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This is Demo 4 to Accompany [Drawing a Tiled Background with CreateCompatibleBitmap](#)

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' Demo4: Drawing a Large Scrolling Sprite Background
  Nomainwin
  WindowWidth = 600
  WindowHeight = 400

  Graphicbox #w.g1, 10, 10, 102, 102
  Statictext #w.st1a, "Image Source", 8, 120, 110, 32
  Graphicbox #w.g2, 140, 10, 440, 102
  Statictext #w.st2a,
"Image transf
erred from memory using the gdi32 DLL calls", 138, 120, 440, 16
  Statictext #w.st2b,
"CreateCompatibleBitmap and BitBlt", 138, 136, 440, 16

' Open the Window
  Open "Appending Bitmaps in Memory Demo" For Window as #w
  #w "Trapclose EndProgram"

' Display Solid Backgrounds
  Call hueBackground "#w.g2", "Darkgreen"

' Get handles and dc of second graphicbox with GetDC
' Place handle numbers in array to make global
  hWG1 = hwnd(#w.g1)
  hDC1 = GetDC(hWG1)
  hWG2 = hwnd(#w.g2)
  hDC2 = GetDC(hWG2)

' Create two compatible memory DC with CreateCompatibleDC
  dcMem1 = CreateCompatibleDC(hDC1) ' Compatible with #w.g1 'memDC
  MemDC(1) = dcMem1
  dcMem2 = CreateCompatibleDC(hDC2) ' Compatible with #w.g2
  MemDC(2) = dcMem2

' Get a simple bitmap for appending
  #w.g1 "Getbmp MemBitmap 0 0 1200 100"
  hMemBitmap = hBmp("MemBitmap")

' Create a large bitmap with CreateCompatibleBmp
' Use ScreenDC and not MemoryDC
  hCompBitmap = CreateCompatibleBitmap(hDC2, 1200, 100)
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' Select the large bitmap into the second memory device context
  hMemBitmap = SelectObject(dcMem2, hMemBitmap)

' Draw the first bitmap and get its handle
  Call SimpleHouse "#w.g1", 0, 0
  #w.g1 "Getbmp SimpleHouse 0 0 100 100"
  #w.g1 "Flush"
  hSimpleHouse = hBmp("SimpleHouse")

' Draw the second bitmap and get its handle
  Call hueBackground "#w.g1", "Darkblue"
  Call SimpleTrees "#w.g1", 0, 0
  #w.g1 "Getbmp SimpleTrees 0 0 100 100"
  #w.g1 "Flush"
  hSimpleTrees = hBmp("SimpleTrees")

' Draw the third bitmap and get its handle
  Call hueBackground "#w.g1", "Darkblue"
  Call SimpleFence "#w.g1", 0, 0
  #w.g1 "Getbmp SimpleFence 0 0 100 100"
  #w.g1 "Flush"
  hSimpleFence = hBmp("SimpleFence")

For i = 0 to 11
  ' Select the bitmap into the first memory device context
    randomPic = Int(Rnd(1) * 3) + 1
    Select Case randomPic
      Case 1
        hPic = SelectObject(dcMem1, hSimpleHouse)
      Case 2
        hPic = SelectObject(dcMem1, hSimpleTrees)
      Case 3
        hPic = SelectObject(dcMem1, hSimpleFence)
    End Select

' BitBlt the 1st memory device context to the 2nd memory device context
t
  null =BitBlt(dcMem2, i * 100, 0, 100, 100, dcMem1, 0, 0,
_SRCCOPY)
  Next i
' Deselect the bitmap from memory
  hMemBitmap = SelectObject(dcMem2, hMemBitmap)

' Store handle of bitmap in memory in array to make Global
' Or declare hMemBitmap Global in beginning of program
  hMemBitmap(0) = hMemBitmap
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' ReleaseDC on Screen DC
  null = ReleaseDC(hWG1, hDC1)
  null = ReleaseDC(hWG2, hDC2)

' DeleteDC on both memory DC's
  null = DeleteDC(dcMem1)
  null = DeleteDC(dcMem2)

' Loadbmp from handle
  Loadbmp "SimpleScene", hMemBitmap
  #w.g2 "Drawbmp SimpleScene 0 0"
  #w.g2 "Flush"

