

11 Anexo: Programa de control remoto PROLINK-7

Dim anatindex, anbaindex, anbwindex, anlbindex, anmeindex, ansoindex, anstindex, ansindex, antvindex, anunindex, anvindex, contseg, bucleRX As Integer

Dim mt As String

Dim config() As String

Dim numpruebas, pruebact, configprueba, ultimaprueba As Integer

Function extrae(comando As String)

Dim a As Double

comandos.Text = comando

Select Case Mid(comando, 3, 2)

Case "AG"

If Val(Mid(comando, 5, 1)) = 0 Then

modoagc.BackColor = &HFF00&

dialogo.Text = "Control automatico de ganancia"

nivel.Caption = "AGC"

Else

modoagc.BackColor = &HFF&

dialogo.Text = "Desactivado el control automatico de ganancia"

End If

Case "AL"

alarmahora = Mid(comando, 7, 2)

alarmamin = Mid(comando, 10, 2)

alarmaseg = Mid(comando, 13, 2)

alarmadia = Mid(comando, 16, 2)

alarmames = Mid(comando, 19, 2)

If Val(Mid(comando, 5, 1)) = 1 Then

actalarma.BackColor = &HFF00&

dialogo.Text = "Alarma activa"

Else

actalarma.BackColor = &HFF&

dialogo.Text = "Alarma inactiva"

End If

'MsgBox Mid(comando, 5, 2)

Case "AT"

anatindex = Val(Mid(comando, 5, 1))

atenuador.ListIndex = Val(Mid(comando, 5, 1))

Case "BA"

anbaindex = Val(Mid(comando, 5, 1))

bandafrec.ListIndex = Val(Mid(comando, 5, 1))

```

Case "BV"
i = 0
Do While Mid(comando, i + 5, 1) <> Chr(17)
i = 1 + i
Loop
a = Val("&h" & Mid(comando, 5, i)) / 10
bateria.Caption = Str(a) + " V"

Case "BW"
anbwinindex = Val(Mid(comando, 5, 1))
bw.ListIndex = Val(Mid(comando, 5, 1))

Case "CF"

If Val(Mid(comando, 5, 1)) = 1 Then
canal.Caption = "frecuencia"
pantalla(0).Visible = False
dialogo.Text = "Modo frecuencia"
Else
canal.Caption = "canal"
pantalla(0).Visible = True
dialogo.Text = "Modo Canal"
End If

Case "CH"
If Mid(comando, 5, 2) = "!!" Then
dialogo.Text = "No existe el canal seleccionado"
Else
numcanal.Text = Str(Val("&h" & Mid(comando, 5, 2)))
End If

Case "CI"
If Mid(comando, 5, 2) = "!!" Then
dialogo.Text = "No existe el canal solicitado"
Else

nombrecanal.Caption = Mid(comando, 5, 4)
Index = bandaconj.ListIndex
If Index <> 5 Then
a = (Val("&h" & Mid(comando, 7, 4)) * 0.0625 - 38.875)
Else
a = (Val("&h" & Mid(comando, 7, 4)) * 0.125 - 479.5)

End If
If a - Int(a) > 0.5 Then
a = a + 1
End If
a = Int(a)
freccanal.Caption = Str(a)

```

```

End If
i = 0
Do While Mid(comando, i + 14, 1) <> Chr(17)
i = 1 + i
Loop
comandocanal.Caption = Mid(comando, 14 + i, 1)

Case "CK"
hora.Text = Mid(comando, 5, 2)
minuto.Text = Mid(comando, 8, 2)
segundo.Text = Mid(comando, 11, 2)
dia.Text = Mid(comando, 14, 2)
mes.Text = Mid(comando, 17, 2)
año.Text = Mid(comando, 20, 4)
Timerhora.Enabled = True

Case "CW"
anchobanda.Text = Str(Val("&h" & Mid(comando, 5, 4)) * 10)

Case "DL"
If Mid(comando, 5, 1) = "." Then
    valortp.Text = "No activo"
    dialogo.Text = "Medida no activada-Vacia"
Else
    valortp.Text = Str(Val("&h" & Mid(comando, 7, 3)) / 10)
End If

Case "DS"
'MsgBox Mid(comando, 4, 3)
If Val(Mid(comando, 5, 1)) = 0 Then
    If mt = "M" Then
        activamem.Caption = "ON->OFF"
    ElseIf mt = "T" Then
        activatp.Caption = "ON->OFF"
    End If
Else
    If mt = "M" Then
        activamem.Caption = "OFF->ON"
    ElseIf mt = "T" Then
        activatp.Caption = "OFF->ON"
    End If
End If

Case "FR"
Select Case Mid(comando, 5, 1)
Case "S"
Index = 0
Case "T"
Index = 1
Case "M"

```

```

Index = 2
Case "I"
Index = 3
End Select
banda.ListIndex = Index
If Index <> 0 Then
a = (Val("&h" & Mid(comando, 6, 4)) * 0.0625 - 38.875)
Else
a = (Val("&h" & Mid(comando, 6, 4)) * 0.125 - 479.5)

End If
'If a - Int(a) > 0.5 Then
'a = a + 1
'End If
'a = Int(a)
frecuencia.Text = Str(a)

Case "JI"
If Mid(comando, 5, 2) = "!!" Then
dialogo.Text = "No existe el conjunto seleccionado"
Else
nombreconj.Caption = Mid(comando, 5, 8)
numerocanales.Caption = Str(Val("&h" & Mid(comando, 13, 2)))
bandaconj.ListIndex = Val(Mid(comando, 15, 1))
a = Val("&h" & Mid(comando, 16, 5)) / 100
ollnbconj.Caption = a & "KHZ"
codigoconj.Caption = Str(Val("&h" & Mid(comando, 21, 2)))
ckconj.Caption = Mid(comando, 23, 4)
comandoconj.Caption = Mid(comando, 27, 5)
End If

Case "LB"
anlbindex = Val(Mid(comando, 5, 1))
alimentacionlnb.ListIndex = Val(Mid(comando, 5, 1))

Case "LO"
a = Val("&h" & Mid(comando, 5, 5)) / 100
ollnb.Text = a & "KHZ"

Case "LV"
nivel.Caption = Str(Val("&h" & Mid(comando, 7, 3)) / 10)
signo.Caption = Mid(comando, 5, 2)

Case "ME"
anmeindex = Val(Mid(comando, 5, 1))
tipomedida.ListIndex = Val(Mid(comando, 5, 1))

Case "NI"
i = 0
Do While Mid(comando, i + 5, 1) <> Chr(17)

