

BMP2RLE - Bitmap Compression Utility



version 1.1

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For information, to report bugs, make suggestions...

Please contact:

Chris Velazquez
trailBLAZERS_SOFT.Ware
at CompuServe 74073,1566

What is BMP2RLE?

BMP2RLE is a handy little application which compresses Windows bitmaps into an abbreviated format called run-length encoding (RLE). This is the format used for the Windows startup screen (such as the familiar blue Microsoft Windows plaque.) You can use BMP2RLE to reformat your bitmaps from other drawing programs into new Startup screens. The only requirement is that the drawing contains a maximum of 16 colors (of the 16.8 million available these days).

In addition to compression, BMP2RLE also allows the user to alter the color palette used by the bitmap. This was added because other bitmap shareware utilities which ostensibly convert bitmaps to RLE also pick the default VGA palette and alter the colors of the original bitmap to their nearest VGA color, resulting in poor quality RLE files. BMP2RLE extracts the original color that you specified in your paint program, and allows you to make changes as you desire.

Using BMP2RLE

Run-Length Encoding (RLE)

Rather than storing the information for every pixel of a bitmap in memory, a set of instructions for drawing the bitmap are stored instead. Windows can interpret these instructions quickly, thus making RLE format an efficient alternative to the normal .BMP formats generated by most painting programs.

The familiar blue "Microsoft Windows" startup screen is saved in the file **C:\WINDOWS\SYSTEM\VGALOGO.RLE** which is loaded into WIN.COM after each setup. If you check, you'll notice it only occupies about 27 KB of disk space. In normal bitmap formats, an image that large would occupy at least 10 times that much space.

RLE format is especially useful for bitmaps with a limited number of colors and relatively low complexity. Images with a lot of shading and lighting, or complex "textures" do not compress much if at all, and images with many single color areas compress to 10%-1% (or less!) of their original size. In many cases, recompressing an RLE format bitmap with a program like PKZIP results in even further compression, such that huge pictures consume mere kilobytes or less. There are two formats available: RLE-4 and RLE-8. RLE-4 supports a 4-bit color palette (16 colors) and RLE-8 supports an 8-bit (256 color) palette. Each of these colors may be chosen from among the 16.7 million color selections offered by most SVGA graphics cards.

Using BMP2RLE

How to Use BMP2RLE

Using BMP2RLE is simple.

- @ First create a masterpiece using your favorite drawing program (PBRUSH.EXE, perhaps?). Save the image as a bitmap with the .BMP extension.
- @ Open the bitmap file with BMP2RLE. (File menu) The bitmap will be displayed and scanned, and salient information will be displayed.
- @ Choose the Conversion menu. Pick 4-Bit (RLE-4) or 8-Bit (RLE-8), depending on the number of actual colors in the original image.
- @ Save the image using the .RLE or .BMP extension.
- @ The compressed bitmap can be viewed by opening it next.
- @ If you choose, you can alter the palette of the RLE format bitmap using the [Palette Adjuster](#)

Adjusting the Color Palette

This is also simple. Only RLE format bitmaps work here though.

Method 1: Simply choose the color you wish to change by **clicking on the 16-color palette** (RLE-4 bitmaps) or the pop-up 256-color palette (RLE-8 bitmaps), and it will appear in the box near the bottom. Use the color sliders to change the color. **Swap** the color with the original palette color. **Try out** the new palette for looks, if you don't like it you can swap back to the original.

Method 2: **Click right on the picture** of the bitmap on the color you wish to change. That color will be displayed in the color box, and you can swap colors and try the new palette with the appropriate buttons.

Please note that the second method does not work well for video driver settings of less than 32K colors, since dithering is used to show the palette colors in lower color modes. I personally favor the 800 x 600 x 64K colors driver for my SVGA video driver, which works nearly flawlessly, and the 640 x 480 x 16.7M color mode works perfectly. High resolution/low color modes show spurious results, but then again, I usually sit at least six inches away from my monitor.

