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001  ' -----OK1UKV-----
002  ' **  VO-3 = CW Volt-Ohm-temp metr **
003  ' rozsah jeden 40 Vdc, na vstupu delic 1/10 a pro ohm 1/1
004  ' C1=Temp + Bat, C2=Volt, C3=prep U/R C4=E, C5=Ton + WPM
005  ' w2=citatel, w3=jmenovatel, w4-w5-w6-w7= vypocty, w8=E,
w9=vstup, w10=prel., W11=Temp+Bat
006
007  Symbol korr=1                ; korekce pro prevodnik
008  Symbol te=b1                ; CW tecka
009  Symbol ca=b3                ; CW carka, mezera znak b3
010  Symbol ton=b2              ; vyska CW tonu
011
012  Disconnect                  ; pouzit C5 vstup
013  Adcconfig %011              ; vnitřni referencni zdroj
014  Fvrsetup Fvr4096            ; nastaveni reference 4,096 V
015  Pipi:
016  Sound C.0, (119,20,0,10,100,20) ; po zapnutí se ohlasi
017  time=0
018
019  Main:
020  If time>60 Then Pipi        ; po 1 min ohlasi necinnost
021  If pinC.5=1 Then WPM        ; rychlost CW
022  Read 136,b1                 ; tecky
023  Read 137,b2                 ; ton CW
024  ca=b1*3                     ; carka
025
026  Readadc10 1,w11
027  If w11>1010 Then Temp       ; teplota (pro R10=15k)
028  If w11<950 Then Bat        ; napajeni pod 4,9 V
029  If pinC.3=0 Then           ; tl. U/R
030  Pause 100                   ; prell pauza
031  endif
032  If pinC.3=0 Then Ohm
033
034  Volt:
035  If pinC.3=0 Then Ohm
036  Readadc10 2,w9
037  Pause 100
038  Readadc10 2,w10              ; prell control
039  If w9<>w10 Then Volt
040  Readadc10 4,w8
041  If w9<2 Then Main           ; na vstupu 0,1V
042  time=0
043  ;w9=w9 +korr                ; korekce prevodu A/D
044  w4=w9*4                      ; 1024bit pro 40,96V
045  b4=w4/1000                   ; 10 V do b4
046  w5=w4//1000
047  b5=w5/100                    ; 1 V do b5
048  w6=w5//100

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049  b6=w6/10 ; desetiny do b6
050  b7=w6//10 ; setiny do b7
051  If b7>4 Then Inc b6 ; zaokrouhleni
052  endif
053  On b4 Gosub CWnic,CWz1,CWz2,CWz3

054  On b5 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
055  Sound C.0,(ton,ca,0,b1, ton,te,0,b1, ton,te,0,b1, ton,ca,0
,b3) ; X jako deset.carka
056  On b6 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
057  Pause 600
058  Goto Main
059
060  Ohm: ; vypocet odporu
061  Readadc10 2,w9
062  Pause 100
063  Readadc10 2,w10
064  If w9<>w10 Then Ohm ; prell control
065  Readadc10 4,w8 ; zmereni E
066  If w9<35 Then Zkrat ; maly odpor
067  w8=w8+1 ; kompenzace rozdilu A/D
068  w3=w8-w9 ; E-U
069  If w3<6 Then Main ; ceka na pripojeni odporu
070  time=0
071  w9=w9 +korr
072  w2=w9*22 ; U*R1
073  w5=w2/w3 ; /E-U
074  b4=w5/1000 ; 100 kOhm do b4
075  w6=w5//1000
076  b5=w6/100 ; 10 kOhm do b5
077  w7=w6//100
078  b6=w7/10 ; 1 kOhm do b6
079  b7=w7//10 ; 100 R do b7
080  If b4=0 And b5=0 Then Sta ; vynecha nuly
081  If b4>0 Then
082      b5=b5+1
083      b6=0
084      b7=0
085  endif
086  On b4 Gosub
CWnic,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
087  On b5 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
088  Sta: ;
kdyz je < 10k0hm
089

