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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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PROGRAM TO OPERATE

DXAF DEC/111 SYSTEM EXERCISER MODULE
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1. ABSTRACT:

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

2. REQUIREMENTS:

HARDWARE: DXA 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 UNIRUS.

6. DEVICE/OPTION SETUP:

NONE.

7. MODULE OPERATION:

THIS MODULE IS WRITTEN TO EXERCISE ONE DX11B FRONT END OPTION.
THERE IS 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 MODULES) OR THESE ADDRESSES.
THE FASTION OF THE SERVICE-OUTSERV (DXOS) REGISTER WITH THE
UTILIZATION OF THE POINTER AND STATUS WORD (SPW) TABLE LOCATED
IN THE NEXT 100(8) BYTES ARE CLEARED. THE ZERO SPW CAUSES THE
TO BYPASS STATUS PRESENTATION FROM THE DSI (DEVICE STATUS
AS A DATA BUFFER. TRANSFER IS INITIATED BY LOADING THE MAINTENANCE-OUT
(DXMO) REGISTER WITH OPIOP PARITY DATA. THE BUS ADDRESS (DXBA)
REGISTER POINTS TO THE #SPW AND THE BYTE COUNT (DXBC) IS SET FOR
100(8) BYTES. AT THIS POINT THE FUNCTION BITS ARE SET TO DO A THE
FUNCTION INPUT AND GO. THE DATA AND STATUS (SRVIO-SRVINDLE) IS SET.
AT THAT POINT THE EXECUTES NPR'S UNTIL THE BYTE COUNT GOES TO ZERO. LATION
OF THE TRANSFER AND AN INTERRUPT SERVICE ROUTINE GOES ON IMMEDIATELY BEFORE
DOING ANY STATUS CHECKS. THEREFORE THERE SHOULD BE NO BR
LATENCY PROBLEMS WITHIN THE SERVICE ROUTINE TWO STATUS CHECKS ARE MADE
(DONE FOR FALSE INTERRUPTS, AND NPRIO 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
; DDICOM VERSION 6 23-MAY-78
;*****-LIST BIN
000000 BEGIN:
000000 054104 043101 040 ASCII /DXAF / ;MODULE NAME.
000000 XFLAG: BYTE OPEN ;USED TO KEEP TRACK OF WBUFF USAGE
000000 176200 ADDR: 176200+0 ;LIST DEVICE ADDR.
000010 000001 VECTOR: 1+0 ;LIST DEVICE VECTOR.
000011 200 BR1: BYTE PRTV4+0 ;LIST BR LEVEL.
000012 600 BR2: BYTE PRTV+0 ;2ND BR LEVEL.
000013 000001 DVID1: +1 ;DEVICE INDICATOR 1.
000014 000000 SR1: OPEN ;SWITCH REGISTER 1
000020 000000 SR2: OPEN ;SWITCH REGISTER 2
000021 000000 SR3: OPEN ;SWITCH REGISTER 3
000022 000000 SR4: OPEN ;SWITCH REGISTER 4
000023 000000 ;*****-LIST BIN
000024 152000 STAT: 152000 ;STATUS WORD
000030 000270 INIT: START ;LOC TO COUNT ITERATIONS
000031 000224 SPOINT: MODSP ;MODULE STACK POINTER.
000032 000000 PASCNT: 0 ;PASS COUNTER.
000033 000000 ICOUNT: 10000 ;# OF ITERATIONS PER PASS=10000
000034 000000 SOFCNT: 0 ;LOC TO SAVE TOTAL SOFT ERRORS
000035 000000 HRDCNT: 0 ;LOC TO SAVE TOTAL HARD ERRORS
000036 000000 SOFPAS: 0 ;LOC TO SAVE SOFT ERRORS PER PASS
000037 000000 HRDPAS: 0 ;LOC TO SAVE HARD ERRORS PER PASS
000038 000000 SYSCNT: 0 ;# OF SYS ERRORS ACCUMULATED
000039 000000 RANNUM: 0 ;HOLDS RANDOM # WHEN RAND MACRO IS CALLED
000040 000000 COMPTG: ;RESERVED FOR MONITOR USE
000041 000000 RES1: 0 ;RESERVED FOR MONITOR USE
000042 000000 RES2: 0 ;RESERVED FOR MONITOR USE
000043 000000 SVR0: OPEN ;LOC TO SAVE R0.
000044 000000 SVR1: OPEN ;LOC TO SAVE R1.
000045 000000 SVR2: OPEN ;LOC TO SAVE R2.
000046 000000 SVR3: OPEN ;LOC TO SAVE R3.
000047 000000 SVR4: OPEN ;LOC TO SAVE R4.
000048 000000 SVR5: OPEN ;LOC TO SAVE R5.
000049 000000 SVR6: OPEN ;LOC TO SAVE R6.
000050 000000 CSRA: OPEN ;ADDR OF CURRENT CSR.
000051 000000 SBADR: ;ADDR OF GOOD DATA, OR
000052 000000 MASADR: ;CONTENTS OF CSR.
000053 000000 ASTAT: OPEN ;ADDR OF BAD DATA, OR
000054 000000 ERRTP: ;STATUS REG CONTENTS.
000055 000000 ASB: OPEN ;TYPE OF ERROR
000056 000000 ASB: OPEN ;EXPECTED DATA.
000057 000000 RSTRT: RSTRT ;ACTUAL DATA
000058 000000 WDT0: OPEN ;RESTART ADDRESS AFTER END OF PASS
;WORDS TO MEMORY PER ITERATION

