```
.REM _
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IDENTIFICATION

PRODUCT CODE: AC-E803G-MC

PRODUCT NAME: CXDNAG0 DN11 MODULE

PRODUCT DATE: SEPTEMBER 1978

MAINTAINER: DEC/X11 SUPPORT GROUP

1. ABSTRACT:

DNA IS A IOMOD THAT EXERCISES UP TO 16. POSSIBLE DN11'S.
EACH DN11 IS CHECKED IN MAINTENANCE MODE BY SETTING
UP THE DN CSR TO CAUSE AN INTERRUPT. ALL IMPROPER
INTERRUPTS ARE REPORTED AS ERRORS

2. REQUIREMENTS:

HARDWARE: AT LEAST ONE DN11 CONTROL UNIT

STORAGE:: DNA REQUIRES:
1. DECIMAL WORDS: 275
2. OCTAL WORDS: 0423
3. OCTAL BYTES: 1046

3. PASS DEFINITION:

ONE INTERNAL PASS OF DNA CONSISTS OF GENERATING 4N INTERRUPTS
PER PASS WHERE N= NO. OF SELECTED DN11'S. THIS IS REPEATED
7000(8) TIMES FOR EACH END OF PASS CALL.

4. EXECUTION TIME:

DNA RUNNING ALONE WITH ONE DN11 SELECTED ON A PDP11/20
PROCESSOR TAKES ONE HALF MINUTE TO EXECUTE A PASS.
EACH ADDITIONAL LINE WILL CAUSE AN INCREASE IN TIME.

5. CONFIGURATION REQUIREMENTS:

DEFAULT PARAMETERS:

DEVADR: 175200, VECTOR: 1, BR1: 4, DEVCNT: 1

REQUIRED PARAMETERS:

AT CONFIGURATION TIME "VECTOR" MUST BE MODIFIED

6. DEVICE/OPTION SET-UP

NONE

7. MODULE OPERATION:

TEST SEQUENCE:

A. SET UP THE ASSIGNED VECTOR FOR ALL SELECTED DEVICES
B. GENERATE A DN11 CSR ADDRESS FOR A SELECTED DEVICE

C. GENERATE A PRESENT NEXT DIGIT INTERRUPT AND EXIT
D. SERVICE PND INTERRUPT - REPORT ANY ERROR
E. GENERATE A DATA SET STATUS INTERRUPT AND EXIT
F. SERVICE DSS INTERRUPT - REPORT ANY ERROR
G. GENERATE A POWER OFF INTERRUPT AND EXIT
H. SERVICE PO INTERRUPT - REPORT ANY ERROR
I. GENERATE AN ABANDON CALL INTERRUPT AND EXIT
J. SERVICE ABC INTERRUPT - REPORT ANY ERROR
K. IF ANY DN11 LEFT ; REPEAT B THRU J
L. COUNT DOWN INTPSC FROM 2000, WHEN ITS 0 CALL ENDPAS
ELSE GO BACK TO B.

FAILURE TO GENERATE AN INTERRUPT WILL HANG DNA AND
PREVENT END OF PASS PRINTOUT.

8. OPERATION OPTIONS

MODIFYING DIVD1 ALLOWS EXERCISING ANY
COMBINATION OF DN11'S:

DVID1,BIT0=DEV0;DVID1,BIT1;=DEV1.....DVID1,BIT15=DEV15

IF DVID1=0 THEN DNA WILL BE DROPPED FROM THE EXERCISE

9. NON-STANDARD PRINTOUTS:

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

