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' Gambas class file

' Ardunio UNO Servo Points Control
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' Wireless communications using HC-11 modems with settings 9600,8,N,1
' I have found problems with dropped chars using HC-12's with Raspberry pi's
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```
Private Sport As SerialPort
Const None As Integer = 0
Public ErrFlag As Byte
Public PwrFlag As Byte
Private LeftFlag As Byte
Private RightFlag As Byte
Private Run1 As Integer
Public hFileName As String
Private Uart As String
Public Rxs As String
Private Alval As Integer
Private Arval As Integer
Private MaxAmp As Integer
Private ErrCnt As Integer
Private TestBtn As Integer
Private Stuff As String
Private LeftVal As Integer
Private RightVal As Integer
Private LerrVal As Integer
Private RerrVal As Integer
Private TminVal As Integer
Private TmaxVal As Integer
Private SigNo As String
Private TxStuff As String
```

```
Public Sub Form_Open()
  Dim z As Integer
  Dim r As Integer
  Dim sLine As String
  Dim hFile As File
  Dim Spls As String[]
  Me.Load
  Me.Show
  Me.Center
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  '** Get the setup default values  **
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  hFileName = Application.path & "/data/setup.csv"
  Try hFile = Open hFileName For Input
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  If Error
    Message("File " & hFileName & " not found. Using default values.")
    LeftVal = 40
    RightVal = 140
    LerrVal = 190
    RerrVal = 380
    TminVal = 1200
    TmaxVal = 1400
    MaxAmp = 650
    SigNo = "WP"
    Uart = "ttyUSB0"
    hFile = Open hFileName For Write Create
    Stuff = "40,140,190,380,1200,1400,650,WP,ttyUSB0"
    Print #hFile, Stuff
    hFile.Close
    Goto NoFiles
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Endif

While Not Eof(hFile)
    Line Input #hFile, sLine
Wend

hFile.Close

For r = 0 To 8
    Spls = Split(sLine, ",")
Next

LeftVal = Val(Spls[0])
RightVal = Val(Spls[1])
LerrVal = Val(Spls[2])
RerrVal = Val(Spls[3])
TminVal = Val(Spls[4])
TmaxVal = Val(Spls[5])
MaxAmp = Val(Spls[6])
SigNo = Spls[7]
Uart = Spls[8]

NoFiles:

Sport = New SerialPort As "Sport"
Sport.PortName = "/dev/" & Uart    ' Use this with a USB to serial converter"
Sport.Speed = "19200"
Sport.Parity = 0
Sport.DataBits = "8"
Sport.StopBits = "1"

Try Sport.Open()
If Error Then
    Message.Error(Uart & " --- NOT FOUND")
    Sport.PortName = "/dev/ttyS0"    ' On board RS232 uart (not a USB to serial
converter)
    Sport.Speed = "19200"
    Sport.Parity = 0
    Sport.DataBits = "8"
    Sport.StopBits = "1"

    Try Sport.OPEN()
    If Error Then
        Message.Error("Unable to open Std. Com Port 0")
        Quit
    Endif
Endif

Label3.Visible = True
Label4.Visible = True
Label5.Visible = True
Label4.Text = "points split."

'***  Reset the ERROR trap at startup ***

TestBtn = 0
ErrCnt = 0
Label3.Visible = False
Label4.Visible = False
Label5.Visible = False
'Label5.Text = "" & Uart & ""

MediaView1.URL = "v4l2:///dev/video0" 'If this does not work try

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"v4l2:///dev/video1"
Wait 0.25
Try MediaView1.Play()

'**** Use Timer1 to send start up values to the UNO ****

If Run1 = 0 Then
    Run1 = 1
    Timer1.Enabled = True
Endif

TextArea1.Text = "WAIT" & Chr(13)

End

Public Sub SPort_Read()
    Dim Rx As String
    Dim Spls As String[]

    Sleep 0.05

    Try Read #Sport, Rx, Lof(Sport)
    'TextArea1.Text = TextArea1.Text & Rxs

    Rxs = Rxs & Rx

    If InStr(Rx, Chr$(13)) Then
        TextArea1.Text = TextArea1.Text & Rxs
        Rx = ""
        Rx = Rxs
        Rxs = ""
    End If

    If Run1 < 7 Then
        Rx = ""
    Endif

    If InStr(Rx, SigNo & "PT1S") Then
        Label3.Visible = True
        Label4.Visible = True
        Label4.Text = "points jammed."
        PictureBox1.Picture = Picture.Load(Application.path & "/images/RedUp.png")
        PictureBox2.Picture = Picture.Load(Application.path & "/images/RedUp.png")
        PictureBox3.Picture = Picture.Load(Application.path &
"/images/LhSpointR.png")
    Endif

    If InStr(Rx, SigNo & "RP1S") > 0 Then
        PictureBox2.Picture = Picture.Load(Application.path & "/images/RedUp.png")
        PictureBox1.Picture = Picture.Load(Application.path & "/images/GrnUp.jpg")
        PictureBox3.Picture = Picture.Load(Application.path &
"/images/LhSpoint.png")
        Button2.Foreground = &H00C000
        Button1.Foreground = Color.Red
        Try Spls = Split(Rx, ",")
        Try Alval = Val(Spls[1])
        Label2.Text = Alval

