

HP-41C PPC ROM Routines 3 by PPC ROM Authors
PPC Calculator Journal V7 N7 Pg 19 Sept 1980

```
01 LBL "H^N" ;Hex in Alpha to NNN in X
02 >"ABCDEFGH"
03 .006
04 STO L
05 LBL "HB" ;Hex to Binary
06 1
07 RCL O
08 X<> d
09 X<>Y
10 CF 00
11 CF 01
12 CF 02
13 FS?C 03
14 GTO 14
15 SF 04
16 FC?C 07
17 SF 07
18 FS? 07
19 CHS
20 FS? 06
21 CHS
22 SF 06
23 X<0?
24 CF 06
25 X<0?
26 SF 05
27 LBL 14
28 ST* X
29 FS?C 04
30 SF 00
31 FS?C 05
32 SF 01
33 FS?C 06
34 SF 02
35 FS?C 07
36 SF 03
37 FS?C 11
38 GTO 14
39 SF 12
40 FC?C 15
41 SF 15
42 FS? 15
43 CHS
44 FS? 14
45 CHS
46 SF 14
47 X<0?
48 CF 14
49 X<0?
50 SF 13
51 LBL 14
52 FS?C 12
53 SF 04
54 FS?C 13
55 SF 05
56 FS?C 14
57 SF 06
58 FS?C 15
59 SF 07
60 RDN
61 X<> d
62 RCL O
63 RCL N
64 RCL M
65 STO N
66 R^
67 STO M
```

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68 >"*"      ;Append 1 asterisk
69 X<> N
70 R^
71 STO O
72 R^
73 STO N
74 >"**"      ;Append 2 asterisks
75 RCL Z
76 STO M
77 ISG L
78 GTO "HB"    ;Hex to Binary (Line 5)
79 RCL M
80 CLA
81 STO M
82 AVIEW
83 RTN
84 LBL "CT+"   ;General Purpose Curtain Raiser
85 STO L
86 CLX
87 RCL c
88 STO M
89 >"\00\00\00\00" ;Append 4 nulls
90 11
91 X<> M
92 X<> d
93 STO O
94 LBL 00
95 RDN
96 CLX
97 LASTX
98 INT
99 X=0?
100 GTO 14
101 2
102 /
103 RCL M
104 X<>Y
105 FRC
106 X=0?
107 GTO 13
108 LBL 01
109 FC?C IND Y
110 SF IND Y
111 FC? IND Y
112 CHS
113 X>0?
114 GTO 13
115 FC? IND Y
116 CHS
117 DSE Y
118 GTO 01
119 LBL 13
120 DSE M
121 GTO 00
122 LBL 14
123 X<> O
124 X<> d
125 STO M
126 >"ABC"
127 X<> N
128 STO c
129 RDN
130 RTN
131 LBL "N^H"   ;NNN in X to Hex in Alpha
132 STO L
133 FIX 9
134 VIEW X
135 XEQ 14
136 XEQ 14
137 XEQ 14

```

