

*I hear and I forget, I see and I remember, I do and I understand.*

# **LAMPIRAN PROGRAM**

## **MAIN**

```
Private Sub Form_Load()
```

```
'default
```

```
ToneSpeed = 120
```

```
ToneMaxSpeed = 200
```

```
ToneFrequency = 650
```

```
OutputThrough = "SoundCard"
```

```
MorsePause = 0
```

```
FilterWindow = 0
```

```
SoundDevice = 0
```

```
Readconfig
```

```
End Sub
```

```
Private Sub ButtonMain_Click(Index As Integer)
```

```
Select Case Index
```

```
Case 0
```

```
    frmTrainer.Show vbModal
```

```
Case 1
```

```
    frmTranslate.Show vbModal
```

```
Case 2
```

```
    frmQSO.Show vbModal
```

```
Case 9
```

```
    frmTransceiver.Show vbModal
```

```
Case 10
```

```
    frmOptions.Show vbModal
```

```
Case 3
```

```
    End
```

```
End Select
```

```
End Sub
```

## OPTION

Option Explicit

Private Const pcSampleRate As Long = 44100

Private pUnloading As Boolean

Private pDevHandle As Long

Private pVisualizing As Boolean

Private pDivisor As Long

Private pScopeHeight As Long

Private pStepX As Double

Private Type WAVEFORMATEX

FormatTag As Integer

Channels As Integer

SamplesPerSec As Long

AvgBytesPerSec As Long

BlockAlign As Integer

BitsPerSample As Integer

ExtraDataSize As Integer

End Type

Private Type WaveHdr

lpData As Long

dwBufferLength As Long

dwBytesRecorded As Long

dwUser As Long

dwFlags As Long

dwLoops As Long

lpNext As Long

Reserved As Long  
End Type

Private Const pcWaveHdrLen As Long = 32

Private Type WaveInCaps

ManufacturerID As Integer  
ProductID As Integer  
DriverVersion As Long  
ProductName(1 To 32) As Byte  
Formats As Long  
Channels As Integer  
Reserved As Integer

End Type

Private Const WAVE\_FORMAT\_1M16 = &H4& ' 11.025 kHz, Mono, 16-bit

Private Const WAVE\_FORMAT\_2M16 = &H40& ' 22.05 kHz, Mono, 16-bit

Private Const WAVE\_FORMAT\_4M16 = &H400& ' 44.1 kHz, Mono, 16-bit

Private Const WAVE\_FORMAT\_PCM = 1

Private Const WHDR\_DONE As Long = &H1&

Private Declare Function waveInAddBuffer Lib "winmm" (ByVal InputDeviceHandle As Long, WaveHdrPointer As WaveHdr, ByVal WaveHdrStructSize As Long) As Long

Private Declare Function waveInPrepareHeader Lib "winmm" (ByVal InputDeviceHandle As Long, WaveHdrPointer As WaveHdr, ByVal WaveHdrStructSize As Long) As Long

Private Declare Function waveInUnprepareHeader Lib "winmm" (ByVal InputDeviceHandle As Long, WaveHdrPointer As WaveHdr, ByVal WaveHdrStructSize As Long) As Long

```

Private Declare Function waveInGetNumDevs Lib "winmm" () As Long
Private Declare Function waveInGetDevCaps Lib "winmm" Alias
"waveInGetDevCapsA" (ByVal uDeviceID As Long, ByVal WaveInCapsPointer As
Long, ByVal WaveInCapsStructSize As Long) As Long

Private Declare Function waveInOpen Lib "winmm" (WaveDeviceInputHandle As Long,
ByVal WhichDevice As Long, ByVal WaveFormatExPointer As Long, ByVal CallBack
As Long, ByVal CallBackInstance As Long, ByVal Flags As Long) As Long
Private Declare Function waveInClose Lib "winmm" (ByVal WaveDeviceInputHandle
As Long) As Long

Private Declare Function waveInStart Lib "winmm" (ByVal WaveDeviceInputHandle As
Long) As Long
Private Declare Function waveInReset Lib "winmm" (ByVal WaveDeviceInputHandle
As Long) As Long
Private Declare Function waveInStop Lib "winmm" (ByVal WaveDeviceInputHandle As
Long) As Long

Private Function InitDevices() As Long

    Dim Format As Long
    Select Case pcSampleRate
        Case 11025
            Format = WAVE_FORMAT_1M16
        Case 22050
            Format = WAVE_FORMAT_2M16
        Case 44100
            Format = WAVE_FORMAT_4M16
        Case Else
            Err.Raise 10101, , "Internal error #1"
    End Select

```

```

Dim Caps As WaveInCaps, Which As Long
ComboDevices.Clear
For Which = 0 To waveInGetNumDevs - 1
    waveInGetDevCaps Which, VarPtr(Caps), Len(Caps)
    If Caps.Formats And Format Then
        ComboDevices.AddItem StrConv(Caps.ProductName, vbUnicode)
        ComboDevices.ItemData(ComboDevices.ListCount - 1) = Which
        InitDevices = InitDevices + 1
    End If
Next

If InitDevices Then
    ComboDevices.ListIndex = 0
End If
End Function

Private Sub Form_Load()

    TextFreq.Text = Str(ToneFrequency) & " Hz"
    TextSpeed.Text = Str(ToneSpeed) & " mSec"
    sldFreq.Value = ToneFrequency
    sldSpeed.Value = ToneSpeed

    ComboFilter.AddItem "Hamming Window", 0
    ComboFilter.AddItem "Blackman Window", 1
    ComboFilter.AddItem "Hann Window", 2
    ComboFilter.AddItem "Bartlett-Hann Window", 3

    ComboFilter.ListIndex = FilterWindow

```

```

    If InitDevices = 0 Then
        MsgBox "You don't have any compatible audio input devices! (Can't find your audio
microphone device.)", vbCritical
    End If

    If (ComboDevices.ListCount > -1 And SoundDevice <= ComboDevices.ListCount - 1)
Then
        ComboDevices.ListIndex = SoundDevice
    End If

End Sub

Private Sub ButtonExit_Click()

    ToneSpeed = val(TextSpeed.Text)
    ToneFrequency = val(TextFreq.Text)

    If (optSpeaker.Value = True) Then OutputThrough = "Speaker"
    If (optSoundcard.Value = True) Then OutputThrough = "SoundCard"

    FilterWindow = ComboFilter.ListIndex

    SoundDevice = ComboDevices.ListIndex

    WriteConfig

    Unload Me

End Sub

```



```
Private Sub sldFreq_Change()  
    TextFreq.Text = sldFreq.Value & " Hz"  
    ToneFrequency = val(TextFreq.Text)  
End Sub  
Private Sub sldFreq_Click()  
    TextFreq.Text = sldFreq.Value & " Hz"  
    ToneFrequency = val(TextFreq.Text)  
End Sub  
Private Sub sldSpeed_Click()  
    TextSpeed.Text = sldSpeed.Value & " mSec"  
    ToneSpeed = val(TextSpeed.Text)  
End Sub  
Private Sub sldSpeed_Change()  
    TextSpeed.Text = sldSpeed.Value & " mSec"  
    ToneFrequency = val(TextFreq.Text)  
End Sub
```

## QSO

```
Private Sub Form_Load()
```

```
    modOscillator.InitializeBeep Me.hWnd
```

```
    Combo1.AddItem "Panjang", 0
```

```
    Combo1.AddItem "Sedang", 1
```

```
    Combo1.AddItem "Pendek", 2
```

```
    Combo1.ListIndex = 1
```

```
    Combo2.AddItem "Cukup", 0
```

```
    Combo2.AddItem "Banyak", 1
```

```
    Combo2.AddItem "Lebih", 2
```

```
    Combo2.ListIndex = 0
```

```
End Sub
```

```
Private Sub ButtonExit_Click()
```

```
    Unload Me
```

```
End Sub
```

```
Private Sub ButtonQSO_Click(Index As Integer)
```

```
    Select Case Index
```

```
    Case 0                ' Play
```

```
        TextQSO.ForeColor = &H80000005 ' White
```

```
        ButtonQSO(3).Caption = "Show Text"
```

```
TextQSO.Text = UCase(GetQSO)
MorseStr = modMorseCode.EncodeToMorse(TextQSO.Text)
SendMorse (MorseStr)
```

```
Case 1                ' Pause/Resume
  If MorsePause = 0 Then
    MorsePause = 1
    ButtonQSO(1).Caption = "Resume"
  Else
    MorsePause = 0
    ButtonQSO(1).Caption = "Pause"
  End If
Case 2                ' Stop (set global for module)
  MorsePause = 2
Case 3                ' Show/Hide Text
  If (ButtonQSO(3).Caption = "Show Text") Then
    TextQSO.ForeColor = &H80000008 ' Black
    ButtonQSO(3).Caption = "Hide Text"
  Else
    TextQSO.ForeColor = &H80000005 ' White
    ButtonQSO(3).Caption = "Show Text"
  End If
End Select
```

```
End Sub
```

```
Private Sub ButtonOptions_Click()
  frmOptions.Show vbModal
End Sub
```

