

```
01 LBL "VDU" ;VDU = Visual Display Unit
02 ASTO 01
03 ASHF
04 ASTO 02
05 ASHF
06 ASTO 03
07 ASHF
08 ASTO 04
09 SF 25
10 CLX
11 STO 00
12 LBL a ;Translate String to Morse Code
13 CLA
14 ARCL 01
15 ARCL 02
16 ARCL 03
17 ARCL 04
18 FC? 25
19 RTN
20 RCL 00
21 ENTER
22 ENTER
23 6
24 /
25 INT
26 LBL 00
27 X#0?
28 ASHF
29 DSE X
30 GTO 00
31 CLX
32 6
33 MOD
34 5
35 X<>Y
36 -
37 ASTO Y
38 CLA
39 LBL 01
40 X#0?
41 >" " ;Append 1 space
42 DSE X
43 GTO 01
44 ARCL Y
45 ASTO Y
46 " " ;1 space
47 ARCL Y
48 ASHF
49 ASTO X
50 XEQ IND X
51 ISG 00
52 CLA
53 GTO a ;Translate String to Morse (Line 12)
54 LBL "A" ;Letter A = .-
55 LBL "a" ;Letter a = .-
56 TONE 57
57 TONE 73
58 RTN
59 LBL "B" ;Letter B = -...
60 LBL "b" ;Letter b = -...
61 TONE 73
62 TONE 57
63 TONE 57
64 TONE 57
65 RTN
66 LBL "C" ;Letter C = -.-.
67 LBL "c" ;Letter c = -.-.
```

68 TONE 73
69 TONE 57
70 TONE 73
71 TONE 57
72 RTN
73 LBL "D" ;Letter D = -..
74 LBL "d" ;Letter d = -..
75 TONE 73
76 TONE 57
77 TONE 57
78 RTN
79 LBL "E" ;Letter E = .
80 LBL "e" ;Letter e = .
81 TONE 57
82 RTN
83 LBL "F" ;Letter F = ---.
84 TONE 57
85 TONE 57
86 TONE 73
87 TONE 57
88 RTN
89 LBL "G" ;Letter G = --.
90 TONE 73
91 TONE 73
92 TONE 57
93 RTN
94 LBL "H" ;Letter H =
95 TONE 57
96 TONE 57
97 TONE 57
98 TONE 57
99 RTN
100 LBL "I" ;Letter I = ..
101 TONE 57
102 TONE 57
103 RTN
104 LBL "J" ;Letter J = ----
105 TONE 57
106 TONE 73
107 TONE 73
108 TONE 73
109 RTN
110 LBL "K" ;Letter K = -.-
111 TONE 73
112 TONE 57
113 TONE 73
114 RTN
115 LBL "L" ;Letter L = -..
116 TONE 57
117 TONE 73
118 TONE 57
119 TONE 57
120 RTN
121 LBL "M" ;Letter M = --
122 TONE 73
123 TONE 73
124 RTN
125 LBL "N" ;Letter N = -.
126 TONE 73
127 TONE 57
128 RTN
129 LBL "O" ;Letter O = ---
130 TONE 73
131 TONE 73
132 TONE 73
133 RTN
134 LBL "P" ;Letter P = ---.
135 TONE 57
136 TONE 73
137 TONE 73

138 TONE 57
139 RTN
140 LBL "Q" ;Letter Q = ---.
141 TONE 73
142 TONE 73
143 TONE 57
144 TONE 73
145 RTN
146 LBL "R" ;Letter R = .-.
147 TONE 57
148 TONE 73
149 TONE 57
150 RTN
151 LBL "S" ;Letter S = ...
152 TONE 57
153 TONE 57
154 TONE 57
155 RTN
156 LBL "T" ;Letter T = -
157 TONE 73
158 RTN
159 LBL "U" ;Letter U = ..-
160 TONE 57
161 TONE 57
162 TONE 73
163 RTN
164 LBL "V" ;Letter V = ...-
165 TONE 57
166 TONE 57
167 TONE 57
168 TONE 73
169 RTN
170 LBL "W" ;Letter W = .--
171 TONE 57
172 TONE 73
173 TONE 73
174 RTN
175 LBL "X" ;Letter X = -...
176 TONE 73
177 TONE 57
178 TONE 57
179 TONE 73
180 RTN
181 LBL "Y" ;Letter Y = -.--
182 TONE 73
183 TONE 57
184 TONE 73
185 TONE 73
186 RTN
187 LBL "Z" ;Letter Z = --..
188 TONE 73
189 TONE 73
190 TONE 57
191 TONE 57
192 RTN
193 LBL "0" ;Number 0 = -----
194 TONE 73
195 TONE 73
196 TONE 73
197 TONE 73
198 TONE 73
199 RTN
200 LBL "1" ;Number 1 = .-----
201 TONE 57
202 TONE 73
203 TONE 73
204 TONE 73
205 TONE 73
206 RTN
207 LBL "2" ;Number 2 = ..----