' Unload the small bmp's as they are no longer needed
  Unloadbmp "SimpleHouse"
  Unloadbmp "SimpleTrees"
  Unloadbmp "SimpleFence"

' Set SimpleScene as background
  #w.g2 "Background SimpleScene"

' Create 2 sprites and cyclesprite for animation
  Call SimpleCar "#w.g1", 1, 15
  #w.g1 "Cls; Fill Darkgreen; Flush"
  Call SimpleCar "#w.g1", 2, 30
  #w.g1 "Cls; Fill Darkgreen; Flush"
  #w.g2 "Addsprite SimpleCar SimpleCar1 SimpleCar2"
  #w.g2 "Spritexy SimpleCar 200 68"
  #w.g2 "Cyclesprite SimpleCar 1"
  #w.g2 "Drawsprites"

' Scroll background
  ProgramIsRunning = 1
  x = 0
  While ProgramIsRunning = 1
    #w.g2 "Backgroundxy ";x;" 0"
    CallDLL #kernel32, "Sleep", 50 as Long, result as Void
    Scan
    x = x + 10
    #w.g2 "Drawsprites"
  Wend
  Wait

Sub EndProgram handle$
' API Bitmaps cannot be unloaded with Unloadbmp
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' DeleteObject instead
    null = DeleteObject(hMemBitmap(0))
' Unload the appended bmp and sprite bmps
    Unloadbmp "SimpleScene"
    Unloadbmp "SimpleCar1"
    Unloadbmp "SimpleCar2"
    Close #w
End
End Sub

Function GetDC(handle)
    CallDLL #user32, "GetDC", _
        handle As Ulong, _
        GetDC as Ulong
End Function

Function ReleaseDC(handle, hDC)
    CallDLL #user32, "ReleaseDC", _
        handle As Ulong, _
        hDC As Ulong, _
        ReleaseDC As Long
End Function

Function DeleteDC(hDC)
    CallDLL #gdi32, "DeleteDC", _
        hDC as Ulong, _
        result as Long
End Function

Function CreateCompatibleDC(hDC)
    CallDLL #gdi32, "CreateCompatibleDC", _
        hDC as Ulong, _
        CreateCompatibleDC as Ulong
End Function

Function CreateCompatibleBitmap(hDC, wMem, hMem)
    CallDLL #gdi32, "CreateCompatibleBitmap", _
        hDC as Ulong, _
        wMem as Long, _
        hMem as Long, _
        CreateCompatibleBitmap as Ulong
End Function

Function SelectObject(hDC, hPic)
    CallDLL #gdi32, "SelectObject", _
        hDC as Ulong, _
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        hPic as ULong, _
        SelectObject as ULong
End Function

Function DeleteObject(handleObject)
    CallDLL #gdi32, "DeleteObject", _
        hObject as ULong, _
        result as Long
End Function

Function BitBlt(hdcDest, xDest, yDest, wDest, hDest,
    hdcSource, xSource, ySource, ROP)
    CallDLL #gdi32, "BitBlt", _
        hdcDest as ULong, _
        xDest as Long, _
        yDest as Long, _
        wDest as Long, _
        hDest as Long, _
        hdcSource as ULong, _
        xSource as Long, _
        ySource as Long, _
        ROP as ULong, _
        result as Long
End Function

Sub hueBackground handle$, hue$
    #handle$ "Down; Fill ";hue$
    #handle$ "Flush; Discard"
End Sub

Sub SimpleHouse handle$, xLoc, yLoc
    Call hueBackground handle$, "Darkblue"
    #handle$ "Color 128 64 0; Backcolor Brown"
    #handle$ "Place ";xLoc + 5;" ";yLoc + 50
    #handle$ "Boxfilled ";xLoc + 95;" ";yLoc + 90
    For x = xLoc to xLoc + 100
        #handle$ "Line ";xLoc + 50;" ";y + 10;" ";x;" ";y + 50
    Next x
    #handle$ "Backcolor 128 64 0"
    #handle$ "Place ";xLoc + 10;" ";yLoc + 60
    #handle$ "Boxfilled ";xLoc + 30;" ";yLoc + 80
    #handle$ "Place ";xLoc + 65;" ";yLoc + 60
    #handle$ "Boxfilled ";xLoc + 85;" ";yLoc + 80
    #handle$ "Place ";xLoc + 35;" ";yLoc + 70
    #handle$ "Boxfilled ";xLoc + 60;" ";yLoc + 90
    #handle$ "Color 16 16 16; Backcolor 16 16 16"
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#handle$ "Place ";xLoc;" ";yLoc + 90
#handle$ "Boxfilled ";xLoc + 100;" ";yLoc + 100
Call SimpleGrass handle$, xLoc, yLoc
End Sub

