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IDENTIFICATION

PRODUCT CODE: AC-E827F-MC
PRODUCT NAME: CXDXAFO DX11 MODULE
PRODUCT DATE: SEPTEMBER 1978
MAINTAINER: DEC/X11 SUPPORT GROUP

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REVISION DEC CHANGE NOTICE
MAY BE REQUIRED FOR
PROGRAM TO OPERATE

1. ABSTRACT:

DXA IS A IOMODR THAT EXERCISES THE DX11 IN THE OFF LINE STATE.

2. REQUIREMENTS:

HARDWARE: ANY DX11 CONTROLLER INTERFACED WITH A PDP-11.
STORAGE: DXA REQUIRES:
1. DECIMAL WORDS: 280
2. OCTAL WORDS: 0430
3. OCTAL BYTES: 1060

3. PASS DEFINITION:

ONE PASS OF THE DXA MODULE CONSISTS OF TRANSFERING THE
BUFFER 10000 TIMES. (512 BYTES IN THE BUFFER)

4. EXECUTION TIME:

DXA RUNNING ALONE TAKES APPROXIMATELY FORTY-FIVE SECONDS.

5. CONFIGURATION REQUIREMENTS:

DX11 MUST BE FIRST ON THE UNIBUS.

6. DEVICE/OPTION SETUP:

NONE.

7. MODULE OPERATION:

THIS MODULE IS WRITTEN TO EXERCISE ONE DX11B FRONT END OPTION. THERE IS ADDRESS SPACE RESERVED FOR TWO DX11B'S, THE FIRST AT 776200 AND THE SECOND AT 776240. THIS MODULE MAY BE CONFIGURED TO RUN THE DX AT EITHER (BOTH BY CALLING TWO MODULES) OF THESE ADDRESSES. THE FUNCTION OF THIS MODULE IS TO VERIFY THE DX11 CAN EXECUTE FAST NPR DATA TRANSFERS. THIS ACCOMPLISHED THROUGH THE UTILIZATION OF THE SERVICE-OUT/SERVICE-IN ENABLE FLOP. FOLLOWING THE INITIALIZATION OF THE OFFSET AND STATUS (DXOS) REGISTER WITH THE ADDRESS OF THE STATUS POINTER WORD (#SPW) TABLE, THIS LOCATION AND THE NEXT 1000(8) BYTES ARE CLEARED. THE ZEROED SPW CAUSES THE DX TO BYPASS STATUS PRESENTATION FROM THE DST (DEVICE STATUS TABLE) AND PRESENT ZERO AS IMMEDIATE STATUS. THIS ALLOWS THE SPW TO SECOND AS A DATA BUFFER. THE DATA TRANSFER IS INITIATED BY LOADING THE MAINTENANCE-OUT (DXMO) REGISTER WITH OPLO! PARITY! DATA. THE BUS ADDRESS (DXBA) REGISTER IS POINTING TO THE #SPW AND THE BYTE COUNT (DXBC) IS SET FOR 1000(8) BYTES. AT THIS POINT THE FUNCTION BITS ARE SET TO DO A FUNCTION INPUT AND GO. THE DATA TRANSFER DOES NOT START UNTIL THE SELECTION SEQUENCE IS COMPLETE AND SOSIEN (SRVO-SRVIENABLE) IS SET. AT THAT THE DX EXECUTES NPR'S UNTIL THE BYTE COUNT GOES TO ZERO. AT THAT POINT THE TUMBLE TABLE ENTRY IS MADE INDICATING THE COMPLETION OF THE TRANSFER AND AN INTERRUPT IS REQUESTED TO SERVICE THAT EVENT. THE INTERRUPT SERVICE ROUTINE GOES ON IMMEDIATE PIRQ BEFORE DOING ANY STATUS OR DATA CHECKS. THEREFORE THERE SHOULD BE NO BR LATENCY PROBLEMS. WITHIN THE SERVICE ROUTINE TWO STATUS CHECKS ARE MADE (DONE FOR FALSE INTERRUPTS, AND NPRTO FOR NPR TIME OUTS) FOLLOWING THESE THE DATA IS VERIFIED. AS THE DATA IS CHECKED THE BUFFER IS ZEROED FOR THE NEXT TRANSFER AND THE CYCLE IS REPEATED.