```

138 CLA
139 ARCL Y
140 >"****" ;Append 3 asterisks
141 X<> N
142 STO M
143 ASTO Y
144 CLA
145 ARCL T
146 ARCL Z
147 ARCL Y
148 AVIEW
149 X<> L
150 RTN
151 LBL 14
152 CLA
153 X<> M
154 >"\00\00\00" ;Append 3 nulls
155 X<> M
156 >"\00\00" ;Append 2 nulls
157 RCL N
158 "****" ;2 asterisks
159 ARCL X
160 ASHF
161 ASTO X
162 X<>Y
163 RTN
164 LBL "C^D" ;Last Byte of Alpha -> Decimal
165 >"\00\07\2A\2A\2A\2A" ;Append 0007 hex, 4 asterisks
166 RCL M
167 FS? 10
168 >"*" ;Append 1 asterisk
169 STO M
170 CLX
171 X<> O
172 SIGN
173 CLX
174 X<> N
175 >"****" ;Append 3 asterisks
176 X<> M
177 X<> L
178 X<> N
179 INT
180 ST+ O
181 RDN
182 6
183 ST* O
184 RDN
185 E1
186 ST* L
187 X<> L
188 ST+ O
189 CLX
190 X<> O
191 RTN
192 LBL "D^C" ;Decimal -> Append Byte to Alpha
193 INT
194 OCT
195 X=0?
196 GTO 14
197 STO O
198 RDN
199 4 E2
200 ST+ O
201 X<> O
202 X<> d
203 FS?C 11
204 SF 12
205 FS?C 10
206 SF 11
207 FS?C 09

```

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208 SF 10
209 FS? 07
210 SF 09
211 FS? 06
212 SF 08
213 SF 03
214 ARCL d
215 STO d
216 >"**" ;Append 2 asterisks
217 CLX
218 STO P
219 X<> O
220 X<> N
221 STO M
222 RDN
223 RTN
224 LBL 14
225 >"\00" ; Append 1 null
226 STO P
227 STO O
228 RDN
229 RTN
230 LBL "ISO" ;Isolate Xth Character from Right of Alpha
231 E1
232 -
233 CHS
234 SCI IND X
235 ARCL X
236 CLX
237 X<> O
238 >"*" ;Append 1 asterisk
239 X<> O
240 CLA
241 STO M
242 AVIEW
243 RTN
244 LBL "SUB" ;Replace Xth Character from Right of
245 E1 ;Alpha by a single character from Y
246 -
247 CHS
248 RCL d
249 SCI IND Y
250 ARCL Y
251 RCL P
252 STO L
253 CLX
254 X<> O
255 >"^" ;Append 1 up-arrow
256 X<> T
257 X<> O
258 >"=====" ;Append 6 equal signs
259 CLX
260 X<> N
261 STO M
262 CLX
263 X<> O
264 STO N
265 X<> T
266 X<> O
267 LASTX
268 X<> P
269 X<> T
270 9
271 -
272 CHS
273 FIX 0
274 RND
275 CF 29
276 10^X
277 ARCL X

```

```

278 R^
279 STO d
280 CLX
281 X<> O
282 STO M
283 CLX
284 X<> P
285 STO N
286 AVIEW
287 RTN
288 LBL "AL"      ;Alphabetize constants in X and Y
289 CF 10
290 XEQ 14
291 XEQ 14
292 X=Y?
293 XEQ 13
294 CF 10
295 X<=Y?
296 RTN
297 X<> IND T
298 X<> IND Z
299 X<> IND T
300 RTN
301 LBL 13
302 R^
303 R^
304 SF 10
305 XEQ 14
306 LBL 14
307 CLA
308 ARCL IND Y
309 .
310 >"\00\00\00\00\00" ;Append 5 nulls
311 FS? 10
312 STO N
313 ASTO L
314 "\41\01"      ;4101 hex
315 ARCL L
316 ASTO M
317 >"\00\00"      ;Append 2 nulls
318 X<> M
319 RTN
320 LBL "RF"      ;Newton's Method Root Finder with Prompting
321 "FNAME?"
322 AON
323 PROMPT
324 ASTO 00
325 AOFF
326 "XGUESS1?"
327 PROMPT
328 STO 03
329 "XGUESS2?"
330 PROMPT
331 LBL "RFIND" ;Newton's Method Root Finder - Non-Prompting
332 -
333 STO 02
334 RCL 00
335 LASTX
336 XEQ 14
337 STO 01
338 LBL 02
339 RCL 00
340 RCL 03
341 XEQ 14
342 ENTER
343 ENTER
344 X<> 01
345 -
346 /
347 RCL 02

