

## Streamlining your code

### Chapter 9 - Adding some eye-candy

[StPendl](#) Oct 29, 2011

To make the resistor look more real we now add some rounded ends to it.

Code for rounded ends:

```
'Draw Body
#w.resistor "color 21 228 255;backcolor 21 228 255"
#w.resistor "place "; 50+CenterY; " "; CenterY;
";circlefilled "; CenterY
#w.resistor "place "; BoxWidth-50-CenterY; " "
; CenterY; ";circlefilled "; CenterY
#w.resistor "place "; 50+CenterY; " 0;boxfilled "
; BoxWidth-50-CenterY; " "; BoxHeight
```

The complete code now looks like this.

```
'Resistor Calculator.bas
'Author: salaion Yahoo! Group
'Date: 27.11.10
'
' List of Colors at http://en.wikipedia.org/wiki/List_of_colors
'
' 27.11.10 00:18:50 - Initial as posted

' 27.11.10 00:21:40 - added array for colors and reduced redundant code for color boxes

' 27.11.10 00:34:07 - replaced duplicate command strings by variables
' 27.11.10 02:22:16 - consolidated event handler
'
' always take the time for some sleep or you will make things worse ;-
)
'
' 27.11.10 10:56:24 - removed radio buttons
' 27.11.10 11:53:34 - used single graphics box for resistor
' 27.11.10 13:09:19 - now using the bare minimum of GUI controls
```

' 27.11.10 13:14:19 - now displaying a resistor with rounded ends

nomainwin

WindowWidth = 820:WindowHeight = 600

UpperLeftX=int( (DisplayWidth- WindowWidth) /2)

UpperLeftY=int( (DisplayHeight- WindowHeight) /2)

BackgroundColor\$ = "green"

' define variables to be remembered between calling the sub

GLOBAL Band1value, Band2value, Band3value, Band4value

GLOBAL ColorValue1\$, ColorValue2\$, ColorValue3\$, ColorValue4\$

' set initial band color to body color

ColorValue1\$ = "21 228 255"

ColorValue2\$ = ColorValue1\$

ColorValue3\$ = ColorValue1\$

ColorValue4\$ = ColorValue1\$

dim Colors\$(10,2), Tolerances\$(3,2)

[Colors]

DATA "Black", " 0 0 0"

DATA "Brown", "170 100 20"

DATA "Red", "255 0 0"

DATA "Orange", "255 180 0"

DATA "Yellow", "255 255 0"

DATA "Green", " 45 157 40"

DATA "Blue", " 0 0 255"

DATA "Violet", "170 0 180"

DATA "Gray", "127 127 127"

DATA "White", "255 255 255"

[Tolerances]

DATA "Gold", "212 175 55"

DATA "Silver", "200 200 250"

DATA "None", " 21 228 255"

'Fill the arrays

RESTORE [Colors]