8. OPERATING OPTIONS:

NONE.

9. NON-STANDARD PRINTOUTS:

NONE.

DXLL OFFLINE EXERCISER MODULE

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000000 IOMODR <DXAF>,176200,1,4,10000,40
000000 MODULE 152000,DXAF,176200,1,4,10000,40
          -TITLE DXAF DEC/X11 SYSTEM EXERCISER MODULE
          ; DDXCOM VERSION 6 23-MAY-78
          ;*****LIST BIN*****
000000- 054104 043101 040 BEGIN:
000005- 000 XFLAG: -ASCII /DXAF / ;MODULE NAME.
000006- 176200 ADDR: 176200+0 ;USED TO KEEP TRACK OF WBUFF USAGE
000010- 000001 VECTOR: 1+0 ;LIST DEVICE ADDR.
000012- 200 BR1: -BYTE PRTY4+0 ;LIST BR LEVEL.
000013- 000 BR2: -BVTE PRTY+0 ;2ND BR LEVEL.
000014- 000001 DVID1: +1 ;DEVICE INDICATOR 1.
000016- 000000 SR1: OPEN ;SWITCH REGISTER 1
000020- 000000 SR2: OPEN ;SWITCH REGISTER 2
000022- 000000 SR3: OPEN ;SWITCH REGISTER 3
000024- 000000 SR4: OPEN ;SWITCH REGISTER 4
          ;*****
000026- 152000 STAT: 152000 ;STATUS WORD
000030- 000270- MODSTART: 0 ;MODULE START ADDR.
000032- 000224- SPOINT: MODSP ;MODULE STACK POINTER.
000034- 000000 PASCNT: 0 ;PASS COUNTER.
000036- 010000 ICOUNT: 0 0000 ;# OF ITERATIONS PER PASS=10000
000040- 000000 SOFCNT: 0 ;LOC TO COUNT ITERATIONS
000044- 000000 HRDCNT: 0 ;LOC TO SAVE TOTAL SOFT ERRORS
000046- 000000 SDFAS: 0 ;LOC TO SAVE TOTAL HARD ERRORS
000050- 000000 HRDRAS: 0 ;LOC TO SAVE HARD ERRORS PER PASS
000052- 000000 SYSCNT: 0 ;# OF SYS ERRORS ACCUMULATED
000054- 000000 RANNUM: 0 ;HOLDS RANDOM # WHEN RAND MACRO IS CALLED
000056- 000000 RES1: 0 ;RESERVED FOR MONITOR USE
000060- 000000 RES2: 0 ;RESERVED FOR MONITOR USE
000062- 000000 SVRO: OPEN ;LOC TO SAVE R0.
000064- 000000 SVR1: OPEN ;LOC TO SAVE R1.
000066- 000000 SVR2: OPEN ;LOC TO SAVE R2.
000070- 000000 SVR3: OPEN ;LOC TO SAVE R3.
000072- 000000 SVR4: OPEN ;LOC TO SAVE R4.
000074- 000000 SVR5: OPEN ;LOC TO SAVE R5.
000076- 000000 SVR6: OPEN ;LOC TO SAVE R6.
000100- 000000 CSRA: OPEN ;ADDR OF CURRENT CSR.
000102- SBADR: ;ADDR OF GOOD DATA, OR
000102- 000000 ACSR: OPEN ;CONTENTS OF CSR
000104- WADR: ;ADDR OF BAD DATA, OR
000104- 000000 ASTAT: OPEN ;STATUS REG CONTENTS.
000106- ERRTP: ;TYPE OF ERROR
000106- 000000 ASB: OPEN ;EXPECTED DATA.
000110- 000000 AWAS: OPEN ;ACTUAL DATA.
000112- 000312- RSTRT: RSTRT ;RESTART ADDRESS AFTER END OF PASS
000114- 000000 WDTO: OPEN ;WORDS TO MEMORY PER ITERATION