208 TONE 57
209 TONE 57
210 TONE 73
211 TONE 73
212 TONE 73
213 RTN
214 LBL "3" ;Number 3 = ...--
215 TONE 57
216 TONE 57
217 TONE 57
218 TONE 73
219 TONE 73
220 RTN
221 LBL "4" ;Number 4 =-
222 TONE 57
223 TONE 57
224 TONE 57
225 TONE 57
226 TONE 73
227 RTN
228 LBL "5" ;Number 5 =
229 TONE 57
230 TONE 57
231 TONE 57
232 TONE 57
233 TONE 57
234 RTN
235 LBL "6" ;Number 6 = -.....
236 TONE 73
237 TONE 57
238 TONE 57
239 TONE 57
240 TONE 57
241 RTN
242 LBL "7" ;Number 7 = --...
243 TONE 73
244 TONE 73
245 TONE 57
246 TONE 57
247 TONE 57
248 RTN
249 LBL "8" ;Number 8 = ----..
250 TONE 73
251 TONE 73
252 TONE 73
253 TONE 57
254 TONE 57
255 RTN
256 LBL "9" ;Number 9 = ----..
257 TONE 73
258 TONE 73
259 TONE 73
260 TONE 73
261 TONE 57
262 RTN
263 LBL "=" ;Symbol = = -...-
264 TONE 73
265 TONE 57
266 TONE 57
267 TONE 57
268 TONE 73
269 RTN
270 LBL "?" ;Symbol ? = ..---..
271 TONE 57
272 TONE 57
273 TONE 73
274 TONE 73
275 TONE 57
276 TONE 57
277 RTN

```

278 LBL ":"      ;Symbol : = ...---
279 TONE 73
280 TONE 73
281 TONE 73
282 TONE 57
283 TONE 57
284 TONE 57
285 RTN
286 LBL " "      ;Symbol Space = -.-.-.
287 TONE 73      ;Space is placed between
288 TONE 57      ;each letter transmitted
289 TONE 73
290 TONE 57
291 TONE 73
292 TONE 57
293 RTN
294 LBL ", "      ;Symbol , = --.---
295 TONE 73
296 TONE 73
297 TONE 57
298 TONE 57
299 TONE 73
300 TONE 73
301 RTN
302 LBL "~"      ;Symbol ; = ...--.
303 TONE 57      ;Tilde prints as Sigma,
304 TONE 57      ;displays as semicolon
305 TONE 57
306 TONE 73
307 TONE 57
308 TONE 73
309 LBL "%"      ;Symbol % = nonexistent
310 LBL " "      ;\lD is Not Equal Sign
311 RTN
312 LBL "("      ;Symbol ( = -.-.-.
313 TONE 73
314 TONE 57
315 TONE 73
316 TONE 73
317 TONE 57
318 RTN
319 LBL ")"      ;Symbol ) = -.-.-.-
320 TONE 73
321 TONE 57
322 TONE 73
323 TONE 73
324 TONE 57
325 TONE 73
326 RTN
327 LBL "^"      ;Symbol ^ = .-...
328 TONE 57
329 TONE 73
330 TONE 57
331 TONE 57
332 TONE 57
333 RTN
334 LBL " "      ;Symbol \0D = .....
335 TONE 57      ;Prints as Angle Sign,
336 TONE 57      ;displays as <
337 TONE 57
338 TONE 57
339 TONE 57
340 TONE 57
341 TONE 57
342 TONE 57
343 RTN
344 LBL "$"      ;Symbol " = -.-.-.-
345 TONE 57      ;$ displays as colon
346 TONE 73
347 TONE 57

```

348 TONE 57
349 TONE 73
350 TONE 57
351 RTN
352 LBL "-" ;Symbol - = -....-
353 TONE 73
354 TONE 57
355 TONE 57
356 TONE 57
357 TONE 57
358 TONE 73
359 RTN
360 LBL "+" ;Symbol + = .-.-.
361 TONE 57
362 TONE 73
363 TONE 57
364 TONE 73
365 TONE 57
366 RTN
367 LBL "*" ;Symbol ' = .----.
368 TONE 57 ;* displays as apostrophe
369 TONE 73
370 TONE 73
371 TONE 73
372 TONE 73
373 TONE 57
374 RTN
375 LBL "/" ;Symbol / = -...-.
376 TONE 73
377 TONE 57
378 TONE 57
379 TONE 73
380 TONE 57
381 RTN
382 LBL "." ;Symbol . = .-.-.-
383 TONE 57
384 TONE 73
385 TONE 57
386 TONE 73
387 TONE 57
388 TONE 73
389 RTN
390 END

HP-41C VDU Tone Control Program by Ulrich Jansen
PPC Calculator Journal Vol 9 No 3 Pg 19 Apr 1982

