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IDENTIFICATION

PRODUCT CODE: AC-E700C-MC
PRODUCT NAME: CXPCC0 PC11 MODULE
PRODUCT DATE: SEPTEMBER 1978
MAINTAINER: DEC/X11 SUPPORT GROUP

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1. ABSTRACT:

PCC EXERCISES THE PC11 BY READING AN INCREMENTAL PATTERN
AND/OR BY PUNCHING AN INCREMENTAL PATTERN AND CHECKING
FOR ERRORS.

2. REQUIREMENTS:

HARDWARE: ANY PDP11 WITH A PC11
STORAGE: PCC REQUIREMENTS:
1. DECIMAL WORDS: 287
2. OCTAL WORDS: 6437
3. OCTAL BYTES: 1076

3. PASS DEFINITION:

ONE PASS CONSISTS OF READING AND/OR PUNCHING 6000 CHARACTERS.

4. EXECUTION TIME:

RUNNING ALONE THE PUNCH OR READER ONE PASS TAKES ABOUT
ONE MINUTE. RUNNING BOTH TAKES ABOUT TWO MINUTES.

5. CONFIGURATION REQUIREMENTS:

THE FOLLOWING STATE OF SR1 INDICATES THE OPERATION TO BE PERFORMED.

SR1	0	0	0
HITS	1	1	1

READER ONLY
PUNCH ONLY
READER AND PUNCH

6. DEVICE/OPTION SETUP:

MUST BUILD AN INCREMENTAL TEST PATTERN ON THE PUNCH TO
LOAD IN THE READER.

PCCC DEC/X11 SYSTEM EXERCISER MODULE
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7. MODULE OPERATION:

INITIALIZES A PUNCH AND GENERATES AN INCREMENTAL
TEST PATTERN, AND/OR READS AN INCREMENTAL TEST PATTERN.

8. OPERATION OPTIONS:

NONE

9. NON-STANDARD PRINTOUTS:

ALL PRINTOUTS CONFORM TO DEC/X11 SPECIFICATIONS.


```

210
211 000420 042712 000100
212 000424 005772
213 000426 100466
214 000430 032767 000001 000436
215 000436 001001
216 000440 000405
217 000442 105267 000416
218 000446 104413 000000
219 000452 000746
220
221
222
223
224
225
226
227
228 000454 016700 177326
229
230 000460 004567 000044
231 000464 016767 000402 000374
232
233 000472 004567 000032
234 000476 105267 000364
235 000502 126767 000360 000362
236 000512 032767
237 000520 001350 000002 000354
238 000522 104413 000000
239 000526 000761
240
241
242
243
244
245
246 000530 052710 000101
247 000534 104400 000000
248
249
250
251
252
253
254
255
256 000540 000004 000000 000546
257
258 000546 042710 000100
259 000550 005710
260 000554 100427 000002 000306
261 000564 005767 000276
262 000570 001004
263 000574 105767 000274
264 000578 001001
265 000602 000208

```

1s: BIC #100,(R2) ;CLEAR INT ENABLE
 TST R5 ;TEST FOR ERROR
 BMI PCHER ;PUNCH ERROR
 BIT #1,SWR ;TEST IF PUNCH ONLY
 BNE INC ;YES
 BR READ ;GO READ
 BICB R5,R ;READ
 ENDTLS,BEGIN ;SIGNAL END OF ITERATION.
 BR GOPU ;MONITOR SHALL TEST END OF PASS

INC: ENDTLS,BEGIN ;SIGNAL END OF ITERATION.
 BR GOPU ;MONITOR SHALL TEST END OF PASS

BR GOPU ;MONITOR SHALL TEST END OF PASS

;READ ROUTINE
 READ: MOV ADDR,R0 ;SET READER ADDRESS
 JSR R5,GORD ;READ
 MOV CHAR1, SCH ;SAVE CHARACTER
 RDS: JSR R5,GORD ;READ
 INCB SCH ;TEST FOR ERROR
 CMPEB SCH,CHAR1 ;NEW CHAR=INCREMENTED ONE?
 BNE DTER ;NO
 BIT #2,SWR ;TEST FOR READ ONLY
 BNE INC ;BR IF BOTH
 ENDTLS,BEGIN ;SIGNAL END OF ITERATION.
 BR RDS ;MONITOR SHALL TEST END OF PASS

GORD: BIS #101,(R0) ;SET READ AND INT ENABLE
 EXITS,BEGIN ;EXIT TO MONITOR. MODULE WAIT FOR INTERRUPT.

