

PCSB DEC/X11 SYSTEM EXERCISER MODULE  
XPCS80.P11 12-OCT-78 12:05

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IDENTIFICATION

PRODUCT CODE: AC-E962B-MC  
PRODUCT NAME: CXPCS80 PCS-11 MODULE  
PRODUCT DATE: SEPTEMBER 1978  
MAINTAINER: DEC/X11 SUPPORT GROUP

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1. ABSTRACT  
PCS IS AN IOMOD THAT EXERCISES PCS CONTROLLER AND FILE BOX. IT WILL EXERCISE ALL BITS OF CSR ADDRESS, CHECK FOR MAINTENANCE INTERRUPT CAPABILITIES AND CHECK ALL THE ADDRESSES FROM 171000 TO 171375 IN MAINTENANCE MODE.
2. REQUIREMENTS  
HARDWARE: IOC/M CONTROL MODULE WITH FILE BOX  
STORAGE:: PCS REQUIRES:  
1. DECIMAL WORDS: 748  
2. OCTAL WORDS: 1354  
3. OCTAL BYTES: 2730
3. TEST DESCRIPTION  
ONE PASS OF THE MODULE CONSISTS OF CSR CHECKS, INTERRUPT TEST AND IAR TEST IN MAINTENANCE MODE DURING THE TEST DBIT IS SET SO THE TEST WILL NOT EFFECT I/O MODULES
4. EXECUTION TIME  
ONE PASS OF THE TEST TAKES LESS THAN 1 SEC
5. CONFIGURATION REQUIREMENTS  
DEFAULT PARAMETERS  
DEUADR: 171376  
VECTOR: 234  
DEVCNT: 1
6. MODULE OPERATION  
TEST SEQUENCE  
A. SET UP THE DEVICE ADDRESSES  
B. SET G BIT, READ IT BACK AND CLEAR IT  
C. SET D BIT, READ IT BACK AND CLEAR IT  
D. SET T BIT, READ IT BACK AND CLEAR IT  
E. SET RIF BIT, READ IT BACK AND CLEAR IT  
F. SET E BIT, READ IT BACK AND CLEAR IT  
G. SET M BIT, READ IT BACK AND CLEAR IT  
H. SET MBIT AND READ ALL ADDRESSES FROM  
I. SET MAINTENANCE INTERRUPT AND READ ALL ONES FROM IAR  
171000 TO 171375  
J. RESET CSR.
7. OPERATOR OPTIONS:  
NONE
8. PRINTOUTS:

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ALL PRINTOUTS ARE STANDARD

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104      000000:          L0MOD <PCSB> 171376 234 0 0 0 10,147
105      000000:          MODULE 40000 PCSB DEC/X11 SYSTEM EXERCISER MODULE
106      ;           DDX10W VERSION 6 23-MAY-78
107      ;           NLIST BIN
108      ****
109      000000:          BEGIN*****
110      000000:          MODNAME: ASCII /PCSB / ;MODULE NAME
111      000000:          XFLAG: BYTE OPEN ;USED TO KEEP TRACK OF WBUFF USAGE
112      000005:          ADDR: 171376+0 ;1ST DEVICE ADDR.
113      000006:          VECTOR: 234+0 ;1ST DEVICE VECTOR.
114      000010:          BR1: .BYTE PRTV0+0 ;1ST BR LEVEL.
115      000012:          BR2: .BYTE PRTV0+0 ;2ND BR LEVEL.
116      000013:          DVID1: .+1 ;DEVICE INDICATOR 1.
117      000014:          SR1: OPEN ;SWITCH REGISTER 1.
118      000016:          SR2: OPEN ;SWITCH REGISTER 2.
119      000018:          SR3: OPEN ;SWITCH REGISTER 3.
120      000020:          SR4: OPEN ;SWITCH REGISTER 4.
121      000022:          SR5: OPEN
122      000024:          SR6: OPEN
123      ****
124      000026:          STAT: 140000 ;STATUS WORD.
125      000028:          INIT: START ;MODULE START ADDR.
126      000030:          SPOINT: MODSP ;MODULE STACK POINTER.
127      000032:          SPOINT: 000024 ;PASS COUNTER.
128      000034:          PASCNT: 0 ;# OF ITERATIONS PER PASS=10
129      000036:          ICOUNT: 0 ;LOC TO COUNT ITERATIONS
130      000038:          SOFCNT: 0 ;LOC TO SAVE TOTAL SOFT ERRORS
131      000040:          HRDCNT: 0 ;LOC TO SAVE TOTAL HARD ERRORS
132      000042:          SOFPAS: 0 ;LOC TO SAVE SOFT ERRORS PER PASS
133      000044:          HRDPAS: 0 ;LOC TO SAVE HARD ERRORS PER PASS
134      000046:          SVSCNT: 0 ;# OF SYS ERRORS ACCUMULATED
135      000048:          RANNUM: 0 ;HOLDS RANDOM # WHEN RAND MACRO IS CALLED
136      000050:          CONFIG: 0 ;RESERVED FOR MONITOR USE
137      000052:          REGS1: 0 ;RESERVED FOR MONITOR USE
138      000054:          REGS2: 0 ;RESERVED FOR MONITOR USE
139      000056:          REGS3: 0 ;RESERVED FOR MONITOR USE
140      000058:          REGS4: 0 ;RESERVED FOR MONITOR USE
141      000060:          SVR0: OPEN ;LOC TO SAVE R0.
142      000062:          SVR1: OPEN ;LOC TO SAVE R1.
143      000064:          SVR2: OPEN ;LOC TO SAVE R2.
144      000066:          SVR3: OPEN ;LOC TO SAVE R3.
145      000068:          SVR4: OPEN ;LOC TO SAVE R4.
146      000070:          SVR5: OPEN ;LOC TO SAVE R5.
147      000072:          SVR6: OPEN ;LOC TO SAVE R6.
148      000074:          CSRA: OPEN ;ADDR OF CURRENT CSR.
149      000076:          SBADR: OPEN ;ADDR OF GOOD DATA, OR
150      000078:          WASADR: OPEN ;ADDR OF BAD DATA, OR
151      000080:          ASTAT: OPEN ;STATUS REG CONTENTS.
152      000082:          ERRTYP: 0 ;TYPE OF ERROR
153      000084:          ASBT: OPEN ;SELECTED DATA.
154      000086:          ASBT: OPEN ;SELECTED DATA.
155      000088:          ASBT: OPEN ;SELECTED DATA.
156      000090:          ASBT: OPEN ;SELECTED DATA.
157      000092:          RSTART: RSTART ;RESTART ADDRESS AFTER END OF PASS
158      000094:          WDTO: OPEN ;WORDS TO MEMORY PER ITERATION
159      000096:          WDFR: OPEN ;WORDS FROM MEMORY PER ITERATION
160      000098:          INTR: OPEN ;# OF INTERRUPTS PER ITERATION
161      000100:          IDNUM: 147 ;MODULE IDENTIFICATION NUMBER=147
162      000102:          .REPT SPSIZ ;MODULE STACK STARTS HERE.
163      ****
164      000224:          NLIST 0
165      ;           LIST
166      ;           ENDR

