

REFERENCE

Websites:

- [1] What is Data Acquisition?
http://en.wikipedia.org/wiki/Data_acquisition

- [2] Wireless Communication
<http://en.wikipedia.org/wiki/Wireless>

- [3] Computer Aided Racing Statistics (CARS) Project
<http://ott.auburn.edu/engineering.htm>

- [4] Greg Mason, 2002, A Handheld Data Acquisition System for Use in an Undergraduate Data Acquisition Course, Data Acquisition, 45, pp 388 – 393
<http://ieeexplore.ieee.org/search/wrapper.jsp?arnumber=1049601>

- [5] DAQ Instruments and Fundamentals – National Instruments
<http://zone.ni.com/devzone/conceptd.nsf/webmain/6816F0B0D9BDB87C862570130067EBE4>

- [6] Introduction to Data Acquisition
<http://zone.ni.com/devzone/conceptd.nsf/webmain/AE2A7B85BD4785D586256F620066EFF4>

- [7] Atmel 89 Device Series Programmer
<http://www.kmitl.ac.th/~kswichit/89prog/index.html>

- [8] Build Your Own Microcontroller Project
<http://www.kmitl.ac.th/~kswichit/89prog/index.html>

- [9] RF Module e-Shoppe (Malaysia)
<http://www.blitzlogic.com/>

- [10] MicroDigitalEd Website
<http://www.microdigitaled.com/8051/software/Software.htm>

- [11] Data Acquisition Logging Circuits
http://www.hobbyprojects.com/A/acquistions_data_circuits.html

- [12] RF Module Manufacturer – Laipac
http://www.laipac.com/easy_434_eng.htm

- [13] Electronic Components e-Shoppe (Canada)
http://www.laipac.com/easy_434_eng.htm

- [14] Improved DG406 16 Analog Multiplexer
http://www.maxim-ic.com/quick_view2.cfm/qv_pk/1002

- [15] World Of Programming
<http://www.planetsourcecode.com>

Books:

- [16] Muhammad Ali Mazidi, Janice Gillispie Mazidi and Rolin D. McKinlay, (2005). *The 8051 Microcontroller And Embedded System Using Assembly and C*, Second Edition, Pearson Prentice Hall, USA
- [17] Richard H. Barnett, (1995). *The 8051 Family Of Microcontrollers*, First Edition, Prentice Hall, USA
- [18] C W Koay, (2000). *Learning Microsoft Visual Basic 6.0 Step By Step*, First Edition, Venton Publishing, Malaysia
- [19] Ted Coombs, (2001). *1001 Visual Basic Programmer's Tips*, Second Edition, Onord Press Thomson Learning, Canada

```

*****
'
'           Source Code For VB
'           For Wireless Data Acquisition Monitoring System 2007
*****
Dim Yr As Long           'straight line
Dim Xr As Long           'important for graph
Dim Yn As Long
Dim Xn As Long
Dim Grad As Boolean
Dim StepRate As Integer
Dim TMR As Currency
Dim ONCE As Boolean
Dim ModStr As String 'input MSCOMM
Dim Command As String
Dim FUK As String '
Dim PORTC As Boolean
Dim MAG As Integer
Dim MBV As Boolean
Dim Yx As Long
Dim NB As Long
*****
Private Sub Comm() ' RS232 Comm Port Adjust and Control
On Error GoTo Err
    If MSComm1.PortOpen = True Then
        MSComm1.PortOpen = False
    Else
        MSComm1.CommPort = PrtNumb
        MSComm1.Settings = CONF
        MSComm1.PortOpen = True
    End If
Exit Sub
Err:
    MsgBox "Error opening Comm Port #" & PrtNumb, vbCritical, "Comm Port Error"
    RUUN = False
End Sub
*****
Private Sub Form_Load() ' Main Form Load
    Text2.Text = ""
    Timer5.Enabled = True
    Timer1.Enabled = False
    PAUSE.Enabled = False
    Command7.Enabled = False
    ZAdjV = 0
    Slider1 = 0
    Label12 = ZAdjV
    Marker = 42
    YTER = 1
    Call Main
    RECORD = False
    MAG = 30