;READ SERVICE ROUTINE
 RDVEC: PIRQS,BEGIN,1S ;QUEUE UP TO CONTINUE AT 1S AND RTI

1s: BIC #100,(R0) ;CLEAR INT ENABLE
 TST R5 ;TEST FOR ERROR
 BMI PCHER ;PUNCH ERROR
 MOV 2(R0),CHAR1 ;SAVE CHAR
 BIT SCH ;ANY CHARS READ?
 BNE TSTB ;YES
 TSTB CHAR1 ;CHECK FOR ZERO
 BNE 2S
 BR GORD
 RTS R5 ;RETURN

```

266
267
268
269
270 000604
271 000604 104403 000000 000746
272 000608 000001 000254
273 000616 001450
274 000622 042767 000002 000244
275 000630 000167 177456
276
277
278
279
280
281 000634
282 000634 104403 000000 000752
283 000640 005767 000226
284 000646 001435
285 000650 112767 000001 000216
286 000650 000167 177430
287
288
289
290 000662 116767 000200 177216
291 000670 116767 000176 177212
292
293
294 000676 104404 000000
295 000702 000167 177404
296
297
298
299
300
301
302
303 000706 105712
304 000710 100001
305 000712 000205
306 000720 001003 000150
307 000722 005726
308 000724 000167 177654
309
310
311 000730 104407 000000
312 000734 104407 000000
313 000740 000762
314
315
316
317
318
319
320

```

;PUNCH ERROR
 PCHER: MSGNS,BEGIN,MSG1 ;ASCII MESSAGE CALL WITH COMMON HEADER
 BIT #1,SWR ;DROP PUNCH
 BNE DROP ;ERROR
 BICB R5,R ;KEEP READING
 JMP START1

;READ ERROR
 RDER: MSGNS,BEGIN,MSG2 ;ASCII MESSAGE CALL WITH COMMON HEADER
 TST SWR ;DROP READER
 BEQ DROP
 MOVVB #1,SWR
 JMP START1

;DATA ERROR
 DTER: MOVVB SCH,ASB ;EXPECTED DATA
 MOVVB CHAR1,AWAS ;ACTUAL DATA
 ;*****
 DATERS,BEGIN ;DATA ERROR!!!
 ;*****
 JMP START1

;WAIT LOOP
 WT: TSTB (R2) ;TEST FOR READY
 BPL 1S
 RTS R5 ;READY
 1s: INC WTCT ;TIME OUT
 BNE 2S
 TST (R6)+ ;RESTORE STACK
 JMP PCHER

2s: BREAK,BEGIN ;TEMPORARY RETURN TO MONITOR....
 BREAK,BEGIN ;THEN CONTINUE AT NEXT INSTRUCTION.
 BR WT

DROP: ENDS,BEGIN ;

```

322 ;VALUES OF "K"
323
324
325 000746 000756 MES1: PCH
326 000750 177777 177777
327
328 000752 001021 MES2: RD
329 000754 177777 177777
330
331 000756 020045 052520 041516 PCH: .ASCIZ  "* PUNCH ERROR, DROPPED THE PUNCH %"
332 000764 020110 051105 047522
333 000772 026122 042040 047522
334 001000 035120 042040 047522
335 001006 042510 042040 047522
336 001014 044103 022440 000
337
338 001021 045 051040 040505 RD: .ASCIZ  "* READ ERROR, DROPPED THE READER %"
339 001026 020110 042040 047522
340 001035 026122 042040 047522
341 001042 050120 042105 052040
342 001050 042510 051030 040505
343 001058 042504 020122 000045
344
345 001064 000000 CHAR: 0
346 001068 000000 SCH: 0
347 001070 000000 MFCI: 0
348 001072 000000 CHAR1: 0
349 001074 000000 SWR: 0
350 ;TIME OUT COUNT
351 ;READ CHARACTER
352 ;SAVE SWITCH REG
353
354
355 000001 .END
  