```

```

i = 1 + i
Loop
a = Val("&h" & Mid(comando, 5, i))
corrienteInb.Caption = Str(a) + " mA"

Case "NL"
i = 0
Do While Mid(comando, i + 5, 1) <> Chr(17)
i = 1 + i
Loop
a = Val("&h" & Mid(comando, 5, i)) / 10
tensionInb.Caption = Str(a) + " V"

Case "SC"
If Mid(comando, 5, 2) = "!!" Then
'MsgBox "no existe el canal"
Else
numconjunto.Text = Mid(comando, 5, 2)
End If

Case "SO"
ansoindex = Val("&h" & Mid(comando, 5, 1))
sonido.ListIndex = Val("&h" & Mid(comando, 5, 1))
If ansoindex = 4 Or ansoindex = 15 Then
    tune.Text = Str(Val("&h" & Mid(comando, 6, 3)) * 0.01 - 10.7)
    tune.Visible = True
Else
    If ansoindex = 13 Then
        tune.Visible = True
        tiponicam.Visible = True
        Nicam.Visible = True
        tune.ListIndex = Val(Mid(comando, 7, 1))
        tiponicam.ListIndex = Val(Mid(comando, 8, 1))
    Else
        tune.Visible = False
        tiponicam.Visible = False
        'Nicam.Visible = False
    End If
End If

Case "SP"
If Val(Mid(comando, 5, 1)) = 1 Then
espectro.BackColor = &HFF00&
dialogo.Text = "Modo espectro"
Else
espectro.BackColor = &HFF&
dialogo.Text = "Desactivado el modo espectro"
End If

```

```

Case "SR"
memnombre = Mid(comando, 7, 4)
membandaafrec.ListIndex = Val(Mid(comando, 11, 1))
'MsgBox "banda frecuen" & Mid(comando, 11, 1)

memestandar.ListIndex = Val(Mid(comando, 12, 1))

If Index <> 5 Then
a = (Val("&h" & Mid(comando, 13, 4)) * 0.0625 - 38.875)
Else
a = (Val("&h" & Mid(comando, 13, 4)) * 0.125 - 479.5)
End If
'MsgBox comando
memfrecuencia.Text = a
memcanal.ListIndex = Val(Mid(comando, 17, 1))
memconj.Caption = Val(Mid(comando, 18, 2))

memunidades.ListIndex = Val(Mid(comando, 26, 1))
memalimentacionlnb.ListIndex = Val(Mid(comando, 27, 1))
memtipomedia.ListIndex = Val(Mid(comando, 28, 1))
memvp.ListIndex = Val(Mid(comando, 29, 1))
memsonido.ListIndex = Val(Mid(comando, 30, 1))
memolsonido.Text = Str(Val("&h" & Mid(comando, 31, 4)) * 0.01 - 10.7)
memanchobanda.Text = Str(Val("&h" & Mid(comando, 35, 4)) * 10)
memollnb.Text = Str(Val("&h" & Mid(comando, 39, 5)) / 100)

Case "ST"
anstindex = Val(Mid(comando, 5, 1))
estandardcanal.ListIndex = Val(Mid(comando, 5, 1))

Case "SV"
ansvindex = Val(Mid(comando, 5, 1))
polaridad.ListIndex = Val(Mid(comando, 4, 1))

Case "TV"
antvindex = Val(Mid(comando, 5, 1))
modotv.ListIndex = Val(Mid(comando, 5, 1))

Case "UN"
anunindex = Val(Mid(comando, 5, 1))
unidades.ListIndex = Val(Mid(comando, 5, 1))

Case "VE"
b = Len(comando)
Form2.Caption = Mid(comando, 5, b - 6)

Case "VP"
anvpindex = Val(Mid(comando, 5, 1))
freccuadro.ListIndex = Val(Mid(comando, 5, 1))

```

```
End Select
End Function
```

```
Function recibido()
Dim b As String
flag = 0
j = 0
'TimerRX.Enabled = True
'TimerRX.Interval = 1
```

```
Do While flag <> 1
```

```
PROCESA = MSComm1.Input
'If Mid(PROCESA, 1, 1) = Chr(19) Then
' PROCESA = Mid(PROCESA, 2, Len(PROCESA) - 1)
'End If
```

```
b = Len(PROCESA)
For i = 1 To b
    If Mid(PROCESA, i, 1) = Chr(21) Then
        flag = 1
        dialogo.Text = "Comando no valido"
```

```
Else
    If Mid(PROCESA, i, 1) = Chr(6) Or flag = 2 Then
        flag = 2
```

```
Do While flag <> 1
    PROCESA = PROCESA + MSComm1.Input
    b = Len(PROCESA)
    If Mid(PROCESA, b, 1) = Chr(17) Then
        flag = 1
    End If
Loop
```

```
extrae (PROCESA)
```

```
End If
End If
Next i
Loop
```

```
End Function
```

```

Private Sub abrirpuerto_Click()
MSComm1.CommPort = COM.ListIndex + 1
MSComm1.Settings = "19200,N,8,1"
MSComm1.PortOpen = True
Inicio.Visible = False
Inicio.Enabled = False
Form2.Height = 6900
Form2.Width = 8955
End Sub