## **TRAINER**

Dim AlphaStr As String

Private Sub Command1\_Click()

End Sub

Private Sub Form\_Load()

    modOscillator.InitializeBeep Me.hWnd  
    modPlayWave.InitialiseWave Me.hWnd

    ComboVoice.AddItem "Suara On", 0  
    ComboVoice.AddItem "Suara Off", 1

    ComboWhat.AddItem "Semua", 0  
    ComboWhat.AddItem "Semua Huruf dan Bilangan", 1  
    ComboWhat.AddItem "Semua Huruf", 2  
    ComboWhat.AddItem "Semua Bilangan", 3  
    ComboWhat.AddItem "Tanda Baca", 4  
    ComboWhat.AddItem "A-E", 5  
    ComboWhat.AddItem "F-J", 6  
    ComboWhat.AddItem "K-O", 7  
    ComboWhat.AddItem "P-T", 8  
    ComboWhat.AddItem "U-Z", 9  
    ComboWhat.AddItem "0-4", 10  
    ComboWhat.AddItem "5-9", 11

    ComboType.AddItem "Random", 0

```
ComboType.AddItem "Berurutan", 1
```

```
ComboDelay.AddItem "0 Sec Delay", 0
```

```
ComboDelay.AddItem "1 Sec Delay", 1
```

```
ComboDelay.AddItem "2 Sec Delay", 2
```

```
ComboDelay.AddItem "3 Sec Delay", 3
```

```
ComboDelay.AddItem "4 Sec Delay", 4
```

```
ComboDelay.AddItem "5 Sec Delay", 5
```

```
ComboDelay.AddItem "6 Sec Delay", 6
```

```
ComboDelay.AddItem "7 Sec Delay", 7
```

```
ComboDelay.AddItem "8 Sec Delay", 8
```

```
ComboDelay.AddItem "9 Sec Delay", 9
```

```
ComboDelay.AddItem "10 Sec Delay", 10
```

```
' Default
```

```
ComboDelay.ListIndex = 3
```

```
ComboType.ListIndex = 0
```

```
ComboVoice.ListIndex = 0
```

```
ComboWhat.ListIndex = 1
```

```
Set_Characters
```

```
End Sub
```

```
Private Sub ButtonOptions_Click()
```

```
    frmOptions.Show vbModal
```

```
End Sub
```

```
Private Sub ButtonExit_Click()
```

```
    Unload Me
```

```
End Sub
```

```
Private Sub Playtutor_Click()
```

```
Dim TimerDelay As Integer
```

```
TimerDelay = ComboDelay.ListIndex * 1000
```

```
Timer1.Interval = TimerDelay
```

```
Set_Characters
```

```
If Playtutor.Caption = "Start" Then
```

```
    Timer1.Enabled = True
```

```
    Playtutor.Caption = "Stop"
```

```
Else
```

```
    Timer1.Enabled = False
```

```
    Playtutor.Caption = "Start"
```

```
End If
```

```
End Sub
```

```
Private Function Get_Random() As String
```

```
Dim LengthAlpha As Integer
```

```
Dim lowerbound As Integer
```

```
Dim upperbound As Integer
```

```
Dim RandomNumber As Integer
```

```
Dim ChosenCharacter As String
```

```
LengthAlpha = Len(AlphaStr)
```

```
lowerbound = 1
```

```
upperbound = LengthAlpha
```

```
RandomNumber = Int((upperbound - lowerbound + 1) * Rnd + lowerbound)
```

```
ChosenCharacter = Mid(AlphaStr, RandomNumber, 1)
```

```
Get_Random = ChosenCharacter
```

```
End Function
```

```
Private Sub Set_Characters()
```

```
Dim Alpha As String
```

```
Dim Numbers As String
```

```
Dim Punctuation As String
```

```
Dim Special As String
```

```
Alpha = "ABCDEFGHIJKLMNOPQRSTUVWXYZ"
```

```
Numbers = "0123456789"
```

```
Punctuation = ".?,';:-/($" & Chr(34)
```

```
'Special = ""
```

```
Select Case ComboWhat.ListIndex
```

```
Case 0
```

```
AlphaStr = Alpha & Numbers & Punctuation
```

```
Case 1
```

```
AlphaStr = Alpha & Numbers
```

```
Case 2
```

```
AlphaStr = Alpha
```

```
Case 3
```

```
AlphaStr = Numbers
```

```
Case 4
```

```
AlphaStr = Punctuation
```

```
Case 5
```

```
AlphaStr = "ABCDE"
```

```
Case 6
```

```

    AlphaStr = "FGHIJ"
Case 7
    AlphaStr = "KLMNO"
Case 8
    AlphaStr = "PQRST"
Case 9
    AlphaStr = "UVWXYZ"
Case 10
    AlphaStr = "01234"
Case 11
    AlphaStr = "56789"
Case 12
    AlphaStr = ".?,';:"
Case 13
    AlphaStr = "-/($" & Chr(34)

End Select

End Sub

Private Sub Timer1_Timer()
Dim ThisChar As String
Dim MorseCode As String

If ComboType.ListIndex = 0 Then
    ThisChar = Get_Random
Else
    ThisChar = Mid(AlphaStr, 1, 1)
    AlphaStr = Mid(AlphaStr, 2)
    If (AlphaStr = "") Then Set_Characters

```



End If

MorseCode = modMorseCode.EncodeLetter(ThisChar)

LabelLetter.Caption = UCase(ThisChar)

LabelMorse.Caption = MorseCode

SendMorse (MorseCode)

If ((ComboVoice.ListIndex = 0 Or ComboVoice.ListIndex = 2) And OutputThrough =  
"SoundCard") Then

    PlayCharacter (Get\_WavePath(ThisChar))

End If

End Sub

## TRANSLATE

Option Explicit

Private Sub Form\_Load()

    modOscillator.InitializeBeep Me.hWnd

End Sub

Private Sub ButtonStop\_Click()

    MorsePause = 2

End Sub

Private Sub ButtonOptions\_Click()

    frmOptions.Show vbModal

End Sub

Private Sub ButtonExit\_Click()

    Unload Me

End Sub

Private Sub cmdPause\_Click()

    If MorsePause = 0 Then

        MorsePause = 1

```

        cmdPause.Caption = "&Resume"
    Else
        MorsePause = 0
        cmdPause.Caption = "&Pause"
    End If
End Sub

Private Sub cmdTranslateE2M_Click()
    txtMorse.Text = modMorseCode.EncodeToMorse(Trim(txtEnglish.Text))
End Sub

Private Sub cmdTranslateM2E_Click()
    txtEnglish.Text = modMorseCode.DecodeToEnglish(Trim(txtMorse.Text))
End Sub

Private Sub cmdTransmit_Click()

    If Trim(txtMorse.Text) = "" Then
        txtMorse.Text = modMorseCode.EncodeToMorse(Trim(txtEnglish.Text))
    End If
    SendMorse (txtMorse.Text)
    txtMorse.Text = ""
    txtEnglish.SetFocus
    SendKeys "{HOME}"
    DoEvents
    SendKeys "+{END}"
End Sub

```

## AUDIOFFT

Option Explicit

Private Const pNumBits As Long = 10

Global FilterWindow As Integer

Public Const NumberOfSamples As Long = 2 ^ pNumBits

Private Const pi As Double = 3.14159265358979

Private pReversals(0 To NumberOfSamples - 1) As Long

Private pWindow(0 To NumberOfSamples - 1) As Double

Declare Sub ZeroMemory Lib "kernel32.dll" Alias "RtlZeroMemory" (Destination As Any, ByVal Length As Long)