FOR i = 1 to 10

    READ ColorName\$, ColorValue\$

    Colors\$(i,1) = ColorName\$

    Colors\$(i,2) = ColorValue\$

NEXT

```
RESTORE [Tolerances]

FOR i = 1 to 3
    READ ColorName$, ColorValue$
    Tolerances$(i,1) = ColorName$
    Tolerances$(i,2) = ColorValue$
NEXT

STATICTEXT #w.Ohm, "" , 500, 200, 300, 20
STATICTEXT #w.Tole, "" , 500, 230, 300, 20

STATICTEXT #w,Colors$( 1,1), 10, 42, 50, 20
STATICTEXT #w,Colors$( 2,1), 10, 82, 50, 20
STATICTEXT #w,Colors$( 3,1), 10, 122, 50, 20
STATICTEXT #w,Colors$( 4,1), 10, 162, 50, 20
STATICTEXT #w,Colors$( 5,1), 10, 202, 50, 20
STATICTEXT #w,Colors$( 6,1), 10, 242, 50, 20
STATICTEXT #w,Colors$( 7,1), 10, 282, 50, 20
STATICTEXT #w,Colors$( 8,1), 10, 322, 50, 20
STATICTEXT #w,Colors$( 9,1), 10, 362, 50, 20
STATICTEXT #w,Colors$(10,1), 10, 402, 50, 20

STATICTEXT #w,Tolerances$(1,1), 420, 42, 50, 20
STATICTEXT #w,Tolerances$(2,1), 420, 82, 50, 20
STATICTEXT #w,Tolerances$(3,1), 420, 122, 50, 20

STATICTEXT #w,"K=Kilo " , 470, 300,100, 20
STATICTEXT #w,"M=Mega " , 470, 330,100, 20
STATICTEXT #w,
"Light Blue is The Default Color of Resistance " , 470, 360,400, 20

'Band1
STATICTEXT #w, "First Digit", 70, 7, 80, 20
groupbox #w, "", 70, 20, 70,420
graphicbox #w.Band1 , 90, 40, 30,390
stylebits #w.Band1, 0,_WS_BORDER, 0,0

'Band2
STATICTEXT #w, "Second Digit", 150, 7, 90, 20
groupbox #w, "", 160, 20, 70,420
graphicbox #w.Band2 , 180, 40, 30,390
stylebits #w.Band2, 0,_WS_BORDER, 0,0

'Band3
STATICTEXT #w, "Multiplier", 250, 7, 80, 20
groupbox #w, "", 250, 20, 70,420
```

```
graphicbox #w.Band3 , 270, 40, 30,390
stylebits #w.Band3, 0,_WS_BORDER, 0,0

'Band4
STATICTEXT #w, "Tolerance", 340, 7, 80, 20
groupbox #w, "", 340, 20, 70,420
graphicbox #w.Band4 , 360, 40, 30,110
stylebits #w.Band4, 0,_WS_BORDER, 0,0

'Fram
graphicbox #w.title, 488,53,306,44
stylebits #w.title, 0,_WS_BORDER, 0,0

'General Body Resistance
graphicbox #w.resistor, 80,470,270,35
stylebits #w.resistor, 0,_WS_BORDER,0,0

open "Resistor Calculator" for window_nf as #w
#w "trapclose [quit]"
#w "font Times_New_Roman 13"

#w.title
"cls;down;color blue;backcolor yellow;size 15;place 0 0;boxfilled 306
44"
#w.title "font Times_New_Roman 16 bold;color red"
#w.title "place 13 28;\Resistor Color Code of 4 Bands"
#w.title "flush"

' create color fields
FOR Band = 1 to 4
    Handle$ = "#w.Band"; Band

    #Handle$ "cls;down;fill "; BackgroundColor$
    #Handle$ "when leftButtonUp MouseClick"

    FOR Color = 1 to 10
        if Band = 4 then
            if Color > 3 then exit for

            #Handle$ "backcolor "; Tolerances$(Color,2)
        else
            #Handle$ "backcolor "; Colors$(Color,2)
        end if

        #Handle$ "place 0 "; 40*(Color-1);
";boxfilled 30 "; 40*(Color-1)+30
```

```
    NEXT

    #Handle$ "flush"

    ' apply initial settings
    if Band = 4 then
        call MouseClick Handle$, 0, 95
    else
        call MouseClick Handle$, 0, 15
    end if
NEXT

[none]
    WAIT

[quit]
    close #w
    END

SUB MouseClick Handle$, PosX, PosY
    ' parse handle of calling control
    Band = val(Right$(Handle$, 1))

    ' get position of color
    ColorIndex = int(PosY/40)+1

    Select Case Band
        Case 1
            Band1value = (ColorIndex-1) * 10
            ColorValue1$ = Colors$(ColorIndex,2)

        Case 2
            Band2value = ColorIndex-1
            ColorValue2$ = Colors$(ColorIndex,2)

        Case 3
            Band3value = 10 ^ (ColorIndex-1)
            ColorValue3$ = Colors$(ColorIndex,2)

        Case 4
            Band4value = ColorIndex*5
            if Band4value = 15 then Band4value = 20
            ColorValue4$ = Tolerances$(ColorIndex,2)

        Case Else
            Exit Sub
    End Select
END SUB
```

End Select

'Draw Resistor

#w.resistor

"cls;down;home;posxy CenterX CenterY;fill "; BackgroundColor\$

BoxWidth = CenterX\*2

BoxHeight = CenterY\*2

'Draw Wire

#w.resistor "color 127 127 127;backcolor 127 127 127"

#w.resistor "place 0 "; CenterY-2; ";boxfilled "

; BoxWidth; " "; CenterY+2

'Draw Body

#w.resistor "color 21 228 255;backcolor 21 228 255"

#w.resistor "place "; 50+CenterY; " "; CenterY;

";circlefilled "; CenterY

#w.resistor "place "; BoxWidth-50-CenterY; " "

; CenterY; ";circlefilled "; CenterY

#w.resistor "place "; 50+CenterY; " 0;boxfilled "

; BoxWidth-50-CenterY; " "; BoxHeight

'Draw Bands

#w.resistor "color "; ColorValue1\$; ";backcolor "; ColorValue1\$

#w.resistor "place 70 0;boxfilled 85 "; BoxHeight

#w.resistor "color "; ColorValue2\$; ";backcolor "; ColorValue2\$

#w.resistor "place 100 0;boxfilled 115 "; BoxHeight

#w.resistor "color "; ColorValue3\$; ";backcolor "; ColorValue3\$

#w.resistor "place 130 0;boxfilled 145 "; BoxHeight

#w.resistor "color "; ColorValue4\$; ";backcolor "; ColorValue4\$

#w.resistor "place 160 0;boxfilled 175 "; BoxHeight

#w.resistor "flush"

vv=(Band1value+Band2value)\*Band3value

Select Case

Case vv>=1000000

#w.Ohm "Resistance Value=";vv/1000000;" M Ohm"

Case vv>=1000

#w.Ohm "Resistance Value=";vv/1000;" K Ohm"

```
Case Else
  #w.Ohm "Resistance Value=";vv;" Ohm"
End Select
```

```
if Band4value>0 then #w.Tole
"Tolerance Value =";" +/- ";Band4value;"%"
END SUB
```

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[Chapter 2 - Using arrays to reduce redundant code](#)

[Chapter 3 - Use variables for duplicate command strings](#)

[Chapter 4 - Consolidate event handlers](#)

[Chapter 5 - Apply mouse selection](#)

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**Chapter 9 - Adding some eye-candy**

[Chapter 10 - Summary](#)