```
                ;DN11 DEC/X11 EXERCISER MODULE

000000'                 IOMOD   <DNAG >,175200,1,4,,,7000,37
000000'                 MODULE  140000,DNAG ,175200,1,4,,,7000,37
                        .TITLE  DNAG DEC/X11 SYSTEM EXERCISER MODULE
                ;       DDXCOM  VERSION  6      23-MAY-78
                        .LIST   BIN
                        ;*****************************************************************************
000000'                 BEGIN:
000000' 047104  043501      040 MODNAM: .ASCII  /DNAG / ;MODULE NAME.
000005'     000         XFLAG:  .BYTE   OPEN            ;USED TO KEEP TRACK OF WBUFF USAGE
000006' 175200          ADDR:   175200+0                ;1ST DEVICE ADDR.
000010' 000001          VECTOR: 1+0                     ;1ST DEVICE VECTOR.
000012'     200         BR1:    .BYTE   PRTY4+0         ;1ST BR LEVEL.
000013'     000         BR2:    .BYTE   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' 140000          STAT:   140000                  ;STATUS WORD.
000030' 000224'         INIT:   START                   ;MODULE START ADDR.
000032' 000224'         SPOINT: MODSP                   ;MODULE STACK POINTER.
000034' 000000          PASCNT: 0                       ;PASS COUNTER.
000036' 007000          ICONT:  7000                    ;# OF ITERATIONS PER PASS=7000
000040' 000000          ICOUNT: 0                       ;LOC TO COUNT ITERATIONS
000042' 000000          SOFCNT: 0                       ;LOC TO SAVE TOTAL SOFT ERRORS
000044' 000000          HRDCNT: 0                       ;LOC TO SAVE TOTAL HARD ERRORS
000046' 000000          SOFPAS: 0                       ;LOC TO SAVE SOFT ERRORS PER PASS
000050' 000000          HRDPAS: 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'                 CONFIG:                         ;RESERVED FOR MONITOR USE
000056' 000000          RES1:   0                       ;RESERVED FOR MONITOR USE
000060' 000000          RES2:   0                       ;RESERVED FOR MONITOR USE
000062' 000000          SVR0:   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'                 WASADR:                         ;ADDR OF BAD DATA, OR
000104' 000000          ASTAT:  OPEN                    ;STATUS REG CONTENTS.
000106'                 ERRTYP:                         ;TYPE OF ERROR
000106' 000000          ASB:    OPEN                    ;EXPECTED DATA.
000110' 000000          AWAS:   OPEN                    ;ACTUAL DATA.
000112' 000274'         RSTRT:  RESTRT                  ;RESTART ADDRESS AFTER END OF PASS
000114' 000000          WDTO:   OPEN                    ;WORDS TO MEMORY PER ITERATION
000116' 000000          WDFR:   OPEN                    ;WORDS FROM MEMORY PER ITERATION
000120' 000000          INTR:   OPEN                    ;# OF INTERRUPTS PER ITERATION
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000122' 000037          IDNUM:  37                      ;MODULE IDENTIFICATION NUMBER=37
        000040                  .REPT   SPSIZ           ;MODULE STACK STARTS HERE.
                                .NLIST
                                .WORD   0
                                .LIST
                                .ENDR
000224'                 MODSP:
                        ;*****************************************************************************

                        ;MODULE INITIALIZATION ROUTINES

                        ;ROUTINE TO SET UP VECTORS FOR ALL SELECTED DN11'S

000224' 012767  000002  177664  START:  MOV     #2,WDFR         ;AT LEAST 2 WORDS FROM MEM/ITERATION
000232' 012767  000004  177660          MOV     #4,INTR         ;AT LEAST 4 INTERRUPTS/ITERATION
000240' 016700  177550          MOV     DVID1,R0        ;SELECTED UNITS TO R0
000244' 001002                  BNE     1$              ;IF SOME SELECTED - GO TO WORK
000246' 104410  000000'         END$,BEGIN              ;
000252' 006200          1$:     ASR     R0              ;SHIFT DEV COUNT
000254' 001407          BEQ     RESTRT          ;IF NO MORE BRANCH OUT
000256' 062767  000004  177634          ADD     #4,INTR         ;DOUBLE INTERRUPTS
000264' 062767  000002  177624          ADD     #2,WDFR         ;DOUBLE WDFR
000272' 000767          BR      1$              ;GO BACK AND CHECK FOR MORE