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000116 000000 WDFR: OPEN
000120 000000 INTR: OPEN ;WORDS FROM MEMORY PER ITERATION
000122 000040 IDNUM: 40 ;# OF INTERRUPTS PER ITERATION
;MODULE IDENTIFICATION NUMBER=40
;MODULE STACK STARTS HERE.
;REPT SPSIZ
;NEXT 0
;LIST
;ENDR
000224 MODSP:
;*****-LIST BIN
;GOOD THINGS FOR THIS MODULE
DXDS: 176200 ;DEVICE STATUS ->TT
DXCA: 176202 ;COMMAND AND ADDRESS ->TT
DXCS: 176204 ;CONTROL UNIT STATUS
DXBA: 176206 ;OFFSET AND STATUS
DXBC: 176212 ;BUS ADDRESS FOR NPR'S
DXMD: 176214 ;BYTE COUNT
DXNI: 176220 ;MAINTENANCE OUT
DXCS: 176220 ;MAINTENANCE IN
DXND: 176222 ;CONTROL BITS
DXES: 176224 ;NPR DATA
DXHOB: 176224 ;EXTRA SIGNALS
DAST: 176230 ;MAINTENANCE OUT BUFFERED
DST: OPEN ;EXTRA EXTRA SIGNALS
CUADR: OPEN ;ADRS OF DEVICE STATUS TABLE
DXDAT: OPEN ;CONTROL UNIT ADDRESS
TST0: 152525 ;ADRS OF DX DATA BUFFER
;TEST DATA
CNT: 0
;DXDS, DX DEVICE STATUS BITS
PARER = 100000 ;ERRORS
NXM = 40000 ;NONEXISTANT MEMORY REFERENCE
SELRST = 20000 ;IBM RESETS;SELECTIVE RESET
SVSRST = 10000 ;SYSTEM RESET
INFDS = 4000 ;INTERFACE DISCONNECT
IBMRST = SELRST+SVSRST+INFDS
UCHKS = 2000 ;STATUS FLAGS
CHENDS = 1000 ;CHANNEL END SENT
BSYS = 400 ;BUSY SENT
CHIS = 200 ;CHANNEL INITIATED SELECTION
ESEND = 100 ;ENDING STATUS END
CHDEND = 40 ;CH DATA END
CUDAT = 20 ;CU DATA END
ISSREJ = 10 ;ISS REJECT
CMDCHN = 4 ;COMMAND CHAINING
SKRSTB = 2 ;STACKED STATUS B
CHDRBJ = 1 ;COMMAND REJECT
;DXCS,DX CONTROL UNIT STATUS BITS
PARSTP = 100000 ;STOP ON BUSO PARITY ERROR
COFBN = 40000 ;SELECT FORCED BURST
ENDEN = 20000 ;CUEND