        If TestBtn = 1 Then
            Alval = LerrVal + 50
        Endif

        If Alval > LerrVal Then
            ErrFlag = 1

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TxStuff = SigNo & "PJ1M"
Print #Sport, TxStuff; Chr(13)
ErrCnt = ErrCnt + 1
Label3.Visible = True
Label4.Visible = True
If ErrCnt = 1 Then
    Label4.Text = "points jammed."
    ErrCnt = 2
    PictureBox1.Picture = Picture.Load(Application.path &
"/images/RedUp.png")
    PictureBox2.Picture = Picture.Load(Application.path &
"/images/RedUp.png")
    PictureBox3.Picture = Picture.Load(Application.path &
"/images/LhSpointR.png")
Endif
Endif

If Alval < LerrVal And ErrFlag = 1 Then
    Errflag = 0
    Label3.Visible = False
    Label4.Visible = False
Endif

Endif

If InStr(Rx, SigNo & "LP1S") > 0 Then
    PictureBox2.Picture = Picture.Load(Application.path & "/images/GrnUp.jpg")
    PictureBox1.Picture = Picture.Load(Application.path & "/images/RedUp.png")
    PictureBox3.Picture = Picture.Load(Application.path &
"/images/LhLpoints.png")
    Button2.Foreground = Color.Red
    Button1.Foreground = &H00C000
    Try Spls = Split(Rx, ",")
    Try Arval = Val(Spls[1])
    Label1.Text = Arval

    If TestBtn = 1 Then
        Arval = RerrVal - 50
    Endif

    If Arval < RerrVal Then
        ErrFlag = 1
        TxStuff = SigNo & "PJ1M"
        Print #Sport, TxStuff; Chr(13)
        ErrCnt = ErrCnt + 1
        Label3.Visible = True
        Label4.Visible = True
        If ErrCnt = 1 Then
            Label4.Text = "points jammed."
            ErrCnt = 2
            PictureBox1.Picture = Picture.Load(Application.path &
"/images/RedUp.png")
            PictureBox2.Picture = Picture.Load(Application.path &
"/images/RedUp.png")
            PictureBox3.Picture = Picture.Load(Application.path &
"/images/LhSpointR.png")
        Endif
    Endif

    If Arval > RerrVal And ErrFlag = 1 Then
        Errflag = 0
        Label3.Visible = False
        Label4.Visible = False
    Endif

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Endif

NoRx:

End

Public Sub Button2_Click()
    If LeftFlag = 0 And Button2.Foreground = &H00C000 Then
        TxStuff = SigNo & "LP1M," & Str(LeftVal)
        If ErrCnt < 2 Then Print #Sport, TxStuff & Chr(13)
    Endif
    If leftFlag = 1 Then
        LeftFlag = 0
    Endif
End
Public Sub Button1_Click()
    If RightFlag = 0 And Button1.Foreground = &H00C000 Then
        TxStuff = SigNo & "RP1M," & Str(RightVal)
        If ErrCnt < 2 Then Print #Sport, TxStuff & Chr(13)
    Endif
    If RightFlag = 1 Then
        RightFlag = 0
    Endif
End
Public Sub Form_Close()
    EndIt()
End
Public Sub Button3_Click()
    EndIt()
End
Public Sub EndIt()
    'MediaView1.Stop
    Sleep 0.5
    TxStuff = SigNo & "RP1M," & Str(LeftVal)
    Print #Sport, TxStuff & Chr(13)
    Wait 0.5
    MediaView1.Stop
    Quit
End
Public Sub Button4_Click()
    TextArea1.Text = ""
End
Public Sub Button5_Click()
    TxStuff = "VALUESM"
    Print #Sport, TxStuff & Chr(13)
End
Public Sub Button6_Click()
    TxStuff = "RESETM"
    Print #Sport, TxStuff & Chr(13)
    TestBtn = 0
    ErrCnt = 0
    Label3.Visible = False
    Label4.Visible = False
    Label5.Visible = False
End

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Public Sub Button7_Click()
    Form1.Show
End

Public Sub Button8_Click()
    TxStuff = "TEST,10"
    Print #Sport, TxStuff & Chr(13)
End

Public Sub Button9_Click()
    TxStuff = "ESTOPM"
    Print #Sport, TxStuff; Chr(13)
End

Public Sub Timer1_Timer()
    If Run1 = 1 Then TxStuff = SigNo & "LE1M," & Str(LerrVal)
    If Run1 = 2 Then TxStuff = SigNo & "LE1M," & Str(LerrVal)
    If Run1 = 3 Then TxStuff = SigNo & "RE1M," & Str(RerrVal)
    If Run1 = 4 Then TxStuff = SigNo & "IT1M," & Str(TminVal)
    If Run1 = 5 Then TxStuff = SigNo & "AT1M," & Str(TmaxVal)
    If Run1 = 6 Then TxStuff = SigNo & "AMPM," & Str(MaxAmp)
    If Run1 = 7 Then TxStuff = "SIGNOM," & Str(SigNo)
    Print #Sport, TxStuff; Chr(13)

    If Run1 = 7 Then
        Run1 = 8
        Timer1.Enabled = False
        TextArea1.Text = TextArea1.Text & "OK  "
    Endif

    Run1 = Run1 + 1
End

```