                                                                                                           ;CLEAR ALL BUT BITS 5 AND 4.
                 014542
014544
014550
014552
014556
014560
014562
014574
014574
     268Ø
2681
2682
                                         020403
001401
104004
                                                                                                                            CMP
                                                                                                                                                 R4, R3
                                                                                                                             HLT
SCOP1
                                                                                                                                                                                          ; SW09=1?
; POP POINTER
; ALL SEC REG DONE?
; BR IF NO.
; RESET POINTER
; RESET COUNTER
; ADJUST FOR NEXT EA BIT PATTERN
; ALL PATERNS DONE?
     2683
                                          104401
                                                                                                        36:
                                         005237
005305
001352
012737
                                                               001256
                                                                                                                            INC
                                                                                                                                                 TEMPS
                                                                                                                            DEC
                                                                                                                                                 R5
     2686
2687
                                                                                                                             BNE
                                                               014620
                                                                                 001256
                                                                                                                              MOV
                                                                                                                                                  #MEMEXT, TEMP5
                                         012705
162704
005337
     2688
2689
                                                                                                                                                 #5,R5
#BIT4,R4
     2690 014600
2691 014604
2692 014606
2693 014610
                                                               001246
                                                                                                                            DEC
                                                                                                                                                 TEMP1
                                                                                                                            BNE
INC
CMP
                                                                                                                                                 2$
R0
#16.,R0
                                                                                                                                                                                           SUPPLATE TO NEXT LINE SALL LINES DONE SBR IF NO.
                                         022700
                                                               000020
     2694 Ø14614
2695 Ø14616
2696
2697 Ø1462Ø
                                                                                                                             BNE
                                                                                                        SCOPE

; TABLE OF SECONDARY REGISTERS EXERCISERD....
MEMEXT: .SYTE 00
.SYTE 02
.SYTE 04
.SYTE 10
                                                  000
                   014621
014622
014623
                                                  992
994
919
     2698
2699
      2700
                                                                                                                                                 10
      2701
                     014624
                                                                                                                              BYTE
     2702
2703
2704
                                          Ø14626
                                                                                                         .EVEN
                                                                                                                              2705
2706
2707
```

TEST 60

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 54
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                 012737
012737
012737
                                                                                                                                                                                                                                                     #60, TSTNO
#TST61, NEXT
#340, PS
                                                                                                       000060
015042
000340
                                                                                                                                      001226 TST60:
001216
                                                                                                                                                                                                                 MOV
                                Ø14626
Ø14634
                                                                                                                                                                                                                                                                                                                           ;LOCK OUT INTERUPTS.
;SET REGISTER POINTER FOR LOADING
;CLEAR LINE POINTER
;CLEAR ACCESS REG.
         2716
2717
2718
                                014642
014650
014654
                                                                                                                                         177776
                                                                                                                                                                                                                   MOV
                                                                                                                                                                                                                                                     #340,PS

DVSCR,R3

eDVSRS

eDVSRA

*C<BIT11>,(R3)+

#7,R2

#=1,(R3)+

R2
                                                                                                       001362
164512
164512
                                                                   013703
005077
                                                                                                                                                                                                                    MOV
                                                                                                                                                                                                                                                                                                                       ;CLEAR LINE POINTER
;CLEAR ACCESS REG.

;SET ALL BITS BUT MSTCLR
;LOAD ALL OTHER REGISTERS WITH ALL 1'S
;ALLREGISTERS LOADED?
;BR IF NO
;ISSUES A BUS INIT (RESET INSTR)
;FLASH THE CPU LIGHTS!!;
SET REGISTER POINTER
;SET "EXPECTED" FOR DVSCR
;READ THE DVSCR REG.
;IS BITS ALONE SET?
;BR IF YES
;DVSCR HAS WRONG DATA>
;POP POINTER TO DVRIC
;SET EXPECTED TO ZERO
;DVRIC (EXPECT ALL 0'S)
;BR IF OK
;POP POINTER TO DVLCR REG
;DVLCR (READ DVLCR INTO R4)
+BITG,R4
;DISREGUARD BR TEST POINTS AND MEM EXT BITS.
;DVLCR INCORECT (DISREGUARD BITS,4,1,0)
;POP POINTER TO DVSCR REG
;DVSRS (EXPECT ALL 0'S)
;BR IF OK
;POP POINTER TO DVSRS REG
;DVSRS (EXPECT ALL 0'S)
;BR IF OK
;POP POINTER TO DVSRA REG
;DVSRA (EXPECT ALL 0'S)
;POR POINTER TO DVSRA REG
;POYSRA (EXPECT ALL 0'S)
;POP POINTER TO DVSRA REG
;POYSRA (EXPECT ALL 0'S)
;POP POINTER TO DVSRA REG
;POYSRA (EXPECT ALL 0'S)
;POP POINTER TO DVSRA REG
;POYSRA (EXPECT ALL 0'S)
;POP POINTER TO DVSRA
;POYSRA (EXPECT ALL 0'S)
;POF POINTER TO DVSRA
;POYSRA POYSRA
;POY
                                 014664
014664
014670
014674
                                                                     445477
                                                                                                                                                                                                                   CLR
                                                                                                         173777
         2720
                                                                     012723
                                                                                                                                                                                                                    MOV
                                                                     012702
012723
         2721
2722
                                                                                                        177777
                                                                                                                                                                               18:
                                                                                                                                                                                                                    MOV
        2723
2724
2725
                                 014700
014702
014704
                                                                    005302
001374
000005
                                                                                                                                                                                                                  DEC
BNE
                                                                                                                                                                                                                                                     1.6
                                                                                                                                                                                                                  RESET
INC
                                014704
014706
014710
014714
014716
014720
014722
014724
         2726
2727
                                                                                                                                                                                                                                                     RØ
                                                                     005200
                                                                   013703
005005
                                                                                                                                                                                                                   MOV
                                                                                                        001362
                                                                                                                                                                                                                                                       DVSCR, R3
                                                                                                                                                                                                                  CLR
                                                                                                                                                                                                                                                       R5 (R3),R4
         2728
         2729
2730
                                                                  011304
020504
001401
104003
                                                                                                                                                                                                                  CMP
         2731
2732
                                014724
014726
014730
014732
014736
014740
014740
014750
014750
014750
014750
014760
014760
                                                                                                                                                                                                                    HLT
TST
                                                                    005723
005005
011304
001401
                                                                                                                                                                                                                                                       (R3)+
        2733
2734
2735
2736
2737
2738
2739
2740
2741
2742
2743
                                                                                                                                                                               281
                                                                                                                                                                                                                   CLR
                                                                                                                                                                                                                                                      R5
(R3),R4
                                                                                                                                                                                                                    BEQ
                                                                   104003
005723
011304
                                                                                                                                                                                                                  HLT
TST
MOV
                                                                                                                                                                               38:
                                                                                                                                                                                                                                                        (R3)+
                                                                                                                                                                                                                                                       (R3),R4
                                                                 042704
020504
001401
104003
                                                                                                                                                                                                                   BIC
                                                                                                                                                                                                                                                      #BIT5+BIT4+BIT1
R5,R4
                                                                                                        000063
                                                                                                                                                                                                                    BEQ
                                                                                                                                                                                                                                                      48
                                                                                                                                                                                                                   HLT
        2744
2745
2746
                                                                                                                                                                                                                   TST
                                                                    005723
                                                                                                                                                                               48:
                                                                                                                                                                                                                                                        (R3)+
                                                                                                                                                                                                                                                        (R3),R4
                                                                     011304
                                                                                                                                                                                                                                                     5 $
                                                                                                                                                                                                                   BEQ
                                014764
014766
014770
014772
014774
        2747
2748
2749
2750
                                                                   104003
005723
011304
                                                                                                                                                                                                                  HLT
TST
MOV
                                                                                                                                                                                                                                                      (R3)+
(R3),R4
                                                                     001401
                                                                                                                                                                                                                    BEQ
                                                                                                                                                                                                                                                      68
        2751
2752
2753
2754
                                                                  104003
                                                                                                                                                                                                                  HLT
TST
MOV
                                                                                                                                                                               681
                                                                                                                                                                                                                                                      (R3),R4
#177777,R5
R5,R4
                                  015000
                                                                    011304
                                                                                                                                                                                                                                                                                                                            ;BUT EXPECTED ;SET EXPECTED;
;EXPECETD =FOUND?
;BR IF YES;
;DVSFR NOT ALL 1*S;
;POP POINTER TO DVNSR REG;
;DVNSR S/B PLUS (15=0)
                                 015002
015006
                                                                   012705
020504
                                                                                                                                                                                                                  MOV
                                                                                                       177777
        2754
2755
2756
2757
2758
2759
2760
                                                                   001401
104003
005723
005713
                                  015010
                                                                                                                                                                                                                  BEQ
                                                                                                                                                                                                                                                       78
                                 015012
015014
015016
015020
                                                                                                                                                                                                                   HLT
TST
                                                                                                                                                                                                                                                        (R3)+
                                                                                                                                                                               78:
                                                                                                                                                                                                                                                     (R3)
648
                                                                                                                                                                                                                    TST
                                                                                                                                                                                                                    BPL
                                                                    100001
       2761
2762
2763
2764
2765
2766
2767
                                  Ø15022
Ø15024
Ø15026
                                                                    104000
005723
011304
                                                                                                                                                                                                                   HLT
TST
MOV
                                                                                                                                                                                                                                                     0
(R3)+
(R3),R4
                                                                                                                                                                                                                                                                                                                           ;POP POINTER TO RESV16 REG
;RESV16 (EXPECT ALL 0'S)
;SET EXPECTED TO 0'S
;WELL DOES IT = 'S';
;BE IF OK
;RESV16 NOT ALL 0'S
;SCOPE THIS TEST;
                                                                                                                                                                                                                  CLR
CMP
BEQ
                                                                                                                                                                                                                                                     R5
R5,R4
                                  015030
                                                                     005005
                                 Ø15Ø32
Ø15Ø34
                                                                   020504
001401
                                                                                                                                                                                                                                                       88
                                  015036
                                                                     104003
                                  015040
                                                                                                                                                                               8$;
                                                                                                                                                                                                                    SCOPE
```

2770								
2771							*******	** TEST 61 ****************
2772							IALIZATION TESTS	
2773								IN ALL THE PRIMARY REGISTERS
2774								HE BITS ARE CLEARED
2775							MASTER CLEAR	We need the continue
2776								*********
2777						, ,		
2778					: TEST	61		
2779					1		_	
2780	015042	012737	000061	001226	TST61:	MOV	#61,TSTNO	
2781	015050	012737		001216		MOV	#TST62.NEXT	
2782	015056	012737	000340	177776		MOV	#340,P8	LOCK OUT INTERUPTS.
2783	015064	013703	001362			MOV	DVSCR, R3	SET REGISTER POINTER FOR LOADING
2784	015070	005077	164276			CLR	PDVSRS	CLEAR LINE POINTER
2785	015074	005077	164276			CLR	PDVSRA	CLEAR ACCESS REG.
2786	015100	012723	173777			MOV	# C <bit11>, (R3)</bit11>	
2787	015104	012702	000007			MOV	#7,R2	SET ALL BITS BUT MSTCLR
2788	015110	012723	177777		181	MOV	#-1,(R3)+	LOAD ALL OTHER REGISTERS WITH ALL 1'S
2789	015114	005302			- •	DEC	R2	;ALLREGISTERS LOADED?
2790	015116	001374				BNE	18	BR IF NO
2791	015120	052777	004000	164234		BIS	#MRESET, @DVSCR	ISSUE A "MASTER CLEAR"
2792	015126	013703	001362			MOV	DVSCR,R3	SET REGISTER POINTER
2793	015132	005005				CLR	R5	ISET "EXPECTED" FOR DVSCR
2794	015134	011304				MOV	(R3),R4	READ THE DVSCR REG.
2795	Ø15136	020504				CMP	R5, R4	; IS BITS ALONE SET?
2796	015140	001401				BEQ	28	BR IF YES
2797	015142	104003				HLT	i	DVSCR HAS WRONG DATA>
2798	015144	005723			281	TST	(R3)+	POP POINTER TO DVRIC
2799	Ø15146	005005				CLR	R5	SET EXPECTED TO ZERO
2800	015150	011304				MOV -	(R3),R4	DVRIC (EXPECT ALL 0°S)
2801	015152	001401				BEQ	38	BR IF OK
2802	Ø15154	104003				HLT	3	DVRIC NO ALL 0'S
2803	015156	005723			381	TST	(R3)+	POP POINTER TO DVLCR REG
2804	015160	011304			• • • •	MOV	(R3),R4	DVLCR (READ DVLCR INTO R4)
2805	015162	042704	000063			BIC	#BIT5+BIT4+BIT1	
2806	015166	020504				CMP	R5, R4	DISREGUARD BR TEST POINTS AND MEM EXT BIT
2807	015170	001401				BEQ	48	DVLCR OK?
2808	015172	104003				HLT	3	DVLCR INCORECT (DISREGUARD BIT5,4,1,0)
2809	015174	005723			45:	TST	(R3)+	POP POINTER TO DVSRS REG
2810	015176	011304				MOV	(R3),R4	;DVSRS (EXPECT ALL 0'S)
2811	015200	001401				BEQ	58	BR IF OK
	015202	104003				HLT	3	DVSRS REG NOT ALL ZEROS
2813	015204	005723			581	TST	(R3)+	POP POINTER TO DVSRA REG
2814	015206	011304				MOV	(R3),R4	DVSRA (EXPECT ALL 0'S)
2815	015210	001401				BEQ	68	IBR IF GOOD
2816	015212	104003				HLT	3	DVSRA NOT ALL 0'S
2817	015214	005723			681	TST	(R3)+	POP POINTER TO DVSFR
2818	015216	011304			- • •	MOV	(R3),R4	DVSFR (EXPECT ALL 1'S (THATS RIGHT))
	015220	012705	177777			MOV	#177777,R5	SET EXPECTED
	015224	020504				CMP	R5,R4	SET EXPECTED #FOUND?
2821	Ø15226	001401				BEQ	78	
	015230	104003				HLT	3	BR IF YES
2823	015232	005723			78:	TST	(R3)+	DVSFR NOT ALL 1°S POP POINTER TO DVNSR REG
2824	015234	005713				TST	(R3)+ (R3)	DVNSR S/B PLUS (15=0)
2825		100001				BPL	648	intuok ola bana (12=A)
2020	-10530	-00001				חאמ	049	

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.

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DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 56
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                          PAGE: 0081
    2826
               015240
015242
                                                                                                                                    ;POP POINTER TO RESV16 REG;RESV16 (EXPECT ALL 0°S);SET EXPECTED TO 0°S
                                                                                                       (R3)+
                                                                         6481
    2827
                              005723
                                                                                        TST
               Ø15244
Ø15246
                             011304
005005
                                                                                        MOV
                                                                                                       (R3), R4
                                                                                        CLR
CMP
                                                                                                       R5
R5, R4
    2829
                                                                                                                                     WELL DOES IT #1'S?
    2830
              015250
                             020504
    2831
2832
2833
                                                                                                                                    ;BR IF OK
;RESV16 NOT ALL 0°S
;SCOPE THIS TEST;
              015252
015254
                             001401
                                                                                        BEQ
                                                                                        HLT
SCOPE
               015256
                             104400
                                                                         881
    2834
2835
2836
                                                                                        2837
2838
2839
    2840
2841
2842
                                                                                         2843
                                                                                                                              DATA TRANSFER
NPR OPERATION
SET/CLEAR OPERATION
    2846
                                                                                                                               BCC CALCULATION
BRANCH "B"
    2849
    2850
    2851
                                                                                                                                *** TEST 62 *****************
    2853
                                                                                        ; *VERIFY THAT "ROM STEP"
; *IS SELF-CLEARING AND THAT
; *THE DATA IN THE DVSFR
; *IS CHANGED WHEN THE ROM IS STEPPED.
    2854
2855
    2856
2857
    2859
                                                                             TEST 62
    2860
    2861
2862
2863
                             012737
012737
104412
012777
012705
               Ø1526Ø
Ø15266
Ø15274
                                                                                        MOV
                                                                                                       #62, TSTNO
#TST63, NEXT
                                             000062
015362
                                                                         TST62:
                                                                                                      MSTCLR
    2864
               015274
015276
015304
015310
015314
                                            000010
                                                           164056
                                                                                         MOV
                                                                                        MOV
MOV
    2867
                             Ø10577
Ø277Ø5
                                             164064
                                                                                                                                    ; was the DVSFR REALLY LOADED?
    2868
                                                                                        CMP
                                                                                                                                    HAS THE DVSFR REALLY LOADED?

JBR IF YES

JBAD DVSFR

CLEAR SOURCE SEL.

JISSUE A ROM CLOCK

WAIST AN INTRUSTION TIME

DID CLK BIT CLEAR BY IT SELF?

JBR IF CLK GONE

JHAS DATA IN DVSFR CHANGED?

HAS DATA IN DVSFR CHANGED?
    2869
2870
2871
               015320
015322
015324
                                                                                         BEQ
                              104000
                                                                                        HLT
                                            000010 164030 18:
                                                                                                       #BIT3, @DVSCR
    2872
2873
2874
              015332
015334
015336
                             104415
000240
032777
                                                                                        ROMCLK
                                                                                        NOP
BIT
                                                                                                       #BIT1, @DVSCR
                                            000002 164016
               015344
015346
015350
                             001401
104000
020577
    2875
                                                                                        BEO
    2876
2877
                                                                                                       R5, @DVSFR
                                            164024
                                                                         28:
                                                                                        CMP
                                                                                        BNE
    2878
               015354
                             801001
                                                                                                                                     BR IF YES
                             104000
                                                                                                                                    DATA NOT CHANGED (DID CLK REALLY CLK??)
               015360
                                                                         381
                                                                                        SCOPE
DZDVA-B MACY11 27(732) 18-MAR-76 15:06
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS.
                                                               15106
                                                                           PAGE 57
                                                                                                                                                                                                                         PAGE: 0082
                                                                                 COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                         ; *BASIC TEST OF DVSFR
; *TEST THAT "BRANCH A" INSTRUCTION,
; *POINTS TESTED:
    2883
2884
    2885
                                                                                                                                                                     H PLUS 3 VOLTS
H,H DVSCRØ8 (=0,=1)
H NPR SILO NOT AVAIL,
H SILO FULL
    2888
                                                                                             9
                                                                                                                                                      L,H
H
H
    2889
    2891
    2892
2893
    2894
2895
                                                                             TEST 63
             015362
015370
015376
015404
015404
015410
015416
015422
015424
015430
                                                                         TST63:
                           Ø12737
Ø12737
104412
Ø13700
Ø13703
                                                                                        MOV
                                                                                                       #63, TSTNO
#TST64, NEXT
                                            000063 001226
015626 001216
                                                                                        MOV
MSTCLR
MOV
    2899
                                                                                                                                    CLEAR DV11
SET DVSFR POINTER TO RØ
SET DVLCR POINTER TO R3
                                            001400
001370
                                                                                                       DVSFR, RØ
                                                                                                      DVLCR,R3
#BIT8+BIT3,@DVSCR
#BIT9,(R0)
#BIT1,R5
#BIT1,R5
#BIT1,R5
#C<BIT1+BIT0>,R4
    2902
                                                                                        MOV
    2903
2904
                                            000410
000400
                                                           163744
                                                                                         MOV
                                                                                                                                   R

|BR-A TEST +3

|READ DYSFR FOR PRINTOUT

|SET EXPECTED RESULTS

|READ DYLCR INTO R4
    2905
                             011002
012705
                                                                                        YOM
NOV
    2906
                                            000002
    2907
                                                                                        MOV
BIC
    29Ø8
29Ø9
              015432
                             042704
                                                                                                                                    ;CLEAR UNWANTED BITS.;EXPECTED = FOUND??;BR IF OK;BR POINT WRONG
              015436
015440
015442
015444
                             020504
001401
104006
    2910
                                                                                        CMP
                                                                                                       R5 , R4
    2911
2912
                                                                                        BEQ
HLT
MOV
                                                                                                       28
    2913
                             012710
                                            992499
                                                                         281
                                                                                                       #BIT10+BIT8, (RØ)
                                                                                                                                   READ DYSFR FOR PRINTOUT
SET EXPECTED RESULTS
READ DYLCR INTO R4
                                                                                        MOV
              015450
015452
                                                                                                       (RØ),R2
#BIT1,R5
                             011002
012705
    2916
               015456
                             011304
                                                                                        MOV
                                                                                                       (R3),R4
#~C<BIT1+BIT0>,
                                                                                                                                 ;READ DYLCR INTO R4
;CLEAR UNWANTED BITS,
;EXPECTED = FOUND??
;BR IF OK
;BR POINT WRONG
;RESET BIT 8 TO =0
;READ DVSFR FOR PRINTOUT
;SET EXPECTED RESULTS
;READ DVLCR INTO R4
                                            177774
    2917
              Ø1546Ø
                             042704
    2918
2919
                             020504
               015464
                                                                                        CMP
                                                                                                       R5 . R4
               015466
015470
015472
                             001401
104006
042777
    2920
                                                                                         BEQ
                                                                                        HLT
                                                                                                       #BITS, SDVSCR
                                            000400
                                                         163662 38:
                                                                                        MOV
MOV
                                                                                                       (R0),R2
#BIT1+BIT0,R5
(R3),R4
#*C<BIT1+BIT0>,
    2923
               015500
                             011002
              015502
015506
015510
                             012705
011304
042704
    2924
2925
                                            000003
    2926
                                            177774
                                                                                        RIC
                                                                                                       #TC4BIT1+BIT00,R4

;CLEAR UNMANTED BITS,
R5,R4
;EXPECTED = FOUND??
48
;BR IF OK
6
;BR POINT WRONG
#BIT10+BIT9+BIT8,(R0)
(R0),R2
;READ DVSFR FOR PRINTOUT
    2927
2928
              015514
015516
015520
                             020504
    2929
2930
                             001401
104006
                                                                                        BEQ
                                                                                        HLT
MOV
                            012710
011002
012705
011304
042704
             015522
015526
015530
    2931
2932
                                                                                         MOV
                                                                                                       (RØ),R2
#BIT1+BIT0,R5
    2933
                                                                                                                                    ; SET EXPECTED RESULTS ; READ DVLCR INTO R4
                                            000003
                                                                                         MOV
              Ø15534
Ø15536
                                                                                                       (R3),R4 ;F
```

BIC

CMP

R5, R4

2936 2937

015542

020504

CLEAR UNWANTED BITS, EXPECTED = FOUND??

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                      PAGE: 0083
                                                                                                    001401
    2938
              015546
015550
015554
015556
                            104006
012710
                                                                                       HLT
                                          007400
                                                                        581
                                                                                       MOV
                                                                                      MOV
    2941
                            011002
012705
                                          000003
   2943
2944
2945
              Ø15562
Ø15564
                            011304
042704
                                                                                       MOV
                                                                                                     (R3),R4 ;
#"C<BIT1+BIT0>,R4
                                                                                                                                 rq
;CLEAR UNWANTED BITS,
;EXPECTED = FOUND??
;BR IF OK
;BR POINT WRONG
              Ø15570
Ø15572
Ø15574
                            020504
001401
104006
012710
                                                                                                     R5,R4
                                                                                      CMP
                                                                                      BEQ
HLT
                                                                                                     6
#BIT10+BIT9,(RØ)
    2948
                                                                                                                                 ; NXM
; READ DVSFR FOR PRINTOUT
; SET EXPECTED RESULTS
; READ DVLCR INTO R4
    2949
              015576
                                          003000
                                                                        681
                                                                                       MOV
    2950
2951
              Ø156Ø2
Ø156Ø4
                            Ø11002
Ø12705
                                                                                       NOV
NOV
                                                                                                     (R0),R2
#BIT1+BIT0,R5
    2952
2953
              Ø1561Ø
Ø15612
                                                                                                     (R3),R4
#*C<BIT1+BIT0>,R4
                             011304
                                                                                       MOV
                            042704
                                          177774
                                                                                      BIC
                                                                                                                                 PA ;CLEAR UNWANTED BITS.
;CXPECTED = FOUND??
;BR IF OK
;BR POINT WRONG
;SCOPE TEST
    2954
                                                                                                    R5,R4
78
6
                                                                                      CMP
                            020504
    2955
              015616
              Ø1562Ø
Ø15622
                            001401
104006
                                                                                      BEQ
                                                                                      SCOPE
                                                                        78:
    2958
              015624
                            104400
    2959
2960
                                                                                       ;*TEST OF BRANCH B"
;*TEST THAT POINT 16 (GROUND)
;*MAKES LCR BITI=1 AND BITO=1,
    2961
    2962
   2963
2964
2965
    2966
                                                                        ; TEST 64
             015626 012737
015634 012737
015642 104412
015644 012777
                                          000064
015704
                                                                        TST64:
                                                                                                    #64, TSTNO
#TST65, NEXT
    2968
    2969
                                                         001216
                                                                                      MOV
                                                                                                    #TST65, MEXT

;CLEAR DV11

#BIT3, #DVSCR ;SET SOURCE SEL

#BR8+BIT11+BIT10+BIT9+BIT9, #DVSFR

#BVSFR, R2 ;READ DVSFR INTO R2

#BIT1+BIT0, R5

#BVLCR, R4 ;SET EXPECTED RESULTS

R5, R4 ;SAME??
    2970
                                                                                      MSTCLR
                                                                                      MOV
    2972
                                           077400
              015652
                            012777
                                                          163520
             015660
015664
015670
015674
015676
015700
                            017702
012705
017704
                                           163514
000003
163474
    2974
2975
                                                                                      MOV
                                                                                      MOV
    2976
                            020504
001401
                                                                                      CMP
                                                                                                     R5,R4
                                                                                       BEQ
                                                                                                                                  BR TEST POINT WRONG
    2979
                            104006
                                                                                      HLT
                                                                                                                                  SCOPE THIS TEST
                            104400
                                                                        181
                                                                                       SCOPE
   2981
2982
                                                                                       ; ******************** TEST 65 *******************
                                                                                      *TEST OF BRANCH B

"CHECKING "DEFAULT" STATES OF THE DV11 SIGNALS.

*BIT11 BIT10 BIT09 BIT09 FUNCTION
    2983
2984
2985
                                                                                                                                               THE DV11 SIGNALS,
FUNCTION
DATA NOT AVAIL,
REQUEST BUS
MEMORY PARITY ERROR
WRITE INHIBIT
                                                                                       ;* 1
;* 1
;* 1
;* 1
    2986
                                                                                                        0
                                                                                                                      Ø
                                                                                                                                     0
    2987
    2988
2989
    2990
    2990
2991
2992
2993
                                                                            TEST 65
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 59
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                      PAGE: 0084
             015704 012737
015712 012737
                                          000065
016072
                                                                       TST65:
                                                                                                    #65,TSTNO
#TST66,NEXT
   2995
                                                         001216
                                                                                      MOV
   2996
2997
2998
             015720
015722
015726
                           104412
013700
013703
                                                                                      MSTCLR
                                                                                                    DVSFR,RØ
DVLCR,R3
                                          001400
001370
                                                                                      MOV
              015732
015740
015744
                            012777
012710
011002
                                                                                      MOV
MOV
MOV
   2999
                                           000010
                                                         163422
                                                                                                     #BIT3, @DVSCR
#BRB+BIT11, (RØ)
   3000
                                          074000
                                                                                                                                 READ DYSFR FOR PRINTOUT
                                                                                                     (RØ),R2
#BIT1+BITØ,R5
   3002
3003
3004
              015746 012705
015752 011304
015754 042704
                                          000003
                                                                                      MOV
                                                                                                                                  SET EXPECTED RESULTS READ DVLCR INTO R4
                                                                                                     (R3),R4 ;
#°C<BIT1+BIT0>,R4
                                          177774
                                                                                      BIC
                                                                                                                                 TO CLEAR UNWANTED BITS, EXPECTED = FOUND??;
BR IF OK;
BR POINT WRONG
    3005
    3006
              015760
                            020504
                                                                                      CMP
                                                                                                    R5, R4
             015764
015764
015766
015772
015774
                            001401
                                                                                                   ;BR PULNI TOUR

#BRB+BIT11+BIT8, (R0)

(R0), R2

#BIT1+BIT0, R5 ;SET EXPECTED RESULTS

(R3), R4 ;READ DYLCR INTO R4
                                                                                      HLT
MOV
MOV
    3008
    3009
3010
3011
                            012710
                                          074400
                                                                       28:
                           011002
012705
                                                                                      MOV
   3012
              016000
                            011304
                                                                                      MOV
   3013
3014
3015
                            042704
                                          177774
                                                                                                    #TC<BIT1+BIT9>,R4

JCLEAR UNMANTED BITS,
R5,R4

JEXPECTED = FOUND??
36

JBR IF OK
6

BRB+BIT11+BIT9,(R2)
                            020504
              016006
                                                                                      CMP
                           001401
104006
012710
011002
                                                                                      BEQ
HLT
MOV
   3016
3017
              016010
016012
                                          975999
                                                                       36:
   3018
              016014
                                                                                                                                  READ DYSFR FOR PRINTOUT
SET EXPECTED RESULTS
READ DYLCR INTO R4
    3019
                                                                                                     (RØ),R2
#BIT1+BITØ,R5
                                                                                      MOV
   3020
3021
              Ø16Ø22
Ø16Ø26
                            012705
011304
                                                                                      MOV
                                          000003
                                                                                                     (R3),R4 ;
**C<BIT1+BIT0>,R4
                                          177774
              016030 042704
    3022
                                                                                      BIC
                                                                                                                                 CLEAR UNWANTED BITS,
;EXPECTED = FOUND??
;BR IF OK
;BR POINT WRONG
   3023
3024
3025
3026
                            020504
                                                                                      CMP
BEQ
              016034
              016036
016040
                            001401
                                                                                      MOV
MOV
MOV
                                                                                                    6
#BRB+BIT11+BIT10
                            012710
011002
012705
                                                                                                                                 #BIT9,(RØ)

;READ DYSFR FOR PRINTOUT

;SET EXPECTED RESULTS

;READ DYLCR INTO R4
    3027
              016042
                                          077000
                                                                        48 :
              016046
016050
                                                                                                     (RØ),R2
#BIT1+BITØ,R5
                                          000003
    3030
              016054
                                                                                      MOV
   3031
3032
3033
              016056
                            042704
                                          177774
                                                                                                                                 ;CLEAR UNWANTED BITS,
;EXPECTED = FOUND??
                                                                                                    R5,R4
5#
6
              016062
                             020504
                                                                                      CMP
                                                                                      BEQ
HLT
SCOPE
                                                                                                                                  BR IF OK BR POINT WRONG
    3034
              016064
                            001401
                            104006
                                                                        58:
    3037
   3038
3039
3040
                                                                                       ; ******************** TEST 66 *******************
                                                                                      ;*BASIC TEST OF THE
;*BET/CLEAR INSTRUCTION,
;*TEST THAT THE SET/CLEAR CAN DO:
    3041
3042
3043
                                                                                       ;*CLEAR DYSCR 08
;*SET DVSCR10
;*SET RECEIVER INTERUPT (DVSCR07)
    3044
3045
3046
```

1 TEST 66

```
Ø16072 Ø12737 Ø00066 Ø01226 TST66:
                                                                                   #66. TSTNO
                                                                       MOV
3052
3053
3054
         016100
016106
016114
                     012737
012737
012737
104412
                                  016264
016136
                                                                       MOV
MOV
                                                                                   #TST67, NEXT
#1#, LOCK
                                                                                MSTCLR
                    104412
052777
052777
013700
012710
012705
011002
104415
017704
020504
001401
3055
3056
3057
                                  000400
000010
001400
050016
                                                                       BIS
BIS
MOV
        016116
016124
         016132
        016132
016136
016142
016146
016150
016152
016156
3058
3059
                                                          18:
                                                                       MOV
                                  000010
                                                                       MOV
MOV
3060
                                                                       ROMCLK
3061
3062
                                 163204
3063
                                                                       BEQ
        016160
016162
016164
016166
016174
016200
                     104006
104401
012737
052705
012710
3065
3066
3067
                                                                       HLT
SCOP1
                                                                                  016174 001220
000200
050013
                                                                       MOV
3068
3069
3070
3071
                                                          361
        016204
016206
016210
016214
016216
                     011002
104415
017704
020504
001401
                                                                       ROMCLK
3072
3073
3074
3075
                                 163146
                                                                       MOV
                                                                       CMP
BEQ
         016220
                     104006
                                                                       HLT
        016222 104401
016224 012737
016232 052705
016236 012710
3076
3077
3078
                                                                       SCOP1
MOV
BIS
                                                                                   #4#,LOCK ;ALTER EXPECTED ADDRESS #BIT10,R5 ;ALTER EXPECTED ADDRESS #S.C+BIT3+BIT1,(R0) ;DO A SET/CLEAR SET DVSCR BIT 10 ;SAVE DVSFR CONTENTS FOR ERROR PRINT OUT IF NECESSARY COLE THE ROM FOUND LOC.
                                                           6581
                                  016232 001220
002000
                                                           48:
3079
                                  050012
                                                                       MOV
3080
        016242 011002
016244 104415
016246 017704
016252 020504
                                                                       MOV
                                                                                                            JSAVE DVSFR CONTENTS FOR ERROR |
JCYCLE THE ROM
JREAD DVSCR INTO "FOUND LOC.
JWAS THE ROM INSTR EXECUTED?
JBR IF DVSCR OK
JROM FAILED TO EXECUTE
JLOCK ON THIS SUB-TEST? SW09=1?
JSCOPE THIS TEST
3082
                                                                       ROMCLK
                                                                                   eDVSCR,R4
R5,R4
668
                                                                       MOV
                                 163110
3085
        016254 001401
                                                                       BEQ
3086
3087
                                                                       HLT
                                                                       SCOP1
SCOPE
                                                           6681
3088
         016262 104400
3089
3090
3091
3092
                                                                       3093
3094
3095
3096
                                                                       3097
3098
3099
3100
3102
                                                                       3103
                                                          ; TEST 67
```

DZDVA-B	MACVII	27(732)	10-MAD-	76 1810	6 PAGE	41			PAGE	0086
DZDVAB.				GNOSTICS			975 DIGITAL EQU	IIP. CORP.	FAGE.	2200
02011104	• • •	- 111 - 02	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					,,		
3106	016264	012737	000067	001226	TST67:	MOV	#67,TSTNO			
3107	Ø16272	Ø12737	016506	001216		MOV	#TST70, NEXT			
3108	016300	104412				MSTCLR		CLEAR DV11		
3109	016302	013700	001400			MOV	DVSFR, RØ	SET DYSFR POINTER TO RO		
3110	016306	012777	000010	163046		MOV	#BIT3, #DVSCR	SET SORCE SEL		
3111	016314 016320	012705	100000			MOV	#BIT15,R5	SET EXPECTED RESULTS		
3112 3113	010320	012710	050010			MOV	#8,C+BIT3,(RØ)	SET/CLEAR DVRICE 15		
3114	Ø16324	011002				MOV	(RØ),R2	SAVE DYSFR CONTENTS FOR ERROR PRINT OUT	TF NECESSARY	
3115	016326	104415				ROMCLK	Charte	CYCLE THE ROM		
3116	016330	017704	163032			MOV	#DVRIC,R4	READ DURIC INTO "FOUND" LOC.		
3117	016334	020504				CMP	R5,R4	WAS THE ROM INSTR EXECUTED?		
3118	Ø16336	001401				BEQ	64#	BR IF DVSCR OK		
3119	016340	104006				HLT	6	ROM FAILED TO EXECUTE		
3120	016342	104401			648:	SCOP1		;LOCK ON THIS SUB-TEST? SW09=1?		
3121	016344	104412				MSTCLR		CLEAR DV11		
3122	016346	012777	000010	163006		MOV	#BIT3, @DVSCR	; SET SOURCE SEL		
3123 3124	016354 016360	012705	040000			MOA	#BIT14,R5	SET EXPECTED RESULTS		
3125	910309	012710	050011			MOV	#8,C+BIT3+BITØ,	SET/CLEAR DYRICR 14		
3126	016364	011002				MOV	(RØ),R2	SAVE DYSFR CONTENTS FOR ERROR PRINT OUT	IF NECESSARY	
3127	016366	104415				ROMCLK	(107710	CYCLE THE ROM		
3128	016370	917794	162772			MOV	aDVRIC.R4	READ DYRIC INTO "FOUND" LOC.		
3129	016374	020504				CMP	R5, R4	WAS THE ROM INSTR EXECUTED?		
3130	016376	001401				BEQ	658	BR IF DVSCR OK		
3131	016400	104006				HLT	6	ROM FAILED TO EXECUTE		
3132	016402	104401			65#;	SCOP1		;LOCK ON THIS SUB-TEST? SW09=1?		
3133	016404	104412				MSTCLR		CLEAR DV11		
3134 3135	Ø164Ø6 Ø16414	012777	000010	162746		MOA	#BIT3, @DVSCR	SET SOURCE SEL		
3136	016420	Ø12705 Ø12710	020000 050014			MOV	#BIT13,R5 #S.C+BIT3+BIT2,	SET EXPECTED RESULTS		
3137		0.1	5050.4				**************	SET/CLEAR DVRICR 13		
3138	016424	011002				MOV	(RØ),R2	SAVE DYSFR CONTENTS FOR ERROR PRINT OUT	IF NECESSARY	
3139	016426	104415				ROMCLK		CYCLE THE ROM		
3140	016430	017704	162732			MOV	ODVRIC,R4	; READ DYRIC INTO "FOUND" LOC.		
3141	016434	020504				CMP	R5, R4	; WAS THE ROM INSTR EXECUTED?		
3142	016436	001401				BEQ	66\$	BR IF DVSCR OK		
3143	016440	104006				HLT	6	ROM FAILED TO EXECUTE		
3144 3145	016442	104401			6681	SCOP1		LOCK ON THIS SUB-TEST? SW09=1?		
3145	Ø16444 Ø16446	104412 012777	000010	162706		MSTCLR MOV	ARTTS ADVECT	CLEAR DV11; SET SOURCE SEL		
3147	016454	012705	010000	104180		MOV	#BIT3, @DVSCR #BIT12, R5	SET EXPECTED RESULTS		
3148	016460	012710	050015			MOV	#S.C+BIT3+BIT24			
3149								SET/CLEAR DVRICR 12		
3150	016464	011002				MOV	(RØ),R2	SAVE DYSFR CONTENTS FOR ERROR PRINT OUT	IF NECESSARY	
3151	Ø16466	104415				ROMCLK		CYCLE THE ROM	•	
3152	016470	017704	162672			MOV	BDVRIC,R4	READ DYRIC INTO "FOUND" LOC.		
3153	016474	020504				CMP	R5 , R4	; WAS THE ROM INSTR EXECUTED?		
3154	016476	001401				BEQ	678	BR IF DVSCR OK		
3155	016500	104006				HLT	6.	ROM FAILED TO EXECUTE		
3156 3157	016502 016504	104401			6781	SCOP1		LOCK ON THIS SUB-TEST? SW09#1?		
3158	~10284	104400				SCOPE		SCOPE THIS TEST		
3159										
3160						1*****	***********	*** TEST 70 *******************		
3161							TEST OF DVSFR.			

```
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3162
3163 ;*TEST OF "SET/CLEAR" AND "BRANCH B" FUNCTIONS.
```

```
3164
3165
3166
                                                                                                                                                                        TEST 70
3167
3168
3169
                                                                                                                                                                                              MOV #70,TSTNO
MOV #TST71,NEXT
MOV #18,LOCK
MSTCLR
                        016506 012737
016514 012737
016522 012737
                                                                                          000070 001226
017170 001216
                                                                                                                                                           TST70:
3170
3171
3172
                                                                                           016544 001220
                                                                                                                                                                                                                                                                                                 ;CLEAR DV11
;SET SOURCE SELECT
;SET DVSFR POINTER INTO RØ
                                                                                                                           162622
                                                                                                                                                                                                                    #BIT3, @DVSCR
DVSFR, RØ
                                                                                          000010
                                                                                                                                                                                               MOV
                                                                                                                                                                                              MOV
3173
                        Ø16540
                                                                                           001400
3175
3176
3177
                                                                                                                                                                                               ;*TEST SET/CLEAR FUNCTION
;*FOR ALU BIT02
JSR R2,108 ;G
BIT4+BIT2 ;F
                        016544
016550
016552
016554
                                                                                      017134
                                                                                                                                                                                                                                                                                                 ;GOTO SUBROUTINE,
;POINT SET/CLEARED
;BR TEST POINT
;EXPECTED RESULTS IN DVLCR
                                                       004237
                                                       000024
006000
                                                                                                                                                                                               BIT1+BIT10
BIT11+BIT10
BIT1
JSR R2,108
BIT4+BIT2+BIT0
BIT11+BIT10
BIT1+BIT10
3180
                                                        000002
                                                                                                                                                                                                                                                                                                  ;GOSUB
;POINT SET/CLEARED
;BR TEST POINT
;EXPECTED RESUTS IN DVLCR
3181
3182
                        016556
                                                        004237
                                                                                          017134
3183
3184
                        Ø16564
Ø16566
                                                         006000
                                                         000003
                                                                                                                                                                                          SCOP1
                                                                                                                                                                                                                                                                                                  :SW09=177
3186
3187
3188
3189
3190
                        016572
016600
016604
                                                       012737
004237
000047
                                                                                          015500 001220
017134
3191
3192
3193
3194
                       016606
016610
016612
                                                        070000
000001
004237
                                                                                          017134
3195
3196
3197
3198
                       Ø16616
Ø1662Ø
Ø16622
Ø16624
                                                        000043
                                                         070000
                                                          000003
                                                                                                                                                             6581
                                                                                                                                                                                            ;*TEST SET/CLEAR FUNCTION
;*FOR RAM OUTPUT BIT01

MOV #3$,LOCK
JSR R2,10$;GOTO THE SUBROUTINE
BIT5+BIT0
FOR R2,10$;GOTO SUB ROUTINE
FOR R2,10$;GOTO SUB ROUTINE
BIT5+BIT0
FOR R2,10$;GOTO SUB ROUTINE
FOR R2,1
3199
3200
3201
                      016626
016634
016640
3202
                                                       012737
                                                                                          016634 001220
3203
                                                       004237
3204
                                                        000045
                        016642
                                                        370400
3205
3206
3207
3208
                        Ø16644
Ø16646
Ø16652
                                                        000001
000001
000041
                                                                                          017134
3209
3210
                        Ø16654
Ø16656
                                                        070400
000003
                                                                                                                                                             6781
3211
                        016660
                                                         104401
3212
                                                                                                                                                                                              ;*TEST SET/CLEAR FUNCTION
;*FOR RAM OUTPUT BIT02
MOV #46,LOCK ;SET RETURN IF SW09=1
JSR R2,106 ;GOTO THE SUBROUTINE
BIT5+BIT2+BIT1 ;POINT SET/CLEARED [SET]
3213
3214
3215 016662 012737 016670 001220
3216 016670 004237 017134
3217 016674 000046
```

```
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```