Sub InitFFT()

Dim I As Long

For I = 0 To NumberOfSamples - 1

    pReversals(I) = ReverseBits(I, pNumBits)

Select Case FilterWindow

Case 0

    pWindow(I) = HammingWindow(I, NumberOfSamples)

Case 1

    pWindow(I) = BlackmanWindow(I, NumberOfSamples)

Case 2

    pWindow(I) = HannWindow(I, NumberOfSamples)

Case 3

    pWindow(I) = BartlettHannWindow(I, NumberOfSamples)

Case 4

End Select

```

Next
End Sub

Sub AudioFFT(AudioIn() As Integer, RealOut() As Double, ImaginaryOut() As Double)

    Dim I As Long, J As Long, K As Long, L As Long, N As Long, BlockSize As Long,
    BlockEnd As Long

    Dim DeltaAngle As Double, DeltaAr As Double
    Dim Alpha As Double, Beta As Double
    Dim TR As Double, TI As Double, AR As Double, AI As Double

    For I = 0 To NumberOfSamples - 1
        J = pReversals(I)
        RealOut(J) = AudioIn(I) * pWindow(I)
    Next
    ZeroMemory ImaginaryOut(0), 8 * NumberOfSamples
    BlockEnd = 1
    BlockSize = 2

    For L = 0 To pNumBits - 1
        DeltaAngle = (-2 * pi) / BlockSize
        Alpha = Sin(0.5 * DeltaAngle)
        Alpha = 2# * Alpha * Alpha
        Beta = Sin(DeltaAngle)

        For I = 0 To NumberOfSamples - 1 Step BlockSize
            AR = 1#
            AI = 0#

            J = I

```

```

For N = 0 To BlockEnd - 1
    K = J + BlockEnd
    TR = AR * RealOut(K) - AI * ImaginaryOut(K)
    TI = AI * RealOut(K) + AR * ImaginaryOut(K)
    RealOut(K) = RealOut(J) - TR
    RealOut(J) = RealOut(J) + TR
    ImaginaryOut(K) = ImaginaryOut(J) - TI
    ImaginaryOut(J) = ImaginaryOut(J) + TI
    DeltaAr = Alpha * AR + Beta * AI
    AI = AI - (Alpha * AI - Beta * AR)
    AR = AR - DeltaAr
    J = J + 1
Next
Next

BlockEnd = BlockSize
BlockSize = BlockSize * 2
Next
End Sub

Function BlackmanWindow(ByVal Index As Long, ByVal NumberOfSamples As Long)
As Double
    BlackmanWindow = 0.4 - 0.5 * Cos(2 * pi * Index / (NumberOfSamples - 1)) + 0.08 *
Cos(4 * pi * Index / (NumberOfSamples - 1))
End Function

Function HannWindow(ByVal Index As Long, ByVal NumberOfSamples As Long) As
Double
    HannWindow = 0.5 - 0.5 * Cos(2 * pi * Index / (NumberOfSamples - 1))
End Function

```

```
Function BartlettHannWindow(ByVal Index As Long, ByVal NumberOfSamples As Long) As Double
```

```
    BartlettHannWindow = 0.62 - 0.48 * Abs((Index / (NumberOfSamples - 1)) - 0.5) +  
    0.38 * Cos(2 * pi * ((Index / (NumberOfSamples - 1)) - 0.5))
```

```
End Function
```

```
Function HammingWindow(ByVal Index As Long, ByVal NumberOfSamples As Long) As Double
```

```
    HammingWindow = 0.54 - 0.46 * Cos(2 * pi * (Index / (NumberOfSamples - 1)))
```

```
End Function
```

```
Private Function ReverseBits(ByVal Index As Long, ByVal NumBits As Long) As Long
```

```
    Dim I As Long, Rev As Long
```

```
    For I = 0 To NumBits - 1
```

```
        Rev = (Rev * 2) Or (Index And 1)
```

```
        Index = Index \ 2
```

```
    Next
```

```
    ReverseBits = Rev
```

```
End Function
```

## CONFIG

Global ToneSpeed As Integer  
Global ToneMaxSpeed As Integer  
Global ToneFrequency As Integer  
Global OutputThrough As String  
Global MorsePause As Integer  
Global SoundDevice As Integer

Public Sub WriteConfig()

ThisPath = App.Path & "\MorseCode.cfg"

Open ThisPath For Output As #2

Print #2, ToneSpeed  
Print #2, ToneFrequency  
Print #2, OutputThrough  
Print #2, FilterWindow  
Print #2, SoundDevice

Close #2

End Sub

Public Sub Readconfig()

Dim ThisPath As String  
Dim TempStr As String

ThisPath = App.Path & "\MorseCode.cfg"



```
If (FileRepExist(ThisPath) = False) Then
    WriteConfig
    Exit Sub
End If
```

```
Open ThisPath For Input As #1
```

```
Line Input #1, TempStr
ToneSpeed = val(Trim(TempStr))
```

```
Line Input #1, TempStr
ToneFrequency = val(Trim(TempStr))
```

```
Line Input #1, TempStr
OutputThrough = Trim(TempStr)
```

```
Line Input #1, TempStr
FilterWindow = val(Trim(TempStr))
```

```
Line Input #1, TempStr
SoundDevice = val(Trim(TempStr))
Close #1
```

```
End Sub
```

```
Private Function FileRepExist(ByVal param As String) As Boolean
```

```
Dim val As Integer
```

```
On Error Resume Next
```

```
val = GetAttr(param)
```

```
FileRepExist = (Err.Number = 0)
```

```
End Function
```

## MORSE CODE

Option Explicit

Private Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)

Private Declare Function Beep Lib "kernel32" (ByVal dwFreq As Long, ByVal dwDuration As Long) As Long

Public Enum OpDevice

PCSpeaker

SoundCard

End Enum

Public Sub SendMorse(MorseCode As String)

Select Case OutputThrough

Case "Speaker"

modMorseCode.PlayMorse MorseCode, (ToneMaxSpeed - ToneSpeed),  
ToneFrequency, PCSpeaker

Case "SoundCard"

modMorseCode.PlayMorse MorseCode, (ToneMaxSpeed - ToneSpeed),  
ToneFrequency, SoundCard

End Select

End Sub

Public Sub PlayMorse(aCode As String, aSpeed As Integer, aFreq As Integer, aDevice  
As OpDevice)

Dim char As String \* 1

If Trim(aCode) = "" Then aCode = " "

If Len(aCode) = 0 Then aCode = " "

```

Do While (Len(aCode) > 0)
If MorsePause = 0 Then
    char = Left(aCode, 1)
    aCode = Right(aCode, Len(aCode) - 1)
    DoEvents
    Sleep (aSpeed)
    Select Case char
    Case " "
        Sleep (3 * aSpeed)
    Case "."
        If aDevice = PCSpeaker Then
            Beep aFreq, aSpeed
        Else
            dBEEP aFreq, aSpeed, 100
        End If
    Case "-"
        If aDevice = PCSpeaker Then
            Beep aFreq, 3 * aSpeed
        Else
            dBEEP aFreq, 3 * aSpeed, 100
        End If
    Case "/"
        Sleep (7 * aSpeed)

    End Select
End If

If (MorsePause = 2) Then
    MorsePause = 0
    Exit Sub
End If

```

```
DoEvents
DoEvents
DoEvents
DoEvents
Loop
End Sub
```

```
Public Function EncodeToMorse(TextToEncode As String) As String
Dim X As Integer
Dim Y As Integer
Dim char As String
Dim EncodedMorse As String
If Len(TextToEncode) > 0 Then
    For X = 0 To Len(TextToEncode) - 1
        char = Left(TextToEncode, 1)
        TextToEncode = Right(TextToEncode, Len(TextToEncode) - 1)
        EncodedMorse = EncodedMorse & " " & EncodeCharachter(char)
    Next
    EncodeToMorse = EncodedMorse
Else
    EncodeToMorse = ""
End If
End Function
```

```
Public Function EncodeLetter(TextToEncode As String) As String
```

```
EncodeLetter = EncodeCharachter(TextToEncode)
```

```
End Function
```

```
Public Function DecodeToEnglish(CodeToDecode As String) As String
```

```
On Error Resume Next
```

```

Dim X As Integer
Dim Y As Integer
Dim char As String
Dim DecodedEnglish As String
CodeToDecode = CodeToDecode & " "
If Len(CodeToDecode) > 1 Then
    For X = 0 To Len(CodeToDecode) - 1
        char = char & Left(CodeToDecode, 1)
        If Len(CodeToDecode) > 0 Then
            CodeToDecode = Right(CodeToDecode, Len(CodeToDecode) - 1)
        End If
        If Left(CodeToDecode, 1) = " " Then
            DecodedEnglish = DecodedEnglish & DecodeCharachter(char)
            CodeToDecode = Right(CodeToDecode, Len(CodeToDecode) - 1)
            char = ""
        End If
    Next
    DecodeToEnglish = DecodedEnglish
Else
    DecodeToEnglish = ""
End If
End Function

```

```

Private Function EncodeCharachter(aCharachter As String) As String
aCharachter = LCase(aCharachter)
Select Case aCharachter
    Case " "
        EncodeCharachter = "/"
    Case "a"
        EncodeCharachter = "-."