```

```

Private Sub Combo1_click()
If Combo1.ListIndex = 0 Then
    frecuencia.Visible = True
    nomcanal.Visible = False
    MSComm1.Output = "*CF1" + Chr(13)
    recibido
    canal.Caption = "frecuencia"
    pantalla(0).Visible = False
Else

    frecuencia.Visible = False
    nomcanal.Visible = True
    MSComm1.Output = "*CF0" + Chr(13)
    recibido
    canal.Caption = "canal"
    pantalla(0).Visible = True
    MSComm1.Output = "*?SC" + Chr(13)
    recibido
    MSComm1.Output = "*?CH" + Chr(13)
    recibido
    MSComm1.Output = "*?CI" + normaliza(Hex(Val(numcanal.Text)), 2, "hex") +
normaliza(Hex(Val(numconjunto.Text)), 2, "hex") + Chr(13)
    recibido
    MSComm1.Output = "*?JI" + normaliza(Hex(Val(numconjunto.Text)), 2, "hex") +
Chr(13)
    recibido
    nomcanal.Caption = nombreconj & nombrecanal
End If
MSComm1.Output = "*?CF" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End Sub

```



```

Private Sub Combo2_Click()
For i = 0 To 3
If i = Combo2.ListIndex Then
opciones(i).Visible = True
Else
opciones(i).Visible = False
End If
Next i

End Sub

Private Sub Command1_Click()
Dim b, flag As Integer
Dim PROCESA As String

MSComm1.Output = "*?AT" + Chr(13)
recibido
MSComm1.Output = "*?AG" + Chr(13)
recibido
MSComm1.Output = "*?AL" + Chr(13)
recibido
MSComm1.Output = "*?BA" + Chr(13)
recibido
MSComm1.Output = "*?BV" + Chr(13)
recibido
MSComm1.Output = "*?BW" + Chr(13)
recibido
MSComm1.Output = "*?CK" + Chr(13)
recibido
MSComm1.Output = "*?CF" + Chr(13)
recibido

If canal.Caption = "canal" Then
MSComm1.Output = "*?CH" + Chr(13)
recibido
MSComm1.Output = "*?SC" + Chr(13)
recibido
MSComm1.Output = "*?JI" & Hex(Val(numconjunto.Text)) & Chr(13)
recibido
MSComm1.Output = "*?CI" & Hex(Val(numcanal.Text)) &
Hex(Val(numconjunto.Text)) & Chr(13)
recibido
MSComm1.Output = "*?ST" + Chr(13)
recibido
MSComm1.Output = "*?SV" + Chr(13)
recibido
MSComm1.Output = "*?VP" + Chr(13)
recibido
End If

```

```

MSComm1.Output = "*?CW" + Chr(13)
recibido
mt = "M"
MSComm1.Output = "*?DS" + mt + memoria.Text + Chr(13)
recibido
mt = "T"
MSComm1.Output = "*?DS" + mt + testpoint.Text + Chr(13)
recibido
'MsgBox "*?DS" + mt + testpoint.Text + Chr(13)
MSComm1.Output = "*?DL" + memoria.Text + testpoint.Text + Chr(13)
recibido
MSComm1.Output = "*?FR" + Chr(13)
recibido
MSComm1.Output = "*?LB" + Chr(13)
recibido
MSComm1.Output = "*?LO" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
MSComm1.Output = "*?ME" + Chr(13)
recibido
MSComm1.Output = "*?NI" + Chr(13)
recibido
MSComm1.Output = "*?NL" + Chr(13)
recibido
MSComm1.Output = "*?SO" + Chr(13)
recibido
MSComm1.Output = "*?SP" + Chr(13)
recibido
MSComm1.Output = "*?SR" + memoria.Text + Chr(13)
recibido
MSComm1.Output = "*?ST" + Chr(13)
recibido
MSComm1.Output = "*?SV" + Chr(13)
recibido
MSComm1.Output = "*?TV" + Chr(13)
recibido
MSComm1.Output = "*?UN" + Chr(13)
recibido
MSComm1.Output = "*?VE" + Chr(13)
recibido

End Sub

Function normaliza(param As String, numparam As Integer, tipo As String) As String
Dim relleno As String
normaliza = param

```

```

If Len(param) < numparam Then
    If tipo = "dec" Or tipo = "hex" Then
        relleno = "0"
    Else
        relleno = " "
    End If
    For i = 1 To numparam - Len(param)
        param = relleno + normaliza
    Next i
    normaliza = param
End If
End Function

```

```

Private Sub Command10_Click()
If List1.ListIndex <> -1 Then
List1.RemoveItem (List1.ListIndex)
End If
End Sub

```

```

Private Sub Command11_Click()
List2.AddItem Text12.Text
End Sub

```

```

Private Sub Command12_Click()
If List2.ListIndex <> -1 Then
List2.RemoveItem (List2.ListIndex)
End If
End Sub

```

```

Private Sub Command13_Click()

```

```

    configprueba = configprueba + 1
    a = configprueba

```

```

If a <= numpruebas Then
    config(a * 2 - 2) = Text5.Text
    config(a * 2 - 1) = Text10.Text + Text8.Text + Text7.Text + Text6.Text + Text9.Text
    For i = 1 To numpruebas

```

```

    Next i
    List3.AddItem List1.ListCount
    b = List1.ListCount - 1
    For i = 0 To b
        List3.AddItem List1.List(0)
        List1.RemoveItem (0)
    Next i

```

```

List3.AddItem List2.ListCount
b = List2.ListCount - 1
For i = 0 To b
List3.AddItem List2.List(0)
List2.RemoveItem (0)
Next i
End If

If a = numpruebas Then
pruebact = 1
programa.Enabled = False
programa.Visible = False
pantalla(6).Visible = False
Command14.Visible = True
End If
If a = numpruebas - 1 Then
Command13.Caption = "Ejecucion programada"
End If
Text5.Text = ""
Text10.Text = ""
Text8.Text = ""
Text7.Text = ""
Text6.Text = ""
Text9.Text = ""

End Sub

Private Sub Command14_Click()
programa.Visible = True
programa.Enabled = True
Command14.Visible = False
End Sub

Private Sub Command15_Click()
pantalla(7).Visible = True
For i = 0 To 6
pantalla(i).Visible = False
Next i
MSFlexGrid1.TextMatrix(0, 0) = "TestP\Memo"
For i = 1 To 90
MSFlexGrid1.TextMatrix(0, i) = Str(i)
Next i
For i = 0 To 90
MSFlexGrid1.TextMatrix(i, 0) = Str(i)
Next i
For i = 1 To 4
For j = 1 To 4
memoria.Text = i
testpoint.Text = j