```
3218 016676 071000
3219 016700 000001
3220 016702 004237
                                                                            BRB+BIT9
                                                                                                                    ; BR TEST POINT ; DVLCR EXPECTED
                                                                            BITO
TER R2,108
                      000001
004237 017134
                                                                                                                    ;GOTO SUB ROUTINE
;POINT SET/CLEARED [CLEARED]
;BR TEST POINT
                                                                            BIT5+BIT1
BRB+BIT9
BIT1+BITØ
3221
3222
        016706
016710
                      000042
071000
3223
3224
        016712
016714
                       000003
                                                                                                                    ; EXPECTED RESULTS
; SWR 09=1?
                                                                            SCOP1
                     104401
                                                               6981
                                                                           ;*TEST SET/CLEAR FUNCTION
;*FOR RAM OUTPUT BIT03

MOV #66,LOCK ;SET RETURN IF SW09=1

JSR R2,108 ;GOTO THE SUBROUTINE
BIT5+BIT2 ;POINT SET/CLEARED [SET]
BRB+BIT9+BIT8 ;BR TEST POINT
BIT0 ;DVLCR EXPECTED

JSR R2,108 ;GOTO SUB ROUTINE
BIT5 ;POINT SET/CLEARED [CLEARED]
BRB+BIT9+BIT8 ;POINT SET/CLEARED [CLEARED]
BRB+BIT9+BIT8 ;EXPECTED RESULTS

SCOP1 ;SWR 09=1?
3226
3227
3228
3229
         016716
016724
016730
                      012737
004237
                                    016724
                                    017134
3230
                       000044
3231
         016732
                       971400
        016734
016736
016742
016744
016746
3232
3233
3234
                      000001
                                    017134
                      000040
071400
3235
3236
3237
                       000003
         016750
                      104401
                                                               7181
3237
3238
3239
3240
3241
3242
                                                                           Ø16752
Ø16760
Ø16764
Ø16766
                      012737
004237
                                    016760 001220
3243
3244
                      000207
3245
3246
3247
3248
         016770
016772
016776
                       000001
004237
                                    017134
                       000203
         017000
                      672000
3249
         017002
                       000003
3250
3251
         017004
                                                              7381
                      104401
                                                                          3252
3253
3254
3255
         017006
017014
                      012737
004237
                                    017014 001220
017134
3256
3257
3258
3259
         017020
017022
017024
                       000205
072400
                       000001
                      004237
000201
         017026
                                    017134
3260
          017032
3261
3262
         017034
017036
                      072400
                      999991
3263
3264
3265
3266
                                                               7581
                                                                            3267
3268
         017042
017050
                      012737
004237
                                    017050 001220
                                    017134
3269
         017054
                      000206
073000
         017056
017060
                                                                            BITO
JSR R2,106
3271
3272
3273
                                                                                                                   ;DVLCR EXPECTED
;GOTO SUB ROUTINE
;POINT SET/CLEARED [CLEARED]
                      000001
004237
         Ø17062
Ø17066
                                    017134
                                                                            JSR R2
BIT7+BIT1
```

```
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DZDVAB.P11 DV11 DEVICE DIAGNOSTICS.
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                                                                                                                                                                                                                                                              PAGE: 0089
                017070 073000
017072 000003
017074 104401
                                                                                                      BPB+BIT10+BIT9
                                                                                                                                                         ;BR TEST POINT ;EXPECTED RESULTS ;SWR 09=1?
                                                                                                      BIT1+BIT0
SCOP1
    3276
                                                                                                      y*TEST SET/CLEAR FUNCTION

y*FOR RAM OUTPUT BIT07

MOV #1015,LOCK ;SET RETURN IF SW09=1

JSR R2,108 ;GOTO THE SUBROUTINE

BIT7+BIT2 ;POINT SET/CLEARED [SET]

BRB+BIT10+BIT9+BIT8 ;DVLCR EXPECTED

*GOTO SUB ROUTINE COTTABED]
    3279
3280
                                                 017104 001220
                 017076
                                012737
    3281
3282
3283
                 017104
017110
017112
                                 004237
000204
073400
                                                   017134
                                                                                     10181
                 017114
017116
017122
                                  000001
004237
000200
                                                                                                                                                        ;DVLCR EXPECTED
;GOTO SUB ROUTINE
;POINT SET/CLEARED [CLEARED]
;EXPECTED RESULTS
;SWR 09=1?
;SCOPE THE TEST
;SET/CLEAR INSTR
;SAVE JSR PC ADDRESS
;LOAD POINT SET/CLEARED
;CYCLE THE ROM
;LOAD BR TEST POINT
;READ DVSFR INTO R3
;LOAD EXPECTED INTO R5
;READ DVLCR INTO FOUND LOC,
;EXPECTED=FOUND?
;BR IF YES
                                                   017134
    3286
3287
                                  073400
000003
104401
104400
                                                                                                       BRB+BIT10+BIT9+BIT9
                 017124
                                                                                                      BIT1+BITØ
SCOP1
SCOPE
     3288
                 017126
                 017130
017132
                                                                                     7961
    3289
3290
    3291
3292
3293
                 017134
017140
017142
                                  012710
010201
052210
                                                   050000
                                                                                     1081
                                                                                                       MOV
                                                                                                                        #S.C, (RØ)
                                                                                                       MOV
BIS
                                                                                                                       R2,R1
(R2)+,(RØ)
                017144
017146
017150
    3294
3295
                                  104415
                                                                                                       ROMCLK
                                                                                                                       (R2)+,(RØ)
(RØ),R3
(R2)+,R5
@DVLCR,R4
                                                                                                       MOV
    3296
3297
                                  011003
012205
                 Ø17152
                                                                                                       MOV
                 Ø17154
Ø17160
                                  017704
020504
                                                   162210
                                                                                                       MOV
                                                                                                                                                          ; BR IF YES
; DVLCR WRONG BR RESULTS,
; RETURN
                                                                                                       BEQ
    3300
                 017162
                                  001401
                                                                                                                        118
    3301
3302
                                                                                     1181
                                                                                                                        R2
    3303
                                                                                                       ; ********************* TEST 71 ********************
     3304
                                                                                                      3307
     3308
    3310
                                                                                         TEST 71
     3314
                                                                    001226 TST71:
                017170 012737 000071
017176 012737 017412
017204 104412
017206 012700 000177
017212 012777 000010
017220 012705 000003
017224 012777 050021
                                                                                                                      #71,TSTNO
#TST72,NEXT
    3315
                                                                                                      MOV
                                                                                                      MOV
MSTCLR
                                                                                                                       #TST72,NEXT

#127,R0

#SET R0 TO 1 LESS THAN FULL SILO

#BIT3,#DVSCR

#BET SOURCE SEL

#BIT1+BIT0,R5

#SET EXPECTED RESULTS INTO R5

#S,C+BIT4+BIT0,#DVSFR

#BIT11+BIT10+BIT9+BIT9,#DVSFR

#BIT11+BIT10+BIT9+BIT9,#DVSFR

#BR-A "SILO FULL"?

#DVSFR,R2

#EAD DVLCR FOR RESULTS
                                                                    001216
    3317
    3318
                                                                                                       MOV
                                                   000010 162142
000003
050021 162146 18:
                                                                                                       MOV
MOV
    3321
                                                                                                       MOV
                                                                                                      ROMCLK
MOV
     3322
                                  104415
012777
     3323
                                                   007400
                                                                    162136
    3324
    3325
3326
3327
                017242
017246
017252
017254
                                 017702
017704
020504
                                                                                                       MOV
                                                                                                      MOV
CMP
BEQ
                                                                                                                        eDVLCR,R4
R5,R4
64$
                                                                                                                                                          JREAD DVLCR FOR RESULTS
JARE BR TEST POINTS CORRECT?
JBR IF YES
JBR TEST POINTS WRONG (BIT1 OR 0)
                                  001401
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 65
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                              PAGE: 0090
                                                                                                                                                          ; IS SILO FULL=1 YET?
; BR IF NOT 127 TIMES YET
                                                                                                      DEC
BNE
                Ø17262
Ø17264
    3331
3332
                                 001360
012777 050021 162106 28:
                                                                                                                        #5,C+BIT4+BITØ,@DVSFR
;S/C "SILO IN"
                                                                                                       MOV
    3333
3334
3335
                817272 104415
817274 808248
817276 812777
                                                                                                      ROMCLK
                                                                                                                       ; WAIST INSTRUCTION TIME #BIT11+BIT10+BIT9+BIT0; 9DVSFR

9DVSFR,R2 ; $8AVE DVSFR

9DVLCR,R4 ; READ BR TEST POINTS #BIT0;R5 ; ALTER EXPECTED RESULTS R5,R4 ; BR TEST POINTS OK??

38 ; BR TEST POINTS WRONG #S.C.+BIT4.9DVSFR
                                                                                                       NOP
    3336
3337
                                                   007400 162074
                                                                                                       MOV
    3338
3339
3340
3341
                017304
017310
017314
017320
                                 017702
017704
042705
020504
                                                   162070
162054
000001
                                                                                                      MOV
                                                                                                      MOV
BIC
CMP
                017320
017322
017324
017326
017334
017336
017340
    3342
3343
3344
                                 001401
104006
012777
                                                   050020 162044 38:
                                                                                                                      *S,C+BIT4, DVSFR

; %/C "SILO OUT"
; WAIST INSTR TIME

*BIT11+BIT10+BIT9+BIT9, DVSFR
; DEALAY AT LEAST 32US
; BIT0, DVLCR
; IS SILO *NOT FULL*??

$$ ; BR IF OK,

*1,R2 ; DELAY.....

4$ ; GOTO 4$
; DVSFR,R2 ; SAVE DVSFR
; DVSFR,R2 ; SAVE DVSFR
*BUT0,R4 ; READ BR TEST POINTS
*BIT0,R5 ; SET EXPECTED RESULTS
R5,R4 ; OK??

6$ ; YES
6 ; SILO STILL FULL.
                                                                                                                        #S,C+BIT4, #DVSFR
                                                                                                       MOV
    3345
                                  104415
                                                                                                       ROMCLK
                                  000240
012777
                                                                                                      NOP
MOV
                                                   007400 162032
    3348
    3350
                017350
017356
017360
                                 032777
                                                   000001 162012
    3351
3352
                                  001003
062702
                                                                                                       BNE
                                                   000001
                                                                                                       ADD
    3353
3354
                017364
017366
017372
                                  001371
017702
017704
                                                                                                       BNE
MOV
MOV
                                                    162006
    3355
                                                   161772
                017372
017376
017402
017404
017406
017410
    3356
3357
3358
3359
3360
                                 052705
020504
                                                                                                      BIS
CMP
BEQ
HLT
                                                   000001
                                  001401
                                                                                                                                                          ;SILO STILL FULL.
;SCOPE TEST
                                                                                     651
                                                                                                       SCOPE
    3361
3362
                                                                                                       3363
     3364
    3365
3366
    3367
3368
    3369
     3370
    3371
3372
3373
                                                                                         TEST 72
                                                                                                                       #72, TSTNO
#TST73, NEXT
                 017412 012737
                                                    000072
                                                                                     TST72: MOV
                017420
017426
017430
                                012737
104412
012777
    3374
                                                   017616 001216
                                                                                                                                                         ;CLEAR DV11
;SET SOURCE SEL
;SET EXPECTED RESULTS
;BR-A "RCVD CHAR WAITING"?
;LOAD DV INSTR
                                                                                                       MSTCLR
                                                                                                                      *BIT3, @DVSCR
*BIT1+BITØ, R5
*BIT9+BIT8, R2
R2, @DVSFR
*BULCR, R4
R5, R4
648
    3376
                                                   000010
                                                                    161724
                                                                                                       MOV
    3377
3378
3379
                 017436
017442
017446
017452
                                  012705
012702
010277
017704
                                                   000003
001400
161726
                                                                                                       MOV
                                                                                                       MOV
                                                                                                       MOV
CMP
                                                                                                                                                          READ TEST POINTS
    3380
                                                    161712
    3381
3382
3383
                017456
017460
017462
                                  020504
001401
104006
```

6 ;TEST POINT RECV CHAR WAITING WRONG #8,C+BIT4+BIT0,R2

S/C "SILO IN"

BEQ

6481

3384 3385

017464

012702

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DZDVAB.P11 DV11 DEVICE DIAGNOSTICS. COPYFIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                         PAGE: 0091
                                   010277
104415
005004
                                                                                                                            R2, @DVSFR
                                                                                                                                                                ;LOAD INSTR
               017470
017474
017476
                                                                                                           MOV
                                                  161704
                                                                                                           ROMCLK
                                                                                                                                                                 :CLOCK
                                                                                                                                                                ;PREPARE COUNTER
;BR-A RCV CHAR WAITING
;BR-A "RCVD CHAR WAITING"?
                                                                                                           CLR
     3388
                                                                                                                             #BIT9+BIT8,R2
               017500
                                   012702
                                                     UB1400
    3390
3391
3392
                                                                                                                            R2,@DVSFR
#BIT1,R5
#BIT0,@DVLCR
                                                                                                                                                                ;LOAD INSTR
;SET GOOD RESULTS
;TEST DV11 BR POINT
                                   010277
012705
032777
                                                                                                           MOV
MOV
                 W17510
                                                     000002
                017514
017522
017524
     3393
3394
                                                     000001 161646 18:
                                                                                                           BIT
                                   001403
062704
                                                                                                                            28
#1,R4
18
                                                                                                                                                                 BR IF OK
                                                                                                                                                                ;DELAY
;GOTO 18
                                                  000001
     3395
    3396
3397
                017530
017532
017536
017540
                                   001371
                                                                                                           BNE
                                                                                                                             eDVLCR,R4
                                   Ø17704
Ø20504
                                                     161632
                                                                                        26:
                                                                                                           MOV
CMP
                                                                                                                                                                READ DV11 BR POINT
                                                                                                                             R5, R4
     3398
                                                                                                           BEQ
     3399
                                   001401
                                                                                                                            38
                                                                                                           HLT
                                                                                                                                                                ;BR POINT RCV CHAR WAITING WRONG
                                                                                                           HALT SETTING DVSCROP

;*TEST THAT SETTING DVSCROP

;*INHIBITS RCV CHAR WAITING FROM APPEARING
;*TRUE; AND THAT CLEARING
;*DVSCROP MAKES IT APPEAR TRUE AGAIN.
     3401
3402
    3403
3404
3405
                017544
017550
017556
017562
     3406
                                   012705
                                                                                        38:
                                                                                                                             #BIT1+BITØ,R5
                                                                                                                                                                ; LOAD EXPECTED
                                                                                                                            #BIT9+BIT7, @DVSCR ; SET RECV INTER @DVLCR, R4 ; READ DV BR POINTS
     3407
3408
                                                     001200
                                                                    161604
                                                                                                           BIS
MOV
CMP
                                                     161606
                                                                                                                            R5 . R4
     3409
                                   020504
    3410
3411
3412
3413
                017564
017566
017570
017574
                                   001401
104006
042705
042777
                                                                                                           BEQ
HLT
                                                                                                                            6
#BIT0,R5
#BIT7,@DVSCR
@DVLCR,R4
                                                                                                                                                                BR TEST POINTS WRONG RESET EXPECTED RESULTS CLEAR RECV INT READ BR POINTS
                                                     000001
000200 161560
                                                                                                           BIC
                017602
017606
017610
                                  017704
020504
001401
                                                     161562
                                                                                                           MOV
                                                                                                                            R5,R4
    3416
                                                                                                           BEQ
                                                                                                                                                                BR TEST POINTS WRONG SCOPE THIS TEST
                                                                                                           HLT
                                                                                                           SCOPE
                                                                                        58:
     3419
     3420
                                                                                                           3421
3422
3423
     3425
    3426
                                                                                             TEST 73
     3428
               017616
017624
017632
017640
017642
017650
                                 Ø12737
Ø12737
Ø12737
                                                                                        TST73: MOV
                                                                                                                          #73,TSTNO
#TST74,NEXT
#18,LOCK
                                                     000073
                                                                      001226
    3430
                                                     020156
017732
                                                                      001216
                                                                      001220
    3432
3433
3434
                                                                                                                                                                ;CLEAR DV11
;SET SOURCE SEL
;SET DVSFR POINTER INTO RØ
                                                                                                           MSTCLR
                                                                                                                            #BIT3, @DVSCR
DVSFR, RØ
                                                                                                           MOV
                                   013700
                                                     001400
     3435
3436
                                                                                                          ;*TEST TO XFR SOURCE REGISTERS TO THE DVRIC
;*REGISTER VERIFYING THAT THE FOLLOWING REGISTERS
;*ARE CLEARED AND THAT THE XFR BUS IS CLEAR AFTER
;*A MSTCLR,
;*REGISTER FUNCTION
;* 0000 GROUND
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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                         PAGE: 0092
                                                                                                           ; # 0001
; # 0010
; # 0011
; # 0100
                                                                                                                                              GROUND
    3443
                                                                                                                                              GROUND
                                                                                                           ; # 0100
; # 0101
; # 0110
; # 0110
; # 1000
; # 1001
; # 1011
; # 1110
; # 1111
                                                                                                                                              GROUND
MASTER SCAN 0-3/0-3
ALU RESULT 8-11/0-3
ALU RESULT 5-7/0-2
LOW BYTE=B REG 8-15 ; HIGH BYTE=GRND
LOW BYTE=B REG 8-15 ; HIGH BYTE=GRND
RAM OUTPUT 0-2/8-10
RAM OUTPUT 0-2/8-10
NPR INPUT REGISTER
BCC REGISTER
ALU RESULT REGISTER
     3447
     3450
     3451
     3452
    3453
3454
     3455
    3456
3457
3458
                                                                                                                           R5 ;SET EXPECTED TO 0

*XFR,R2 ;SET DATA XFR INSTR.

*BIT2+BIT1,R2 ;SET DATA XFR INSTR.

*BIT7+BIT6+BIT5+BIT4,R2 ;SET DESTINATION TO DVRIC REG.

*BIT7+BIT6+BIT5+BIT4,R2 ;SET SOURCE REGISTER

R2,(R0) ;LOAD SFR WITH XFR INSTR

*EXECUTE INSTR

*PDVRIC,R4 ;READ SOURCE REGISTER

666 ;BI IF IT WAS ZERO

6 ;SOURCE REGISTER IN SFR NOT ZERO

*BIT4,R3 ;UPDATE SOURCE REGISTER!

$300,R3 ;DON'T DO SILO REGISTER!

668 ;BIT7+BIT6+BIT5+BIT4,R3

658 ;BR IF MORE TO DO.
                                 005005
012702
                                                                                                           CLR
                017654
017656
                                                     030000
                017662
017666
017670
                                                                                                           BIS
    3459
                                   052702
                                                     000006
    346Ø
3461
                                  005003
042702
                                                                                                           CLR
BIC
                                                     000360
                                                                                        6581
                017674
017676
017700
017702
    3462
                                   050302
                                                                                                           BIS
     3463
                                   010210
     3464
3465
                                   104415
                                                     161460
                                                                                                           MOV
                017706
017710
017712
017716
                                   001401
104006
062703
    3466
3467
                                                                                                           BEO
     3468
                                                     000020
                                                                                        666:
                                                                                                           ADD
                                   022703
001773
                                                                                                           CMP
    3469
                                                     000300
                  017722
                                                                                                           BEQ
BIT
                                                     000360
     3471
                 017724
017730
                                   032703
001357
     3473
                                                                                                          ;*TEST OF SET RAM OUTPUT BITØ
;*AND THE USE OF THE DATA XFER INSTR,
;*PLACE RAM BITØ INTO THE DVRIC REG

MOV #BITØ;R5

MOV #SYR,R3 ;-DATA XFER-
BIS #81T7+BIT5+BIT2+BIT1;R3

JSR R2,108 ;SE RAM OUTPUT Ø-2, DE DVRIC
BIT5+BIT2+BIT1+BITØ
    3477
3478
3479
                 Ø17732
Ø17736
Ø17742
                                   012705
012703
052703
                                                     000400
                                                     030000
000246
     3480
                                   004237
000047
000043
                                                      020076
                                                                                                           JSR R2,108
BIT5+BIT2+BIT1+BIT0
BIT5+BIT1+BIT0
                Ø17752
Ø17754
     3482
    3483
3484
3485
3486
3487
                                                                                                          ;*TEST TO SET RAM OUTPUT DATA BIT3
;*AND THE USE OF THE "DATA TRANSFER" INSTRUCTION
;*TO PLACE BIT3 INTO THE DVRIC REGISTER.

MOV #34,LOCK ;SET RETURN IF SW09=1

MOV #BIT3,R5 ;SET EXPECTED DATA
                                   012737
012705
012703
052703
                017756
017764
017770
017774
                                                                                                                            #XFF,R3 ;=DATA XFER=
#BIT7+BIT5+BIT4+BIT2+BIT1,R3
R2,108 ;S= RAM OUTPUT, D=DVRIC
                                                     030000
                                                                                                           MOV
     3490
                                                                                                           BIS
    3491
3492
3493
3494
3495
3496
3497
                 020000
                                   004237
000044
                                                      020076
                  020004
                  020006
                                    000040
                                                                                                           BIT5
```

; *TEST TO SET RAM OUTPUT DATA BIT4 ; *AND THE USE OF THE "DATA TRANSFER" INSTRUCTION ; *TO PLACE BIT4 INTO THE DVRIC REGISTER,

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DZDVAB_P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                     MOV #46,LOCK ; SET RETURN IF SW09=1
MOV #BIT4,R5 ; SET EXPECTED DATA
MOV #XFR,R3 ; DATA XFER-
BIS #BIT7+BIT5+BIT4+BIT2+BIT1,R3
JSR R2,108 ;S= RAM OUTPUT, D=DVRIC
BIT7+BIT2+BIT1+BIT0
BIT7+BIT1+BIT0
                                 012737
012705
012703
    3498
3499
                                                  020016 001220
000020
                020010
020016
    3500 020022
3501 020026
3502 020032
                                                  030000
                                 Ø527Ø3
ØØ4237
                                                   020076
    3503 020036
3504 020040
                                 888287
    3504
3505
                                                                                                      BIT7+BIT1+BITØ
                                                                                                     ;*TEST TO SET RAM OUTPUT DATA BIT7
;*AND THE USE OF THE "DATA TRANSFER" INSTRUCTION
;*TO PLACE BIT7 INTO THE DVRIC REGISTER.

MOV #65;,LOCK ;SET RETURN IF SW09=1

MOV #BIT7,R5 ;SET EXPECTED DATA

MOV #XFR,R3 ;-DATA XFER-

BIS #BIT7+BIT5+BIT4+BIT2+BIT1,R3

JSR R2,106 ;SE RAM OUTPUT, DEDVRIC
    3506
               020042 012737
020050 012705
020054 012703
020060 052703
020064 004237
                                                  020050 001220
000200
    3509
    3510
                                                                                    681
    3511
3512
                                                  030000
000266
    3513
                                                   020076
                                004237
000204
900200
104400
012710
010201
052210
    3514
3515
3516
                020070
020072
020074
                                                                                                      BIT7+BIT2
BIT7
                                                                                                      SCOPE
                                                                                                                       #S,C,(RØ) ;SET CLEAR INSTR
R2,R1 ;JSR PC TO R1
(R2)+,(RØ) ;LOAD SET/CLEAR POINT
    3517
                020076
                                                  050000
                                                                                    1081
                                                                                                      MOV
               020102
020104
020106
                                                                                                      MOV
    3519
                                                                                                      BIS
ROMCLK
    3520
                                 104415
                                                                                                                                                          EXECUTE
               929119
929112
929114
                                010310
104415
017704
                                                                                                                                                         ;LOAD XFER
;EXECUTE
;READ RESULTS
                                                                                                      MOY
ROMCLK
                                                                                                                       R3,(R0)
    3522
3523
                                                  161246
                                                                                                                       eDVRIC,R4
                                                                                                      MOV
   3524
3525
3526
                020120
020122
020124
                                 020504
001401
104005
012710
                                                                                                                                                         ;OK??
;YES
;XFER FAILED
                                                                                                                       R5,R4
118
                                                                                                      HLT
                                                                                                                       #S.C.(RØ) ;SET/CLEAR
    3527
               020126
                                                  050000
                                                                                    118:
               020132
020134
                                                                                                                                                         ; POINT
; EXECUTE
                                                                                                                       (R2)+,(RØ)
                                                                                                      ROMCLK
MOV
    3529
                                 010310
                                                                                                                      R3.(RØ)
   3530
               020136
                                                                                                                                                          XFER
                                                                                                                                                         ;XFER;EXECUTE;SET EXPECTED RESULTS;READ REAL RESULTS;BR IF RESULT#0;DVRICR NOT #0;EXIT SUB
   3531
3532
3533
               020140
020142
020144
                                 104415
                                                                                                      ROMCLK
CLR
MOV
BEQ
                                104415
005005
017704
001401
104005
000202
                                                                                                                       ODVRIC,R4
                                                161216
   3534
3535
3536
               020150
020152
020154
                                                                                                                       128
5
R2
                                                                                    128:
   3537
   3538
                                                                                                     3539
3540
3541
   3542
3543
3544
   3545
3546
3547
   3548
   3550
                                                                                    : TEST 74
```

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DEDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                             PAGE: 0094
  000074 001226
020276 001216
                                                                                         #74.TSTNO
                                                                            MOV
                        012737
104412
012777
013700
                                                                            VOM
                                                                                         #TST75, NEXT
                                                                                        #TET75, NEXT

| RESET DV11

#BIT3, @DVSCR | SET SOURCE SELECT

DV5FR, R0 | SET DV5FR POINTER IN R0

#XFR+BIT7+BIT6+BIT5+BIT4+BIT2+BIT1, R2

R2, (R0) | XFR "ALU RESULT REG." TO DVNSR
                                                                            MSTCLR
                                                                            MOV
                                      001400
                        012702
010210
104415
           020206
020212
                                                                            MOV
   3560
                                      030366
   3561
                                                                                                                  CLOCK INSTRUCTION
ZERO "EXPECTED" LOC
READ "ALU RESULT"
   3562
            020214
                                                                            ROMCLK
  3563
3564
3565
           020216
020220
020224
                        005005
017704
001401
                                                                                         BDVPIC,R4
                                     161142
                                                                            BEQ
                                                                                                                   8/Ba0
                                                                                        020226
020230
020234
020236
   3566
3567
                        012710
104415
010210
                                      010037
                                                               18:
  3568
3569
3570
                                                                            ROMCLK
           020240
020242
020246
020250
                        104415
017704
001401
104006
                                                                            ROMCLK
  3571
3572
3573
                                     161120
                                                                                        BEQ
HLT
MOV
            020252
020256
020260
                        012710
104415
010210
                                      010026
                                                               28:
                                                                            ROMCLK
   3576
                                                                            MOV
                        104415
017704
001401
                                                                            ROMCLK
            020262
020264
  3578
3579
                                                                            MOV
Beq
                                                                                                                  ;S/B=0
;*B* REG NOT=0 ON INIT
;SCOPE TEST
            020270
            020272
020274
   3580
                                                                            SCOPE
                                                               38:
   3583
3584
                                                                            ; ********************* TEST 75 ***********************
                                                                            ; TEST OF ALU OPERATIONS,
; TEST OF ALL ALU OPERATIONS USED BY DV11.
; FFUNCTIONS TESTED! (NOTE THAT "F" IS ALU RESULT)
  3587
                                                                            | +DVSFR BITS:
| +BIT12 BIT05 BIT04 BIT03 BIT02 BIT01 BIT00 FUNCTION
                                                                                                                                                 F=0
F=A
   359Ø
   3592
   3593
3594
   3597
                                                               : TEST 75
                                                               TST75: MOV
            020276 012737 000075 001226
020304 012737 021206 001216
                                                                            MOV #75,TSTNO
MOV #TST76,NEXT
;#FUNCTION TESTED
;#F==1,RIC_F
   3600
3601
   3602
3603
                                                                            , #
MOV
                                                                                        020312 012737 020320 001220
   3604
                        104412
012777
013700
012702
                                                                            MSTCLR
MOV
MOV
            020320
020322
                                      000010
001400
030366
                                                  161032
   3607
3608
            020330
020334
```

MOV

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 70
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                  ROMCLK
                                                                                                                           ;DO "F==1"
;XFR "ALU RESULT TO DVRIC"
    3610
             Ø2Ø344
Ø2Ø346
                           010210
   3612 020350
3613 020352
                          104415
017704
012705
                                                                                  ROMCLK
                                                                                 ROMCUK

MOV 9DVRIC,R4 ;READ RESULTS

MOV #=1,R5 ;SET EXPECTED

CMP R5,R4 ;DID F==1 WORK?

BEO 63$ ;BR IF YES

HLT 6 ;FE=1 APPEARED TO FAIL

1*TEST THAT DVRIC (NOW THAT ITS ALL 1'S)
             020356
    3614
                                        177777
             020362
                           020504
             020364
020366
    3616
3617
                           104006
    3618
3619
                                                                                   *CAN BE CLEARED BY A MSTCLR.
    3620
                                                                                  ;*
SCOP1
                                                                                                                           ; SW09=1?
; SET RETURN IF SW09=1
; CLEAR DV11
; SET EXPECTED RESULTS
             020370
020372
020400
   3621
3622
                                                                    6381
                          012737
104412
                                        020400 001220
                                                                                  MOV
                                                                                               #115, LOCK
                                                                                 MSTCLR
CLR
MOV
    3623
                                                                                               R5
@DVRIC,R4
   3624
3625
             020402
                           005005
             020404
020410
                                                                                                                            READ DVRIC
                                         160756
                                                                                  BEQ 64s
HLT 6
;*NEXT SET OF FUNCTIONS:
                                                                                                                           ;BR IF=0
;DVRIC REG. NOT CLEARED ON INIT
    3626
3627
             020412
                           104006
                                                                                  ; *F = 0, RIC_F
; *
MOV *BI
   3630
3631
                                                                                               *BIT3, *DVSCR ; SET SOURCE SEL 
*ALU+BIT4+BIT3+BIT2, (RØ)
             020414
020422
020426
020430
                          Ø12777
                                        000010
                                                     160740 6481
   3632
3633
3634
                          012710
104415
012710
                                         010034
                                                                                  MOV
                                                                                  ROMCLK
MOV
ROMCLK
                                                                                               ;"Fm=1"
#ALU+BIT3+BIT2,(RØ)
;"F#Ø"
                                         010014
             020434
020436
020440
020442
                           104415
                                                                                                R2,(RØ)
                                                                                                                           XFR "F" TO DVRIC
                           010210
                                                                                  MOV
                                                                                 ROMCLK
CLR
MOV
    3637
3638
                           194415
                                                                                                                           ;
;SET EXPECTED
;READ RESULTS
                                                                                                R5
@DVRIC,R4
             020444
020450
020452
                          017704
001401
                                        160716
                                                                                                                           ;BR IF#0
;"F#0" APPEARED TO FAIL
                                                                                  BEQ
                                                                                                658
   3641
                                                                                  HLT 6
:*NEXT SET OF FUNCTIONS:
                           104006
    3642
3643
                                                                                  : *F = A + 1 . RIC_F . A_F . F = 0 . F = A
   3644
3645
3646
3647
3648
                                                                                  SCOP1
                                                                                               | SW09=17
| SET RETURN
| SET RETURN
| SET GOOD RESULTS
| SET RESULTS | SET FOR CLOCK
| SET TO DVRIC
| SET TO DVRIC
| SET TO DVRIC
| SET TO DVRIC
| SET RESULTS
| SET READ RESULTS
| FUNCTION WORKY
| G666 | YES
             020454
020456
020464
020470
                           104401
                                                                    6581
                                         020464
                                                     001220
                                                                                  MOV
                           012705
012710
                                         000001
010077
                                                                                  MOV
MOV
                                                                    1251
                                                                    188
             020474
                           052777
                                         000002
                                                     160660
                                                                                  BIS
                          010210
052777
017704
              020502
                                                                                  MOV
    3651
3652
             020504
             020512
                                         160650
             Ø2Ø512
Ø2Ø516
Ø2Ø52Ø
Ø2Ø522
                                                                                               R5,R4
668
                           020504
                                                                                  CMP
                           001401
    3655
                                                                                  HLT
MOV
                           Ø1271Ø
Ø52777
    3656
              020524
                                         030361
             020530
020536
020542
                                         000002
010014
                                                                                  BIS
                                                      160624
    3658
                           012710
052777
                                                     160612
                                                                                  BIS
    3659
                                         000002
                           010210
052777
017704
             020550
020552
                                                                                  MOV
                                                                                  BIS
    3661
    3662
             020560
                                         160602
             020564
020566
020570
                                                                                  BEQ
HLT
MOV
                           001401
                            104000
                                         010037
                                                                     6781
DZDVA-B MACY11 27(732)
                                       18-MAR-76
                                                           15:06 PAGE 71
                          DV11 DEVICE DIAGNOSTICS.
DZDVAB,P11
                                                                           COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                          052777 000002 160560
                                                                                  BIS
                                                                                                #BIT1, @DVSCR
                                                                                                                           CLOCK "FEA"
    3666 Ø2Ø574
3667 Ø2Ø6Ø2
                          010210
                                                                                  MOV
```

```
R2,(R0)
#BIT1,0DVSCR
@DVRIC,R4
                                                                                                                           ;XFR RIC_F
;ROM CLK
;READ RESULT
                                                                                 BIS
3668
         020604
                        052777
                                      000002
                                                    160550
                                      160550
3669
         020612
                        Ø17704
Ø20504
3670
         020616
                                                                                 CMP
                                                                                               R5 . R4
                                                                                                                           BR IF OK
         020620
020622
020624
3671
3672
3673
                       001401
104006
                                                                                 BEQ
                                                                                                                           ; F=A FAILED
; UPDATE DATA
; BR IF NOT ALL DONE.
; SW09=1?
                                                                                 HLT
                                                                                               6
R5
                        005205
                                                                  6881
                        001320
104401
                                                                                BNE
SCOP
                                                                                 **NEXT SET OF FUNCTIONS:
3676
                                                                                  *F=A+1, A.F, B.F, F=A+B, RIC.F
                                                                                 MOV.
         020632
                       012737 020640 001220
                                                                                               #138,LOCK
                                                                                                                           SET RETURN
                                                                                                                           RESET DV11
; SET SOURCE SEL.
; SET EXPECTED RESULTS
; SET POINTER
; SET POINTER
         020640
020642
020650
                       104412
012777
012705
                                                                                 MSTCLR
MOV
MOV
MOV
3680
                                                                  1361
                                                                                              #BIT3, @DVSCR
#2,R5
DVRIC,R1
3681
3682
3683
                                      000010
000002
001366
                                                    160512
          020654
                        013701
                       Ø137Ø3
Ø1271Ø
3684
          020660
                                      001362
                                                                                 MOV
                                                                                               DVSCR.R3
         020664
020670
020672
3685
3686
3687
                                                                                              #ALU+BIT5+BIT4+BIT3+BIT1+BIT0,(R0)
;F#A+1
#XFR+BIT7+BIT6+BIT5+BIT4+BIT0,(R0)
                                                                                 MOV
ROMCLK
                        104415
                                      030361
                                                                                 VOM
         020676
020700
020704
020710
020714
020720
020722
                                                                                               104415
012710
052713
                                                                                 ROMCLK
MOV
3688
                                      030362
000002
                                                                  28:
                                                                                 BIS
3691
                        012710
                                       010026
                                                                                               #ALU+BIT4+
#BIT1,(R3)
R2,(R0)
#BIT1,(R3)
(R1),R4
R5,R4
3692
                        Ø52713
                                                                                 BIS
3693
3694
                        010210
052713
                                      999992
                                                                                                                          ; READ DURIC
; FUNCTION WORK?
; BR IF YES
; F=A+B APPEARED TO FAIL
; INC DATA POINTER
; ALL DONE?
; BR IF NO
; REEET DV11
; DVRIC ZERO ON INIT?
; BR IF YES
; $/BB IF
                                                                                 BIS
         020726
020730
020732
020734
3695
                        011104
                                                                                 MOV
3696
3697
                        020504
001401
                                                                                               698
                                                                                 BEQ
3698
                        104006
                                                                                 HI.T
         020736
020740
020744
                       005205
022705
001355
                                                                                INC
                                                                                               R5
3699
                                                                  6951
3700
3701
                                      000002
                                                                                               #2,R5
                                                                                 BNE
                                                                                               28
                                                                                 MSTCLR
MOV
BEQ
          020746
020750
                        104412
017704
3702
3703
                                       160412
                                                                                               ODVRIC,R4
          020754
020756
                        001401
                                                                                               708
3705
                        104000
                                                                                                                            :8/8=0
          020760
                        104401
                                                                  708:
                                                                                 SCOP1
3707
                                                                                 ; *NEXT SET OF FUNCTIONS:
:*F==1,B_F,F=0,F=B
3700
                                                                                 #
MOV
3710
         020762
020770
                       Ø12737
1Ø4412
                                                                                               #148, LOCK
                                                                                               ;RESET DV11
#BIT3, @DVSCR ;SET SOURCE SEL,
#ALU+BIT4+BIT3+BIT2,(R0)
                                                                                 MSTCLR
MOV
         020772
021000
021004
                        012777
012710
                                      000010
                                                    160362
                                                                                 MOV
                                                                                               #XFR+BIT7+BIT6+BIT5+BIT4+BIT1,(RØ)
#XFR+BIT3+BIT2,(RØ)
#ALU+BIT3+BIT2,(RØ)
                        104415
                                                                                 ROMCLK
3715
         021006
                                      030362
                                                                                 MOV
3716
3717
3718
                        104415
012710
104415
         021012
                                                                                 ROMCLK
HOV
                                     010014
          021014
021020
                                                                                 ROMCLK
         021022
021026
021030
                        012710
104415
                                                                                 MOV
ROMCLK
                                                                                               #ALU+BIT2+BITØ, (RØ) ;
                                      010005
3720
3721
                                                                                               R2, (RØ)
                        010210
                                                                                 MOV
                                                                                                                           XFR RIC.F
```

```
27(732) 18-MAR-76 15:06 PAGE 72
DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP. CORP.
DZDVA-B MACY11 27(732)
                                                                                                                                 ;CLOCK
;READ RESULTS
;SET EXPECTED
;DID F=B WORK?
;BR IF YES
;F=B FALLED
             021032
021034
021040
021044
021046
                            104415
  3724
3723
3724
3725
3726
3727
                                                                                                     @DVRIC,R4
                                                                                       MOV
                            012705
020504
001401
                                                                                                     #=1,R5
R5,R4
718
                                                                                       MOV
                                                                                      BEQ
                                                                                       HLT
                                                                                      ; == FAII
; $W09=1?
; *NEXT SET OF FUNCTIONS:
; *CATCH "SET/CJ.FAP"
    3729
                                                                                       ;*CATCH "SET/CLEAR" THAT WAS MISSED.
;*F=-1,S/C[ALU01=0],RIC_F
    3732
3733
                                                                                      MOV
                                                                                                     #15*,LOCK
              021054
                            012737
                                           021062 001220
                                                                                                    #15#,LOCK ;SET RETURN