```

Case "b"  
    EncodeCharachter = "..."  
Case "c"  
    EncodeCharachter = "-.-."  
Case "d"  
    EncodeCharachter = "-.."  
Case "e"  
    EncodeCharachter = "."  
Case "f"  
    EncodeCharachter = "..-."  
Case "g"  
    EncodeCharachter = "--."  
Case "h"  
    EncodeCharachter = "..."  
Case "i"  
    EncodeCharachter = ".."  
Case "j"  
    EncodeCharachter = ".---"  
Case "k"  
    EncodeCharachter = "-.-"  
Case "l"  
    EncodeCharachter = ".-.."  
Case "m"  
    EncodeCharachter = "--"  
Case "n"  
    EncodeCharachter = "-."  
Case "o"  
    EncodeCharachter = "---"  
Case "p"  
    EncodeCharachter = "-.-."  
Case "q"

EncodeCharachter = "--.-"  
Case "r"  
EncodeCharachter = ".-."  
Case "s"  
EncodeCharachter = "..."  
Case "t"  
EncodeCharachter = "-"  
Case "u"  
EncodeCharachter = "..-"  
Case "v"  
EncodeCharachter = "...-"  
Case "w"  
EncodeCharachter = "--"  
Case "x"  
EncodeCharachter = "-..-"  
Case "y"  
EncodeCharachter = "-.-"  
Case "z"  
EncodeCharachter = "---"  
Case "1"  
EncodeCharachter = ".----"  
Case "2"  
EncodeCharachter = "..---"  
Case "3"  
EncodeCharachter = "...--"  
Case "4"  
EncodeCharachter = "....-"  
Case "5"  
EncodeCharachter = "....."  
Case "6"  
EncodeCharachter = "-...."



Case "7"

EncodeCharachter = "---..."

Case "8"

EncodeCharachter = "---.."

Case "9"

EncodeCharachter = "----."

Case "0"

EncodeCharachter = "-----"

Case "."

EncodeCharachter = "-.-.-"

Case "?"

EncodeCharachter = "..-.."

Case ","

EncodeCharachter = "---.-"

Case ""

EncodeCharachter = ".----."

Case ":"

EncodeCharachter = "---..."

Case ";"

EncodeCharachter = "-.-.-"

Case "-"

EncodeCharachter = "-...."

Case "/"

EncodeCharachter = "-.-."

Case "("

EncodeCharachter = "-.-.-"

Case ")"

EncodeCharachter = "-.-.-"

```
Case "["
    EncodeCharachter = "-.-.-"
```

```
Case "]"
    EncodeCharachter = "-.-.-"
```

```
Case Chr(34)
    EncodeCharachter = ".-.-."
```

```
Case "$"
    EncodeCharachter = "...-.-"
```

```
End Select
```

```
End Function
```

```
Private Function DecodeCharachter(aCharachter As String) As String
```

```
    aCharachter = LCase(aCharachter)
```

```
    Select Case aCharachter
```

```
        Case "/"
            DecodeCharachter = " "
```

```
        Case "-."
            DecodeCharachter = "a"
```

```
        Case "-..."
            DecodeCharachter = "b"
```

```
        Case "-.-."
            DecodeCharachter = "c"
```

```
        Case "-.."
            DecodeCharachter = "d"
```

```
        Case "."
            DecodeCharachter = "e"
```

```
        Case "..-"
            DecodeCharachter = "f"
```

```
        Case "--."
            DecodeCharachter = "g"
```

DecodeCharachter = "g"  
Case "..."  
DecodeCharachter = "h"  
Case ".."  
DecodeCharachter = "i"  
Case ".---"  
DecodeCharachter = "j"  
Case "-.-"  
DecodeCharachter = "k"  
Case ".-." "  
DecodeCharachter = "l"  
Case "--"  
DecodeCharachter = "m"  
Case "-." "  
DecodeCharachter = "n"  
Case "---"  
DecodeCharachter = "o"  
Case ".--." "  
DecodeCharachter = "p"  
Case "--.-"  
DecodeCharachter = "q"  
Case "-." "  
DecodeCharachter = "r"  
Case "..."  
DecodeCharachter = "s"  
Case "-"  
DecodeCharachter = "t"  
Case ".-"  
DecodeCharachter = "u"  
Case "...-"  
DecodeCharachter = "v"

Case ".--"  
    DecodeCharachter = "w"  
Case "-..-"  
    DecodeCharachter = "x"  
Case "-.-"  
    DecodeCharachter = "y"  
Case "--.."  
    DecodeCharachter = "z"  
Case ".----"  
    DecodeCharachter = "1"  
Case "..----"  
    DecodeCharachter = "2"  
Case "...--"  
    DecodeCharachter = "3"  
Case "....-"  
    DecodeCharachter = "4"  
Case "....."  
    DecodeCharachter = "5"  
Case "-...."  
    DecodeCharachter = "6"  
Case "--..."  
    DecodeCharachter = "7"  
Case "---.."  
    DecodeCharachter = "8"  
Case "----."  
    DecodeCharachter = "9"  
Case "-----"  
    DecodeCharachter = "0"  
Case ".-.-"  
    DecodeCharachter = "."  
Case "..-.."

```
    DecodeCharachter = "?"  
Case "--.--"  
    DecodeCharachter = ","  
Case ".----."  
    DecodeCharachter = ""  
  
Case "---..."  
    DecodeCharachter = ":"  
Case "_._._."  
    DecodeCharachter = ";"  
Case "-...."  
    DecodeCharachter = "-"  
Case "-.-."  
    DecodeCharachter = "/"  
Case "-.-.-"  
    DecodeCharachter = "("  
Case ".-.-."  
    DecodeCharachter = Chr(34)  
Case "...-.-"  
    DecodeCharachter = "$"
```

End Select

End Function

## OSILATOR

Option Explicit

Private Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)

Const nSamples = 44100

Const nBasicBufferSize = 4096

Const pi = 3.14159265358979

Dim DX7 As New DirectX7, Ds As DirectSound, DSB As DirectSoundBuffer

Dim PCM As WAVEFORMATEX, DSBD As DSBUFFERDESC

Dim nFreq&, nMod!, nModDir%

Public Sub InitializeBeep(hWnd As Long)

    nMod = 1

    Set Ds = DX7.DirectSoundCreate(vbNullString)

    Ds.SetCooperativeLevel hWnd, DSSCL\_NORMAL

    PCM.nFormatTag = WAVE\_FORMAT\_PCM

    PCM.nChannels = 1

    PCM.lSamplesPerSec = nSamples

    PCM.nBitsPerSample = 8

    PCM.nBlockAlign = 1

    PCM.lAvgBytesPerSec = PCM.lSamplesPerSec \* PCM.nBlockAlign

    DSBD.lFlags = DSBCAPS\_STATIC

End Sub

Public Sub dBEEP(aFrequency As Integer, aDuration As Integer, Optional aVolume As Integer)

    If aVolume = 0 Then aVolume = 100

    If aVolume = -1 Then aVolume = 0

    nFreq = 1 + aFrequency \* 2.756125! \* Log(1 + aFrequency / 1000) / Log(2)