```

```

348 *
349 CHS
350 STO 02
351 RCL 03
352 +
353 STO 03
354 RCL 01
355 ABS
356 E-6
357 X<=Y?
358 GTO 02
359 RCL 03
360 RTN
361 LBL 14
362 SREG 04      ;SigmaReg
363 FC? 05
364 XEQ "~<>CT" ;~=Sigma - SigmaReg <> Curtain Register Exchange
365 XEQ IND Y    ;V7N7P18 SIGMA (Line 160)
366 FC? 05
367 XEQ "~<>CT" ;~=Sigma - SigmaReg <> Curtain Register Exchange
368 RTN          ;V7N7P18 SIGMA (Line 160)
369 LBL "HRP"    ;High Resolution Plot with Prompting
370 AON
371 "FNAME?"
372 PROMPT
373 AOFF
374 ASTO 14
375 "YMIN?"
376 PROMPT
377 STO 12
378 "YMAX?"
379 PROMPT
380 STO 13
381 "XMIN?"
382 PROMPT
383 STO 09
384 "XMAX?"
385 PROMPT
386 STO 11
387 "X INC?"
388 PROMPT
389 STO 10
390 LBL "HRPLOT" ;High Resolution Plot - Non-Prompting
391 "PLOT OF "
392 ARCL 14
393 XROM 29,08   ;PRA
394 RCL d
395 FIX 1
396 "Y: "
397 ARCL 12
398 ">" TO "
399 ARCL 13
400 XROM 29,08   ;PRA
401 "X: "
402 ARCL 09
403 ">" TO "
404 ARCL 11
405 XROM 29,08   ;PRA
406 "STEPS OF "
407 ARCL 10
408 STO d
409 XROM 29,08   ;PRA
410 "-----"    ;15 dashes
411 ">-----"    ;Append 9 dashes
412 XROM 29,08   ;PRA
413 LBL "HRP-H"  ;High Resolution Plot without Header
414 FC? 05
415 RCL 20
416 RCL 13
417 RCL 12

```

```

418 -
419 168
420 /
421 STO 13
422 LBL 21
423 E-3
424 STO 07
425 6
426 *
427 STO 08
428 SREG 00      ;SigmaReg
429 CLS          ;CLSigma
430 CLX
431 STO 06
432 LBL 04
433 RCL 11
434 RCL 09
435 X>Y?
436 SF 10
437 X>Y?
438 GTO 14
439 RCL 14
440 X<>Y
441 SREG 15      ;SigmaReg
442 FC? 05
443 XEQ "~<>CT"  ;~=Sigma - SigmaReg <> Curtain Register Exchange
444 XEQ IND Y    ;V7N7P18 SIGMA (Line 160)
445 FC? 05
446 XEQ "~<>CT"  ;~=Sigma - SigmaReg <> Curtain Register Exchange
447 RCL 12      ;V7N7P18 SIGMA (Line 160)
448 -
449 RCL 13
450 /
451 .5
452 +
453 INT
454 RCL 07
455 +
456 STO IND 08
457 2
458 ST* 07
459 RCL 10
460 ST+ 09
461 ISG 08
462 GTO 04
463 LBL 14
464 SF 09
465 LBL 05
466 5 E-3
467 STO 08
468 LBL 06
469 RCL 08
470 1.001
471 +
472 STO 07
473 LBL 07
474 FC? 09
475 GTO 08
476 RCL IND 08
477 RCL IND 07
478 X<Y?
479 X<> IND 08
480 STO IND 07
481 ISG 07
482 GTO 07
483 ISG 08
484 GTO 06
485 CF 09
486 GTO 05
487 LBL 08

```

```
488 RCL IND 08
489 INT
490 RCL IND 07
491 INT
492 X#Y?
493 GTO 14
494 LASTX
495 FRC
496 ST+ IND 08
497 CLX
498 STO IND 07
499 ISG 07
500 GTO 08
501 LBL 14
502 ISG 08
503 GTO 06
504 6 E-3
505 STO 08
506 CLX
507 STO 07
508 LBL 09
509 RCL IND 08
510 X<=0?
511 GTO 14
512 INT
513 ENTER
514 X<> 07
515 -
516 E
517 -
518 XROM 29,23 ;SKPCOL
519 RCL IND 08
520 FRC
521 E3
522 *
523 XROM 29,03 ;ACCOL
524 LBL 14
525 ISG 08
526 GTO 09
527 XROM 29,10 ;PRBUF
528 RCL 10
529 4
530 *
531 ST+ 09
532 FC?C 10
533 GTO 21
534 ADV
535 ADV
536 ADV
537 ADV
538 RTN
539 END
```