#BIT3, #DVSCR ;RESET DV11

#BIT3, #DVSCR ;SET SOURCE SELECT

#ALU+BIT4+BIT3+BIT2(RB)

#F==1

#S.C+BIT4+BIT2+BIT1;(RB)

#SZ,(RB) ;XFR RIC_F

R2,(RB) ;XFR RIC_F
              021062
021064
021072
                                                                                      MSTCLR
MOV
MOV
                             104412
012777
                                            000010
                                                        160270
    3736
                             012710
                                           010034
              0211076
021100
021104
021106
                                                                                      ROMCLK
MOV
ROMCLK
                             104415
    3739
3740
3741
3742
3743
3744
3745
3746
3747
                             104415
                                                                                      MOV
             021110
021112
021114
021120
021122
021124
021126
                            104415
011104
012705
                                                                                      ROMCLK
                                                                                                                                 ; READ DVRIC
; SET EXPECTED
; DID S/C ALU01 WORK?
; BR IF YES
; S/C ALU01 FAILED.
                                                                                      MOV
                                                                                                     (R1),R4
#177775,R5
                                          177775
                            020504
001401
                                                                                      CMP
                             104006
                                                                        7281
                                                                                      SCOP1
                             104401
                                                                                                                                  ; SW09=1?
    3748
3749
3750
                                                                                       ; *MEXT SET OF FUNCTIONS;
; *CATCH ANOTHER "SET/CLEAR" THAT WAS MISSED,
; *F=-1,S/C[ALU HIGH BYTE=0],RIC_F
    3751
3752
             021130
021136
021140
021146
021152
021154
                            012737
104412
012777
                                                                                      MOV
                                                                                                     #16#, LOCK
                                         021136 001220
                                                                                      MSTCLR
MOV
                                                                                                                                 RESET DV11
    3753
3754
                                                                                                     *BIT3, PDVSCR
                                           000010
                                                         160214
                                                                                                    3755
3756
3757
                            012710
104415
012710
                                                                                       MOV
                                                                                       ROMCLK
                                           050027
                                                                                      MOV
             021160
021162
021164
021166
                                                                                      ROMCLK
    3758
                            010210
104415
011104
    3759
                                                                                       ROMCLK
   376Ø
3761
                                                                                                                                 ; READ RIC
;SET EXPECTED
;DID 8/C WORK?
;BR IF YES
;S/C ALU HIGH BYTE FAILED.
;SW09=1?
                                                                                                    (R1),R4
#377,R5
R5,R4
738
                                                                                       MOV
   3762
3763
3764
             021170
021174
021176
                            012705
020504
001401
                                           000377
                                                                                      MOV
                                                                                      CMP
BEQ
HLT
    3765
              021200
                             104006
                                                                                                     6
              021202
021204
                                                                        7381
                                                                                      SCOP1
                                                                                                                                  SCOPE TEST
    3768
    3769
                                                                                      3770
3771
    3772
    3775
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 73
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                       PAGE: 0098
                                                                             TEST 76
    3780
              021206
                                                                                      MOV
MOV
                                                                        TST761
              021214
021222
021224
                            Ø12737
104412
Ø12777
    3781
                                           021334
                                                          001216
    3782
3783
3784
                                                                                       MSTCLR
                                                                                                                                  RESET DV11
                                           000010
                                                          160130
                                                                                                     #BIT3, @DVSCR ;SET SOURCE SEL
DVSFR, RØ ;SET DVSFR POINTER
#XFR+BIT6+BIT4+BIT2+BIT1, R2
                                                                                       MOV
              021232
    3785
              Ø21236
                             012702
                                                                                       MOV
    3786
3787
              Ø21242
Ø21244
Ø21246
Ø2125Ø
                                                                                                                                  ;XFR "MASTER SCAN 0-3" TO DVRIC
                             010210
                                                                                       MOV
                                                                                                     R2, (RØ)
                             104415
005005
017704
                                                                                       ROMCLK
CLR
MOV
                                                                                                                                  ; SET EXPECTED
    3788
3789
3790
                                           160112
                                                                                                     SDVRIC.R4
                                                                                                                                  ;READ RESULTS
;BR IF#0
;MSCAN NOT#0 ON INIT
;UPDATE POINTER
              021254
021256
021260
021262
                             001401
104006
005205
012703
                                                                                       BEQ
HLT
INC
    3791
3792
3793
3794
                                                                                                     R5
                                                                        181
                                                                                                    000025
                                                                                       MOV
                             012710
                                           050102
                                                                        281
    3795
3796
3797
              021272
021274
021300
                            104415
012710
104415
                                                                                       ROMCLK
                                           050102
                                                                                       MOV
                                                                                      ROMCLK
MOV
              021302
021304
021306
021312
                            010210
104415
017704
    3798
                                                                                      ROMCLK
                                                                                                                                   CLOCK
                                                                                                                                 FEAD RESULTS
FACAN INCREMENTED?
FR IF YES
FACAN WRONG
                                                                                                     eDVRIC,R4
    3800
3801
                                           160054
                                                                                       MOV
                             020504
001401
104006
                                                                                                     R5, R4
    3802
3803
3804
              Ø21314
Ø21316
                                                                                                     6
R5
#"C<17>,R5
R3
                                                                                      HLT
             021320
021322
021326
021330
021332
                                                                                                                                 ;MSCAN WRONG
;UPDATE
;CLEAN
;COUNT DONE?
;BR IF NO
;SCOPE
                             005205
                                                                        38:
                                                                                       INC
    3805
                             042705
                                           177760
    3806
3807
3808
                             005303
001356
                                                                                      DEC
    3809
3810
3811
                                                                                      3814
    3816
3817
3818
                                                                           TEST 77
    3819
3820
3821
             021334
021342
021350
                             Ø12737
Ø12737
                                           000077
021560
                                                         001226
001216
                                                                        TST77:
                                                                                      MOV
                                                                                                     #77. TSTNO
                                                                                      MOV
                                                                                                     #TST100, NEXT
    3822
                             104412
                                                                                       MSTCLR
             921359
921352
921354
921356
921366
921372
921376
921409
921409
                                                                                                                                  RESET DV11
    3823
3824
3825
                             005000
005001
                                                                                      CLR
                                                                                                     RØ
                                                                                                     R1
DVSRS,R2
DVSRSH,R3
                                                                                      CLR
                             013702
                                           991372
    3826
3827
                                           001374
001376
                             013703
                             013705
                                                                                                     DVSRA, R5
                                                                                      MOV
    3828
3829
                             012704
                                           000001
                                                                                      MOV
                            110012
                                                                                                                                 ;

;LOAD LINE NUMBER

;LOAD SEC. REG. POINTER

;LOAD DATA

;UPDATE LINE AND DATA

;ALL LINES DONE?
    3830
3831
3832
                                                                                                     R1,(R3)
                                                                                      MOVB
```

R4,(R5) (R0)+,(R4)+ #16.,R0

MOV

010415 122024

022700

000020

```
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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
    20 VAR. P11

3834 021412
3835 021414
3836 021416
3837 021424
3839 021424
3839 021424
3839 021432
3841 021436
3844 021450
3846 021450
3846 021466
3849 021466
3849 021474
3851 021474
3851 021474
                                                                                                                                                                                                ;BR IF NO
;ZERO LINE POINTER
;UPDATE SEC REG POINTER,
;ALL SEC REG POINTERS DONE?
;BR IF NO
                                          001371
005000
005201
                                                                                                                                BNE
                                                                                                                               CLR
INC
CMP
                                                                                                                                                     RD
R1
#16.,R1
                                          022701
001364
                                                                000020
                                                                                                                                BNE
                                                                                                                                                     18 JBR IF NO
POLYRS ; ZERO POINTERS
$1,R5
$BIT3, POLYSCR ; SET GOOD DATA
$BIT3, POLYSCR ; SET SOURCE SEL
$RAM,R3 ; LOAD RAM INSTR.
DVSFR,RØ ; SET POINTER
$XFR-BIT7+BIT5+BIT4+BIT2+BIT1, R2
                                                                157740
                                           005077
                                                                                                          251
                                          012705
012777
012703
013700
                                                                000001
                                                                                                                                 MOV
                                                                                     157716
                                                                                                                                MOV
MOV
                                                                020000
                                                                                                                                 MOV
                                          012702
010310
104415
                                                                                                                                                                                                BIT4+BIT2+BIT1,R2

JDO RAM READ

;EXECUTE

;XFR RIC_RAM OUTPUT
;CLOCK

;READ RESULT
;GOOD?
;BR IF YES
;RAM READ FAILED.
;UPDATE DATA
;UPDATE POINTER
;ALL DONE
;BR IF NO
;CLEAR JUNK
;SET RAM INSTR
;SAVE RØ ON STACK
;UPDATE MSCANNER
                                                                030266
                                                                                                                                MOV
ROMCLK
MOV
                                                                                                           3$:
                                                                                                                                                      R3, (RØ)
                                           010210
104415
017704
                                                                                                                                                     R2.(RØ)
                                                                                                                                ROMCLK
MOV
CMP
                                                                                                                                                      eDVRIC,R4
                                                              157672
                                           020504
001401
104006
062705
                                                                                                                                                      R5, R4
                                                                                                                                BEQ
HLT
ADD
INC
CMPB
BNE
BIC
                                                                                                                                                       #20,R5
      3853
3854
3855
3856
                     021502
021506
021510
021514
                                                                                                           48:
                                                              000020
                                           005203
122703
001361
                                                                                                                                                      #16.,R3
38
#*C<17>,R5
                     021516
021522
021526
021530
021534
021536
                                          042705
012703
010046
004537
000001
012600
      3857
3858
3859
                                                                                                                                MOV #RAM, R3
MOV RØ, -(SP)
PERFORM, SETSCAN
                                                                031342
                                                                                                                                MOV
INC
MOV
      3861
3862
3863
3864
3865
3866
3867
3869
3870
3871
3872
3873
                                                                                                                                                                                                  PESTORE PA
                                                                                                                                                       (SP)+, RØ
                                                                                                                                                     (3F)+,KW ;RESTORE R0
R5 ;UPDATE DATA
$XFR+BIT6+BIT4+BIT2,(R0) ;XFR RAR_MSCAN 0=3
|EXECUTE |
$16.,R5 ;ALL DONE7
38 ;BR IF NO ;SCOPE TEST.
                                           005205
                     021542
021546
021550
                                          012710
104415
022705
                                                                030124
                                                                                                                                ROMCLK
CMP
BNE
                                                                000020
                     021554
021556
                                           104400
                                                                                                                                 SCOPE
                                                                                                                               3874
3875
3876
                                                                                                                                                                                                                      FUNCTION
                                                                                                                                                                                                                      ALU 15=1,0
ALU 13= =1,0
-12=1,0
       3877
       3878
3879
3880
                                                                                                                                                                                                                      ALU 00=1,0
ALU 01=1,0
ALU 02=1,0
       3881
3882
3883
                                                                                                                                                                                                                       ALU 03=1.0
                                                                                                                                                                                                                       ALU 04=1,0
       3884
                                                                                                                   TEST 100
                                                                                                           TST100: MOV
                                                                                                                                                      #100, TSTNO
#TST101, NEXT
                                                                000100 001226
023162 001216
```

ZDVA-B		27(732) DV11 DE	18-MAR-			75 YRIGHT 1	975 DIGITAL EQU	UIP, CORP,
3890	021574	005077	157572			CLR	@DVSRS	
3891							H "A" TEST OF AL	LU 15
3892						7 *		
3893	021600	104412				MSTCLR		RESET DV11
3894	021602	Ø12777	000010	157552		MOV	#BIT3, @DVSCR	; SET SOURCE SEL
3895	021610	012777	100000	157560		MOV	#BIT15, QDVSRA	LOAD DATA
3896	021616	012777	020000	157554		MOV	#RAM, @DVSFR	;DO A "RAM READ"
3897	021624	104415				ROMCLK		EXECUTE
3898	021626	Ø12777	030261	157544		MOV	#XFR+BIT7+BIT5+	+BIT4+BITØ, @DVSFR
3899	021634	104415				ROMCLK		XFR RAM OUTPUT TO "A" REG
3900	021636	012777	010037	157534		MOV	#ALU+BIT4+BIT3+	+BIT2+BIT1+BITØ, @DVSFR
3901	021644	104415				ROMCLK		1 F8 A
3902	021646	012777	000000	157524		MOV	#0000, @DVSFR	LOAD BRANCH POINT
3903	021654	017704	157510			MOV	ODVLCR, R4	READ BRANCH TEST POINT
3904	021660	942794	177774			BIC		R4 CLEAR JUNK
3905	021664	012705	000002			MOV	#BIT1,R5	; SET EXPECTED
3906	021670	020504				CMP	R5,R4	BR POINTS CORRECT?
3907	021672	001401				BEQ	648	BR IF YES
3908	021674	104006				HLT	6	BRANCH POINTS WRONG
3909	021676	104412			6481	MSTCLR	4 To 1, 1	
3910	021700	012777	000010	157454	• • • •	MOV	#BIT3, @DVSCR	SET SOURCE SEL.
3911	021706	Ø12777	000000	157464		MOV	#0000, @DVSFR	RESET DV11
3912	021714	017704	157450	••••		MOV	PDVLCR, R4	LOAD BRANCH. POINT TEST
3913	021720	042704	177774			BIC		R4 : READ BR POINTS
3914	021724	012705	000003			MOV	#BIT1+BITØ,R5	CLEAR JUNK
3915	021730	020504				CMP	R5,R4	SET EXPECTED
3916	021732	001401				BEQ	658	BR POINT OK?
3917	021734	104006				HLT	6	BR IF YES
3918	021736				6581			BR POINTS WRONG
3919	D11.30				0301		H "A" TEST OF AL	
3920						1 #		
3921	021736	104412				MSTCLR		RESET DV11
3922	021740	012777	000010	157414		MOV	#BIT3, @DVSCR	SET SOURCE SEL
3923	021746	012777	020000	157422		MOV	#BIT13, @DVSRA	LOAD DATA
3924	021754	012777	020000	157416		MOV	#RAM, @DVSFR	JDO A "RAM READ"
3925	021762	104415				ROMCLK	# K.H , 45 1 61 K	EXECUTE
3926	021764	Ø12777	030261	157406		MOV	*YFD_R 7 T7_B 7 TE.	+BIT4+BITØ, @DVSFR
3927	021772	104415				ROMCLK	***************************************	XFR RAM OUTPUT TO "A" REG
3928	021774	012777	010037	157376		MOV	# AT II . G T T 4 . D T T 2 .	+BIT2+BIT1+BIT0, ODVSFR
3929	022002	104415				ROMCLK	***************************************	:F=A
3930	022004	012777	004000	157366		MOV	#BIT11, @DVSFR	LOAD BRANCH POINT
3931	022012	017704	157352			MOV	eDVLCR, R4	READ BRANCH TEST POINT
3932	022016	042704	177774			BIC		R4 CLEAR JUNK
3933	022022	012705	000002			MOV	#BIT1, R5	SET EXPECTED
3934	022026	020504	000002			CMP		
3935	022030	001401				BEQ	R5,R4	BR POINTS CORRECT?
3936	022032	104006				HLT	66\$	BR IF YES
3937	022034	104412						; BRANCH POINTS WRONG
3938	022034	012777	000010	157316	66\$1	MSTCLR	4B+#1 ADVECT	AFF COURSE OF
3939	022030	012777				MOV	#BIT3, @DVSCR	; SET SOURCE SEL.
3940	022052	017704	004000 157312	157326		MOV	#BIT11, ODVSFR	RESET DV11
3940	022056	01//04				MOV	eDVLCR,R4	LOAD BRANCH, POINT TEST
3941	022056		177774		1000	BIC		,R4 ;READ BR POINTS
		012705	000003			MOV	#BIT1+BIT0,R5	CLEAR JUNK
3943	022066	020504				CMP	R5,R4	SET EXPECTED
3944	022070	001401				BEQ	678	BR POINT OK?
3945	022072	104006				HLT	6	;BR IF YES

DZDVAB . P11

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
    1946
               022074
                                                                                      6781
                                                                                                        ; BR POINTS WRONG
; *BRANCH "A" TEST OF ALU =12
    3948
                                                                                                        MSTCLR
                                 104412
012777
012777
    1040
                                                                                                                                                             RESET DV1
                                                   000010
                                                                    157256
                                                                                                        MOV
MOV
MOV
                                                                                                                          #BIT3, @DVSCR
#BIT12, @DVSRA
#RAM, @DVSFR
                                                                                                                                                            ;SET SOURCE SEL
;LOAD DATA
;DO A "RAM READ"
    3950
                022076
                                                   010000
020000
                 022104
022112
    3952
                                                                      157260
                                                                                                                         #RAM, #DVSFK ; EXECUTE

#XFR+BIT7+BIT5+BIT4+BIT0, #DVSFR
                                                                                                        ROMCLK
MOV
ROMCLK
                 022120
                                                   030261 157250
    3954
3955
                 Ø22122
Ø2213Ø
                                                                                                                         #XFF+BIT7+BIT5+BIT4+BIT3, #DV3FR

;XFF RAM OUTPUT TO "A" REG

#ALU+BIT4+BIT3+BIT2+BIT1+BIT0, #DV3FR

#BIT11, #DV3FR
#DVLCF, R4

#CC&BIT1+BIT0>, R4

#BIT1, R5

#SET EXPECTED

#SF, F4

#BIT1, R5

#SF, F4

#BIT1, R5

#BIT1 CORRECT?

#BIT1 CORRECT?
                                 012777
104415
012777
017704
    3956
                022132
                                                   010037
                                                                  157240
                                                                                                        MOV
                022140
022142
                                                                                                        ROMCLK
                                                   004000
157214
177774
    3958
                                                                                                        MOV
MOV
    1959
                 022150
                                                                                                        BIC
MOV
    3960
                 022154
                                  042704
                                                   000002
                022160
022164
    3962
                                  020504
                                                                                                        CMP
                022166
022170
022172
                                  001401
104006
104412
012777
                                                                                                        BEQ
HLT
    3963
3964
    3965
                                                                                                        MSTCLR
                                                                                       6881
                                                                                                                                                          ;SET SOURCE SEL,
;RESET DV11
;LOAD BRANCH, POINT TEST
R4 ;READ BR POINTS
;CLEAR JUNK
;SET EXPECTED
;BR POINT OK?
;BR IF YES
;BR POINTS WRONG
                                                   000010
004000
157154
177774
                                                                                                        MOV
MOV
                                                                                                                          #BIT3, @DVSCR
#BIT11, @DVSFR
@DVLCR, R4
#~C<BIT1+BITØ>,
    3966
                 Ø22174
                                                                     157160
                                  012777
017704
042704
    3967
                  022202
                                                                     157170
                 Ø22210
Ø22214
                                                                                                        BIC
MOV
CMP
    3969
                 022220
022224
                                  012705
020504
                                                                                                                          #BIT1+BIT0,R5
R5,R4
    3972
                022226
                                  001401
                                                                                                        BEQ
                                                                                                                          698
    3973
                                                                                                        HLT
    3974
                Ø22232
                                                                                       6981
                                                                                                        ; *BRANCH "A" TEST OF ALU 00
    3975
                                                                                                                        #BIT3, #DVSCR ; RESET DV11
#BIT3, #DVSCR ; SET SOURCE SEL
#BIT0, #DVSRA ; LOAD DATA
#RAM, #DVSFR ; DO A "RAM READ"
#EXECUTE
#XFR+BIT7+BIT5+BIT5+BIT0, #DVSFR
#XFR RAM OUTPUT TO "A" REG
#ALU+BIT4+BIT3+BIT2+BIT1+BIT0, #DVSFR
#BIT11+BIT9, #DVSFR ; LOAD BRANCH POINT
#DVLCR, R4
#READ BRANCH "FEAL
    3976
                                                                                                        MSTCLR
MOV
MOV
                022232
022234
022242
022250
                                  104412
012777
012777
012777
    3979
                                                    000001
                                                                      157126
    3980
                                                   020000
                                                                                                        MOV
                 022256
                                                                                                        ROMCLK
                                                   030261
                                                                    157112
                022260
022266
                                                                                                        ROMCLK
    3983
                                  104415
                                  012777
104415
012777
                                                                                                        MOV
ROMCLK
    3984
                022270
                                                   010037
                                                                     157102
                 022276
022300
    3985
    3986
                                                                                                        MOV
                                                                                                                         #BIT11+BIT9, #DVSFR JLOAD BRANCH PO

#DVLCR, R4 JREAD BRANCH TEST POINT

#C<BIT1+BITØ>, R4 JCLEAR JUNK

#BIT1, R5 JSET EXPECTED

R5, R4 JBR POINTS CORRECT?

708 JBR IF YES

6 JBRANCH POINTS WRONG
                                                                                                        MOV
BIC
MOV
    3987
                 022306
                                  017704
                                                    157056
                Ø22312
Ø22316
Ø22322
    3988
                                  042704
    3989
                                  012705
                                                   000002
    3990
                                  020504
                                                                                                        CMP
    3991
3992
3993
                022324
022326
022330
022332
                                  001401
104006
104412
012777
                                                                                                        BEQ
HLT
                                                                                                        MSTCLR
                                                                                                                         #BIT3, @DVSCR ;SET SOURCE SEL.
#BIT11+BIT9, @DVSFR ;RESET DV11
@DVLCR,R4 ;LOAD BRANCH, POINT TEST
#"C<BIT1+BIT0,R4 ;READ BR POINTS
#BIT1+BIT0,R5 ;CLEAR JUNK
R5,R4 ;SET EXPECTED
                                                                                                        MOV
MOV
MOV
    3994
                                                    000010
                                                                     157022
                022346
022346
022352
                                  012777
017704
042704
                                                   005000
157016
177774
    3995
                                                                                                        BIC
MOV
    3997
                Ø22356
Ø22362
Ø22364
                                  Ø12705
Ø2Ø504
    3998
    3999
                                                                                                        CMP
                                                                                                                          R5,R4
71$
                                                                                                                                                             BR POINT OK?
    4000
                                  001401
                                                                                                        BEQ
                 Ø22366
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DZDVAB.P11 DV11 DEVICE DIAGNOSTICS.
                                                                          15:06 PAGE 77
STICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
    4002 022370
                                                                                      7181
                                                                                                                                                             BR POINTS WRONG
    4003
                                                                                                         **BRANCH "A" TEST OF ALU Ø1
                                                                                                        ;*
MSTCLR
    4005
                                                                                                                                                             : RESET DV11
                 Ø22370
Ø22372
                                  104412
                                                                                                        MOV
MOV
MOV
                                                                                                                          #BIT3, #DVSCR
#BIT1, #DVSRA
#RAM, #DVSFR
                                                                                                                                                             ;SET SOURCE SEL
;LOAD DATA
;DO A "RAM READ"
;EXECUTE
    4006
                                                    999919
                                                                     156762
                022372
022400
022406
022414
022416
022424
022426
                                  012777
012777
                                                   000002
020000
                                                                     156770
156764
                                 104415
012777
104415
012777
     4009
                                                                                                        ROMCLK
                                                                                                                         MOV
ROMCLK
     4010
                                                    030261
    4012
                                                    010037
                                                                                                        MOV
                 022434
022436
022444
022450
                                  104415
012777
017704
042704
                                                                                                        ROMCLK
MOV
MOV
    4013
4014
    4015
                                                    156720
                                                                                                        BIC
MOV
CMP
    4016
                 022454
    4018
4019
                 022460
022462
                                  020504
001401
                                                                                                        BEQ
                 022464
022466
022470
022476
                                  104006
104412
012777
012777
    4020
                                                                                                                                                             BRANCH POINTS WRONG
                                                                                                                        MSTCLR
                                                                                      7281
                                                    000010
005400
    4022
4023
                                                                                                        MOV
                                                                     156674
                                                                                                        MOV
                                                                                                        MOV
BIC
MOV
    4024
                 022504
                                  017704
                                                    156660
    4025
4026
                 022510
022514
                                  042704
012705
                                                    000003
    4027
4028
4029
                 022520
022522
022524
                                  020504
                                                                                                        CMP
BEQ
                                 001401
104006
                                                                                                        HLT
    4030
                 Ø22526
                                                                                      738:
                                                                                                        , *BRANCH "A" TEST OF ALU 02
                                                                                                        #
MSTCLR
                 022526
022530
022536
022544
    4033
                                                                                                                                                             RESET DV1
    4034
4035
                                                                                                        MOV
MOV
                                                                                                                                                            SET SOURCE SEL
LOAD DATA
DO A "RAM READ"
                                                    000010
                                                                      156624
                                                                                                                          #BIT3, ODVSCR
                                  012777
                                                                                                                          #BIT2, @DVSRA
#RAM, @DVSFR
                                  012777
                                                    020000
                                                                      156626
                                                                                                        MOV
    4036
                                                                                                                          #RAM, #DVSFR JDO A "RAM READ"

; EXECUTE

$XFR+BIT7+BIT5+BIT4+BIT0, #DVSFR
; XFR RAM QUTPUT TO "AA" REG

#ALU+BIT4+BIT3+BIT2+BIT1+BIT0, #DVSFR
; F=A

#BIT11+BIT10, #DVSFR ; LOAD BRANCH POINT
                                  104415
012777
     4037
                 022552
                                                                                                         ROMCLK
                 Ø22554
                                                                                                        HOVELK
     4038
                                                    030261
                                                                      156616
     4039
4040
                 Ø22562
Ø22564
                                   104415
                                                    010037
                                                                                                        MOV
    4041
4042
4043
4044
                 022572
                                   104415
                                                                                                        ROMCLK
                                                                                                                          #BBIT11+BBIT09, @DVSFR ;LOAD BRANCH POINT @DVLCR.R4 ;READ BRANCH TEST POINT #CCBIT1+BBIT09, R4 ;CLEAR JUNK #STAT1: PSET EXPECTED R5, R4 ;BR POINTS CORRECT? 748 ;BR IF YES 6 ;BRANCH POINTS WRONG
                 022574
022602
022606
                                  012777
017704
042704
                                                                                                        MOV
MOV
BIC
                                                    886888
                                                                      156576
                                                    156562
177774
                 022612
022616
022620
022622
                                  012705
020504
001401
     4045
```

BEQ

MOV

MOV

BIC

HLT

MSTCLR MOV

#BIT3, #DVSCR ; SET SOURCE SEL,
#BIT11+BIT10, #DVSFR ; RESET DV11
#DVLCR, R4 ; LOAD BRANCH, POINT TEST
#C<BIT1+BIT0>, R4 ; READ BR POINTS
#BIT1+BIT0, R5 ; CLEAR JUNK
R5, R4 ; SET EXPECTED
756 ; BR POINT OK?
6 ; BR IF YES

4054

Ø22624 Ø22626 Ø22634

Ø22646 Ø22652

022660 022662

012777 012777

042704 012705

001401 104006

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4058	022664				7581			BR POINTS WRONG
4059						: *BRANC	H "A" TEST OF A	LU Ø3
4060						1 *		
4061	022664	104412				MSTCLR		RESET DV11
			000010	156166		MOV	ARTTS ADVECT	
	Ø22666	012777		156466			#BIT3, @DVSCR	
4063		012777	000010	156474		MOV	#BIT3,@DVSRA	LOAD DATA
4064	022702	012777	020000	156470		MOV	#RAM, @DVSFR	;DO A "RAM READ"
4065	022710	104415				ROMCLK		EXECUTE
4066	022712	012777	030261	156460		MOV	#XFR+BIT7+BIT5	+BIT4+BITØ, @DVSFR
4067		104415				ROMCLK		:XFR RAM OUTPUT TO "A" REG
	022722	012777	010037	156450		MOV	#ALU+BIT4+BIT3	+BIT2+BIT1+BITØ,@DVSFR
4069		104415	0.000,			ROMCLK	***************************************	;F=A
4070		Ø12777	006400	156440		MOV	#BIT11+BIT10+B	
				120445		MOV		
4071	022740	017704	156424				eDVLCR,R4	READ BRANCH TEST POINT
4072		042704	177774			BIC		R4 ICLEAR JUNK
4073	022750	012705	000002			MOV	#BIT1,R5	; SET EXPECTED
4074	022754	020504				CMP	R5,R4	;BR POINTS CORRECT?
4075	022756	001401				BEQ	768	BR IF YES
4076		104006				HLT	6	BRANCH POINTS WRONG
4077		104412			768:	MSTCLR	- T	,
4078	022764		000010	156370	,	MOV	#BIT3, @DVSCR.	SET SOURCE SEL.
						MOV	#BIT11+BIT10+B	
4079		012777	006400	156400				
4080		017704	156364			MOV	eDVLCR,R4	
4081		042704	177774			BIC		,R4 ;READ BR POINTS
4082	023010	012705	000003			MOV	#BIT1+BIT0,R5	CLEAR JUNK
4083	023014	020504				CMP	R5,R4	SET EXPECTED
	023016	001401				BEQ	778	BR POINT OK?
	023020	104006				HLT	6	BR IF YES
4086					7761		1 7	BR POINTS WRONG
4087					7.70	. ARDANO	H "A" TEST OF A	
							III A ILBI OI A	PO 04
4088						1*		
4089		104412	4.42			MSTCLR		RESET DV11
4090		012777		156330		MOV	#BIT3, @DVSCR	
4091	023032	012777	000020	156336		MOV	#BIT4, @DVSRA	; LOAD DATA
4092	@23040	012777	020000	156332		MOV	#RAM, @DVSFR	DO A "RAM READ"
4093	023046	104415				ROMCLK		EXECUTE
4094		012777	030261	156322		MOV	#XFR+BIT7+BIT5	+BIT4+BIT0, @DVSFR
4095		104415				ROMCLK		XFR RAM OUTPUT TO "A" REG
	023060	012777	010037	156312		MOV	estillastralstra	+BIT2+BIT1+BITØ, @DVSFR
4097		104415	210031	.50512		ROMCLK	HUMMAN PALETTS	;F=A
			007000	184300			************	
4098		012777	007000	156302		MOV		IT9, ODVSFR ; LOAD BRANCH POINT
	023076	017704	156266			MOV	eDVLCR,R4	READ BRANCH TEST POINT
4100		042704	177774			BIC		,R4 CLEAR JUNK
4101	023106	012705	000002			MOV	#BIT1,R5	; SET EXPECTED
4102	023112	020504				CMP	R5, R4	BR POINTS CORRECT?
4103		001401				BEQ	788	BR IF YES
	023116	104006				HLT	6	BRANCH POINTS WRONG
	023120	104412			7881	MSTCLR		laurings fares attalla
			000012	186070			ADVES ADVECT	. CEM COUDER CET
4106		012777		156232		MOV	#BIT3, @DVSCR	; SET SOURCE SEL.
	023130	012777	007000	156242		MOV		
	023136	017704	156226			MOV	@DVLCR,R4	; LOAD BRANCH, POINT TEST
4109	023142	042704	177774			BIC	#TC <bit1+bitø></bit1+bitø>	,R4 ;READ BR POINTS
4110		012705	000003			MOV	#BIT1+BITØ,R5	CLEAR JUNK
4111		020504				CMP	R5.R4	SET EXPECTED
	023154	001401				BEQ	798	BR POINT OK?
4113		104006				HLT	6	BR IF YES
2773	N 5 3 1 3 0	* 6.46.00				13.0.7	•	100 41 450

DZDVA-B DZDVAB					6 PAGE COP		975 DIGITAL EQ	UIP, CORP,
4114	023160				7961			BR POINTS WRONG
4115	023160	104400				SCOPE		
4116						7777		
4117								
4118						1 *****	***********	*** TEST 101 ********************
4119								RAM OUTPUT Ø=14m0".
4120								ND "FLOAT" A "1" FROM
4121								ING "RAM 014=0" TO BE FALSE.
4122								TED INTO BIT15 AND
4123							0-14=0" SHOULD	
4124								[RAM OUTPUT BIT15] TRUE.
4125							**********	
4126	Sign of the							
4127					; TEST	101		
4128					,			
4129	023162	.012737	000101	001226	TST101:	MOV	#101, TSTNO	
4130	023170	012737	023362	001216		MOV	#TST102, NEXT	
4131	023176	104412				MSTCLR		RESET DV11
4132		012703	000001			MOV	#1,R3	SET DATA
4133	023204	012702				MOV		10,R2 ;BRB "RAM OUTPUT 0-14=0"?
	023210	Ø12777	000010	156144		MOV	#BIT3, @DVSCR	; SET SOURCE SEL.
4135	023216	010277	156156			MOV	R2, @DVSFR	LOAD BRB TEST
4136		017704	156142			MOA	@DVLCR,R4	READ TEST POINTS
	023226	012705	000001			MOA	#BITØ,R5	SET EXPECTED
	023232	042704	177774			BIC	# C <bit1+bitø></bit1+bitø>	,R4 CLEAR JUNK
	023236	020504			145 a 154 f	CWP	R5,R4	;TRUE?
	023240	001401				BEQ	. 74	; BR IF YES
	023242	104006				HLT	6	RAM OUTPUT 0-14 NOT TRUE AFTER INIT
	023244	012705			and see a fact	MOV		SET EXPECTED
	023250	010377	156122		18:	MOV	R3, @DVSRA	
	023254	012777	020000	156116		MOV	#RAM, @DVSFR	; ISSUE RAM READ INSTR
4145		104415				ROMCLK		경에 <u>인 : : : [1] (1) : : : : : : : : : : : : : : : : : : :</u>
4146		010277				MOV	R2, ODVSFR	;BRB TEST
4147 4148		017704	156074			MOV		READ BR TEST POINTS
		042704	177774			BIC		,R4 CLEAR JUNK
4149						TST	R3	; IS 15=1 IN DATA?
4150 4151		100002				BPL	28	IBR IF NO
4152		042705	000002			BIC	#BIT1,R5	; IF 15=1 - 0-14=TRUE
	023310 023312	020504 001401			28:	CMP	R5,R4	; BRB TEST POINT OK?
	023314	104006				BEQ	38	BR IF YES
4155		000241				HLT	6	BAD TEST POINT
4156		006103			381	Crc	••	CLEAR CARRY
4157		001352				ROL	R3	MOV BIT TO NEXT RAM POSITION
4158	023324	012705	000001		•	BNE	18	HAVE ALL BITS BEEN TESTED?
4159		012777		156042		MOV	#BITØ,R5	; SET EXPECTED RESULTS
	023336	017704	156026	120845		MOV	#BRB+BIT11+BIT	
4161		042704	177774			MOV BIC	eDVLCR,R4	BRB "RAM OUTPUT 15H"
4162		020504	1,,,,4			CMP	# C <bit1+bit0></bit1+bit0>	
4163		001403					R5,R4	BRANCH RESULTS OK?
	023352	017702	156022			BEQ	46 BDVSFR,R2	BR IF YES
4165	023356	104006	130022			MOV HLT	6	SAVE DVSFR FOR TYPEOUT
4166	023360	104400			481	SCOPE	•	;"RAM OUTPUT 15H" S/B TRUE ;SCOPE TESTS
4167	2.5550				- V 6"	SCOPE) acolu reala
4460								

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DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 80
DZDVAB P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                PAGE: 0105
                                                                                                ;*TEST OF THE RAM WRITE OPERATION,
;*WRITE ALL SECONDARY REGISTERS FOR ALL LINES
;*WITH DIFFERENT DATA BY USING THE ROM
;*AND VERIFY THE DATA BY THE UNIBUS,
   4170
    4171
4172
    4175
    4176
4177
4178
                                                                                     TEST 102
              023362
023370
023376
023400
023406
                               012737
012737
104412
012777
013700
                                               000102
023776
                                                               001226
001216
                                                                                TST102: MOV
                                                                                                                #102, TSTNO
#TST103, NEXT
    4179
4180
                                                                                                 MOV
MSTCLR
                                                                                                                000010
001400
                                                                155754
    4181
4182
    4183 023412 012702
                                                010077
                                                                                                 MOV
                                                                                                                4184
4185
                                                                                                 MOV
             023416 012703
    4187
4188
4188
              023422 012704
                                               030361
                                                                                                MOV
                               005005
              Ø23426
               023430
023432
023436
023442
                               005001
110577
110177
012777
    4190
4191
                                                                                                 CLR
                                                                                                MOVB
MOVB
MOV
BIC
                                                155734
155732
177777
    4192
                                                                155726
    4193
               023450
023454
023456
                               042703
050103
                                                                                                                R1,R3
R3,(RØ)
                                                                                                                                                  ;SET LINE
;DO "RAM WRITE"
                               010310
    4196
              023456
023460
023462
023470
023472
023474
023502
    4197
4198
                               104415
012777
010546
010446
                                                                                                 ROMCLK
                                                                                                                MOV
MOV
                                                077000 155710
                                                                                                                4199
    4200
    4201
4202
                                                                                                 MOV
                               012705
017704
042704
                                               000001
155662
177774
    4203
    4204
               023506
                                                                                                 BIC
               023512
023514
023516
                               020504
001401
104006
                                                                                                                R5,R4
                                                                                                                                                  WRITE INHIBIT TRUE?
    4206
4207
                                                                                                                                                  WRITE INHIBIT FAILED WAS WRITE
    4208
4209
4210
               023520
023526
023530
                               022777
001401
104000
                                               177777 155650
                                                                                                 CMP
                                                                                                                 #=1.BDVSRA
                                                                                                                                                  ; REALLY
; INHIBTED?
                                                                                                 HLT
                                                                                                                 (SP)+,R2
                                                                                                                                                  RESTORE
               023532
                               012602
               023534
023536
                                                                                                                 (SP)+,R4
(SP)+,R5
#RAM,(RØ)
                               012604
                                                                                                 MOV
                                                                                                                                                  REGISTERS
                               012605
    4213
                                                                                                                                                 ;
place ram instr in sfr
;place sec reg pointer in sfr
;execute instr,
;"FPA+1"
;EXECUTE
    4214
4215
4216
4217
               023540
023544
023546
023550
                               012710
050110
                                                020000
                                                                                                 MOV
                                                                                                 ROMCLK
MOV
ROMCLK
                               104415
                                                                                                                 R2,(RØ)
                023552
                               042703
050103
010310
                                                                                                                                                  CLEAR SEC REG POINTER
SET SEC REG POINTER
RAM WRITE FROM ALU RESULT
                                                                                                 BIC
BIS
                                                                                                                 #17,R3
    4219
               023554
                                                000017
                                                                                                                 R1,R3
R3,(R0)
               Ø2356Ø
Ø23562
    4220
4221
                                                                                                 MOV
               023564
023566
023574
023576
                                                                                                                 ;EXECUTE

#BRB+BIT11+BIT10+BIT9,9DVSFR

R5,-(SP);TEST WRITE

R4,-(SP);INHIBIT
                               104415
012777
                                                                                                 ROMCLK
MOV
    4222
                                                077000 155604
    4223
                                                                                                                 R5,=(8P)
R4,=(8P)
                               010546
                                                                                                 MOV
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 81
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                PAGE: 0106
    4226
4227
               023600
023602
                               010246
017702
                                                                                                                 R2,=(SP)
@DVSFR,R2
                                                                                                                eDVSFR,R2