    SinBuffer nFreq, 1, 0

```

Sleep aDuration
SinBuffer nFreq, 0, 0
DoEvents
End Sub

Private Sub SinBuffer(ByVal nFrequency&, ByVal nVolume!, Optional ByVal bSquare
As Boolean)
    Dim lpBuffer() As Byte, I&, C!, nBuffer&
    C = nSamples / nFrequency
    nBuffer = (nBasicBufferSize \ C) * C
    If nBuffer = 0 Then nBuffer = C
    ReDim lpBuffer(nBuffer - 1)
    For I = 0 To nBuffer - 1
        C = Sin(I * 2 * pi / nSamples * nFrequency)
        If bSquare Then
            C = Sgn(C)
            If C = 0 Then C = 1
        End If
        lpBuffer(I) = (C * nMod * nVolume + 1) * 127.5!
    Next
    If DSBD.lBufferBytes <> nBuffer Then
        DSBD.lBufferBytes = nBuffer
        Set DSB = Ds.CreateSoundBuffer(DSBD, PCM)
    End If

    DSB.WriteBuffer 0, 0, lpBuffer(0), DSBLOCK_ENTIREBUFFER
    DSB.Play DSBPLAY_LOOPING
End Sub

```

## PLAY WAVE

Option Explicit

Dim Dx As New DirectX7

Dim Ds As DirectSound

Dim DsBuffer As DirectSoundBuffer

Dim DsDesc As DSBUFFERDESC

Dim DsWave As WAVEFORMATEX

Public Sub InitialiseWave(hWnd As Long)

Set Ds = Dx.DirectSoundCreate("")

If Err.Number <> 0 Then

    MsgBox "Unable to Continue, Error creating Directsound object."

    Exit Sub

End If

Ds.SetCooperativeLevel hWnd, DSSCL\_NORMAL

DsDesc.lFlags = DSBCAPS\_CTRLFREQUENCY Or DSBCAPS\_CTRLPAN Or  
DSBCAPS\_CTRLVOLUME Or DSBCAPS\_STATIC

DsWave.nFormatTag = WAVE\_FORMAT\_PCM

DsWave.nChannels = 2 '1= Mono, 2 = Stereo

DsWave.lSamplesPerSec = 22050

DsWave.nBitsPerSample = 16 '16 =16bit, 8=8bit

DsWave.nBlockAlign = DsWave.nBitsPerSample / 8 \* DsWave.nChannels

DsWave.lAvgBytesPerSec = DsWave.lSamplesPerSec \* DsWave.nBlockAlign

End Sub

Sub StopSound()

DsBuffer.Stop

DsBuffer.SetCurrentPosition 0

End Sub



```
Public Function Get_WavePath(ThisChar As String) As String
```

```
Dim WaveDir As String
```

```
ThisChar = UCase(ThisChar)
```

```
WaveDir = "/Sounds/Punctuation/"
```

```
Select Case ThisChar
```

```
Case "?"
```

```
    Get_WavePath = App.Path & WaveDir & "Query.wav"
```

```
    Exit Function
```

```
Case "."
```

```
    Get_WavePath = App.Path & WaveDir & "Full Stop.wav"
```

```
    Exit Function
```

```
Case Chr(34)
```

```
    Get_WavePath = App.Path & WaveDir & "Quote.wav"
```

```
    Exit Function
```

```
Case ","
```

```
    Get_WavePath = App.Path & WaveDir & "Comma.wav"
```

```
    Exit Function
```

```
Case ":"
```

```
    Get_WavePath = App.Path & WaveDir & "Colon.wav"
```

```
    Exit Function
```

```
Case ";"
```

```
    Get_WavePath = App.Path & WaveDir & "Semicolon.wav"
```

```
    Exit Function
```

```
Case "$"
```

```
    Get_WavePath = App.Path & WaveDir & "Dollar sign.wav"
```

```
    Exit Function
```

```
Case "'"
```

```
    Get_WavePath = App.Path & WaveDir & "Apostrophe.wav"
```

```
Exit Function
Case "/"
    Get_WavePath = App.Path & WaveDir & "Fraction Bar.wav"
Exit Function
Case "-"
    Get_WavePath = App.Path & WaveDir & "Hyphen.wav"
Exit Function
Case "("
    Get_WavePath = App.Path & WaveDir & "Parenthesis.wav"
Exit Function
Case ")"
    Get_WavePath = App.Path & WaveDir & "Parenthesis.wav"
Exit Function
End Select
```

```
WaveDir = "/Sounds/AlphaNumeric/"
If (frmTrainer.ComboVoice.ListIndex = 0) Then
    Get_WavePath = App.Path & WaveDir & ThisChar & ".wav"
    Exit Function
End If
```

```
WaveDir = "/Sounds/AlphaNumeric/"
If (IsNumeric(ThisChar) = True) Then
    Get_WavePath = App.Path & WaveDir & ThisChar & ".wav"
    Exit Function
End If
```

```
Done:
```

End Function

Public Sub PlayCharacter(ByVal WavePath As String)

Set DsBuffer = Ds.CreateSoundBufferFromFile(WavePath, DsDesc, DsWave)

DsBuffer.Play DSBPLAY\_DEFAULT

End Sub

Public Function PlayWave(WaveName As String)

Dim WavePath As String

WavePath = App.Path & "/Sounds/Program/" & WaveName

Set DsBuffer = Ds.CreateSoundBufferFromFile(WavePath, DsDesc, DsWave)

DsBuffer.Play DSBPLAY\_DEFAULT

End Function

## **RANDOM QSO**

Dim License As String  
Dim YearsLicensed As Integer  
Dim TheZone As Integer  
Dim Callsign As String  
Dim State As String  
Dim StateAbrev As String  
Dim City As String  
Dim Gender As String  
Dim Age As Integer  
Dim FirstName As String  
Dim Occupation As String  
Dim Temperature As Integer  
Dim CurrentMonth As Integer  
Dim ReceivingPartyCallsign As String  
Dim ReceivingPartyFirstName As String

Public Function GetQSO() As String  
Dim var As String  
Dim TempDate As String  
Dim upperbound As Integer  
Dim lowerbound As Integer

' <http://zs6ez.za.org/tutorial/cw-qso.htm>

Randomize

' ===== Main Logic =====  
TempDate = Date ' 5/12/2003  
CurrentMonth = Mid(TempDate, 1, InStr(1, TempDate, "/") - 1)

```

GetReceivingPartyInfo          ' Name and Callsign of receiving party

' Transmitting party
GetBasics                      ' Zone (Call District), Age, License Type, State,
Callsign
GetCity                        ' City of sender
GetNameAndGender              ' Name and Gender of sender
GetOccupation                 ' Occupation of sender
GetFamily                     ' Wife, Husband, Kids

' ===== Weather =====
upperbound = 135
lowerbound = -10
Temperature = Int((upperbound - lowerbound + 1) * Rnd + lowerbound)
If (Temperature > 90) Then Var = "Hot,Sweltering,tropical,scorching hot,sizzling hot"
If (Temperature < 90 And Temperature > 50) Then Var = "Mild,Rainy,Foggy,Windy"

var = "Cool, Humid,Clear,Cold,Rainy,Mild,Rainy,Foggy,Windy,Hot,Snow"
Weather = GetRandom(var, ",")

var =
"WINDY,CALM,HOT,RAINY,WARM,BREEZY,WINDY,MILD,WET,DRY,COLD"
WeatherConditions = GetRandom(var, ",")

var =
"LUNCH,BREAKFAST,WORK,SCHOOL,BED,STORE,WORK,DINNER,BOWLING,
GOLF,CHOW"
ReasonQRT = GetRandom(var, ",")

