

HP-41C Routine Listing of 8K PPC Custom ROM M2
PPC Calculator Journal V8 N2 P5/5 Mar-Apr 1981

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01 LBL "M2"      ;Matrix, Multiply Row by Constant - XROM 20,31
02 XEQ 00
03 X<>Y
04 LBL 01
05 ST* IND Y
06 ISG Y
07 GTO 01
08 RTN
09 LBL "M3"      ;Matrix, Add Multiple of Row to Another - XROM 20,32
10 STO M
11 RDN
12 XEQ 00
13 X<>Y
14 XEQ 00
15 RCL M
16 SIGN
17 LBL 02
18 RDN
19 RCL IND Y
20 LASTX
21 *
22 ST+ IND Y
23 ISG Y
24 ""           ;F0=null string (NOP)
25 ISG Z
26 GTO 02
27 RTN
28 LBL "M1"      ;Matrix, Interchange Two Rows - XROM 20,33
29 XEQ 00
30 X<>Y
31 XEQ 00
32 LBL "BE"      ;Block Exchange - XROM 20,34
33 RCL IND Y
34 X<> IND Y
35 STO IND Z
36 RDN
37 ISG X
38 ""           ;F0=null string (NOP)
39 ISG Y
40 GTO "BE"      ;Block Exchange (Line 32)
41 RTN
42 LBL 00
43 RCL 08
44 *
45 RCL 07
46 +
47 RCL X
48 RCL 08
49 ST- Z
50 SIGN
51 -
52 E3
53 /
54 +
55 RTN
56 LBL "M4"      ;Matrix, Register Address to (i, j) - XROM 20,35
57 RCL 07
58 -
59 RCL 08
60 XROM 10,54 ;QR (Quotient Remainder)
61 ISG Y
62 ""           ;F0=null string (NOP)
63 ISG X
64 ""           ;F0=null string (NOP)
65 RTN
66 LBL "M5"      ;Matrix, (i,j) to Register Address - XROM 20,36
67 X<> 08
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68 ST- 08
69 *
70 ST+ 08
71 X<> L
72 X<> 08
73 1
74 -
75 RCL 07
76 +
77 RTN
78 LBL 03
79 RCL 07
80 RCL 08
81 RCL Z
82 *
83 +
84 STO Y
85 RCL 09
86 R^
87 -
88 RCL 08
89 RTN
90 LBL "IR" ;Insert Record - XROM 20,37
91 ISG 09
92 "" ;F0=null string (NOP)
93 XEQ 03
94 ST- T
95 *
96 GTO "BM" ;Block Move (Line 103)
97 LBL "DR" ;Delete Record - XROM 20,38
98 XEQ 03
99 ST- Z
100 *
101 DSE 09
102 "" ;F0=null string (NOP)
103 LBL "BM" ;Block Move - XROM 20,39
104 SIGN
105 RDN
106 X<Y?
107 GTO 04
108 LASTX
109 ST+ Z
110 +
111 -1
112 ST+ Z
113 ST+ Y
114 RDN
115 LBL 04
116 R^
117 LBL 05
118 RCL IND Z
119 STO IND Z
120 RDN
121 ST+ Z
122 ST+ Y
123 DSE L
124 GTO 05
125 RTN
126 LBL "BR" ;Block Rotate - XROM 20,40
127 CHS
128 X<0?
129 GTO 07
130 RCL Y
131 X<>Y
132 1
133 ST+ Z
134 -
135 SIGN
136 LBL 06
137 RCL IND Z

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138 X<> IND Z
139 STO IND T
140 RDN
141 ST+ Z
142 ST+ Y
143 DSE L
144 GTO 06
145 RTN
146 LBL 07
147 CHS
148 1
149 -
150 +
151 STO Y
152 -1
153 ST+ Z
154 GTO 06
155 LBL "BX" ;Block Extrema - XROM 20,41
156 STO M
157 STO N
158 STO O
159 RCL IND X
160 FS? 10
161 ABS
162 ENTER
163 ENTER
164 RDN
165 LBL 08
166 CLX
167 RCL IND Z
168 FS? 10
169 ABS
170 X>Y?
171 GTO 10
172 R^
173 X>Y?
174 GTO 11
175 RDN
176 LBL 09
177 ISG Z
178 GTO 08
179 X<>Y
180 R^
181 RTN
182 LBL 10
183 X<>Y
184 CLX
185 RCL Z
186 STO M
187 GTO 09
188 LBL 11
189 CLX
190 RCL T
191 STO N
192 X<>Y
193 RDN
194 GTO 09
195 LBL "B~" ;~=Sigma - Block Statistics - XROM 20,42
196 CLS
197 LBL 12
198 RCL IND Y
199 RCL IND Y
200 S+ ;Sigma+
201 R^
202 R^
203 ISG X
204 "" ;F0=null string (NOP)
205 ISG Y
206 GTO 12
207 RTN