```

```

        MSComm1.Output = "?DL" + normaliza(Hex(memoria.Text), 2, "hex") +
normaliza(Hex(testpoint.Text), 2, "hex") + Chr(13)
        recibido
        MSFlexGrid1.TextMatrix(i, j) = valortp.Text
    Next j
Next i

```

```
End Sub
```

```
Private Sub Command4_Click()
```

```

If Command4.Caption = "desactiva" Then
    pantalla(2).Visible = False
    Command4.Caption = "activa"
Else
    pantalla(2).Visible = True
    Command4.Caption = "desactiva"
End If
End Sub

```

```

Private Sub Command5_Click()
Command5.BackColor = &HFF00&
Command6.BackColor = &HFF&
Command7.BackColor = &HFF&
canal.BackColor = &HFF&
For i = 0 To 7
    If i = 1 Or i = 2 Then
        pantalla(i).Visible = True
    Else
        pantalla(i).Visible = False
    End If
Next i
End Sub

```

```

Private Sub Command6_Click()
Command6.BackColor = &HFF00&
Command5.BackColor = &HFF&
Command7.BackColor = &HFF&
canal.BackColor = &HFF&
For i = 0 To 7
    If i = 3 Or i = 4 Then
        pantalla(i).Visible = True
    Else

```

```

    pantalla(i).Visible = False
End If
Next i
End Sub

```

```

Private Sub Command7_Click()
If Command7.BackColor = &HFF00& Then
    pantalla(6).Visible = True
Else
    pantalla(5).Visible = True
End If
Command6.BackColor = &HFF&
Command5.BackColor = &HFF&
Command7.BackColor = &HFF00&
canal.BackColor = &HFF&
For i = 0 To 4
    pantalla(i).Visible = False
Next i
    pantalla(7).Visible = False
End Sub

```

```

Private Sub Command8_Click()
pantalla(1).Visible = True
pantalla(2).Visible = True
pantalla(6).Visible = False
memoria.Text = Text11.Text
End Sub

```

```

Private Sub Command9_Click()
List1.AddItem Text11.Text
End Sub

```

```

Private Sub modoagc_Click()
If modoagc.BackColor = &HFF00& Then
    MSComm1.Output = "*AG1" + Chr(13)
    recibido
Else
    MSComm1.Output = "*AG0" + Chr(13)
    recibido
End If
MSComm1.Output = "*?LV" + Chr(13)
recibido
MSComm1.Output = "*?AG" + Chr(13)
recibido
End Sub
Private Sub alarmahora_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
actalarma_Click
End If

```

```

End Sub
Private Sub alarmamin_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
actalarma_Click
End If
End Sub
Private Sub alarmaseg_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
actalarma_Click
End If
End Sub
Private Sub alarmadia_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
actalarma_Click
End If
End Sub
Private Sub alarmames_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
actalarma_Click
End If
End Sub
Private Sub actalarma_Click()
If actalarma.BackColor = &HFF00& Then
MSComm1.Output = "*AL" + "0" + "0" + normaliza(alarmahora.Text, 2, "dec") +
":" + normaliza(alarmamin.Text, 2, "dec") + ":" + normaliza(alarmaseg.Text, 2, "dec") +
"," + normaliza(alarmadia.Text, 2, "dec") + "/" + normaliza(alarmames.Text, 2, "dec") +
Chr(13)
Else
MSComm1.Output = "*AL" + "1" + "0" + normaliza(alarmahora.Text, 2, "dec") + ":"
+ normaliza(alarmamin.Text, 2, "dec") + ":" + normaliza(alarmaseg.Text, 2, "dec") + ","
+ normaliza(alarmadia.Text, 2, "dec") + "/" + normaliza(alarmames.Text, 2, "dec") +
Chr(13)
End If
recibido
MSComm1.Output = "*?AL" + Chr(13)
recibido

End Sub

Private Sub atenuador_Click()
If atenuador.ListIndex <> anatindex Then
anatindex = atenuador.ListIndex
b = Hex(anatindex)
MSComm1.Output = "*AT" + b + Chr(13)
recibido
End If
MSComm1.Output = "*?AT" + Chr(13)
recibido

MSComm1.Output = "*?LV" + Chr(13)

```

```
recibido
End Sub
```

```
Private Sub bandafrec_Click()
```

```
If bandafrec.ListIndex <> anbaindex Then
    anbaindex = bandafrec.ListIndex
```

```
    b = Hex(anbaindex)
    'MsgBox b
    MSComm1.Output = "*BA" + b + Chr(13)
```

```
    recibido
```

```
    Select Case anbaindex
```

```
        Case 0
```

```
            cambia_frec (450)
```

```
        Case 1
```

```
            cambia_frec (45)
```

```
        Case 2
```

```
            cambia_frec (170)
```

```
        Case 3
```

```
            cambia_frec (87)
```

```
        Case 4
```

```
            cambia_frec (38.9)
```

```
        Case 5
```

```
            cambia_frec (920)
```

```
        Case 6
```

```
            cambia_frec (5)
```

```
    End Select
```

```
End If
```

```
End Sub
```

```
Function cambia_frec(frec As Double)
```

```
Dim a As Double
```

```
Dim b As String
```

```
If frec >= 5 And frec <= 862 Then
```

```
    a = (frec + 38.875) / 0.0625
```

```
    If frec >= 87 And frec <= 109 Then
```

```
        c = "M"
```

```
        banda.ListIndex = 2
```

```
    Else
```

```
        If frec = 38.9 Then
```

```
            c = "I"
```

```
            banda.ListIndex = 3
```

```
        Else
```

```
            c = "T"
```

```
            banda.ListIndex = 1
```

```
    End If
```

```
End If
```

```
Else
```



```

        If frec >= 920 And frec <= 2150 Then
            a = (frec + 479.5) / 0.125
            c = "S"
            banda.ListIndex = 0
        End If

    End If
    anbaindex = banda.ListIndex
    'If a - Int(a) > 0.5 Then
    '    a = a + 1
    'End If
    '    a = Int(a)
    b = (Hex(a))
    MsgBox b
    MSComm1.Output = "*FR" + c + normaliza(Hex(a), 4, "hex") + Chr(13)
    recibido
    MSComm1.Output = "*?FR" + Chr(13)
    recibido
    MSComm1.Output = "*?LV" + Chr(13)
    recibido
    MSComm1.Output = "*?BA" + Chr(13)
    recibido
    MSComm1.Output = "*?BW" + Chr(13)
    recibido
End Function

Private Sub bw_Click()
    If bw.ListIndex <> anbwinindex Then
        anbwinindex = bw.ListIndex
        b = Hex(anbwinindex)
        MSComm1.Output = "*BW" + b + Chr(13)
        recibido
    End If
    MSComm1.Output = "*?BW" + Chr(13)
    recibido
    MSComm1.Output = "*?LV" + Chr(13)
    recibido
End Sub

Private Sub canal_Click()

    Command5.BackColor = &HFF&
    Command6.BackColor = &HFF&
    Command7.BackColor = &HFF&
    canal.BackColor = &HFF00&
    For i = 0 To 7
        If i = 0 Then
            pantalla(i).Visible = True
        Else
            pantalla(i).Visible = False
        End If
    Next i
End Sub