```

```

' ===== Radio,Antenna,Power,Reception
=====
var = "30,21,50,25,20,100,150,100,5,100,75"
AntennaHeight = GetRandom(var, ",")

var = "VERTICAL,GROUND PLANE,INVERTED VEE,TRAP DOUBLET,DIPOLE,2
ELE YAGI,QUAD,5 ELE BEAM,DIPOLE,RHOMBIC,CUBICAL QUAD"
AntennaType = GetRandom(var, ",")

var = "250,750,100,450,180,500,75,100,3,1000,1000"
power = GetRandom(var, ",")

var = "569,468,569,569,559,579,599,589,599,559,598"
RST = GetRandom(var, ",")

var = "R4,SB202,HQ100,SB301,DRAKE 2C,75S3,R100,DRAKE
2B,HQ101,75A4,75A4"
ReceiverBrand = GetRandom(var, ",")

3880 "TUBES-NT$
var = "11,10,21,11,3,16,8,8,17,14,17"
Tubes = GetRandom(var, ",")

' ===== Make QSO =====
QSO = "CQ CQ CQ CQ VVV VVV VVV "
QSO = QSO & Callsign & " DE " + ReceivingPartyCallsign & " RRR "
QSO = QSO & "AND TNX " & ReceivingPartyFirstName + ", UR RST " & RST & ",
QTH HR IS " + City & "," & State + ", AND NAME IS " + FirstName + ". "

```

QSO = QSO & "MY RIG RUNS " & power & " WATTS INTO A " & AntennaType & " UP " & AntennaHeight & " FEET. "

QSO = QSO & "MY RECEIVER IS " & ReceiverBrand & " WITH " & Tubes & " TUBES. MY AGE IS " & Age

QSO = QSO & " AND LICENSED " & YearsLicensed & " YEARS AS " + License + " CLASS. "

QSO = QSO & "THE WEATHER HERE IS " & Weather & " AND " + WeatherConditions + " AND TEMPERATURE IS " & Temperature & ". "

QSO = QSO & "MY OCCUPATION IS " & Occupation & ". I MUST QRT SOON FOR " & ReasonQRT & ". HOW COPY? "

QSO = QSO & Callsign & " DE " & ReceivingPartyCallsign + " AR"

GetQSO = QSO

' ===== NOTES: Good Info =====

'Following are some examples, along with the correct answer:

'What is the callsign of the station being called? (WA7VXB/8)

'What is the callsign of the calling station? (N3YZW)

'What is the name of the operator being called? (Roger)

'What is the name of the calling operator? (Julles)

'What is the calling operators job? (Keypunch Operator)

'What make and model radio is he using? (Yaesu I01B)

'What kind of antenna is he using? (2 Element Quad)

'What kind of feedline is he using? (50 Ohm Coaxial Cable)

'How many children does he have? (2)

'What is the temperature at his location? (74 Degrees)

'V V V WA7VXB/8 de N3YZW BT RRR Thanks Roger for the nice report.

'Your report is RST 569 ? 569 here in Gambrills, MD.

'My name is Julles and I work as a Keypunch Operator.

'My age is 30 and I am married and have 2 children.

'The rig is a Yaesu 101B putting out 75 watts to a 2 element Quad antenna.

'I feed the antenna with 50 ohm coaxial cable.

'The weather here is warm and breezy, temperature is 74 degrees.

'So how copy? AR WA7VXB/8 de N3YZW SK

'Example 1:

'CQ de ZS6EZ CQ de ZS6EZ K

'ZS6EZ de ZS4TX ZS4TX [KN]

'ZS4TX DE ZS6EZ GM = TU fer cl = Name Chris QTH Pretoria = RST 599 = Hw cpi?

ZS4TX de ZS6EZ [KN]

'ZS6EZ DE ZS4TX TU Chris = RST 599 plus = Name Bernie QTH Bloemfontein = Nice meet u fer 1st

'time = Ant 3 el Yagi up 30 m = Pwr 100 W = Wx hr fb temp 30 C = ZS6EZ de ZS4TX [KN]

'ZS4TX de ZS6EZ Name agn? BK

'BK Bernie Bernie BK

'BK Thanks Bernie = Sri had QRM = Hr 2 el up 22 m es 1TT W = Wish I had ur 3 el = hr no space

'fer big ants = Wx hr also fine temp 26 C = hv bn ham 1 yr, still getting used to

'cw = condx rotten past few days = hv hrd vy few stns on 40 m = only sum W6 on LP b4

'sunset = hvnt had much luck wrking them tho = ok must run hv to do sum chores arnd

'house = 73 cul bernie [AR] ZS4TX de ZS6EZ [SK] CL

'ZS6EZ de ZS4TX OK Chris = Yes 3 el lot of fun = Wrk W6 on LP all the time =

'Condx rotten hr too but wrked FO stn on SP at sunset = OK 73 tnx QSO es QSL via buro = ZS6EZ de ZS4TX [SK]

'Example 2 (a directional CQ):

'CQ Oc de ZS6EZ CQ Oc de ZS6EZ ZS6EZ Oc [KN]

'de IK1XYZ

'CQ Oc de ZS6EZ CQ Oc de ZS6EZ ZS6EZ Oc [KN]



'de IK1XYZ

'IK1XYZ pse qrt ur not in Oc = CQ Oc de ZS6EZ CQ Oc de ZS6EZ ZS6EZ Oc [KN]

' Example 3 (a complete contest-style QSO):

'CQ ZS4TX ZS4TX TEST

'ZS6EZ

'ZS6EZ 5NN13N

'5 NNTT1

'TU ZS4TX TEST

' In contests, ending signals, the "DE" and other niceties are generally dispensed with.

' Notice how the example QSO includes no ending signals, and no instances of the "DE" signal.

'Here is a suggested first QSO:

'QRL?

'CQ de ZS6XYZ ZS6XYZ K

'ZS--- de ZS6XYZ GM = Name Bill QTH Pretoria = RST 599 = Hr vy nervous cuz my  
1st QSO on CW

' HI = ZS--- de ZS6XYZ [KN]

'ZS--- de ZS6XYZ OK --- = Cpied all OK = Hr dipole es 100 W = 73 tu QSO

' es pse QSL via buro = ZS--- de ZS6XYZ [SK]

End Function

Private Sub GetNameAndGender()           ' Sender

Dim upperbound As Integer

Dim lowerbound As Integer

Dim TempNum As Integer

Dim var As String

```

' Ratio of men to women in Ham Radio (5-1 ?)
upperbound = 5
lowerbound = 1
TempNum = Int((upperbound - lowerbound + 1) * Rnd + lowerbound)

' Choose gender on above ratio
If (TempNum = upperbound) Then
    Gender = "Female"
Else
    Gender = "Male"
End If

FirstName = GetPersonsFirstName(Gender)

End Sub

Private Function GetRandom(DataStr As String, Seperator As String) As String

Dim X As Integer
Dim Num As Integer
Dim NamesArray As Variant
Dim lowerbound As Integer
Dim upperbound As Integer

NamesArray = Split(DataStr, Seperator)

lowerbound = LBound(NamesArray)
upperbound = UBound(NamesArray)

X = Int((upperbound - lowerbound + 1) * Rnd + lowerbound)

```

GetRandom = NamesArray(X)

End Function

Private Sub GetBasics()           ' Sender - Zone (Call District), Age, License Type, State,  
Callsign

Dim TempStateAndAbrev As Variant

Dim TempZoneText As String

Dim Zone(10) As String

' Call Districts

Zone(0) = "North Dakota-ND, South Dakota-SD, Nebraska-NE, Colorado-CO, Kansas-  
KS, Missouri-MO, Iowa-IA, Minnesota-MN"

Zone(1) = "Connecticut-CT, Rhode Island-RI, Massachusetts-MA, New Hampshire-  
NH, Vermont-VT, Maine-ME"

Zone(2) = "New York-NY, New Jersey-NJ"

Zone(3) = "Pennsylvania-PA, Delaware-DE, Maryland-MD"

Zone(4) = "Alabama-AL, Georgia-GA, Tennessee-TN, Kentucky-KY, Virginia-VA, North  
Carolina-NC, South Carolina-SC, Florida-FL"

Zone(5) = "Texas-TX, New Mexico-NM, Oklahoma-OK, Arkansas-AR, Louisiana-  
LA, Mississippi-MS"

Zone(6) = "California-CA"

Zone(7) = "Washington-WA, Oregon-OR, Idaho-ID, Nevada-NV, Utah-UT, Arizona-  
AZ, Montana-MT, Wyoming-WY"

Zone(8) = "Michigan-MI, Ohio-OH, West Virginia-WV"

Zone(9) = "Wisconsin-WI, Illinois-IL, Indiana-IN"

