

JANUARY NEWSLETTER



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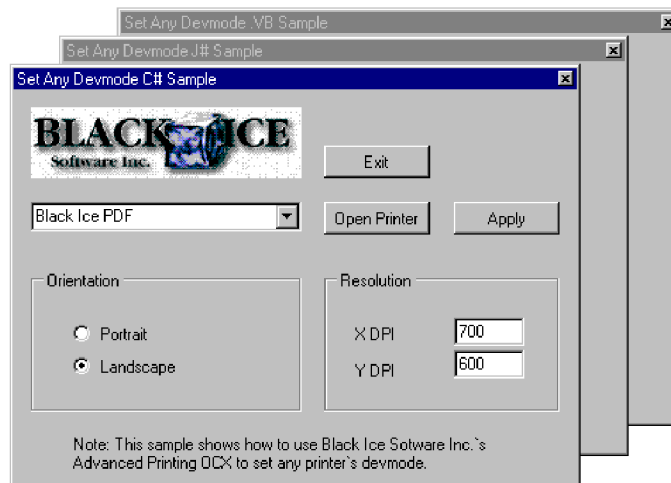
Phone: (603) 673-1019
 Fax: (603) 672-4112
sales@blackice.com
www.blackice.com

PRINTER DRIVERS: HOW TO CONFIGURE PRINTERS FROM .NET

There are many developers who are having problems setting printer properties from C#, J#, or VB.NET code. This article will show

how one can control printer settings, such as resolution, through the DEVMODE data structure from C#, J#, VB.NET. New

samples are added to the Document Imaging SDK Advanced Printing module that use the ActiveX control to configure the DEVMODE data structure from .NET codes. Not only for Black Ice printer drivers, but for any printer driver.



Clicking on the Open Printer button after selecting a printer will load the DEVMODE. The samples show orientation and resolution data, which are loaded from the DEVMODE. Changing and applying this data will set

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HOW TO USE BLACK ICE SOFTWARE DLLS IN C#

Usually C# programmers use OCX controls for development for simplicity, but it is possible to use DLLs directly from C#.

If one uses OCXs in the C# based application then C# uses interop DLLs to access the OCX, and the OCX calls the DLL functions. It is more efficient to use DLLs, but it is more complicated too.

Here are some tips for using DLLs in C#.

1. To use this service one has to use InteropServices:

```
Using
System.Runtime.InteropServices;
```

2. One has to import original DLLs for use, and one has to declare as extern the functions that one wants to use.

For example:

```
[DllImport("BiTiff.dll")]
public static extern short
GetNumberOfImagesInTiffFile(string
FileName);
```

3. One has to declare structures again in C# that one wants to use in the code or that is used in function declarations. For

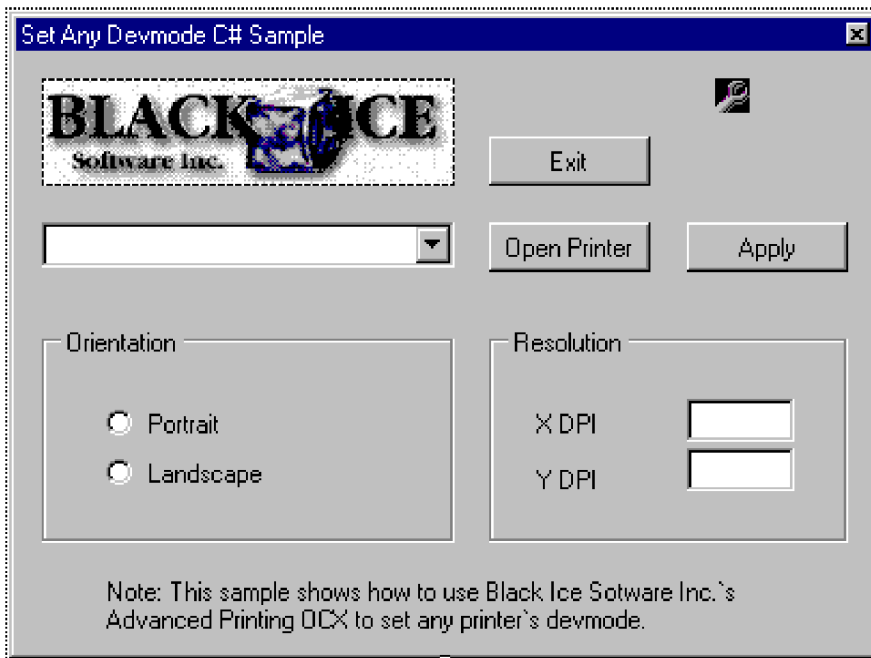
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the corresponding fields in the opened DEVMODE. The sample applications are written in .NET C#, .NET J#, and .NET VB environments. The DEVMODE setting features can be easily called from the Advanced

Printing OCX which is part of Document Imaging SDK.