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208 LBL "BC"      ;Block Clear - XROM 20,43
209 SIGN
210 CLX
211 LBL 13
212 STO IND L
213 ISG L
214 GTO 13
215 RTN
216 LBL "UR"      ;Unpack Register - XROM 20,44
217 1
218 -
219 RCL 10
220 X<>Y
221 Y^X
222 RCL IND 11
223 X<>Y
224 ST/ Y
225 X<>Y
226 INT
227 RCL 10
228 MOD
229 RTN
230 LBL "PR"      ;Pack Register - XROM 20,45
231 XROM 20,44 ;UR (Unpack Register)
232 X<>Y
233 ST* Z
234 *
235 ST- IND 11
236 X<>Y
237 ST+ IND 11
238 RTN
239 END

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```

01A8C600F3004D32E00000710294F29672B20085C802F3004D
33917575E0000071E0000090757A037590F2764292F29672F0
9671B30085C005F3004D31E0000071E00000CC01F300424590
F2CEF291F1759673F096721DF2424585012842274090732893
717A411B13434085CA05F3004D34274128A2B69672F09673F0
85C802F3004D35CE089308429208CE74CE0811412740850427
289071424091722974412885C205F30049529609F0E0000393
70421DF2424DCA02F3004452E000039371429709F0C202F300
424D7A7544B500769271401C11927192727505740690F191F1
75927192729774B60085C805F30042525466B8009072711192
71417A0790F1CEF191F075927192729774B700850854114140
91721C119271B700CC06F300425891759176917790F3AC0A61
838375097790F1AC0A6145BB007445BC00750A9671B9007174
850B717790719175BA000C77907091767175BA00CC08F30042
7E700D90F290F24774749673F09672BD0085C403F30042437A
770E91F49674BE0085C402F300555211412A7153908B719572
71682A4B85C003F3005052A52C71947142938B71928B85C802
09B3

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424 BYTES

Program Registers Needed: 61

Row 1 (1 - 5)



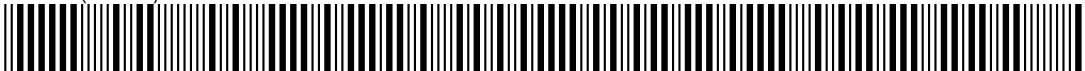
Row 2 (6 - 10)



Row 3 (11 - 18)



Row 4 (19 - 26)



Row 5 (27 - 31)



Row 6 (31 - 35)



Row 7 (36 - 43)



Row 8 (44 - 53)



Row 9 (54 - 60)



Row 10 (61 - 66)



Row 11 (67 - 74)



Row 12 (75 - 85)



Row 13 (86 - 92)



Row 14 (93 - 97)



Row 15 (97 - 103)



Row 16 (103 - 109)



Row 17 (110 - 118)



Row 18 (119 - 126)



Row 19 (126 - 132)



Row 20 (133 - 141)



Row 21 (141 - 150)



Row 22 (151 - 155)



Row 23 (155 - 162)



Row 24 (163 - 172)



Row 25 (173 - 182)



Row 26 (183 - 191)



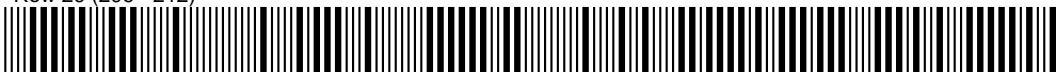
Row 27 (191 - 197)



Row 28 (198 - 206)



Row 29 (206 - 212)



Row 30 (213 - 218)



Row 31 (219 - 229)



Row 32 (230 - 235)



Row 33 (235 - 239)