' Outliers - Alaska -Zone 7 (Prefix AL7, KL7, NL7) , Hawaii-Zone 6 (Prefix  
AH6, NH6, WH6)

```

TheZone = Int((9 - 0 + 1) * Rnd + 0)      ' Global - What Call district did sender get
his license
Age = Int((98 - 10 + 1) * Rnd + 10)     ' Global - Choose an age for this sender

' Choose appropriate license for age
Select Case Age
Case (Age > 9 And Age < 15)
    License = GetRandom("Novice,Technician", ",")
Case (Age > 15 And Age < 20)
    License = GetRandom("Novice,Technician,General", ",")
Case (Age > 20 And Age < 25)
    License = GetRandom("Novice,Technician,General,Advanced", ",")
Case (Age > 25)
    License = GetRandom("Novice,Technician,General,Advanced,Extra Class", ",")
End Select

Select Case License
Case "Novice"
Case "Technician"
Case "General"
Case "Advanced"
Case "Extra Class"
End Select

YearsLicensed = Int(((Age / 3) - 1 + 1) * Rnd + 1)

Callsign = GetCallsign(License, TheZone)

TempZoneText = GetRandom(Zone(TheZone), ",") ' Get list of states and their
abbreviations and choose one

```

```

TempStateAndAbrev = Split(TempZoneText, "-")      ' Split state name and
abreviation
State = TempStateAndAbrev(0)                    ' Global, set state
StateAbrev = TempStateAndAbrev(1)              ' Global, set state abreviation

End Sub

Private Function GetCallsign(TempLicense As String, TempZone As Integer) As String
' Sender OR Receiver
' Callsigns letters and numbers sequence
' Novice = 2L 1# 3L
' Tech= 1L 1# 3L
' General = 1L 1# 3L
' Advanced = 2L 1# 2L
' Extra Class = 1L 1# 2L, 2L 1# 1L

' US always start with A,N,K,W

Dim Firstletter As String
Dim Alphabet As String

Alphabet = "A B C D E F G H I J K L M N O P Q R S T U V W X Y Z"
Firstletter = GetRandom("A,N,K,W", ",")
TempLicense = GetRandom("Novice,Technician,General,Advanced,Extra Class", ",") '
Global
TempZone = Str(Int((9 - 0 + 1) * Rnd + 0))

Select Case TempLicense
Case "Novice"
    GetCallsign = Firstletter & GetRandom(Alphabet, " ") & Trim(Str(TempZone)) &
GetRandom(Alphabet, " ") & GetRandom(Alphabet, " ")

```

Case "Technician"

    GetCallsign = Firstletter & Trim(Str(TempZone)) & GetRandom(Alphabet, " ") &  
    GetRandom(Alphabet, " ") & GetRandom(Alphabet, " ")

Case "General"

    GetCallsign = Firstletter & Trim(Str(TempZone)) & GetRandom(Alphabet, " ") &  
    GetRandom(Alphabet, " ") & GetRandom(Alphabet, " ")

Case "Advanced"

    GetCallsign = Firstletter & GetRandom(Alphabet, " ") & Trim(Str(TempZone)) &  
    GetRandom(Alphabet, " ") & GetRandom(Alphabet, " ")

Case "Extra Class"

    If (GetRandom("1,2", ",") = "1") Then

        GetCallsign = Firstletter & Trim(Str(TempZone)) & GetRandom(Alphabet, " ") &  
        GetRandom(Alphabet, " ")

    Else

        GetCallsign = Firstletter & GetRandom(Alphabet, " ") & Trim(Str(TempZone)) &  
        GetRandom(Alphabet, " ")

    End If

End Select

End Function

Private Sub GetCity() ' Sender

Dim ThisPath As String

Dim CityState As Variant

Dim CityList() As String

Dim Num As Integer

Dim upperbound As Integer

Dim lowerbound As Integer

```
' This routine is alot of trouble to go to when we are just trying to
' pick a city name for this state. But with 5000 city names the User
' can be sure not to see the same ones over and over.
' Variety is the spice of life!
```

```
Num = 0
```

```
ThisPath = App.Path & "\\Cities.txt"
```

```
Open ThisPath For Input As #3           ' Open cities.txt File for Input
```

```
Do While Not EOF(3)
```

```
    Line Input #3, TempStr
```

```
    If (TempStr <> "") Then           ' Make sure we have something
```

```
        CityState = Split(TempStr, ",")      ' Split on comma (Houston, Tx)
```

```
        If (Trim(CityState(1)) = StateAbrev) Then      ' If this state matches ours
```

```
            Num = Num + 1                ' increment counter
```

```
            ReDim Preserve CityList(Num)          ' make array one larger
```

```
            CityList(Num - 1) = Trim(CityState(0))    ' Put this city in our list for our state
```

```
        End If
```

```
    End If
```

```
Loop
```

```
Close #3
```

```
If (Num = 0) Then City = "Pleasant Valley ": Exit Sub ' Something went wrong, give
generic name and leave
```

```
lowerbound = LBound(CityList)
```

```
upperbound = UBound(CityList)
```

```
X = Int((upperbound - lowerbound + 1) * Rnd + lowerbound)
```

```
City = CityList(X)
```

```
End Sub
```

```
Private Sub GetOccupation() ' Sender
```

```
' Possibilities based on Age and Gender
```

```
' I'm too lazy to ad gender categories (secretary,librarian,ect...)
```

```
' Really needs some work!
```

```
Dim JobTypeList As String
```

```
Dim JobType As String
```

```
Dim var As String
```

```
If (Age < 17) Then ' Children in the US must go to school till 17
```

```
    Occupation = "Student"
```

```
    Exit Sub
```

```
End If
```

```
If (Age > 67) Then Occupation = "Retired": Exit Sub
```

```
JobTypeList = "Science,Engineering,Business,Medical,Artist,Trade,Other"
```

```
JobType = GetRandom(JobTypeList, ",")
```

```
Select Case JobType
```

```
Case "Science"
```

```
    var =
```

```
"Chemist,Geologist,Geophysicist,Anatomist,Physiologist,Botanist,Zoologist,Biochemist,
```

```
Marine Biologist,Biologist"
```

```
    var = var & ",Physicist,Meteorologist,Metallurgist,Materials Scientist,Psychologist"
```

```
    Occupation = GetRandom(var, ",")
```



Case "Engineering"

var = "Architect, Surveyor, Cartographer, Civil Engineer, Electrical Engineer, Electronics Engineer, Mechanical Engineer"

var = var & ", Mining Engineer, Materials Engineer, Aeronautical Engineer, Industrial Engineer"

Occupation = GetRandom(var, ",")

Case "Professional"

var = "Policeman, Fireman, Safety Inspector, Librarian, Doctor, Nurse, Physician, Accountant, Teacher"

var = var & ""

Occupation = GetRandom(var, ",")

Case "Artist"

var = "Musician, Painter, Sculptor, Singer, Magician, Choreographer, Dancer, Actor, Film Director"

var = var & ""

Occupation = GetRandom(var, ",")

Case "Other"

var = "Guard, Teller, Trucker, Bus Driver, Cabbie, Cab Driver, Store Clerk, Clerk, Cashier, Waiter, Orderly"

var = var & ", Construction Foreman, Key punch Operator"

Occupation = GetRandom(var, ",")

Case "Trade"

var = "Machinists, Metal Fitter, Toolmaker, Locksmith, Gunsmith, Engraver"

var = var & ", Metal Fabricator, Welder, Blacksmith, Electroplater"

var = var & ", Carpenter, Bricklayer, Floor Tiler, Wall Tiler, Stonemason, House Painter, Signwriter, Insulation Installer"

```

var = var & ",Plumberm,Builder,Cabinetmaker,Picture Framer,Wood Turner"
var = var & ",Butcher,Baker,Cook,Confectioner,Chef,Pastry Cook"
var = var & ",Gardener,Grounds Keeper,Lanscaper,Tree Surgeon"
var = var & ",Screen Printer,Print Binder,Print Finisher,Printing Machinist"
var = var & ",Electrician,Lift Mechanic"
var = var & ",Car Machanic,Car Painter,Car Body Repair,Automotive Electrician,Car
Upholsterer,Mechanic"
var = var & ",Tailor,Dressmaker,Apparel Cutter,Furniture
Upholsterer,Shoemaker,Upholsterer"
var = var & ",Hairdresser,Shipwright,Glass Blower,Jeweller,Gem Cutter,Piano Tuner"
Occupation = GetRandom(var, ",")