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167      000224- 00000000          TEMP1: WORD   0           ;TEMPORARY STORAGE
168      000226- 00000000          TEMP2: WORD   0           ;TEMPORARY STORAGE
169      000230- 00000000          CSR:  WORD   0           ;ADDRESS OF CSR = 171377
170      000232- 00000000          IAR:  WORD   0           ;ADDRESS OF IAR = 17136
171      000234- 00000000          INTFLG: WORD  0           ;INTERRUPT OCCURRED FLAG
172      000236- 00000000          CNT:  WORD   0           ;PASS COUNT
173      000240- 00000000          BASE: WORD   0           ;ADDRESS 171000
174      000242- 00000000          VECT2: WORD   0           ;SECOND ADD OF VECTOR
175      000245- 012767 0000015 177644 START: MOV    #1,INTR      ;ONE INTERRUPT/ITERATION
176      000263- 012767 0000018 177626 MOV    #8,WDTO      ;8 WORDS TO MEM/ITERATION
177      000270- 005367 177744 CLR    CNTR        ;CLEAR PASS COUNT
178      000274- 012760 177508 RESTRT: MOV    ADDR,R0      ;SET ADDRESS OF IAR = 171376
179      000300- 005260 177730 INC    R0,IAR       ;SET ADDRESS OF CSR = 171377
180      000304- 010367 177720 MOV    R0,CSR       ;SET ADDRESS OF THE LOWEST ID = 171000
181      000312- 042700 000377 MOV    BIC,R0        ;SET UP WAIT LOOP
182      000316- 010067 177720 MOV    RO,BASE      ;SET CRIT TO CLEAR CSR
183      000322- 012703 0000033 177676 1$:  MOV    #9,*3..,R3  ;WAIT FOR CLEAR
184      000326- 152777 000002 32$: BISB  #2,ACSR      ;ANOTHER WAIT LOOP
185      000334- 000240 177676 33$: BISB  #13,*3..,R3
186      000340- 005395 177676 34$: BISB  #2,ACSR      ;IS CSR CLEAR?
187      000342- 012703 000002 177656 35$: BNE   R3         ;NO, SET BAD DATA FOR ERROR CALL
188      000354- 000240 177656 36$: BNE   34$        ;SET GOOD DATA.
189      000360- 001375 177644 CLR    ASB         ;*****
200      000365- 001407 177644 HRDERS,BEGIN,ERRORTYP
201      000370- 117767 177636 177512 BEQ   25$        ;*****
202      000376- 005067 177504 MOVB  ACSR,AWAS
203      000402- 104404 000000 204$: *****DATA ERROR!!!
205      000414- 132777 000001 177610 2$: TEST GBIT
206      000422- 012767 000001 177610 BITB  #1,ACSR      ;SET RIF BIT
207      000432- 012767 000001 177610 BISB  #1,ACSR      ;TEST IF SET
208      000433- 117767 177602 177450 BNE   35$        ;YES, GO TO 35
209      000437- 016767 177574 177440 MOVB  ACSR,ACSR
210      000440- 104403 000000- 002056 MSGNS,BEGIN,RIFNOT ;LOAD CONTENTS OF CSR FOR ERROR
211      000446- 012767 000025 177432 MOVB  CSR,CSRA
212      000454- 104405 000000- 000000 HRDERS,BEGIN,NULL ;LOAD ADDRESS OF CSR FOR ERROR
213      000462- 132777 000001 177542 3$: MSGNS,BEGIN,RIFNOT ;ASCII MESSAGE CALL WITH COMMON HEADER
214      000470- 001417 BEQ   4$         ;NOW RIF BIT SHOULD BE CLEAR
215      000472- 117767 177534 177402
216      000500- 016767 177526 177372
217      000504- 104403 000000- 004062
218      000514- 012767 000025 177364
219      000522- 104405 000000- 000000
220      000530- 132777 000004 177466 4$: BISB  #4,ACSR      ;SET GBIT AT CSR
221      000536- 001417 000004 177466 BITB  #4,ACSR      ;TEST IF SET
222      000544- 001017 000004 177466 BNE   5$         ;YES, GO TO 55
223      000546- 117767 177460 177326 MOVB  ACSR,ACSR
224      000554- 016767 177450 177316 MOVB  CSR,CSRA
225      000562- 104403 000000- 002066 MSGNS,BEGIN,GBITS
226      000570- 012767 000025 177310 MOVB  #25,ERRRTYP
227      000576- 104405 000000- 000000 HRDERS,BEGIN,NULL ;BIT STUCK
228      000604- 142777 000004 177412 5$: BICB  #1,ACSR      ;CLEAR GBIT AT CSR
229      000626- 001417 000004 177412 BITB  #1,ACSR      ;TEST IF CLEAR
230      000632- 117767 177404 177252 BNE   6$         ;YES, GO TO 65
231      000636- 016767 177376 177254 MOVB  ACSR,ACSR
232      000640- 104403 000000- 000000 MSGNS,BEGIN,GBITC
233      000644- 012767 000025 177234 MOVB  #25,ERRRTYP
234      000652- 104405 000000- 000000 HRDERS,BEGIN,NULL ;BIT STUCK
235      000660- 152777 000020 177344 6$: BISB  #20,ACSR      ;SET DBIT AT CSR
236      000666- 132777 000020 177336 BITB  #20,ACSR      ;TEST IF SET
237      000674- 001017 000020 177336 BNE   7$         ;YES, GO TO 75
238      000676- 117767 177330 177176 MOVB  ACSR,ACSR
239      000678- 016767 177320 177168 MOVB  CSR,CSRA
240      000682- 104403 000000- 000000 MSGNS,BEGIN,DBITS
241      000692- 012767 000025 177160 MOVB  #25,ERRRTYP
242      000726- 104405 000000- 000000 HRDERS,BEGIN,NULL ;DBIT IS NOT SETTING
243      000734- 152777 000010 177270 7$: BISB  #10,ACSR      ;SET TBIT ACSR
244      000742- 132777 000010 177262 BITB  #10,ACSR      ;TEST IF SET
245      000750- 001017 000010 177262 BNE   8$         ;YES, CONT.
246      000753- 117767 177254 177122 MOVB  ACSR,ACSR
247      000760- 016767 177246 177112 MOVB  CSR,CSRA
248      000766- 104403 000000- 002102 MSGNS,BEGIN,TBITS
249      000774- 012767 000025 177104 MOVB  #25,ERRRTYP
250      001002- 104405 000000- 000000 HRDERS,BEGIN,NULL ;TBIT NOT SETTING
251      001010- 142777 000010 177214 8$: BICB  #10,ACSR      ;CLEAR TBIT
252      001016- 001417 000010 177206 BITB  #10,ACSR      ;TEST IF CLEAR
253      001026- 117767 177200 177046 MOVB  ACSR,ACSR