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232 010000 CS12 = 10000 ;NOT USED
233 004000 BSVEN = 4000 ;ENABLE SET 'CUBSY'
234 002000 CS10 = 2000 ;NOT USED
235 001000 ONLINA = 1000 ;ONLINE A
236 000400 CUBSY = 400 ;CU BUSY
237 000200 DONE = 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 000001 DXFRS = 1 ;FCTN + GO
243 000003 DXF1 = 3 ;READ (INPUT)
244 000005 DXFO = 5 ;WRITE (OUTPUT)
245 000007 DXFST = 7 ;STATUS
246 000001 GO = 1 ;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 CUEND = 40 ;CU END
253 000020 BSY = 20 ;BUSY
254 000010 CHEND = 10 ;CH END
255 000004 DEVEND = 4 ;DEVICE END
256 000002 UCHECK = 2 ;UNIT CHECK
257 000001 UEXCEP = 1 ;UNIT EXCEPT
258
259 ;DXMD DX MAINTENANCE-OUT BITS
260
261 ;SELECTION CONTROL LINES
262 100000 OPLO =100000 ;OPERATIONAL OUT
263 040000 HLDO = 40000 ;HOLD OUT
264 020000 SELO = 20000 ;SELECT OUT
265 010000 SUPD = 10000 ;SUPPRESS OUT
266
267 ;TAG LINES
268 004000 ADRO = 4000 ;ADDRESS OUT
269 002000 CMDO = 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 REGI = 20000 ;REQUEST IN
279
280 ;TAG LINES
281 010000 ADRI = 10000 ;ADDRESS IN
282 004000 STAT = 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 074000 PHS = 074000 ;PHASE - STATE BITS
290 002000 FASTCU = 2000 ;FAST CU
291 001000 SVNC = 1000 ;SYNCHRONIZATION
292 000400 CUDX = 400 ;CU DATA CONTROL
293 000200 IOD = 200 ;INPUT OUTPUT DONE
294
295 ;NPR CONTROLS
296 000100 BYPAS = 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 ONLIND = 4 ;ONLINE TO LBM
301 000002 ADRECC = 2 ;ADDRESS RECOGNITION (CU)
302 000001 ADRECD = 1 ;ADDRESS RECOGNITION (DEVICE)
303
304 ;DXES DX EXTRA SIGNALS
305 000001 MCLKP=1 ;MAINTENANCE CLOCK PULSE
306 000002 MCLKEN=2 ;MAINT. CLK ENABLE
307 000004 SOSTEN=4 ;SRVD-SRVI ENABLE
308 000010 TMDIS=10 ;TIMER (5 SEC) DISABLE
309 000020 DXTO=20 ;DX TIMEOUT (5 SEC)
310 000040 NPRTO=40 ;NPR TIMEOUT (8 MICROSEC)
311 000200 INTREQ=200 ;INTERRUPT REQUEST
312
313 ;DXES1 DX EXTRA SIGNALS
314 000001 IRS = 1 ;IBM RESET STORED
315 000002 DSCRSP = 2 ;DISCONNECT RESPONSE
316
317 ;MODULE INITIALIZATION - THIS ROUTINE PERFORMS THE INITIALIZATION
318 ;AND SETUP REQUIRED TO EXERCISE THE DZ11 OFFLINE.
319
320
321
322
323 000270 012767 000400 177620 START: MOV #256.,WDFR ;256 WORDS FROM MEM/ITERATION
324 000270 012767 000400 177610 MOV #256.,WDTO ;256 WORDS TO MEM/ITERATION
325 000304 012767 000002 177606 MOV #2.,INTR ;2 INTERRUPTS/ITERATION
326
327 000312 005067 177750 RESTRT: CLR CNT ;
328 000316 005767 177472 TST DVID1 ;ANY DX'S SELECTED FOR TEST
329 000322 001002 000000 BNE IS ;BRANCH IF YES
330 000324 104410 000000 ENDS,BEGIN ;
331
332 1$:
333 000330 016767 177452 MOV ADDR,CSRA ;LOAD BASE ADRS
334 000336 062767 000044 #4,CSRA ;FORM ADRS OF DXCS
335 000344 016700 177436 MOV ADDR,RO ;LOAD BASE ADRS
336 000350 005060 000024 CLR #24,(RO) ;CLEAR DXES (MAINTENANCE CLOCK)
337 000354 012760 000001 MOV #4,(RO) ;ISSUE DX RESET
338 000362 104410 000006 GETPAS,BEGIN,SPWVA ;GET PHYSICAL ADDRESS FROM 16-BIT SPWVA
339 000370 106267 000462 ASRB ;
340 000374 042760 000030 BIC #30,4(RO) ;CLEAR EA BITS
341 000409 056760 000450 BIS SPWEA,4(RO) ;
342 000416 016760 000440 MOV SPWPA,6(RO) ;LOAD OFFSET WITH SPW ADRS
343 000422 012702 000400 MOV #256.,R2 ;LOAD ADRS OF DATA BUFFER
;512 BYTES OF DATA BUFFER