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000116- 000000 WDFR: OPEN ;WORDS FROM MEMORY PER ITERATION
000120- 000000 INTR: OPEN ;# OF INTERRUPTS PER ITERATION
000122- 000040 IDNUM: 40 ;MODULE IDENTIFICATION NUMBER=40
          -REPT SPSIZ ;MODULE STACK STARTS HERE.
          -NLIST
          -LIST 0
          -ENDR
000224- MODSP:
          ;*****
          ;GOOD THINGS FOR THIS MODULE
186 DXDS: 176200 ;DEVICE STATUS ->TT
187 DXCA: 176202 ;COMMAND AND ADDRESS ->TT
188 DXCS: 176204 ;CONTROL UNIT STATUS
189 DXOS: 176206 ;OFFSET AND STATUS
190 DXBA: 176210 ;BUS ADDRESS FOR NPR'S
191 DXBC: 176212 ;BYTE COUNT
192 DXMD: 176214 ;MAINTENANCE OUT
193 DXMI: 176216 ;MAINTENANCE IN
194 DXND: 176222 ;CONTROL BITS
195 DXES: 176224 ;EXTRA SIGNALS
196 DXMB: 176230 ;MAINTENANCE OUT BUFFERED
197 DXES1: 176230 ;EXTRA EXTRA SIGNALS TABLE
200 DST: OPEN ;ADDRESS OF DEVICE STATUS TABLE
201 CUADR: OPEN ;CONTROL UNIT ADDRESS
202 DXDAT: OPEN ;ADRS OF DX DATA BUFFER
203 TSQT: 152525 ;TEST DATA
204 CNT: 0
205 ;DXDS,DX DEVICE STATUS BITS
206 PARER =100000 ;ERRORS
207 NXM =40000 ;NONEXISTANT MEMORY REFERENCE
208 SELRST =20000 ;IBM RESETS;SELECTIVE RESET
209 SYSRST =10000 ;SYSTEM RESET
210 INFDSC =4000 ;INTERFACE DISCONNECT
211 UCHKS =2000 ;STATUS FLAGS
212 CHENDS =1000 ;CHANNEL END SENT
213 BSYS =400 ;BUSY SENT
214 CHS =200 ;CHANNEL INITIATED SELECTION
215 ESEND =100 ;ENDING STATUS END
216 CHEND =40 ;CH DATA END
217 CUDEND =20 ;CU DATA END
218 ISSREJ =10 ;ISS REJECT
219 CMDCHN =4 ;COMMAND CHAINING
220 STKSTB =2 ;STACKED STATUS B
221 CMDREJ =1 ;COMMAND REJECT
222 ;DXCS,DX CONTROL UNIT STATUS BITS
223 PARSTP =100000 ;STOP ON BUSO PARITY ERROR
224 CUFBM =40000 ;SELECT FORCED BURST
225 EMDEN =20000 ;%CUEND
226
227
228
229
230
231