#BIT1+BITØ,R5 ;EXPECTED

#DVLCR,R4 ;READ RESULTS

#"C<BIT1+BITØ>,R4 ;STRIP JUNK

,GOOD?
                                                155572
                                                                                                 MOV
             023606
023612
023616
023622
                               012705
017704
042704
                                                000003
155552
    422R
                                                                                                 MOV
     4230
                                                                                                 BIC
                                                                                                                R5,R4
    4231
                               020504
                                                                                                 CMP
                               020504
001401
104006
012602
    4232
4233
4234
               023624
023626
023630
                                                                                                                                                  ;
; write inhibit 8/8 False
                                                                                                 HLT
                                                                                                                 (SP)+,R2
(SP)+,R4
(SP)+,R5
R4,(R0)
                                                                                                                                                  RESTORE REGISTERS
                                                                                                 MOV
    4235
4236
4237
               023632
023634
023636
                               012604
012605
010410
                                                                                                                                                  MOVE ALU RESULT TO A REG (UPDATED DATA)
                                                                                                 MOV
               023640
023642
023644
023650
023652
                                                                                                 ROMCLK
INC
CMP
                                                                                                                                                  EXECUTE
JUPDATE SEC REG POINTER
JALL REGISTERS DONE?
    4239
                               005201
                                                                                                                 Ri
    4240
4241
4242
                               022701
001270
010046
                                                000020
                                                                                                                 #16.,R1
                                                                                                                                                 JALL REGISTERS DONET
JBR IF NO
JSAVE RØ
JUDDATE MSCAN
J(LINE NO, UPDATE)
JRESTORE RØ
JIT2, (RØ)
JXFR MSCAN TO RAR Ø-3 CLOCK
JUDDATE LINE NUMBER COUNTER,
JALL LINE DONET
                                                                                                 BNE 28
MOV RØ,-(SP)
PERFORM ,SETSCAN
               023652
023654
023660
023662
023664
023670
023672
                               004537
    4244
4245
                               000001
012600
                                                                                                 MOV
    4246
4247
4248
                                                                                                 MOV
ROMCLK
INC
CMP
                               012710
                                                030124
                               104415
                                                                                                                                                JAFR MSCAN TO RAR 8-3 CLOCK
JUPDATE LINE NUMBER COUNTER,
JALL LINES DONE?
BR IF NO
JCLEAR SEC REG POINTER
JCLEAR LINE NUMBER POINTER
JSET SRC POINTER (LINE SEL)
JSET SRC POINTER (LINE SEL)
JSET SRA POINTER (ACCESS REG)
JSET EXPECTED DATA
JLOAD SEC REG SEL
JLOAD LINE NO.
JREAD RAM RESULT
JWAS RAM "WRITTEN" OCCRECTLY?
JBR IF RAM DATA OK
JRAM RAS "WRITTEN" INCORRECTLY
JUPDATE SEC REG POINTER AND DATA EXPECTED
JALL SEC REGISTERS DONE?
JBR IF NO
JZERO SEC REG POINTER
JUPDATE LINE NUMBER POINTER
JALL LINES DONE?
JBR IF NO
JSEOPE TEST
    4249
               023674
023700
023702
023704
                               022705
001253
                                                000020
                                                                                                                 #16.,R5
    4250
                                                                                                                 18
RØ
    4251
4252
                               005000
005037
                                                                                38:
                                                                                                 CLR
                                                                                                CLR
MOV
                                                                                                                TEMP1
DVSRS,R2
DVSRSH,R3
DVSRA,R1
                                                001246
               023710
023714
023720
023724
                                                001372
001374
001376
                               013702
013703
    4253
    4254
4255
4256
                               013701
                                                                                                 MOV
                                                                                                                #1,R5
R0,(R3)
TEMP1,(R2)
                               012705
                                                999991
                                                                                                 MOV
    4257
4258
4259
                               110013
               023730
                                                                                 481
               Ø23732
Ø23736
                                                001246
                                                                                                 MOVB
                               011104
                                                                                                 MOV
               023740
023742
023744
023746
                               020504
001401
104006
    4260
    4261
4262
4263
                                                                                                 BEQ
                                                                                                 HLT
                                                                                                CMPB
CMP
BNE
                               122025
                                                                                 581
                                                                                                                  (RØ)+,(R5)+
    4264
4265
4266
               023750
023754
023756
                                                 999929
                                                                                                                 #16.,RØ
48
RØ
                               005000
                                                                                                                 TEMP1 #16.
    4267
4268
4269
4270
                               005237
023727
001356
                                                 001246
001246 000020
                                                                                                 BNE
                023774
                               104400
                                                                                                 SCOPE
    4271
4272
                                                                                                 ;+BASIC TEST FOR THE "BCC OPERATION"
;+POLYNOMIAL SELECTION TABLE;
;+RAM OUTPUT BITØ4 BITØ3 POLY
    4273
                                                                                                                                                                 POLY
                                                                                                                                                                 LRC 8
CRC 16
CRC CCITT
    4276
4277
```

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PAGE: 0107
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DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 82
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
 DZDVAB.P11
                                                                                                                               | + TEST OF LRC 8 | + PATTERNS ARE | + P
                                                                                                                                 **TEST OF LRC 8
       4283
      4284
4285
4286
      4287
4288
      4289
       4290
                                                                                                                TEST 103
       4291
       4292
4293
                                      012737
012737
104412
012777
013700
                                                                                                          TST103: MOV
                                                               000103 001226
024252 001216
                                                                                                                                                     #103, TSTNO
#TST104, NEXT
                     024004
024012
024014
024022
      4294
4295
                                                                                                                                                                                                 RESET DV11
                                                                                                                                MSTCLR
                                                                                                                                                     #BIT3, #DVSCR ;SET SORCE SEL
DVSFR, RØ ;SET DVSFR POINTER
#XFR+BIT7+BIT6+BIT5+BIT2+BIT1, R2
                                                                                                                                MOV
                                                                                     155340
      4296
4297
                                                                001400
                     024026
024036
024036
                                          012702
012710
104415
       4298
                                                                030346
                                                                                                                                MOV
                                                                                                                                                                                                ; DO A "BCC" INSTRUCTION USING "LRC8"
; EXECUTE
; XFR BCC REG TO DVRIC
                                                                                                                                MOV
                                                                                                                                                      #BCC, (RØ)
      4299
4300
                                                                                                                                ROMCLK
                     024040
024042
024044
024046
024052
024054
024056
      4301
4302
4303
                                          010210
104415
005005
017704
                                                                                                                                                     R2, (RØ)
                                                                                                                                MOV
                                                                                                                                ROMCLK
                                                                                                                                                                                                 EXECUTE
                                                                                                                                                    CLR
      4304
4305
                                                               155314
                                          001401
104006
012710
                                                                                                                                BEG
       4306
4307
                                                                010034
                                                                                                          1$1
                     024062
024064
024070
024072
       4308
                                          104415
                                                                                                                                ROMCLK
                                          012710
104415
012710
                                                                030362
                                                                                                                                 MOV
                                                                                                                                ROMCLK
MOV
       4310
                                                                060000
       4311
                     024072
024076
024100
024102
024104
024110
                                                                                                                                ROMCLK
                                          104415
                                                                                                                                                     R2.(RØ)
                                                                                                                                                                                                 ;XFR BCC REG TO DYRIC
;EXECUTE
;SET EXPECTED RESULTS =ALL 1'S (LOW BYTE)
                                                                                                                                MOV
                                                                                                                                 ROMCLK
       4314
4315
                                          104415
                                                                                                                                                      #377,R5
                                                                000377
                                                                                                                                 MOV
                                                                                                                                                     017704
020504
                                                                155252
                                                                                                                                MOV
                                                                                                                                CMP
BEQ
       4318
                      024116
                                          001401
104006
       4319
                      024120
                                                                                                                                HLT
                                          104412
                                                                                                                                MSTCLR
MOV
      4320
4321
                     024122
024124
                     024132
024136
024140
                                          012710
104415
012710
       4322
4323
                                                                010034
                                                                                                                                MOV
                                                                                                                                 ROMCLK
                                                                                                                                                     #XFR+BIT7+BIT6+BIT5+BIT4+BIT0,(R0)

,XFR ALU RESULT TO "A" REGISTER

#BCC,(R0) ,BCC OPERATION
                                                                                                                                MOV
ROMCLK
                                                                Ø3Ø361
       4324
                     024144
024146
024152
024154
       4325
                                           104415
                                          012710
104415
010210
       4326
                                                                060000
                                                                                                                                MOV
                                                                                                                                                                                                BBCC OPERATION

; EXECUTE

; XFR BCC TO DVRIC

; EXECUTE

; READ RESULTS

; BBCC REG S/B = 377

; BR IF OK

; BCC REG NOT = 377

; READ OF DATA FROM "A" REG LEG FAILED
; CLEAR INTERNAL REGISTERS
; SET SOURCE SEL

$172.(R0)
                                                                                                                                ROMCLK
MOV
       4327
4328
      4329
4330
4331
4332
                      024156
024160
024164
                                          104415
017704
020504
                                                                                                                                ROMCLK
                                                                155202
                                                                                                                                MOV
CMP
                                                                                                                                                      eDVRIC.R4
                                                                                                                                                     R5,R4
                                                                                                                                BEQ
                                           001401
      4333
4334
4335
                      024170
                                          104006
                                                                                                                                HLT
                      024172
                                           104412
                                                                                                                                MSTCLR
                                                                                                           38:
                                                                                                                                                      *BIT3. @DVSCR
                                           012777
                                                                000010
                                                                                    155160
                                                                                                                                 MOV
                                        012710
                                                                                                                                 MOV
                                                                                                                                                       #ALU+BIT4+BIT3+BIT2, (RØ)
DZDVA-B MACY11 27(732) 18-MAR-76 15:06
DZDVAB.p11 DV11 DEVICE DIAGNOSTICS.
                                                                                                               PAGE 83
COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                                                             PAGE: 0108
                                                                                                                                                                                                  ALU "F==1"
                     Ø24206
Ø2421Ø
                                                                                                                                ROMCLK
                                                                                                                                                     #XFR+BIT7+BIT6+BIT5+BIT4+BIT0,(R0)
,XFR ALU RESULT TO "A" REG
#XFR+BIT7+BIT6+BIT5+BIT4+BIT1,(R0)
                                          012710
                                                               030361
                                                                                                                                MOV
ROMCLK
                     Ø24214
Ø24216
      4340
                                          104415
                                                                030362
                                                                                                                                MOV
      4342
4343
4344
4345
4346
4347
                     024222
024224
024230
                                          104415
012710
104415
                                                                                                                                                                                                ;XFR ALU RESULT TO "B" REG
;SO BCC OPR
                                                                                                                                ROMCLK
MOV
                                                               060000
                                                                                                                                                     #BCC, (RØ)
                                                                                                                                ROMCLK
                                                                                                                                                                                               ; XFR BCC TO DVRIC
; ROMCLK
; EXPECT 0'S
; READ BCC RESULT
; BR IF *0
; BCC "LRC" XOR TEST FAILED
; SCOPE TEST
                     024232
024234
024236
                                          010210
104415
                                                                                                                                MOV
ROMCLK
                                                                                                                                                     R2,(RØ)
                                          905005
                                                                                                                                CLR
                     024240
024244
024246
                                          017704
001401
104006
104400
      4348
                                                               155122
                                                                                                                                                     ADVRIC.R4
                                                                                                                                BEQ
      4350
                                                                                                                                HLT
SCOPE
       4351
                      024250
                                                                                                          481
      4352
4353
4354
4355
                                                                                                                                4356
4357
       4358
      4359
4360
                                                                                                                 TEST 104
                                                                                                           TST1Ø4: MOV
                      Ø24252 Ø12737
                                                                                                                                                     #104.TSTNO
      4361
                     024260
024266
024270
024276
                                          012737
104412
012777
013700
       4362
                                                                                     001216
                                                                                                                                MOV
MSTCLR
                                                                                                                                                     #T5T105, NEXT
                                                                                                                                                                                                 RESET DV11
                                                                                                                                                                                                ; REGET DV11
; SET SOURCE SEL
; SET DVSFR POINTER
; LOAD "DATA"
; RAM READ
; EXECUTE
                                                                000010
                                                                                                                                                     #BIT3, @DVSCR
                                                                                    155064
                                                                                                                                MOV
MOV
                                                                001400
001000
020000
                                                                                                                                                     DVSFR,RØ
#BIT9, @DVSRA
#RAM,(RØ)
       4365
                                          013700
012777
012710
104415
012710
104415
012710
104415
012777
                     024302
024310
024314
024316
      4366
4367
                                                                                     155066
                                                                                                                                MOV
ROMCLK
      4368
4369
                                                                                                                                                     *XFR+BIT7+BIT5+BIT4+BIT9,(R0)

;XFR RAM OUTPUT TO "A" REG,

*XFR+BIT7+BIT5+BIT4+BIT1,(R0)

;XFR RAM OUTPUT TO "B" REG,

*BIT3, **QDVSRA ;SELECT POLYNOMIAL "CRC16"

*RAM,(R0) ;READ DATA
                                                                030261
                                                                                                                                MOV
                     024316
024322
024324
024330
024332
024340
024344
024346
      4370
4371
4372
                                                                                                                                ROMCLK
MOV
                                                                030262
                                                                                                                                ROMCLK
                                                                                                                                MOV
MOV
ROMCLK
                                                                000010
       4373
                                                                                    155036
       4375
4376
                                           104415
                                                                                                                                                                                                ; SET EXPECTED RESULTS
;BEC OPR "CRC16"
;EXECUTE
;ITS+BIT2+BIT1,(R0)
;XFR BCC REG TO DYRIC
;READ RESULTS
;PREPARE
                                                                001000
                                                                                                                                                      #BIT9,R5
#BCC,(RØ)
                                                                                                                                 MOV
      4377
4378
4379
                     024352
024356
024360
                                           012710
                                                                                                                                MOV
ROMCLK
                                           104415
012710
                                                                030346
                                                                                                                                                     #XFR+BIT7+BIT6
                                                                                                                                MOV
                                                                                                                                ROMCLK
MOV
      4380
4381
                     024364
024366
                                          104415
                                                                154774
                                                                                                                                                      eDVRIC, R4
      4382
                      024372
                                                                                                                                MOV
                                           012703
                                                                000010
                                                                                                                                                      #8.,R3
                     024372
024376
024400
024402
024404
024410
024412
                                          000241
006104
005303
                                                                                                                                                                                                 ;TO
;POSITION
       4383
                                                                                                           3# :
                                                                                                                                CLC
       4384
4385
                                                                                                                                                     R4
R3
                                                                                                                                                    DEC
      4386
4387
4388
4389
                                           001374
                                                                                                                                BNE
                                          020504
001401
104006
012710
104415
012710
                                                                                                                                CMP
                                                                                                                                BEQ
                                                                                                                                 HLT
                     024414
024420
024422
       4390
                                                                010026
                                                                                                           48:
                                                                                                                                 MOV
                                                                                                                                 ROMCLK
```

030362

ROMCLK

;XFR ALU RESULT TO "B" REG

4392

4393

@24426

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 84
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
        4394 024430 062705 001000
4395 024434 033705 040000
4396 024440 001744
4397 024442 104400
                                                                                                                                                                                                    ADD
                                                                                                                                                                                                                                     #BIT9,R5
                                                                                                                                                                                                                                                                                                      ; UPDATE DATA COMPARE
                                                                                                                                                                                                                                                                                                      ;ALL DATA DONE?
;BR IF NO
;SCOPE TEST
                                                                                                                                                                                                     BIT
                                                                                                                                                                                                                                     #BIT14,R5
                                                                                                                                                                                                                                    28
         4396
4397
4398
4399
                                                                                                                                                                                                     SCOPE
        4400
4401
4402
4403
4404
4405
                                                                                                                                                                                                    4407
4408
4409
4411
4411
4413
4415
4415
4417
4418
4419
4420
4421
4422
4422
4422
4422
                                                                                                                                                                          TEST 105
                                                                                                000105 001226 TST105: MOV 001216 120001 031646 MOV 001400
                                                                                                                                                                                                                               #105,TSTNO
#TST106,NEXT
#CRC16,XPOLY
DVSFR,R0
#XFF+BIT7+BIT6+BIT5+BIT2+BIT1,R2
#SET FOR XFER FROM BCC TO DVRIC
#SIS,LOCK
#BIT3,8DVSCR
CALBCC
R5,SIMBCC
R5,SIMBCC
R5,SIMBCC
R5,SIMBCC
R6,ADD CALCULATED BCC (SOFTWARE)
#BIT3,BDVSCR
                                024444 012737
024452 012737
024460 012737
024466 013700
                                024472 012702
                                                                                                  030346
                                                                                                                                                                                                     MOV
                              024476
024504
024506
024514
024520
024524
024526
024530
024532
                                                                  012737
                                                                                                   024504 001220
                                                                104412
012777
005037
                                                                                                                                                                                                      MSTCLR
                                                                                                                                                                  181
                                                                                                                                                                                                     MOV
CLR
JSR
                                                                                                  000010 154646
                                                                                                 031652
                                                                 094537
090010
000000
                                                                  000000
004337
                                                                                                  031420
                                                                                                                                                                                                      JSR
                                                                004337
000000
000000
010210
0104415
0104415
013705
017704
02054
         4425
4426
4427
                               024536
024540
024542
         4428
4429
4430
4431
4432
4433
                               024544
024550
024552
024554
                                                                                                  060000
                                                                                                                                                                                                     MOV
                                                                                                                                                                                                     ROMCLK
MOV
ROMCLK
                                                                                                                                                                                                                                                                                                       JDO A BCC CALCULATION (HRDW)
JDO A DATAXFR FROM BCC REG TO DVRIC
                                                                                                                                                                                                                                                                                                     024556
024562
024566
                                                                                                                                                                                                     MOV
MOV
CMP
                                                                                                                                                                                                                                     CALBCC. R5
                                                                                                   Ø31652
                                                                                                                                                                                                                                     edvric, R4
R5, R4
64$
                                                                                                  154600
                               024570
024572
024574
024576
024604
024606
024614
                                                               001401
104006
104401
012737
104412
012777
         4435
4436
4437
4438
4439
4440
                                                                                                                                                                                                     BEQ
                                                                                                                                                                                                     HLT
SCOP1
                                                                                                                                                                    6481
                                                                                                  024604 001220
                                                                                                                                                                                                                                     #28.LOCK
                                                                                                                                                                                                      MOV
                                                                                                                                                                                                     MSTCLR
MOV
CLR
JSR
                                                                                                                                                                   281
                                                                                                                                                                                                                                      #BIT3, @DVSCR
                                                                                                   000010 154546
                                                                  005037
                                                                                                   031652
                                                                                                                                                                                                                                      CALBCC
R5,SIMBCC
                               024614
024620
024624
024626
024630
024632
024636
024640
024642
         4442
4443
                                                                 004537
000010
                                                                                                   031474
                                                                                                                                                                                                    8.
*B<10101010
         4444
4445
4446
4447
4448
4449
                                                                  000252
                                                                  848888
                                                                                                                                                                                                     BIT14
                                                                004337
000252
                                                                                                                                                                                                     JSR R3,L
*B<10101010>
                                                                                                   031420
                                                                                                                                                                                                                                    R3,L,DATA
                                                                                                                                                                                                    BIT14
                                                                  848888
DZ
DZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAGE: Ø110
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ZDVAB.	P11	DV11 DE	VICE DIA	GNOSTICS	. co	PYRIGHT 1	975 DIGITAL EG	UIP, CORP,
4450	024644	012710	060000			MOV	#BCC,(RØ)	
4451	024650	104415				ROMCLK	******	DO A BCC CALCULATION (HRDW)
4452	024652	010210				MOV	R2,(R0)	DO A DATAXER FROM BCC REG TO DVRIC
4453	024654	104415				ROMCLK		1
4454	024656	013705	Ø31652			MOV	CALBCC, R5	PUT SOFTWARE BCC INTO EXPECTED
4455	024662	017704	154500			MOV	PDVRIC,R4	PUT HRDW BCC INTO RECEIVERD
4456	024666	020504				CMP	R5,R4	DOES EXPECTED = FOUND??
4457	224670	091401				BEQ	658	BR IF OKL
4458	024672	104006				HLT	6	BCC CALCULATION ERROR
4459	024674	104401			6581	SCOP1		; SW09=17
4460	024676	012737	024704	001220		MOV	#38,LOCK	SET IF SW09=1
4461	024704	104412			381	MSTCLR		ISSUE A MSTCLR
4462	024706	012777	000010	154446		MOV	#BIT3, BDVSCR	SET SOURCE SEL
4463	024714	005037	031652			CLR	CALBCC	ZERO CALCULATED BCC (SOFTWARE)
4464	024720	004537	031474			JSR	R5, SIMBCC	GO AND CALCULATE A NEW BCC
4465	024724	000010				8.		SHIFTS PERFORMED
4466	024726	000125				*B<0101	0101>	DATA CHAR
4467	024730	000000				0		:PREVIOUS BCC
4468	024732	004337	031420			JSR	R3, L. DATA	GO AND LOAD DATA INTO THE DV11
4469	024736	000125				*B<0101	0101>	DATA TO THE A REGISTER
4470	024740	000000				Ø		DATA TO THE B REGISTER
4471	024742	000010				10		POLY SELT. (RAMOUTPUT)
4472	024744	012710	060000			MOV	#BCC, (RØ)	
4473	024750	104415				ROMCLK		;DO A BCC CALCULATION (HRDW)
4474	024752	010210				MOV	R2, (RØ)	DO A DATAXFR FROM BCC REG TO DVRIC
4475	024754	104415				ROMCLK		1
4476	024756	013705	Ø31652			MOV	CALBCC. R5	PUT SOFTWARE BCC INTO EXPECTED
4477	024762	017704	154400			MOV	BDVRIC, R4	PUT HRDW BCC INTO RECEIVERD
4478	024766	020504				CMP	R5.R4	DOES EXPECTED = FOUND??
4479	024770	001401				BEQ	668	BR IF OKL
4480	024772	104006				HLT	6	BCC CALCULATION ERROR
4481	024774	104401			6681	SCOP1		; SWØ9=17
4482	024776	012737	025004	001220		MOV	#48,LOCK	; SET IF 8W09=1
4483	025004	104412			48:	MSTCLR		ISSUE A MSTCLR
4484	025006	Ø12777	000010	154346		MOV	#BIT3, @DVSCR	SET SOURCE SEL
4485	025014	005037	031652			CLR	CALBCC	; ZERO CALCULATED BCC (SOFTWARE)
4486	025020	004537	031474			JSR	R5, SIMBCC	GO AND CALCULATE A NEW BCC
4487	025024	000010				8.		;SHIFTS PERFORMED
4488	025026	000377				*B<1111	1111>	DATA CHAR
4489	025030	000000				Ø		PREVIOUS BCC
	025032	004337	031420			JSR	R3, L DATA	GO AND LOAD DATA INTO THE DV11
4491	025036	000377				"B<1111		DATA TO THE A REGISTER
4492	025040	000000				0		DATA TO THE B REGISTER
4493	025042	000010				10		POLY SELT. (RAMOUTPUT)
4494	Ø25Ø44	612710	060000			MOV	#BCC, (RØ)	
4495	025050	104415				ROMCLK		DO A BCC CALCULATION (HRDW)
4496	025052	010210				MOV	R2, (RØ)	DO A DATAXER FROM BCC REG TO DVRIC
4497	025054	104415				ROMCLK		
4498	025056	013705	031652			MOV	CALBCC, R5	; PUT SOFTWARE BCC INTO EXPECTED
4499	025062	017704	154300			MOV	ODVRIC, R4	PUT HROW BCC INTO RECEIVERD
4500	025066	020504				CMP	R5 , R4	DOES EXPECTED = FOUND??
4501	025070	001401				BEQ	678	BR IF OK!
4502	025072	104006				HLT	6	BCC CALCULATION ERROR
4503	025074	104401			6781	SCOP1		; SW09=1?
4504	025076	012737	025104	001220		MOV	#5s,LOCK	SET IF SW09m1
4505	025104	104412			58:	MSTCLR		ISSUE A MSTCLR

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DZDVA-B MACY11 27(732) 18-MAR-76 15:06
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS.
                                                                    15:06 PAGE 86
                                                                                                                                                                                                                                          PAGE: 0111
                                                                                      COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                             ;SET SOURCE SEL
;ZERO CALCULATED BCC (SOFTWARE)
;GO AND CALCULATE A NEW BCC
;SHIFTS PERFORMED
                                                                                                              *BIT3,@DVSCR
CALBCC
                                               000010 154246
    4506
    4507
4508
4509
               025114
025120
025124
                               ØØ5037
ØØ4537
                                                                                              CLR
JSR
                                               031652
                                               03147
                                                                                                               R5, SIMBCC
                                000010
                                                                                              8.
B<00000001>
     4510
                025126
                                88888
                                                                                                                                                            DATA CHAR
                                                                                                                                             ;DATA CHAR
;PREVIOUS BCC
;GO AND LOAD DATA INTO THE DV11
;DATA TO THE A REGISTER
;DATA TO THE B REGISTER
;POLY SELT, (RAMOUTPUT)
                               000000
004337
                                                                                               JSR
                                                                                                              R3, L. DATA
                                               031420
    4512
                025132
                               004337
000001
000000
000010
012710
104415
010210
    4513
               025136
                                                                                               *B<000000001>
    4514
4515
               Ø2514Ø
Ø25142
                                                                                               10
MOV
    4516
4517
4518
                025144
                                               060000
                                                                                                              #BCC, (RØ)
               Ø2515Ø
Ø25152
                                                                                               ROMCLK
MOV
                                                                                                                                              ;DO A BCC CALCULATION (HRDW)
;DO A DATAXER FROM BCC REG TO DVRIC
                                                                                                             R2, (RØ)
                                                                                               ROMCLK
                               104415
013705
017704
    4519
               025154
                                                                                                                                              ; PUT SOFTWARE BCC INTO EXPECTED ; PUT HRDW BCC INTO RECEIVERD ; DOES EXPECTED = FOUND?? ; BR IF OK!
               025156
025162
025166
                                                                                                              CALBCC, R5
QDVRIC, R4
R5, R4
                                                                                               NOV
NOV
                                               031652
                                               154200
    4521
4522
                               020504
                                                                                              CMP
    4523
4524
4525
               025170
025172
025172
025174
025176
                               001401
                                                                                               BEG
                                                                                                               688
                                                                                                                                              JBR IF OK!

JBCC CALCULATION ERROR

JSW09=1?

JSET IF SW09=1

JISSUE A MSTCLR

JSET SOURCE SEL

JERO CALCULATED BCC (SOFTWARE)

JGO AND CALCULATE A NEW BCC

ISMIFIS PERFORMED
                               104006
104401
012737
                                                                                               SCOP1
                                               025204 001220
     4526
                                                                                               MOV
                                                                                                             #68.LOCK
                                                                                               MSTCLR
    4527
4528
               Ø252Ø4
Ø252Ø6
                                               000010
                                                                                                              #BIT3, @DVSCR
    4529
                025214
                               005037
                                               031652
                                                                                               CLR
JSR
                                                                                                               CALBCC
                Ø2522Ø
Ø25224
                               004537
                                               031474
                                                                                                               R5, SIMBCC
                                                                                                                                              JGO AND CALCULATE A NEW BCC
JSHIFTS PERFORMED
JDATA CHAR
JPREVIOUS BCC
JGO AND LOAD DATA INTO THE DV11
JDATA TO THE A REGISTER
JDATA TO THE B REGISTER
                                                                                              8.
*B<00000100>
    4532
4533
                025226
025230
                                900000
               025232
025236
025240
                                                                                              JSR R3,L.DATA *B<00000100>
    4534
4535
                               004337
000004
                                               031420
                               000000
    4536
     4537
               025242
                                000010
                                                                                                                                              POLY SELT, (RAMOUTPUT)
                                012710
                                                                                               MOV
ROMCLK
                                                                                                              #BCC, (RØ)
                                                                                                                                              ;DO A BCC CALCULATION (HRDW)
;DO A DATAXFR FROM BCC REG TO DVRIC
    4539
                025250
                               104415
                                                                                                             R2. (RØ)
    4540
               Ø25252
                                                                                               MOV
    4541
4542
4543
4544
                                                                                               ROMCLK
MOV
MOV
               Ø25254
Ø25256
                               104415
                                                                                                                                              PUT SOFTWARE BCC INTO EXPECTED PUT HRDW BCC INTO RECEIVERD DOES EXPECTED = FOUND??
                                                                                                              CALBCC, R5
@DVRIC, R4
               025262
                                               154100
                               017704
               025266
                                020504
                                                                                               CMP
                                                                                                              R5 . R4
    4545
4546
4547
               Ø25278
                                001401
104006
                                                                                                                                              BR IF OK!
BCC CALCULATION ERROR
                                                                                                                                             | BCC CALCULATION ERROR
| SW09=17
| SET IF SW09=1
| ISSUE A MSTCLR
| SET SQURCE SEL
| ZERO CALCULATED BCC (SOFTWARE)
| GO AND CALCULATE A NEW BCC
| SHIFTS PERFORMED
| DATA CHAR
| PREVIOUS BCC
| GO AND LOAD DATA INTO THE DV11
| DATA TO THE A REGISTER
| DATA TO THE B REGISTER
| POLY SELT. (RAMOUTPUT)
                               104401
012737
104412
012777
                                                                                               SCOP1
                025274
               Ø25276
Ø253Ø4
    454R
                                               025304 001220
                                                                                               MOV
                                                                                                             #7s,LOCK
    4549
4550
                                                                                                             #BIT3, @DVSCR
CALBCC
               025306
                                               000010
                                                              154046
                                                                                               MOV
     4551
                                               031652
031474
                                                                                               CLR
    4552
4553
4554
4555
                               004537
000010
000020
                                                                                                              R5, SIMBCC
                Ø25324
Ø25326
                                                                                               8.
*B<00010000>
               025330
025332
025336
                                999999
                               004337
000020
    4556
4557
                                                                                               JSR R3,L
*B<00010000>
                                               031420
    4558
               025340
                               000000
               025342
025344
                               000010
012710
     4559
                                               060000
                                                                                                             #BCC. (RØ)
                                                                                               ROMCLK
                                                                                                                                              :DO A BCC CALCULATION (HRDW)
                025350
                                104415
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                                               18-MAR-76
                                                                    15:06 PAGE 87
                                                                                                                                                                                                                                          PAGE: Ø112
                               DV11 DEVICE DIAGNOSTICS.
                                                                                     COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                010210
                                                                                                             R2, (RØ)
                                                                                                                                              ;DO A DATAXFR FROM BCC REG TO DVRIC
    4562
4563
                                                                                              ROMCLK
MOV
MOV
                               104415
013705
                                                                                                                                              ;
¡PUT SOFTWARE BCC INTO EXPECTED
¡PUT HRDW BCC INTO RECEIVERD
¡DOES EXPECTED * FOUND??
¡BR IF OK!
¡BCC CALCULATION ERROR
    4564
4565
                                               031652
                                                                                                              CALBCC, R5
               025362
                               017704
                                               154000
                                                                                                              ODVRIC, R4
                                                                                                              R5,R4
    4566
               025366
                               020504
                                                                                               CMP
                025370
                                001401
                                                                                               BEQ
HLT
    4568
4569
                                                                                                                                             BCC CALCULATION ERROR

| SW09=17 |
| SET IF SW09=1 |
| ISSUE A MSTCLR
| SET SOURCE SEL |
| ZERO CALCULATED BCC (SOFTWARE) |
| GO AND CALCULATE A NEW BCC |
| SHIFTS PERFORMED |
| DATA CHAR |
| PREVIOUS BCC |
| GO AND LOAD DATA INTO THE DV11 |
| DATA TO THE A REGISTER |
| DATA TO THE B REGISTER |
| POLY SELT, (RAMOUTPUT)
               Ø25372
Ø25374
                                104006
                                                                                               SCOP1
                                                                                              MOV
MSTCLR
MOV
    4570
               025376
                                Ø12737
                                               025404 001220
                                                                                                              #8$,LOCK
     4571
4572
               025404
025406
                               104412
                                               000010 153746
                                                                                                              #BIT3, PDVSCR
               025414
025420
025424
                                               031652
031474
                                                                                               CLR
JSR
    4573
                                005037
                                                                                                              CALBCC
R5,SIMBCC
    4574
4575
                               004537
                                                                                               8.
*B<010000000>
    4576
               025426
                               000100
                025430
025432
                                                                                               Ø
JSR
                                               031420
                                                                                                              R3.L.DATA
               025436
025440
025442
                               000100
    4579
                                                                                                B<010000000
                               000000
                               012710
                                                                                               MOV
    4582
4583
                Ø25444
Ø2545Ø
                                               060000
                                                                                                              #BCC, (RØ)
                                                                                                                                              ;DO A BCC CALCULATION (HRDW)
;DO A DATAXER FROM BCC REG TO DVRIC
                                                                                               ROMCLK
    4584
4585
4586
4587
                               010210
104415
013705
                025452
                                                                                               MOV
                                                                                                             R2, (RØ)
                                                                                               ROMCLK
                                                                                                                                             Ø25454
Ø25456
                                                                                                             CALBCC, R5
                                               031652
                                                                                               MOV
                                                                                                              9DVRIC,R4
R5,R4
71s
               025462
                               017704
                                               153700
                                                                                               MOV
    4588
4589
459Ø
               Ø25466
Ø2547Ø
Ø25472
                               020504
001401
                                                                                               BEQ
                                104006
               025474
025476
025504
                               104401
012737
104412
                                                                                               SCOP1
                                               025504 001220
                                                                                                              #98.LOCK
                                                                                               MSTCLR
    4593
               025506
025514
                                               000010
031652
                                                                                               MOV
                                                                                                              #BIT3, @DVSCR
                                005037
    4595
                                                                                                               CALBC
                                                                                                              RS, SIMBCC
    4596
4597
               Ø2552Ø
Ø25524
                               004537
                                               031474
                                                                                               JSR
                                                                                                                                             JGO AND CALCULATE A NEW BCC
JSHIFTS PERFORMED.

JDATA CHAR
JPREVIOUS BCC
JGO AND LOAD DATA INTO THE DV11
JDATA TO THE A RECISTER
JDATA TO THE B REGISTER
JPOLY SELT. (RAMOUTPUT)
                                                                                               8.
*B<00000110>
               025526
025530
025532
                               000006
000000
004337
    4598
                                                                                              JSR R3,L.DATA
*B<00000110>
     4600
                                               031420
                               000006
000000
     4601
                925536
    4602
4603
4604
               Ø25540
Ø25542
Ø25544
                               000010
                                               060000
                                                                                                              #BCC, (RØ)
     46.05
               025550
025552
                                                                                              ROMCLK
                                                                                                                                              ;DO A BCC CALCULATION (HRDW)
;DO A DATAXFR FROM BCC REG TO DVRIC
                                                                                                              R2.(RØ)
                                                                                              ROMCLK
MOV
MOV
               Ø25554
Ø25556
    4607
4608
                               104415
                                                                                                                                              ;
iput software BCC into expected
;put hrdw BCC into receiverd
;poes expected = found;;
ibr if ok!
;BCC calculation error
                                                                                                              CALBCC, R5
                                               Ø31652
               Ø25562
Ø25566
                               Ø17704
Ø20504
    4609
4610
                                               153600
                                                                                               CMP
                                                                                                               R5, R4
```

001401 104006

104401 012737

005037

025604 001220

031652

153546

BEQ

MOV

MOV

SCOP1

#1008, LOCK

CALBCC

#BIT3, @DVSCR

;SK09=1? ;SK09=1; ;SKT IF SW09=1 ;ISSUE A MSTCLR ;SKT SOURCE SEL ;ZERO CALCULATED BCC (SOFTWARE)

4611

4613 4614

4617

025570

025572

Ø25574 Ø25576

Ø256Ø4 Ø256Ø6

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DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                    PAGE: 0113
                                                                                                                                                                       ;GO AND CALCULATE A NEW BCC;SHIFTS PERFORMED
                                                                                                                JSR
                                   004537
                                                                                                                                 R5, SIMBCC
                 025624 000010
                                                                                                                8.
*B<01010000>
     4619
                                                                                                                                                                       JOATA CHAR

JPREVIOUS BCC

JGO AND LOAD DATA INTO THE DV11

JOATA TO THE A REGISTER

JDATA TO THE B REGISTER

JPOLY SELT, (RAMOUTPUT)
                 025626
025630
025632
     4620
                                     000120
                                    000000
004337
     4621
                                                                                                                                 R3, L. DATA
                                                                                                                JSR
                                                       031420
     4622
                 025632
025636
025640
025642
                                    004337
000120
000000
000010
                                                                                                                *B<01010000>
    4624
4625
4626
4627
4628
                 025644
025650
025652
                                    012710
104415
010210
                                                       060000
                                                                                                                                 #BCC, (R0)
                                                                                                               ROMCLK
MOV
                                                                                                                                                                        ;DO A BCC CALCULATION (HRDW)
;DO A DATAXER FROM BCC REG TO DVRIC
                                                                                                                                 R2,(RØ)
                                                                                                                ROMCLK
     4629
4630
                 Ø25654
Ø25656
                                                                                                                                 CALBCC, R5
@DVRIC, R4
R5, R4
                                                                                                                                                                        PUT SOFTWARE BCC INTO EXPECTED PUT HROW BCC INTO RECEIVERD DOES EXPECTED = FOUND??
                                                        031652
                                    013705
                 025662
025666
025670
025672
025674
                                                       153500
                                     017704
     4631
4632
                                                                                                               CMP
BEQ
HLT
                                                                                                                                                                       ;DOES EXPECTED = FOUND??
;BR IF OK!
;BCC CALCULATION ERROR
;SW99=1;
;SET IF SW99=1
;ISSUE A MSTCLR
;SET SOURCE SEL
;ZERO CALCULATED BCC (SOFTWARE)
;GO AND CALCULATE A NEW BCC
;SHIFTS PERFORMED
;DATA CHAR
;PREVIOUS BCC
;GO AND LOAD DATA INTO THE DV11
;DATA TO THE A REGISTER
;POLY SELT. (RAMOUTPUT)
                                     020504
     4633
4634
4635
                                    001401
104006
104401
012737
                                                                                                                SCOP1
     4636
4637
4638
                 025676
025704
                                                       025704 001220
                                                                                                                                 #1018, LOCK
                                                                                                                MOV
                                                                                                               MSTCLR
MOV
CLR
                                    104412
                                                                                                                                  #BIT3, @DVSCR
                                                        000010
                 025706
025714
     4639
4640
4641
4642
                                     005037
                                                        031652
                                                                                                                                  CALBCC
                 025714
025720
025724
025726
025730
025732
025736
025740
                                     004537
000010
000320
                                                        031474
                                                                                                                JSR
                                                                                                                                  R5, SIMBCC
                                                                                                                8.
*B<11010000>
     4643
4644
4645
4646
4647
4648
                                     999999
                                    004337
000320
000000
                                                                                                                JSR R3,L.DATA
"B<11010000>
                                                        031420
                 025740
025742
025750
025750
025752
025754
025756
                                     000010
012710
                                                                                                                10
                                                       060000
                                                                                                                                 #BCC, (RØ)
                                                                                                                                                                        ;DO A BCC CALCULATION (HRDW)
;DO A DATAXFR FROM BCC REG TO DVRIC
                                     104415
                                                                                                                ROMCLK
     4649
                                                                                                                                 R2.(RØ)
     4650
                                     010210
                                                                                                                MOV
                                     104415
013705
017704
                                                                                                                ROMCLK
                                                                                                                                                                       ; PUT SOFTWARE BCC INTO EXPECTED ; PUT HRDW BCC INTO RECEIVERD ; DOES EXPECTED = FOUND?? ; BR IF OK, BCC CALCULATION ERROR ; SW09=1? ; SET IF SW09=1 ; ISSUE A MSTCLR ; SET SOURCE SEL ; ZERO CALCULATED BCC (SOFTWARE) ; GO AND CALCULATE A NEW BCC ; SHIFTS PERFORMED ; DATA CHAR
                                                                                                                                 CALBCC, R5
SDVRIC, R4
     4652
                                                        031652
153400
                                                                                                                MOV
     4653
                 025766
025770
025770
025772
025774
                                     020504
001401
104006
                                                                                                                                  R5,R4
     4656
                                                                                                                HLT
     4657
                                                                                            7481
                                                                                                                SCOP1
     4658
4659
4660
                 Ø25776
                                     012737
                                                       026004 001220
                                                                                                                MOV
                                                                                                                                  #102#, LOCK
                                                                                                                MSTCLR
                  026004
                                     104412
                                                                                                                                  #BIT3, @DVSCR
                  026006
                                                        000010
                                                                         153346
                                                                                                                MOV
     4661
4662
                 026014
026020
026024
                                     005037
004537
000010
                                                        Ø31652
Ø31474
                                                                                                                CLR
                                                                                                                                  R5,SIMBCC
                                                                                                                JSR
     4663
                                                                                                                8.
*B<110000000>
                                                                                                                                                                        JATA CHAR
JATA CHAR
JATA CHAR
JATA CHAR
JATA CHAR
JATA TO THE A REGISTER
JATA TO THE B REGISTER
                 026026
026030
026032
026036
     4664
                                     000300
     4665
4666
4667
                                     000000
                                                                                                                JSR R3,L.DATA
*B<11000000>
                                                        031420
                                     000300
                 026040
026042
026044
     4668
                                     000000
     4669
4670
                                                                                                                                                                        ; POLY SELT. (RAMOUTPUT)
                                                                                                               MOV #BCC, (RØ)
ROMCLK
                                     012710
104415
010210
                                                        060000
                  026050
026052
026054
                                                                                                                                                                        ;DO A BCC CALCULATION (HRDW)
;DO A DATAXFR FROM BCC REG TO DVRIC
                                                                                                                MOV
ROMCLK
                                                                                                                                 R2, (RØ)
DZDVA-B MACY11 27(732) 18-MAR-76 15:86 PAGE 89
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                                                    PAGE: 0114
                026056 013705
026062 017704
026066 020504
026070 001401
026072 104006
                                                                                                                                 CALBCC, R5
9DVRIC, R4
R5, R4
                                                                                                                                                                       ;PUT SOFTWARE BCC INTO EXPECTED ;PUT HRDW BCC INTO RECEIVERD ;DOES EXPECTED = FOUND??
     4674
                                                                                                                MOV
                                                                                                               MOV
    4676
4677
                                                                                                                                                                       ;BR IF OK!
;BCC CALCULATION ERROR
;SW09=1?
                                                                                                               BEQ
HLT
                                                                                                                                  758
     4678
4679
                 026074 104401
026076 104400
                                                                                             7581
                                                                                                                SCOPI
     4680
                                                                                                                SCOPE
     4682
4683
                                                                                                                ;***********************************
;*TEST TO RUN A BINARY COUNT (000-377)PATTERN
;*THROUGH THE BCC GENERATION LOGIC.
;*THE POLYNOMIAL USED WILL BE LRC8
;*THE BCC REGISTER WILL BE BUILT UP AFTER
;*EACH CHARACTER -*NOT ZEROED OUT*-
     4686
4687
     4690
                                                                                                  TEST 106
                                                                                                                                #106,TSTNO
#TST107.NEXT
#LRC9,XPOLY ;LOAD POLYNOMIAL FOR SOFTWARE CAL,
#XFR*BIT7*BIT6*BIT5*BIT2*BIT1;R2
DVSFR:RØ ;LOAD DATA XFER FROM BCC TO DVRIC
R1 ;SET DATA POINTER TO Ø
CALBCC ;ZERO SOFTWARE BCC
-CLEAR THE DV11
                                                                                             TST106: MOV
                 #26100 #12737
#26106 #12737
#26114 #12737
#26122 #12702
#26126 #13700
                                                       000106
026256
000200
030346
001400
                                                                         001226
001216
031646
     4693
4694
                                                                                                                MOV
MOV
     4695
4696
4697
                                                                                                                MOV
                                                                                                                MOV
                 026132
026134
026140
     4698
                                    005001
                                                                                                               CLR
    4699
4700
4701
                                    005037
104412
012777
                                                                                                                                                                       JECEAR THE DV11
JSET SOURCE SEL
JLOAD SOFTWARE CHAR
JLOAD HRDW CHAR
JPLACE PREVIOUS BCC FOR SOFTWARE
JPLACE PREVIOUS BCC FOR HRDW
JHAVE SOFTWARE GET THE RIGHT BCC
                                                                                                                MSTCLR
                 026140
026142
026150
026154
026160
026166
                                                       000010
026202
026212
031652
                                                                                                                MOV
                                                                          153212
                                                                                                                                  #BIT3, @DVSCR
     4702
                                     010137
                                                                                                                                 R1,28
R1,48
CALBCC,3:
     4703
4704
4705
                                    010137
013737
013737
                                                                                                                MOV
                                                                          026204
                                                                                                                MOV
                                                                                                                                 CALBCC,58
R5,SIMBCC
                                                        031652
                                                                          026214
                                                                                                                MOV
     4706
4707
4708
                 026174
026200
                                     004537
000010
                                                        031474
                                                                                                                JSR
                                                                                                               8.
.BLKW 1
.BLKW 1
JSR
.BLKW 1
                                                                                                                                                                        JEIGHT SHIFTS
JOATA
JPREVIOS BCC
JLOAD DV11 REGISTERS
JTO 8E PLACED INTO THE "A" REG
JTO 8E PLACED INTO THE "B" REG
JTO BE LACED INTO THE BB" REG
JTO BE LEFT IN THE RAM OUTPUT REG
                 026202
026204
026206
026212
                                     000001
                                                                                             281
381
     4709
4710
4711
                                     000001
004337
                                                        031420
                                                                                                                                 R3, L, DATA
                                     000001
     4712
4713
4714
4715
                 026214
026216
026220
                                     999991
999999
912719
                                                        060000
                                                                                                                MOV
                                                                                                                                  #BCC, (RØ)
                                                                                                                ROMCLK
MOV
ROMCLK
                  026224
                                     104415
                                                                                                                                                                        DO A BCC OPERATION DO A DATA XFER OPR.
     4716
4717
4718
                 026226
026230
026232
                                     010210
104415
                                                                                                                                  R2, (RØ)
                                    013705
017704
020504
001401
                                                                                                                                 CALBCC, R5
@DVRIC, R4
R5, R4
                                                                                                                                                                        GET GOOD BCC
GET ???? BCC
ARE THEY THE SAME?
                 026236
026242
026244
     4719
                                                        153124
                                                                                                                CMP
                                                                                                                                  6#
6
R1
                                                                                                                                                                        BR IF YES
BCC ERROR
UPDATE DATA CHAR
     4721
4722
                                                                                                                BEQ
                 Ø26246
Ø2625Ø
                                     104006
                                                                                                                HLT
INCB
     4723
                                                                                             681
                                                                                                                                                                         BR IF NOT ALL DATA DONE, SCOPE THIS TEST
     4724
4725
                  026252 001332
026254 104400
                                                                                                                BNE
```