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344 000426 005021 2$: CLR (R1)+ ;ZERO DATA BUFFER
345 000430 005302 DEC R2 ;
346 000432 013755 BNE R2 ;BRANCH IF NOT ZERO
347 000434 012760 100525 000014 MOV #100525,14(R0) ;LOAD DX MAINTENANCE-OUT REG
348 ;<15> = DPL0
349 ;<00> = PARITY
350 ;<07:00> = DATA
351 000442 016702 177342 MOV VECTOR,R2 ;GET ADRS OF INTERRUPT VECTOR
352 000446 012722 000566 MOV DXSRV,(R2)+ ;INIT INT VECTOR
353 000452 015757 177334 MOV BR,(R2)+ ;INIT INT STATUS
354 000454 017755 001032 MOV ERSRV,(R2)+ ;REPORT ERROR ON FALSE INT
355 000462 016722 177324 MOV BR1,(R2)+ ;ERROR AT DX BR LEVEL
356 000466 052760 000100 000004 BIS #100,4(R0) ;SET INTERRUPT ENABLE
357 000474 04767 000004 JSR PC,DXGO ;DO DUMMY SELECT + EXECUTE
358 000500 104400 000000 EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
359 000504 016760 000344 000010 DXGO: MOV SPWPA,10(R0) ;LOAD BUS ADRS REG
360 000512 012760 177000 000012 MOV #512,12(R0) ;LOAD BYTE COUNT REG
361 000520 012760 000003 000004 BIS #3,4(R0) ;SET DX FUNCTION INPUT + GO
362 000526 052760 060000 000014 BIC #6000,4(R0) ;RISE HOLD-OUT + SELECT-OUT
363 000534 042760 060000 000014 BIC #6000,14(R0) ;CLEAR HOLD-OUT + SELECT-OUT
364 000542 052760 002000 000014 BIS #2000,14(R0) ;RAISE COMMAND-OUT
365 000550 052760 002000 000014 BIS #2000,14(R0) ;DROP COMMAND-OUT
366 000556 052760 000004 000024 BIS #4,24(R0) ;SET SOSIEN (SRV0-SRV1 ENABLE)
367 000564 000207 PC ;
;DX11B OFFLINE INTERRUPT SERVICE ROUTINE
368
369
370 000566 DXSRV:
371
372 000566 000004 000000 000574 PIRQS,BEGIN,15 ; QUEUE UP TO CONTINUE AT 15 AND RTI
373
374 000574 016700 177206 1$: MOV ADDR,R0 ;FETCH BASE ADDRESS
375 000600 032760 000200 000004 BIT #200,4(R0) ;TEST FOR DONE (FALSE INT?)
376 000606 001011 BNE ZS ;BRANCH IF DONE SET
377 000610 016067 000004 177264 MOV #4(R0),ACSR ;CONTENTS OF DXCS
378 000616 016067 000011 177262 MOV #1,ERRTYP ;ILLEGAL INTERRUPT
379 *****
380 000624 104405 000000 000000 HDRS,BEGIN,NULL ;FALSE INTERRUPT
381 *****
382 000632 032760 000040 000024 2$: BIT #40,24(R0) ;TEST FOR NPR TIMEOUT
383 000640 001411 BEQ S ;BRANCH IF NO TIMEOUT
384 000642 016067 000024 177232 MOV #24(R0),ACSR ;CONTENTS OF EXTRA SIG REG
385 000650 012767 000002 177230 MOV #2,ERRTYP ;DATA LATE
386 *****
387 000656 104405 000000 000000 HDRS,BEGIN,NULL ;NPR TIMEOUT
388 *****
389 000664 016701 000164 3$: MOV SPWPA,R1 ;ADRS OF DATA BUFFER
390 000670 012702 000400 MOV #2,ERRTYP ;512 BYTES
391 000674 022711 052525 4$: CMP #52525,(R1) ;CHECK DATA
392 000700 001420 BEQ S ;BRANCH IF DATA OK
393 000702 010067 177172 MOV #4,CSRA ;FORM CSR ADRS
394 000706 062767 000004 ADD #4,CSRA
395 000714 005067 177162 CLR #5,ADR ;TEST DATA ADRS IS 4S +2
396 000720 012767 052525 177160 MOV #52525,ASB ;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 R2 ;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 ENDS,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)