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232 010000 CS12 = 10000 ;NOT USED
233 010000 STEN = 4000 ;ENABLE SET 'CUBSY'
234 002000 CS10 = 2000 ;NOT USED
235 001000 ONLINA = 1000 ;ONLINE A
236 000400 CUBSY = 400 ;CU BUSY
237 000200 DNE = 200 ;FUNCTION DONE
238 000100 INTEN = 100 ;INTERRUPT
239 000040 STKSTA = 40 ;STACKED STATUS
240 000030 XBA = 30 ;EXTENDED BASE ADDRESS
241 000006 FCTN = 6 ;
242 000005 DXFRS = 5 ;
243 000003 DXF1 = 3 ;FCTN + GO
244 000005 DXFD = 5 ;READ (INPUT)
245 000007 DXFST = 7 ;WRITE (OUTPUT)
246 000001 GO = 1 ;STATUS
;BEGIN FUNCTION
247
248 ;DXOS DX OFFSET (CUOR) AND STATUS (CUSR) BITS
249
250 000200 ATTEN =200 ;ATTENTION
251 000100 STAMOD =100 ;STATUS MODIFIER
252 000040 CHEND = 40 ;CU END
253 000020 BSY = 20 ;BUSY
254 000010 CHEMD = 10 ;CH END
255 000004 DEVEND = 4 ;DEVICE END
256 000002 UCHECK = 2 ;UNIT CHECK
257 000001 UEXCEP = 1 ;UNIT EXCEPT
258
259 ;DXMO DX MAINTENANCE-OUT BITS
260
261 ;SELECTION CONTROL LINES
262 100000 OPLO =100000 ;OPERATIONAL OUT
263 040000 HLD0 = 40000 ;HOLD OUT
264 020000 SELO = 20000 ;SELECT OUT
265 010000 SUP0 = 10000 ;SUPPRESS OUT
266
267 ;TAG LINES
268 004000 ADRO = 4000 ;ADDRESS OUT
269 002000 CHDO = 2000 ;COMMAND OUT
270 001000 SRVO = 1000 ;SERVICE OUT
271 000400 PARO = 400 ;PARITY OF/FCR BUS CUT
272
273 ;DXMI DX MAINTENANCE-IN BITS
274
275 ;SELECTION CONTROL LINES
276 100000 OPLI =100000 ;OPERATIONAL IN
277 040000 SELI = 40000 ;SELECT IN
278 020000 REQL = 20000 ;REQUEST IN
279
280 ;TAG LINES
281 010000 ADRI = 10000 ;ADDRESS IN
282 004000 STAI = 4000 ;STATUS IN
283 002000 SRVI = 2000 ;SERVICE IN
284 001000 CLKO = 1000 ;CLK TO GO ONLINE (RO)
285 000400 PARI = 400 ;BUSI PARITY (RO)
286
287 ;DXCB DX CONTROL BITS

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288 100000 LOCKO =100000 ;LOCK OUT
289 140000 PHS =140000 ;PHASE - STATE BITS
290 002000 FASTCU =2000 ;FAST CU
291 001000 SYNC = 1000 ;SYNCHRONIZATION
292 000400 CUDX = 400 ;CU DATA CONTROL
293 000200 IDD = 200 ;INPUT OUTPUT DONE
294
295 ;NPR CONTROLS
296 000100 BVPAS = 100 ;BYPASS
297 000040 NPRX = 40 ;NPR CONTROL SWITCH
298 000020 NPRT = 20 ;NPR TRANSFER DIRECTION
299 000010 BALF = 10 ;BUFFERED ALTERNATOR FLOP
300 000004 ONLNB = 4 ;ONLINE TO IBW
301 000002 ADRECC = 2 ;ADDRESS RECOGNITION (CU)
302 000001 ADRECD = 1 ;ADDRESS RECOGNITION (DEVICE)
303
304 ;DXES DX EXTRA SIGNALS
305
306 MCLKP=1 ;MAINTENANCE CLOCK PULSE
307 000002 MCLKEN=2 ;MAINT. CLK ENABLE
308 000004 SUSIEN=4 ;SRVD-SRVI ENABLE
309 000010 THDIS=10 ;TIMER (5 SEC) DISABLE
310 000020 DXTD=20 ;DX TIMEOUT (5 SEC)
311 000040 NPRTD=40 ;NPR TIMEOUT (8 MICROSEC)
312 000200 INTREQ=200 ;INTERRUPT REQUEST
313
314 ;DXESI DX EXTRA SIGNALS
315
316 000001 IRS =1 ;IBW RESET STORED
317 000002 DSCRSP =2 ;DISCONNECT RESORSE
318
319 ;MODULE INITIALIZATION - THIS ROUTINE PERFORMS THE INITIALIZATION
320 ;AND SETUP REQUIRED TO EXERCISE THE DZ11 OFFLINE.
321
322 000270 012767 000400 177620 START: MOV #256,,WDFR ;256 WORDS FROM MEM/ITERATION
323 000276 012767 000400 177610 MOV #256,,WDTO ;256 WORDS TO MEM/ITERATION
324 000304 012767 000002 177606 MOV #2,,INTR ;2 INTERRUPTS/ITERATION
325
326 000312 005067 177750 RESTR: CLR CNT ;ANY DX'S SELECTED FOR TEST
327 000316 005767 177472 TST DVID1 ;BRANCH IF YES
328 000322 001002 177472 BNE IS ;
329 000324 104410 000000 ENDS,BEGIN ;
330
331 1$: MOV ADDR,CSRA ;LOAD BASE ADRS
332 000330 016767 177452 ADD #4,CSRA ;FORM ADRS OF DXCS
333 000336 062767 000004 MOV ADDR,RO ;LOAD BASE ADRS
334 000344 016700 177436 CLR 24(R0) ;CLEAR DXES (MAINTENANCE CLOCK)
335 000350 005060 000024 MOV #1,4(R0) ;ISSUE DX RESET
336 000354 012760 000001 000004 GETPAS,BEGIN,SPWVA ;GET PHYSICAL ADDRESS FROM 16-BIT SPWVA
337 000362 104415 000000 001052 ASRB SPWEA ;
338 000370 106267 000462 BIC #30,4(R0) ;CLEAR EA BITS
339 000374 042760 000030 000004 BIS SPWEA,4(R0) ;
340 000402 056760 000450 000004 MOV SPWPA,6(R0) ;LOAD OFFSET WITH SPW ADRS
341 000410 016760 000440 000006 MOV SPWPA,R1 ;LOAD ADRS OF DATA BUFFER
342 000416 016701 000432 MOV #256,,R2 ;512 BYTES OF DATA BUFFER
343 000422 012702 000400