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886 BYTES

HP-41C VDU Tone Control Program by Ulrich Jansen PPC V9 N3 P19 Apr 1982

Program Registers Needed: 127

Row 1 (1 - 5)



Row 2 (6 - 14)



Row 3 (14 - 22)



Row 4 (23 - 33)



HP-41C VDU Tone Control Program by Ulrich Jansen PPC V9 N3 P19 Apr 1982

Row 5 (34 - 42)



Row 6 (43 - 49)



Row 7 (50 - 54)



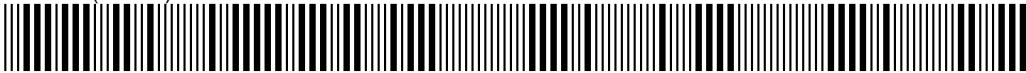
Row 8 (55 - 59)



Row 9 (59 - 63)



Row 10 (64 - 67)



Row 11 (68 - 73)



Row 12 (73 - 78)



Row 13 (79 - 82)



Row 14 (83 - 87)



Row 15 (88 - 93)



Row 16 (94 - 98)



Row 17 (99 - 104)



Row 18 (104 - 110)



Row 19 (110 - 115)



Row 20 (115 - 121)



Row 21 (121 - 125)



HP-41C VDU Tone Control Program by Ulrich Jansen PPC V9 N3 P19 Apr 1982

Row 22 (125 - 130)



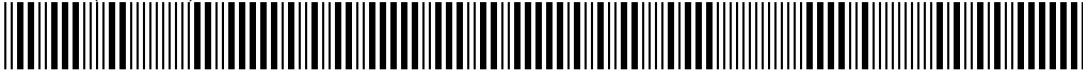
Row 23 (131 - 136)



Row 24 (136 - 141)



Row 25 (142 - 147)



Row 26 (147 - 152)



Row 27 (153 - 158)



Row 28 (159 - 164)



Row 29 (164 - 169)



Row 30 (170 - 175)



Row 31 (175 - 180)



Row 32 (181 - 185)



Row 33 (186 - 191)



Row 34 (191 - 196)



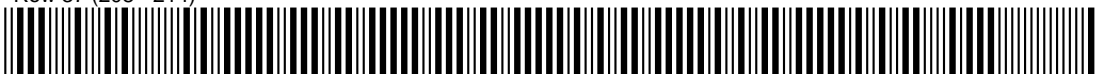
Row 35 (197 - 202)



Row 36 (202 - 207)



Row 37 (208 - 214)



Row 38 (214 - 219)

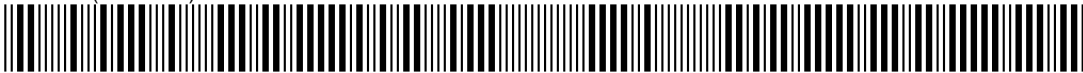


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Row 39 (220 - 225)



Row 40 (225 - 230)



Row 41 (231 - 236)



Row 42 (236 - 242)



Row 43 (242 - 248)



Row 44 (249 - 253)



Row 45 (254 - 259)



Row 46 (259 - 264)



Row 47 (265 - 270)



Row 48 (270 - 276)



Row 49 (277 - 282)



Row 50 (282 - 287)



Row 51 (288 - 294)



Row 52 (294 - 299)



Row 53 (300 - 305)



Row 54 (305 - 310)



Row 55 (310 - 314)



HP-41C VDU Tone Control Program by Ulrich Jansen PPC V9 N3 P19 Apr 1982

Row 56 (314 - 319)



Row 57 (320 - 326)



Row 58 (327 - 331)



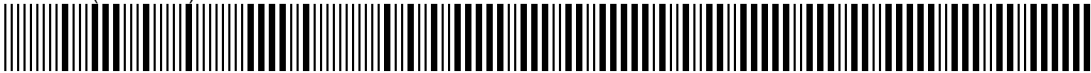
Row 59 (332 - 337)



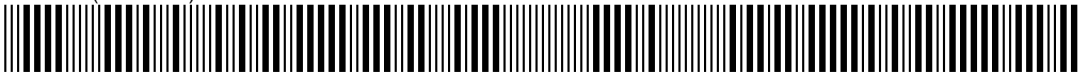
Row 60 (337 - 344)



Row 61 (344 - 349)



Row 62 (349 - 354)



Row 63 (355 - 360)



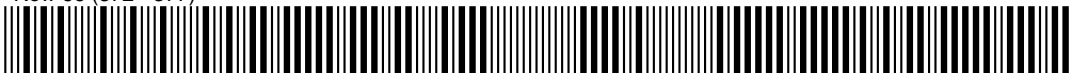
Row 64 (360 - 367)



Row 65 (367 - 372)



Row 66 (372 - 377)



Row 67 (378 - 383)



Row 68 (383 - 390)



Row 69 (390)