417 001026 104413 000000 ENDS,BEGIN ;SIGNAL END OF ITERATION.
418 ;MONITOR SHALL TEST END OF PASS
419
420 001032 012767 000011 177046 ERSRV: MOV #11,ERRTYP ;ILLEGAL INTERRUPT
421 *****
422 001040 104405 000000 000000 HDRS,BEGIN,NULL ;FALSE INTERRUPT
423 *****
424 001046 104400 000000 EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.
425
426 SPWPA: SPW
427 SPWPA: OPEN
428 SPWEA: OPEN
429
430 ;THE SOSIEN MODE IN WHICH THIS TEST RUNS DOES NOT
431 ;REQUIRE THE DX TO DO SPW FETCHES. THEREFORE THE
432 ;1000(B) BYTES OF SPW SPACE IS USED AS A DATA BUFFER
433
434 000000 000000 SPW: .CSECT B2000
435 001000 001000 .BLKB 1000 ;SPW (DATA BUFFER)
436 001000 001000 TT: .BLKB 1000 ;TUMBLE TABLE
437
438 000001 .END

```


IRS	=	000001	317#																	
ISSREJ	=	000010	222#																	
LOCCD	=	104412	285#																	
MAPZCS	=	000012	185#																	
MCLKEN	=	000002	308#																	
MCLRP	=	000001	307#																	
MODNAM	=	000000R	172#																	
MODSP	=	000224R	172#																	
MSCNS	=	104403	186#																	
MSCSS	=	104402	186#																	
MSCS	=	104401	186#																	
NPR	=	000020	293#																	
NPRTO	=	000040	312#																	
NPRX	=	000040	298#																	
NULL	=	000000	186#																	
NYM	=	040006	216#																	
ONLINE	=	001000	335#																	
ONLINB	=	000004	301#																	
OPEN	=	000000	133#																	
			170#																	
DPLI	=	100000	276#																	
OPLO	=	100000	262#																	
OTDAS	=	104420	186#																	
PANER	=	100000	205#																	
PAR	=	000400	285#																	
PARO	=	000400	271#																	
PARST	=	100000	229#																	
PASCT	=	00034R	172#																	
PASS	=	001014R	409#																	
PHS	=	074000	290#																	
PIRGS	=	000004	186#																	
POPSP	=	00572	186#																	
POPSP2	=	022626	186#																	
PRTY	=	000000	137#																	
PRTY0	=	000000	186#																	
PRTY1	=	000040	186#																	
PRTY2	=	000100	186#																	
PRTY3	=	000140	186#																	
PRTY4	=	000200	136#																	
PRTY5	=	000340	186#																	
PRTY6	=	000300	186#																	
PRTY7	=	000340	186#																	
PS	=	177776	186#																	
PSH	=	177776	186#																	
PUSH	=	005746	186#																	
PUSH2	=	024646	186#																	
RANDS	=	10444R	186#																	
RANRUM	=	00054R	186#																	
REQI	=	020004	178#																	
RESTRT	=	000312R	174#																	
RESA	=	000056R	157#																	
RESJ	=	000060R	173#																	
RSTRT	=	000112R	174#																	
SBADR	=	000102R	167#																	
SELI	=	040000	277#																	
SELD	=	020000	264#																	

