

DRBH DEC/X11 SYSTEM EXERCISER MODULE: 12-OCT-78 11:55
XDRBH0.P11

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.REM -

IDENTIFICATION

PRODUCT CODE: AC-E851H-MC
PRODUCT NAME: CXDRBH0 DR11-E MODULE
PRODUCT DATE: SEPTEMBER 1978
MAINTAINER: DEC/X11 SUPPORT GROUP

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1. ABSTRACT

DRB IS A IOMOD THAT EXERCISES ONE DR11-B. THE DEVICE IS EXERCISED USING THE MAINTENANCE MODE TO TRANSFER A 16 WORD BUFFER.

2. REQUIREMENTS

HARDWARE: ONE DR11-B INTERFACE A M968 MAINTENANCE MODULE
STORAGE:: DRB REQUIRES:

1. DECIMAL WORDS: 205
2. OCTAL WORDS: 0315
3. OCTAL BYTES: 632

3. PASS DEFINITION

ONE PASS OF DRB CONSISTS OF TRANSFERRING ONE 16 WORD BLOCK OF DATA 77000(8) TIMES

4. EXECUTION TIME

ONE PASS OF DRB RUNNING ALONE ON A PDP11/05 PROCESSOR TAKES APPROXIMATELY TEN SECONDS.

5. CONFIGURATION REQUIREMENTS

DEFAULT PARAMETERS:

DEVADR: 172410, VECTOR: 124, BR1: 5, DEVCNT: 1

REQUIRED PARAMETERS:

NONE

6. DEVICE/OPTION SET-UP

INSTALL THE M-968 MAINTENANCE MODULE

7. MODULE OPERATION

TEST SEQUENCE:

- A. SET UP VECTOR AND DEVICE REGISTERS
- B. TRANSFER 16 WORDS IN MAINT. MODE
- C. COMPARE DATA IN:OUI - REPORT ERRORS
- D. REPEAT 77000 TIMES
- E. SIGNAL END OF PASS, RESTART AT A.

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IF DEVICE FAILS TO INTERRUPT NO END OF PASS PRINTOUT WILL
OCCUR.

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8. -----
OPERATION OPTIONS

NONE

9. -----
NON STANDARD PRINTOUTS

NONE: ALL PRINTOUTS HAVE THE STANDARD FORMATS DESCRIBED IN THE
DEC/X11 DOCUMENT.