```

```

End If
Next i
If canal.Caption = "canal" Then
    Combo1.ListIndex = 0
    MSComm1.Output = "*CF1" + Chr(13)
    recibido
    canal.Caption = "frecuencia"
    pantalla(0).Visible = False
Else
    Combo1.ListIndex = 1
    MSComm1.Output = "*CF0" + Chr(13)
    recibido
    canal.Caption = "canal"
    pantalla(0).Visible = True
    MSComm1.Output = "*?SC" + Chr(13)
    recibido
    MSComm1.Output = "*?CH" + Chr(13)
    recibido
    MSComm1.Output = "*?CI" + normaliza(Hex(Val(numcanal.Text)), 2, "hex") +
normaliza(Hex(Val(numconjunto.Text)), 2, "hex") + Chr(13)
    recibido
    MSComm1.Output = "*?JI" + normaliza(Hex(Val(numconjunto.Text)), 2, "hex") +
Chr(13)
    recibido
End If
MSComm1.Output = "*?CF" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End Sub

```

```

Private Sub MSComm1_Click()

```

```

End Sub

```

```

Private Sub numcanal_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
MSComm1.Output = "*CH" + normaliza(Hex(Val(numcanal.Text)), 2, "hex") +
Chr(13)
recibido
MSComm1.Output = "*?CH" + Chr(13)
recibido
MSComm1.Output = "*?CI" + normaliza(Hex(Val(numcanal.Text)), 2, "hex") +
normaliza(Hex(Val(numconjunto.Text)), 2, "hex") + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End If

```

End Sub

Private Sub dia_KeyPress(KeyAscii As Integer)

If KeyAscii = 13 Then

cambia_reloj

End If

End Sub

Private Sub mes_KeyPress(KeyAscii As Integer)

If KeyAscii = 13 Then

cambia_reloj

End If

End Sub

Private Sub año_KeyPress(KeyAscii As Integer)

If KeyAscii = 13 Then

cambia_reloj

End If

End Sub

Private Sub hora_KeyPress(KeyAscii As Integer)

If KeyAscii = 13 Then

cambia_reloj

End If

End Sub

Private Sub minuto_KeyPress(KeyAscii As Integer)

If KeyAscii = 13 Then

cambia_reloj

End If

End Sub

Private Sub segundo_KeyPress(KeyAscii As Integer)

If KeyAscii = 13 Then

cambia_reloj

End If

End Sub

Function cambia_reloj()

MSComm1.Output = "*CK" + normaliza(hora.Text, 2, "dec") + ":" +
normaliza(minuto.Text, 2, "dec") + ":" + normaliza(segundo.Text, 2, "dec") + "," +
normaliza(dia.Text, 2, "dec") + "/" + normaliza(mes.Text, 2, "dec") + "/" +
normaliza(año.Text, 4, "dec") + Chr(13)

recibido

MSComm1.Output = "*?CK" + Chr(13)

recibido

End Function

Function blanqueamem()

For i = 1 To 99

MSComm1.Output = "*DS" + "T" + normaliza(Hex(Str(i)), 2, "hex") + "1" + Chr(13)

```

    recibido
    MSComm1.Output = "*DS" + "M" + normaliza(Hex(Str(i)), 2, "hex") + "1" +
Chr(13)
    recibido
    Next i
End Function
Function configbd()
For i = 1 To numpruebas
    j = 0
    k = 0
    For l = 1 To i
        a = List3.List(j)
        b = List3.List(j + a + 1)
        k = j
        j = j + a + b + 2
    Next l
    For j = 1 To List3.List(k)
        m = k + 1 + List3.List(k)
        For l = 1 To List3.List(m)
            MSComm1.Output = "*?DL" + normaliza(Hex(Val((List3.List(k + j)))), 2,
"hex") + normaliza(Hex(Val((List3.List(m + l)))), 2, "hex") + Chr(13)
            recibido
'            Adodc1.Recordset.AddNew
'            Adodc1.Recordset.Fields(0).Value = Text2.Text
'            Adodc1.Recordset.Fields(1).Value = config(i * 2 - 2)
'            Adodc1.Recordset.Fields(2).Value = Mid(config(i * 2 - 1), 1, 2) & " " &
Mid(config(i * 2 - 1), 3, 2) & " " & Mid(config(i * 2 - 1), 5, 2)
'            Adodc1.Recordset.Fields(3).Value = Mid(config(i * 2 - 1), 7, 2) & " " &
Mid(config(i * 2 - 1), 9, 2) & " " & año.Text
'            Adodc1.Recordset.Fields(4).Value = List3.List(k + j)
'            Adodc1.Recordset.Fields(5).Value = memnombre.Text
'            Adodc1.Recordset.Fields(6).Value = List3.List(m + l)
'            Adodc1.Recordset.Fields(7).Value = Val(valortp.Text)
'            Adodc1.Recordset.Fields(8).Value =
memtipomedida.List(memtipomedida.ListIndex)
'            Adodc1.Recordset.Fields(9).Value =
memunidades.List(memunidades.ListIndex)
'            Adodc1.Recordset.Fields(10).Value = Val(memfrecuencia.Text)
'            Adodc1.Recordset.Fields(11).Value =
membandafrec.List(membandafrec.ListIndex)
'            Adodc1.Recordset.Fields(12).Value =
memestandar.List(memestandar.ListIndex)
'            Adodc1.Recordset.Fields(13).Value = memsonido.List(memsonido.ListIndex)
'            Adodc1.Recordset.Fields(14).Value = Val(memollnb.Text)
'            Adodc1.Recordset.MovePrevious
'            Adodc1.Recordset.MoveNext
        Next l
    Next j
Next i
End Function