SELRST	=	020000	211#																	
SOPCNT	=	000042R	150#																	
SOPERS	=	10446	150#																	
SOPPAS	=	000046R	150#																	
SOSIEN	=	000004	309#																	
SPOINT	=	000032R	146#																	
SPSTZ	=	00004	179#																	
SPM	=	000000R	42#																	
SPNEA	=	001056R	338#																	
SPWPA	=	001054R	340#																	
SPWVA	=	001054R	341#																	
SRVI	=	002000	383#																	
SRVO	=	001000	270#																	
SR1	=	000016R	139#																	
SR2	=	000020R	146#																	
SR3	=	000022R	141#																	
SR4	=	000024R	141#																	
STAI	=	004000	288#																	
STAMOD	=	00100	74#																	
START	=	000270R	141#																	
STAT	=	000026R	144#																	
STKST	=	000040	233#																	
STKSTB	=	000002	233#																	
SUPO	=	010000	265#																	
SVRO	=	000062R	150#																	
SVR1	=	000064R	160#																	
SVR2	=	000066R	160#																	
SVR3	=	000070R	160#																	
SVR4	=	000072R	163#																	
SVR5	=	000074R	164#																	
SVR6	=	000076R	164#																	
SYNC	=	001000	192#																	
SYSCNT	=	000052R	154#																	
YSRST	=	010000	212#																	
TIMDIS	=	000010	310#																	
TRPDFD	=	000010	186#																	
TSTO	=	000264R	205#																	
UCHECK	=	001000R	436#																	
UCHECK2	=	000012	236#																	
UCHKS	=	002000	236#																	
UEXCEP	=	000001	267#																	
VECTDR	=	000010R	135#																	
WASADR	=	00104R	192#																	
WDR	=	000116R	192#																	
WDT0	=	000114R	175#																	
XBA	=	000030	240#																	
XFLAG	=	00005R	132#																	
.			436#																	
ABS	=	000000	000																	
B2000	=	001060	001																	
		002000	002																	

ERRORS DETECTED: 0

DXAF DEC/X11 SYSTEM EXERCISER MODULE MACY11 30A(1052) 17-OCT-78 16:34 PAGE 16
DXAFO.P11 12-OCT-78 11:58 CROSS REFERENCE TABLE -- USER SYMBOLS

SFQ 0014

DEFAULT GLOBALS GENERATED: 0

DXAFO, DXAFO/SQL/CRF:SYM=DDXCON, DXAFO
RUN-TIME: 11.3 SECONDS
RUN-TIME RATIO: 11/3=3.3
CORE USED: 7K (13 PAGES)

digital

DECO DEPO SUBMISSION

FOR RELEASE ENG. USE
 NEW CHANGE DELETE

PRODUCT IDENTIFICATION

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

TITLE CXDXAF0 DX11 MODULE
 AUTHOR D. BUTENHOF MAIN ENGINEER DEC/X11 SUPT GRP MAINTAINER D. BUTENHOF 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 EXT ACT SEQ NUMBER ACT XXDP COMPATIBLE APT COMPATIBLE 1ST PASS RUN TIME SUBSEQUENT PASS RUN TIME

INFORMATION FIELD SECONDS 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	REMARKS
666	164	162	

MANUFACTURING ENGINEER DATE 20 DEC 78	SUPPORT ENGINEER DATE 20 DEC 78	CHARGE DECO/DEPO TO DISCRETE PROJECT NUMBER 098-05460
		LABORATORY NO. 2808