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254      000666- 132777 000020 177336 6$: BISB  #20,ACSR      ;SET DBIT AT CSR
255      000674- 001017 000020 177336 BITB  #20,ACSR      ;TEST IF SET
256      000676- 117767 177330 177176 BNE   7$         ;YES, GO TO 75
257      000678- 016767 177320 177168 MOVB  ACSR,ACSR
258      000682- 104403 000000- 000000 MSGNS,BEGIN,DBITS
259      000692- 012767 000025 177160 MOVB  #25,ERRRTYP
260      000726- 104405 000000- 000000 HRDERS,BEGIN,NULL ;DBIT IS NOT SETTING
261      000734- 152777 000010 177270 7$: BISB  #10,ACSR      ;SET TBIT ACSR
262      000742- 132777 000010 177262 BITB  #10,ACSR      ;TEST IF SET
263      000750- 001017 000010 177262 BNE   8$         ;YES, CONT.
264      000753- 117767 177254 177122 MOVB  ACSR,ACSR
265      000760- 016767 177246 177112 MOVB  CSR,CSRA
266      000766- 104403 000000- 002102 MSGNS,BEGIN,TBITS
267      000774- 012767 000025 177104 MOVB  #25,ERRRTYP
268      001002- 104405 000000- 000000 HRDERS,BEGIN,NULL ;TBIT NOT SETTING
269      001010- 142777 000010 177214 8$: BICB  #10,ACSR      ;CLEAR TBIT
270      001016- 001417 000010 177206 BITB  #10,ACSR      ;TEST IF CLEAR
271      001026- 117767 177200 177046 MOVB  ACSR,ACSR