000274' 016702  177510  RESTRT:  MOV     VECTOR,R2       ;START AT BEGINNING OF VECTOR AREA
000300' 016700  177510          MOV     DVID1,R0        ;GET 1ST SELECTION PARAMETER

000304' 012701  000017  ST2:     MOV     #17,R1          ;SET UP GROUP OF FOUR MASK
000310' 030100          1$:     BIT     R1,R0           ;TEST FOR ANY DN11 IN GROUP
000312' 001010          BNE     3$              ;GO SET UP VECTOR
000314' 022222          CMP     (R2)+,(R2)+     ;UPDATE VECTOR POINTER
000316' 005701          2$:     TST     R1              ;END OF 1ST GROUP OF 4 VECTORS
000320' 100412          BMI     DNMON           ;BR IF DONE FOUR VECTORS
000322' 006301          ASL     R1              ;SHIFT MASK FOR TESTING NXT. GROUP OF 4
000324' 006301          ASL     R1
000326' 006301          ASL     R1
000330' 006301          ASL     R1
000332' 000766          BR      1$              ;GO TEST FOR ACTIVE DEVICES IN GROUP
000334' 012722  000676'         3$:     MOV     #DNISR,(R2)+    ;POINT DN11 INTR. TO DNISR
000340' 016722  177446          MOV     BR1,(R2)+       ;SET UP PRIORITY LEVEL
000344' 000764          BR      2$              ;GO TEST FOR LAST VECTOR

                        ;ROUTINE TO CONTROL EXERCISING ALL SELECTED DEVICES

000346' 016701  177434  DNMON:  MOV     ADDR,R1         ;GET 1ST DN11 CSR ADDRESS
000352' 010167  000466          MOV     R1,BASE         ;SET THE BASE ADDRESS OF A GROUP OF FOUR
000356' 012767  000004  000456          MOV     #4,GROUP        ;SET COUNT FOR NUMBER OF DN'S IN A GROUP
000364' 016700  177424          MOV     DVID1,R0        ;GET  SELECTION PARAMETER
000370' 006200          DN5:     ASR     R0              ;SHIFT SELECT BIT INTO"C"
000372' 100002          BPL     1$              ;DON'T PROPAGATE BAD FLAG
000374' 042700  100000          BIC     #BIT15,R0       ;CLEAR IT OUT INSTEAD
000400' 103435          1$:     BCS     DN4             ;BR IF SELECTED
000402' 001417          BEQ     PASS            ;IF ALL DONE,SIGNAL END OF PASS
000404' 005367  000432          DEC     GROUP           ;REDUCE THE COUNT IN THIS GROUP
000410' 001011          BNE     DN3             ;IF END OF GROUP, RESET THE COUNT
000412' 012767  000004  000422          MOV     #4,GROUP
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000420' 042777  000004  000416          BIC     #BIT2,@BASE     ;DONT LEAVE ANY INTERRUPTS ENABLED
000426' 062767  000010  000410          ADD     #10,BASE        ;UPDATE THE BASE ADDRESS
000434' 062701  000002          DN3:    ADD     #2,R1           ;UPDATE R1 TO POINT TO NEXT DN11
000440' 000753                  BR      DN5                     ;GO TEST NEXT DN11 IN THIS GROUP
000442' 022767          000004  000372  PASS:   CMP     #4,GROUP        ;IS THIS ADDRESS ASSIGNED TO DN11?
000450' 001003                  BNE     1$                      ;IF YES, GO CLEAR THE INTERRUPT
000452' 162767  000010  000364          SUB     #10,BASE        ;IF NO, POINT TO THE LAST ASSIGNED MASTER DN11
000460' 042777  000004  000356  1$:     BIC     #BIT2,@BASE     ;DISABLE MASTER INTERRUPT
000466' 104413  000000'                 ENDIT$,BEGIN            ;SIGNAL END OF ITERATION.
                                                                ;MONITOR SHALL TEST END OF PASS
000472' 000700                  BR      RESTRT                  ;BR IF NOT
000474' 010167          000334  DN4:    MOV     R1,DNCSR        ;SET UP SELECTED DN11 ADDRESS
000500' 052711  000004                  BIS     #4,(R1)         ;TURN ON THE MASTER INTR. ENABLE