SCOPE

4728 4729

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 90
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                                                   PAGE: 0115
    4730
4731
4732
                                                                                                               **THROUGH THE BCC GENERATION LOGIC
                                                                                                               ;*THE POLYNOMIAL USED WILL BE CRC16
;*THE BCC REGISTER WILL BE BUILT UP AFTER
;*EACH CHARACTER -*NOT ZEROED OUT*-
    4733
4734
4735
    4736
4737
4738
4739
                                                                                                 TEST 107
                026256 012737
026264 012737
026272 012737
026300 012702
026304 013700
026310 005001
026312 005037
026316 104412
                                                     000107
026434
120001
030346
001400
                                                                                             TST107: MOV
                                                                                                                               *107,TSTNO
#IST110,NEXT
*CRC16.KPOLY ;LOAD POLYNOMIAL FOR SOFTWARE CAL.
#XFR+BIT7+BIT6+BIT5+BIT2+BIT1,R2
DVSFR,RØ ;LOAD DATA XFER FROM BCC TO DVRIC
                                                                         001226
001216
                                                                                                               MOV
                                                                         031646
                                                                                                               MOV
    4741
4742
                                                                                                               MOV
MOV
                                                                                                                                                                      ;LOAD DATA XFER FROM BCC TO DVRIC
;SET DATA POINTER TO 0
;ZERO SOFTWARE BCC
;CLEAR THE DV11
;SET SOURCE SEL
;LOAD SOFTWARE CHAR
;LOAD HOW CHAR
;PLACE PREVIOUS BCC FOR SOFTWARE
;PLACE PREVIOUS BCC FOR HRDW
;HAVE SOFTWARE GET THE RIGHT BCC
;EIGHT SHIFTS
;DATA
    4743
4744
4745
4746
4747
4748
4749
                                                                                                              CLR
CLR
MSTCLR
                                    005037
104412
012777
                                                                                                                                 CALBCC
                 026320
026326
026332
026332
                                                       000010 153034
                                                                                                                                 #BIT3, @DVSCR
                                                                                                               MOV
                                                     000010 153034

926360

926370

931652 926362

931652 926372

931474
                                  010137
010137
013737
                                                                                                              MOV
MOV
MOV
                                                                                                                                 R1,28
R1,48
CALBCC,38
     4750
4751
4752
                 026344
026352
026356
                                   013737
004537
000010
                                                                                                               MOV
                                                                                                                                 CALBCC,58
R5,SIMBCC
                                                                                                               JSR
                                                                                                              8,
.BLKW 1
.BLKW 1
JSR R3,L,DATA
                 026360
026362
026364
     4753
                                    000001
                                                                                            28:
38:
                                                                                                                                                                       DATA
                                                                                                                                                                      ;DATA
;PREVIOS BCC
;LOAD DV11 REGISTERS
;TO BE PLACED INTO THE "A" REG
;TO BE PLACED INTO THE "B" REG
;TO BE LEFT IN THE RAM OUTPUT REG
                                    000001
004337
                                                     031420
                                                                                                              .BLKW 1
.BLKW 1
10
MOV
                 026370
026372
026374
026376
     4756
                                    000001
    4757
4758
4759
4760
                                    000001
000010
012710
                                                     060000
                                                                                                                                *BCC, (RØ)
                 026402
026404
026406
                                                                                                                                                                      ;DO A BCC OPERATION ;DO A DATA XFER OPR.
                                    104415
                                                                                                               ROMCLK
                                    010210
104415
013705
                                                                                                              MOV
ROMCLK
                                                                                                                                R2, (RØ)
     4762
4763
                                                                                                                                                                      ; GET GOOD BCC
;GET ???? BCC
;ARE THEY THE SAME?
;BR IF YES
;BCC ERROR
                                                                                                                                CALBCC.R5
                 026410
                                                                                                               MOV
    4764
4765
4766
                 026414
026420
026422
                                    017704
020504
001401
                                                                                                              MOV
CMP
BEQ
HLT
                                                                                                                                 eDVRIC,R4
R5,R4
6$
                                                                                                                                6
R1
1$
    4767
                 026424
                                   104006
                 026426 105201
026430 001332
026432 104400
                                                                                                                                                                      ;UPDATE DATA CHAR
;UPDATE DATA CHAR
;BR IF NOT ALL DATA DONE,
;SCOPE THIS TEST
                                                                                                               INCB
BNE
                                                                                                               SCOPE
     4770
    4771
4772
4773
                                                                                                              4774
4775
4776
4777
    4778
4779
4780
     4781
                                                                                                TEST 110

        826434
        812737
        000110
        801226
        TST119: MOV

        826442
        812737
        026612
        001216
        MOV

        826450
        812737
        192810
        031646
        MOV

                                                                                                                               #110, TSTNO
                                                                                                                                 *TST111, NEXT
*CRC.CCITT, XPOLY
                                                                                                                                                                          ; LOAD POLYNOMIAL FOR SOFTWARE CAL.
DZDVA-8 MACY11 27(732) 18-MAR-76 15:06 PAGE 91
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                   PAGE: 0116
                026456 012702
026462 013700
026466 005001
026470 005037
026474 104412
                                                                                                                                 #XFR+BIT7+BIT6+BIT5+BIT2+BIT1,R2
DVSFR,R0 ;LOAD DATA XFER FROM BCC TO DVRIC
R1 ;SET DATA POINTER TO Ø
CALBCC ;ZERO SOFTWARE BCC
                                                                                                               MOV
                                                                                                               CLR
CLR
                                                     031652
    4789
                                                                                                                                                                     ;ZERO SOFTWARE BCC
;CLEAR THE DV11
;SET SOURCE SEL
;LOAD SOFTWARE CHAR
;LOAD HRDW CHAR
;PLACE PREVIOUS BCC FOR SOFTWARE
;PLACE PREVIOUS BCC FOR HRDW
;HAVE SOFTWARE GET THE RIGHT BCC
;EIGHT SHIFTS
                                  104412
012777
010137
                                                                                                              MSTCLR
MOV
MOV
    4790
    4791
4792
4793
                 026476
026504
                                                      000010
026536
                                                                                                                                 #BIT3, #DVSCR
                                                                      152656
                                                                                                                                R1,28
R1,48
CALBCC,38
CALBCC,58
R5,SIMBCC
                 026510
026514
026522
                                    010137
013737
013737
                                                      026546
031652
031652
                                                                                                              MOV
MOV
MOV
     4794
                                                                         026550
                                    004537
000010
000001
     4796
                  026530
                                                                                                               JSR
    4797
4798
4799
                 026534
026536
026540
                                                                                                              BLKW 1
BLKW 1
                                                                                            28:
38:
                                                                                                                                                                      ;DATA
;PREVIOS BCC
                                    000001
                                                                                                                                                                     JUAN DV11 REGISTERS
JTO BE PLACED INTO THE "A" REG
JTO BE PLACED INTO THE "B" REG
JTO BE LEFT IN THE RAM OUTPUT REG
                                                                                                              JSR
.BLKW 1
.BLKW 1
     4800
                 026542
                                    004337
                                                     031420
                                                                                                                                R3, L. DATA
                 Ø26546
Ø2655Ø
                                   000001
     4802
4803
                 026552
                                   999939
    4804
4805
4806
                 026554
026560
026562
                                                                                                              MOV
ROMCLK
                                    012710
                                                      060000
                                                                                                                                #BCC, (RØ)
                                                                                                                                                                      DO A BCC OPERATION DO A DATA XFER OPR.
                                   104415
                                                                                                               MOV
                                                                                                                                R2, (R0)
                                   104415
013705
017704
                 Ø26564
Ø26566
    4807
                                                                                                               ROMCLK
                                                                                                                                                                     ;GET GOOD BCC
;GET ???? BCC
;ARE THEY THE SAME?
;BR IF YES
;BCC ERROR
                                                                                                                                CALBCC, R5
                                                                                                               VOM
    4809
                 026572
                                                      152570
                                                                                                                                 @DVRIC, R4
                                   020504
001401
104006
105201
     4810
                 026576
026600
                                                                                                              CMP
    4811
4812
4813
                                                                                                              BEQ
HLT
```

;UPDATE DATA CHAR ;BR IF NOT ALL DATA DONE, ;SCOPE THIS TEST

026602 026604

4816

681

INCB BNE SCOPE

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 92
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                          PAGE: 0117
  4817
4818
```

4818								F TEST 111 *********************************
4819 4820						ADECV I	TE AND DECY INTO	PRODUCE AN INTERUPT ON VECTOR "A"
4821								*********************************
4822						******		
4823					; TEST	111		
4824								
4825	026612	012737	000111	001226	TST111:	MOV	#111, TSTNO	
4826	026620	012737	026762	001216		MOV	#TST112, NEXT	
4827	026626	012737	000340	177776		MOV	#340,PS	LOCK OUT CPU INTERUPTS
4828	026634	104412				MSTCLR		ISSUE DVRESET
4829	026636	004537	031654					GO SET VECTOR "A" AND "B"
4830	026642					NO.ATRAP		; "A"
	026644					NO BTRAP		, <u>"B"</u>
	026646	340	349				340,340	PRIO, AT 7
	026650		177776				PS	ZERO CPU PRIO,
4834	026654	012777	001200	152500		MOV	#BIT9 BIT7, @DVSC	
	026662	000240				NOP		WAIST TIME
	026664		991199	152470		MOV	#BIT9 BIT6, ODVSC	
4837	026672					NOP		WAIST
	026674		152462					ZERO REG
	026700		031654			JSR		GO RESET VECTORS "A" AND "B"
	026704					28 38) "A"
4842	026706 026710	340	340					PRIO IN T
4843				152442		BIS	#BIT9 BIT7 BIT9	PRIO, AT 7
4844	026720		001300	132442		NOP		
	026722					HLT		SET BOTH INTERUPT RELATIVE BITS. SETTING OF THESE BITS FAILED TO PRODUCE AN INTERUPT
	026724		031654		181	JSR		RESET VECTORS
4847	026730		031001			NO.ATRAP		1 " X #
	026732					NO BTRAF		nBn
4849		340	340				340,340	,
	026736		152420			CLR		DSABLE DV11
4851	Ø26742					SCOPE		SCOPE THIS TEST.
4852	026744	012706	001200		28:	MOV		RESET STACK
4853	026750	005077	152406			CLR		DSABLE DV11
4854	026754	000763				BR	18	RETURN
4855	026756	104012			38:	HLT	12	VECTOR HERE WAS WRONG SIDE
	026760	000771				BR	28	
4857								
4858								* TEST 112 *****************
4859							HAT SETTING BIT1	
4860								DVFLOW PRODUCE AN INTERUPT ON VECTOR "B"
4861						;;*****	**********	*******
4862								
4863					; TEST	112		
4864 4865	026762	440737	000112	aa4 aa4	T5T1121	MAN	**** ***	
4866		012737	027132		1911121		#112, TSTNO	
4867	026776	012737	000340	177776			*TST113, NEXT	TACK AUR COU THEFTHERE
	027004		202348	1////6		MSTCLR		LOCK OUT CPU INTERUPTS
	027006	004537	031654					;issue dyreset :go set vector "a" and "b"
	027012		231034			NO ATRAP		FO SET VECTOR "A" AND "B"
4871	027014	031702				NO BTRAP		**B#
	027016	340	340					PRIO. AT 7
								,

DZDVA-B	MACVII	27(722)	10-MAR-	76 15:06	PAGE			DACE: 444.0
DZDVAB.								PAGE: 0118
DEDAMB.	F11	DAII OF	AICE DIA	GNOSTICS,	COP	KIGHT 19	75 DIGITAL EQUI	P. CORP.
							22	
4873	027020	005037	177776					; ZERO CPU PRIO,
4874	027024	012777	010000	152330		MOV	#BIT12, #DVSCR	SET AN INTERUPT RELATIVE BIT.
4875	027032	000240				NOP		; WAIST TIME
4876	027034	012777	992099	152320		MOV	#BIT10, eDVSCR	SET THE ALTERNATE RELATIVE BIT.
4877	027042	000240				NOP		WAIST
4878	027044	005077	152312			CLR		ZERO REG
4879	027050	004537	Ø31654					
			A31024					GO RESET VECTORS "A" AND "B"
4880	027054	Ø27126				3\$		7"A"
4881	027056	027114				28		; "B"
4882	027060	340	340			BYTE	340,340	;PRIO. AT 7
4883	027062	Ø52777	012000	152272			#BIT121BIT10, QDV	
4884	027070	000240				NOP		SET BOTH INTERUPT RELATIVE BITS.
4885	027072	104010						SETTING OF THESE BITS FAILED TO PRODUCE AN INTERUPT
4886	027074	004537	031654		181	JSR		
4887	027100	031676	031034					RESET VECTORS
						NO.ATRAP		
4888	027102	031702				NO BTRAP		# #B# Share Burgilla Share See See See Share Sha
4889	027104	340	340			BYTE	340,340	
4890	027106	005077	152250			CLR	#DVSCR	DSABLE DV11
4891	027112	104400				SCOPE		SCOPE THIS TEST.
4892	027114	012706	001200		28:	MOV		RESET STACK
4893	027120	005077	152236			CLR		DSABLE DV11
4894	027124	000763						
4895	027126	104011						RETURN
					381			; VECTOR HERE WAS WRONG SIDE
4896	027130	000771				BR	2\$	
4897								
4898						******	***********	a TEST 113 essessionsessessessessessesses
4899						**TEST T	HAT SETTING BIT1	51BIT9 AND BIT131BIT9
4900								STAT IE PRODUCE AN INTERUPT ON VECTOR "B"
4901							******	
4902						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		**************************************
4903								
4904					; TEST	113		
					1			
4905	027132	012737	000113	001226	TST113:	MOV	#113, TSTNO	
4906	027140	012737	027310	001216		MOV	#TST114, NEXT	
4907	027146	Ø12737	000340	177776		MOV	#340,PS	LOCK OUT CPU INTERUPTS
4908	Ø27154	104412				MSTCLR		; ISSUE DVRESET
4909	027156	004537	031654					GO SET VECTOR "A" AND "B"
4910	027162	031676				NO.ATRAP		, "A"
4911	027164	031702						
4912	027166	340	340			NO BTRAP		J "B"
4912	027170							PRIO. AT 7
		005037	177776					; ZERO CPU PRIO,
4914	027174	012777	101000	152160			#BIT15 BIT9, BDVS	
4915	027202	000240				NOP		; WAIST TIME
4916	027204	012777	021000	152150		MOV	#BIT13;BIT9, CDVS	
4917	027212	000240				NOP		WAIST
4918	027214	005077	152142					ZERO REG
4919	027220	012777	001000	152134				
4920	027226			122124				; SET SYS MAINT ENABLE
		004537	031654					GO RESET VECTORS "A" AND "B"
4921	027232	027304				38)"A"
4922	027234	027272				28		; *B*
4923	Ø27236	340	340			BYTE	340,340	PRIO, AT 7
4924	027240	Ø52777	121000	152114			#BIT15 BIT9 BIT1	
4925	027246	000240				NOP		SET BOTH INTERUPT RELATIVE BITS.
4926	027250	104010					4.0	SETTING OF THESE BITS FAILED TO PRODUCE AN INTERUPT
4927	027252		031654					
		004537	031654		18:	JSR		; RESET VECTORS
4928	027256	031676				NO.ATRAP	·	,"A"
				•			<u> </u>	

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 94
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                                                                                                                                             PAGE: 0119
                                                                                                                         NO.BTRAP
                                        031702
      4929
                 027260
                                       340

905077

104400

912796

905077

909763
                 027262
027264
                                                                                                                                                                                       ;DSABLE DV11;SCOPE THIS TEST.;RESET STACK
                                                           152072
                                                                                                                          CLR
                                                                                                                                             @DVSCR
                                                                                                                         SCOPE
                   027270
      4932
                                                                                                                                              *STACK, SP
                                                            001200
      4933 027272
                   027276
027302
027304
                                                             152060
                                                                                                                          CLR
                                                                                                                                              ODVSCR
                                                                                                                                                                                       DSABLE DV11
                                                                                                                          BR
HLT
                                                                                                                                                                                        RETURN
      4935
                                                                                                                                                                                       ; VECTOR HERE WAS WRONG SIDE
     4936
4937
                                         104011
                                                                                                                          BR
      4938
                                                                                                                         4939
      4942
     4943
4944
4945
                                                                                                     ; TEST 114
      4946
                                                           ØØØ114 ØØ1226 TST114: MOV
Ø2745Ø ØØ1216 MOV
                   027310 012737
027316 012737
027324 012737
                                                                                                                                             #114, TSTNO
#TST115, NEXT
      4949
                                                                                                                                                                                       SET CPU TO PRIO 7
      4950
                                                                                                                          MOV
                                                                                                                                              #340,PS
                                       012737
104412
005003
012700
004537
027440
027440
012777
052777
052777
     4950
4951
4952
4953
4954
4955
4956
                   027324
027332
027334
027336
027342
027346
027350
027352
                                                                                                                          MSTCLR
                                                                                                                                                                                        RESET DV11
                                                                                                                                                                                      ;RESET DV11;
;SET COUNTER TO 0
;SET TO GET 2 INTERRUPTS
;SET DV11 VECTORS
;RECEIVER INTERRUPTS TO 26
;TRANSMITTER INTERRUPTS TO 36
;SET PRIORITY TO 7 ON INTERRUPT
;SET SYSTEM MAINT
                                                                                                                          CLR
MOV
                                                                                                                                              #2,RØ
R5,SETVEC
                                                             000002
                                                             031654
                                                                                                                          JSR
                                                                                                                         38
.BYTE
MOV
                                                                                                                                            340,340 ;SET PRIVATE AND STATEM MAINT SET SYSTEM MAINT SET SYSTEM MAINT SET SYSTEM MAINT SET SYSTEM MAINT SET SET SYSTEM MAINT SET SET B INTERRUPT; A INTERRUPT CLEAR CPU STATUS 
     4958
4959
4960
                   027354
027362
027370
                                                             001000
                                                                              152000
                                                            120000
                                                                                                                          BIS
                                                                                                                          BIS
                   027376
027402
027404
027406
      4961
     4962
4963
                                        105203
001376
005700
                                                                                                                          INCB
                                                                                                                         BNE
                                                                                                                                                                                       ; DID TWO INTERRUPTS OCCUR?; BR IF YES; EITHER NOT ENOUGH(2) OR TOO MANY (72) INTERRUPTS; SCOPE TEST
      4964
                    027410
027412
027414
                                                                                                                          BEQ
                                                                                                                          HLT
SCOPE
      4967
                                         104400
     4968
4969
4970
                                                                                                                                             RØ
                    027416
027420
                                       005300
022700
                                                                                                                          DEC
                                                                                                                                                                                        RXISR
                                                                                                                                                                                        ; IF RX GOT HERE 1ST RØ=1 S/B=1
                                                                                                                                              #1,RØ
648
                                                                                                                          CMP
                                                                                                                                              BEQ
                     027424
027426
                                         001401
      4971
4971
4972
4973
4974
4975
                                         104011
                                                                                                                          HLT
BIC
                   027426
027430
027436
027440
027442
027444
027446
                                        942777
999992
995399
                                                             000300 151724
                                                                                                     6481
                                                                                                                          RTI
DEC
BEQ
                                                                                                                                                                                       ;RETURN

;TX ISR

;IF SCOND INTERRUPT RØ SHOULD NOW =Ø
                                                                                                      381
                                         991491
                                                                                                                                                                                       TX INTERRUPT OUT OF ORDER
      4976
4977
                                                                                                      48:
                                         000002
      4978
      4979
4980
4981
                                                                                                                          DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 95
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                                                                             PAGE: 0120
                                                                                                          TEST 115
      4987
                   027450 012737
027456 012737
027464 012737
                                                            000115 001226
027540 001216
                                                                                                                                             #115, TSTNO
#TST116, NEXT
                                                                                                                          MOV
                                                                                001216
                                                                                                                                                                                       LOCK OUT INTERUPTS
CLEAN DV11
PREPARE VECTORS
      4990
                                                             000340
                                                                                                                          MOV
                                                                                                                                             #340, PS
     4991
4992
4993
4994
                    027472
027474
027474
027500
                                                                                                                         MSTCLR
JSR
NO.ATRAP
NO.BTRAP
BYTE
MOV
MOV
                                                                                                                                             R5, SETVEC
                                       Ø31676
Ø31702
340
Ø12777
                                                                                                                                            P , "B"
340,340 , PRIO. AT 7
#BIT9+BIT7+BIT6,80VSCR
#340,PS ,SET CPU PRIO AND ENABLE VECT, "A"
HWAIST
BOVSCR ,DSABLE DV11
**CODE THIS TEST
                    027502
027504
027506
     4995
4996
4997
                                                             340
001300
                                       012737
000240
005077
                     027514
                                                             000340
                   027522
027524
027530
027532
                                                                                                                          NOP
                                                           151632
                                                                                                     15:
                                                                                                                          CLR
                                       104400
                                                                                                                                                                                       SCOPE THIS TEST
      5000
                                                                                                                          SCOPE
                                                                                                                          MOV
      5001
                                                             027524
                                                                                                                                             #18, (SP)
     5003
      5004
                                                                                                                         5007
      5008
     5010
                                                                                                            TEST 116
                                                                                                     TST116: MOV
                   027540 012737
027546 012737
027554 012737
                                                                                                                                             #116, TSTNO
#TST117, NEXT
#340, PS
                                                            000116 001226
027630 001216
      5013
5014
                                                                                                                         MOV
MOV
MSTCLR
                                       012737
104412
004537
031676
                                                                                                                                                                                       LOCK OUT INTERUPTS
CLEAN DV11
PREPARE VECTORS
     5015
                                                             000340
                     027564
027570
                                                             031654
                                                                                                                          JSR
                                                                                                                                             R5, SETVEC
     5017
5018
                                                                                                                         JSR F NO ATRAP NO BTRAP BYTE SMOV MOV NOP CLR
     5019
5020
5021
                    027572
027574
027576
                                       031702
                                       340
012777
012737
000240
005077
104400
                                                                                                                                             $40,340 ; PRIO, AT 7
#BIT9+BIT7+BIT6, #DVSCR
#300,PS ; SET CPU PRIO AND ENABLE VECT. "A"
                                                             340
001300 151556
000300 177776
                    027604
027612
027614
      5022
     5023
5024
                                                                                                                                                                                       ; WAIST
; DSABLE DV11
                                                                                                                                             BDVSCR
                                                             151542
                                                                                                     188
                     927620
     5025
                                                                                                                          SCOPE
                                                                                                                                                                                        SCOPE THIS TEST
                                         Ø12716
Ø00002
      5026
                                                             027614
                                                                                                     26:
                                                                                                                                             #18,(SP)
                                                                                                                                                                                       ISET FOR RETURN
     5028
     5029
5030
                                                                                                                         5031
      5032
      5033
     5035
      5036
                                                                                                          TEST 117
                                                                                                     TST117: MOV
                     027630 012737 000117 001226
027636 012737 027720 001216
027644 012737 000340 177776
```

#117.TSTNO

*TST120, NEXT *340, PS

; LOCK OUT INTERUPTS

MOV MOV

```
DZDVA-B MACY11 27(732) 18-MAR-76 15106 PAGE 96
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                CLEAN DV11
                                                                                     MSTCLR
   5041
5042
            027652 104412
027654 004537
                                                                                     JSR
NO.ATRAP
                                                                                                   R5, SETVEC
                                        Ø31654
            027660 031676
027662 031702
027664 340
                                                                                                   NO.ATRAP
NO.BTRAP
.BYTE
MOV
MOV
NOP
CLR
   5044
5045
                           340
012777
            027666
027674
027702
027704
027710
   5046
5047
5048
                                          001300
000240
                            012777
012737
000240
005077
    5049
                                          151452
                                                                       18:
   5050
5051
5052
                                                                                     SCOPE
MOV
RTI
                            104400
012716
                                          927794
                                                                       281
             027716
                           000002
  5053
5053
5054
5055
5056
5057
5058
                                                                                     5059
   5060
5061
                                                                           TEST 120
   5062
                                                                       TST120: MOV
             027720
027726
027734
027742
                                                                                                   #120, TSTNO
#TST121, NEXT
#340, PS
   5063
                          012737
                                          000120 001226
                           012737
012737
012737
104412
004537
030004
031702
                                          030012
000340
                                                                                     MOV
MOV
                                                                                                                                ; LOCK OUT INTERUPTS ; CLEAN DV11
   5066
5067
5068
5069
                                                                                     MSTCLR
             027742
027744
027750
027752
027754
027756
027764
027772
027774
027774
                                                                                                                                ;PREPARE VECTORS
                                          031654
                                                                                     JSR
28
NO.BTRAP
                                                                                                   R5, SETVEC
                                                                                                10
340,340 ;PRIO. AT 7
8BIT9+BIT7+BIT6,@DVSCR
#200,PS ;SET CPU PRIO AND ENABLE VECT. "A"
jWAIST
7 ;DV FAILED TO INTERUPT
9DVSCR ;DSABLE DV11
;SCOPE THIS TEST
*18,(SP) ;SET FOR RETURN
                           340
012777
012737
                                          340
901300
900200
                                                                                     BYTE
MOV
MOV
   5070
   5071
5072
   5073
                            000240
                                                                                     NOP
                                                                                     HLT
CLR
SCOPE
MOV
RTI
   5074
5075
5076
                            104007
                           005077
104400
012716
                                          151360
             030002
   5077
             030004
                                          027776
                                                                       28:
   5078
5079
5080
              030010
                                                                                     5081
   5082
5083
   5084
   5085
5086
5087
                                                                                      ; = ALSO VERIFY THAT READING THE DVNSR CLEARS DVSCR BIT15,
   5088
                                                                          TEST 121
   5089
5090
                                                                       TST121: MOV
                           Ø12737
Ø12737
                                                                                                    #121, TSTNO
                                          030114 001216
   5091
             030020
                                                                                      MÓV
                                                                                                    #T8T122, NEXT
                                                                                                                                ;RESET DV11
;MAKE SURE 15 #0
;BR IF OK
;15 S/B#0
;SET SOURCE SEC
   5092
5093
             030026
030030
                                                                                     MSTCLR
                                                                                                    BDVSCR
                                          151326
                                                                                     TST
   5094
             030034
                            100001
                                                                                     BPL
                                                                                                    648
   5095
5096
             030036
030040
                           104000
012777
                                                                                                    #BIT3, ODVSCR
                                          000010 151314 648:
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 97
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                    PAGE: 0122
            030046
030054
030056
030060
                           012777
005000
104415
005777
   5097
                                                                                     MOV
                                          030367 151324
                                                                                                    #XFR+BIT7+BIT6+BIT5+BIT4+BIT2+BIT1+BIT0, @DVSFR
                                                                                                                                JYFR ALU RESULT TO DVNSR

JEXECUTE

JIS=17

JER IF YES

JWASTE TIME
                                                                                                   RØ
   5099
                                                                                     ROMCLK
   5100
                                          151276
                                                                       181
                                                                                                    eDVSCR
   5101
5102
5103
            030064
030066
030070
                            100404
104414
005200
                                                                                                    28
                                                                                     DELAY
                                                                                                    PA
                                                                                                                                 DO DELAY AND WAIT
            030070
030072
030074
030076
   5104
                            001372
                                                                                                    18
                           104000
005777
005777
100001
104000
   5105
5106
                                                                                                                                 115 NEVER SET
                                                                                     HLT
                                                                                                                                ;15 NEVER SET
;READ NSR
;DID 15 CLEAR IN SCR?
;BR IF YES
;DVSCR IS NOT CLEARED BY READING NSR
;SCOPE TEST
                                                                                                   edvnsr
edvscr
3$
                                          151300
                                                                       28:
            030102
030106
030110
    5107
                                          151254
    5108
                                                                                     BPL
   5109
5110
                                                                                     HLT
             030112 104400
                                                                       381
                                                                                      SCOPE
   5112
5113
                                                                                     5114
5115
   5118
5119
5120
                                                                           TEST 122
                                                                       TST122: MOV
  5122
5123
5124
             030114 012737
030122 012737
030130 012737
                                                                                                   #122, TSTNO
#TST123, NEXT
#15, LOCK
                                          000122
030314
                                                                                     WO V
                                          030172
                                                         001220
                                                                                                                                ;RESET DV11

;SET SOURCE SEL

;ZERO LINE NUMBER POINTER

;ZERO DATA

;SET POINTER
             030136 104412
030140 012777
030146 005000
030150 005037
                                                                                      MSTCLR
                                          000010
                                                                                                   *BIT3, ODVSCR
                                                      151214
                                                                                     MOV
CLR
CLR
MOV
MOV
                                                                                                  RØ ; ZERO DATA
DVNSR,R3 ;SET POINTER
DVSFR,R2 ;
SBIT15,TEMP1 ;SET CORRESPONDING BIT TO BE FOUND IN NSR,
#XFR**BIT7**BIT5**BIT4**BIT2**BIT9*,CR2)
;XFR RAM OUTPUT TO NSR

#OVSCR ;WAIT FOR
   5127
5128
                                          001250
   5129
5130
5131
             030154 013703
030160 013702
030164 012737
                                          001402
001400
100000
                                                                                     MOV
                                                         001246
   5132
5133
5134
5135
             030172
030176
030200
                           012712
104415
005777
                                          030267
                                                                                     ROMCLK
                                          151156
                                                                                     TST
             030204
030206
030212
030214
                                                                                     BPL
MOV
                            100375
   5136
5137
                           013705
013705
011304
020504
                                          001246
                                                                                                                                JEER GOOD 15%1 DATA
JOK?
JOK?
JER IF GOOD
JOYNSR HAS WRONG DATA
JLOCK ON DATA?
JUPDATE MSCANNER
                                                                                                   (R3),R4
R5,R4
26
13
                                                                                     MOV
                                                                                     CMP
BEQ
HLT
   5138
             030216
030220
                           001401
104013
104401
004537
   5139
   5141
5142
             030222
030224
                                                                                     SCOP1
PERFORM , SETSCAN
                                                                       281
                                          031342
   5143
5144
5145
5146
             030230
030232
030236
                           000001
005237
032700
                                                                                                                                 BY ONE UPDATE DATA
                                                                                     1
INC
                                          001246
                                                                                                    TEMP
                                                                                                   TEMP1 ; UPDATE DATA ; BBIT4,R0 ; ALL DONE?

1$ "C&BIT15>,TEMP1 ; CLEAR ALL BUT ENTRY PRESENT R0 ; ZERO LINE POINTER ; ZERO MSCANNER, POINTER ; UPDATE HIGH BYTE DATA ; PLACE IN GOOD LOCATION ; RAM ADDRESS
                                          000020
             030242
                            001753
                                                                                     BEQ
BIC
             030244
030252
                           042737
005000
                                          077777 001246
                                                                                     CLR
CLR
INC
   5149
```

5150

5151 5152

030256 030262 030270

005001

ØØ5237 153737 Ø13712

001250 001250

001250

991247

BISB

MOV

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 98
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                 PAGE: 0123
                                                                       BIS
                                                                                  *RAM. (R2)
                                                                                                           RAM READ
            030274 052712 020000
                      104415
032737
001730
           030300
                                                                       ROMCIA
                                                                                                           ; ALL DONE?
; BR IF NO
                                                                       BIT
                                    000020
                                                                                   #BIT4, TEMP2
   5156
5157
            030310
                                                                       SCOPE
                                                                                                           SCOPE TEST.
   5158
5159
                                                                       5160
                                                                       ; ****** TO EXECUTE NPR. *******
   5161
5162
                                                                       5163
   5164
5165
   5166
   5168
   5169
   5170
5171
5172
                                                               TEST 123
  5174
5175
5176
                                                           TST123: MOV
                                                                                   #123, TSTNO
#TST124, NEXT
            030322
                       012737
                                   030454
                                              001216
                                                                       VOM
            030330
030336
030340
                       012737
104412
012777
013703
   5177
5178
                                                                       MOV
MSTCLR
                                   030412 001220
                                                                                   #18,LOCK
                                                                                                           ;RESET DV11;SET SOURCE SEL.;SET POINTERS
                                   000010
                                              151014
                                                                                   #BIT3, @DVSCR
   5179
                                                                       VOM
                                                                                   DVRIC,R3
DVSFR,R2
#NPRLOC,@DVSRA
#RAM,(R2)
           030346
030352
030356
                                   001366
001400
032756
   5184
                                                                       MOV
  5181
5182
5183
                       013702
013702
012777
012712
                                                                       MOV
            030364
                                                                                                           IRAM READ
                                   020000
                                                                       MOV
                                                                                   #MAM,(RZ) | FRAM READ

#EXECUTE

#XFR+BIT7+BIT5+BIT4+BIT4+BIT6,(R2)

| DO XFR TO NPR ADD,

| CLEAR NPR LOCATION

| CLEAR NPR LOCATION

| CLEAR GOOD

| CLEAR GOOD

| CLEAR DATA PORT

| NPR,(R2) | DO THE NPR
           030370
030372
030376
                       104415
012712
104415
                                                                       ROMCLK
                                                                       MOV
ROMCLK
                                   030263
   5186
           030400
030404
030406
030412
                                                                       CLR
CLR
CLR
MOV
   5187
                       005037
                                   Ø32756
                       005037
005005
005077
012712
104415
012712
   5188
   5189
5190
                                   949999
                                                           18:
                                                                                  030412
030416
030420
030424
030430
030430
030434
   5191
5192
5193
                                                                       ROMCLK
MOV
ROMCLK
                                   030226
   5194
                       011304
                                                                       MOV
  5195
5196
5197
                       013705
020504
                                   Ø32756
                                                                       MOV
CMP
BEQ
                       991491
           030440
030442
030444
030450
                       104013
104401
105237
001360
                                                                       HLT
SCOP1
INCB
   5198
5199
                                                                                                           ,NPR F
                                                           28:
                                                                                   032756
   5200
   5201
   5202
           030452
                                                                       SCOPE
   5203
   5204
   5205
                                                                       5206
5207
DZDVA-8 MACY11 27(732) 18-MAR-76 15186 PAGE 99
DZDVAB_P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP. CORP.
                                                                                                                                                                                PAGE: 0124
                                                                       ; *VIA THE NPR LOGIC.
; *LOACATION "NPRLOC" WILL HAVE A BINARY COUNT PATTERN
; *PLACED INTO IT AND READ INTO THE DV:1 AND XFERED
; *NTO THE DVRIC REGISTER.
; *NOTE: THIS TEST USES AN ODD ADDRESS FOR THE NPR OPERATION.
   5213
   5215
   5216
                                                           : TEST 124
  5217
5218
5219
           030454 012737
030462 012737
030470 012737
030476 104412
030500 012777
                                                                                   *124, TSTNO
*TST125, NEXT
*1*, LOCK
                                                           TST124: MOV
                                   030616
                                               001216
                                                                       MOV
                                                                       MOV
MSTCLR
MOV
   5220
                                   030552
                                              001220
                                                                                                           RESET DV11; SET SOURCE SEL.
                                                                                   #BIT3, @DVSCR
                                                                                   DVRIC,R3
DVSFR,R2
#NPRLOC+1,#DVSRA
#RAM,(R2)
   5223
           030506
                       013703
                                   001366
                                                                       MOV
  5224
5225
5226
           Ø3Ø512
Ø3Ø516
Ø3Ø524
                       013702
013702
012777
012712
                                               150652
                                                                                                          RAM READ
                                   020000
                                                                       MOV
                                                                                  ROMCLK
ROMCLK
   5227
5228
           Ø3Ø53Ø
Ø3Ø532
   5229
           030536
                       104415
  5230
5231
5232
5233
           030540
030544
030546
030552
                       005037
                                   032756
                                                                       CLR
                       005005
005077
                                                                       CLR
CLR
                       012712
                                   040000
                                                           18:
                                                                       MOV
           030556
030566
030564
030566
030570
030574
030576
   5234
5235
5236
5237
                       104415
012712
104415
011304
                                                                       ROMCLK
                                                                       MOV
ROMCLK
                                   030226
                                                                       MOV
                                                                       MOV
SWAB
CMP
   5238
5239
                       013705
000305
                                   032756
                                                                                                           GET GOOD DATA
                                                                                   R5
R5,R4
                                                                                                           OKT
   5240
                       929594
                                                                                                           BR IF YES
INPR FUNCTION FAILED
LOOP?
   5241
           030600
030602
                       001401
                                                                       BEQ
HLT
   5242
   5243
5244
                                                           28:
                                                                       SCOP1
           Ø3Ø6Ø4
Ø3Ø6Ø6
                       104401
                                                                                   NPRLOC+1 ;UPDATE DATA
18 ;BR IF MORE
;SCOPE TEST
                                   032757
                                                                       INCB
   5245
           030612
030614
                       001357
104400
                                                                       BNE
SCOPE
   5247
5248
5249
5250
5251
                                                                       5252
   5253
5254
   5255
5256
                                                                        5257
5258
   5259
                                                               TEST 125
   526Ø
5261
                                                           TST125: MOV
            030616 012737 000125 001226
                                                                               #125, TSTNO
```