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279 001034 016767 177172 177036      MOV CSR,CSRA          ;ASCII MESSAGE CALL WITH COMMON HEADER
280 001050 012767 000025 176630      MSGNS,BEGIN,TBITC    ;BIT STUCK
281 001056 104405 000000 000000      MOV #25,ERRVP        ;BIT NOT CLEARING
282 ;***** BEGIN NULL *****           ;*****
283 ;***** BEGIN NULL *****           ;*****
284 ;***** BEGIN NULL *****           ;*****
285 ;***** BEGIN NULL *****           ;*****
286 001064 012703 000025 177134      9S:   MOV #7,*3,R3         ;SET UP WAIT LOOP
287 001070 142777 000020 177134      BICB #20,0CSR        ;CLEAR DBIT
288 001076 000240                   50S:  NOP                 ;WAIT FOR CSR
289 001100 005303                   DEC    R3
290 001102 001375                   BNE    50S
291 001104 132777 000020 177120      BIEB #20,0CSR
292 001112 001447                   BEQ    102
293 001114 016767 177110 176756      BMOV  0CSR,ACSR
294 001116 016767 177102 176746      MOVB  0CSR,CSRA          ;ASCII MESSAGE CALL WITH COMMON HEADER
295 001118 104405 000000 000000      MSGNS,BEGIN,DBITC    ;BIT STUCK
296 001119 012767 000025 176740      MOV #25,ERRVP        ;BIT NOT CLEARING
297 001146 104405 000000 000000      HRDERS,BEGIN,NULL   ;DBIT NOT CLEARING
298 ;***** BEGIN NULL *****           ;*****
299 ;***** BEGIN NULL *****           ;*****
300 ;***** BEGIN NULL *****           ;*****
301 001154 152777 000040 177050      10S:  BISB #40,0CSR        ;SET MBIT
302 001162 132777 000040 177042      BITB #40,0CSR        ;IS IT SET
303 001170 001017                   BNE    13S
304 001172 016767 177034 176702      MOVB  0CSR,ACSR
305 001200 004403 000000 002120      MSGNS,BEGIN,MBITC    ;ASCII MESSAGE CALL WITH COMMON HEADER
306 001202 016767 177068 176674      MOV #25,ERRVP        ;BIT STUCK
307 001214 012767 000025 176664      HRDERS,BEGIN,NULL   ;MAINTENANCE BIT IS NOT SETTING
308 ;***** BEGIN NULL *****           ;*****
309 001222 104405 000000 000000      ;*****
310 ;***** BEGIN NULL *****           ;*****
311 ;***** BEGIN NULL *****           ;*****
312 001230 142777 000040 176774      11S:  BICB #40,0CSR        ;CLEAR MBIT
313 001236 132777 000040 176766      BITB #40,0CSR        ;IS IT CLEAR
314 001244 001417                   BEQ    12S
315 001246 011767 126760 176626      MOVB  0CSR,ACSR
316 001254 016767 176750 176618      MOV  CSR,CSRA          ;NO
317 001256 104403 000000 002120      MSGNS,BEGIN,MBITC    ;ASCII MESSAGE CALL WITH COMMON HEADER
318 001262 012767 000025 176610      MOV #25,ERRVP        ;BIT STUCK
319 ;***** BEGIN NULL *****           ;*****
320 001276 104405 000000 000000      HRDERS,BEGIN,NULL   ;MAINTENANCE BIT IS NOT CLEARING
321 ;***** BEGIN NULL *****           ;*****
322 ;***** BEGIN NULL *****           ;*****
323 001303 152777 000100 176720      12S:  BISB #100,0CSR       ;SET EBIT
324 001320 001017                   BITB #100,0CSR
325 001322 011767 176704 176552      BNE    13S
326 001330 016767 176676 176542      MOVB  0CSR,ACSR
327 001332 104403 000000 002124      MSGNS,BEGIN,EBITS     ;ASCII MESSAGE CALL WITH COMMON HEADER
328 001344 012767 000025 176534      MOV #25,ERRVP        ;BIT STUCK
329 ;***** BEGIN NULL *****           ;*****
330 001352 104405 000000 000000      HRDERS,BEGIN,NULL   ;INTERRUPT ENABLE BIT IS NOT SETTING
331 ;***** BEGIN NULL *****           ;*****
332 ;***** BEGIN NULL *****           ;*****
333 ;***** BEGIN NULL *****           ;*****
334 ;***** BEGIN NULL *****           ;*****

