

## ColorView for Windows

Version 0.95

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<u>TABLE OF CONTENTS</u>	<u>Page</u>
Shareware	1
Disclaimer - Agreement	2
Registration Form	3
Introduction	4
Hardware & Software Requirements	4
Features	4
User Guide	5
Appendix A	8
Appendix B	9

ColorView for Windows is distributed as SHAREWARE. Please read the following information before using it.

### **SHAREWARE**

ColorView is a shareware product, it is not free. Shareware distribution gives users a chance to try software before buying it. If you try a Shareware program and continue using it, you are expected to register. With registration of ColorView version 0.95, you will receive a diskette with the latest version of the software and documentation. In addition, you will receive ColorView version 1.0 when it is released - free of charge.

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You are encouraged to pass a copy of ColorView along to your friends for evaluation. Please encourage them to register their copy if they find that they can use it. All registered users will receive a copy of the latest version of the ColorView system.

## REGISTRATION

Please use this form to register ColorView. The registration for ColorView version 0.95, entitles you to receive a free upgrade to ColorView version 1.0 when it is released. See Appendix A for a list of features planned for Version 1.0. With registration you will receive a disk containing both, **ColorView** and **ColorView '386**.

### REGISTRATION FORM ColorView v. 0.95

NAME: \_\_\_\_\_

STREET: \_\_\_\_\_

CITY: \_\_\_\_\_

STATE: \_\_\_\_\_ ZIP \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

ColorView license number..... \$29.95 \_\_\_\_\_

New Jersey residents add 7% sales tax.. (\$2.10) \_\_\_\_\_

US residents - Shipping and handling... \$5.00 \_\_\_\_\_

Other - Shipping and Handling ..... \$8.00 \_\_\_\_\_

Total in US Funds drawn on a US Bank.. \$ \_\_\_\_\_

Circle Disk Size: 3 1/2"      5 1/4"

Make checks payable to: Millennium Technologies Corporation

Mail to:

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## INTRODUCTION

**ColorView** is a program designed to view and manipulate color images in the Microsoft Windows™ environment. Some of the features slated for version 1.0 are not in this pre-release. Please see Appendix A for the complete list of features and formats supported in the version 1.0. Two versions of the software are available: **ColorView** and **ColorView '386**. The latter is optimized to make use of the Intel 80386 instructions to improve performance of JFIF conversions. Both versions support the same formats and provide the same features. The only difference is speed: **ColorView '386** is more than twice as fast as the generic **ColorView**. Of course, **ColorView '386** requires a 80386 or better processor to run.

## HARDWARE & SOFTWARE REQUIREMENTS

The following hardware and software is supported by **ColorView** version 0.95:

Color display (any resolution):

**8** bit, 256 color, palette based, or  
**15** bit 'true' (32768 colors) color, or  
**24** bit true color.

**VGA:** The software will run correctly on a 4 bit (standard VGA) display, but 16 colors will not be enough to render the image correctly on the screen.

CPU and memory:

**80286** or above for generic **ColorView**.

**80386** or above system is required for **ColorView '386**.

**Memory:** As much as possible. Anything from 4 MBytes to infinity is recommended. In general, the more contiguous memory you have available in Windows, the bigger the image you can display.

Operating System:

MS-DOS, **Microsoft Windows 3.0** or **3.1**

## FEATURES

This version of the software supports the following image formats:

Reading:

**JPEG** (JFIF subset) \*.JPG: 24 bit color, highly compressed images  
**GIF'87** (GIF'89 in v1.0) \*.GIF: LZW encoded 8 bit palette based

images

**Windows Bitmaps** \*.BMP: (RLE in v1.0) 4 bit, 8 bit and 24 bit color

images

Writing:

**JPEG** (JFIF subset) in version 1.0

**GIF'87**

**Windows Bitmaps** (RLE in v1.0): 8 bit and 24 bit color images

## **USER GUIDE**

The following is a short description of the menus and options available:

### **File Menu**

File New

Removes any loaded image from memory, clears viewer window.

File Open...

Displays a dialog box allowing you to pick an image file to load. Version 0.95 recognizes the image format of the file by its extension.

File Save As...

Allows you to save an image in a different format. An image must be loaded (and converted into 8-bit format for GIF and BMP 8-bits save). The extension of the file name determines the image format to be saved.

File Save Image Options...

Provides a way to assign configuration options (from the Options pop-up menu) to the current image. When you try to load the same image in the future, you will be able to automatically configure the viewer by loading the saved options. The saved configuration includes all four of the Enhance Color parameters (see below).

File Exit

Exit ColorView, releasing all resources and memory allocated.

File About ColorView

ColorView Copyright and Registration messages.

### **Options**

Options Dither Image

When performing a 24 bit to 8 bit conversion, tells ColorView to use dithering to smooth out quantization errors. In most cases dithering will significantly improve image quality. In some cases the image might become a little less sharp. ColorView uses Floyd-Steinberg dithering.