0470C000F400485E4EF87F414243444546471A1010169174C0
00F3004842119077CE7E71A900A901A902AA03BF00A804AB07
A807AC0754AC0654A80666A90666A8050F9473AA04A800AA05
A801AA06A802AA07A803AA0BBF00A80CAB0FA80FAC0F54AC0E
54A80E66A90E66A80D0FAA0CA804AA0DA805AA0EA806AA0FA8
0775CE7E9077907690759176749175F27F2ACE767491777491
76F37F2A2A9071917596741DF2484290758791757E85C000F4
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64BE00ADF2549772B2000E9775B1000FCE77CE7E9175F47F41
4243CE76917D7585C000F4004E5E4891749C099873E0000EE0
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727ECE74850F87CE75F47F000000CE75F37F00009076F22A2A
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005355421B114154907E9DF29B729078917477CE77F27F5ECE
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76CE78CE701941549C006EA91D579B7374917E77CE77917577
CE7891767E85C000F300414CA90AE0000EE0000E78E0000DA9
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C000F3005246F6464E414D453F8C8E9A008BF8584755455353
313F8E33F858475545535323F8EC000F6005246494E444132
2076E0000E31032023E0000E8383CE01414322425432234033
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051EF57E3C3E435485C000F4004852508CF6464E414D453F8E
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504C4F54F8504C4F54204F46209B0EA748907E9C01F3593A20
9B0CF57F20544F209B0DA748F3583A209B09F57F20544F209B
0BA748F95354455053204F46209B0A917EA748FF2D2D2D2D2D
2D2D2D2D2D2D2D2D2DFA7F2D2D2D2D2D2D2D2D2DA748C000
F6004852502D48AD0590142D2C41111618433DCF151B1C1337
1642389900707736052B2945A80A45BF002E71990FAD051EF5
7E3C3E4354AEF2AD051EF57E3C3E43542C412D431A15406827
4091881294072A92099608B5000FA80906151B1C1338072811
1A101011403708AD09B9009088908744CE8891879607B80096
08B700A909B6000990886890876879BF007669928877918796
07B9000F9608B700161B1C133877370A90887BBF006883CE07
411B41A7579088691B1342A7430F9608BA00A74A2A14429209
AB0AD000158F8F8F8F85C0000DB3

1136 BYTES

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Program Registers Needed: 163

Row 1 (1 - 2)



Row 2 (2 - 5)



Row 3 (5 - 12)



Row 4 (12 - 18)



Row 5 (19 - 27)



Row 6 (28 - 34)



Row 7 (34 - 40)



Row 8 (41 - 48)



Row 9 (49 - 56)



Row 10 (56 - 63)



Row 11 (63 - 69)



Row 12 (70 - 76)



Row 13 (76 - 82)



Row 14 (83 - 87)



Row 15 (88 - 92)

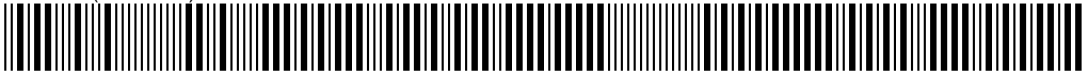


Row 16 (92 - 102)



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Row 17 (103 - 111)



Row 18 (111 - 119)



Row 19 (120 - 126)



Row 20 (126 - 131)



Row 21 (131 - 136)



Row 22 (136 - 140)



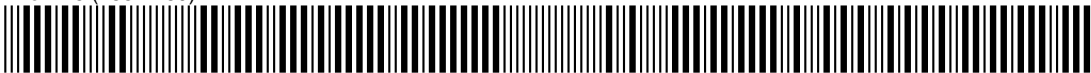
Row 23 (141 - 147)