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335 001360 142777 000100 176644      13S:  BICB #100,0CSR       ;CLEAR EBIT
336 001366 132777 000100 176636      BITB #100,0CSR
337 001374 001417                   BEQ    14S
338 001376 011767 176630 176476      MOVB  0CSR,ACSR
339 001404 016767 176620 176466      MOV  CSR,CSRA          ;NO
340 001412 104403 000000 002130      MSGNS,BEGIN,EBITC    ;ASCII MESSAGE CALL WITH COMMON HEADER
341 001420 012767 000025 176460      MOV #25,ERRVP        ;BIT STUCK
342 ;***** BEGIN NULL *****           ;*****
343 001426 104405 000000 000000      HRDERS,BEGIN,NULL   ;INTERRUPT ENABLE BIT IS NOT CLEARING
344 ;***** BEGIN NULL *****           ;*****
345 ;***** BEGIN NULL *****           ;*****
346 ;THIS TEST WILL CHECK ALL ADDRESSES WITH MBIT SET
347 001434 112777 000040 176570      14S:  MOVB #40,0CSR        ;SET MBIT
348 001442 016702 176574                   MOV  BASE,R2
349 001446 005000                   CLR    R0
350 001450 005001                   CLR    R1
351 001452 152777 000001 176552      15S:  BISB #16,0CSR        ;SET RIF BIT
352 001454 112201 177400                   MOVB #R1,R1          ;READ ADDRESS 171000+R0 AND
353 001462 042701 177400                   BIC  #171400,R1        ;LOAD CONTENTS INTO R1
354 ;***** BEGIN NULL *****           ;*****
355 ;***** BEGIN NULL *****           ;*****
356 001466 000001                   CMP    R0,R1          ;R1 SHOULD BE EQUAL R2
357 001472 010069                   BEQ    15S
358 001476 010167 176410                   MOVB R0,ASB          ;NO, SAVE GOOD DATA
359 001478 010167 176406                   MOVB R1,AWAS          ;SAVE BAD DATA
360 001502 016767 176534 176372      MOVB BASE,ACSR
361 001516 158067 176362 176356      BISB R0,ACSR
362 001514 016767 176512 176356      MOV  CSR,CSRA
363 ;***** BEGIN NULL *****           ;*****
364 001522 104404 000000      DATERS,BEGIN           ;DATA ERROR!!!
365 ;***** BEGIN NULL *****           ;*****
366 001526 005200                   16S:  INC    R0            ;GO TO NEXT ADDRESS
367 001530 122700 000376                   CMPB #376,R0          ;IS IT LAST ONE
368 001534 001346                   BNE    15S
369 ;***** BEGIN NULL *****           ;NO, DO IT AGAIN
370 ;***** BEGIN NULL *****           ;*****
371 ;THIS TEST CHECKS MAINTENANCE INTERRUPT
372 ;IN MBIT & EBIT ARE SET LOCAL GENERATES
373 ;INTERRUPT AT ADDRESS 171000 AND R0 HAS
374 ;UPPER BYTE OF CSR ADDRESS (377)
375 001536 012777 001672 176244      17S:  MOV  #205,AVECTOR    ;SET VECTOR
376 001542 016767 016240 176472      ADD   #2,VECT4
377 001552 016767 000002 176464      MOVR BRI,0VECT2    ;SET PRIORITY LEVEL ON INTERRUPT
378 001560 016767 176226 176456      CLR   INTFLG          ;CLEAR INTERRUPT FLAG
379 001566 005067 176444 176456      MOV   #5,TEMP1        ;SET COUNT FOR TIMEOUT
380 001572 012767 000005 176424      BISB #140,0CSR        ;ENABLE INTERRUPT
381 ;***** BEGIN NULL *****           ;*****
382 001600 152777 000140 176424      18S:  BREAKS,BEGIN        ;TEMPORARY RETURN TO MONITOR
383 ;***** BEGIN NULL *****           ;THEN CONTINUE AT NEXT INSTRUCTION.
384 001606 104407 000000      BREAKS,BEGIN
385 001612 104407 000000      TST   INTFLG          ;INTERRUPT OCCURRED?
386 ;***** BEGIN NULL *****           ;YES, 21S
387 ;***** BEGIN NULL *****           ;NO, IS IT TIMEOUT
388 001616 005767 176414
389 001622 001031
390 001624 005367 176374