MOV MOV MSTCLR

*TST126,NEXT *1*,LOCK

RESET DV11

030624 012737 030632 012737

104412

030640

931999

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 100
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                ; SET SOURCE SEL.
; SET POINTERS
                                      012777
013703
                                                         000010
001366
                                                                                                                                         #BIT3, @DVSCR
     5265
                  030642
030650
                                                                                                                                        DVR1C,R3
DVSFR,R2
#NPRLOC,@DVSRA
#RAM,(R2)
     5266
                                                                                                                     MOV
                                      013702
012777
                                                          001400
032756
                                                                                                                     MOV
MOV
                 Ø3Ø654
Ø3Ø66Ø
     5268
                  030666
                                                                                                                                                                               RAM READ
                                       Ø12712
                                                          020000
                                                                                                                     MOV
                                                                                                                                        SXFR+BIT9+BIT8+BIT7+BIT5+BIT4+BIT1+BIT9,(R2)

NPRLOC ,CLEAR NPR LOCATION

R5 ,CLEAR GOOD

PDVSRA ,CLEAR ORT

NPRLOC ,CLEAR NPR LOC

CLEAR NPR LOC

CLEAR NPR LOC
                 030672
030674
030700
                                      194415
912712
194415
                                                                                                                     ROMCLK
                                                                                                                    MOV
ROMCLK
                                                          031663
     5271
5272
    5273
5274
5275
                 030702
030706
030710
                                                                                                                    CLR
CLR
CLR
                                       005037
                                                          Ø32756
                                      005005
005077
                                                          150462
                 030714
030720
                                       005037
                                                          032756
                                                                                                181
                                                                                                                     CLR
                                       Ø12712
                                                          020000
                                                                                                                     MOV
                                                                                                                                         #RAM, (R2)
                                                                                                                                                                                DO RAM READ
                                                                                                                                       ROMCLK
     5278
5279
                  030724
                                       104415
                                                          030265
                  939726
                                       012712
                                                                                                                     MOV
                  030732
030734
030740
                                      104415
012712
104415
                                                                                                                     ROMCLK
                                                          040000
                                                                                                                     MOV
ROMCLK
     5281
     5282
     5283
5284
                  030742
030746
                                       017705
                                                                                                                     MOV
                                       013704
                                                                                                                     MOV
     5285
                  030752
                                       020504
     5286
                   030754
                                       001401
                                                                                                                     BEQ
                 030754
030756
030760
030762
030766
030774
                                      104013
104401
005277
     5287
5288
                                                                                                                     HLT
                                                                                                 281
                                                                                                                     SCOP1
                                                                                                                                                                                LOOP?
UPDATE DATA
                                                                                                                                         PDVSRA
     5289
                                                          150410
000400 150402
                                                                                                                     INC
                                      032777
001747
104400
                                                                                                                                         #BITE, ODVSRA
     5290
5291
                                                                                                                     BIT
                                                                                                                                                                                :ALL DONE?
     5292
                   030776
     5293
5294
5295
                                                                                                                    5296
     5297
5298
5299
     5300
     5301
5302
                                                                                                                     5303
     5304
     5305
                                                                                                      TEST 126
     5306
                                                                                                 TST126: MOV
                                                          000126
031164
031076
                                                                                                                                        #126, TSTNO
#TST127, NEXT
#18, LOCK
                                                                              001226
     5307
                   031000
                                       012737
                  031006
031014
031022
031024
                                      012737
012737
012737
104412
012777
     5308
                                                                                                                     MOV
      5309
                                                                              001220
                                                                                                                                                                                ;RESET DV11
;SET SOURCE SEL.
;SET POINTERS
                                                                                                                    MSTCLR
MOV
     5310
                                                                                                                                         #BIT3, @DVSCR
                                                          000010
                                                                              150330
     5312
5313
5314
                  031032
031036
031042
                                       013703
013702
012777
                                                          001366
001400
032757
                                                                                                                                        DVRIC,R3
DVSFR,R2
#NPRLOC+1,@DVSRA
                                                                                                                     MOV
                                                                                                                     MOV
MOV
                                                                              150326
                                      012712
104415
012712
     5315
                   031050
                                                          020000
                                                                                                                     MOV
                                                                                                                                         #RAM, (R2)
                                                                                                                                                                                RAM READ
                  031054
031056
                                                                                                                     ROMCLK
                                                                                                                                        ;EXECUTE
#XFR+BIT9+BIT8+BIT7+BIT5+BIT4+BIT1+BIT0,(R2)
                                                          Ø31663
     5317
                                                                                                                     MOV
                  031062
031064
031070
                                                                                                                     ROMCLK
                                                                                                                                                                               ;DO XFR TO NPR ADD,
;CLEAR NPR LOCATION
;CLEAR GOOD
                                                          032756
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 101
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
                                                                                                                                                                                                                                                                                                  PAGE: Ø126
                                                                                                                                                                                CLEAR DATA PORT
CLEAR NPR LOC
DO RAM READ
                031072
031076
031102
031106
                                      005077
005037
012712
                                                         150300
032756
020000
                                                                                                                    CLR
CLR
     5321
                                                                                                                                         SDVSRA
     5322
5323
                                                                                                                                        NPRLOC
#RAM, (R2)
                                                                                                                     MOV
                                      104415
     5324
                                                                                                                     ROMCLK
                                                                                                                                        031110
031114
031116
                                      012712
104415
012712
     5325
                                                          030265
                                                                                                                     MOV
ROMCLK
    5326
5327
                                                          040000
                                                                                                                     MOV
                 031122
031124
031130
                                                                                                                     ROMCLK
MOV
MOV
     5328
5329
                                       104415
017705
                                       013704
     5330
                                                         032756
     5331
5332
5333
                  Ø31134
Ø31136
Ø3114Ø
                                      00304
020504
001401
104013
                                                                                                                     SWAB
CMP
                                                                                                                                        R4
R5,R4
                                                                                                                                                                                OKT
                                                                                                                                                                               ;BR IF YES
;NPR FUNCTION FAILED
;LOOP?
                                                                                                                                        26
13
                                                                                                                     BEQ
     5334
                  031142
                                                                                                                     HLT
                 031144
031146
031152
                                                                                                                     SCOP1
INC
BIT
                                       104401
                                                                                                28:
                                                                                                                                                                               ;LOOP?
;UPDATE DATA
;ALL DONE?
;BR IF NO
;SCOPE TEST
                                                          150224
                                                                                                                                         BDVSRA
     5336
5337
                                      005277
032777
                                                          000400 150216
                                                                                                                                         #BITE, eDVSRA
                  Ø31160
Ø31162
                                      001746
104400
                                                                                                                     SCOPE
     5340
     5341
5342
5343
5344
                                                                                                                    5345
     5348
     5351
     5352
                                                                                                      TEST 127
                 031164 012737
031172 012737
031200 104412
031202 012777
031210 013703
                                                                                                  TST127: MOV
                                                          000127
                                                                              001226
                                                                                                                                         #127. TSTNO
     5355
                                                          002436
                                                                              001216
                                                                                                                                         # . EOP , NEXT
                                                                                                                                                                               RESET DV11
SET SOURCE SEL.
SET POINTERS
     5356
                                                                                                                     MSTCLR
                                                          000010
001366
001400
000060
177320
                                                                                                                                   #BIT3, #DVSCR | SEL DOINTERS
DVSFR,R2 | SET POINTERS
DVSFR,R2 | SET EA BITS,
#177320, #DVSRA | LOAD "NXH",
#RAM, (R2) | RAM READ | EXECUTE
#XFR+BIT9+BIT9+BIT9+BIT5+BIT4+BIT1+BIT0, (R2)
#EXECUTE
#NPR, (R2) | JOUTHE NPP |
#BIT10+BIT9, (R2) | JANACH "A" NXH
#BIT10
                                                                              150152
                                                                                                                                         #BIT3, PDVSCR
                                                                                                                     MOV
     5358
                                                                                                                     MOV
                                      013702
052777
012777
     5359
                  031214
                  031220
031226
031234
                                                                              150134
150142
                                                                                                                     MOV
     5362
                                       Ø12712
                                                           020000
                                                                                                                     MOV
                 031240
031242
031246
031250
                                      104415
012712
104415
012712
                                                                                                                     ROMCLK
MOV
ROMCLK
     5363
     5364
5365
                                                          Ø31663
     5366
                                                          040000
     5367
                  031254
     5368
5369
                   Ø31256
Ø31262
                                       012712
017704
                                                          003000
                                                                                                                     MOV
                                                                                                                     MOV
                  Ø31266
Ø31270
Ø31274
                                      010405
042705
052705
     5370
     5371
5372
                                                                                                                     BIC
                                                                                                                                                                                ;BR B FALSE
;NXM TRUE?
;BR IF YES
;BR "A" OF NXM FAILED!
                                                          000002
                                                                                                                     BIS
                  031300
031302
031304
                                      020504
001401
104006
012712
     5373
```

6+4

#S.C+BIT3+BIT2+BIT1+BIT0,(R2)

HLT

```
; SET/CLEAR CLEAR NXM.
                                                                                                   ;EXECUTE.

#BIT10+BIT9,(R2) ;BRANCH "A" NXM

#BUVLCR,R4 ;READ BRANCH TEST POINTS.
5378 Ø31312 104415
5379 Ø31314 Ø12712
538Ø Ø31320 Ø17704
5381 Ø31324 Ø104Ø5
                                        003000
                                                                                    MOV
MOV
                                                                                                   aDVLCR, R4
                                        150044
                                                                                                                                GET IMAGE
BR A FALSE BR B FALSE
NXM TRUE?
                                                                                                   R4,R5
*BIT1+BITØ,R5
                                                                                    MOV
5382 031326 052705
5383 031332 020504
5384 031334 001401
                                                                                    BIS
                                        000003
                                                                                    CMP
                                                                                                   R5 . R4
                                                                                    BEQ
HLT
SCOPE
                                                                                                                                 ;BR IF NO
;BR "A" OF NXM FAILED TO CLEAR!
;SCOPE TEST
                         104006
5386
5387
```

```
DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 103
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                                                PAGE: 0128
    5388
5389
    5389 031342 5390 031342 55390 031344 052777 5392 031352 012503 5393 031354 012777 5395 031364 104415 5396 031366 005201 5397 031366 005201 5397 031367 012777
                                                                                                             MOV
                                                                                                                               R3,-(SP)
#BIT3, @DVSCR
(R5)+,R3
                                                                                                             BIS
                                                      000010 150010
                                                                                                             BEG
                                                                                                                                #BIT14+BIT12+BIT6+BIT1, @DVSFR
                                                      050102 150014 18:
                                                                                                             MOV
                                                                                                              ROMCLK
                                                                                                             INC
                                                                                                                                #BIT14+BIT12+BIT6+BIT1. @DVSFR
                                                      050102 150002
                                                                                                             ROMCLK
INC
DEC
BNE
    5398
5399
                 031376
031400
                                    104415
                                                                                                                              R1
R3
1$
    5400
5401
5402
5403
                 031402
031404
031406
                                    005303
                                    001364
012603
010100
                                                                                                                               (SP)+,R3
R1,R0
                                                                                           281
                                                                                                             MOV
                  031410
                                                                                                             MOV
     5404
5405
5406
                 Ø31412
Ø31414
Ø31416
                                                                                                             CLC
ROR
EXIT
                                                                                                                               RØ
                                    000205
     5407
    5408
5409
5410
                                                                                                             ; SUBROUTINE TO LOAD DATA INTO "A" AND "B" REG.
; THE FIRST ARGUMENT WILL LOAD THE "A" REGISTER;
; THE SECOND ARGUMENT WILL LOAD THE "B" REGISTER;
; AND THE THIRD ARGUMENT WILL SPECIFY THE POLYNOMIAL USED.
    5411
5412
5413
5414
5415
5416
5417
                 031420 012377
031424 012710
031430 104415
031432 012710
031440 012377
031440 012377
031444 012710
031450 104415
                                                                                          L.DATA: MOV
                                                                                                                               (R3)+, @DVSRA
                                                                                                                                                                    ;LOAD DATA TO BE PLACED INTO THE "A" REG
                                                     147752
                                                                                                                              #RAM, (RØ) ;DO A ROM READ INSTR.
;EXECUTE

#XFR+BIT7+BIT5+BIT5+BIT6+BIT0, (RØ)

JDATAXFR FROM RAM OUTPUT TO "A" REGISTER
(R3)+,#DVSRA
;LOAD DATA TO BE PLACED INTO THE "B" REG.

#RAM, (RØ) ;DO A ROM READ
                                                                                                             MOV
ROMCLK
MOV
                                                     020000
                                                                                                             ROMCLK
MOV
     5418
5419
5420
                                                      147732
020000
                                                                                                              VOM
                                                                                                             ROMCLK
MOV
                                                                                                                              $XFR+BIT7+BIT5+BIT4+BIT1,(RØ)

;DO A DATA XFER FROM RAM OUTPUT TO THE "B" REG,

(R3)+, @DVSRA
;PLACE DATA TO REMAIN IN THE RAMOUTPUT REG
;DO A RAM READ TO SPECIFY POLYN,
;READ
;PREAD
                 031450 104415
031452 012710
031456 104415
031460 012377
031464 012710
031470 104415
    5421
5422
5423
                                                      030262
                                                                                                             ROMCLK
MOV
MOV
     5424
5425
                                                      020000
                                                                                                             ROMCLK
RTS
    5426
5427
                  031472 000203
                                                                                                                               R3
                                                                                                                                                                     LEAVE HERE
    5428
5429
5430
5431
                                                                                                                               R0,-(SP)
R1,-(SP)
R2,-(SP)
(R5)+,TEMP1
(R5)+,TEMP2
(R5)+,TEMP3
BCCFBK
TEMP3,R0
TEMP2
                  031474 010046
031476 010146
031500 010246
                                                                                           SIMBCC:
                                                                                                            MOV
                                                                                                              MOV
    5432
5433
5434
5435
                  031502
031506
031512
                                 012537
012537
012537
                                                      001246
001250
001252
                                                                                                             MOV
                                                                                                             MOV
                 031516
031522
031526
031532
031534
031540
                                                                                                             CLR
MOV
ROR
ADC
                                    005037
                                                      031650
                                                                                           181
    5436
5437
5438
5439
                                    Ø13700
Ø06037
                                                       001250
                                    005500
032700
001402
005137
                                                       000001
                                                                                                             BIT
                                                                                                                                 #BITØ,RØ
    5440
5441
5442
                                                                                                                               28
BCCFBK
                                                      031650
                                                                                                             COM
                 Ø31546
Ø31552
                                    013700
005100
                                                      031646
                                                                                           281
                                                                                                             MOV
```

```
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DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
DZDVA-B MACY11 27(732)
DZDVAB . P11
                                                                                         BIC
                                                                                                        RØ, BCCFBK
              031554 040037
   5444 031554
5446 031560
5446 031565
5447 031566
5448 031572
5449 031576
5450 031600
5451 031602
                             000241
                             006037
013700
013701
                                                                                         ROR
MOV
MOV
                                            001252
                                                                                                        TEMPS
                                                                                                        BCCFBK, RØ
TEMP3, R1
                                            001252
                             010102
040100
043702
                                                                                         MOV
                                                                                                        R1, R2
                                                                                                        R1,RØ
BCCFBK,R2
                                            031650
             031606
031610
031616
031622
031626
031630
   5452
5453
5454
                             050200
043737
050037
005337
                                                                                                        R2,RØ
XPOLY,TEMP3
RØ,TEMP3
TEMP1
                                            031646
001252
                                                            001252
   5455
5456
5457
                                            001246
                                                                                         DEC
                             001333
013737
012602
                                                                                         MOV
MOV
MOV
                                                                                                         TEMP3, CALBCC
                                            001252 031652
             031636
031640
031642
931644
031646
031650
   5458
5459
5460
                                                                                                         (SP)+,R2
(SP)+,R1
                                                                                         MOV
RTS
    5461
                              000205
   5462
5463
                                                                          XPOLY:
                              000000
                                                                          BCCFBK: 0
CALBCC: 0
LRC8=200
                             000000
    5464
              031652
    5465
                              000200
   5466
5467
5468
                                                                           CRC16=120001
                                                                           CRC.CCITT=102010
   5469
5470
5471
5472
             SETVEC:
                                          147472
147472
147464
147464
                                                                                                        (R5)+,@DVRVEC
(R5)+,@DVTVEC
(R5)+,@DVRLVL
(R5)+,@DVTLVL
                                                                                         MOV
                                                                                         MOVB
MOVB
    5473
    5474
5475
                                                                                          RTS
                                                                           NO, ATRAP:
                                                                                                         11
    5478
5479
              031676 104011
031700 000002
                                                                                         RTI
   5480
5481
5482
5483
                                                                           NO.BTRAP:
             031702 104012
031704 000002
                                                                                                         12
                                                                                         RTI
```

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DZDVA-B MACY11 27(732)
                                                  27(732) 18-MAR-76 15:06 PAGE 105
DV11 DEVICE DIAGNOSTICS, COPYRIGHT 1975 DIGITAL EQUIP, CORP,
DZDVAB, P11
                                                                            ,NLIST
044522 040515 EM1:
041505 047117 EM2:
044522 040515 EM3:
046505 051117 EM4:
042520 044503 EM5:
041505 047524 EM7:
041505 047524 EM7:
                                                                                                                                                             BEX

ASCIZ <377>/PRIMARY REGISTER ADDRESSING TIME-OUT/
ASCIZ <377>*BECONDARY REGISTER READ/WRITE TEST*
ASCIZ <377>*PRIMARY REGISTER READ/WRITE TEST*
ASCIZ <377>*PREMORY EXTENSION READ/WRITE TEST*
ASCIZ <3777>/PSECIAL FUNCTION REG TEST/
ASCIZ <3777>/VECTOR "A" FAILED TO INTERUPT/
ASCIZ <3777>/VECTOR "B" FAILED TO INTERUPT/
ASCIZ <3777>/UNEXPECTED INTERUPT ON VECTOR "A"/
ASCIZ <3777>/UNEXPECTED INTERUPT ON VECTOR "B"/
ASCIZ <3777>/RIMARY REGISTER ERROR/
ASCIZ <3777>/RIMARY REGISTER ERROR/
ASCIZ <3777>/REGISTER REFERENCED TRAPPED FROM/
ASCIZ <3777>/REGISTER REFERENCED TRAPPED FROM/
ASCIZ <3777>/RSYPECTED FOUND LINE SEC REG PRI REG/
ASCIZ <3777>/RSYPECTED FOUND PRI REC/
ASCIZ <3777>/RSPECTED FOUND PRI REC/
ASCIZ <3777>/SYPECTED FOUND FOUND/
ASCIZ <3777>/DVSFR EXPECTED FOUND/
ASCIZ <3777>/DVSFR EXPECTED FOUND/
ASCIZ <3777>/NSTSCAN DVSFR EXPECTED FOUND/
ASCIZ <3777>/NSTSCAN DVSFR EXPECTED FOUND/
                         031706 050377
                                                051777
050377
046777
                          032020
032062
                                                                              046505
042520
042526
041505
047125
042516
0551120
044514
043505
054105
054105
0551123
053104
0552123
                                                 051777
377
053377
                          Ø32124
Ø32157
                          032216
                                                                                                                                   EM9:
EM9:
EM10:
EM11:
DH1:
DH2:
                                                                                                         054105
050130
046511
                          032255
                                                              377
                                                 952777
377
377
                          032320
032363
                          032413
032442
032505
032557
                                                                                                          042516
                          032413 3/7
032442 051377
032505 377
032557 377
032612 045377
032653 377
032704 046777
                                                                                                         951511
942520
942520
                                                                                                                                   DH3:
DH4:
DH5:
                                                                                                         050040
043123
041523
                                                                                                                                   DH6:
                                                                                                                                     EVEN
SKIP=000000
                                                     032754
                                                    000000
     5487
5488
                        Ø32754
Ø32756
                                                                                                                                    DATA:
                                                     000000
                                                                                                                                    NPRLOC:
      5489
5490
5491
5492
                         032760
                                                     000002
                        032762
032764
032766
                                                    006
001262
                                                                                         017
                                                                                                                                                              BYTE
SAVR1
                                                                                                                                                                                        6,15,
                                                                                         002
                                                                                                                                                               .BYTE
SAVR2
                       932776 006

932770 001264

932772 000005

932776 001270

933000 006

933000 001266

933006 001266

933012 00262

933012 00262

933012 00262
                                                              006
                                                                                                                                                                                         6.2
      5493
5494
5495
5496
                                                                                                                                    DT2:
                                                                                                                                                                .BYTE
                                                                                         994
                                                                                                                                                                                        6,4
                                                                                                                                                              SAVR4
BYTE
SAVR3
      5497
5498
5499
                                                                                         002
                                                                                                                                                                                         6,2
                                                                                                                                                              BYTE
SAVRO
BYTE
SAVRI
                                                                                         aaa
                                                                                                                                                                                         2.4
      5500
                                                                                                                                                                                         2.7
      5502
                        033014
033016
033020
033022
      5503
                                                                                         002
                                                                                                                                                               BYTE
SAVR2
      5504
5505
                                                    001264
                                                                                                                                   DT3:
                                                    000003
                                                                                                                                                              BYTE
SAVRS
BYTE
SAVR4
      5506
                                                                                         004
                                                                                                                                                                                          6,4
                        033024
033026
033030
033032
      5507
                                                    001272
                                                                                         002
                                                    006
001270
                                                                                                                                                                                         6.2
      5509
5510
                                                                                         002
                                                                                                                                                               BYTE
SAVR3
                                                              996
                                                                                                                                                                                          6,2
      5511
5512
5513
                        033034
033036
033040
                                                    000004
                                                                                                                                   DT4:
                                                                                                                                                                 BYTE
                                                              006
                                                                                         002
                                                                                                                                                                                         6,2
      5514
5515
5516
                        033042
033044
033046
                                                                                                                                                               SAVR1
BYTE
                                                                                         002
                                                                                                                                                                                         6,2
                                                    001266
                                                                                                                                                               SAVRS
                                                    006
001272
                                                                                                                                                              .BYTE
SAVR5
      5517
                        033050
                                                                                         004
                                                                                                                                                                                          6,4
                        033050
033052
033054
033056
      5518
5519
                                                                                         ØØ1
                                                              006
                                                                                                                                                                 BYTE
                                                                                                                                                                                         6.1
                                                    001270
                         033060
033060
                                                                                                                                    DT5:
                                                    000003
                                                                                                                                                               3
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PAGE: 0130

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DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 106
DZDVAB.P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                            PAGE: 0131
      5523 Ø33062
5524 Ø33064
5525 Ø33066
5526 Ø33070
5527 Ø33072
                                                                                                                                                                            .BYTE
SAVR2
                                                      001264
                                                       006
001272
                                                                                                                                                                            BYTE
SAVR5
BYTE
SAVR4
                                                                                                004
                                                                                                                                                                                                         6,4
                                                                                                001
                                                                                                                                                                                                        6.1
                                                                   006
                                                         991279
999995
996
     5528 033074
5529 033076
5530 033100
5531 033102
5532 033104
5533 033102
5535 033112
5536 033112
5537 033122
5540 033124
5544 033124
5545 033124
5546 033130
5547 033124
5547 033130
5548 033134
5559 033152
5550 033153
5547 033156
5557 033166
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5561 033172
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5557 033166
5557 033166
5557 033166
5557 033177
5561 033202
5566 033204
5577 033204
5577 033204
5577 033204
5577 033216
                                                                                                                                                                            5
.BYTE
SAVRO
                                                                                                003
                                                                                                                                                                                                        6,3
                                                       001269
006
001264
006
001272
                                                                                                                                                                            .BYTE
SAVR2
                                                                                                001
                                                                                                                                                                                                         6,1
                                                                                                004
                                                                                                                                                                           BYTE
SAVR5
BYTE
SAVR4
                                                                                                                                                                                                        6,4
                                                       006
001270
                                                                                                001
                                                                                                                                                                                                        6,1
                                                                                                001
                                                                                                                                                                                                        2,1
                                                                                                                                                .ERRTAB:
                                                       909999
909999
                                                         031706
                                                                                                                                                                           EM11122
DH122
DH122
DH33
DH34
DH15
DH45
DH55
DH56
DH56
DH56
DH56
                                                       031706
032442
032760
031754
032505
032772
032020
032557
                                                                                                                                                                                                         HALT 1
                                                                                                                                                                                                         HALT 2
                                                                                                                                                                                                         HALT 3
                                                       033020
032062
032505
                                                                                                                                                                                                        HALT 4
                                                       032505
032772
032124
032612
033036
032124
032653
033060
                                                                                                                                                                                                         HALT 5
                                                                                                                                                                                                         HALT 6
                                                        032157
000000
000000
                                                                                                                                                                                                         HALT
                                                        032216
900000
000000
032255
000000
000000
000000
000000
000000
                                                                                                                                                                            EM7
                                                                                                                                                                            Ø
Ø
EM8
                                                                                                                                                                                                         HALT 10
                                                                                                                                                                            Ø
Ø
EM9
                                                                                                                                                                                                         HALT 11
                                                       032320
000000
000000
032363
032557
033020
032413
                                                                                                                                                                            0
0
EM10
                                                                                                                                                                                                         HALT 12
                                                                                                                                                                           DH3
DT3
EM11
                                                                                                                                                                                                         HALT 13
```

DZDVA-B MACY11 27(732) 18-MAR-76 15:06 PAGE 107
DZDVAB,P11 DV11 DEVICE DIAGNOSTICS. COPYRIGHT 1975 DIGITAL EQUIP, CORP.

5579 033236 032704 DH6 ;HALT 14 5580 033240 033076 DT6 5581 033242 CORMAX; 5582 000001 END PAGE: 0132

CTK'E CTK'E

001415

251# 252#

253#

DZDVA-B		27(732)	18-MAR-	76 15:00	PAGE 1										AGE: Ø1	35
CNVRT =	104411	- CNODD N	209#	476	478	480	482	802	804	860	917					
CORMAX			207# 5581#	416 5582 5467#	818											
CRC16 =	102010 120001 001306		4785 4412 171#	4740 385*	5466# 992*	993	995*	1000	1001*	1002	1005*					
CREAM CSRMAP CYCLE	006624 005666		410	1129#	497	982#										
DATA	032754 004276		5487# 791#	794	816	819#										
	104416		219# 790#	812	815#											
	104414 003440		215# 615#	5102 650	660#											
DH1 DH2	Ø32442 Ø325Ø5		5486# 5486#	5546 5549	5555											
DH3 DH4	Ø32557 Ø32612		5486# 5486#	5552 5558	5576											
DH5 DH6	032653 032704		5486# 5486#	5561 5579												
DT1 DT2	Ø3276Ø Ø32772		5489# 5494#	5547 5550	5556											
DT3 DT4	033020 033036		5505# 5512#	5553 5559	5577											
DT5 DT6	Ø3306Ø Ø33076		5521# 5529# 165#	5562 5580 432*	433	982	987	1161*	1167*	1168*	1172	1191				
DVACTV DVCRØØ	001300 001500 001524		281# 292#	4324	733	,,,,			•••							
DVCRØ1 DVCRØ2 DVCRØ3	001550 001574		303*													
DVCRØ4 DVCRØ5	001620 001644		325# 336#													
DVCR06 DVCR07	001670 001714		347# 358#													
DVLCR	001370		233# 1854	901* 2666	902 2677	1021* 2902	1022* 2976	1023 2998	1270 3298	1292 3326	1714 3339	1742 3350	1770 3355	1798 338ø	1826 3393	
			3397 4043	3408 4052	3414 4071	3903 4080	3912 4ø99	3931 4108	3940 4136	3959 4147	3968 4160	3987 4203	3996 4229	4015 5369	4024 5380	
DVNSR DVNUM	001402 001301		238# 166#	1031* 381	1032*	1033	1266 1154*	1288 1155	2168 1162	5106 1164	5129		2468	3503	2522	
DVRIC	001366		232# 3564	1019* 3571	1020* 3578	1021 3613	1673 3625	1693 3639	3116 3652	3128 3662	3140 3669	3152 3683	3465 3703 4499	3523 3723	3533 3789 4543	
			3800 4565	3849 4587	4304	4316 4631	4330 4653	4348 4675	4381 4719	4433 4764	4455 4809	4477 5180	5223	4521 5266	5312	
DVRLVL	001354		5358 227#	1036*	1037*	1038	5473* 5471*									
DVRVEC	001352 001362		226# 230# 1397	503 500 1423	978* 1451	891# 1482	895* 1508	1006*	1017	1222 1586	1253 1612	1278 1640	1319 1669	1345 2128*	1371 2403	
			2672* 3055*	2717 3056*	2727 3062	2783 3072	2791* 3083	2792 3110*	2865* 3122*	2871* 3134*	2874 3146*	2903* 3172*	2922* 3319*	2971* 3376*	2999* 3407*	
			3413* 3684	3433* 3712*	3558* 3735*	3606* 3754*	3631* 3783*	3649# 3841#	3651* 3894*	3657* 3910*	3659* 3922*	3661* 3938*	3666 * 3950 *	3668 * 3966*	3681 * 3978 *	
				4006*	4022*	4034*	4050*	4062*	4078#	4090*	4106*	4134*	4181#	4296*	4321* 4638*	
		27(732) CDOSS PI		4364*	4419* 5 PAGE 1	4440*	4462*	4484*	4506*	4528*	4550*	4572*	4594*	4616*	AGE: Ø1	36
DZDVAB. DVSCRH DVSFR	001364 001400		4336* 18-MAR FERENCE 4668* 4872* 5126* 237* 3109 3391* 33928* 4070* 4198* 5267	4364* 76 15:00 TABLE 4701+ 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313	4419* 6 PAGE : - USER S: 4746- 4893- 4999- 5179- 1038- 3321- 3359- 3399- 4012- 4022- 4227 5359	4440* 112 118 4791* 4914* 5222* 1031 3323* 3607 3952* 4014* 4297 5394*	4834* 4916* 5924* 5265* 2129 3325 3784 3954* 4923* 4937*	4836* 4918* 5046* 5311* 2867* 3843 3985* 4098* 4413	4838* 4919* 5049* 5357* 2868 3336* 3896* 3958* 4107* 4697	4843* 4924* 5071* 5360* 2877 3338 3898* 3967* 4135* 4742	4850* 4931* 5075* 5391* 2901 3364* 3900* 3980* 4144* 4787	4853* 4934* 5993 2972* 3347* 3902* 3902* 4146* 5097*	4874* 4958* 5096* 2974 3354 3911* 3984* 4059* 5130	4876* 4959* 5100 2997 3379* 3924* 3986* 4164 5181	4878* 4960* 5107 3057 3386* 3926* 3998* 4088* 4182 5224	36 36 30 30 30 30 30 30 30 30 30 30 30 30 30
DZDVAB.	,P11 001364		4336* 18-MAR- FERENCE 4669* 4883* 5126* 237* 3199 3928* 4008* 4198* 5268 2765* 4255	4364* 76 15:00 TABLE 4701+ 4890* 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313 882 3827 4366*	4418* 5 PAGE : - USER S: 4745- 4893- 5179- 1018- 3321- 3359- 3399- 4012- 4022- 4227 53995- 1027- 3895- 3895- 4373-	4440* 112 MBOLS 4791* 4914* 5922* 1019 1031 3323* 3667 3952* 4014* 4297 5394* 1028* 3922*	4834+ 4916+ 5024+ 5265+ 2129 3325 3784 3954+ 4036+ 4055 5397+ 1029 39519+ 5199+	4836* 4918* 5946* 5311* 2867* 3392* 3956* 4036* 4413 1256* 3979*	4838* 4919* 5949* 5357* 2868 3336* 3896* 4938* 4038* 4074 4697 2091 4007* 5232*	4843* 4924* 5071* 5360* 2877 3398 3967* 4040* 4142 2448 4035*	4850* 4931* 5075* 5391* 2901 3344* 3980* 4042* 4144*	4853* 4934* 5093 2972* 3347* 3982* 4051* 4146*	4874* 4958* 5096* 2974 3354 3911* 3984* 4064* 4159*	4876* 4959* 5100 2997 3379* 3924* 3986* 4066* 4164	4878* 4960* 5107 3057 3366* 3926* 3995* 4068* 4182	
DZDVAB. DVSCRH DVSFR	001364 001400		18-MAR- FERENCE 4660+ 4893+ 4972+ 5126+ 237* 3109 3391+ 3928+ 4070+ 4198+ 5267 2368 2765+ 4255	4364* 76 15:00 TABLE 4701* 4996* 5134 1029* 3173 3434 3930* 4079* 4223* 5313 882 4366* 5329 881	4419* 6 PAGE : - USER S: 4746- 4893- 4999- 5179- 1018- 3321- 3359- 3399- 4012- 4027- 3389- 1027- 3895- 1027- 3895- 1027- 1028- 1028- 1028- 1028- 1028- 1028-	4440* 112 4791* 4914* 5021* 5022* 1031 33337 3667 3952* 4014* 4297 13928* 3923*	4834* 4916* 5024* 5265* 2129 3325 3784 3954* 4096* 43657* 1029 5361* 1025	4836* 4918* 5946* 5311* 2867* 3392* 3943 3956* 4036* 4413 1256* 3979* 5225* 5413*	4838+ 4919+ 5049+ 5357+ 2868 3336+ 3896+ 3896+ 4038+ 4697 2091+ 5212+ 54188- 1882	4843* 4924* 5971* 5360* 2877 3389* 3967* 4040* 4742 2448 4035* 54623* 1908	4850* 4931* 5901* 3390* 3900* 3960* 4042* 4787 2508 4063* 1934	4853* 4934* 5093 2972* 33402* 3962* 4051* 5097* 2552 4091* 5263	4874* 4958* 5096* 2974 3354 3914* 4964* 4159* 5130 2596 41439* 1986	4876* 4959* 5100 2997 3379* 3926* 4066* 4164 5181 2676* 4193* 290 2012	4878+ 4960+ 5107 3057 3326+ 3926+ 3995+ 4068+ 4182 5224 2719+ 4208 5314+ 2038	36
DVSCRH DVSFP DVSRA	001364 001400 001376	CROSS RE	18-MAR- FERENCE 4660* 48972* 5126* 2378* 3109 3109 3109 3109 3208* 4070* 4198* 42765* 4255 5321* 234* 2267 234* 2267	4364* 76 15:00 TABLE 4701* 4990* 4990* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313 882 7366* 5329 881 2418	4419* 6 PAGE 1 - USER S1 4746* 4899* 5179* 1018* 1039* 3321* 4022* 4022* 4022* 4023* 4373* 1023* 2449*	4440* 112 4791* 4914* 5021* 5222* 10331* 3303* 3607 3952* 4014* 4004* 4297 1028* 3923* 51024* 2509* 3825	4834* 4916* 5024* 5265* 2129 3325 33784 3954* 4036* 4365 5397* 1025 2553* 3839*	4836* 4918* 5046* 5311* 2867* 3323* 3986* 4036* 4036* 4058* 413 1256* 525* 2569*	4838* 4919* 5349* 5357* 2868 33856* 3988* 4187* 4697 4097 5232* 54188 28597 4191*	4843* 4924* 5071* 5360* 2877 338 3898* 3967* 4040* 4135* 4742 2448 4035* 5268* 5423* 1908	4850* 4931* 5975* 5391* 2901 3340* 3900* 3900* 4042* 4787 2506 4063* 5275*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878+ 4968+ 5107 3057 3356+ 3925+ 4068+ 4182 5224 2719+ 4208 5314+	
DVSCRH DVSFR DVSRA DVSRS	001364 001400 001376 001372	CROSS RE	4336* 18-MAR- FERENCE 4660* 4972* 5126* 231* 237* 3109 3391* 33928* 40708* 5267 236* 2785* 4255* 234* 234* 234* 235*	4364* 76 15:00 TABLE 4701- 4990+ 4996+ 5134 1017+ 1029+ 3173 3434 3930+ 4079+ 4223+ 5313 8227 4366+ 5329 881 2718+ 1025+ 1025+ 41922+	4419* 5 PAGE: - USER S: 4746+ 4999* 5179+ 1018+ 1038+ 33321+ 4012+ 4092+ 4092+ 3995+ 4373+ 3364+ 1023+ 2499+	4440* 112 MBOLS 4791* 5921* 5222* 1023 3607 3952* 4094* 4297 5394* 1822* 51027	4834* 4916* 5024* 5265* 2129 3325 3784 3954 4023* 4076* 4365 5397* 1025 3951* 5189*	4836* 4918* 5046* 5311* 2867* 3332* 4036* 4036* 4413 1256* 5225*	4838+ 4919+ 5049+ 5357+ 2868 3336+ 3898+ 4089+ 41677 2091 4007+ 5418+ 1882 2597+	4843* 4924* 5071* 5360* 2877 3398 3998* 4040* 4135* 4742 2448 4035* 5423* 1908	4850* 4931* 5901* 3390* 3900* 3960* 4042* 4787 2508 4063* 1934	4853* 4934* 5093 2972* 33402* 3962* 4051* 5097* 2552 4091* 5263	4874* 4958* 5096* 2974 3354 3914* 4964* 4159* 5130 2596 41439* 1986	4876* 4959* 5100 2997 3379* 3926* 4066* 4164 5181 2676* 4193* 290 2012	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	
DVSCRH DVSFP DVSRA	001364 001400 001376	CROSS RE	4336* 18-MAR-: FFERENCE 4660* 4972* 5126* 231* 2319 3391* 34008* 40708* 4198* 5267 2455* 5321* 2064 2673*	4364* 76 15:01 TABLE 4701* 4890* 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4023* 5313 882 3827 882 18218 2418 2418	4419* 6 PAGE : USER S: 47463* 4999* 51798* 1030* 3321* 4022* 40227 5359 1023* 24784* 1026*	4440* 112 4791* 4914* 5021* 5222* 10331* 3303* 3607 3952* 4014* 4004* 4297 1028* 3923* 51024* 2509* 3825	4834* 4916* 5024* 5265* 2129 3325 33784 3954* 4036* 4365 5397* 1025 2553* 3839*	4836* 4918* 5046* 5311* 2867* 3323* 3986* 4036* 4036* 4058* 413 1256* 525* 2569*	4838* 4919* 5349* 5357* 2868 33856* 3988* 4187* 4697 4097 5232* 54188 28597 4191*	4843* 4924* 5071* 5360* 2877 338 3898* 3967* 4040* 4135* 4742 2448 4035* 5268* 5423* 1908	4850* 4931* 5975* 5391* 2901 3340* 3900* 3900* 4042* 4787 2506 4063* 5275*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	3.6
DVSCRH DVSFF DVSRA DVSRSH DVTLVL DVTRØØ	001364 001400 001376 001376 001374 001374	CROSS RE	4336* 18-MAR- IFERENCE 4660* 4972* 5126* 231* 237* 3109 3301* 33928* 4078* 4278* 4257 234* 2267 234* 2267 234* 2267 234* 2267 234* 2267 234* 2267 234* 2267 222*	4364* 76 15:00 TABLE 4701- 4990+ 4996+ 5134 1017+ 1029+ 3173 3434 3930+ 4079+ 4223+ 5313 8227 4366+ 5329 881 2718+ 1025+ 1025+ 41922+	4419* 6 PAGE : USER S: 47463* 4999* 51798* 1030* 3321* 4022* 40227 5359 1023* 24784* 1026*	4440* 112 MBOLS 4791* 5921* 5222* 1023 3607 3952* 4094* 4297 5394* 1822* 51027	4834* 4916* 5024* 5265* 2129 3325 33784 3954* 4036* 4365 5397* 1025 2553* 3839*	4836* 4918* 5046* 5311* 2867* 3323* 3986* 4036* 4036* 4058* 413 1256* 525* 2569*	4838* 4919* 5349* 5357* 2868 33856* 3988* 4187* 4697 4097 5232* 54188 28597 4191*	4843* 4924* 5071* 5360* 2877 338 3898* 3967* 4040* 4135* 4742 2448 4035* 5268* 5423* 1908	4850* 4931* 5975* 5391* 2901 3340* 3900* 3900* 4042* 4787 2506 4063* 5275*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	
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DVSCRH DVSRA DVSRSH DVTLVL DVTR00 DVTR01 DVTR02 DVTR03 DVTR04 DVTR07 DVTR06 DVTR07 DVV00.A DV01.B DV00.C DV00.A DV01.B DV01.C DV00.A DV01.B DV02.C DV00.A DV03.A DV03.A	001374 001374 001374 001374 001374 001552 001552 001552 001552 001554 001574 001510 001514 001510 001514 001554 001554 001554 001554 001554 001554 001554 001554 001554 001560	CROSS RE	4336+ 18 - MARCE 4660+ 4972+ 4893+ 4972+ 231+ 3199+ 4099+ 4198+ 2215+ 3224+ 2064 2275+ 3324+ 2064 2262+ 2223+ 3359+ 2264 2273+ 3826 2228+ 2394+ 3158+ 3698+ 2498+ 2498+ 2498+ 3158+ 3168+ 3168+ 3188+	4364* 76 15:00 TABLE 4701* 4890* 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313 882 2827 881 2418 27185* 4192* 1040*	4419* 4419* USER SI 4746* 4893* 4999* 1018* 1039* 102* 4022* 4092* 4092* 4092* 4092* 4092* 4094 4094 4094 4094 4094 4094 4094 409	4440* 112 (MBOLS 4791* 4914* 5021* 5021* 1019 1031 3333* 3607 3333* 3607 33952* 4014* 4094* 3923* 51027 5474*	4834+ 4916* 5024* 5265* 2129 3325 3784 3325 3784 4023* 4096* 4365 5397* 1029 3951* 5361* 1029 2450*	4836* 4918* 5946* 5311* 2867* 33928* 40368* 40368* 4413 1256* 3979* 2518*	4838* 4919* 5349* 5357* 2868 3336* 3896* 4038* 4697 2091 4007 5212* 54182 1882 2597* 4191*	4843* 4924* 5071* 5360* 2877 3388 3967* 4040* 4742 2448 4035* 5423* 1908 2600* 4253 2554*	4850* 4931* 5975* 5975* 2901 3344* 3980* 4042* 4787 2508 4063* 1934 2606*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	에 가는 1965년 1일 시간 시간 시간 기업
DVSCRH DVSFR DVSRA DVSRS DVSRSH DVTR01 DVTR01 DVTR02 DVTR05 DVTR05 DVTR06 DVTR07 D	001376 001376 001376 001377 001377 001377 001377 001552 001552 001552 001552 001554 001554 001554 001554 001554 001554 001554 001554 001560 001560 001560 001560 001560 001560 001560	CROSS RE	4336* 18-MAR-E 4660* 44072* 5126* 4217* 3109 3391* 3109 3391* 22785* 42267 224* 22673* 2234* 22673* 2214* 22673* 2214* 22673* 2214* 22673* 2214* 22673* 2214* 22673* 2214* 22673* 2214* 22673* 2214* 22673* 22785*	4364* 76 15:00 TABLE 4701* 4890* 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313 882 2827 881 2418 27185* 4192* 1040*	4419* 4419* USER SI 4746* 4893* 4999* 1018* 1039* 102* 4022* 4092* 4092* 4092* 4092* 4092* 4094 4094 4094 4094 4094 4094 4094 409	4440* 112 (MBOLS 4791* 4914* 5021* 5021* 1019 1031 3333* 3607 3333* 3607 33952* 4014* 4094* 3923* 51027 5474*	4834+ 4916* 5024* 5265* 2129 3325 3784 3325 3784 4023* 4096* 4365 5397* 1029 3951* 5361* 1029 2450*	4836* 4918* 5946* 5311* 2867* 33928* 40368* 40368* 4413 1256* 3979* 2518*	4838* 4919* 5349* 5357* 2868 3336* 3896* 4038* 4697 2091 4007 5212* 54182 1882 2597* 4191*	4843* 4924* 5071* 5360* 2877 3388 3967* 4040* 4742 2448 4035* 5423* 1908 2600* 4253 2554*	4850* 4931* 5975* 5975* 2901 3344* 3980* 4042* 4787 2508 4063* 1934 2606*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	에 하는 1966년 시간 시간 1967년 교육 1967년 196
DVSCRH DVSRA DVSRSH DVSRSH DVTR00 DVTR01 DVTR02 DVTR03 DVTR05 DVTR07 DVTR07 DVTR07 DV00.A DV01.B DV00.C DV00.A DV01.C DV00.A DV04.A DV04.A DV04.A DV04.A DV04.A DV04.A DV04.A	001376 001376 001377 001377 001377 001377 001502 001552 001552 001552 001552 001554 001574 001504 001510 001510 001510 001510 001510 001510 001510 001510 001510 001614	CROSS RE	4336+ 18-MARCE 4660+ 4972+ 4883+ 4972+ 231+ 2379 3391+ 3199+ 4088+ 4198+ 5267 2785+ 42673+ 3826+ 2224+ 28673+ 3878+ 28673+ 28673+ 3878+ 28673+ 3878+ 3898+ 3158+ 3298+ 3158+ 3298+ 3118+ 3378+ 3498+	4364* 76 15:00 TABLE 4701* 4890* 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313 882 2827 881 2418 27185* 4192* 1040*	4419* 4419* USER SI 4746* 4893* 4999* 1018* 1039* 102* 4022* 4092* 4092* 4092* 4092* 4092* 4094 4094 4094 4094 4094 4094 4094 409	4440* 112 (MBOLS 4791* 4914* 5021* 5021* 1019 1031 3333* 3607 3333* 3607 33952* 4014* 4094* 3923* 51027 5474*	4834+ 4916* 5024* 5265* 2129 3325 3784 3325 3784 4023* 4096* 4365 5397* 1029 3951* 5361* 1029 2450*	4836* 4918* 5946* 5311* 2867* 33928* 40368* 40368* 4413 1256* 3979* 2518*	4838* 4919* 5349* 5357* 2868 3336* 3896* 4038* 4697 2091 4007 5212* 54182 1882 2597* 4191*	4843* 4924* 5071* 5360* 2877 3388* 3967* 4040* 4742 2448 4035* 5423* 1908 2600* 4253 2554*	4850* 4931* 5975* 5975* 2901 3344* 3980* 4042* 4787 2508 4063* 1934 2606*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	에 하는 1966년 시간 시간 시간에 발견하는 경우를 보면 보면 보는 것이 되었다. 그런 사람들은 보면 보면 보면 보는 것이 되었다. 그런 사람들은 보다 되었다.
DVSCRH DVSCRH DVSFR DVSRA DVSRS DVSRSH DVTR00 DVTR01 DVTR02 DVTR05 DVTR05 DVTR06 DVTR06 DVTR06 DVTR06 DVTR06 DVTR06 DVTR06 DVTR07 DVV00.A DV00.A D	001376 001376 001376 001377 001377 001376 001552 001552 001552 001552 001552 001552 001552 001552 001552 001552 001552 001552 001552 001552 001552 001554 001554 001554 001554 001554 001560 001560 001560 001560 001560 001560 001660 001660 001660	CROSS RE	4336+ 18-MARCE 4660+ 4972+ 4883+ 4972+ 41251+ 2277+ 3109 3391+ 4070+ 4	4364* 76 15:00 TABLE 4701* 4890* 4996* 5134 1017* 1029* 3173 3434 3930* 4010* 4079* 4223* 5313 882 2827 881 2418 27185* 4192* 1040*	4419* 4419* USER SI 4746* 4893* 4999* 1018* 1039* 102* 4022* 4092* 4092* 4092* 4092* 4092* 4094 4094 4094 4094 4094 4094 4094 409	4440* 112 (MBOLS 4791* 4914* 5021* 5021* 1019 1031 3333* 3607 3333* 3607 33952* 4014* 4094* 3923* 51027 5474*	4834+ 4916* 5024* 5265* 2129 3325 3784 3325 3784 4023* 4096* 4365 5397* 1029 3951* 5361* 1029 2450*	4836* 4918* 5946* 5311* 2867* 33928* 40368* 40368* 4413 1256* 3979* 2518*	4838* 4919* 5349* 5357* 2868 3336* 3896* 4038* 4697 2091 4007 5212* 54182 1882 2597* 4191*	4843* 4924* 5071* 5360* 2877 3388* 3967* 4040* 4742 2448 4035* 5423* 1908 2600* 4253 2554*	4850* 4931* 5975* 5975* 2901 3344* 3980* 4042* 4787 2508 4063* 1934 2606*	4853* 4934* 5093 2972* 3392* 3902* 4051* 5057* 2552 4091* 5203	4874+ 4958* 5096* 2974 33514 3914* 4064* 4159* 5130 2596 4143* 5289*	4876* 4959* 5100 2997 3379* 3924* 3966* 4064 5181 2676* 4193* 5290 2012 2624*	4878* 4960* 5107 3057 3386* 3995* 4068* 4182 5224 2719* 4208 5314*	에 보고 1986년 1일 시간 시간 시간 보고 1986년 1일 1988년 1일 1988년 1일 1988년 1일 1988년 198