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344 000426 005021 2$: CLR (R1)+ ;ZERO DATA BUFFER
345 000430 005302 2$: DEC R2 ;
346 000432 013752 2$: BNE R2 ;BRANCH IF NOT ZERO
347 000434 012760 100525 000014 MOV #100525,14(R0) ;LOAD DX MAINTENANCE-OUT REG
348 ;<15> = OPLO
349 ;<00> = PARITY
350 ;<07:00> = DATA
351 000442 016702 177342 MOV VECTOR,R2 ;GET ADRS OF INTERRUPT VECTOR
352 000446 012722 000566 MOV #DXSRV,R2+ ;INIT INT VECTOR
353 000452 015752 177334 MOV #R1,R2+ ;INIT INT STATUS
354 000456 012752 001032 MOV #ERSRV,R2+ ;REPORT ERROR ON FALSE INT
355 000462 016722 177324 MOV BR1,R2+ ;ERROR AT DX BR LEVEL
356 000466 052760 000100 000004 BIS #100,4(R0) ;SET INTERRUPT ENABLE
357 000474 04767 000004 JSR PC,DXGO ;DO DUMMY SELECT + EXECUTE
358 000500 104400 000000 EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
359 000504 016760 000344 000010 DXGO: MOV SPWPA,10(R0) ;LOAD BUS ADRS REG
360 000512 012760 177000 000012 MOV #512,12(R0) ;LOAD BYTE COUNT REG
361 000520 012760 000003 000004 BIS #3,4(R0) ;SET DX FUNCTION INPUT + GO
362 000526 052760 060000 000014 BIC #60000,14(R0) ;RAISE HOLD-OUT + SELECT-OUT
363 000534 042760 060000 000014 BIC #60000,14(R0) ;CLEAR HOLD-OUT + SELECT-OUT
364 000542 052760 002000 000014 BIS #2000,14(R0) ;RAISE COMMAND-OUT
365 000550 042760 002000 000014 BIC #2000,14(R0) ;DROP COMMAND-OUT
366 000556 052760 000004 000024 BIS #4,24(R0) ;SET SOSIEN (SRV0-SRV1 ENABLE)
367 000564 000207 PC ;
;DX11B OFFLINE INTERRUPT SERVICE ROUTINE
368
369
370 000566 DXSRV:
371
372 000566 000004 000000 000574 ;-----
;PIRQS,BEGIN,1S ; QUEUE UP TO CONTINUE AT 1S AND RTI
373
374 000574 016700 177206 1$: MOV ADDR,R0 ;FETCH BASE ADDRESS
375 000600 032760 000200 000004 BIT #200,4(R0) ;TEST FOR DONE (FALSE INT?)
376 000606 001011 000004 BNE 2$ ;BRANCH IF DONE SET
377 000610 016067 000004 177264 MOV #4(R0),ACSR ;CONTENTS OF DXCS
378 000616 012760 000011 177262 ;*****ERRRTP *****
;*****ERRRTP *****
379
380 000624 104405 000000 000000 HDRRS,BEGIN,NULL ;FALSE INTERRUPT
;*****ERRRTP *****
381
382 000632 032760 000040 000024 2$: BIT #40,24(R0) ;TEST FOR NPR TIMEOUT
383 000640 001411 000024 177232 BEQ 2$ ;BRANCH IF NO TIMEOUT
384 000642 016067 000024 177232 MOV #24(R0),ACSR ;CONTENTS OF EXTRA SIG REG
385 000650 012760 000002 177230 ;*****ERRRTP *****
;*****ERRRTP *****
386
387 000656 104405 000000 000000 HDRRS,BEGIN,NULL ;NPR TIMEOUT
;*****ERRRTP *****
388
389 000664 016701 000164 3$: MOV SPWPA,R1 ;ADRS OF DATA BUFFER
390 000670 012760 000400 4$: MOV #2,4(R0) ;512 BYTES
391 000674 022711 052525 4$: CMP #52525,(R1) ;CHECK DATA
392 000700 001420 177172 BEQ 5$ ;BRANCH IF DATA OK
393 000702 016067 000004 177164 MOV #4,CSRA ;FORM CSR ADRS
394 000706 062767 000004 177162 ADD #4,SBADR ;
395 000714 005067 177162 CLR #5BADR ;TEST DATA ADRS IS 4$ +2
396 000720 012767 052525 177160 MOV #52525,ASR ;SAVE TEST DATA (GOOD)
397
398 000726 010167 177152 MOV R1,WASADR ;SAVE ACTUAL DATA ADRS
399 000732 011167 177152 MOV (R1),AWAS ;SAVE ACTUAL DATA