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391 001630* 001366          BNE    1RS      ;NO, LOOP TO BREAK
393 001632* 117767 176374 176242  MOVB   #CSR,ACSR
394 001640* 016767 176366 176232  MOV    CSR,CSRA
395 001646* 104403 000000* 002134* MSGNS,BEGIN,Noint ,ASCII MESSAGE CALL WITH COMMON HEADER
396 001654* 012767 000023 176224  MOV    #4346ERRTYP ,NO INTERRUPT
397 ***** *****,***** *****,***** *****,***** *****,*****
398 001662* 104405 000000* 000000  HRDERS,BEGIN,NULL ,NO INTERRUPT
399 ;***** *****,***** *****,***** *****,***** *****,*****
400
401 001670* 000444          BR     22$      ;CLEAR INTERRUPT ENABLE
402 001672* 142777 000100 176332 20$: BICB   #100,CSR
403 001674* 005267 176332          INC    INTFLG
404 001704* 000002          RTI
405
406 001706* 152777 000001 176316 21$: BISB   #1,CSR
407 001714* 117700 176314          MOVB   #IAR,R0      ;SET RIF BIT
408 001724* 001426          CMPR   #3777,RO
409 001726* 110067 176156          BEQ    22$      ;CHECK IF IAR = 377
410 001732* 012767 000377 176146  MOVB   R0,AWAS
411 001740* 117767 176210 176134  MOV    #3777,ASR
412 001746* 104403 000000* 002134* MOVB   #IAR,CSR
413 001754* 005267 176210          MOV    CSR,IAR
414 001762* 012767 000001 176116  MSGNS,BEGIN,IARR ,ASCII MESSAGE CALL WITH COMMON HEADER
415 001770* 104405 000000* 000000  MOV    #4346ERRTYP ,DATA ERROR
416 ;***** *****,***** *****,***** *****,*****
417 001776* 104404 000000*          HRDERS,BEGIN,NULL ,WRONG DATA IN IAR AFTER INTERRUPT
418 ;***** *****,***** *****,***** *****,*****
419 001776* 104404 000000*          DATERS,BEGIN ,DATA ERRORILL
420 ;***** *****,***** *****,***** *****,*****
421
422
423
424 002002* 012703 000041 176216 22$: MOV    #11,*3-,R3      ;SET UP WAIT LOOP
425 002006* 152777 000002          BISB   #2,CSR
426 002014* 000240          NOP
427 002016* 005303          DEC    R3      ;CLEAR CSR
428 002020* 000375          BNE    R3
429 002022* 152704 000036 176176 60$: MOV    #10,*3-,R3      ;WAIT SOME MORE
430 002024* 000240          BISB   #2,CSR
431 002026* 000375          NOP
432 002028* 000240          DEC    R3      ;SET UP ANOTHER LOOP
433 002029* 000375          BNE    R3
434 002034* 000240          NOP
435 002042* 104413 000000* 65$: DEC    R3      ;CLEAR AGAIN
436 002046* 000167 176222          BNE    R3$      ;SIGNAL END OF ITERATION.
437 002052* 104410 000000*          FINI: JMP    RESTR
438 002052* 104410 000000*          ENDS,BEGIN
439
440
441 .EVEN
442
443 002056* 002144*          RIFNOT: MES1
444 002060* 177777          177777
445
446
447

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447 002062* 002173*          RIFCLR: MES2
448 002064 177777
449
450 882066* 002223*          GBITS: MES3
451 882070 177777
452
453 002072* 002233*          GBITC: MES4
454 002074 177777
455
456 002076* 002234*          DBITS: MES5
457 002100 177777
458
459 002102* 002350*          TBITS: MES6
460 002104 177777
461
462 002106* 002374*          TBITC: MES7
463 002110 177777
464
465 002112* 002421*          DBITC: MES8
466
467 002114* 002446*          MBITS: MES9
468 002116 177777
469
470 882120* 002473*          MBITC: MES10
471 882122 177777
472
473 882124* 002517*          EBITS: MES11
474 882126 177777
475
476 002130* 002563*          EBITC: MES12
477 002132 177777
478
479 002134* 002530*          NOINT: MES13
480 002136 177777
481
482 002140* 002666*          IARERR: MES14
483 002142 177777
484
485 002144* 044522 020106 044502 MES1: .ASCIZ "RIF BIT IS NOT SETTING"
486 002152* 020124 051511 047040
487 002160* 052117 051440 052105
488 002166* 044524 043516 0000
489 002173* 044524 043111 041040 MES2: .ASCIZ "RIF BIT IS NOT CLEARING"
490 002206* 052111 044420 026123
491 002206* 047516 020124 046103
492 002214* 040505 044522 043516
493 002222* 0000 0000 0000
494 002223* 0000 0000 0000 MES3: .ASCIZ "GENERIC CODE BIT IS NOT SETTING"
495 002230* 041511 041440 042117
496 002236* 020105 044502 020124
497 002244* 051511 047040 052117
498 002252* 043524 052105 044524
499 002253* 043524 043105 052105 MES4: .ASCIZ "GENERIC CODE BIT IS NOT CLEARING"
500
501
502 002276* 020105 044502 020124

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PCSB DEC/X11 SYSTEM EXERCISER MODULE MACY11 30A(1052) 12-OCT-78 16:56 PAGE 13  
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SEQ 0012