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DV05.C 001660 DV05.D 001664	342# 344#													
DV06.A 001674 DV06.B 001700	349# 351#													
DV06.C 001704 DV06.D 001710	353# 355#													
DV07.A 001720 DV07.B 001724	360# 362#													
DV07.C 001730 DV07.D 001734	364# 366#													
EM1 031706 EM10 032363	5486#	5545 5575												
EM11 032413 EM2 031754	5486#	5578 5548												
EM3 032020 EM4 032062	5486#	5551 5554												
EM5 032124 EM6 032157		5557 5563	5560											
EM7 032216 EM8 032255		5566 5569												
EM9 Ø32320 ERRCNT Ø01232	5486# 142#	5572 387*	509	827#										
ERRFLG 001311 ERRMSG 004252	177# 789#	383* 807	471* 810*	538*	779*	792	806*	861*		*				
ERTABØ 004366 Exit = 000205		836# 5406												
EXITER 004322 FIX.00 006516	822 1046	827# 1051	1056	1061	1095#									
HALTS 004302 HILIM 003436	775 614*	821# 641	659#											
ICOUNT 001222 INBUF 005520	138# 584	536 620	541* 967#	2546*										
INIFLG 001310 INSTER= 104404	176# 199#	392 635	407#											
INSTR # 104403 INSTR2 003236	197# 591	1068												
LIGHT 000174 LIGHTS 001200	110#	402 402*	473*											
LIMITS 003364 LOBITS 003442	63Ø 616*	641#	661#	662										
LOCK 001220		540* 2595*	554 2664*	556 3053*	798 3067#	1220* 3077*	1251* 3170*	1279* 3189*	2445* 3202*	2461* 3215*	2472* 3228*	2504* 3241*	2519# 3254#	
	3267* 4416*	3280 * 4438*	3431* 4460*	3487* 4482*	3498* 4504*	3509* 4526*	3604* 4548*	3622* 4570*	3646 * 4592 *	3679* 4614*	3710* 4636*	3733* 4658*	3752* 5124*	
LOGICA 002560	107	5220* 490*	5263*	5309*										
LOKFLG 001312 LOLIM 003434	178# 613*	643	658#											
LPCNT 001224 LRC8 = 000200		535 * 5465 *	536	539*										
LSTERR 001234 L.DATA 031420		388* 4446	470* 4468	522* 4490	776 4512	778* 4534	862* 4556	4578	4600	4622	4644	4666	4710	
L00.03 001416	255#	4800 1008*	5413# 1043											
L04.07 001420		1010*	1048 1053											
L08,11 001422														
DZDVA-8 MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MAR17 014224 MASKX 001244	18-MAR-76 REFERENCE T 258# 2596# 151#	15:06 PABLE											PAGE: Ø13	В
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DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12,15 Ø01424 MAR17 Ú14224 MASKX Ø01244 MASKX, B 001407 MASK, B 001407 MASK, D 001410 MASK, D 001411 MASTEK 005400 MCRLF Ø05104 MCSRX 005330 MDATA 005624	18-MAR-76 REFERENCE T 258# 2596# 151# 245# 246# 247# 248# 800 569 475 719	15106 PABLE == 1014+ 1044 1054 1059 958+ 692 9589	796	YMBOLS	805	946	958#	1967	1985				PAGE: Ø13	В
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DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MAR17 014224 MARK 001244 MASK 001244 MASK 001406 MASK 001407 MASK 001410 MASK 005140 MCRLF 005104 MCSRX 005330 MDATA 005624 MEPRS 005355 MERRC 005454 MERRR 005355 MERRC 005454 MERRR 005355 MERRC 005454 MERRS 005355 MERRC 005174 MERSS 005243 MLOCK 005301 MNEW 005402 MPASSX 005316 MRESET= 00400 MSTCLR= 104412 MTITLE 001000 MTSTN 005366 MSTCLR= 104412 NOLIST= ************************************	18-MAR-76 REFERENCE T 258# 2596# 151# 245# 246# 2446# 247# 248# 809 569 475 719 2671 474 803 481 959 453 424 479 859 599 461# 3375 33099 4827 4959 119# 801	15106	796 971* 2697* 1174 1090 891 2864 3557 3937 4431 4471 5016 932 1585* 1933* 2294* 2394* 24130* 5014* 4870 4870 4870 4870	2791 2990 3605 3940 4180 4593 5041 1219* 1611* 1232* 2995* 4179* 5039* 4887 4887 4888	2970 3623 3965 4615 5066 1250* 1639* 1985* 3052* 4294* 5064* 4910 4911	2996 3680 3972 4637 5092 1318* 1668* 2011* 3107* 4362* 4928 4928 4928	3054 3702 3993 4659 5125 1344* 1692* 2037* 2037* 2037* 3169* 441; 5123* 4993	3108 3711 4005 4363 4700 5178 1370* 1713* 2063* 4694* 5176* 5018	3121 3734 4021 4417 4745 5221 1396* 1741* 2809* 3374* 4739* 5219* 5043	3753 4033 4439 4790 5264 1422* 1769* 2127* 2547* 4784* 5262* 5477* 5069	3782 4049 4461 4828 5310 1459* 1797* 2167* 2663* 3556* 4826* 5308*	3171 3822 4061 4463 4868 5356 1481** 1825* 2192* 2715* 3608* 4868 5355*	3317 3893 4077 4505 4908 1507* 1853* 2216* 2781* 4906*	8
DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MAR17 014224 MASKX 001244 MASKX 001406 MASK,B 001407 MASK,C 001411 MASTEK 005400 MCRUF 005104 MCSRX 005104 MCSRX 005145 MERRX 005243 MDATA 005624 MEMEXT 014620 MEPASS 005145 MERRPC 005454 MERRX 005355 MERR2 005171 MERR3 005243 MLOCK 005301 MNEW 005402 MPASSX 005314 MPFAIL 005107 MR 0057100 MR 0	18-MAR-76 REFERENCE T 258# 2596# 245# 245# 246# 247# 248# 808 569 475 719 2671 474 803 481 958# 429 453 424 479 859 599 461 81# 3375 3309 4627 4951 119# 801 1533# 1581# 2242* 4949# 14830 4871 4830 4871 4830 4871 5182 5319*	15 10 1 4 4 1 0 0 5 4 9 1 1 1 0 0 5 4 9 9 5 8 8 8 8 8 6 9 5 8 8 8 6 9 5 8 8 6 9 5 8 8 6 9 5 8 8 6 9 5 8 8 6 9 5 8 8 6 9 5 8 8 6 9 5 8 6 9 5 8 6 9 6 9 5 8 6 9 6 9 5 8 6 6 9 6 9 6 9 6 9 6 9 6 9 6 9 6 9 6 9	796 971* 2697* 1174 1090 891 2864 3357 4131 4571 1069 832 1585* 1069 832 1585* 1069	2791 2900 3605 4190 4190 4593 5041 1219* 16119* 2320* 2320* 2479* 4179* 5039* 4888	2970 3623 3965 4295 4615 5066 1250* 1630* 1985* 2346* 4294* 5064* 4910	2996 3680 3977 4320 4637 5092 1318* 1668* 2011* 2372* 4362* 5091* 4929	3054 3702 3993 4335 5125 1344* 1692* 2037* 2037* 24113*	3108 3711 4005 4363 4700 5178 1370* 1713* 2063* 2444* 3316* 4694* 5176*	3121 3734 4021 4417 4417 4745 5221 1396* 1741* 2090* 3374* 4739* 5219*	3753 4033 4439 4790 5264 1422* 1769* 2127* 2547* 3430* 4784* 5262*	3782 4049 4461 4828 5310 1450* 1797* 2663* 3556* 5308*	3171 3822 4061 4463 4868 5356 1481* 1825* 2192* 2715* 3608*	3317 38973 4505 4908 1507* 1853* 2216* 2781* 2781*	
DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MART7 014224 MASKX 001244 MASKX 001406 MASK,B 001407 MASK,C 001411 MASTEK 005400 MCRUF 005104 MCSRX 005330 MDATA 005624 MEMEXT 014620 MEPASS 005145 MERRPC 005454 MERRY 005355 MERRPC 005454 MERRY 005355 MERRPC 005174 MERRY 005356 MERRY 005310 MNEW 005402 MADATA 0055243 MLOCK 005301 MNEW 005402 MPASSX 0053144 MPFAIL 005107 MOM 005107 MOM 005107 MRESET= 004000 MSTCLR= 104412 NOLIST= ********* U NO.ATR 031676 NO.BTR 031676 NO.BTR 031702 NPR 040000 NPRLOC 032756 PARAM = 104405 PARAM = 104405 PARAM = 104405	18-MAR-76 REFERENCE T 258# 2596# 151# 245# 245# 246# 247# 248# 800 569 475 719 2671 474 803 481 958# 429 453 424 479 859 599 461 811# 3375 3399 4689 4527 4781 136# 113	15E - 10449	796 971* 2697* 1174 1090 891 2864 3357 4131 4571 5016 1069 832 1585* 1933* 2294* 4130* 4870 4871 52195	2791 2990 3695 3695 4190 4190 4593 5041 1219* 4179* 4039* 4179* 4039* 4188 5280*	2970 3623 3965 4615 5066 1250* 1639* 1985* 3052* 4294* 5064* 4910 4911	2996 3680 3972 4637 5092 1318* 1668* 2011* 3107* 4362* 4928 4928 4928	3054 3702 3993 4659 5125 1344* 1692* 2037* 2037* 2037* 3169* 441; 5123* 4993	3108 3711 4005 4363 4700 5178 1370* 1713* 2063* 4694* 5176* 5018	3121 3734 4021 4417 4745 5221 1396* 1741* 2809* 3374* 4739* 5219* 5043	3753 4033 4439 4790 5264 1422* 1769* 2127* 2547* 4784* 5262* 5477* 5069	3782 4049 4461 4828 5310 1459* 1797* 2167* 2663* 3556* 4826* 5308*	3171 3822 4061 4463 4868 5356 1481** 1825* 2192* 2715* 3608* 4868 5355*	3317 3893 4077 4505 4908 1507* 1853* 2216* 2781* 4906*	
DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MART7 014224 MASKX 001244 MASKX 001244 MASK, 001407 MASK.C 001410 MASK, 001411 MASTEK 005400 MCRUF 005104 MCSRX 005330 MDATA 005624 MEMERY 005355 MERRPC 005454 MERRPC 005454 MERRPC 005454 MERRY 005301 MNEW 005301 MNEW 005301 MNEW 005301 MNEW 005301 MREW 005107 MGM 005107 MGM 005107 MGM 005107 MR 00	18-MAR-76 REFERENCE T 258: 2596: 151: 245: 247: 248: 800 569 475 719 2671 474 803 424 475 958: 425 427 859 461 81: 211: 3375 3999 461 81: 211: 3375 3999 461 81: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 211: 3375 3999 481: 221: 48301 76: 619: 619: 619:	15E - 106 - 1049 105	796 971# 2697# 1174 1090 891 2864 3357 4131 4571 5016 1069 832 1585+ 1333+ 2294+ 24871 5213 5195 5330	2791 2900 3605 3949 4199 4593 5041 1219* 419* 41	2970 3623 3965 4295 4615 5066 1250** 1985* 2346* 4994* 4911 5327 5225	2996 3680 3972 4637 5092 1318* 1668* 2011* 3107* 4362* 4928 4928 4928	3054 3702 3993 4659 5125 1344* 1692* 2037* 2037* 2037* 3169* 441; 5123* 4993	3108 3711 4005 4363 4700 5178 1370* 1713* 2063* 4694* 5176* 5018	3121 3734 4021 4417 4745 5221 1396* 1741* 2809* 3374* 4739* 5219* 5043	3753 4033 4439 4790 5264 1422* 1769* 2127* 2547* 4784* 5262* 5477* 5069	3782 4049 4461 4828 5310 1459* 1797* 2167* 2663* 3556* 4826* 5308*	3171 3822 4061 4463 4868 5356 1481** 1825* 2192* 2715* 3608* 4868 5355*	3317 3893 4077 4505 4908 1507* 1853* 2216* 2781* 4906*	
DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MAR17 014224 MARX 001244 MASK 001406 MASK B 001407 MASK D 001411 MASK D 001411 MASTEK 005300 MCRLF 0055104 MCSRX 005330 MDATA 005624 MEPRAS 005145 MERRPC 005174 MERRP 005355 MERRP 005375 MERRP 005174 MERRY 005301 MASK D 001411 MASTEK 005301 MASK D 001411 MASTEK 005330 MDATA 005624 MEPASS 005145 MERRP 005174 MERRY 005316 MERRP 005171 MRESET 005000 MR 005107 M	18-MAR-76 REFERENCE T 258# 2596# 151# 245# 2445# 2448# 800 569 475 719 2671 474 803 424 958# 427 959 461 81# 3375 3309 4087 4199 4081 119# 801	15 10 15 10 15 10 16 10 449 49 49 49 49 49 49 49 49 49 49 49 49	796 971* 2697* 1174 1090 891 2864 3557 3937 4431 4471 5016 1069 832 1585* 1933* 5014* 4870 4870 4871 5233 5195 5330	2791 2990 3605 3940 4150 4593 5041 1219* 1611* 1232* 2995* 4179* 5039* 4887 4887 4888	2970 3623 3965 4265 4615 5066 1250* 1639* 1985* 3052* 4294* 5064* 4910 4911 5327 5225	2996 3680 3977 4320 4637 5092 1318* 1668* 2011* 23107* 4362* 5091* 4928 4928 4928 5230*	3054 3702 3993 4659 5125 1344* 1692* 2037* 2037* 5123* 4993 4994	3108 3711 4005 4363 4700 5178 1370* 1713* 2063* 4694* 5176* 5018	3121 3734 4021 4417 4745 5221 1396* 1741* 2809* 3374* 4739* 5219* 5043	3753 4033 4439 4790 5264 1422* 1769* 2127* 2547* 4784* 5262* 5477* 5069	3782 4049 4461 4828 5310 1459* 1797* 2167* 2663* 3556* 4826* 5308*	3171 3822 4061 4463 4868 5356 1481** 1825* 2192* 2715* 3608* 4868 5355*	3317 3893 4077 4505 4908 1507* 1853* 2216* 2781* 4906*	
DZDVA-B MACY11 27(732) DZDVAB,P11 CROSS 1 L12.15 001424 MAR17 014224 MASKX 001244 MASKX 001406 MASK,B 001407 MASK,C 001410 MASK,C 001411 MASTEK 005400 MCRUF 005104 MCSRX 005330 MDATA 005624 MEMEXT 014620 MEPASS 005145 MERRPC 005454 MERRPC 005454 MERRP 005355 MERRP 005171 MERRS 005301 MNEW 005402 MASK 005301 MNEW 005402 MASK 005301 MNEW 005402 MASK 0053144 MPFAIL 005107 MR 005100 MR	18-MAR-76 REFERENCE T 258# 2596# 245# 245# 246# 247# 248# 800 569 475 719 2671 474 803 481 958# 429 453 424 479 859 599 461 811# 3375 3099 4089 4581 1181 3375 3099 4089 4581 1181 1242* 2863* 3821* 4949* 4949* 4830 4831 76# 5189* 2019* 619# 612 141# 4830 481	15E = 1004 1014 = 1004 10054 9 # 10054 10044 9 10054 10054 9 9 9 9 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	796 971*2697* 1174 1090 891 2264 3357 3937 4571 5016 1069 832 1595* 1296* 4130* 5014* 4870 4871 5333 5195 5330	2791 2900 3605 3945 3941 4180 4553 5041 1219* 1611* 1229* 2320* 2320* 24179* 4887 4887 4887 4887 4887 4887 4887 488	2970 3623 3965 4615 5066 1250* 1630* 1985* 2346* 4910 4911 4911 5064*	2996 3680 3977 4320 4637 5092 1318* 1668* 2017* 3107* 4362* 5091* 4928 4929 5230*	3054 3702 3993 4335 4659 5125 1344** 1692** 2037** 3169** 4411** 5123** 4994 5238	3108 3711 4005 4363 4700 5178 1370* 1713* 2063* 2064* 3316* 4694* 5176* 5018 5019	3121 3734 4021 4745 5221 1396* 1741* 2890* 3374* 4739* 5219* 5043 5044	3753 4033 4439 4790 5264 1422* 1769* 2127* 2547* 3438* 5262* 5477* 5069	3782 4049 4461 4828 5310 1450* 1797* 2663* 3556* 4826* 5308*	3171 3822 4061 4403 4808 5356 1481* 1825* 2715* 3600* 5355*	3317 3893 4077 4505 4908 1507* 1853* 2216* 2216* 2781* 4906*	

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DZDV	AB,P11	CROSS R	EFERENCE	TABLE -	- USER S	IMBODS									
			3512* 3854*	3521 3855	3530 3858*	3684* 4132*	3690* 4143	3692 * 4149	3694* 4156*	3793* 4185*	3806* 4194*	3826* 4195*	3830* 4196	3842* 4219*	3845
			4221 4600*	4254* 4622*	4257* 4644*	4382* 4666*	4385* 4710*	4424* 4755*	4446 * 4800 *	4468*	4490*	4512*	4534*	4556*	4220* 4578*
			5223*	5237	5266*	5312*	5358*	5390	5392*	4952* 5400*	4962* 5402*	5129* 5413	5137 5418	5180* 5423	5194 5426*
R4	** 000004		45# 625	579 627*	584* 628	588* 629	589* 650*	590 651*	597 * 655 *	601 672	603* 685*	611 696	620 * 704 *	621 707	623 712*
			714* 882*	716* 883*	733* 886*	783* 1260*	784* 1261	785* 1282*	786* 1283	787* 1322*	788* 1323	789 1327#	790 1329	791 1348*	880 1349
			1353*	1355 1454*	1374*	1375 1460	1379*	1381 1466	1400*	1486	1405* 1490*	1407 1492	1426* 1511*	1427 1512	1431* 1516*
			1518 1615*	1537* 1616	1538 1620*	1542* 1622	1544 1643#	1563* 1648*	1564 1649	1568* 1654*	157Ø 1655	1589* 1674*	1590 1675	1594* 1697*	1596 1698
			1717* 1774*	1718* 1775	1719 1779*	1723* 1780*	1724* 1782	1726 1801*	1745*	1746*	1747	1751* 1808*	1752* 1810	1754 1829*	1773* 1830*
			1831 1892	1835* 1911*	1836* 1912	1838 1916*	1857* 1918	1858* 1937*	1859 1938	1863* 1942*	1864* 1944	1866 1963*	1885*	1886	1890*
			1989*	1990	1994*	1996	2015*	2016	2020*	2022	2041*	2042	2046*	2048	1970 2067*
			2068 2144*	2072* 2145	2074 2171*	2094* 2172*	2095 2173	2100* 2174*	2101 2175	2106* 2194*	2107 2195	2132* 2199*	2133 2201	2138* 2220*	2139 2221
			2225* 2305	2227 2324*	2246* 2325	2247 2329*	2251* 2331	2253. 235Ø*	2272* 2351	2273 2355*	2277* 2357	2279 2376*	2298* 2377	2299 2381*	2303* 2383
			2407* 2462	24Ø8 2464	2413* 2469*	2414 2471*	2422* 2473	2423 2475	2428* 2480*	2429 2507*	2451* 2511	2452 2512*	2454 2518*	2458* 2522	246Ø* 2526*
			2551* 268Ø	2555 2689*	2560* 2729*	2568* 2730	2572 2735#	2579* 2739*	2605* 2740*	2608 2741	2621 2745*	2631* 2749*	2635 2753*	2667* 2755	2672 2763*
			2765 2907*	2794* 2908*	2795 2910	2800* 2916*	2804* 2917*	2805* 2919	2806 2925#	2810* 2926*	2814* 2928	2818* 2934*	2820 2935*	2828* 2937	2830 2943*
			2944* 3021*	2946 3022*	2952* 3024	2953*	2955	2976*	2977	3003*	3004*	3006	3012*	3013*	3015
			3117	3128*	3129	3030* 3140*	3031* 3141	3033 3152*	3062* 3153	3063 3298*	3072* 3299	3073 3326*	3083* 3327	3084 3339*	3116* 3341
			3355* 3523*	3357 3524	338Ø* 3533*	3381 3564#	3388* 3571*	3395 * 3578*	3397* 3613*	3398 3615	3408* 3625*	3409 3639*	3414* 3652*	3415 3653	3465* 3662*
			3669 * 3801	367Ø 3828*	3695* 3831	3696 3832	3703* 3849*	3723* 3850	3725 3903*	3742* 3904*	3744 3906	3761* 3912*	3763 3913*	3789* 3915	3800* 3931*
			3932* 3990	3934 3996*	3940 * 3997 *	3941* 3999	3943 4015*	3959* 4016*	3960* 4018	3962 4024*	3968* 4025*	3969* 4027	3971 4043*	3987 * 4044*	3988* 4046
			4052* 4109*	4053* 4111	4055 4136*	4071#	4072* 4139	4074 4147#	4080*	4081* 4152	4083 4160#	4099# 4161#	4100* 4162	4102 4187*	4108* 4200
			4203* 4316*	4204* 4317	4205 4330*	4212* 4331	4225 4348*	4229* 4381*	4230* 4384*	4231 4387	4235* 4433*	4237 4434	4259* 4455*	4260 4456	4304* 4477*
			4478	4499#	4500	4521*	4522	4543*	4544	4565*	4566	4587*	4588	4609*	4610
			4631* 5138	4632 5194*	4653* 5196	4654 5237*	4675 * 5240	4676 5284*	4719* 5285	4720 5 33 0*	4764* 5331*	4765 5332	48Ø9* 5369*	4810 5370	5137 * 5373
R5	=%000005		538Ø * 46#	5381 562	5383 563*	567	572	574*	610	612*	613	614	615	616	617
			618 686*	619 * 697	628 * 7 05 *	631 * 717 *	632* 732*	633 * 781 *	641 782*	643 783	645 785	651 1258*	652* 1259	656* 1261	671 1281*
			1283 1372*	1320* 1373	1321 1375	1323 1378	1326 1380*	1328# 1381	1329 1398#	1346* 1399	1347 1401	1349 1404	1352 1406*	1354* 1407	1355 1424*
			1425 1486	1427 1489	1430 1491*	1432*	1433 1509*	1452* 1510	1457* 1512	1458 1515	1460 1517*	1463* 1518	1466 1535*	1483* 1536	1484
			1541	1543*	1544	1561*	1562	1564	1567	1569*	1570	1587*	1588	1590	1538 1593
			1595# 1655	1596 1670*	1613* 1675	1614 1695*	1616 1698	1619 1715*	1621* 1716	1622 1719	1641* 1722	1646# 1725#	1647	1649 1743*	1652* 1744
			1747	1750	1753*	1754	1771*	1772	1775	1778	1781*	1782	1799*	1800	1803
	A-B MACY11 AB,P11				USER S		1828	1031	1834	1837*	1838	1855*	1856	1859	PAGE: 0142
			1806 1865*	1809* 1866	- USER S: 1810 1883*	1827* 1884	1828 1886 1941	1889	1891*	1892	1909*	1910	1912	1859 1915	1862 1917*
			1806 1865* 1918 1987*	1809* 1866 1935* 1988	- USER S: 1810 1883* 1936 1990	1827# 1884 1938 1993	1886 1941 1995*	1889 1943# 1996	1891* 1944 2013*	1892 1961* 2014	1909* 1962 2016	1910 1964 2019	1912 1967 2021*	1859 1915 1969* 2022	1862 1917* 1970 2039*
			1806 1865* 1918 1987* 2040 2095	1809* 1866 1935* 1988 2042 2098*	- USER ST 1810 1883* 1936 1990 2045 2099	1827* 1884 1938 1993 2047* 2101	1886 1941 1995* 2048 2104*	1889 1943* 1996 2065* 2105	1891* 1944 2013* 2066 2107	1892 1961* 2014 2068 2111*	1909* 1962 2016 2071 2130*	1910 1964 2019 2073* 2131	1912 1967 2021* 2074 2133	1859 1915 1969* 2022 2092* 2136*	1862 1917* 1970 2039* 2093 2137
			1806 1865* 1918 1987* 2040 2095 2139 2201	TABLE	- USER 53 1810 1883* 1936 1936 2045 2099 2143 2219	MBOLS 1827* 1884 1938 1993 2047* 2145 2221	1886 1941 1995* 2048 2104* 2149*	1889 1943* 1996 2065* 2105 2170* 2226*	1891* 1944 2013* 2066 2107 2171 2227	1892 1961* 2014 2068 2111* 2175 2244*	1909* 1962 2016 2071 2130* 2192* 2245	1910 1964 2019 2073* 2131 2193 2247	1912 1967 2021* 2074 2133 2195 2250	1859 1915 1969* 2092* 2136* 2198 2252*	1862 1917* 1970 2039* 2093 2137 2200* 2253
			1806 1865* 1918 1987* 2040 2095 2139 2270* 2323	1809* 1866* 1935* 1988 2042 2098* 2142* 2218* 2271	- USER ST 1810 1883* 1936 1990 2045 2099 2143 2219 2273 2328	1827* 1884 1993 2047* 2101 2145 2221 2276 2330*	1886 1941 1995* 2048 2104* 2149* 2224 2278*	1889 1943* 1996 2065* 2105 2170* 2226* 2279 2348*	1891* 1944 2013* 2066 2107 2171 2227 2296*	1892 1961* 2014 2068 2111* 2175 2244* 2297	1909* 1962 2016 2071 2130* 2192* 2245 2299 2354	1910 1964 2019 2073* 2131 2193 2247 2302 2356*	1912 1967 2021* 2074 2133 2195 2250 2304* 2357	1859 1915 1969* 2022 2092* 2136* 2198 2252* 2305 2374*	1862 1917* 1970 2039* 2093 2137 2200* 2253 2322* 2375
			1806 1865* 1918 1987* 2040 2095 2139 2201 2270* 2323 2377 2429	1809** 1866 1935** 1988 2042 2098** 2142** 2218** 2271 2325 2380 2668**	- USER ST 1810 1883* 1936 1990 2045 2099 2143 2219 2273 2328 2382* 2685*	1827* 1884 1938 1993 2047* 2101 2145 2221 2276 2330* 2383 2688*	1886 1941 1995* 2048 2104* 2149* 2224 2278* 2331 2405* 2728*	1889 1943* 1996 2065* 2105 2170* 2226* 2279 2348* 2406 2730	1891* 1944 2013* 2066 2107 2171 2227 2296* 2349 2408 2734*	1892 1961* 2014 2068 2111* 2175 2244* 2297 2351 2411* 2741	1909* 1962 2016 2071 2130* 2192* 2245 2299 2354 2414 2754*	1910 1964 2019 2073* 2131 2193 2247 2302 2356* 2420* 2755	1912 1967 2021* 2074 2133 2195 2250 2304* 2357 2421 2764*	1859 1915 1969* 2022 2092* 2198 2252* 2305 2374* 2465	1862 1917* 1970 2039* 2093 2137 2200* 2253 2322* 2375 2426* 2793*
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SETVEC 031654	4829 5067	4839 5470#	4846	4869	4879	4886	4909	4920	4927	4954	4992	5017	5042
SIMBCC 031474	4420 4751	4442 4796	4464 5429#	4486	4508	4530	4552	4574	4596	4618	4640	4662	4706
SKIP = 000000 SP = %000006	1301 47# 556*	1305 379* 562*	5486# 394# 563	395* 564*	401 574	404 578*	405 579*	448* 580	517* 581*	518* 597	519 598	523# 600*	543 601*
	603 697*	694 698	610 * 699 *	611* 732	612 733	618 * 734	655 735	656 736	667 749*	693 * 750 *	694* 751*	695# 752#	696* 753*
	754* 873 938*	755* 879* 939	756 880* 942*	764# 886 943#	765* 887 944	766 899* 1178*	776 908 1204	778 921* 1206	781 922* 1207*	824 923 1235	833* 928 3859*	855# 934 3862	869* 936 4199*
	4200* 4852*	4201# 4892#	4211 4933*	4212 5001*	4213 5026*	4224* 5051*	4225# 5077#	4226* 5390*	4234 5402	4235 5429*	4236 5430*	4242* 5431*	4245 5458
SPACNT= 003745 SSWR 000176	5459 702* 112#	5460 723 403	726*	740#									
STACK = 001200 STAT 001236	54# 148#	379	448	833	855	4852	4892	4933					
5V05 003452 SWR 001202	671* 123* 762	398 769	403# 774	408 821	422 828	427 83Ø	432 914	451 915*	515 925#	524 930*	531 931*	552 932*	565 939#
SW00 = 000/01	1062 34#	422											
SN01 = 000002 SN02 = 000004 SN03 = 000010	33# 32# 31#	1062											
SW04 = 000020 SW05 = 000040	30# 29# 28#												
SW06 = 000100 SW07 = 000200 SW08 = 000400	27# 26#	828											
SW10 = 001000 SW10 = 002000 SW11 = 004000	25# 24# 23#	552 830 531											
SW12 = 010000 SW13 = 020000	22* 21*	565 774	769										
SW14 = 040000 SW15 = 100000 SYNA00 001506	20# 19# 284#												
SYNA01 001532 SYNA02 001556	295# 306#												
SYNA03 001602 SYNA04 001626 SYNA05 001652	317# 328# 339#												
SYNA06 001676 SYNA07 001722	350# 361#												
SYNB00 001512 SYNB01 001536 SYNB02 001562	286* 297* 308*												
SYNB03 001606 SYNB04 001632	319# 33Ø#												
SYNB05 001656 SYNB06 001702 SYNB07 001726	341# 352# 363#												
SYNCX 001240	149#												
	1434												
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DZDVA-B MACY11 : DZDVAB,P11 SYNCØØ ØØ1516 SYNCØI ØØ1542	27(732) 18-MAR CROSS REFERENCI 288# 299#												PAGE: 0144
DZDVA-B MACY11 : DZDVAB,P11 SYNC00 001516 SYNC01 901542 SYNC02 001566 SYNC03 001612	27(732) 18-MAR CROSS REFERENCI 288* 299* 310* 321*												PAGE: 0144
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DZDVA-B MACY11: DZDVAB,P11 SYNC00 001516 SYNC01 001542 SYNC02 001566 SYNC03 001612 SYNC04 001606 SYNC05 001706 SYNC05 001706 SYNC06 001706 SYNC07 001732 SYNC2A 001426 SYNC02C 001432 SYNC2C 001432 SYNC2C 001432 SYNC02C 001572 SYNC06 001506 SYNC07 001572 SYND01 001546 SYND09 001522 SYND01 001546 SYND09 001573 SYND09 001573 SYND09 001666 SYND09 001666 SYND09 001736 S,C = 050000	27(732) 18-MAR CROSS REFERENC 288* 299* 310* 321* 343* 354* 365* 260* 261* 262* 263* 290* 301* 312* 323* 324* 344* 345* 356* 367* 77*	1009* 1011* 1013* 1015*	3058 3527	3069 3738	3079 3757	3112 3794	3124 3796	3136 5376	3148	3291	3321	3332	PAGE: 0144
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DZDVA-B MACY11 : DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288* 299* 310* 321* 343* 345* 260* 261* 262* 263* 290* 301* 312* 314* 324* 345* 356* 356* 357* 77* 3384 155* 155* 155* 155* 127* 128* 1088	1009* 1011* 1013* 1015* 2866 3517 856* 412* 513* 5434* 2671* 527 517 5486*	3058 3527 857* 413* 414 5436 2674 586 529	3069 3738 969* 418* 962 5446* 2684* 912 588	3757 960 5151* 5128* 5448 2687* 919 594	3794 1191* 5432* 5150* 5453*	3796 1192* 5455* 5151	5376 2669* 5152	2690*	3291 4252*	4258	3332	3344
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DZDVA-B MACY11 : DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288* 299* 310* 321* 332* 343* 365* 260* 261* 262* 263* 290* 301* 312* 312* 323* 334* 334* 355* 155* 155* 155* 155* 155* 127* 128* 129* 130*	1009* 1011* 1013* 1015* 2866 3517 856* 413* 5434* 2671* 527 570 572* 389* 1449*	3058 3527 857* 413 414 5436 2674 529 592 594 841 1480*	3069 3738 969* 418* 962 5446* 912 588 771 773* 868 1506*	3757 960 5151* 5128* 5448 2687* 919 926 928*	3794 1191* 5432* 5150* 5453* 940 764	3796 1192* 5455* 5151 5454* 921	5376 2669* 5152 5457 942	2690* 5155	3291 4252* 5433*	4258 5437* 1343* 1691*	3332 4267* 1369* 1712*	3344 4260 1395* 1740*
DZDVA-B MACY11 : DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288	1009** 1011** 1013** 1015** 2866 3517 856** 412* 513* 5434* 2671* 527 517 5486* 389** 1449** 149** 2166** 2666**	3058 3527 857* 413 5144 5436 2674 506 529 592 594* 841 1480* 1824* 2189* 2714*	3069 3738 969* 418* 962 5446* 2684* 912 588 771 773* 868 1506* 152* 2150*	3757 9601** 51128* 5128* 2687* 928* 10732* 11884* 22862*	3794 1191* 5452* 5453* 9464 764 10558* 12968* 22698*	3796 1192** 5455** 5151 5454** 921 1082 1584** 1932** 2293**	5376 2669* 5152 5457 942 1218* 1610* 1958* 2319*	2690* 5155 1249* 1638* 1984* 2345* 3051*	3291 4252* 5433* 1317* 1667* 2010* 2371* 3106*	4258 5437* 1343* 1691* 2036* 2401* 3168*	3332 4267* 1369* 1712* 2962* 2443* 3315*	3344 4268 1395* 1740* 2089* 2502* 3373*
DZDVA-B MACY11 : DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288* 299* 310* 321* 332* 343* 365* 260* 261* 262* 263* 301* 3123* 323* 345* 356* 356* 3155* 156* 157* 77* 384 128* 129* 129* 129* 140*	1009* 1011* 1013* 1015* 2866 3517 856* 413* 5434* 2671* 572* 389* 1449* 1796* 21662* 3555*	3058 3527 857* 413* 414 5436 529 592 594* 8480* 1824* 2189* 4805* 1824* 2189* 4855*	3069 3738 969* 410* 962 440* 912 588 771 773* 868 1506* 1852* 252*	3757 960 5151* 5128* 5448 2697* 594 926* 1073 11532* 1284*	3794 1191* 5432* 5150* 5453* 940 764 1988* 1906**	3796 1192* 5455* 5151 5454* 921 1082 1584* 1932* 2293*	5376 2669* 5152 5457 942 1218* 1610* 1958*	2690* 5155 1249* 1638* 1984* 2345*	3291 4252* 5433* 1317* 1667* 2010* 2371*	1343* 1691* 2036*	1369* 1712* 2062* 2443*	3344 4268 1395* 1740* 2089*
DZDVA-B MACY11 : DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288	1009** 1011** 1013** 1015** 2866 3517 856** 412* 513* 5434** 2671* 527 517 5486* 572* 389** 1449** 1662* 2662* 3555* 4825** 4825** 4825** 1992 1449*	3058 3058 3527 8574 413 5144* 414 506 529 594* 841 1480* 1284* 2714* 3599*	3069 3738 969* 418* 5147* 962 588 7713* 868 1506* 1252* 2780* 2780*	3757 960 5151** 5128* 5448 2687* 919 594 926 928* 1073 1532* 1673 1532* 12862* 2862* 3820*	3794 1191* 5432* 5150* 5453* 940 764 1080 1558* 2267* 2898*	3796 1192** 5455* 5151 5454** 921 1082 1584** 1932** 2293** 2293**	5376 2669* 5152 5457 942 1218* 1618* 1958* 2319* 2994* 4178*	2699* 5155 1249* 1638* 1638* 2345* 3051* 4293*	3291 4252* 5433* 1317* 1667* 2019* 3106* 4361*	4258 5437* 1343* 1691* 2491* 31688 4418*	1369* 1762* 1762* 1762* 2062* 2443* 3315* 4693*	3344 4268 1395* 1740* 2099* 20502* 3373* 4738*
DZDVA-B MACY11: DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288# 299# 310# 321# 3345# 265# 266# 266# 266# 266# 266# 266# 26	1009+ 1011+ 1013+ 1015+ 2866 3517 8564+ 412+ 5136 4134+ 2671+ 527 54868 570 389+ 1449+ 1766+ 2662+ 3555+ 4825+ 1092 14492 14294 41294 41798	3058 3527 8573 5144* 413 5436 2674 586 599 594* 841 1480* 189* 2714* 2189* 2719* 4855*	3069 3738 969* 418* 5147* 962 588 7713* 868 1506* 1252* 2780* 2780*	3757 960 5151** 5128* 5448 2687* 919 594 926 928* 1073 1532* 1673 1532* 12862* 2862* 3820*	3794 1191* 5432* 5150* 5453* 940 764 1080 1558* 2267* 2898*	3796 1192** 5455* 5151 5454** 921 1082 1584** 1932** 2293** 2293** 24129**	5376 2669* 5152 5457 942 1218* 1618* 1958* 2319* 2994* 4178*	2699* 5155 1249* 1638* 1638* 2345* 3051* 4293*	3291 4252* 5433* 1317* 1667* 2019* 3106* 4361*	4258 5437* 1343* 1691* 2491* 31688 4418*	1369* 1762* 1762* 1762* 2062* 2443* 3315* 4693*	3344 4268 1395* 1740* 2099* 20502* 3373* 4738*
DZDVA-B MACY11: DZDVAB,P11 SYNC00 001516 SYNC01 001542 SYNC02 001566 SYNC03 001612 SYNC04 001706 SYNC07 001732 SYNC2A 001426 SYNC02 001432 SYNC02 001432 SYNC02 001432 SYNC02 001556 SYNC02 001432 SYNC02 001572 SYNC2B 001434 SYND00 001572 SYNC02 001576 SYNC02 001576 SYND01 001566 SYND06 001706 SYND06 001706 SYND06 001716 SYND07 001576 SYND07 001736 SY	27(732) 18-MARC CROSS REFERENC 288	1009+ 1011+ 1013+ 1015+ 2866 3517 8564+ 412+ 5136 4434+ 2671+ 527 54868 570 572+ 389+ 1496+ 21668+ 21668+ 21668+ 21668+ 216884 41788 42934 43619	3058 3527 8573 5144* 413 5436 2674 586 599 594* 841 1480* 189* 2714* 2189* 2719* 4855*	3069 3738 969* 418* 5147* 962 588 7713* 868 1506* 1252* 2780* 2780*	3757 960 5151** 5128* 5448 2687* 919 594 926 928* 1073 1532* 1673 1532* 12862* 2862* 3820*	3794 1191* 5432* 5150* 5453* 940 764 1080 1558* 2267* 2898*	3796 1192** 5455* 5151 5454** 921 1082 1584** 1932** 2293** 2293** 24129**	5376 2669* 5152 5457 942 1218* 1618* 1958* 2319* 2994* 4178*	2699* 5155 1249* 1638* 1638* 2345* 3051* 4293*	3291 4252* 5433* 1317* 1667* 2019* 3106* 4361*	4258 5437* 1343* 1691* 2491* 31688 4418*	1369* 1762* 1762* 1762* 2062* 2443* 3315* 4693*	3344 4268 1395* 1740* 2099* 20502* 3373* 4738*
DZDVA-B MACY11: DZDVAB,P11 SYNC00	27(732) 18-MARC CROSS REFERENC 288	1009+ 1011+ 1013+ 1015+ 2866 3517 856+ 412+ 5136 4134+ 2671+ 527 5486+ 570+ 389+ 1449+ 1266+ 2662+ 3555+ 4825+ 5307+ 1499+ 4293+ 4410+ 44693+ 4738+	3058 3527 8573 5144* 413 5436 2674 586 599 594* 841 1480* 189* 2714* 2189* 2719* 4855*	3069 3738 969* 418* 5147* 962 588 7713* 868 1506* 1252* 2780* 2780*	3757 960 5151** 5128* 5448 2687* 919 594 926 928* 1073 1532* 1673 1532* 12862* 2862* 3820*	3794 1191* 5432* 5150* 5453* 940 764 1080 1558* 2267* 2898*	3796 1192** 5455* 5151 5454** 921 1082 1584** 1932** 2293** 2293** 24129**	5376 2669* 5152 5457 942 1218* 1618* 1958* 2319* 2994* 4178*	2699* 5155 1249* 1638* 1638* 2345* 3051* 4293*	3291 4252* 5433* 1317* 1667* 2019* 3106* 4361*	4258 5437* 1343* 1691* 2491* 31688 4418*	1369* 1762* 1762* 1762* 2062* 2443* 3315* 4693*	3344 4268 1395* 1740* 2099* 20502* 3373* 4738*
DZDVA-B MACY11 : DZDVAB,P11 SYNC00	27(732) 18-MARCCROSS REFERENCE 288	1009** 1011** 1013** 1015** 2866 3517 856** 412** 5527 517 5486 413** 562** 389** 1449** 3888** 4129** 4179** 4293** 4179** 4294** 4294** 4410** 4693**	3058 3527 8573 5144* 413 5436 2674 586 599 594* 841 1480* 189* 2714* 2189* 2719* 4855*	3069 3738 969* 418* 5147* 962 588 7713* 868 1506* 1252* 2780* 2780*	3757 960 5151** 5128* 5448 2687* 919 594 926 928* 1073 1532* 1673 1532* 12862* 2862* 3820*	3794 1191* 5432* 5150* 5453* 940 764 1080 1558* 2267* 2898*	3796 1192** 5455* 5151 5454** 921 1082 1584** 1932** 2293** 2293** 24129**	5376 2669* 5152 5457 942 1218* 1618* 1958* 2319* 2994* 4178*	2699* 5155 1249* 1638* 1638* 2345* 3051* 4293*	3291 4252* 5433* 1317* 1667* 2019* 3106* 4361*	4258 5437* 1343* 1691* 2491* 31688 4418*	1369* 1762* 1762* 1762* 2062* 2443* 3315* 4693*	3344 4268 1395* 1740* 2099* 20502* 3373* 4738*