```

End Select

End Sub

```

Private Function GetPersonsFirstName(TempGender As String) As String ' Sender OR
Receiver

```

```

Dim var As String

```

```

If (TempGender = "Male") Then

```

```

var = var &
"Aaron,Abel,Abraham,Adam,Adrian,Alan,Alden,Alec,Alex,Allen,Alonzo,Andre,Andrew
,Angelo,Antonio"

```

```

var = var &
",Anthony,Arnold,Arthur,Austin,Barry,Benjamin,Ben,Benson,Blake,Brad,Bradley,Brand
on,Brendon,Brett"

```

```

var = var &
",Brian,Bruce,Bryan,Byron,Caleb,Calvin,Cameron,Carlos,Carson,Carter,Carver,Cedric,C
had,Chandler"

```

var = var &  
",Charles,Charlton,Christian,Chris,Clark,Clayton,Clinton,Cody,Colby,Cole,Colin,Corey,  
Cory,Craig"  
var = var &  
",Dale,Dalton,Damon,Daniel,Darnell,Darrell,Darren,David,Davis,Dean,Dennis,Derek,De  
vin,Dillon,Dirk"  
var = var &  
",Donald,Donovan,Douglas,Drake,Drew,Dustin,Dwight,Dylan,Edmund,Edward,Elliot,E  
mmett,Eric,Erwin,Ethan"  
var = var &  
",Evan,Everett,Fabian,Floyd,Forrest,Frank,Frederick,Fred,Garrett,Garrick,Gary,Gavin,Ge  
offery"  
var = var &  
",George,Gerald,Gilbert,Gordon,Grady,Granger,Grant,Gregory,Greg,Griffen,Griffith,Ha  
dley,Haden,Harold"  
var = var &  
",Harrison,Harry,Hartley,Hayes,Hayes,Heath,Henry,Hogan,Holden,Howard,Hunter"  
var = var &  
",Ian,Issac,Isaiah,Ivan,Jack,Jackson,Jacob,James,Jarrett,Jarvis,Jason,Jay,Jefferey,Jeff"  
var = var &  
",Jeremy,Jerome,Jesse,John,Jonah,Jonathan,Jordan,Joseph,Joshua,Josh,Juan,Justin,Kale,  
Kareem"  
var = var &  
",Karl,Keenan,Keith,Kelvin,Kendall,Kendrick,Kenneth,Ken,Kevin,Kirk,Kristopher,Kris,  
Kurt,Kyle"  
var = var &  
",Lance,Lawrence,Lee,Leon,Leonard,Levi,Lewis,Lincoln,Lloyd,Logan,Luis,Lucas,Luke,  
Lyndon"  
var = var &  
",Manuel,Marcus,Mario,Mark,Marlon,Marshall,Martin,Mason,Matt,Matthew,Maurice,M  
ax,Maxwell,Michael"

```
var = var &
",Mike,Miles,Mitchell,Montgomery,Monty,Morgan,Nathan,Neil,Nelson,Nicholas,Nick,Nolan,Oliver,Oscar,Owen"
var = var &
",Palmer,Parker,Patrick,Paul,Peter,Peyton,Phillip,Preston,Quentin,Quincy,Quinn,Ramon,Ramsay"
var = var &
",Randall,Randolph,Randy,Raphael,Ray,Raymond,Reed,Regan,Reginald,Reuben,Rhett,Richard,Riley,Robert"
var = var &
",Roderick,Rodney,Roger,Roland,Ronald,Ross,Roy,Russ,Russell,Ryan,Samson,Samuel,Saul,Sawyer,Scott"
var = var &
",Sean,Sebastian,Seth,Shane,Shawn,Sidney,Simon,Solomon,Spencer,Stanley,Stephen,Steve,Stewart,Taylor"
var = var &
",Terrence,Terrill,Terry,Theodore,Timmy,Tim,Timothy,Toby,Todd,Tony,Travis,Trent,Trevor,Troy"
var = var &
",Tucker,Tyler,Van,Vance,Vaughn,Vernon,Victor,Vincent,Virgil,Wade,Wallace,Walter,Ward,Warren,Wayne"
var = var &
",Wesley,Weston,Wiley,William,Will,Winston,Woody,Wyatt,Zachary,Zach"
```

```
GetPersonsFirstName = GetRandom(var, ",")
Else
var =
"Amber,Amy,Andrea,Anna,April,Ashley,Audrey,Alice,Betty,Barbara,Barby,Becky,Betsy,Beverly,Brandy,Brenda"
```

var = var &  
",Bridget,Brooke,Candace,Carley,Carmela,Carol,Caroline,Casey,Cassy,Cathy,Charlene,  
Chrissy,Cindy"  
var = var &  
",Courtney,Crystal,Cynthia,Dana,Danielle,Darla,Dawn,Deborah,Debra,Debbie,Denise,Di  
ana,Diane"  
var = var &  
",Donna,Doreen,Dorothy,Drew,Elaine,Elise,Elissa,Elizabeth,Ellen,Emily,Erica,Estelle,E  
velyn"  
var = var &  
",Faith,Felicia,Francine,Gabrielle,Gina,Ginger,Gloria,Grace,Gracie,Gwen,Hailey,Hannah  
,Hazel"  
var = var &  
",Heather,Helen,Hillary,Holly,Hope,Ida,Irene,Isabel,Ivy,Jamie,Jan,Jane,Janet,Janice,Jean  
ine"  
var = var &  
",Jennifer,Jenny,Jessica,Jewel,Jill,Joanna,Josie,Joslyn,Joy,Joyce,Judith,Julia,Julie,June,Ju  
stine"  
var = var &  
",Kara,Karen,Karisa,Karla,Katie,Katrina,Kay,Kayla,Kaylee,Kelley,Kendra,Kim,Krista,K  
risti"  
var = var &  
",Lara,Laura,Laurel,Lauren,Leigh,Leslie,Lillian,Linda,Lindsey,Lisa,Liza,Loni,Lora,Lore  
en,Lucy"  
var = var &  
",Lydia,Lynn,Madeline,Mae,Mallory,Mandy,Marcia,Marcy,Margaret,Maria,Marie,Marie  
l,Marion"  
var = var &  
",Marilyn,Marisa,Marni,Marsha,Martha,Mary,Maureen,May,Megan,Melinda,Melissa,Me  
lody,Mercedes"

```

var = var &
",Mia,Michele,Mindy,Miranda,Mitzi,Molly,Monica,Myra,Nancy,Natalie,Natasha,Nicole,
Nina,Noreen"
var = var &
",Odelia,Olivia,Paige,Pamela,Pam,Pat,Patience,Patricia,Paula,Pearl,Priscilla,Quincy,Quin
n"
var = var &
",Rachel,Raquel,Reba,Rebecca,Regan,Regina,Renee,Rhonda,Rita,Roberta,Robin,Rosa,R
osalie,Rose"
var = var &
",Ruth,Ryann,Sabrina,Sally,Samantha,Sandra,Sarah,Shanna,Shannon,Shelly,Shirley,Son
dra,Sonya"
var = var &
",Sophia,Sophie,Stacy,Stella,Stephanie,Stephie,Susan,Suzanne,Sydney,Sylvia,Tabitha,Ta
nya"
var = var &
",Tatum,Teresa,Tessa,Tiffany,Tina,Tracy,Tricia,Trina,Trish,Valerie,Vanessa,Veronica,Vi
cki"
var = var &
",Victoria,Vivian,Wanda,Wendy,Whitney,Wilma,Winona,Wynn,Yolanda,Yvette,Zelda"

```

```

GetPersonsFirstName = GetRandom(var, ",")
End If
End Function

```

```

Private Sub GetReceivingPartyInfo() ' Receiver - Receiveing Party needs Callsign and
name

```

```

Dim RGender As String
Dim RLicense As String
Dim RZone As Integer

```

```
RGender = GetRandom("Male,Female", ",")  
RLicense = GetRandom("Novice,Technician,General,Advanced,Extra Class", ",")  
RZone = Int((9 - 0 + 1) * Rnd + 0)
```

```
ReceivingPartyCallsign = GetCallsign(RLicense, RZone)  
ReceivingPartyFirstName = GetPersonsFirstName(RGender)
```

```
End Sub
```

```
Private Sub GetFamily()
```

```
End Sub
```