                                ;ROUTINES TO EXERCISE A SELECTED DN11

                                        ;TEST TO SEE IF PRESENT NEXT DIGIT CAUSES AN INTERRUPT

000504' 012767  000550' 000324  6$:     MOV     #DN11A,FORK     ;SET UP TO DO DN11A NEXT
000512' 052711  000511                  BIS     #511,(R1)       ;LOAD THE CSR
000516' 005067  000316                  CLR     FLAG            ;CLEAR DEVICE COMPLETION FLAG
000522' 005004                          CLR     R4                      ;CLEAR TIMER COUNTER
000524'                         7$:
000524' 104407  000000'                 BREAK$,BEGIN            ;TEMPORARY RETURN TO MONITOR....
000530' 104407  000000'                 BREAK$,BEGIN            ;THEN CONTINUE AT NEXT INSTRUCTION.
000534' 005767  000300                  TST     FLAG            ;ARE THE INTERRUPTS FINISHED?
000540' 001335                  BNE     DN3                     ;IF ALL DONE GO TO NEXT DEVICE
000542' 005304                  DEC     R4                      ;IF NOT REDUCE COUNT
000544' 001367                  BNE     7$                      ;BREAK AGAIN IF TIME HAS NOT EXPIRED
000546' 000503                  BR      HUNG                    ;IF TIMED OUT, GO REPORT BAD DEVICE


                                        ;TEST TO SEE IF DATA SET STATUS CAUSES AN INTERRUPT

000550' 012767  000570' 000260  DN11A:  MOV     #DN11B,FORK     ;SET UP TO DO DN11B NEXT
000556' 052777  001111  000250          BIS     #1111,@DNCSR    ;LOAD THE CSR
000564' 104400  000000'                 EXIT$,BEGIN                     ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.


                                        ;TEST TO SEE IF FORCING POWER OFF CAUSES AN INTERRUPT

000570' 012767  000616' 000240  DN11B:  MOV     #DN11C,FORK     ;SET UP TO DO DN11C NEXT
000576' 052777  000111  000230          BIS     #111,@DNCSR     ;LOAD THE CSR
000604' 052777  002000  000222          BIS     #2000,@DNCSR    ;GO
000612' 104400  000000'                 EXIT$,BEGIN                     ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.


                                        ;TEST TO SEE IF FORCING ABANDON CALL CAUSES INTERRUPT

000616' 012767  000636' 000212  DN11C:  MOV     #DN11D,FORK     ;SET UP TO RETURN TO EXERCISE NXT DN11
000624' 052777  004111  000202          BIS     #4111,@DNCSR    ;LOAD THE CSR
000632' 104400  000000'                 EXIT$,BEGIN             ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.