```

```

Zero = 3000
StepRate = 10
ONCE = False
Mag1 = 80
Yr = Zero
Yni = Zero
Yn = Zero
Xr = 0
Xni = 0
Call RENEW
RUUN = False
Call GoSet
Call RENEW1
TMR = 0
Label3 = " " & TMR
Label4 = MAG
SB1.Max = 0
Check1 = 1
Cursors = True
' Form1.Caption = CapT & " "
' PB1.Max = 1800000
Call RSETa
TrigX = False
Call RSETa
LOrPos = CBL
ROrPos = CBR
End Sub
*****
Private Sub AdVance() '(Plot Graph) (2)
Picture1.DrawWidth = DrWdt
NB = Picture1.ScaleWidth
DATA(RecStp) = TEMP
RecStp = RecStp + 1
Xn = Xr + StepRate
If ((Zero - 1) - (((TEMP * MAG) - (ZAdjV * MAG)))) < 1 Then
Yn = 1
Else
Yn = Zero - ((TEMP * MAG) - (ZAdjV * MAG))
End If
Picture1.Line (Xr, Yr)-(Xn, Yn), RGB(Gr, Gg, Gb)
Yr = Yn
Xr = Xn
If Mirror Then
Xn = Xni + StepRate
If (Zero + ((TEMP * MAG) - (ZAdjV * MAG))) < 1 Then
Yn = 1
Else
Yn = Zero + ((TEMP * MAG) - (ZAdjV * MAG))
End If
Picture1.Line ((Xni - 1), Yni)-((Xn - 1), Yn), RGB(Gr, Gg, Gb)

```

```

Yni = Yn
Xni = Xn
End If
  If Cursors Then
    If CBL = Xn Then
      LabAmpL = TEMP
    End If
    If CBR = Xn Then
      LabAmpR = TEMP
    End If
  End If
  If Xr > (NB - 1) Then
    If ONCE = True Then
      Timer1.Enabled = False
      'Call PSIM
      ONCE = False
    Else
      Xr = 0
      Xn = 0
      If RECORD Then
        Call LOGG
      End If
      Call RENEW1
    End If
  End If
  PB1 = RecStp
Picture1.DrawWidth = 1
If RecStp > 1799998 Then Call DatEnd '1799998 - 8.7 Meg File Acquired
End Sub
*****
Private Sub save() 'save file
saving = FreeFile
Open "c:\data.txt" For Append As saving
Print #saving, Label15.Caption; " "; Label14.Caption; " "; Text2.Text
Close saving
End Sub
*****
Private Sub MSComm1_OnComm() ' RS232 Port Monitor
TEMP = 0
FUK = ""
ModStr = ""
ModStr = MSComm1.Input
If ModStr <> "" Then
  If MSComm1.InputMode = comInputModeText Then
    FUK = Asc(ModStr)
    TEMP = TEMP + FUK
  Else
    TEMP = ModStr
  End If
Else

```

```

    FUK = "0"
    TEMP = 0
End If
If ClockS = False Then
    Call AdVance
    TMR = TMR + 1
    Label3 = " " & TMR
End If
End Sub
*****

Private Sub PAUSE_Click() ' Start / Stop
TMR = 0
If RUUN = True Then
    RUUN = False
    ONCE = False
    Call Comm
    MnuCOMM.Enabled = True
    MNUPing.Enabled = True
Else
    If RecStp > 0 Then
        'Call SrvNag
    End If
    RecTime = Format(Time, "Medium time")
    RecDate = Format(Date, "short Date")
    If Joker Then Exit Sub
    Call Comm
    If MSCComm1.PortOpen = False Then Exit Sub
    Call VOIDd
    RECORD = True
    Frame = 0
    SB1.Max = Frame
    RUUN = True
    RecStp = 0
    Call RENEW
    ONCE = False
    MnuCOMM.Enabled = False
    MNUPing.Enabled = False
End If
Call GoSet
If RUUN = False Then
    Call ReDrCur
End If
End Sub
*****

Private Sub Timer1_Timer() ' Main Timer
If ClockS Then
    Call AdVance
    TMR = TMR + 0.01
    Label3 = " " & TMR
End If

```

```

End Sub
'*****
Private Sub command1_Click()
MsgBox "Created by:" & vbCrLf & "Mohd Aziddin B Mohd Jamil" & vbCrLf &
vbCrLf & "Wireless Data Acquisition" & vbCrLf & vbCrLf & "Final Year Project 2007
", vbInformation + vbSystemModal, "Thank You"
End
End Sub
'*****
Private Sub Timer4_Timer()
Call TypeIt 'Does the basic effects of the engine.
End Sub
'*****
Private Sub Timer5_Timer() 'timer for save data
Text2.Text = "00000000"
Text2.Text = ModStr
MSComm1.CDTimeout = 1000
Call save
End Sub
'*****
Private Sub Timer2_Timer() ' Splash Screen Control and GRID start-up
If MBV = False Then
Call Graph
MBV = True
Else
ASH = ASH + 1
If ASH > 20 Then
Timer2.Enabled = False
End If
End If
If Timer2.Enabled = False Then
CBR = (Picture1.ScaleWidth - 20)
CBL = 20
Call RSETa
PAUSE.Enabled = True
Command7.Enabled = True
End If
End Sub
'*****
Private Sub Timer3_Timer()
Label14 = Format(Time, "Long Time")
Label15 = Format(Date, "Short Date")
End Sub
'*****
Public Sub VOIDd() ' Empty the DATA Array
For K = 0 To 1800000
DATA(K) = 0
Next K
End Sub

```