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400 ;*****
401 000736 104404 000000 DATERS,BEGIN ;DATA ERROR!!!
402 ;*****
403 000742 005021 5$: CLR (R1)+ ;CLEAR DATA BUFFER
404 000744 005302 6$: DEC R2 ;DEC WORD COUNT
405 000746 001352 BNE 4$ ;BR IF NOT END OF BUFFER
406 000750 042760 000004 000024 BIC #4,24(R0) ;CLEAR SOSIEN
407 000756 042760 000200 000004 BIC #200,4(R0) ;CLEAR DONE
408 000764 026767 177046 177274 COUNT: CMP #COUNT,CNT ;DONE ?
409 000772 001410 BEQ PASS
410 000774 005267 177266 INC CNT
411 001000 104413 000000 ENDIRS,BEGIN ;SIGNAL END OF ITERATION.
412 ;MONITOR SHALL TEST END OF PASS
413 001004 004767 177474 JSR PC,DXGO ;DUMMY SELECT AND EXECUTE
414 001010 104400 000000 EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
415 001014 016700 176766 MOV ADDR,R0 ;CLEAR INTERRUPT FOR END OF PASS
416 001020 042760 000100 000004 BIC #100,4(R0) ;MONITOR SHALL TEST END OF PASS
417 001026 104413 000000 ENDIRS,BEGIN ;SIGNAL END OF ITERATION.
418 ;MONITOR SHALL TEST END OF PASS
419
420 001032 012767 000011 177046 ERSRV: MOV #11,ERRRTP ;ILLEGAL INTERRUPT
421 ;*****
422 001040 104405 000000 000000 HDRRS,BEGIN,NULL ;FALSE INTERRUPT
;*****
423
424 001046 104400 000000 EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
425 SPWPA: SPW
426 SPWPA: OPEN
427 SPWPA: OPEN
428
429
430 ;THE SISIEN MODE IN WHICH THIS TEST RUNS DOES NOT
431 ;REQUIRE THE DX TO DD SPW FETCHES THEREFORE THE
432 ;1000(B) BYTES OF SPW SPACE IS USED AS A DATA BUFFER
433
434
435 000000 000000 SPW: .CSECT B2000 ;SPW (DATA BUFFER)
436 001000 001000 TT: .BLKB 1000 ;TUMBLE TABLE
437
438 000001 .END