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DR11-B DEC/X11 EXERCISER MODULE
IOMOD <DRBH> 172410,124,5,77000,56
MODULE 140000,DRBH,172410,124,5,77000,56
TITLE DRBH DEC/X11 SYSTEM EXERCISER MODULE
DIXCOM VERSION 6 23-MAY-78
- LIST BIN
*****
BEGIN:
MODNAM: .ASCII /DRBH / ;MODULE NAME.
XFLAG: .BYTE OPEN ;USED TO KEEP TRACK OF WBUF USAGE
ADDR: 172410+0 ;1ST DEVICE ADDR.
VECTOR: 124+0 ;1ST DEVICE VECTOR.
BR1: .BYTE PRTV5+0 ;1ST BR LEVEL.
BR2: .BYTE PRTV+0 ;2ND BR LEVEL.
DVID1: +1 ;DEVICE INDICATOR 1.
SR1: OPEN ;SWITCH REGISTER 1
SR2: OPEN ;SWITCH REGISTER 2
SR3: OPEN ;SWITCH REGISTER 3
SR4: OPEN ;SWITCH REGISTER 4
*****
STAT: 140000 ;STATUS WORD
INIT: START ;MODULE START ADDR.
SPOINT: MODSP ;MODULE STACK POINTER.
PASCNT: 0 ;PASS COUNTER.
ICOUNT: 0 ;# OF ITERATIONS PER PASS=77000
SOFCNT: 0 ;LOC TO COUNT ITERATIONS
HRDCNT: 0 ;LOC TO SAVE TOTAL SOFT ERRORS
HRDPAS: 0 ;LOC TO SAVE SOFT ERRORS PER PASS
SYSCNT: 0 ;LOC TO SAVE HARD ERRORS PER PASS
RANUM: 0 ;# OF SYS ERRORS ACCUMULATED
CONTC: 0 ;HOLDS RANDOM # WHEN RAND MACRO IS CALLED
RES1: 0 ;RESERVED FOR MONITOR USE
RES2: 0 ;RESERVED FOR MONITOR USE
SVR0: OPEN ;LOC TO SAVE R0.
SVR1: OPEN ;LOC TO SAVE R1.
SVR2: OPEN ;LOC TO SAVE R2.
SVR3: OPEN ;LOC TO SAVE R3.
SVR4: OPEN ;LOC TO SAVE R4.
SVR5: OPEN ;LOC TO SAVE R5.
SVR6: OPEN ;LOC TO SAVE R6.
CSRA: OPEN ;ADDR OF CURRENT CSR.
SBRADR: OPEN ;ADDR OF GOOD DATA, OR
WCSR: OPEN ;CONTENTS OF CSR.
WASADR: OPEN ;ADDR OF BAD DATA, OR
ASTAT: OPEN ;STATUS REG CONTENTS.
ERRYP: OPEN ;TYPE OF ERROR
ASB: OPEN ;EXPECTED DATA.
AWAS: OPEN ;ACTUAL DATA.
RSTRT: RSTRT ;RESTART ADDRESS AFTER END OF PASS
WDTO: OPEN ;WORDS TO MEMORY PER ITERATION
WDFR: OPEN ;WORDS FROM MEMORY PER ITERATION
INTR: OPEN ;# OF INTERRUPTS PER ITERATION
IDNUM: 56 ;MODULE IDENTIFICATION NUMBER=56
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000040 .REPT SPSIZ ;MODULE STACK STARTS HERE.
-MLST
-WORD 0
-LIST
-ENDR
000224* MODSP:
*****
;THIS MODULE TESTS THE DR-11B DIRECT MEMORY ACCESS INTERFACE
;MAINTENANCE MODULE M-968 TO BE USED WITH THIS TEST
;INITIALIZATION FOR (DMA) DR-11B
181 000224* 012767 00001 177666 START: MOV #1,INTR ;1 INTERRUPT PER ITERATION
182 000232* 012767 000016 177654 MOV #16,WDTO ;16 WORDS TO MEM PER ITERATION
183
184
185
186
187
188
189
190 000240* BREAK$,BEGIN ;TEMPORARY RETURN TO MONITOR...
191 000244* 104407 000000* ;THEN CONTINUE AT NEXT INSTRUCTION.
192 000250* 016705 177532 MOV ADDR,R5 ;GET DEVICE ADDRESS
193 000254* 012725 177760 MOV #20,(R5)+ ;SIXTEEN WORD TRANSFER
194 000260* 016790 177524 MOV VECTOR,R0 ;LOAD DEVICE VECTOR
195 000264* 012720 000220* MOV DRIR,(R0)+ ;SET VECTOR TO SERVICE ROUTINE
196 000270* 116720 177516 MOV# BR1,(R0)+ ;SET PRIORITY
197 000274* 012767 000572* MOV DRBUF,VA ;SETUP BUS ADDRESS
198 000302* 104415 000000* ACSPAS,BEGIN,VA ;SET PHYSICAL ADDRESS FROM 16-BIT VA
199 000310* 016725 000246* MOV #PA,(R5)+ ;SET UP REAL ADDR.
200 000314* 005025 CLR (R5)+ ;CLEAR THE CSR
201 000316* 012715 177777 MOV #1,(R5) ;SET UP DATA
202 000320* 056785 000236* BIS EA,(R5) ;SET EXTENDED MEM. BITS
203 000324* 056785 000234* CLR DONFLG ;CLEAR THE DEVICE COMPLETION FLAG
204 000332* 052715 010101 BIS #010101,(R5) ;SETUP MAINTENANCE WCODE
205
206 000336* 012767 000010 000224 TIME: MOV #10,TMRCNT ;ENABLE INTERRUPT AND GC
207 000344* 005004 CLR R4 ;SET UP TIMING LOOP
208 ;SETUP TIMER COUNTER
209
210 000346* 104407 000000* BREAK$,BEGIN ;TEMPORARY RETURN TO MONITOR...
211 000352* 104407 000000* ;THEN CONTINUE AT NEXT INSTRUCTION.
212 000356* 005767 000204* TST DONFLG ;DID THE INTERRUPT OCCUR?