000636' 005367  000200          DN11D:  DEC     GROUP           ;REDUCE THE COUNT OF DEVICES IN THIS GROUP
000642' 001011                  BNE     1$                      ;IF COUNT NOT EXCEEDED , CONTINUE
000644' 012767  000004  000170          MOV     #4,GROUP        ;OTHERWISE, RESET IT
000652' 042777  000004  000164          BIC     #BIT2,@BASE     ;CLEAR MASTER ENABLE
000660' 062767  000010  000156          ADD     #10,BASE        ;UPDATE THE BASE ADDRESS
```



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000666' 005167  000146  1$:     COM     FLAG            ;SET DEVICE COMPLETION FLAG
000672' 104400  000000'                 EXIT$,BEGIN             ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.


                                ;INTERRUPT SERVICE ROUTINES

000676'                         DNISR:
                                        ;-----------------------------------------------------------------
000676' 000004  000000' 000704'         PIRQ$,BEGIN,1$          ; QUEUE UP TO CONTINUE AT 1$ AND RTI
                                        ;-----------------------------------------------------------------

000704' 105777  000124  1$:     TSTB    @DNCSR          ;DONE SET ??
000710' 100005                  BPL     3$              ;BR IF NOT
000712' 042777  177773  000114  2$:     BIC     #177773,@DNCSR  ;CLEAR ALL BITS IN THE CSR EXCEPT BIT02
                                                        ;IN CASE IT IS THE FIRST ONE IN A GROUP
                                                        ;OF 4 (MASTER INTR. ENAB. MUST STAY ON)
000720' 000127  000112                  JMP     @FORK           ;RETURN TO NEXT TEST VIA BRANCH FORK
000724' 016767  000104  177146  3$:     MOV     DNCSR,CSRA      ;SAVE THE ADDRESS OF THE CSR
000732' 017767  000076  177142          MOV     @DNCSR,ACSR     ;SAVE THE CONTENTS OF THE CSR
000740' 012767  000011  177140          MOV     #11,ERRTYP      ;ILLEGAL INTERRUPT
                                        ;*****************************************************************
000746' 104405  000000' 000000          ERRDER$,BEGIN,NULL      ;FALSE INTERRUPT
                                        ;*****************************************************************
000754' 000756                  BR      2$              ;RETURN TO NEXT TEST


000756' 010167  000024  HUNG:   MOV     R1,TEMP         ;LOAD DEVICE ADDRESS FOR OCTAL-ASCII CONVRT.
                                ;*****************************************************************
                                        ;CONVERT TEMP TO ASCII AND
                                        ;STORE AT M2
000762' 104420  000000' 001006'         OTOA$,BEGIN,TEMP,M2
000770' 001020'
                                ;*****************************************************************
000772' 104403  000000' 001002'         MSGN$,BEGIN,FAIL        ;ASCII MESSAGE CALL WITH COMMON HEADER
001000' 000615                  BR      DN3                     ;GO DO NEXT ONE
001002' 001010'                 FAIL:   M1
001004' 177777                          177777


001006' 000000                  TEMP:   OPEN
001010' 042045  053105  041511  M1:     .ASCII  '%DEVICE '
001016' 020105
001020' 000000                  M2:     OPEN
001022' 000000                          OPEN
001024' 000000                          OPEN
001026' 044040  047125  000107  M3:     .ASCIZ  ' HUNG'


                                ;SOME DN MODULE VARIABLES

001034' 000000                  DNCSR:  OPEN            ;CONTAINS THE ADDRESS OF THE CONTROL
                                                        ;REG. OF THE DN11 UNDER TEST
001036' 000000                  FORK:   OPEN            ;STEERS INTR. SERVICE TO NEXT TEST
001040' 000000                  FLAG:   OPEN            ;DEVICE COMPLETION FLAG
001042' 000000                  GROUP:  OPEN            ;COUNT OF DN11'S IN A GROUP
001044' 000000                  BASE:   OPEN            ;BASE ADDRESS OF A GROUP OF FOUR DN11'S
```

```
   354
   355          000001                  .END
```



```
ACSR     000102R          176#    315*
ADDR     000006R          142#    230
ADDR22=  001000           194#
ASB      000106R          180#
ASTAT    000104R          178#
AWAS     000110R          181#
BASE     001044R          231*    242*    243*    248*    249*    296*    297*    353#
BEGIN    000000R          139#    203     250     266     267     278     285     291     299     305     318     329     331
BIT0  =  000001           194#
BIT1  =  000002           194#
BIT10 =  002000           194#
BIT11 =  004000           194#
BIT12 =  010000           194#