For 16-color palette RLE bitmaps, the first color (0x00) is always the background color of the startup screen. Change this and you will change the appearance of the Palette Adjuster window- to reflect the change in the startup screen's new background color.

[Modifying the Windows Startup Screen](#)

Modifying the Windows Startup Screen

When you type "WIN" at the DOS prompt, the file WIN.COM starts up Windows. The startup screen is a RLE format bitmap which is actually a part of the WIN.COM file. By changing the bitmap contained in WIN.COM, you can change the appearance of the Windows startup screen. BMP2RLE now has the ability to change this bitmap.

When you use BMP2RLE to change the startup screen, it saves the present WIN.COM file in a file named !WIN.COM. **Please don't ever delete !WIN.COM !!!** The startup screen change sometimes doesn't work properly (I am sad to admit) and Windows may fail to load properly. This is a characteristic of all the startup screen changers which I have tested, not just BMP2RLE. Keep this file on hand, and type !WIN at the DOS prompt to activate Windows. Delete the non-functional WIN.COM and copy !WIN.COM to WIN.COM.

It is good practice to test the new startup screen before changing it a second time.

BMP2RLE also keeps a record of the previous startup screen you used in a file called WINOLD.COM. If you change the screen and are not pleased with it, you can change back to the previous screen by deleting the current WIN.COM and renaming WINOLD.COM to WIN.COM.

To Summarize:

WIN.COM	Current Windows-loading command file
WINOLD.COM	Previous Windows-loading command file
!WIN.COM	Long term archive of working WIN.COM in case of problems.

What's new in BMP2RLE 1.1?

- @ Color reduction of bitmaps with greater than 256 colors
- @ Automatic startup screen changing facility
- @ Fixes to annoying bugs and inconveniences.

Color reduction:

Since RLE format bitmaps must contain fewer than 256 colors, and many bitmaps (such as those produced from scanned photographic images) are too complex to compress, BMP2RLE now reduces those images to a default 256 color palette. Results vary with the image, since information is lost during this process. For low- to medium-quality images the difference may be acceptable.

Bugs and annoyances:

The problem of the program "hanging" has been solved - no more bitmaps getting "stuck" counting colors.

The help file now works like it's supposed to.

Registering BMP2RLE

BMP2RLE is shareware, not public domain or freeware. As such, it is protected by applicable copyright laws. Use of this program to create a new startup screen or for any other bitmap compression constitutes ownership.

You may distribute this shareware freely, and test it for up to 15 days. After that you should register this copy. I have donated my time and expertise to create as useful and user-friendly of a program as possible, with the caveat that all proceeds are to help the construction of a building for Grace Church, of which I am a member.

To register, send a tax-deductible contribution to:

Grace Church
c/o Finance Committee
231 South Elliott St.
Chapel Hill, NC 27514

Or via CompuServe (type GO SWREG). The product ID# is 2214. The Price is \$10. Registered users will receive the following:

- * Regular updates to the original version.
- * Free support
- * A copy of "What every Visual Basic programmer should know about bitmaps"
- * Peace of mind, knowing that thou hast not stolen.

TrailBlazers cannot be held liable for what turmoil may befall you in the Hereafter.

About Grace Church

Grace Church is a non-denominational Christian church dedicated to the worship of the living God who rules above us yet resides among us. The church is currently occupying a shopping center storefront and are trying to raise money to establish a permanent place of worship here in Chapel Hill. We have purchased a plot of land and now we are raising money to erect a building. I have donated my time to writing this shareware in hopes that it can provide some of the much needed funding for our goal. Our head pastor is Jerry Daley, a Vietnam veteran, and a man truly fired up for God. We are approximately 200 in number (excluding children) and are always willing to reach out to those hungry for the Word. Our format mixes contemporary spiritual music with traditional beliefs.

We would love to have you visit us in worship if you are ever in the Research Triangle area of North Carolina. We are located (as of 3/94) in Kroger Plaza in Chapel Hill, off of route 15-501, between Eastgate Plaza and University Mall.

God Bless You,

Chris Velazquez, PhD.
CompuServe: 74073,1566

