

HP-41C Complex Equation Solution by Read Predmore
PPC Calculator Journal Vol 10 N1 P22 Jan-Feb 1983
Includes corrections listed in PPC NOP V10 N2 P2.

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01 LBL "CMIO" ;Complex Equation Solution
02 LBL A      ;Enter New Matrix
03 "START REG ?"
04 AVIEW      ;Enter starting register
05 STOP
06 STO 07
07 "DIM(R^C) ?"
08 AVIEW      ;Enter dimensions (rows ENTER columns)
09 STOP
10 STO 08
11 ST+ X
12 1
13 +
14 STO 06
15 X<>Y
16 STO 09
17 CF 08
18 SF 09
19 RCL 08
20 *
21 STO 03
22 4
23 *
24 RCL 07
25 +
26 XROM 10,30 ;VS - PPC ROM Verify Size
27 FC?C 25
28 PROMPT
29 RCL 08
30 RCL 09
31 -
32 STO 02
33 LASTX
34 X>Y?
35 GTO 01
36 "I MATRIX"
37 AVIEW      ;Program is storing identity matrix
38 SF 08
39 RCL 08
40 ST+ X
41 1.001
42 *
43 STO 00
44 LASTX
45 RCL 07
46 1
47 -
48 *
49 +
50 RCL 09
51 ST+ X
52 STO Z
53 -
54 1
55 +
56 STO 01
57 LBL 11
58 ENTER
59 XROM 20,43 ;BC - PPC ROM Block Clear
60 RDN
61 RCL 00
62 +
63 DSE Y
64 GTO 11
65 RCL 01
66 INT
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67 RCL 07
68 1
69 -
70 RCL 03
71 4
72 *
73 +
74 E3
75 /
76 +
77 RCL 06
78 E5
79 /
80 +
81 1
82 ENTER
83 CLX
84 XROM 10,44 ;BI - PPC ROM Block Increment
85 GTO 01
86 LBL B ;Review Matrix
87 CF 08
88 CF 09
89 LBL 01
90 CF 29
91 RCL 07
92 STO 04
93 RCL 08
94 RCL 09
95 *
96 STO 03
97 LBL 02
98 RCL 04
99 XROM 20,35 ;M4 - PPC ROM Matrix, Register Address to (i,j)
100 FC? 08
101 GTO 08
102 RCL 02
103 X<>Y
104 X<=Y?
105 GTO 12
106 RCL 09
107 DSE X
108 LBL 00
109 ST+ 04
110 ST- 03
111 GTO 04
112 LBL 12
113 X<>Y
114 RDN
115 LBL 08
116 FIX 0
117 "C\28" ;Letter C, left parenthesis
118 ARCL Y
119 ">"," ;Append comma
120 ARCL X
121 ">"\29=" ;Append right parenthesis, equal sign
122 DSE X
123 LBL 00
124 DSE Y
125 LBL 00
126 X<>Y
127 RCL 08
128 *
129 ST+ X
130 +
131 ST+ X
132 RCL 07
133 +
134 STO 05
135 FC? 09
136 GTO 03

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137 >"A^B ?"
138 AVIEW      ;A (real) ENTER B (imaginary)
139 TONE 9
140 FIX 4
141 STOP
142 X<>Y
143 STO IND 05
144 RCL 05
145 RCL 06
146 +
147 RDN
148 STO IND T
149 RDN
150 1
151 ST+ 05
152 ST- T
153 RDN
154 STO IND 05
155 CHS
156 STO IND Z
157 GTO 04
158 LBL 03
159 FIX 4
160 ARCL IND 05
161 ISG 05
162 LBL 00
163 >":"      ;Append colon
164 ARCL IND 05 ;Correction per NOP V10N2P2
165 >"J"      ;Append letter J (imaginary)
166 AVIEW
167 STOP
168 LBL 04
169 ISG 04
170 ""        ;F0=null string (NOP)
171 DSE 03
172 GTO 02
173 FIX 4
174 TONE 5
175 RTN
176 LBL C      ;New C(Y,X)
177 SF 09      ;Correction per NOP V10N2P2
178 GTO 08
179 LBL D      ;Review C(Y,X)
180 1          ;Correction per JFW
181 STO 03
182 CF 09      ;Correction per NOP V10N2P2
183 RDN
184 GTO 08
185 LBL E      ;Matrix Inverse
186 2
187 ST* 08
188 ST* 09
189 XEQ "RRM"  ;Row Reduction Method - See PPC V8N3P7
190 2
191 ST/ 08
192 ST/ 09
193 TONE 9
194 RTN
195 END

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0147C000F500434D494FCF66FB535441525420524547203F7E
8437FA444494D28525E4329203F7E843892731140367139A908
A80928423314422740A29EAB198E282941327645B200F84920
4D41545249587EA808289273111A1010114230762711414240
2992739171411140310C83A52B7520409772BC002168271141
231442401B134340261B154340118377A2ACB200CF67A908A9
0902A91D2734282942330324A523AD08B900227146BD002997
730192049303B5000D7175099C00F243289B72F27F2C9B73F3
7F293D9773019772017128429273409273274035AD09B400F6
7F415E42203F7E9F099C04847191852526407591F075119205
93707591855491F1B500049C049B85960501F27F3A9B85F27F
4A7E84059604F09703B3009C049F0585CF68A809B900CF6911
33A90975B900CF6A12940894091EF352524D12950895099F09
85C0000DCE

327 BYTES

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Program Registers Needed: 47

Row 1 (1 - 3)



Row 2 (3 - 7)



Row 3 (7 - 10)



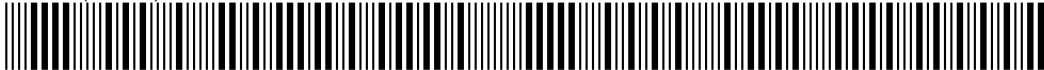
Row 4 (11 - 20)



Row 5 (21 - 31)



Row 6 (32 - 36)



Row 7 (36 - 42)



Row 8 (43 - 53)



Row 9 (54 - 64)

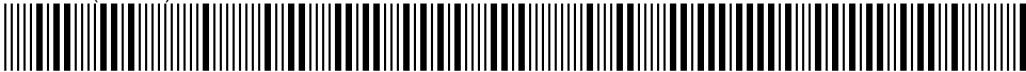


Row 10 (64 - 75)



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Row 11 (76 - 85)



Row 12 (86 - 94)



Row 13 (95 - 104)



Row 14 (105 - 112)



Row 15 (113 - 119)



Row 16 (120 - 126)



Row 17 (127 - 136)



Row 18 (136 - 140)



Row 19 (141 - 151)



Row 20 (151 - 159)



Row 21 (159 - 165)



Row 22 (165 - 173)



Row 23 (174 - 181)



Row 24 (182 - 189)



Row 25 (189 - 195)



Row 26 (195)