BIT13 =  020000           194#
BIT14 =  040000           194#
BIT15 =  100000           194#    236
BIT2  =  000004           194#    242     249     296
BIT3  =  000010           194#
BIT4  =  000020           194#
BIT5  =  000040           194#
BIT6  =  000100           194#
BIT7  =  000200           194#
BIT8  =  000400           194#
BIT9  =  001000           194#
BREAK$=  104407           194#    266     267
BR1      000012R          144#    225
BR2      000013R          145#
BTOD$ =  104421           194#
CDATA$=  104412           194#
CONFIG   000056R          164#
CSRA     000100R          174#    314*
DATCK$=  104411           194#
DATER$=  104404           194#
DNCSR    001034R          153#    277*    283*    284*    290*    308     310*    314     315     348#
DNISR    000676R          224     303#
DNMON    000346R          218     230#
DN11A    000550R          261     276#
DN11B    000570R          276     282#
DN11C    000616R          282     289#
DN11D    000636R          289     293#
DN3      000434R          240     244#    269     332
DN4      000474R          237     253#
DN5      000370R          234#    245
DVID1    000014R          146#    201     211     233
ENDIT$=  104413           194#    250
END$  =  104410           194#    203
ERRTYP   000106R          179#    316*
EXIT$ =  104400           194#    279     285     291     299
FAIL     001002R          331     333#
FLAG     001040R          263*    268     298*    351#
FORK     001036R          261*    276*    282*    289*    313     350#
GETPA$=  104415           194#
GROUP    001042R          232*    239*    241*    246     293*    295*    352#
GWBUF$=  104414           194#
HRDEN*   000044R          159#
HRDER$=  104405           194#    318
```

```
HRDPAS  000050R           161#
HUNG    000756R           272     324#
ICONT   000036R           156#
ICOUNT  000040R           157#
IDNUM   000122R           186#
INIT    000030R           153#
INTR    000120R           185#    200*    206*
MAP22$= 104416            194#
MODNAM  000000R           140#
MODSP   000224R           154     192#
MSGN$   = 104403          194#    331
MSGS$   = 104402          194#
MSG$    = 104401          194#
M1      001010R           333     337#
M2      001020R           338     339#
M3      001026R           342#
NULL    = 000000          194#    318
OPEN    = 000000          141     147     148     149     150     167     168     169     170     171     172     173     174
                          176     178     180     181     183     184     185     194#    336     339     340     341     348
                          350     351     352     353
OTOA$   = 104420          194#    328
PASCNT  000034R           155#
PASS    000442R           238     246#
PIRQ$   = 000004          194#    305
POPSP   = 005726          194#
POPSP2= 022626            194#
PRTY    = 000000          145     194#
PRTY0   = 000000          194#
PRTY1   = 000040          194#
PRTY2   = 000100          194#
PRTY3   = 000140          194#
PRTY4   = 000200          144     194#
PRTY5   = 000240          194#
PRTY6   = 000300          194#
PRTY7   = 000340          194#
PS      = 177776          194#
PSW     = 177776          194#
PUSH    = 005746          194#
PUSH2   = 024646          194#
RAND$   = 104417          194#
RANNUM  000054R           163#
RESTRT  000274R           182     205     210#    252
RES1    000056R           165#
RES2    000060R           166#
RSTRT   000112R           182#
SBADR   000102R           175#
SOFCNT  000042R           158#
SOFER$= 104406            194#
SOFPAS  000046R           160#
SPOINT  000032R           154#
SPSIZ   = 000040          194#    187
SR1     000016R           147#
SR2     000020R           148#
SR3     000022R           149#
SR4     000024R           150#
START   000224R           153     199#
```



```
STAT    000026R           152#
ST2     000304R           213#
SVR0    000062R           167#
SVR1    000064R           168#
SVR2    000066R           169#
SVR3    000070R           170#
SVR4    000072R           171#
SVR5    000074R           172#
SVR6    000076R           173#
SYSCNT  000052R           162#
TEMP    001006R           324*    328     336#
TRPDFD= 000022            194#
VECTOR  000010R           143#    210
WASADR  000104R           177#
WDFR    000116R           184#    199*    207*
WDTO    000114R           183#
XFLAG   000005R           141#

. ABS.  000000      000
        001046      001

 ERRORS DETECTED:  0
 DEFAULT GLOBALS GENERATED:  0

 XDNAG0,XDNAG0/SOL/CRF:SYM=DDXCOM,XDNAG0
 RUN-TIME:  1  1  .2 SECONDS
 RUN-TIME RATIO: 10/3=3.3
 CORE USED:  7K  (13 PAGES)
```

