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' This example operates a little differently than described in Chapter 9 (it's simpler)
' Both examples (Reading Temperatures and Adding Temperature Limits) use the same code,
' only the display is different.
' Every 200msec the Lower and Upper Limits are downloaded to the IO Device which replys
' with the current temperatures and an ALARM byte [Bit 0 = Alarm(0), Bit(1) = Alarm(1), etc]
'
' For ease of display the temperature ranges are restricted 00 to 99 (you can change this)
'
Private Limits As Boolean ' Choose between Example 1 or 2
Private Red, Black As Long

Private Sub Form_Load()
' This module contains both Thermometer examples, set "Limits" = TRUE for example 2
Limits = True
Red = RGB(255, 0, 0): Black = RGB(0, 0, 0) ' Initialize my ALARM colors
If Not Limits Then ' Hide all of the extra display for example 2
    For i% = 0 To 5: LowerLimit(i%).Visible = False: UpperLimit(i%).Visible = False: Alarm(i%).Visible = False:
Next i%
    Heading(0).Visible = False: Heading(1).Visible = False
    Title.Caption = "Reading Temperatures"
End If
End Sub

Private Sub Timer1_Timer()
' Update Limits and check for temperature changes every 200msec
Dim Temperatures(6) As Byte ' Note Temperature(6) is the ALARM indicator
Dim Alarms As Byte: Dim Buffer(11) As Byte
For i% = 0 To 5: Buffer(i%) = Val(LowerLimit(i%).Text): Buffer(6 + i%) = Val(UpperLimit(i%).Text): Next i%
Call WriteUSBdevice(AddressFor(Buffer(0)), 12) 'Update limits
Call ReadUSBdevice(AddressFor(Temperatures(0)), 7) ' Read current temperature
'For i% = 0 To 5: Temperatures(i%) = ((i% + 2) * 10) + i%: Next i%: Temperatures(6) = &H39
Alarms = Temperatures(6)
For i% = 0 To 5 ' Update temperature display and show ALARMS if present
    Temperature(i%).Text = TwoDecimalCharacters$(Temperatures(i%))
    If ((Alarms And 1) = 1) And (Alarm(i%).FillColor = Black) Then Alarm(i%).FillColor = Red
    If ((Alarms And 1) = 0) And (Alarm(i%).FillColor = Red) Then Alarm(i%).FillColor = Black
    Alarms = (Alarms And &HFE) / 2 ' Clear Bit 0 before divide
Next i%
' NOTE: a real program would do something significant when an ALARM was detected
End Sub

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