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On b6 Gosub CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
090  Sound C.0,(ton,ca,0,b1, ton,te,0,b1, ton,ca,0,b3)
      ; K= kOhm
091  If b5>0 Or b4>0 Then Cele
092  On b7 Gosub
CWnic,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
093  Cele:
094  Pause 600
095  Goto Main
096
097  Zkrat:
098  If pinC.3=1 Then Volt
099  time=0
100  b0=110/w9 +13 ; vyska tonu podle odporu
101  Sound C.0,(b0,110)
102  Goto Main
103
104  Bat: ; baterie je vybita
105  Sound C.0,(95,ca,0,b1, 95,te,0,b1, 95,te,0,b1, 95,te,0,b3,
95,te,0,b1, 95,ca,0,b3, 95,ca,0,b3)
106  Pause 500
107  Goto Main
108
109  CWnic:
110  Sound C.0,(0,b1) ; prvni nula
111  Return
112  CWz0:
113  Sound C.0,(ton,ca,0,b1, ton,ca,0,b1, ton,ca,0,b1, ton,ca,0
,b1, ton,ca,0,b3)
114  Return
115  CWz1:
116  Sound C.0,(ton,te,0,b1, ton,ca,0,b1, ton,ca,0,b1, ton,ca,0
,b1, ton,ca,0,b3)
117  Return
118  CWz2:
119  Sound C.0,(ton,te,0,b1, ton,te,0,b1, ton,ca,0,b1, ton,ca,0
,b1, ton,ca,0,b3)
120  Return
121  CWz3:
122  Sound C.0,(ton,te,0,b1, ton,te,0,b1, ton,te,0,b1, ton,ca,0
,b1, ton,ca,0,b3)
123  Return
124  CWz4:
125  Sound C.0,(ton,te,0,b1, ton,te,0,b1, ton,te,0,b1, ton,te,0
,b1, ton,ca,0,b3)
126  Return
127  CWz5:

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128 Sound C.0, (ton, te, 0, b1, ton, te, 0, b1, ton, te, 0, b1, ton, te, 0
, b1, ton, te, 0, b3)
129 Return
130 CWz6:
131 Sound C.0, (ton, ca, 0, b1, ton, te, 0, b1, ton, te, 0, b1, ton, te, 0
, b1, ton, te, 0, b3)
132 Return
133 CWz7:
134 Sound C.0, (ton, ca, 0, b1, ton, ca, 0, b1, ton, te, 0, b1, ton, te, 0
, b1, ton, te, 0, b3)
135 Return
136 CWz8:
137 Sound C.0, (ton, ca, 0, b1, ton, ca, 0, b1, ton, ca, 0, b1, ton, te, 0
, b1, ton, te, 0, b3)
138 Return
139 CWz9:
140 Sound C.0, (ton, ca, 0, b1, ton, ca, 0, b1, ton, ca, 0, b1, ton, ca, 0
, b1, ton, te, 0, b3)
141 Return
142
143 WPM: ; rychlost CW
144 time=0
145 Pause 300
146 If pinC.3=0 Then Tony ; tlac.Ohm up
147 For b1 = 2 To 20 ; 18 rychlosti CW
148 ca=b1*3 ; aktualni carka
149 Sound C.0
, (103, te, 0, b1, 103, te, 0, b1, 103, ca, 0, b3, 103, ca, 0, b1, 103, te, 0, b1,
103, ca, 0, b3) ; ukazka CW
150 Pause 400
151 If pinC.5=0 Then Exit
152 Next b1
153 Write 136, b1 ; save b1
154 Goto Main
155 Tony:
156 For b2 = 60 To 124 ; ton CW
157 Sound C.0, (b2, 40)
158 Pause 300
159 If pinC.5=0 Then Exit
160 Next b2
161 Write 137, b2
162 Goto Main
163
164 Temp:
165 time=0
166 adcsetup = %00000001 ; uvolni vstup
167 Pause 10
168 b0=0

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169 Readtemp12 C.1,w4 ; 12bit teplota
170 If w4 > $8000 Then ; zacatek minus 0'C
171     w10=65535-w4
172     Sound C.0,(ton,ca,ton,ca,ton,ca,0,b3,0,b3) ;
delsi carka = minus teplota
173 Else
174     w10=w4
175     endif
176 w5=w10/16
177 b4=w5/100 ; prvni nr
178 w6=w5//100
179 b5=w6/10 ; druhe nr
180 b6=w6//10 ; treti nr
181 w7=w10//16
182 w8=w7*100/16 ; na dve mista
183 b7=w8/10 ; desetina
184 b8=w8//10 ; setina
185 If b8>4 Then Inc b7 ; zaokrouhleni
186 endif
187
188 If b4=0 And b5=0 Then Skok
189 On b4 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9 ;
rozsah -50 +125
190 On b5 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
191 Skok:
192 On b6 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
193 Sound C.0,(ton,ca,0,b1, ton,te,0,b1, ton,ca,0,b1, ton,te,0
,b3) ; Celsius
194 On b7 Gosub
CWz0,CWz1,CWz2,CWz3,CWz4,CWz5,CWz6,CWz7,CWz8,CWz9
195 Pause 3000
196 If pinC.3=0 Then
197     Pause 54000 ; 1 minuta (CW neco trva)
198     time=0
199     endif
200 Goto Main
201 '
202 ; ----- 2016 --- Jara OK1UKV
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