Options Full Palette

Windows reserves 20 colors from the system palette for its own use. Normally, these colors cannot be changed by an application, limiting the number of colors available to 236. If this option is selected, ColorView will use the entire system palette minus 2 colors (white and black) reserved for Windows. Windows will use the palette of the active application, so when ColorView is active, other applications might not display correct colors. Just click on the other application to activate it and to force Windows to redisplay it

properly. This also works when running multiple copies of ColorView: just click on the one you want to see, and its palette will become the system palette.

Options Enhance Color - 256, 15 and 24 bit displays  
Provides a way to color correct an image. Note that on 256 color displays, this is fast because only the palette needs to be updated. On 15 and 24 bit displays, any change affects every pixel in the image, causing slower performance. The Color Enhancement panel contains 4 slide controls described below. Each control can be adjusted using the mouse, or once it has focus, the arrow keys can be used for fine tuning.

**Color:**

range 0 to 360, normal at 180: changes the hue of the image.

**Saturation**

range 0 to 255, normal at 128: changes the amount of color in the image. Saturation of 0 means no color, or black & white image.

**Brightness:**

range 0 to 255, normal at 128: adjusts overall image brightness.

**Gamma Factor:**

range 0 to 1000, normal at 0: gamma-corrects the image. This provides a way to correct for the difference between perceived colors and their computer generated equivalents. This can be very useful for scanned images, improving sharpness and contrast of the original. If the original has already been gamma-corrected, additional corrections might degrade image quality.

Options 8 Bit Conversion  
This option is available on 15 or 24 bit cards only. On any other display system it is automatically selected (and disabled). If this option is selected, ColorView will convert any 24 bit image into a 256 color palette based image, even if your card can handle more than 256 colors. This can be used to generate GIF or 8 bit BMP files. In most cases, a 256 color image will be inferior to a 15 or a 24 bit color image.

Options Fast Quant:  
Selects Millennium Technologies Fast Quantization algorithm for reducing 24 bit images to 256 colors. This is a one-pass color reduction method. Although the results are not as high quality as with the Heckbert Quant (below), Fast Quant requires no additional memory, and does not add an extra pass to render the image. This is useful for quick pre-view of an image.

Options Heckbert Quant  
Selects Heckbert's Quantization Algorithm. This algorithm uses RGB space sub-division to find the most important colors in the image.

Heckbert Quant requires more memory to run, and an extra pass over the image to figure out color distribution. Our highly optimized implementation of Heckbert Quant, makes it the algorithm of choice when coupled with the 'Dither Image' option above.



- Options      Full Window  
Display image overlaying the caption and the menu of the viewer window. This is just a display option: the menu is still available, and if you click in the right region you can bring the menu on top of the image to make a selection.
- Options      Show Scroll Bars  
Enable horizontal and vertical scroll bars. This allows you to scroll to any portion of the image if the image is bigger than the window it is displayed in. Scroll bars are disabled in the Stretch Image Mode (below). NOTE: Windows has a bug when displaying large images (larger than 640 x 480) which might cause scrolling not to work properly. This depends on the image size, and is more common with images larger than 1024x1024 pixels.
- Options      Stretch Image  
Resizes the displayed image to fit into the viewer window. Only the display is changed, the memory image retains the original size.
- Options      Keep Aspect Ratio  
Used with Stretch Image option (above). This allows you to relax the requirement to preserve the original height to width ratio. If unselected, the image will be stretched to completely fill the viewer window, even if this distorts the image.
- Options      Save Viewer Options  
This saves currently selected viewer options (everything in the Options pop-up menu) into CVIEW.INI file. These settings are automatically loaded next time you start ColorView, making them your default choice.

## **APPENDIX A - ColorView Version 1.0**

ColorView Version 1.0 will be an improved and expanded version 0.95. The following list of additions and modifications are planned:

- Full support for reading **GIF'87** and **GIF'89** files.
- Reading and writing Windows **BMP** RLE files
- Saving any file in **JFIF** format
- Speed improvements on reading **JFIF** files
- Clipboard operations on any portion of the image
- Partial Save option allowing a portion of the image to be saved in any of the supported formats.
- Support for 'batch-mode' processing of images (e.g. unsupervised conversions)
- Improved memory handling and custom virtual memory for better performance on machines with less physical memory.
- Fixes to bugs reported in version 0.95. Please send us any comments and bug reports at the address at the top of this document.

NOTE: If you register now for ColorView version 0.95, you will not only receive the current version, but also version 1.0 (free of charge) when it becomes available.

In addition, a DOS-based ColorView is in the works, providing support for Super VGA color cards, EMS memory and mouse support.

## **APPENDIX B - Trademarks and Acknowledgements**

ColorView is based in part on the work of the Independent JPEG Group.  
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