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DXAF DEC/X11 SYSTEM EXERCISER MODULE MACY11 30A(1052) 12-OCT-78 16:34 PAGE 16
XDXAFO.P11 12-OCT-78 11:58 CROSS REFERENCE TABLE -- USER SYMBOLS

SEQ 0014

DEFAULT GLOBALS GENERATED: 0

XDXAFO, XDXAFO/SOL/CRP:SYM=DDXCON, XDXAFO
RUN-TIME: 11.3 SECONDS
RUN-TIME RATIO: 11/3=3.3
CORE USED: 7K (13 PAGES)



DECO DEPO SUBMISSION

FOR RELEASE ENG. USE
 NEW CHANGE DELETE

PRODUCT IDENTIFICATION										
LIBRARY	PRODUCT NUMBER	REV	ACT	EXT	DATE	STATUS	DISTRIBUTION	EST. DATE YEAR	EXP. DATE YEAR	
ZZ	CXDXA	F	1	01	20 DEC 78	OBsolete	X G R	73	78	

TITLE **CXDXAF0 DX11 MODULE**

AUTHOR **D. BUTENHOF** MAINTAINER **DEC/X11 SUPT GRP** SUBMITTER **D. BUTENHOF**

PRODUCT COMPONENTS							
CK	DESCRIPTION	PRODUCT NO	REV	CK	DESCRIPTION	PRODUCT NO	REV
	DOCUMENT				INDEX		
	LISTING				SOURCE MEDIA		
	OBJECT MEDIA				TEXT MEDIA		
X		AF-E827F-M1					

PRODUCTS OBSOLETE (other than previous version)									
LIBRARY	PRODUCT NUMBER	REV	LIBRARY	PRODUCT NUMBER	REV	LIBRARY	PRODUCT NUMBER	REV	
MD			MD						

PRODUCT CHARACTERISTICS

OPERATIONAL CODES (Enter all applicable 2 digit codes that describe the product. See separate instructions.)

ACT/APT/XXDP INFORMATION FIELD

EXT ACT SEQ NUMBER ACT XXDP COMPATIBLE APT COMPATIBLE 1ST PASS RUN TIME SECONDS SUBSEQUENT PASS RUN TIME SECONDS

DECO/DEPO INFORMATION

PROBLEM REPORTS CLOSED

ISSUE AFFECTED **DEC/X11** MULTIMEDIA AFFECTED YES NO

KIT NUMBERS	ZJ129-RZ,FR	ZJ239-RZ,PB	ZJ240-RB,RE	ZJ240-RF
	ZJ239-RB,RY	ZJ239-FR	ZJ240-RZ,PB	

PROBLEM:

DXA ATTEMPTS TO ACCESS DATA BUFFER THROUGH KT WITH SYSTEM PHYSICAL ADDRESS, LEADING TO DATA ERRORS.

SOLUTION:

USE VIRTUAL ADDRESS, LET KT HARDWARE MAP IT TO SYSTEM.

DEPO PATCH AREA					
PATCH NO	FROM	TO	DESCRIPTION	DATE	BY
666	164	162			

MANUFACTURING ENGINEER <i>[Signature]</i> DATE 20 DEC 78	SUPPORT ENGINEER <i>[Signature]</i> DATE	CHARGE DECO/DEPO TO DISCRETE PROJECT NUMBER 098-05460
DATE 20 DEC 78		LABORATORY NO. <i>mc# 2808</i>