503 002309= 051511 013690 857117  
505 002320= 047111 000107  
507 002332= 041104 052111 044440 MESS5: .ASCIZ "DBIT IS NOT SETTING"  
508 002340= 026123 037516 029124  
509 002346= 000107  
510 002350= 041124 052111 044440 MESS6: .ASCIZ "TBIT IS NOT SETTING"  
512 002356= 020123 037516 029124  
513 002372= 000107  
514 002374= 041124 052111 044440 MESS7: .ASCIZ "TBIT IS NOT CLEARING"  
516 002416= 0346163 040508 044522  
517 002419= 043516 029124  
518 002422= 051511 045846 029124 MESS8: .ASCIZ "DBIT IS NOT CLEARING"  
519 002434= 041440 042514 051101  
520 002442= 047111 000107  
522 002446= 041115 052111 044440 MESS9: .ASCIZ "MBIT IS NOT SETTING"  
524 002452= 026123 037516 029124  
525 002470= 000107  
526 002472= 041115 052111 044440 MESS10: .ASCIZ "MBIT IS NOT CLEARING"  
527 002500= 020123 037516 029124  
528 002508= 046109 040508 044522  
529 002524= 043516 000107  
530 002531= 052111 052116 051105 MESS11: .ASCIZ "INTERRUPT ENABLE BIT IS NOT SETTING"  
531 002543= 052212 052216 051105  
533 002549= 0442503 029124 041511  
534 002554= 047040 052117 041440  
535 002556= 052105 044524 043516  
536 002563= 052111 052116 051105 MESS12: .ASCIZ "INTERRUPT ENABLE BIT IS NOT CLEARING"  
537 002570= 052522 042440  
539 002575= 040516 046102 029105  
540 002604= 044502 020124 051511  
541 002612= 047040 052117 041440  
542 002620= 042514 051101 047111  
543 002626= 000107  
544 002630= 047516 046440 044501 MESS13: .ASCIZ "NO MAINTENANCE MODE INTERRUPT"  
545 002636= 052116 047103 047107  
546 002644= 042503 046440 042514  
548 002650= 051123 050125 050124  
549 002666= 051127 047117 029107 MESS14: .ASCIZ "WRONG DATA IN IAR AFTER INTERRUPT"  
550 002674= 040504 040524 044440  
551 002711= 020116 035511 020122  
552 002710= 043101 043524 020122  
553 002716= 047111 042524 051122  
554 002724= 050125 000124  
555 .EVEN  
557 .END  
558 000001

PCSB DEC/X11 SYSTEM EXERCISER MODULE MACY11 30A(1052) 12-OCT-78 16:56 PAGE 15  
XPCSB0.P11 12-OCT-78 12:05 CROSS REFERENCE TABLE -- USER SYMBOLS SEQ 0013  
ACSR 000102R 148# 212\* 223\* 234\* 245\* 256\* 267\* 278\* 294\* 305\* 316\* 327\* 338\*  
ADDR 000006R 361# 362\* 393# 413\* 202\* 359\* 412\*  
ADDR22= 001000 156# 157# 202\* 359\* 412\*  
ASB 000105R 152# 202\* 359\* 412\*  
ASTAT 000104R 150# 201\* 360\* 411\*  
AWAS 000110R 153# 201# 360# 411#  
BASE 000240R 175# 187# 201# 360# 411#  
BEGIN 000000R 111# 295# 283# 308# 325# 328# 336# 339# 341# 350# 352# 361# 340# 343#  
BIT0 = 000001 166#  
BIT1 = 000002 166#  
BIT10 = 002806 166#  
BIT11 = 004000 166#  
BIT12 = 010808 166#  
BIT13 = 020808 166#  
BIT14 = 040000 166#  
BIT15 = 100000 166#  
BIT16 = 1000004 166#  
BIT17 = 0000010 166#  
BIT18 = 0000010 166#  
BIT19 = 0000010 166#  
BREAK\$ = 104407 166# 385 386  
BR\$ = 000013R 116# 379  
BTODS = 104423 166#  
CDATAS = 104415 166#  
CNT 000240R 174# 181\*  
CONFIG 000056R 136#  
CSR 000232R 171# 185\* 190\* 195\* 199# 201 209\* 210 212# 213 221 223 257 264\*  
DATAKS = 104411 166#  
DBEXRS = 004403 166#  
DBIT\$ = 000004R 109# 205# 365 421  
DBITS = 000007R 158# 456#  
DVIDS = 000014R 118# 267 268 275# 276 278 279 287# 291 294 295 302\* 303  
EBITS = 002130R 140# 476#  
EBITS = 002124R 329# 473#  
ENDITS = 104413 166# 435#  
ENDS = 104410 166# 439#  
ERRTRP 000106R 151# 216# 226\* 237\* 248\* 259\* 270\* 281\* 297\* 308\* 319\* 330\* 341\*  
EXITS = 104400 166#  
FINI 002052R 438#  
GBITS 002072R 247# 453#  
GBITS 002066R 236 450#