To use Advanced Printing OCX, just add the ActiveX control to the Form you are working with. ◀



Open printer in C#, in J# (example)

```
//Load devmode of selected printer
prnHandler = axBiAdvprnW1.BiOpenPrinter(prn, 0);
devmodeHandler =
axBiAdvprnW1.BiLoadPrinterSettings(prn);
```

Set loaded devmode properties in C# (example)

```
int xDPI = System.Convert.ToInt16(textBox1.Text);
int yDPI = System.Convert.ToInt16(textBox2.Text);
```

```
axBiAdvprnW1.SetXDPI((short)xDPI,
devmodeHandler);
axBiAdvprnW1.SetYDPI((short)yDPI,
devmodeHandler);
```

Save devmode and close the printer in C# (example)

```
if (devmodeHandler != 0)
{
    axBiAdvprnW1.BiReleasePrinterSettings
(devmodeHandler);
axBiAdvprnW1.BiClosePrinter(prnHandler);
}
```

(DLLs in C# Continued from page 1)

example:

```
[StructLayout
(LayoutKind.Sequential,
Size=8,
CharSet=CharSet.Ansi)]
public struct POINT
{
    public int x;
    public int y;
}
```

It is important the type of the structure fields be compatible with the original structure (For example: int convert to short, long convert to int, HANDLE convert to IntPtr, void*

convert to IntPtr, ...)

4. If these declarations are in the code one can use the DLL functions in the C# code just as in C++. For example:

```
n P a g e s =
GetNumberOfImagesInTiffFile
(fileName);
```

If DLL functions use several structures in parameters, it is complicated to declare all these structures, but this method gives a more efficient tool for the programmer.

These code snippets are from the

TIFF SDK C# DLL sample contained in the Document Imaging SDK. ◀



PRINTER DRIVER TIPS: HOW TO PRINT AN IMAGE TO A FIXED PIXEL SIZE PAGE

There are several ways to define a page. One can define a page in inches, millimeters, or in pixels. If one wants to print with the printer driver to a fixed size page defined by pixels, it could be a challenge. One of the critical issue is to set the dot per inch resolution DPI of the target page. It is necessary to set the DPI of the page correctly to avoid the source document being clipped, distorted, or to see a small picture in the middle of the page.

In order to compute the destination DPI of the page one must know the one of the following:

- Destination page size in pixels (destX, destY).
- Size of the source document in pixels (sourceX, sourceY).
- DPI of the source page (sourceDPIX, sourceDPIY)

Or one has to know:

- Destination page size in pixels (destX, destY).
- Source size in inch (sourceXinInch, sourceYinInch)).

We want to calculate the destination DPI (destDPIX, destDPIY) of the destination page.

(computing in pixels)

`destDPIX = destX / sourceX * sourceDPIX;`

or

(computing in inch)

`destDPIX = destX / sourceXinInch;`

Some Examples:

destDPIY could be calculated in the same way as destDPIX.

To prevent distortion of the destination image the source DPI (x,y) ratio must be equal to the destination DPI (x,y) ratio (sourceDPIX / sourceDPIY = destDPIX / destDPIY).

In the event the source image size in pixels are not proportional to the destination image size in pixel one must compute dominant DPI value.

We could calculate the dominant DPI value with the following formula:

```

if( destDPIX / sourceDPIX < destDPIY /
sourceDPIY )
{
    destDPIY = destDPIX * sourceDPIY /
sourceDPIX;
}
else
{
    destDPIX = destDPIY * sourceDPIX /
sourceDPIY;
}

```



original picture (8.5x11 in inch)



Destination picture (1000x1000 in pixel)
DPI calculated by formula above:
destDPIX = destDPIY = 1000 / 11



Destination picture (1000x1000 in pixel)
DPI didn't calculated used random value
destDPIX = destDPIY = 50



292 Route 101
Amherst, NH, 03031

Phone: 603-673-1019
Fax: 603-672-4112
E-mail: sales@blackice.com

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Time to upgrade?



Latest Version Numbers

Printer Drivers			Impact Products		
Printer Drivers for ME/98/95 Mono, Color, ColorPlus, EMF, PDF	5.81	4/13/06	Impact Fax Server	7.05	10/30/06
Printer Drivers for XP/2000/NT Color, ColorPlus, EMF, Mono, PDF	9.92	11/29/06	Impact Fax Broadcast	5.11	11/29/06
Printer Drivers for 2003, Citrix and Terminal Servers Color, ColorPlus, EMF, Mono, PDF	9.92	11/29/06	Impact Fax on Demand	4.08	7/2/02
			Impact ColorFax	7.02	8/15/06
			Drag and Drop Printing	2.00	12/24/02
Fax, Voice, and Image Toolkits			Internet Tools		
Fax C++/ActiveX	12.31	12/18/06	Print2Email	5.13	10/19/06
Voice C++/ActiveX	12.31	12/18/06	Tiff Viewer Plug-in - Complete	7.0	9/20/06
Document Imaging SDK/ActiveX	10.71	12/6/06	Print Monitoring Server	3.00	9/16/04
PDF Plug-in	10.71	12/6/06	Print2RDP	3.0	9/6/06
Annotation SDK/ActiveX	10.71	12/6/06	Voice2Email	2.01	4/20//05
Image SDK/ActiveX	10.71	12/6/06	Print2FTP	2.02	8/15/06
Tiff SDK/ActiveX	10.71	12/6/06	Free Software		
Cover Page Generator SDK/ActiveX	10.71	12/6/06	Impact ColorFax Lite	7.02	8/15/06
Barcode SDK/ActiveX	4.51	7/13/06	Tiff Viewer Plug-in - Free Version	7.0	9/20/06
			ModemWeasel	2.00	8/01/02