4281#

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4683# 4944# 5163#

5171#

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5257#

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4861#

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4401#

4901# 5113#

4939# 5118#

DZDVA-B MACY11 27(7	732) 18=MAR=	76 15:0	6 PAGE	123									PAGE: 01
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	1586#	1611	1612#	1639	1640#	1668	1669#	1692	1693#	1713	1714#	1741	1742#
	1769	1779#	1797	1798#	1825	1826#	1853	1854#	1881	1882#	1907	1908#	1933
	1934#	1959	1960#	1985	1986#	2011	2012#	2037	2038#	2063	2064#	2090	2091#
	2127	2128#	2167	2168#	2190	2191#	2216	2217#	2242	2243#	2268	2269#	2294
	2295#	2320	2321#	2346	2347#	2372	2373#	2402	2403#	2444	2446#	2503	2505#
	2547	2549#	2663	2665#	2715	2716#	2781	2782#	2863	2864#	2899	2900#	2969
	2970#	2995	2996#	3Ø52	3054#	3107	3108#	3169	3171#	3316	3317#	3374	3375#
	3430	3432#	3556	3557#	3600	3601#	3781	3782#	3821	3822#	3889	3890#	4130
	4131#	4179	4180#	4294	4295#	4362	4363#	4411	4412#	4694	4695#	4739	4740#
	4784	4785#	4826	4827#	4866	4867#	4906	4907#	4949	4950#	4989	4990#	5014
	5015#	5039	5040#	5064	5065#	5091	5092#	5123	5125#	5176	5178#	5219	5221#
	5262	5264#	5308	5310#	5355	5356#							
sN = 000127	1#	1211	1216	1221#	1240	1247	1252#	1309	1315	1319#	1335	1341	1345#
	1361	1367	1371#	1387	1393	1397#	1413	1419	1423#	1439	1447	1451#	1472
	1478	1482#	1498	1504	1508#	1524	1530	1534#	1550	1556	1560#	1576	1582
	1586#	1602	1608	1612#	1628	1636	1640#	1660	1665	1669#	1682	1689	1693#
	1704 1822	1710 1826#	1714* 1844	1732 1850	1738 1854#	1742# 1872	1760 1878	1766	177Ø# 1898	1788	1794 1908#	1798#	1816
	1934#	1950	1956	1960#	1976	1982	1986#	1882# 2002	2008	1904		1924	1930
	2054	2060	2064#	2080	2087	2091#	2117			2012# 2155	2028	2034	2038#
		2191#	2207	2213	2217#	2233	2239	2124	2128#		2164	2168#	2181
	2187	2311	2317	2321#	2337	2343	2347#	2243#	2259	2265	2269# 2389	2285	2291
	2295#	2441	2446#	2493	2500	2505#	2536	2363 2543	2369 2549#	2373# 2647	2660	2399 2665#	2403# 2705
	2434 2712	2716#	2771	2778	2782#	2836	2853	2860	2864#		2896	2900#	
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	3171#	3304	3313	3317#	3362	3371	3375#	3421	3427	3432#	3108# 3539	3553	3166 3557#
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	4408	4412#	4683	4691	4695#	4728	4736	4740*	4773	4781	4785#	4818	4823
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	5310#	5343	5352	5356#	5486#	17.						-	
sY = 000017	1#	182#	191	193#	195#	197#	199#	201#	203#	205#	207#	209#	211#
55555	213#	215#	217#	219#	221#				•				
. = 033242	92#	93	96#	103#	104#	105#	106#	109#	111#	114#	118#	120#	165#
	166#	167#	168#	169#	170#	279#	281*	282#	283#	284#	285#	286#	287#
	288#	289#	290#	292#	293#	294#	295#	296#	297#	298#	299#	300#	301#
	303#	304#	305#	306#	307#	308#	309#	310#	311#	312#	314#	315#	316#
	317#	318#	319#	320#	321#	322#	323#	325#	326#	327#	328#	329#	330#
	331#	332#	333#	334#	336#	337#	338#	339#	340#	341#	342#	343#	344#
	345#	347#	348#	349#	350#	351#	352#	353#	354#	355#	356#	358#	359#
	360#	361#	362#	363#	364#	365#	366#	367#	431	520	767	849	858
	872	910#	920	927	941	968#	970*	972*	986	1177	1198	2702#	4140
	4296	4209	4232	4708#	4709#	4711#	4712#	4753#	4754#	4756#	4757#	4798#	4799#
	4801#	4802#	4963	5135	5374	5384	5486#						
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.CNVRT 003542	210	693#											
.CONVR 003536	208	692#											
DATAC 004576	220	898#											
DELAY 004476	216	869#											
EOP 002436	469#	5355											
ERRTA 033124	788	5541#											
,HLT 004002	99	761#											
DZDVA-B MACY11 27(7													PAGE: Ø14
DZDVAB,P11 CRO	SS REFERENCE	TABLE -	USER S	AMBOTS									
THEFF MARRA	200	5004											

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	• 1.00		- The state of the			
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INSTR	003120		198	578#		
.INST1	003140		582#	602		
MSG	003142		580*	583#		
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PARAM	003244		202	610#		
PFAIL	804402		97	380	846#	854
RAMCL	004516		214	877#		
RESØ5	993594		206	681#		
ROMCL	004566		218	894#		
SAV05	003444		204	667#		
SCOPE	002634		192	514#		
.SCOP1	003020		194	552#		
START	001742		115	378#	390	
TRPSR	003750		101	749#		
TRPTA	001314	100	190#	754		
TYPE	003044		196	562#		

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DZDVAB	,P11	CROSS F	EFERENCE	TABLE -	PERMA	VENT SYME	BOLS									
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ASL BCC	631 904	632 1193	633	752	784	786										
BCS BEQ	933 415	2481 423 793	2632 452 799	488 808	516 813	525 817	534 831	553 924	555 1063	591 1115	622 1156	630	724 1262	763 1284	770	
	777 1330 1519	135Ø 1539	1356 1545	1376	1382 1571	1402 1591	1408 1597	1428	1434 1623	1455 1644	1461 1650	1163 1467 1656	1487 1676	1493 1699	1324 1513 1720	
	1727 1939	1748	1755 1965	1776 1971	1783	1804	1811	1832	1839	1860	1867	1887 2075	1893 2096	1913 2102	1919	
	2134 2332	2140	2146 2358	2176 2378	2196 2384	2202 2469	2222 2415	2228 2424	2248 2430	2254 2455	2274 2465	2280 2476	2300 2523	2306 2573	2326 2612	
	2616 2815	2619 2821	2622 2831	2681 2869	2731 2875	2736 2911	2742 2920	2746 2929	275Ø 2938	2756 2947	2766 2956	2796 2978	2801 3007	2807 3016	2811 3025	
	3034 3410	3064 3416	3074 3466	3085 3470	3118 3525	313Ø 3534	3142 3565	3154 3572	3300 3579	3328 3616	3342 3626	3358 3640	3382 3654	3394 3663	3399 3671	
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	4611 5286	4633 5291	4655 5333	4677 5338	4721 5374	4766 5384	4811 5393	4965 5440	4970	4975	5139	5146	5156	5197	5241	
BGT BHI	626 642	937												v		
BIC	434 1404	518 1430	708 1463	753 1464	765 1489	787 1515	922 1541	938 1567	943 1593	1096 1619	1200 1652	1205	1326 1718	1352 1722	1378 1724	
	1746 1889 2380	1750 1915 2678	1752 1941 2740	1774 1967 2805	1778 1993 2871	1780 2019 2908	1802 2045 2917	1806 2071 2922	1808 2198 2926	1830 2224 2935	1834 2250 2944	1836 2276 2953	1858 2302 3004	1862 2328 3013	1864 2354 3022	
	3031 4016	3340 4025	3412 4044	3413 4053	3461 4072	3805 4081	3857 4100	3904 4109	3913 4138	3932 4148	3941 4151	3960 4161	3969 4194	3988 4204	3997 4219	
BICB	4230 589	4972 627	5147	5371	5444	5450	5451	5453								
818	895 3055	901 3056	939 3068	1146 3078	1147 3293	1148 3356	1149	1150 3459	1151 3462	1152 3479	1153 3490	1199 3501	1204 3512	1672 3519	2791 3528	
BISB	3649 4924 628	3651 4959 5151	3657 4960	3659 5153	3661 5360	3666 5372	3668 5382	3690 5391	3692 5452	3694 5454	4195	4215	4220	4843	4883	
BIT	422 3393	451 3471	524 4395	531 5145	552 5155	565 5290	769 5337	774 5439	828	830	912	1062	1114	2874	3350	
BITB	645 644	987														
BLOS BLT BMI	428 624 409	935										•				
BNE	393 727	5101 421 731	442 767	45Ø 775	484 795	520 829	532 858	537 872	566 885	573 906	596 913	646 945	654 983	718 988	722 994	
	1004	1266	1079 1267	1081	1083 1275	1089	1098 1293	1103	1108	1132 2150	1138 2459	1140 2470	1142 2485	1159 2489	117Ø 2516	
	2529	2532	2558	2564 3351	2578	2584	2602 3472	2625 3674	2627 3701	2638 3807	2642 3834	2686 3838	2691 3856	2694 3867	2724 4157	
	2790	2878	3331		3353	3396										
BPL	2790 4241 528	2878 4250 568	4265 571	4269 587	4386 593	4724 772	4769 822	4814 920	4963 927	5104 941	5201 2760	5245 2825	5401 4150	5456 5094	5108	
	4241 528 B MACY11	4250 568 27(732)	4265 571	4269 587 76 15:0	4386 593 6 PAGE	4724 772	4769 822 OLS	4814 920	927 636	941		5245 2825		5094		52
DZDVA-I DZDVAB BR CLC	4241 528 B MACY11 •P11 5135 400 1106 711	4250 568 27(732) CROSS R 419 1111 713	4265 571 18-MAR- EFERENCE 431 1177 715	4269 587 76 15:0 TABLE ~	4386 593 6 PAGE PERMAN 526 4854 989	4724 772 130 ENT SYMB 530 4856 997	4769 822 OLS 602 4894 1166	634 4896 2110	927 636 4935 2148	941 849 4937 2468	276Ø 986 4155	996 4383	4150 1086 5404	5094 1091 5445	PAGE: 01	52
DZDVA-E DZDVAB BR	4241 528 B MACY11 •P11 5135 400 1106 711 382 925	4250 568 27(732) CROSS R 419 1111 713 387 1130	4265 571 18-MAR- EFERENCE 431 1177 715 388 1175	4269 587 76 15:0 TABLE = 456 1203 929 396 1194	4386 593 6 PAGE PERMAN 526 4854 989 425 1196	130 ENT SYMB 530 4856 997 439 1201	4769 822 OLS 602 4894 1166 470 1233	634 4896 2110 522 1254	927 636 4935 2148 539 1255	941 849 4937 2468 540 1256	986 4155 619 1328	996 4383 856 1354	1986 5494 862 1389	1091 5445 883 1406	PAGE! Ø1	52
DZDVA-I DZDVAB BR CLC	4241 528 B MACY11 •P11 5135 400 1106 711 382	4250 568 27(732) CROSS R 419 1111 713 387	4265 571 18-MAR- EFERENCE 431 1177 715 188 1175 1517 1917 2304	4269 587 76 15:0 TABLE - 456 1203 929 396	4386 593 6 PAGE PERMAN 526 4854 989 425	130 ENT SYMB 530 4856 997 439	4769 822 00LS 602 4894 1166 470 1233 1621 2021 2404	634 4896 2110 5224 1641 2047 2417	927 636 4935 2148 539	941 849 4937 2468 1256 1695 2098 2446	986 4155 619 1328 1725 2113 2447	996 4383 856 1354 1753 2136 2451	1086 5404 862 1380 1781 2151 2482	1091 5445 883 1406 1809 22486	PAGE: 01 1101 900 1432 1837 2226 2505	.52
DZDVA-I DZDVAB BR CLC	4241 528 B MACY11 P11 5135 400 1106 711 382 925 1452 1865 2252 2250 2603	4250 568 27(732) CROSS R 419 1111 713 387 1130 1491 2278 2507 2604	4265 571 18-MAR- EFERENCE 431 1177 715 388 1175 1517 2304 2517 2609	4269 587 76 1510 TABLE - 456 1203 929 396 1194 1543 1243 2330 2518 2629	4386 593 6 PAGE PERMAN 526 4854 989 425 1196 1569 2356 2549	130 ENT SYMB 530 4856 997 1201 1595 2382 2550 2665	4769 822 0LS 602 4894 1166 470 1233 1621 2021 2404 2551 2676	634 4896 2110 21254 1641 2447 2417 2579	636 4935 2148 539 1255 1678 2073 2419 2566 2719	941 849 4937 2468 1256 1695 2446 25728	986 4155 1328 1725 2447 2568	996 4383 956 1354 1753 2436 2451 2564	1086 5404 862 1380 1781 2482 2594 2784	1091 5445 883 1406 1809 2486 2595	PAGE: 01 1101 900 1432 1837 226 2505 2597 2793	.52
DZDVA-I DZDVAB BR CLC	4241 528 B MACY11 P11 5135 400 1106 711 382 925 1452 1865 2252 2250 2603	4250 568 27(732) CROSS R 419 1111 713 387 1491 1891 2278 2507 2604 2829 4189	4265 571 18-MAR- EFERENCE 431 1177 715 388 1175 1517 2304 2517 2609 3349 4190	4269 587 76 1510 TABLE = 456 1203 929 396 1194 1543 1243 2330 2518 2629 3388 4251	4386 593 6 PAGE PERMAN 526 4854 989 425 1196 1569 2356 2639 3457 4252	4724 772 130 ENT SYMB 530 4856 997 439 1201 1595 2382 2550 2665 3460 4266	4769 822 OLS 602 4894 1166 470 1233 1621 2021 2404 2551 2676 3532 4303	4814 920 634 4896 2110 522 1254 1641 2047 2417 2518 3563 4347	927 636 4935 2148 1255 1678 2073 2419 256 2719 3624 4419	849 4937 2469 1256 1695 2098 2446 2728 3638 4441	986 4155 619 1328 1725 2413 2447 2734 3788	996 4383 4385 1354 1753 2451 2764 3823	1086 5404 1380 1781 2482 2784 3824 3824 3824 3824	1091 5445 883 1406 1809 2486 2785 38329	PAGE: 01 1101 900 1432 1837 2226 2505	.52
DZDVA-I DZDVAB BR CLC	4241 528 B MACY11 ,P11 5135 400 1106 711 382 925 1452 1865 2252 2250 2250 2603 2799 3890 4573 4473 5127	4250 568 27(732) CROSS R 419 1111 713 387 1130 1491 1891 2278 2507 2604 2829 4189 4595 4878 55128	4265 571 18-MAR- EFERENCE 431 1177 715 388 1175 1517 12304 2517 2609 3349 4190 4617 4899 5148	4269 587 76 1510 TABLE 456 1203 929 396 1194 1543 1243 2518 2629 3380 4251 4639 4893 4893 5149	4386 593 6 PAGE PERMAN 526 4854 425 1196 1369 1369 2356 2549 2637	4724 772 130 ENT SYMB 530 4856 4856 1291 1595 1995 1295 2382 2550 2665 3466	4769 822 0LS 602 4894 1166 470 1233 1621 2021 2404 2551 2676 3532	634 4896 2122 12541 2047 2417 2559 2718	636 4935 2148 539 1255 1678 2073 2419 2566 2719	941 849 4937 2468 540 1256 1695 2098 2567 2728 3638	986 4155 6198 1725 2113 2568 2738	996 4383 856 1354 1753 2136 2581 2581 2764	1086 5404 862 1781 2151 2482 2594 2794 2794	1091 5445 883 1406 1809 22480 2595 2795 3835	PAGE # 01 1101 900 1432 1837 2226 2505 2597 2793 3839 4551	.52
DZDVA-DZDVAB BR CLC CLR	4241 528 B MACY11 P11 5135 400 1106 711 3825 1452 1865 2252 2250 2603 2799 4873 4873 4873 5127 5328 5127 5383	4250 568 27(732) CROSS R 419 1111 713 387 1491 1891 2278 2507 2604 2829 4189 4595 4878 5128 5321 384	4265 571 18-MAR- EFERENCE 431 1177 715 388 1175 1517 2304 2517 2609 3349 4617 4899 4617 4894 5148 5322 471	4269 587 76 1510 TABLE 456 1203 929 396 1194 1543 12330 2518 2629 3388 4639 4639 4639 5435 5435	4386 593 6 PAGE PERMAN 526 4854 989 425 1196 1196 1256 2356 2253 3457 4661 4913 5187	4724 772 130 ENT SYMB 530 4856 997 439 1201 1595 2382 2550 3460 4698 4918 85188	4769 822 0LS 602 4894 1166 470 1233 1621 2404 2551 3532 4699 4931 5189	634 4896 2110 5221 1254 1641 2047 2417 2518 3563 4743 4934 1099	636 4935 2148 539 1255 1678 2073 2419 2566 2719 3624 4419 4744 4752 5231	941 849 4937 2468 540 1256 1695 2098 2446 2567 2728 4441 4788 4961 5232	986 4155 619 1725 2113 2447 2568 4463 4789 4999 5273	996 4383 856 1354 1753 2136 2451 2581 4833 5024	1086 5404 862 1781 2151 2482 2594 3824 4508 5049 5275	1091 5445 883 1406 2595 2486 2595 3835 4529 4850 5075 5276	PAGE: 01 1101 900 1432 1837 2505 2597 2793 3839 4551 4853 5098 5319	.52
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DZDVA-DZDVAB BR CLC CLR	4241 528 B MACY11 P11 5135 400 1106 711 392 1452 1865 2252 2250 2250 2799 3890 4573 4973 5127 5328 491 1010 1010 1010 1010 1010 1010 1010	4250 568 27(732) CROSS R 419 1111 713 387 1491 1891 2278 2507 2604 2829 4595 4878 5128 5321 384 414 1082 1272 1427 1427	4265 571 18-MAR- EFERENCE 431 1177 715 388 1175 1517 2304 2517 2609 3349 4617 4899 4617 4894 4617 4894 4617 4894 1483 1483 1483 1483	4269 587 76 1510 456 1203 929 396 1194 1543 1243 2518 4639 32629 3388 4251 4639 4639 4639 4639 4639 4639 4639 4639	4386 593 6 PAGE PERMAN 526 4854 989 425 1196 12569 2356 2549 3457 4661 4913 5187 728 515 1108 11288 1466 1467 11288	4724 772 130 ENT SYMB 530 4856 997 4391 1595 2382 2550 3460 4698 4918 5188 779 536 1139 1290 1496 1675	4769 822 0LS 602 4894 1166 470 1233 1621 2404 2551 2676 3532 4699 4931 5189 861 641 1139 1292 1492 1498	634 4896 2110 5224 1641 22718 3563 4743 4934 1099 643 1158 1294 15119	927 636 4935 2148 539 1255 1678 2078 2266 2419 2566 4419 4744 4952 1133 762 1133 1518	849 4937 2468 5400 1256 16995 2446 2567 4788 4961 2161 776 1189 1538 1747	986 4155 619 1725 2113 2447 2568 4468 4468 44789 4999 5273 9346 1349 1544	996 4383 856 1353 21361 2451 2581 4483 4483 5024 5274 936 12615 1565	1086 5404 862 1388 21582 2482 4594 4594 4594 4594 4594 50475 5275 935 1375 1375 1376 2176 2176 2176 2176 2176 2176 2176 21	1091 5445 883 1406 2595 3835 4529 4550 5075 5276 1002 1381 15903	PAGE: 01 1101 900 1432 1837 2505 2597 2793 3839 4551 4853 5098 5319	.52
DZDVA-DZDVAB BR CLC CLR	4241 528 B MACY11 P11 5135 400 1106 711 3825 1452 1452 1252 2250 2250 2603 2799 4573 4873 4873 491 1080 1081 10	4250 568 27(732) CROSS R 419 1111 713 387 1491 1278 2507 2604 2829 4189 4595 4878 5128 5321 384 4182 1272 1427 1622 1838 2042	4265 571 18-MAR-E EFERENCE 431 1177 715 388 1175 1517 2304 2517 2609 3349 4617 4819 4617 4819 4617 4819 4617 4819 4819 4819 4819 4819 4819 4819 4819	4269 587 76 1510 = 456 1203 929 396 1194 1543 2330 2518 4639 3388 445 1287 1465 1287 1465 1287 1465 1286	4386 593 6 PAGEAN 526 4854 989 425 1196 12569 2356 2539 3457 24661 5187 728 5157 1288 1467 31886 1673 1886 1673 1886 2674	4724 772 130 ENT SYMB 530 4856 997 4396 1201 15995 2382 22550 34606 4698 4918 5188 779 536 1290 1496 1675 18995	4769 822 0LS 602 4894 1166 470 1233 1621 2404 2551 2404 2556 3532 4699 4931 5189 861 643 1432 1492 1492 1492 1492 1492 1498	4814 920 634 4896 2110 5221 1254 1254 12647 2417 2718 35637 4743 4733 4934 1099 6438 11994 11719 129107	636 4935 2148 2073 2256 2073 2419 4744 4744 5231 1133 7628 1323 1518 1726 1933	941 849 4937 2468 1256 1695 2098 2446 2728 4441 4788 4788 1161 7789 1329 1747 1944 1947	986 4155 619 1328 1725 2113 2447 2568 2734 4463 4463 4463 4463 4499 5273 934 1206 1344 1754	996 4383 8564 13753 21361 2581 4883 4885 4883 5024 4833 1261 1355 11564 1277 1277 1277 1277 1277 1277	10866 5404 21582 2482 2594 4508 5027 9265 13782 9265 13782 1	1094 1091 5445 8883 1809 22486 2595 3835 4520 5075 1006 1381 1590 1993 19961	PAGE: 01 1101 900 1432 1837 2226 2505 2597 2793 3839 4853 4853 5319 1077 1268 1401 1596 1401 1596 1810 2016 2221	.52
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DZDVA-DZDVAB BR CLC CLR	4241 528 B MACY11 *P11 5135 400 1106 711 3825 1452 1452 1252 2250 2252 2250 2603 2799 4573 4973 11080 1270 1407 15120 1408 1270 127	4250 568 27(732) CROSS R 419 1111 713 387 1491 1891 2278 2507 2604 2829 4189 4585 5128 5321 4878 5128 5321 1022 1427 1622 1838 244 247 2422 1838 2247 2447 2447 2447 2447 2447 2447 244	4265 571 18-MAR-E EFERENCE 431 1177 715 388 1175 1517 2304 2517 2609 3349 4617 489 4617 489 4617 440 1283 1443 1483 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1283 1440 1440 1440 1440 1440 1440 1440 144	4269 587 76 1510 456 1203 929 3964 1543 1294 1543 2330 2518 4639 3388 440 11087 14655 1266 2273 2464 2637 273 2411	4386 593 6 PAGEAN 526 4854 989 4256 11969 2356 2549 2457 2613 1288 14661 4913 1288 1467 1288 1467 1288 1467 1288 1467 1288 1467 1288 1479 147	4724 772 130 ENT SYMB 530 4856 997 4399 1201 15995 2382 22550 34606 4918 4918 85188 779 536 11290 1486 1675 1892 2494 2480 2937 3293 24840 2937 3293 2393 24840 24840 24840 2593 2693 2793 2793 2793 2793 2793 2793 2793 27	4769 822 602 4894 1166 470 1233 1621 2404 2551 2404 2551 2676 3532 4693 1493 11139 1292 1492 1498 1292 1498 1292 1498 1292 1498 1292 1498 1292 1498 1292 1498 1292 1498 1292 1498 1292 1498 1292 1498 1498 1498 1498 1498 1498 1498 1498	4814 920 634 4896 2110 5254 1254 1254 12718 35647 2417 22718 35647 4743 4934 1512 1099 6438 11294 11719 12107 2325 22730 2354 2354 2354 2354 2354 2354 2354 2354	927 636 4935 2148 539 1255 1677 22566 2419 25669 3624 4414 4952 11323 15126 1938 21323 21322 21331 22524 22741 23757	849 941 849 949 949 1246 1246 1299 1261 1329 1538 1746 11329 1538 1744 1544	986 4155 619 1725 2113 2447 2568 4468 44789 4999 1544 11349 1544 11754 19645 2157 2531 3798	996 4383 4356 11753 21361 22581 4483 5024 4833 5024 9361 1355 1577 21777 22795 34029	10866 862 17851 224881 22584 4598 50275 9255 9355 13782 9255 13782 9355 13782 9355 13782 9355 13782 9355 13782 9353 13782 9353 13782	5094 1091 5445 883 1409 22486 2595 3835 4529 4520 1261 1380 1390 1380 1390	PAGE: 01 1101 900 1432 1837 2226 2505 2597 2793 3839 4853 5039 1077 1268 1401 1596 1401 1596 12414 2577 2830 3073 3524	.52
DZDVA-DZDVAB BR CLC CLR	4241 528 B MACY11 \$211 5135 400 1110 3825 1452 1252	4250 568 27(732) CROSS R 419 1111 713 387 1491 1278 2504 42829 4189 4578 5128 5321 4414 1082 1272 1427 1622 1838 2449 2424 2429 2410 1622 1622 1622 1622 1622 1622 1622 16	4265 571 18 - MAR-E EFE R EN EN E 1177 715 1517 2304 2517 2609 33490 4617 4617 4617 4617 4617 4617 4617 4617	4269 587 76 15:0 = 456 1203 929 396 11943 2330 2518 4639 3282 4639 3388 4451 1202 1287 1455 18668 2273 24649 24649 347 147 1487 1497 1497 1497 1497 1497 1497 1497 149	4386 593 6 PAGEAN 5989 4854 989 11969 23569 23569 24561 3157 728 5157 12886 1673 16864 22479 12479 12479 12486 1673 16864 1673 16864 1673 16864 1673 1799 1799	4724 772 130 SYMB 536 997 4856 997 2382 22553 34666 4698 32665 34666 4698 5188 779 5361 1296 1675 1895 2299 2484 2680 2937 2484 2680 2937 2484 2680 2937 2484 2680 2937 2484 2680 2937 2937 2937 2937 2937 2937 2937 2937	4769 822 0Ls 602 4894 1166 470 1233 1621 2404 2505 2676 3532 34593 1292 1492 1492 1492 1492 1492 1492 1492	4814 920 634 4896 2110 1254 1254 1254 12718 3563 1294 1219 1	636 4935 2148 539 1255 2073 2419 4419 4744 4745 231 1133 1188 1323 11938 1726 1933 2331 2431 3441 3441 3441 3441 3441 34	941 849 2468 540 1256 540 1256 2446 2528 4441 4788 4961 523 11616 1189 1329	986 4155 6198 1725 2147 2568 4789 4789 49973 936 1344 1344 1544 1754 1964 1754 1964 1754 1964 1757 1765 1765 1765 1765 1765 1765 1765	996 438364 17536 2451 225814 38235 4833 48235 9361 1355 11770 121777 217777 217777 21777 21777 21777 21777 21777 21777 21777 21777 21777 21777 217777 21777	10 6 6 42 2 1 1 2 1 5 2 4 8 4 5 2 4 5 9 4 4 5 9 4 5 5 2 7 9 2 2 5 8 6 6 3 3 4 1 6 6 2 3 8 3 6 6 2 3 8 3 8 4 6 6 2	5094 1091 5445 8486 1809 22486 2595 3835 4850 5076 1006 1180	PAGE: 01 1101 900 1432 1837 2226 25097 2793 3839 4853 4853 4853 5319 1077 1268 1401 15810 2016 2221 2414 2830 3073 3524 3915	.52
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		2211	2217	2233	2237	2243	2259	2263	2269	2285	2289	2295	2311	2315	2321	2337	'
		2341	2347	2363	2367	2373	2389	2397	2403	2434	2439	2446	2493	2498	2505	2536	
		2541	2549	2647	2657	2665	2705 2964	2710 2970	2716 2982	2771 2990	2776 2996	2782 3040	2836 3047	2851 3054	· 2853 3091	2858 3102	
		2864 3108	2882 3160	2894 3164	2900 3171	2960 3304	3311	3317	3362	3369	3375	3421	3425	3432	3539	3551	•
		3557	3583	3595	3601	3770	3776	3782	3810	3816	3822	3870	3884	3890	4118	4125	
		4131	4169	4174	4180	4272	4279	4281	4289	4295	4353	4357	4363	4401	4406	4412	1
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		4898	4901	4907	4939	4944	4950	4980	4984	4990	5005	5009	5015	5030	5034	5040	
		5055 5250	5059 5257	5065 5264	5081 5296	5086 5303	5092 5310	5113 5343	5118 5350	5125 5356	5163 5486	5171	5178	5206	5214	5221	
	MACRO	3230	3237	5264	3270	2303	2316	3343	3330	3330	3400						
	NLIST	ī	15	36	55	81	83	93	117	119	193	195	197	199	201	203	
		205	207	209	211	213	215	217	219	221	276	370	463	511	958	1211	
		1214	1221	1240	1245	1252	1309	1313	1319	1335	1339	1345	1361	1365	1371	1387	
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		1528 1663	1534 1669	1550 1682	1554 1687	1560 1693	1576 1704	1580 1708	1596 1714	1602 1732	1606 1736	1612 1742	1628 1760	1634 1764	164Ø 177Ø	1662 1788	
		1792	1798	1816	1820	1826	1844	1848	1854	1872	1876	1882	1898	1902	1908	1924	
		1928	1934	1950	1954	1960	1976	1980	1986	2002	2006	2012	2028	2032	2038	2054	
•																	
	DZDVA-B	MACVII	27/7221	10-MAD-	76 15:0	6 DAGE	136							•		PAGE	0158
	DZDVAB.P		CROSS R	EFERENCE	TABLE -	- PERMAN	ENT SYME	OLS									
																- · · · · ·	
		2058	2064	2080	2084	2091	2117	2121	2128	2155	2162	2168	2181	2185	2191	2207	
		2211	2217	2233	2237	2243	2259	2263	2269	2285	2289	2295	2311 2493	2315 2498	2321 2505	2337 2536	
		2341 2541	2347 2549	2363 2647	2367 2657	2373 2665	2389 2705	2397 2710	2403 2716	2434 2771	2439 2776	2446 2782	2836	2851	2853	2858	
		2864	2882	2894	2900	2960	2964	2970	2982	2990	2996	3040	3047	3054	3091	3102	
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		4131	4169	4174	4180	4272	4279	4281	4289	4295	4353	4357	4363	4401	4406	4412	
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		5055 5250	5059 5257	5065 5264	5081 5296	5Ø86 53Ø3	5092 5310	5113 5343	5118 5350	5125 5356	5163 5486	5171	31/6	2500	2614	3221	
	PAGE	36	83	172	224	276	370	463	973	1211	2434	4817	5388				
	REM	370		• •		•.•			•								
	REPT	93															
	SBTTL	. 1	36	83	117	370	463	511	1211								
	.TITLE .WORD	15 955	1299	1300	1201	1300	1202	1304	1305	1306							
	• WUKD	700	1277	1300	1301	1302	1303	1304	1300	1300							

ERRORS DETECTED: Ø
DEFAULT GLOBALS GENERATED: Ø

*OZDVAB, DZDVAB/SOL/CRF=DZDVAB, MAC, DZDVAB, P11 RUN-TIME: 47 67 12 SECONDS RUN-TIME RATIO: 351/128=2.7 CORE USED: 34K (67 PAGES)