DIAGNOSTIC ENGINEERING

digital **DECO☐ DEPO☒ SUBMISSION☐**

FOR RELEASE ENG. USE ☐ NEW ☐ CHANGE ☐ DELETE

PRODUCT IDENTIFICATION

	LIBRARY	PRODUCT NUMBER	REV	PATCH	ECO TALLY	PRODUCT DATE (DD MMM YY)	STATUS	DISTRIBUTION	1ST COPY-RIGHT YEAR	LAST COPY-RIGHT YEAR
D	ZZ	CXDNA	G	1	Ø1	5 JAN 79	☐ OBSOLETE	XX G ☐ R	1973	1979

TITLE: CXDNAG1 DN11 MODULE

AUTHOR	MAINTAINING GROUP	MAINTAINER	SUBMITTING ENGINEER
D.BUTENHOF	DEC/X11 SPT GRP	D.BUTENHOF	D.BUTENHOF

PRODUCT COMPONENTS

CK	DESCRIPTION	PRODUCT NO	REV	CK	DESCRIPTION	PRODUCT NO	REV
	DOCUMENT				INDEX		
	LISTING				SOURCE MEDIA		
	OBJECT MEDIA				TEST MEDIA		
X		AF-E8Ø3G-M1					

PRODUCTS OBSOLETED (other than previous version)

	LIBRARY	PRODUCT NUMBER	REV		LIBRARY	PRODUCT NUMBER	REV		LIBRARY	PRODUCT NUMBER	REV
MD				M D				M D			

PRODUCT CHARACTERISTICS

PROCESSORS PRODUCT OPERATES WITH (Enter all applicable 2 digit codes representing the Processor the product operates with. See separate instructions.)

03 04 05 10 20 2134 35 40 45 5055 60 70

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

02 03 0406 50

ACT/APT/XXDP INFORMATION FIELD	EXT	ACT SEQ NUMBER	ACT/XXDP COMPATIBLE?	APT COMPATIBLE?	1ST PASS RUN TIME	SUBSEQUENT PASS RUN TIME
			☒ Y ☐ N	☒ Y ☐ N	30 SECONDS	30 SECONDS

DECO/DEPO INFORMATION

PROBLEM REPORTS CLOSED:

ICE AFFECTED: DEC/X11 MULTIMEDIA AFFECTED? ☐ YES ☐ NO

KIT NUMBERS				
ZJ129-RZ,FR	ZJ239-RZ,PB	ZJ240-RB,RE	ZJ240-FR
ZJ239-RB,RY	ZJ239-RB,FR	ZJ240-RZ,PB	ZJ130-RB

PROBLEM:

ASR of device count word prevented completion of test (replication of bit 15 if 16th DN11 selected)

SOLUTION:

due to program logic, at shifts "C" bit is Ø, so it is safe to patch ASR's to ROR's.

DEPO PATCH AREA

CHANGE LOC	FROM	TO	CHANGE LOC	FROM	TO
252	62ØØ	6ØØØ			
37Ø	62ØØ	6ØØØ			

SUBMITTING ENGINEER	MANUFACTURING ENGINEER	SUPPORT ENGINEER	CHARGE DECO/DEPO TO DISCRETE PROJECT NUMBER
DATE	DATE	DATE	Q98-C [illegible]
[illegible]	FIELD SERVICE	MAINTENANCE MANAGER	COORDINATION NO. MC# 2807
22 Dec 78	DATE	DATE	