

HP-41C Solar System Calcs YMD by Paul Schlyter
PPC Calculator Journal Vol 8 No 3 P30 May 1981

```
01 LBL "YMD" ;Enter Year/Month/Day
02 X<>Y
03 STO 06
04 275
05 *
06 9
07 /
08 INT
09 +
10 RCL 06
11 9
12 +
13 12
14 /
15 INT
16 RCL Z
17 +
18 1.75
19 *
20 INT
21 -
22 X<>Y
23 367
24 *
25 +
26 730530
27 -
28 STO 06
29 STO 07
30 ST- 07
31 RTN
32 LBL "TMER" ;Time meridian
33 STO 04
34 RTN
35 LBL "TID" ;Input local time
36 HR
37 RCL 04
38 -
39 ENTER
40 X<> 07
41 -
42 24
43 /
44 ST+ 06
45 RCL 06
46 RTN
47 LBL "+D" ;Change date (+/-)
48 ST+ 06
49 RCL 06
50 RTN
51 LBL "SEPOK" ;Set epoch
52 CF 02
53 CF 22
54 "EPOK?"
55 PROMPT
56 FC? 22
57 RTN
58 2 E3
59 -
60 365.25
61 *
62 STO 03
63 SF 02
64 RTN
65 LBL "LOLA" ;Longitude/Latitude
66 HR
67 STO 19
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68 X<>Y
69 HR
70 STO 18
71 CLX
72 RTN
73 LBL "HEP" ;Heliocentric position
74 1
75 X<>Y
76 X<=Y?
77 STOP
78 XEQ "P" ;Solar System Calculations
79 RCL 11
80 HMS
81 RCL 12
82 HMS
83 RCL 13
84 LBL 10
85 RCL Z
86 "LO "
87 ARCL X
88 PROMPT
89 RCL Z
90 "LA "
91 ARCL X
92 PROMPT
93 RCL Z
94 " R "
95 ARCL X
96 PROMPT
97 GTO 10
98 LBL "GEP" ;Geocentric position
99 XEQ "P" ;Solar system calculations
100 RCL 08
101 15
102 FS? 01
103 SIGN
104 /
105 HMS
106 RCL 09
107 HMS
108 RCL 10
109 FS? 01
110 GTO 10
111 LBL 11
112 RCL Z
113 "RE "
114 ARCL X
115 PROMPT
116 RCL Z
117 "DE "
118 ARCL X
119 PROMPT
120 RCL Z
121 " R "
122 ARCL X
123 PROMPT
124 GTO 11
125 LBL "HAZ" ;Local altitude and azimuth
126 CF 02
127 XEQ "P" ;Solar system calculations
128 RCL 05
129 RCL 20
130 -
131 RCL 07
132 15
133 *
134 +
135 RCL 18
136 -
137 RCL 08

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138 -
139 RCL 09
140 1
141 P-R
142 RDN
143 X<>Y
144 R^
145 P-R
146 X<>Y
147 STO 01
148 RDN
149 X<>Y
150 R-P
151 X<>Y
152 RCL 19
153 +
154 X<>Y
155 P-R
156 RCL 01
157 CHS
158 X<>Y
159 R-P
160 X<>Y
161 RDN
162 R-P
163 X<>Y
164 R^
165 360
166 MOD
167 LBL 12
168 "AZ "
169 ARCL X
170 PROMPT
171 X<>Y
172 " H "
173 ARCL X
174 PROMPT
175 X<>Y
176 GTO 12
177 END

014BC000F400594D4471361217154219436840261940111243
68907140111A17154268417113161742401713101513104136
37930785C000F500544D45523485C000F4005449446D244183
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901241284129114E7571744E713175714F71901340714E2154
714F71754F71741316104B0DF3415A209B738E71F32048209B
738E71BD00C0000D31

331 BYTES

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Program Registers Needed: 48

Row 1 (1 - 5)



Row 2 (6 - 16)



Row 3 (17 - 24)



Row 4 (25 - 31)



Row 5 (32 - 35)



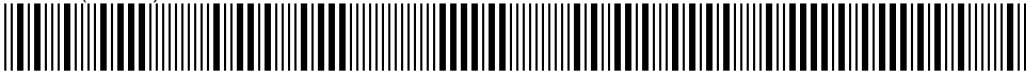
Row 6 (35 - 42)



Row 7 (43 - 48)



Row 8 (49 - 52)



Row 9 (53 - 58)



Row 10 (58 - 63)



Row 11 (64 - 68)



Row 12 (69 - 74)



Row 13 (75 - 85)



Row 14 (85 - 90)



Row 15 (90 - 96)



Row 16 (97 - 100)



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Row 17 (101 - 110)



Row 18 (110 - 116)



Row 19 (117 - 121)



Row 20 (122 - 126)



Row 21 (126 - 134)



Row 22 (135 - 146)



Row 23 (147 - 158)



Row 24 (159 - 168)



Row 25 (168 - 174)



Row 26 (175 - 177)