PCSB DEC/X11 SYSTEM EXERCISER MODULE MACY11 30A(1052) 12-OCT-78 16:56 PAGE 16  
 XPCSB0.P11 12-OCT-78 12:05 CROSS REFERENCE TABLE -- USER SYMBOLS SEQ 0014  
 GETPAS= 104415 166#  
 GWBUFS= 0004414 166#  
 HRDCNT= 000044R 131#  
 HRDERS= 104405 166# 218 228 239 250 261 272 283 299 310 321 332 343  
 HRPAS 000050R 143# 418  
 IAK 000234R 145# 183\* 408 413 414  
 IERR 000635R 152#  
 ICOUNT 000130R 152#  
 IDNUM 000030R 152#  
 INIT 000030R 175#  
 INTLIG 000136R 175# 380\* 388 404\*  
 INTB 000120R 157# 178\*  
 MAP2S= 104416 166#  
 MBITC = 002120R 318 470#  
 MBITS = 002114R 307 467#  
 MES10 = 002144R 443 485#  
 MES11 = 002517R 473 526#  
 MES12 = 002523R 478 530#  
 MES13 = 0025230RR 478 537#  
 MES14 = 0025230RR 482 542#  
 MES15 = 0025230RR 482 546#  
 MES16 = 0025230RR 484 550#  
 MES17 = 0025232RR 486 554#  
 MES18 = 0025234RR 489 556#  
 MES19 = 0025234RR 493 559#  
 MES20 = 0025234RR 496 564#  
 MES21 = 0025234RR 499 568#  
 MES22 = 0025234RR 502 571#  
 MES23 = 0025234RR 505 574#  
 MES24 = 0025234RR 508 578#  
 MES25 = 0025234RR 511 581#  
 MES26 = 00252350R 515 585#  
 MES27 = 002374R 462 591#  
 MES28 = 002421R 465 595#  
 MES29 = 002426R 467 599#  
 MODNAM 000000R 112#  
 MODSP = 000224R 126 164#  
 MSGNS = 104403 166# 214 225 236 247 258 269 280 296 307 318 329 340  
 395# 415  
 MSGSS = 104402 166#  
 MSGS = 0004403R 399#  
 NDINT = 000203R 479#  
 NULL = 000000 399# 228 239 250 261 272 283 299 310 321 332 343  
 OPEN = 000000 143 117 157# 166#  
 OTOAS = 104420 166#  
 PASCNT = 000034R 127#  
 PIROS = 000044 166#  
 POPSP = 005726 166#  
 POPSP2 = 022626 166#  
 PRTY = 000000 166#  
 PRTY0 = 000000 166#  
 PRTY1 = 000040 166#  
 PRTY2 = 000100 166#  
 PRTY3 = 000050 166#  
 PRTY4 = 0000200 166#  
 PRTY5 = 0000200 166#  
 PRTY6 = 0000300 166#  
 PRTY7 = 0000340 166#

PCSB DEC/X11 SYSTEM EXERCISER MODULE MACY11 30A(1052) 12-OCT-78 16:56 PAGE 17  
 XPCSB0.P11 12-OCT-78 12:05 CROSS REFERENCE TABLE -- USER SYMBOLS SEQ 0015  
 PSW = 177776 166#  
 PUSH = 000574R 166#  
 PUSH1 = 002454R 166#  
 RANDS = 104417 166#  
 RANDUN = 000054R 135#  
 RESTRI = 000274R 154#  
 RES1 = 000056R 137#  
 RES2 = 000060R 139#  
 RIFCLR = 0020612R 225 447#  
 RIFNDT = 002056R 214 443#  
 RSTR1 = 000112P 154#  
 SBAADR = 000102R 147#  
 SOFCNT = 000042R 130#  
 SDOPRS= 1044406 166#  
 SDOPFAS = 1044406R 132#  
 SDOPMT = 0000030R 129#  
 SPSTZ = 0000030 159  
 SRP1 = 0000146R 119#  
 SRP2 = 0000149R 120#  
 SRP3 = 0000149R 121#  
 SR4 = 0000149 122#  
 START = 000246R 125#  
 STAT = 000026R 124#  
 SVR0 = 000062R 139#  
 SVR1 = 000064R 140#  
 SVR2 = 000066R 141#  
 SVR3 = 000070R 142#  
 SVR4 = 000072R 143#  
 SVR5 = 000074R 143#  
 SVR6 = 000076R 145#  
 SYSCNT = 000052R 124#  
 TBIT1 = 0004109R 220 462#  
 TBITS = 0004109R 220 465#  
 TEMP1 = 0000234R 166# 381\* 390\*  
 TEMP2 = 0000234R 166#  
 TEMP3 = 00002350P 175#  
 TRPFD= 000022 166#  
 VECTOR = 000104R 115# 376\* 377# 378\* 379\*  
 VECT2 = 000244R 176# 377\* 378\* 379\*  
 WASIOR = 000104R 149#  
 WDFR = 000116R 156# 180\*  
 WDTO = 000114R 155# 179\*  
 XFLAG = 000005R 113#

. ABS. 000000 000  
 002730 001

ERRORS DETECTED: 0  
 DEFAULT GLOBALS GENERATED: 0  
 XPCSB0,XPCSB0/SOL/CRP:SYM=DDXCOM,XPCSB0  
 RUN-TIME: 1.1 .2 SECONDS  
 RUN-TIME RATIO: 26/3=6.7

PCSB DEC/X11 SYSTEM EXERCISE MODULE  
XPCSB0.P11 12-OCT-78 12:05  
CORE USED: 7K (13 PAGES)

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CROSS REFERENCE TABLE -- USER SYMBOLS

SEQ 0016