```

```

ACSR 000102R 147#
ADDR 001006R 113#
ADDR22= 001006R 168#
ASB 000106R 151#
ASTAT 000104R 149#
AWAS 000119R 168#
BEIGN 000000R 114#
BIT0 = 000001 168#
BIT1 = 000002 168#
BIT10 = 000000 168#
BIT11 = 000000 168#
BIT12 = 010000 168#
BIT13 = 020000 168#
BIT14 = 040000 168#
BIT15 = 100000 168#
BIT16 = 000004 168#
BIT17 = 000010 168#
BIT18 = 000020 168#
BIT19 = 000040 168#
BIT20 = 000100 168#
BIT21 = 000200 168#
BIT22 = 000400 168#
BIT23 = 000800 168#
BIT24 = 001000 168#
BRAKAS = 104407 310
BR1 000012R 184
BR2 000012R 195
BTODS = 104421 168#
CDATA = 104412 168#
CHAR 001064R 200
CONF 000107R 233
CONF1G 000050R 259#
CSRA 000100R 148#
DATCK = 104411 168#
DATEP = 000742R 293
DRP 000742R 283
DTER 000662R 290#
DVID1 000014R 117#
ENDTS = 104413 218
ENDTS = 104410 317
ERRTYP 000106R 150#
EXITS = 104400 202
GPTAS = 104415 168#
GORD 000530R 220
GWBUFF = 104414 231
HRDCN = 000044R 130#
HRDRS = 104405 139#
HRDPAS 000050R 139#
ICONT 000036R 127#
ICOUNT 000040R 154#
IDNUM 000122R 127#
INC 000442R 215#
INT 000030R 217#
INT2 = 000120R 124#
MAP2S = 104415 150#
MES1 000746R 271
  
```

MES2	000752R	281#	328#														
MODNAM	000000R	121#															
MODSP	000724R	125#	163#														
MSGNS	104462	165#	271#	281													
MSGSS	104402	165#															
MSGS	104400	165#															
HUL	000000	111#															
OPEN	000000	147#	118#	119#	120#	121#	138#	139#	140#	141#	142#	143#	144#	145#			
OTDAS	104420	165#	149#	151#	152#	154#	155#	156#	165#								
PASCNT	000724R	125#															
PCH	000756R	125#															
PCHER	000604R	213#	331#														
PCHVCT	000412R	194#	270#	308													
PIROS	000404	165#	207#														
POPSP	000726	165#	209#	254													
POPSP2	022626	165#															
PRV0	000000	116#	165#														
PRV1	000040	165#															
PRV2	000100	165#															
PRV3	000140	165#															
PRV4	000240	165#	165#														
PRV5	000300	165#															
PRV7	000340	165#															
PSW	177776	165#															
PUNCH	000350R	191#															
PUSH	005746	165#															
PUSH2	074646	165#															
RANDS	104404	165#															
RANNUM	000054R	134#															
RD	001021R	323#	330#														
RDE	000342R	230#	480#														
RDS	000342R	230#	480#														
RDVEC	000540R	183#	262#														
READ	000454R	186#	216#	226#													
RESTR	000054R	133#	172#	176#	178#												
RES1	000060R	137#															
RES2	000142R	153#															
RSTR	000142R	153#															
SADR	001026R	146#															
SCH	001076R	129#	229*	232*	233#	260#	290#	347#									
SDFCMT	000042R	129#															
SOPERS	104406	165#															
SOPAS	000046R	125#															
SPOINT	000046R	125#															
SPSIZ	000040	1#	158#														
SR1	000016R	118#	169#	173#	17R												
SR2	000020R	130#															
SR3	000024R	121#															
SR4	000024R	121#															
START	000224R	124#	166#														
START1	000312R	174#	285#	295#													
STAT	000026R	123#															

SVR0	000062R	138#															
SVR1	000064R	139#															
SVR2	000066R	140#															
SVR3	000070R	141#															
SVR4	000072R	142#															
SVR5	000074R	143#															
SVR6	000076R	144#															
SVR	001074R	178#	185#	214#	235#	272#	274*	282#	294*	350#							
SVSCNT	000052R	133#															
TRPDPD	000022	165#															
VECTOR	000010R	114#	182														
WASADR	000104R	148#															
WDPR	000116R	155#	168*	175*													
WDTO	000114R	154#	167*	177*													
WT	000106R	143#	302#	312#													
WTCT	001070R	191#	305*	348#													
XFLAG	000005R	112#															

. ABS. 000000 000
 001076 001

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0

XPCCCO, XPCCCO/SOL/CRP:SYM=DDXCOM, XPCCCO
 RUN-TIME: 11.2 SECONDS
 RUN-TIME RATIO: 1.672=6.8
 CORE USED: 7K (13 PAGES)