```

```
Private Sub Timerhora_Timer()
```

```
If numpruebas <> 0 And Val(Mid(config((pruebact * 2) - 1), 1, 2)) = Val(hora.Text)
And Val(Mid(config((pruebact * 2) - 1), 3, 2)) - 1 = Val(minuto.Text) And
Val(Mid(config((pruebact * 2) - 1), 5, 2)) = Val(segundo.Text) Then
```

```
MSComm1.Output = "*AL" + "1" + "0" + normaliza(Mid(config((pruebact * 2) - 1), 1,
2), 2, "dec") + ":" + normaliza(Mid(config((pruebact * 2) - 1), 3, 2), 2, "dec") + ":" +
normaliza(Mid(config((pruebact * 2) - 1), 5, 2), 2, "dec") + "," +
normaliza(Mid(config((pruebact * 2) - 1), 7, 2), 2, "dec") + "/" +
normaliza(Mid(config((pruebact * 2) - 1), 9, 2), 2, "dec") + Chr(13)
MSComm1.Output = "*?AL" + Chr(13)
recibido
```

```
blanqueamem
```

```
j = 0
```

```
k = 0
```

```
For i = 1 To pruebact
```

```
    a = List3.List(j)
```

```
    b = List3.List(j + a + 1)
```

```
    k = j
```

```
    j = j + a + b + 2
```

```
Next i
```

```
For i = 1 To List3.List(k)
```

```
    MSComm1.Output = "*DS" + "M" + normaliza(Hex(List3.List(k + i)), 2, "hex") +
"0" + Chr(13)
```

```
    recibido
```

```
Next i
```

```
k = k + List3.List(k) + 1
```

```
For i = 1 To List3.List(k)
```

```
    MSComm1.Output = "*DS" + "T" + normaliza(Hex(List3.List(k + i)), 2, "hex") + "0"
+ Chr(13)
```

```
    recibido
```

```
Next i
```

```
'MsgBox Adodc1.Recordset.RecordCount
```

```
MSComm1.Output = "*?CK" + Chr(13)
```

```
recibido
```

```
If pruebact < numpruebas Then
```

```
pruebact = pruebact + 1
```

```
Else 'ultima prueba
```

```
    ultimaprueba = 1
```

```
    pruebact = 1
```

```
    'numpruebas = 0
```

```
End If
```

```

End If
If ultimaprueba = 1 Then
    j = 0
    k = 0
    For i = 1 To numpruebas
        a = List3.List(j)
        b = List3.List(j + a + 1)
        k = j
        j = j + a + b + 2
    Next i
    minprueba = (a * b) * Val(Text4.Text)
    minfinal = Val(Mid(config(numpruebas * 2 - 1), 3, 2)) + minprueba
    horafinal = Val(Mid(config(numpruebas * 2 - 1), 1, 2))

    If minfinal >= 60 Then
        minfinal = minfinal - 60
        horafinal = horafinal + 1
        'MsgBox Str(minfinal) & Str(horafinal)
    End If
    If horafinal = Val(hora.Text) And minfinal = Val(minuto.Text) Then
        ultimaprueba = 0
        'MsgBox "Ultima prueba"
        configbd
    End If
End If

If segundo.Text = "59" Then
    segundo.Text = "00"
    If minuto.Text = "59" Then
        minuto.Text = "00"

        If hora.Text = "23" Then
            hora.Text = "00"
            dia.Text = dia.Text + 1
        Else
            hora.Text = hora.Text + 1
        End If
    Else
        minuto.Text = minuto.Text + 1
    End If
Else
    segundo.Text = segundo.Text + 1
End If
End Sub

```

Private Sub anchobanda_KeyPress(KeyAscii As Integer)

```

If KeyAscii = 13 Then
    MSComm1.Output = "*CW" + normaliza(Hex(Val(anchobanda.Text) / 10), 4, "hex") +
    Chr(13)
    recibido