213 000362* 001012 BNE DONE ;IF YES CALL FOR END OF PASS
214 000364* 005304 DEC R4 ;IF NO, COUNT SOME TIME. HAVE WE TIMED OUT?
215 000366* 001367 BNE TIMER ;IF NO, GO BREAK AGAIN
216 000370* 005367 DEC TMRCNT ;DECREASE THE OVERALL COUNT
217 000374* 100364 BPL TIMER ;GO AGAIN IF MORE TIME
218 000376* 104403 000000* 000520* MSGNS,BEGIN,HUNG ;ASCII MESSAGE CALL WITH COMMON HEADER
219 000404* 104410 000000* ENDS,BEGIN ;
220
221 000410* 104413 000000* DONE: ENDS$,BEGIN ;SIGNAL END OF ITERATION.
222 ;MONITOR SHALL TEST END OF PASS
223 000414* 000167 177620 JMP RSTRT ;ELSE DO IT AGAIN
224 ;CHECK DATA TRANSFER
225
226 000420* DRIR:
227 ;
228 000420* 000004 000000* 000426* ;FIRQS,BEGIN,CHECK ; QUEUE UP TO CONTINUE AT CHECK AND RTI
229 ;
```


MAP22S = 104416	181#																			
MODRAW = 000000R	127#																			
MODSP = 000224R	141#	179#																		
MSCNS = 104403	181#	218#																		
MSCSS = 104402	181#																			
MSCS = 104401	181#																			
NULL = 000000	181#																			
OPEN = 000000	128#	134	135	136	137	154	155	156	157	158	159	160	161							
	163#	165	167	168	170	171	172	181#	201	262	263	264	265							
PTOAS = 104420	181#																			
PA = 000562R	200#	262#																		
PASCNT = 000034R	142#																			
PIKQ5 = 000004	181#	228																		
POPS1 = 005726	181#																			
POPS2 = 022656	181#																			
PRTY = 000000	132#	181#																		
PRTY0 = 000000	181#																			
PRTY1 = 000040	181#																			
PRTY2 = 000100	181#																			
PRTY3 = 000140	181#																			
PRTY4 = 000200	181#																			
PRTY5 = 000240	181#	181#																		
PRTY6 = 000300	181#																			
PRTY7 = 000340	181#																			
PS = 177776	181#																			
PSH = 005746	181#																			
PUSH2 = 024646	181#																			
RANDS = 104417	181#																			
RANRUM = 000040R	200#																			
RESTR1 = 000240R	190#	223																		
RES1 = 000056R	152#																			
RES2 = 000060R	153#																			
RSTRT = 000110R	169#																			
SBADR = 000102R	145#	238*																		
SDFCNT = 000042R	181#																			
SDFPNS = 104406	141#																			
SDFPAS = 000046R	141#																			
SPOINT = 000032R	141#																			
SPSIZ = 000040	174																			
SR1 = 000016R	134#																			
SR2 = 000020R	132#																			
SR3 = 000022R	132#																			
SR4 = 000024R	137#																			
START = 000224R	140#	187#																		
STAT = 000268R	134#																			
SVRO = 000062R	154#																			
SVR1 = 000064R	155#																			
SVR2 = 000066R	156#																			
SVR3 = 000070R	157#																			
SVR4 = 000072R	158#																			
SVR5 = 000074R	159#																			
SVR6 = 000076R	160#																			
SYSCNT = 000052R	149#																			
TIME = 000342R	209#																			
TIMER = 000346R	209#	215	217																	

TMRCNT = 000570R	207#	216*	265#																	
TRPDFD = 000022	181#																			
VA = 000560R	198#	199	261#																	
VECTOR = 000010R	130#	195																		
WASADR = 000104R	164#	242*																		
WDFR = 000116R	171#																			
WFTD = 000114R	170#	188*																		
XFLAG = 000005R	128#																			
	159#	266#																		

- ABS. 000000 000
 000632 001

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0

XDRBH0, XDRBH0/SOL/CRF:SYN=DDXCOM, XDRBH0
 RUN-TIME: 11.2 SECONDS
 RUN-TIME RATIO: 9/2-3.3
 CORE USED: 7K (13 PAGES)