Sub SimpleTrees handle$, xLoc, yLoc
#handle$ "Color 128 64 0; Backcolor Brown"
#handle$ "Place ";xLoc + 30;" ";yLoc + 60
#handle$ "Boxfilled ";xLoc + 50;" ";yLoc + 90
#handle$ "Place ";xLoc + 65;" ";yLoc + 40
#handle$ "Boxfilled ";xLoc + 75;" ";yLoc + 90
#handle$ "Color 0 64 0; Backcolor 0 128 64"
#handle$ "Place ";xLoc + 40;" ";yLoc + 40
#handle$ "Circlefilled 30"
#handle$ "Place ";xLoc + 70;" ";yLoc + 50
#handle$ "Circlefilled 20"
Call SimpleGrass handle$, xLoc, yLoc
End Sub

Sub SimpleFence handle$, xLoc, yLoc
#handle$ "Color 64 64 64; Backcolor 192 192 192"
#handle$ "Place ";xLoc + 10;" ";yLoc + 60
#handle$ "Boxfilled ";xLoc + 95;" ";yLoc + 70
#handle$ "Place ";xLoc + 10;" ";yLoc + 80
#handle$ "Boxfilled ";xLoc + 95;" ";yLoc + 90
#handle$ "Place ";xLoc + 10;" ";yLoc + 40
#handle$ "Boxfilled ";xLoc + 15;" ";yLoc + 90
#handle$ "Place ";xLoc + 30;" ";yLoc + 40
#handle$ "Boxfilled ";xLoc + 35;" ";yLoc + 90
#handle$ "Place ";xLoc + 50;" ";40
#handle$ "Boxfilled ";xLoc + 55;" ";yLoc + 90
#handle$ "Place ";xLoc + 70;" ";yLoc + 40
#handle$ "Boxfilled ";xLoc + 75;" ";yLoc + 90
#handle$ "Place ";xLoc + 90;" ";yLoc + 40
#handle$ "Boxfilled ";xLoc + 95;" ";yLoc + 90
Call SimpleGrass handle$, xLoc, yLoc
End Sub

Sub SimpleGrass handle$, xLoc, yLoc
For x = xLoc to xLoc + 100
    greenHue = Int(Rnd(1) * 128) + 16
    #handle$ "Color 0 ";greenHue;" 0"
    y = Int(Rnd(1) * 10) + 85
    #handle$ "Line ";x;" ";y;" ";x;" 100"
Next x
End Sub
```

```
Sub SimpleCar handle$, nCar, angle
  #handle$ "Cls; Fill Black"
  #handle$ "Color White; Backcolor White"
  #handle$ "Place 0 0; Boxfilled 100 30"
  #handle$ "Color Black; Backcolor Black"
  #handle$ "Place 25 12; Boxfilled 75 22"
  #handle$ "Place 50 12; Ellipsefilled 30 20"
  #handle$ "Place 40 22; Circlefilled 7"
  #handle$ "Place 60 22; Circlefilled 7"
  #handle$ "Color Red; Backcolor Red"
  #handle$ "Place 25 42; Boxfilled 75 52"
  #handle$ "Place 50 42; Ellipsefilled 30 20"
  #handle$ "Color Black; Backcolor Lightgray"
  #handle$ "Place 40 52; Circlefilled 7"
  #handle$ "Place 60 52; Circlefilled 7"
  Call SimpleWheel handle$, angle
  SimpleCar$ = "SimpleCar";nCar
  #handle$ "Getbmp ";SimpleCar$;" 0 0 100 60"
End Sub

Sub SimpleWheel handle$, StartAngle
  #handle$ "Color 16 16 16"
  For angle = StartAngle to 360 + StartAngle Step 30
    #handle$ "North; Place 40 52; Turn ";angle
    #handle$ "Go 7"
    #handle$ "North; Place 60 52; Turn ";angle
    #handle$ "Go 7"
  Next angle
End Sub
```

- Return to [Drawing a Tiled Background with CreateCompatibleBitmap](#)