```

```
MSComm1.Output = "*?CW" + Chr(13)
```

```
recibido
```

```
MSComm1.Output = "*?LV" + Chr(13)
```

```
recibido
```

```
End If
```

```
End Sub
```

```
Private Sub activamem_Click()
```

```
mt = "M"
```

```
If activamem.Caption = "ON->OFF" Then
```

```
MSComm1.Output = "*DS" & "M" & normaliza(Hex(memoria.Text), 2, "hex") & "1"  
& Chr(13)
```

```
Else
```

```
MSComm1.Output = "*DS" & "M" & normaliza(Hex(memoria.Text), 2, "hex") & "0"  
& Chr(13)
```

```
End If
```

```
'MSComm1.Output = "*?DSM" + normaliza(Hex(memoria.Text), 2, "hex") + Chr(13)
```

```
MSComm1.Output = "*?DSM" & memoria.Text & Chr(13)
```

```
'MsgBox "*?DSM" & memoria.Text & Chr(13)
```

```
recibido
```

```
'MSComm1.Output = "*?DL" + normaliza(Hex(memoria.Text), 2, "hex") +
```

```
normaliza(Hex(testpoint.Text), 2, "hex") + Chr(13)
```

```
'recibido
```

```
End Sub
```

```
Private Sub activatp_Click()
```

```
mt = "T"
```

```
If activatp.Caption = "ON->OFF" Then
```

```
MSComm1.Output = "*DS" + "T" + normaliza(Hex(testpoint.Text), 2, "hex") + "1" +  
Chr(13)
```

```
Else
```

```
MSComm1.Output = "*DS" + "T" + normaliza(Hex(testpoint.Text), 2, "hex") + "0" +  
Chr(13)
```

```
End If
```

```
MSComm1.Output = "*?DST" + normaliza(Hex(memoria.Text), 2, "hex") + Chr(13)
```

```
recibido
```

```
'MSComm1.Output = "*?DL" + normaliza(Hex(memoria.Text), 2, "hex") +
```

```
normaliza(Hex(testpoint.Text), 2, "hex") + Chr(13)
```

```
'recibido
```

```
End Sub
```

```
Private Sub frecuencia_KeyPress(KeyAscii As Integer)
```

```
If KeyAscii = 13 Then
```

```
cambia_frec (Val(frecuencia.Text))
```

```
End If
```

```
End Sub
```

```
Private Sub alimentacionlnb_Click()
```

```
If alimentacionlnb.ListIndex <> anlbindex Then
```

```

anlbindex = alimentacionInb.ListIndex
b = Hex(anlbindex)
MSComm1.Output = "*LB" + b + Chr(13)
recibido
MSComm1.Output = "*?LB" + Chr(13)
recibido
MSComm1.Output = "*?LO" + Chr(13)
recibido
MSComm1.Output = "*?NI" + Chr(13)
recibido
MSComm1.Output = "*?NV" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End If
End Sub

```

Private Sub ollnb_KeyPress(KeyAscii As Integer)

```

If KeyAscii = 13 Then
MSComm1.Output = "*LO" + Hex(Val(ollnb.Text) * 100) + Chr(13)
recibido
MSComm1.Output = "*?LO" + Chr(13)
recibido
MSComm1.Output = "*?NI" + Chr(13)
recibido
MSComm1.Output = "*?NV" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End If
End Sub

```

Private Sub tipomedida_Click()

```

Dim b As String
If tipomedida.ListIndex <> anmeindex Then
anmeindex = tipomedida.ListIndex
b = Hex(anmeindex)
If anmeindex = 2 Then
MSComm1.Output = "*ST6" + Chr(13)
recibido
MSComm1.Output = "*?ST" + Chr(13)
recibido

End If
MSComm1.Output = "*ME" + normaliza(b, 1, "hex") + Chr(13)
recibido
MSComm1.Output = "*?ME" + Chr(13)

```



```

recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End If
End Sub

```

```

Private Sub off_Click()
MSComm1.Output = "*OF" + Chr(13)
End Sub

```

```

Private Sub numconjunto_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
MSComm1.Output = "*SC" + Hex(Val(numconjunto.Text)) + Chr(13)
recibido
MSComm1.Output = "*?SC" + Chr(13)
recibido
MSComm1.Output = "*?JI" + Hex(Val(numconjunto.Text)) + Chr(13)
recibido
MSComm1.Output = "*?CH" + Hex(Val(numcanal.Text)) + Chr(13)
recibido
MSComm1.Output = "*?CI" + Hex(Val(numcanal.Text)) +
Hex(Val(numconjunto.Text)) + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End If
End Sub

```

```

Private Sub sonido_Click()
If sonido.ListIndex <> ansoindex Then
    ansoindex = sonido.ListIndex
    b = Hex(ansoindex)
    If ansoindex = 4 Or ansoindex = 15 Then
        b = b + Str(Hex(Val(tune.Text) + 10.7) / 0.01)
    End If
    MSComm1.Output = "*SO" + b + Chr(13)
    recibido
End If
MSComm1.Output = "*?SO" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End Sub

```

```

Private Sub espectro_Click()
If espectro.BackColor = &HFF00& Then
MSComm1.Output = "*SP1" + Chr(13)
recibido

```

```

espectro.BackColor = &HFF&
Else
MSComm1.Output = "*SP0" + Chr(13)
recibido
espectro.BackColor = &HFF00&
End If
MSComm1.Output = "*SP?" + Chr(13)
recibido
End Sub

```

Private Sub configura_Click()

```

Dim envia As String
Dim a As Double
If Val(memfrecuencia.Text) > 5 And Val(memfrecuencia.Text) < 862 Then
    a = (Val(memfrecuencia.Text) + 38.875) / 0.0625
    If Val(memfrecuencia.Text) > 87 And Val(memfrecuencia.Text) < 109 Then
        membandafrec.ListIndex = 3
    End If
    If Val(memfrecuencia.Text) > 450 And Val(memfrecuencia.Text) < 862 Then
        membandafrec.ListIndex = 0
    End If
    If (Val(memfrecuencia.Text) > 45 And Val(memfrecuencia.Text) < 98) Or
        (Val(memfrecuencia.Text) > 109 And Val(memfrecuencia.Text) < 170) Then
        membandafrec.ListIndex = 1

    End If
    If Val(memfrecuencia.Text) > 170 And Val(memfrecuencia.Text) < 450 Then
        membandafrec.ListIndex = 2

    End If
    If Val(memfrecuencia.Text) > 5 And Val(memfrecuencia.Text) < 45 Then
        membandafrec.ListIndex = 6

    End If
Else
    If Val(memfrecuencia.Text) > 920 And Val(memfrecuencia.Text) < 2150 Then
        a = (Val(memfrecuencia.Text) + 479.5) / 0.125
        membandafrec.ListIndex = 5

    End If

    End If
    If a - Int(a) > 0.5 Then
        a = a + 1
    End If
    a = Int(a)