Row 24 (148 - 154)



Row 25 (155 - 159)



Row 26 (160 - 165)



Row 27 (165 - 168)



Row 28 (168 - 175)



Row 29 (175 - 182)



Row 30 (183 - 190)



Row 31 (190 - 196)



Row 32 (196 - 202)



Row 33 (203 - 209)



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Row 34 (209 - 215)



Row 35 (216 - 221)



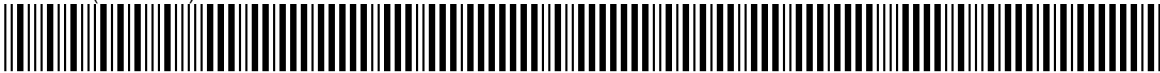
Row 36 (222 - 230)



Row 37 (230 - 235)



Row 38 (235 - 242)



Row 39 (243 - 248)



Row 40 (248 - 255)



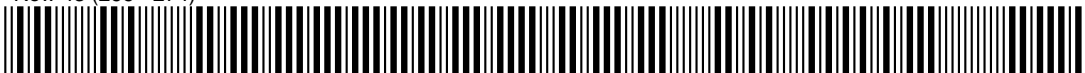
Row 41 (255 - 258)



Row 42 (258 - 265)



Row 43 (266 - 274)



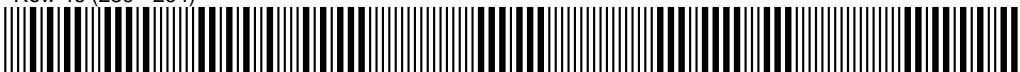
Row 44 (275 - 282)



Row 45 (283 - 288)



Row 46 (289 - 294)



Row 47 (294 - 303)



Row 48 (304 - 310)



Row 49 (310 - 314)



Row 50 (315 - 320)



HP-41C PPC ROM Routines 3 by PPC ROM Authors PPC V7 N7 P19 Sept 1980

Row 51 (320 - 323)



Row 52 (324 - 327)



Row 53 (328 - 331)



Row 54 (331 - 336)



Row 55 (336 - 345)



Row 56 (346 - 356)



Row 57 (357 - 364)



Row 58 (364 - 367)



Row 59 (367 - 371)



Row 60 (371 - 375)



Row 61 (375 - 381)



Row 62 (381 - 384)



Row 63 (385 - 390)



Row 64 (390 - 391)



Row 65 (391 - 396)



Row 66 (396 - 399)



Row 67 (400 - 403)



HP-41C PPC ROM Routines 3 by PPC ROM Authors PPC V7 N7 P19 Sept 1980

Row 68 (403 - 406)



Row 69 (406 - 410)



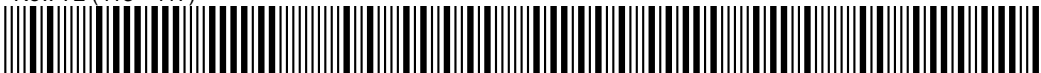
Row 70 (410 - 411)



Row 71 (411 - 413)



Row 72 (413 - 417)



Row 73 (418 - 425)



Row 74 (426 - 436)



Row 75 (437 - 443)



Row 76 (443 - 446)



Row 77 (446 - 456)



Row 78 (457 - 464)



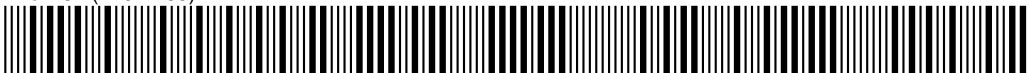
Row 79 (465 - 470)



Row 80 (471 - 479)



Row 81 (479 - 485)



Row 82 (486 - 494)



Row 83 (495 - 502)



Row 84 (503 - 510)



HP-41C PPC ROM Routines 3 by PPC ROM Authors PPC V7 N7 P19 Sept 1980

Row 85 (511 - 519)



Row 86 (520 - 527)



Row 87 (528 - 536)



Row 88 (537 - 539)