```

```

envia = "*SR" + normaliza(Hex(Val(memoria.Text)), 2, "hex") &
normaliza(memnombre.Text, 4, "txt") & membandafrec.ListIndex
envia = envia & memestandar.ListIndex & normaliza(Hex(a), 4, "hex")
envia = envia & "1" & "00000000"
envia = envia & memunidades.ListIndex
envia = envia & memalimentacionlnb.ListIndex
envia = envia & memtipomedida.ListIndex
envia = envia & memvp.ListIndex & normaliza(Hex(memsonido.ListIndex), 1, "hex")
& "0000"

```

```

envia = envia & normaliza(Hex(Val(memanchobanda.Text) / 10), 4, "hex") & "00000"
'normaliza(Hex(Val(memollnb.Text)), 5, "hex")

```

```

'MsgBox envia & "lnb" & normaliza(Hex(Val(memollnb.Text)), 5, "hex")
MSComm1.Output = envia + Chr(13)
recibido
MSComm1.Output = "*?SR" + Str(Hex(memoria.Text)) + Chr(13)
recibido
End Sub

```

```

Private Sub estandarcanal_Click()
If estandarcanal.ListIndex <> anstindex Then
anstindex = estandarcanal.ListIndex
b = Hex(anstindex)
MSComm1.Output = "*ST" + b + Chr(13)
recibido
End If
MSComm1.Output = "*?ST" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End Sub

```

```

Private Sub polaridad_Click()
If polaridad.ListIndex <> ansvindex Then
ansvindex = polaridad.ListIndex
b = Hex(ansvindex)
MSComm1.Output = "*SV" + b + Chr(13)
recibido
End If
MSComm1.Output = "*?SV" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End Sub

```

```

Private Sub modotv_Click()
If modotv.ListIndex <> antvindex Then
antvindex = modotv.ListIndex
b = Hex(antvindex)

```

```

MSComm1.Output = "*TV" + b + Chr(13)
recibido
End If
MSComm1.Output = "*?TV" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
End Sub

```

Private Sub actteletexto_Click()

```

If actteletexto.BackColor = &HFF& Then
    teletexto.Visible = True
    actteletexto.BackColor = &HFF00&
    MSComm1.Output = "*TX001" + Chr(13)
    dialogo.Text = "Teletexto activado"
    recibido
Else
    teletexto.Visible = False
    actteletexto.BackColor = &HFF&
    MSComm1.Output = "*TX000" + Chr(13)
    dialogo.Text = "Teletexto desactivado"
    recibido
End If
End Sub

```

Private Sub teletexto_KeyPress(KeyAscii As Integer)

```

If KeyAscii = 13 Then
    MSComm1.Output = "*TX" + Hex(Val(teletexto.Text)) + Chr(13)
    recibido
End If
End Sub

```

Private Sub unidades_Click()

```

If unidades.ListIndex <> anunindex Then
    anunindex = unidades.ListIndex
    b = Hex(anunindex)
    MSComm1.Output = "*UN" + b + Chr(13)
    recibido
End If
MSComm1.Output = "*?UN" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido

End Sub

```

Private Sub freccuadro_Click()

```

If freccuadro.ListIndex <> anvpinindex Then
    anvpinindex = freccuadro.ListIndex
    b = Hex(anvpinindex)

```

```

MSComm1.Output = "*VP" + b + Chr(13)
recibido
End If
MSComm1.Output = "?VP" + Chr(13)
recibido
MSComm1.Output = "?LV" + Chr(13)
recibido
End Sub

```

```

Private Sub mnuanalisitem_Click()
pantalla(3).Visible = True

```

End Sub

```

Private Sub Command2_Click()
pantalla(6).Visible = True
pantalla(5).Visible = False
ReDim config(Val(Text3.Text) * 2)
numpruebas = Val(Text3.Text)
configprueba = 0
End Sub

```

```

Private Sub Command3_Click()
Dim a, frecanalisis As Double
Dim paso As Integer
Timeranalysis.Enabled = True
contseg = 0

```

```

pantalla(4).Visible = True
Shape1(0).Height = 1575
Shape1(0).Top = 600
For i = 1 To 19

```

```

    With Shape1(i)
        .Left = Shape1(i - 1).Left + 135
        .Visible = True
        .Top = 600
        .Height = 1575
    End With
Next i
End Sub

```

```

Function analizafrec(frec As Double)
Dim a As Double
Dim b As String

If frec > 5 And frec < 862 Then
    a = (frec + 38.875) / 0.0625
    If frec > 87 And frec < 109 Then
        c = "M"

```

```

        banda.ListIndex = 2
    Else
        c = "T"
        banda.ListIndex = 1
    End If
Else
    If frec > 920 And frec < 2150 Then
        a = (frec + 479.5) / 0.125
        banda.ListIndex = 0
        c = "S"
    End If

End If

b = Hex(a)

MSComm1.Output = "*FR" + c + normaliza(b, 4, "dec") + Chr(13)
recibido

MSComm1.Output = "*?FR" + Chr(13)
recibido
MSComm1.Output = "*?LV" + Chr(13)
recibido
valoranalisís(contseg - 1).Caption = nivel.Caption
Shape1(contseg - 1).Height = Shape1(contseg - 1).Height - 1575 / 50 * (60 -
Val(nivel.Caption))
Shape1(contseg - 1).Top = Shape1(contseg - 1).Top + 1575 / 50 * (60 -
Val(nivel.Caption))
End Function

Private Sub Timeranalisís_Timer()
    Dim paso As Double
    contseg = contseg + 1

    paso = (Fix((Val(frecfinal.Text) - Val(frecinicio.Text)) / 20))

    If contseg <= 20 Then
        analizafrec (Val(frecinicio.Text) + paso * (contseg - 1))
    Else
        Timeranalisís.Enabled = False
    End If
End Sub

Private Sub Form_Unload(Cancel As Integer)
    If MSComm1.PortOpen = True Then
        MSComm1.PortOpen = False
    End If
End Sub

Private Sub Form_Load()

```

```
COM.ListIndex = 0
pruebact = 1
ultimaprueba = 0
ReDim config(2)
config(1) = "0000"
Form2.Height = 2595
Form2.Width = 2955
'For i = 0 To Adodc1.Recordset.RecordCount - 1
' Adodc1.Recordset.MoveNext
'Next i
```

End Sub